
City of DuPont

Municipal Separate Storm Sewer System Stormwater Management Program

As required by the:
Western Washington Phase II Municipal Stormwater Permit

March 2014

ACRONYMS

AASF-	Adopt-a-Stream Foundation
AGC-	The Association of General Contractors
AKART-	all known, available and reasonable methods of prevention, control, and treatment
BMPs-	Best Management Practices
CESCL-	Certified Erosion and Sediment Control Lead
the City-	City of DuPont
DMC-	DuPont Municipal Code
Ecology-	Washington State Department of Ecology
EPA-	US Environmental Protection Agency
LID-	Low Impact Development
the Manual-	Ecology's <i>2005 Stormwater Management Manual for Western Washington</i>
MS4-	Municipal Separate Storm Sewer System
NPDES-	National Pollutant Discharge Elimination System
O&M-	Operations and Maintenance
the Permit-	<i>Western Washington Phase II Municipal Stormwater Permit</i>
PSA-	Professional Service Agreement
PSAT-	Puget Sound Action Team
PSP-	Puget Sound Partnership
SWMP-	Stormwater Management Program
SWPPP-	Stormwater Pollution Prevention Plan
TESC-	Temporary Erosion and Sediment Control
TMDL-	Total Maximum Daily Load
WRIA-	Water Resource Inventory Area

INTRODUCTION

This Stormwater Management Program (SWMP), required by Section S5.A.2 of the current *Western Washington Phase II Municipal Stormwater Permit* (Permit) is organized according to the program components in Section S5.C. of the permit and will be reviewed and updated as applicable at least annually for submittal with the City of DuPont's (City) annual reports to the Department of Ecology (Ecology).

The SWMP document will consist of:

1. A description of each of the following components, which are outlined in Section S5.C. of the Permit:
 - a. Public Education and Outreach,
 - b. Public Involvement and Participation,
 - c. Illicit Discharge Detection and Elimination,
 - d. Controlling Runoff from New Development, Redevelopment, and Construction Sites, and
 - e. Municipal Operations and Maintenance.
2. Any additional actions implemented by the City pursuant to Section S5.C.
3. Any additional actions necessary to meet the requirements of applicable Total Maximum Daily Loads (TMDLs) pursuant to Section S7 of the Permit: *Compliance with Total Maximum Daily Load Requirements*.

The SWMP will be comprised of these components and 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. These components have been selected by the City as reasonable methods to achieve the goals of the permit.

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 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 applied for renewal of its Western Washington Phase II Municipal Stormwater Permit prior August 16, 2011 (as required 180 days before expiration of the 2007 permit, which was reissued on August 1, 2012), and has maintained its coverage under the Western Washington Phase II Municipal Stormwater General Permit.

CHAPTER 1: PUBLIC EDUCATION AND OUTREACH PROGRAM

Public involvement/participation activities can be effective tools used to gain much needed public support for regional water quality issues, stewardship and stormwater management programs. These activities will be aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the City.

Public Education and Outreach Program

- a. As part of the Permit requirements, each Permittee is to implement an education and outreach program for its stormwater service area. The public education programs are designed to achieve measurable improvements in the target audience's understanding of stormwater pollution issues and the steps that will be taken to solve these issues. The City's public education and outreach program is designed to target the following audiences and include the following subject areas:
 - i. General public
 - General impacts of stormwater flows into surface waters.
 - Impacts from impervious surfaces.
 - Source control Best Management Practices (BMPs) and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.
 - ii. General public, businesses, including home-based and mobile businesses
 - BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, car wash soaps and other hazardous materials.
 - Impacts of illicit discharges and how to report them.
 - iii. Homeowners, landscapers and property managers
 - Yard care techniques protective of water quality.
 - BMPs for use and storage of pesticides and fertilizers.
 - BMPs for carpet cleaning and auto repair and maintenance.
 - Low Impact Development (LID) techniques, including site design, pervious paving, and retention of forests and mature trees.
 - Stormwater pond maintenance.
 - iv. Engineers, contractors, developers, review staff and land use planners
 - Technical standards for stormwater site and erosion control plans.
 - LID techniques, including site design, pervious paving, and retention of forests and mature trees.
 - Stormwater treatment and flow control BMPs
- b. The City is partnering with Department of Ecology and other agencies across Western Washington through the Regional Stormwater Management Program (RSMP) and other regional efforts to better assess the understanding and adoption of the targeted behaviors among the various targeted audiences through various public education and outreach activities available both locally and regionally.

- c. The City will continue our efforts to track and provide information regarding a variety of public education and outreach activities selected and made available.

The City is implementing the following BMPs as part of our public education and outreach activities to inform the general public on stormwater impacts:

- BMP 1(A): Newsletter Articles
- BMP 1(B): Stormwater Website
- BMP 1(C): Encourage Proper Disposal of Household Hazardous Waste
- BMP 1(D): Address Illegal Dumping and Littering
- BMP 1(E): Address Lawn and Garden Care Activities
- BMP 1(F): Education on Low Impact Development (LID)

Objective: Reduce pollutants from residential, commercial and industrial runoff through increased public awareness of the impacts of stormwater runoff.

BMP 1(A): NEWSLETTER ARTICLES

Measurable Goals

1. Provide informational content for stormwater subjects addressing items such as:
 - Citizen reporting under the illicit discharge and construction programs
 - Water quality impacts of stormwater runoff and impervious surfaces to the stormwater system and local water bodies
 - Steps the public can take to reduce stormwater pollution including source control BMPs
 - Public involvement programs
 - Environmentally friendly landscaping and pest management techniques
2. Design articles for recurrent newsletters addressing selected topics
3. Track the number of materials created and distributed

Description

The City will continue our efforts to find prepare and include information or articles for local newsletters to address topics such as those listed above. The newsletters are made available to all residents of the City and information will be appropriate for the public. Articles can be effective by being engaging and concise, and may contain brief, important messages, provide overview of problems and solutions, or implore simple actions. The City will also continue to align with the many regional efforts to provide consistent outreach and messaging, such as the ‘Puget Sound Starts Here’ campaign and other efforts through the Puget Sound Partnership (PSP), US Environmental Protection Agency (EPA), and other organizations, who may also prepare brochures and posters covering topics on surface water pollution. Information may be incorporated into the articles, or links can be provided with additional information available through their websites.

Planned Activities

- Ongoing - Identify topics for stormwater articles for administrator’s newsletter.
- Ongoing- Prepare newsletter articles and information on a regular basis.

- Ongoing – Track the number of articles printed in administrator’s newsletter.

BMP 1(B): MAINTAIN AND UPDATE STORMWATER WEBSITE

Measurable Goals

1. Develop a list of subjects for inclusion and discussion on the stormwater website.
2. Track updates to website each year.
3. Develop login counter to determine the number of website hits per year as web format and site resources allow.

Description

Since agency personnel, environmental group leaders, and the business community use the internet regularly, a website page and links to resources can be valuable tools in conveying stormwater pollution related information.

The following general topics will continue to be addressed on the City’s website:

- Non-point source pollution in stormwater including car wash runoff, pesticides, fertilizers and pet waste
- Proper handling of household hazardous wastes
- Information on proper lawn watering, and native plants
- Links to other resources, such as instructions on rain barrel construction

The following information will be included on the City’s website:

- Contact information for the City’s stormwater program
- Community Event and Volunteer Opportunity Announcements
- Storm drain system maps may be included as website and resources allow
- Recommended residential stormwater BMPs
- Individual Volunteer Opportunities
- Links to State and National stormwater programs
- NPDES permit and Annual Report required by the permit
- The latest version of the SWMP

Planned Activities

- Continue to review and update content and links on the stormwater website.
- Ongoing – Update the website to include a counter (sometimes called ‘hits’).

BMP 1(C): ENCOURAGE PROPER DISPOSAL OF HOUSEHOLD HAZARDOUS WASTES

Measurable Goals

1. Research local and regional opportunities for the public to properly dispose of household hazardous waste
2. Develop an inventory of proper disposal events and opportunities based on research.
3. Create, distribute and track the number of stormwater brochures or ‘hits’ dealing with hazardous materials disposal.

Description

Often, bad habits that lead to water pollution stem from the fact that citizens do not realize that certain chemicals are dangerous to the environment. It is anticipated that once citizens are informed, they will adjust their behavior to help protect water quality.

Articles in the City's recurrent administrator's newsletter and/or on its website will be made available with information applicable to residential, commercial and industrial properties and address the following hazardous waste handling issues:

- Water quality impacts of improper storage, handling and disposal
- Locations for proper hazardous waste disposal
- Reporting of illicit discharges
- Awareness of variety of hazardous materials including, pesticides, paints, cleaning products, products containing mercury, fluorescent light bulbs, batteries, hobby chemicals, thinners and solvents, automotive products, aerosols, glues and adhesives and propane tanks
- Less-toxic alternatives to hazardous materials

Planned Activities

- Research or create and distribute stormwater information and/or links to such information discussing household hazardous waste management.
- Ongoing- Make available information for hazardous waste disposal events.
- Ongoing – As available, provide hazardous waste management brochures.

BMP 1(D): ADDRESS ILLEGAL DUMPING AND LITTERING

Measurable Goals

1. Install and track number of additional trash bins, pet waste dispensers and receptacles.
2. Post and track number of signs at detention ponds.
3. Review problem areas and enforce litter ordinance as needed.
4. Distribute and/or make available illegal dumping and littering education materials.

Description

Trash and floating debris in stormwater facilities and waterways have the potential to become significant pollutants, especially in areas where large volumes of trash are generated in a concentrated area. Trash in waterbodies contributes to visual pollution and detracts from the aesthetic qualities of the landscape, along with potential for posing a threat to wildlife and human health. Less litter and waste debris from citizens may also save the City money for maintenance of structural-runoff controls.

When developing and reviewing existing and planned trash and litter management strategies, the City plans to utilize the following general EPA recommendations:

- Regular cleaning and maintenance is necessary to prevent the trash accumulated at control structures from being hazardous itself.
- Control strategies should not just transport trash to another location or waterbody, but should reduce the quantity of trash potentially in the water as a whole.

The EPA indicates that there are two main methods of trash control: **source control** and **structural control**.

Source control includes community education, improved infrastructure, waste reduction and cleanup campaigns. Community education will be incorporated into City’s bimonthly or administrator’s newsletter. Citizen awareness is a key element to a successful litter and trash management program. The City proposes to continue efforts to:

- Install and maintain signs at detention ponds, which may include indicating the consequences of illegal dumping and littering directly on these signs.
- Maintain and monitor the number of trash and pet waste receptacles available for public use to encourage responsible trash and waste disposal as resources allow.
- Encourage the use of recycled products and products that contain limited amounts of packaging by addressing this issue in stormwater brochures or other outreach.
- Continue to implement street sweeping, receptacle servicing, and use of cleanup crews along roadsides and pet waste dispensers.

Structural control refers to the use of structures that physically filter wastes or conducts 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 water by increasing the settling rate of trash and particles. A number of commercial centrifugal separation products are available if this approach is warranted.

Planned Activities

- Maintain or install trash and pet waste bins and signs near detention ponds.
- Ongoing – Make available/distribute illegal dumping and littering educational materials and continue to utilize “Puget Sound Starts Here” pet waste bags.
- Ongoing - Review and enforce the litter ordinance, especially in areas of concern.

BMP 1(E): LAWN AND GARDEN CARE ACTIVITIES INFORMATION

Measurable Goals

1. Develop a list of subjects to be included in public education material addressing lawn and garden care practices.
2. Distribute and/or track the number of lawn and garden care education materials.

Description

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

Articles and resources made available in the City's newsletters and on its website are planned to be applicable to residential, commercial and industrial properties and address the following general lawn and garden planning and care issues:

- Planning and Design
 - Educate property owners on the benefits of developing a landscape plan that utilizes the natural conditions of site including:
 - Regional and climatic conditions
 - Existing vegetation
 - Topography
 - Intended uses of the property
 - Water needs of plants
 - Promote natural vegetation choices to minimize water loss and contamination.
- Appropriate Plant Selection
 - Educate about the water efficiency and disease resistance of indigenous plant species.
 - Encourage property owners to choose local or regional plants to develop an environmentally friendly landscape.
- Use of Mulches
 - Educate about the water retention, weed growth reduction, erosion prevention and soil and plant growth improvements of mulch.
 - Encourage property owners to use mulches.
- Fertilizers
 - Educate property owners about over-application.
 - Discourage property owners from using fertilizers.
 - Recommend less-toxic alternatives, such as composted organic material.
- Pesticides
 - Educate property owners about the effects of pesticides.
 - Identify any potential pests to determine if they are truly harmful to plants.
 - Encourage the selection of hearty, native plants that require no pesticides.
 - Discourage chemical pest control.

The City intends to continue working with the Pierce County Health Department and other agencies to identify content, information and resources sources when preparing the lawn and garden information and to make these resources available on the website.

Planned Activities

- Develop a list of important lawn and gardening topics to include in outreach.
- Review topics and information or links available through the website and work with Pierce County agencies to conduct or provide information about available Natural Yard Care Workshops or similar classes for discussing lawn and garden activities and stormwater impacts, as these opportunities become available.

BMP 1(F): EDUCATION ON NEW DEVELOPMENT AND LOW IMPACT DEVELOPMENT (LID)

Measurable Goals

1. Review land use codes to ensure consistency with emerging LID principles.
2. Identify construction related subjects for inclusion in construction/new development public education materials that focus on local construction opportunity.
3. Distribute and/or make low impact development education materials available that are appropriate for the soil and topography of the City.
4. Publish City Development Standards on the website.
5. Post updated Development Standards on the City's website as occurs.
6. Track the number of LID education materials viewed ('hits') as resources allow.
7. Track the number of new site plans that incorporate LID principles and practices.
8. Track the number of City-owned facilities that are retrofitted with LID practices.

Description

Using LID approaches for new development will help to achieve stormwater pollution reduction goals by reducing stormwater runoff and pollution. The DMC will be reviewed so that LID practices can be integrated into the regulations. In order for these measures to be implemented, the City will inform the public about these practices. LID education material will be made available primarily through the website as it is developed.

The City will encourage the use of LID in new development with the following:

- Determine applicable LID BMPs in the planning stages of new projects.
- Identify maintenance requirements for applicable LID BMPs.
- Demonstrate LID BMPs at City-owned facilities (such as infiltrating roof drains).
- Inform developers about the potential cost savings of LID BMPs and their use as a marketing tool to attract environmentally conscious buyers.
- Educate property owners on effective pollution prevention measures.
- Encourage the proper maintenance of BMPs.
- Update the City Development Standards to include LID BMPs as appropriate.
- Allow convenient access to LID information on City's website.

Planned Activities

- Post updates to City Development Standards on the City website.
- Review, distribute/make available info on LID related practices and standards.
- Ongoing – Distribute educational material referring to LID codes on website.
- Ongoing - Monitor the number of plans implementing LID practices and of any City facilities utilizing LID principles.

CHAPTER 2: PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

Involving the public in stormwater programs will encourage them to take ownership of the need to protect water quality. Public support is required for effective stormwater management program implementation. Opportunities are provided for participation and involvement through a variety of avenues including local public meetings, advisory councils, watershed committees, participation in developing rate-structures, and a variety of local and regional stewardship programs.

Public Involvement and Participation Program

- a. As part of implementing Permit requirements, the City provides opportunities for the public to participate in a variety of aspects involved in the managing, implementing, and updates for the City's SWMP. The City primarily provides for consideration of public comments through public meetings and web availability.
- b. The City will continue to make their SWMP, annual report, and all other submittals required by this Permit, and other resources available by posting it on their website.

The City will continue to implement the following BMPs to encourage the public to participate in local and regional stormwater programs:

- BMP 2(A): Post Public Involvement Opportunities
- BMP 2(B): Coordination with Adopt-a-Street Program
- BMP 2(C): Storm Drain Markers/Stenciling
- BMP 2(D): Volunteer Monitoring
- BMP 2(E): Community Hotline

Objective: Provide opportunity for public involvement and participation.

BMP 2(A): POST PUBLIC INVOLVEMENT OPPORTUNITIES

Measurable Goal

1. Maintain updates to the City stormwater website (track substantial site updates).

Description

The City will post information about the following on its website:

- Public meetings and discussions on the City's SWMP and utility-related issues
- NPDES permit and Annual Report
- Local (outside) Adopt-Stream and City of DuPont Adopt-a-Street programs
- Storm Drain Marker or Stenciling Opportunities
- Volunteer programs, resources and events

The City will evaluate other opportunities for public participation and post these as well, such as participation in various regional ‘Puget Sound Starts Here’ campaign activities, Pierce Conservation District programs and activities, and similar local or regional efforts.

Planned Activities

- Maintain, review and develop updates to the stormwater website.
- Ongoing - Topics will be added and updated.

BMP 2(B): COORDINATION WITH ADOPT-A-STREET PROGRAM

Measurable Goals

1. Identify target areas or streets to be included in the Adopt-a-Street program.
2. Identify and contact groups about participating in the program.
3. The number of groups participating in the Adopt-a-Street program.
4. The amount of trash and debris removed by Adopt-a-Street volunteers.

Description

The City will continue to identify target streets to be included in the Adopt-a-Street program. Once the streets or areas are identified, groups shall be listed and contacted for interest in the program. Such groups may include local businesses, Boy and Girl Scout troops, school or community groups, or other civic organizations. The In 2012, the City’s Adopt-A-Street Program participants increased from 2 to 9 groups and individuals. For the 2013 year and beyond, the City will work toward maintaining 10 or more participants.

Planned Activities

- Continue to identify and contact groups about participating in the program.
- Ongoing- Advertise and monitor the effectiveness of the Adopt-a-Street program.

BMP 2(C): STORM DRAIN MARKERS AND STENCILING PROGRAM

Measurable Goals

1. Identify target areas to include in the storm drain markers and stenciling program.
2. Develop and maintain standardized storm drain stencils and markers.
3. Identify and contact targeted groups about participating in a storm drain marker and stenciling program.
4. The number of groups participating.
5. The number of drains stenciled and badges applied.

Description

As active new development within community tapers, the City will identify target areas or streets to be included in the storm drainage stenciling and marker program. Once the streets or areas are identified, groups will be identified and contacted for interest in the program. Such groups may include local Boy and Girl Scout troops, school groups, fundraising groups, or other civic organizations. The stencils or markers can be designed and created with slogans, logos and text appropriate for the area. Support will be given to

groups as needed including stencils, appliqués, paint, rollers, badges, safety equipment, trash bags, and if necessary, assistance with traffic controls.

Records of storm drain stenciling, badge, or marker efforts as occur will be maintained throughout future program years and indicated in the annual report at the end of the year.

Planned Activities

- Identify target locations for storm drain stenciling or marker application.
- Provide consistency for stencils or markers that can be used with the program.
- Ongoing- Identify partners and invite groups to participate in the program.

BMP 2(D): VOLUNTEER MONITORING

Measurable Goals

1. Identify outfalls or areas that are safe for volunteer monitoring groups to conduct stormwater monitoring or dry weather screening.
2. Develop guidelines for conducting volunteer monitoring in identified areas.
3. Invite identified groups to participate in the volunteer monitoring program.
4. Track the number of groups participating.

Description

Data from volunteer monitoring can be useful to the City in terms of correcting actions that are currently degrading the environment or it can be used to set the background necessary to determine if a continuing downward trend is present. However, in order for this data to be useful, the City must develop appropriate guidelines or coordinate with local Stream Team programs and efforts so that data is collected in a uniform manner that may be used comparatively with data collected by others.

For a volunteer monitoring program, the City can identify outfalls or areas safe for volunteer monitoring groups to conduct stormwater monitoring or dry weather screening. They can then assemble and provide the proper training and equipment for the groups. Guidelines detailing specific monitoring requirements will be developed and explained to each group. The guidelines should be easy enough for volunteers to understand and follow completely. Potential volunteer groups can be coordinated with other existing programs. If interested, the groups can be contacted, trained and provided the appropriate equipment including data forms and safety equipment. The City plans to work with local Stream Team groups as this topic is more fully developed to avoid duplication of efforts.

Records of each monitoring effort will be maintained and reported at the end of the year.

Planned Activities

- Ongoing- Identify areas for volunteer monitoring/assistance with water quality.
- Ongoing- Coordination for volunteer monitoring guidelines and opportunities.
- Ongoing- Invite groups to participate in monitoring programs.
- Ongoing- Coordinate for advertising and tracking of monitoring programs.

BMP 2(E): COMMUNITY HOTLINE

Measurable Goals

1. Identify a phone number and contact person(s) to receive reports on stormwater quality issues from the community.
2. Distribute information and continue to make a hotline number to the community.
3. The number of calls received by the hotline.
4. The number of inspections provided in response to calls from the public.

Description

Since regulators and authorities cannot monitor all water bodies at once, the City will rely on the public to keep them informed of water polluters. An accessible phone number provides a means for concerned citizens and agencies to contact the appropriate authority when they see water quality problems. A typical call may report a leaking automobile, concrete washout dumped on the street, paint spilled near a catch basin, organic debris (including pet waste), or other illicit discharges in a drainage system or waterway.

A phone number for this contact will be advertised and distributed to the public through the City website. The phone number will also be available on a variety of distributed materials which may include the City's newsletter and mailings and contact information on the City's website. The City may provide an electronic form on its website which will include spaces for information about the person making the complaint and alleged violation. If worried about privacy, citizens may submit a complaint by telephone.

City staff will dispatch qualified water quality investigators to respond to complaints. They will make every attempt to determine the responsible party and inform them of the environmental impact of their actions. The responsible party will be required to stop the action that is polluting the surface water. In addition, staff members will provide the violator with information on cleanup, alternative disposal options, erosion control, and other BMPs as approved by the City. Disciplinary action will be taken against polluters as described in the City's illicit discharge ordinance.

Planned Activities

- Continue to make available a phone number for the community hotline. This is currently provided through the Public Works main phone line (253) 912-5381, although in the future a separate number could be provided as resources allow.
- Ongoing - Track the number of inspections performed in response to calls.

CHAPTER 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

Ecology has developed final permit requirements for the illicit discharge detection and elimination program requirement of the State's NPDES Phase II permit program. The following program is based on these requirements and will continue to be implemented.

Illicit Discharge Detection and Elimination Program

- a. A storm sewer system map has been developed as required by the Permit and is updated as new development and stormwater facilities are constructed. The map and its current and future updates include the following information and system elements:
 - i. The location of all known municipal separate storm sewer outfalls and receiving waters and structural stormwater BMPs owned, operated, or maintained by the City. The map will contain the attributes listed below for all storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems:
 - Tributary conveyances (indicate type, material, and size where known).
 - Associated drainage areas.
 - Land use.
 - ii. A map of all connections to the municipal separate storm sewer (required to include all authorized or allowed by the City after February 16, 2007).
 - iii. Geographic areas served by the City storm sewer system that do not discharge stormwater to surface waters. (Note: all stormwater facilities are infiltrated.)
 - iv. The municipal storm sewer system map(s) will be made available to Ecology if requested. The map will be provided in an electronic format with fully described mapping standards.
 - vi. Upon request, to the extent appropriate, the City will also provide mapping information to other agencies or entities.
- b. The City has developed and implemented an ordinance intended to effectively prohibit non-stormwater, illegal discharges, and dumping into the MS4 to the maximum extent allowable under State and Federal law. The ordinance was required to be adopted no later than August 16, 2009, and has been incorporated into the stormwater code.
 - i. The ordinance prohibits the following categories of non-stormwater discharges unless the stated conditions are met:
 - Discharges from potable water sources and dechlorinated swimming pools. If necessary to release discharge, it will be treated and receive prior approval.
 - Discharges from lawn watering and other irrigation runoff.
 - Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. At construction sites, street sweeping must be performed prior to washing the street.
 - Other non-stormwater discharges.

- ii. If any other discharges are identified as significant sources of pollutants to waters of the State they will be prohibited.
- iii. The City will continue to work with other agencies, such as the Pierce County Health Department's Local Source Control Program to develop additional outreach and enforcement strategies as part of implementing the program.
- c. The City will continue to develop and implement programs to detect and address non-stormwater discharges, spills, illicit connections, and illegal dumping into the MS4. The program includes:
 - i. Procedures for locating priority areas likely to have illicit discharges.
 - ii. Field activities to do visual inspections of priority outfalls and/or infiltration ponds, verify outfall locations, identify previously unknown outfalls, and detect illicit discharges.
 - iii. Procedures for characterizing any illicit discharges reported to the City. These will include detailed instructions for evaluating the seriousness of the discharge.
 - iv. Procedures for visual inspections. These would include opening manholes, using mobile cameras, and collecting and analyzing samples as may be applicable.
 - v. Procedures for removing the source of discharge. These procedures will include notification of authorities and property owners, elimination of the discharge, follow-up inspections, and escalating enforcement and legal actions if the discharge is not eliminated. Termination of the connection will be verified within 180 days, using enforcement authority as needed.
- d. The City will inform public employees, businesses, and the public of hazards associated with illegal discharges and improper disposal of waste.
- e. The City will continue to develop and implement procedures for quick evaluation and assessment. Results will be tracked and published in future annual stormwater report.
- f. Field staff trainings will be an ongoing part of implementing steps to appropriately identify potential problems and respond to reports of illicit discharges that may occur.

The City will implement BMPs to detect and eliminate illicit connections during this and future permit cycles. The City will specifically address the following BMPs.

- BMP 3(A): Review Illicit Discharge Legal Authority and Ordinance
- BMP 3(B): Maintain Stormwater Inventory (Storm Sewer System Map)
- BMP 3(C): Conduct Field Screening
- BMP 3(D): Identify Stormwater Hotspots
- BMP 3(E): Receive Training on Illicit Discharges
- BMP 3(F): Eliminate Discharges from Storage Tanks

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 ILLICIT DISCHARGE LEGAL AUTHORITY AND ORDINANCE

Measurable Goals

1. Review the related ordinances.

2. Revise the ordinances as changes in permit language or enforcement issues necessitate.
3. Develop a supplemental provisions and/or legal authority as needed.

Description

The City first reviewed to determine if their existing codes relate appropriately to the prohibition of illicit discharges. The existing City of DuPont Municipal Code (DMC) contains regulations that prohibit illicit discharges and illegal dumping and authorizes enforcement actions on public and private property.

The following section of the DMC address illicit discharges

- 22.01.040(44) Definitions, Illicit Discharges
- 22.01.090(D) Illicit Discharges

The City revised the code in 2009 to ensure that, the illicit discharge ordinance contains Ecology permit requirements and will review for any updates needed as noted earlier.

Current and Planned Activities

- Review existing codes and revise as necessary. Ongoing review of effectiveness.

BMP 3(B): MAINTAIN STORMWATER INVENTORY (STORM SEWER SYSTEM MAP)

Measurable Goals

1. Ensure current base map includes full stormwater system, receiving streams, outfalls, and displays the permit coverage area.
2. Develop procedures for updating base map.
3. Update base map with as-built information.

Description

A storm sewer system map depicting the existing storm sewer system has been developed and is maintained, in part, to aid in eliminating illicit discharges. Updates are provided as development and repairs to the storm system occur. The map has a scale of 1" = 100' and depicts 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 storm system authorized or allowed by the City after February 16, 2007 (and earlier if available); and
- Geographic areas served by the City's MS4 that do not discharge stormwater to surface waters. (As noted above, stormwater facilities are primarily infiltrated.)

The City will make MS4 maps depicting the required information available to Ecology and to other agencies upon their request.

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

Current and Planned Activities

- Storm sewer system map and procedures for updates have been developed.
- Ongoing - Continue to maintain and update the map with as-built information from new development as occurs.

BMP 3(C): CONDUCT FIELD SCREENING

Measurable Goals

1. Create and prioritize an inventory of sites for inspection.
2. Develop a schedule to inspect at least 20% of outfalls and/or public infiltration ponds per year.
3. Inspect 20% of outfalls and/or infiltration ponds.
4. The number of illicit connections found and repaired, if applicable.

Description

Storm drain outfalls or pond inlets will be monitored to identify those areas where discharges that exceed water quality standards are occurring. Identifying potential illicit discharge sources may require both visual inspections for dry-weather discharges and potentially chemical analysis at selected areas. Field notes will be recorded on inspection forms and photographs taken as needed and retained for reference. If the outfall or pond inlet is not accessible, field crews will use the system map and identify the nearest point to assess the system. Staff will locate the storm sewer manhole closest to the area of concern and remove the cover to identify signs of dry-weather flow, such as odor or residue. Field tests for possible contamination in dry-weather flows are listed below:

- 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 or inlet may show the effects of industrial pollutants. Irregular growth of vegetation may be the result of dry-weather potential illicit 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 or inlet, usually of a dark color.
- Damage to Outfall or Inlet Structures – Damage to outfall or inlet structures is another visible indication of potential 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 or inlet.

The City plans to inspect all outfalls or inlets over the 5-year permit term. If indications of an illicit discharge exist, the Public Works Supervisor or Director will be alerted and steps will be followed to identify and eliminate the source of the discharge. If other non-stormwater discharges are identified at an outfall or inlet, the source of the discharge will be investigated and a list of potential non-stormwater discharge sites within the basin will be matched to the type of discharge identified. Often times the source of the non-stormwater discharge will not be easily identified.

The City will follow the EPA recommendations for detecting and tracing potential sources of illicit connections including:

- Institute building and plumbing codes to prevent connections of sources of potentially hazardous pollutants to storm drains.
- Prioritize structures to be inspected by building age and use.
- Map each area to be surveyed and indicate the route of the sewer system and the locations of storm drains on the map.
- Survey individual buildings to identify connections to storm drains.
- Inspect sewer lines with television equipment to identify physical connections.
- Inspect new developments or renovation projects to identify illicit connections to the storm sewer system.
- Test sediment from the catch basins or equivalent structures.
- Identify illicit connections using the following methods to determine whether they should be connected to the storm drain system or to the sanitary sewer:
 - **Dye testing** – Flush fluorometric dye into suspected illicit connection to determine hydraulic connectivity.
 - **Visual inspection** – Inspect sewer lines for sags and cracks with a TV camera.
 - **Smoke testing** – Inject zinc chloride smoke into sewer lines to find leaks, cracks and cross connections.
 - **Flow monitoring** – Identify sources of improper connections.

Current and Planned Activities

- Prioritize areas for inspection and ensure coordination with sewer utility.
- Implement field screening and inspection program.
- Ongoing-The presence of illicit discharges identified or found will be addressed and tracked annually.

BMP 3(D): IDENTIFY STORMWATER HOTSPOTS

Measurable Goals

1. Identify local facilities that have a high probability of discharging pollutants (stormwater hot spots).
2. Develop a list of potential pollutants that may be associated with stormwater hot spots.
3. Conduct inventory and prioritize hot spots for inspection.

Description

As development continues to occur within the community, the City will use the storm sewer system map as a tool to identify local businesses, both commercial and industrial, that have a high probability of causing illicit discharges. The system map will also be used to target areas with dry-weather flows or other types of suspicious discharges.

These areas will receive more in-depth inspection and monitoring.

The City will prioritize inspection of sites based on land use types and work with other agencies in order to maximize the results of the inspections with the available time and funds associated with this BMP. The City will incorporate the following general EPA prioritization scheme into their illicit detection program:

1. Automobile-related businesses and facilities, and heavy manufacturing;
2. Printers, dry cleaners and laundromats, photo processors, utilities, paint stores, water conditioners, chemical laboratories, construction companies, and medium light manufacturing; and
3. Institutional facilities, private service agencies, retail establishments, and schools.

Current and planned Activities

- Monitor potential stormwater hot spots and identify partnering agencies, such as the Pierce County Health Department's Local Source Control Program. In 2013, the City partnered with the Local Source Control Program to meet with a variety of businesses and site owners to identify best management practices that are aimed at eliminating or reducing the potential for stormwater system impacts.
- Ongoing- Continued coordination with other agencies. Conduct inspections at stormwater hot spots, as appropriate.

BMP 3(E): RECEIVE TRAINING ON ILLICIT DISCHARGES

Measurable Goals

1. Maintain a list of personnel to be trained as turn over occurs.
2. Research and develop training materials and available classes.
3. The number of training days for staff each year.

Description

Field maintenance crews and construction and building inspectors will be trained in the detection and elimination of illicit discharges, and on the proper BMPs to use for the mitigation of these discharges. The ongoing classes will include various means to identify illicit connections and methods used to disconnect them from the stormwater

system. Each person requiring this training should participate in at least one review or training for overview and instruction each year.

Current and Planned Activities

- Develop and keep up to date a list of personnel to be trained.
- Ongoing- Develop or obtain training materials and explore available classes.
- Ongoing- Track the number of trainings and personnel receiving training.

BMP 3(F): IDENTIFY/ELIMINATE DISCHARGES FROM STORAGE TANKS

Measurable Goals

1. Identify facilities that own and operate large above or belowground storage tanks.
2. Distribute educational material on SWPPP elements for the tanks as applicable.

Description

Storage tanks, either above or below ground, may potentially degrade water quality if leaks are present. To contend with this problem, the City intends to continue to identify facilities within the area that own and operate large above or below ground storage tanks. Educational material regarding maintenance for these tanks will be compiled and distributed to owners of these tanks. If needed, enforcement actions will be taken.

Planned Activities

- Ongoing- Identify current and planned facilities with storage tanks.
- Ongoing- Work with other agencies to ensure inspections for tank leaks occurs.

CHAPTER 4: CONTROL STORMWATER RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES

The City has developed, implemented, and enforces a program to control stormwater runoff from new development, redevelopment, and construction sites to the MS4. This program is applied to all sites that disturb an area one acre or greater, including sites less than one acre that are part of a larger common plan. As part of the City's development regulations, the program applies to all development, private and public, and all roads.

Site Runoff Control Program

- a. The program includes adoption of an ordinance addressing runoff from new development, redevelopment, and construction site projects one acre and larger. Other existing local requirements are applied to stormwater controls at smaller sites. The ordinance was required to be in place no later than August 16, 2009. It includes:
 - i. The Minimum Requirements, technical thresholds, and definitions from Appendix 1 of the Permit.
 - ii. A site planning process, and BMP selection and design criteria that aims to protect water quality, reduce discharge of pollutants, and apply all known, available and reasonable methods of prevention, control, and treatment (AKART) prior to discharge.
 - iii. The authority to inspect private stormwater facilities that discharge to the MS4.
 - iv. Provisions to allow non-structural preventive actions and source reduction approaches such as LID techniques and measures to minimize the creation of impervious surfaces and the disturbance of native soils and vegetation.
- b. As part of the City's development regulations, the program includes a permitting process with plan review, inspection, and enforcement capability. The program is applied to all sites that are one acre or greater or part of a larger common plan.
- c. The program includes provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs. These provisions reflect:
 - i. Adoption of an ordinance that requires clearly identifying the party responsible for maintenance, requires inspection of facilities, and establishes enforcement procedures. This is accomplished through stormwater maintenance agreements.
 - ii. The maintenance standards identified protect facility function. When an inspection identifies exceedances of the standard, maintenance will be performed.
 - iii. Annual inspections of all stormwater treatment and flow control facilities unless maintenance records justify a different frequency.
 - iv. Inspections of all new flow control and water quality treatment facilities for new residential developments within a larger common plan. Inspections are to be every six months during the period of heaviest house construction (i.e., one to two years following subdivision approval).

- d. The program includes a procedure for keeping records of inspections, enforcement actions, and maintenance activities done by staff.
- e. As part of implementing the program, the City makes copies of the “Notice of Intent for Construction Activity” and the “Notice of Intent for Industrial Activity” or information on where to access these available to representatives of proposed development projects.
- f. The City will verify that all staff responsible for ongoing permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities.

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

- BMP 4(A): Develop and Update Legal Authority and Ordinance
- BMP 4(B): Adopt Department of Ecology Stormwater Manual
- BMP 4(C): Conduct Construction Inspections
- BMP 4(D): Review Site Plans for New and Redevelopment
- BMP 4(E): Conduct Post-Developed Inspections
- BMP 4(F): Provide Training for Personnel
- BMP 4(G): Identify Sensitive Water Bodies and Protective Measures
- BMP 4(H): Encourage Low Impact Development

Objective: Upgrade the set of development requirements for erosion and sediment control at construction sites per the City’s adopted ordinance. This includes planning, installation, inspection, maintenance, and enforcement of development practices.

BMP 4(A): DEVELOP AND UPDATE LEGAL AUTHORITY/ORDINANCES

Measurable Goal

1. Identify any regulation areas not addressed within the current ordinance and revise if necessary.

Description

The City currently has regulations that require applicants for construction projects to plan for and implement erosion control practices and describe the inspection and enforcement authority of the City. The City will ensure that the erosion and sediment control ordinance(s) include all sufficient stormwater pollution prevention elements to prevent pollution resulting from erosion and sediment runoff during the construction phase, and an adequate inspection and enforcement plan to ensure compliance with the ordinance.

The following sections of the DMC regulate construction run-off control measures:

- 22.01.090(b) General Requirements – Best Management Practices
- 22.01.100 Approval Standards – New Development
- 22.01.110 Approval Standards – Redevelopment
- 22.01.200 Minimum Stormwater Requirements for New Development and Redevelopment

The City's ordinance references the adopted Ecology manual for details on appropriate BMPs. The City intends to provide erosion and sediment control techniques on its stormwater website that owners of construction sites would be allowed to use. The EPA has developed the National Menu of Best Management Practices which is available at <http://cfpub2.epa.gov/npdes/stormwater/menuofbmps/index.cfm>

The ordinance also incorporates an enforcement plan that includes enforcement procedures against inadequate construction erosion and sediment controls.

For developed or redeveloped sites, the City currently has regulations that establish the minimum level of compliance that must be met to permit a property to be developed or redeveloped.

The City has adopted the latest Ecology Manual by reference, including its Minimum Requirements as modified by the Permit, which addresses post-construction runoff from new developments and redevelopment projects that disturb more than one acre. In this sense, "redevelopment" refers to alterations of a property that change the "footprint" of a site or building and is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse stormwater quality impacts and offer no new opportunity for stormwater controls.

The ordinance also allows for structural and non-structural BMPs and implements standards to ensure long-term operation and maintenance of the BMPs. The maintenance schedule will comply with the NPDES Phase II Permit requirements. The City currently has maintenance agreements in place for all privately-owned and maintained stormwater BMPs. Record keeping of all inspections and maintenance will be performed as well.

Current and Planned Activities

- Identify changes in regulations not addressed in the current ordinance and revise as necessary.
- Ongoing-Maintain and implement the stormwater regulations and programs.

BMP 4(B): ADOPT ECOLOGY'S LATEST STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON

Measurable Goal

1. Adopt Ecology's latest Stormwater Management Manual for Western Washington.

Description

As discussed above, The City adopted by ordinance the Ecology manual for details on appropriate BMPs.

Planned Activities

- The City will adopt Ecology's most recent Stormwater Management Manual for Western Washington, as modified by provisions of the Permit and its appendices.

BMP 4(C): CONDUCT CONSTRUCTION INSPECTIONS

Measurable Goals

1. Number of inspectors.
2. Development or use of consistent inspection forms or practices.
3. Frequency of inspection for compliance with construction site erosion/sediment controls and maintenance of installed BMPs.
4. Create an inventory of inspection activities, maintain annually.
5. Review of ordinance for site inspection requirements.
6. Number of compliance letters, or other enforcement actions.

Description

Inspections are necessary to ensure that erosion and sediment controls are properly installed and maintained and that the site plan reflects changes made on-site (e.g. different types of controls used and changed location of controls). To minimize the amount of staff needed for this BMP, erosion control inspectors may include building inspectors and/or other staff or consultants working with Public Works. Frequent and consistent inspections are the key to ensuring proper installation and maintenance of erosion and sediment controls. The frequency for inspection of construction sites will be determined by the City but, at a minimum, will include at least one during the duration of a project. More frequent inspections may be required during wet weather months.

Inspections 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/or
- Construction sites in operation during rain events

Current and Planned Activities

- Identify inspector(s) for each project as occurs and begin inspections.
- Ensure construction inspections occur on each development or re-development site.
- Ongoing- Maintain ongoing inspector(s) and inventory of inspection activities.

BMP 4(D): REVIEW SITE PLANS

Measurable Goals

1. The number of trained reviewers.
2. Develop a review checklist.
3. The number of plans reviewed.

Description

Currently, the contracted City engineer in coordination with staff reviews construction plans to ensure that they include the required stormwater controls, erosion and sediment controls, and post-construction controls required by City codes.

At a minimum, all plans for sites disturbing at least one acre (or if less than one acre and part of a planned development) to verify the following factors:

- Erosion and sediment controls consistent with City codes and control requirements.
- The construction operator is aware of his responsibility for implementing and maintaining erosion and sediment controls and is aware of the penalties for failing to do so.
- Post-construction controls consistent with the City codes are clearly described on the plan and are sized appropriately.
- 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.

The City will create a developer review checklist to make certain that all concerns are addressed during the review. A pre-construction site plan meeting with the construction supervisor(s) and operator(s) is typically required for each project to ensure that all parties are comfortable with the site plan and its requirements.

Planned Activities

- Ongoing- Review plans prior to construction.
- Ongoing- Develop and keep up to date a reviewer's checklist.
- Ongoing- Track the number of reviewers and the number of plans reviewed.

BMP 4(E): CONDUCT POST-DEVELOPED INSPECTIONS

Measurable Goals

1. The number of inspectors.
2. Development or use of consistent inspection forms or practices.
3. Frequency of inspection for compliance with installed BMPs.
4. An inventory of inspection activities created, maintained annually.
5. Review of ordinance for site inspection requirements.
6. Number of compliance letters.

Description

Inspections are necessary to ensure that permanent water quality controls are properly installed and maintained even after construction is complete. Post-development construction site inspections occur no later than one year following the completion of the project.

Planned Activities

- Ongoing- Create and review post- construction inspection forms and compile an inventory of inspection activities.
- Ongoing- Conduct post-construction inspections.
- Ongoing- Track the number of inspectors, compliance letters written or enforcement actions taken, and the frequency of inspections.
- Ongoing- Review the City ordinances and, if necessary, revise post-construction site inspection requirements.

BMP 4(F): PROVIDE TRAINING FOR PERSONNEL

Measurable Goals

1. Develop and maintain a list of personnel to be trained.
2. Number of trainings, reviews, or instructional days for staff.

Description

City inspectors and appropriate public works staff will have CESCL certifications and/or be familiarized in the required erosion and sediment control BMPs for stormwater runoff from construction sites. Each person requiring this training will participate in erosion control reviews or attend at least one day of instruction for recertification each year.

Course information for these training programs and others is typically available at the web addresses below:

Association of General Contractors of Washington

<http://www.agcwa.com/public/education/classes.asp>

University of Washington's Engineering Professional Program

<http://www.engr.washington.edu/~uw-epp/Pepl/cec.html>

International Erosion Control Association

<http://www.ieca.org/>

Eco-3

<http://www.eco-3.com>

Current and Planned Activities

- CESCL trainings have been provided to appropriate public works staff.
- Ongoing- Provide additional erosion and sediment control training(s) each year.

BMP 4(G): IDENTIFY SENSITIVE WATER BODIES AND PROTECTIVE MEASURES

Measurable Goals

1. Identify sensitive water bodies within the jurisdiction.
2. Develop guidelines for permitting development projects near sensitive areas.

3. Review zoning in sensitive areas and revise if necessary.
4. Review and revise critical area requirements/buffers in relation to sensitive areas.

Description

Sensitive water bodies play a crucial part in the health of an overall stormwater system. Sequatchew Creek flows through the City of DuPont into the southern portion of Puget Sound.

Planned Activities

- Ongoing- Coordinate with planning department to review and revise, if necessary, land use and development regulations in the vicinity of Sequatchew Creek.

BMP 4(H): ENCOURAGE LOW IMPACT DEVELOPMENT (LID)

Measurable Goals

1. Review land use codes to ensure consistency with LID principles.
2. Identify construction related subjects for inclusion in construction/new development public education materials that focus on local construction.
3. Distribute development education material as it is available.
4. Number of new site plans with LID practices.

Description

As indicated with BMP 1(F), using low-impact development approaches for new development can help to achieve stormwater pollution reduction goals. Through LID approaches, stormwater runoff can be controlled while development objectives are achieved. Soil types found in the City of DuPont are conducive to infiltration and the use of LID approaches that rely on infiltration. The City should also encourage LID practices, such as minimization of impervious surfaces that may be appropriate. In order for these measures to be implemented, the City will inform the public about potential LID practices and the establishment of an outreach program as described for BMP 1(F).

Current and Planned Activities

- 2011-Prepared report addressing barriers/opportunities for LID implementation
- Ongoing-Track workgroups and agencies working to develop LID technologies and standards and make appropriate LID education material available.
- Ongoing- Revise the City codes to include/promote LID as necessary.
- Ongoing – Assess effectiveness of LID opportunities, techniques and programs.

CHAPTER 5: MUNICIPAL OPERATIONS AND MAINTENANCE (O&M) PROGRAM

The City will implement an O&M program that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Areas of municipal operations that will be generally targeted for preventing or reducing pollutant potential include:

- Streets, parking lots, right-of-ways, and vehicle maintenance and storage areas;
- Stormwater treatment and flow control facilities;
- Parks and open space areas.

Site Runoff Control Program

- a. Establish maintenance standards that are protective of facility function as specified by Volume V, Chapter 4 of the *Stormwater Management Manual for Western Washington* (Manual) as is updated. When maintenance standards are exceeded, mitigation is performed. Program and maintenance standards are described below.
 - i. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facilities required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.
 - ii. Unless there are circumstances beyond the City's control, when an inspection identifies an exceedence of the maintenance standard, maintenance shall be performed:
 - Within 1 year for wet pool facilities and retention/detention ponds.
 - Within 6 months for typical maintenance.
 - Within 9 months for maintenance requiring re-vegetation.
 - Within 2 years for maintenance that requires capital construction of less than \$25,000.

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

- b. Conduct annual inspections of all municipal treatment and flow control facilities and take appropriate actions in accordance with the adopted maintenance standards. The frequency of inspections may be reduced if justified.
- c. Spot check potentially damaged facilities following major storm events and take appropriate action if there is damage identified.
- d. Develop a program to inspect all catch basins and inlets, to be implemented before the end of the Permit term.
- e. Establish and implement BMPs to reduce stormwater impacts associated with runoff from streets, parking lots, roads, and road maintenance activities.

- f. Establish and implement BMPs to reduce pollutants in discharges from all municipal lands, including but not limited to: parks, open space, right-of-ways, maintenance yards, and stormwater treatment and flow control facilities.
- g. Develop and implement an on-going training program for City employees whose construction, operations, or maintenance job functions may impact stormwater quality.
- h. Develop and implement a SWPPP for all heavy equipment maintenance and storage yards, and material storage facilities owned or operated by the City but not covered under the Industrial Stormwater General Permit.
- i. Maintain records of inspections and maintenance or repair activities done as part of this program.

The City plans to implement the following BMPs to address pollution prevention.

- BMP 5(A): Implement O&M Program and O&M Standards
- BMP 5(B): Develop a Stormwater Pollution Prevention Plan (SWPPP)
- BMP 5(C): Vehicle and Equipment Maintenance, Cleaning, and Parking
- BMP 5(D): Proper Pesticide and Herbicide Application
- BMP 5(E): Landscaping and Lawn Care (Waste Reduction)
- BMP 5(F): Roadway Maintenance
- BMP 5(G): Street Sweeping
- BMP 5(H): Catch Basin Cleaning
- BMP 5(I): Identify and Investigate Illegal Dumping Locations
- BMP 5(J): Prioritize Litter Collection
- BMP 5(K): Provide Employee Training

Objective: Promote pollution prevention and good housekeeping measures.

BMP 5(A): IMPLEMENT AN O&M PROGRAM AND O&M STANDARDS

Measurable Goals

1. Develop City O&M Standards.
2. Number of measures in the plan implemented.

Description

An O&M program that discusses good housekeeping procedures is essential to ensuring that all City activities and programs impacting stormwater are implemented efficiently and effectively. The program will be periodically reviewed and updated and will include:

- a. The training of municipal employees in facility maintenance and good housekeeping practices in order to minimize stormwater pollution;
- b. The training of municipal employees in the proper methods for disposal of solid and liquid wastes from maintenance activities;
- c. The development and implementation of a maintenance schedule; and
- d. The production of an evaluation to measure the program's effectiveness.

To gain an understanding of its existing operations, the City will assemble and review existing materials from various departments that perform activities that could contribute stormwater pollution. In reviewing information on existing programs, specific attention will be paid to the following items:

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

This is an ongoing program which will be reviewed and updated as needed based on changes in staffing or other operational factors. If documentation does not exist for a particular element identified for inclusion, brief interviews with staff from various departments may be conducted. If no program exists for a particular activity, the City will determine which department would be best suited to take on that responsibility.

O&M Standards

The City will develop and maintain a set of O&M Standards that provide protection of facility function and can be used to determine if maintenance at a municipal facility is needed. When these standards are exceeded, maintenance will be performed within the following time frames:

- Within six months for typical maintenance;
- Within nine months for maintenance requiring re-vegetation;
- Within one year for wet pool facilities and retention/detention ponds; and
- Within two years for maintenance requiring capital construction of less than \$25,000.

Current and Planned Activities

- Before February 2010- Prepared an O&M program.
- Ongoing-Review and update O&M program to address operational changes.

BMP 5(B): DEVELOP A STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Measurable Goals

1. Develop a SWPPP.
2. Number of measures in the plan implemented.

Description

During the first permit cycle, the City was required to develop, implement, and monitor a SWPPP for City facilities. The SWPPP is intended to reduce the amount of pollutants carried by stormwater runoff into the storm drainage system. It is comprised of a description of procedures and associated schedules for municipal activities and includes:

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;
4. A BMP implementation schedule;
5. The identification of a Pollution Prevention Team that is responsible for implementing BMPs;
6. A description of site inspection and monitoring activities; and
7. A log element that can be used to track all construction activities or reports.

BMPs for the City’s facilities will reduce the amount of pollutants that enter the stormwater from the day-to-day operations of the City. Potential source activities and the potential pollutants released by these activities are summarized in the table below.

Potential Source Activity	Potential Pollutants
Vehicle and Equipment Maintenance	Oil & Gas, Solvents, Diesel Fuel, Metals, Antifreeze, Battery Acids, Hydraulic Fluids
Vehicle and Equipment Cleaning and Parking	Oil, Grease, Sediments, Metals
Pesticide Storage, Handling, and Application	Herbicides, Insecticides, Rodenticides
Petroleum, Oil, and Lubricant Storage and Handling	Oil, Fuel
Painting	Paints, Solvents
Rock and Gravel Storage	Sediments

In the case that any of these pollutants spill and require cleanup, the following BMPs should be used as a general guide for safe and effective cleanup of the area:

- Dispose of dry cleanup materials promptly after use;
- Develop and post procedures for spill response and cleanup;
- Post a facility drainage map to show areas with potential for spills, the direction of stormwater flow, and location of spill response equipment;
- Designate a person for spill response cleanup responsibility;
- Assemble spill containment and cleanup kits, such as biobag kits;
- Train employees on spill control procedures;
- Promptly clean up spills and notify appropriate persons; and
- Distribute procedures for spill response and cleanup to applicable facilities.

The SWPPP serves as a reference manual for all City employees that are in any way involved in stormwater management. To fully implement the program, training for City staff will be focused on the information contained within the SWPPP and general BMPs.

Planned Activities

- Ongoing- Review, update and implement the SWPPP.

BMP 5(C): VEHICLE AND EQUIPMENT MAINTENANCE, CLEANING, AND PARKING

Measurable Goals

1. Develop and maintain an inventory of City owned vehicles and locations.

2. Conduct routine inspections of vehicles for leaks.
3. Repair vehicles with fluid leaks promptly.
4. Establish vehicle-washing protocols.

Description

The City will maintain vehicles on a regular schedule as to avoid oil leaks and other incidents that cause environmental damage. An effective spill prevention and response plan is a key to reducing the potential for stormwater pollution at the City's facilities.

The following will be included in the ongoing vehicle maintenance program:

- Identify a location where spills can be controlled by either a covered building or secondary containment structure.
- Provide absorbent spill kits at all municipal facilities where there is potential for materials to be spilled.
- Provide absorbent spill kits in any vehicle that may transport potential pollutants or respond to hazardous material spills.
- Replace any hazardous cleaners or degreasers with non-hazardous cleaners or degreasers that are equally effective.
- Replace any solvents or other agents that come in aerosol cans where suitable alternatives exist.
- Conduct vehicle and equipment cleaning in a self-contained, covered building when possible.
- Collect wash water from vehicle and equipment cleaning that may contain oil, grease, suspended solids, heavy metals, organics, and other pollutants.
- Inspect vehicles and equipment regularly, and fix any problems before they are parked or stored for an extended period.
- Place drip pans or absorbent material under leaky vehicles and equipment
- Clean up leaks from any vehicles or equipment promptly.
- Identify areas where stormwater is able to run off the surface of the parking so that stormwater from the parking lot can be treated before being released into the storm sewer system.

Current and Planned Activities

- Implementing vehicle maintenance programs.
- Ongoing-Review and modify maintenance procedures as determined necessary

BMP 5(D): PROPER PESTICIDE AND HERBICIDE APPLICATION

Measurable Goals

1. Develop an inventory of areas designated for herbicide and pesticide application.
2. Meet local, state, and federal regulations associated with pesticide application.
3. Assess and prioritize the potential use of alternative pesticide practices.

Description

The use of herbicides and pesticides is a matter of environmental concern. They have the potential to end up in drinking water and other aquatic systems if not managed properly. Before City staff applies these types of chemicals, the manufacturer's instructions and

material safety data sheet for each chemical should be reviewed. 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 and the purpose of their application will be used in determining ways to reduce the amount, concentration, and frequency of pesticide use in the City.

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 planned pesticide application in order to avoid unnecessary contamination of runoff.
- **Runoff Control**- Storm drains that could be potentially impacted by runoff of pesticide will be located and covered during treatment.
- **Drift Control**- The City will limit the use of power sprays to reach the upper canopy of trees if used to prevent pesticide drift into buildings and water bodies. Alternative control measures such as the injection of systemic insecticides will be promoted.
- **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 if uses will be placed in locations that will not result in their translocation to aquatic habitats.
- **Application of Termiticides into the Ground**- The application of 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;
 - Containers will be securely 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:(a) be securely sealed; (b) form part of or be permanently fixed to the vehicle using the pesticide, if so applied; and (c) be prominently marked either “WARNING” OR “POISON”, and the name of the pesticide product, and;
 - Vehicles if used for pest control will: (a) be designed so pesticide is separated from the driver or operator by a barrier impervious to the pesticide; (b) not be left on public land when not in use; (c) be securely housed to restrict public access when not in use; and (d) 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 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 instructions on the product's label.

Current and Planned Activities

- Review and maintain an inventory of pesticide and herbicides and uses.
- Ongoing- Monitor pesticide and herbicide on an annual basis.

BMP 5(E): LANDSCAPING AND LAWN CARE (WASTE REDUCTION)

Measurable Goals

1. Develop an inventory of landscaping and lawn areas requiring care.
2. Implement practices for open spaces and maintenance at all parks.
3. Evaluate methods for containing or composting grass clippings.

Description

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

The City will limit fertilizer and pesticide use and may implement alternative landscaping where practical. Alternative practices such as installing native plants at borders of maintained areas can help reduce reliance on water and fertilizer.

Various methods of containing and composting trimmings and grass clippings from City facilities or mulching in place will be implemented or explored in an attempt to limit the potential of nutrients entering the City's stormwater system.

Current and Planned Activities

- Coordination with Pierce Conservation District for transitioning toward native plantings for medians along primary streetscape areas.
- Ongoing- Review areas where lawn care and landscaping occurs and use BMPs.

BMP 5(F): ROADWAY MAINTENANCE

Measurable Goals

1. Develop an assessment of current maintenance procedures.
2. Identify alternative practices for reducing road materials needed for construction or maintenance activities.

Description

The City will continue to assess current roadway maintenance activities to determine if adoption of more contemporary practices would benefit stormwater quality. The staff will identify alternative practices that will further reduce the discharge of road materials during construction or maintenance activities. Existing roadway maintenance specifications will be reviewed and revised to reflect the most up to date BMPs.

Planned Activities

- Ongoing- Assess roadway maintenance procedures and revise, if necessary.

BMP 5(G): STREET SWEEPING

Measurable Goals

1. Schedules for street sweepings.
2. Quantity of material removed per curb or lane mile.

Description

The City will develop a schedule of street sweepings throughout its jurisdiction. Street sweepings assist in preventing pollutants from entering the City's stormwater system or receiving waters downstream. Records of the distances swept and quantity of materials removed from roadways will be monitored and may be referenced in SWMP updates.

Timeline for Completion

- Ongoing- Maintain a progressive, preventative street sweeping schedule.

BMP 5(H): CATCH BASIN CLEANING

Measurable Goals

1. Identify catch basins to be cleaned or inspected.
2. Develop a schedule for cleaning inlet structures, catch basins, and manholes.
3. The number of catch basins cleaned or inspected.
4. The amount of trash, sediment, and other pollutants removed during cleaning.

Description

Pollutants that enter the storm drainage system can impede proper functioning of the system and create the need for costly repairs or remediation. Storm drain maintenance reduces water quality impacts and prevents local flooding. A preventative maintenance program helps ensure that storm sewer systems function effectively and reduce the potential for pollution and infrastructure damage. This BMP requires regular inspections, record keeping, cleaning, and proper disposal of system waste. The City will conduct these activities year-round with additional inspections performed during the rainy season.

The following general catch basin maintenance activities will be implemented:

- Inspect catch basins and inlet structures to ensure:
 - Immediate repair of any deterioration threatening structural integrity;
 - Sumps are cleaned before they are 40% full.
 - Catch basins and inlets can be marked and/or information available to remind the public that dumping of waste into storm drains is not allowed.
- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove any excessive accumulated sediment or debris.
- Inspect catch basins more frequently during the wet season and clean openings or repair as needed to ensure proper function.
- Keep updated records for basins as they are cleaned. This will be done cyclically.
- Store wastes removed from the drainage system in appropriate containers or transfer to appropriate disposal sites to prevent discharge into the storm sewer.

Timeline for Completion

- Ongoing- Maintain catch basins, recording conditions and cleaning schedules.

BMP 5(I): IDENTIFY AND INVESTIGATE ILLEGAL DUMPING LOCATIONS

Measurable Goals

1. Develop a list of known or frequent illegal dumping locations.
2. The number of investigations of illegal dumping locations.
3. The number of signs posted at known illegal dumping locations.
4. The number of enforcement actions taken.

Description

As indicated earlier, litter can add pollutants to the City's stormwater system and should be minimized to the greatest extent possible. The City will develop a list of known illegal dumping locations and will follow up with signs posted at these locations warning of penalties for dumping. Annual or more frequent investigations will occur and proper enforcement actions will be taken if illegally dumped material is found at these sites. Since illegal dumping activities also include inappropriate disposal of waste, the City will monitor for the need to provide additional waste receptacles available to the public. As an example, in high use areas or where litter and waste (including pet waste) is identified as a recurring problem, the City may consider placement of pet waste or garbage receptacles with appropriate signage to assist in deterring inappropriate waste disposal by the public.

Current and Planned Activities

- Ongoing- Identify locations of frequent illegal dumping locations.
- Ongoing- Monitor key sites for illegal dumping activities on a frequent basis.

BMP 5(J): PRIORITIZED LITTER COLLECTION

Measurable Goals

1. Identify high litter accumulation areas based on land use; revise as necessary.
2. Create a preliminary collection schedule for areas where litter tends to accumulate.
3. Implement a prioritized litter collection program.
4. The quantity of litter collected in each area.

Description

Litter adds pollutants to the City's stormwater system and should be controlled to the greatest extent possible. The City will develop an inventory of high priority litter accumulation areas based on use or observation and work with owners, the local solid waste provider, and potentially volunteer groups to create collection and clean up schedule based on this assessment. The City will ensure collection of litter in these areas occurs according to a developed regular schedule as appropriate. Records of the quantity of litter collected from these municipally owned areas can be monitored and helpful for potential enforcement actions as may become necessary.

Current and Planned Activities

- Ongoing- Review and revise litter accumulation areas and collection schedule.
- Ongoing- Collect litter regularly and record quantity of excessive litter collected.

BMP 5(K): PROVIDE EMPLOYEE TRAINING

Measurable Goals

1. The number of trainings or training hours for staff.

Description

The City will continue to ensure that employees in stormwater, streets, landscaping, and maintenance related positions are trained on the requirements of the stormwater pollution prevention and good housekeeping program and standard operational practices.

The general training program will incorporate the following measures:

- Proper maintenance activities, including record keeping and disposal;
- Handling of hazardous materials and waste;
- Recognizing and reporting illegal dumping;
- Educating businesses, contractors, and the general public in proper and consistent methods for waste disposal; and
- Recognizing and reporting non-stormwater discharges via illicit connections.

Brief (generally one-hour or less) topical reviews or training sessions will be held regularly for employees. Longer, more specific training on specific topics may also be conducted, such as on proper handling of waste, illicit discharge inspection, investigation, and removal. The City will also ensure that its employees have access to public education materials produced as part of this permit so that they may implement practical, effective and feasible BMPs into their day-to-day work.

Planned Activities

- Ongoing- Provide trainings and reviews of best practices and good housekeeping measures and track topics, employee trainings or training hours.

CHAPTER 6: MONITORING AND ASSESSMENT (REGIONAL APPROACH)

As of January 17, 2007, Ecology developed an NPDES Phase II municipal stormwater permit which contained a requirement of preparing for a long term monitoring plan, anticipated to be included in the second permit cycle (or with the municipal permit reissuance in 2012). There was some concern that each jurisdiction may be required to conduct extensive monitoring and assessment activities both locally and regionally.

With the reissuance of the permit, there has been at least some recognition of the value for utilizing a regional approach for monitoring and assessment through a Regional Stormwater Management Program (RSMP). The City is participating in the program along with many other cities and agencies throughout Western Washington. The RSMP will lead the effort for monitoring and assessment of trends and effectiveness of programs to reduce adverse stormwater impacts and protect water quality, focused largely within the Puget Sound region. This regional approach and collective sharing of resources is an important step in helping to guide future refinements for requirements and programs.

It is anticipated that through RSMP, there will be a common set of results, guidance, information and messaging as studies and assessments

CHAPTER 7: REPORTING REQUIREMENTS

As with the other elements, Ecology developed permit requirements for the NPDES Phase II reporting requirement. The following program is based on DOE's 2012 permit reissuance requirements. Permittees are to submit, no later than March 31st of each year (beginning in the year 2015, an annual report. The reporting period for each required annual report shall be the previous calendar year.

Reporting Requirement.

- A. No later than March 31 of each year beginning in 2015, The City shall submit an annual report. The reporting period for the first annual report will be from January 1, 2014 through December 31, 2014. The reporting period for all subsequent annual reports will be the previous calendar year.
- B. Two printed copies and an electronic (PDF) copy of each document shall be submitted to Ecology. All submittals shall be delivered to:

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

- C. The City is required to keep all records related to this permit and the SWMP for at least five years. Except for the requirements of the annual reports described in this permit, records shall be submitted to Ecology only upon request,
- D. The City shall make all records related to this permit and the City's SWMP available to the public via online access at the City's website, or in print available at reasonable times during regular business hours. The City will provide a copy of the most recent annual report to any individual or entity, upon request.
 - 1. A reasonable charge may be assessed by the City for making photocopies.
 - 2. The City may require reasonable advance notice of intent to review print copies.
- E. Each annual report shall include the following:
 - 1. A copy of the City's current Stormwater Management Program as required by Section S5.A.2 of the Permit.
 - 2. Submittal of Appendix 3 – *Annual Report Form for Cities, Towns, and Counties*, which is intended to summarize the City's compliance with the conditions of this permit, including:
 - a. Status of implementation of each component of the SWMP in Section S5 *Stormwater Management Program for Cities, Towns and Counties*.
 - b. An assessment of the City's progress in meeting the minimum performance standards established for each of the minimum control measures of the SWMP.
 - c. A description of activities being implemented to comply with each component of the SWMP, including the number and type of inspections, enforcement

- actions, public education and involvement activities, and illicit discharges detected and eliminated.
- d. The City's SWMP implementation schedule and plans for meeting permit deadlines, and the status of SWMP implementation to date. If permit deadlines are not met, or may not be met in the future, include: reasons why, corrective steps taken and proposed, and expected dates that the deadlines will be met.
 - e. A summary of the City's evaluation of their SWMP, according to Sections S5.A.4 and S8.B.2.
 - f. If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this permit.
 - g. Updated information from the prior annual report plus any new information received during the reporting period, pursuant to Section S8.B.2 above.
 - h. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
3. The City shall include with the annual report, notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the City's geographic area of permit coverage during the reporting period, and implications for the SWMP.

The City of DuPont will develop an annual report to meet these guidelines.

Objective: Prepare annual report on effectiveness of Stormwater Management Program.

BMP 7(A): ANNUAL STORMWATER MANAGEMENT PROGRAM REPORT

Measurable Goal

1. Annual report prepared.

Description

The City will compile required annuals report beginning in 2015, per the permit requirements noted earlier.

Timeline for Completion

- Ongoing- Submit report annually no later than March 31.