



# **Public Education Outreach Program**

*A component of the*

**Virginia Municipal**

**Separate Storm Sewer System Management Program**

**Town of Dumfries, Virginia**

Public Works Department

17755 Main Street

Dumfries, VA 22026

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## 1.0 Introduction

The purpose of the Public Education Outreach Program (PEOP) is to identify the community involvement approach the Town of Dumfries will use to promote methods to reduce the discharge of pollutants in stormwater runoff. The Town of Dumfries' Public Works Department is responsible for coordinating the PEOP for the town's municipal storm sewer system (MS4) management program.

### 1.1 Goals

The Virginia General Permit for Discharges of Stormwater from Small MS4s (General Permit), published at 9 VAC-25-890-40 et al, has specific requirements for public education and outreach efforts. The Town of Dumfries obtained coverage under the 2013 General Permit as General Permit Number VAR040117.

As required in Section II, Part B. 1.b of the General Permit, this plan was designed with the consideration of the following goals:

- Increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns
- Increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implementing a diverse program with strategies that are targeted toward audiences most likely to have significant stormwater impacts

### 1.2 Objectives

The PEOP outlines a plan for communicating with the people living and working within the Town of Dumfries that will support the Town's objective of achieving improved water quality through reduced pollutant loads entering water bodies through the Town's small MS4. Implementation of the actions described under this program will help the Town achieve the objective of improving water quality in the Town of Dumfries.

The PEOP complies with the General Permit requirements to:

- Identify, at a minimum, three high-priority water quality issues, that contribute to the discharge of stormwater and provide a rationale for the selection of these issues;
- Identify and estimate the population size of the target audience(s) associated with each high-priority water quality issue;
- Develop relevant message(s) and associated educational materials for message distribution to target audiences while considering minorities, disadvantaged audiences, and minors;
- Provide for public participation during PEOP development
- Annually conduct outreach activities designed to reach 20% of the target audience for each high-priority water quality issue. Failing to reach that goal is not considered a compliance issue unless "insufficient effort" is made to reach that goal; and
- Provide for the adjustment of target audiences and messages, including educational materials and delivery mechanisms to reach target audiences, in order to address any observed weaknesses or shortcomings.

## **2.0 Municipal Separate Storm Sewer System Stormwater Management Program**

The Town of Dumfries is an operator of a Small Municipal Separate Storm Sewer System (MS4). A municipal separate storm sewer is defined as “a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains

1. Owned or operated by a federal, state, Town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction or delegated authority for erosion and sediment control and stormwater management agency under § 208 of Clean Water Act that discharges to surface waters;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not a part of a publicly owned treatment works”

The US Census in 2010 determined the Town’s population to be 4,961, that the Town is within an Urbanized Area, and thus subject to the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems which became effective July 1, 2013 and will expire on June 30, 2018 when a new permit cycle is expected to become effective. Among the requirements of the permit, the Town of Dumfries must develop and implement a PEOP as one measure to prevent harmful pollutants from entering the Town’s MS4. This document fulfills the requirement to develop a PEOP.

### **2.1 Background**

Common stormwater pollutants that may be found in the Town of Dumfries MS4 area include bacteria from pet waste; chemicals contained in materials used on green spaces such as fertilizers; and chemicals contained in leaked, spilled or dumped materials such as oils, cleaners, paints, and pesticides.

### **2.2 Applicable Regulations**

As a small MS4 operator, the Town of Dumfries is obligated to comply with the requirements set forth in the “General Permit for Discharges of Stormwater from Small Municipal Storm Sewer Systems”, General Permit No. VAR040117, dated July 1, 2013. The permit establishes six “minimum control measures” (MCMs) to prevent stormwater pollution in the MS4:

1. Public education and outreach on stormwater impacts
2. Public involvement and participation
3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction runoff control for development and redevelopment
6. Good housekeeping and pollution prevention for municipal operations

The Town’s MS4 Program Plan (which is updated annually) outlines specific actions, known as best management practices (BMPs), that the Town will use to address the six MCMs. The General Permit issued on July 1, 2013, mandate the preparation of a plan which addresses public education and outreach. Under this plan, there are opportunities for communicating with the people living and working in the Town of Dumfries that will support the broad goals of improved water quality through reduced pollutant loads entering water bodies through the Town’s MS4.

### **3.0 Community Conditions**

The Town of Dumfries is an incorporated town located in Northern Virginia and is surrounded by Prince William County. The Town comprises approximately 1.6 square miles of urban mixed land use development located approximately 25 miles south of Washington, D.C.

#### **3.1 High Priority Water Quality Issues**

The Town of Dumfries must identify at least three high-priority water quality issues, and provide rationale for their selection in accordance with the General Permit. The Town has identified four high-priority issues for this permit cycle.

##### **3.1.1 Bacteria Impacts to Water Quality from Pet Waste**

The EPA recommends *E. coli* as the best indicator of health risk from water contact in recreational waters. In urban areas, such as the Town of Dumfries, sources of *E. coli* include human fecal matter (in the case of poorly functioning wastewater treatment plants or septic systems) or animal fecal matter (both domesticated animals and wildlife). The Town of Dumfries has selected bacteria from pet waste as one of its four high-priority water quality issues on which public education and outreach efforts will focus. Section 5.1 of this document will provide the rationale for this selection.

##### **3.1.2 Illicit Discharges from Commercial Automobile Washes**

According to the Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870-10), illicit discharge is defined as “any discharge to municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a separate Virginia Pollutant Discharge Elimination System (VPDES) or state permit (other than the state permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with 9VAC25-870-400.” Illicit discharge detection and elimination (IDDE) is important because stormwater runoff from the Town of Dumfries’ MS4 flows into streams and rivers without additional treatment. The Town of Dumfries has selected illicit discharges related to commercial automobile shops as the second high-priority water quality issue on which public education and outreach efforts will focus. Section 5.1 of this document will provide the rationale for this selection.

##### **3.1.3 Illicit Discharges from Automobile Repair Shops**

The Town of Dumfries has selected illicit discharges related to automobile repair shops as the third high-priority water quality issue on which public education and outreach efforts will focus. Section 5.1 of this document will provide the rationale for this selection.

##### **3.1.4 Illicit Discharges from Restaurants**

The Town of Dumfries has selected illicit discharges related to restaurants as the fourth high-priority water quality issue on which public education and outreach efforts will focus. Section 5.1 of this document will provide the rationale for this selection.

### **4.0 Current and Past Community Outreach Efforts**

As noted in Section 2.2 of this document, the Town of Dumfries must meet the requirements in the Virginia General Permit for Discharges of Stormwater from Small MS4s. The Town has identified numerous BMPs to comply with the permit’s MCMs to prevent stormwater pollution within the MS4. These actions are reviewed below.

#### 4.1 Existing Program

The Town of Dumfries added a stormwater page to their website located at <http://www.dumfriesva.gov/governmentpublic-works/municipal-separate-storm-sewer-system-ms4>. The page is used to provide citizens with information about the stormwater program. Available on the page are annual progress reports, pollution reporting form, and other educational and environmental information. The Town is also a member of the Northern Virginia Clean Water Partners.

#### 4.2 Existing Resources

The Town has conducted several community outreach activities in the past and has a variety of existing resources at their disposal including:

- Promotional material prepared by the Northern Virginia Clean Water Partners
- Outreach Handouts (About 100 of the following were distributed at the September 13, 2014 Fall Festival):
  - “Taking Care of Stormwater”
  - “Town of Dumfries, Virginia- How to Dispose of Leaves the Bay-friendly Way”

### 5.0 Public Education and Outreach Planning

Stormwater runoff is generated from various pervious and impervious surfaces such as roads, sidewalks, lawns, managed green spaces, driveways and roofs. Efforts to control stormwater pollution must take into account individual, household, business, and public behaviors and activities that can generate pollution coming from these surfaces. The purpose of outreach is to educate the public about the impact their actions can have on stormwater pollution, and to encourage changes in behavior to reduce future stormwater pollution. The goals of the PEO program are to educate the public by:

- Increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- Increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implementing a diverse program with strategies that are targeted toward audiences most likely to have significant stormwater impacts.

The following sections present the rationale used to develop the PEO program and the process to be followed to implement the plan.

#### 5.1 High-Priority Water Quality Issues

The Town of Dumfries will focus on the four high-priority water quality issues identified in Section 3.2. The high-priority water quality issues, along with the rationale as to why they were selected, are presented in **Table 1** below.

**Table 1. High-Priority Water Quality Issues**

High-Priority Water Quality Issue	Rationale
<b>Bacteria-Pet Waste</b>	Bacteria from pet waste (such as E. Coli), has been identified as a significant concern that is contributing to impairments in waters in Virginia and the Town of Dumfries. There is a significant target population with whom to work within the Town.
<b>Illicit Discharges- Commercial Automobile Washes</b>	Improper discharges from car washes can result in the release of oil and grease, detergents, phosphates, debris and other hazardous chemicals to waters of Virginia and the Town of Dumfries.
<b>Illicit Discharges- Automobile Repair Shops</b>	Wastewater at auto repair shops is often generated by rinsing of parts and washing engines or dirty tools. Improper discharges from auto repair shops can result in the release of oil and grease, antifreeze, paints, and other hazardous solvents to waters of Virginia and the Town of Dumfries.
<b>Illicit Discharges- Restaurants</b>	Restaurants can be a significant source of illicit discharges into stormwater systems. Improper discharges from restaurants can result in the release of fats, oils, grease, debris, and hazardous chemicals to waters of Virginia and the Town of Dumfries.

## 5.2 Target Audiences

Population characteristics of the Town of Dumfries MS4 were evaluated to identify the Town populations to be reached by the education and outreach effort. Target audiences were selected through an assessment of the Town’s community profile. The target audiences for stormwater outreach are shown in **Table 2** below.

High-Priority Water Quality Issue	Topic of Concern	Target Audience	Size
<b>Bacteria- Pet waste</b>	Pet waste	Homeowners and residents with pets	575 dogs (36.5% of US households x 1573 households)
<b>Illicit Discharges- Commercial Auto Washes</b>	Proper disposal of wastewater and debris	Commercial auto washes within the Town of Dumfries MS4	2
<b>Illicit Discharges- Auto Repair Shops</b>	Proper disposal of wastewater and hazardous chemicals	Auto repair shops within the Town of Dumfries MS4	24

<b>Illicit Discharges- Restaurants</b>	Proper disposal of fats, oils, grease, and other hazardous chemicals	Restaurants within the Town of Dumfries MS4	15
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**Pet Waste-** To reduce levels of bacteria, the focus will be on pet waste from dogs. The Town has approximately 575 registered dog owners in the MS4 permit area.

**Commercial Auto Washes-** Proper disposal of wastewater and chemicals from commercial auto washes will be the focus of illicit discharge control. There are approximately 2 auto wash companies in the MS4 permit area.

**Auto Repair Shops-** Proper disposal of wastewater and chemicals from auto repair shops will be another focus of illicit discharge control. There are approximately 24 auto repair shops within the MS4 permit area.

**Restaurants-** Proper disposal of fats, oils, grease, and wastewater from restaurants will also be a focus of illicit discharge control. There are approximately 15 restaurants located within the MS4 permit area.

### 5.3 Plan Implementation

A variety of actions will be conducted to educate the public in attempts to change behavior within the Town’s permitted MS4 area. Actions will be focused on targeted audiences and high-priority water quality issues identified in this implementation plan. The framework for action was introduced in **Table 2**, details for implementation are provided below.

#### 5.3.1 Actions and Messages

The messages developed for public education and outreach will be provided in both English and Spanish language versions. Attention will be given to developing informative, easily-understood materials.

##### **Pet Waste**

Written Materials- A trifold brochure that presents the impact animal waste can have on water quality will be developed.

Active Engagement- In-person presentations for selected targeted audiences will be provided.

The brochure will address pet waste as a major source of the bacteria found in waters within the Town that needs to be reduced. Topics that will be addressed: Why pet waste is a concern; how it can impact local water by affecting bacteria levels; and simple ways to keep pet waste out of water. Local contact information and sources for additional information will be included.

##### **Commercial Automobile Washes**

Written Materials- A set of take-home training handouts for recipients of the training.

Active Engagement- In-person training for auto wash companies within the Town of Dumfries.

The training information will address the basics of stormwater runoff and how improper water discharges to the storm sewers contribute to the degradation of water quality in nearby waters. Training materials will include: why car washes are a concern and how they can impact local water; how to



manage and discharge wastewater; and ways to make car washes more environmentally friendly. Local contact information and other sources for additional information will be provided. **Automobile Repair Shops**

Written Materials- A set of take-home training handouts for recipients of the training.

Active Engagement- In-person training for auto repair shops that operate within the Town of Dumfries.

The training for auto repair shops will address the basics of stormwater runoff and how improper control of chemicals and discharge of wastewater can contribute to the degradation of water quality in nearby waters. The training materials will include the do's and don'ts for disposing of hazardous waste, discharging wastewater, and managing spills.

### **Restaurants**

Written Materials- A set of take-home training handouts for recipients of the training.

Active Engagement- In-person training for restaurants that operate within the Town of Dumfries.

The training information for restaurants will address the basics of stormwater runoff and how improper disposal of waste from food preparation can contribute to the degradation of water quality in nearby waters. Training materials will include: how restaurants can be a source for illicit discharge, how to dispose of waste properly; and how to prevent accidental contamination. Local contact information and other sources for additional information will be provided.

### **5.3.2 Format and Distribution**

Brochures will include visually appealing graphics and will provide information in easily understood terms. Use of existing themes developed under previous Town outreach efforts will be continued and where appropriate supplemented with new or additional color schemes, graphics, and slogans. These features will be used throughout the Town's stormwater education and outreach efforts. Repeating themes enhances the familiarity of the community with messages related to stormwater management and thus the same themes will be used to develop training materials for commercial automobile washes, automobile repair shops, and restaurants.

Brochures will be distributed to HOAs within the MS4 permit area along with a cover letter explaining the importance of the brochure and its intended use. Follow-up with communication with HOA points of contact will be critical to ensuring effectiveness.

## **5.4 Public Participation**

The Town's MS4 permit also requires that the public be given the opportunity to participate in the development of the PEOP. Expanded education and outreach requirements must be implemented for the remaining years of the permit. Each year, there must be an evaluation of the strengths and weaknesses of the education and outreach effort improvements, if any, that will be implemented in the next permit year.

### **5.4.1 Involvement of the Community in Program Development**

As noted in Section 1.2 of this plan, there are a number of required actions specified in the permit related to the public education and outreach. This plan provides for these actions as stated in the previous sections. Input from the community can help to increase the success of education efforts.

Citizens are invited to give input on ideas about how the Town can inform the public of best management practices related to stormwater. Opportunities for public input are advertised to improve citizen awareness.

## 5.5 Evaluation

The methodology for evaluating the effectiveness of the education and outreach program is provided in this section. Despite best efforts, there is usually room for improvement once the program has been implemented. Program success requires continued evaluation and modification where necessary.

A planned evaluation process is necessary to record strengths and weaknesses encountered during program implementation. Observations and evaluations will be made and feedback will be sought and documented at the following key points in the process:

1. Planning and Development- time during which activities and educational tools are identified, developed, and scheduled;
2. Execution of Actions- time during which planned activities and educational tools are conducted and introduced to community;
3. Target Audience Feedback- time during which members of the targeted audience provide feedback regarding their understanding of the need to change behavior;
4. Behavior Change and Evaluation Period- time during which the Town observes improved conditions within a targeted audience related to stormwater pollution.

Feedback during the planning and development period may indicate the need to add additional audiences or alter the way educational material is presented. Activities may need to be changed to better address the needs of the Town or of the targeted audience.

During the execution of actions stage, feedback regarding general difficulties encountered and responsiveness from targeted audiences will be recorded.

After the first year of conducting education and outreach activities on stormwater pollution reduction, feedback from targeted audiences will be formally sought. Short surveys seeking input should be developed and distributed. For the auto washes, auto repair shops, and restaurants, surveys can be distributed to the points of contact established for each business.

There will be an organized formal effort to determine the percentage of the target audience reached in any given year, along with how effective that communication was in changing behavior. Observed changes will be recorded and reported. The evaluation process will identify strengths and weaknesses associated with the POE program. Significant changes identified during this process will be made as soon as possible or at the end of each annual review cycle. Minor issues will be considered and addressed immediately when appropriate.

## 5.6 Additional Opportunities for Education and Outreach

The Town of Dumfries' Public Works Department is fully committed to maintaining compliance with its MS4 Permit requirements. The PEOP is designed to guide the Town through the required steps to increase target audience knowledge about stormwater pollution reduction. The PEOP was developed to address the MS4 Permit requirements for MCM 1, as noted in Section 2.2. Other education and outreach steps may be taken to supplement other aspects of permit compliance and to improve water

quality in the Town. The Town will revise and adapt the PEOP throughout the permit term in order to address noted weaknesses or shortcomings.