

VIRGINIA GENERAL VPDES PERMIT FOR DISCHARGES FROM  
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS  
PERMIT NUMBER: VA040063

Permit 3/Year 5 MS4 General Permit Annual Report  
Reporting Period: July 1, 2017 – June 30, 2018



Submitted September 30, 2018

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## Table of Contents

1.0	INTRODUCTION .....	1
2.0	STATUS OF COMPLIANCE (Reporting Year July 1, 2017 – June 30, 2018).....	2
2.1	Public Education .....	2
2.2	Public Involvement/Participation.....	5
2.3	Illicit Discharge Detection and Elimination (IDDE) .....	7
2.4	Construction Site Stormwater Runoff Control .....	8
2.5	Post-construction Stormwater Management .....	9
2.6	Pollution Prevention/Good Housekeeping for Municipal Operations .....	11
2.7	Special Conditions – Implementation of TMDL Action Plans (SECTION I B 5 and SECTION I C 2).....	15
	Special Conditions for Approved Total Maximum Daily Loads (TMDLs) other than the Chesapeake Bay TMDL.....	15
	Special Condition for the Chesapeake Bay TMDL .....	17
3.0	RESULTS OF INFORMATION COLLECTED AND ANALYZED .....	19
4.0	SUMMARY OF ACTIVITIES PLANNED FOR PERMIT 4/PERMIT YEAR 1 .....	19
5.0	CHANGES IN IDENTIFIED BMPs OR MEASURABLE GOALS .....	19
6.0	RELIANCE ON OTHER GOVERNMENT AND THIRD-PARTY ENTITIES.....	19

## Appendices

Appendix A. Permit 3/Year 5 MS4 Program Plan (Updated September 26, 2018)

## 1.0 INTRODUCTION

The City of Manassas (City) consists of approximately ten (10) square miles draining to the Occoquan River. It is composed of primarily urban mixed-use land development and surrounded by Prince William County. There are (4) four watershed areas, Broad Run-Rocky Branch, Middle Bull Run, Lower Bull Run, and Occoquan River-Lake Jackson, these watershed areas discharge into the Occoquan River.

This annual report was prepared by the City’s Department of Utilities in accordance with Section II E of the Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit), effective July 1, 2013. The MS4 General Permit expired June 30, 2018, but has been administratively continued by the Department of Environmental Quality (DEQ) until October 30, 2018.

This annual report describes the City’s collective efforts in stormwater management and updates the progress toward meeting the Best Management Practices (BMPs) for each of the six (6) Minimum Control Measures (MCMs) and special conditions required by the MS4 General Permit. This report covers items for Permit 3/Year 5 (P3/Y5) of the City’s MS4 Program Plan in compliance with the MS4 General Permit.

The administration of the City’s MS4 Program Plan is an important aspect of the plan itself. Throughout the life of the current permit, the plan has a dynamic document and it will continue to be during the next permit cycle. The process has been ongoing from one permit year to the next. The most recently updated MS4 Program Plan is provided in Appendix A. The City will continue to implement the P3/Y5 MS4 Program Plan until the plan is updated in accordance with the reissued permit that becomes effective on November 1, 2018. The reissued permit (2018 MS4 General Permit) requires that the City update the MS4 Program Plan within six (6) months of the effective date. This MS4 Program Plan will remain on file with the Utilities Department or through Manassas’s stormwater website via the following link:

<http://www.manassascity.org/DocumentCenter/View/22712>.

**Table 1. Background Information**

Name	City of Manassas Municipal Storm Sewer System
Permit #	VAR040063
Reporting Period:	Permit 3/Year 5; July 1, 2017 – June 30, 2018
Modifications to Operator’s Roles and Responsibilities:	During the reporting period, the overall management of the MS4 Program was moved from the Department of Public Works to the Department of Utilities.
New Outfalls and Associated Acreage by HUC	Two Hundred Seventy-Nine (279) MS4 Outfalls. No new outfalls were identified in the reporting period.

## **2.0 STATUS OF COMPLIANCE (REPORTING PERIOD JULY 1, 2017 – JUNE 30, 2018)**

The following summarizes activities performed by the City of Manassas for each of the six (6) MCMs and Special Conditions during the reporting period.

### **2.1 Public Education**

The goals of this MCM are 1) to develop a public education program to distribute information to the public and 2) to develop outreach activities to inform the public regarding steps they can take to reduce pollutants in stormwater runoff, targeted to those most likely to have a significant stormwater impact.

The City has identified the following high-priority water quality issues that contribute to the discharge of stormwater.:

1. Illicit Discharges and Illegal Dumping from Residents
2. Pet Wastes and Bacteria TMDL
3. Chesapeake Bay Nutrients

The following rationale provides the basis for selecting the high-priority water quality issues:

1. Illicit Discharges and Illegal Dumping from Residents

The City has identified household trash and hazardous waste as problem pollutants through field observations and citizen complaints. Improper discharges and dumping can result in the release of toxic chemicals and bacteria to the waters of Virginia. This can be mitigated by increasing outreach to students, residents, and businesses on how to prevent pollution and the legal consequences of noncompliance.

2. Pet Wastes and Bacteria TMDL

The City has identified bacteria (i.e., E. coli) from pet waste as a high priority water quality issue. City watersheds including Broad Run, Occoquan River, and Bull Run have been designated as impaired for E. coli by DEQ. Public education can play an important role in reducing bacteria by educating pet owners about the human health and legal consequences of not picking up pet waste.

3. Chesapeake Bay Nutrients

The City has identified phosphorus and nitrogen (nutrients specified in the Chesapeake Bay TMDL) as issues from stormwater runoff. Common sources of these nutrients in local streams and rivers include stormwater runoff from urban and suburban lawns, roadways, and other developed areas. Public education and outreach efforts emphasize reductions of controllable nonpoint sources including paved surfaces, rooftops, and

construction in urban areas, and the practice of nutrient management in which fertilizers are applied to the urban landscape.

A summary of the public education and outreach activities conducted by the City during the reporting period is provided in Table 2.

**Table 2. Summary of P3/Y5 Public Education and Outreach Activities**

Program Element	Progress
Publish an article that addresses stormwater issues such as recycling, yard waste collection, hazardous waste handling, and illegal discharges.	<p>The City has been promoting refuse, recycling, Household Hazardous Waste (HHW), and eWaste information.</p> <ul style="list-style-type: none"> <li>• 4 television appearances on Fox News DC</li> <li>• 30 articles in local online and print publications</li> <li>• 10 Resident Advisory notices</li> <li>• 4 mentions of stormwater on preventing yard waste in storm drains in the City Connection Newsletter</li> </ul>
Include a section in the newsletter that pertains to stormwater issues related to children.	<p>The print version of the City Connection Newsletter developed for school children in grades 1-5 was replaced with an interactive website for children on refuse and recycling. The web link for the new website is <a href="https://www.manassascity.org/2187/Trash-and-Recycling-for-Kids">https://www.manassascity.org/2187/Trash-and-Recycling-for-Kids</a>. The website includes information for kids to learn more about trash and recycling through links to different waste/recycling topics and fun games.</p>
Develop public education and information brochures related to stormwater management, pet waste management, water quality, and stormwater pollution prevention.	<p>All the materials used for public outreach have been reviewed and updated. New publications have been introduced to clearly explain regulations regarding trash and recycling. All material is produced in Spanish and English.</p> <ul style="list-style-type: none"> <li>• 3,000 Recycling “How-To” flyers</li> <li>• 3,000 Trash “How-To” flyers</li> <li>• 3,000 eWaste “How-To” flyers</li> <li>• 3,000 Bulk Item “How-To” flyers</li> <li>• 3,000 Yard Waste “How-To” flyers</li> <li>• 3,000 Townhome generic trash and recycling “How-To” flyers</li> <li>• 1,500 HHW drop off day magnets</li> <li>• 4,000 reusable shopping bags with “Trashline” number</li> </ul>
Provide printed brochures to citizens at various locations around the City to increase knowledge concerning stormwater pollution.	<p>All brochures and additional materials were provided to residents at the following locations:</p> <ul style="list-style-type: none"> <li>• Customer service counter at the Department of Utilities office</li> <li>• City Hall</li> <li>• HHW and eWaste drop off site</li> <li>• Town Hall meetings</li> <li>• City events</li> <li>• HOAs/Community Centers</li> </ul> <p>Evidence provided by the Virginia Recycling Association has suggested that the audience for printed material is shrinking and that younger residents are more inclined to use smartphones to access information. Therefore, the money spent on printed materials will slowly transition into the investment in more valuable forms of outreach relevant to our audience.</p>

Program Element	Progress
<p>Post electronic versions of informational brochures on the City’s website or create a web page with a stormwater focus.</p> <p>Place a link to the informational brochure/web page on the City Employee Intranet.</p>	<p>Stormwater informational brochures are regularly updated and include public information presentations, videos, links and PDFs of all brochure and reports.</p> <ul style="list-style-type: none"> <li>• 12,000+ hits to Refuse and Recycling and HHW &amp; eWaste web page</li> <li>• 554 hits to Main Stormwater web page</li> </ul> <p>The Stormwater web pages also include special pages for children with educational games.</p> <p>The City Employee Intranet was reworked during the reporting period and no longer includes information on stormwater. However, employees can access the public stormwater page from City computers. The City will evaluate this program element during the updates to the City’s Program Plan during P4/Y1.</p>
<p>Continue dissemination of information through the new-resident brochure, the “Trash Line”, and the City’s website. The City currently uses these channels to provide information on recycling, yard waste collection, hazardous waste handling, and illegal discharges.</p>	<p>The City continued dissemination of information to City residents.</p> <ul style="list-style-type: none"> <li>• “New Resident” brochures have been replaced with Refuse and Recycling brochures outlining City programs and procedures; 2,000 brochures were distributed during the reporting period</li> <li>• 12,000 calls to the “Trashline.” Improved online services and information leaflets have reduced the number of calls over the permit term to the “Trashline” by 23%</li> <li>• 12,000+ hits on Refuse &amp; Recycling and HHW &amp; eWaste web page</li> </ul> <p>Information is also regularly posted on the City’s government access channel and digital billboards located in City Hall and in the Utilities customer service area.</p>
<p>Develop and initiate watershed education programs with a specific focus on stormwater management, water quality, and stormwater pollution prevention for public school students in grades K-5.</p>	<p>Stormwater informational brochures are regularly updated and include public information presentations, videos, links and PDFs of all brochure and reports.</p> <ul style="list-style-type: none"> <li>• 12,000+ hits to Refuse and Recycling and HHW &amp; eWaste web page</li> <li>• 554 hits to Main Stormwater web page</li> </ul> <p>The Stormwater web pages also include special pages for children with educational games. By allowing students to become involved in the development of relevant outreach materials, greater engagement with schools has led to a strong increase in outreach.</p> <p>This City intends on bolstering this program in the new permit cycle.</p>
<p>Evaluate the education and outreach program for appropriateness of high-priority issues and target audiences and the effectiveness of message and mechanisms of delivery employed in reaching the target audience.</p>	<p>High priority water quality messages:</p> <ul style="list-style-type: none"> <li>• Residents using the storm drain as a trash can.</li> <li>• Dog walkers using the storm drain to dispose of pet waste.</li> <li>• Street litter, TVs and HHW at the curb.</li> </ul> <p>Approximately 40,000 of the 42,500 City residents have been reached during the reporting period through the following efforts:</p> <ul style="list-style-type: none"> <li>• 11,000 residential and commercial utility customers the City Connection Newsletter</li> <li>• 30,000+ people reached through articles in advance of and information provided at RecycleFest and Spring RecycleFest</li> <li>• 4,000 people reached through City events</li> <li>• 7,000+ people reached through the Refuse and Recycling website</li> </ul>

Estimates for the number of people/households reached for each high-priority water quality issue during the P3/Y5 reporting period is provided in Table 3.

**Table 3. Estimates for the Number of People/Households Reached**

Message	Estimated Target Audience Reached	% of Population
Residents using the storm drain as a trash can	11,000	26.7%
Dog walkers using the storm drain to dispose of pet waste	11,000	26.7%
Street litter, TVs and HHW at the curb	14,000	34%

## 2.2 Public Involvement/Participation

The goals of this MCM are to promote the availability of the MS4 Program Plan to the public for review and comment, provide access to the annual stormwater report, and to promote participation in activities that will reduce stormwater pollution.

A summary of the public involvement/participation activities conducted by the City during the reporting period is provided in Table 4.

**Table 4. Summary of P3/Y5 Public Involvement/Participation Activities**

Program Element	Progress
Coordinate with the existing Citizens Advisory Committee (CAC) to share and discuss outreach strategies and public education efforts. The existing CAC will be urged to expand its current interest in solid waste and recycling to stormwater issues. Also, develop a strategy for public involvement in removal of trash from local waterways.	<p>The City continued to coordinate with the existing CAC to share and discuss outreach strategies and public education efforts.</p> <ul style="list-style-type: none"> <li>• 11 CAC meetings were held</li> <li>• 7 committee members consistently attended each meeting</li> <li>• The group is very active and attends community events and public meetings with the Refuse and Recycling Coordinator</li> </ul>
Stormwater telephone hotline and online comment form established for citizens to report a concern regarding spills, illegal dumping, BMP problems, and construction site complaints.	<p>A 24-hour/7-day per week stormwater telephone hotline number has been made available on the Stormwater web pages. In addition, an online comment section has been added to the “Report a Concern Form” on the City’s website.</p> <ul style="list-style-type: none"> <li>• 10+ calls received regarding stormwater issues</li> <li>• 52 online comments received</li> </ul> <p>The web link for reporting stormwater concerns is:  <a href="https://www.manassascity.org/1418/I-Want-To">https://www.manassascity.org/1418/I-Want-To</a></p>

Program Element	Progress
<p>Continue the storm inlet placard program. The City has already initiated this program and will target additional priority areas and new construction areas. A message stating “No Dumping-Drains to Bay” will be used to involve citizens and volunteer groups.</p>	<p>The Public Works Department maintains a list of the priority areas within the City that require stenciling.</p> <ul style="list-style-type: none"> <li>• The City has stenciled the 96 priority areas that are identified and is continuously working towards placing placards on all the inlets within the City</li> <li>• Stenciling is complete in the priority areas and placards are replaced by Streets Department staff as necessary</li> <li>• During the reporting period, the Streets Department ordered 200 markers for necessary replacements</li> </ul>
<p>Participate through promotion, sponsorship, or other involvement; in a minimum of four local activities annually, e.g. stream clean-ups, hazardous waste clean-up days.</p> <p>Continue to support the Adopt-A-Stream program.</p>	<p>11 different outreach activities were held during the reporting period.</p> <ul style="list-style-type: none"> <li>• 4 HHW &amp; eWaste drop off days; avg. 800 people</li> <li>• 1 RecycleFests; avg. 1,000 people attending</li> <li>• 12 organized Adopta! collection events; 311 volunteers collected over 1 ton of litter</li> <li>• 1 City Utilities Day event; 154 people attended</li> <li>• 4 community events including Latino Festival, Public Works Day, One Love Festival and Spring City festivals; avg. 4,000+ attendance at events</li> </ul> <p>In addition, stormwater was discussed at the following City sponsored meetings:</p> <ul style="list-style-type: none"> <li>• 2 Town Hall Meetings; no attendance recorded</li> <li>• One (1) presentation at Public Utilities Commission Meeting; 14 people attended</li> </ul> <p>The City has restarted the partnership with Adopt-a-Stream and is acting as a sponsor/steward to re-launch the program and establish active groups of volunteers who can take over streams once they have been given training and equipment.</p>
<p>Publish MS4 Program Plan and annual reports on the City of Manassas website for download. Also, provide printed copies of the MS4 Program Plan and annual reports to any interested parties upon request.</p>	<p>The MS4 Program Plan and annual reports are provided to the public on the City’s website.</p> <p>PDFs of the Program Plan and annual reports are available on the site. Hard copies of the Plan and associated reports have been made available at all public meetings.</p> <p>Web links for annual reports and the program plan are provided below:</p> <ul style="list-style-type: none"> <li>• Annual Reports: <a href="http://www.manassascity.org/1791/Stormwater-Plan-Reports-to-State">http://www.manassascity.org/1791/Stormwater-Plan-Reports-to-State</a></li> <li>• Program Plan: <a href="http://www.manassascity.org/DocumentCenter/View/22712">http://www.manassascity.org/DocumentCenter/View/22712</a></li> </ul>
<p>Continue household hazardous waste collection.</p>	<p>The City continued HHW and eWaste drop off days.</p> <ul style="list-style-type: none"> <li>• 4 HHW and eWaste drop off days; 62 tons of material was collected</li> <li>• 2 RecycleFest events, which included shredding and textile recycling; the events are heavily promoted to the public and well received</li> <li>• Information regarding HHW drop off days was promoted through the City Connection newsletter, government PEG channel, and on the website</li> </ul>

## 2.3 Illicit Discharge Detection and Elimination (IDDE)

The goal of this MCM is to develop, implement, and enforce a program to detect and eliminate illicit discharges into regulated small MS4s. To meet this goal, operators of a regulated small MS4 must develop and maintain an updated storm sewer map and outfall database; prohibit through ordinance or other legal mechanism nonstormwater discharges to the extent allowable by law; develop and implement procedures to detect and eliminate illicit discharges; promote public reporting of potential illicit discharges; and notify any downstream regulated MS4 of physical interconnections.

In P3/Y4, the City conducted a study of its MS4 and determined that there were 279 MS4 outfalls within its MS4 Area. The City incorrectly listed this number as 278 outfalls in the P3/Y4 Annual Report. No new outfalls were identified in during this reporting period.

A summary of the illicit discharge detection and elimination activities conducted by the City during the reporting period is provided below.

- The City maintains a GIS layer of all known stormwater features in the City.
- 96 Priority Areas for Potential Pollution Problems have been identified and a GIS layer has been created. Data will be continuously updated as required by development.
- 99% of the City's stormwater conveyance system has been field located and mapped in GIS with asset data that is managed through the City-wide asset management system.
- The City has identified storm sewer interconnections with the following three (3) neighboring MS4s:
  - City of Manassas Park
  - Prince William County
  - Virginia Department of Transportation (VDOT)

Written notifications were sent to these interconnected MS4s on June 23, 2014, in P3/Y1.

- Chapter 118, Article IV, Section 118-369, Division 5 (Wastewater Discharge), Subdivision II(A) (Stormwater Pollution) of the City of Manassas Code of Ordinances prohibits nonstormwater discharges into the City's storm sewer system.
- The City ordinance includes enforcement procedures that are enforced and carried out by the City's Fire Marshal's Office (FMO).
- The FMO responds to HazMat incidents to investigate the circumstances of the discharge, including damage to natural gas lines. There was one (1) incident reported in P3/Y5 which was related to a spill of less than 5 gallons of hazardous materials (i.e., oil and tar). The FMO did not consider this an illicit discharge incident as it was an

accidental spill that was adequately remedied. An official investigation was not opened for the incident.

- HHW collection events were held four (4) times during the reporting year and a schedule of these events is posted on the City website, government PEG channel, and the City Connection newsletters.
- 279 MS4 outfalls have been identified by the City and are maintained in GIS with asset data which stores inspection report data.
- During the reporting period, visual dry weather screening was performed on 49 outfalls in the City using the City’s ArcGIS Online and Collector program. A summary of the findings is provided below:
  - Outfalls identified as “Clear” 45
  - Outfalls identified as “Suspect” 4
  - Outfalls identified as “Illicit” 0

Due to the timing of the field data collection, follow-up efforts on the four (4) “Suspect” discharges will be completed and reported on in the P4/Y1 Annual Report.

- During the reporting period, 62 reports were received via the Stormwater Hotline, email, and 311 GIS electronic reporting system regarding stormwater issues. The City investigated all calls and closed out all issues identified. Most of the calls were related to drainage (e.g., clogged system), erosion and sediment control issues, and safety-related issues (e.g., missing manholes due to vandalism) and were not illicit discharges.

## **2.4 Construction Site Stormwater Runoff Control**

The goal of this MCM is to develop, implement, and enforce procedures to reduce pollutants in stormwater runoff from construction activities that result in a land disturbance of greater than or equal to one (1) acre. This has been modified by the City’s ordinance which has a disturbed area threshold of 2,500 square feet or greater and all erosion control devices inspected and approved by the City Inspector prior to the initiation of any land disturbing activity. Construction site runoff control in the City is implemented through its Erosion and Sediment (E&S) Control Program.

A summary of the construction site stormwater runoff control activities conducted by the City during the reporting period is provided below.

- The Virginia Stormwater Management Program (VSMP) was adopted by the City Council on June 16<sup>th</sup>, 2014 and became effective as of July 1<sup>st</sup>, 2014. During the reporting period, the City remained fully consistent with the requirements of the Virginia Erosion and Sediment Control Law and Regulations. The Department of Community Development is the responsible party for administering the City’s E&S Control Program. Table 5 provides a summary of land-disturbing activities for the reporting period.

**Table 5. Summary of Land Disturbing Activities During Reporting Period**

Item	Quantity Period July 1, 2017 to June 30, 2018
Total Number of Land-Disturbing Activities	9
Total Number of Disturbed Acres	12.63
Total Number of E&S Inspections Conducted	217
Number of Stop Work Orders	5
Number of Notices to Comply	2
Number of Enforcement Actions	0

\*The appropriate corrections were made by the contractor in all cases within the allotted timeframe.

- Ten (10) complaints were received regarding E&S controls.
- The City’s E&S Control staff is required to remain certified by the Virginia Erosion and Sediment Control Law, attendant regulations, and the City’s E&S Control Program. Recertification is required on a rolling schedule at least once every three (3) years. Table 6 provides information on City E&S staff certification statuses.

**Table 6. Summary of Staff E&S Certifications Held During the Reporting Period**

Item	Quantity Period July 1, 2017 to June 30, 2018
Total Number of E&S Staff Members	10
Number of E&S Staff Members Certified for Combined Administration*	5
Number of E&S Staff Members Certified for Plan Review	2
Number of E&S Staff Members Certified for Program Administration	2
Number of E&S Staff Members Certified for Inspection	3

\*Combined Administrators are co-certified at the Plan Review, Program Administration, and Inspection levels.

## 2.5 Post-Construction Stormwater Management

The goal of this MCM is to develop and implement procedures for design review/approval, construction inspection, operational inspections, and follow-up maintenance of permanent structural and non-structural stormwater management (SWM) facilities for both City-maintained and privately-maintained facilities. As such, the City utilizes its legal authority to ensure that stormwater runoff controls are designed, approved, installed, and maintained according to state and local criteria standards. Periodic routine inspections are conducted for both City-maintained and privately-maintained permanent structural and non-structural stormwater facilities. The City maintains a database of all SWM facilities and related inspection activities.

The City has developed requirements for the design, implementation, and construction of SWM facilities as outlined in the Design and Construction Standards Manual (DCSM). The City adheres to these requirements, which provides for the proactive management of post-construction stormwater runoff.

A summary of the post-construction SWM activities conducted by the City during the reporting period is provided below.

- The City has identified 57 SWM facilities in the City. There are 35 private and 22 public SWM facilities. The list of facilities that discharge to the City's MS4 is maintained within an electronic database and includes the following information:
  - Facility name
  - Facility type
  - Location, latitude
  - Longitude
  - Acres treated
  - Pervious acres treated
  - Impervious acres treated
  - Date brought online
  - Receiving water body
  - HUC number
  - Impaired water segments
  - Date of most recent inspection

The electronic database is maintained by the City and is available upon request.

- The City performs visual inspections of the City-owned SWM facilities after each significant rainfall event to check for debris or any physical failures that may require immediate attention.
- During the reporting period, the City completed inspections of all public SWM facilities. All facilities were determined to be operating as designed and inspection records are maintained and available upon request.
- The 35 private SWM facilities were required to be inspected during the reporting period; however, the inspections were completed after the end of the reporting period. Due to the timing of the inspections, the City will report on the results of the inspections in the Permit 4/Year 1 Annual Report.
- The City has developed tools to aid in the implementation of the SWM program through databases, GIS, and spreadsheets. These tools are updated on an as-needed basis to remain current with field conditions.
- The City SWM Facility Plan Reviewers and Inspectors are required to remain certified by the Virginia Erosion and Sediment Control Law, attendant regulations, and the City's SWM facility Inspection and Maintenance Program. Recertification is required on a rolling schedule at least once every three (3) years. Table 6 provides information on City E&S staff certification statuses.

**Table 7. Summary of Staff SWM Certifications Held During the Reporting Period**

Item	Quantity Period July 1, 2017 to June 30, 2018
Total Number of SWM Staff Members	6
Number of SWM Staff Members Certified for Combined Administration*	2
Number of SWM Staff Members Certified for Plan Review	2
Number of SWM Staff Members Certified for Program Administration	1
Number of SWM Staff Members Certified for Inspection	2

\*Combined Administrators are co-certified at the Plan Review, Program Administration, and Inspection levels.

## 2.6 Pollution Prevention/Good Housekeeping for Municipal Operations

The goal of this MCM is to develop and implement written procedures designed to minimize or prevent pollution discharge, to the maximum extent possible (MEP), from normal daily municipal operations. These procedures cover the planning and tracking necessary to ensure the following activities are conducted:

- Identification of high priority facilities with a high potential for discharging pollutants
- Identification of contiguous areas over one (1) acre receiving applied nutrients
- Relevant training:
  - Good housekeeping/pollution prevention practices
  - Spill response
- Maintenance of applicable certification and related training:
  - Virginia Erosion and Sediment Control Law certification
  - Proper application/storage/disposal of land-applied substances (e.g., pesticides, herbicides, and fertilizers)

A summary of the pollution prevention/good housekeeping for municipal operations activities conducted by the City during the reporting period is provided below.

- The City has developed and implemented Standard Operating Procedures (SOPs) for the following activities:
  - Proper storage of de-icing salt and chemicals
  - Proper street sweeping techniques and debris disposal
  - Shop maintenance/storage and disposal of grease, oil, and chemicals
  - Enforcement regulations as outlined in our adopted illicit discharge ordinance

This list is complete and is updated as required by changes in operational requirements. Currently, there have been no changes to the policy since the last annual report submission to DEQ.

- The City has identified three (3) municipal high-priority facilities with high potential of discharging pollutants which are the public works yards, regional airport, and the water treatment facility. They are all covered under separate VPDES permits and stormwater pollution prevention plans (SWPPPs) are maintained at each facility.
- A total of 30.74 acres of lands owned and operated by the City where nutrients are applied to a contiguous area greater than one (1) acre is identified as shown in Table 8. BioGreen Outdoor Services, LLC is responsible by contract to create and maintain Nutrient Management Plans (NMPs) for their operation. Nutrients have been applied to all applicable lands by TruGreen in accordance with the Virginia Nutrient Management Standards and Criteria and is responsible for reporting chemical usage to the City’s Arborist on an annual basis.

**Table 8. List of Applicable Lands where Nutrients are Applied to A Contiguous Area of More Than One (1) Acre**

Land	Acreage	Latitude	Longitude	Plan Status
IBM Ball Fields	16.43	38°44'46.0"N	77°30'40.8"W	Complete
Manassas Museum	3.55	38°44'54.9"N	77°28'19.1"W	Complete
Jennie Dean Ball Fields	5.73	38°44'42.0"N	77°29'28.4"W	Complete
Byrd Park Ball Fields	2.62	38°46'08.1"N	77°28'20.0"W	Complete
Public Works Hillside	2.41	38°46'11.7"N	77°27'39.9"W	Complete
<b>Total</b>	<b>30.74</b>			

\*Ashton Avenue Medians has been removed from the list because it has been determined that is not a contiguous area of more than one (1) acre.

\*\*Plans were prepared by David Schrader (BioGreen Outdoor Services, LLC), DCR Certificate #781.

- Chemical Applications by TruGreen:

The City requires TruGreen to use appropriate control measure procedures by requiring that all employees applying pesticides and herbicides to be properly trained or certified in accordance with State Law. Businesses that apply pesticides for compensation must be registered with the Virginia Department of Agriculture and Consumer Services (VDACS), and their employees must hold the appropriate certifications. This requirement is enforced through the language in TruGreen’s contract, which is available upon request.

A summary of the types and amounts of materials applied is provided in Table 9.

**Table 9. Summary of Deicing Materials Applied**

Item	Quantity Period July 1, 2017 to June 30, 2018
<b>Fall Visit 2017</b>	
Liquid Fertilizer (13-0-6.5)	47.75 acres @ 1.0lbs N per 1,000 sq. ft = 1,590 gals
Weed Control	3.25 pints per acre = 19.4 gals of Tri power post-emergent broadleaf
<b>Late Fall Visit 2017</b>	
Liquid Fertilizer (13-0-6.5)	47.75 acres @ 1.0lbs N per 1,000 sq. ft = 1,590 gals
Weed Control	3.25 pints per acre = 19.4 gals of Tri power post-emergent broadleaf
<b>Spring Visit 2018</b>	
Liquid Fertilizer (13-0-6.5)	Not applied
Weed Control	2.67 pints per acre = 15.93 gals of Escalade post-emergent broadleaf 1.2 pints per acre = 7.3 gals of Dimension pre-emergent
<b>Late Spring Visit 2018</b>	
Liquid Fertilizer (17-0-5)	47.75 acres @ .3lbs N per 1,000 sq. ft = 397 gals
Weed Control	2.67 pints per acre = 15.93 gals of Escalade post-emergent broadleaf 1.2 pints per acre = 7.3 gals of Dimension pre-emergent

- Chemical Applications by City staff:

The City requires staff to use appropriate control measure procedures by requiring that all staff applying pesticides and herbicides to be properly trained or certified in accordance with State Law. The City has two (2) certified chemical applicators.

- The City applied the following chemicals throughout the City during the reporting period. A summary of the types and amounts of materials applied is provided in Table 10.

**Table 10. Summary of Chemicals Applied**

Item	Quantity Period July 1, 2017 to June 30, 2018
Ranger Pro Herbicide	75 gallons
Triplett SF Herbicide	5 gallons
Garlon 4 Herbicide	0.75 gallons
Prodiamine 65 WDG Herbicide (Pre-emergent)	15 pounds
Atrimec Growth Regulator	10 ounces
Mosquito Larvicide – Vectolex	5 pounds
Bifenthrin Insecticide	2 gallons
Acelepryn Insecticide	0.5 gallons
Horticultural Oil	5 gallons
Spreader/Sticker Surfactant	2 gallons
Bio-Advantage Fertilizer	2.5 gallons
Sea 3 Fertilizer	2.5 gallons
3-3-3 Earthway Fertilizer	50 pounds
Nutricote 18-6-8 Fertilizer	75 pounds

- City staff that serve as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law, attendant regulations, and the City’s E&S

Control Program. Recertification is required on a rolling schedule at least once every three (3) years. Tables 6 and 7 provide information on City E&S staff certification statuses during the reporting period.

All employees with DEQ E&S and SWM certifications will attend the relevant training courses provided by DEQ or by a third party to obtain the course contact hours required to be eligible for recertification.

- **City Staff Training:**

Training programs for City staff have been established and conducted for the following:

- Hazardous Materials Operations/OSHA Level II
- Stormwater Pollution Prevention Plan/Spill Prevention, Control, and Countermeasures Plan
- Spill Response Training

A total of 51 City employees attended the training above during the reporting period. Hazardous Materials Operations/OSHA Level II training is typically scheduled in October for the Public Works Department and Stormwater Pollution Prevention Plan/Spill Prevention, Control, and Countermeasures Plan and Spill Response training are scheduled biennially for the Public Works Department and Water and Sewer Department employees with multiple sessions occurring throughout the reporting period.

- The City applied deicing materials throughout the City during the reporting period. A summary of the types and amounts of deicing materials applied is provided in Table 11.

**Table 11. Summary of Deicing Materials Applied**

Item	Quantity Period July 1, 2017 to June 30, 2018
Road Salt	740 tons
Sand	192 tons
Ice Ban Liquid	4,500 gallons

- The City conducted street/sidewalk sweeping throughout the City during the reporting period and collected 381.52 tons of sweepings. A summary of the sweeping activities collected is provided in Table 12.

**Table 12. Summary of Street and Sidewalk Sweeping**

Item	Period July 1, 2017 to June 30, 2018
Downtown Streets	Approximately 1,060 lane miles swept (7.8 lane miles of sweeping performed 4 times a week for 2/3rds of the year for downtown streets)
All other City Streets	Approximately 1,695 lane miles swept (254 lane miles of sweeping performed 6.7 times a year for all other City streets)
Downtown Sidewalks	Approximately 265 sidewalk miles swept (approximately 3.90 miles of downtown sidewalks are cleaned twice a week for 2/3rds of the year)

In addition to the normal sweeping schedule, after the winter snow season, the City also sweeps primary and secondary roads for a typical two-week period to clear all sand, salt, and debris and may assist the schools in cleaning their lots during school breaks (i.e., Spring Break, Summer Break, etc.).

- The City has stenciled the 96 priority areas that are identified and is continuously working towards placing placards on all the inlets within the City. Stenciling is complete in the priority areas. Placards are replaced by Street Department staff as necessary. During the reporting period, the Streets Department ordered 200 markers for necessary replacements.
- The City continued its storm structure inspection and cleaning program during the reporting period.
- The City has discontinued participation in the Virginia E-4 certification for the City’s Maintenance Garage. An alternative certification or the development of additional SOPs will be investigated during the Permit 4/Year 1 Program Plan update.

**2.7 Special Conditions – Implementation of TMDL Action Plans (SECTION I B 5 and SECTION I C 2)**

**Special Conditions for Approved Total Maximum Daily Loads (TMDLs) other than the Chesapeake Bay TMDL**

The City currently has four (4) local wasteload allocations (WLAs) assigned for local waters. Table 13 provides a summary of those WLAs.

**Table 13. Summary of Current WLAs Assigned to the City for Local Waters**

Watershed	Pollutant	WLA	*Est. Watershed Discharge (cu. ft.)	*Est. Pollutant Discharge
Bull Run	Sediment	210 tons	~129499	< 210 tons
Bull Run	E. coli	6.82 E+09 cfu	~129499	< 6.82 E+09 cfu
Broad Run	E. coli	1.15 E+10 cfu	~129499	< 1.15 E+10 cfu
Occoquan River	E. coli	2.95 E+10 cfu	~258999	< 2.95 E+10 cfu

\*Quantities derived from average rainfall and drainage area, no field testing was completed.

**Bacteria TMDLs for Popes Head Creek, Broad Run, Kettle Run, South Run, Little Bull Run, Bull Run and the Occoquan River**

P3/Y5 (FY2018) Accomplishments

The TMDL details that 99% of Manassas City properties are tied directly to the sanitary sewer. As such, bacteria contribution from human sources is currently being managed. To minimize contribution from the sanitary system, the City’s Department of Utilities maintains an annual

inspection and maintenance program. The Department of Utilities also implements a capital improvement program aimed, in part, to replace and rehabilitate aging sewer infrastructure, increase system reliability and maintain regulatory compliance. These pollutant reduction activities represent a significant effort by the City to reduce bacteria discharges to receiving waters that are outside of the City MS4 program.

In addition to the efforts regarding sanitary sewer described above, the City continues to expend effort to reduce other sources of bacteria contribution to the impaired receiving waters through IDDE and public education and outreach. Aside from those activities discussed regarding the six (6) MCMs, the City of Manassas completed the following during the reporting period:

- Maintenance and upkeep of a web page for submitting concerns regarding both sanitary and storm sewer issues.
- Continued pet waste facility implementation at locations where pet owners often frequent with their pets such as the Sumner Lake Regional Stormwater Management Facility (Figure 1).
- Continued outreach to increase public awareness regarding pet cleanup through public signage and the City web page.

#### P4/Y1 (FY2019) Proposed Activities

The City proposes to implement the following during the upcoming reporting period:

- Continued implementation of its IDDE program.
- Continued implementation of its public outreach program.
- Evaluation and update of the Bacteria TMDLs for Popes Head Creek, Broad Run, Kettle Run, South Run, Little Bull Run, Bull Run and the Occoquan River Action Plan in a manner compliant with the 2018 MS4 General Permit.

#### **Benthic TMDLs for the Bull Run Watershed**

#### P3/Y5 (FY2018) Accomplishments

In addition to the pollutant reduction efforts discussed regarding the six (6) MCMs, the City of Manassas completed the following during the current reporting period:

- Continued implementation of its Virginia Erosion and Sediment Control Program (VESCP) including the more conservative requirement that land disturbing activities that disturb greater than 2,500 square feet obtain a permit from the City.
- Continued implementation of its VSMP program.

- Continued implementation of its enhanced street sweeping program.
- Implementation of the Prince William Hospital Regional SWM Facility, as funded by a 2013 Stormwater Local Assistance Fund (SLAF) grant.
- A City's Stream Stability Assessment and Priority Plan, which involved the assessment of approximately 16,000 linear feet of stream and identified three potential stream restoration locations in the Bull Run watershed for future consideration.
- A stormwater management study in which 19 City-owned SWM facilities were evaluated for potential retrofit opportunities as part of the annual SWM facility inspection and in which five (5) potential retrofit projects in the Bull Run watershed were identified for future consideration.

#### P4/Y1 (FY2019) Proposed Activities

The City proposes to implement the following during the upcoming reporting period:

- Continued implementation of its VESCP including the more conservative requirement that land disturbing activities that disturb greater than 2,500 square feet obtain a permit from the City.
- Continued implementation of its VSMP program.
- Continued implementation of its enhanced street sweeping program.
- Evaluation and update of the Benthic TMDLs for the Bull Run Watershed Action Plan in a manner compliant with the 2018 MS4 General Permit.

#### **Special Condition for the Chesapeake Bay TMDL**

#### **Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment**

#### P3/Y5 (FY2018) Accomplishments

During the current reporting period, the City continued to address required pollutant of concern (POC) reductions in response to the Chesapeake Bay TMDL for Nitrogen, Phosphorus and Sediment as follows:

- Continued implementation of its VESCP to address POC loads from Transitional Sources. The City continues to require E&S control plans from land disturbing activities greater than 2,500 square feet, which is more conservative than the State mandated 10,000 square feet.
- Continued implementation of its VSMP to address POC loads from New Sources.

- Continue to address Existing Source POC loads by:
  - Implementation of its progressive street sweeping program, which results in the annual street sweeping of 2,755 lane miles within the City. In accordance with the December 28, 2015 e-mail from Kelsey Brooks, DEQ MS4 Stormwater Specialist, the accredited annual POC reductions resulting from this pollutant reduction activity are 5,142.67 lbs. of nitrogen, 800.43 lbs. of phosphorus, and 2,170,606.75 lbs. of sediment.<sup>1</sup>
  - Continued implementation of its contract with a private landscaping company to ensure proper nutrient management on 30.74 acres of City property.
  - Requiring purchase of nutrient credits as part of the Novant Health redevelopment project, which resulted in the purchase of 0.59 lbs. of phosphorus and the retirement of 4.07 lbs. of associated nitrogen.<sup>2</sup>
  - Completing construction of the SLAF-funded Prince William Hospital Regional SWM facility, which resulted in POC reductions of 641.87 lbs. of nitrogen, 146.95 lbs. of phosphorus; and 86,977.51 lbs. of sediment.
  - Completing an evaluation of a City Stream Assessment and Priority Plan to identify potential stream restoration projects for future pollutant reduction activities.
  - Completing an evaluation of 19 City-owned SWM facilities for potential retrofit opportunities to meet future POC load reduction requirements.

Because of the City's pollutant reduction efforts, POC loads to the Chesapeake Bay exceeded the 5% reduction requirement by 576.59 lbs. of nitrogen, 136.69 lbs. of phosphorus, and 77,090.80 lbs. of sediment for the P3/Y5 (FY2018) reporting period.

#### P4/Y1 (FY2019) Proposed Activities

The City proposes to implement the following during the upcoming reporting period:

- Continued implementation of its VESCP including the more conservative requirement that land disturbing activities that disturb greater than 2,500 square feet obtain a permit from the City.
- Continued implementation of its VSMP program.
- Continued implementation of its enhanced street sweeping program.
- Evaluation and update of the Chesapeake Bay TMDL Action Plan in a manner compliant with the 2018 MS4 General Permit.

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<sup>1</sup> POC reductions associated with this SWM Facility were applied to the 100% offset required for increased loads from grandfathered projects and new projects prior to applying the remaining POC reductions towards Existing Loads.

<sup>2</sup> The sediment load associated with this purchase that the City for which the City can take credit has not yet been published by DEQ.

### **3.0 RESULTS OF INFORMATION COLLECTED AND ANALYZED**

There are currently no requirements for monitoring or data analysis in the MS4 General Permit.

### **4.0 SUMMARY OF ACTIVITIES PLANNED FOR PERMIT 4/PERMIT YEAR 1**

During P4/Y1, the City will continue to implement the activities identified in the current MS4 Program Plan, relating to public outreach and participation, public involvement, illicit discharge and elimination, construction site stormwater runoff control, post-construction stormwater management, good housekeeping for municipal operations, and TMDL specific projects. Within six (6) months after the effective date of November 1, 2018, of the new permit, the City will update the MS4 Program Plan to meet the requirements of the reissued permit.

### **5.0 CHANGES IN IDENTIFIED BMPs OR MEASURABLE GOALS**

No changes in BMPs or measurable goals were identified for any of the MCMs including steps to be taken to address any deficiencies.

### **6.0 RELIANCE ON OTHER GOVERNMENT AND THIRD-PARTY ENTITIES**

The City MS4 Permit and Stormwater Program is implemented under the supervision of the City's Department of Utilities. Utilities utilizes other City departments to assist in the implementation of the City's stormwater management program. The City does not rely on any other government entities or third parties to meet the requirements of the MS4 General Permit.

**APPENDIX A**

**Permit 3/Year 5 MS4 Program Plan**

**Permit: VAR040063**

**Updated September 27, 2018**

**CITY OF MANASSAS NPDES PHASE II STORMWATER PERMIT  
VSMP SMALL MS4 PROGRAM PLAN 2013-2018  
MINIMUM MEASURES AND BEST MANAGEMENT PRACTICES**

<b>Responsible City Department</b>	<b>Minimum Measure</b>	<b>Program Element</b>	<b>Measurable Goal</b>	<b>Metric</b>	<b>Current Program in Place</b>
Utilities	Public education	Publish an article that addresses stormwater issues such as recycling, yard waste collection, hazardous waste handling, and illegal discharges	Publish at least 2 articles a year in a local publication	Number of articles/newsletters distributed	
Utilities		Include a section to the newsletter that pertains to stormwater issues related to children	Publish at least 3 articles a year	Number of newsletters distributed with the children section	
Utilities		Develop public education and information brochures related to stormwater management, pet waste management, water quality, and stormwater pollution prevention	Create brochures in print and electronic format by Year 1	Number of brochures developed	
Utilities		Provide printed brochures to citizens at various locations around the City to increase knowledge concerning stormwater pollution	Publish a brochure at least once annually and placed at various locations around the City by Year 2	Number of brochures distributed Number of locations distributed	
Utilities		Post electronic versions of informational brochures on the City's website or create a web page with a stormwater focus.	Posting of information on the website	Number of hits to the website	
		Place a link to the informational brochure/web page on the City Employee Intranet	Creation of the link	Number of hits to the website	
Utilities		Continue dissemination of information through the monthly newsletter, City's website and social media. The City currently uses these channels to provide information on recycling, yard waste collection, hazardous waste handling, and illegal dumping and discharges	Continuous maintenance of these services throughout permit period	Number of hits to the new residents website Number of hits to the website	
Utilities		Develop and initiate watershed education programs with a specific focus on stormwater management, water quality, and stormwater pollution prevention for public school students in grades K-6	Create educational materials for distribution to school children by Year 3; Initiate education programs by Year 4 and remain ongoing through the remainder of the permit cycle	Number of sessions conducted each year	

Responsible City Department	Minimum Measure	Program Element	Measurable Goal	Metric	Current Program in Place
Utilities		Evaluate the education and outreach program for appropriateness of high-priority issues and target audiences and effectiveness of message and mechanisms of delivery employed in reaching target audience.	Evaluate program performance	Estimated number of people reached  Estimated percent of the target audiences that are reached	
Utilities	Public involvement/participation	Coordinate with the existing Citizens Advisory Committee (CAC) to evaluate trash, recycling, and litter control activity and explore opportunities for improving refuse and recycling services and community outreach.	Hold CAC meetings monthly	Number of meetings with CAC  Number of attendees to the meeting	
Utilities		Stormwater telephone hotline and online comment form (311GIS) established for citizens to report a concern regarding spills, illegal dumping, BMP problems, and construction site complaints	Stormwater telephone hotline and online comment form established	Number of calls to the hotline  Number of online comments	
Department of Public Works		Continue the storm inlet placard program. The City has already initiated this program and will target additional priority areas and new construction areas. A message stating "No Dumping-Drains to Bay" will be used to involve citizens and volunteer groups.	Prioritization of areas in the City where stenciling is needed  Stencil all of the inlets in the priority areas ongoing through the permit cycle	List of priority areas  Number of inlets stenciled	
Department of Public Works		Participate through promotion, sponsorship, or other involvement; in a minimum of four local activities annually, e.g. stream clean-ups, hazardous waste clean-up days, Earth Day and Utility Day  Continue to support the Adopt-A-Stream program	Document the activities that occur each year which relate to the event	Number of activities  Number of participants per event	
Communications		Publish MS4 Program Plan and annual reports on the City of Manassas website for download. Also provide printed copies of the MS4 Program Plan and annual reports to any interested parties upon request.	Report added to website; MS4 Program Plan will be available within 30 days of the submittal of the annual report by DEQ	Number of hits to the website  Number of copies provided	

Responsible City Department	Minimum Measure	Program Element	Measurable Goal	Metric	Current Program in Place
Engineering	Illicit discharge detection and elimination	Maintain storm sewer GIS map and corresponding database to be used for illicit discharge tracking and recording maintenance activities	Continue to update and maintain storm sewer GIS map and database to include all known outfalls, including waters of the US, drainage areas, potential sources of pollution	Number of new structures located	
Fire Marshal Office		Continue hazardous spill response program	Maintain this program throughout permit period	Number of incidents addressed	
Department of Public Works		Continue household hazardous waste collection	Maintain this service throughout permit period	Number of hazardous waste collection events	
Utilities / Department of Public Works		Perform stream assessments (stream walks) to inspect all City outfalls for unauthorized nonstormwater discharges and update the GIS mapping Continue to identify other points of discharge and notify the downstream MS4 of any known physical interconnection	Assessment of streams and City outfalls Develop inspection schedules for the following year Identify for points of discharge	Number of stream miles assessed Number of outfalls inspected Number of points of discharge identified	
Utilities		Implement TV inspection of storm sewer system and determine if an illicit discharge has occurred or is occurring	Maintain records of TV inspection Identify for possible illicit discharges	Number of miles inspected Number of outfalls that have had apparent illicit discharges	
Department of Public Works/Utilities		Continue to identify priority areas in the City for potential pollution problems and monitor those locations to ensure compliance with existing regulations	Update a GIS layer of priority areas Regularly monitor throughout permit cycle	Number of locations identified	
Department of Public Works and Fire Marshal Office / Utilities		Comply with existing regulations that prohibit illicit discharges to storm sewer systems	Track notices of violations and seek to reduce this number by maximum extent practicable	Number of violations requiring enforcement procedures	
Department of Public Works / Utilities		Stormwater hotline and online comment form established for citizens to report spills, illegal dumping, BMP problems, and construction site complaints	Stormwater hotline established	Number of calls to the hotline	
Department of Public Works		Notifications to the regulated physically interconnected MS4s	Record the date of written notifications sent in Year 1	Date of notification	

Responsible City Department	Minimum Measure	Program Element	Measurable Goal	Metric	Current Program in Place
Department of Public Works / Engineering / Utilities		Implement and maintain the Virginia Stormwater Management Program	Adopt and implement the Stormwater Management Ordinance in Year 2	Number of inspections performed Number of violations identified	
Department of Public Works/Utilities	Construction site stormwater runoff control	Complaint hotline and online comment form established to increase the public knowledge and awareness of issues regarding stormwater runoff from construction sites	Stormwater hotline established for complaints	Number of calls/comments to the hotline	
Engineering		Ensure coverage under the Virginia Stormwater Management Program (VSMP) General Permit for stormwater discharge from construction activities	Continue to require proof of coverage under the VSMP General Permit for Stormwater Discharges from construction activities	Number of VSMP permit coverage letters issued	
Engineering		Maintain DEQ ESC and VSMP plan review, inspection and administration certification for a minimum of 2 City employees	Maintain two certifications throughout the permit period	Number of certifications in the City	
Engineering		Ensure contractors comply with the erosion and sediment control regulations and VSMP permit regulations and implement applicable E&S controls Review stormwater management plans prior to land disturbance	Track the number of regulated land-disturbing activities and report the total disturbed acreage	Number of regulated land-disturbing activities Number of inspections conducted Number of total disturbed acreage Summary of the enforcement actions taken	
Department of Public Works	Post-construction stormwater management in new development and redevelopment	Continue to inspect and maintain all public BMPs annually to ensure structural stormwater management facilities are maintained and operating properly.	Inspect all public BMPs annually	Number of BMPs inspected each year	
Department of Public Works/Utilities		Identify all private BMPs and those property owners responsible for maintaining stormwater management facilities Require annual inspection and documentation for privately maintained stormwater facilities Inspect all privately owned stormwater management facilities at least once every 5 years	Identify all private BMPs and the property owners in Year 1 Notify those property owners or modify existing maintenance agreement requiring annual inspection from owners in order to comply with regulation by Year 3	Number of private BMPs identified Number of private BMPs inspected	

Responsible City Department	Minimum Measure	Program Element	Measurable Goal	Metric	Current Program in Place
Utilities / Engineering		Track and update the City's database of permanent stormwater management facilities	Continue to update its database of all known permanent stormwater management facilities on an ongoing basis each year through the permit cycle	Number of structural, post-construction stormwater management facilities in the City	
Engineering		Evaluate, and update as necessary, the Stormwater Management Ordinance to be consistent with the requirements of the VSMP, as amended.	Initiate a formal review and include recommendations for updates and/or amendments in Year 3	Percent of completion of ordinance review	
Utilities	Pollution prevention/good housekeeping for municipal operations	Continue to develop tools and define metrics to manage and track program. These tools can consist of a combination of spreadsheets, database, GIS and work-order software to assist the City in monitoring performance of the program.	Develop and implement tools and define metrics by Year 3	Percent completion of the tools and definition of metrics	
Utilities		Develop and implement written standard operating procedures (SOPs) for all pollution prevention activities.	Continue to develop SOPs and list SOPs to be prepared through the permit cycle	Percent development of the list Number of SOPs prepared	
Utilities / Department of Public Works / Fire Marshal Office		Maintain stormwater pollution prevention, spill response, hazardous waste, illicit discharge, good housekeeping, and safety training programs for City operations	Conduct training biennially as determined by each department through the permit cycle  Develop annual training plan for the following year	Number of training sessions conducted Number of City employees attended  Summary of training or certification program	
Utilities / Department of Public Works		Update the Stormwater Pollution Prevention Plan (SWPPP) for the Public Works Yard. The Yard serves a number of City activities and has a VPDES stormwater discharge permit requiring development and annual update of the SWPPP	Evaluate existing SWPPP and determine areas that need additional information in Year 1  Update the SWPPP annually	Percent completion of the update	
Utilities		Monitor municipal high-priority facilities and high potential of discharging pollutants among high-priority facilities not covered under a separate VPDES permit  Develop and implement SWPPP for all high-priority facilities	Identify municipal high-priority facilities by Year 1  Develop and implement SWPPP for all high-priority facilities by Year 4	Number of municipal high-priority facilities  Number of SWPPP developed and implemented	

Responsible City Department	Minimum Measure	Program Element	Measurable Goal	Metric	Current Program in Place
Department of Public Works		Monitor performance of snow removal and landscaping chemical application procedures	Maintain records of annual deicing and chemical application	Amounts of materials applied	
Department of Public Works		Develop and implement turf and landscape nutrient management plans on all lands owned or operated by the City where nutrients are applied to a contiguous area greater than one acre by Year 5	Identify all applicable lands by Year 1 Not less than 15% of all identified acres covered by turf and landscape nutrient management plans by Year 2 Not less than 40% by Year 3 Not less than 75% by Year 4	Total acreage of lands where turf and landscape nutrient management plans are required Acreage of lands upon which turf and landscape management plan have been implemented	
Department of Public Works		Continue storm inlet cleaning program. The Street Department currently provides cleaning of storm inlets and, as needed, storm sewers and other conveyances. Some of these conveyances could be considered natural drainage ways and the City removes excessive siltation and controls erosion problems in them. In some parts of the City, the inlets are found clogged with grass clippings and other waste materials resulting from illegal dumping. The Sewer Department's vacuum trucks are occasionally used to assist in pipe cleaning.	Identify additional areas in the City for potential pollution problems. Create a GIS layer of priority areas by Year 2  Inspect all storm inlets in the priority areas once per year and clean as necessary	Dates of storm sewer map updates and the current map to be included in the annual report  Number of structures inspected and cleaned	
Department of Public Works		Maintain street sweeping program for all City streets	Sweep 250 lane miles of City streets at least 4 times a year  Collect 18 tons of debris per month	Number of lane miles swept and frequency  Number of tons of debris collected	
Department of Public Works		Maintain sweeping program for downtown streets and sidewalks	Sweep downtown streets and sidewalks daily	Number of lane miles swept and frequency  Number of sidewalk miles swept and frequency	
Department of Public Works - Maintenance Utilities		Maintain Virginia DEQ E4 certification for Water Plant and Vehicle Maintenance Facility	Maintain Virginia E4 certification for Water Plant and Vehicle Maintenance Facility every year	E4 certification status for Water Plant and Vehicle Maintenance Facility	