

## **Annual Reporting for VA0088617**

**The permittee shall submit the annual report to the Department in accordance with the following schedule:**

<b>Reporting Period</b>	<b>Annual Report Due Date</b>
April 1, 2015 through December 31, 2015	March 31, 2016
January 1, 2016 through December 31, 2016	March 31, 2017
January 1, 2017 through December 31, 2017	March 31, 2018
January 1, 2018 through December 31, 2018	March 31, 2019
January 1, 2019 through December 31, 2019	March 31, 2020
January 1, 2020 through March 31, 2020	March 31, 2021

**Each annual report shall include the following background information:**

**The permittee and permit number of the program submitting the annual report;**

Henrico County / VA0088617

**Any modifications to the MS4 Program Plan as a result of the annual report;**

None

**The reporting dates for which the annual report is being submitted; and**

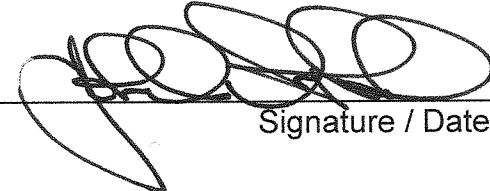
April 1, 2015 through December 31, 2015

**Certification as per Part II.K.**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware

that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

John A. Vithalkes / County Manager  
Name / Title

 3/31/2016  
Signature / Date

*For a municipality, state, federal, or other public agency signature by either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a public agency includes:*

- 1) The chief executive officer of the agency, or*
- 2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.*

**A summary of the implementation of each of the components established under Part I.B. and an evaluation of the effectiveness of each component. Additionally, the annual report shall include a summary of progress toward development of new MS4 Program components developed in accordance with the due dates as specified in the permit. The permittee should attempt to limit any component's narrative summary to no longer than two-pages plus any necessary tables and figures.**

#### Part I.B.1 - Planning

A stormwater retrofit project summary that includes potential stormwater management projects to be completed during the term of the permit is included the Annual Report Supplement included in the MS4 Program Plan. The summary was posted on the County's website for three weeks and public participation in identifying other projects was requested. No public comments were received. The information included in the MS4 Program Plan and Annual Report Supplement adequately addresses the permit requirements.

#### Part I.B.2.a - Construction Site Runoff and Post Construction Runoff from Areas of New Development and Development on Prior Developed Lands

The County implements an Erosion and Sediment Control Program and a Stormwater Management Program that have been determined to be consistent with state law and regulations. Implementation of the programs

listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.b - Retrofitting on Prior Developed Lands

The status of the retrofit projects listed in part I.B.1 that are being conducted during this permit term is provided in the Annual Report Supplement included in the MS4 Program Plan. The information included in the summary adequately addresses the permit requirements.

#### Part I.B.2.c - Roadways

The various Departments / Divisions that are responsible for maintaining roads, streets, and parking lots have been made aware of proper management goals / objectives. Inventories of County-maintained roads, streets and parking lots have also been developed as well as the stormwater treatment details required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.d - Pesticide, Herbicide, and Fertilizer Application

County-maintained lands have been evaluated to determine where nutrients are applied to more than one contiguous acre and the Departments / Divisions responsible for the County-maintained lands have been made aware of proper management goals / objectives. Summaries of the implementation details are included in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.e - Illicit Discharges and Improper Disposal

The County continues to implement programs to identify and eliminate illicit discharges. The County also has a program to inspect sanitary sewer system. Community cleanups, litter prevention and collection programs, and development design requirements are in place to reduce floatables. These programs are described in the MS4 Program Plan and Annual Report and summaries of the implementation details are included in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.f - Spill Prevention and Response

The County continues to implement programs to prevent, contain, and respond to spills that may discharge into the MS4. These programs involve cooperation with various Departments / Divisions. The results of the implementation of these programs are included in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.g - Industrial and High Risk Runoff

The County continues to implement a program to identify and control pollutants in stormwater discharges to the MS4 from industrial and high risk runoff facilities. The program is described in the MS4 Program Plan and the Annual Report and summaries of the implementation details are included in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.h - Stormwater Infrastructure Management

The County continues to implement programs to maintain the County's stormwater infrastructure and to update the accuracy and inventory of the storm sewer system. The Departments / Divisions responsible for County maintained lands have been made aware of the management goals / objectives and summaries of the implementation details are included in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.i - County Facilities

County-maintained facilities have been evaluated to determine which ones are High Priority Municipal Facilities and the Departments/Divisions responsible for County facilities have been made aware of proper management goals / objectives. Summaries of the implementation details are included in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.j - Public Education / Participation

The various Departments / Divisions in the County implement many public education programs with the goal of increasing the stormwater knowledge of target audiences and changing behavior to result in pollutant reductions. Summaries of the program activities and the audiences reached are listed in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.k - Training

The various Departments / Divisions in the County conduct and makes available to County staff many training opportunities to address the topics required by the MS4 Permit. Summaries of the training opportunities and the number of staff attending are listed in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.l - Water Quality Screening Programs

The County implements both dry and wet weather screening programs in accordance with the requirements of the MS4 permit. The programs are described in the MS4 Program Plan and summaries of the implementation details are listed in the Annual Report as required by the MS4 Permit. Implementation of the programs listed in this section will adequately address the permit concerns for this MS4 program element.

#### Part I.B.2.m - Infrastructure Coordination

The Annual Infrastructure Coordination meeting between County and VDOT representatives occurred on September 21, 2015. During the meeting, all topics required by the MS4 Permit were discussed and the meeting summary is included in the Annual Report as required by the MS4 Permit.

### **A summary report of the monitoring programs listed under Part I.C**

Summaries of the monitoring programs listed under Part I.C are included in the MS4 Program Plan and Annual Report Supplement.

**A summary of the implementation of each component listed under Part I.D.**

No components of Part I.D were implemented during this reporting period

**The Specific Reporting Requirements identified in this state permit.**

The Specific Reporting Requirements are addressed in the Annual Report Supplements included in the MS4 Program Plan.

PART I.A.1  
AUTHORIZED DISCHARGES

**PERMIT LANGUAGE**

- a) This state permit authorizes the discharge of stormwater from all existing and new municipal separate stormwater point source discharges to surface waters from the Municipal Separate Storm Sewer System (MS4) owned or operated by the Henrico County in Virginia.
- b) The following discharges, whether discharged separately or commingled with municipal stormwater, are also authorized by this state permit for discharge through the MS4:
  - 1) Non-stormwater discharges and stormwater discharges associated with industrial activity (defined at 9 VAC 25-31-10) that are authorized by a separate Virginia Pollutant Discharge Elimination System (VPDES) permit;
  - 2) Discharges from construction activities that are regulated under the Virginia Stormwater Management Program (VSMP) (9VAC25-870-10 et seq.) and authorized by a separate VSMP authority permit or state permit; and
  - 3) The following non-stormwater discharges unless the State Water Control Board or the permittee determines the discharge to be a significant source of pollutants to surface waters:
    - (a) water line flushing;
    - (b) landscape irrigation;
    - (c) diverted stream flows;
    - (d) rising ground waters;
    - (e) uncontaminated ground water infiltration (as defined at 40 CFR Part 35.2005(20));
    - (f) uncontaminated pumped ground water;
    - (g) discharges from potable water sources;
    - (h) foundation drains;
    - (i) air conditioning condensation;
    - (j) irrigation water;
    - (k) springs;

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- (l) water from crawl space pumps;
  - (m) footing drains;
  - (n) lawn watering;
  - (o) individual residential car washing;
  - (p) flows from riparian habitats and wetlands;
  - (q) dechlorinated swimming pool discharges;
  - (r) street wash water;
  - (s) discharges or flows from fire fighting activities; and
  - (t) other activities generating discharges identified by the Department as not requiring VPDES authorization.
- 4) Materials from a spill are not authorized unless the discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage. The permittee shall take, or require the responsible party to take, all reasonable steps to minimize or prevent any adverse effect on human health or the environment in accordance with the permittee's program under Part I.B.2.f). (Spill Prevention and Response). This state permit does not transfer liability for a spill itself from the party(ies) responsible for the spill to the permittee nor relieve the party(ies) responsible for a spill from the reporting requirements of 40 CFR Part 117 and 40 CFR Part 302. The permittee is responsible for any reporting requirement listed under Part II.G of this state permit.

### **SPECIFIC REPORTING REQUIREMENTS**

**None specified.**

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

The authorized discharges described in the MS4 Permit have been incorporated into § 10-199 of the Henrico County Code. Charitable car washing activities have also been included in the Henrico County Code as an authorized discharge based on guidance received from the Department of Environmental Quality.



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## PART I.A.1 AUTHORIZED DISCHARGES

There are no Specific Reporting Requirements associated with this part of the MS4 Permit. However, § 10-199 of the Henrico County Code was amended on October 13, 2015 to include *charity and fund-raising car washing* activities as authorized discharges based on guidance received from the Department of Environmental Quality.

PART I.A.2  
PERMITTEE RESPONSIBILITIES

**PERMIT LANGUAGE**

This state permit establishes the specific requirements applicable to the permittee for the term of this state permit. The permittee is responsible for compliance with this state permit. The permittee shall implement and update the MS4 Program Plan (as set forth in Part I.B) to ensure compliance with this state permit. The Department has determined that this program reduces the discharge of pollutants to the maximum extent practicable. Where wasteloads have been allocated for pollutant(s) of concern in an approved TMDL, the permittee shall implement the special conditions as set forth in Part I.D of this state permit. Compliance with the requirements of this state permit shall also constitute adequate progress for this permit term towards complying with the assumptions and requirements of the applicable TMDL wasteload allocations such that the discharge does not cause or contribute to violations of the water quality standards.

The permittee shall clearly define the roles and responsibilities of each of the permittee's departments, divisions or subdivisions in maintaining permit compliance. If the permittee relies on another party to implement portions of the MS4 Program Plan, both parties must document the agreement in writing. The agreement shall be retained by the permittee with the MS4 Program Plan. Roles and responsibilities shall be updated as necessary. Where the permittee relies on another party to implement a portion of this state permit, responsibility for compliance with this state permit shall remain with the permittee.

In the event the permittee is unable to meet conditions of this state permit due to circumstances beyond the permittee's control, a written explanation of the circumstances that prevented permit compliance shall be submitted to the Department in the annual report. Circumstances beyond the permittee's control may include abnormal climatic conditions; weather conditions that make certain requirements unsafe or impracticable; or unavoidable equipment failures caused by weather conditions or other conditions beyond the reasonable control of the permittee (operator error and failure to properly maintain equipment are not conditions beyond the control of the permittee). The failure to provide adequate program funding, staffing or equipment maintenance shall not be an acceptable explanation for failure to meet permit conditions. The Board will determine, at its sole discretion, whether the reported information will result in an enforcement action. In addition, the permittee must report

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noncompliance which may adversely affect surface waters or endanger public health in accordance with Part II.I.

### **SPECIFIC REPORTING REQUIREMENTS**

- **Each annual report shall include a current list of roles and responsibilities.**
- **Each annual report shall include a list of those circumstances of non-compliance outside of the permittee's control.**

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

The various program elements and tasks necessary to demonstrate compliance with the MS4 Permit are identified in the following parts of this MS4 Program Plan. In addition to those, responsibility for the program elements and tasks necessary to demonstrate compliance with Part I.A.2 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will review the MS4 Program Plan annually as required by Part I.A.7 of the MS4 Permit to ensure the plan accurately describes the program elements, roles, and responsibilities assigned to the Department / Division.

All Departments / Divisions that maintain County-owned lands will document and maintain records of circumstances of non-compliance outside its control.

#### **General Services (DGS)**

No later than **December 31 of each year**, DGS will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

No later than **February 28 of each year**, DGS will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

#### **Recreation and Parks**

No later than **December 31 of each year**, Recreation and Parks will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

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No later than **February 28 of each year**, Recreation and Parks will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Public Utilities (DPU)**

No later than **December 31 of each year**, DPU will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

No later than **February 28 of each year**, DPU will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Public Schools (Schools)**

No later than **December 31 of each year**, Schools will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

No later than **February 28 of each year**, Schools will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Division of Fire (Fire)**

No later than **December 31 of each year**, Fire will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

No later than **February 28 of each year**, Fire will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Division of Police (Police)**

No later than **December 31 of each year**, Police will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

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No later than **February 28 of each year**, Police will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Public Library (Library)**

No later than **December 31 of each year**, Library will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

No later than **February 28 of each year**, Library will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Mental Health and Developmental Services (MH/DS)**

No later than **December 31 of each year**, MH/DS will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

No later than **February 28 of each year**, MH/DS will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Economic Development Authority (EDA)**

No later than **December 31 of each year**, EDA will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

No later than **February 28 of each year**, EDA will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Real Property**

No later than **December 31 of each year**, Real Property will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

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No later than **February 28 of each year**, Real Property will identify and provide DPW with a list of circumstances of non-compliance outside its control that occurred during the previous permit year.

### **Building Inspections**

No later than **December 31 of each year**, Building Inspections will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

### **Community Revitalization**

No later than **December 31 of each year**, Community Revitalization will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

### **Extension Service**

No later than **December 31 of each year**, Extension Service will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

### **Henricopolis Soil and Water Conservation District (HSWCD)**

No later than **December 31 of each year**, HSWCD will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

### **Planning Department (Planning)**

No later than **December 31 of each year**, Planning will review its roles and responsibilities identified in the MS4 Program Plan and provide DPW a list of any necessary revisions for inclusion in the MS4 Program Plan.

### **Public Works (DPW)**

No later than **December 31 of each year**, DPW will review its roles and responsibilities identified in the MS4 Program Plan and identify any necessary revisions for inclusion in the MS4 Program Plan.

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No later than **February 28 of each year**, DPW will identify circumstances of non-compliance outside its control that occurred during the previous permit year.

DPW will include a compiled list of the roles and responsibilities for each Department / Division identified in the MS4 Program Plan in **each annual report due March 31**.

DPW will include a compiled list of the circumstances of non-compliance outside the control of the Departments / Divisions in **each annual report due March 31**.

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## PART I.A.2 PERMITTEE RESPONSIBILITIES

**Each annual report shall include a current list of roles and responsibilities.**

The roles and responsibilities for the appropriate Departments and Divisions have been established and are provided in the applicable part of the MS4 Program Plan. Given the extent of the tasks associated with the MS4 Permit and the numerous Departments and Divisions that have a role in implementing the requirements of the MS4 Permit, the roles and responsibilities have not been repeated here. Please refer to the MS4 Program Plan for the current list of roles and responsibilities.

**Each annual report shall include a list of those circumstances of non-compliance outside of the permittee's control.**

Circumstance of Non-Compliance Outside County's Control From April 1, 2015 through December 31, 2015	Date
None	



PART I.A.3  
LEGAL AUTHORITY

**PERMIT LANGUAGE**

The permittee shall maintain and utilize its legal authority authorized by the Commonwealth of Virginia to control discharges to and from the MS4 in the manner established by the specific requirements of this state permit. The legal authority shall enable the permittee to:

- a) Control the contribution of pollutants to the MS4;
- b) Prohibit illicit discharges to the MS4;
- c) Control the discharge of spills and the dumping or disposal of materials other than stormwater (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;
- d) Require compliance with conditions in ordinances, permits, contracts, inter-jurisdictional agreements, or orders; and,
- e) Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the MS4.

The permittee shall review and update its ordinances and other legal authorities such as permits, orders, contracts and inter-jurisdictional agreements as necessary to continue providing adequate legal authority to control discharges to and from the MS4.

**SPECIFIC REPORTING REQUIREMENTS**

**None specified.**

## **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.3 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will utilize the legal authority authorized by the Commonwealth of Virginia to control discharges to and from the MS4 in the manner established by the specific requirements of this state permit.

### **Public Works (DPW)**

DPW will review the County ordinances and policies periodically and pursue revisions as needed to ensure that local requirements are consistent with the following state and federal laws and regulations:

- the National Pollutant Discharge Elimination System and the Virginia Pollutant Discharge Elimination System requirements developed under the authority of §402(p) of the Clean Water Act;
- the Virginia Erosion and Sediment Control Law (§62.1-44.15:51 et seq. of the Code of Virginia);
- the Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq.);
- the Virginia Stormwater Management Act (§62.1-44.15:24 et seq. of the Code of Virginia);
- the Virginia Stormwater Management Program Regulations (9VAC25-870 et seq.); and
- the Chesapeake Bay Preservation Act (§ 62.1-44.15.67 et seq. of the Code of Virginia); and
- the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830 et seq.)

DPW will review the County ordinances and policies periodically and pursue revisions as needed to ensure that County staff can:

- 1) Control the contribution of pollutants to the MS4;
- 2) Prohibit illicit discharges to the MS4;
- 3) Control the discharge of spills and the dumping or disposal of materials other than stormwater (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;
- 4) Require compliance with conditions in ordinances, permits, contracts, inter-

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- jurisdictional agreements, or orders; and,
- 5) Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the MS4.

DPW will review the County ordinances and policies periodically and pursue revisions as needed to ensure local requirements provide adequate authority to control discharges to and from the MS4.

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## PART I.A.3 LEGAL AUTHORITY

There are no Specific Reporting Requirements associated with this part of the MS4 Permit. However, § 10-199 of the Henrico County Code was amended on October 13, 2015 to include charitable car washing activities as authorized discharges based on guidance received from the Department of Environmental Quality.

PART I.A.4  
MS4 PROGRAM RESOURCES

**PERMIT LANGUAGE**

The permittee shall submit to the Department a copy of each fiscal year's budget including its proposed capital and operation and maintenance expenditures necessary to accomplish the activities required by this state permit. The permittee shall describe its method of funding the stormwater program with the copy of the fiscal year budget.

**SPECIFIC REPORTING REQUIREMENTS**

- **A copy of the fiscal year's budget including its proposed capital and operation and maintenance expenditures necessary to accomplish the activities required by this state permit shall be submitted with each annual report.**

**MS4 PROGRAM ELEMENTS**

The County will submit a copy of each fiscal year's budget including approved capital and operation funding necessary to accomplish the activities required by the MS4 Permit with each annual report.

The County will also describe the sources of funding used to comply with the requirements of the MS4 Program with each annual report.

**ROLES AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.4 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

**General Services (DGS)**

No later than February 28 of each year, **DGS** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;

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2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Recreation and Parks**

No later than February 28 of each year, **Recreation and Parks** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Public Utilities (DPU)**

No later than February 28 of each year, **DPU** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Public Schools (Schools)**

No later than February 28 of each year, **Schools** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
  2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
  3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
  4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.
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### **Division of Fire (Fire)**

No later than February 28 of each year, **Fire** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Division of Police (Police)**

No later than February 28 of each year, **Police** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Public Library (Library)**

No later than February 28 of each year, **Library** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Mental Health and Developmental Services (MH/DS)**

No later than February 28 of each year, **MH/DS** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;

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2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Economic Development Authority (EDA)**

No later than February 28 of each year, **EDA** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Real Property**

No later than February 28 of each year, **Real Property** will provide DPW with:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.

### **Public Works (DPW)**

No later than March 31 of each year, **DPW** will compile:

1. its current fiscal year's approved operating and capital budgets;
2. the approved operating funding necessary to comply with the requirements of the MS4 Program Plan;
3. the approved capital funding necessary to comply with the requirements of the MS4 Program Plan; and
4. a description of the sources of funding used to comply with the requirements of the MS4 Program Plan.



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with the budget information submitted by the Departments/Divisions listed above.

**DPW** will include the compiled budget information in the annual reports due on March 31 of each year.

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### PART I.A.4

#### MS4 PROGRAM RESOURCES

**A copy of the fiscal year's budget including its proposed capital and operation and maintenance expenditures necessary to accomplish the activities required by this state permit shall be submitted with each annual report.**

The County's Approved Budget for Fiscal Year 2015 - 2016 can be found at <http://henrico.us/budget/approved-budget-2016/>. Given the size of the document, the budget has not been included in this Annual Report Supplement.

	Approved Overall Budget for Departments / Divisions with MS4 Roles / Responsibilities	Approved Funding for MS4 Program Compliance	Source(s) of Funding
<b>CAPITAL</b>	\$98,371,380	\$2,443,380.20	Enterprise Fund/Bonds Capital Budget General Fund
<b>OPERATION AND MAINTENANCE</b>	\$333,84,050	\$4,439,506.81	Enterprise Fund Logistics Funds / Payroll General Fund Internal Service Fund

PART I.A.5  
PERMIT MAINTENANCE FEES

**PERMIT LANGUAGE**

Permit maintenance fees shall be paid in accordance with Part XIII of the VSMP regulations (9VAC25-870-700 et seq.).

**SPECIFIC REPORTING REQUIREMENTS**

- **A statement regarding payment of the applicable MS4 permit maintenance fee, including check date and check number shall be included with each annual report. Note: Please do not include copies of checks or other bank records.**

**MS4 PROGRAM ELEMENTS, ROLES AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.5 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

**Public Works (DPW)**

DPW will pay the required permit maintenance fee in accordance with Part XIII of the VSMP regulations.

DPW will include a statement regarding payment of the applicable MS4 Permit maintenance fee, including check date and check number, in **each annual report due March 31**.

# HENRICO COUNTY MS4 PROGRAM PLAN

## PART I.A.5

### PERMIT MAINTENANCE FEES

**A statement regarding payment of the applicable MS4 permit maintenance fee, including check date and check number shall be included with each annual report. Note: Please do not include copies of checks or other bank records.**

A check (check # 1100941, dated September 15, 2015) for the MS4 Permit Maintenance Fee (\$ 8,800.00) was submitted on September 15, 2015 to:

Treasurer of Virginia - DEQ  
P. O. Box 1104  
Richmond, VA 23218

PART I.A.6  
MS4 PROGRAM PLAN

**PERMIT LANGUAGE**

The permittee shall maintain, implement and enforce an MS4 Program Plan accurately documenting the MS4 Program including all additions, changes and modifications. For the purposes of this state permit, the MS4 Program Plan is considered a single document, but may actually consist of separate documents (e.g., dry weather screening plans, wet weather monitoring plans, TMDL Action Plans, annual reports). Policies, ordinances, strategies, checklists, watershed plans and other documents may be incorporated by referenced provided the latest revision date is included in the MS4 Program Plan and all documents are available upon request. Specific reference shall be made to any ordinance more stringent than the Virginia Stormwater Management Act (§ 62.1-44.15:24 et. seq.) and VSMP regulations (9VAC25-870 et. seq.), the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et. seq.) and Regulations (9VAC25-840-10 et.seq.) and the Chesapeake Bay Preservation Act (§ 62.144.15:67 et seq.) and Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830 et. seq.). The MS4 Program Plan is an enforceable part of this state permit.

Updates to the MS4 Program Plan shall be submitted to the Department for review and approval in accordance with the due dates established by this state permit. Updates to the MS4 Program Plan shall become effective and enforceable upon written approval from the Department.

The most recent MS4 Program Plan shall be posted on the permittee's website, and provided in another location easily accessible to the public.

**SPECIFIC REPORTING REQUIREMENTS**

- **Utilizing the last annual report prior to this state permit effective date as a baseline, the permittee's first annual report submitted under this state permit (Initial Report) shall include the necessary updates to describe implementation of this MS4 Program Plan and meet the conditions described in this section.**
- **NOTE: For purposes of the next permit cycle, the fourth annual report submitted under this state permit will be considered the updated MS4 Program**

## HENRICO COUNTY MS4 PROGRAM PLAN

**Plan to be reviewed as part of permit reissuance.**

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.6 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will develop appropriate updates as identified in the MS4 Program Plan to describe compliance with the requirements of the MS4 Permit.

#### **Public Works (DPW)**

DPW will submit appropriate updates to the MS4 Program Plan that describe implementation of the MS4 Program Plan and meet the conditions described in Part I.A.6 of the MS4 Permit with the annual report due **March 31, 2016**.

DPW will maintain the current MS4 Program Plan on its website and will provide public access to the MS4 Program Plan during normal business hours in the offices of DPW.

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.A.6 MS4 PROGRAM PLAN

**Utilizing the last annual report prior to this state permit effective date as a baseline, the permittee's first annual report submitted under this state permit (Initial Report) shall include the necessary updates to describe implementation of this MS4 Program Plan and meet the conditions described in this section.**

Given the extensive differences between the current MS4 Permit and the previous permit, the Henrico County MS4 Program Plan was developed to reflect the requirements and conditions of the current MS4 Permit. Therefore, the completely updated MS4 Program Plan has been included in the Annual Report submittal. It can also be found at <http://henrico.us/works/engineering-environmental-services/2015-ms4-permit-and-ms4-program-plan>.

**NOTE: For purposes of the next permit cycle, the fourth annual report submitted under this state permit will be considered the updated MS4 Program Plan to be reviewed as part of permit reissuance.**

Noted.

PART I.A.7

MS4 PROGRAM REVIEW AND UPDATES

**PERMIT LANGUAGE**

**MS4 Program Review:** The permittee will review the current MS4 Program Plan annually, in conjunction with the preparation of the annual report required under Part I.E of this state permit.

a) ***MS4 Program Updates and Modifications:***

Modifications to the MS4 Program Plan are expected throughout the life of this state permit as part of the iterative process to reduce pollutant loading and protect water quality. As such, modifications made in accordance with this state permit as a result of the iterative process do not require modification of this state permit unless the Department determines the changes meet the criteria referenced in 9VAC25-870-630 or 9VAC25-870-650.

Updates and modifications to the MS4 Program Plan may be made during the life of the permit in accordance with the following procedures:

- 1) Adding (but not eliminating or replacing) components, controls, or requirements to the MS4 Program Plan may be made by the permittee at any time. Additions shall be reported as part of the annual report.
- 2) Updates and modifications to specific standards and specifications, schedules, operating procedures, ordinances, manuals, checklists and other documents routinely evaluated and modified are authorized under this state permit provided that the updates and modifications are performed in a manner (i) that is consistent with the conditions of this state permit, (ii) that ensure public notice and participation requirements established in this state permit are followed, and (iii) that the updates and modifications are documented in the annual report.
- 3) Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies and Best Management Practices (BMPs) specifically identified in this state permit with alternate strategies, policies and BMPs may be requested at any time. Such requests shall include the following:
  - (a) An analysis of how and / or why the BMPs, strategies, or policies are ineffective or infeasible including information on whether the BMPs,



## HENRICO COUNTY MS4 PROGRAM PLAN

- strategies, or policies are cost prohibitive;
- (b) Expectations on the effectiveness of the replacement BMPs, strategies or policies;
- (c) An analysis of how the replacement BMPs are expected to achieve the goals of the BMPs to be replaced;
- (d) A schedule for implementing the replacement BMPs, strategies and policies; and
- (e) An analysis of how the replacement strategies and policies are expected to improve the permittee's ability to meet the goals of the strategies and policies being replaced.

Requests or notifications shall be made in writing to the Department and signed in accordance with 9VAC25-870-370 of the VSMP regulations. Modification to the MS4 Program Plan shall become effective and enforceable upon written approval from the Department. Major modifications to the MS4 Program Plan as defined in 9VAC25-870-10 may require that the permit be reopened and modified pursuant to 9VAC25-870-630.

**b) *MS4 Program Updates Requested by the Department of Environmental Quality:***

In a manner and following procedures in accordance with the Virginia Administrative Processes Act, the VSMP regulations and other applicable State laws, statutes and regulations, the Department may request changes to the MS4 Program to assure compliance with the statutory requirements of the Virginia Stormwater Management Act and associated regulations and to:

- 1) Address impacts on receiving water quality caused by discharges from the MS4;
- 2) Include more stringent requirements necessary to comply with new State or Federal-statutory or regulatory requirements; or
- 3) Include such other conditions necessary to comply with State or Federal statutory or regulatory requirements.

Proposed changes requested by the Department shall be made in writing and set forth the basis for and objective of the modification as well as the proposed time schedule for the permittee to develop and implement the modification. The permittee may propose alternative program modifications and/or time schedules to meet the objective of the requested modification, but any such modifications are at the discretion of the Department.

### **SPECIFIC REPORTING REQUIREMENTS**

- **All modifications and proposed modifications shall be reported in accordance with this section of the permit.**

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.7 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will review the MS4 Program Plan annually in conjunction with the preparation of the annual report to identify any suggested revisions.

#### **General Services (DGS)**

No later than **December 31 of each year**, DGS will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

#### **Recreation and Parks**

No later than **December 31 of each year**, Recreation and Parks will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

#### **Public Utilities (DPU)**

No later than **December 31 of each year**, DPU will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

#### **Public Schools (Schools)**

## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **December 31 of each year**, Schools will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Division of Fire (Fire)**

No later than **December 31 of each year**, Fire will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Division of Police (Police)**

No later than **December 31 of each year**, Police will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Public Library (Library)**

No later than **December 31 of each year**, Library will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Mental Health and Developmental Services (MH/DS)**

No later than **December 31 of each year**, MH/DS will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Economic Development Authority (EDA)**

No later than **December 31 of each year**, EDA will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Real Property**

## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **December 31 of each year**, Real Property will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Building Inspections**

No later than **December 31 of each year**, Building Inspections will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Community Revitalization**

No later than **December 31 of each year**, Community Revitalization will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Extension Service**

No later than **December 31 of each year**, Extension Service will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Henricopolis Soil and Water Conservation District (HSWCD)**

No later than **December 31 of each year**, HSWCD will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

### **Planning Department (Planning)**

No later than **December 31 of each year**, Planning will review the MS4 Program Plan and provide DPW a list of any suggested revisions for inclusion in the MS4 Program Plan.

## HENRICO COUNTY MS4 PROGRAM PLAN

### Public Works (DPW)

No later than **December 31 of each year**, DPW will review the MS4 Program Plan and identify any suggested revisions for inclusion in the MS4 Program Plan.

DPW will make necessary revisions to the MS4 Program Plan to reflect *additional components, controls, or requirements* as identified by the Departments / Divisions.

DPW will make necessary revisions to the MS4 Program Plan to reflect *updates and modifications to specific standards and specifications, schedules, operating procedures, ordinances, manual, checklists and other documents routinely modified* as identified by the Departments / Divisions provided the revisions are consistent with the MS4 Permit and applicable public notice and participation requirements of the MS4 Permit are followed.

DPW will seek DEQ's approval in accordance with the requirements of Part I.A.7.a)3) of the MS4 permit for any *proposed replacement or elimination of any strategy, policy or program element specifically identified in the MS4 Permit*.

DPW will make necessary revisions to the MS4 Program Plan to reflect any DEQ-approved replacement or elimination of any strategy, policy or program element specifically identified in the MS4 Permit.

DPW will include a compiled list of proposed and implemented MS4 Program Plan modifications in **each annual report due March 31**.

# HENRICO COUNTY MS4 PROGRAM PLAN

## PART I.A.7 MS4 PROGRAM REVIEW AND UPDATES

**All modifications and proposed modifications shall be reported in accordance with this section of the permit.**

Given the extensive differences between the current MS4 Permit and the previous permit, the Henrico County MS4 Program Plan was developed to reflect the requirements and conditions of the current MS4 Permit. Therefore, the completely updated MS4 Program Plan has been included in the Annual Report submittal. It can also be found at <http://henrico.us/works/engineering-environmental-services/2015-ms4-permit-and-ms4-program-plan>.

# HENRICO COUNTY MS4 PROGRAM PLAN

## PART I.B.1 PLANNING

### **PERMIT LANGUAGE**

No later than 12-months after the effective date of this state permit, the permittee shall submit to the Department a stormwater retrofit project summary that includes potential stormwater management projects to be completed during the term of the permit. Projects addressing stormwater quantity may be included if there is a water quality benefit to the project. At a minimum, the permittee shall consider the following for each project in the summary: type of project or BMP, number of acres which the BMP treats, impervious and pervious acreage treated by the potential project, condition of the downstream channel, amount of total pollutant reduction, feasibility for implementation, and estimated cost of implementation. The summary shall include a prioritized list of the identified projects for consideration of implementation.

The permittee shall seek public participation in identifying potential stormwater management projects for completion. A copy of the analysis shall be placed on the permittee's web-site no later than 30 days after it is submitted to the Department. Project statuses shall be updated on the website no less than once per year.

### **SPECIFIC REPORTING REQUIREMENTS**

- **No later than 12 months after the permit effective date, the permittee shall provide the stormwater management project analysis as described in Part I.B.1.**
- **The permittee shall provide a current web link to the analysis no later than 12 months after the effective date of this state permit with each annual report.**

### **MS4 PROGRAM ELEMENTS, ROLES AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

### **Public Works (DPW)**

DPW will develop a stormwater retrofit project summary that will include a list of projects to be completed between April 1, 2015 and March 31, 2020. The stormwater retrofit project summary will include the following for the projects included in the summary:

1. the type of project or BMP;
2. the number of acres treated by the BMP;
3. the impervious and pervious acres treated by the BMP;
4. the condition of the receiving system downstream of the BMP;
5. the pollutant reductions (P, N, and TSS) achieved by the BMP;
6. an assessment of the feasibility for constructing/installing the BMP; and
7. the estimated cost of implementing the BMP.

The stormwater retrofit project summary will include a prioritization of the projects included in the summary.

The stormwater retrofit project summary will be posted on the County's website prior to finalization to provide an opportunity for public input and comment.

DPW will submit the final stormwater retrofit project summary to the Department of Environmental Quality with the annual report due **March 31, 2016**.

DPW will post the final stormwater retrofit project summary on the County's website by **March 31, 2016**.



## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.1

### PLANNING

**No later than 12 months after the permit effective date, the permittee shall provide the stormwater management project analysis as described in Part I.B.1.**

<b>Woodman Park Energy Dissipator</b>	
Land use being retrofitted	Urban
Retrofit performed	Sheet Flow to Conserved Open Space installation at two existing MS4 outfalls
Status	Design Complete
Completion date	
Anticipated completion date	2017
Total acreage retrofitted	38.99
Total impervious acreage	12.10
Total pervious acreage	20.81
Condition of downstream channel	Stable
Reductions Achieved (lbs) - N / P / S	129.54 / 15.85 / 5662.45
Feasibility / Priority	Good / A
Estimated Cost	\$120,000
Latitude / Longitude (decimal degrees)	37.6515 / -77.4867

## HENRICO COUNTY MS4 PROGRAM PLAN

<b>Hungary Creek Stream Restoration</b>	
Land use being retrofitted	Urban
Retrofit performed	Natural Stream Restoration of 1750 feet of Hungary Creek
Status	Construction
Completion date	
Anticipated completion date	2016
Total acreage retrofitted	344.31
Total impervious acreage	91.77
Total pervious acreage	151.49
Condition of downstream channel	Stable
Reductions Achieved (lbs) - N / P / S	119.49 / 59.4 / 19,734.78
Feasibility / Priority	Good / A
Estimated Cost	\$1,087,555
Latitude / Longitude (decimal degrees)	37.6421 / -77.5337

<b>Belmont Golf Course, Phase 1</b>	
Land use being retrofitted	Urban
Retrofit performed	Streambank Restoration of 895 feet of severely eroded streambank on Upham Brook
Status	Design
Completion date	
Anticipated completion date	2017
Total acreage retrofitted	10,665.91
Total impervious acreage	4,115.36
Total pervious acreage	4,791.90
Condition of downstream channel	Stable
Reductions Achieved (lbs) - N / P / S	88.84 / 41.74 / 13,360.65
Feasibility / Priority	Good / A
Estimated Cost	\$455,750
Latitude / Longitude (decimal degrees)	37.6217 / -77.462

## HENRICO COUNTY MS4 PROGRAM PLAN

<b>Belmont Golf Course, Phase 2</b>	
Land use being retrofitted	Urban
Retrofit performed	Streambank Restoration of 1,050 feet of severely eroded streambank on North Run
Status	Design
Completion date	
Anticipated completion date	2018
Total acreage retrofitted	10,903.79
Total impervious acreage	2,846.02
Total pervious acreage	4,426.92
Condition of downstream channel	Stable
Reductions Achieved (lbs) - N / P / S	79.24 / 38.54 / 11,652.05
Feasibility / Priority	Good / A
Estimated Cost	\$487,800
Latitude / Longitude (decimal degrees)	37.6203 / -77.4608

<b>Belmont Golf Course, Phase 3</b>	
Land use being retrofitted	Urban
Retrofit performed	Regenerative Stormwater Conveyance
Status	Design
Completion date	
Anticipated completion date	2018
Total acreage retrofitted	38.80
Total impervious acreage	5.27
Total pervious acreage	31.05
Condition of downstream channel	See Belmont Golf Course, Phase 2
Reductions Achieved (lbs) - N / P / S	151 / 16 / 4,770
Feasibility / Priority	Good / A
Estimated Cost	\$73,300
Latitude / Longitude (decimal degrees)	37.6203 / -77.4635

## HENRICO COUNTY MS4 PROGRAM PLAN

<b>Dunncroft Park, Phase 1</b>	
Land use being retrofitted	Urban
Retrofit performed	Natural Stream Restoration of 480 feet of an unnamed tributary to Meredith Branch
Status	Design
Completion date	
Anticipated completion date	2017
Total acreage retrofitted	17.23
Total impervious acreage	5.99
Total pervious acreage	11.24
Condition of downstream channel	See Dunncroft Park, Phase 2
Reductions Achieved (lbs) - N / P / S	49.21 / 22.66 / 7,813.58
Feasibility / Priority	Good / A
Estimated Cost	\$179,750
Latitude / Longitude (decimal degrees)	37.6565 / -77.539

<b>Dunncroft Park, Phase 2</b>	
Land use being retrofitted	Urban
Retrofit performed	Natural Stream Restoration of 730 feet of an unnamed tributary to Meredith Branch
Status	Design
Completion date	
Anticipated completion date	2017
Total acreage retrofitted	26.20
Total impervious acreage	9.11
Total pervious acreage	17.09
Condition of downstream channel	See Dunncroft Park, Phase 3
Reductions Achieved (lbs) - N / P / S	74.84 / 34.47 / 11,883.16
Feasibility / Priority	Good / A
Estimated Cost	\$273,400
Latitude / Longitude (decimal degrees)	37.6575 / -77.5398

## HENRICO COUNTY MS4 PROGRAM PLAN

<b>Dunncroft Park, Phase 3</b>	
Land use being retrofitted	Urban
Retrofit performed	Natural Stream Restoration of 220 feet of an unnamed tributary to Meredith Branch
Status	Design
Completion date	
Anticipated completion date	2017
Total acreage retrofitted	7.90
Total impervious acreage	2.75
Total pervious acreage	5.15
Condition of downstream channel	See Dunncroft Park, Phase 4
Reductions Achieved (lbs) - N / P / S	22.56 / 10.39 / 3,581.23
Feasibility / Priority	Good / A
Estimated Cost	\$82,400
Latitude / Longitude (decimal degrees)	37.6585 / -77.5402

<b>Dunncroft Park, Phase 4</b>	
Land use being retrofitted	Urban
Retrofit performed	Natural Stream Restoration of 230 feet of an unnamed tributary to Meredith Branch
Status	Design
Completion date	
Anticipated completion date	2017
Total acreage retrofitted	8.26
Total impervious acreage	2.87
Total pervious acreage	5.38
Condition of downstream channel	Stable
Reductions Achieved (lbs) - N / P / S	23.58 / 10.86 / 3,744.01
Feasibility / Priority	Good / A
Estimated Cost	\$86,100
Latitude / Longitude (decimal degrees)	37.6592 / -77.5405

## HENRICO COUNTY MS4 PROGRAM PLAN

<b>Sheet Flow to Conserved Open Space at EN00000000147</b>	
Land use being retrofitted	Urban
Retrofit performed	Sheet Flow To Conserved Open Space installation at an existing MS4 outfall
Status	Evaluation
Completion date	
Anticipated completion date	2020
Total acreage retrofitted	6.64
Total impervious acreage	1.89
Total pervious acreage	4.75
Condition of downstream channel	Stable
Reductions Achieved (lbs) - N / P / S	25.47 / 2.85 / 967.75
Feasibility / Priority	Fair / B
Estimated Cost	\$50,000
Latitude / Longitude (decimal degrees)	37.6193 / -77.418

<b>Regenerative Stormwater Conveyance at EN000000000220</b>	
Land use being retrofitted	Urban
Retrofit performed	Regenerative Stormwater Conveyance installation at an existing MS4 outfall
Status	Evaluation
Completion date	
Anticipated completion date	2020
Total acreage retrofitted	9.65
Total impervious acreage	3.93
Total pervious acreage	5.72
Condition of downstream channel	Stable
Reductions Achieved (lbs) - N / P / S	42.29 / 6.35 / 2,266.99
Feasibility / Priority	Fair / B
Estimated Cost	\$75,000
Latitude / Longitude (decimal degrees)	37.6433 / -77.4345

## HENRICO COUNTY MS4 PROGRAM PLAN

**The permittee shall provide a current web link to the analysis no later than 12 months after the effective date of this state permit with each annual report.**

The stormwater management retrofit project summary can be found at <http://henrico.us/works/engineering-environmental-services/stormwater-retrofit-projects-summary> and the stormwater management retrofit project analysis can be found in the MS4 program Plan at <http://henrico.us/works/engineering-environmental-services/2015-ms4-permit-and-ms4-program-plan>.

PART I.B.2.a

MS4 PROGRAM IMPLEMENTATION  
CONSTRUCTION SITE RUNOFF AND POST CONSTRUCTION  
RUNOFF FROM AREAS OF NEW DEVELOPMENT AND  
DEVELOPMENT ON PRIOR DEVELOPED LANDS

**PERMIT LANGUAGE**

- 1) The permittee shall implement a local erosion and sediment control program consistent with the Virginia Erosion and Sediment Control Law §62.1-44.15:51 of the Code of Virginia and Virginia Erosion and Sediment Control Regulations 9VAC25-840 et seq. and a stormwater management program consistent with the Virginia Stormwater Management Act §62.1-44.15:24 of the Code of Virginia and Virginia Stormwater Management Program Regulations 9VAC25-870 et seq.
- 2) The permittee shall identify in the MS4 Program Plan all legal authorities for erosion and sediment control and stormwater management that are more stringent than those required under 9VAC25-840 et seq. and/or 9VAC25-870 et seq. or that have been adopted in accordance with § 62.1-44.15:65 and/or § 62.1-44.15:33 of the Code of Virginia.

**SPECIFIC REPORTING REQUIREMENTS**

- Each annual report shall contain the number of regulated land disturbing activities approved and the total number of acres disturbed.
- Each annual report shall contain the number of land disturbing activity inspections conducted and the number and type of each enforcement action taken.
- The annual report due March 31, 2016 shall include the permittee's strategy to address maintenance of stormwater management controls that are designed to treat stormwater runoff solely from the individual residential lot on which they are located.
- The annual report due March 31, 2016 shall include a list of all known land



## HENRICO COUNTY MS4 PROGRAM PLAN

**disturbing projects that qualify under the ‘Grandfathering’ provision of the VSMP regulations found at 9VAC25-870-48.**

- **Each annual report shall include a summary of actions taken by the permittee to implement Part I.B.2.a)1) through 3) of this state permit.**

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.a of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will implement the local erosion and sediment control (ESC) and stormwater management (SWM) programs on land disturbing activities on their facilities. The local ESC and SWM programs have been determined to be consistent with the applicable laws and regulations (see Attachments).

#### **Public Works (DPW)**

DPW will administer and enforce the local ESC and SWM programs on land disturbing activities in the County. The local ESC and SWM programs have been determined to be consistent with the applicable laws and regulations (see Attachments).

The following is a of criteria that are more stringent than those required under 9VAC25-840 et seq. and/or 9VAC25-870 et seq. or that have been adopted in accordance with § 62.1-44.15:65 and/or § 62.1-44.15:33 of the Code of Virginia:

- Stormwater detention facilities are required to be provided as a part of plans of development in those watersheds where downstream flooding problems are known to occur or if existing homes are located within the 50-year flood plain. These detention facilities must be designed so that the post-developed peak flow from the site for the 50-year storm 24-hour event does not exceed the pre-developed peak flow rate for the 10-year 24-hour storm event. However, the standards do not apply to (i) subdivisions or plans of development for single-family, detached residential structures, (ii) where it is demonstrated that there are no existing homes located within the 50-year floodplain downstream of the proposed development, or (iii) linear development projects.
- SWM facilities must meet minimum front yard setback requirements from the

## HENRICO COUNTY MS4 PROGRAM PLAN

public right of way. The setback for the SWM facility is measured as the distance from the highest continuous contour elevation inside the SWM facility to the ultimate right of way line. These setbacks are identified below:

- a. Residential Zoned Districts (all "R" Districts including A-1) - The SWM facility must honor the setback specified for the primary dwelling.
  - b. Non-residential Zoned Districts - The SWM facility must honor a minimum setback of 25 feet from the ultimate right of way.
- A distance equivalent to the rear yard setback in residential development must be provided from the rear of the buildable area to the highest continuous contour elevation inside the SWM facility.
  - Regional wet ponds and existing ponds are not allowed in residential developments unless the following conditions are met:
    - a. The pond must be located in a common area,
    - b. There must be a minimum of 50 feet between any buildable area and the normal pool elevation of the pond,
    - c. All access and easement requirements must be met,
    - d. The pond must be an amenity for the entire subdivision
  - SWM facilities in a proposed residential subdivision shall be located in common area controlled and maintained by a homeowners association. The highest continuous contour on the inside of the SWM facility must be a minimum of 20 feet from the side of any principal structure.
  - SWM facilities are not allowed within the public right of way limits unless specifically approved by the Director of Public Works.
  - The SWM facility must be located as follows:
    - a. The highest continuous contour on the inside of the SWM facility must be located at least 25' from the ultimate right-of-way in the side yard in residential development.
    - b. The SWM facility must be located outside of all transitional or proffered buffer areas or planting strip easements.
    - c. The SWM facility must be located to the rear of all single-family residential units or in common area that is controlled and maintained by a Homeowners Association.
  - The treatment volume ( $T_v$ ) of any SWM facility may not be stored in any County maintained easements or rights-of-way.
  - All dry detention ponds (quantity control only) must have paved low-flow channels between all inlet points and the primary outlet structure.

No later than **February 28 of each year**, DPW will develop a report that includes the number of regulated land disturbing activities authorized for construction during the

## HENRICO COUNTY MS4 PROGRAM PLAN

permit year and the total acreage of land disturbance associated with those activities for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, DPW will develop a report that includes the number of land disturbing activity inspections conducted and the number of each type of enforcement action taken during the permit year for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, DPW will summarize the actions (revising ordinances, hiring additional staff, revising department duties, etc.) taken each permit year to implement Part I.B.2.a)1) through 3) of this state permit for inclusion in the annual reports due March 31.

HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.a

MS4 PROGRAM IMPLEMENTATION  
CONSTRUCTION SITE RUNOFF AND POST CONSTRUCTION  
RUNOFF FROM AREAS OF NEW DEVELOPMENT AND  
DEVELOPMENT ON PRIOR DEVELOPED LANDS

**Each annual report shall contain the number of regulated land disturbing activities approved and the total number of acres disturbed.**

Number of Regulated Land Disturbing Activities Approved between April 1, 2015 and December 31, 2015	Total Number of Acres Disturbed
77	506.06

**Each annual report shall contain the number of land disturbing activity inspections conducted and the number and type of each enforcement action taken.**

ESC and SWM Inspection and Enforcement Actions conducted between April 1, 2015 and December 31, 2015	Number of Actions
ESC Inspection - Complete	5,454
ESC Inspection - Follow-Up	102
PreConstruction Meeting	80
SWPPP - Complete	409
SWPPP - Follow-Up	66
Notice to Comply	181
Stop Work Order	14

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HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.a

ANNUAL REPORT SUPPLEMENT

APRIL 1, 2015 THROUGH DECEMBER 31, 2015

## HENRICO COUNTY MS4 PROGRAM PLAN

**The annual report due March 31, 2016 shall include the permittee's strategy to address maintenance of stormwater management controls that are designed to treat stormwater runoff solely from the individual residential lot on which they are located.**

Stormwater management controls that treat stormwater runoff solely from the individual lot on which they are located are not allowed in the County. This prohibition was implemented many years ago and there are no stormwater management controls on individual residential lots that treat stormwater runoff solely from the individual residential lot.

**The annual report due March 31, 2016 shall include a list of all known land disturbing projects that qualify under the 'Grandfathering' provision of the VSMP regulations found at 9VAC25-870-48.**

Land Disturbing Projects considered "Grandfathered" in accordance with 9VAC25-870-48
Estates at Grey Oaks - Section 4
Deep Run III Generator Pad
River Road Farms Lot 8 & 9 RPA Exception
Short Pump Manor at Bacova - Section 2
Westin Estates - Section 3
RIA - East Side Roadway & Utility Expansion
Ellington at Wyndham - Section 3
Enviroscapes Inc. Office & Service Building
Eastport VIII
BJ's Restaurant at Towne Center West
Easptport VI
Pet Park-n-Ride
Towne Center West Medical Office Building
Walmart North Park Shopping Center Pavement Rehabilitation
Essex at Grey Oaks - Section 1 (Clearing & Erosion Control Plan)
Benson at Grey Oaks - Section 1
Colortree Expansion Project

## HENRICO COUNTY MS4 PROGRAM PLAN

West Boad Marketplace - Phase 4
Mount Vernon Baptist Church - Phase 3B (Revised Building Footprint)
Libbie Mill - Phase 1B - Property Line Creation
Libbie Mill - Phase 1C - Property Line Creation
Meadow Glen of West End Site Plan Amendment
The Shire Phase II
Westin Estates - Section 3 (Revised)
Cameron at Grey Oaks - Section 2
Goodwill - Brookhollow

**Each annual report shall include a summary of actions taken by the permittee to implement Part I.B.2.a)1) through 3) of this state permit.**

No actions such as ordinance revisions, additional staff, revised roles/responsibilities, etc. were taken between April 1, 2015 and December 31, 2015 to implement the local ESC and SWM programs.

PART I.B.2.b  
MS4 PROGRAM IMPLEMENTATION  
RETROFITTING ON PRIOR DEVELOPED LANDS

**PERMIT LANGUAGE**

From the stormwater retrofit project summary list required in Part I.B.1, the permittee shall complete at least eight (8) projects no later than the expiration date of this state permit. Projects implemented to meet the requirements of Part I.D of this state permit (TMDL Action Plan and Implementation for the Chesapeake Bay Special Condition or TMDL Action Plans other than the Chesapeake Bay TMDL) may be used to meet the requirements of this special condition.

For retrofit projects that do not serve to meet the requirements of Part I.D, the permittee shall submit a summary of projects implemented during the reporting period with each annual report including type of land use being retrofitted, retrofit performed, completion date or anticipated completion date, total acreage retrofitted, total impervious and pervious acreage, and location by latitude and longitude (in degrees, minutes and seconds).

**SPECIFIC REPORTING REQUIREMENTS**

- Each annual report shall include a status update for those projects for which implementation began during the reporting period.

**MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.b of the MS4 Permit are assigned to the following Departments / Divisions of the County:

**Public Works (DPW)**

DPW will include a project summary / status update for each project for which implementation began during the reporting period in **each annual report due March 31**.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPW will complete at least eight (8) projects from the list required by Part I.B.1 **no later than March 31, 2020.**



## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.b

#### MS4 PROGRAM IMPLEMENTATION RETROFITTING ON PRIOR DEVELOPED LANDS

Each annual report shall include a status update for those projects for which implementation began during the reporting period.

Retrofit Projects for which Implementation* began between April 1, 2015 and December 31, 2015	
Hungary Creek Stream Restoration	
Land use being retrofitted	Urban
Retrofit performed	Natural Stream Restoration of 1750 feet of Hungary Creek
Completion date	
Anticipated completion date	2016
Total acreage retrofitted	344.31
Total impervious acreage	91.77
Total pervious acreage	151.49
Latitude / Longitude	37.6421 / -77.5337

\* For purposes of this reporting requirement, implementation means the construction or installation of the retrofit project.

PART I.B.2.c  
MS4 PROGRAM IMPLEMENTATION  
ROADWAYS

**PERMIT LANGUAGE**

Streets, roads, and parking lots maintained by the permittee shall continue to be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities.

- 1) No later than 12-months after the effective date of this state permit, the permittee shall develop and maintain an accurate list of permittee maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.
- 2) No later than 36-months after the effective date of this state permit, the permittee shall develop and implement written protocols for permittee maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.
- 3) Materials utilized for deicing and sanding activities shall remain covered from precipitation until application.
- 4) The permittee shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks or other paved surfaces.

**SPECIFIC REPORTING REQUIREMENTS**

- The permittee shall include a copy of the written protocols identified in **Part I.B.2.c)(2)** with the annual report due March 31, 2019.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.c of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will continue to operate and maintain streets, roads, and parking lots in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities. Materials utilized for deicing and sanding activities shall remain covered from precipitation until application. Deicing materials containing urea or other forms of nitrogen or phosphorus shall not be applied to parking lots, roadways, and sidewalks or other paved surfaces.

#### **General Services (DGS)**

Streets, roads, and parking lots maintained by DGS shall continue to be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities.

Materials utilized for deicing and sanding activities shall remain covered from precipitation until application.

DGS shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks or other paved surfaces.

DGS will conduct sweeping of its roads, streets and parking lots where sand and chemicals are applied.

DGS will apply good housekeeping and pollution prevention practices for its roads, streets and parking lots.

DGS will maintain an accurate list of DGS-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, DGS will develop and implement written protocols for DGS-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

## HENRICO COUNTY MS4 PROGRAM PLAN

DGS will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Recreation and Parks**

Streets, roads, and parking lots maintained by R&P shall continue to be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities.

Recreation and Parks (R&P) will work to minimize the discharge of pollutants from the R&P maintained roads, streets and parking lots.

R&P staff or hired contractor(s) shall not apply any deicing agent containing urea, salt or other forms of nitrogen or phosphorus to roads, streets, parking lots, sidewalks or other paved surfaces we own.

R&P staff or hired contractor(s) will conduct sweeping of its roads, streets, parking lots and any other paved surfaces we own where sand and chemicals are applied.

Recreation and Parks will maintain an accurate list of Recreation and Parks-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, Recreation and Parks will develop and implement written protocols for Recreation and Parks-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

Recreation and Parks will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Public Utilities (DPU)**

DPU will work to minimize the discharge of pollutants from the DPU-maintained roads, streets and parking lots.

DPU staff or hired contractor(s) shall not utilize deicing agents or sand on roads, street or parking lots we own.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPU staff or hired contractor(s) shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to roads, streets or parking lots in which we own.

In order to meet our requirement of minimizing the discharge of pollutants from the DPU-maintained roads, streets and parking lots, DPU will follow the Standard Operating Procedures (SOP) that will be developed and implemented prior to March 31, 2018. The SOP will address both asphalt and gravel surfaces.

DPU has implemented a SWPPP at our Woodman Road Operations Facility that will control the storage of materials to minimize the discharge of pollutants from those storage areas. All other areas not controlled by a SWPPP will be controlled by the SOP mentioned above.

DPU will maintain an accurate list of DPU-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, DPU will develop and implement written protocols for DPU-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

DPU will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Public Schools (Schools)**

Schools will continue to operate and maintain its streets, roads, and parking lots in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities. Materials utilized for deicing and sanding activities shall remain covered from precipitation until application. Deicing materials containing urea or other forms of nitrogen or phosphorus shall not be applied to parking lots, roadways, and sidewalks or other paved surfaces.

Schools will maintain an accurate list of Schools-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

## HENRICO COUNTY MS4 PROGRAM PLAN

Schools will maintain an accurate list of Schools-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, Schools will develop and implement written protocols for Schools-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

Schools will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### Division of Fire (Fire)

Fire has the following programs that are used to operate and maintain Fire-maintained roads, streets, and parking lots in order to minimize the discharge of pollutants from the Fire-maintained roads, streets, and parking lots for inclusion in the MS4 Program Plan:

- Spill and Leak Education Program reviewed by all employees
- Documentation Policy reviewed by all employees
- Standing MS4 Overview and Directive Power Point on Fire Intranet page for reference to all employees
- Posters at all facilities outlining policies and procedures for spill and leak response at stations and parking lots, along with required reporting procedures
- DOF Storm Water Directive outlining acceptable and non acceptable actions that would impact the MS4

Fire will maintain an accurate list of Fire-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, Fire will develop and implement written protocols for Fire-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

Fire will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Division of Police (Police)**

Police maintains the driveway and parking lot at the Range. At the Range, the snow either melts off the parking lot, or the lot is plowed by Police Division personnel with the Range tractor. No chemicals or sand are used on the parking lot or sidewalks at the Range.

There are no snow removal efforts at the Impound Lot.

Villa Park Central Station opened August 2015. Snow removable and deicing functions at Villa Park Central Station are handled by a contractor hired by Police. The contractor handles deicing of parking lots, driveways, and walkways. The contract prohibits the use of deicing agents containing urea or other forms of nitrogen or phosphorus.

General Services maintains the exterior at the Animal Shelter, and Tactical Services buildings. Snow removable and deicing functions at the Animal Shelter, and Tactical Services buildings are handled by a contractor hired by General Services. The contractor handles deicing of parking lots, driveways, and walkways. The contract prohibits the use of deicing agents containing urea or other forms of nitrogen or phosphorus.

Police will maintain an accurate list of Police-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, Police will develop and implement written protocols for Police-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

Police will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Mental Health and Developmental Services (MH/DS)**

MH/DS does not maintain any streets or roadways.

Parking lots, driveways, and walkways that are maintained by MH/DS will be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to snow and ice removal.

## HENRICO COUNTY MS4 PROGRAM PLAN

Snow removable and deicing functions are handled by a contractor hired by MH/DS. The contractor handles deicing of parking lots, driveways, and walkways. The contractor leaves a 50lb bag of ice melt at each location as requested by MH/DS.

Ice melt /deicer may be applied by staff in small quantities to treat small iced areas on driveways, and walkways at group homes.

Deicer will remain covered from precipitation until application. Deicing materials containing urea or other forms of nitrogen or phosphorus shall not be applied to parking lots, driveways, walkways, or other paved surfaces.

A contractor hired by MH/DS also maintains mowing and leaf removal. Debris from mowing and leaves are blown from paved surfaces. The debris is collected, and removed from the grounds.

MH/DS will maintain an accurate list of MH/DS-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, MH/DS will develop and implement written protocols for MH/DS-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

MH/DS will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Economic Development Authority (EDA)**

The tenant of the leased parcel is responsible for building and grounds maintenance.

EDA will maintain an accurate list of EDA-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, EDA will develop and implement written protocols for EDA-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.



## HENRICO COUNTY MS4 PROGRAM PLAN

EDA will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Real Property**

Real Property does not maintain any streets or roadways.

Parking lots, driveways, and walkways that are maintained by Real Property or its lease tenants will be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to snow and ice removal.

Real Property will maintain an accurate list of Real Property-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, Real Property will develop and implement written protocols for Real Property-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

Real Property will submit its written protocols to DPW no later than **February 28, 2019** for inclusion in the annual report due March 31, 2019.

### **Public Works (DPW)**

DPW will continue to operate and maintain streets, roads, and parking lots in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities. Materials utilized for deicing and sanding activities shall remain covered from precipitation until application. Deicing materials containing urea or other forms of nitrogen or phosphorus shall not be applied to parking lots, roadways, and sidewalks or other paved surfaces.

DPW will maintain an accurate list of DPW-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.

No later than **March 31, 2018**, DPW will develop and implement written protocols for DPW-maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPW will include the written protocols from all Departments / Divisions identified above in the annual report due **March 31, 2019**.

HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.c  
MS4 PROGRAM IMPLEMENTATION  
ROADWAYS

**The permittee shall include a copy of the written protocols identified in Part I.B.2.c)(2) with the annual report due March 31, 2019.**

Noted.

PART I.B.2.d

MS4 PROGRAM IMPLEMENTATION  
PESTICIDE, HERBICIDE, AND FERTILIZER APPLICATION

**PERMIT LANGUAGE**

The permittee shall continue to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied to permittee rights of way, parks, and other permittee property, as follows:

- 1) The permittee shall develop and implement turf and landscape nutrient management plans that have been developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the MS4 permittee where nutrients are applied to a contiguous area greater than one acre in accordance with the following schedule:
  - (a) No later than 12-months after the effective date of this state permit the permittee shall identify all permittee lands where nutrients are applied to a contiguous area of more than one acre. A latitude and longitude shall be provided for each such piece of permittee land.
  - (b) The permittee shall develop and implement turf and landscape nutrient management plans on all permittee lands where nutrients are applied to a contiguous area of more than one acre. The following measurable goals are established for the development and implementation of turf and landscape nutrient management plans.
    - (1) No later than 24-months after the effective date of this state permit, not less than 15% of all identified acres will be covered by turf and landscape nutrient management plans.
    - (2) No later than 36-months after the effective date of this state permit, not less than 40% of all identified acres will be covered by turf and landscape nutrient management plans.
    - (3) No later than 48-months after the effective date of this state permit, not less than 75% of all identified acres will be covered by turf and landscape nutrient management plans.
  - (c) The permittee shall annually track the following:
    - (1) The total acreage of permittee lands upon which nutrients are applied and controlled using general County guidelines or standard operating procedures;
    - (2) The acreage of permittee lands where turf and landscape nutrient management plans are required; and,

## HENRICO COUNTY MS4 PROGRAM PLAN

- (3) The acreage of permittee lands covered by turf and landscape nutrient management plans have been implemented.
- 2) The permittee shall continue to employ good housekeeping/pollution prevention measures in the application, storage, transport and disposal of pesticides, herbicides and fertilizers.
- 3) The permittee may regulate the use, application, or storage of fertilizers pursuant to §3.2-3602 of the Code of Virginia.
- 4) The permittee shall track the acreage of permittee lands managed under Integrated Pest Management Plans.

### **SPECIFIC REPORTING REQUIREMENTS**

- The report due March 31, 2016 shall contain a list of all permittee lands and applicable acreage on which nutrients are applied to more than one contiguous acre.
- Each annual report submitted after March 31, 2016 shall report on compliance with the turf and landscape nutrient management plan implementation schedule and include a list of the permittee's properties for which turf and landscape nutrient management plans have been implemented during the reporting year and the cumulative total of acreage under turf and landscape nutrient management plans.
- Each annual report shall include the number of acres managed under Integrated Pest Management Plans.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various program elements and tasks necessary to demonstrate compliance with Part I.B.2.d of the MS4 Permit are assigned to the Departments / Divisions of the County as follows:

All Departments / Divisions will continue to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied to County-maintained rights of way, parks, and other County property.

All Departments / Divisions will continue to employ good housekeeping / pollution prevention measures in the application, storage, transport and disposal of pesticides, herbicides and fertilizers. Application and disposal of these materials will be in accordance with the manufacturer's recommendations. Storage and transport will be

## HENRICO COUNTY MS4 PROGRAM PLAN

conducted to avoid or minimize exposure to stormwater by doing things such as covering the materials during transport and storing the materials under cover.

All Departments / Divisions will use the MS4 Municipal Management Area (MMA) System to track compliance with the Turf and Landscape Nutrient Management Plan and Integrated Pest Management Plan requirements of the MS4 Permit. The MMA System is an inventory of lands maintained by the County that was developed to administer and track compliance with various MS4 Permit requirements. Using the MMA System, evaluations of County-maintained lands will be conducted to determine whether or not Turf and Landscape Nutrient Management Plans are required. Currently, the MMA System does not track compliance with the requirements / recommendations included in each individual Turf and Landscape Nutrient Management Plans required by the MS4 Permit.

### General Services (DGS)

No later than **February 28, 2016**, DGS will use the MMA System to identify all DGS-maintained lands where Turf and Landscape Nutrient Management Plans are required.

DGS will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

DGS will develop and implement required Turf and Landscape Nutrient Management Plans for all DGS-maintained lands in accordance with the following schedule:

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

DGS will use the MMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for DGS-maintained lands. Individual plan implementation

## HENRICO COUNTY MS4 PROGRAM PLAN

details will be maintained by DGS since those details are not captured in the MMMA System.

### **Recreation and Parks**

Recreation and Parks will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

Recreation and Parks will develop and implement required Turf and Landscape Nutrient Management Plans for all Recreation and Parks-maintained lands in accordance with the following schedule:

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

Recreation and Parks will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for Recreation and Parks-maintained lands. Individual plan implementation details will be maintained by Recreation and Parks since those details are not captured in the MMMA System.

### **Public Utilities (DPU)**

DPU will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

DPU will develop and implement required Turf and Landscape Nutrient Management Plans for all DPU-maintained lands in accordance with the following schedule:

## HENRICO COUNTY MS4 PROGRAM PLAN

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

DPU will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for DPU-maintained lands. Individual plan implementation details will be maintained by DPU since those details are not captured in the MMMA System.

### **Public Schools (Schools)**

Schools will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

Schools will develop and implement required Turf and Landscape Nutrient Management Plans for all Schools-maintained lands in accordance with the following schedule:

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

Schools will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for Schools-maintained lands. Individual plan implementation details will be maintained by Schools since those details are not captured in the MMMA



System.

### **Division of Fire (Fire)**

Fire will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

Fire will develop and implement required Turf and Landscape Nutrient Management Plans for all Fire-maintained lands in accordance with the following schedule:

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

Fire will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for Fire-maintained lands. Individual plan implementation details will be maintained by Fire since those details are not captured in the MMMA System.

### **Division of Police (Police)**

Police will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

Police will develop and implement required Turf and Landscape Nutrient Management Plans for all Police-maintained lands in accordance with the following schedule:

## HENRICO COUNTY MS4 PROGRAM PLAN

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

Police will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for Police-maintained lands. Individual plan implementation details will be maintained by Police since those details are not captured in the MMMA System.

### **Mental Health and Developmental Services (MH/DS)**

MH/DS will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

MH/DS will develop and implement required Turf and Landscape Nutrient Management Plans for all MH/DS-maintained lands in accordance with the following schedule:

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

MH/DS will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for MH/DS-maintained lands. Individual plan implementation details will be maintained by MH/DS since those details are not captured in the MMMA System.

### **Economic Development Authority (EDA)**

EDA will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

EDA will develop and implement required Turf and Landscape Nutrient Management Plans for all EDA-maintained lands in accordance with the following schedule:

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

EDA will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for EDA-maintained lands. Individual plan implementation details will be maintained by EDA since those details are not captured in the MMMA System.

### **Real Property**

Real Property will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

Real Property will develop and implement required Turf and Landscape Nutrient Management Plans for all Real Property-maintained lands in accordance with the following schedule:

## HENRICO COUNTY MS4 PROGRAM PLAN

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

Real Property will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for Real Property-maintained lands. Individual plan implementation details will be maintained by Real Property since those details are not captured in the MMMA System.

### Public Works (DPW)

DPW will ensure that required Turf and Landscape Nutrient Management Plans are developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia by either hiring a consultant to develop the plans or having certified County staff develop the plans.

DPW will develop and implement required Turf and Landscape Nutrient Management Plans for all DPW-maintained lands in accordance with the following schedule:

1. No later than **March 31, 2017**, not less than 15% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans developed ;
2. No later than **March 31, 2018**, not less than 40% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans;
3. No later than **March 31, 2019**, not less than 75% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans; and
4. No later than **March 31, 2020**, not less than 100% of all identified acres will be covered by Turf and Landscape Nutrient Management Plans.

DPW will use the MMMA System to track implementation of required Turf and Landscape Nutrient Management Plans and any Integrated Pest Management Plans that have been developed for DPW-maintained lands. Individual plan implementation details will be maintained by DPW since those details are not captured in the MMMA System.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPW will include a list of all County-maintained lands and applicable acreage on which nutrients are applied to more than one contiguous acre in the annual report due **March 31, 2016**. This information will be extracted from the MMMA System.

DPW will include a report on compliance with the Turf and Landscape Nutrient Management Plan implementation schedule and include a list of the County-maintained lands for which Turf and Landscape Nutrient Management Plans were implemented during the reporting year and the cumulative total of acreage under Turf and Landscape Nutrient Management Plans in each annual report beginning with the annual report due on **March 31, 2017**. This information will be extracted from the MMMA System.

DPW will include the acreage of County-maintained lands managed under Integrated Pest Management Plans in each annual report due **March 31 of each year**. This information will be extracted from the MMMA System.

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.d

#### MS4 PROGRAM IMPLEMENTATION PESTICIDE, HERBICIDE, AND FERTILIZER APPLICATION

**The report due March 31, 2016 shall contain a list of all permittee lands and applicable acreage on which nutrients are applied to more than one contiguous acre.**

MS4 Municipal Management Areas (MMMA) on which nutrients are applied to more than one contiguous acre		
MMMA	MMMA Description	Nutrient Application Acreage
MMMA000018	Deep Run School	12.5
MMMA000020	Glen Allen High School	12
MMMA000022	Short Pump Middle School	1.84
MMMA000028	Hungary Creek School	2.3
MMMA000032	Brookely Road Athletic Field - RF&P Park	1.56
MMMA000037	Twin Hickory Park	1.99
MMMA000049	Athletic Field - Laurel Recreation Area	1.68
MMMA000105	Water Treatment Facility	1.33
MMMA000129	Holladay School	3.3
MMMA000130	Hermitage School	2.75
MMMA000133	Athletic Fields - Short Pump Park	3.31
MMMA000143	Gayton School	2
MMMA000175	Pinchbeck School	4
MMMA000249	Tucker High School	4.5
MMMA000265	Athletic Fields - Pouncey Tract Park	5.46
MMMA000283	Byrd School	2.2
MMMA000295	Athletic Fields - Klehr Field	4.36
MMMA000305	Henrico School	2
MMMA000332	Golf Course - Belmont	95.00

HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.d

ANNUAL REPORT SUPPLEMENT

APRIL 1, 2015 THROUGH DECEMBER 31, 2015

## HENRICO COUNTY MS4 PROGRAM PLAN

MMMA000433	Athletic Field - Eastern Henrico Recreation	2.11
MMMA000435	Highland Springs Recreation Area	1.61
MMMA000456	Athletic Fields - Vawter Street Park	1.93
MMMA000471	Mehfoud Elementary	2
MMMA000501	Seven Pines School	1.8
MMMA000517	Athletic Fields - Sandston Recreation	2.41
MMMA000521	Tuckahoe Middle School	5.15
MMMA000537	Highland Springs High School Softball	2
MMMA000565	Varina High school	2.1
MMMA000567	Baker School	2
MMMA000577	Athletic Field Complex - Dorey Park	26.33
MMMA000593	Varina Elementary	2
MMMA000623	Pocahontas School	4.6
MMMA000625	Godwin School	6
MMMA000652	Ward Elementary	2
MMMA000654	Athletic Fields - Varina Recreation Area	1.96
MMMA000660	Freeman School	6.75
MMMA000662	Athletic Field - Eastern Henrico Recreation	1.84
MMMA000666	Holman School	2.3
MMMA000676	Athletic Fields - RF&P Park	7.68
MMMA000695	Athletic Fields - Tuckahoe Park	8.95
MMMA000699	Athletic Fields - Deep Run Park	6.31
MMMA000711	Short Pump Middle School	1.84
MMMA000722	Athletic Fields - Glen Allen Softball	6.43
MMMA000725	Materials Storage Yard - West End Depot	2.37
<b>TOTAL</b>		<b>274.55</b>

**Each annual report submitted after March 31, 2016 shall report on compliance with the turf and landscape nutrient management plan implementation schedule and include a list of the permittee's properties for which turf and landscape nutrient management plans have been implemented during the reporting year and the cumulative total of acreage under turf and landscape nutrient management plans.**

## HENRICO COUNTY MS4 PROGRAM PLAN

MS4 Municipal Management Areas (MMMA) on which Turf and Landscape Nutrient Management Plans were implemented  
between April 1, 2015 and December 31, 2015

MMMA	MMMA Description (if applicable)	Acreage Covered
MMMA000143	Gayton School	2
MMMA000175	Pinchbeck School	4
MMMA000471	Mehfoud Elementary	2
MMMA000567	Baker School	2
MMMA000593	Varina Elementary	2
MMMA000652	Ward Elementary	2
TOTAL		<b>14</b>

### Turf and Landscape Nutrient Management Compliance

Total acres requiring coverage by a Turf and Landscape Nutrient Management Plan	274.55
Total acres managed by a Turf and Landscape Nutrient Management Plan	274.55
Percentage of identified acres requiring coverage by a Turf and Landscape Nutrient Management Plan that is covered by a Turf and Landscape Nutrient Management Plan	100

**Each annual report shall include the number of acres managed under Integrated Pest Management Plans.**

Acres managed under Integrated Pest Management Plans	64.503
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PART I.B.2.e  
MS4 PROGRAM IMPLEMENTATION  
ILLICIT DISCHARGES AND IMPROPER DISPOSAL

**PERMIT LANGUAGE**

Discharges to the MS4 not authorized by this state permit shall be effectively prohibited.

1) In accordance with Part I.A.1.b), certain non-stormwater discharges to the MS4 need not be addressed as illicit discharges or improper disposal. The MS4 Program Plan shall identify any non-stormwater discharges listed under Part I.A.1.b), where the permittee has imposed any conditions on the discharges to the MS4. The permittee shall prohibit, on a case-by-case basis, any individual non-stormwater discharge (or class of non-stormwater discharges) otherwise allowed under this paragraph that is determined to be contributing significant amounts of pollutants to the MS4.

2) The permittee shall continue implementing a sanitary sewer inspection program to minimize the exfiltration from the sanitary system to the MS4.

The permittee shall inspect a minimum of 300,000 linear feet of sanitary sewer annually.

3) The permittee shall develop and implement a program to reduce the discharge of floatables (e.g. litter and other human-generated solid refuse).

4) The permittee shall prohibit the dumping or disposal of used motor vehicle fluids, household hazardous wastes, sanitary sewage, grass clippings, leaf litter, and animal wastes into the MS4. The permittee shall ensure the implementation of programs to collect used motor vehicle fluids (such as oil and antifreeze) and household hazardous waste materials for recycling, reuse, or proper disposal. Such programs shall be readily available to all private residents and shall be publicized and promoted on a regular basis not less than twice per year.

5) The permittee shall continue to implement a program to locate and eliminate illicit discharges and improper disposal into the MS4. This program shall include dry weather screening activities to locate portions of the MS4 with suspected illicit discharges and improper disposal, as described in Part I.B.2.l)(1) of this state permit.

## HENRICO COUNTY MS4 PROGRAM PLAN

- 6) The permittee shall require the elimination of illicit discharges and improper disposal practices within 30-days of discovery. Where elimination of an illicit discharge within 30-days is not possible, the permittee shall require an expeditious schedule for removal of the discharge. In the interim, the permittee shall require the operator of the illicit discharge to take all reasonable and prudent measures to minimize the discharge of pollutants to the MS4.

### **SPECIFIC REPORTING REQUIREMENTS**

- Each annual report shall include a list of illicit discharges identified, the source, a description of follow-up activities and whether the illicit discharge has been eliminated.
- Each annual report shall include the amount of linear feet of sanitary sewer inspected during the reporting year.
- The initial annual report shall include a description of the procedures the permittee will implement to reduce floatables as required by Part I.B.2.e)3) above.
- Each following annual report shall include a list of sites monitored, a summary of the monitoring protocols used, and a summary of the monitoring results and analyses.

### **MS4 PROGRAM ELEMENTS, ROLES AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.e of the MS4 Permit are assigned to the following Departments / Divisions of the County:

#### **Public Utilities (DPU)**

DPU will continue implementing a sanitary sewer inspection program.

DPU will inspect a minimum of 300,000 linear feet of sanitary sewer every permit year.

DPU will continue implementing a program to reduce the discharge of floatables.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPU will ensure the implementation of programs to collect used motor vehicle fluids and household hazardous waste materials for recycling, reuse or proper disposal.

DPU will make sure these programs are readily available to all private residents.

DPU will publicize and promote these programs on a regular basis not less than twice per year.

No later than **February 28 of each year**, DPU will provide DPW with the amount of linear feet of sanitary sewer inspected for inclusion in the annual reports due March 31.

### **Public Works (DPW)**

DPW will continue implementing a program to reduce the discharge of floatables.

DPW will continue to prohibit the dumping or disposal of used motor vehicle fluids, household hazardous wastes, sanitary sewage, grass clippings, leaf litter and animal wastes into the MS4.

DPW will ensure the implementation of programs to collect used motor vehicle fluids and household hazardous water materials for recycling, reuse or proper disposal.

DPW will make sure programs to collect used motor vehicle fluids and household hazardous water materials for recycling, reuse or proper disposal are readily available to all private residents.

DPW will publicize and promote programs to collect used motor vehicle fluids and household hazardous waste materials for recycling, reuse or proper disposal on a regular basis not less than twice per year.

DPW will continue implementing a program to locate and eliminate illicit discharges and improper disposal into the MS4. The program will include dry weather screening activities to locate portions of the MS4 with suspected illicit discharges and improper disposal.

No later than **February 28 of each year**, DPW will develop a list of illicit discharges identified and follow up activities including whether the illicit discharge has been eliminated for inclusion in the annual reports due March 31.

## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **February 28, 2016**, DPW will include a description of procedures being implemented to reduce floatables for inclusion in the annual report due March 31, 2016.

Beginning with the annual report due March 31, 2017, DPW will include a list of sites monitored, summary of the monitoring protocols used and a summary of the monitoring results and analysis for inclusion in the annual reports due **March 31**.

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.e

#### MS4 PROGRAM IMPLEMENTATION ILLICIT DISCHARGES AND IMPROPER DISPOSAL

**Each annual report shall include a list of illicit discharges identified, the source, a description of follow-up activities and whether the illicit discharge has been eliminated.**

Illicit Discharges Identified between April 1, 2015 and December 31, 2015		
IDDE00127		
Unknown, white milky substance	<b>04/03/15</b> Received notification of what appears to be suds or a white, milky substance in a creek. County staff made a site inspection and found brown colored foam below driveway culvert pipes. The foam appeared to be a natural byproduct of plants and algae breaking down in the water. There was not odor to the water or foam. County staff found no evidence of an illicit discharge.	Illicit discharge eliminated
IDDE00128		
Improper changing of vehicle oil	<b>12/22/14</b> Fire department was dispatched to a location where an individual was changing oil of their tractor trailer overtop of a storm drain. Fire department placed absorbent pads down with clay absorbent in conjunction with earthen berms in an effort to mitigate the release.  <b>12/23/14</b> Clean up contractor performed an assessment of the site and clean up was done.  <b>12/29/14</b> Individual responsible for the improper changing of their vehicle oil was issued a summons by the County of Henrico for violation of Sec 10-199 of the Henrico County Ordinance.	Illicit discharge eliminated

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## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.e

#### ANNUAL REPORT SUPPLEMENT

APRIL 1, 2015 THROUGH DECEMBER 31, 2015

## HENRICO COUNTY MS4 PROGRAM PLAN

	<b>04/10/15</b> County Attorney and Fire Marshall's Office went to court for this case and the individual was ordered to pay restitution for the cleanup.	
<b>IDDE00129</b>		
Improper dumping of grease	<p><b>04/13/15</b> Received notification from DEQ about a restaurant whose employees were dumping buckets of grease into the storm drain. County staff made a site visit and did not see any grease in the stormwater inlet however there was minor staining on top of the inlet. County staff spoke with the manager of the restaurant and was assured they dispose of their used grease and the grease bins on the other side of the building however they had a minor spill the other day when taken the grease to the grease bin. County staff asked the manager to speak with all employees to ensure they knew the proper disposal of grease.</p> <p><b>04/16/15</b> Letter was sent to restaurant reiterating County staff's visit on 04/13/15.</p>	Illicit discharge eliminated
<b>IDDE00130</b>		
Dumping of grass clippings	<p><b>04/13/15</b> Received notification that a homeowner has dumped several piles of grass clippings into the concrete drainage channel beside their property. County staff made a site visit and found 4 piles in and beside the concrete channel. The homeowner was present and County staff were able to talk to her about the improper disposal of grass clippings. She informed the County staff that she hires someone to cut her grass but will speak with that individual to make sure it does not happen again. Homeowner has a medical condition therefore is not able to get into the channel and remove the grass clippings.</p> <p><b>04/15/15</b> Work order was sent requesting the Road Department clean the grass clippings out of the concrete channel.</p> <p><b>04/16/15</b> 24 educational mailings were sent out to</p>	Illicit discharge eliminated

## HENRICO COUNTY MS4 PROGRAM PLAN

	those properties that back up to the concrete channel about proper disposal of yard debris.	
<b>IDDE00131</b>		
Unknown, rust colored water	<b>04/17/15</b> Received notification of a creek behind home that is fed from two locations. The water on one side is a rust color and the flow on the other side is clear. County staff made a site visit and determined the rust colored water was iron oxidizing bacteria. The bacteria is only found on one side of the stream as the water is moving very slow and appears to be mostly groundwater/spring fed. The other side of the stream appears to be mostly stormwater runoff.	Illicit discharge eliminated
<b>IDDE00132</b>		
Vehicle leaking radiator fluid	<p><b>04/24/15</b> Received notification that a resident was changing their radiator fluid and a leak occurred resulting in fluid running down the parking lot. County staff and the Fire Marshall's office made a site visit and found a large pool of fluid underneath of the vehicle and running down the parking lot. Fire Marshall's office was able to get a number for the owner of the vehicle and spoke with them about the situations. Vehicle agreed that if we put down absorbent material he would clean it up and dispose of it properly. County staff applied absorbent material on the pavement.</p> <p><b>04/25/15</b> Vehicle owner had cleaned up the oil dri. There was some minor staining as a result of the leak but there was no free product on the asphalt.</p>	Illicit discharge eliminated
<b>IDDE00133</b>		
Vehicle wash water	<p><b>04/27/15</b> Received notification from DEQ about a rental car business that wash cars on the side of the building and the soapy water drains into a water run off area.</p> <p><b>04/28/15</b> Emailed DEQ back letting them know this area does not drain to the County's MS4 but</p>	Illicit discharge eliminated

## HENRICO COUNTY MS4 PROGRAM PLAN

	VDOT's.	
<b>IDDE00134</b>		
Potential sanitary overflow	<p><b>05/04/15</b> Received notification of a potential sanitary overflow. DPU, Building Inspections and the Health Department are all working with the shopping center property manager to get the issues resolved. There is a private pumping station that services the shopping center that is not working.</p> <p><b>05/12/15</b> Received notification that one of the failed pumps is now operational and sewage is no longer overflowing. Building Inspections is taking the lead on the case now that it is no longer a health concern.</p>	Illicit discharge eliminated
<b>IDDE00135</b>		
Potential sanitary overflow	<b>05/05/15</b> Received notification of a potential sanitary overflow and forwarded this information to DPU to investigate.	Illicit discharge eliminated
<b>IDDE00136</b>		
Potential water leak	<b>05/05/15</b> Received notification of a potential water leak and forwarded the information to DPU to investigate.	Illicit discharge eliminated
<b>IDDE00137</b>		
Potential water leak	<b>05/08/15</b> Received notification of a potential water leak and forwarded the information to DPU to investigate.	Illicit discharge eliminated
<b>IDDE00138</b>		
Vehicle leaking oil	<p><b>05/08/15</b> Notified of truck leaking motor oil on public road and investigated.</p> <p><b>05/08/15</b> Notify Fire Marshall's Office of the leaking truck in order to get the owners name and address based on the trucks license plate number.</p> <p><b>05/11/15</b> Letter was mailed to owner of the truck in regards to the issue.</p> <p><b>05/18/15</b> Spoke with owner of the truck and</p>	Not yet resolved



## HENRICO COUNTY MS4 PROGRAM PLAN

	<p>discussed resolution including temporary control measures. Owner indicated the leak would be repaired within the week.</p> <p><b>06/15/15</b> Had not heard from the owner that the truck had been fixed so did a follow up and found the truck was still leaking. Called owner and he stated he did not have money to fix the truck but would continue to do temporary measures.</p> <p><b>07/16/15</b> The truck in question was still leaking and temporary measures were not being used. Contacted the County Attorney's office to get advice on what our next action should be.</p> <p><b>07/17/15</b> Community Maintenance received a complaint in regards to same truck leaking oil. County staff made a site visit to check to conditions of the roadway and confirmed the truck was still leaking. Reached back out to the County Attorney's office and they stated they would draft a second and final letter.</p> <p><b>07/24/15</b> Second and final letter was mailed to owner of the truck.</p> <p><b>07/31/15</b> Owner called me in regards to letter. He stated he still did not have money to fix the truck but would put down containment underneath of the truck. County staff dropped off some absorbent pads for him to use and advised him to buy more.</p> <p><b>08/24/15</b> Made a site visit. The truck in question was there and an absorbent pad was underneath the leak.</p> <p><b>09/28/15</b> Received a call from the original complainant in regards to the leaking truck.</p>	
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## HENRICO COUNTY MS4 PROGRAM PLAN

	<p><b>09/29/15</b> Called the County Attorney's office to make them aware of another call about the leaking truck. County Attorney stated if we had enough evidence we could issue a summons for him to appear in court. County staff left a message for the owner of the truck.</p> <p><b>09/30/15</b> Owner of the truck called me and informed me his truck was currently broken down at another location. County staff explained to owner that wherever the truck is park absorbent pads need to be placed underneath of it. County staff called original complainant to let him know the status and also to call me if he saw the truck without containment underneath of it.</p> <p>Since this last entry County staff have driven by the location several times and the truck in question has not been there.</p>	
IDDE00139		
Improper changing of oil	<p><b>05/18/15</b> Notified of a homeowner who changed their car oil and there is an oil slick/stain from the driveway to the drain. Investigated the complaint and noticed very minor staining at the bottom of the driveway and along the curb but it did not make it to the stormwater inlet. There was no free product of slick to clean up.</p>	Illicit discharge eliminated
IDDE00140		
Truck leaking engine oil	<p><b>05/15/15</b> Received notification from DEQ about a truck leaking engine oil which was leaking into the storm drain. Hazmat responded.</p> <p><b>05/18/15</b> Made a site visit and saw oil dri was underneath the truck and along the curb and inside the inlet shelf. Spoke with Fire Marshall's office who informed me the truck itself was not leaking but a container of oil in the bed had overturned and leaked from the bed of the truck.</p>	Illicit discharge eliminated

## HENRICO COUNTY MS4 PROGRAM PLAN

	<b>05/26/15</b> Oil dri has been cleaned up from the roadway.	
<b>IDDE00141</b>		
Creek smells like sewage	<b>05/26/15</b> Received a complaint about a creek that runs beside homeowner's property smells like sewage. Made a site visit and the water running through the creek was clear and had no odor and obvious signs of sewage. The water tested negative for chlorine. Called the homeowner to let him know my findings and to please give me a call in the future if he had further concerns.	Illicit discharge eliminated
<b>IDDE00142</b>		
Unknown items were washing in storm drain	<b>06/10/15</b> Received notification of items washing into a stormwater inlet during a heavy rain event. Made a site visit and found screws and nails in the roadway near an inlet. Picked up all debris and threw away. The shelved in the inlet were full of trash and debris. County staff forwarded this inlet back to the Road Department to get cleaned.	Illicit discharge eliminated
<b>IDDE00143</b>		
Oil like substance in diversion dike	<b>06/09/15</b> One of Henrico's E&S inspectors noticed an oil like substance within a diversion dike that is flowing to a sediment basin on one of their active construction sites. County staff made a site visit and found very dark colored water however there was no indication this is oil and any other illicit discharge. There was no odor to the water or substance and when disturbed it did not reform. Concluded the dark colored water was the results of high nutrient levels in the soil.	Illicit discharge eliminated
<b>IDDE00144</b>		
Potential sewage leaking	<b>06/11/15</b> Received notification of a potential sewage leak at an end treatment. Made a site visit and I was able to track the flow back to an inlet in the parking lot of the shopping center across the street. The shopping center has a private sanitary system and a pump station near the possible sewage leak. Forwarded to several Henrico	Illicit discharge eliminated

## HENRICO COUNTY MS4 PROGRAM PLAN

	<p>Departments and also let DEQ know since it is reaching state waters.</p> <p><b>06/12/15</b> DPU found a blockage in the private sanitary sewer system and a plumber was contacted and the blockage was fixed.</p> <p><b>06/16/15</b> Made a site visit to make sure the stormwater structures looked good and to insure there was not more sewage leaking into them. County staff found flow in some parts of the system. Created a map and forwarded back to DPU to make sure there was not another issue. DPU put a gas detector into the inlet and it came back with a zero reading therefore they are saying it is not sewage. They did mention the location of 3 grease traps that run parallel to the stormwater main and they could be potential source.</p> <p><b>06/17/15</b> We ran a camera through the stormwater system and did not see any illegal connections or liquid seeping into the main from cracks or joints. We did see where the potential illicit discharge/sewage was entering the main underneath of an inlet in the parking lot.</p> <p><b>06/22/15</b> Send an email to the County Attorney's Office letting them know the history of the shopping center. County staff also forwarded the information to Building Inspections for them to determine if there were any plumbing issues/violations. County staff called and left a message with property manager for the shopping center.</p> <p><b>08/26/15</b> Met with the property manager and Building Inspections employee to discuss the concerns. Property manager has agreed to do a detailed water test to rule out sewage.</p>	
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## HENRICO COUNTY MS4 PROGRAM PLAN

	<b>09/27/15</b> Water sample came back negative for human waste (sanitary).	
<b>IDDE00145</b>		
Positive chlorine test in several stormwater structures	<p><b>06/12/15</b> Received a notification of positive chlorine test in several stormwater structures during routine inspections of our MS4. Made a site visit and traced the running water to small yard drains however water in all of these tested negative for chlorine. This is a newly developed neighborhood where sod is trying to be established therefore irrigation might be the source.</p> <p><b>06/15/15</b> Made another site visit and irrigation was on and there was a large amount of irrigated water entering an inlet. Determined this is what caused the positive chlorine test.</p>	Illicit discharge eliminated
<b>IDDE00146</b>		
Soapy water draining down the street	<b>06/30/15</b> Received notification of dirty, soapy water draining down the curb and gutter. Made a site visit and found a homeowner power washing their house and that some of the water was leaving the property and running into the street. County staff did not see a large amount of soapy water running down the street however what was entering the street was dirty. County staff spoke with the homeowner about making sure they are using the appropriate amount of soap.	Illicit discharge eliminated
<b>IDDE00147</b>		
Car washing operation spilling chemicals	<b>07/01/15</b> Notified of a car washing operation that was spilling chemicals and they were worried it would mix with gasoline. County staff made a site visit and determined the washing operation was being done mainly in an existing wash bay that was once used by the gas station. They did inform me during busy times they wash cars in the parking lot which happens to be very close to a stormwater inlet. County staff informed them they could no longer wash vehicles in the parking lot and would	Illicit discharge eliminated

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	have to always use the wash bay. They said they understood and would do this moving forward. County staff did not notice any chemicals being stored improperly and there was no staining in the parking area.	
<b>IDDE00148</b>		
Positive chlorine test in inlet	<b>07/06/15</b> Received notification of a positive chlorine test in a stormwater inlet during routine inspections of our MS4 structures. Made a site inspection and found there was flow in the inlet however it came back negative for chlorine. There had been multiple days of rain so the flow is not a concern.	Illicit discharge eliminated
<b>IDDE00149</b>		
Potential water leak	<b>07/10/15</b> Received notification of a possible oil spill in the roadway; they stated there is a spot in the road that has been wet for several weeks. Made a site visit and did not see any evidence of oil. Did a chlorine test on the water and it came back with a slight positive result. Forwarded the location to DPU to investigate.  <b>07/15/15</b> DPU confirmed there was a water leak underneath of the roadway. They were going to repair the leak within the next week.	Illicit discharge eliminated
<b>IDDE00150</b>		
Port-a-john sitting near inlet	<b>07/17/15</b> Received notification of a Port-a-john sitting next to a stormwater inlet. Made a site visit and spoke with contactor on site and he moved the port-a-john 50 feet from the inlet.	Illicit discharge eliminated
<b>IDDE00151</b>		
Improper disposal of oil containers	<b>07/21/15</b> Received notification of an end treatment that had several engine oil containers discharged at it and the water had an oily sheen. <b>07/22/15</b> County staff made a site visit and found seven oil containers at the end treatment. County staff removed all the oil containers and disposed of them properly.	Illicit discharge eliminated

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	<b>07/24/15</b> Mailing was sent to two adjacent homes about the dumped motor oil containers and the proper way to dispose of them.	
<b>IDDE00152</b>		
Down tree in the roadway	<b>07/22/15</b> Received notification of a downed tree in the roadway. County staff made a site visit and found tree partially in the roadway. Road Department was made aware of the situation in case they wanted to do something about it before the tree service company is able to get out there the next day.	Illicit discharge eliminated
<b>IDDE00153</b>		
Fish kill	<p><b>07/22/15</b> Received notification of a fish kill that occurred in a pond; property manager explained they found water bubbling from the ground near a sanitary manhole therefore thought a sanitary leak might have caused the fish kill. DPW and DPU employees responded and checked all the stormwater and sanitary structures in the area and no illicit discharges or blockages in the sanitary system were found. County staff called DEQ to make them aware of the situation.</p> <p><b>07/23/15</b> Received a phone call from property manager about a faint positive chlorine test they got using a kit they purchased at Home Depot. DPU was informed of this information and they made another site visit and confirmed there was no issues with their sanitary system. DEQ informed the County staff that the DO in the pond was normal however the DO in the small stream feeding the pond was extremely low. DEQ was thinking the fish kill is due the recent hot weather and also the lower DO in the small stream.</p>	Illicit discharge eliminated
<b>IDDE00154</b>		
Sanitary sewer overflow	<b>07/27/15</b> DPU notified DPW staff about a sanitary sewer overflow that was occurring at a private system. Building Inspections is handling this case.	Illicit discharge eliminated

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IDDE00155		
Unknown source of dry weather flow	<p><b>07/30/15</b> Received a notification of an inlet with dry weather flow but water tested negative for chlorine discovered during routine inspections of our MS4.</p> <p><b>07/31/15</b> DPW staff made a site visit and non-chlorinated water was still flowing through the inlet. The inlet that flows into this inlet was dry. There are 2 small pipes that drain into the inlet from the roadside which suggest that are road drains. No illicit discharge was found.</p>	Illicit discharge eliminated
IDDE00156		
Dumping of yard debris	<p><b>07/31/15</b> Received notification from Standing Water Initiative Division about yard debris being dumped in culverts in the neighborhood. DPW staff made a site inspection and found debris blocking a culvert that runs under the road, this location was forwarded to the Road Maintenance department to create a work order to clean out the culvert.</p> <p><b>08/05/15</b> Educational mailing about proper disposal of yard debris was sent to adjacent homes of the culvert.</p>	Illicit discharge eliminated
IDDE00157		
Dirt running off property	<p><b>07/31/15</b> Received notification of dirt being washed into an adjacent property from a home who has a garage under construction. The project is under 2,500 sq.ft. Therefore it does not required a plan.</p> <p><b>08/03/15</b> DPW staff made a site visit and noticed there is an inlet near the disturbed area however did not have evidence of dirt entering it but could during a rain event. There has been some dirt/mud tracking in the roadway. Spoke with a worker on site and asked if they could put up silt fence along the property line/near the inlet to eliminate dirt/soil from running off the property.</p> <p><b>08/05/15</b> Silt fence has been placed around the disturbed areas which satisfied DPW staff.</p> <p><b>08/11/15</b> Received another complaint in regards about dirt in the roadway. DPW staff made another site visit and did not notice a significant amount of</p>	Illicit discharge eliminated



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	dirt in the roadway. However after speaking to the citizen who has concerns, I asked the Road Maintenance Department to create a work order to have the roadway swept.	
<b>IDDE00158</b>		
Positive chlorine test in inlet	<b>08/06/15</b> Received notification of a positive chlorine test in a stormwater inlet during routine inspections of our MS4 structures. This location was forwarded to DPU.	Illicit discharge eliminated
<b>IDDE00159</b>		
Oil spot in the roadway	<b>08/07/15</b> Received notification from Community Maintenance Department in regards to an oil spot in the roadway. DPW staff made a site visit and found several large oil stains in the roadway however none of it had reached the nearby inlet. DPW staff knocked on the front door of the home where oil spot was found and homeowners said the truck in question had not been parked in front of the home for over a month however they agreed to put down oil dri to try and get some of oil off the roadway. DPW staff informed them that having a car leaking fluid into the roadway or storm structure was against the County Code and not allowed. Community Maintenance was made aware of the findings.	Illicit discharge eliminated
<b>IDDE00160</b>		
Discolored water in waterway	<b>08/07/15</b> Received notification of muddy/sediment colored water in the Rocky Branch Creek. The individual believes the issue is coming from a nearby construction site which they are clearing. This concern was forwarded to the appropriate E&S inspector to look at the construction sites within the area.	Illicit discharge eliminated
<b>IDDE00161</b>		
Improper discharge of sewage holding tanks	<b>08/13/15</b> Received notification of a party bus rental company that they were dumping their sewage holding tanks onto the ground near an inlet. DPW staff made a side inspection and did not see any	Illicit discharge eliminated

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	<p>evidence of anything being dumped in the parking lot. The office for the party bus rental company was closed and there was no one there to talk to.</p> <p><b>08/18/15</b> DPW staff made another site visit and were able to speak with one of the owners of the company who explained they did not dump any liquid/waste in the parking lot but take it to a nearby camp ground where they pay to dump their holding tanks- they had receipts to back this up. We walked the site where they park their buses and owner explained the whole process to me.</p>	
<b>IDDE00162</b>		
Improper dumping of grass clippings	<p><b>08/13/15</b> Received notification of a homeowner who was dumping their grass clippings in the roadway. DPW staff made a site visit and found some grass in the roadway- it was like they didn't have a bag on their lawn mower and it was blown into the roadway while they were cutting the yard. DPW staff tried to make contact with homeowner by knocking on the door but no one answered.</p> <p><b>08/18/15</b> Letter was sent to the homeowner asking them not to place grass clippings in the roadway and asking them to remove what was currently there.</p>	Illicit discharge eliminated
<b>IDDE00163</b>		
Grease buckets behind a building	<p><b>08/13/15</b> Received notification of 2, 5 gallon buckets of overflowing grease behind a retail strip. DPW staff made a site visit and confirmed this to be true but made note the grease had not reached the MS4. There are no current restaurants in the shopping center. DPW reached out to Building Inspections to see if they had done any FOG inspections in the shopping center but never got an answer.</p> <p><b>08/18/15</b> DPW staff went back to the retail strip to ask some current tenants if there was a previous restaurant that recently moved out. There is a business in the retail strip that are renovating a kitchen area as they are going to start using it and</p>	Illicit discharge eliminated

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	thought it might be from when the contractor was cleaning up the kitchen. Manager of the store is going to talk to the General Manager to get the buckets picked up. <b>08/24/15</b> The buckets of grease have been removed.	
<b>IDDE00164</b>		
Liquid bubbling from the pavement	<b>08/14/15</b> Received notification of brown liquid bubbling from the pavement. DPW staff made a site visit and determined this was a potential water/sanitary leak therefore information was forwarded to DPU to investigate.	Illicit discharge eliminated
<b>IDDE00165</b>		
Improper dumping of grass clipping	<b>08/19/15</b> Received notification via online spill reporting form; homeowner is depositing grass clippings into the inlet in front of their property. DPW staff made a site visit and found inlet with a fresh, large pile of grass clippings and the yard where the inlet is located was recently cut. I spoke with the homeowner and explained that dumping anything into the stormwater inlet beside stormwater was considering an illicit discharge and not allowed under the County Code. Homeowner explained she would talk to her husband to make sure he didn't dump grass clippings in the inlet again. DPW staff forwarded the inlet location to Road Department to create a work order to clean out the grass clippings.	Illicit discharge eliminated
<b>IDDE00166</b>		
Grease trap overflow in shopping center	<b>08/28/15</b> Received notification of a grease overflow at a restaurant. The maintenance crew power washed the area to get rid of the grease which made the parking lot and roadway slippery. DPW staff made a site visit (Fire Department and Fire Marshall's Office were already on the scene) and found a large amount of grease had overflowed from three grease traps associated with two restaurants. DPW Road Department was called to the area to put absorbent material down on the	Illicit discharge eliminated

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	roadway. The restaurant with the grease traps contacted a cleanup contractor to perform cleanup of the area. The cleanup was performed into the evening on 8/28/15. The Fire Marshall's Office is going to follow up with the restaurant in regards to the clean up to ensure it was done appropriately.	
<b>IDDE00167</b>		
Litter in median	<b>08/30/15</b> Received notification via online spill reporting form about the median and grassy area being heavily littered with newspaper inserts. <b>08/31/15</b> Road Department was notified to see if they could use their trash pickup contractor to clean the area in question. DPW staff was notified this work has already been done.	Illicit discharge eliminated
<b>IDDE00168</b>		
Improper discharge of pool water	<b>08/31/15</b> Received notification of a YMCA who was draining their indoor swimming pools into a drainage ditch that drains into a lake. DPW staff notified DEQ of the discharge and also reached out to the YMCA and informed them they needed to immediately stop discharging their chlorinated swimming pool outside and that it would need to be discharging into sanitary. DEQ was going to be making a site visit.	Illicit discharge eliminated
<b>IDDE00169</b>		
Absorbent material in the roadway	<b>09/08/15</b> Received notification of absorbent material in the roadway. DPW staff made a site visit and noticed a ~20 x 3 foot section of oil dri in the roadway. DPW reached out to the Fire Marshall's office to see if they had responded to a car accident at this location and they confirmed they had and gave us the name of the towing company that was used. DPW staff reached out the towing company to see if they were planning on coming back out to get up the absorbent material and they said they weren't as it would turn to dust once cars started driving on it. Advised the tow company they would need to clean up any absorbent material still left in	Illicit discharge eliminated

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	the roadway after a couple of days. <b>09/11/15</b> All of the absorbent material has been cleaned up from the roadway.	
<b>IDDE00170</b>		
Improper dumping of grass clippings	<b>09/09/15</b> Received notification of an outfall that smelled like sewage and had grass clippings dumped in the plunge pool. DPW staff made a site visit and noticed the outfall had very stagnant water that has an odor but it was more organic than sewage. There are several older piles of grass clippings that were decomposing in the water which might be contributing to the smell.	Illicit discharge eliminated
<b>IDDE00171</b>		
Sewage leaking into roadside ditch	<b>09/09/15</b> Received notification from DPU of a ditch that DPW regraded and hit a 2inch sanitary force main resulting in sewage flowing into the ditch. DPW called DPU to ask them for help in repairing the issue. <b>09/10/15</b> DPW staff made a site visit and met with a DPU employee on site. There was no sewage currently leaking out of the pipe and minimal evidence of sewage in the ditch. DPU is using their annual contractor to perform the repair. Repair was completed in this afternoon on 9/10/15 and signs were placed near the area signaling the pipes were there.	Illicit discharge eliminated
<b>IDDE00172</b>		
Vehicle leaking oil onto the roadway	<b>09/10/15</b> Received notification of a vehicle that is leaking oil in the roadway and staining it. DPW staff made a site visit and the vehicle in question was not there but you could see a stain on the roadway where it has been parking. Homeowner came out while DPW staff was there and he acknowledged it was leaking but has since got fixed and they were now parking the vehicle in the driveway.	Illicit discharge eliminated
<b>IDDE00173</b>		
Stormwater inlet with	<b>09/16/15</b> Received notification of an inlet with some kind of algal growth in it discovered during routine	Illicit discharge

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some kind of algal growth in it	inspections of our MS4 structures. <b>09/17/15</b> DPW staff made a site visit and determined the algal growth to be iron bacterial buildup.	eliminated
<b>IDDE00174</b>		
Inlet with construction debris in it	<b>10/01/15</b> Received notification of an inlet that was full of stuff you would dig out of a construction site. DPW staff made a site visit and found the inlet full to the top with fine gravel/dirt. Forwarded the inlet location to the Road Department to get cleaned out.	Illicit discharge eliminated
<b>IDDE00175</b>		
Pollutants from auto repair shop	<b>10/06/15</b> Received notification from DPU staff about residents who are complaining about pollutants from an auto repair shop running off and entering the storm sewer system. DPW staff made a site visit and only found clear, no odor water flowing through the storm sewer system at the time. DPW staff asked walked the easement behind the auto repair shop and did not see any obvious sources of potential illicit discharges and no items stored outside without proper containment (i.e. tops). No illicit discharge was found.	Illicit discharge eliminated
<b>IDDE00176</b>		
Unknown substance spilled in the median and roadway	<b>10/07/15</b> Received notification from the Road Department about some kind of substance spilled in the road and median. DPW staff made a site visit and found what appeared to be paper/newspaper inserts that had gotten wet and hardened to the roadway. DPW staff tried to get up as much as they could with a shovel. This location was forwarded back to the Road Department to get a work order created to street sweep the area.	Illicit discharge eliminated
<b>IDDE00177</b>		
Laundry waster being improperly discharged	<b>10/13/15</b> Received notification from DEQ about a hotel that was improperly discharging laundry waste into the storm sewer system. DPW staff met DEQ and Health Department employee on site. The water coming out a small pipe in the grass area	Illicit discharge eliminated

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	tested negative for chlorine. It was determined this pipe is associated with a sump pump in the bottom of box which serviced the hotels fire sprinkler system. No illicit discharge was discovered.	
<b>IDDE00178</b>		
Private sanitary leak	<p><b>10/20/15</b> Received notification of a private sanitary leak that is flowing into the County's MS4. DPW staff made a site visit and found the sewage was overflowing at a cleanout pipe which is flowing down a grassy common area and flowing at a high velocity into the back on a County inlet. Contractor who the complex hired to fix the leak informed DPW staff they were pumping down the adjacent manhole everyday however they were informed this was not enough as the overflow was still occurring. Contractor also let DPW staff know they were waiting for the equipment to arrive and then they would start digging right away. DPW staff stopped by the management office and spoke with property manager about the situation. Property manager called the contractor right away and advised them they needed to have someone pumping down the manhole around the clock until the problem was fixed and apply lime to the area.</p> <p><b>10/21/15</b> DPW staff received a phone call from the property manager informed them the work had been completed and sewage was no longer overflowing. DPW staff made a site visit and confirmed sewage was no longer entering the County's MS4.</p>	Illicit discharge eliminated
<b>IDDE00179</b>		
Improper disposal of grease	<p><b>10/20/15</b> Received notification of a large grease stain on the asphalt near a parked food truck. DPW staff made a site visit and found a private storm sewer inlet that was littered with food and trash waste and also leaking grease on the parking lot. While DPW staff was out there, two employees were present. DPW staff asked if they cleaned out their equipment/trucks in the area and they said they did. The employees were made aware this is</p>	Illicit discharge eliminated

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	not an acceptable practice and they needed to stop immediately, they stated they were not aware they were doing anything wrong. Employees were informed this case was going to get forwarded to DEQ since the private system drains into state waters. DEQ was made aware of the situation.	
<b>IDDE00180</b>		
Unusual odor	<p><b>10/19/15</b> Fire Department responded to a call for an unusual odor in the neighborhood. They were not able to find the source and determined there was no emergency. DPW staff was made aware of the concerns.</p> <p><b>10/20/15</b> DPW staff made a site visit and opened all the storm sewer structures in the area and did not find any unusual smells or anything out of the ordinary. The location was forwarded to DPU to check the sanitary sewer throughout the neighborhood to make sure that was not the source.</p>	Illicit discharge eliminated
<b>IDDE00181</b>		
Flow in manhole	<p><b>10/23/15</b> During a routine MS4 inspection, flow was found in a manhole however downstream structure had no flow. There was a slight smell to it. The location was forwarded to DPU to check the sanitary sewer in the area.</p> <p><b>11/03/15</b> DPW received an email from DPU who televised their lines and did see any leaks where sanitary would be leaving their system. Based on the findings, it sounds like we have the MS4 structure mapped wrong and the manhole originally popped was a sanitary manhole. DPW will revise mapping.</p>	Illicit discharge eliminated
<b>IDDE00182</b>		
Improper disposal of grease	<p><b>10/21/15</b> Received notification about grease being dumped on top of and into an inlet.</p> <p><b>10/22/15</b> DPW staff made a site visit and noticed a fair amount of grease on the top of the inlet cover. Staff used absorbent pads to get up as much grease as they could however it was in a gel like</p>	Illicit discharge eliminated



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	<p>form and none came up. There is a Asian restaurant in the shopping center, while on site staff talked to manager of the restaurant and asked them to talk to their entire staff about proper grease disposal and also asked them to clean up as much of the grease as they could with a shovel.</p> <p><b>10/28/15</b> A violation letter was mailed to restaurant to reiterate what was discussed on 10/22/15.</p>	
<b>IDDE00183</b>		
Improper wash water disposal	<p><b>10/26/15</b> Received notification that a resident who owns a BBQ business was cleaning his grills and cooking equipment on the sidewalk/roadway.</p> <p><b>10/30/15</b> DPW staff made a site visit and noticed some minor staining on the sidewalk but not sure it is from washing of grill equipment. There was no obvious evidence of resident washing cooking equipment on roadway. No one was home during visit therefore staff stop by again next week.</p> <p><b>11/03/15</b> DPW staff made another site visit however home owner was not home. A house keeper was home at the time and staff was able to speak with her and give her their card to have the homeowners call.</p> <p><b>11/09/15</b> DPW staff had not received a phone call from homeowner therefore an email was send to them advised them of the potential violation of the Henrico County Code. After receiving the email, homeowner called me and stated they did not use any chemicals or soap when cleaning grills, simply using hot water in a pressure washer to get any leftover food particles off the grills. Homeowner was informed this is still concerned an illicit discharge as only stormwater can enter the storm sewer system. Homeowner said they would be more careful in the future to make sure nothing runs off.</p>	Illicit discharge eliminated
<b>IDDE00184</b>		
Dry weather flow	<p><b>10/30/15</b> During a routine MS4 inspection, two inlets were found with heavy flow but tested negative for chlorine.</p>	Illicit discharge eliminated

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	<b>11/03/15</b> DPW staff made a site visit and water was still flowing through inlets but again tested negative for chlorine. The water is most likely groundwater flowing through the system and since it is not chlorinated is not an illicit discharge.	
<b>IDDE00185</b>		
Positive chlorine test in inlet	<b>11/04/15</b> During a routine MS4 inspection, an inlet had water flowing through it and tested positive for chlorine. All of the other storm sewer structures were checked in the same system and water meters were also checked to see if they were spinning indicating a leak. All of this information was forwarded to DPU to investigate as a potential water leak.	Illicit discharge eliminated
<b>IDDE00186</b>		
Natural gas leak	<b>11/06/15</b> Complaint came in via online spill reporting form; homeowner is concerned because there is a natural gas leak under the street at her house, Richmond DPU is aware of the leak, and she is concerned with air pollution and was inquiring if the County could help get the issue resolved. DPW staff emailed complainant to let them know the County does not have any jurisdiction when it comes to Richmond DPU however she might want to reach out to DEQ's air pollution section to see if they could help.	Illicit discharge eliminated
<b>IDDE00187</b>		
Improper disposal of leaves	<b>11/10/15</b> Received notification of someone dumping leaves in an easement and blocking drainage. DPW staff spoke with the complainant and was informed the complainant does not think it is homeowners dumping the leaves but a landscaping/yard company. Homeowner also expressed interest in getting a "no dumping" sign placed at beginning of easement. <b>11/11/15</b> After a site visit it appears the dumped leaves are on top of storm sewer structure therefore it was forwarded to the Road Department to get the	Illicit discharge eliminated

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	structure cleared. The traffic division has also agreed to put up a “no dumping” sign at this location. Called complainant to let her know the update.	
<b>IDDE00188</b>		
Trash truck leaking substance	<b>11/12/15</b> Received notification of County of Henrico trash truck that was leaking a red liquid throughout a neighborhood. It was determined someone placed a paint can in their trash can and it was punctured in the trash compactor and started leaking out of the truck. The trash truck drove throughout the neighborhood picking up trash and leaving a trail of red paint. DPW staff arrived on site and started putting down absorbent material to try and get up as much paint as possible before it dried. A street sweeper was sent out later in the day to sweep up all the absorbent material.	Illicit discharge eliminated
<b>IDDE00189</b>		
Improper discharge of wash water	<p><b>11/13/15</b> Received notification of a rescue squad that did not have their washing machines hooked up properly therefore soapy water was running off and entering the County’s MS4. The rescue squad is also washing their trucks where the wash water is running off their site and entering the County’s MS4. DPW staff met with members of the squad who were very understanding and receptive of the violations but said they would need some time to come out with an acceptable solution and find the money to make the repairs.</p> <p><b>11/16/15</b> A letter was mailed to the President of the rescue squad in regards to unauthorized discharges.</p> <p><b>12/03/15</b> DPW staff met back on site with rescue squad board members to discuss potential solutions. They are going to hire a plumber to properly hook up the washing machines in the back bay and also put in a sanitary connection in the front bay to wash the trucks instead. This work is going to take a little while but in the mean time they</p>	Illicit discharge eliminated

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	are not going to do any washing at this site.	
<b>IDDE00190</b>		
Improper disposal of fuel tank	<p><b>11/13/15</b> Received notification of a 50 gallon fuel tank dumped with the County right-of-way that appears to have 5-6 gallons of unknown liquid instead. After speaking with DPW's director it was decided the Road Department would pick up the fuel tank and take it to the Charles City landfill and place it in the fuel collection area.</p> <p><b>11/14/15</b> Fuel tank has been removed and taken to the Charles City landfill.</p>	Illicit discharge eliminated
<b>IDDE00191</b>		
Wash water entering roadside ditch	<p><b>11/19/15</b> Received notification of a resident who is allowing their washing machine discharge to flow down the driveway and enter the roadside ditch.</p> <p><b>11/20/15</b> DPW staff made a site visit and although there was no wash water flowing down the driveway at the time you could see a small white PVC pipe sticking out of the garage and there was debris consistent with washing machine discharge at the bottom of the driveway. No one was home at the time.</p> <p><b>11/23/15</b> A violation letter was mailed to the current tenants and owner of this property.</p> <p><b>12/02/15</b> Property owner called and stated he didn't have the money to get the washing machine hooked up properly. He was advised that the tenants would have to stop using the washing machine at the home until it could get hooked up to the homes septic system. Advised the property owner that Building Inspections and the Health Department had been made aware of the unauthorized discharge so someone else might be contacting him.</p> <p><b>12/03/15</b> The health department was made aware of the conversation between DPW and the property owner and it was determined the health department would oversee this case from now on.</p>	Illicit discharge eliminated
<b>IDDE00192</b>		

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Unusual smell in storm drain	<b>12/08/15</b> Received notification of a storm drain that smells like gas. <b>12/11/15</b> DPW staff made a site visit and opened all storm structures around the area and also checked end treatments and did not find any evidence of an illicit discharge or encounter any unusual smells.	Illicit discharge eliminated
IDDE00193		
Potential unauthorized wash water discharge	<b>12/18/15</b> Received notification of a car rental company that had submitted a building permit with the County of Henrico to build a carport to wash their rental cars underneath however there were no plans to connect this area to sanitary sewer. The area in questions drains to a state road therefore DEQ was connected and all information was passed on to them to investigate.	Illicit discharge eliminated
IDDE00194		
Dumping of trash	<b>12/21/15</b> Came in via online spill reporting form; there is a large bag of trash on the side of the road and additional trash in the median. All of this information was forwarded to VDOT since it is a state maintained road.	Illicit discharge eliminated
IDDE00195		
Dumping of mattresses and boxes	<b>12/21/15</b> Came in via online spill reporting form; someone has dumped mattresses and boxes in the roadway. DPW staff made a site visit and found a large pile that had been dumped in the actual roadway at the end of the street. <b>12/22/15</b> Since the items are in the roadway the Road Department was asked to create a work order to have the items removed from the roadway. It was also left up to the Road Department if they wanted to pursue putting "no dumping" signs at the end of the road.	Illicit discharge eliminated
IDDE00196		
Unknown liquid spilled	<b>12/31/15</b> An unknown liquid was found spilled in front of a County vehicle rental fleet building. Approximately 5-10 gallons of a purplish liquid was found spilled near the garage doors and ran	Illicit discharge eliminated

## HENRICO COUNTY MS4 PROGRAM PLAN

	towards a storm sewer inlet but does not appear to have entered it. The liquid had the consistency of soap however did not have the floral smell you would expect. Absorbent material was placed down on the area and removed once all the liquid had been absorbed.	
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Sewage Discharges between April 1, 2015 and December 31, 2015		
4/5/2015	A stoppage between MH #102SE055 and MH #102SE029, located in easement beside 6024 Indigo Road. The stoppage caused sewage to overflow from the MH #102SE055 into Indigo Road, into a nearby drainage ditch and a nearby creek. Spill of approximately 5,640 gallons.	The debris buildup in main sewer line was cleaned out. The mainline was televised.
4/8/2015	A stoppage between MH #218SW020 and MH #218SW015, located in an easement off of North Airport Drive. The stoppage caused sewage to overflow from the MH #218SW020 into the surrounding wooded area, down the adjacent bank and into the nearby creek. Spill of approximately 12,400 gallons.	The cause of the overflow was shown to be a buildup of roots and grease in the main sewer line. The buildup was cleaned out and the mainline was televised.
4/20/2015	Almond Creek SPS – spill occurred from one manhole, due to heavy rains on saturated soil causing high flows. Spill of approximately 12,400 gallons.	Eliminated illicit discharge
4/23/2015	A stoppage between MH #409SW009 and MH #409SW502, located in the easement at the rear of 2271 Lincoln Ridge Lane. The	The cause of the overflow was shown to be a

## HENRICO COUNTY MS4 PROGRAM PLAN

	sewage overflowed onto the grass area of the yard and into a nearby stream. Spill of approximately 1,830 gallons.	buildup of roots and grease in the main sewer line. The buildup was cleaned out and the mainline was televised.
5/5/2015	A stoppage between MH #070NW500 and MH #070NW012, located in the easement of 602 E. Laburnum Avenue. The stoppage caused sewage to overflow from the MH #070NW500, located in the easement at 602 E. Laburnum Avenue. The sewage overflowed onto the surrounding grass area and into a nearby creek. Spill of approximately 11,100 gallons.	The cause of the overflow was found to be a metal object stuck in the drop-stack portion of the downstream manhole. The object was removed and mainline was televised.
5/14/2015	A stoppage between MH #065SW065 to MH #065SW054, located in Maple Avenue. The stoppage caused sewage to overflow from MH #065SW065. Spill of approximately 2,900 gallons.	The cause of the overflow was shown to be increased flows due to heavy rain and saturated soil.
6/3/2015	A stoppage between MH #495SW037 to MH #495SW-21 and MH # 495SW021 to MH #495SW020, located in an easement near 1201 Old Francis Road and under Brook Road. The stoppage caused sewage to overflow from MH #495SW029. Spill of approximately 1,150 gallons.	The cause of the overflow was a buildup of grease due to a 5 gallon bucket lid that blocked the outgoing sewer main. The building was

## HENRICO COUNTY MS4 PROGRAM PLAN

		cleared and mainline was televised.
6/11/2015	A stoppage between MH #149NW014 and MH #149NW015, located in Fleet Avenue. The stoppage caused sewage to overflow from a sewer main between MH #149NW013 and MH #149NW014. Spill of approximately 416 gallons.	The cause of the overflow was the result of the buildup of grease and debris. The buildup was removed and mainline was televised. MH was inspected.
8/12/2015	A stoppage between MH #079NW019 and MH #079NW017, located in the easement behind 2350 Lakefield Mews Court. The stoppage caused sewage to overflow from the MH #079NW029 onto the pavement and into a nearby drainage ditch. Spill of approximately 1,940 gallons.	Mainline appeared to be clear after cleaning according to TV inspection.
8/18/2015	A stoppage between MH #321SE039 and MH #321SE040, located on the property of 710 Gaskins Road. The stoppage caused sewage to overflow on the pavement and into a nearby drainage ditch. Spill of approximately 860 gallons.	A cleanup and wash down of the area where the overflow occurred was performed.
11/10/15	Due to heavy rain, a high volume of water caused surcharges in several sanitary sewer mains. MH #105NW039 was site of overflow. Spill of approximately 4,750 gallons.	Heavy rain caused the surcharge. Returned to normal after heavy rain ceased.



## HENRICO COUNTY MS4 PROGRAM PLAN

11/24/2015	A stoppage between MH #149NW014 and MH #149NW015, located in Fleet Avenue. The stoppage caused sewage to overflow from a sanitary sewer main. Spill of approximately 2,610 gallons.	A cleanup and wash down of the area. Lime was applied.
12/21/2015	A broken sanitary sewer main between MH #023NE040 and MH #023NE046, located in an easement in front of 2215 Gordon Lane. The broken main caused sewage to flow into the Stony Run stream. Spill of approximately 20,500 gallons.	Repair of the broken sewer main was completed.
12/23/2015	A stoppage between MH #282SW021 and MH #282SW012, located in Early Forest Circle. The sewage overflowed into Early Forest Circle and into a nearby drainage structure. Spill of approximately 870 gallons.	The mainline is scheduled to be televised.
12/24/2015	Heavy rain caused surcharges of a sanitary sewer manhole, MH #105NW039 located in an easement at the SE corner of 5200 Gillespie Avenue property. Spill of approximately 27,000 gallons	A cleanup and wash down of the area.
12/24/2015	Heavy rain caused surcharges of MH #203NW044, located in an easement near the SE corner of 1700 Lakeside Avenue property. Spill of approximately 17,000 gallons.	A cleanup and wash down of the area.
12/24/2015	Heavy rain caused surcharge of a cleanout located at 8015 Wilkinson Road property. Spill of approximately 8,700 gallons.	A cleanup and wash down of the area.
12/24/2015	Strawberry Hill SPS – spill occurred from 4 basins due to increased flows from heavy	Eliminated illicit discharge

## HENRICO COUNTY MS4 PROGRAM PLAN

	rain and saturated soils. Spill of approximately 1,223,300 gallons.	
12/24/2015	Gillies Creek SPS – spill occurred from one manhole and one junction chamber due to increased flows from heavy rain on saturated soil. Spill of approximately 28,100 gallons.	Eliminated illicit discharge
12/29/2015	A stoppage between MH #102SW051 and MH #102SW050, located on Pinehaven Road, caused sewage to overflow from MH #102SW051. Spill of approximately 1,010 gallons	A cleanup and wash down of the area was performed. The mainline is scheduled to be televised.

**Each annual report shall include the amount of linear feet of sanitary sewer inspected during the reporting year.**

Length of Sanitary Sewer Inspected between April 1, 2015 and December 31, 2015	233,150 feet
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**The initial annual report shall include a description of the procedures the permittee will implement to reduce floatables as required by Part I.B.2.e)3).**

### **Public Works**

DPW requires track racks on all curb inlets in proposed shopping centers, fast food restaurants, convenience stores, auto parts stores, and other facilities where significant trash, debris and other contaminants may be generated. Due to flooding and safety issues, trash racks are not permitted on any inlets in the public right-of-way. The minimum design standards for the trash racks are specified in Chapter 15 of the Henrico County Environmental Compliance Manual.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPW employs ARC to remove litter from the County right-of-way. The pick-up is performed on a daily basis, and progress is tracked in tons of litter removed as well as the number of bags of litter removed. ARC is also used bi-weekly on the West and East End maintenance yards to reduce floatables from entering the MS4.

### **Public Utilities**

- Division of Solid Waste implemented programs:
  - Neighborhood clean-ups are a program designed to allow neighborhoods with homeowners associations with an opportunity to remove trash/debris from their property. There is no qualification process for neighborhoods to be selected.
  - Community clean-ups are a program designed to allow older neighborhoods with an opportunity to remove trash/debris from their property. There is a qualification process for neighborhoods to be selected.
  - Hazardous Material Disposal is a program where residents can bring their oil/antifreeze/paints/solvents to the public use areas for disposal.
  - Bulky Waste Program is a program where residents can request a pickup of large items, brush, etc from their property for a fee.
- Keep Henrico Beautiful implemented programs:
  - Adopt a Road Program is a program where groups or individuals can sign up to adopt any County road within the County.
  - Yard Waste Disposal Education is a program where we discuss how to get rid of all your yard waste.
  - Litter Removal Education is a program where we discuss the importance of Keeping Henrico Beautiful by not littering.
  - Pet Waste Education is a program where we discuss the importance of picking up after your pets.
  - Green Machine Program – Litter prevention program that targets kids ages 4-7.
  - Trash Time Capsule – Litter prevention program that targets kids ages 8-13.
  - Who is Littering Henrico County – Litter prevention program that targets teens.

## HENRICO COUNTY MS4 PROGRAM PLAN

**Each following annual report shall include a list of sites monitored, a summary of the monitoring protocols used, and a summary of the monitoring results and analyses.**

This reporting language was originally included in a draft version of the MS4 Permit and was related to a "floatables monitoring" condition. Prior to finalization of the MS4 Permit, the "floatables monitoring" condition was eliminated after DEQ reviewed the federal rule making document and determined this condition was not required. However, the reporting language was moved to Part I.B.2.e without being edited to remove reference to the "monitoring" that was no longer required. When this oversight was discovered, DEQ agreed that the reporting element could be interpreted to read:

*Each following annual report shall include a summary of the County's efforts to reduce floatables and an evaluation of the effectiveness of those efforts.*

Therefore, the following revised Specific Reporting Requirement is addressed in this Annual Report.

**Each following annual report shall include a summary of the County's efforts to reduce floatables and an evaluation of the effectiveness of those efforts.**

Although the reductions can't be quantified, the County's trash rack program appears to be effective at reducing the floatables leaving the sites generating the floatables based on observations of several of the sites on which trash racks have been installed.

DPW removed 184 tons of litter from the County ROW using ARC.

Department of Public Utilities views its program to reduce floatables as a success. During this reporting period, Public Utilities have removed the following from our community:

- Community cleanups have removed 2,147 tons of trash and debris from our older communities.

## HENRICO COUNTY MS4 PROGRAM PLAN

- Neighborhood cleanups have removed 153.7 tons of trash and debris from selected neighborhoods.
- Our bulky waste program has removed 454 tons of trash and debris from the County.
- Public Utilities have collected 178 tons of tires.
- Solid Waste division has collected 31,313 gallons of used oil/antifreeze at our public use areas.
- Solid Waste division has collected 9,512 gallons of oil based paint & solvents at our public use areas.
- Keep Henrico Beautiful has collected 3.96 tons of trash from our roadsides and parks with their programs.

PART I.B.2.f

MS4 PROGRAM IMPLEMENTATION  
SPILL PREVENTION AND RESPONSE

**PERMIT LANGUAGE**

The permittee shall continue to implement a program that coordinates with the fire department and other permittee operated departments to prevent, contain, and respond to spills that may discharge into the MS4. The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittee's jurisdiction.

**SPECIFIC REPORTING REQUIREMENTS**

- Each annual report shall include a list of spills, the source (identified to the best of the permittee's ability), and a description of follow-up activities taken.

**MS4 PROGRAM ELEMENTS, ROLES AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.f of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will continue to implement a program to prevent, contain and respond to spills that occur at their facilities.

**General Services (DGS)**

No later than **February 28 of each year**, DGS will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

## HENRICO COUNTY MS4 PROGRAM PLAN

### **Recreation and Parks**

No later than **February 28 of each year**, Recreation and Parks will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Public Utilities (DPU)**

No later than **February 28 of each year**, DPU will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Public Schools (Schools)**

No later than **February 28 of each year**, Schools will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Division of Fire (Fire)**

Fire will continue to implement a program to contain and respond to spills that occur on private property and in the right-of-way. Fire will coordinate with DPW for spills that occur in the right-of-way.

No later than **February 28 of each year**, Fire will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Division of Police (Police)**

No later than **February 28 of each year**, Police will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Public Library (Library)**

## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **February 28 of each year**, Library will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Mental Health and Developmental Services (MS/DS)**

No later than **February 28 of each year**, MS/DS will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Economic Development Authority (EDA)**

No later than **February 28 of each year**, EDA will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Real Property**

No later than **February 28 of each year**, Real Property will provide DPW with a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.

### **Public Works (DPW)**

DPW will continue to implement a program to contain and respond to spills that occur in the right-of-way. DPW will coordinate with Fire for spills that occur in the right-of-way.

No later than **February 28 of each year**, DPW will create a list of spills, the source and a description of the follow-up activities taken for inclusion in the annual reports due March 31.



## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.f

#### MS4 PROGRAM IMPLEMENTATION SPILL PREVENTION AND RESPONSE

**Each annual report shall include a list of spills, the source (identified to the best of the permittee's ability), and a description of follow-up activities taken.**

Spills that Occurred between April 1, 2015 and December 31, 2015	
04/23/15	On 4/23/15 at Varina High school there were two fuel stains discovered in the fueling area from fuel drop activities by a County Vendor. An absorbent pad was used to remove a free product sheen on the pavement surface of both stains. This pad was then properly disposed of. There is a spill kit located at the fueling station with appropriate materials to address spills. The fueling station is maintained by General Services.
04/24/15	<p>Resident had a radiator fluid leak while working on their vehicle. Department of Public Works worked with the Fire Marshall's Office on this case. (IDDE0032)</p> <p><b>04/24/15</b> Received notification that a resident was changing their radiator fluid and a leak occurred resulting in fluid running down the parking lot. County staff and the Fire Marshall's office made a site visit and found a large pool of fluid underneath of the vehicle and running down the parking lot. Fire Marshall's office was able to get a number for the owner of the vehicle and spoke with them about the situations. Vehicle agreed that if we put down absorbent material he would clean it up and dispose of it properly. County staff applied absorbent material on the pavement.</p> <p><b>04/25/15</b> Vehicle owner had cleaned up the oil dri. There was some minor staining as a result of the leak but there</p>

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## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.f

#### ANNUAL REPORT SUPPLEMENT

APRIL 1, 2015 THROUGH DECEMBER 31, 2015

## HENRICO COUNTY MS4 PROGRAM PLAN

	was no free product on the asphalt.
05/05/15	<p>Resident has a vehicle that is leaking oil in the County roadway. Department of Public Works worked with the Fire Marshall's Office and Community Maintenance on this case. (IDDE00138)</p> <p><b>05/08/15</b> Notified of truck leaking motor oil on public road and investigated.</p> <p><b>05/08/15</b> Notify Fire Marshall's Office of the leaking truck in order to get the owners name and address based on the trucks license plate number.</p> <p><b>05/11/15</b> Letter was mailed to owner of the truck in regards to the issue.</p> <p><b>05/18/15</b> Spoke with owner of the truck and discussed resolution including temporary control measures. Owner indicted the leak would be repaired within the week.</p> <p><b>06/15/15</b> Had not heard from the owner that the truck had been fixed so did a follow up and found the truck was still leaking. Called owner and he stated he did not have money to fix the truck but would continue to do temporary measures.</p> <p><b>07/16/15</b> The truck in question was still leaking and temporary measures were not being used. Contacted the County Attorney's office to get advice on what our next action should be.</p> <p><b>07/17/15</b> Community Maintenance received a complaint in regards to same truck leaking oil. County staff made a site visit to check to conditions of the roadway and confirmed the truck was still leaking. Reached back out to the County Attorney's office and they stated they would draft a second and final letter.</p> <p><b>07/24/15</b> Second and final letter was mailed to owner of</p>

## HENRICO COUNTY MS4 PROGRAM PLAN

	<p>the truck.</p> <p><b>07/31/15</b> Owner called me in regards to letter. He stated he still did not have money to fix the truck but would put down containment underneath of the truck. County staff dropped off some absorbent pads for him to use and advised him to buy more.</p> <p><b>08/24/15</b> Made a site visit. The truck in question was there and an absorbent pad was underneath the leak.</p> <p><b>09/28/15</b> Received a call from the original complainant in regards to the leaking truck.</p> <p><b>09/29/15</b> Called the County Attorney's office to make them aware of another call about the leaking truck. County Attorney stated if we had enough evidence we could issue a summons for him to appear in court. County staff left a message for the owner of the truck.</p> <p><b>09/30/15</b> Owner of the truck called me and informed me his truck was currently broken down at another location. County staff explained to owner that wherever the truck is park absorbent pads need to be placed underneath of it. County staff called original complainant to let him know the status and also to call me if he saw the truck without containment underneath of it.</p> <p>Since this last entry County staff have driven by the location several times and the truck in question has not been there.</p>
05/15/15	<p>Resident had parked a truck on the County roadway where engine oil was spilled. Henrico Fire Department, Hazmat, responded to the call and worked with the Department of Public Works afterwards. (IDDE00140)</p> <p><b>05/15/15</b> Received notification from DEQ about a truck leaking engine oil which was leaking into the storm drain. Hazmat responded.</p>

## HENRICO COUNTY MS4 PROGRAM PLAN

	<p><b>05/18/15</b> Made a site visit and saw oil dri was underneath the truck and along the curb and inside the inlet shelf. Spoke with Fire Marshall's office who informed me the truck itself was not leaking but a container of oil in the bed had overturned and leaked from the bed of the truck.</p> <p><b>05/26/15</b> Oil dri has been cleaned up from the roadway.</p>
6/17/15	Woodman Road Training Facility: Truck 22 spilled hydraulic fluid from the outrigger unit onto the asphalt. Utilized absorbent pillows to clean up the product. Spill did not enter the MS4 areas.
7/21/2015	<p>Anaerobic digester residual foam dripped from Dystor cover membranes during removal process (WRF)</p> <p>Area of residual was treated with powdered hydrated lime. All lime and residual on pavement were removed by shovel and disposed of in the rolloff dumpster on site</p>
08/28/15	<p>There was a grease trap overflow in a shopping center that reached the County's roadway. Department of Public Works worked with the Fire Department of this case. (IDDE00166)</p> <p><b>08/28/15</b> Received notification of a grease overflow at a restaurant. The maintenance crew power washed the area to get rid of the grease which made the parking lot and roadway slippery. DPW staff made a site visit (Fire Department and Fire Marshall's Office were already on the scene) and found a large amount of grease had overflowed from three grease traps associated with two restaurants. DPW Road Department was called to the area to put absorbent material down on the roadway. The restaurant with the grease traps contacted a cleanup contractor to perform cleanup of the area. The cleanup was performed into the evening on 8/28/15. The Fire Marshall's Office is going to follow up with the restaurant in regards to the clean up to ensure it was done appropriately.</p>
09/08/15	There was a car accident that resulted in vehicle fluids

## HENRICO COUNTY MS4 PROGRAM PLAN

	<p>leaking into the County roadway. The Fire Department responded to this call and Department of Public Works was notified after the incident. (IDDE00169)</p> <p><b>09/08/15</b> Received notification of absorbent material in the roadway. DPW staff made a site visit and noticed a ~20 x 3 foot section of oil dri in the roadway. DPW reached out to the Fire Marshall's office to see if they had responded to a car accident at this location and they confirmed they had and gave us the name of the towing company that was used. DPW staff reached out the towing company to see if they were planning on coming back out to get up the absorbent material and they said they weren't as it would turn to dust once cars started driving on it. Advised the tow company they would need to clean up any absorbent material still left in the roadway after a couple of days.</p> <p><b>09/11/15</b> All of the absorbent material has been cleaned up from the roadway.</p>
9/9/2015	<p>Portland cement (type I) and water was spilled when mixing concrete to replacement section of sidewalk. (WRF)</p> <p>Removed residual and disposed of properly, but left large gray stain on pavement</p>
9/30/2015	<p>Power outage on 9/29/2015 caused reset to shut valve to all digesters. Sludge was diverted and pipe failed and overflowed on surface into storm drain leading to SWO#1. (WRF)</p> <p>Removed, secured, tested/characterized and properly disposed of sludge affected soils. Staff established dam in SW pipe and recovered spilled/wash down material. Pipe was repaired.</p>
10/13/2015	<p>Membrane cover that was sitting on trailer folded up was removed for re-installation. Water from rain events that had accumulated in cover folds came out on ground along with some residual sludge that had gotten onto the cover while stored on the trailer.</p>

## HENRICO COUNTY MS4 PROGRAM PLAN

	The area affected was treated with lime.
10/19/15	<p>Fire Department responded to a call for an unusual odor in a neighborhood. The next day the Department of Public Works was made aware of the situation. (IDDE00180)</p> <p><b>10/19/15</b> Fire Department responded to a call for an unusual odor in the neighborhood. They were not able to find the source and determined there was no emergency. DPW staff was made aware of the concerns.</p> <p><b>10/20/15</b> DPW staff made a site visit and opened all the storm sewer structures in the area and did not find any unusual smells or anything out of the ordinary. The location was forwarded to DPU to check the sanitary sewer throughout the neighborhood to make sure that was not the source.</p>
11/15/15	<p>Fire Station 21: Reserve Eng 1 lost a bolt on the bottom of the transmission and lost transmission fluid in the solid floor bay and down a portion of the concrete ramp. Absorbent pads and kitty litter was utilized to contain and clean up the spill. All clean up materials were placed in a container and taken to the fire shop for proper disposal. No product entered any MS4 areas and was contained to the concrete areas. Approx. \$300 in clean up materials were utilized.</p>
12/14/15	<p>Approximately two gallons of vegetable oil spilled on the pavement outside the Traffic Engineering area at the Woodman Road Depot.</p> <p><b>12/14/15</b> County staff applied absorbent material to contain vegetable oil</p> <p><b>12/15/15</b> County staff removed and disposed of the contaminated absorbent material. No free product remained.</p> <p><b>12/15/15</b> County staff documented spill and photographed area of the spill</p>
4/16/15	<p>Hydraulic oil leak. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel</p>

## HENRICO COUNTY MS4 PROGRAM PLAN

5/13/15	Hydraulic oil leak from DPW Truck 774. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel
5/14/15	Hydraulic oil leak from DPW Truck 651. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel
5/14/15	Fuel leak from DPW Truck 704. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel
5/14/15	Fuel leak from DPW Truck 617. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel
7/14/15	Panolin spill from Menzi Muck. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel
9/2/15	Hydraulic oil leak on yard. Put down sand on spilled material, then swept up sand.
9/15/15	Hydraulic oil leak from DPW Truck 680. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel
9/17/15	Transmission fluid bottle had been run over on yard. Put oil dry on the spilled material, removed the bottle, and then placed used oil dry in Clean Harbors barrel.
9/25/15	Fuel leak from DPW Truck 9555. Put oil dry on spill; swept and placed used oil dry in Clean Harbors barrel.
10/13/15	Melted crack seal. Cardboard boxes of crack seal exposed to sun. Crews cleaned up crack seal material and placed in Clean Harbors barrel for disposal through Safety-Kleen
10/16/15	Contractor truck leak / unknown material. Contractor staging on yard – placed bucket to catch material, but bucket overflowed and truck leaked in other spots. Placed oil dry and booms on spill area, then required contractor to come clean it up. Contractors placed dirt on top on spill prior to cleanup.
11/9/15	Contractor machine leak / petroleum product. Contractor staging on yard – machine leaked fuel and was carried by rainwater. Put down oil dry, booms, and pads to contain petroleum product. Then required contractor to clean up.
12/10/15	DGS cleaning activities allowed NaOH product to be powerwashed without containment. General Services maintains the air unit outside of 10431 Woodman Rd— while cleaning with a product containing NaOH, the product was powerwashed and free flowed to the inlet that

## HENRICO COUNTY MS4 PROGRAM PLAN

	drains to BMP. Placed booms and sand to prevent more material from entering inlet. Contacted Safety-Kleen to create profile and dispose of material.
12/10/15	<p>On December 10<sup>th</sup>, 2015 soapy water was running down the asphalt and entering a County MS4 inlet in the DPW parking lot during chiller coil cleaning operations.</p> <p>Staff was advised, in the future, when using soap and any other material that could result in an illicit discharge they need to capture the water and/or illicit discharge and dispose of it properly. Soapy water can be discharged to grassy and/or gravel areas where it is able to soak into the ground instead of running off.</p>
12/31/15	<p>On December 31, 2015 a soap solution was seen in the parking area in front of the Motor Pool building on the West Government complex.</p> <p>Staff identified the solution as water with oxy-clean. Staff immediately applied oil dry to contain the spill and cleaned all the remnants prior to any solution reaching the storm sewer.</p>



PART I.B.2.g  
MS4 PROGRAM IMPLEMENTATION  
INDUSTRIAL AND HIGH RISK RUNOFF

**PERMIT LANGUAGE**

The permittee shall implement a program to identify and control pollutants in stormwater discharges to the MS4 from industrial and high risk runoff facilities (e.g., municipal landfills; other treatment, storage, or disposal facilities for municipal waste; hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313) and any other industrial or commercial discharges the permittee determines are contributing a significant pollutant loading to the MS4.

- 1) The permittee shall maintain, and update as necessary, a list of all known industrial and high-risk dischargers to the MS4. This list shall include VPDES industrial stormwater permits.
- 2) No later than 12-months after the effective date of this state permit, the permittee shall develop and implement a prioritized schedule and procedure to inspect outfalls of facilities with VPDES industrial stormwater permits at the point of connection to the MS4. Prioritization may be based on historical discharges, local water quality impairments, industrial category or other methods selected by the permittee. The permittee shall inspect all VPDES industrial stormwater permitted outfalls connected to its MS4 a minimum of once every five years.
- 3) The permittee shall review copies of discharge monitoring reports (DMRs) submitted to the permittee by all VPDES industrial stormwater permitted facilities as part of the permittee's investigations of significant pollutant loadings. The permittee may conduct additional monitoring, or may require the facility to conduct additional monitoring, of any stormwater discharges it believes may be a source of significant pollutant loadings.
- 4) The permittee shall coordinate with the Department to report any non-VPDES-permitted industrial facility from which the permittee has evidence that a significant pollutant load is entering the MS4 system. Inspections of facilities for which the permittee has evidence of significant pollutant loading may be carried out in conjunction with other permittee programs.

## HENRICO COUNTY MS4 PROGRAM PLAN

- 5) The permittee shall refer the following facilities to the Department of Environmental Quality, Piedmont Regional Office, for DEQ compliance review under the Virginia State Water Control Law:
  - (a) Facilities and operations having non-stormwater discharges that do not have coverage under an existing VPDES permit;
  - (b) Facilities and operations identified pursuant to 40 CFR Part 122.26(b)(14) with manufacturing, processing, or raw materials storage outside that do not have coverage under an existing VPDES industrial stormwater permit.
  - (c) Any VPDES industrial stormwater permit facility where there is evidence of significant pollutant loadings to the MS4.
  - (d) Facilities that do not submit signed copies of DMRs to the permittee as required under a VPDES industrial stormwater permit.
- 6) The permittee shall maintain a list of any industrial and/or commercial stormwater dischargers not regulated under the Virginia State Water Control Law that it determines may be contributing a significant pollutant loading to the MS4. This list may be individual discharges or categories of discharges.
  - (a) Outfalls from these facilities shall be included in the prioritized inspection schedule.
  - (b) The list shall include, but shall not be limited to, major automotive facilities such as repair shops, body shops, auto detailers, tire repair shops and service stations.
  - (c) The permittee shall require control measures as necessary and/or appropriate for stormwater discharges from these dischargers.

### **SPECIFIC REPORTING REQUIREMENTS**

- **The annual report due March 31, 2016 shall include a list of all known industrial and high risk dischargers including any non-VPDES regulated industrial and commercial stormwater dischargers determined by the permittee as contributing a significant pollutant load and that discharge to the**

## HENRICO COUNTY MS4 PROGRAM PLAN

**MS4 system, a schedule of inspections and procedures for inspecting outfalls.**

- **Each annual report shall report on implementation of the inspection schedule and include a list of the facilities and/or facility outfalls inspected during the reporting period.**
- **Each annual report shall include a list of referrals to the Department.**

### **MS4 PROGRAM ELEMENTS**

The Department of Public Works (DPW) will implement a program to identify and control pollutants in stormwater discharges to the MS4 from Industrial and High Risk Runoff Facilities (e.g., municipal landfills; other treatment, storage, or disposal facilities for municipal waste; hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313) and any other industrial or commercial discharges the permittee determines are contributing a significant pollutant loading to the MS4.

To identify the Industrial and High Risk Runoff Facilities that contribute significant pollutant loading to the MS4, DPW started with a listing of parcels from the County's GIS that were characterized with applicable land use codes. This listing included over 2,400 parcels and includes VPDES industrial stormwater permitted facilities.

The parcels are then combined where appropriate to reflect individual facilities and/or operations (i.e., all parcels for Bunge Oil were combined to be depicted as one facility). Using aerial photography, the operational areas (i.e., storage areas, loading/unloading areas, processing areas, etc.) on the facilities will be evaluated to determine whether or not they discharge to the MS4. If the operational areas discharge to the MS4, the facilities are considered Industrial and High Risk Runoff Facilities (see attachments) and the MS4 structure or structures that the facilities discharge into are identified.

No fewer than fifty MS4 structures that Industrial and High Risk Runoff Facilities discharge into will be inspected during each permit year and all will be inspected at least once during the cycle. In addition, outfalls from Industrial and High Risk Runoff Facilities with a history of contributing significant pollutant loading to the MS4 during the previous permit year will be re-inspected the following permit year. These outfalls will be subject to the established inspection procedure, including evaluations of identified flows and maintenance and repair needs.

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If the MS4 structure inspections reveal evidence of significant pollutant loading to the MS4 by a VPDES permitted Industrial and High Risk Runoff Facility or if DEQ determines the Discharge Monitoring Reports (DMRs) submitted indicates significant pollutant loading, the facility will be referred to DEQ for consideration of additional monitoring requirements or pollution control measures.

If the MS4 structure inspections reveal evidence of significant pollutant loading to the MS4 by a non-VPDES permitted Industrial and High Risk Runoff Facility, DPW staff will inspect the facility to investigate the source of the pollutant discharge.

DPW will review the list of Industrial and High Risk Runoff Facilities annually. The list will be updated as necessary using the County's GIS. DPW will also make an annual request of DEQ's Piedmont Regional Office for the current VPDES Industrial Stormwater permitted facility list and make updates to the list of Industrial and High Risk Runoff Facilities as necessary.

DPW will track compliance with the Industrial and High Risk Runoff Facility program elements in databases that includes information such as:

1. the Industrial and High Risk Runoff Facilities;
2. the land use code for the facility
2. whether or not the facility discharges to the MS4 and if so, the MS4 structures that receive runoff from the facility;
3. whether or not evidence of significant pollutant loading exists as a result of MS4 structure inspections and DMR evaluation;
4. records of follow-up actions (inspections, enforcement actions, etc.) taken if evidence of significant pollutant loading exists;
4. records of facility inspections and MS4 structure inspections; and
5. records of DMR receipt

### **ROLES AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.g of the MS4 Permit are assigned to the following Departments / Divisions of the County:

**DPW** will inspect all Industrial and High Risk Runoff Facilities outfalls connected to the MS4 at least once during the permit cycle.

## HENRICO COUNTY MS4 PROGRAM PLAN

**DPW** will review Discharge Monitoring Reports (DMRs) submitted to the County by VPDES industrial stormwater permitted facilities as part of the investigation of significant pollutant loadings.

**DPW** will inspect any non-VPDES permitted Industrial and High Risk Runoff Facilities from which evidence is found of a significant pollutant loading entering the MS4.

**DPW** will refer facilities and/or operations identified as having non-stormwater discharges that do not have coverage under an existing VPDES permit to DEQ as the facilities and/or operations are identified.

**DPW** will refer facilities and/or operations identified pursuant to 40 CFR Part 122.26(b)(14) with manufacturing, processing, or raw materials storage outside that do not have coverage under an existing VPDES permit to DEQ as the facilities and/or operations are identified.

**DPW** will refer any Industrial and High Risk Runoff Facility where there is evidence of significant pollutant loading to the MS4 to DEQ as the facilities are identified.

**DPW** will include a list of facilities that do not submit signed copies of DMRs to the County as required under a VPDES industrial stormwater permit in each annual report.

No later than February 28 of each year, **DPW** will develop a report on implementation of the inspection schedule and a list of the facilities and/or facility outfalls inspected during the reporting period for inclusion in the annual report due March 31.

**DPW** will include a list of all facilities and/or operations referred to DEQ during the reporting period in each annual report due March 31.

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.g

#### MS4 PROGRAM IMPLEMENTATION INDUSTRIAL AND HIGH RISK RUNOFF

**The annual report due March 31, 2016 shall include a list of all known industrial and high risk dischargers including any non-VPDES regulated industrial and commercial stormwater dischargers determined by the permittee as contributing a significant pollutant load and that discharge to the MS4 system, a schedule of inspections and procedures for inspecting outfalls.**

Industrial and High Risk Dischargers Determined to be Contributing a Significant Pollutant Load to the MS4 between April 1, 2105 and December 31, 2015		
Industrial and High Risk Discharger	VPDES Permit (Permit # or None)	Outfalls to the following to MS4 Structure(s)
No Industrial and High Risk Dischargers were found to be contributing a significant pollutant load to the MS4.		

No fewer than fifty MS4 structures that Industrial and High Risk Runoff Facilities discharge into will be inspected during each permit year and each will be inspected at least once during the permit cycle. In addition, Industrial and High Risk Runoff Facilities outfalls with a history of contributing significant pollutant loading to the MS4 during the previous permit year will be re-inspected the following permit year. These outfalls will be subject to the established inspection procedure, including evaluations of identified flows and maintenance and repair needs.

**Each annual report shall report on implementation of the inspection schedule and include a list of the facilities and/or facility outfalls inspected during the reporting period.**

During the permit year, fifty outfalls from Industrial and High Risk Dischargers were

## HENRICO COUNTY MS4 PROGRAM PLAN

inspected.

Inspections of Outfalls from Industrial and High Risk Dischargers conducted between April 1, 2015 and December 31, 2015			
Industrial and High Risk Discharger	Outfall Location	Inspection Date	Determined to be Contributing Significant Pollutant Load to the MS4?
IC0001	IN000000024676	12/03/2015	No
IC0005	IN000000025371	12/03/2015	No
IC0006	IN000000024880	12/03/2015	No
IC0007	IN000000016227	12/03/2015	No
IC0007	IN000000016228	11/02/2015	No
IC0007	MH000000006995	12/07/2015	No
IC0008	MN000000038755	12/08/2015	No
IC0008	EN000000003334	12/08/2015	No
IC0011	JN000000000548	10/28/2015	No
IC0013	IN000000024770	12/03/2015	No
IC0019	IN000000015855	12/22/2015	No
IC0020	IN000000009823	12/23/2015	No
IC0020	IN000000009865	12/09/2015	No
IC0022	IN000000020489	12/04/2015	No
IC0024	IN000000021671	12/09/2015	No
IC0026	IN000000025355	12/09/2015	No
IC0032	IN000000019060	12/04/2015	No
IC0032	IN000000019269	12/04/2015	No
IC0036	IN000000023806	12/09/2015	No
IC0037	IN000000016500	12/04/2015	No
IC0037	IN000000016504	12/04/2015	No
IC0041	IN000000046022	12/09/2015	No
IC0044	IN000000046409	12/09/2015	No
IC0046	IN000000016573	12/11/2015	No
IC0046	IN000000016574	11/10/2015	No
IC0049	IN000000002547	12/10/2015	No
IC0050	MN0000000122770	12/21/2015	No
IC0051	IN000000016875	12/10/2015	No

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IC0052	IN000000017255	12/04/2015	No
IC0052	IN000000017256	12/04/2015	No
IC0056	IN000000046417	12/22/2015	No
IC0059	IN000000050618	12/22/2015	No
IC0059	IN000000016415	12/10/2015	No
IC0062	IN000000019558	12/11/2015	No
IC0062	IN000000019561	12/11/2015	No
IC0063	IN000000009874	12/11/2015	No
IC0064	IN000000016311	12/11/2015	No
IC0068	IN000000016380	11/06/2015	No
IC0072	IN000000005559	12/15/2015	No
IC0072	MH000000007485	12/15/2015	No
IC0073	MN0000000084606	12/15/2015	No
IC0074	EN000000002381	12/18/2015	No
IC0076	IN0000000050741	12/23/2015	No
IC0080	MN0000000079956	12/16/2015	No
IC0083	IN0000000026586	12/16/2015	No
IC0088	IN0000000022176	12/16/2015	No
IC0090	IN0000000025447	12/22/2015	No
IC0097	IN0000000016875	12/10/2015	No
IC0098	IN0000000011643	05/07/2015	No
IC0099	IN0000000012236	12/18/2015	No

Inspections of Industrial and High Risk Dischargers determined to be contributing significant pollutant load to the MS4  
conducted between April 1, 2015 and December 31, 2015

Industrial and High Risk Discharger ID#	Inspection Date	Results of Inspection
No Industrial and High Risk Dischargers were found to be contributing a significant pollutant load to the MS4. Therefore, no Industrial and High Risk Dischargers were inspected during the permit year.		



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**Each annual report shall include a list of referrals to the Department.**

Industrial and High Risk Dischargers referred to the Virginia Department of Environmental Quality between April 1, 2015 and December 31, 2015		
Industrial and High Risk Discharger	Referral Date	Reason for Referral
No Industrial and High Risk Dischargers were referred to the Virginia Department of Environmental Quality during the permit year. (See the following table for DMR submittal information from VPDES Industrial Stormwater Permitted Facilities located in Henrico County.)		

DMRs received from VPDES Industrial Stormwater Permitted Facilities* as of December 31, 2015			
Permitted Facility	VPDES Permit #	DMR	
		Date	Received
Alfa Laval Incorporated	VAR051131	No DMRs Received	
BFI Old Dominion Landfill	VAR052236	No DMRs Received	
Bunge Oils Incorporated	VAR050595	No DMRs Received	
Coca Cola Refreshments USA Inc.	VAR050709	1/5/15	1/12/15
		7/3/15	7/15/15

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CSX Transportation Inc. – Bryan Park Terminal	VAR051056	No DMRs Received	
Ennis Paints Incorporated	VAR051550	No DMRs Received	
Henkel Corporation	VAR050574	No DMRs Received	
Henrico County DPU Springfield Road Waste Management	VAR051025	4/14/15	12/8/15
Henrico County Water Reclamation Facility	VAR051633	1/9/15	1/9/15
		3/6/15	12/5/15
		6/5/15	12/5/15
		10/8/15	12/5/15
		11/10/15	12/5/15
Hilex Poly Company LLC	VAR051636	No DMRs Received	
Johns Manville	VAR051167	No DMRs Received	
Lee Hy Paving Corporation	VAR051024	No DMRs Received	
Mondelez Global LLC	VAR051209	No DMRs Received	
Republic Services of Richmond	VAR051152	No DMRs Received	
RockTenn CP LLC – Laburnum	VAR052154	No DMRs Received	
Rolling Frito Lay	VAR051607	No DMRs Received	
S.B. Cox Recycling Center MRF	VAR051869	No DMRs Received	

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Sandston Manufacturing and Distribution Center	VAR050709	No DMRs Received
Standex Engraving LLC	VAR051142	No DMRs Received
The East End Landfill	VAR050624	No DMRs Received
TRANSFLO Terminal Services TTSI	VAR051821	No DMRs Received

\* based on list provided by DEQ on May 26, 2015

PART I.B.2.h  
MS4 PROGRAM IMPLEMENTATION  
STORMWATER INFRASTRUCTURE MANAGEMENT

**PERMIT LANGUAGE**

The permittee shall continue to maintain and implement programs to maintain the County's stormwater infrastructure and to update the accuracy and inventory of the storm sewer system.

- 1) For stormwater management (SWM) facilities and infrastructure maintained by the permittee including residential properties where SWM facilities, BMP and Storm Drainage Systems qualify for County maintenance (excluding apartments and mobile home parks), the following conditions apply:
  - (a) The permittee shall provide for adequate long-term operation and maintenance of SWM facilities owned or operated by the permittee in accordance with written inspection and maintenance procedures included in the MS4 Program Plan.
  - (b) The permittee shall, at a minimum, inspect annually all SWM facilities owned or operated by the permittee. The permittee may choose to implement an alternative schedule to inspect these SWM facilities based on a risk assessment that includes facility type and expected maintenance needs provided that the alternative schedule is included in the MS4 Program Plan in accordance with plan modifications as listed in Part I.A.7 of this state permit.
  - (c) The permittee shall conduct maintenance on SWM facilities owned or operated by the permittee as necessary.
  - (d) The permittee shall continue its stormwater system inspection program and shall inspect no less than 15% of the MS4 annually and 100% of the system prior to the expiration of the permit such that all MS4 structures are inspected at least once during the term of the permit.
  - (e) The permittee shall dispose of all wastes and wastewaters collected during storm water system cleaning in accordance with local, state, and federal laws and regulations.
  - (f) The permittee shall obtain any required state or federal permit(s) necessary to complete maintenance activities.
- 2) For SWM facilities not maintained by the permittee and that discharge into the MS4, the following conditions apply:

## HENRICO COUNTY MS4 PROGRAM PLAN

- (a) The permittee shall continue to implement a program to ensure proper maintenance of each privately maintained SWM facility that discharges into the MS4 system as documented in the MS4 Program Plan.
- (1) Beginning with the effective date of this state permit and in accordance with 9VAC25-870-112 B., maintenance agreements may be used but are not required for stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot on which they are located provided that the permittee has developed and implemented a strategy to address maintenance of such stormwater management controls. Should the permittee choose a strategy other than a maintenance agreement, such a strategy shall be provided in writing no later than 12 months after the effective date of this state permit and shall include periodic inspections, homeowner outreach and education, or other methods targeted at promoting the long term maintenance of such facilities.
- (2) For SWM facilities that are privately maintained and for which maintenance agreements have been established between the permittee and the owner, the permittee shall inspect all privately maintained facilities no less than once per 5 years and conduct follow-up activities to ensure the required maintenance has been completed. Inspection may be conducted by the permittee or their designee as defined in 9VAC 25-870-114.:
- (3) For SWM facilities that are privately maintained and for which maintenance agreements have not been established between the permittee and the owner, the permittee shall implement a pilot program consisting of the following:
- (i) No later than 12-months after the effective date of the permit, the permittee shall develop draft procedures and policies that are designed to ensure that inspection and maintenance of privately maintained SWM facilities are being conducted. The draft procedures and policies should identify any expected limitations to the permittee's ability to implement these procedures and policies and should propose options to overcome these limitations;
- (ii) No later than 15-months after the effective date of the permit, the permittee shall implement these draft procedures and policies including the proposed options identified in subsection Part I.B.2.h)2)a)(3)(i) above; and,
- (iii) No later than 36-months after the effective date of the permit, the permittee shall modify the draft policy and procedures required by Part I.B.2.h)2)a)(3)(i) for the inspection of privately maintained SWM facilities based on the findings of Part I.B.2.h)2)a)(3)(ii) and finalize the inspection procedures.

## HENRICO COUNTY MS4 PROGRAM PLAN

- 3) No later than 18 months after the effective date of this permit, the permittee shall map the MS4 service area and each MS4 outfall. The following information shall be tracked for each MS4 outfall:
  - (a) An individual identification number, local watershed, HUC 6 and receiving water;
  - (b) The latitude and longitude in degrees, minutes and seconds;
  - (c) New outfalls shall be tracked upon their inclusion into the MS4.
- 4) No later than 24 months after the effective date of this state permit, the permittee shall identify the following for each local watershed, sixth order HUC and Chesapeake Bay Segment:
  - (a) The number of impervious, pervious and total acres served by the MS4 as of June 30, 2009.
  - (b) The number of impervious, pervious and total acres treated by stormwater controls as of June 30, 2009,
- 5) No later than 54 months after the effective of this state permit, the permittee shall update each of the following:
  - (a) The number of impervious, pervious and total acres served by the MS4 for each Henrico County local watershed, sixth order HUC and Chesapeake Bay segment.
  - (b) The number of impervious, pervious and total acres treated by stormwater controls.

### **SPECIFIC REPORTING REQUIREMENTS**

- The permittee shall submit with the annual report due March 31, 2016 the written inspection and maintenance procedures.
- Each annual report shall include a progress report on efforts to repair failed storm sewer outfalls.
- Each annual report shall include a list of activities including inspections, maintenance, and repair of stormwater infrastructure operated by the permittee as required in Part I.B.2.h)1), including the total number of stormwater facilities operated by the permittee, the type and number of stormwater facilities inspected and maintained; the linear feet of storm sewer system owned and/or operated by the permittee, and the linear feet of storm sewer system inspected.
- Each annual report shall provide a summary of actions taken by the permittee to address failure of privately maintained SWM facilities owners to abide by maintenance agreements.

## HENRICO COUNTY MS4 PROGRAM PLAN

- Each annual report shall include a list of activities including inspections performed and notifications of needed maintenance and repair of stormwater facilities not operated by the permittee as required by Part I.B.2.h)2).
- The MS4 service area map including outfalls and information included in Part I.B.2.h)3) shall be submitted no later than 18 months after the effective date of this state permit. The information shall be submitted as an electronic file in one of the following formats shapefile, geodatabase, .xls, .xlsx, .csv, .mdx, .dbf, delimited text, XML, or other file approved by the Department.
- The second annual report submitted under this state permit shall include the information included in Part I.B.2.h)4). The information shall be submitted in a format specified by the Department.
- The fourth annual report shall include an updated list of all information requested in Part 1.B.2.h)5).

### **MS4 PROGRAM ELEMENTS, ROLES AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various program elements and tasks necessary to demonstrate compliance with Part I.B.2.h of the MS4 Permit are assigned to the Departments / Divisions of the County as follows:

All Departments / Divisions will continue to maintain and implement programs to maintain the stormwater conveyance systems located within the lands the Department / Division maintains.

All Departments / Divisions will dispose of all wastes and wastewaters collected during its stormwater infrastructure cleaning operations in accordance with local, state, and federal laws and regulations.

All Departments / Divisions will obtain any required state or federal permits necessary to complete its stormwater infrastructure maintenance operations.

For purposes of this part, stormwater infrastructure includes the stormwater management (SWM) facilities / best management practices (BMPs) that discharge to the MS4 and the stormwater conveyance systems (inlets, channels, pipes, etc.) maintained by the County.

### **General Services (DGS)**

## HENRICO COUNTY MS4 PROGRAM PLAN

DGS will provide for long-term operation and maintenance of DGS-maintained SWM facilities / BMPs in accordance with written inspection and maintenance procedures. DGS will ensure that DGS-maintained SWM facilities / BMPs are inspected at least once each year by qualified persons (individuals holding SWM inspection certifications issued by DEQ) and maintenance is conducted as necessary.

DGS will document and maintain records related to the inspection, maintenance and repair of DGS-maintained SWM facilities / BMPs and stormwater conveyance systems located within DGS-maintained lands.

DGS will annually inspect, through the use of certified inspectors or licensed professionals, its assigned SWP/BMP infrastructure system.

DGS shall conduct maintenance and repair activities as required to adequately maintain long-term operation of its SWP/BMP facilities.

DGS shall record, document and maintain a data base of all SWP/BMP inspections, maintenance and repair activities and report this to DPW on an annual basis or as required.

DGS will inspect no less than 15% of the DGS-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

DGS will inspect no less than 3.75% of the DGS-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020.**

DGS will inspect 100% of the DGS-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, DGS will develop and submit to DPW a progress report on efforts to repair failed DGS-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, DGS will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on DGS-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### Recreation and Parks

Recreation and Parks will provide for long-term operation and maintenance of Recreation and Parks-maintained SWM facilities / BMPs in accordance with written



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inspection and maintenance procedures. Recreation and Parks will ensure that Recreation and Parks-maintained SWM facilities / BMPs are inspected at least once each year by qualified persons (individuals holding SWM inspection certifications issued by DEQ) and maintenance is conducted as necessary.

Recreation and Parks will document and maintain records related to the inspection, maintenance and repair of Recreation and Parks-maintained SWM facilities / BMPs and stormwater conveyance systems located within Recreation and Parks-maintained lands.

Recreation and Parks will annually inspect its 4 BMP facilities with certified staff or contracted inspector. Stormwater conveyance system components will be inspected annually according to program plan requirements.

Recreation and Parks shall document and maintain a database with annual inspections and maintenance/repairs for SWM/BMP facilities. Issues identified will be sorted and prioritized by Recreation and Parks staff. Recreation and Parks staff will work to clear debris and properly dispose. Issues outside of staff capability will be identified and possibly contracted out.

Recreation and Parks will inspect no less than 15% of the Recreation and Parks-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

Recreation and Parks will inspect no less than 3.75% of the Recreation and Parks-maintained stormwater conveyance system components **between January 1, 2020 through March 31, 2020.**

Recreation and Parks will inspect 100% of the Recreation and Parks-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, Recreation and Parks will develop and submit to DPW a progress report on efforts to repair failed Recreation and Parks-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, Recreation and Parks will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on Recreation and Parks-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### Public Utilities (DPU)

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DPU will provide for long-term operation and maintenance of DPU-maintained SWM facilities / BMPs in accordance with written inspection and maintenance procedures. DPU will ensure that DPU-maintained SWM facilities / BMPs are inspected at least once each year by qualified persons (individuals holding SWM inspection certifications issued by DEQ) and maintenance is conducted as necessary.

DPU will document and maintain records related to the inspection, maintenance and repair of DPU-maintained SWM facilities / BMPs and stormwater conveyance systems located within DPU-maintained lands.

DPU will work to provide adequate long term operation and maintenance of DPU-maintained SWM facilities/BMPs.

DPU has developed a Standard Operating Procedure (SOP) that will be utilized to provide good housekeeping, the necessary inspections and any needed maintenance on DPU owned SWM facilities/BMPs. The SOP is attached.

DPU will inspect no less than 15% of the DPU-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

DPU will inspect no less than 3.75% of the DPU-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020.**

DPU will inspect 100% of the DPU-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, DPU will develop and submit to DPW a progress report on efforts to repair failed DPU-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, DPU will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on DPU-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### **Public Schools (Schools)**

Schools will provide for long-term operation and maintenance of Schools-maintained SWM facilities / BMPs in accordance with written inspection and maintenance procedures. Schools will ensure that Schools-maintained SWM facilities / BMPs are

## HENRICO COUNTY MS4 PROGRAM PLAN

inspected at least once each year by qualified persons (individuals holding SWM inspection certifications issued by DEQ) and maintenance is conducted as necessary.

Schools will document and maintain records related to the inspection, maintenance and repair of Schools-maintained SWM facilities / BMPs and stormwater conveyance systems located within Schools-maintained lands.

Schools will work to provide for adequate long term operation and maintenance of its SWM facilities (including BMP structures). HCPS will inspect its SWM facilities and stormwater conveyance system components according to program plan requirements. HCPS shall conduct maintenance on its SWM facilities and document and maintain a database with annual inspections and maintenance/repairs. HCPS shall report all SWM inspection, maintenance and repair activities to DPW on an annual basis.

Schools will inspect no less than 15% of the Schools-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

Schools will inspect no less than 3.75% of the Schools-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020.**

Schools will inspect 100% of the Schools-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, Schools will develop and submit to DPW a progress report on efforts to repair failed Schools-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, Schools will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on Schools-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### **Division of Fire (Fire)**

Fire will document and maintain records related to the inspection, maintenance and repair of Fire-maintained stormwater conveyance systems located within Fire-maintained lands.

Fire will inspect no less than 15% of the Fire-maintained stormwater conveyance

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system components **each year between January 1, 2016 and December 31, 2019.**

Fire will inspect no less than 3.75% of the Fire-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020.**

Fire will inspect 100% of the Fire-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, Fire will develop and submit to DPW a progress report on efforts to repair failed Fire-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, Fire will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on Fire-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### **Division of Police (Police)**

Police will document and maintain records related to the inspection, maintenance and repair of Police-maintained stormwater conveyance systems located within Police-maintained lands.

Police will inspect no less than 15% of the Police-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

Police will inspect no less than 3.75% of the Police-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020.**

Police will inspect 100% of the Police-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, Police will develop and submit to DPW a progress report on efforts to repair failed Police-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, Police will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on Police-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### **Mental Health and Developmental Services (MH/DS)**

MH/DS will document and maintain records related to the inspection, maintenance and repair of MH/DS-maintained stormwater conveyance systems located within MH/DS-maintained lands.

MH/DS will inspect no less than 15% of the MH/DS-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

MH/DS will inspect no less than 3.75% of the MH/DS-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020.**

MH/DS will inspect 100% of the MH/DS-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, MH/DS will develop and submit to DPW a progress report on efforts to repair failed MH/DS-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, MH/DS will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on MH/DS-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### **Economic Development Authority (EDA)**

EDA will document and maintain records related to the inspection, maintenance and repair of EDA-maintained stormwater conveyance systems located within EDA-maintained lands.

EDA will inspect no less than 15% of the EDA-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

EDA will inspect no less than 3.75% of the EDA-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020.**

EDA will inspect 100% of the EDA-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, EDA will develop and submit to DPW a

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progress report on efforts to repair failed EDA-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, EDA will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on EDA-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### **Real Property**

Real Property will document and maintain records related to the inspection, maintenance and repair of Real Property-maintained stormwater conveyance systems located within Real Property-maintained lands.

Real Property will inspect no less than 15% of the Real Property-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019**.

Real Property will inspect no less than 3.75% of the Real Property-maintained stormwater conveyance system components between **January 1, 2020 through March 31, 2020**.

Real Property will inspect 100% of the Real Property-maintained stormwater conveyance system components at least once by **March 31, 2020**.

No later than **February 28 of each year**, Real Property will develop and submit to DPW a progress report on efforts to repair failed Real Property-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, Real Property will develop and submit to DPW a list of activities (inspections, maintenance, and repair) conducted on Real Property-maintained stormwater infrastructure for inclusion in the annual reports due March 31.

### **Public Works (DPW)**

DPW will continue to maintain and update the inventory of 1) SWM facilities (both public and private) that discharge to the MS4 and 2) MS4 components (inlets, junctions, manholes, end treatments, and channels, pipes, etc.).

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DPW will provide for long-term operation and maintenance of DPW-maintained SWM facilities / BMPs in accordance with written inspection and maintenance procedures. DPW will ensure that DPW-maintained SWM facilities / BMPs are inspected at least once each year by qualified persons (individuals holding SWM inspection certifications issued by DEQ) and maintenance is conducted as necessary.

DPW will document and maintain records related to the inspection, maintenance and repair of DPW-maintained SWM facilities / BMPs and stormwater conveyance systems located within DPW-maintained lands.

DPW will continue to implement a program to ensure proper maintenance of SWM facilities / BMPs not maintained by the County and that discharge to the MS4. Privately-maintained SWM facilities / BMPs on individual residential lots for which maintenance agreements are not required will be addressed in accordance with § 10-45(b) of the Henrico County Code through an educational mailing distributed once every five years to the property owner describing the maintenance responsibilities for the facilities. Privately-maintained SWM facilities / BMPs for which maintenance agreements have been established will be addressed by ensuring appropriate inspections (in accordance with 9VAC 25-870-114 of the Virginia Stormwater Management Program Regulations) of the facilities are performed no less than once every five years and by conducting follow-up activities to ensure the required maintenance has been completed. Privately-maintained SWM facilities / BMPs for which maintenance agreements have not been established will be addressed by implementing the procedures and policies included in the attachments.

DPW will inspect no less than 15% of the DPW-maintained stormwater conveyance system components **each year between January 1, 2016 and December 31, 2019.**

DPW will inspect no less than 3.75% of the DPW-maintained stormwater conveyance system components **between January 1, 2020 through March 31, 2020.**

DPW will inspect 100% of the DPW-maintained stormwater conveyance system components at least once by **March 31, 2020.**

No later than **February 28 of each year**, DPW will develop a progress report on efforts to repair failed DPW-maintained storm sewer outfalls for inclusion in the annual reports due March 31.

No later than **February 28 of each year**, DPW will develop a list of activities (inspections, maintenance, and repair) conducted on DPW-maintained stormwater

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infrastructure for inclusion in the annual reports due March 31.

No later than **June 30, 2016**, DPW will implement these draft procedures, policies, and proposed options developed to ensure that inspection and maintenance of privately maintained SWM facilities for which maintenance agreements have not been established are being conducted.

No later than **March 31, 2018**, DPW will make necessary modifications to the procedures, policies, and proposed options developed to ensure that inspection and maintenance of privately maintained SWM facilities for which maintenance agreements have not been established are being conducted and finalize the inspection procedures.

No later than **August 31, 2016**, DPW will map the MS4 service area.

No later than **August 31, 2016**, DPW will map each MS4 outfall. The following information will be tracked for each MS4 outfall:

1. an individual identification number;
2. the local watershed designation;
3. the sixth order HUC;
4. the receiving water; and
5. location (latitude and longitude in degree, minute and seconds);

No later than **September 30, 2016**, DPW will submit the MS4 service area map, including MS4 outfalls and the information outlined in Part I.B.2.h)(3) of the MS4 Permit to DEQ.

DPW will submit the following for each local watershed, each sixth order HUC and each Chesapeake Bay segment with the annual report due **March 31, 2017**:

1. MS4 service area as of June 30, 2009;
2. regulated impervious area as of June 30, 2009;
3. regulated pervious area as of June 30, 2009
4. total area treated by stormwater controls as of June 30, 2009;
5. impervious area treated by stormwater controls as of June 30, 2009; and
6. pervious area treated by stormwater controls as of June 30, 2009

DPW will submit the following for each local watershed, each sixth order HUC and each Chesapeake Bay segment with the application for MS4 permit reissuance due on **September 30, 2019**:

1. MS4 service area;
2. regulated impervious area;



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3. regulated pervious area;
4. total area treated by stormwater controls;
5. impervious area treated by stormwater controls; and
6. pervious area treated by stormwater controls.

DPW will include a progress report on efforts to repair County-maintained storm sewer outfalls in the annual reports due **March 31**.

DPW will include a list of activities (inspections, maintenance, and repair) conducted on County-maintained stormwater infrastructure in the annual reports due **March 31**.

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### PART I.B.2.h

#### MS4 PROGRAM IMPLEMENTATION STORMWATER INFRASTRUCTURE MANAGEMENT

**The permittee shall submit with the annual report due March 31, 2016 the written inspection and maintenance procedures.**

##### General Services (DGS)

DGS shall annually inspect, through the use of certified inspectors or licensed professionals, its assigned SWP/BMP infrastructure system.

DGS shall conduct maintenance and repair activities as required to adequately maintain long-term operation of its SWP/BMP facilities.

DGS shall record, document and maintain a data base of all SWP/BMP inspections, maintenance and repair activities.

DGS shall report all SWP/BMP inspection, maintenance and repair activities to DPW on an annual basis or as required.

##### Recreation and Parks

R&P shall annually inspect its 4 BMP facilities with certified staff or contracted certified inspector.

Stormwater conveyance system components will be inspected annually according to program plan requirements.

R&P shall document and maintain a database with annual inspections and maintenance/repairs for SWM/BMP facilities.

Issues identified will be sorted and prioritized by R&P staff.

R&P staff will work to clear debris and properly dispose.

Issues outside of staff capability will be identified and possibly contracted out.  
Public Utilities (DPU)

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DPU will work to provide for adequate long term operation and maintenance of DPU-maintained SWM facilities/BMPs.

In order to meet our requirement, DPU has developed a Standard Operating Procedure (SOP) that will be utilized to provide good housekeeping, the necessary inspections and any needed maintenance on DPU owned SWM facilities/BMPs. The SOP is attached.

### Public Schools (Schools)

Schools will work to provide for adequate long term operation and maintenance of its SWM facilities (including BMP structures). Schools will inspect its SWM facilities and stormwater conveyance system components according to program plan requirements. Schools shall conduct maintenance on its SWM facilities and document and maintain a database with annual inspections and maintenance/repairs. Schools shall report all SWM inspection, maintenance and repair activities to DPW on an annual basis.

### Public Works (DPW)

DPW will work to provide for adequate long term operation and maintenance of DPW-maintained SWM facilities/BMPs.

In order to meet our requirement, DPW has developed a Standard Operating Procedure (SOP) that will be utilized to provide the necessary inspections and any needed maintenance on DPW owned SWM facilities/BMPs. The SOP is attached.

**Each annual report shall include a progress report on efforts to repair failed storm sewer outfalls.**

Progress Reports on Efforts to Repair Failed Storm Sewer Outfalls		
Outfall ID	Identified Problem	Repair Status
EN0000000000004	EN covered by debris, needs cleanout	Clean outfall of 8" PVC pipe due to it being within drainage easement. NOTE: End of PVC pipe not found during inspection. According to plans, it outfalls 60' from

## HENRICO COUNTY MS4 PROGRAM PLAN

		inlet.
EN000000000153	Much erosion around mouth of pipe, needs filling	place top soil on cross pipe
EN000000000155	Can't locate pipe because it is filled with sediment, desperately needs a cleanout.	clean ditch about 20' to drain 2) clean cross pipe and inlet 3) tv cross pipe cave in over pipe EN000000000155 relay last 2 joint of pipe on outlet end
EN000000000165	concrete deterioration and sinkhole forming, needs repair	place top soil where 2x4 is also remove bucket from cross pipe under Fawcett
EN000000000190	CONCRETE DETERIORATION - pipe exposed with crack on top.	place top soil on top of pipe seed
EN000000000221	Heavily vegetated with kudzu. Forward notes - CLEANOUT	no work by road dept pipe open
EN000000000222	Heavily vegetated with vines/kudzu	no work by road dept pipe open
EN000000000427	Facility shows signs of erosion, need topsoil and seed	repair cave in in front of curb inlet with asphalt 20 repair cave between IN013925 and EN 427 with top soil seed
EN000000000428	erosion was a problem and it had leaves blocking flow	no work by road depot no blockage or erosion
EN000000000499	Large sinkhole adjacent to EN, needs filling	repair cave in on outlet end under guardrail with top soil 2) 3' on outlet end has no bottom may need to be replaced 27'x12CMP
EN000000000635	Sinkhole. Needs filling in.	fill in hole left side of cross pipe with top soil
EN000000000826	CLEANOUT - Standing water present. Possible blockage in cross pipe..	clean concrete ditch on inlet side EN000000000826
EN000000000827	Standing water present. Possible blockage in cross	clean outlet end of pipe about 20' to drain

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	pipe.	
EN000000000833	Topsoil erosion present at the end of the main.	clean ditch @ outfall about 20' to drain 2) place top soil on top of pipe where washed
EN000000001554	Facility has trash and debris.. Needs cleanout	clean outlet end of pipe @ lake EN000000001554
EN000000002132	End treatment filled with tree cuttings, unsure if it's obstructing flow	no work by road dept all culverts open
EN000000002228	Facility is likely underneath vines growing over bmp..	No work by road maintenance. EN2228 ties into existing 54" RCP (blind junction
EN000000002242	Break in pipe of EN, needs repair	1. Reset flared end section 2. Rearrange rip-rap to allow for better flow 3. Remove debris/shopping cart to side
EN000000002284	CLEANOUT - looks to be used as a dumping site, needs cleanout.	no work by road dept pipe open
EN000000003443	Lots of debris, sediment, and mostly trash, needs cleanout	clean outlet end of double pipe EN000000003443
EN000000003582	Break in EN pipe, needs to be repaired	no work by road dept pipe ok for now
EN000000003586	EN clogged somewhere in facility, lots of standing water	clean outlet end of pipe to where rip rap ends only
EN000000006210	CLEANOUT - Needs cleanout	no work by road dept all culverts open
EN000000006453	EN filled with leaves and trash, could potentially block flow, needs cleanout	clean outlet end of pipe go in from Ruddy Duck Dr.
EN000000007799	Abandoned tires in end treatment, doesn't seem to be blocking flow, needs cleanout	no work by road dept tires removed
EN000000007803	Abandoned tires located near end treatment, needs	remove 6 tires from inlet end of pipe on Carters Mill

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	cleanout	before last curve before county line
EN000000007975	Facility submerged	no work by road dept out of right of way
EN000000011655	Lawn and leaf debris causing standing water downstream from end treatment, needs cleanout	fill in washout @ outlet end of pipe with riprap

**Each annual report shall include a list of activities including inspections, maintenance, and repair of stormwater infrastructure operated by the permittee as required in Part I.B.2.h)1), including the total number of stormwater facilities operated by the permittee, the type and number of stormwater facilities inspected and maintained; the linear feet of storm sewer system owned and/or operated by the permittee, and the linear feet of storm sewer system inspected.**

MS4 Infrastructure Inspected* between April 1, 2015 and December 15, 2015		
MS4 Infrastructure Type	Unit	Inspected
Inlets	each	3,457
Manholes	each	521
Junction Boxes	each	41
End Treatments	each	1,046
Mains	linear feet	1,716,778

\* includes Screening Inspections, Screening Inspection Follow-Ups, Construction Acceptance Inspections, Maintenance Evaluations, and Repair and/or Maintenance Activities

During this permit year (April 1, 2015 and December 31, 2015), 21.35% of the MS4 infrastructure was inspected.

Since the effective date of the MS4 Permit (April 1, 2015), 21.35% of the MS4 infrastructure has been inspected.

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Inspection, Maintenance, and Repair Actions conducted on MS4 Infrastructure between April 1, 2015 and December 31, 2015			
MS4 Infrastructure Type	Inspections	Maintenance	Repair
Inlets	3,590	41	93
Manholes	535	1	0
Junction Boxes	41	0	1
End Treatments	1,077	11	10
Mains	17,475	168	10

On-Line* County-Operated SWM Facilities Inspected and/or Maintained between April 1, 2015 and December 31, 2015			
Type	Total	Inspected	Maintained
50/10 Basin (5)	7	6	7
50/10 Underground Detention (6)	6	6	6
BayFilter (200)	1	1	1
BaySeparator (205)	1	1	1
Bioretention Basin/Trench (10)	9	9	9
Extended Detention Basin (15)	30	29	30
Extended Detention Basin w/a Shallow Marsh (16)	2	2	2
Filterra (215)	21	21	21
Grassed Swale (20)	3	3	3
Imbrium Jellyfish (250)	1	1	1
Infiltration Basin/Trench (25)	7	7	7
Retention Basin (30)	12	12	12
StormCeptor (225)	1	1	1
StormFilter (220)	4	4	4
StormTreat (230)	1	1	1

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Stormwater360 (Manufactured Unit)	4	4	4
<b>TOTAL</b>	<b>110</b>	<b>108</b>	<b>110</b>

\* Facilities with either an Active or Accepted status

On-Line Privately-Operated SWM Facilities Discharging to the MS4 that were Inspected and/or Maintained between April 1, 2015 and December 31, 2015			
Type	Total	Inspected	Maintained
50/10 Basin (5)	50	5	0
50/10 Underground Detention (6)	56	8	0
BaySaver (210)	1	0	0
Bioretention Basin/Trench (10)	23	0	0
Dry Swale 1 (150)	1	0	0
Extended Detention Basin (15)	197	13	0
Extended Detention Basin w/a Shallow Marsh (16)	48	3	1
Filtterra (215)	202	10	0
Grassed Swale (20)	6	0	0
Imbrium Jellyfish (250)	2	0	0
Infiltration Basin/Trench (25)	8	0	0
Retention Basin (30)	63	2	0
Sand Filter (35)	64	7	0
StormTreat (230)	4	0	0
Stormwater360 (235)	19	2	0
Vegetated Filter Strip (40)	1	0	0
VortexSeparator (245)	2	0	0
<b>TOTAL</b>	<b>747</b>	<b>50</b>	<b>1</b>

\* Facilities with either an Active or Accepted status

County-Owned/Operated Culverts and Pipes Inventoried as of December 31, 2015 and Inspected between April 1, 2015 and December 31, 2015	
Culverts and Pipes Inventoried (miles)	Culverts and Pipes Inspected between April 1, 2015 and December 31, 2015 (miles)
741.5	167.3

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**Each annual report shall provide a summary of actions taken by the permittee to address failure of privately maintained SWM facilities owners to abide by maintenance agreements.**

The number of privately-maintained SWM facilities that:  1) discharge to the MS4, 2) needed <i>required</i> maintenance and/or repair based on a previous inspection, and 3) are subject to a recorded maintenance agreement,  where the owner(s) failed to perform <i>required</i> maintenance and/or repair as directed by the County.	0
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**Each annual report shall include a list of activities including inspections performed and notifications of needed maintenance and repair of stormwater facilities not operated by the permittee as required by Part I.B.2.h)2).**

Facility ID	Action Date	Action Type
BMP00050	4/20/2015	MAINTENANCE INSPECTION
BMP00052	4/29/2015	MAINTENANCE INSPECTION
BMP00100	4/16/2015	MAINTENANCE INSPECTION
BMP00140	4/16/2015	MAINTENANCE INSPECTION
BMP00153	4/2/2015	MAINTENANCE INSPECTION
BMP00154	4/2/2015	MAINTENANCE INSPECTION
BMP00155	4/2/2015	MAINTENANCE INSPECTION
BMP00156	4/2/2015	MAINTENANCE INSPECTION
BMP00157	4/2/2015	MAINTENANCE INSPECTION
BMP00158	4/8/2015	PUNCHLIST DEVELOPMENT AND DISTRIBUTION
BMP00158	4/2/2015	MAINTENANCE INSPECTION
BMP00338	10/20/2015	CONSTRUCTION INSPECTION
BMP00338	12/8/2015	CONSTRUCTION INSPECTION
BMP00392	4/20/2015	MAINTENANCE INSPECTION

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BMP00443	12/28/2015	MAINTENANCE INSPECTION
BMP00482	4/16/2015	MAINTENANCE INSPECTION
BMP00554	4/20/2015	MAINTENANCE INSPECTION
BMP00563	4/20/2015	MAINTENANCE INSPECTION
BMP00608	4/20/2015	MAINTENANCE INSPECTION
BMP00632	7/28/2015	MAINTENANCE INSPECTION
BMP00632	12/28/2015	MAINTENANCE INSPECTION
BMP00632	7/29/2015	PUNCHLIST DEVELOPMENT AND DISTRIBUTION
BMP00704	4/16/2015	MAINTENANCE INSPECTION
BMP00705	4/16/2015	MAINTENANCE INSPECTION
BMP00706	4/16/2015	MAINTENANCE INSPECTION
BMP00723	4/29/2015	MAINTENANCE INSPECTION
BMP00745	4/16/2015	MAINTENANCE INSPECTION
BMP00746	4/16/2015	MAINTENANCE INSPECTION
BMP00754	11/3/2015	ACCEPTANCE INSPECTION
BMP00850	4/14/2015	MAINTENANCE INSPECTION
BMP01005	4/15/2015	MAINTENANCE INSPECTION
BMP01081	12/29/2015	MAINTENANCE INSPECTION
BMP01140	12/29/2015	MAINTENANCE INSPECTION
BMP01157	4/15/2015	MAINTENANCE INSPECTION
BMP01230	4/14/2015	MAINTENANCE INSPECTION
BMP01231	4/14/2015	MAINTENANCE INSPECTION
BMP01232	4/14/2015	MAINTENANCE INSPECTION
BMP01256	4/16/2015	MAINTENANCE INSPECTION
BMP01257	4/29/2015	MAINTENANCE INSPECTION
BMP01295	4/29/2015	MAINTENANCE INSPECTION
BMP01296	4/29/2015	MAINTENANCE INSPECTION
BMP01299	4/29/2015	MAINTENANCE INSPECTION
BMP01300	4/29/2015	MAINTENANCE INSPECTION
BMP01311	4/16/2015	MAINTENANCE INSPECTION
BMP01325	12/31/2015	MAINTENANCE INSPECTION
BMP01396	10/8/2015	CONSTRUCTION INSPECTION
BMP01396	10/30/2015	ACCEPTANCE INSPECTION
BMP01396	11/6/2015	ACCEPTANCE INSPECTION
BMP01416	4/16/2015	MAINTENANCE INSPECTION
BMP01417	4/16/2015	MAINTENANCE INSPECTION

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BMP01418	4/16/2015	MAINTENANCE INSPECTION
BMP01433	5/20/2015	ACCEPTANCE INSPECTION
BMP01433	10/20/2015	ACCEPTANCE INSPECTION
BMP01433	12/18/2015	ACCEPTANCE INSPECTION
BMP01433	5/22/2015	PUNCHLIST DEVELOPMENT AND DISTRIBUTION
BMP01511	4/29/2015	MAINTENANCE INSPECTION
BMP01512	8/19/2015	ACCEPTANCE INSPECTION
BMP01512	10/14/2015	ACCEPTANCE INSPECTION
BMP01512	8/27/2015	PUNCHLIST DEVELOPMENT AND DISTRIBUTION
BMP01512	10/29/2015	PUNCHLIST DEVELOPMENT AND DISTRIBUTION
BMP01513	8/19/2015	ACCEPTANCE INSPECTION
BMP01513	10/6/2015	ACCEPTANCE INSPECTION
BMP01570	10/12/2015	ACCEPTANCE INSPECTION
BMP01570	12/28/2015	ACCEPTANCE INSPECTION
BMP01570	10/13/2015	PUNCHLIST DEVELOPMENT AND DISTRIBUTION
BMP01673	11/5/2015	ACCEPTANCE INSPECTION
BMP01692	12/4/2015	ACCEPTANCE INSPECTION

The MS4 service area map including outfalls and information included in Part I.B.2.h)3) shall be submitted no later than 18 months after the effective date of this state permit. The information shall be submitted as an electronic file in one of the following formats shapefile, geodatabase, .xls, .xlsx, .csv, .mdx, .dbf, delimited text, XML, or other file approved by the Department.

Noted.

The second annual report submitted under this state permit shall include the information included in Part I.B.2.h)4). The information shall be submitted in a format specified by the Department.

Noted.

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**The fourth annual report shall include an updated list of all information requested in Part 1.B.2.h)5).**

Noted.



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Verification	Originator	Revised	Issued
Initials	MRS		MRS
Date	2/23/16		2/23/16

### Standard Operating Procedure Part I.B.2.h.1 Stormwater Infrastructure Management (Best Management Practices – BMPs)

<b>Persons responsible:</b>	Public Utilities Employees
<b>Area of application:</b>	Henrico County Public Utilities
<b>Document location:</b>	All DPU locations with BMPs; DPU Administration
<b>Revisions</b>	
<b>Rev. No.</b>	<b>Date</b>
	<b>Description</b>

#### 1.0 Purpose:

The purpose of this Standard Operating Procedure (SOP) is to provide written inspection and maintenance procedures that provide for adequate long term operation and maintenance of Department of Public Utilities (DPU)-maintained Best Management Practices (BMPs).

#### 2.0 Scope:

This SOP applies to the BMPs managed by DPU at the Wastewater Reclamation Facility (WRF), the Water Treatment Facility (WTF), the Springfield Landfill and the Elko Wastewater Pump Station.

#### 3.0 Exclusions:

N/A

#### 4.0 Responsibility:

All Staff and Contractors – Responsible for ensuring that all relevant and applicable components of this SOP are followed.

Community Liaison or his Designated Representative – Responsible for ensuring reporting requirements to the Department of Public Works (DPW) are met and for updating this procedure as necessary.

#### 5.0 Definitions:

- Dewatering – Allowing water laden material to sufficiently dry prior to disposal.
- Runoff – Any water (rainfall or otherwise) that enters the BMP. This includes any sheet flow or inlet channel/piping flow.
- Sediment – Any soil, rock, dirt or other inorganic or organic fine solids.



## County of Henrico

Verification	Originator	Revised	Issued
Initials	MRS		MRS
Date	2/23/16		2/23/16

### Standard Operating Procedure Part I.B.2.h.1 Stormwater Infrastructure Management (Best Management Practices – BMPs)

#### 6.0 Operational Requirements:

These requirements apply to the following BMPs:

- WRF Retention Basin;
- Two Elko Wastewater Pump Station Infiltration Trenches;
- WTF Retention Basin; and
- Four Springfield Landfill Retention Basins.

#### 6.1 Maintenance Requirements

The BMPs under the control of DPU, as described above, must be maintained to ensure they operate in a manner consistent with their design. Excessive vegetation, degraded concrete and steel elements, sediment deposits, litter accumulation and other counterproductive attributes must be addressed and resolved in a timely and effective manner.

##### 6.1.1 WRF, WTF and Springfield Landfill Retention Basins

###### 6.1.1.1 Vegetation

Vegetation along the retention basin shoreline is acceptable as a means to stabilize the shoreline, improving aesthetics, limiting shoreline access by people and animals, providing food, cover and nesting for wildlife and providing shade. Generally, a 20-foot vegetative buffer should be maintained around the perimeter of the shoreline to minimize sediments in runoff entering the basin. The vegetative buffer should be mowed periodically to prevent unmanageable overgrowth as appropriate. Vegetation encroachment into the bench area (the 5-15 feet in the water closest to the shoreline) and along the inflow and outflow channels should be managed to discourage the accumulation of sediments, inorganic and organic materials (including vegetation) which reduces the storage capacity of the retention basin and impede flow. A pathway to the retention basin and the release structure for equipment to facilitate sediment removal and repairs should be maintained. These maintenance requirements are required on an as-needed basis but should be addressed during the annual inspections.

###### 6.1.1.2 Sediment Deposition

The retention basin has been designed to provide a specific retention time and capacity to ensure optimal performance. This can be compromised by sediment deposition over time, which if not addressed, will result in the improper functioning of the retention basin. During the annual inspection, particular attention should be paid to this design aspect. Periodic sediment removal may be required based on the expert opinion of the inspector(s) performing the annual inspections. Any sediment removed from the BMPs must be managed in accordance with applicable federal, state and local regulations. Specifically, the removed sediment must be dewatered and either transported to a landfill for disposal or managed on-site if it has met the requisite on-site disposal requirements.



## County of Henrico

Verification	Originator	Revised	Issued
Initials	MRS		MRS
Date	2/23/16		2/23/16

### Standard Operating Procedure Part I.B.2.h.1 Stormwater Infrastructure Management (Best Management Practices – BMPs)

#### 6.1.1.3 Debris and Litter Removal

Debris and litter may accumulate near the inflow points and around the outlet control structure. A significant accumulation could impact the inflow or clog the outlet rise structure. Such debris and litter should be removed on a periodic, as-needed basis, and be noted during the annual inspection.

#### 6.1.2 Elko Wastewater Pump Station Infiltration Trenches

The two infiltration trenches are designed to allow for the unimpeded flow of runoff through a vegetative buffer, to remove sediments, into the riprap overburden where the runoff percolates into receiving piping that delivers the runoff to the discharge point. A robust vegetative buffer is required around the perimeter of the trenches. A vegetation and sediment free riprap overburden is required to ensure efficient flow to the receiving piping below the riprap overburden. A structurally sound riprap lined outfall is required to enable the downstream transmission of the accumulated runoff.

#### 6.2 Inspection Requirements

Each BMP identified in **Section 6.0** above must be inspected on an annual basis. Inspections are to be performed by qualified personnel who are certified under the VDEQ Stormwater Management Inspection Program or are otherwise licensed professionals. This will ensure inspectors are both legally qualified to perform the BMP inspections and are familiar with the design and operation of the BMP as well as technically competent to identify either design or operational flaws that could compromise the effectiveness of the BMP. These inspections may be performed by Henrico personnel or by a designated third party. Annual inspections of retention basins are to be documented on a *Maintenance Inspection Form for SWM Types*, an example of which is included in **Attachment 1**. Annual inspections of infiltration trenches are to be documented on a *Maintenance Inspection Form for Infiltration Trenches*, included in **Attachment 2** and should be performed within three days of a rain event exceeding 0.5 inches in depth to ensure an appropriate drawdown rate as evidenced by accumulated stormwater in the observation wells. Any maintenance activities triggered by these inspections, or otherwise performed, are to be documented on a *County-Owned Best Management Practices Maintenance Activity Log*, included in **Attachment 3**.

##### 6.2.1 Retention Basin Inspections

Annual retention basin inspections should evaluate the following, as applicable:

- Dam settling, woody growth, and condition of piping;
- Excess vegetation in inflow channels;
- Signs of seepage on the downstream face of the embankment;
- Condition of grass cover on the embankment, basin floor and perimeter;
- Riprap displacement or failure;
- Principal and emergency spillway meet design plans for operation;
- Outlet controls, debris racks and mechanical and electrical equipment;
- Outlet channel conditions;
- Inlet pipe conditions;



## County of Henrico

Verification	Originator	Revised	Issued
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Date	2/23/16		2/23/16

### Standard Operating Procedure Part I.B.2.h.1 Stormwater Infrastructure Management (Best Management Practices – BMPs)

- Safety features of the facility;
- Access for maintenance equipment;
- Sediment accumulation;
- Debris and trash accumulation; and
- Erosion of the embankment or side slopes.

#### 6.2.2 Infiltration Trench Inspections

Annual infiltration trench inspections should evaluate the following, as applicable:

- Adequate vegetative buffer (e.g., grass) in the surficial areas leading to the infiltration trenches;
- Vegetative growth in the riprap overburden should be removed;
- Observation wells should be accessible, intact and capped;
- No accumulated water should be retained in the observation wells three days after a rain event of greater than 0.5 inches;
- Sedimentation in the top foot of riprap overburden should be controlled so as to not inhibit inflow;
- Outlet channel conditions; and
- Debris and trash accumulation.

#### 7.0 Training:

DPU personnel managing, maintaining or inspecting BMPs identified in **Section 6.0** must be trained on the contents of this SOP. This is a biennial training requirement which must be updated upon revision of this SOP.

#### 8.0 Recordkeeping:

8.1 Training records associated with **Section 7.0** of this Procedure should be maintained for the duration of the employee's employment by the County.

8.2 Routine inspections and responses to inadequate conditions identified during the annual inspections or during routine evaluations should be maintained for a period of three years.



## **ATTACHMENTS**

## **Attachment 1**

MAINTENANCE INSPECTION FORM FOR SWM TYPES  
5, 6, 15, 16, 30, 31, 165, 166, 170, 171, 175, 176, 177, AND 178

Facility ID:		Springfield Landfill – 01 (BMP01001)					
Facility Type:		30 – Retention Basin (wet pond)					
Action Type:		Maintenance Inspection					
Inspection Date:		11/12/2015					
Inspector:		C. Nelson and M. Webb					
Accessibility Issues		<input checked="" type="checkbox"/> None		<input type="checkbox"/> Could not Access		<input type="checkbox"/> Could not Locate	
Accessibility Notes		Entire facility is gated outside regular business hours of 7am-4pm. Need truck to access basin via grass road and to cross over large rip-rap spillway.					
Most Recent Rainfall Event		<input checked="" type="checkbox"/> < 3 days		<input type="checkbox"/> ≥ 3 and < 5 days		<input type="checkbox"/> ≥ 5 days	
Standing Water		<input checked="" type="checkbox"/> YES		<input type="checkbox"/> NO		<input type="checkbox"/> N/A	
Mosquito Larvae		<input type="checkbox"/> YES		<input checked="" type="checkbox"/> NO		<input type="checkbox"/> N/A	
Inlet Conditions		Trash/Debris	Sediment	Structural Problems	Vegetation or Stabilization	Other	No Issue
<input checked="" type="checkbox"/>	Open Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NA	Pipe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NA	Curb Cut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Sheet Flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Inlet Condition Notes		Vegetation needs to be cut back from within riprap channel (BMP01001_18-1 and BMP01001_18-0).					
Outlet Conditions		Trash/Debris	Sediment	Structural Problems	Vegetation or Stabilization	Other	No Issue
<input checked="" type="checkbox"/>	Riser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Pipe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
NA	Weir	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Trash Rack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
NA	Open Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outlet Condition Notes		Unable to thoroughly inspect riser due to overgrown vegetation but it seemed to be functioning as designed (BMP01001_15-0). Cut back vegetation around riser. Vegetation and overgrowth need to be cut back from around outlet pipe (BMP01001_16-0, BMP01001_16-1). It is recommended to install riprap outlet protection at outlet to prevent erosion at exit channel (BMP01001_16-2).					
Basin / Storage Area Conditions		Trash/Debris	Sediment	Structural Problems	Vegetation or Stabilization	Other	No Issue
NA	Forebays	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Basin / Chamber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Permanent Pools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
NA	Wetland Cells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NA	Safety Benches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Aquatic Benches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basin / Storage Area Condition Notes		Large trees growing in middle of basin need to be removed (BMP01001_19-1). It is recommended to cut back the vegetation growing along the edge of the normal pool (BMP01001_19-0).					
Embankment / Spillway		Trash/Debris	Sediment	Structural Problems	Vegetation or Stabilization	Other	No Issue
<input checked="" type="checkbox"/>	Embankment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Spillway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Exit Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Embankment / Spillway Condition Notes		Vegetation growing within the riprap spillway needs to be removed (BMP01001_14-0 and BMP01001_14-1).					

## **Attachment 2**



**Attachment 2  
SOP Part I.B.2.h.1  
Henrico County  
Department of Public Utilities  
MS4-Regulated BMPs**

**Maintenance Inspection Form for Infiltration Trenches**

**Date:** \_\_\_\_\_ **Completed By:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Date of Last Rainfall Event in Excess of 0.5 inches:** \_\_\_\_\_

**Note – Inspections should be performed within three days of a rainfall event in excess of 0.5 inches.**

<b>Inspection Item</b>	<b>√ If Ok</b>	<b>√ If Problem</b>	<b>Comments (and Resolutions to Noted Problems)</b>
Adequate vegetative buffer (e.g., grass) in the surficial areas leading to the infiltration trenches?			
Vegetative growth in the riprap overburden?			
Observation wells accessible, intact and capped?			
Any standing water in observation wells? If so, evaluate whether the water remains at the end of three days after a rainfall event of at least 0.5 inches (this would indicate clogging).			
Sedimentation in the top foot of riprap overburden that could inhibit inflow?			
Outlet channel conditions adequate? (e.g., no erosion, excessive vegetative growth, sedimentation, etc.)			
Debris and trash accumulation?			

### **Attachment 3**

## COUNTY-OWNED BEST MANAGEMENT PRACTICES MAINTENANCE ACTIVITY LOG

BMP ID#:	
Date:	Crew member(s):

MAINTENANCE ACTIVITY (check all that apply)		
<input type="checkbox"/> Inspection	<input type="checkbox"/> Mowing	<input type="checkbox"/> Trash / Debris Removal
<input type="checkbox"/> Tree / Weed Removal	<input type="checkbox"/> Sediment Removal	<input type="checkbox"/> Re-Seeding / Re-Planting
<input type="checkbox"/> Regrading	<input type="checkbox"/> Mulch Application	<input type="checkbox"/> Nutrient / Herbicide / Pesticide Application
<input type="checkbox"/> Outlet Structure(s) Repair	<input type="checkbox"/> Inlet Structure(s) Repair	<input type="checkbox"/> Dam / Embankment Repair
<input type="checkbox"/> Manufacturer Annual Inspection	<input type="checkbox"/> Filter Media Replacement	<input type="checkbox"/> Unit Repair / Replacement
<input type="checkbox"/> Other (describe):		

[illegible]



## County of Henrico

Verification	Originator	Revised	Issued
Initials Date			

Environmental Standard Operating Procedure xxx

### Inspection and Maintenance of Department of Public Works Owned and Operated Facilities

**Persons Responsible:**

**Area of application:**

**Document location:**

#### Revisions

Rev. No.	Date	Description
001		
002		

#### Purpose:

The purpose of this Standard Operating Procedure (SOP) is to identify the inspection and maintenance procedures for facilities that are owned and operated by the Department of Public Works.

#### Scope:

This SOP applies to all Henrico County stormwater facilities/Best Management Practices (BMPs) that the Department of Public Works owns and operates.

#### Responsibility:

It is the responsibility of the Department of Public Works to inspect their owned and operated facilities. All DPW owned and operated facilities will be inspected annually to meet MS4 program plan requirements. All inspections will be documented in the online database (APEX) and in GIS. Any issues found during an inspection will be documented and a punchlist of repairs will be sent to the DPW Road Maintenance Department or the DPW Annual Contractor. All inspections will be completed by the county BMP inspector or other qualified person(s) (individuals holding the SWM inspector certification issued by DEQ or a licensed professional).

#### Definitions:

**Virginia Department of Environmental Quality (DEQ) and Environmental Protection Agency (EPA) Regulatory Requirements:**

**Additional Henrico County Requirements:**

**References and Regulatory Statutes:**

**Disclaimer:**





## County of Henrico

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Initials Date			

### Environmental Standard Operating Procedure xxx

## Inspection and Maintenance of Department of Public Works Owned and Operated Facilities

Although every effort has been made to ensure this SOP addresses all applicable regulations, it is the operational manager's responsibility to ensure all rules and regulations are identified and followed.

The regulatory requirements included in this SOP provide a summary of the Federal and State requirements, further explanation and regulatory details can be found in 40 CFR Part xxx and 9 VAC xxx.

PART I.B.2.i  
MS4 PROGRAM IMPLEMENTATION  
COUNTY FACILITIES

**PERMIT LANGUAGE**

Facilities owned or operated by the permittee shall be operated and maintained as follows:

- 1) Good Housekeeping
  - (a) The discharge of permittee vehicle wash water into the MS4 at permittee facilities without authorization from a separate VPDES permit shall be prohibited.
  - (b) The discharge of wastewater into the MS4 at permittee facilities without authorization by a separate VPDES permit shall be prohibited.
  - (c) The dumping of collected yard waste and grass clippings into the MS4 shall be prohibited.
  - (d) Fluids leaked from permittee vehicles shall be prevented from entering the storm sewer system. Leaked fluids shall be cleaned up and disposed of properly, as soon as possible but no later than 24-hours after discovery.
  - (e) No later than the expiration date of this state permit, the permittee shall install and maintain markings on all stormwater inlets located on high priority municipal facilities, as defined at Part I.F, and on permittee properties with greater than 2-acres of impervious surface.
- 2) High Priority Municipal Facilities
  - (a) The permittee shall identify all high priority municipal facilities that do not require a separate VPDES industrial stormwater permit no later than 12-months after the effective date of this state permit;
  - (b) Within 12 months of state permit coverage, the operator shall identify which of the high priority municipal facilities have a high potential of discharging pollutants. High priority municipal facilities that have a high potential for discharging pollutants are those facilities identified in subsection (a) above that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:
    - (1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
    - (2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;

## HENRICO COUNTY MS4 PROGRAM PLAN

- (3) Material handling equipment (except adequately maintained vehicles);
  - (4) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);
  - (5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
  - (6) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
  - (7) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);
  - (8) Application or disposal of process wastewater (unless otherwise permitted); or
  - (9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.
- (c) The permittee shall develop and/or update and implement individual stormwater pollution prevention plans for each high-priority municipal facility identified under Part I.B.2.i)2)(b) no later than 36-months after the effective date of this state permit. Stormwater pollution prevention plans (SWPPP) shall include:
- (1) A site description that includes a site map identifying all outfalls, direction of flows, existing source controls, and receiving water bodies;
  - (2) A discussion and checklist of potential pollutants and pollutant sources;
  - (3) A discussion of all potential non-stormwater discharges;
  - (4) A maintenance schedule for all existing source controls;
  - (5) All policies and procedures implemented at the facility to ensure source reduction;
  - (6) An inspection schedule and checklist to ensure that all source reductions are continually implemented and all source controls are appropriately maintained. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP;
  - (7) Appropriate training as required in Part I.B.2.k);
  - (8) Procedures to conduct an annual comprehensive site compliance evaluation;
  - (9) Procedures to conduct dry weather screening; and
  - (10) All modifications made as the result of any release or spill.
- (d) A copy of each SWPPP shall be kept at each high-priority municipal facility and be kept updated.

## HENRICO COUNTY MS4 PROGRAM PLAN

### **SPECIFIC REPORTING REQUIREMENTS**

- **The Initial annual report due March 31, 2016 shall include a list of all high priority municipal facilities.**

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various program elements and tasks necessary to demonstrate compliance with Part I.B.2.i of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will prohibit the discharge of wash water from County vehicles into the MS4 at County facilities.

All Departments / Divisions will prohibit the discharge of wastewater into the MS4 at County facilities.

All Departments / Divisions will prohibit the dumping of collected yard waste and grass clippings into the MS4.

All Departments / Divisions will prevent fluids leaking from County vehicles from entering the MS4. Leaked fluids shall be cleaned up and disposed of properly, as soon as possible but no later than 24-hours after discovery.

All Departments / Divisions will use the MS4 Municipal Management Area (MMA) System to track compliance with the Permit requirements associated with High Priority Municipal Facilities. The MMA System is an inventory of lands maintained by the County that was developed to administer and track compliance with various MS4 Permit requirements. Using the MMA System, evaluations of County-maintained lands will be conducted to determine whether or not an area is a High Priority Municipal Facility and if there is a potential of discharging pollutants in accordance with the conditions listed in Part I.B.2.i.2(b) of the MS4 Permit. The MMA System will also be used to track whether or not SWPPPs are required, have been developed, and have been implemented in accordance with the implementation schedule specified in the Permit. Currently, the MMA System does not track compliance with the requirements / recommendations included in each individual SWPPP.

### **General Services (DGS)**

No later than **March 31, 2018**, DGS will develop and/or update and implement individual SWPPPs for the DGS-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

DGS will maintain updated copies of the required SWPPPs at the DGS-maintained High Priority Municipal Facilities.

DGS will use the MMMA System to track development and implementation of the required SWPPPs for DGS-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by DGS since those details are not captured in the MMMA System.

No later than **March 31, 2020**, DGS will install and maintain markings on all stormwater inlets located on DGS-maintained High Priority Municipal Facilities and on DGS-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Recreation and Parks**

No later than **March 31, 2018**, Recreation and Parks will develop and/or update and implement individual SWPPPs for the Recreation and Parks-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

Recreation and Parks will maintain updated copies of the required SWPPPs at the Recreation and Parks-maintained High Priority Municipal Facilities.

Recreation and Parks will use the MMMA System to track development and implementation of the required SWPPPs for Recreation and Parks-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by Recreation and Parks since those details are not captured in the MMMA System.

No later than **March 31, 2020**, Recreation and Parks will install and maintain markings on all stormwater inlets located on Recreation and Parks-maintained High Priority Municipal Facilities and on Recreation and Parks-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Public Utilities (DPU)**

No later than **March 31, 2018**, DPU will develop and/or update and implement individual SWPPPs for the DPU-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

DPU will maintain updated copies of the required SWPPPs at the DPU-maintained High Priority Municipal Facilities.

DPU will use the MMMA System to track development and implementation of the required SWPPPs for DPU-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by DPU since those details are not captured in the MMMA System.

No later than **March 31, 2020**, DPU will install and maintain markings on all stormwater inlets located on DPU-maintained High Priority Municipal Facilities and on DPU-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Public Schools (Schools)**

No later than **February 28, 2016**, Schools will use the MMMA System to identify all Schools-maintained High Priority Municipal Facilities that do not have a separate VPDES industrial stormwater permit and those that require individual SWPPPs.

No later than **March 31, 2018**, Schools will develop and/or update and implement individual SWPPPs for the Schools-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

Schools will maintain updated copies of the required SWPPPs at the Schools-maintained High Priority Municipal Facilities.

Schools will use the MMMA System to track development and implementation of the required SWPPPs for Schools-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by Schools since those details are not captured in the MMMA System.

## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **March 31, 2020**, Schools will install and maintain markings on all stormwater inlets located on Schools-maintained High Priority Municipal Facilities and on Schools-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Division of Fire (Fire)**

No later than **March 31, 2018**, Fire will develop and/or update and implement individual SWPPPs for the Fire-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

Fire will maintain updated copies of the required SWPPPs at the Fire-maintained High Priority Municipal Facilities.

Fire will use the MMMA System to track development and implementation of the required SWPPPs for Fire-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by Fire since those details are not captured in the MMMA System.

No later than **March 31, 2020**, Fire will install and maintain markings on all stormwater inlets located on Fire-maintained High Priority Municipal Facilities and on Fire-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Division of Police (Police)**

No later than **March 31, 2018**, Police will develop and/or update and implement individual SWPPPs for the Police-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

Police will maintain updated copies of the required SWPPPs at the Police-maintained High Priority Municipal Facilities.

Police will use the MMMA System to track development and implementation of the required SWPPPs for Police-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by Police since those details are not captured in the MMMA System.

## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **March 31, 2020**, Police will install and maintain markings on all stormwater inlets located on Police-maintained High Priority Municipal Facilities and on Police-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Mental Health and Developmental Services (MH/DS)**

No later than **March 31, 2018**, MH/DS will develop and/or update and implement individual SWPPPs for the MH/DS-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

MH/DS will maintain updated copies of the required SWPPPs at the MH/DS-maintained High Priority Municipal Facilities.

MH/DS will use the MMMA System to track development and implementation of the required SWPPPs for MH/DS -maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by MH/DS since those details are not captured in the MMMA System.

No later than **March 31, 2020**, MH/DS will install and maintain markings on all stormwater inlets located on MH/DS-maintained High Priority Municipal Facilities and on MH/DS-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Economic Development Authority (EDA)**

No later than **February 28, 2016**, EDA will use the MMMA System to identify all EDA-maintained High Priority Municipal Facilities that do not have a separate VPDES industrial stormwater permit and those that require individual SWPPPs.

No later than **March 31, 2018**, EDA will develop and/or update and implement individual SWPPPs for the EDA-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

EDA will maintain updated copies of the required SWPPPs at the EDA-maintained High Priority Municipal Facilities.



## HENRICO COUNTY MS4 PROGRAM PLAN

EDA will use the MMMA System to track development and implementation of the required SWPPPs for EDA-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by EDA since those details are not captured in the MMMA System.

No later than **March 31, 2020**, EDA will install and maintain markings on all stormwater inlets located on EDA-maintained High Priority Municipal Facilities and on EDA-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Real Property**

No later than **February 28, 2016**, Real Property will use the MMMA System to identify all Real Property-maintained High Priority Municipal Facilities that do not have a separate VPDES industrial stormwater permit and those that require individual SWPPPs.

No later than **March 31, 2018**, Real Property will develop and/or update and implement individual SWPPPs for the Real Property-maintained High Priority Municipal Facilities that require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

Real Property will maintain updated copies of the required SWPPPs at the Real Property-maintained High Priority Municipal Facilities.

Real Property will use the MMMA System to track development and implementation of the required SWPPPs for Real Property-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by Real Property since those details are not captured in the MMMA System.

No later than **March 31, 2020**, Real Property will install and maintain markings on all stormwater inlets located on Real Property-maintained High Priority Municipal Facilities and on Real Property-maintained municipal facilities with greater than 2 acres of impervious surface.

### **Public Works (DPW)**

No later than **March 31, 2018**, DPW will develop and/or update and implement individual SWPPPs for the DPW-maintained High Priority Municipal Facilities that

## HENRICO COUNTY MS4 PROGRAM PLAN

require SWPPPs. The SWPPPs will include the components listed in Part I.B.2.i.2)(c) of the Permit.

DPW will maintain updated copies of the required SWPPPs at the DPW-maintained High Priority Municipal Facilities.

DPW will use the MMMA System to track development and implementation of the required SWPPPs for DPW-maintained High Priority Municipal Facilities. Individual implementation details required by the SWPPPs will be documented and maintained by DPW since those details are not captured in the MMMA System.

No later than **March 31, 2020**, DPW will install and maintain markings on all stormwater inlets located on DPW-maintained High Priority Municipal Facilities and on DPW-maintained municipal facilities with greater than 2 acres of impervious surface. Markings will not be placed on structures within the County rights-of-way for safety reasons.

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.i MS4 PROGRAM IMPLEMENTATION COUNTY FACILITIES

**The Initial annual report due March 31, 2016 shall include a list of all high priority municipal facilities.**

High Priority Municipal Facilities that do not require a separate VPDES Industrial Stormwater Permit		
Municipal MS4 Management Area (MMA)	MMMA Description	High Potential of Discharging Pollutants (SWPPP Required)
MMMA000001	Fire Station 16	No
MMMA000041	Fire Station 21	No
MMMA000108	Fire Station 13	No
MMMA000141	Fire Station 15	No
MMMA000168	2498 Kilpeck Drive	No
MMMA000222	Upham Brook Storage Facility Site	Yes
MMMA000323	School Board Office	Yes
MMMA000332	Belmont Golf Course	Yes
MMMA000398	Upham Brook Storage Facility Site	Yes
MMMA000444	Fire Station 1	No
MMMA000508	Shane Road Recycling Center	No

## HENRICO COUNTY MS4 PROGRAM PLAN

MMMA000577	Dorey Park Athletic Field Complex	Yes
MMMA000595	Fire Station 11	No
MMMA000650	Police Shooting Range	No
MMMA000676	RF&P Athletic Fields	Yes
MMMA000693	Fire Station 2	No
MMMA000695	Tuckahoe Park Athletic Fields	Yes
MMMA000724	CAM Facility - Woodman Road	Yes
MMMA000725	West End Materials Storage Yard and Salt Domes	Yes
MMMA000727	Park Services Maintenance Woodman	Yes
MMMA000728	Bus Lot Woodman Road	No
MMMA000732	West End Spoils Storage Yard	Yes
MMMA000733	Western Maintenance Storage Area	Yes
MMMA000734	DPU West End Depot	Yes
MMMA000735	DPW Building West End Depot	Yes
MMMA000737	Fire Training Facility	No
MMMA000739	Impound Lot	Yes
MMMA000746	East End Road Department	Yes
MMMA000749	Glen Echo Building / Dabbs House Bunker	Yes
MMMA000750	CAM Facility - Dabbs House Road	Yes
MMMA000751	West End Road Department	Yes

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**DPW will include a list of all High Priority Municipal Facilities for which SWPPPs have been developed and implemented in each annual report beginning with the annual report due on March 31, 2016. This information will be extracted from the MMMA System.**

High Priority Municipal Facilities For which SWPPPs have been Developed and Implemented	
Municipal MS4 Management Area (MMMA)	MMMA Description
MMMA000332	Belmont Golf Course
MMMA000577	Dorey Park Athletic Field Complex
MMMA000676	RF&P Athletic Fields
MMMA000695	Tuckahoe Park Athletic Fields
MMMA000727	Park Services Maintenance Woodman
MMMA000732	West End Spoils Storage Yard
MMMA000733	Western Maintenance Storage Area
MMMA000734	DPU West End Depot

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.j

#### MS4 PROGRAM IMPLEMENTATION PUBLIC EDUCATION / PARTICIPATION

##### **PERMIT LANGUAGE**

The permittee shall implement a public education program with the goal of increasing the stormwater knowledge of target audiences and changing behavior to result in pollutant reductions. The permittee may fulfill all or part of the requirements of this state permit through regional outreach programs involving two or more MS4 localities.

- 1) The permittee shall identify, schedule, implement, evaluate and modify, as necessary, public outreach activities designed to meet the following public education and outreach goals:
  - (a) Promote, publicize, and facilitate public reporting of the presence of illicit discharges or improper disposal of materials into the MS4;
  - (b) Continue to promote individual and group involvement in local water quality improvement initiatives including the promotion of local restoration and clean-up projects, programs, groups, meetings and other opportunities for public involvement;
  - (c) Develop an outreach program with public and private golf courses located within Henrico County that discharge to the permittee's MS4 that would encourage implementation of integrated management practice (IMP) plans and techniques to reduce runoff of fertilizer and pesticides;
  - (d) Promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes;
  - (e) Promote and publicize the proper disposal of pet waste and household yard waste;
  - (f) Promote and publicize the use of the permittee's litter prevention program;
  - (g) Promote and publicize methods for residential car washing that minimize water quality impacts;
  - (h) Promote and publicize the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors;
  - (i) Encourage private property owners to implement voluntary stormwater management techniques and/or retrofits; and
  - (j) Target strategies towards local groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts.

## HENRICO COUNTY MS4 PROGRAM PLAN

- 2) The permittee shall post a copy of this state permit on its web page no later than 30-days after the effective date of this state permit and continue to retain a copy of the permit online for the duration of this state permit.
- 3) The permittee shall post copies of each annual report on its website no later than 30 days after the report submittal to the Department and continue to retain copies of the annual reports online for the duration of this state permit.
- 4) The permittee shall post the most current MS4 Program Plan on its website no later than 30 days after the effective date of this permit and maintain a current copy on the website. If the MS4 Program Plan is modified or revised, the updated plan shall be posted within 30 days of the revision(s). Copies of the most current MS4 Program Plan shall be made available for public review upon request of interested parties in compliance with all applicable open records requirements.

### **SPECIFIC REPORTING REQUIREMENTS**

- Each annual report shall include a list of permittee public outreach and education activities and the estimated number of individuals reached through the activities. An evaluation of program effectiveness, as outlined in the MS4 Program Plan with recommendations for future changes shall also be included.
- Each annual report shall provide a summary of voluntary retrofits completed on private property used to demonstrate pollutant reduction requirements. Note that any voluntary project for which the permittee seeks to use for pollutant reduction requirements must be tracked and reported.
- Each annual report shall provide a summary of voluntary stormwater management techniques encouraged on private property.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.j of the MS4 Permit are assigned to the following Departments / Divisions of the County:

## HENRICO COUNTY MS4 PROGRAM PLAN

### Recreation and Parks

Recreation and Parks coordinates with Extension Service to develop and implement specific and targeted outreach to private and public golf courses located in Henrico County regarding nutrient management, pest management, and pesticide application via letter, phone call, or educational event.

No later than **February 28 of each year**, Recreation and Parks will provide DPW with 1) a list of public outreach and education activities conducted by Recreation and Parks during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### Public Utilities (DPU)

DPU has a public outreach program that discusses various topics with citizens. DPU does things such as:

Neighborhood cleanups – this program is designed to allow citizens within certain neighborhoods the opportunity to remove trash/debris, furniture, yard waste, etc. from their properties.

Bagged Leaf Program – provides an opportunity for citizens to bag their fallen leaves and place on the County right of way for pickup.

Hazardous Material Disposal (used motor oil, antifreeze, oil based paints, batteries, propane tanks) – offer our citizens the opportunity to dispose of these items at our Public Use Areas. These items are stored in a special location in order to keep them from getting into our transfer station with the other household trash items.

Bulky Waste Program – this program is designed to allow citizens the opportunity to dispose of certain large items for a small fee. Upon receiving the order, staff will proceed to remove the items and properly dispose of those items (restrictions apply for this program).

Bark in the Park – this program is designed to educate the citizens on proper disposal of pet waste.



## HENRICO COUNTY MS4 PROGRAM PLAN

Yard Waste – offer this program for citizens to bring their yard waste to the Public Use Areas for no charge. In turn, we take the brush and create mulch, which in turn is given to citizens for free.

Recycling Roundups – an educational video series to educate Henrico residents on predetermined topics such as yard waste removal, recycling information, etc.

Green Machine – offer this program for kid's ages 4-7 on litter prevention and recycling.

Trash Time Capsule – offer this program for kid's ages 8-13 on litter prevention as well as landfill decomposition.

Who is Littering Henrico County – offer this teen program to educate kids about litter prevention, recycling processes and sustainability.

Seed Balls and Polluted Runoff – offer this program for scouts or other youth groups outside of the school that teach about conservation and how plants helps reduce polluted run-off.

Educations Booths at public events – Keep Henrico Beautiful attends public events to discuss topics such as litter prevention, recycling, waste disposal and pet waste.

No later than **February 28 of each year**, DPU will provide DPW with 1) a list of public outreach and education activities conducted by DPU during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### **Public Schools (Schools)**

Henrico County Public Schools recognizes that a healthy and sustainable environment is important to the well-being of its citizens. Educating our employees to recognize activities that impact our environment and training them to plan and respond appropriately are primary keys to success of our organizational commitment to sustainability and support of the MS4. Consistent with this philosophy and with commitment from executive management, Henrico County Public Schools Department of Construction and Maintenance developed and implemented an Environmental and

## HENRICO COUNTY MS4 PROGRAM PLAN

Sustainability Management System (ESMS) as a management tool to document and measure the organization's environmental performance and sustainability. In support of its commitment and vision to be an innovative leader in education excellence, Henrico County Public Schools through its Department of Construction and Maintenance promotes a culture of environmental sustainability and supports sustainability in its daily operations. Through implementation of the sustainability program, the organization and its employees gain a better understanding of environmental regulatory requirements, minimize risk for environmental liabilities, and save funds by conserving resources. These measurable successes highlight the benefits of promoting sustainability within the organization. Benefits also include increased employee awareness of environmental issues (including community outreach through education, and watershed stewardship that staff learn and return in practice to their communities), developing, implementing, and documenting environmentally sustainable practices (an organizational management tool), implementing proactive sustainable management systems (with economic benefit), and higher achievement toward assuring that all students will learn in a healthier learning environment that efficiently and effectively supports the instructional program. Increased employee awareness provides a foundation for community outreach, as environmental practices and experiences are shared by employees within their communities, with neighbors, and other organizations and businesses through model activities, discussions, and specific purchases which promote sustainable practices. Sustainability training and education provided to staff promotes watershed stewardship which affects or alters their preceding daily practices and procedures in the workplace with respect to watershed protection and influences their own personal practices in their daily lives, which in leading by example has influence on watershed protection by others in their communities and neighborhoods. The process of developing, implementing, and documenting sustainable practices and implementing a proactive sustainable practices

No later than **February 28 of each year**, Schools will provide DPW with 1) a list of public outreach and education activities conducted by Schools during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### **Division of Fire (Fire)**

The Division of Fire works to educate its 500 plus uniformed employees on the importance of the MS4 requirements and how to handle issues that may violate the

## HENRICO COUNTY MS4 PROGRAM PLAN

terms of the program. While in community, both on emergency responses and while conducting other county business, the fire personnel watch for issues, mitigate and correct them and educate the citizens on how to properly handle these situations.

All Fire stations also have MS4 Posters that are bright in color and should capture the attention of the citizens visiting these facilities. It is the intention of the posters to broaden the knowledge of our citizens on the MS4 programs supported by the county.

No later than **February 28 of each year**, Fire will provide DPW with 1) a list of public outreach and education activities conducted by Fire during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### **Division of Police (Police)**

Police publishes a Curb Your Dog brochure, promoting the proper disposal of pet waste.

No later than **February 28 of each year**, Police will provide DPW with 1) a list of public outreach and education activities conducted by Police during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### **Public Library (Library)**

No later than **February 28 of each year**, Library will provide DPW with 1) a list of public outreach and education activities conducted by Library during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### **Community Revitalization**

Community Revitalization provides assistance with neighborhood group/residential cleanup by providing trash bags, gloves and trash pickers to clean up trash along creek

## HENRICO COUNTY MS4 PROGRAM PLAN

banks, the Community Cleanup program and educational brochures for county residents, and enforces the county's trash/ debris and junk storage ordinances.

No later than **February 28 of each year**, Community Revitalization will provide DPW with 1) a list of public outreach and education activities conducted by Community Revitalization during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### Extension Service

The Henrico Unit Office of Virginia Cooperative Extension provides a number of public education programs designed to increase stormwater knowledge and change behaviors regarding pollutant reduction among participants. Examples of programs delivered by Extension agents, staff, and volunteers are listed below and may be provided on an annual or on-going basis. Program delivery methods include seminars and workshops, a telephone helpline, e-mail, office visits, and printed educational materials.

- Commercial Pesticide Applicator initial certification preparatory classes for categories 3A (Ornamentals), 3B (Turf), 8 (Public Health), 10 (Demonstration and Research) and 60 (Registered Technician).
- Private Pesticide Applicator recertification sessions for categories 90 (Food and Fiber), 91 (Ornamentals).
- Commercial Pesticide Applicator recertification sessions for categories 3A (Ornamentals), 3B (Turf), 8 (Public Health), 10 (Demonstration and Research) and 60 (Registered Technician).
- Pesticide safety education for Master Gardener volunteers.
- Pest identification and management recommendations to the public and green industry via a plant health diagnostic network consisting of Master Gardener volunteers, Extension Agents, Virginia Tech and Virginia State Extension Specialists, and Virginia Tech diagnostic labs.
- Certified Fertilizer Applicator training to Henrico County employees and green industry personnel.
- Specific and targeted outreach to private and public golf courses located in Henrico County regarding nutrient management, pest management, and pesticide application via letter, phone call, or educational event.
- Certified urban nutrient management plans are provided to County residents participating in the SMART Lawns program.

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- Soil testing services and fertilizer recommendations for commercial producers, homeowners, and home gardeners.
- Respond to agricultural producer, green industry professional, and citizen inquiries regarding pesticide and fertilizer spill management and disposal.
- Partner with the Virginia Department of Agriculture and Consumer Services (VDACS) in the unwanted, unused pesticide disposal program available to Henrico County citizens every 5 years.

Individual program effectiveness is evaluated on an annual basis by total number of participants and participant feedback via verbal or survey means. Formal surveys are used to gauge participants' intent to implement practices. Program impact statements are prepared annually for programs that target behavioral change.

No later than **February 28 of each year**, Extension Service will provide DPW with 1) a list of public outreach and education activities conducted by Extension Service during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### **Henricopolis Soil and Water Conservation District (HSWCD)**

Henricopolis will begin to target individuals and interest groups in an effort to develop a water quality monitoring program that can be implemented on local bodies of water. The District will assist local environmental advocacy groups in facilitating outreach for local restoration and clean-up projects. Henricopolis will host a tree seedling giveaway, in an effort to supply County residents with tree seedlings to be planted. Henricopolis will also begin to develop a program to assist private property owners with the implementation of urban residential stormwater best management practices.

Below are 13 different voluntary stormwater BMPs that Henricopolis can provide technical and financial assistance for County property owners. For more information, refer to: <http://henrico.us/services/virginia-conservation-assistance-program/>

#### Basic BMPs

- Pet Waste Stations
- Impervious Surface Removal
- Urban Nutrient Management Planning

#### Intermediate Level BMPs

- Conversion Landscaping

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- Rain Gardens
- Dry Well
- Rainwater Harvesting
- Vegetated Stormwater Conveyance

### Advanced BMPs

- Bioretention
- Infiltration Basin
- Constructed Wetlands
- Permeable Pavement
- Green Roofs

No later than **February 28 of each year**, HSWCD will provide DPW with 1) a list of public outreach and education activities conducted by HSWCD during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

### **Public Works (DPW)**

DPW will post and maintain copies of the MS4 Permit, the MS4 Program Plan, and the annual reports required by the MS4 Permit on DPW's website.

DPW provides outreach programs to address topics such as illicit discharges, local water quality improvement and restoration efforts, proper pet waste disposal, and environmental-friendly car washing. These programs include an online and "hotline" reporting system for illicit discharges, onsite meetings with citizens to educate and provide technical assistance for local water quality improvement projects, participation in regional pet waste disposal and education programs, and distribution of educational material concerning residential and fund raising car washing.

No later than **February 28 of each year**, DPW will develop 1) a list of public outreach and education activities conducted by DPW during the previous permit year, 2) the estimated number of individuals reached through the activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

No later than **March 31 of each year**, DPW will generate 1) a compiled list of public outreach and education activities conducted by the various Departments / Divisions during the permit year, 2) the estimated number of individuals reached through the

## HENRICO COUNTY MS4 PROGRAM PLAN

activities, 3) an evaluation of program effectiveness, and 4) recommendations for future changes for inclusion in the annual reports due March 31.

No later than **March 31 of each year**, DPW will develop a summary of voluntary retrofits completed on private property during the permit year that were used to demonstrate pollutant reduction requirements for inclusion in the annual reports due March 31.

No later than **March 31 of each year**, DPW will develop a summary of voluntary stormwater management techniques encouraged on private property for inclusion in the annual reports due March 31.

# HENRICO COUNTY MS4 PROGRAM PLAN

## PART I.B.2.j

### MS4 PROGRAM IMPLEMENTATION PUBLIC EDUCATION / PARTICIPATION

**Each annual report shall include a list of permittee public outreach and education activities and the estimated number of individuals reached through the activities. An evaluation of program effectiveness, as outlined in the MS4 Program Plan with recommendations for future changes shall also be included.**

Public Outreach and Education Goals and Activities			
Department / Division	Activity	Date	# of Individuals / Households / Reaches
Goal: Promote, publicize, and facilitate public reporting of the presence of illicit discharges or improper disposal of materials into the MS4			
DPW - EESD	Illicit Discharge Reporting	4/1/15 thru 12/31/15	70
Fire	MS4 Education Posters in stations in view of public tours	7/1/2015	Unknown
Goal: Continue to promote individual and group involvement in local water quality improvement initiatives including the promotion of local restoration and clean-up projects, programs, groups, meetings and other opportunities for public involvement			
DPW /-EESD	Citizen Streambank Stabilization Education	4/1/15 thru 12/31/15	Unknown
DPW - EESD	BMP Maintenance Meetings with Citizens / Groups	4/1/15 thru 12/31/15	4
DPW - EESD	UR & Sierra Club Educational Meeting Topics included: Mosquito/Viral Benefits & Consequences	4/8/2015	65
DPW - EESD	Old Dominion Herb Society Topics included: Garden Arthropods	6/6/2015	26
DPW - EESD	Rockwood Park Beekeepers Festival Topics included: Honeybees,	6/27/2015	250+

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	Mosquitoes and Stormwater Protection		
DPW - EESD	TMVCC Meeting Topics included: Operational Mosquito Updates	7/8/2015	30
DPW - EESD	National Night Out Laurel Townhomes Topics included: Integrated Mosquito Management and Stormwater Protection	8/4/2015	50
DPW - EESD	Bretton Woods HOA Meeting Topics included: Integrated Mosquito Management and Stormwater Protection	10/29/2015	25
DPW - EESD	Henrico Extension Open House Topics included: Integrated Mosquito Management & Stormwater Protection	11/17/2015	90
DPW - EESD	Residential Site Visits Topics included: Integrated Mosquito Management & Stormwater Protection	4/1/2015 thru 12/31/2015	299
DPW - EESD	Participant in the Middle James Roundtable Annual Meeting	5/20/2015	84
Community Revitalization	34 Neighborhood Meetings to discuss zoning and environmental ordinances (grass & weeds, trash & debris, inoperative vehicles, outside storage, etc...). The meetings are also used to promote opportunities such as our volunteer assistance program, enterprise zones, and CDBG fund projects.	4/1/2015 thru 12/31/2015	680
DPU	Seed Balls and Polluted runoff – Program for scouts or youth groups	April and July 2015	66
Henricopolis	Rain Barrel Workshops	July 9,	53

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		2015 & Sept 24, 2015	
Henricopolis	Virginia State Fair Water Quality Outreach Exhibit	Sept 26, 2015 – Oct 1, 2015	140
Goal: Develop an outreach program with public and private golf courses located within Henrico County that discharge to the permittee's MS4 that would encourage implementation of integrated management practice (IMP) plans and techniques to reduce runoff of fertilizer and pesticides			
Extension Service and Recreation and Parks	Virginia Turfgrass Council's Turfgrass Short Course Extension Service and Recreation and Parks hosted a discussion of the MS4 Program attended by operators of golf courses located in Henrico County.	December 8, 2015	7
Goal: Promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes			
DPU	Water Source Brochure – Oil Disposal	Fall 2015	95,000 households
DPU	Recycling RoundUp – Weekly educational video series. Topics: recycling education, pet waste education, litter removal education, hazardous material disposal education, yard waste education, educational resources	April - October 2015	10,571
Fire	MS4 educational posters in stations	7/1/2015	Unknown
Community Revitalization	34 Neighborhood Meetings to discuss zoning and environmental ordinances (grass & weeds, trash & debris, inoperative vehicles, outside storage, etc...). The meetings are also used to promote opportunities such as our volunteer assistance program, enterprise zones, and CDBG fund	4/1/2015 thru 12/31/2015	680

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	projects.		
Goal: Promote and publicize the proper disposal of pet waste and household yard waste			
DPW - EESD	Participant in the Middle James Roundtable Regional James River Pet Waste Coalition Facebook	2015	3,267
DPW - EESD	Participant in the Middle James Roundtable Regional Canines for Clean Streams Photo Contest	2015	39
DPU / DPW - Maintenance	Residential Leaf Collection Notification	Fall 2015	98,524
DPU	Bark in the Park	May 2015	372
DPU	Educational Booth – Recycling education, litter prevention, pet waste, yard waste	April - December 2015	1,570
Community Revitalization	34 Neighborhood Meetings to discuss zoning and environmental ordinances (grass & weeds, trash & debris, inoperative vehicles, outside storage, etc...). The meetings are also used to promote opportunities such as our volunteer assistance program, enterprise zones, and CDBG fund projects.	4/1/2015 thru 12/31/2015	680
Police	Curb Your Dog Brochures	4/1/2015 thru 12/31/2015	100
Goal: Promote and publicize the use of the permittee's litter prevention program			
DPU	Who Is Littering Henrico County? Teen program utilized to educate about litter prevention, recycling processes and sustainability	April and June 2015	426
DPU	Trash Time Capsule – Litter prevention educational program	April, August, September	832

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		2015	
Community Revitalization	34 Neighborhood Meetings to discuss zoning and environmental ordinances (grass & weeds, trash & debris, inoperative vehicles, outside storage, etc...). The meetings are also used to promote opportunities such as our volunteer assistance program, enterprise zones, and CDBG fund projects.	4/1/2015 thru 12/31/2015	680
Goal: Promote and publicize methods for residential car washing that minimize water quality impacts			
Goal: Promote and publicize the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors			
Extension Service	Commercial Pesticide Applicator Recertification Workshop for Categories 3A (Ornamentals), 3B (Turf), and 60 (Registered Tech) <i>Southern States</i>	1/20/15	59
Extension Service	Initial Commercial Pesticide Applicator Certification Workshop – Category Reviews for 3A (Ornamentals) and 3B (Turf) <i>Mid Atlantic Horticulture Short Course</i>	1/21/15	25
Extension Service	Initial Commercial Pesticide Applicator Certification Workshop - Core Review for Registered Techs (60) <i>Mid Atlantic Horticulture Short Course</i>	1/22/15	25
Extension Service	Initial Commercial Pesticide Applicator Certification Workshop - Core Review for Category 60 (Registered Tech) <i>Virginia Turfgrass Council</i>	1/29/15	33
Extension	Commercial Pesticide Applicator	2/13/15	103

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Service	Recertification Workshop for Categories 3A (Ornamentals), 3B (Turf), 8 (Public Health), and 60 (Registered Tech) <i>CVNLA Short Course</i>		
Extension Service	Initial Commercial Pesticide Applicator Certification Workshop - Core Review for Registered Techs (60) <i>Virginia Turfgrass Council</i>	2/24/15	21
Extension Service	Commercial Pesticide Applicator Legal Update for Categories 3A (Ornamentals), 3B (Turf) and 60 (Registered Tech) <i>John Deere Landscape Supply</i>	2/26/15	20
Extension Service	Commercial Pesticide Applicator Legal Update for Categories 3A (Ornamentals), 3B (Turf) and 60 (Registered Tech) <i>Site One Landscape Supply</i>	11/3/15	29
Extension Service	Private Pesticide Applicator Recertification Workshops – 2 sessions	12/2/15 12/9/15	49
Extension Service	“Get SMART with Lawn Care,” Lunch Break Science Session, <i>Science Museum of VA</i>	2/4/15	21
Extension Service	“Environmentally-responsible Lawn Care,” Training Session for Henrico Extension Master Gardeners	2/10/15	35
Extension Service	“What Everyone Needs to Know About Pesticides,” Training Session for Henrico Extension Master Gardeners who advise citizens re. safe and effective pest management practices.	3/19/15	35
Extension Service	“Make Your Lawn a SMART Lawn,” Homeowner Workshops – 2 sessions at HCPL	3/29/15 4/2/15	22

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Extension Service	"Implementing the SMART Lawns Program in Henrico County," Advanced Training Workshop for Henrico Extension Master Gardeners – 2 sessions	4/1/15 4/14/15	25
Extension Service	Henrico Plant Health Care Diagnostic Clinic Advanced Training Session for Henrico Extension Master Gardeners – 2 sessions	5/27/15 7/9/15	15
Extension Service	"Do-It-Yourself Lawn Care," Homeowner Workshop sponsored by Henrico Recreation and Parks	9/1/15	7
Goal: Encourage private property owners to implement voluntary stormwater management techniques and/or retrofits			
Henricopolis	Rain Barrel Workshops	July 9, 2015 & Sept 24, 2015	53

### Evaluations of Program Effectiveness

#### Public Utilities

DPU believes their outreach program is effective in getting the word out to our citizens. We utilize many different methods to ensure our residents are notified. We sent out brochures to all customers, we hold programs within our schools and we attend neighborhood/community functions.

#### Fire

Each station averages 4 citizens a day that interact at the 20 county stations. The posters are in locations and of a bright nature that they should capture the attention of those visiting the facilities. It would be expected that they would read the poster and retain the important nature of the program.

#### Community Revitalization

Meetings have been very effective for our department in educating the public in zoning and environmental ordinances (grass & weeds, trash & debris, inoperative vehicles, outside storage, etc...). The meetings are also used to

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promote opportunities such as our volunteer assistance program, enterprise zones, and CDBG fund projects.

### Extension Service

<b>Pesticide Applicator Recertification Sessions</b>
During 2015, 211 commercial pesticide applicators were trained for recertification by the Henrico Extension Office. A total of 211 commercial applicators gained additional knowledge in pesticide safety and Integrated Pest Management (IPM) practices related to ornamental plants and turf. As a result of this pesticide safety education, 211 commercial applicators successfully maintained their pesticide applicator certification to legally apply pesticides in Virginia.
Of the 103 total participants in the CVNLA Short Course event held on 2/13/15, 76 (74%) completed and returned a post-program evaluation. Seventy-two (72) of those responding (95%) agreed or strongly agreed that as a result of attending this session, they (a)"know what I need to do to comply with state and federal laws and regulations"; (b)"learned more about proper use of application equipment"; and (c)"read pesticide labels and use the personal protective equipment they require." Sixty-three (63) individuals (83%) rated the session as very good or excellent. Forty-one (41) individuals (54%) provided specific written information describing at least one pesticide safety practice they intend to change or improve upon.
<b>Initial Pesticide Applicator Certification Sessions</b>
During 2015, 104 individuals seeking commercial pesticide applicator status were trained for initial certification testing by the Henrico Extension Office. A total of 104 individuals seeking commercial pesticide applicator certification gained knowledge in pesticide safety and Integrated Pest Management (IPM) practices related to ornamental plants and turf.
<b>SMART Lawns Program</b>
A total of sixty-eight (68) Henrico households with residential lawns were

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enrolled in the Henrico Extension SMART Lawns program in 2015. One hundred and eleven (111) soil samples were submitted, and sixty-eight (68) urban nutrient management plans were written and distributed to program participants. A total of 629,126 square feet (14.44 acres) of residential turf in Henrico County were brought under a nutrient management plan that is in full compliance with DCR urban nutrient management planning criteria.

### **MS4 Program Discussion w/ Golf Course Superintendents**

A total of seven (7) individuals, including two (2) of the six invited golf course superintendents, participated in the one-hour MS4 Program discussion held as part of the VTC Annual Short Course on 12/8/15.

The two superintendents attended the entire eight-hour training session that focused on principles of irrigation management and improving water use efficiency; soil science principles for the turf manager; fertilizer and lime sources for turf management; and fertility programming and water quality protection. As a result of their participation, both superintendents increased their awareness and knowledge of integrated practices that protect water quality in Henrico County. In addition, a strong partnership was forged with the VTC as they agreed to waive the registration fee for any Henrico golf course superintendent who attended this one day of training.

### **Plant Health Diagnostics**

During 2015, the Henrico Extension Office received 277 samples for either problem diagnosis and management recommendations or simple identification. Of the samples, 160 were pest or disease related. Integrated pest management (IPM) recommendations were given for 107 (67%) of these samples, resulting in the promotion of lower-risk pest control products and/or non-chemical pest management strategies. The newly-trained Master Gardener volunteers successfully handled 152 (55%) of the total number of samples with minimal supervision, an indicator of volunteer knowledge gained.

### Henricopolis

Individual program effectiveness will be evaluated annually by the total number of participants and participant feedback through voiced opinions or surveys. Henricopolis will conduct annual reviews of the availability and

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effectiveness of public education materials to target stormwater management, water quality, and stormwater pollution prevention messages to the County's target audiences. The appropriateness of identified voluntary stormwater BMPs will be assessed on an annual basis.

### Public Works

Leaf collection program effectiveness is assessed annually by the total number of customer-placed vacuum leaf orders received and completed, the total number of violation orders processed and completed, and customer feedback. Recommendations for future changes will be based on the assessment of program effectiveness and updates will be made as necessary to improve the program overall.

Overall Integrated Mosquito Management Program effectiveness for this permit year is rated high for correlating the different aspects of improved storm water quality and the association of improved conditions in the entomological world. Recommendations for future changes include species specific impacts of improved storm water quality.

### Police

The Curb Your Dog program could be more effective if Community Officers provided the brochure to target audiences, such as pet owners. Recommended future change, provide copies of the brochure to the Animal Shelter.

**Each annual report shall provide a summary of voluntary retrofits completed on private property used to demonstrate pollutant reduction requirements. Note that any voluntary project for which the permittee seeks to use for pollutant reduction requirements must be tracked and reported.**

Voluntary Retrofits Completed on Private Property Used to Demonstrate Compliance with Pollutant Reduction Requirements	0
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**Each annual report shall provide a summary of voluntary stormwater**

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**management techniques encouraged on private property.**

Voluntary Stormwater Management Techniques Encouraged on Private Property			
Department / Division	Activity	Date	# of Individuals / Households / Reaches
Henricopolis	Rain Barrel Workshops	July 9, 2015 & Sept 24, 2015	53

PART I.B.2.k  
MS4 PROGRAM IMPLEMENTATION  
TRAINING

**PERMIT LANGUAGE**

The permittee shall conduct stormwater training for permittee employees. The training requirement may be fulfilled all or in part through regional training programs involving two or more MS4 localities; provided, however, that the permittee shall remain individually liable for its failure to comply with the training requirements in this state permit. The permittee shall determine the appropriate employees to receive the following types of training based on the specific topic for which training is to be provided:

- 1) The permittee shall provide biennial training to appropriate field personnel in the recognition and reporting of illicit discharges.
- 2) The permittee shall provide biennial training to appropriate employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance.
- 3) The permittee shall provide biennial training to appropriate employees in good housekeeping and pollution prevention practices that are to be employed in and around permittee maintenance and public works facilities.
- 4) The permittee shall ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified per the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia). The requirements of the Virginia Pesticide Control Act are established by the Virginia Pesticide Control Board.
- 5) The permittee shall have a program to ensure that County plan reviewers, inspectors, program administrators and construction site operators (e.g. responsible land disturber) are trained and obtain the appropriate certifications to the extent required under the Virginia Erosion and Sediment Control Law and attendant regulations.
- 6) The permittee shall have a program to ensure that the applicable County employees obtain the appropriate certifications as required under the Virginia Erosion and

## HENRICO COUNTY MS4 PROGRAM PLAN

Sediment control Law and its attendant regulations to implement the modified stormwater management design criteria.

- 7) The permittee shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around county recreation facilities.
- 8) The appropriate emergency response employees shall have training in spill response. A summary of the training or certification program provided to emergency response employees shall be included in the first annual report.
- 9) Documentation shall be kept of all training events including the training date, number of employees attending the training, and the objective of the training event for a period of three years after each training event. Additionally, all events shall be listed in the annual report for the year in which the training event occurred.

### **SPECIFIC REPORTING REQUIREMENTS**

- Each annual report shall include a list of training events, the date and the estimated number of individuals attending each event.
- The annual report due March 31, 2016 shall include documentation of employee emergency spill response training and/or certification.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.k of the MS4 Permit are assigned to the following Departments / Divisions of the County:

All Departments / Divisions will ensure that appropriate personnel participate in County-wide training on a biennial basis for the following topics:

1. recognition and reporting of illicit discharges;
2. good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance; and

## HENRICO COUNTY MS4 PROGRAM PLAN

3. good housekeeping and pollution prevention practices that are to be employed in and around County facilities.

### **General Services (DGS)**

Training opportunities provided to DGS staff to address the following MS4 Permit requirements include:

#### Spill Prevention Control & Countermeasure Training

Spill Prevention Control & Countermeasure Training shall include the following topics:

If site is unsafe:

- Evacuate and move to a safe distance away from the release; then
  - Follow Hazardous Material Spill Notification steps.
- If safe to do so (based on specifications from material safety data sheet (MSDS) and product

technical manual and considering external factors):

- Wear appropriate personal protective equipment per MSDS specification;
- Take action to prevent any further release of the substance;
- Contain the release with spill response materials and equipment; then
- Follow Hazardous Material Spill Notification steps.
- Ensure spill debris is properly managed and disposed of.

#### AST/UST Operator Training

A training program for personnel conducting the daily and weekly AST/UST inspections shall include the following topics:

- Basic information regarding occupational safety, hazard recognition.
- Personnel protection, and facility operations.
- The procedures to be followed in conducting the daily visual and weekly facility inspections.
- The procedures to be followed upon recognition of a hazard or the potential for a hazard.
- The procedure for evaluating the condition of the ASTs and appurtenances.

Note: Training shall be conducted within six months after being brought into use and every three years thereafter or upon any changes to the contents of the initial training program and shall be documented and maintained in the facility records.

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### Pesticide Applicator Training

Commercial Pesticide Applicators Training shall consist of the following topics:

- Rodent and Cockroach Management Applications.
- Integrated Mosquito Management.
- Arbovirus.
- Weed Management In and Around Turf Areas
- Applicator and Employee Safety Considerations.
- Stormwater and Pesticides.

### Refrigerant Recovery Training

R-22 Recovery Training shall include the following topics:

- To oversee the removal and compliance of removal of refrigerant from equipment at Henrico County facilities by contractors/vendors.
- To attach approved refrigerant recovery equipment, to ensure that proper storage containers are in use.
- To have Henrico County B&G employee or approved representative to witness the removal refrigerant R-22 and compliance of regulations regarding the removal of refrigerant R-22.

### Storm Water Inspection Training

The purpose of the Stormwater Inspection training is to:

- Educate County staff regarding good municipal site housekeeping and the requirements of the County's Municipal Separate Storm Sewer System (MS4) Permit as they relate to municipal facilities.
- To serve as a learning experience so team members become familiar with what is expected on all municipal facilities.
- To train staff to conduct inspections of stormwater infrastructure.

No later than **February 28 of each year**, DGS will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by DGS staff during the previous permit year, including the date of the event and the number of DGS staff attending the training events for inclusion in the annual reports due March 31.

### Recreation and Parks

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Park Services staff members that apply pesticides are either Registered Technicians or Certified Pesticide Applicators through VDACS. Each of these staff members must complete the VDACS required re-certification class every 2 years.

No later than **February 28 of each year**, Recreation and Parks will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Recreation and Parks staff during the previous permit year, including the date of the event and the number of Recreation and Parks staff attending the training events for inclusion in the annual reports due March 31.

No later than **February 28, 2016**, Recreation and Parks will provide DPW with documentation of Recreation and Parks employee emergency spill response training and/or certification for inclusion in the annual report due March 31, 2016.

### **Public Utilities (DPU)**

DPU staff attend spill prevention, control and countermeasure training and stormwater pollution prevention plan training.

No later than **February 28 of each year**, DPU will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by DPU staff during the previous permit year, including the date of the event and the number of DPU staff attending the training events for inclusion in the annual reports due March 31.

### **Public Schools (Schools)**

Henrico County Public Schools recognizes that a healthy and sustainable environment is important to the well-being of its citizens. Educating our employees to recognize activities that impact our environment and training them to plan and respond appropriately are primary keys to success of our organizational commitment to sustainability and support of the MS4. Consistent with this philosophy and with commitment from executive management, Henrico County Public Schools Department of Construction and Maintenance developed and implemented an Environmental and Sustainability Management System (ESMS) as a management tool to document and measure the organization's environmental performance and sustainability. In support of its commitment and vision to be an innovative leader in education excellence, Henrico County Public Schools through its Department of Construction and Maintenance

## HENRICO COUNTY MS4 PROGRAM PLAN

promotes a culture of environmental sustainability and supports sustainability in its daily operations. Through implementation of the sustainability program, the organization and its employees gain a better understanding of environmental regulatory requirements, minimize risk for environmental liabilities, and save funds by conserving resources. These measurable successes highlight the benefits of promoting sustainability within the organization. Benefits also include increased employee awareness of environmental issues (including community outreach through education, and watershed stewardship that staff learn and return in practice to their communities), developing, implementing, and documenting environmentally sustainable practices (an organizational management tool), implementing proactive sustainable management systems (with economic benefit), and higher achievement toward assuring that all students will learn in a healthier learning environment that efficiently and effectively supports the instructional program. Increased employee awareness provides a foundation for community outreach, as environmental practices and experiences are shared by employees within their communities, with neighbors, and other organizations and businesses through model activities, discussions, and specific purchases which promote sustainable practices. Sustainability training and education provided to staff promotes watershed stewardship which affects or alters their preceding daily practices and procedures in the workplace with respect to watershed protection and influences their own personal practices in their daily lives, which in leading by example has influence on watershed protection by others in their communities and neighborhoods. The process of developing, implementing, and documenting sustainable practices and implementing a proactive sustainable practices

No later than **February 28 of each year**, Schools will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Schools staff during the previous permit year, including the date of the event and the number of Schools staff attending the training events for inclusion in the annual reports due March 31.

### **Division of Fire (Fire)**

All Fire operations personnel are trained to a level of Hazardous Materials Operations. This program is multiple hours and is provided in the employees initial training. Reviews of the spill response is conducted yearly.

Hazardous Material Team members are further trained to a specialist level with several additional weeks of training to become subject matter and response experts. They



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provide additional on duty resources, equipment, response availability and expertise to the services provided to their fellow fire fighters and the citizens. This group of 60 personnel train weekly to mitigate spill and leaks.

No later than **February 28 of each year**, Fire will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Fire staff during the previous permit year, including the date of the event and the number of Fire staff attending the training events for inclusion in the annual reports due March 31.

### **Division of Police (Police)**

There are no Police employees or contractors that apply pesticides or herbicides at the Range or Villa Park Central Station.

General Services maintains the exterior at the Animal Shelter, and Tactical Services buildings, and is responsible for applying pesticides and herbicides at these locations.

Police Division emergency response employees do not receive training and/or certification in spill response. Division members are instructed to contact Communications to deploy Fire's HAZMAT team. Three members of the Commercial Vehicle Inspection team are trained to identify hazardous materials placards on vehicles. If a vehicle is leaking a hazardous material, members are instructed to report the incident, including placard information to Communications to deploy Fire's HAZMAT team. Officers are instructed to avoid contact with the material.

No later than **February 28 of each year**, Police will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Police staff during the previous permit year, including the date of the event and the number of Police staff attending the training events for inclusion in the annual reports due March 31.

No later than **February 28, 2016**, Police will provide DPW with documentation of Police employee emergency spill response training and/or certification for inclusion in the annual report due March 31, 2016.

### **Public Library (Library)**

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No later than **February 28 of each year**, Library will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Library staff during the previous permit year, including the date of the event and the number of Library staff attending the training events for inclusion in the annual reports due March 31.

### **Mental Health and Developmental Services (MH/DS)**

No later than **February 28 of each year**, MH/DS will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by MH/DS staff during the previous permit year, including the date of the event and the number of MH/DS staff attending the training events for inclusion in the annual reports due March 31.

No later than **February 28, 2016**, MH/DS will provide DPW with documentation of MH/DS employee emergency spill response training and/or certification for inclusion in the annual report due March 31, 2016.

### **Economic Development Authority (EDA)**

No later than **February 28 of each year**, EDA will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by EDA staff during the previous permit year, including the date of the event and the number of EDA staff attending the training events for inclusion in the annual reports due March 31.

No later than **February 28, 2016**, EDA will provide DPW with documentation of EDA employee emergency spill response training and/or certification for inclusion in the annual report due March 31, 2016.

### **Real Property**

No later than **February 28 of each year**, Real Property will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Real Property staff during the previous permit year, including the date of the event and the number of Real Property staff attending the training events for inclusion in the annual reports due March 31.

### **Building Inspections**

No later than **February 28 of each year**, Building Inspections will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Building Inspections staff during the previous permit year, including the date of the event and the number of Building Inspections staff attending the training events for inclusion in the annual reports due March 31.

### **Community Revitalization**

No later than **February 28 of each year**, Community Revitalization will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Community Revitalization staff during the previous permit year, including the date of the event and the number of Community Revitalization staff attending the training events for inclusion in the annual reports due March 31.

### **Extension Service**

No later than **February 28 of each year**, Extension Service will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by Extension Service staff during the previous permit year, including the date of the event and the number of Extension Service staff attending the training events for inclusion in the annual reports due March 31.

### **Henricopolis Soil and Water Conservation District (HSWCD)**

No later than **February 28 of each year**, HSWCD will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by HSWCD staff during the previous permit year, including the date of the event and the number of HSWCD staff attending the training events for inclusion in the annual reports due March 31.

### **Planning Department (Planning)**

No later than **February 28 of each year**, Planning will provide DPW with a list of the training events related to the MS4 Permit requirements that were conducted and/or

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attended by Planning staff during the previous permit year, including the date of the event and the number of Planning staff attending the training events for inclusion in the annual reports due March 31.

### **Public Works (DPW)**

Opportunities for training and certification for ESC and SWM is offered to the Senior Environmental Inspector in DPW - Road Maintenance and will be offered to the candidate who accepts the role of Environmental Inspector in Road Maintenance. Any other appropriate staff will be given the opportunity for this training and certification. Appropriate training is also provided to all plan review staff and inspection staff in DPW - Engineering and Environmental Services to obtain and maintain applicable ESC and SWM certifications.

Spill response training for emergency response employees in DPW - Road Maintenance is provided Human Resources - Risk Management.

Training for DPW staff for application and certification requirements related to the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia) is provided by Extension Services. DPW contractors must maintain their own certifications.

No later than **February 28 of each year**, DPW will develop a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by DPW staff during the previous permit year, including the date of the event and the number of DPW staff attending the training events for inclusion in the annual reports due March 31.

DPW will include a list of the training events related to the MS4 Permit requirements that were conducted and/or attended by County staff during the previous permit year, including the date of the event and the number of County staff attending the training events in the annual reports due **March 31**.

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## PART I.B.2.k MS4 PROGRAM IMPLEMENTATION TRAINING

**Each annual report shall include a list of training events, the date and the estimated number of individuals attending each event.**

Training Topics and Events Attended Between April 1, 2015 and December 31, 2015		
Event	Date	# of Individuals
Topic: The permittee shall provide biennial training to appropriate field personnel in the recognition and reporting of illicit discharges		
Fire: Haz Mat update: All Fire personnel receive a yearly update on Hazardous Materials Operations. Within this program a review of the MS4 guidelines is conducted with emphasis on the recognition and reporting of discharges	Fall 2015	500
DEQ / EPA sponsored MS4 training	August 2015	3
Topic: The permittee shall provide biennial training to appropriate employees in good housekeeping and pollution prevention practices that are to be employed in and around County facilities		
Waste Management	5/5/15 and 5/16/15	53
Good Housekeeping – DPW West	09/09/15	47
Good Housekeeping – DPW East	09/10/15	39
Leaking Fluids from Equipment - Prevention and Management, Good Housekeeping Practices, Secondary Containment, Stockpile Maintenance (Schools)	5/18/15	2
SDS, Good Housekeeping Practices (Schools)	5/19/15	150

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DEQ Site Visit - Environmental (Schools)	5/26/15	7
Small Container Fuel Storage (Schools)	6/3/15	17
Third-Party External Audit - Environmental (Schools)	6/4/15	3
Leaking Fluids from Equipment - Prevention and Management (Schools)	6/4/15	27
General Awareness Training – Spill Response, Aboveground Storage Tanks, Universal Waste, Workplace Hazard Assessments, Aerosol Can Disposal, PPE Selection (Schools)	6/17/15	450
Choosing the Correct PPE (Schools)	10/23/15	8
Material Storage (Schools)	11/15/15	10
Preparation for Cold Weather (Schools)	11/16/15	9
Fire: MS4 Power point was reviewed by all operations personnel on our training tracking system, Target Solutions. This power point is also maintained on the Division of Fire Intranet Page	Spring 2015	500
Traffic Engineering Good Housekeeping  In-house training provided to Traffic Engineering personnel to train them on 1) the prohibition of vehicle washing, 2) the prohibition of discharge of wastewater in the MS4, 3) the prohibition of dumping of yard waste into the MS4, and 4) preventing fluid leaks from entering the storm sewer system	12/10/2015 and 12/15/2015	24
Topic: The permittee shall ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified per the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia). The requirements of the Virginia Pesticide Control Act are established by the Virginia Pesticide Control Board		

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Pesticide Applicator Training	Annual	Varies
Certified fertilizer applicator (CFA) initial certification and recertification training for employees of Henrico County Public Schools and others within the County whose job duties require them to apply fertilizers. <i>Two sessions.</i> Extension	6/15/15 6/18/15	98
Topic: The permittee shall have a program to ensure that County plan reviewers, inspectors, program administrators and construction site operators (e.g. responsible land disturber) are trained and obtain the appropriate certifications to the extent required under the Virginia Erosion and Sediment Control Law and attendant regulations		
DEQ's ESC Basic Training - Hampton, VA	8/13/2015 and 8/14/2015	1
DEQ's ESC Inspector Training - Newport News, VA	9/10/2015	1
DEQ's ESC Plan Reviewer Training - Virginia Beach, VA)	12/01/2015 thru 12/03/2015	1
Applied Soil Concepts for ESC and SWM Professionals - Richmond, VA	10/27/2015	3
Overview of Wetlands for ESC and SWM Professionals - Henrico, VA	10/26/2015	2
Integration of the ESC and VSMP Programs for ESC Professionals - Henrico, VA	08/12/2015	1
VA DEQ ESC & SWM Training Plants in Stormwater Management and Erosion and Sediment Control	10/27/2015	1
Topic: The permittee shall have a program to ensure that the applicable County employees obtain the appropriate certifications as required under the Virginia Erosion and Sediment control Law and its attendant regulations to implement the modified stormwater management design criteria		
DEQ's Stormwater Plan Review Class	April 2015	2
DEQ's Stormwater Inspector Class -	04/09/2015	2
DEQ's Stormwater Plan Review Class - Hampton, VA	7/14/2015 and	1

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	7/15/2015	
DEQ's Bioretention for VSMP Inspectors - Online	12/07/2015 and 12/17/2015	2
DEQ's Pollution Prevention for VSMP Inspectors - Online	12/07/2015 and 12/17/2015	2
Life Cycle of Stream Restoration and Urban BMP Projects - Richmond, VA	10/22/2015	1
DEQ's Grass Channels for VSMP Inspectors - Online	12/07/2015 and 12/17/2015	2
DEQ's SWM Plan Reviewer Training - Richmond, VA	12/08/15 thru 12/10/2015	1
Applied Soil Concepts for ESC and SWM Professionals - Richmond, VA	10/27/2015	3
Overview of Wetlands for ESC and SWM Professionals - Henrico, VA	10/26/2015	2
Integration of the ESC and VSMP Programs for ESC Professionals - Henrico, VA	08/12/2015	1
BMP Refresher Course for Inspectors - Richmond, VA	06/03/2015	1
Review of Stormwater Management Plans using IIC - Richmond, VA	11/10/2015	1
SPCC/ODCP/SWPPP Level 1 Computer Based Training Course	4/1/15	6
SWPPP Plan	6/4/15	9
VA DEQ ESC & SWM Training Plants in Stormwater Management and Erosion and Sediment Control	10/27/2015	1
Topic: The appropriate emergency response employees shall have training in spill response.		
SPCC Plan Spill Prevention, Control & Countermeasures	6/5/15	9
Spill Prevention Control & Countermeasure Training	Annual	Varies



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SPCC/ODCP/SWPPP Level 1 Computer Based Training Course	4/1/15	6
General Awareness Training – Spill Response, Aboveground Storage Tanks, Universal Waste, Workplace Hazard Assessments, Aerosol Can Disposal, PPE Selection	6/17/15	450
Mock Spill Drill	7/14/15	4
Mock Spill Drill	7/15/15	30
Spill Response Training	1/28/15	6
Spill Kit Application & Use	4/21/15	150
Emergency Preparedness & Response	8/15/15	13
Fire: All operations personnel are trained to a level of Hazardous Materials Operations. This program is multiple hours and is provided in the employees initial training. Reviews of the spill response is conducted yearly, Fall of 2015, for all operational employees during a 4 hours Hazardous Materials review. A power point program is also available on the intranet page for employees review and was required during the Spring of 2015	2015	500
Spills SOP - East	12/10/15	50
Spills SOP - West	12/11/15	58
Topic: Other		
Stormwater Inspection Team Meetings	4/23/2015	9
The purpose of the Stormwater Inspection Team is to educate County staff regarding good municipal	5/29/2015	6

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<p>site housekeeping and the requirements of the County's Municipal Separate Storm Sewer System (MS4) Permit as they relate to municipal facilities.</p> <p>The Stormwater Inspection Team consists of a coordinator and representatives from Recreation and Parks, General Services, Public Utilities, Fire, Public Works and Public Schools and meets monthly to inspect one municipal facility. The inspections serve as a learning experience so team members become familiar with what is expected on all municipal facilities. Team members can then conduct inspections of the facilities for which their Department or Division is responsible.</p>	6/25/2015	9
	7/30/2015	7
	8/17/2015	9
	9/29/2015	9
	10/20/2015	9
	11/30/2015	3
	12/11/2015	4
<p><b>Quarterly Environmental Meetings</b></p> <p>In house meetings involving all Departments/Divisions that play a role in the County's MS4 Program and other environmental-related initiatives</p>	5/5/2015 7/22/2015 10/28/2015	30
Virginia Stormwater Management Association Quarterly Meeting	1/08/2015	2
Community-Based Public Private Partnership Workshop - Charlottesville, VA	12/11/2015	2
ISO 14001:2015 Introductory Course, Environmental Management - Roanoke, VA	12/3/2015 and 12/3/2015	1
SPCC/ODCP/SWPPP Level 1 Computer Based Training Course	4/1/15	6
Stormwater Pollution Prevention Theory Computer Based Training Course	4/1/15	2
AST/UST Operator Training	Annual	Varies
ESMS R-22 Recovery Training	As needed	Varies
<p><b>ESMS Team Meetings</b></p> <p>Environmental Sustainability Management System meetings are held monthly and or bimonthly and cover a wide variety of topics including spill prevention, AST/UST operating procedures, storm water management, waste reduction and recycling, HVAC refrigerant recovery and proper disposal of</p>	4/15/15	4
	5/20/15	7
	6/17/15	8
	7/15/15	7
	8/19/15	5
	9/16/15	5
	10/21/15	4

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batteries and kitchen waste oil.	11/18/15	4
	12/16/15	7
MS4 Program Plan Workgroup Meetings	11/20/2015	18
	12/3/2015	12
	12/17/2015	11
Stormwater Pollutants	8/6/15	4
Risk Management conducted UST Operator Class A and B training	5/29/2015 6/2/2015	2

**The annual report due March 31, 2016 shall include documentation of employee emergency spill response training and/or certification.**

Emergency Response Employee Spill Response Training / Certifications Attended / Obtained Between April 1, 2015 and December 31, 2015		
Event / Certification	Date	# of Individuals
<b>ESMS General Training with Spill Training</b>  During the Annual Environmental and Sustainability Management System training, spill training is taught to Traffic Engineering personnel. This is in house training and includes: 1) spill kit contents and locations, 2) how to clean up and dispose of clean up materials, and 3) phone numbers of staff to call in case of a major spill	10/12/2015	5
Spill Response Awareness Computer Based Training Course	4/1/15	39
Environmental & Sustainability Management System (ESMS) Team Meetings - provides the tools to manage environmental compliance efforts and reduce environmental impacts	Bimonthly	3-7
Spills SOP - DPW East	12/10/15	50
Spills SOP - DPW West	12/11/15	58
SPCC Training - DPW Maintenance	05/05/15 and	51

HENRICO COUNTY MS4 PROGRAM PLAN  
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## HENRICO COUNTY MS4 PROGRAM PLAN

	05/06/15	
<p>Fire: All operations personnel are trained to a level of Hazardous Materials Operations. This program is multiple hours and is provided in the employees initial training. Reviews of the spill response is conducted yearly, Fall of 2015, for all operational employees during a 4 hours Hazardous Materials review. A power point program is also available on the intranet page for employees review and was required during the Spring of 2015</p>	2015	500
<p>Fire: Hazardous Material Team Members are further trained to a specialist level with several additional weeks of training to become subject matter and response experts. They provide additional on duty resources, equipment, response availability and expertise to the services provided to their fellow fire fighters and the citizens. This group of 60 personnel train weekly to mitigate spill and leaks.</p>	2015	60
<p>Risk Management conducted Spill Prevention Control and Countermeasure (SPCC) training</p>	3/24/2015 3/25/2015 3/26/2015 5/5/2015 5/6/2015 6/10/2015 6/24/2015 10/9/2015 1/28/2016 2/2/2016 2/3/2016	129
<p>Spill Prevention Control and Countermeasure (SPCC) training for DGS-CAM employees</p>	519/2015 thru 5/21/2016	59
<p>Spill Prevention Control and Countermeasure (SPCC) and Oil Discharge Contingency Plan training for Jail East employees</p>	7/7/2015 7/13/2016	22

## HENRICO COUNTY MS4 PROGRAM PLAN

Spill Prevention Control and Countermeasure (SPCC) and SWPPP training for DPU-Solid Waste employees	6/4/2015 2/12/2016 2/19/2016	34
Risk Management conducted spill response training for School employees	6/17/2015 7/14/2015 7/15/2015	505
Risk Management conducted spill response training for DGS-Buildings and Grounds employees	2/3/2016	9

PART I.B.2.I  
MS4 PROGRAM IMPLEMENTATION  
WATER QUALITY SCREENING PROGRAMS

**PERMIT LANGUAGE**

The following screening programs shall be implemented in addition to the monitoring required by Part I.C.:

- 1) ***Dry Weather Screening Program:*** The permittee shall continue ongoing efforts to detect the presence of illicit connections and unauthorized discharges to the permittee's MS4.
  - (a) The permittee shall continue to implement a program of dry weather screening in areas of concern as identified by the permittee including but not limited to: commercial car washes, car dealerships, pet kennels, restaurants, areas with a history of complaints, and areas upstream of sensitive ecosystems. The permittee shall screen at a minimum, 100 of the County's MS4 outfalls each year.
  - (b) Criteria for selection of outfalls to be screened as required by Part I.B.2.I)(1)(a) above shall include but is not limited to the following:
    - (1) List of sites requiring further investigation, as previously identified;
    - (2) Age and density of development with the likelihood of illicit connections such as older residential, commercial and industrial areas;
    - (3) Outfalls representing the general land uses of Henrico County;
    - (4) Poorly maintained gas stations, service stations, and shopping centers;
    - (5) Presence of environmentally sensitive features downstream; and
    - (6) History of complaints received on illicit discharges.
- 2) ***Wet Weather Screening Program:*** In addition to the monitoring required in Part I.C., the permittee shall continue to investigate, and address areas within their jurisdiction that are suspected to be contributing excessive levels of pollutants to the MS4. No later than 12 months after the effective date of this permit, the permittee shall develop written procedures for a wet weather screening program which shall include the standard operating procedure to be used for initial screening and follow-up purposes. The written procedures shall be incorporated as part of the MS4 Program Plan.

## HENRICO COUNTY MS4 PROGRAM PLAN

### **SPECIFIC REPORTING REQUIREMENTS**

- Each annual report shall include the total number of outfalls included as part of the permittee's MS4, the number of outfalls screened during the reporting period, a list of locations upon which dry weather screening was conducted, the results, and any follow-up actions including maintenance and/or repair of infrastructure or outfalls performed as a result of the dry weather screening.
- The annual report due March 31, 2016 shall include the written procedures for wet weather screening.
- Each annual report shall include a list of locations upon which wet weather screening was conducted, the results, weather conditions at the time sample was collected to include date and approximate time of most recent storm event preceding sample collection, long term trends analyses, and any follow-up actions including maintenance and/or repair of infrastructure or outfalls performed as a result of the wet weather screening.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.I of the MS4 Permit are assigned to the following Departments / Divisions of the County:

#### **Public Works (DPW)**

DPW will continue to implement a program of dry weather screening in areas of concern as identified by the County including but not limited to: commercial car washes, car dealerships, pet kennels, restaurants, areas with a history of complaints, and areas upstream of sensitive ecosystems.

DPW will develop a list of outfalls subject to dry weather screening based on the areas of concern identified by the County and the following:

- (1) List of sites requiring further investigation, as previously identified;
- (2) Age and density of development with the likelihood of illicit connections such as older residential, commercial and industrial areas;
- (3) Outfalls representing the general land uses of Henrico County;

## HENRICO COUNTY MS4 PROGRAM PLAN

- (4) Poorly maintained gas stations, service stations, and shopping centers;
- (5) Presence of environmentally sensitive features downstream; and
- (6) History of complaints received on illicit discharges.

DPW will screen no fewer than 100 of the MS4 outfalls on the list of outfalls subject to dry weather screening **each year between January 1, 2016 and December 31, 2019.**

DPW will screen no fewer than 25 of the MS4 outfalls on the list of outfalls subject to dry weather screening **between January 1, 2020 and March 31, 2020.**

DPW will continue to investigate and address areas within their jurisdiction that are suspected to be contributing excessive levels of pollutants to the MS4 by conducting wet weather screening.

DPW will develop a list of MS4 structures subject to wet weather screening based on the areas of concern as identified by the County that are within the drainage area to the MS4 structure, including:

- (1) fertilizer storage yards,
- (2) mulch / soil storage yards,
- (3) building supply storage yards,
- (4) used automobile lots,
- (5) construction equipment storage areas,
- (6) automobile salvage yards, and
- (7) areas of previously identified spill / IDDE complaints.

DPW will screen no fewer than 25 of the MS4 structures identified as subject to wet weather screening each year **between January 1, 2016 and December 31, 2019.**

DPW will screen no fewer than 6 of the MS4 structures identified as subject to wet weather screening **between January 1, 2020 and March 31, 2020.**

The MS4 structures will be subject to the established inspection procedure, evaluating identified flows and maintenance and repair needs.

Depending on the information observed and gathered during the wet weather screening inspections, identified flows may need to be sampled to determine the source of the flow. Whether or not samples are collected, suspected illicit discharges will be forwarded to the IDDE investigator as a potential illicit discharge for follow-up.



## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **February 28 of each year**, DPW will develop a report that includes the following information for inclusion in the annual reports due March 31:

1. the total number of MS4 outfalls in the MS4; and
2. the number of MS4 outfalls screened (either dry weather or wet weather screening) during the reporting period.

No later than **February 28 of each year**, DPW will develop a report that includes the following information for inclusion in the annual reports due March 31:

1. a list of the MS4 outfalls upon which dry weather screening was conducted during the reporting period;
2. the findings of the dry weather screenings;
3. any follow-up actions (including maintenance and/or repair of infrastructure or outfalls) performed as a result of the dry weather screenings.

No later than **February 28 of each year**, DPW will develop a report that includes the following information for inclusion in the annual reports due March 31:

1. a list of locations upon which wet weather screening was conducted during the reporting period;
2. the date of the wet weather screenings;
3. the findings of the wet weather screenings;
4. the weather conditions at the time of the wet weather screenings including approximate time of most recent storm event preceding screening); and
5. any follow-up actions (including maintenance and/or repair of infrastructure or outfalls) performed as a result of the wet weather screenings.

No later than **February 28 of each year**, DPW will develop a long term trends analyses based on the results of the wet weather screening program for inclusion in the annual reports due March 31.

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.B.2.I

#### MS4 PROGRAM IMPLEMENTATION WATER QUALITY SCREENING PROGRAMS

Each annual report shall include the total number of outfalls included as part of the permittee's MS4, the number of outfalls screened during the reporting period, a list of locations upon which dry weather screening was conducted, the results, and any follow-up actions including maintenance and/or repair of infrastructure or outfalls performed as a result of the dry weather screening.

# of MS4 Outfalls	1,980
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# of Outfalls Screened between 4/1/2015 and 12/31/2015*	1,031
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\* includes all end treatments for which a Screening Inspection was conducted, not just those that are identified as MS4 Outfalls

Dry Weather Screening Conducted between 4/1/2015 and 12/31/2015		
MS4 Outfall	Findings	Follow-Up Action
EN0000000000001	No Issues Identified	None Required
EN0000000000002	No Issues Identified	None Required
EN0000000000003	No Issues Identified	None Required
EN0000000000038	No Issues Identified	None Required
EN0000000000063	No Issues Identified	None Required
EN0000000000124	No Issues Identified	None Required
EN0000000000143	No Issues Identified	None Required
EN0000000000144	No Issues Identified	None Required
EN0000000000147	No Issues Identified	None Required
EN0000000000148	No Issues Identified	None Required
EN0000000000149	No Issues Identified	None Required
EN0000000000150	No Issues Identified	None Required
EN0000000000151	No Issues Identified	None Required

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EN000000000152	No Issues Identified	None Required
EN000000000155	Clogged with sediment	Forward To Road Maintenance
		Maintenance Activity
EN000000000157	No Issues Identified	None Required
EN000000000196	No Issues Identified	None Required
EN000000000196	No Issues Identified	None Required
EN000000000197	No Issues Identified	None Required
EN000000000213	No Issues Identified	None Required
EN000000000220	No Issues Identified	None Required
EN000000000221	Clogged with vegetation	Forward To Road Maintenance
		Maintenance Evaluation
EN000000000222	Clogged with vegetation	Forward To Road Maintenance
		Maintenance Evaluation
EN000000000225	No Issues Identified	None Required
EN000000000241	No Issues Identified	None Required
EN000000000242	No Issues Identified	None Required
EN000000000247	No Issues Identified	None Required
EN000000000251	No Issues Identified	None Required
EN000000000252	No Issues Identified	None Required
EN000000000257	No Issues Identified	None Required
EN000000000277	No Issues Identified	None Required
EN000000000278	No Issues Identified	None Required
EN000000000282	No Issues Identified	None Required
EN000000000283	No Issues Identified	None Required
EN000000000284	No Issues Identified	None Required
EN000000000286	No Issues Identified	None Required
EN000000000287	No Issues Identified	None Required
EN000000000290	No Issues Identified	None Required
EN000000000303	No Issues Identified	None Required
EN000000000304	No Issues Identified	None Required
EN000000000305	No Issues Identified	None Required
EN000000000306	No Issues Identified	None Required
EN000000000307	No Issues Identified	None Required
EN000000000308	No Issues Identified	None Required
EN000000000309	No Issues Identified	None Required
EN000000000310	No Issues Identified	None Required
EN000000000311	No Issues Identified	None Required

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EN000000000312	No Issues Identified	None Required
EN000000000314	No Issues Identified	None Required
EN000000000315	No Issues Identified	None Required
EN000000000317	No Issues Identified	None Required
EN000000000318	No Issues Identified	None Required
EN000000000319	No Issues Identified	None Required
EN000000000320	No Issues Identified	None Required
EN000000000321	No Issues Identified	None Required
EN000000000323	No Issues Identified	None Required
EN000000000324	No Issues Identified	None Required
EN000000000325	No Issues Identified	None Required
EN000000000326	No Issues Identified	None Required
EN000000000327	No Issues Identified	None Required
EN000000000328	No Issues Identified	None Required
EN000000000331	No Issues Identified	None Required
EN000000000334	No Issues Identified	None Required
EN000000000335	No Issues Identified	None Required
EN000000000336	No Issues Identified	None Required
EN000000000339	No Issues Identified	None Required
EN000000000342	No Issues Identified	None Required
EN000000000343	No Issues Identified	None Required
EN000000000344	No Issues Identified	None Required
EN000000000345	No Issues Identified	None Required
EN000000000346	No Issues Identified	None Required
EN000000000347	No Issues Identified	None Required
EN000000000348	No Issues Identified	None Required
EN000000000349	No Issues Identified	None Required
EN000000000356	No Issues Identified	None Required
EN000000000357	No Issues Identified	None Required
EN000000000360	No Issues Identified	None Required
EN000000000361	No Issues Identified	None Required
EN000000000366	No Issues Identified	None Required
EN000000001350	No Issues Identified	None Required
EN000000001353	No Issues Identified	None Required
EN000000001354	No Issues Identified	None Required
EN000000002381	No Issues Identified	None Required
EN000000002843	No Issues Identified	None Required

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EN000000003224	No Issues Identified	None Required
EN000000003334	No Issues Identified	None Required
EN000000003415	No Issues Identified	None Required
EN000000003423	No Issues Identified	None Required
EN000000003451	No Issues Identified	None Required
EN000000003482	No Issues Identified	None Required
EN000000005269	No Issues Identified	None Required
EN000000007529	No Issues Identified	None Required
EN000000008084	No Issues Identified	None Required
EN000000008088	No Issues Identified	None Required
EN000000008090	No Issues Identified	None Required
EN000000008093	No Issues Identified	None Required
EN000000008100	No Issues Identified	None Required
EN000000008252	No Issues Identified	None Required
EN000000008594	No Issues Identified	None Required
EN000000008719	No Issues Identified	None Required
EN000000008720	No Issues Identified	None Required
EN000000008913	No Issues Identified	None Required
EN000000008916	No Issues Identified	None Required
EN000000009051	No Issues Identified	None Required
EN000000012156	No Issues Identified	None Required
EN000000012159	No Issues Identified	None Required

Follow-Up Actions Performed as a Result of the Dry Weather Screening Conducted between 4/1/2015 and 12/31/2015	
MS4 Structure	Follow-Up Action
EN000000000155	11/04/2015 - Maintenance Activity clean ditch about 20' to drain 2) clean cross pipe and inlet 3) tv cross pipe cave in over pipe EN000000000155 relay last 2 joint of pipe on outlet end
EN000000000221	10/20/2015 - Maintenance Evaluation no work by road dept pipe open
EN000000000222	10/20/2015 - Maintenance Evaluation no work by road dept pipe open

## HENRICO COUNTY MS4 PROGRAM PLAN

**The annual report due March 31, 2016 shall include the written procedures for wet weather screening.**

DPW will develop a list of MS4 structures subject to wet weather screening based on the areas of concern as identified by the County that are within the drainage area to the MS4 structure, including:

- (1) fertilizer storage yards,
- (2) mulch / soil storage yards,
- (3) building supply storage yards,
- (4) used automobile lots,
- (5) construction equipment storage areas,
- (6) automobile salvage yards, and
- (7) areas of previously identified spill / IDDE complaints.

DPW will screen no fewer than 25 of the MS4 structures identified as subject to wet weather screening each year between January 1, 2016 and December 31, 2019.

DPW will screen no fewer than 10 of the MS4 structures identified as subject to wet weather screening between January 1, 2020 and March 31, 2020.

The MS4 structures will be subject to the established inspection procedure, evaluating identified flows and maintenance and repair needs.

Depending on the information observed and gathered during the wet weather screening inspections, identified flows may need to be sampled to determine the source of the flow. Whether or not samples are collected, suspected illicit discharges will be forwarded to the IDDE investigator as a potential illicit discharge for follow-up.

**Each annual report shall include a list of locations upon which wet weather screening was conducted, the results, weather conditions at the time sample was collected to include date and approximate time of most recent storm event preceding sample collection, long term trends analyses, and any follow-up actions including maintenance and/or repair of infrastructure or outfalls performed as a result of the wet weather screening.**

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Wet Weather Screening Conducted between 4/1/2015 and 12/31/2015				
MS4 Structure	Last Significant Rainfall	Findings	Sample Collected	Weather Conditions at the time of Sample
EN000000006997	< 2 days	No Issues	No	N/A
IN000000007680	< 2 days	Clogged	No	N/A
IN000000016228	< 2 days	No Issues	No	N/A
IN000000019105	< 2 days	No Issues	No	N/A
IN000000019107	< 2 days	Concrete Deterioration	No	N/A
IN000000019161	< 2 days	No Issues	No	N/A
IN000000019162	< 2 days	No Issues	No	N/A
IN000000021606	< 2 days	No Issues	No	N/A
IN000000025344	< 2 days	No Issues	No	N/A
IN000000025426	< 2 days	No issues	No	N/A
IN000000025502	< 2 days	Clogged	No	N/A
IN000000025529	< 2 days	No Issues	No	N/A
IN000000026568	< 2 days	No Issues	No	N/A
JN000000000544	< 2 days	No Issues	No	N/A
JN000000000546	< 2 days	No Issues	No	N/A
JN000000000548	< 2 days	No Issues	No	N/A
JN000000000580	< 2 days	No Issues	No	N/A
JN000000000597	< 2 days	No Issues	No	N/A
MH000000003146	< 2 days	No Issues	No	N/A
MH000000003428	< 2 days	Obstructed with Litter and Vegetation	No	N/A
MH000000006246	< 2 days	Clogged	No	N/A

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MH000000007022	< 2 days	No Issues	No	N/A
IN000000019158	< 2 days	Obstructed with Lawn/Leaf Debris	No	N/A
MN000000074157	< 2 days	No Issues	No	N/A
MN000000084838	< 2 days	No issues	No	N/A

The data does not lend itself to an analysis of any long term trends at this time.

Follow-Up Actions Performed as a Result of the Wet Weather Screening Conducted between 4/1/2015 and 12/31/2015	
MS4 Structure	Follow-Up Action
IN000000007680	10/30/2015 - Forwarded to Road Maintenance
IN000000019107	10/30/2015 - Forwarded to Road Maintenance  12/07/2015 - Repair seal gap in joint with concrete 2) grind around inlet top so it can seat properly
IN000000025502	10/30/2015 - Forwarded to Road Maintenance
MH000000003428	12/01/2015 - Forwarded to Road Maintenance  12/02/2015 - Maintenance Evaluation No work by county. Manhole inaccessible due to gravel piles, old tractors, and old pieces of scrap metal
MH000000006246	10/30/2015 - Forwarded to Road Maintenance
IN000000019158	12/01/2015 - Forwarded to Road Maintenance



PART I.B.2.m  
MS4 PROGRAM IMPLEMENTATION  
INFRASTRUCTURE COORDINATION

**PERMIT LANGUAGE**

The permittee shall coordinate with the Virginia Department of Transportation (VDOT) regarding issues of MS4 physical-interconnectivity as described below.

- 1) Annual Coordination Meeting – The permittee shall meet annually with VDOT for purposes of overall coordination on priority issues for the permittee’s MS4 program plan (including operations and maintenance elements) and TMDL action planning relevant to the interconnectivity of the MS4s.
- 2) Mapping – The permittee shall inform VDOT of the status of its mapping program, identifying any uncertainty regarding ownership or actual location of MS4 components associated with the physically-interconnected MS4s, and working to resolve such uncertainty. The permittee shall coordinate with VDOT to identify any areas within the permittee’s municipal boundaries that drain to the VDOT MS4.
- 3) Chesapeake Bay TMDL Action Plans – The permittee shall inform VDOT of the means, methods, and schedule by which the permittee will implement the reductions required by the Chesapeake Bay TMDL Special Condition (Part I.D.1) when those means and methods may impact the physically-interconnected MS4s. The parties are encouraged to cooperate with one another where the siting or design of best management practices (BMPs) may be accelerated or otherwise improved by mutual cooperation.

The permittee shall coordinate with VDOT to identify any areas within the permittee’s municipal boundaries that drain to the VDOT MS4 and are unaccounted for in the Chesapeake Bay TMDL Action Plan developed by VDOT or the permittee. The unaccounted areas shall be quantified (acres) in the Chesapeake Bay TMDL Action Plan submitted by the permittee.

- 4) Other TMDL Action Plans – The permittee shall inform VDOT of TMDL Action Plans and major milestones implemented for other (i.e., non-Chesapeake Bay) TMDLs when those plans may impact the physically-interconnected MS4s. The parties are encouraged to cooperate with one another where the siting or design of BMPs may

## HENRICO COUNTY MS4 PROGRAM PLAN

be accelerated or improved by mutual cooperation.

- 5) Credit for TMDL Implementation – Permit specific BMP retrofit requirements shall not be double-counted in the calculation of load reductions. If the permittee undertakes the project, the permittee shall be entitled to full credit for the project, but may share credit with VDOT on mutually agreeable terms, which shall be in writing.
- 6) Illicit Discharge Detection & Elimination – The permittee shall continue to be responsible for implementing a program for illicit discharge detection and elimination, including dry weather field screening, for the permittee's portion of the physically-interconnected MS4. As part of the annual coordination meeting, described in item (1) above, the permittee shall coordinate with VDOT on the identification of high risk industrial facilities. The permittee shall establish procedures for notifying VDOT when an illicit discharge is identified in the VDOT MS4.
- 7) Water Quality Monitoring – The permittee shall conduct water quality monitoring as required by Part I.B.2.l) and Part I.C of this state permit. The permittee shall make available to VDOT all monitoring data collected from areas where the physically-interconnected MS4 discharges to the VDOT MS4 or received flow from the VDOT MS4. The permittee and VDOT are encouraged to cooperate with one another to establish a joint monitoring network.
- 8) Annual Reports – As part of its Annual Report, the permittee shall document coordination efforts with VDOT that occurred during the reporting year pursuant to requirements (1) through (7) above.

### **SPECIFIC REPORTING REQUIREMENTS**

**None specified.**

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.m of the MS4 Permit are assigned to the following Departments / Divisions of the County:

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### **Public Works (DPW)**

No later than **December 31 of each year**, DPW will coordinate with VDOT to discuss the following aspects of the County's MS4 Program:

1. mapping;
2. Chesapeake Bay TMDL Action Plans;
3. other TMDL Action Plans;
4. credit for TMDL implementation;
5. Illicit Discharge Detection & Elimination; and
6. water quality monitoring.

DPW will include a summary of the coordination efforts with VDOT that occurred during the reporting year in the annual reports due **March 31**.

## HENRICO COUNTY MS4 PROGRAM PLAN

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#### MS4 PROGRAM IMPLEMENTATION INFRASTRUCTURE COORDINATION

**Annual Coordination Meeting – The permittee shall meet annually with VDOT for purposes of overall coordination on priority issues for the permittee’s MS4 program plan (including operations and maintenance elements) and TMDL action planning relevant to the interconnectivity of the MS4s.**

The Annual Coordination Meeting was held on September 21, 2015 at the Henrico County Department of Public Works' office. The following were in attendance:

Tracey Harmon	VDOT
Roy Mills	VDOT
Robbie Prezioso	VDOT
Ginny Snead	Louis Berger
Jennifer Welch	Henrico County
Keith White	Henrico County

**Mapping – The permittee shall inform VDOT of the status of its mapping program, identifying any uncertainty regarding ownership or actual location of MS4 components associated with the physically-interconnected MS4s, and working to resolve such uncertainty. The permittee shall coordinate with VDOT to identify any areas within the permittee’s municipal boundaries that drain to the VDOT MS4.**

Both VDOT and Henrico discussed their mapping efforts. Henrico will make its mapping available to VDOT to assist with identification of areas within the county that drain to VDOT's MS4.

**Chesapeake Bay TMDL Action Plans – The permittee shall inform VDOT of the means, methods, and schedule by which the permittee will implement the reductions required by the Chesapeake Bay TMDL Special Condition (Part I.D.1) when those means and methods may impact the physically-interconnected MS4s. The parties are encouraged to cooperate with one another where the siting or**

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HENRICO COUNTY MS4 PROGRAM PLAN

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## HENRICO COUNTY MS4 PROGRAM PLAN

**design of best management practices (BMPs) may be accelerated or otherwise improved by mutual cooperation.**

Henrico's Chesapeake Bay TMDL Action Plan will be made available to VDOT once it has been developed.

**The permittee shall coordinate with VDOT to identify any areas within the permittee's municipal boundaries that drain to the VDOT MS4 and are unaccounted for in the Chesapeake Bay TMDL Action Plan developed by VDOT or the permittee. The unaccounted areas shall be quantified (acres) in the Chesapeake Bay TMDL Action Plan submitted by the permittee.**

Henrico's Action Plan will quantify the areas accounted for (and unaccounted for) in the load reduction calculations.

**Other TMDL Action Plans – The permittee shall inform VDOT of TMDL Action Plans and major milestones implemented for other (i.e., non-Chesapeake Bay) TMDLs when those plans may impact the physically-interconnected MS4s. The parties are encouraged to cooperate with one another where the siting or design of BMPs may be accelerated or improved by mutual cooperation.**

Henrico will make Other TMDL Action Plans available to VDOT once they are developed.

**Credit for TMDL Implementation – Permit specific BMP retrofit requirements shall not be double-counted in the calculation of load reductions. If the permittee undertakes the project, the permittee shall be entitled to full credit for the project, but may share credit with VDOT on mutually agreeable terms, which shall be in writing.**

During the development of the TMDL Action Plans, Henrico will coordinate with VDOT as necessary to avoid any "double-counting" of pollutant reductions achieved in the physically-interconnected MS4.

**Illicit Discharge Detection & Elimination – The permittee shall continue to be**

## HENRICO COUNTY MS4 PROGRAM PLAN

responsible for implementing a program for illicit discharge detection and elimination, including dry weather field screening, for the permittee's portion of the physically-interconnected MS4. As part of the annual coordination meeting, described in item (1) above, the permittee shall coordinate with VDOT on the identification of high risk industrial facilities. The permittee shall establish procedures for notifying VDOT when an illicit discharge is identified in the VDOT MS4.

Henrico discussed its identification of high risk industrial facilities in accordance with the MS4 permit and Henrico will continue to implement an illicit detection and elimination (IDDE) program. When an illicit discharge that drains to the physically-interconnected MS4 is found, Henrico will notify VDOT and DEQ via email.

**Water Quality Monitoring – The permittee shall conduct water quality monitoring as required by Part I.B.2.l) and Part I.C of this state permit. The permittee shall make available to VDOT all monitoring data collected from areas where the physically-interconnected MS4 discharges to the VDOT MS4 or received flow from the VDOT MS4. The permittee and VDOT are encouraged to cooperate with one another to establish a joint monitoring network.**

Henrico discussed the water quality monitoring provisions of the MS4 Permit and any monitoring data collected from areas that drain into or from the physically-interconnected MS4 will be made available to VDOT.

# HENRICO COUNTY MS4 PROGRAM PLAN

## PART I.C.1 MONITORING REQUIREMENTS BIOLOGICAL STREAM MONITORING

### **PERMIT LANGUAGE**

The permittee shall continue to implement a biological stream monitoring program to evaluate the condition of select stream sites within the county as follows:

- a) Five (5) stream sites within the county shall be selected for monitoring during the term of this permit.
- b) Monitoring shall be conducted twice per year with one sample collected between July 1<sup>st</sup> and December 31<sup>st</sup> and one sample collected between January 1<sup>st</sup> and June 30<sup>th</sup> each year at each selected stream site.
- c) The permittee shall use a biological stream monitoring approach based on the "USEPA's Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers" or other method approved by the Department, and shall include an assessment of the benthic macroinvertebrate community and habitat assessment.

### **SPECIFIC REPORTING REQUIREMENTS**

- The annual report due March 31, 2016 shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.
- Each annual report shall include a summary of the monitoring results, analyses, and an interpretation of that data with respect to long-term patterns/trends.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.C.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

## HENRICO COUNTY MS4 PROGRAM PLAN

### Public Works (DPW)

DPW has identified five stream sites (see attached map) where the required biological monitoring will be conducted. The sites are:

1. Stoney Run (James River basin)
2. Hungary Creek (Chickahominy River basin)
3. Upham Brook (Chickahominy River basin)
4. Cornelius Creek (James River basin)
5. Broadwater Creek (Chickahominy River basin)

DPW selected the stream sites based on several factors, including:

- the existence of current baseline data as a result of monitoring efforts conducted as a result of the previous permit,
- the goal to gather baseline data prior to conducting future stormwater retrofit projects,
- the goal to gather baseline data prior to anticipated intense development, and
- the goal to gather data in both the James River and Chickahominy River basins

DPW will conduct monitoring at each of the five identified stream sites twice per year - **once between January 1 and June 30 and once between July 1 and December 31** using a protocol that includes a stream habitat assessment and benthic macroinvertebrate sampling, identification, and analysis. This protocol aligns with that detailed in the EPA publication entitled *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers* and has been used by the County since 2001 to satisfy biological monitoring requirements of the previous MS4 Permit.

DPW will include a summary of the monitoring conducted during the permit year, including monitoring results, analyses, and an interpretation of the data with respect to long-term patterns / trends in **each annual report due March 31**.



## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.C.1 MONITORING REQUIREMENTS BIOLOGICAL STREAM MONITORING

**The annual report due March 31, 2016 shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.**

Biological Monitoring Sites	
Site	River Basin
Stoney Run	James River
Hungary Creek	Chickahominy River
Upham Brook	Chickahominy River
Cornelius Creek	James River
Broadwater Creek	Chickahominy River

The protocol aligns with that detailed in the EPA publication entitled *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers*. The protocol includes a stream habitat assessment and benthic macroinvertebrate sampling, identification, and analysis.

**Each annual report shall include a summary of the monitoring results, analyses, and an interpretation of that data with respect to long-term patterns/trends.**

#### **Taxa Richness**

Taxa Richness is the number of different taxa represented in an ecological community. Taxa Richness is simply a count of the taxa, and it does not take into account the relative abundances of the taxa. Taxa Richness for the 2015 Sampling Year was similar to previous years' data. At most of the stream sampling sites during 2015, there was a decrease in Taxa Richness between the spring 2015 sampling event and the fall 2015 sampling event. Taxa Richness is expected to decrease with increasing perturbation.

## HENRICO COUNTY MS4 PROGRAM PLAN

### **EPT Index**

The EPT Index is a subset of the above Richness measure. It is the number of species/taxa in the sample in the generally more environmentally sensitive orders Ephemeroptera, Plecoptera, and Trichoptera. The EPT Index for the 2015 Sampling Year was similar to previous years' data. There was also similarity between the spring 2015 sampling event and the fall 2015 sampling event. The EPT Index is expected to decrease with increasing perturbation.

### **Dominant Taxon**

The Dominant Taxon is a percentage measurement. It measures the percent abundance of individuals in the single most abundant taxon. In most cases there was a decrease in this measurement between the spring 2015 sampling event and the fall 2015 sampling event. This measurement is expected to increase with increasing perturbation.

### **Hilsenhoff Biotic Index**

The Hilsenhoff Biotic Index (HBI) estimates the overall tolerance of the community in a sampling area, weighted by the relative abundance of each taxonomic groups (family, genus, etc.). Organisms are assigned a tolerance number from 0 to 10 pertaining to the group's known sensitivity to organic pollutants; 0 being most sensitive, 10 being most tolerant. HBI values range from 0 to 10. Low HBI values reflect a higher abundance of sensitive groups, thus a lower level of pollution. While there is much similarity with previous years' data, overall HBI scores decreased between the spring 2015 sampling event and the fall 2015 sampling event.

### **% Gatherers**

This measures the percent abundance of individuals in the sample whose primary functional mechanism for obtaining food (functional feeding group (FFG) is to collect/gather depositional organic matter. This percentage is expected to decrease with increasing perturbation for the stream. The measurement increased when compared to data collected in 2014. However, it decreased from the spring 2015 sampling event to the fall 2015 sampling event.

### **% Predators**

This measures the percent abundance of individuals in the sample whose primary functional mechanism for obtaining food (FFG) is to attack prey and ingest whole organisms or their parts. This measurement is variable and difficult to determine if it should increase or decrease with increasing perturbation. This measurement decreased when compared to data collected in 2014. It also decreased for the spring

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HENRICO COUNTY MS4 PROGRAM PLAN

PART I.C.1

ANNUAL REPORT SUPPLEMENT

APRIL 1, 2015 THROUGH DECEMBER 31, 2015

## HENRICO COUNTY MS4 PROGRAM PLAN

2015 sampling event to the fall 2015 sampling event at 4 out of the 5 monitoring sites.

### **% Scrapers**

This measures the percent abundance of individuals in the sample whose primary functional mechanism for obtaining food (FFG) is to graze on substrate or periphyton-attached algae and associated material. This metric is expected to decrease with increasing perturbation. The majority of the monitoring stations showed a decrease in this measurement from the spring 2015 sampling event to the fall 2015 sampling event.

### **Summary/Conclusions**

Habitat Suitability Data for the 2015 sampling year showed only minor decreases between the spring 2015 sampling event and the fall 2015 sampling event at four of the five monitoring sites. The fifth site, Hungary Creek, showed a larger decrease in suitable habitat. This site is located within and immediately downstream of a proposed stream restoration project projected to be completed in 2016. The Biological Condition Index for the 2015 sampling year showed only minor decreases between the spring 2015 sampling event and the fall 2015 sampling event at four out of the five monitoring sites. The fifth site, Stony Run, showed a significant increase between the spring 2015 sampling event and the fall 2015 sampling event.

The integrity of the Access Database used to calculate prior year's metric scores has become compromised. Therefore, it is difficult to compare this year's Biological Condition Index data with prior years' data. Because of this issue, long term trends cannot be easily determined. Habitat data is readily available within the Access Database, and no significant differences are noted when comparing 2015 habitat data with prior years' habitat data.

# Sample Site Locations Henrico County Stream Bioassessment Program

<u>Site Number</u>	<u>Name</u>	<u>Category</u>	<u>Stream</u>	<u>Watershed</u>	<u>Location</u>	<u>Gradient</u>	<u>Longitude</u>	<u>Latitude</u>
CRC07.S01		Bioassessment	Cornelius Creek	Cornelius Creek	Approximately 260 feet south of Mill Road	Low	11801200	3686700
DSR04.S01		Bioassessment	Stony Run		West of Loreines Landing Lane	Low	11741969.4	3756277.41
HLS17.S02		Bioassessment	Broadwater Creek	Highland Springs	behind Donohoe Elementary	Low	11832291.6	3721445.76
NHC13.S01		Bioassessment	Hungary Creek	Hungary Creek	below West End Manor Pond	Low	0	0
UPB17.S02		Bioassessment	Upham Brook	Upham Brook	across from Brown Distributing	Low	0	0

Summary of Stream Habitat Assessment Results  
 Spring 2015 Bioassessments  
 Henrico County Stream Bioassessment Program  
 4/1/2015 through 5/30/2015

Scoring Range		Reference													
Poor to Optimal		Hnr2001Lo	CRC07.S01	DSR04.S01	HLS17.S02	NHC13.S01	UPB17.S02								
<u>Substrate and Instream Cover</u>															
Epifaunal substrate/available cover	0-20	17	18	13	18	5	12								
Pool substrate characterization	0-20	16	16	10	18	7	7								
Pool variability	0-20	17	12	9	8	5	7								
<u>Channel Morphology</u>															
Sediment deposition	0-20	14	13	15	18	6	11								
Channel flow status	0-20	16	18	12	14	8	10								
Channel alteration	0-20	18	18	16	18	11	15								
Channel sinuosity	0-20	15.5	19	16	19	10	18								
<u>Riparian and Bank Structure</u>															
Bank stability	0-10	8	6	6	8	7	8								
Bank stability	0-10	8.5	7	5	8	6	6								
Bank vegetation protection	0-10	7	6	7	8	9	9								
Bank vegetation protection	0-10	8	7	6	9	8	9								
Riparian vegetative zone width	0-10	10	10	1	10	9	9								
Riparian vegetative zone width	0-10	10	5	9	9	10	10								
Total Score		165	155	125	165	101	131								
Percent of Reference Site			94	76	100	61	79								
Resulting Habitat Suitability			Comparable	Supporting	Comparable	Partially S.	Supporting								

Habitat Criteria  
 >90% = Comparable to reference  
 75-89 = Supporting  
 60 - 74 = Partially supporting  
 <59 = nonsupporting

Summary of Stream Habitat Assessment Results  
 Fall 2015 Bioassessments  
 Henrico County Stream Bioassessment Program  
 10/1/2015 through 12/31/2015

Scoring Range		Reference							
Poor to Optimal		Hnr2001Lo	CRC07.S01	DSR04.S01	HLS17.S02	NHC13.S01	UPB17.S02		
<u>Substrate and Instream Cover</u>									
Epifaunal substrate/available cover	0-20	17	13	12	18	6	16		
Pool substrate characterization	0-20	16	13	8	17	7	12		
Pool variability	0-20	17	14	7	10	5	9		
<u>Channel Morphology</u>									
Sediment deposition	0-20	14	14	14	16	3	10		
Channel flow status	0-20	16	10	10	11	9	10		
Channel alteration	0-20	18	18	11	18	11	16		
Channel sinuosity	0-20	15.5	17	15	18	12	12		
<u>Riparian and Bank Structure</u>									
Bank stability	0-10	8	5	7	7	2	7		
Bank stability	0-10	8.5	6	7	7	2	6		
Bank vegetation protection	0-10	7	7	7	7	1	7		
Bank vegetation protection	0-10	8	7	8	7	1	6		
Riparian vegetative zone width	0-10	10	10	2	10	9	9		
Riparian vegetative zone width	0-10	10	5	9	9	10	10		
Total Score		165	139	117	155	78	130		
Percent of Reference Site			84	71	94	47	79		
Resulting Habitat Suitability			Supporting	Partially S.	Comparable	Nonsupporting	Supporting		

**Habitat Criteria**

>90% = Comparable to reference  
 75-89 = Supporting  
 60 - 74 = Partially supporting  
 <59 = nonsupporting

## Henrico County 2015 Bioassessment Metrics

Spring Bioassessments	Cornelius Creek	Stony Run	Broadwater Creek	Hungary Creek	Upham Brook	Reference Reach
Taxa Richness	41	16	26	26	27	49
EPT Index	18	2	8	2	2	8
% Dominant Taxon	15.92	44.81	26.21	31.91	61.06	14.47
HBI	4.77	5.85	5.71	7.85	6.36	5.52
% Gatherers	25.92	78.3	31.34	64.68	69.95	37.82
% Predators	7.14	10.85	6.55	9.79	0.87	10.77
% Scrapers	36.12	0	39.6	20.43	13.85	14.38

Fall Bioassessments	Cornelius Creek	Stony Run	Broadwater Creek	Hungary Creek	Upham Brook	Reference Reach
Taxa Richness	30	21	22	18	15	49
EPT Index	10	4	6	2	2	8
% Dominant Taxon	17.76	16.27	27.74	25.22	54.69	14.47
HBI	5.06	5.57	5.59	6.35	6.19	5.52
% Gatherers	11.58	38.28	25.34	53.91	67.19	37.82
% Predators	12.74	14.35	5.82	33.04	2.19	10.77
% Scrapers	25.1	20.57	56.51	3.48	10	14.38

## Henrico County 2015 Bioassessment Metric Scores

Spring Bioassessments	Cornelius Creek	Stony Run	Broadwater Creek	Hungary Creek	Upham Brook	Reference Reach
Taxa Richness	95	37	60	60	63	100
EPT Index	100	18	73	18	18	73
% Dominant Taxon	99	65	87	80	46	100
HBI	77	61	63	32	54	66
% Gatherers	68	100	82	100	100	100
% Predators	60	90	55	82	7	90
% Scrapers	74	0	81	42	28	29
Total:	82	53	72	59	45	80
% Comparability w/ Reference Reach:	100	66	89	74	56	
Biological Condition:	Non-impaired	Slightly Impaired	Non-impaired	Slightly Impaired	Slightly Impaired	

Fall Bioassessments	Cornelius Creek	Stony Run	Broadwater Creek	Hungary Creek	Upham Brook	Reference Reach
Taxa Richness	70	49	51	42	35	100
EPT Index	91	36	55	18	18	73
% Dominant Taxon	97	99	85	88	53	100
HBI	73	65	65	54	56	66
% Gatherers	30	100	67	100	100	100
% Predators	100	100	49	100	18	90
% Scrapers	51	42	100	7	20	29
Total	73	70	67	58	43	80
% Comparability w/ Reference Reach:	92	88	84	73	54	
Biological Condition:	Non-impaired	Non-impaired	Non-impaired	Slightly Impaired	Slightly Impaired	

### Biological Condition Criteria

- 0-22% - Severely Impaired
- 23-50% - Moderately Impaired
- 51-78% - Slightly Impaired
- 79-100% - Non-impaired



PART I.C.2  
MONITORING REQUIREMENTS  
IN-STREAM MONITORING

**PERMIT LANGUAGE**

The permittee shall continue to implement an in-stream monitoring program to evaluate the condition of select streams within the county as follows:

- a) Five (5) stream sites within the county shall be selected for monitoring during the term of this permit.
- b) Monitoring shall be conducted once per two months between January 1<sup>st</sup> and December 31<sup>st</sup> at each monitoring location.
- c) Monitoring shall be performed for the following parameters:
  - 1) pH
  - 2) Dissolved Oxygen
  - 3) Temperature
  - 4) Total Suspended Solids
  - 5) Ammonia as Nitrogen
  - 6) Nitrate plus Nitrite Nitrogen
  - 7) Total Kjeldahl Nitrogen
  - 8) Total Nitrogen (calculated)
  - 9) Dissolved Phosphorus
  - 10) Total Phosphorus
  - 11) *Escherichia coli*
- d) Monitoring for the parameters listed in Part I.C.2.c) shall be in accordance with Part II.A. of this state permit.
- e) The permittee may replace a sampling location with a new proposed location after 15 samples are collected and analyzed. Written notification of the monitoring plan revisions shall be given to the Department in writing and shall include a statistical analysis of the monitoring results, conclusions regarding the data, the proposed new monitoring location, and the reasoning for site location choice.

### **SPECIFIC REPORTING REQUIREMENTS**

- The initial annual report, due **March 31, 2016**, shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.
- Beginning with the annual report due **March 31, 2017**, each annual report shall include a summary of the monitoring results and analyses and an interpretation of that data with respect to long-term patterns/trends.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.C.2 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

#### **Public Works (DPW)**

DPW will ensure that instream monitoring is conducted at each of the five identified stream sites once every two months **between January 1 and December 31**, beginning January 1, 2016.

Beginning with the annual report due March 31, 2017, DPW will include a summary of the monitoring conducted during the permit year in the annual reports due **March 31**, 2017, including monitoring results, analyses, and an interpretation of the data with respect to long-term patterns / trends.

## HENRICO COUNTY MS4 PROGRAM PLAN

### PART I.C.2 MONITORING REQUIREMENTS IN-STREAM MONITORING

**The initial annual report, due March 31, 2016, shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.**

In-Stream Monitoring Sites	
Site	River Basin
Stoney Run	James River
Hungary Creek	Chickahominy River
Upham Brook	Chickahominy River
Cornelius Creek	James River
Broadwater Creek	Chickahominy River

DPW selected the stream sites based on several factors, including:

- the existence of current baseline data as a result of monitoring efforts conducted as a result of the previous permit,
- the goal to gather baseline data prior to conducting future stormwater retrofit projects,
- the goal to gather baseline data prior to anticipated intense development, and
- the goal to gather data in both the James River and Chickahominy River basins

The paragraphs below describe the Standard Operating Procedure (SOP) used to collect, preserve, measure, and analyze water quality at the in-stream monitoring sites. It describes the general stream monitoring procedures used for run preparation, sample collection, measurement, processing, preservation, and transport. The standard set of samples collected, measured, or processed include: pH, dissolved oxygen, temperature, total suspended solids, ammonia as nitrogen, nitrate plus nitrite nitrogen, total kjeldahl nitrogen, total nitrogen (calculated), dissolved phosphorus, total phosphorus, and Escherichia coli. Sites will be monitored every other month.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPW will ensure that instream monitoring is performed for the parameters specified in part I.C.2.c and will be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency.

Of the parameters to be monitored, pH, Dissolved Oxygen, and Temperature will be measured in the field using a YSI Model 60 handheld pH and Temperature meter and a YSI Model 550 handheld Dissolved Oxygen and Temperature meter. A 2-point calibration will be performed on the YSI Model 60 pH meter prior to each measurement. The Dissolved Oxygen meter will also be calibrated prior to each measurement.

The remainder of the parameters will be analyzed by an accredited commercial laboratory. Samples will be taken in the field by County staff in accordance with EPA-approved procedures and immediately transported to the laboratory for analysis.

The basic method used to collect samples is the hand dip method and to perform in-situ measurements with available hand-held meters. Put on high-visibility safety vests, turn on emergency flashers and amber strobe beacon lights, if available.

Carry gear (e.g., hand held DO sampler and hand held pH meter and sample bottles) to a well-mixed location on the stream where representative stream samples may be collected.

Turn on the DO meter and the pH meter and allow them to equilibrate. Calibrate both instruments. For the pH meter, a two-point calibration will be conducted. The samples can be taken from the stream bank or from the middle of the channel. If measured from the middle of the channel, stand out of the way and be very still making sure not to disturb the water column.

Submerge the DO meter and pH meter probes in the stream channel. Allow to equilibrate for several minutes. If the water flow is slow, the DO meter probe should be slowly moved around in the water column during this time. Record the temperature of the water provided by both of these hand-held meters in Celsius and Fahrenheit. Record the DO measurement in mg/l and the pH measurement.

Remove the probes from the water and secure them within the instruments to protect them from damage.

Hold the base of a sample bottle with one hand and remove the bottle cap. Then invert the bottle, reach upstream, and plunge the bottle into the water about 15 cm (6 inches),

## HENRICO COUNTY MS4 PROGRAM PLAN

and then tip the bottle mouth up toward the water surface. Allow the bottle to fill, take it out of the water, replace the cap, and repeat the bottle filling process to fill the remaining sample bottles.

Record the air temperature, barometric pressure, stream stage height, and any other measurements on the Field Data Report Form. Also note any weather or unusual site-specific observations. Spend some time on this as the narrative observations can help explain any anomalous data. Also note missing data or equipment issues.

Label all sample bottles with the appropriate sample tags, double check the station ID on the tag, and place them on ice in a cooler.

Repeat the Sample collection and processing procedures at all sampling stations.

Deliver the cooler along with the completed Chain of Custody form back to the commercial laboratory before 5pm.

At the end of the day calibrate the pH meter.

**Beginning with the annual report due March 31, 2017, each annual report shall include a summary of the monitoring results and analyses and an interpretation of that data with respect to long-term patterns/trends.**

Noted.

PART I.C.3  
MONITORING REQUIREMENTS  
STRUCTURAL AND SOURCE CONTROLS COMPLIANCE  
MONITORING AND TRACKING

**PERMIT LANGUAGE**

- a) The permittee shall maintain an updated electronic database of all known permittee and privately maintained stormwater management (SWM) facilities. The database shall include the following:
- 1) The SWM facility type, address, and latitude, and longitude (in decimal degrees);
  - 2) The total pervious and impervious acres treated;
  - 3) The date brought online (MMYYYY). If the date is unknown, the permittee shall use June 2005 as the date brought online for all previously existing SWM facilities;
  - 4) The hydrologic unit code (HUC 6) in which the SWM facility is located;
  - 5) The name of any impaired water segments within each HUC listed on the most recent 305(b)/303(d) Water Quality Assessment Integrated Report to which the SWM facility discharges;
  - 6) Whether the SWM facility is permittee or privately maintained;
  - 7) Whether the SWM facility discharges into the permittee's MS4;
  - 8) Whether a maintenance agreement exists if the SWM is privately maintained; and
  - 9) The date of last inspection by permittee authorities.

All SWM facilities brought on line during each reporting year shall be submitted with the appropriate annual report as an electronic file in one or the following formats: shapefile, geodatabase, .xls, .xlsx, .csv, .mdx, .dbf, delimited text, XML, or other file approved by the Department.

No later than 36-months of the effective date of this state permit, the list shall be updated to include the required information for SWM facilities known to exist prior to the effective date of this state permit. The updated information shall be submitted with the fourth annual report.

- b) Facilities that solely provide peak flow control as required by the Henrico County

## HENRICO COUNTY MS4 PROGRAM PLAN

Code are excluded from the requirements of this section. Inspection and maintenance requirements for these facilities shall be in accordance with all applicable state and local ordinances, regulations, and statutes.

### **REPORTING REQUIREMENTS**

- Each annual report shall include a copy of the updated database in electronic format.
- Each annual report shall include a summary of the program to ensure maintenance of private stormwater management facilities.
- Each annual report shall include a summary of the program to ensure maintenance of stormwater management facilities maintained by the permittee.
- The annual report due March 31, 2019 under this permit shall include an updated list of stormwater management facilities existing prior to the effective date of this permit.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.C.3 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

#### **Public Works (DPW)**

DPW will maintain a database of the County-maintained and privately-maintained SWM facilities located in the County, including the information specified in Part I.C.3.a of the MS4 Permit.

DPW will include an electronic file of all County-maintained and privately-maintained SWM facilities brought online during the permit year and the related data required by Part I.C.3.a of the MS4 Permit in the annual reports due on **March 31 of each year**. Facilities that solely provide peak flow control as required by the Henrico County Code will not be included.

DPW will include a summary of the program to ensure maintenance of privately-maintained SWM facilities in the annual reports due on **March 31 of each year**.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPW will include a summary of the program to ensure maintenance of County-maintained SWM facilities in the annual reports due on **March 31 of each year.**

DPW will include an electronic file of all County-maintained and privately-maintained SWM facilities located in the County and the related data required by Part I.C.3.a of the MS4 Permit in the annual report due on **March 31, 2019.** Facilities that solely provide peak flow control as required by the Henrico County Code will not be included.



PART I.C.3  
MONITORING REQUIREMENTS  
STRUCTURAL AND SOURCE CONTROLS COMPLIANCE  
MONITORING AND TRACKING

**Each annual report shall include a copy of the updated database in electronic format.**

A spreadsheet (.xls format) of the required data from the County's electronic database of stormwater management facilities has been included in the digital submittal of the MS4 Program Plan and Annual Report Supplements. The spreadsheet includes data for the stormwater management facilities brought online between April 1, 2015 (the effective date of the MS4 Permit) and December 31, 2015.

**Each annual report shall include a summary of the program to ensure maintenance of private stormwater management facilities.**

The Department of Public Works will inspect all privately owned and operated facilities. All privately owned facilities will be inspected a minimum of once every 5 years. All inspections will be documented in the online database (APEX) and in GIS. Any issues found during an inspection will be documented and a punchlist of repairs will be sent to the owner of the facility through certified mail. Owners will have 10 days from receipt of the letter to contact the County BMP inspector with a plan for repairs and a tentative schedule. The owner will contact the inspector at the start of any maintenance work and at its completion. The facility will be re-inspected after completion of work. All inspections will be completed by the county BMP inspector or other qualified person(s) (individuals holding the SWM inspector certification issued by DEQ or a licensed professional). All owner inspections will be documented in APEX.

**Each annual report shall include a summary of the program to ensure maintenance of stormwater management facilities maintained by the permittee.**

## HENRICO COUNTY MS4 PROGRAM PLAN

Summary of Inspection and Maintenance Efforts related to On-Line County-Operated SWM Facilities Conducted between April 1, 2015 and December 31, 2015			
Type	Total	Inspected	Maintained
BayFilter (200)	1	1	1
BaySeparator (205)	1	1	1
Bioretention Basin/Trench (10)	9	9	9
Extended Detention Basin (15)	30	29	30
Extended Detention Basin w/a Shallow Marsh (16)	2	2	2
Filtterra (215)	21	21	21
Grassed Swale (20)	3	3	3
Imbrium Jellyfish (250)	1	1	1
Infiltration Basin/Trench (25)	7	7	7
Retention Basin (30)	12	12	12
StormCeptor (225)	1	1	1
StormFilter (220)	4	4	4
StormTreat (230)	1	1	1
Stormwater360 (Manufactured Unit)	4	4	4
<b>TOTAL</b>	<b>97</b>	<b>96</b>	<b>97</b>

**The annual report due March 31, 2019 under this permit shall include an updated list of stormwater management facilities existing prior to the effective date of this permit.**

Noted.

Facility ID	Type (Spec #)	Latitude	Longitude	PerviousAcres	ImperviousAcres	DateBroughtOnline	SixthOrderHUC	ImpairedSegmentName	Ownership	Discharges ToCounty MS4	MaintAgreement	Last QualInsp Date
BMP00075	FILTERRA (215)	37.5432	-77.3893	0.22	0.48	11/20/2015	JL01	Stony Run	PRIVATE	NO	YES	11/20/2015
BMP00076	FILTERRA (215)	37.5422	-77.3892	0	0.64	11/20/2015	JL01	Stony Run	PRIVATE	NO	YES	11/20/2015
BMP00077	FILTERRA (215)	37.5421	-77.3892	0	0.51	11/20/2015	JL01	Stony Run	PRIVATE	NO	YES	11/20/2015
BMP00078	FILTERRA (215)	37.5423	-77.3901	0.16	0.72	11/20/2015	JL01	Stony Run	PRIVATE	NO	YES	11/20/2015
BMP00662	SAND FILTER (35)	37.6651	-77.628	0.97	1.91	5/8/2015	JM84	None	PRIVATE	NO	YES	1/13/2015
BMP00664	SAND FILTER (35)	37.6638	-77.627	2.52	6.14	5/8/2015	JM84	None	PRIVATE	NO	YES	1/13/2015
BMP00668	BIORETENTION BASIN/TRENCH (10)	37.6665	-77.6263	0.6	1.02	10/12/2015	JM84	None	PRIVATE	NO	YES	10/12/2015
BMP00669	FILTERRA (215)	37.6657	-77.6264	0.11	0.47	10/20/2015	JM84	None	PRIVATE	NO	YES	10/20/2015
BMP00670	FILTERRA (215)	37.6658	-77.6272	0.15	0.48	10/20/2015	JM84	None	PRIVATE	NO	YES	10/20/2015
BMP00671	FILTERRA (215)	37.6661	-77.6255	0.07	0.41	10/20/2015	JM84	None	PRIVATE	NO	YES	10/20/2015
BMP00672	FILTERRA (215)	37.6665	-77.6272	0.2	0.4	10/20/2015	JM84	None	PRIVATE	NO	YES	10/20/2015
BMP00673	FILTERRA (215)	37.6663	-77.6272	0.06	0.2	10/20/2015	JM84	None	PRIVATE	NO	YES	10/20/2015
BMP01304	RETENTION BASIN (WET POND) (30)	37.6442	-77.5986	3.07	56.83	5/11/2015	JM84	None	PRIVATE	YES		11/4/2013
BMP01306	RETENTION BASIN (WET POND) (30)	37.6482	-77.6083	14.21	56.83	5/11/2015	JM84	None	PRIVATE	YES	YES	12/3/2014
BMP01307	IMBRIUM JELLYFISH (250)	37.6472	-77.6068	0.75	3.15	5/11/2015	JM84	None	PRIVATE	YES	YES	
BMP01308	IMBRIUM JELLYFISH (250)	37.6458	-77.6034	0.75	3.15	5/11/2015	JM84	None	PRIVATE	YES	YES	
BMP01396	RETENTION BASIN (WET POND) (30)	37.5907	-77.4971	23.66	38.7	11/6/2015	JL18	None	PRIVATE	YES	YES	11/6/2015
BMP01512	EXTENDED DETENTION BASIN (15)	37.6039	-77.5247	0.54	1.87	10/2/2015	JL18	None	PRIVATE	YES	YES	10/14/2015
BMP01513	BIORETENTION BASIN/TRENCH (10)	37.6032	-77.5251	0.04	0.13	10/2/2015	JL18	None	PRIVATE	YES	YES	10/6/2015

PART I.D.1

TMDL ACTION PLAN AND IMPLEMENTATION  
CHESAPEAKE BAY SPECIAL CONDITION

**PERMIT LANGUAGE**

The Commonwealth in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans (WIP) committed to a phased approach for MS4s permittees to implement necessary reductions. This state permit is consistent with the Chesapeake Bay TMDL and the Virginia Phase I and II WIPs to meet the Level 2 (L2) scoping run for existing developed lands as it represents an implementation of 5% of L2 as specified in the 2010 Phase I WIP. Conditions of future permits will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.

a) Definitions

The following definitions apply to this state permit for the purpose of the Special Condition for Discharges in the Chesapeake Bay Watershed:

- 1) "Existing Sources" means pervious and impervious urban land uses served by the MS4 as of June 30, 2009.
- 2) "New Sources" means pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.
- 3) "Transitional Sources" means regulated land disturbing activities which are temporary in nature and discharge through the MS4.
- 4) "Pollutants of concern" or "POC" means total nitrogen, total phosphorus and total suspended solids.

b) Chesapeake Bay Watershed TMDL Planning

- 1) No later than 24-months after the effective date of this state permit, the permittee shall develop and submit to the Department for its review and acceptance an approvable phased Chesapeake Bay TMDL Action Plan that includes:

- (a) A review of the current MS4 Program Plan including existing legal

## HENRICO COUNTY MS4 PROGRAM PLAN

- authorities and the permittee's ability to ensure compliance with this special condition;
- (b) Identifies any new or modified legal authorities, such as ordinances, permits, orders, contracts and inter-jurisdictional agreements, implemented or needing to be implemented to meet the requirements of this special condition;
- (c) The means and methods utilized to address discharges into the MS4 from new sources.
- (d) An estimate of the annual POC loads discharged from the existing sources as of June 30, 2009 based on the 2009 progress run. The permittee shall utilize Table 1 and multiply the total existing acres served by the MS4 on June 30, 2009 and the 2009 Edge of Stream (EOS) Loading Rate.

<b>Table 1: Calculation Sheet for Estimating Existing Source Loads for the James River Basin</b> (Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
<b>Subsource</b>	<b>Pollutant</b>	<b>Total Existing Acres Served by MS4 (6/30/09)</b>	<b>2009 EOS Loading Rate (lbs/ac/yr)</b>	<b>Estimated Total POC Load Based on 2009 Progress Run (lb/yr)</b>
Regulated Urban Impervious	Nitrogen		9.39	
Regulated Urban Pervious			6.99	
Regulated Urban Impervious	Phosphorus		1.76	
Regulated Urban Pervious			0.5	
Regulated Urban Impervious	Total Suspended Solids		676.94	
Regulated Urban Pervious			101.08	

## HENRICO COUNTY MS4 PROGRAM PLAN

- (e) A determination of the total pollutant load reductions necessary to reduce the annual POC existing loads using Table 2 by multiplying the *Total Existing Acres Served by MS4* by the *First Permit Cycle Required Reduction in Loading Rate*.

<b>Table 2: Calculation Sheet for Determining Total POC Reductions Required During this State Permit Cycle for the James River Basin</b> (Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
<b><u>Subsource</u></b>	<b><u>Pollutant</u></b>	<b><u>Total Existing Acres Served by MS4 (6/30/09)</u></b>	<b><u>First Permit Cycle Required Reduction in Loading Rate (lbs/ac/yr)</u></b>	<b><u>Total Reduction Required During First Permit Cycle (lbs/yr)</u></b>
Regulated Urban Impervious	Nitrogen		0.04	
Regulated Urban Pervious			0.02	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.002	
Regulated Urban Impervious	Total Suspended Solids		6.67	
Regulated Urban Pervious			0.44	

- (f) The means and methods, such as the management practices and retrofit programs that will be utilized to meet the required reductions identified in Part I.D.1.b)(1)(e) and a schedule to achieve those reductions. The schedule should include annual benchmarks to demonstrate the on-going progress in meeting the reductions.
- (g) The means and methods to offset the increased loads from new sources initiating construction between July 1, 2009 and June 30, 2014 that disturb one acre or greater as a result of the utilization of an average land cover condition greater than 16% impervious cover for the design of post

## HENRICO COUNTY MS4 PROGRAM PLAN

development stormwater management facilities. The permittee shall utilize Table 3 to develop the equivalent pollutant load for nitrogen and total suspended solids. The permittee shall offset 5% of the calculated increased load from these new sources during the permit cycle.

- (h) The means and methods to offset the increased loads from grandfathered projects in accordance with 9VAC25-870-48, that disturb one acre or greater that begin construction after July 1, 2014 where the project utilized an average land cover condition greater than 16% impervious cover in the design of post development stormwater management facilities. The permittee shall utilize Table 3 to develop the equivalent pollutant load for nitrogen and total suspended solids.

<b>Table 3: Ratio of Phosphorus Loading Rate to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins</b> (Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)			
<b><u>Ratio of Phosphorus to Other POCs (Based on All Land Uses 2009 Progress Run)</u></b>	<b><u>Phosphorus Loading Rate (lbs/ac/yr)</u></b>	<b><u>Nitrogen Loading Rate (lbs/ac/yr)</u></b>	<b><u>Total Suspended Solids Loading Rate (lbs/ac/yr)</u></b>
James River Basin	1.0	5.2	420.9

- (i) A list of future projects and associated acreage that qualify as grandfathered in accordance with 9VAC25-870-48.
- (j) An estimate of the expected cost to implement the necessary reductions during the permit cycle;
- (k) An opportunity for receipt and consideration of public comment on the draft Chesapeake Bay TMDL Action Plan; and,
- (l) A list of all comments received as a result of public comment and any modifications made to the draft Chesapeake Bay TMDL Action Plan as a result of the public comments.
- 2) As part of development of the Chesapeake Bay TMDL Action Plan, the permittee shall consider use of the following:
- (a) Implementation of BMPs on unregulated lands provided the baseline reduction is subtracted from the total reduction prior to application of the reduction towards meeting the required reductions.

## HENRICO COUNTY MS4 PROGRAM PLAN

- (b) Utilization of stream restoration projects provided the baseline reduction from the unregulated acreage treated by the stream restoration project is subtracted from the total reduction prior to application of the reduction towards meeting the required reductions.
  - (c) Establishment of a memorandum of understanding (MOU) with other MS4 permittees that discharge to the same or adjacent eight digit hydrologic unit within the same basin to implement BMPs collectively. The MOU shall include a mechanism for dividing the POC reductions created by BMP implementation between the cooperative MS4s.
  - (d) Utilization of any pollutant trading or offset program in accordance with §62.1-44.19:20 through 62.1-44.19:23 et seq. of the Code of Virginia governing trading and offsetting.
  - (e) A more stringent average land cover condition based on less than 16% impervious cover for new sources initiating construction between July 1, 2009, and June 30, 2014, and all grandfathered projects where allowed by law; and
  - (f) Any BMPs installed after June 30, 2009, as part of a retrofit program may be applied towards meeting the required load reductions provided any necessary baseline reductions are not included.
- 3) The permittee shall address any modification to the TMDL or watershed implementation plan that occurs during the term of this state permit as part of its permit reapplication as required in Part II.M of this state permit.
  - 4) The Chesapeake Bay TMDL Action Plan shall become effective and enforceable upon written approval from the Department.
- c) Chesapeake Bay TMDL Action Plan Implementation
    - 1) The permittee shall implement the TMDL action plan required in Part I.D.1.b)1) of this state permit according to the schedule therein. Compliance with this requirement represents adequate progress for this state permit term towards achieving TMDL wasteload allocations consistent with the assumptions and requirements of the TMDL.



## HENRICO COUNTY MS4 PROGRAM PLAN

2) For the purposes of this state permit, the implementation of the following represents implementation to the maximum extent practicable and demonstrates adequate progress:

(a) Implementation of turf and landscape nutrient management plans in accordance Part I.B.2.d);

(b) Implementation of construction site runoff controls in Part I.B.2.a) in accordance with this state permit shall address discharges from transitional sources;

(c) Implementation of the means and methods to address discharges from new sources in accordance with requirements in Part I.B.2.a) for post-construction runoff from areas of new development and development on prior developed lands to offset 5% of the total increase in POC loads between July 1, 2009 and June 30, 2014 required in Part I.D.1.b)1)(g) and to offset increases in the POC load from grandfathered projects initiating construction after July 1, 2014 prior to completion of the project as required in Part I.D.1.b)1)(h); and,

(d) Implementation of means and methods sufficient to meet 5% required reductions of POC loads from existing sources defined in this state permit in accordance with the Chesapeake Bay TMDL Watershed Implementation Plan as required in Part I.D.1.b)1)(e).

### d) Annual Reporting Requirements

1) In accordance with Part I D.1.b)1), the permittee shall submit the Chesapeake Bay TMDL Action Plan with the annual report due March 31, 2017.

2) Beginning with the annual report due March 31, 2018, Each annual report shall include a list of control measures implemented during the reporting period and the cumulative progress toward meeting the compliance targets for total nitrogen, phosphorus, and total suspended solids.

3) Beginning with the annual report due March 31, 2018, each annual report shall include a list of control measures that were implemented during the reporting cycle and the estimated reduction achieved by the control. For stormwater management controls, the report shall include the information required in Part I.C.3.a) and shall include whether an existing stormwater management control was retrofitted, and if so, the existing stormwater management control type

## HENRICO COUNTY MS4 PROGRAM PLAN

retrofit used.

- 4) Beginning with the annual report due March 31, 2018, each annual report shall include a list of control measures that are expected to be implemented during the next reporting period and the expected progress toward meeting the compliance targets for total nitrogen, total phosphorus, and total suspended solids.
- 5) The permittee shall include the following as part of its reapplication package due in accordance with Part II.M:
  - (a) Documentation that sufficient control measures have been implemented (or documentation detailing that implementation will be complete by the expiration date of this state permit) to meet the compliance target identified in this Special Condition. If temporary credits or offsets have been purchased in order to meet the compliance target, the list of temporary reductions utilized to meet the 5% reduction in this state permit and a schedule of implementation to ensure a permanent 5% reduction shall be provided; and
  - (b) A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing POC loads by an additional seven times the required reductions in loading rates using Table 2 of Part I.D.1.b) of this state permit unless alternative calculations have been provided by the Commonwealth;
  - (c) An additional 35% reduction in new sources developed between 2009 and 2014 and for which the land use cover condition was greater than 16%; and
  - (d) Accounting for any modification to the applicable loading rate provided to the permittee as a result of TMDL modification.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.D.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

#### **Public Works (DPW)**

## HENRICO COUNTY MS4 PROGRAM PLAN

No later than **March 31, 2017**, DPW will develop an approvable, phased Chesapeake Bay TMDL Action Plan that addresses the requirements specified in the MS4 Permit. DPW will consider the *Chesapeake Bay TMDL Special Condition Guidance* dated 5/18/15 and released by the Virginia Department of Environmental Quality (DEQ) in development of the Chesapeake Bay TMDL Action Plan.

No later than **March 31, 2017**, DPW will submit the approvable, phased Chesapeake Bay TMDL Action Plan to the Department of Environmental Quality for review and approval.

DPW will implement the approved Chesapeake Bay TMDL Action Plan according to the schedule specified in the action plan and in accordance with the requirements specified in the MS4 Permit.

DPW will submit a copy of the Chesapeake Bay TMDL Action Plan with the annual report due **March 31, 2017**.

Beginning with the annual report due **March 31, 2018**, DPW will include a list of control measures implemented during the reporting period and the cumulative progress toward meeting the compliance targets for total nitrogen, phosphorus, and total suspended solids in the annual reports due **March 31**.

Beginning with the annual report due **March 31, 2018**, DPW will include a list of control measures that were implemented during the reporting period and the estimated reduction achieved by the control in the annual reports due **March 31**. For stormwater management controls, the report will include the information required in Part I.C.3.a) and whether an existing stormwater management control was retrofitted, and if so, the existing stormwater management control type retrofit used.

Beginning with the annual report due **March 31, 2018**, DPW will include a list of control measures that are expected to be implemented during the next reporting period and the expected progress toward meeting the compliance targets for total nitrogen, total phosphorus, and total suspended solids in the annual reports due **March 31**.

DPW will include the following as part of its reapplication package to be submitted to DEQ no later than **October 31, 2019**:

1. Documentation that sufficient control measures have been implemented (or documentation detailing that implementation will be complete by the expiration date of this state permit) to meet the compliance target identified in this Special

## HENRICO COUNTY MS4 PROGRAM PLAN

Condition. If temporary credits or offsets have been purchased in order to meet the compliance target, the list of temporary reductions utilized to meet the 5% reduction in this state permit and a schedule of implementation to ensure a permanent 5% reduction shall be provided;

2. A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing POC loads by an additional seven times the required reductions in loading rates using Table 2 of Part I.D.1.b) of this state permit unless alternative calculations have been provided by the Commonwealth;
3. An additional 35% reduction in new sources developed between 2009 and 2014 and for which the land use cover condition was greater than 16%; and
4. Accounting for any modification to the applicable loading rate provided to the permittee as a result of TMDL modification.

PART I.D.1  
TMDL ACTION PLAN AND IMPLEMENTATION  
CHESAPEAKE BAY SPECIAL CONDITION

**The permittee shall submit the Chesapeake Bay TMDL Action Plan to the Department for review and acceptance with the annual report due March 31, 2017.**

Noted.

**Beginning with the annual report due on March 31, 2018, the permittee shall include a list of control measures implemented during the reporting period and the cumulative progress toward meeting the compliance targets for total nitrogen, phosphorus, and total suspended soils.**

Noted.

**Beginning with the annual report due March 31, 2018, each annual report shall include a list of control measures that were implemented during the reporting cycle and the estimated reduction achieved by the control. For stormwater management controls, the report shall include the information required in Part I.C.3.a) and shall include whether an existing stormwater management control was retrofitted, and if so, the existing stormwater management control type retrofit used**

Noted.

**Beginning with the annual report due March 31, 2018, each annual report shall include a list of control measures that are expected to be implemented during the next reporting period and the expected progress toward meeting the compliance targets for total nitrogen, total phosphorus, and total suspended solids.**

## HENRICO COUNTY MS4 PROGRAM PLAN

Noted.

**The permittee shall include the following as part of its reapplication package due no later than September 1, 2020:**

- (a) Documentation that sufficient control measures have been implemented (or documentation detailing that implementation will be complete by the expiration date of this state permit) to meet the compliance target identified in this Special Condition. If temporary credits or offsets have been purchased in order to meet the compliance target, the list of temporary reductions utilized to meet the 5% reduction in this state permit and a schedule of implementation to ensure a permanent 5% reduction shall be provided; and**
- (b) A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing POC loads by an additional seven times the required reductions in loading rates using Table 2 of Part I.D.1.b) of this state permit unless alternative calculations have been provided by the Commonwealth;**
- (c) An additional 35% reduction in new sources developed between 2009 and 2014 and for which the land use cover condition was greater than 16%; and**
- (d) Accounting for any modification to the applicable loading rate provided to the permittee as a result of TMDL modification.**

Noted.

PART I.D.2  
TMDL ACTION PLAN AND IMPLEMENTATION  
TMDL ACTION PLANS OTHER THAN  
THE CHESAPEAKE BAY TMDL

**PERMIT LANGUAGE**

a) TMDL Action Plan Development

The permittee shall maintain an updated MS4 Program Plan that includes TMDL Action Plans for pollutants in which wasteloads have been allocated to the MS4 in approved TMDLs. Approved TMDLs as of the effective date of this state permit are included in Attachment A of this state permit. TMDL Action Plans may be implemented in multiple phases over more than one permit cycle using the adaptive iterative approach provided adequate progress is made to reduce pollutant discharges in a manner that is consistent with the assumptions and requirements of the applicable TMDL. Progress shall be demonstrated by representative and adequate monitoring or other methods (e.g. modeling) as described in Part I.D.2.b)5) below. These TMDL Actions Plans shall identify the best management practices and other interim milestone activities to be implemented during the remaining term of this state permit. The plan shall include an estimated end date for achieving the applicable wasteload allocations and, for planning purposes, a projection of BMPs and other implementation steps expected to address the WLA, outside of the permit term, as applicable.

- 1) No later than 24 months after the effective date of this state permit, the permittee shall submit to the Department TMDL Action Plans to address any new or modified requirements established under this Special Condition for pollutants identified in TMDL wasteload allocations approved prior to the effective date of this state permit.
- 2) The TMDL Action Plans shall become effective and enforceable upon written notification from the Department.
- 3) The TMDL Action Plans shall be incorporated by reference into this state permit.

b) TMDL Action Plan content

The permittee shall:

## HENRICO COUNTY MS4 PROGRAM PLAN

- 1) Develop and maintain a list of its legal authorities such as ordinances, permits, order, specific contract language, and inter-jurisdictional agreements applicable to reducing the pollutant identified in a WLA;
  - 2) Identify and maintain an updated list of all additional management practices, control techniques and system design and engineering methods, beyond those identified in Part I.B of this state permit, that have been implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA;
  - 3) Enhance the public education and outreach and employee training programs to also promote methods to eliminate and reduce discharges of the pollutants identified in the WLA;
  - 4) Assess all significant sources of pollutant(s) from facilities of concern owned or operated by the MS4 operator that are not covered under a separate VPDES industrial stormwater permit and identify all municipal facilities that may be a significant source of the identified pollutant. For the purpose of this assessment, a significant source of pollutant(s) from a facility of concern means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL. (For example, a significant source of pollutant from a facility of concern for a bacterial TMDL would be expected to be greater at a dog park than at other recreational facilities where dogs are prohibited);
  - 5) Develop and implement a method to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs. The evaluation shall use any newly available information, representative and adequate water quality monitoring results, or modeling tools to estimate pollutant reductions for the pollutant(s) of concern from implementation of the MS4 Program Plan. Monitoring may include BMP, outfall, or in-stream monitoring, as appropriate, to estimate pollutant reductions. The permittee may conduct monitoring, utilize existing data, establish partnerships, or collaborate with other MS4 permittees or other third parties, as appropriate. This evaluation shall include assessment of the facilities identified in Part I.D.2.b)4) above. The methodology used for assessment shall be described in the TMDL Action Plan.
  - 6) Solicit public input on the draft TMDL Action Plan and consider public comments in development of the final TMDL Action Plan that is submitted to the Department for review and approval.
- c) This state permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the treatment works that are not consistent with the permit requirements.



## HENRICO COUNTY MS4 PROGRAM PLAN

- d) Analytical methods for any monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the Environmental Protection Agency (EPA). Where an approved 40 CFR Part 136 method does not exist, the permittee shall use a method consistent with the TMDL.
- e) The permittee is encouraged to participate as a stakeholder in the development of any TMDL implementation plans applicable to their discharge. The permittee may incorporate applicable best management practices identified in the TMDL implementation plan in the MS4 Program Plan.
- f) Annual Reporting Requirements
  - 1) The permittee shall submit the required TMDL Action Plans to the Department for review and acceptance with the annual report due March 31, 2017.
  - 2) Beginning with the annual report due on March 31, 2018, the permittee shall report on the implementation of the TMDL Action Plans and associated evaluation including the results of any monitoring conducted as part of the evaluation.
- g) The permittee shall identify the best management practices and other steps that will be implemented during the next permit term as part of the permittee's reapplication for coverage as required under Part II.M. The permittee shall also evaluate and modify the estimated end date for achieving the applicable wasteload based on information acquired during the permit cycle.

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.D.2 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

#### **Public Works (DPW)**

No later than **March 31, 2017**, DPW will develop TMDL Action Plans that address the requirements specified in the MS4 Permit for the pollutants identified in *Attachment A: Applicable TMDL Wasteload Allocations* of the MS4 Permit. DPW will consider the *Local TMDL Action Plan Guidance* dated April 2015 and released by the Virginia Department of Environmental Quality (DEQ) in development of these action plans.

## HENRICO COUNTY MS4 PROGRAM PLAN

DPW will submit copies of the required TMDL Action Plans to DEQ for review and approval with the annual report due **March 31, 2017**.

Beginning with the annual report due on March 31, 2018, DPW will include a report on the implementation of the TMDL Action Plans (including an evaluation of the effectiveness in reducing the pollutants identified in the WLAs and the results of any monitoring conducted as part of the evaluation) in the annual reports due **March 31**.

DPW will identify the best management practices and other steps that will be implemented during the next permit term and an evaluation of the estimated end date for achieving the applicable wasteload based on information acquired during the permit cycle as part of the reapplication package to be submitted to DEQ no later than **October 31, 2019**.

HENRICO COUNTY MS4 PROGRAM PLAN

PART I.D.2

TMDL ACTION PLAN AND IMPLEMENTATION  
TMDL ACTION PLANS OTHER THAN  
THE CHESAPEAKE BAY TMDL

**The permittee shall submit the required TMDL Action Plans to the Department for review and acceptance with the annual report due March 31, 2017.**

Noted.

**Beginning with the annual report due on March 31, 2018, the permittee shall report on the implementation of the TMDL Action Plans and associated evaluation including the results of any monitoring conducted as part of the evaluation.**

Noted.

# HENRICO COUNTY MS4 PROGRAM PLAN

## PART I.E ANNUAL REPORTING

### **PERMIT LANGUAGE**

1. The permittee shall submit the annual report to the Department in accordance with the following schedule:

Reporting Period	Annual Report Due Date
April 1, 2015 through December 31, 2015	March 31, 2016
January 1, 2016 through December 31, 2016	March 31, 2017
January 1, 2017 through December 31, 2017	March 31, 2018
January 1, 2018 through December 31, 2018	March 31, 2019
January 1, 2019 through December 31, 2019	March 31, 2020
January 1, 2020 through March 31, 2020	March 31, 2021

2. Each annual report shall include the following background information:
  - a) The permittee and permit number of the program submitting the annual report;
  - b) Any modifications to the MS4 Program Plan as a result of the annual report;
  - c) The reporting dates for which the annual report is being submitted; and,
  - d) Certification as per Part II.K.
3. A summary of the implementation of each of the components established under Part I.B. and an evaluation of the effectiveness of each component. The permittee should attempt to limit any component's narrative summary to no longer than two-pages plus any necessary tables and figures.
4. A summary report of the monitoring programs listed under Part I.C.
5. A summary of the implementation of each component listed under Part I.D.
6. The Specific Reporting Requirements identified in this state permit.

## HENRICO COUNTY MS4 PROGRAM PLAN

### **MS4 PROGRAM ELEMENTS, ROLES, AND RESPONSIBILITIES**

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.E of the MS4 Permit are assigned to the following Departments / Divisions of the County:

#### **Public Works (DPW)**

DPW will develop annual reports that include the following:

1. the permittee;
2. the permit number;
3. the reporting dates for which the annual report is being submitted;
4. any modifications to the MS4 Program Plan;
5. a summary of the implementation of each of the components established under Part I.B. and an evaluation of the effectiveness of each component;
6. a summary report of the monitoring programs listed under Part I.C;
7. a summary of the implementation of each component listed under Part I.D;
8. the Specific Reporting Requirements identified in this state permit; and
9. the certification required under Part II.K.

DPW will submit annual reports to DEQ in accordance with the following schedule:

Reporting Period	Annual Report Due Date
April 1, 2015 through December 31, 2015	<b>March 31, 2016</b>
January 1, 2016 through December 31, 2016	<b>March 31, 2017</b>
January 1, 2017 through December 31, 2017	<b>March 31, 2018</b>
January 1, 2018 through December 31, 2018	<b>March 31, 2019</b>
January 1, 2019 through December 31, 2019	<b>March 31, 2020</b>
January 1, 2020 through March 31, 2020	<b>March 31, 2021</b>

## PART I.F DEFINITIONS

Definitions contained in the Virginia Stormwater Management Act, Part I (9VAC25-870-10) and Federal NPDES rules, 40 CFR Part 122, apply where a definition is not specified below. Unless otherwise specified in this state permit, additional definitions or words or phrases used in this state permit are as follows:

1. "Best management practice" or "BMP" means schedules of activities, prohibitions of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land-disturbing activities.
2. "Board" means the State Water Control Board.
3. "Date brought on line" means the date when the permittee determines that a new stormwater management facility is properly functioning to meet its designed pollutant load reduction.
4. "Department" means the Department of Environmental Quality.
5. "High priority municipal facility" means any facility owned and operated by the permittee or regulated under this state permit includes composting facilities, equipment storage and maintenance facilities, materials storage yards, pesticide storage facilities, public works yards, recycling facilities, salt storage facilities, solid waste handling and transfer facilities, and vehicle storage and maintenance yards.
6. "Industrial land use" means land utilized in connection with manufacturing, processing, or raw materials storage at facilities identified under 40 CFR Part 122.26(b)(14).
7. "Maintenance" means maintenance on the MS4 and associated structural stormwater controls including, but not limited to, activities such as inspections of basins and ponds; repair and replacement of failed controls, mowing grass filter strips; regular removal of litter and debris from dry ponds, forebays and water quality inlets; periodic stabilization and revegetation of eroded areas; periodic removal and replacement of filter media from infiltration trenches and filtration ponds; periodic

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removal of trash and sediment; deep tilling of infiltration basins to maintain capacity; vacuuming or jet hosing of porous pavement or concrete grid pavements; and, removal of litter and debris from wet weather conveyances.

8. "Permittee" means Henrico County.
9. "Physically interconnected" means that one MS4 is connected to a second MS4 in such a manner that it allows for direct discharges to the second system.
10. "Retrofit" means the modification of existing stormwater management facilities, as defined herein, including flood control structures, through construction and/or enhancement in order to address water quality improvements. Retrofit also means the installation or implementation of source reductions to provide water quality improvements on previously developed land where no stormwater source reductions previously existed.

PART II  
CONDITIONS APPLICABLE TO ALL VSMP MS4 PERMITS

**A. MONITORING**

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. Monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this state permit.
3. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements.
4. Samples taken as required by this state permit shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

**B. RECORDS**

1. Monitoring records/reports shall include:
  - a) The date, exact place, and time of sampling or measurements;
  - b) The individual(s) who performed the sampling or measurements;
  - c) The date(s) and time(s) analyses were performed;
  - d) The individual(s) who performed the analyses;
  - e) The analytical techniques or methods used; and



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- f) The results of such analyses.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation; copies of all reports required by this state permit; and records of all data used to complete the registration statement for this state permit, for a period of at least 3 years from the date of the sample, measurement, report or request for coverage. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

### **C. REPORTING MONITORING RESULTS**

1. The permittee shall submit the results of the monitoring required by this state permit with the annual report unless another reporting schedule is specified elsewhere in this state permit.
2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department; or in any format provided that the date, location, parameter, method, and result of the monitoring activity are included.
3. If the permittee monitors any pollutant specifically addressed by this state permit more frequently than required by this state permit using test procedures approved under 40 CFR Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this state permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Department.
4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this state permit.

### **D. DUTY TO PROVIDE INFORMATION**

The permittee shall furnish to the Department, within a reasonable time, any

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information that the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this state permit or to determine compliance with this state permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from its discharge on the quality of surface waters, or such other information as may be necessary to accomplish the purposes of the Clean Water Act and Virginia Stormwater Management Act. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this state permit.

### **E. COMPLIANCE SCHEDULE REPORTS**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this state permit shall be submitted no later than 14 days following each schedule date.

### **F. UNAUTHORIZED STORMWATER DISCHARGES**

Pursuant to § 62.1-44.15:26 of the Code of Virginia, except in compliance with a permit issued by the board, it shall be unlawful to cause a stormwater discharge from a MS4.

### **G. REPORTS OF UNAUTHORIZED DISCHARGES**

Any operator of a regulated MS4 who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 that occurs during a 24-hour period into or upon surface waters; or who discharges or causes or allows a discharge that may reasonably be expected to enter surface waters, shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;

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2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this state permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

### **H. REPORTS OF UNUSUAL OR EXTRAORDINARY DISCHARGES**

If any unusual or extraordinary discharge including “bypass” or “upset”, as defined herein, should occur from a facility and the discharge enters or could be expected to enter surface waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall produce a written report and submit it to the Department within five days of discovery of the discharge in accordance with Part II.1.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the facilities; and

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4. Flooding or other acts of nature.

### I. REPORTS OF NONCOMPLIANCE

The permittee shall report any noncompliance, which may adversely affect surface waters or may endanger public health.

1. An oral report shall be provided within 24 hours to the Department from the time the permittee becomes aware of the circumstances. The following shall be included as information, which shall be reported within 24 hours under this paragraph:
  - a) Any unanticipated bypass; and
  - b) Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
  - a) A description of the noncompliance and its cause;
  - b) The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
  - c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board or its designee may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I if the oral report has been received within 24 hours and no adverse impact on surface waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Part II.I.2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.O.

**NOTE:** The immediate (within 24 hours) reports required in Parts II G, H and I may be made to the Department's Regional Office. Pollution Response Program as found at <http://deg.virginia.gov/Programs/PollutionResponsePreparedness.aspx>.

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**Reports may be made by telephone or by fax. For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24 hour telephone service at 1-800-468-8892.**

4. Whenever the permittee becomes aware of a failure to submit any relevant facts, or submitted incorrect information in any report to the Department, it shall promptly submit such facts or information.

### **J. NOTICE OF PLANNED CHANGES**

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
  - a) The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
    - 1) After promulgation of standards of performance under § 306 of the Clean Water Act that are applicable to such source; or
    - 2) After proposal of standards of performance in accordance with § 306 of the Clean Water Act that are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.
  - b) The permittee plans alteration or addition that would significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in this state permit; or
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

### **K. SIGNATORY REQUIREMENTS**

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1. Permit Applications. All permit applications shall be signed as follows:
  - a) For a corporation: by a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
  - b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
  - c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a public agency includes:
    - 1) The chief executive officer of the agency, or
    - 2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a) The authorization is made in writing by a person described in Part

## HENRICO COUNTY MS4 PROGRAM PLAN

### II.K.1;

- b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the operator. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and
  - c) The written authorization is submitted to the Department.
- 3. Changes to authorization. If an authorization under Part II.K.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2 shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
  - 4. Certification. Any person signing a document under Parts II.K.1 or 2 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

## **L. DUTY TO COMPLY**

The permittee shall comply with all conditions of this state permit. Any permit noncompliance constitutes a violation of the Virginia Stormwater Management Act and the Clean Water Act, except that noncompliance with certain provisions of this state permit may constitute a violation of the Virginia Stormwater Management Act but not the Clean Water Act. Permit noncompliance is grounds

## HENRICO COUNTY MS4 PROGRAM PLAN

for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under § 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this state permit has not yet been modified to incorporate the requirement.

### **M. DUTY TO REAPPLY**

If the permittee wishes to continue an activity regulated by this state permit after the expiration date of this state permit, the permittee shall submit a completed EPA Form 1, an updated MS4 Program Plan including benchmarks and milestones for the next permit cycle and the second phase of the Chesapeake Bay TMDL action plan, at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

### **N. EFFECT OF A PERMIT**

This state permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

### **O. STATE LAW**

Nothing in this state permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by § 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U), and "upset" (Part II.V) nothing in this state permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.



**P. OIL AND HAZARDOUS SUBSTANCE LIABILITY**

Nothing in this state permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law or section 311 of the Clean Water Act.

**Q. PROPER OPERATION AND MAINTENANCE**

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this state permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this state permit.

**R. DISPOSAL OF SOLIDS OR SLUDGES**

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering surface waters.

**S. DUTY TO MITIGATE**

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this state permit, which has a reasonable likelihood of adversely affecting human health or the environment.

**T. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this state permit.

**U. BYPASS**

1. "Bypass", as defined in 9VAC25-870-10, means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II.U.2 and U.3.
2. Notice
  - a) Anticipated Bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
  - b) Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.
3. Prohibition of bypass.
  - a) Bypass is prohibited, and the Board or its designee may take enforcement action against a permittee for bypass, unless:
    - 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
    - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
    - 3) The permittee submitted notices as required under Part II.U.2.

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- b) The Board or its designee may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3 a.

### V. UPSET

1. An upset, as defined in 9VAC25-870-10, constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
3. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

An upset occurred and that the permittee can identify the cause(s) of the upset;

- a) The permitted facility was at the time being properly operated;
  - b) The permittee submitted notice of the upset as required in Part II.I. and
  - c) The permittee complied with any remedial measures required under Part II.S.
4. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

### W. INSPECTION AND ENTRY

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The permittee shall allow the Director as the Board's designee, or an authorized representative (including an authorized contractor acting as a representative of the administrator) upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this state permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this state permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this state permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the Virginia Stormwater Management Act, any substances or parameters at any location.

For purposes of this subsection, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

### **X. PERMIT ACTIONS**

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

### **Y. TRANSFER OF PERMITS**

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made,

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to identify the new permittee and incorporate such other requirements as may be necessary under the Virginia Stormwater Management Act and the Clean Water Act.

2. As an alternative to transfers under Part II.Y.1., this state permit may be automatically transferred to a new permittee if:
  - a) The current permittee notifies the Department at least two days in advance of the proposed transfer of the title to the facility or property;
  - b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
  - c) The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

### **Z. SEVERABILITY**

The provisions of this state permit are severable, and if any provision of this state permit or the application of any provision of this state permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this state permit, shall not be affected thereby.

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## Applicable TMDL Wasteload Allocations

TMDL Report	EPA Approval Date	SWCB Approval Date	TMDL Watershed	Pollutant	WLA <sup>1</sup>	WLA Units	The WLA is aggregated between the Henrico County MS4 and these MS4 permittees:
Benthic TMDL Development, Chickahominy River, VA	11/7/2013	3/28/2014	Chickahominy River	Sediment	202.68	tons/year	VDOT MS4 (VAR040115)
E. coli TMDL Development for Chickahominy River and Tributaries, VA (A Nested TMDL Approach)	9/19/2012	3/25/2013	Chickahominy River and Tributaries	Escherichia coli	1.04E+11	cfu/year	VDOT MS4 (VAR040115)
Bacteria TMDL for Fourmile Creek, Henrico County, Virginia	9/20/2004	7/31/2008	Bailey Creek portion of Fourmile Creek Watershed	Escherichia coli	3.99E+10	cfu/year	
Bacteria TMDL for Tuckahoe Creek, Little Tuckahoe Creek, Anderson, Broad, Georges and Readers Branches, and Deep Run, Henrico, Goochland and Hanover Counties, Virginia	9/20/2004	7/31/2008	Tuckahoe Creek and Tributaries	Escherichia coli	1.05E+13	cfu/year	
Bacteria TMDL for White Oak Swamp, Henrico County, Virginia	9/20/2004	7/31/2008	White Oak Swamp	Escherichia coli	1.58E+12	cfu/year	
Bacterial Total Maximum Daily Load Development for the James River and Tributaries - City of Richmond	11/4/2010	6/29/2012	Almond Creek	Escherichia coli	1.18E+12	cfu/year	MS4 VDOT
			Gillies Creek	Escherichia coli	5.78E+11	cfu/year	MS4 VDOT
			James River (lower) Impaired	Escherichia coli	3.50E+13	cfu/year	MS4 VDOT

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			James River (tidal)	Escherichia coli	1.36E+12	cfu/year	MS4 VDOT
			James River (upper) delisted	Escherichia coli	5.69E+12	cfu/year	MS4 VDOT
			James River (lower) delisted	Escherichia coli	4.74E+13	cfu/year	MS4 VDOT
Chesapeake Bay TMDL	12/29/2010		Chickahominy River oligohaline estuary	Total Nitrogen	25,385.25	lbs/year	All regulated stormwater permits
				Total Phosphorus	13,337.88	lbs/year	All regulated stormwater permits
				Total Suspended Solids	522,195.38	lbs/year	All regulated stormwater permits
			James River upper tidal freshwater estuary	Total Nitrogen	150,930.68	lbs/year	All regulated stormwater permits
				Total Phosphorus	20,531.88	lbs/year	All regulated stormwater permits
				Total Suspended Solids	4,435,348.87	lbs/year	All regulated stormwater permits
Total Maximum Daily Load Development for the Upham Brook Watershed	7/24/2008	4/28/2009	Upham Brook and Tributaries	E. coli	-	-	WLA to be addressed in TMDL IP