

# VSMP Administrative Guidance Manual

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## 1.0 Introduction

As per § 62.1-44.15:27 of the Code of Virginia, Gloucester is required to develop and administer the Virginia Stormwater Management Program (VSMP) starting July 1, 2014. This Administrative Guidance Manual (Manual) was prepared for Gloucester, the VSMP Authority, to comply with 9VAC25-870-148 – VSMP and erosion and sediment control administrative requirements to implement and enforce the regulations and includes guidance for reviewing stormwater pollution prevention plans (SWPPPs), obtaining and releasing of bonds, completing site inspections, reporting and recordkeeping, enforcement, and long-term maintenance and inspection programs.

This manual is also intended to provide guidance to the development community regarding requirements and expectations for erosion and sediment control and stormwater management plan submittals, in accordance with 9VAC25-840 and 9VAC25-870, respectively.

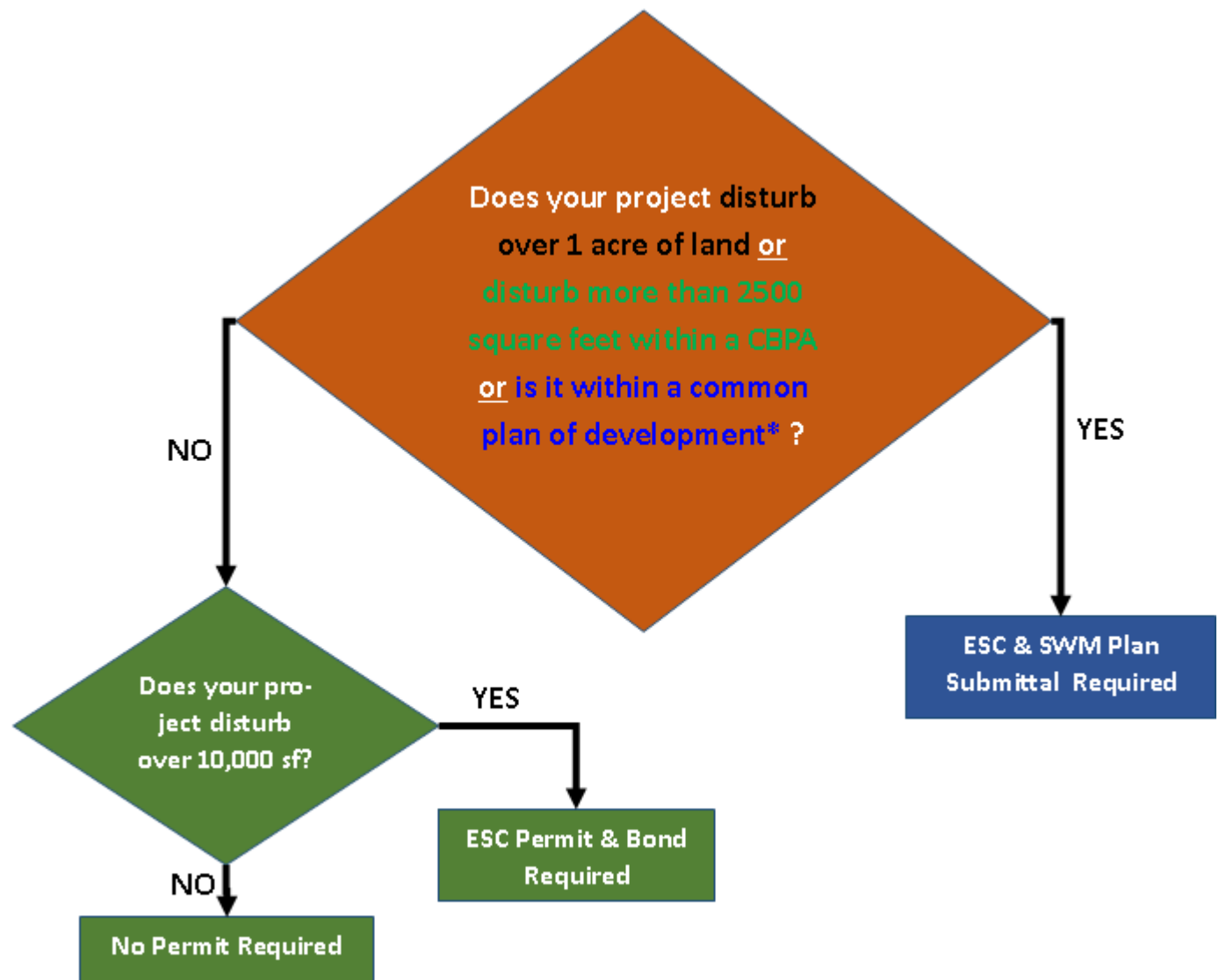
For reference, the [Virginia Stormwater Management Act](#) (§62.1-44.15:24 et seq), the [VSMP Regulations](#) (9VAC25-870), and [Gloucester's Stormwater Management Ordinance](#) can be found in Appendix A, B, and C, respectively. Please note the Virginia law and regulations provided may not be the latest; refer to <http://townhall.virginia.gov/L/ViewBoard.cfm?BoardID=103> for the latest documents.

The information contained in this document is subject to change without notification and may be updated for compliance with any subsequent changes in laws and regulations.

## 2.0 Applicability

Pursuant to § 62.1-44.15:34 of the Code of Virginia, a stormwater management (SWM) plan and related submittals are required if a land-disturbing activity is

1. Equal to or greater than one (1) acre, or
2. Greater than 2500 square feet within a designated Chesapeake Bay Preservation Area (CBPA), or
3. Part of a Common Plan of Development or Sale (\*Refer to section 3.1 below for exceptions and additional information).



## 3.0 Supplemental Guidance

### 3.1 Common Plan Of Development or Sale

The VSMP permit regulations require a local VSMP permit and registration statement under the General Permit for Discharges of Stormwater from Construction Activities (General Permit) for any land disturbance activities, including land disturbing activities less than one (1) acre, within a 'common plan of development', except as noted in section 3.1.4 below. In reviewing the applicability of § 62.1-44.15:34 of the Code of Virginia to a particular project and as the VSMP Authority, Gloucester County will use the following guidance to determine whether a stormwater permit is required.

- 3.1.1 Definition of a 'Plan' in a Common Plan of Development: As per the USEPA, the 'plan' in a common plan of development or sale is defined "...as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that construction activities may occur on a specific plot."
- 3.1.2 Time Limitations: A local VSMP permit is required for any land disturbance on individual lots regardless of size, unless excepted as noted in 3.1.4 below, within a common plan of development only if the common plan of development received VSMP permit coverage on or after July 1, 2014.
- 3.1.3 Options for Compliance: If a local VSMP permit is deemed required for the land disturbance within a 'common plan of development', the applicant has two options:
  - 1) transfer the original VSMP from the developer to the applicant or
  - 2) apply for new permit coverage.
- 3.1.4 Exceptions: The VSMP Authority may elect to waive permit coverage under the following situations.
  - 1) Single-Family Homes: For land disturbing activity less than 1 acre and within a common plan of development, where the stormwater management plan for the larger common plan of development or sale provides permanent control measures (ie. stormwater management facilities for quantity and quality controls) encompassing the single family residence in accordance with 9VAC25-880-50 , the state will authorize coverage automatically (no registration statement is needed) and the Applicant will not have to pay the Department (DEQ) portion of fee.
  - 2) When the 'common plan of development' construction documents and SWPPP accounted for stormwater management (quantity and quality) for the entire development, including grading plans and footprints of impervious surfaces for individual lots.

- 3) When only a small portion of the original common plan of development remains undeveloped and no ongoing construction activities (i.e., all areas are either undisturbed or have been finally stabilized) have taken place for one year or greater. In this case, the VSMP Authority may re-evaluate the land disturbance based on the acreage remaining from the original "common plan."
  - 4) If less than one acre remains of the original common plan, the individual project may be treated as part of a less than one acre development and no permit would be required.
- 3.1.5 Other Criteria: If less than five but more than one acre remains to build out the original "common plan" a permit may still be required, but you can treat your project as part of a "small" construction activity and may be eligible for the waivers available for small construction activities (e.g., one of six lots totaling 2 acres in a 50 acre subdivision can be treated as part of a 2 acre rather than 50 acre "common plan").

### 3.2 TMDL Specific Requirements

Locality	TMDL	Status	Pollutant	Problems/Recommendations
Essex	None	n/a	n/a	n/a
King & Queen	None	n/a	n/a	n/a
King William	None	n/a	n/a	n/a
Mathews	<a href="#">Piankatank</a>	Draft	Bacteria	Livestock exclusion, Ag. Vegetated buffers, animal waste control facility (Ag.), Septic system repair/replacement, Res. Vegetated Buffer, Pet waste composters, alternative on-site waste treatment systems, education programs
Middlesex	<a href="#">Piankatank</a>	Draft	Bacteria	Livestock exclusion, Ag. Vegetated buffers, animal waste control facility (Ag.), Septic system repair/replacement, Res. Vegetated Buffer, Pet waste composters, alternative on-site waste treatment systems, education programs
Gloucester	<a href="#">Piankatank</a>	Draft	Bacteria	Livestock exclusion, Ag. Vegetated buffers, animal waste control facility (Ag.), Septic system repair/replacement, Res. Vegetated Buffer, Pet waste composters, alternative on-site waste treatment systems, education programs
Town of West Point	None	n/a	n/a	n/a
Chesapeake Bay	Chesapeake Bay	Final	Nitrogen, Phosphorus, & Sediment	Statewide Stormwater Program Update

### 3.3 Licensed Professional

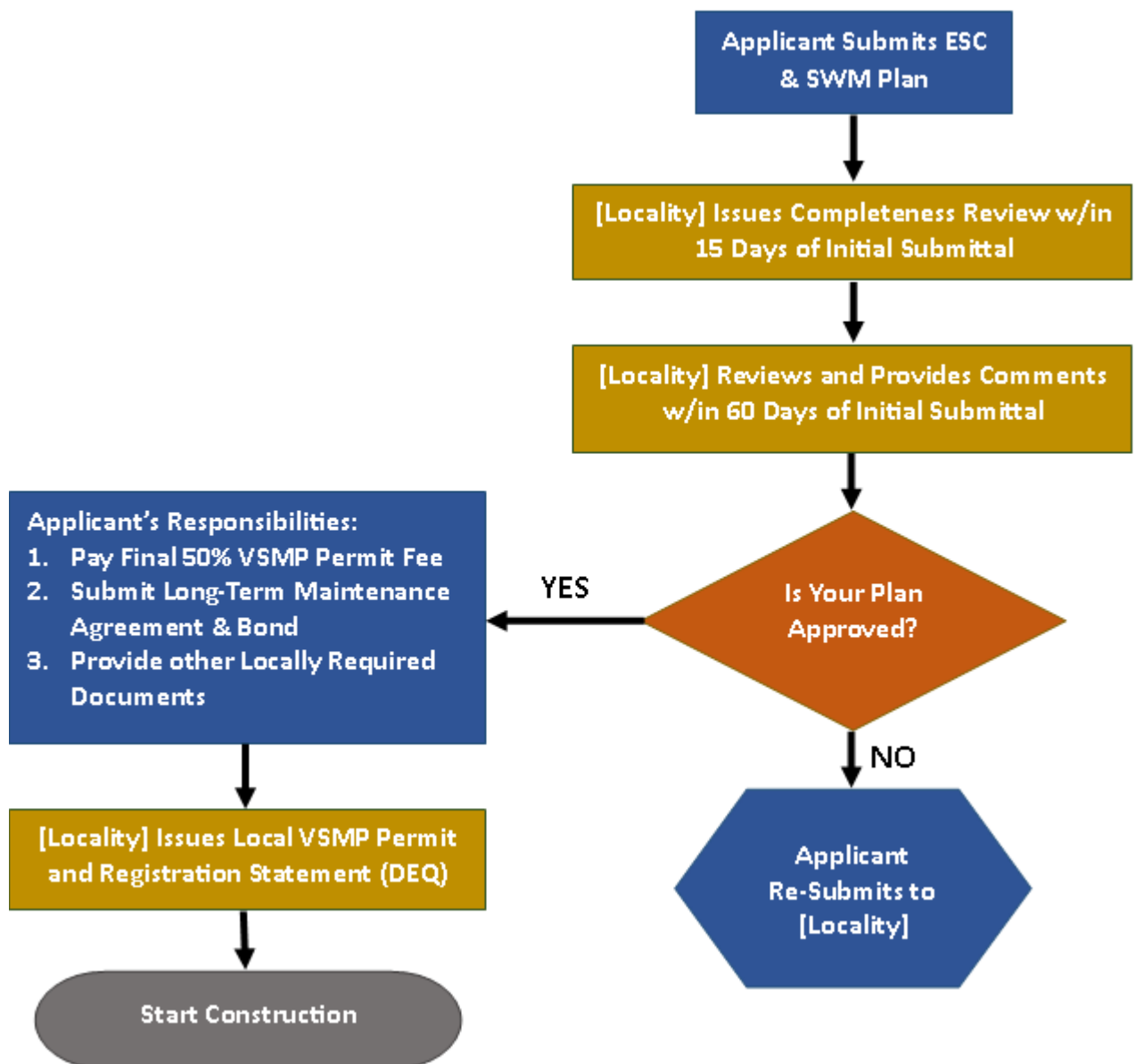
- 3.3.1 A Licensed Professional must certify the sections required by 9VAC25-870 and this document and shall be registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia. A Licensed Professional means one of the following: Professional engineer, land surveyor, architect, and landscape architect.

## 4.0 General SWM Plan Review Guidance

### 4.1 Process Description

The [VSMP Project Process Plan](#) provided in Appendix D is provided as a quick reference guide responsibilities and requirements of the Applicant (and Owner) and the Authority regarding plan approval, construction inspection, and post-construction inspections for a project.

The following is a flow chart summarizing the VSMP Project Process Plan.



#### **4.2 Application for Coverage under the General Permit for Discharges of Stormwater from Construction Activities**

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). The Department portion of the General Permit fee is provided in 9VAC25-870-820 and shall be payable to the Commonwealth of Virginia Gloucester County. A copy of the General Permit and Registration Statement can be found in Appendix E and F, respectively. The Fee Form may be found in Appendix H.

#### **4.3 Local VSMP Permit Fees**

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). A summary of the local VSMP permit stormwater fees is provided in the fee schedule.

In addition to the local VSMP fees, the Authority may elect to impose an additional fee to complete reviews beyond the initial, first, and second (a total of three (3)) submittals of a project. In accordance with §62.1-44.15.36, this fee will be assessed as per the hourly rate of the reviewing agency to a maximum of \$1,000.

#### **4.4 Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist**

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). The Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist can be found in Appendix G.

#### **4.5 Completeness Review Form**

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). The [Completeness Review Form](#) can be found in Appendix H.

## 5.0 Stormwater Pollution Prevention Plan

The Applicant must provide a Stormwater Pollution Prevention Plan (SWPPP) in accordance with 9VAC25-870-54, including but not limited to, an approved erosion and sediment control plan, an approved stormwater management plan, and a pollution prevention plan. For the convenience of the Applicant and the Authority reviewing the plan a [Comprehensive SWPPP](#) template is provided in Appendix I for the narrative portions of the SWPPP. The Applicant is encouraged to use this format to complete the required sections of the SWPPP.

NOTE: Sections 1 -Site Information, 2-Erosion and Sediment Control, 3-Pollution Prevention, and 4-Stormwater Management of the Comprehensive SWPPP are required for the plan review submittal, as noted below. **Sections 5 – Construction Inspections and Maintenance, 6-Training, and 7-Final Stabilization of the Comprehensive SWPPP are not required to be completed at time of plan review submittal. However, these sections must be completed by the Applicant and/or the Contractor prior to construction.** The Comprehensive SWPPP must be available at the construction site at all times during construction.

### 5.1 Erosion and Sediment Control Plan

The Applicant must provide the Authority a complete report, including narrative and calculations, as required, and plans meeting the requirements and provisions of [reference local ordinance] and Section 1 of the [Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist](#) (Appendix G).

[Erosion control notes](#) are required to be included on the plans. These notes are provided in Appendix J.

#### 5.1.1 Review Guidance

**5.1.1.1 Report:** If the Applicant uses the 'Comprehensive SWPPP' template, the Authority should confirm sections 1 and 2 are completed as noted below. If the Applicant submits the report in a different format, the Authority shall confirm the information in Section 1 of the Erosion and Sediment Control and Stormwater Management Plan Checklist and the items listed below are provided.

- a. Refer to text within [ ] in Comprehensive SWPPP template for additional information and guidance.
- b. Comprehensive SWPPP Template

**SECTION 1: SITE INFORMATION** - All sub-sections of Section 1 of the SWPPP template are to be completed by Applicant with the initial plan

submittal, except Section 1.2 items 1-Operator(s), 2-Site Supervisor(s), 3-Stormwater Manager and SWPPP Contact(s), 5-Subcontractor(s), 6-Responsible Land Disturber, and 7-Emergency 24 Hour Contact.

**\*\*However, Section 1.2 items 1, 2, 3, 5, 6, and 7 must be provided prior to construction.\*\***

SECTION 2: EROSION AND SEDIMENT CONTROL - All sections are to be completed by Applicant with the initial plan submittal.

- a. For Section 2.8 Structural Practices and Section 2.9 Vegetative Practices, the Applicant may either note 'not applicable' or delete those practices not required for the project.
- b. Confirm calculations are provided in the Appendix or elsewhere in the report for the following practices.
  1. Diversion (3.12)
  2. Temporary sediment trap(s) (3.13)
  3. Temporary sediment basin(s) (3.14)
  4. Paved Flume (3.16)
  5. Stormwater conveyance channel(s) (3.17)
  6. Outlet Protection (3.18)
  7. Level Spreader (3.21)
  8. Temporary Vehicular Stream Crossing (3.24)
  9. Subsurface Drain (3.28)
- c. Spot check the calculations for accuracy.
- d. Confirm Section 2.11 Phased Construction Activities is completed.
- e. Confirm the Section 2 Required Certification is signed and sealed by a Licensed Professional registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.

5.1.1.2 Plans: The Authority shall confirm the appropriate erosion and sediment control practices are proposed and, if so, designed in accordance with the Virginia Erosion and Sediment Control Handbook, Latest Edition (Handbook); refer to the standards and specifications found in the Handbook.

- a. Confirm details for each proposed practice is provided.
- b. Confirm general erosion and sediment control notes are provided.
- c. Confirm compliance with Section 1 of the Stormwater Management Plan Checklist.
- d. Confirm plans are signed and sealed by a Licensed Professional.

#### 5.1.1.3 Resources

- a. Virginia Erosion and Sediment Control Handbook:  
<http://www.deq.state.va.us/Programs/Water/StormwaterManagement/Publications/ESCHandbook.aspx>

## 5.2 Stormwater Management Plan

The Applicant must provide the Authority a complete report, including narrative and calculations, as required, and plans meeting the requirements and provisions of [reference local ordinance] Ordinance and the [Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist](#).

### 5.2.1 Review Guidance

**5.2.1.1 Report:** If the Applicant uses the 'Comprehensive SWPPP' template, the Authority should confirm Sections 1 -Site Information, 2-Erosion and Sediment Control, 3-Pollution Prevention, and 4-Stormwater Management are completed. If the Applicant submits the report in a different format, the Authority shall confirm the information in Section 4 of the Comprehensive SWPPP, Section 2 of the Erosion and Sediment Control and Stormwater Management Plan Checklist, and the items listed below are provided.

- a. Refer to text within [ ] in Comprehensive SWPPP template for additional information and guidance.
- b. Confirm the required calculations are provided in the Appendix or elsewhere in the report.
- c. Spot check the calculations for accuracy.
- d. Confirm the Report is certified and is signed and sealed by a Licensed Professional registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.

**5.2.1.2 Plans:** The Authority shall confirm the appropriate stormwater practices are proposed and, if so, designed in accordance with the Virginia Stormwater BMP Clearinghouse. <http://vwrrc.vt.edu/swc/>

- a. Confirm details for each proposed practice are provided.
- b. Confirm required notes are provided.

- c. Confirm compliance with Section 2 of the Erosion and Sediment Control and Stormwater Management Plan Checklist.
- d. Confirm plans are signed and sealed by a Licensed Professional registered in the Commonwealth of Virginia pursuant to Article 1 (§54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.
- e. **Only the BMPs included in the Virginia Stormwater BMP Clearinghouse are permitted; localities shall not approve the use of BMPs not included in the Clearinghouse.**

#### 5.2.2 Technical Requirements

**NOTE: If the project is deemed 'Grandfathered' as per the Regulations, Part II C technical criteria found in 9VAC25-870 shall apply.**

##### 5.2.2.1 General Stormwater Management and BMP Design Guidance

- a. DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)  
<http://www.deq.state.va.us/Programs/Water/LawsRegulationsGuidance/Guidance/StormwaterManagementGuidance.aspx>

##### 5.2.2.2 Runoff Reduction Method

- a. Runoff Reduction Method Compliance Spreadsheets: Refer to Appendix K.
- b. Examples and Guidance: Chapter 12 of the DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)  
[http://www.deq.state.va.us/Portals/0/DEQ/Water/Guidance/SWMHandbook/45\\_Chap%2012.pdf](http://www.deq.state.va.us/Portals/0/DEQ/Water/Guidance/SWMHandbook/45_Chap%2012.pdf)

##### 5.2.2.3 Energy Balance Equation

- a. Chapter 11.6 – Water Quantity Control of the DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)  
<http://www.deq.state.va.us/Programs/Water/LawsRegulationsGuidance/Guidance/StormwaterManagementGuidance.aspx>

## 5.2.3 Allowable Calculation Methodologies

### 5.2.3.1 Hydrologic

- a. For sites with watersheds exceeding 200 acres, the Soil Conservation Service (SCS) based methodology (TR-55 or TR-20) should be used for the design of stormwater management/BMP facilities.
- b. If a site is less than 200 acres, SCS based methodology is preferred; however, modified rational method or rational method may be use at the discretion of the VSMP Authority.
- c. The modified runoff curve number as provided by the runoff reduction spreadsheet for each drainage area should be used for water quantity calculations.

### 5.2.3.2 Hydraulic

- a. Appendix 11-D – Stormwater Computer Models of the DRAFT Virginia Stormwater Management Handbook (2nd Edition, 2013)  
<http://www.deq.state.va.us/Programs/Water/LawsRegulationsGuidance/Guidance/StormwaterManagementGuidance.aspx>

## 5.2.4 Other Resources

1. BMP Clearinghouse: <http://vwrrc.vt.edu/SWC/NonProprietaryBMPs.html>
2. Hydrologic Unit Code:  
[http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=public/wimby](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=public/wimby)
3. Soils Maps: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
4. Rainfall Values:  
[http://hdsc.nws.noaa.gov/hdsc/pfds/pfds\\_map\\_cont.html?bkmrk=va](http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=va)

### 5.3 Pollution Prevention Plan

A Pollution Prevention Plan must be completed prior to construction by either the Applicant or Contractor and must be included in the SWPPP located at the project site during construction. Refer to the [Comprehensive SWPPP](#) template also found in Appendix I.

The Authority is not required to review the Pollution Prevention Plan for plan approval.

#### 5.3.1 Review Guidance

5.3.1.1 Refer to text within [ ] in Comprehensive SWPPP template for additional information and guidance.

5.3.1.2 Pollution Prevention Plan, required by 9VAC25-870-56, shall be developed, implemented, and updated as necessary and must detail the design, installation, implementation, and maintenance of effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
2. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.
4. The pollution prevention plan shall include effective best management practices to prohibit the following discharges:
5. Wastewater from washout of concrete, unless managed by an appropriate control;
6. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
7. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
8. Soaps or solvents used in vehicle and equipment washing.
9. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.

## 6.0 Other VSMP Permit Requirements

### 6.1 Long-Term Stormwater Facility Maintenance Agreement

A [Long-Term Stormwater Facility Maintenance Agreement](#) (Appendix L) must be submitted by the Applicant and approved by the Authority prior to issuance of the VSMP permit for construction. Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#).

### 6.2 Erosion and Sediment Control and Stormwater Management Bonds / Letters of Credit

Erosion and Sediment Control and Stormwater Management Bonds / Letters of Credit must be submitted by the Applicant and approved by the Authority prior to issuance of the VSMP permit for construction. The Applicant shall use the [Erosion and Sediment Control and Stormwater Management Bond calculator](#) also provided in Appendix M to determine the amount used by the County to evaluate the value for the bond or letter of credit. Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). Final surety value to be determined by VSMP authority.

Notes:

## 7.0 Construction Inspections

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#). A [VSMP Permit & SWPPP Construction Inspection Report](#) form is provided in Appendix N.

### 7.1 Resources

7.1.1 Virginia Erosion and Sediment Control Handbook:

<http://www.deq.state.va.us/Programs/Water/StormwaterManagement/Publications/ESCHandbook.aspx>

7.1.2 Stormwater management facilities construction guidance - BMP Clearinghouse:

<http://vwrrc.vt.edu/SWC/NonProprietaryBMPs.html>

## 8.0 Construction Closeout Documentation

### 8.1 Stormwater Management Facility Construction Record Report Requirements

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#) and the [Construction Record Drawing Checklist for Permanent Stormwater Management Facilities](#) (Appendix O).

### 8.2 Project Completion Form

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#) and the [VSMP Project Completion Form](#) (Appendix P).

### 8.3 Release of Erosion and Sediment Control and Stormwater Management Bonds / Letters of Credit

Refer to responsibilities and notes provided in the [VSMP Project Process Plan](#).

## 9.0 Post-Construction Inspections

As per the recorded Long-Term Stormwater Management Facility Maintenance Agreement and [Local Ordinance], Gloucester County shall enforce compliance of the post-construction inspections via use of a tracking program (TBD). The [Post-Construction Inspection Checklist](#) (Appendix Q) for the relevant BMP(s) shall be used to document post-construction inspections.

### 9.1 Inspection Frequency

Table 9.1 – Stormwater Management BMP Inspection Frequencies

BMP Classification	BMP Type	Minimum Inspection Schedule	Notes
1	Rooftop Disconnection	Every 5 Years	Owner shall inspect and provide documentation as per the requirements found on the Virginia Stormwater BMP Clearinghouse Website and the Administrative Guidance Manual for BMPs, except for BMP Classification 1 facilities, where Gloucester County will be responsible for obtaining inspection information. Gloucester County will be responsible for obtaining inspection information on all BMPs every 5 years.
1	Sheetflow to Vegetated Filter or Conserved Open Space	Every 5 Years	
1	Grass Channel	Every 5 Years	
1	Soil Amendments	Every 5 Years	
2	Permeable Pavement	Annually	
2	Infiltration	Annually	
2	Bioretention	Annually	
2	Dry Swale	Annually	
2	Wet Swale	Annually	
2	Filtering Practice	Annually	
2	Constructed Wetland	Annually	
2	Wet Pond	Annually	
2	Extended Detention Pond	Annually	
3	Vegetated Roof	Twice per year (Spring/Fall)	
3	Rainwater Harvesting	Twice per year (Spring/Fall)	
4	Manufactured/ Other BMP	Yearly or per manufacturer recommendations, whichever is more frequent.	Owner shall inspect and provide documentation according to manufacturer's guidelines and the Administrative Guidance Manual.

## **9.2 Review Guidance**

The Virginia Stormwater BMP clearinghouse (<http://vwrrc.vt.edu/swc/>) contains updated specifications including maintenance and inspection guidelines for accepted practices within the Commonwealth of Virginia.

## **10.0 Reporting and Recordkeeping Guidance**

### **10.1 Annual Reporting**

On a fiscal year basis (July 1 to June 30), Gloucester County shall report to the Department by October 1 of each year, in a format provided by the Department, the following information.

1. Information on each permanent stormwater management facility completed during the fiscal year to include type of stormwater management facility, geographic coordinates, acres treated, and the surface waters or karst features into which the stormwater management facility will discharge;
2. Number and type of enforcement actions during the fiscal year; and
3. Number of exceptions granted during the fiscal year.

### **10.2 Recordkeeping**

Gloucester County shall keep records in accordance with the following:

1. Project records, including approved stormwater management plans, shall be kept for three (3) years after state permit termination or project completion.
2. Stormwater management facility inspection records shall be documented and retained for at least five (5) years from the date of inspection.
3. Construction record drawings shall be maintained in perpetuity or until a stormwater management facility is removed.
4. All registration statements submitted in accordance with 9VAC25-870-59 shall be documented and retained for at least three (3) years from the date of project completion or state permit termination.

## **11.0 Enforcement Guidance**

Portions of the following are an adaptation of the Stormwater Management Enforcement Manual prepared by the Virginia Soil and Water Conservation Board and the Virginia Department of Conservation and Recreation (DCR) dated February 2006.

<http://www.deq.state.va.us/Portals/0/DEQ/Water/Guidance/ChesBayPreservAct/StormwaterEnforcementManual.pdf>

### **11.1 Introduction**

Gloucester County recognizes that its goal of effective enforcement may be accomplished in most cases through informal means by offering compliance assistance to the regulated community and ensuring that any noncompliance is corrected quickly. Nonetheless, Gloucester County will use the full range of its enforcement authority as needed to deter violations and ensure that its mission to conserve and protect the environment and the health and well-being of the Commonwealth's citizens is fulfilled.

### **11.2 Authority**

Gloucester County is authorized by the Code of Virginia § 62.1-44.15:27 to establish and enforce the Virginia Stormwater Management Program (VSMP).

### **11.3 Violations**

Gloucester County may consider violations to include, but are not limited to:

1. No state permit registration;
2. No SWPPP;
3. Incomplete SWPPP;
4. SWPPP not available for review;
5. No approved erosion and sediment control plan;
6. Failure to install stormwater BMPs or erosion and sediment controls;
7. Stormwater BMPs or erosion and sediment controls improperly installed or maintained;
8. Operational deficiencies;
9. Failure to conduct required inspections; and/or
10. Incomplete, improper, or missed inspections.

### **11.4 Process**

If a violation(s) is noted by the inspector, Gloucester County may follow the subsequent general steps to enforce compliance of the regulations by issuing:

1. Verbal warning and inspection report;
2. Notice of Corrective Action;
3. Stop work order;
4. Emergency special orders;
5. An injunction; and

6. Civil penalty(ies).

### **11.5 Verbal Warning/Inspection Report**

Under circumstances where an inspection reveals routine noncompliance that can be corrected within a reasonably short time, Gloucester County's Administrator may choose to issue a verbal warning accompanied by an inspection report that describes the specific problems and includes a schedule for correcting the noncompliance. A copy of the [VSMP Permit & SWPPP Construction Inspection Report](#) is found in Appendix N.

The purpose of the verbal warning is to give the regulated party responsible for the alleged noncompliance an opportunity to comply voluntarily and thus avoid sanctions that might be imposed by an escalated enforcement response.

### **11.6 Notice of Corrective Action**

In accordance with § 62.1-44.15:37 of the Code of Virginia, when Gloucester County Administrator's initial attempts to secure a voluntary return to compliance are unsuccessful, the Administrator or Department may issue a Notice of Corrective Action (NOCA). Examples of situations where issuance of a NOCA is appropriate include the following:

1. When the regulated party has failed to correct the noncompliance at the site pursuant to a prior Verbal Warning;
2. Where inspections of a construction site indicate a continuing pattern of various routine noncompliance after Gloucester County has issued one or more Verbal Warnings for specific noncompliance; and/or
3. Noncompliance at a construction site is causing an adverse impact to human health or the environment such as a discharge of sediment to a stream or wetland. This situation does not necessarily require prior issuance of a Verbal Warning.

The purpose of a NOCA is to inform the regulated party responsible for the alleged noncompliance of the facts surrounding the allegations, the applicable law, and the potential consequences for failing to address the situation, should the allegations prove true. The NOCA also gives the regulated party an opportunity to refute the allegations or to address the discrepancies described in the NOCA within a specified time.

It is important that field staff gathers sufficient evidence throughout the informal enforcement process to support escalating the enforcement response, should the need arise. For this reason, field staff should carefully document all of the steps of the informal process in inspection reports, photographs, telephones logs, and field notes.

#### **NOCA Process**

1. Except for special circumstances (e.g., ongoing adverse impacts to human health or the environment), past noncompliance should be documented in one or more

Verbal Warning and VSMP Permit & SWPPP Construction Inspection Report issued pursuant to the guidelines in this Manual.

2. Explain to the responsible party in easily understood terms (i) any noncompliance identified during the site inspection or investigation and (ii) describe specific measures needed to achieve compliance. Also explain any (i) documented history of noncompliance at the site, (ii) your decision to issue NOCA, (iii) the reasons for that decision, and (iv) the potential consequences, should the responsible party fail to complete the measures specified in the NOCA within the allotted time (i.e., may result in escalation to formal enforcement, such as a Stop Work Order and potentially a civil charge).
3. Complete the VSMP Permit & SWPPP Construction Inspection Report.
4. Draft the NOCA; refer to Appendix R - [Example Notice of Corrective Action](#) letter.
5. Deliver the approved NOCA by hand or send it by certified mail.
6. Conduct a follow-up inspection to ensure compliance.
7. Under circumstances where the responsible party has not corrected the problem or where significant new noncompliance is identified and if the responsible party has good reason for needing a short extension to complete the agreed upon measures or if the new noncompliance is minor and can be corrected immediately, issue a second NOCA.
8. If professional judgment dictates that issuing a second NOCA is not appropriate, initiate a Stop Work Order by discussing the facts of case with the Administrator.

### **11.7 Stop Work Order**

In accordance with § 62.1-44.15:37 of the Code of Virginia, if a Permittee fails to comply with the verbal warnings, inspection reports recommended corrective actions, and/or NOCA, Gloucester County or Department may issue an order requiring the owner, Permittee, person responsible for carrying out an approved plan, or person conducting the land-disturbing activities without an approved plan or required permit to cease all land-disturbing activities until the violation of the permit has ceased, or an approved plan and required permits are obtained, and specified corrective measures have been completed.

The stop work order shall become effective upon service on the person by mailing, with confirmation of delivery, sent to his address specified in the land records of Gloucester County, or by personal delivery by an agent of the VSMP Authority or Department.

### **11.8 Emergency Special Orders**

In accordance with § 62.1-44.15:25 and § 62.1-44.15:37 of the Code of Virginia, if Gloucester County or the Department finds that any such violation is grossly affecting or presents an imminent and substantial danger to (i) the public health, safety, or welfare or the health of animals, fish, or aquatic life; (ii) a public water supply; or (iii) recreational, commercial, industrial, agricultural, or other reasonable uses, it may issue, without advance notice or hearing, an emergency order directing such person to cease immediately all land-disturbing activities on the site and shall provide an opportunity for a hearing, after

reasonable notice as to the time and place thereof, to such person, to affirm, modify, amend, or cancel such emergency order.

#### **11.9 Injunction**

In accordance with § 62.1-44.15:37 and § 62.1-44.15:42 of the Code of Virginia, if a person who has been issued an order is not complying with the terms thereof, Gloucester County, Department, and/or the Board may institute a proceeding in Gloucester County Circuit Court.

#### **11.10 Civil Penalties**

In accordance with § 62.1-44.15:42 and § 62.1-44.15:48 of the Code of Virginia, any person who violates any provision of the Code of Virginia or of any regulation, ordinance, or standard and specification adopted or approved hereunder or who fails, neglects, or refuses to comply with any order of Gloucester County, the Department, the Board, or a court, issued as herein provided, shall be subject to a civil penalty not to exceed \$32,500 for each violation within the discretion of the court. Each day of violation of each requirement shall constitute a separate offense.

#### **11.11 Payment of Civil Penalties**

Pursuant to § 62.1-44.15:48 A of the Code of Virginia, civil penalties recovered by Gloucester County's VSMP Authority shall be paid into Gloucester County's Treasury in which the violation occurred and are to be used for the purpose of minimizing, preventing, managing, or mitigating pollution of the waters of Gloucester County and abating environmental pollution therein in such manner as the court may, by order, direct.

## **APPENDIX A**

Virginia Stormwater Management Act  
(§62.1-44.15:24 et seq)

## **Code of Virginia**

### **§ 62.1-44.15:24. Definitions.**

As used in this article, unless the context requires a different meaning:

"Chesapeake Bay Preservation Act land-disturbing activity" means a land-disturbing activity including clearing, grading, or excavation that results in a land disturbance equal to or greater than 2,500 square feet and less than one acre in all areas of jurisdictions designated as subject to the regulations adopted pursuant to the Chesapeake Bay Preservation provisions of this chapter.

"CWA" means the federal Clean Water Act (33 U.S.C. § 1251 et seq.), formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, as amended by P.L. 95-217, P.L. 95-576, P.L. 96-483, and P.L. 97-117, or any subsequent revisions thereto.

"Department" means the Department of Environmental Quality.

"Director" means the Director of the Department of Environmental Quality.

"Flooding" means a volume of water that is too great to be confined within the banks or walls of the stream, water body, or conveyance system and that overflows onto adjacent lands, thereby causing or threatening damage.

"Land disturbance" or "land-disturbing activity" means a man-made change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation, except that the term shall not include those exemptions specified in § 62.1-44.15:34.

"Municipal separate storm sewer" means a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system or "MS4," including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains:

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

"Municipal Separate Storm Sewer System Management Program" means a management program covering the duration of a state permit for a municipal separate storm sewer system that includes a comprehensive planning process that involves public participation and intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA and regulations, and this article and its

attendant regulations, using management practices, control techniques, and system, design, and engineering methods, and such other provisions that are appropriate.

"Nonpoint source pollution" means pollution such as sediment, nitrogen, phosphorus, hydrocarbons, heavy metals, and toxics whose sources cannot be pinpointed but rather are washed from the land surface in a diffuse manner by stormwater runoff.

"Peak flow rate" means the maximum instantaneous flow from a prescribed design storm at a particular location.

"Permit" or "VSMP authority permit" means an approval to conduct a land-disturbing activity issued by the VSMP authority for the initiation of a land-disturbing activity after evidence of state VSMP general permit coverage has been provided where applicable.

"Permittee" means the person to which the permit or state permit is issued.

"Runoff volume" means the volume of water that runs off the land development project from a prescribed storm event.

"State permit" means an approval to conduct a land-disturbing activity issued by the Board in the form of a state stormwater individual permit or coverage issued under a state general permit or an approval issued by the Board for stormwater discharges from an MS4. Under these permits, the Commonwealth imposes and enforces requirements pursuant to the federal Clean Water Act and regulations and this article and its attendant regulations.

"Stormwater" means precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage.

"Stormwater management plan" means a document containing material describing methods for complying with the requirements of a VSMP.

"Subdivision" means the same as defined in § 15.2-2201.

"Virginia Stormwater Management Program" or "VSMP" means a program approved by the Soil and Water Conservation Board after September 13, 2011, and until June 30, 2013, or the State Water Control Board on and after June 30, 2013, that has been established by a VSMP authority to manage the quality and quantity of runoff resulting from land-disturbing activities and shall include such items as local ordinances, rules, permit requirements, annual standards and specifications, policies and guidelines, technical materials, and requirements for plan review, inspection, enforcement, where authorized in this article, and evaluation consistent with the requirements of this article and associated regulations.

"Virginia Stormwater Management Program authority" or "VSMP authority" means an authority approved by the Board after September 13, 2011, to operate a Virginia Stormwater Management

Program or, until such approval is given, the Department. An authority may include a locality; state entity, including the Department; federal entity; or, for linear projects subject to annual standards and specifications in accordance with subsection B of § 62.1-44.15:31, electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies, railroad companies, or authorities created pursuant to § 15.2-5102.

"Water quality volume" means the volume equal to the first one-half inch of runoff multiplied by the impervious surface of the land development project.

"Watershed" means a defined land area drained by a river or stream, karst system, or system of connecting rivers or streams such that all surface water within the area flows through a single outlet. In karst areas, the karst feature to which water drains may be considered the single outlet for the watershed.

(1989, cc. 467, 499, § 10.1-603.2; 1991, c. 84; 1994, cc. 605, 898; 2004, c. 372; 2006, cc. 21, 171; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:25. Further powers and duties of the State Water Control Board.

In addition to other powers and duties conferred upon the Board, it shall permit, regulate, and control stormwater runoff in the Commonwealth. The Board may issue, deny, revoke, terminate, or amend state stormwater individual permits or coverage issued under state general permits; adopt regulations; approve and periodically review Virginia Stormwater Management Programs and management programs developed in conjunction with a state municipal separate storm sewer permit; enforce the provisions of this article; and otherwise act to ensure the general health, safety, and welfare of the citizens of the Commonwealth as well as protect the quality and quantity of state waters from the potential harm of unmanaged stormwater. The Board may:

1. Issue, deny, amend, revoke, terminate, and enforce state permits for the control of stormwater discharges from Municipal Separate Storm Sewer Systems and land-disturbing activities.
2. Take administrative and legal actions to ensure compliance with the provisions of this article by any person subject to state or VSMP authority permit requirements under this article, and those entities with an approved Virginia Stormwater Management Program and management programs developed in conjunction with a state municipal separate storm sewer system permit, including the proper enforcement and implementation of, and continual compliance with, this article.
3. In accordance with procedures of the Administrative Process Act (§ 2.2-4000 et seq.), amend or revoke any state permit issued under this article on the following grounds or for good cause as may be provided by the regulations of the Board:
  - a. Any person subject to state permit requirements under this article has violated or failed, neglected, or refused to obey any order or regulation of the Board, any order, notice, or requirement of the Department, any condition of a state permit, any provision of this article, or any order of a court, where such violation results in the unreasonable degradation of properties, water quality, stream channels,

and other natural resources, or the violation is representative of a pattern of serious or repeated violations, including the disregard for or inability to comply with applicable laws, regulations, permit conditions, orders, rules, or requirements;

b. Any person subject to state permit requirements under this article has failed to disclose fully all relevant material facts or has misrepresented a material fact in applying for a state permit, or in any other report or document required under this law or under the regulations of the Board;

c. The activity for which the state permit was issued causes unreasonable degradation of properties, water quality, stream channels, and other natural resources; or

d. There exists a material change in the basis on which the state permit was issued that requires either a temporary or a permanent reduction or elimination of any discharge or land-disturbing activity controlled by the state permit necessary to prevent unreasonable degradation of properties, water quality, stream channels, and other natural resources.

4. Cause investigations and inspections to ensure compliance with any state or VSMP authority permits, conditions, policies, rules, regulations, rulings, and orders which it may adopt, issue, or establish and to furnish advice, recommendations, or instructions for the purpose of obtaining such compliance.

5. In accordance with procedures of the Administrative Process Act (§ 2.2-4000 et seq.), adopt rules governing (i) hearings, (ii) the filing of reports, (iii) the issuance of permits and special orders, and (iv) all other matters relating to procedure, and amend or cancel any rule adopted.

6. Issue special orders to any person subject to state or VSMP authority permit requirements under this article (i) who is permitting or causing the unreasonable degradation of properties, water quality, stream channels, and other natural resources to cease and desist from such activities; (ii) who has failed to construct facilities in accordance with final approved plans and specifications to construct such facilities; (iii) who has violated the terms and provisions of a state or VSMP authority permit issued by the Board or VSMP authority to comply with the provisions of the state or VSMP authority permit, this article, and any decision of the VSMP authority, the Department, or the Board; or (iv) who has violated the terms of an order issued by the court, the VSMP authority, the Department, or the Board to comply with the terms of such order, and also to issue orders to require any person subject to state or VSMP authority permit requirements under this article to comply with the provisions of this article and any decision of the Board.

Such special orders are to be issued in accordance with the procedures of the Administrative Process Act (§ 2.2-4000 et seq.) and shall become effective not less than 15 days after the date of mailing with confirmation of delivery of the notice to the last known address of any person subject to state or VSMP authority permit requirements under this article, provided that if the Board finds that any such person subject to state or VSMP authority permit requirements under this article is grossly affecting or presents an imminent and substantial danger to (i) the public health, safety, or welfare or the health of animals, fish, or aquatic life; (ii) a public water supply; or (iii) recreational, commercial, industrial, agricultural, or other reasonable uses, it may issue, without advance notice or hearing, an emergency special order

directing any person subject to state or VSMP authority permit requirements under this article to cease such pollution or discharge immediately, and shall provide an opportunity for a hearing, after reasonable notice as to the time and place thereof to any person subject to state or VSMP authority permit requirements under this article, to affirm, modify, amend, or cancel such emergency special order. If any person subject to state or VSMP authority permit requirements under this article who has been issued such a special order or an emergency special order is not complying with the terms thereof, the Board may proceed in accordance with § 62.1-44.15:48, and where the order is based on a finding of an imminent and substantial danger, the court shall issue an injunction compelling compliance with the emergency special order pending a hearing by the Board. If an emergency special order requires cessation of a discharge, the recipient of the order may appeal its issuance to the circuit court of the jurisdiction wherein the discharge was alleged to have occurred.

The provisions of this section notwithstanding, the Board may proceed directly under § 62.1-44.15:48 for any past violation or violations of any provision of this article or any regulation duly adopted hereunder.

With the consent of any person subject to state or VSMP authority permit requirements under this article who has violated or failed, neglected, or refused to obey any regulation or order of the Board, any order, notice, or requirement of the Department or VSMP authority, any condition of a state or VSMP authority permit, or any provision of this article, the Board may provide, in an order issued by the Board against such person, for the payment of civil charges for violations in specific sums not to exceed the limit specified in subsection A of § 62.1-44.15:48. Such civil charges shall be collected in lieu of any appropriate civil penalty that could be imposed pursuant to subsection A of § 62.1-44.15:48 and shall not be subject to the provisions of § 2.2-514. Such civil charges shall be paid into the state treasury and deposited by the State Treasurer into the Virginia Stormwater Management Fund established pursuant to § 62.1-44.15:29.

(2004, c. 372, § 10.1-603.2:1; 2006, c. 171; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:26. State permits.

A. All state permits issued by the Board under this article shall have fixed terms. The term of a state permit shall be based upon the projected duration of the project, the length of any required monitoring, or other project operations or permit conditions; however, the term shall not exceed five years. The term of a permit issued by the Board shall not be extended by modification beyond the maximum duration and the permit shall expire at the end of the term unless it is administratively continued in accordance with Board regulations.

B. State individual construction permits shall be administered by the Department.

(2004, c. 372, § 10.1-603.2:2; 2006, c. 171; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:27. Establishment of Virginia Stormwater Management Programs.

A. Any locality, excluding towns, unless such town operates a regulated MS4, shall be required to adopt a VSMP for land-disturbing activities consistent with the provisions of this article according to a schedule set by the Board. Such schedule shall require adoption no sooner than 15 months and not more than 21 months following the effective date of the regulation that establishes local program criteria and delegation procedures, unless the Board deems that the Department's review of the VSMP warrants an extension up to an additional 12 months, provided the locality has made substantive progress. Localities subject to this subsection are authorized to coordinate plan review and inspections with other entities in accordance with subsection H.

B. Any town lying within a county that has adopted a VSMP in accordance with subsection A may adopt its own program or shall become subject to the county program. If a town lies within the boundaries of more than one county, the town shall be considered to be wholly within the county in which the larger portion of the town lies. Towns shall inform the Department of their decision according to a schedule established by the Department. Thereafter, the Department shall provide an annual schedule by which towns can submit applications to adopt a VSMP.

C. In support of VSMP authorities, the Department shall:

1. Provide assistance grants to localities not currently operating a local stormwater management program to help the localities to establish their VSMP.
2. Provide technical assistance and training.
3. Provide qualified services in specified geographic areas to a VSMP to assist localities in the administration of components of their programs. The Department shall actively assist localities in the establishment of their programs and in the selection of a contractor or other entity that may provide support to the locality or regional support to several localities.

D. The Department shall develop a model ordinance for establishing a VSMP consistent with this article and its associated regulations, including the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities.

E. Each locality that administers an approved VSMP shall, by ordinance, establish a VSMP that shall be administered in conjunction with a local MS4 program and a local erosion and sediment control program if required pursuant to Article 2.4 (§ 62.1-44.15:51 et seq.), and which shall include the following:

1. Consistency with regulations adopted in accordance with provisions of this article;
2. Provisions for long-term responsibility for and maintenance of stormwater management control devices and other techniques specified to manage the quality and quantity of runoff; and
3. Provisions for the integration of the VSMP with local erosion and sediment control, flood insurance, flood plain management, and other programs requiring compliance prior to authorizing construction in order to make the submission and approval of plans, issuance of permits, payment of fees, and

coordination of inspection and enforcement activities more convenient and efficient both for the local governments and those responsible for compliance with the programs.

F. The Board may approve a state entity, including the Department, federal entity, or, for linear projects subject to annual standards and specifications, electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies, railroad companies, or authorities created pursuant to § 15.2-5102 to operate a Virginia Stormwater Management Program consistent with the requirements of this article and its associated regulations and the VSMP authority's Department-approved annual standards and specifications. For these programs, enforcement shall be administered by the Department and the Board where applicable in accordance with the provisions of this article.

G. The Board shall approve a VSMP when it deems a program consistent with this article and associated regulations, including the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities.

H. A VSMP authority may enter into agreements or contracts with soil and water conservation districts, adjacent localities, or other public or private entities to carry out or assist with the responsibilities of this article.

I. Localities shall issue a consolidated stormwater management and erosion and sediment control permit that is consistent with the provisions of the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.). When available in accordance with subsection J, such permit, where applicable, shall also include a copy of or reference to state VSMP permit coverage authorization to discharge.

J. Upon the development of an online reporting system by the Department, but no later than July 1, 2014, a VSMP authority shall then be required to obtain evidence of state VSMP permit coverage where it is required prior to providing approval to begin land disturbance.

K. Any VSMP adopted pursuant to and consistent with this article shall be considered to meet the stormwater management requirements under the Chesapeake Bay Preservation Act (§ 62.1-44.15:67 et seq.) and attendant regulations, and effective July 1, 2014, shall not be subject to local program review under the stormwater management provisions of the Chesapeake Bay Preservation Act.

L. All VSMP authorities shall comply with the provisions of this article and the stormwater management provisions of Article 2.4 (§ 62.1-44.15:51 et seq.) and related regulations. The VSMP authority responsible for regulating the land-disturbing activity shall require compliance with the issued permit, permit conditions, and plan specifications.

M. VSMPs adopted in accordance with this section shall become effective July 1, 2014, unless otherwise specified by the Board.

(1989, cc. 467, 499, § 10.1-603.3; 2004, c. 372; 2006, c. 171; 2009, c. 18; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:28. Development of regulations.

A. The Board is authorized to adopt regulations that specify minimum technical criteria and administrative procedures for Virginia Stormwater Management Programs. The regulations shall:

1. Establish standards and procedures for administering a VSMP;
2. Establish minimum design criteria for measures to control nonpoint source pollution and localized flooding, and incorporate the stormwater management regulations adopted pursuant to the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.), as they relate to the prevention of stream channel erosion. These criteria shall be periodically modified as required in order to reflect current engineering methods;
3. Require the provision of long-term responsibility for and maintenance of stormwater management control devices and other techniques specified to manage the quality and quantity of runoff;
4. Require as a minimum the inclusion in VSMPs of certain administrative procedures that include, but are not limited to, specifying the time period within which a VSMP authority shall grant land-disturbing activity approval, the conditions and processes under which approval shall be granted, the procedures for communicating disapproval, the conditions under which an approval may be changed, and requirements for inspection of approved projects;
5. Establish by regulations a statewide permit fee schedule to cover all costs associated with the implementation of a VSMP related to land-disturbing activities of one acre or greater. Such fee attributes include the costs associated with plan review, VSMP registration statement review, permit issuance, state-coverage verification, inspections, reporting, and compliance activities associated with the land-disturbing activities as well as program oversight costs. The fee schedule shall also include a provision for a reduced fee for land-disturbing activities between 2,500 square feet and up to one acre in Chesapeake Bay Preservation Act (§ 62.1-44.15:67 et seq.) localities. The fee schedule shall be governed by the following:
  - a. The revenue generated from the statewide stormwater permit fee shall be collected utilizing, where practicable, an online payment system, and the Department's portion shall be remitted to the State Treasurer for deposit in the Virginia Stormwater Management Fund established pursuant to § 62.1-44.15:29. However, whenever the Board has approved a VSMP, no more than 30 percent of the total revenue generated by the statewide stormwater permit fees collected shall be remitted to the State Treasurer for deposit in the Virginia Stormwater Management Fund, with the balance going to the VSMP authority.
  - b. Fees collected pursuant to this section shall be in addition to any general fund appropriation made to the Department or other supporting revenue from a VSMP; however, the fees shall be set at a level sufficient for the Department and the VSMP to fully carry out their responsibilities under this article and its attendant regulations and local ordinances or standards and specifications where applicable. When establishing a VSMP, the VSMP authority shall assess the statewide fee schedule and shall have the authority to reduce or increase such fees, and to consolidate such fees with other program-related charges, but in no case shall such fee changes affect the amount established in the regulations as

available to the Department for program oversight responsibilities pursuant to subdivision 5 a. A VSMP's portion of the fees shall be used solely to carry out the VSMP's responsibilities under this article and its attendant regulations, ordinances, or annual standards and specifications.

c. Until July 1, 2014, the fee for coverage under the General Permit for Discharges of Stormwater from Construction Activities issued by the Board, or where the Board has issued an individual permit or coverage under the General Permit for Discharges of Stormwater from Construction Activities for an entity for which it has approved annual standards and specifications, shall be \$750 for each large construction activity with sites or common plans of development equal to or greater than five acres and \$450 for each small construction activity with sites or common plans of development equal to or greater than one acre and less than five acres. On and after July 1, 2014, such fees shall only apply where coverage has been issued under the Board's General Permit for Discharges of Stormwater from Construction Activities to a state agency or federal entity for which it has approved annual standards and specifications. After establishment, such fees may be modified in the future through regulatory actions.

d. Until July 1, 2014, the Department is authorized to assess a \$125 reinspection fee for each visit to a project site that was necessary to check on the status of project site items noted to be in noncompliance and documented as such on a prior project inspection.

e. When any fees are collected pursuant to this section by credit cards, business transaction costs associated with processing such payments may be additionally assessed;

6. Establish statewide standards for stormwater management from land-disturbing activities of one acre or greater, except as specified otherwise within this article, and allow for the consolidation in the permit of a comprehensive approach to addressing stormwater management and erosion and sediment control, consistent with the provisions of the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.) and this article. However, such standards shall also apply to land-disturbing activity exceeding an area of 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations;

7. Require that VSMPs maintain after-development runoff rate of flow and characteristics that replicate, as nearly as practicable, the existing predevelopment runoff characteristics and site hydrology, or improve upon the contributing share of the existing predevelopment runoff characteristics and site hydrology if stream channel erosion or localized flooding is an existing predevelopment condition. Except where more stringent requirements are necessary to address total maximum daily load requirements or to protect exceptional state waters, any land-disturbing activity that provides for stormwater management shall satisfy the conditions of this subsection if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5-year, two-year, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff

volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to this section or any ordinances adopted pursuant to § 62.1-44.15:27 or 62.1-44.15:33;

8. Encourage low-impact development designs, regional and watershed approaches, and nonstructural means for controlling stormwater;

9. Promote the reclamation and reuse of stormwater for uses other than potable water in order to protect state waters and the public health and to minimize the direct discharge of pollutants into state waters;

10. Establish a statewide permit fee schedule for stormwater management related to municipal separate storm sewer system permits; and

11. Provide for the evaluation and potential inclusion of emerging or innovative stormwater control technologies that may prove effective in reducing nonpoint source pollution.

B. The Board may integrate and consolidate components of the regulations implementing the Erosion and Sediment Control program and the Chesapeake Bay Preservation Area Designation and Management program with the regulations governing the Virginia Stormwater Management Program (VSMP) Permit program or repeal components so that these programs may be implemented in a consolidated manner that provides greater consistency, understanding, and efficiency for those regulated by and administering a VSMP.

(1989, cc. 467, 499, § 10.1-603.4; 1991, c. 84; 2004, c. 372; 2005, c. 102; 2006, c. 21; 2008, c. 405; 2009, c. 709; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:29. Virginia Stormwater Management Fund established.

There is hereby created in the state treasury a special nonreverting fund to be known as the Virginia Stormwater Management Fund, hereafter referred to as "the Fund." The Fund shall be established on the books of the Comptroller. All moneys collected by the Department pursuant to §§ 62.1-44.15:28, 62.1-44.15:38, and 62.1-44.15:71 and all civil penalties collected pursuant to § 62.1-44.19:22 shall be paid into the state treasury and credited to the Fund. Interest earned on moneys in the Fund shall remain in the Fund and be credited to it. Any moneys remaining in the Fund, including interest thereon, at the end of each fiscal year shall not revert to the general fund but shall remain in the Fund. Moneys in the Fund shall be used solely for the purposes of carrying out the Department's responsibilities under this article. Expenditures and disbursements from the Fund shall be made by the State Treasurer on warrants issued by the Comptroller upon written request signed by the Director.

An accounting of moneys received by and distributed from the Fund shall be kept by the State Comptroller.

(2004, c. 372, § 10.1-603.4:1; 2012, cc. 748, 785, 808, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:30. Education and training programs.

A. The Board shall issue certificates of competence concerning the content and application of specified subject areas of this article and accompanying regulations, including program administration, plan review, and project inspection, to personnel of VSMP authorities and to any other persons who have completed training programs or in other ways demonstrated adequate knowledge to the satisfaction of the Board. As part of education and training programs authorized pursuant to subsection E of § 62.1-44.15:52, the Department shall develop or certify expanded components to address program administration, plan review, and project inspection elements of this article and attendant regulations. Reasonable fees to cover the costs of these additional components may be charged.

B. Effective July 1, 2014, personnel of VSMP authorities reviewing plans or conducting inspections pursuant to this chapter shall hold a certificate of competence as provided in subsection A. Professionals registered in the Commonwealth pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 shall be deemed to have met the provisions of this section for the purposes of renewals.

(2012, cc. 785, 819, § 10.1-603.4:2; 2013, cc. 756, 793.)

§ 62.1-44.15:31. Annual standards and specifications for state agencies, federal entities, and other specified entities.

A. State entities, including the Department of Transportation, and for linear projects set out in subsection B, electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies, and railroad companies shall, and federal entities and authorities created pursuant to § 15.2-5102 may, annually submit a single set of standards and specifications for Department approval that describes how land-disturbing activities shall be conducted. Such standards and specifications shall be consistent with the requirements of this article and associated regulations, including the regulations governing the General Virginia Stormwater Management Program (VSMP) Permit for Discharges of Stormwater from Construction Activities and the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.) and associated regulations. Each project constructed in accordance with the requirements of this article, its attendant regulations, and where required standards and specifications shall obtain coverage issued under the state general permit prior to land disturbance. The standards and specifications shall include:

1. Technical criteria to meet the requirements of this article and regulations developed under this article;
2. Provisions for the long-term responsibility and maintenance of stormwater management control devices and other techniques specified to manage the quantity and quality of runoff;
3. Provisions for erosion and sediment control and stormwater management program administration, plan design, review and approval, and construction inspection and enforcement;

4. Provisions for ensuring that responsible personnel and contractors obtain certifications or qualifications for erosion and sediment control and stormwater management comparable to those required for local government;

5. Implementation of a project tracking and notification system to the Department of all land-disturbing activities covered under this article; and

6. Requirements for documenting onsite changes as they occur to ensure compliance with the requirements of the article.

B. Linear projects subject to annual standards and specifications include:

1. Construction, installation, or maintenance of electric transmission, natural gas, and telephone utility lines and pipelines, and water and sewer lines; and

2. Construction of the tracks, rights-of-way, bridges, communication facilities, and other related structures and facilities of a railroad company.

Linear projects not included in subdivisions 1 and 2 shall comply with the requirements of the local or state VSMP in the locality within which the project is located.

C. The Department shall perform random site inspections or inspections in response to a complaint to assure compliance with this article, the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.), and regulations adopted thereunder. The Department may take enforcement actions in accordance with this article and related regulations.

D. The Department shall assess an administrative charge to cover the costs of services rendered associated with its responsibilities pursuant to this section.

(1989, cc. 467, 499, § 10.1-603.5; 2004, c. 372; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:32. Duties of the Department.

A. The Department shall provide technical assistance, training, research, and coordination in stormwater management technology to VSMP authorities consistent with the purposes of this article.

B. The Department is authorized to review the stormwater management plan for any project with real or potential interjurisdictional impacts upon the request of one or all of the involved localities to determine that the plan is consistent with the provisions of this article. Any such review shall be completed and a report submitted to each locality involved within 90 days of such request being accepted. The Department may charge a fee of the requesting locality to cover its costs for providing such services.

C. The Department shall be responsible for the implementation of this article.

(1989, cc. 467, 499, § 10.1-603.6; 2004, c. 372; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:33. Authorization for more stringent ordinances.

A. Localities are authorized to adopt more stringent stormwater management ordinances than those necessary to ensure compliance with the Board's minimum regulations, provided that the more stringent ordinances are based upon factual findings of local or regional comprehensive watershed management studies or findings developed through the implementation of a MS4 permit or a locally adopted watershed management study and are determined by the locality to be necessary to prevent any further degradation to water resources, to address TMDL requirements, to protect exceptional state waters, or to address specific existing water pollution including nutrient and sediment loadings, stream channel erosion, depleted groundwater resources, or excessive localized flooding within the watershed and that prior to adopting more stringent ordinances a public hearing is held after giving due notice.

B. Localities shall submit a letter report to the Department when more stringent stormwater management ordinances or more stringent requirements authorized by such ordinances, such as may be set forth in design manuals, policies, or guidance documents developed by the localities, are determined to be necessary pursuant to this section within 30 days after adoption thereof. Any such letter report shall include a summary explanation as to why the more stringent ordinance or requirement has been determined to be necessary pursuant to this section. Upon the request of an affected landowner or his agent submitted to the Department with a copy to be sent to the locality, within 90 days after adoption of any such ordinance or derivative requirement, localities shall submit the ordinance or requirement and all other supporting materials to the Department for a determination of whether the requirements of this section have been met and whether any determination made by the locality pursuant to this section is supported by the evidence. The Department shall issue a written determination setting forth its rationale within 90 days of submission. Such a determination, or a failure by the Department to make such a determination within the 90-day period, may be appealed to the Board.

C. Localities shall not prohibit or otherwise limit the use of any best management practice (BMP) approved for use by the Director or the Board except as follows:

1. When the Director or the Board approves the use of any BMP in accordance with its stated conditions, the locality serving as a VSMP authority shall have authority to preclude the onsite use of the approved BMP, or to require more stringent conditions upon its use, for a specific land-disturbing project based on a review of the stormwater management plan and project site conditions. Such limitations shall be based on site-specific concerns. Any project or site-specific determination purportedly authorized pursuant to this subsection may be appealed to the Department and the Department shall issue a written determination regarding compliance with this section to the requesting party within 90 days of submission. Any such determination, or a failure by the Department to make any such determination within the 90-day period, may be appealed to the Board.
2. When a locality is seeking to uniformly preclude jurisdiction-wide or otherwise limit geographically the use of a BMP approved by the Director or Board, or to apply more stringent conditions to the use of a BMP approved by the Director or Board, upon the request of an affected landowner or his agent submitted to the Department, with a copy submitted to the locality, within 90 days after adoption, such

authorizing ordinances, design manuals, policies, or guidance documents developed by the locality that set forth the BMP use policy shall be provided to the Department in such manner as may be prescribed by the Department that includes a written justification and explanation as to why such more stringent limitation or conditions are determined to be necessary. The Department shall review all supporting materials provided by the locality to determine whether the requirements of this section have been met and that any determination made by the locality pursuant to this section is reasonable under the circumstances. The Department shall issue its determination to the locality in writing within 90 days of submission. Such a determination, or a failure by the Department to make such a determination within the 90-day period, may be appealed to the Board.

D. Based on a determination made in accordance with subsection B or C, any ordinance or other requirement enacted or established by a locality that is found to not comply with this section shall be null and void, replaced with state minimum standards, and remanded to the locality for revision to ensure compliance with this section. Any such ordinance or other requirement that has been proposed but neither enacted nor established shall be remanded to the locality for revision to ensure compliance with this section.

E. Any provisions of a local stormwater management program in existence before January 1, 2013, that contains more stringent provisions than this article shall be exempt from the requirements of this section. However, such provisions shall be reported to the Board at the time of the locality's VSMP approval package.

(1989, cc. 467, 499, § 10.1-603.7; 1991, c. 84; 2004, c. 372; 2011, cc. 341, 353; 2012, cc. 785, 819; 2013, cc. 591, 756, 793.)

§ 62.1-44.15:34. Regulated activities; submission and approval of a permit application; security for performance; exemptions.

A. A person shall not conduct any land-disturbing activity until he has submitted a permit application to the VSMP authority that includes a state VSMP permit registration statement and, after July 1, 2014, a stormwater management plan, and has obtained VSMP authority approval to begin land disturbance. Upon the development of an online reporting system by the Department, but no later than July 1, 2014, a VSMP authority shall be required to obtain evidence of VSMP permit coverage where it is required prior to providing approval to begin land disturbance. The VSMP authority shall act on any permit application within 60 days after it has been determined by the VSMP authority to be a complete application. The VSMP authority may either issue project approval or denial and shall provide written rationale for the denial. The VSMP authority shall act on any permit application that has been previously disapproved within 45 days after the application has been revised, resubmitted for approval, and deemed complete. Prior to issuance of any approval, the VSMP authority may also require an applicant, excluding state and federal entities, to submit a reasonable performance bond with surety, cash escrow, letter of credit, any combination thereof, or such other legal arrangement acceptable to the VSMP authority, to ensure that measures could be taken by the VSMP authority at the applicant's expense should he fail, after proper notice, within the time specified to initiate or maintain appropriate actions

that may be required of him by the permit conditions as a result of his land-disturbing activity. If the VSMP authority takes such action upon such failure by the applicant, the VSMP authority may collect from the applicant the difference should the amount of the reasonable cost of such action exceed the amount of the security held. Within 60 days of the completion of the requirements of the permit conditions, such bond, cash escrow, letter of credit, or other legal arrangement, or the unexpended or unobligated portion thereof, shall be refunded to the applicant or terminated. These requirements are in addition to all other provisions of law relating to the issuance of permits and are not intended to otherwise affect the requirements for such permits.

B. A Chesapeake Bay Preservation Act Land-Disturbing Activity shall be subject to coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities until July 1, 2014, at which time it shall no longer be considered a small construction activity but shall be then regulated under the requirements of this article by a VSMP authority.

C. Notwithstanding any other provisions of this article, the following activities are exempt, unless otherwise required by federal law:

1. Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1;
2. Clearing of lands specifically for agricultural purposes and the management, tilling, planting, or harvesting of agricultural, horticultural, or forest crops, livestock feedlot operations, or as additionally set forth by the Board in regulations, including engineering operations as follows: construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds, ditches, strip cropping, lister furrowing, contour cultivating, contour furrowing, land drainage, and land irrigation; however, this exception shall not apply to harvesting of forest crops unless the area on which harvesting occurs is reforested artificially or naturally in accordance with the provisions of Chapter 11 (§ 10.1-1100 et seq.) or is converted to bona fide agricultural or improved pasture use as described in subsection B of § 10.1-1163;
3. Single-family residences separately built and disturbing less than one acre and not part of a larger common plan of development or sale, including additions or modifications to existing single-family detached residential structures. However, localities subject to the provisions of the Chesapeake Bay Preservation Act (§ 62.1-44.15:67 et seq.) may regulate these single-family residences where land disturbance exceeds 2,500 square feet;
4. Land-disturbing activities that disturb less than one acre of land area except for land-disturbing activity exceeding an area of 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the provisions of the Chesapeake Bay Preservation Act (§ 62.1-44.15:67 et seq.) or activities that are part of a larger common plan of development or sale that is one acre or greater of disturbance; however, the governing body of any locality that administers a VSMP may reduce this exception to a smaller area of disturbed land or qualify the conditions under which this exception shall apply;

5. Discharges to a sanitary sewer or a combined sewer system;
6. Activities under a state or federal reclamation program to return an abandoned property to an agricultural or open land use;
7. Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of the project. The paving of an existing road with a compacted or impervious surface and reestablishment of existing associated ditches and shoulders shall be deemed routine maintenance if performed in accordance with this subsection; and
8. Conducting land-disturbing activities in response to a public emergency where the related work requires immediate authorization to avoid imminent endangerment to human health or the environment. In such situations, the VSMP authority shall be advised of the disturbance within seven days of commencing the land-disturbing activity, and compliance with the administrative requirements of subsection A is required within 30 days of commencing the land-disturbing activity.

(1989, cc. 467, 499, § 10.1-603.8; 1994, cc. 605, 898; 2004, c. 372; 2011, c. 400; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:35. Nutrient credit use and additional offsite options for construction activities.

A. As used in this section:

"Nutrient credit" or "credit" means a nutrient credit certified pursuant to Article 4.02 (§ 62.1-44.19:12 et seq.).

"Tributary" has the same meaning as in § 62.1-44.19:13. For areas outside of the Chesapeake Bay Watershed, "tributary" includes the following watersheds: Albemarle Sound, Coastal; Atlantic Ocean, Coastal; Big Sandy; Chowan; Clinch-Powell; New Holston (Upper Tennessee); New River; Roanoke; and Yadkin.

"Virginia Stormwater Management Program Authority" or "VSMP authority" has the same meaning as in § 62.1-44.15:24 and includes, until July 1, 2014, any locality that has adopted a local stormwater management program.

B. A VSMP authority is authorized to allow compliance with stormwater nonpoint nutrient runoff water quality criteria established pursuant to § 62.1-44.15:28, in whole or in part, through the use of the applicant's acquisition of nutrient credits in the same tributary.

C. No applicant shall use nutrient credits to address water quantity control requirements. No applicant shall use nutrient credits or other offsite options in contravention of local water quality-based limitations (i) determined pursuant to subsection B of § 62.1-44.19:14, (ii) adopted pursuant to § 62.1-44.15:33 or other applicable authority, (iii) deemed necessary to protect public water supplies from demonstrated adverse nutrient impacts, or (iv) as otherwise may be established or approved by the

Board. Where such a limitation exists, offsite options may be used provided that such options do not preclude or impair compliance with the local limitation.

D. A VSMP authority shall allow offsite options in accordance with subsection I when:

1. Less than five acres of land will be disturbed;
2. The postconstruction phosphorous control requirement is less than 10 pounds per year; or
3. The state permit applicant demonstrates to the satisfaction of the VSMP authority that (i) alternative site designs have been considered that may accommodate onsite best management practices, (ii) onsite best management practices have been considered in alternative site designs to the maximum extent practicable, (iii) appropriate onsite best management practices will be implemented, and (iv) full compliance with postdevelopment nonpoint nutrient runoff compliance requirements cannot practicably be met onsite. For purposes of this subdivision, if an applicant demonstrates onsite control of at least 75 percent of the required phosphorous nutrient reductions, the applicant shall be deemed to have met the requirements of clauses (i) through (iv).

E. Documentation of the applicant's acquisition of nutrient credits shall be provided to the VSMP authority and the Department in a certification from the credit provider documenting the number of phosphorus nutrient credits acquired and the associated ratio of nitrogen nutrient credits at the credit-generating entity. Until the effective date of regulations establishing application fees in accordance with § 62.1-44.19:20, the credit provider shall pay the Department a water quality enhancement fee equal to six percent of the amount paid by the applicant for the credits. Such fee shall be deposited into the Virginia Stormwater Management Fund established by § 62.1-44.15:29.

F. Nutrient credits used pursuant to subsection B shall be generated in the same or adjacent eight-digit hydrologic unit code as defined by the United States Geological Survey as the permitted site except as otherwise limited in subsection C. Nutrient credits outside the same or adjacent eight-digit hydrologic unit code may only be used if it is determined by the VSMP authority that no credits are available within the same or adjacent eight-digit hydrologic unit code when the VSMP authority accepts the final site design. In such cases, and subject to other limitations imposed in this section, credits available within the same tributary may be used. In no case shall credits from another tributary be used.

G. For that portion of a site's compliance with stormwater nonpoint nutrient runoff water quality criteria being obtained through nutrient credits, the applicant shall (i) comply with a 1:1 ratio of the nutrient credits to the site's remaining postdevelopment nonpoint nutrient runoff compliance requirement being met by credit use and (ii) use credits certified as perpetual credits pursuant to Article 4.02 (§ 62.1-44.19:12 et seq.).

H. No VSMP authority may grant an exception to, or waiver of, postdevelopment nonpoint nutrient runoff compliance requirements unless offsite options have been considered and found not available.

I. The VSMP authority shall require that nutrient credits and other offsite options approved by the Department or applicable state board, including locality pollutant loading pro rata share programs

established pursuant to § 15.2-2243, achieve the necessary nutrient reductions prior to the commencement of the applicant's land-disturbing activity. A pollutant loading pro rata share program established by a locality pursuant to § 15.2-2243 and approved by the Department or applicable state board prior to January 1, 2011, including those that may achieve nutrient reductions after the commencement of the land-disturbing activity, may continue to operate in the approved manner for a transition period ending July 1, 2014. The applicant shall have the right to select between the use of nutrient credits or other offsite options, except during the transition period in those localities to which the transition period applies. The locality may use funds collected for nutrient reductions pursuant to a locality pollutant loading pro rata share program under § 15.2-2243 for nutrient reductions in the same tributary within the same locality as the land-disturbing activity or for the acquisition of nutrient credits. In the case of a phased project, the applicant may acquire or achieve the offsite nutrient reductions prior to the commencement of each phase of the land-disturbing activity in an amount sufficient for each such phase.

J. Nutrient reductions obtained through nutrient credits shall be credited toward compliance with any nutrient allocation assigned to a municipal separate storm sewer system in a Virginia Stormwater Management Program Permit or Total Maximum Daily Load applicable to the location where the activity for which the nutrient credits are used takes place. If the activity for which the nutrient credits are used does not discharge to a municipal separate storm sewer system, the nutrient reductions shall be credited toward compliance with the applicable nutrient allocation.

K. A VSMP authority shall allow the full or partial substitution of perpetual nutrient credits for existing onsite nutrient controls when (i) the nutrient credits will compensate for 10 or fewer pounds of the annual phosphorous requirement associated with the original land-disturbing activity or (ii) existing onsite controls are not functioning as anticipated after reasonable attempts to comply with applicable maintenance agreements or requirements and the use of nutrient credits will account for the deficiency. Upon determination by the VSMP authority that the conditions established by clause (i) or (ii) have been met, the party responsible for maintenance shall be released from maintenance obligations related to the onsite phosphorous controls for which the nutrient credits are substituted.

L. To the extent available, with the consent of the applicant, the VSMP authority, the Board or the Department may include the use of nutrient credits or other offsite measures in resolving enforcement actions to compensate for (i) nutrient control deficiencies occurring during the period of noncompliance and (ii) permanent nutrient control deficiencies.

M. This section shall not be construed as limiting the authority established under § 15.2-2243; however, under any pollutant loading pro rata share program established thereunder, the subdivider or developer shall be given appropriate credit for nutrient reductions achieved through nutrient credits or other offsite options.

N. In order to properly account for allowed nonpoint nutrient offsite reductions, an applicant shall report to the Department, in accordance with Department procedures, information regarding all offsite

reductions that have been authorized to meet stormwater postdevelopment nonpoint nutrient runoff compliance requirements.

O. An applicant or a permittee found to be in noncompliance with the requirements of this section shall be subject to the enforcement and penalty provisions of this article.

(2009, c. 364, § 10.1-603.8:1; 2010, c. 686; 2011, c. 523; 2012, cc. 748, 785, 808, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:36. (For contingent effective date and contingent repeal - see notes) Recovery of administrative costs.

Any locality that administers a stormwater management program may charge applicants a reasonable fee to defray the cost of program administration, including costs associated with plan review, issuance of permits, periodic inspection for compliance with approved plans, and necessary enforcement, provided that charges for such costs are not made under any other law, ordinance, or program. The fee shall not exceed an amount commensurate with the services rendered and expenses incurred or \$1,000, whichever is less.

(1989, cc. 467, 499, § 10.1-603.10; 2013, cc. 756, 793.)

§ 62.1-44.15:37. Monitoring, reports, investigations, inspections, and stop work orders.

A. The VSMP authority (i) shall provide for periodic inspections of the installation of stormwater management measures, (ii) may require monitoring and reports from the person responsible for meeting the permit conditions to ensure compliance with the permit and to determine whether the measures required in the permit provide effective stormwater management, and (iii) shall conduct such investigations and perform such other actions as are necessary to carry out the provisions of this article. If the VSMP authority, where authorized to enforce this article, or the Department determines that there is a failure to comply with the permit conditions, notice shall be served upon the permittee or person responsible for carrying out the permit conditions by mailing with confirmation of delivery to the address specified in the permit application, or by delivery at the site of the development activities to the agent or employee supervising such activities. The notice shall specify the measures needed to comply with the permit conditions and shall specify the time within which such measures shall be completed. Upon failure to comply within the time specified, a stop work order may be issued in accordance with subsection B by the VSMP authority, where authorized to enforce this article, or by the Board, or the permit may be revoked by the VSMP authority, or the state permit may be revoked by the Board. The Board or the VSMP authority, where authorized to enforce this article, may pursue enforcement in accordance with § 62.1-44.15:48.

B. If a permittee fails to comply with a notice issued in accordance with subsection A within the time specified, the VSMP authority, where authorized to enforce this article, or the Department may issue an order requiring the owner, permittee, person responsible for carrying out an approved plan, or person conducting the land-disturbing activities without an approved plan or required permit to cease all land-

disturbing activities until the violation of the permit has ceased, or an approved plan and required permits are obtained, and specified corrective measures have been completed.

Such orders shall be issued (i) in accordance with local procedures if issued by a locality serving as a VSMP authority or (ii) after a hearing held in accordance with the requirements of the Administrative Process Act (§ 2.2-4000 et seq.) if issued by the Department. Such orders shall become effective upon service on the person by mailing, with confirmation of delivery, sent to his address specified in the land records of the locality, or by personal delivery by an agent of the VSMP authority or Department. However, if the VSMP authority or the Department finds that any such violation is grossly affecting or presents an imminent and substantial danger of causing harmful erosion of lands or sediment deposition in waters within the watersheds of the Commonwealth or otherwise substantially impacting water quality, it may issue, without advance notice or hearing, an emergency order directing such person to cease immediately all land-disturbing activities on the site and shall provide an opportunity for a hearing, after reasonable notice as to the time and place thereof, to such person, to affirm, modify, amend, or cancel such emergency order.

If a person who has been issued an order is not complying with the terms thereof, the VSMP authority or the Department may institute a proceeding in accordance with § 62.1-44.15:42.

(1989, cc. 467, 499, § 10.1-603.11; 2004, c. 372; 2012, cc. 785, 819. 2013, cc. 756, 793.)

§ 62.1-44.15:38. Department to review VSMPs.

A. The Department shall develop and implement a review and evaluation schedule so that the effectiveness of each VSMP authority, Municipal Separate Storm Sewer System Management Program, and other MS4 permit requirements is evaluated no less than every five years. The review shall include an assessment of the extent to which the program has reduced nonpoint source pollution and mitigated the detrimental effects of localized flooding. Such reviews shall be coordinated with those being implemented in accordance with the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.) and associated regulations and, where applicable, the Chesapeake Bay Preservation Act (§ 62.1-44.15:67 et seq.) and associated regulations.

B. Following completion of a compliance review of a VSMP, the Department shall provide results and compliance recommendations to the Board in the form of a corrective action agreement if deficiencies are found; otherwise, the Board may find the program compliant. If, after such a review and evaluation, a VSMP is found to have a program that does not comply with the provisions of this article or regulations adopted thereunder, the Board shall establish a schedule for the VSMP authority to come into compliance. The Board shall provide a copy of its decision to the VSMP authority that specifies the deficiencies, actions needed to be taken, and the approved compliance schedule. If the VSMP has not implemented the necessary compliance actions identified by the Board within 30 days following receipt of the corrective action agreement, or such additional period as is granted to complete the implementation of the corrective action, then the Board shall have the authority to (i) issue a special order to any VSMP imposing a civil penalty not to exceed \$5,000 per day with the maximum amount not to exceed \$20,000 per violation for noncompliance with the requirements of this article and its

regulations, to be paid into the state treasury and deposited in the Virginia Stormwater Management Fund established by § 62.1-44.15:29 or (ii) revoke its approval of the VSMP. The Administrative Process Act (§ 2.2-4000 et seq.) shall govern the activities and proceedings of the Board under this article and the judicial review thereof.

If the Board revokes its approval of a VSMP, the Board shall find the VSMP authority provisional and shall have the Department assist with the administration of the program until the VSMP authority is deemed compliant with the requirements of this article and associated regulations. Assisting with administration includes the ability to review and comment on plans to the VSMP authority, to conduct inspections with the VSMP authority, and to conduct enforcement in accordance with this article and associated regulations.

In lieu of issuing a special order or revoking the program, the Board may take legal action against a VSMP pursuant to § 62.1-44.15:48 to ensure compliance.

(1989, cc. 467, 499, § 10.1-603.12; 2004, c. 372; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:39. Right of entry.

The Department, the VSMP authority, where authorized to enforce this article, any duly authorized agent of the Department or VSMP authority, or any locality that is the operator of a regulated municipal separate storm sewer system may, at reasonable times and under reasonable circumstances, enter any establishment or upon any property, public or private, for the purpose of obtaining information or conducting surveys or investigations necessary in the enforcement of the provisions of this article. For operators of municipal separate storm sewer systems, this authority shall apply only to those properties from which a discharge enters their municipal separate storm sewer systems.

In accordance with a performance bond with surety, cash escrow, letter of credit, any combination thereof, or such other legal arrangement, a VSMP authority may also enter any establishment or upon any property, public or private, for the purpose of initiating or maintaining appropriate actions that are required by the permit conditions associated with a land-disturbing activity when a permittee, after proper notice, has failed to take acceptable action within the time specified.

(2004, c. 372, § 10.1-603.12:1; 2011, c. 453; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:40. Information to be furnished.

The Board, the Department, or the VSMP authority, where authorized to enforce this article, may require every permit applicant, every permittee, or any person subject to state permit requirements under this article to furnish when requested such application materials, plans, specifications, and other pertinent information as may be necessary to determine the effect of his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of this article. Any personal information shall not be disclosed except to an appropriate official of the Board, Department, U.S. Environmental Protection Agency, or VSMP authority or as may be authorized pursuant to the Virginia Freedom of Information Act (§ 2.2-3700 et seq.). However, disclosure of records

of the Department, the Board, or the VSMP authority relating to (i) active federal environmental enforcement actions that are considered confidential under federal law, (ii) enforcement strategies, including proposed sanctions for enforcement actions, and (iii) any secret formulae, secret processes, or secret methods other than effluent data used by any permittee or under that permittee's direction is prohibited. Upon request, such enforcement records shall be disclosed after a proposed sanction resulting from the investigation has been determined by the Department, the Board, or the VSMP authority. This section shall not be construed to prohibit the disclosure of records related to inspection reports, notices of violation, and documents detailing the nature of any land-disturbing activity that may have occurred, or similar documents.

(2004, c. 372, § 10.1-603.12:2; 2005, c. 102; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:41. Private rights; liability.

A. Whenever a common interest community cedes responsibility for the maintenance, repair, and replacement of a stormwater management facility on its real property to the Commonwealth or political subdivision thereof, such common interest community shall be immune from civil liability in relation to such stormwater management facility. In order for the immunity established by this subsection to apply, (i) the common interest community must cede such responsibility by contract or other instrument executed by both parties and (ii) the Commonwealth or the governing body of the political subdivision shall have accepted the responsibility ceded by the common interest community in writing or by resolution. As used in this section, maintenance, repair, and replacement shall include, without limitation, cleaning of the facility, maintenance of adjacent grounds that are part of the facility, maintenance and replacement of fencing where the facility is fenced, and posting of signage indicating the identity of the governmental entity that maintains the facility. Acceptance or approval of an easement, subdivision plat, site plan, or other plan of development shall not constitute the acceptance by the Commonwealth or the governing body of the political subdivision required to satisfy clause (ii). The immunity granted by this section shall not apply to actions or omissions by the common interest community constituting intentional or willful misconduct or gross negligence. For the purposes of this section, "common interest community" means the same as that term is defined in § 55-528.

B. Except as provided in subsection A, the fact that any permittee holds or has held a permit or state permit issued under this article shall not constitute a defense in any civil action involving private rights.

(2004, c. 372, § 10.1-603.12:3; 2010, c. 853; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:42. Enforcement by injunction, etc.

A. It is unlawful for any person to fail to comply with any stop work order, emergency order issued in accordance with § 62.1-44.15:37, or a special order or emergency special order issued in accordance with § 62.1-44.15:25 that has become final under the provisions of this article. Any person violating or failing, neglecting, or refusing to obey any rule, regulation, ordinance, approved standard and specification, order, or permit condition issued by the Board, Department, or VSMP authority as authorized to do such, or any provisions of this article, may be compelled in a proceeding instituted in

any appropriate court by the Board, Department, or VSMP authority where authorized to enforce this article to obey same and to comply therewith by injunction, mandamus, or other appropriate remedy.

B. Any person violating or failing, neglecting, or refusing to obey any injunction, mandamus, or other remedy obtained pursuant to this section shall be subject, in the discretion of the court, to a civil penalty in accordance with the provisions of § 62.1-44.15:48.

(2004, c. 372, § 10.1-603.12:4; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:43. Testing validity of regulations; judicial review.

A. The validity of any regulation adopted by the Board pursuant to this article may be determined through judicial review in accordance with the provisions of the Administrative Process Act (§ 2.2-4000 et seq.).

B. An appeal may be taken from the decision of the court to the Court of Appeals as provided by law.

(2004, c. 372, § 10.1-603.12:5; 2013, cc. 756, 793.)

§ 62.1-44.15:44. Right to hearing.

Any permit applicant, permittee, or person subject to state permit requirements under this article aggrieved by any action of the VSMP authority, Department, or Board taken without a formal hearing, or by inaction of the VSMP authority, Department, or Board, may demand in writing a formal hearing by the Board or VSMP authority causing such grievance, provided a petition requesting such hearing is filed with the Board or the VSMP authority within 30 days after notice of such action.

(2004, c. 372, § 10.1-603.12:6; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:45. Hearings.

VSMP authorities holding hearings under this article shall do so in a manner consistent with § 62.1-44.26.

(2004, c. 372, § 10.1-603.12:7; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:46. Appeals.

Any permittee or party aggrieved by a state permit or enforcement decision of the Department or Board under this article, or any person who has participated, in person or by submittal of written comments, in the public comment process related to a final decision of the Department or Board under this article, whether such decision is affirmative or negative, is entitled to judicial review thereof in accordance with the provisions of the Administrative Process Act (§ 2.2-4000 et seq.) if such person meets the standard for obtaining judicial review of a case or controversy pursuant to Article III of the Constitution of the United States. A person shall be deemed to meet such standard if (i) such person has suffered an actual or imminent injury that is an invasion of a legally protected interest and that is concrete and particularized; (ii) such injury is fairly traceable to the decision of the Department or the Board and not

the result of the independent action of some third party not before the court; and (iii) such injury will likely be redressed by a favorable decision by the court.

The provisions of the Administrative Process Act (§ 2.2-4000 et seq.) shall not apply to decisions rendered by localities but appeals shall be conducted in accordance with local appeal procedures.

(1989, cc. 467, 499, § 10.1-603.13; 2004, c. 372; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:47. Appeal to Court of Appeals.

From the final decision of the circuit court an appeal may be taken to the Court of Appeals as provided in § 17.1-405.

(2004, c. 372, § 10.1-603.13:1; 2013, cc. 756, 793.)

§ 62.1-44.15:48. Penalties, injunctions, and other legal actions.

A. Any person who violates any provision of this article or of any regulation, ordinance, or standard and specification adopted or approved hereunder, including those adopted pursuant to the conditions of an MS4 permit, or who fails, neglects, or refuses to comply with any order of a VSMP authority authorized to enforce this article, the Department, the Board, or a court, issued as herein provided, shall be subject to a civil penalty not to exceed \$32,500 for each violation within the discretion of the court. Each day of violation of each requirement shall constitute a separate offense. The Board shall adopt a regulation establishing a schedule of civil penalties to be utilized by the VSMP authority in enforcing the provisions of this article. The Board, Department, or VSMP authority may issue a summons for collection of the civil penalty and the action may be prosecuted in the appropriate court. Any civil penalties assessed by a court as a result of a summons issued by a locality as an approved VSMP authority shall be paid into the treasury of the locality wherein the land lies, except where the violator is the locality itself, or its agent. When the penalties are assessed by the court as a result of a summons issued by the Board or Department, or where the violator is the locality itself, or its agent, the court shall direct the penalty to be paid into the state treasury and deposited by the State Treasurer into the Virginia Stormwater Management Fund established pursuant to § 62.1-44.15:29. Such civil penalties paid into the treasury of the locality in which the violation occurred are to be used for the purpose of minimizing, preventing, managing, or mitigating pollution of the waters of the locality and abating environmental pollution therein in such manner as the court may, by order, direct.

B. Any person who willfully or negligently violates any provision of this article, any regulation or order of the Board, any order of a VSMP authority authorized to enforce this article or the Department, any ordinance of any locality approved as a VSMP authority, any condition of a permit or state permit, or any order of a court shall be guilty of a misdemeanor punishable by confinement in jail for not more than 12 months and a fine of not less than \$2,500 nor more than \$32,500, either or both. Any person who knowingly violates any provision of this article, any regulation or order of the Board, any order of the VSMP authority or the Department, any ordinance of any locality approved as a VSMP authority, any condition of a permit or state permit, or any order of a court issued as herein provided, or who

knowingly makes any false statement in any form required to be submitted under this article or knowingly renders inaccurate any monitoring device or method required to be maintained under this article, shall be guilty of a felony punishable by a term of imprisonment of not less than one year nor more than three years, or in the discretion of the jury or the court trying the case without a jury, confinement in jail for not more than 12 months and a fine of not less than \$5,000 nor more than \$50,000 for each violation. Any defendant that is not an individual shall, upon conviction of a violation under this subsection, be sentenced to pay a fine of not less than \$10,000. Each day of violation of each requirement shall constitute a separate offense.

C. Any person who knowingly violates any provision of this article, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily harm, shall, upon conviction, be guilty of a felony punishable by a term of imprisonment of not less than two years nor more than 15 years and a fine of not more than \$250,000, either or both. A defendant that is not an individual shall, upon conviction of a violation under this subsection, be sentenced to pay a fine not exceeding the greater of \$1 million or an amount that is three times the economic benefit realized by the defendant as a result of the offense. The maximum penalty shall be doubled with respect to both fine and imprisonment for any subsequent conviction of the same person under this subsection.

D. Violation of any provision of this article may also include the following sanctions:

1. The Board, Department, or the VSMP authority, where authorized to enforce this article, may apply to the appropriate court in any jurisdiction wherein the land lies to enjoin a violation or a threatened violation of the provisions of this article or of the local ordinance without the necessity of showing that an adequate remedy at law does not exist.

2. With the consent of any person who has violated or failed, neglected, or refused to obey any ordinance, any condition of a permit or state permit, any regulation or order of the Board, any order of the VSMP authority or the Department, or any provision of this article, the Board, Department, or VSMP authority may provide, in an order issued against such person, for the payment of civil charges for violations in specific sums, not to exceed the limit specified in this section. Such civil charges shall be instead of any appropriate civil penalty that could be imposed under this section. Any civil charges collected shall be paid to the locality or state treasury pursuant to subsection A.

(1989, cc. 467, 499, § 10.1-603.14; 2004, c. 372; 2006, c. 171; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:49. Enforcement authority of MS4 localities.

A. Localities shall adopt a stormwater ordinance pursuant to the conditions of a MS4 permit that is consistent with this article and its associated regulations and that contains provisions including the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities and shall include additional provisions as required to comply with a state MS4 permit. Such locality may utilize the civil penalty provisions in subsection A of § 62.1-44.15:48, the injunctive authority as provided for in subdivision D 1 of § 62.1-44.15:48, and the civil charges as authorized in subdivision D 2 of § 62.1-44.15:48, to enforce the ordinance. At the request of another

MS4, the locality may apply the penalties provided for in this section to direct or indirect discharges to any MS4 located within its jurisdiction.

B. Any person who willfully and knowingly violates any provision of such an ordinance is guilty of a Class 1 misdemeanor.

C. The local ordinance authorized by this section shall remain in full force and effect until the locality has been approved as a VSMP authority.

(2008, c. 13, § 10.1-603.14:1; 2012, cc. 785, 819; 2013, cc. 756, 793.)

§ 62.1-44.15:50. Cooperation with federal and state agencies.

A VSMP authority and the Department are authorized to cooperate and enter into agreements with any federal or state agency in connection with the requirements for land-disturbing activities for stormwater management.

(1989, cc. 467, 499, § 10.1-603.15; 2004, c. 372; 2012, cc. 785, 819; 2013, cc. 756, 793.)

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## **APPENDIX B**

Virginia Stormwater Management Program  
Regulations (9VAC25-870)

# Virginia Administrative Code

**Database updated through January 2, 2014 (including revisions approved at the State Water Control Board meeting on December 17, 2013)**

## Part I

### Definitions, Purpose, and Applicability

#### 9VAC25-870-10. Definitions.

The following words and terms used in this chapter have the following meanings unless the context clearly indicates otherwise.

"Act" means the Virginia Stormwater Management Act, Article 2.3 (§ 62.1-44.15:24 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia.

"Administrator" means the Administrator of the United States Environmental Protection Agency or an authorized representative.

"Applicable standards and limitations" means all state, interstate, and federal standards and limitations to which a discharge or a related activity is subject under the Clean Water Act (CWA) (33 USC § 1251 et seq.) and the Act, including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, and standards for sewage sludge use or disposal under §§ 301, 302, 303, 304, 306, 307, 308, 403 and 405 of CWA.

"Approval authority" means the State Water Control Board or its designee.

"Approved program" or "approved state" means a state or interstate program that has been approved or authorized by EPA under 40 CFR Part 123.

"Average monthly discharge limitation" means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

"Average weekly discharge limitation" means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

"Best management practice" or "BMP" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices, including both structural and nonstructural practices, to prevent or reduce the pollution of surface waters and groundwater systems.

"Board" means the State Water Control Board.

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

"Channel" means a natural or manmade waterway.

"Chesapeake Bay Preservation Act" means Article 2.5 (§ 62.1-44.15:67 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia.

"Chesapeake Bay Preservation Act land-disturbing activity" means a land-disturbing activity including clearing, grading, or excavation that results in a land disturbance equal to or greater than 2,500 square feet and less than one acre in all areas of jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830) adopted pursuant to the Chesapeake Bay Preservation Act.

"Chesapeake Bay Preservation Area" means any land designated by a local government pursuant to Part III (9VAC25-830-70 et seq.) of the Chesapeake Bay Preservation Area Designation and Management Regulations and § 62.1-44.15:74 of the Chesapeake Bay Preservation Act. A Chesapeake Bay Preservation Area shall consist of a Resource Protection Area and a Resource Management Area as defined in the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830).

"Chesapeake Bay watershed" means all land areas draining to the following Virginia river basins: Potomac River Basin, James River Basin, Rappahannock River Basin, Chesapeake Bay and its small coastal basins, and York River Basin.

"Common plan of development or sale" means a contiguous area where separate and distinct construction activities may be taking place at different times on different schedules.

"Comprehensive stormwater management plan" means a plan, which may be integrated with other land use plans or regulations, that specifies how the water quality components, quantity components, or both of stormwater are to be managed on the basis of an entire watershed or a portion thereof. The plan may also provide for the remediation of erosion, flooding, and water quality and quantity problems caused by prior development.

"Construction activity" means any clearing, grading or excavation associated with large construction activity or associated with small construction activity.

"Contiguous zone" means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone (37 FR 11906 June 15, 1972).

"Continuous discharge" means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

"Control measure" means any BMP, stormwater facility, or other method used to minimize the discharge of pollutants to state waters.

"Co-operator" means an operator of a state permit that is only responsible for state permit conditions relating to the discharge for which it is the operator.

"Clean Water Act" or "CWA" means the federal Clean Water Act (33 USC § 1251 et seq.), formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483, and Public Law 97-117, or any subsequent revisions thereto.

"CWA and regulations" means the Clean Water Act (CWA) and applicable regulations published in the Code of Federal Regulations promulgated thereunder. For the purposes of this chapter, it includes state program requirements.

"Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

"Department" means the Department of Environmental Quality.

"Development" means land disturbance and the resulting landform associated with the construction of residential, commercial, industrial, institutional, recreation, transportation, or utility facilities or structures or the clearing of land for nonagricultural or nonsilvicultural purposes. The regulation of discharges from development, for purposes of these regulations, does not include the exemptions found in 9VAC25-870-300.

"Direct discharge" means the discharge of a pollutant.

"Director" means the Director of the Department of Environmental Quality or his designee.

"Discharge," when used without qualification, means the discharge of a pollutant.

"Discharge of a pollutant" means:

1. Any addition of any pollutant or combination of pollutants to state waters from any point source; or

2. Any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into surface waters from: surface runoff that is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person that do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any indirect discharger.

"Discharge Monitoring Report" or "DMR" means the form supplied by the department, or an equivalent form developed by the operator and approved by the board, for the reporting of self-monitoring results by operators.

"Draft state permit" means a document indicating the board's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a state individual or general permit. A notice of intent to deny a state individual or general permit is a type of draft state permit. A denial of a request for modification, revocation and reissuance, or termination is not a draft state permit.

"Drainage area" means a land area, water area, or both from which runoff flows to a common point.

"Effluent limitation" means any restriction imposed by the board on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into surface waters, the waters of the contiguous zone, or the ocean.

"Effluent limitations guidelines" means a regulation published by the administrator under § 304(b) of the CWA to adopt or revise effluent limitations.

"Environmental Protection Agency" or "EPA" means the United States Environmental Protection Agency.

"Erosion and Sediment Control Law" means Article 2.4 (§ 62.1-44.15:51 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia.

"ESC" means erosion and sediment control.

"Existing state permit" means for the purposes of this chapter a state permit issued by the board and currently held by a state permit applicant.

"Existing source" means any source that is not a new source or a new discharger.

"Facilities or equipment" means buildings, structures, process or production equipment or machinery that form a permanent part of a new source and that will be used in its operation, if these facilities or equipment are of such value as to represent a substantial commitment to construct. It excludes facilities or equipment used in connection with feasibility, engineering, and design studies regarding the new source or water pollution treatment for the new source.

"Facility or activity" means any point source or treatment works treating domestic sewage or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the VSMP.

"Flood fringe" means the portion of the floodplain outside the floodway that is usually covered with water from the 100-year flood or storm event. This includes, but is not limited to, the flood or floodway fringe designated by the Federal Emergency Management Agency.

"Flooding" means a volume of water that is too great to be confined within the banks or walls of the stream, water body or conveyance system and that overflows onto adjacent lands, thereby causing or threatening damage.

"Floodplain" means the area adjacent to a channel, river, stream, or other water body that is susceptible to being inundated by water normally associated with the 100-year flood or storm event. This includes, but is not limited to, the floodplain designated by the Federal Emergency Management Agency.

"Flood-prone area" means the component of a natural or restored stormwater conveyance system that is outside the main channel. Flood-prone areas may include, but are not limited to, the floodplain, the floodway, the flood fringe, wetlands, riparian buffers, or other areas adjacent to the main channel.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas, usually associated with flowing water, that must be reserved in order to discharge the 100-year flood or storm event without cumulatively increasing the water surface elevation more than one foot. This includes, but is not limited to, the floodway designated by the Federal Emergency Management Agency.

"General permit" means a state permit authorizing a category of discharges under the CWA and the Act within a geographical area.

"Hazardous substance" means any substance designated under the Code of Virginia or 40 CFR Part 116 pursuant to § 311 of the CWA.

"Hydrologic Unit Code" or "HUC" means a watershed unit established in the most recent version of Virginia's 6th Order National Watershed Boundary Dataset unless specifically identified as another order.

"Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a separate VPDES or state permit (other than the state permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with 9VAC25-870-400 D 2 c (3).

"Impervious cover" means a surface composed of material that significantly impedes or prevents natural infiltration of water into soil.

"Incorporated place" means a city, town, township, or village that is incorporated under the Code of Virginia.

"Indian country" means (i) all land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (ii) all dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and (iii) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

"Indirect discharger" means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works (POTW)."

"Inspection" means an on-site review of the project's compliance with the permit or the state permit, the VSMP, and any applicable design criteria, or an on-site review to obtain information or conduct surveys or investigations necessary in the implementation or enforcement of the Act and this chapter.

"Interstate agency" means an agency of two or more states established by or under an agreement or compact approved by Congress, or any other agency of two or more states having substantial powers or duties pertaining to the control of pollution as determined and approved by the administrator under the CWA and regulations.

"Karst area" means any land area predominantly underlain at the surface or shallow subsurface by limestone, dolomite, or other soluble bedrock regardless of any obvious surface karst features.

"Karst features" means sinkholes, sinking and losing streams, caves, large flow springs, and other such landscape features found in karst areas.

"Land disturbance" or "land-disturbing activity" means a manmade change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation, except that the term shall not include those exemptions specified in § 62.1-44.15:34 of the Code of Virginia.

"Large construction activity" means construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Large construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

"Large municipal separate storm sewer system" means all municipal separate storm sewers that are either:

1. Located in an incorporated place with a population of 250,000 or more as determined by the 1990 decennial census by the Bureau of Census (40 CFR Part 122 Appendix F);
2. Located in the counties listed in 40 CFR Part 122 Appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties;
3. Owned or operated by a municipality other than those described in subdivision 1 or 2 of this definition and that are designated by the board as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under subdivision 1 or 2 of this definition. In making this determination the board may consider the following factors:
  - a. Physical interconnections between the municipal separate storm sewers;
  - b. The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in subdivision 1 of this definition;
  - c. The quantity and nature of pollutants discharged to surface waters;
  - d. The nature of the receiving surface waters; and
  - e. Other relevant factors.
4. The board may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a stormwater management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in this definition.

"Layout" means a conceptual drawing sufficient to provide for the specified stormwater management facilities required at the time of approval.

"Linear development project" means a land-disturbing activity that is linear in nature such as, but not limited to, (i) the construction of electric and telephone utility lines, and natural gas pipelines; (ii) construction of tracks, rights-of-way, bridges, communication facilities and other related structures of a railroad company; (iii) highway construction projects; (iv) construction of stormwater channels and stream restoration activities; and (v) water and sewer lines. Private subdivision roads or streets shall not be considered linear development projects.

"Locality" means a county, city, or town.

"Localized flooding" means smaller scale flooding that may occur outside of a stormwater conveyance system. This may include high water, ponding, or standing water from stormwater runoff, which is likely to cause property damage or unsafe conditions.

"Main channel" means the portion of the stormwater conveyance system that contains the base flow and small frequent storm events.

"Major facility" means any facility or activity classified as such by the regional administrator in conjunction with the board.

"Major modification" means, for the purposes of this chapter, the modification or amendment of an existing state permit before its expiration that is not a minor modification as defined in this regulation.

"Major municipal separate storm sewer outfall" or "major outfall" means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), with an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of two acres or more).

"Manmade" means constructed by man.

"Maximum daily discharge limitation" means the highest allowable daily discharge.

"Maximum extent practicable" or "MEP" means the technology-based discharge standard for municipal separate storm sewer systems established by CWA § 402(p). MEP is achieved, in part, by selecting and implementing effective structural and nonstructural best management practices (BMPs) and rejecting ineffective BMPs and replacing them with effective best management practices (BMPs). MEP is an iterative standard, which evolves over time as urban runoff management knowledge increases. As such, the operator's MS4 program must continually be assessed and modified to incorporate improved programs, control measures, BMPs, etc., to attain compliance with water quality standards.

"Medium municipal separate storm sewer system" means all municipal separate storm sewers that are either:

1. Located in an incorporated place with a population of 100,000 or more but less than 250,000 as determined by the 1990 decennial census by the Bureau of Census (40 CFR Part 122 Appendix G);
2. Located in the counties listed in 40 CFR Part 122 Appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties;
3. Owned or operated by a municipality other than those described in subdivision 1 or 2 of this definition and that are designated by the board as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under subdivision 1 or 2 of this definition. In making this determination the board may consider the following factors:
  - a. Physical interconnections between the municipal separate storm sewers;
  - b. The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in subdivision 1 of this definition;
  - c. The quantity and nature of pollutants discharged to surface waters;
  - d. The nature of the receiving surface waters; or
  - e. Other relevant factors.
4. The board may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a stormwater management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in subdivisions 1, 2 and 3 of this definition.

"Minimize" means to reduce or eliminate the discharge of pollutants to the extent achievable using stormwater controls that are technologically available and economically practicable.

"Minor modification" means, for the purposes of this chapter, minor modification or amendment of an existing state permit before its expiration for the reasons listed at 40 CFR 122.63 and as specified in 9VAC25-870-640. Minor modification for the purposes of this chapter also means other modifications and amendments not requiring extensive review and evaluation including, but not limited to, changes in EPA promulgated test protocols, increasing monitoring frequency requirements, changes in sampling locations, and changes to compliance dates within the overall compliance schedules. A minor state permit modification or amendment

does not substantially alter state permit conditions, substantially increase or decrease the amount of surface water impacts, increase the size of the operation, or reduce the capacity of the facility to protect human health or the environment.

"Municipal separate storm sewer" means a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains:

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

"Municipal separate storm sewer system" or "MS4" means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems or designated under 9VAC25-870-380 A 1.

"Municipal Separate Storm Sewer System Management Program" or "MS4 Program" means a management program covering the duration of a state permit for a municipal separate storm sewer system that includes a comprehensive planning process that involves public participation and intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA and regulations and the Act and attendant regulations, using management practices, control techniques, and system, design and engineering methods, and such other provisions that are appropriate.

"Municipality" means a city, town, county, district, association, or other public body created by or under state law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under § 208 of the CWA.

"National Pollutant Discharge Elimination System" or "NPDES" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing state permits, and imposing and enforcing pretreatment requirements under §§ 307, 402, 318, and 405 of the CWA. The term includes an approved program.

"Natural channel design concepts" means the utilization of engineering analysis based on fluvial geomorphic processes to create, rehabilitate, restore, or stabilize an open conveyance system

for the purpose of creating or recreating a stream that conveys its bankfull storm event within its banks and allows larger flows to access its floodplain.

"Natural stream" means a tidal or nontidal watercourse that is part of the natural topography. It usually maintains a continuous or seasonal flow during the year and is characterized as being irregular in cross-section with a meandering course. Constructed channels such as drainage ditches or swales shall not be considered natural streams; however, channels designed utilizing natural channel design concepts may be considered natural streams.

"New discharger" means any building, structure, facility, or installation:

1. From which there is or may be a discharge of pollutants;
2. That did not commence the discharge of pollutants at a particular site prior to August 13, 1979;
3. Which is not a new source; and
4. Which has never received a finally effective separate VPDES or state permit for discharges at that site.

This definition includes an indirect discharger that commences discharging into surface waters after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a site for which it does not have a separate VPDES or state permit; and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979.

"New permit" means, for the purposes of this chapter, a state permit issued by the board to a state permit applicant that does not currently hold and has never held a state permit of that type, for that activity, at that location. An application for a new permit issued pursuant to this chapter, 9VAC25-880, or 9VAC25-890 shall not be subject to §§ 62.1-44.15:3 A and 62.1-44.15:4 D of the Code of Virginia.

"New source," means 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 CWA that are applicable to such source; or
2. After proposal of standards of performance in accordance with § 306 of the CWA that are applicable to such source, but only if the standards are promulgated in accordance with § 306 of the CWA within 120 days of their proposal.

"Nonpoint source pollution" means pollution such as sediment, nitrogen, phosphorous, hydrocarbons, heavy metals, and toxics whose sources cannot be pinpointed but rather are washed from the land surface in a diffuse manner by stormwater runoff.

"Oil and gas exploration, production, processing, or treatment operations or transmission facilities" means all field activities or operations associated with exploration, production, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activity. (33 USC § 1362(24))

"Operator" means the owner or operator of any facility or activity subject to the Act and this chapter. In the context of stormwater associated with a large or small construction activity, operator means any person associated with a construction project that meets either of the following two criteria: (i) the person has direct operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications or (ii) the person has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a stormwater pollution prevention plan for the site or other state permit or VSMP authority permit conditions (i.e., they are authorized to direct workers at a site to carry out activities required by the stormwater pollution prevention plan or comply with other permit conditions). In the context of stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s), operator means the operator of the regulated MS4 system.

"Outfall" means, when used in reference to municipal separate storm sewers, a point source at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.

"Overburden" means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally occurring surface materials that are not disturbed by mining operations.

"Owner" means the Commonwealth or any of its political subdivisions including, but not limited to, sanitation district commissions and authorities, and any public or private institution, corporation, association, firm or company organized or existing under the laws of this or any other state or country, or any officer or agency of the United States, or any person or group of persons acting individually or as a group that owns, operates, charters, rents, or otherwise exercises control over or is responsible for any actual or potential discharge of sewage, industrial wastes, or other wastes or pollutants to state waters, or any facility or operation that has the capability to alter the physical, chemical, or biological properties of state waters in contravention of § 62.1-44.5 of the Code of Virginia, the Act and this chapter.

"Peak flow rate" means the maximum instantaneous flow from a prescribed design storm at a particular location.

"Percent impervious" means the impervious area within the site divided by the area of the site multiplied by 100.

"Permit" or "VSMP authority permit" means an approval to conduct a land-disturbing activity issued by the VSMP authority for the initiation of a land-disturbing activity after evidence of general permit coverage has been provided where applicable.

"Permittee" means the person to whom the state permit or VSMP authority permit is issued, including any owner or operator whose construction site is covered under a state construction general permit.

"Person" means any individual, corporation, partnership, association, state, municipality, commission, or political subdivision of a state, governmental body, including a federal, state, or local entity as applicable, any interstate body or any other legal entity.

"Point of discharge" means a location at which concentrated stormwater runoff is released.

"Point source" means any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

"Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 USC § 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

1. Sewage from vessels; or
2. Water, gas, or other material that is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well if the well used either to facilitate production or for disposal purposes is approved by the board and if the board determines that the injection or disposal will not result in the degradation of groundwater or surface water resources.

"Pollutant discharge" means the average amount of a particular pollutant measured in pounds per year or other standard reportable unit as appropriate, delivered by stormwater runoff.

"Pollution" means such alteration of the physical, chemical or biological properties of any state waters as will or is likely to create a nuisance or render such waters (a) harmful or detrimental or injurious to the public health, safety or welfare, or to the health of animals, fish or aquatic life; (b) unsuitable with reasonable treatment for use as present or possible future sources of public water supply; or (c) unsuitable for recreational, commercial, industrial, agricultural, or other reasonable uses, provided that (i) an alteration of the physical, chemical, or biological property of state waters, or a discharge or deposit of sewage, industrial wastes or other wastes to state waters by any owner which by itself is not sufficient to cause pollution, but which, in combination with such alteration of or discharge or deposit to state waters by other owners, is sufficient to cause pollution; (ii) the discharge of untreated sewage by any owner into state waters; and (iii) contributing to the contravention of standards of water quality duly established by the State Water Control Board, are "pollution" for the terms and purposes of this chapter.

"Postdevelopment" refers to conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site.

"Predevelopment" refers to the conditions that exist at the time that plans for the land development of a tract of land are submitted to the VSMP authority. Where phased development or plan approval occurs (preliminary grading, demolition of existing structures, roads and utilities, etc.), the existing conditions at the time prior to the first item being submitted shall establish predevelopment conditions.

"Prior developed lands" means land that has been previously utilized for residential, commercial, industrial, institutional, recreation, transportation or utility facilities or structures, and that will have the impervious areas associated with those uses altered during a land-disturbing activity.

"Privately owned treatment works" or "PVOTW" means any device or system that is (i) used to treat wastes from any facility whose operator is not the operator of the treatment works and (ii) not a POTW.

"Publicly owned treatment works" or "POTW" means a treatment works as defined by § 212 of the CWA that is owned by a state or municipality (as defined by § 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW treatment plant. The term also means the municipality as defined in § 502(4) of the CWA, that has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

"Qualified personnel" means a person knowledgeable in the principles and practices of erosion and sediment and stormwater management controls who possesses the skills to assess conditions at the construction site for the operator that could impact stormwater quality and quantity and to assess the effectiveness of any sediment and erosion control measures or stormwater management facilities selected to control the quality and quantity of stormwater

discharges from the construction activity. For VSMP authorities this requires the use of a person who holds a certificate of competency from the board in the area of project inspection for ESC and project inspection for SWM or combined administrator for ESC and combined administrator for SWM as defined in 9VAC25-850-10 or a combination of ESC and SWM qualifications from these two areas.

"Recommencing discharger" means a source that recommences discharge after terminating operations.

"Regional administrator" means the Regional Administrator of Region III of the Environmental Protection Agency or the authorized representative of the regional administrator.

"Revoked state permit" means, for the purposes of this chapter, an existing state permit that is terminated by the board before its expiration.

"Runoff coefficient" means the fraction of total rainfall that will appear at a conveyance as runoff.

"Runoff" or "stormwater runoff" means that portion of precipitation that is discharged across the land surface or through conveyances to one or more waterways.

"Runoff characteristics" includes maximum velocity, peak flow rate, volume, and flow duration.

"Runoff volume" means the volume of water that runs off the site from a prescribed design storm.

"Schedule of compliance" means a schedule of remedial measures included in a state permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the Act, the CWA and regulations.

"Secretary" means the Secretary of the Army, acting through the Chief of Engineers.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

"Significant materials" means, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under § 101(14) of CERCLA (42 USC § 9601(14)); any chemical the facility is required to report pursuant to § 313 of Title III of SARA (42 USC § 11023); fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

"Single jurisdiction" means, for the purposes of this chapter, a single county or city. The term county includes incorporated towns which are part of the county.

"Site" means the land or water area where any facility or land-disturbing activity is physically located or conducted, including adjacent land used or preserved in connection with the facility or land-disturbing activity. Areas channelward of mean low water in tidal Virginia shall not be considered part of a site.

"Site hydrology" means the movement of water on, across, through and off the site as determined by parameters including, but not limited to, soil types, soil permeability, vegetative cover, seasonal water tables, slopes, land cover, and impervious cover.

"Small construction activity" means:

1. Construction activities including clearing, grading, and excavating that results in land disturbance of equal to or greater than one acre, and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The board may waive the otherwise applicable requirements in a general permit for a stormwater discharge from construction activities that disturb less than five acres where stormwater controls are not needed based on an approved "total maximum daily load" (TMDL) that addresses the pollutant(s) of concern or, for nonimpaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. For the purpose of this subdivision, the pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the board that the construction activity will take place, and stormwater discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis.

2. Any other construction activity designated by either the board or the EPA regional administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to surface waters.

"Small municipal separate storm sewer system" or "small MS4" means all separate storm sewers that are (i) owned or operated by the United States, a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or

drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under § 208 of the CWA that discharges to surface waters and (ii) not defined as "large" or "medium" municipal separate storm sewer systems or designated under 9VAC25-870-380 A 1. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highway and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

"Source" means any building, structure, facility, or installation from which there is or may be a discharge of pollutants.

"State" means the Commonwealth of Virginia.

"State application" or "application" means the standard form or forms, including any additions, revisions, or modifications to the forms, approved by the administrator and the board for applying for a state permit.

"State/EPA agreement" means an agreement between the EPA regional administrator and the state that coordinates EPA and state activities, responsibilities and programs including those under the CWA and the Act.

"State permit" means an approval to conduct a land-disturbing activity issued by the board in the form of a state stormwater individual permit or coverage issued under a state general permit or an approval issued by the board for stormwater discharges from an MS4. Under these state permits, the Commonwealth imposes and enforces requirements pursuant to the federal Clean Water Act and regulations, the Act and this chapter. As the mechanism that imposes and enforces requirements pursuant to the federal Clean Water Act and regulations, a state permit for stormwater discharges from an MS4 and, after June 30, 2014, a state permit for conducting a land-disturbing activity issued pursuant to the Act, are also types of Virginia Pollutant Discharge Elimination System (VPDES) Permits. State permit does not include any state permit that has not yet been the subject of final board action, such as a draft state permit. Approvals issued pursuant to this chapter, 9VAC25-880, and 9VAC25-890 are not issuances of a permit under § 62.1-44.15.01 of the Code of Virginia.

"State project" means any land development project that is undertaken by any state agency, board, commission, authority or any branch of state government, including state-supported institutions of higher learning.

"State Water Control Law" means Chapter 3.1 (§ 62.1-44.2 et seq.) of Title 62.1 of the Code of Virginia.

"State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

"Stormwater" means precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage.

"Stormwater conveyance system" means a combination of drainage components that are used to convey stormwater discharge, either within or downstream of the land-disturbing activity. This includes:

1. "Manmade stormwater conveyance system" means a pipe, ditch, vegetated swale, or other stormwater conveyance system constructed by man except for restored stormwater conveyance systems;
2. "Natural stormwater conveyance system" means the main channel of a natural stream and the flood-prone area adjacent to the main channel; or
3. "Restored stormwater conveyance system" means a stormwater conveyance system that has been designed and constructed using natural channel design concepts. Restored stormwater conveyance systems include the main channel and the flood-prone area adjacent to the main channel.

"Stormwater discharge associated with construction activity" means a discharge of stormwater runoff from areas where land-disturbing activities (e.g., clearing, grading, or excavation); construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck washout, fueling); or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located.

"Stormwater discharge associated with large construction activity" means the discharge of stormwater from large construction activities.

"Stormwater discharge associated with small construction activity" means the discharge of stormwater from small construction activities.

"Stormwater management facility" means a control measure that controls stormwater runoff and changes the characteristics of that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow.

"Stormwater management plan" means a document(s) containing material for describing methods for complying with the requirements of the VSMP or this chapter.

"Stormwater Pollution Prevention Plan" or "SWPPP" means a document that is prepared in accordance with good engineering practices and that identifies potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges. A SWPPP required under a VSMP for construction activities shall identify and require the implementation of control measures, and shall include, but not be limited to the inclusion of, or the

incorporation by reference of an approved erosion and sediment control plan, an approved stormwater management plan, and a pollution prevention plan.

"Subdivision" means the same as defined in § 15.2-2201 of the Code of Virginia.

"Surface waters" means:

1. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - a. That are or could be used by interstate or foreign travelers for recreational or other purposes;
  - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - c. That are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as surface waters under this definition;
5. Tributaries of waters identified in subdivisions 1 through 4 of this definition;
6. The territorial sea; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in subdivisions 1 through 6 of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA and the law, are not surface waters. Surface waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other agency, for the purposes of the CWA, the final authority regarding the CWA jurisdiction remains with the EPA.

"SWM" means stormwater management.

"Total dissolved solids" means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR Part 136.

"Total maximum daily load" or "TMDL" means the sum of the individual wasteload allocations for point sources, load allocations (LAs) for nonpoint sources, natural background loading and a margin of safety. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. The TMDL process provides for point versus nonpoint source trade-offs.

"TMDL Action Plan" means the scheduled steps of activities that the MS4 operator will take to address the assumptions and requirements of the TMDL wasteload allocation. TMDL action plans may be implemented in multiple phases over more than one state permit cycle.

"Toxic pollutant" means any pollutant listed as toxic under § 307(a)(1) of the CWA or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing § 405(d) of the CWA.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based state permit effluent limitations because of factors beyond the reasonable control of the operator. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Variance" means any mechanism or provision under § 301 or § 316 of the CWA or under 40 CFR Part 125, or in the applicable federal effluent limitations guidelines that allows modification to or waiver of the generally applicable effluent limitation requirements or time deadlines of the CWA. This includes provisions that allow the establishment of alternative limitations based on fundamentally different factors or on § 301(c), § 301(g), § 301(h), § 301(i), or § 316(a) of the CWA.

"Virginia Erosion and Sediment Control Program" or "VESCP" means a program approved by the board that has been established by a VESCP authority for the effective control of soil erosion, sediment deposition, and nonagricultural runoff associated with a land-disturbing activity to prevent the unreasonable degradation of properties, stream channels, waters, and other natural resources and shall include such items where applicable as local ordinances, rules, permit requirements, annual standards and specifications, policies and guidelines, technical materials, and requirements for plan review, inspection, enforcement where authorized in the Erosion and Sediment Control Act and its attendant regulations, and evaluation consistent with the requirements of the Erosion and Sediment Control Act and its attendant regulations.

"Virginia Erosion and Sediment Control Program authority" or "VESCP authority" means an authority approved by the board to operate a Virginia Erosion and Sediment Control Program. An authority may include a state entity, including the department; a federal entity; a district, county, city, or town; or for linear projects subject to annual standards and specifications, electric, natural gas and telephone utility companies, interstate and intrastate natural gas

pipeline companies, railroad companies, or authorities created pursuant to § 15.2-5102 of the Code of Virginia.

"Virginia Pollutant Discharge Elimination System (VPDES) permit" or "VPDES permit" means a document issued by the State Water Control Board pursuant to the State Water Control Law authorizing, under prescribed conditions, the potential or actual discharge of pollutants from a point source to surface waters.

"Virginia Stormwater Management Act" means Article 2.3 (§ 62.1-44.15:24 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia.

"Virginia Stormwater BMP Clearinghouse Website" means a website that contains detailed design standards and specifications for control measures that may be used in Virginia to comply with the requirements of the Virginia Stormwater Management Act and associated regulations.

"Virginia Stormwater Management Handbook" means a collection of pertinent information that provides general guidance for compliance with the Act and associated regulations and is developed by the department with advice from a stakeholder advisory committee.

"Virginia Stormwater Management Program" or "VSMP" means a program approved by the board after September 13, 2011, that has been established by a VSMP authority to manage the quality and quantity of runoff resulting from land-disturbing activities and shall include such items as local ordinances, rules, permit requirements, annual standards and specifications, policies and guidelines, technical materials, and requirements for plan review, inspection, enforcement, where authorized in the Act and associated regulations, and evaluation consistent with the requirements of the SWM Act and associated regulations.

"VSMP authority" means an authority approved by the board after September 13, 2011, to operate a Virginia Stormwater Management Program or, until such approval is given, the department. An authority may include a locality; state entity, including the department; federal entity; or, for linear projects subject to annual standards and specifications in accordance with subsection B of § 62.1-44.15:31 of the Code of Virginia, electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies, railroad companies, or authorities created pursuant to § 15.2-5102 of the Code of Virginia. Prior to approval, the board must find that the ordinances adopted by the locality's VSMP authority are consistent with the Act and this chapter including the General Permit for Discharges of Stormwater from Construction Activities (9VAC25-880).

"Wasteload allocation" or "wasteload" or "WLA" means the portion of a receiving surface water's loading or assimilative capacity allocated to one of its existing or future point sources of pollution. WLAs are a type of water quality-based effluent limitation.

"Water quality standards" or "WQS" means provisions of state or federal law that consist of a designated use or uses for the waters of the Commonwealth and water quality criteria for such

waters based on such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water, and serve the purposes of the State Water Control Law (§ 62.1-44.2 et seq. of the Code of Virginia), the Act (§ 62.1-44.15:24 et seq. of the Code of Virginia), and the CWA (33 USC § 1251 et seq.).

"Watershed" means a defined land area drained by a river or stream, karst system, or system of connecting rivers or streams such that all surface water within the area flows through a single outlet. In karst areas, the karst feature to which the water drains may be considered the single outlet for the watershed.

"Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

"Whole effluent toxicity" means the aggregate toxic effect of an effluent measured directly by a toxicity test.

9VAC25-870-15. Applicability of incorporated references based on the dates that they became effective.

Except as noted, when a regulation of the United States set forth in the Code of Federal Regulations is referenced and incorporated herein, that regulation shall be as it exists and has been published in the July 1, 2012, update.

9VAC25-870-20. Purposes.

The purposes of this chapter are to provide a framework for the administration, implementation and enforcement of the Virginia Stormwater Management Act (Act) and to delineate the procedures and requirements to be followed in connection with state permits issued by the board pursuant to the Clean Water Act (CWA) and the Virginia Stormwater Management Act and permits issued by a VSMP authority, while at the same time providing flexibility for innovative solutions to stormwater management issues. The chapter also establishes the board's procedures for the authorization of a VSMP, the board's procedures for approving the administration of a VSMP by a VSMP authority, board and department oversight authorities for a VSMP, and the required technical criteria for stormwater management for land-disturbing activities.

9VAC25-870-30. Applicability.

This chapter is applicable to:

1. Every VSMP authority that administers a VSMP;

2. The department in its oversight of VSMPs or in its administration of the Virginia Stormwater Management Program;
3. Every MS4 program;
4. Every state agency project regulated and every federal entity project covered under the Act and this chapter; and
5. Every land-disturbing activity regulated under § 62.1-44.15:34 of the Code of Virginia unless otherwise exempted in § 62.1-44.15:34 B.

## Part II

### Administrative and Technical Criteria for Land-Disturbing Activities

#### 9VAC25-870-40. Authority.

Pursuant to the Virginia Stormwater Management Act, the board is required to take actions ensuring the general health, safety, and welfare of the citizens of the Commonwealth as well as protecting the quality and quantity of state waters from the potential harm of unmanaged stormwater. In addition to other authority granted to the board under the Stormwater Management Act, the board is authorized pursuant to §§ 62.1-44.15:25 and 62.1-44.15:28 of the Code of Virginia to adopt regulations that specify standards and procedures for VSMPs, to establish statewide standards for stormwater management for land-disturbing activities, and to protect properties, the quality and quantity of state waters, the physical integrity of stream channels, and other natural resources.

#### 9VAC25-870-45. Implementation date.

The technical criteria in Part II A and Part II B shall be implemented by a VSMP authority when a General Permit for Discharges of Stormwater from Construction Activities has been issued that incorporates such criteria. Until that time, the required technical criteria shall be found in Part II C. VSMPs adopted in accordance with the Act and this chapter shall become effective July 1, 2014, unless otherwise specified by the board.

#### 9VAC25-870-46. General objectives.

The physical, chemical, biological, and hydrologic characteristics and the water quality and quantity of the receiving state waters shall be maintained, protected, or improved in accordance with the requirements of this part. Objectives include, but are not limited to, supporting state designated uses and water quality standards. All control measures used shall be employed in a manner that minimizes impacts on receiving state waters.

#### 9VAC25-870-47. Applicability of other laws and regulations; time limits on applicability of approved design criteria.

A. Nothing in this chapter shall be construed as limiting the applicability of other laws and regulations, including, but not limited to, the CWA, Virginia Stormwater Management Act, Virginia Erosion and Sediment Control Law, and the Chesapeake Bay Preservation Act, except as provided in § 62.1-44.15:27 K of the Code of Virginia, and all applicable regulations adopted in accordance with those laws, or the rights of other federal agencies, state agencies, or local governments to impose more stringent technical criteria or other requirements as allowed by law.

B. Land-disturbing activities that obtain an initial state permit or commence land disturbance prior to July 1, 2014 shall be conducted in accordance with the Part II C technical criteria of this chapter. Such projects shall remain subject to the Part II C technical criteria for two additional state permit cycles. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board.

C. Land-disturbing activities that obtain an initial state permit on or after July 1, 2014 shall be conducted in accordance with the Part II B technical criteria of this chapter, except as provided for in section 48 of this chapter. Land-disturbing activities conducted in accordance with the Part II B technical criteria shall remain subject to the Part II B technical criteria for two additional state permit cycles. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board.

D. Nothing in this section shall preclude an operator from constructing to a more stringent standard at his discretion.

#### 9VAC25-870-48. Grandfathering.

A. Any land-disturbing activity shall be considered grandfathered by the VSMP authority and shall be subject to the Part II C technical criteria of this chapter provided:

1. A proffered or conditional zoning plan, zoning with a plan of development, preliminary or final subdivision plat, preliminary or final site plan, or any document determined by the locality to be equivalent thereto (i) was approved by the locality prior to July 1, 2012, (ii) provided a layout as defined in 9VAC25-870-10, (iii) will comply with the Part II C technical criteria of this chapter, and (iv) has not been subsequently modified or amended in a manner resulting in an increase in the amount of phosphorus leaving each point of discharge, and such that there is no increase in the volume or rate of runoff;
2. A state permit has not been issued prior to July 1, 2014; and
3. Land disturbance did not commence prior to July 1, 2014.

B. Locality, state, and federal projects shall be considered grandfathered by the VSMP authority and shall be subject to the Part II C technical criteria of this chapter provided:

1. There has been an obligation of locality, state, or federal funding, in whole or in part, prior to July 1, 2012, or the department has approved a stormwater management plan prior to July 1, 2012.
2. A state permit has not been issued prior to July 1, 2014; and
3. Land disturbance did not commence prior to July 1, 2014.

C. Land disturbing activities grandfathered under subsections A and B of this section shall remain subject to the Part II C technical criteria of this chapter for one additional state permit cycle. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board.

D. In cases where governmental bonding or public debt financing has been issued for a project prior to July 1, 2012, such project shall be subject to the technical criteria of Part II C.

E. Nothing in this section shall preclude an operator from constructing to a more stringent standard at his discretion.

9VAC25-870-51. Chesapeake Bay Preservation Act land-disturbing activity.

In order to protect the quality of state waters and to control the discharge of stormwater pollutants from land-disturbing activities, runoff associated with Chesapeake Bay Preservation Act land-disturbing activities shall be controlled. After June 30, 2014, such land-disturbing activities shall not require completion of a registration statement or require coverage under the General Permit for Discharges of Stormwater from Construction Activities but shall be subject to the following technical criteria and program and administrative requirements:

1. An erosion and sediment control plan consistent with the requirements of the Virginia Erosion and Sediment Control Law and regulations must be designed and implemented during land disturbing activities. Prior to land disturbance, this plan must be approved by either the VESCP authority or the department in accordance with the Virginia Erosion and Sediment Control Law and attendant regulations.

2. A stormwater management plan consistent with the requirements of the Virginia Stormwater Management Act and regulations must be designed and implemented during the land-disturbing activity. The stormwater management plan shall be developed and submitted in accordance with 9VAC25-870-55. Prior to land disturbance, this plan must be approved by the VSMP authority.

3. Exceptions may be requested in accordance with 9VAC25-870-57.

4. Long-term maintenance of stormwater management facilities shall be provided for and conducted in accordance with 9VAC25-870-58.

5. Water quality design criteria in 9VAC25-870-63 shall be applied to the site.

6. Water quality compliance shall be achieved in accordance with 9VAC25-870-65.
7. Channel protection and flood protection shall be achieved in accordance with 9VAC25-870-66.
8. Offsite compliance options in accordance with 9VAC25-870-69 shall be available to Chesapeake Bay Preservation Act land-disturbing activities.
9. Such land-disturbing activities shall be subject to the design storm and hydrologic methods set out in 9VAC25-870-72, linear development controls in 9VAC25-870-76, and criteria associated with stormwater impoundment structures or facilities in 9VAC25-870-85.

## Part II A

### General Administrative Criteria for Regulated Land-Disturbing Activities

#### 9VAC25-870-53. Applicability.

This part applies to all regulated land-disturbing activities.

#### 9VAC25-870-54. Stormwater pollution prevention plan requirements.

- A. A stormwater pollution prevention plan shall include, but not be limited to, an approved erosion and sediment control plan, an approved stormwater management plan, a pollution prevention plan for regulated land-disturbing activities, and a description of any additional control measures necessary to address a TMDL pursuant to subsection E of this section.
- B. An erosion and sediment control plan consistent with the requirements of the Virginia Erosion and Sediment Control Law and regulations must be designed and implemented during construction activities. Prior to land disturbance, this plan must be approved by either the VESCP authority or the department in accordance with the Virginia Erosion and Sediment Control Law and attendant regulations.
- C. A stormwater management plan consistent with the requirements of the Virginia Stormwater Management Act and regulations must be designed and implemented during construction activities. Prior to land disturbance, this plan must be approved by the VSMP authority.
- D. A pollution prevention plan that identifies potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the construction site and describe control measures that will be used to minimize pollutants in stormwater discharges from the construction site must be developed before land disturbance commences.
- E. In addition to the requirements of subsections A through D of this section, if a specific WLA for a pollutant has been established in an approved TMDL and is assigned to stormwater discharges from a construction activity, additional control measures must be identified and

implemented by the operator so that discharges are consistent with the assumptions and requirements of the WLA.

F. The stormwater pollution prevention plan must address the following requirements as specified in 40 CFR 450.21, to the extent otherwise required by state law or regulations and any applicable requirements of a state permit:

1. Control stormwater volume and velocity within the site to minimize soil erosion;
2. Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;
3. Minimize the amount of soil exposed during construction activity;
4. Minimize the disturbance of steep slopes;
5. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
6. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible;
7. Minimize soil compaction and, unless infeasible, preserve topsoil;
8. Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed within a period of time determined by the VSMP authority. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the VSMP authority; and
9. Utilize outlet structures that withdraw water from the surface, unless infeasible, when discharging from basins and impoundments.

G. The SWPPP shall be amended whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants to state waters and that has not been previously addressed in the SWPPP. The SWPPP must be maintained at a central location onsite. If an onsite location is unavailable, notice of the SWPPP's location must be posted near the main entrance at the construction site.

9VAC25-870-55. Stormwater management plans.

A. A stormwater management plan shall be developed and submitted to the VSMP authority. The stormwater management plan shall be implemented as approved or modified by the VSMP authority and shall be developed in accordance with the following:

1. A stormwater management plan for a land-disturbing activity shall apply the stormwater management technical criteria set forth in this part to the entire land-disturbing activity. Individual lots in new residential, commercial, or industrial developments shall not be considered separate land-disturbing activities.
2. A stormwater management plan shall consider all sources of surface runoff and all sources of subsurface and groundwater flows converted to surface runoff.

B. A complete stormwater management plan shall include the following elements:

1. Information on the type of and location of stormwater discharges, information on the features to which stormwater is being discharged including surface waters or karst features if present, and predevelopment and postdevelopment drainage areas;
2. Contact information including the name, address, telephone number, and email address of the owner and the tax reference number and parcel number of the property or properties affected;
3. A narrative that includes a description of current site conditions and final site conditions or if allowed by the VSMP authority, the information provided and documented during the review process that addresses the current and final site conditions;
4. A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete;
5. Information on the proposed stormwater management facilities, including (i) the type of facilities; (ii) location, including geographic coordinates; (iii) acres treated; and (iv) the surface waters or karst features into which the facility will discharge;
6. Hydrologic and hydraulic computations, including runoff characteristics;
7. Documentation and calculations verifying compliance with the water quality and quantity requirements of these regulations;
8. A map or maps of the site that depicts the topography of the site and includes:
  - a. All contributing drainage areas;
  - b. Existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;

- c. Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
  - d. Current land use including existing structures, roads, and locations of known utilities and easements;
  - e. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;
  - f. The limits of clearing and grading, and the proposed drainage patterns on the site;
  - g. Proposed buildings, roads, parking areas, utilities, and stormwater management facilities; and
  - h. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements;
9. If an operator intends to meet the requirements established in 9VAC25-870-63 or 9VAC25-870-66 through the use of off-site compliance options, where applicable, then a letter of availability from the off-site provider must be included; and
10. If payment of a fee is required with the stormwater management plan submission by the VSMP authority, the fee and the required fee form in accordance with Part XIII must have been submitted.

C. Elements of the stormwater management plans that include activities regulated under Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.

D. A construction record drawing for permanent stormwater management facilities shall be submitted to the VSMP authority in accordance with 9VAC25-870-108 and 9VAC25-870-112. The construction record drawing shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities have been constructed in accordance with the approved plan.

9VAC25-870-56. Pollution prevention plans.

A. A plan for implementing pollution prevention measures during construction activities shall be developed, implemented, and updated as necessary. The pollution prevention plan shall detail the design, installation, implementation, and maintenance of effective pollution prevention measures as specified in 40 CFR 450.21(d) to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
2. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater; and
3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

B. The pollution prevention plan shall include effective best management practices to prohibit the following discharges in accordance with 40 CFR 450.21(e):

1. Wastewater from washout of concrete, unless managed by an appropriate control;
2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
4. Soaps or solvents used in vehicle and equipment washing.

C. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls in accordance with 40 CFR 450.21(c).

9VAC25-870-57. Requesting an exception.

A request for an exception for Part II B or Part II C of this chapter, including the reasons for making the request, may be submitted in writing to the VSMP authority. Economic hardship alone is not a sufficient reason to request an exception from the requirements of this chapter. The request for an exception will be reviewed pursuant to 9VAC25-870-122. An exception to the requirement that the land-disturbing activity obtain a state permit will not be granted by the VSMP authority.

9VAC25-870-58. Responsibility for long-term maintenance of permanent stormwater management facilities.

A recorded instrument shall be submitted to the VSMP authority in accordance with 9VAC25-870-112.

9VAC25-870-59. Applying for state permit coverage.

The operator must submit a complete and accurate registration statement on the official department form to the VSMP authority in order to apply for state permit coverage. The registration statement must be signed by the operator in accordance with 9VAC25-870-370.

## Part II B

### Technical Criteria for Regulated Land-Disturbing Activities

#### 9VAC25-870-62. Applicability.

In accordance with the board's authority and except as provided in 9VAC25-870-48, this part establishes the minimum technical criteria that shall be employed by a state agency in accordance with an implementation schedule set by the board, or by a VSMP authority that has been approved by the board, to protect the quality and quantity of state waters from the potential harm of unmanaged stormwater runoff resulting from land-disturbing activities.

#### 9VAC25-870-63. Water quality design criteria requirements.

A. In order to protect the quality of state waters and to control the discharge of stormwater pollutants from regulated activities, the following minimum design criteria and statewide standards for stormwater management shall be applied to the site.

1. New development. The total phosphorus load of new development projects shall not exceed 0.41 pounds per acre per year, as calculated pursuant to 9VAC25-870-65.

2. Development on prior developed lands.

a. For land-disturbing activities disturbing greater than or equal to one acre that result in no net increase in impervious cover from the predevelopment condition, the total phosphorus load shall be reduced at least 20% below the predevelopment total phosphorus load.

b. For regulated land-disturbing activities disturbing less than one acre that result in no net increase in impervious cover from the predevelopment condition, the total phosphorus load shall be reduced at least 10% below the predevelopment total phosphorus load.

c. For land-disturbing activities that result in a net increase in impervious cover over the predevelopment condition, the design criteria for new development shall be applied to the increased impervious area. Depending on the area of disturbance, the criteria of subdivisions a or b above, shall be applied to the remainder of the site.

d. In lieu of subdivision c of this subsection, the total phosphorus load of a linear development project occurring on prior developed lands shall be reduced 20% below the predevelopment total phosphorus load.

e. The total phosphorus load shall not be required to be reduced to below the applicable standard for new development unless a more stringent standard has been established by a locality.

B. Compliance with subsection A of this section shall be determined in accordance with 9VAC25-870-65.

C. Upon completion of the 2017 Chesapeake Bay Phase III Watershed Implementation Plan, the department shall review the water quality design criteria standards.

D. Nothing in this section shall prohibit a locality's VSMP authority from establishing more stringent water quality design criteria requirements in accordance with § 62.1-44.15:33 of the Code of Virginia.

9VAC25-870-65. Water quality compliance.

A. Compliance with the water quality design criteria set out in subdivisions A 1 and A 2 of 9VAC25-870-63 shall be determined by utilizing the Virginia Runoff Reduction Method or another equivalent methodology that is approved by the board.

B. The BMPs listed in this subsection are approved for use as necessary to effectively reduce the phosphorus load and runoff volume in accordance with the Virginia Runoff Reduction Method. Other approved BMPs found on the Virginia Stormwater BMP Clearinghouse Website may also be utilized. Design specifications and the pollutant removal efficiencies for all approved BMPs are found on the Virginia Stormwater BMP Clearinghouse Website.

1. Vegetated Roof (Version 2.3, March 1, 2011);
2. Rooftop Disconnection (Version 1.9, March 1, 2011);
3. Rainwater Harvesting (Version 1.9.5, March 1, 2011);
4. Soil Amendments (Version 1.8, March 1, 2011);
5. Permeable Pavement (Version 1.8, March 1, 2011);
6. Grass Channel (Version 1.9, March 1, 2011);
7. Bioretention (Version 1.9, March 1, 2011);
8. Infiltration (Version 1.9, March 1, 2011);
9. Dry Swale (Version 1.9, March 1, 2011);

10. Wet Swale (Version 1.9, March 1, 2011);
11. Sheet Flow to Filter/Open Space (Version 1.9, March 1, 2011);
12. Extended Detention Pond (Version 1.9, March 1, 2011);
13. Filtering Practice (Version 1.8, March 1, 2011);
14. Constructed Wetland (Version 1.9, March 1, 2011); and
15. Wet Pond (Version 1.9, March 1, 2011).

C. BMPs differing from those listed in subsection B of this section shall be reviewed and approved by the director in accordance with procedures established by the department.

D. A VSMP authority may establish limitations on the use of specific BMPs in accordance with § 62.1-44.15:33 of the Code of Virginia.

E. The VSMP authority shall have the discretion to allow for application of the design criteria to each drainage area of the site. However, where a site drains to more than one HUC, the pollutant load reduction requirements shall be applied independently within each HUC unless reductions are achieved in accordance with a comprehensive watershed stormwater management plan in accordance with 9VAC25-870-92.

F. Offsite alternatives where allowed in accordance with 9VAC25-870-69 may be utilized to meet the design criteria of subsection A of 9VAC25-870-63.

9VAC25-870-66. Water quantity.

A. Channel protection and flood protection shall be addressed in accordance with the minimum standards set out in this section, which are established pursuant to the requirements of subdivision 7 of § 4 62.1-44.15:28 of the Code of Virginia. Nothing in this section shall prohibit a locality's VSMP authority from establishing a more stringent standard in accordance with § 62.1-44.15:33 of the Code of Virginia especially where more stringent requirements are necessary to address total maximum daily load requirements or to protect exceptional state waters. Compliance with the minimum standards set out in this section shall be deemed to satisfy the requirements of subdivision 19 of 9VAC25-840-40 (Minimum standards; Virginia Erosion and Sediment Control Regulations).

B. Channel protection. Concentrated stormwater flow shall be released into a stormwater conveyance system and shall meet the criteria in subdivision 1, 2, or 3 of this subsection, where applicable, from the point of discharge to a point to the limits of analysis in subdivision 4 of this subsection.

1. Manmade stormwater conveyance systems. When stormwater from a development is discharged to a manmade stormwater conveyance system, following the land-disturbing activity, either:

a. The manmade stormwater conveyance system shall convey the postdevelopment peak flow rate from the two-year 24-hour storm event without causing erosion of the system. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the VSMP authority; or

b. The peak discharge requirements for concentrated stormwater flow to natural stormwater conveyance systems in subdivision 3 of this subsection shall be met.

2. Restored stormwater conveyance systems. When stormwater from a development is discharged to a restored stormwater conveyance system that has been restored using natural design concepts, following the land-disturbing activity, either:

a. The development shall be consistent, in combination with other stormwater runoff, with the design parameters of the restored stormwater conveyance system that is functioning in accordance with the design objectives; or

b. The peak discharge requirements for concentrated stormwater flow to natural stormwater conveyance systems in subdivision 3 of this subsection shall be met.

3. Natural stormwater conveyance systems. When stormwater from a development is discharged to a natural stormwater conveyance system, the maximum peak flow rate from the one-year 24-hour storm following the land-disturbing activity shall be calculated either:

a. In accordance with the following methodology:

$$Q_{\text{Developed}} \leq \text{I.F.} * (Q_{\text{Pre-developed}} * RV_{\text{Pre-Developed}}) / RV_{\text{Developed}}$$

Under no condition shall  $Q_{\text{Developed}}$  be greater than  $Q_{\text{Pre-Developed}}$  nor shall  $Q_{\text{Developed}}$  be required to be less than that calculated in the equation  $(Q_{\text{Forest}} * RV_{\text{Forest}}) / RV_{\text{Developed}}$ ; where

I.F. (Improvement Factor) equals 0.8 for sites > 1 acre or 0.9 for sites ≤ 1 acre.

$Q_{\text{Developed}}$  = The allowable peak flow rate of runoff from the developed site.

$RV_{\text{Developed}}$  = The volume of runoff from the site in the developed condition.

$Q_{\text{Pre-Developed}}$  = The peak flow rate of runoff from the site in the pre-developed condition.

$RV_{\text{Pre-Developed}}$  = The volume of runoff from the site in pre-developed condition.

$Q_{\text{Forest}}$  = The peak flow rate of runoff from the site in a forested condition.

$RV_{\text{Forest}}$  = The volume of runoff from the site in a forested condition; or

b. In accordance with another methodology that is demonstrated by the VSMP authority to achieve equivalent results and is approved by the board.

4. Limits of analysis. Unless subdivision 3 of this subsection is utilized to show compliance with the channel protection criteria, stormwater conveyance systems shall be analyzed for compliance with channel protection criteria to a point where either:

a. Based on land area, the site's contributing drainage area is less than or equal to 1.0% of the total watershed area; or

b. Based on peak flow rate, the site's peak flow rate from the one-year 24-hour storm is less than or equal to 1.0% of the existing peak flow rate from the one-year 24-hour storm prior to the implementation of any stormwater quantity control measures.

C. Flood protection. Concentrated stormwater flow shall be released into a stormwater conveyance system and shall meet one of the following criteria as demonstrated by use of acceptable hydrologic and hydraulic methodologies:

1. Concentrated stormwater flow to stormwater conveyance systems that currently do not experience localized flooding during the 10-year 24-hour storm event: The point of discharge releases stormwater into a stormwater conveyance system that, following the land-disturbing activity, confines the postdevelopment peak flow rate from the 10-year 24-hour storm event within the stormwater conveyance system. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the VSMP authority.

2. Concentrated stormwater flow to stormwater conveyance systems that currently experience localized flooding during the 10-year 24-hour storm event: The point of discharge either:

a. Confines the postdevelopment peak flow rate from the 10-year 24-hour storm event within the stormwater conveyance system to avoid the localized flooding. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the VSMP authority; or

b. Releases a postdevelopment peak flow rate for the 10-year 24-hour storm event that is less than the predevelopment peak flow rate from the 10-year 24-hour storm event. Downstream stormwater conveyance systems do not require any additional analysis to show compliance with flood protection criteria if this option is utilized.

3. Limits of analysis. Unless subdivision 2 b of this subsection is utilized to comply with the flood protection criteria, stormwater conveyance systems shall be analyzed for compliance with flood protection criteria to a point where:

a. The site's contributing drainage area is less than or equal to 1.0% of the total watershed area draining to a point of analysis in the downstream stormwater conveyance system;

b. Based on peak flow rate, the site's peak flow rate from the 10-year 24-hour storm event is less than or equal to 1.0% of the existing peak flow rate from the 10-year 24-hour storm event prior to the implementation of any stormwater quantity control measures; or

c. The stormwater conveyance system enters a mapped floodplain or other flood-prone area, adopted by ordinance, of any locality.

D. Increased volumes of sheet flow resulting from pervious or disconnected impervious areas, or from physical spreading of concentrated flow through level spreaders, must be identified and evaluated for potential impacts on down-gradient properties or resources. Increased volumes of sheet flow that will cause or contribute to erosion, sedimentation, or flooding of down gradient properties or resources shall be diverted to a stormwater management facility or a stormwater conveyance system that conveys the runoff without causing down-gradient erosion, sedimentation, or flooding. If all runoff from the site is sheet flow and the conditions of this subsection are met, no further water quantity controls are required.

E. For purposes of computing predevelopment runoff, all pervious lands on the site shall be assumed to be in good hydrologic condition in accordance with the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) standards, regardless of conditions existing at the time of computation. Predevelopment runoff calculations utilizing other hydrologic conditions may be utilized provided that it is demonstrated to and approved by the VSMP authority that actual site conditions warrant such considerations.

F. Predevelopment and postdevelopment runoff characteristics and site hydrology shall be verified by site inspections, topographic surveys, available soil mapping or studies, and calculations consistent with good engineering practices. Guidance provided in the Virginia Stormwater Management Handbook and on the Virginia Stormwater BMP Clearinghouse Website shall be considered appropriate practices.

#### 9VAC25-870-69. Offsite compliance options.

A. Offsite compliance options that a VSMP authority may allow an operator to use to meet required phosphorus nutrient reductions include the following:

1. Offsite controls utilized in accordance with a comprehensive stormwater management plan adopted pursuant to 9VAC25-870-92 for the local watershed within which a project is located;

2. A locality pollutant loading pro rata share program established pursuant to § 15.2-2243 of the Code of Virginia or similar local funding mechanism;
3. The nonpoint nutrient offset program established pursuant to § 62.1-44.15:35 of the Code of Virginia;
4. Any other offsite options approved by an applicable state agency or state board; and
5. When an operator has additional properties available within the same HUC or upstream HUC that the land-disturbing activity directly discharges to or within the same watershed as determined by the VSMP authority, offsite stormwater management facilities on those properties may be utilized to meet the required phosphorus nutrient reductions from the land-disturbing activity.

B. Notwithstanding subsection A of this section, and pursuant to § 62.1-44.15:35 of the Code of Virginia, operators shall be allowed to utilize offsite options identified in subsection A of this section under any of the following conditions:

1. Less than five acres of land will be disturbed;
2. The post-construction phosphorus control requirement is less than 10 pounds per year; or
3. At least 75% of the required phosphorus nutrient reductions are achieved on-site. If at least 75% of the required phosphorus nutrient reductions cannot be met on-site, and the operator can demonstrate to the satisfaction of the VSMP authority that (i) alternative site designs have been considered that may accommodate on-site best management practices, (ii) on-site best management practices have been considered in alternative site designs to the maximum extent practicable, (iii) appropriate on-site best management practices will be implemented, and (iv) full compliance with postdevelopment nonpoint nutrient runoff compliance requirements cannot practicably be met on-site, then the required phosphorus nutrient reductions may be achieved, in whole or in part, through the use of off-site compliance options.

C. Notwithstanding subsections A and B of this section, offsite options shall not be allowed:

1. Unless the selected offsite option achieves the necessary nutrient reductions prior to the commencement of the operator's land-disturbing activity. In the case of a phased project, the operator may acquire or achieve offsite nutrient reductions prior to the commencement of each phase of land-disturbing activity in an amount sufficient for each phase.
2. In contravention of local water quality-based limitations at the point of discharge that are (i) consistent with the determinations made pursuant to subsection B of § 62.1-44.19:7 of the Code of Virginia, (ii) contained in a municipal separate storm sewer system (MS4) program plan accepted by the department, or (iii) as otherwise may be established or approved by the board.

D. In order to meet the requirements of 9VAC25-870-66, offsite options described in subdivisions 1 and 2 of subsection A of this section may be utilized.

9VAC25-870-72. Design storms and hydrologic methods.

A. Unless otherwise specified, the prescribed design storms are the one-year, two-year, and 10-year 24-hour storms using the site-specific rainfall precipitation frequency data recommended by the U.S. National Oceanic and Atmospheric Administration (NOAA) Atlas 14. Partial duration time series shall be used for the precipitation data.

B. Unless otherwise specified, all hydrologic analyses shall be based on the existing watershed characteristics and how the ultimate development condition of the subject project will be addressed.

C. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) synthetic 24-hour rainfall distribution and models, including, but not limited to TR-55 and TR-20; hydrologic and hydraulic methods developed by the U.S. Army Corps of Engineers; or other standard hydrologic and hydraulic methods, shall be used to conduct the analyses described in this part.

D. For drainage areas of 200 acres or less, the VSMP authority may allow for the use of the Rational Method for evaluating peak discharges.

E. For drainage areas of 200 acres or less, the VSMP authority may allow for the use of the Modified Rational Method for evaluating volumetric flows to stormwater conveyances.

9VAC25-870-74. Stormwater harvesting.

In accordance with § 62.1-44.15:28 of the Code of Virginia, stormwater harvesting is encouraged for the purposes of landscape irrigation systems, fire protection systems, flushing water closets and urinals, and other water handling systems to the extent such systems are consistent with federal, state, and local regulations.

9VAC25-870-76. Linear development projects.

Linear development projects shall control postdevelopment stormwater runoff in accordance with a site-specific stormwater management plan or a comprehensive watershed stormwater management plan developed in accordance with these regulations.

9VAC25-870-85. Stormwater management impoundment structures or facilities.

A. Stormwater management wet ponds and extended detention ponds that are not covered by the Impounding Structure Regulations (4VAC50-20) shall, at a minimum, be engineered for structural integrity for the 100-year storm event.

B. Construction of stormwater management impoundment structures or facilities may occur in karst areas only after a study of the geology and hydrology of the area has been conducted to determine the presence or absence of karst features that may be impacted by stormwater runoff and BMP placement.

C. Discharge of stormwater runoff to a karst feature shall meet the water quality criteria set out in 9VAC25-870-63 and the water quantity criteria set out in 9VAC25-870-66. Permanent stormwater management impoundment structures or facilities shall only be constructed in karst features after completion of a geotechnical investigation that identifies any necessary modifications to the BMP to ensure its structural integrity and maintain its water quality and quantity efficiencies. The person responsible for the land-disturbing activity is encouraged to screen for known existence of heritage resources in the karst features. Any Class V Underground Injection Control Well registration statements for stormwater discharges to improved sinkholes shall be included in the SWPPP.

#### 9VAC25-870-92. Comprehensive stormwater management plans.

A locality's VSMP authority may develop comprehensive stormwater management plans to be approved by the department that meet the water quality objectives, quantity objectives, or both of this chapter:

1. Such plans shall ensure that offsite reductions equal to or greater than those that would be required on each contributing site are achieved within the same HUC or within another locally designated watershed. Pertaining to water quantity objectives, the plan may provide for implementation of a combination of channel improvement, stormwater detention, or other measures that are satisfactory to the locality's VSMP authority to prevent downstream erosion and flooding.
2. If the land use assumptions upon which the plan was based change or if any other amendments are deemed necessary by the locality's VSMP authority, such authority shall provide plan amendments to the department for review and approval.
3. During the plan's implementation, the locality's VSMP authority shall document nutrient reductions accredited to the BMPs specified in the plan.
4. State and federal agencies may develop comprehensive stormwater management plans, and may participate in locality-developed comprehensive stormwater management plans where practicable and permitted by the locality's VSMP authority.

#### Part II C

##### Technical Criteria for Regulated Land-Disturbing Activities:

##### Grandfathered Projects and Projects Subject to the Provisions of 9VAC25-870-47 B

#### 9VAC25-870-93. Definitions.

For the purposes of Part II C only, the following words and terms have the following meanings unless the context clearly indicates otherwise:

"Adequate channel" means a channel that will convey the designated frequency storm event without overtopping the channel bank nor causing erosive damage to the channel bed or banks.

"Aquatic bench" means a 10-foot to 15-foot wide bench around the inside perimeter of a permanent pool that ranges in depth from zero to 12 inches. Vegetated with emergent plants, the bench augments pollutant removal, provides habitats, conceals trash and water level fluctuations, and enhances safety.

"Average land cover condition" means a measure of the average amount of impervious surfaces within a watershed, assumed to be 16% or a calculated watershed-specific value for the average land cover condition as approved by the Chesapeake Bay Local Assistance Board prior to September 13, 2011.

"Bioretention basin" means a water quality BMP engineered to filter the water quality volume (i) through an engineered planting bed consisting of a vegetated surface layer (vegetation, mulch, ground cover), planting soil, and sand bed and (ii) into the in-situ material.

"Bioretention filter" means a bioretention basin with the addition of a sand filter collector pipe system beneath the planting bed.

"Constructed wetlands" means areas intentionally designed and created to emulate the water quality improvement function of wetlands for the primary purpose of removing pollutants from stormwater.

"Development" means a tract of land developed or to be developed as a unit under single ownership or unified control which is to be used for any business or industrial purpose or is to contain three or more residential dwelling units.

"Grassed swale" means an earthen conveyance system which is broad and shallow with erosion resistant grasses and check dams, engineered to remove pollutants from stormwater runoff by filtration through grass and infiltration into the soil.

"Infiltration facility" means a stormwater management facility that temporarily impounds runoff and discharges it via infiltration through the surrounding soil. While an infiltration facility may also be equipped with an outlet structure to discharge impounded runoff, such discharge is normally reserved for overflow and other emergency conditions. Since an infiltration facility impounds runoff only temporarily, it is normally dry during nonrainfall periods. Infiltration basin, infiltration trench, infiltration dry well, and porous pavement shall be considered infiltration facilities.

"Nonpoint source pollutant runoff load" or "pollutant discharge" means the average amount of a particular pollutant measured in pounds per year, delivered in a diffuse manner by stormwater runoff.

"Planning area" means a designated portion of the parcel on which the land development project is located. Planning areas shall be established by delineation on a master plan. Once established, planning areas shall be applied consistently for all future projects.

"Sand filter" means a contained bed of sand that acts to filter the first flush of runoff. The runoff is then collected beneath the sand bed and conveyed to an adequate discharge point or infiltrated into the in-situ soils.

"Shallow marsh" means a zone within a stormwater extended detention basin that exists from the surface of the normal pool to a depth of six to 18 inches, and has a large surface area and, therefore, requires a reliable source of baseflow, groundwater supply, or a sizeable drainage area to maintain the desired water surface elevations to support emergent vegetation.

"Stormwater detention basin" or "detention basin" means a stormwater management facility that temporarily impounds runoff and discharges it through a hydraulic outlet structure to a downstream conveyance system. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and are, therefore, not considered in the facility's design. Since a detention facility impounds runoff only temporarily, it is normally dry during nonrainfall periods.

"Stormwater extended detention basin" or "extended detention basin" means a stormwater management facility that temporarily impounds runoff and discharges it through a hydraulic outlet structure over a specified period of time to a downstream conveyance system for the purpose of water quality enhancement or stream channel erosion control. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and, therefore, are not considered in the facility's design. Since an extended detention basin impounds runoff only temporarily, it is normally dry during nonrainfall periods.

"Stormwater extended detention basin-enhanced" or "extended detention basin-enhanced" means an extended detention basin modified to increase pollutant removal by providing a shallow marsh in the lower stage of the basin.

"Stormwater retention basin" or "retention basin" means a stormwater management facility that includes a permanent impoundment, or normal pool of water, for the purpose of enhancing water quality and, therefore, is normally wet even during nonrainfall periods. Storm runoff inflows may be temporarily stored above this permanent impoundment for the purpose of reducing flooding or stream channel erosion.

"Stormwater retention basin I" or "retention basin I" means a retention basin with the volume of the permanent pool equal to three times the water quality volume.

"Stormwater retention basin II" or "retention basin II" means a retention basin with the volume of the permanent pool equal to four times the water quality volume.

"Stormwater retention basin III" or "retention basin III" means a retention basin with the volume of the permanent pool equal to four times the water quality volume with the addition of an aquatic bench.

"Vegetated filter strip" means a densely vegetated section of land engineered to accept runoff as overland sheet flow from upstream development. It shall adopt any natural vegetated form, from grassy meadow to small forest. The vegetative cover facilitates pollutant removal through filtration, sediment deposition, infiltration, and absorption, and is dedicated for that purpose.

"Water quality volume" means the volume equal to the first 1/2 inch of runoff multiplied by the impervious surface of the land development project.

9VAC25-870-94. Applicability.

This part specifies the technical criteria for regulated land-disturbing activities that are not subject to the technical criteria of Part II B in accordance with 9VAC25-870-48.

9VAC25-870-95. General.

A. Determination of flooding and channel erosion impacts to receiving streams due to land-disturbing activities shall be measured at each point of discharge from the land disturbance and such determination shall include any runoff from the balance of the watershed that also contributes to that point of discharge.

B. The specified design storms shall be defined as either a 24-hour storm using the rainfall distribution recommended by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) when using NRCS methods or as the storm of critical duration that produces the greatest required storage volume at the site when using a design method such as the Modified Rational Method.

C. For purposes of computing runoff, all pervious lands in the site shall be assumed prior to development to be in good condition (if the lands are pastures, lawns, or parks), with good cover (if the lands are woods), or with conservation treatment (if the lands are cultivated); regardless of conditions existing at the time of computation.

D. Construction of stormwater management facilities or modifications to channels shall comply with all applicable laws, regulations, and ordinances. Evidence of approval of all necessary permits shall be presented.

E. Impounding structures that are not covered by the Impounding Structure Regulations (4VAC50-20) shall be engineered for structural integrity during the 100-year storm event.

F. Predevelopment and postdevelopment runoff rates shall be verified by calculations that are consistent with good engineering practices.

G. Outflows from a stormwater management facility or stormwater conveyance system shall be discharged to an adequate channel.

H. Proposed residential, commercial, or industrial subdivisions shall apply these stormwater management criteria to the land disturbance as a whole. Individual lots in new subdivisions shall not be considered separate land-disturbing activities, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate land disturbance and shall be used in all engineering calculations.

I. All stormwater management facilities shall have an inspection and maintenance plan that identifies the owner and the responsible party for carrying out the inspection and maintenance plan.

J. Construction of stormwater management impoundment structures within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain shall be avoided whenever possible. When this is unavoidable, all stormwater management facility construction shall be in compliance with all applicable regulations under the National Flood Insurance Program, 44 CFR Part 59.

K. Natural channel characteristics shall be preserved to the maximum extent practicable.

L. Land-disturbing activities shall comply with the Virginia Erosion and Sediment Control Law and attendant regulations.

M. Flood control and stormwater management facilities that drain or treat water from multiple development projects or from a significant portion of a watershed may be allowed in resource protection areas defined in the Chesapeake Bay Preservation Act provided such facilities are allowed and constructed in accordance with the Stormwater Management Act and this chapter, and provided that (i) the local government has conclusively established that the location of the facility within the resource protection area is the optimum location; (ii) the size of the facility is the minimum necessary to provide necessary flood control, stormwater treatment, or both; (iii) the facility must be consistent with a comprehensive stormwater management plan developed and approved in accordance with 9VAC25-870-92 or with a VSMP that has been approved prior to July 1, 2012, by the board, the Chesapeake Bay Local Assistance Board prior to its abolishment on July 1, 2012, or the Board of Conservation and Recreation; (iv) all applicable permits for construction in state or federal waters must be obtained from the appropriate state and federal agencies, such as the U.S. Army Corps of Engineers, the department, and the Virginia Marine Resources Commission; (v) approval must be received from the local

government prior to construction; and (vi) routine maintenance is allowed to be performed on such facilities to assure that they continue to function as designed. It is not the intent of this subdivision to allow a best management practice that collects and treats runoff from only an individual lot or some portion of the lot to be located within a resource protection area.

#### 9VAC25-870-96. Water quality.

A. Compliance with the water quality criteria may be achieved by applying the performance-based criteria or the technology-based criteria to either the site or a planning area.

B. Performance-based criteria. For land-disturbing activities, the calculated postdevelopment nonpoint source pollutant runoff load shall be compared to the calculated predevelopment load based upon the average land cover condition or the existing site condition. A BMP shall be located, designed, and maintained to achieve the target pollutant removal efficiencies specified in Table 1 of this section to effectively reduce the pollutant load to the required level based upon the following four applicable land development situations for which the performance criteria apply:

1. Situation 1 consists of land-disturbing activities where the existing percent impervious cover is less than or equal to the average land cover condition and the proposed improvements will create a total percent impervious cover that is less than the average land cover condition.

Requirement: No reduction in the after disturbance pollutant discharge is required.

2. Situation 2 consists of land-disturbing activities where the existing percent impervious cover is less than or equal to the average land cover condition and the proposed improvements will create a total percent impervious cover that is greater than the average land cover condition.

Requirement: The pollutant discharge after disturbance shall not exceed the existing pollutant discharge based on the average land cover condition.

3. Situation 3 consists of land-disturbing activities where the existing percent impervious cover is greater than the average land cover condition.

Requirement: The pollutant discharge after disturbance shall not exceed (i) the pollutant discharge based on existing conditions less 10% or (ii) the pollutant discharge based on the average land cover condition, whichever is greater.

4. Situation 4 consists of land-disturbing activities where the existing percent impervious cover is served by an existing stormwater management BMP that addresses water quality.

Requirement: The pollutant discharge after disturbance shall not exceed the existing pollutant discharge based on the existing percent impervious cover while served by the existing BMP. The

existing BMP shall be shown to have been designed and constructed in accordance with proper design standards and specifications, and to be in proper functioning condition.

C. Technology-based criteria. For land-disturbing activities, the postdeveloped stormwater runoff from the impervious cover shall be treated by an appropriate BMP as required by the postdeveloped condition percent impervious cover as specified in Table 1 of this section. The selected BMP shall be located, designed, and maintained to perform at the target pollutant removal efficiency specified in Table 1 or those found in 9VAC25-870-65. Design standards and specifications for the BMPs in Table 1 that meet the required target pollutant removal efficiency are available in the 1999 Virginia Stormwater Management Handbook. Other approved BMPs available on the Virginia Stormwater BMP Clearinghouse Website may also be utilized.

Table 1\*

Table 1		
Water Quality BMP*	Target Phosphorus Removal Efficiency	Percent Impervious Cover
Vegetated filter strip	10%	16-21%
Grassed swale	15%	
Constructed wetlands	20%	22-37%
Extended detention (2 x WQ Vol)	35%	
Retention basin I (3 x WQ Vol)	40%	
Bioretention basin	50%	38-66%
Bioretention filter	50%	
Extended detention-enhanced	50%	
Retention basin II (4 x WQ Vol)	50%	
Infiltration (1 x WQ Vol)	50%	
Sand filter	65%	67-100%
Infiltration (2 x WQ Vol)	65%	
Retention basin III (4 x WQ Vol with aquatic bench)	65%	
*Innovative or alternate BMPs not included in this table may be allowed at the discretion of the local program administrator or the department. Innovative or alternate BMPs not included in this table that target appropriate nonpoint source pollution other than phosphorous may be allowed at the discretion of the local program administrator or the department.		

9VAC25-870-97. Stream channel erosion.

A. Properties and receiving waterways downstream of any land-disturbing activity shall be protected from erosion and damage due to changes in runoff rate of flow and hydrologic characteristics, including, but not limited to, changes in volume, velocity, frequency, duration,

and peak flow rate of stormwater runoff in accordance with the minimum design standards set out in this section.

B. The VSMP authority shall require compliance with subdivision 19 of 9VAC25-840-40 of the Erosion and Sediment Control Regulations, promulgated pursuant to the Erosion and Sediment Control Law.

C. The locality's VSMP authority may determine that some watersheds or receiving stream systems require enhanced criteria in order to address the increased frequency of bankfull flow conditions (top of bank) brought on by land-disturbing activities or where more stringent requirements are necessary to address total maximum daily load requirements or to protect exceptional waters. Therefore, in lieu of the reduction of the two-year postdeveloped peak rate of runoff as required in subsection B of this section, the land development project being considered shall provide 24-hour extended detention of the runoff generated by the one-year, 24-hour duration storm.

D. In addition to subsections B and C of this section, a locality's VSMP authority by local ordinance may in accordance with § 62.1-44.15:33 of the Code of Virginia, or the board by state regulation may, adopt more stringent channel analysis criteria or design standards to ensure that the natural level of channel erosion, to the maximum extent practicable, will not increase due to the land-disturbing activities. These criteria may include, but are not limited to, the following:

1. Criteria and procedures for channel analysis and classification.
2. Procedures for channel data collection.
3. Criteria and procedures for the determination of the magnitude and frequency of natural sediment transport loads.
4. Criteria for the selection of proposed natural or manmade channel linings.

#### 9VAC25-870-98. Flooding.

A. Downstream properties and waterways shall be protected from damages from localized flooding due to changes in runoff rate of flow and hydrologic characteristics, including, but not limited to, changes in volume, velocity, frequency, duration, and peak flow rate of stormwater runoff in accordance with the minimum design standards set out in this section.

B. The 10-year postdeveloped peak rate of runoff from the development site shall not exceed the 10-year predeveloped peak rate of runoff.

C. In lieu of subsection B of this section, localities may, by ordinance in accordance with § 62.1-44.15:33 of the Code of Virginia, adopt alternate design criteria based upon geographic, land use, topographic, geologic factors, or other downstream conveyance factors as appropriate.

D. Linear development projects shall not be required to control postdeveloped stormwater runoff for flooding, except in accordance with a watershed or regional stormwater management plan.

9VAC25-870-99. Regional (watershed-wide) stormwater management plans.

Water quality requirements and where allowed, water quantity requirements, may be achieved in accordance with sections 9VAC25-870-69 and 9VAC25-870-92.

### Part III

#### General Provisions Applicable to VSMPs and VSMP Authorities

9VAC25-870-100. Applicability.

This part establishes the board's procedures for the authorization of a VSMP, the board's procedures for the administration of a VSMP by a locality's VSMP authority or by other VSMP authorities where the procedures may be applicable, and board and department oversight authorities for a VSMP.

9VAC25-870-102. Authority.

If an authorized entity pursuant to § 62.1-44.15:27 of the Code of Virginia has adopted a VSMP in accordance with the Virginia Stormwater Management Act and the board has deemed such program adoption consistent with the Virginia Stormwater Management Act and these regulations in accordance with § 62.1-44.15:27 of the Code of Virginia, the board may authorize the entity to administer a VSMP. Pursuant to § 62.1-44.15:28 of the Code of Virginia, the board is required to establish standards and procedures for such an authorization.

9VAC25-870-103. VSMP authority requirements for Chesapeake Bay Preservation Act land-disturbing activities.

A. A VSMP authority shall regulate runoff associated with Chesapeake Bay Preservation Act land-disturbing activities in accordance with the following:

1. After June 30, 2014, such land-disturbing activities shall not require completion of a registration statement or require coverage under the General Permit for Discharges of Stormwater from Construction Activities but shall be subject to the technical criteria and program and administrative requirements set out in 9VAC25-870-51.

2. A VSMP authority permit, where applicable, shall be issued permitting the land-disturbing activity.

3. The VSMP authority shall regulate such land-disturbing activities in compliance with the:

a. Program requirements in 9VAC25-870-104;

b. Plan review requirements in 9VAC25-870-108 with the exception of subsection D of 9VAC25-870-108;

c. Long-term stormwater management facility requirements of 9VAC25-870-112;

d. Inspection requirements of 9VAC25-870-114 with the exception of subdivisions A 3 and A 4 of 9VAC25-870-114;

e. Enforcement components of 9VAC25-870-116;

f. Hearing requirements of 9VAC25-870-118;

g. Exception conditions of 9VAC25-870-122 excluding subsection C of 9VAC25-870-122 which is not applicable; and

h. Reporting and recordkeeping requirements of 9VAC25-870-126 with the exception of subdivision B 3 of 9VAC25-870-126.

B. A locality's VSMP authority shall adopt an ordinance, and other VSMP authorities shall provide program documentation, that incorporates the components of this section.

C. In accordance with subdivision A 5 of § 62.1-44.15:28 of the Code of Virginia, a locality's VSMP authority may collect a permit issuance fee from the applicant of \$290 and an annual maintenance fee of \$50 for such land-disturbing activities.

#### Part III A

##### Programs Operated by a VSMP Authority

9VAC25-870-104. Criteria for programs operated by a VSMP authority.

A. All VSMP authorities shall require compliance with the provisions of Part II (9VAC25-870-40 et seq.) of this chapter.

B. When a locality's VSMP authority has adopted requirements more stringent than those imposed by this chapter in accordance with § 62.1-44.15:33 of the Code of Virginia or implemented a comprehensive stormwater management plan, the department shall consider

such requirements in its review of state projects within that locality in accordance with Part IV (9VAC25-870-160 et seq.) of this chapter.

C. Nothing in this part shall be construed as authorizing a locality to regulate, or to require prior approval by the locality for, a state or federal project, unless authorized by separate statute.

D. A VSMP authority may require, excluding state and federal entities, the submission of a reasonable performance bond or other financial surety and provide for the release of such sureties in accordance with the criteria set forth in § 62.1-44.15:34 of the Code of Virginia.

9VAC25-870-106. Additional requirements for VSMP authorities.

A. A locality's VSMP authority shall adopt ordinances, and other VSMP authorities shall provide program documentation, that ensure compliance with the requirements set forth in 9VAC25-870-460 L.

B. The locality's VSMP authority shall adopt ordinances, and other VSMP authorities shall provide program documentation, at least as stringent as the provisions of the General Permit for Discharges of Stormwater from Construction Activities.

9VAC25-870-108. Stormwater management plan review.

A. A VSMP authority shall review and approve stormwater management plans.

B. A VSMP authority shall approve or disapprove a stormwater management plan according to the following:

1. The VSMP authority shall determine the completeness of a plan in accordance with 9VAC25-870-55, and shall notify the applicant of any determination, within 15 calendar days of receipt. Where available to the applicant, electronic communication may be considered communication in writing.

a. If within those 15 calendar days the plan is deemed to be incomplete, the applicant shall be notified in writing of the reasons the plan is deemed incomplete.

b. If a determination of completeness is made and communicated to the applicant within the 15 calendar days, an additional 60 calendar days from the date of the communication will be allowed for the review of the plan.

c. If a determination of completeness is not made and communicated to the applicant within the 15 calendar days, the plan shall be deemed complete as of the date of submission and a total of 60 calendar days from the date of submission will be allowed for the review of the plan.

d. The VSMP authority shall review, within 45 calendar days of the date of resubmission, any plan that has been previously disapproved.

2. During the review period, the plan shall be approved or disapproved and the decision communicated in writing to the person responsible for the land-disturbing activity or his designated agent. If the plan is not approved, the reasons for not approving the plan shall be provided in writing. Approval or denial shall be based on the plan's compliance with the requirements of this chapter and of the VSMP authority. Where available to the applicant, electronic communication may be considered communication in writing.

3. If a plan meeting all requirements of this chapter and of the VSMP authority is submitted and no action is taken within the time specified above, the plan shall be deemed approved.

C. Each approved plan may be modified in accordance with the following:

1. Modifications to an approved stormwater management plan shall be allowed only after review and written approval by the VSMP authority. The VSMP authority shall have 60 calendar days to respond in writing either approving or disapproving such requests.

2. Based on an inspection, the VSMP authority may require amendments to the approved stormwater management plan to address any deficiencies within a time frame set by the VSMP authority.

D. Upon the development of an online reporting system by the department, but no later than July 1, 2014, a VSMP authority shall then be required to obtain evidence of state permit coverage, where it is required, prior to providing approval to begin land disturbance.

E. The VSMP authority shall require the submission of a construction record drawing for permanent stormwater management facilities in accordance with 9VAC25-870-55. A VSMP authority may elect not to require construction record drawings for stormwater management facilities for which maintenance agreements are not required pursuant to 9VAC25-870-112.

9VAC25-870-112. Long-term maintenance of permanent stormwater management facilities.

A. The VSMP authority shall require the provision of long-term responsibility for and maintenance of stormwater management facilities and other techniques specified to manage the quality and quantity of runoff. Such requirements shall be set forth in an instrument recorded in the local land records prior to state permit termination or earlier as required by the VSMP authority and shall at a minimum:

1. Be submitted to the VSMP authority for review and approval prior to the approval of the stormwater management plan;

2. Be stated to run with the land;

3. Provide for all necessary access to the property for purposes of maintenance and regulatory inspections;

4. Provide for inspections and maintenance and the submission of inspection and maintenance reports to the VSMP authority; and

5. Be enforceable by all appropriate governmental parties.

B. At the discretion of the VSMP authority, such recorded instruments need not be required for stormwater management facilities designed to treat stormwater runoff primarily from an individual residential lot on which they are located, provided it is demonstrated to the satisfaction of the VSMP authority that future maintenance of such facilities will be addressed through an enforceable mechanism at the discretion of the VSMP authority.

9VAC25-870-114. Inspections.

A. The VSMP authority shall inspect the land-disturbing activity during construction for:

1. Compliance with the approved erosion and sediment control plan;

2. Compliance with the approved stormwater management plan;

3. Development, updating, and implementation of a pollution prevention plan; and

4. Development and implementation of any additional control measures necessary to address a TMDL.

B. The VSMP authority shall establish an inspection program that ensures that stormwater management facilities are being adequately maintained as designed after completion of land-disturbing activities. Inspection programs shall:

1. Be approved by the board;

2. Ensure that each stormwater management facility is inspected by the VSMP authority, or its designee, not to include the owner, except as provided in subsections C and D of this section, at least once every five years; and

3. Be documented by records.

C. The VSMP authority may utilize the inspection reports of the owner of a stormwater management facility as part of an inspection program established in subsection B of this section if the inspection is conducted by a person who is licensed as a professional engineer, architect, landscape architect, or land surveyor pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1; a person who works under the direction and oversight of the licensed professional

engineer, architect, landscape architect, or land surveyor; or a person who holds an appropriate certificate of competence from the board.

D. If a recorded instrument is not required pursuant to 9VAC25-870-112, a VSMP authority shall develop a strategy for addressing maintenance of stormwater management facilities designed to treat stormwater runoff primarily from an individual residential lot on which they are located. Such a strategy may include periodic inspections, homeowner outreach and education, or other method targeted at promoting the long-term maintenance of such facilities. Such facilities shall not be subject to the requirement for an inspection to be conducted by the VSMP authority.

#### 9VAC25-870-116. Enforcement.

A. A locality's VSMP authority shall incorporate components from subdivisions 1 and 2 of this subsection.

1. Informal and formal administrative enforcement procedures may include:

a. Verbal warnings and inspection reports;

b. Notices of corrective action;

c. Consent special orders and civil charges in accordance with subdivision 6 of § 62.1-44.15:25 and § 62.1-44.15:48 D 2 of the Code of Virginia;

d. Notices to comply in accordance with § 62.1-44.15:37 of the Code of Virginia;

e. Special orders in accordance with subdivision 6 of § 62.1-44.15:25 of the Code of Virginia;

f. Emergency special orders in accordance with subdivision 6 of § 62.1-44.15:25 of the Code of Virginia; and

g. Public notice and comment periods for proposed settlements and consent special orders pursuant to 9VAC25-870-660.

2. Civil and criminal judicial enforcement procedures may include:

a. Schedule of civil penalties in accordance with § 62.1-44.15:48 of the Code of Virginia;

b. Criminal penalties in accordance with § 62.1-44.15:48 B and C of the Code of Virginia; and

c. Injunctions in accordance with §§ 62.1-44.15:25, 62.1-44.15:42, and 62.1-44.15:48 D 1 of the Code of Virginia.

B. A locality's VSMP authority shall develop policies and procedures that outline the steps to be taken regarding enforcement actions under the Stormwater Management Act and attendant regulations and local ordinances.

C. Pursuant to § 62.1-44.15:48 A of the Code of Virginia, the locality's VSMP authority has the discretion to impose a maximum penalty of \$32,500 per violation per day in accordance with § 62.1-44.15:48 A of the Code of Virginia. Such penalty may reflect the degree of harm caused by the violation and take into account the economic benefit to the violator from noncompliance. Violations include, but are not limited to:

1. No state permit registration;
2. No SWPPP;
3. Incomplete SWPPP;
4. SWPPP not available for review;
5. No approved erosion and sediment control plan;
6. Failure to install stormwater BMPs or erosion and sediment controls;
7. Stormwater BMPs or erosion and sediment controls improperly installed or maintained;
8. Operational deficiencies;
9. Failure to conduct required inspections;
10. Incomplete, improper, or missed inspections.

D. Pursuant to subdivision 2 of § 62.1-44.15:25 of the Code of Virginia, authorization to administer a VSMP program shall not remove from the board the authority to enforce the provisions of the Act and attendant regulations.

E. The department may terminate state permit coverage during its term and require application for an individual state permit or deny a state permit renewal application for failure to comply with state permit conditions or on its own initiative in accordance with the Act and this chapter.

F. Pursuant to § 62.1-44.15:48 A of the Code of Virginia, civil penalties recovered by a locality's VSMP authority shall be paid into the treasury of the locality in which the violation occurred and are to be used for the purpose of minimizing, preventing, managing, or mitigating pollution of the waters of the locality and abating environmental pollution therein in such manner as the court may, by order, direct.

G. The VSMP authority may use additional guidance concerning suggested penalty amounts provided by the department.

#### 9VAC25-870-118. Hearings.

The VSMP authority shall ensure that any permit applicant, permittee, or person subject to state permit requirements under the Act aggrieved by any action of the VSMP authority taken without a formal hearing, or by inaction of the VSMP authority, shall have a right to a hearing pursuant to § 62.1-44.15:44 of the Code of Virginia and shall ensure that all hearings held under this chapter shall be conducted in a manner consistent with § 62.1-44.26 of the Code of Virginia or as otherwise provided by law. The provisions of the Administrative Process Act (§ 2.2-4000 et seq.) shall not apply to decisions rendered by localities but appeals shall be conducted in accordance with local appeal procedures.

#### 9VAC25-870-122. Exceptions.

A. A VSMP authority may grant exceptions to the provisions of Part II B or Part II C of this chapter. An exception may be granted provided that (i) the exception is the minimum necessary to afford relief, (ii) reasonable and appropriate conditions shall be imposed as necessary upon any exception granted so that the intent of the Act and this chapter are preserved, (iii) granting the exception will not confer any special privileges that are denied in other similar circumstances, and (iv) exception requests are not based upon conditions or circumstances that are self-imposed or self-created.

B. Economic hardship alone is not sufficient reason to grant an exception from the requirements of this chapter.

C. Under no circumstance shall the VSMP authority grant an exception to the requirement that the land-disturbing activity obtain required state permits, nor approve the use of a BMP not found on the Virginia Stormwater BMP Clearinghouse Website, except where allowed under Part II C (9VAC25-870-93 et seq.) of this chapter.

D. Exceptions to requirements for phosphorus reductions shall not be allowed unless offsite options available through 9VAC25-870-69 have been considered and found not available.

E. A record of all exceptions granted shall be maintained by the VSMP authority in accordance with 9VAC25-870-126.

#### 9VAC25-870-126. Reports and recordkeeping.

A. On a fiscal year basis (July 1 to June 30), a VSMP authority shall report to the department by October 1 of each year in a format provided by the department. The information to be provided shall include the following:

1. Information on each permanent stormwater management facility completed during the fiscal year to include type of stormwater management facility, geographic coordinates, acres treated, and the surface waters or karst features into which the stormwater management facility will discharge;

2. Number and type of enforcement actions during the fiscal year; and

3. Number of exceptions granted during the fiscal year.

B. A VSMP authority shall keep records in accordance with the following:

1. Project records, including approved stormwater management plans, shall be kept for three years after state permit termination or project completion.

2. Stormwater management facility inspection records shall be documented and retained for at least five years from the date of inspection.

3. Construction record drawings shall be maintained in perpetuity or until a stormwater management facility is removed.

4. All registration statements submitted in accordance with 9VAC25-870-59 shall be documented and retained for at least three years from the date of project completion or state permit termination.

#### Part III B

#### Department of Environmental Quality Procedures for Review of VSMPs

#### 9VAC25-870-142. Authority and applicability.

This part specifies the criteria that the department will utilize in reviewing a VSMP authority's administration of a VSMP pursuant to § 62.1-44.15:38 of the Code of Virginia following the board's approval of such program in accordance with the Act and this chapter.

#### 9VAC25-870-144. Virginia stormwater management program review.

A. The department shall review each board-approved VSMP at least once every five years on a review schedule approved by the board. The department may review a VSMP on a more frequent basis if deemed necessary by the board and shall notify the VSMP authority if such review is scheduled.

B. The review of a board-approved VSMP shall consist of the following:

1. Consultation with the VSMP administrator or designee;

2. A review of the local ordinance(s) and other applicable documents;
  3. A review of a subset of the plans approved by the VSMP authority for consistency of application including exceptions granted and calculations or other documentation that demonstrates that required nutrient reductions are achieved using appropriate on-site and off-site compliance options;
  4. A review of the funding and staffing plan developed in accordance with 9VAC25-870-148;
  5. An inspection of regulated activities; and
  6. A review of enforcement actions and an accounting of amounts recovered through enforcement actions where applicable.
- C. The department shall coordinate the once per five year review with its other program reviews for the same entity to avoid redundancy.
- D. The department shall provide results and compliance recommendations to the board in the form of a corrective action plan and schedule if deficiencies are found within 120 days of the completion of a review otherwise the board may find the program compliant.
- E. The board shall determine if the VSMP and ordinances where applicable are consistent with the Act and state stormwater management regulations and notify the VSMP authority of its findings. The Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia) shall govern the review activities and proceedings of the board and the judicial review thereof.
- F. If the board determines that the deficiencies noted in the review will cause the VSMP to be out of compliance with the Act and attendant regulations, the board shall notify the VSMP authority concerning the deficiencies and provide a reasonable period of time in accordance with § 62.1-44.15:38 of the Code of Virginia for corrective action to be taken. If the VSMP authority agrees to the corrective action approved by the board, the VSMP will be considered to be conditionally compliant with the Act and attendant regulations until a subsequent finding of compliance is issued by the board. If the VSMP authority fails to implement the necessary compliance actions identified by the board within the specified time, the board may take action pursuant to § 62.1-44.15:38 of the Code of Virginia.

### Part III C

#### State Water Control Board Authorization Procedures for Virginia Stormwater Management Programs

##### 9VAC25-870-146. Authority and applicability.

Subdivision A 1 of § 62.1-44.15:28 of the Code of Virginia requires that the board establish standards and procedures for administering a VSMP. In accordance with that requirement, and

with the further authority conferred upon the board by the Virginia Stormwater Management Act, this part specifies the procedures the board will utilize in authorizing a VSMP authority to administer a VSMP.

9VAC25-870-148. Virginia stormwater management program administrative requirements.

A. A VSMP shall provide for the following:

1. Identification of the authority accepting complete registration statements and of the authorities completing plan review, plan approval, inspection, and enforcement;
2. Submission and approval of erosion and sediment control plans in accordance with the Virginia Erosion and Sediment Control Law and attendant regulations and the submission and approval of stormwater management plans;
3. Requirements to ensure compliance with 9VAC25-870-54, 9VAC25-870-55, and 9VAC25-870-56;
4. Requirements for inspections and monitoring of construction activities by the operator for compliance with local ordinances;
5. Requirements for long-term inspection and maintenance of stormwater management facilities;
6. Collection, distribution to the state if required, and expenditure of fees;
7. Enforcement procedures and civil penalties where applicable;
8. Policies and procedures to obtain and release bonds, if applicable; and
9. Procedures for complying with the applicable reporting and recordkeeping requirements in 9VAC25-870-126.

B. A locality's VSMP authority shall adopt and enforce an ordinance(s) that incorporate(s) the components set out in subdivisions 1 through 5 and 7 of subsection A of this section. Other VSMP authorities shall provide supporting documentation that incorporates the components set out in subdivisions 1 through 5 of subsection A of this section in a format acceptable to the department.

9VAC25-870-150. Authorization procedures for Virginia stormwater management programs.

A. A locality required to adopt a VSMP in accordance with § 62.1-44.15:27 A of the Code of Virginia or a town electing to adopt its own VSMP in accordance with § 62.1-44.15:27 B of the

Code of Virginia, must submit to the board an application package which, at a minimum, contains the following:

1. The draft VSMP ordinance(s) as required in 9VAC25-870-148;
2. A funding and staffing plan;
3. The policies and procedures including, but not limited to, agreements with Soil and Water Conservation Districts, adjacent localities, or other public or private entities for the administration, plan review, inspection, and enforcement components of the program; and
4. Such ordinances, plans, policies, and procedures must account for any town lying within the county as part of the locality's VSMP program unless such towns choose to adopt their own program.

B. Upon receipt of an application package, the board or its designee shall have 30 calendar days to determine the completeness of the application package. If an application package is deemed to be incomplete based on the criteria set out in subsection A of this section, the board or its designee must identify to the VSMP authority applicant in writing the reasons the application package is deemed deficient.

C. Upon receipt of a complete application package, the board or its designee shall have 120 calendar days for the review of the application package, unless an extension of time, not to exceed 12 months unless otherwise specified by the board in accordance with § 62.1-44.15:27 M of the Code of Virginia, is requested by the department, provided the VSMP authority applicant has made substantive progress. During the 120-day review period, the board or its designee shall either approve or disapprove the application, or notify the locality of a time extension for the review, and communicate its decision to the VSMP authority applicant in writing. If the application is not approved, the reasons for not approving the application shall be provided to the VSMP authority applicant in writing. Approval or denial shall be based on the application's compliance with the Virginia Stormwater Management Act and this chapter.

D. A VSMP authority applicant in accordance with § 62.1-44.15:27 of the Code of Virginia shall submit a complete application package for the board's review pursuant to a schedule set by the board in accordance with § 62.1-44.15:27 and shall adopt a VSMP consistent with the Act and this chapter within the timeframe established pursuant to § 62.1-44.15:27 or otherwise established by the board.

E. A town or other authorized entity not required to adopt a VSMP in accordance with § 62.1-44.15:27 A of the Code of Virginia but electing to adopt a VSMP may notify the board. Such notification shall include a proposed schedule for adoption of a local stormwater management program on or after July 1, 2014, and within a timeframe agreed upon by the board.

## Part IV

### Technical Criteria and State Permit Application Requirements for State Projects

9VAC25-870-160. Technical criteria and requirements for state projects.

A. This part specifies technical criteria and administrative procedures for all state projects.

B. Stormwater management state permit applications prepared for state projects shall comply with the technical criteria outlined in Part II (9VAC25-870-40 et seq.) of this chapter and, to the largest extent practicable, any locality's VSMP authority's technical requirements adopted pursuant to the Act. It shall be the responsibility of the state agency to demonstrate that the locality's VSMP authority's technical requirements are not practicable for the project under consideration.

C. The department may establish criteria for selecting either the site or a planning area on which to apply the water quality criteria.

D. As a minimum, a stormwater management state permit application shall contain the following:

1. The location and the design of the proposed stormwater management facilities.
2. Overall site plan with pre-developed and post-developed condition drainage area maps.
3. Comprehensive hydrologic and hydraulic computations of the pre-development and post-development runoff conditions for the required design storms, considered individually.
4. Calculations verifying compliance with the water quality requirements.
5. A description of the requirements for maintenance of the stormwater management facilities and a recommended schedule of inspection and maintenance.
6. The identification of a person or persons who will be responsible for maintenance.
7. All stormwater management and erosion and sediment control plans associated with a state permit application shall be appropriately sealed and signed by a professional in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia and attendant regulations.

9VAC25-870-170. Requirements for state stormwater management annual standards and specifications.

A. Standards and specifications may, and after June 30, 2014, shall, be submitted to the department by a state agency on an annual basis. Such standards and specifications shall be consistent with the requirements of the Act, this chapter, the General Permit for Discharges of Stormwater from Construction Activities (9VAC25-880), and the Erosion and Sediment Control Law and associated regulations. Each project constructed in accordance with the requirements of the Act, this chapter, and where required standards and specifications shall obtain coverage issued under the state general permit prior to land disturbance. State agency stormwater management standards and specifications describe how land-disturbing activities shall be conducted and shall include, but are not limited to:

1. Technical criteria to meet the requirements of the Act and this chapter;
2. Provisions for the preparation of individual stormwater management and erosion and sediment control plans for each project. In addition, the individual plans, to the maximum extent practicable, shall comply with any locality's VSMP authority's technical requirements adopted pursuant to the Act. It shall be the responsibility of the state agency to demonstrate that the locality's VSMP authority's technical requirements are not practicable for the project under consideration;
3. Provisions for the long-term responsibility and maintenance of stormwater management control devices and other techniques specified to manage the quantity and quality of runoff, including an inspection and maintenance schedule, shall be developed and implemented;
4. Provisions for erosion and sediment control and stormwater management program administration, plan design, review and approval, and construction inspection and enforcement;
5. Provisions for ensuring that responsible personnel and contractors obtain certifications or qualifications for erosion and sediment control and stormwater management comparable to those required for VSMP authorities;
6. Implementation of a project tracking and notification system to the department of all land-disturbing activities covered under the Act and this chapter; and
7. Requirements for documenting on-site changes as they occur to ensure compliance with the requirements of the Act and this chapter.

B. Copies of such stormwater management specifications and standards including, but not limited to, design manuals, technical guides and handbooks, shall be submitted.

9VAC25-870-180. Administrative procedures: stormwater management permit applications.

A. Within 30 days after receipt of a complete state permit application (registration statement) submitted by a state agency, the department shall issue or deny the state permit.

1. The department shall transmit its decision in writing to the state agency that submitted the state permit application.

2. Denied state permit applications shall be revised and resubmitted to the department.

B. Approval of a state permit application (registration statement) for a state project shall be subject to the following conditions:

1. The state agency shall comply with all applicable requirements of the state permit and this chapter, and shall certify that all land clearing, construction, land development, and drainage will be done according to the state permit.

2. The land development shall be conducted only within the area specified in the state permit.

3. No changes may be made to a plan for which a state permit has been issued without review and written approval by the department.

4. The department shall be notified one week prior to the pre-construction meeting and one week prior to the commencement of land-disturbing activity.

5. The department shall conduct random inspections of the project to ensure compliance with the state permit.

6. The department shall require inspections and reports from the state agency responsible for compliance with the state permit and to determine if the measures required in the state permit provide effective stormwater management.

C. Compliance with the state permit shall be subject to the following conditions:

1. Where inspection by the responsible state agency reveals deficiencies in carrying out a permitted activity, the responsible state agency shall ensure compliance with the issued state permit, state permit conditions, and plan specifications.

2. Where inspections by department personnel reveal deficiencies in carrying out the state permit, the responsible state agency shall be issued a notice to comply, with corrective actions specified and the deadline within which the work shall be performed.

3. Whenever the Commonwealth or any of its agencies fail to comply within the time provided in a notice to comply, the director may petition the secretary of a given secretariat or an agency head for a given state agency for compliance. Where the petition does not achieve timely compliance, the director shall bring the matter to the Governor for resolution.

4. Where compliance will require the appropriation of funds, the director shall cooperate with the appropriate agency head in seeking such an appropriation; where the director determines

that an emergency exists, he shall petition the Governor for funds from the Civil Contingency Fund or other appropriate source.

5. The department may also seek compliance through other means specified in the Act and this chapter.

9VAC25-870-190. (Reserved)

9VAC25-870-200. Administrative procedures: maintenance and inspections.

A. Responsibility for the operation and maintenance of stormwater management facilities shall remain with the state agency and shall pass to any successor or owner. If portions of the land are to be sold, legally binding arrangements shall be made to pass the basic responsibility to successors in title. These arrangements shall designate for each state project the property owner, governmental agency, or other legally established entity to be permanently responsible for maintenance.

B. At a minimum, a stormwater management facility shall be inspected by the responsible state agency on an annual basis and after any storm which causes the capacity of the facility principal spillway to be exceeded.

C. During construction of the stormwater management facilities, the department shall make inspections on a random basis.

D. The department shall require inspections and reports from the state agency responsible for ensuring compliance with the state permit and to determine if the measures required in the state permit provide effective stormwater management.

E. Inspection reports shall be maintained as part of the land disturbance project file.

## Part V Reporting

9VAC25-870-210. Reporting on stormwater management.

State agencies shall report annually, on a schedule to be specified, to the department on the extent to which stormwater management programs have reduced nonpoint source pollution to the Commonwealth's waters and mitigated the effects of localized flooding. The report shall provide the following: data on the number and types of stormwater management facilities installed in the preceding year, the drainage area or watershed size served, the receiving stream or hydrologic unit, a summary of monitoring data, if any, and other data useful in determining the effectiveness of the programs and BMP technologies in current use. VSMP authorities shall report in accordance with 9VAC25-870-126.

9VAC25-870-220 through 9VAC25-870-290. (Reserved)

## Part VI

### General Program Requirements Related to MS4s and Land-Disturbing Activities

9VAC25-870-300. Exclusions.

The following discharges do not require state permits:

1. Any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than as a means of transportation such as when used as an energy or mining facility, a storage facility or a seafood processing facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or surface waters for the purpose of mineral or oil exploration or development.
2. Discharges of dredged or fill material into surface waters that are regulated under § 404 of the CWA.
3. The introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works by indirect dischargers. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with state permits until all discharges of pollutants to surface waters are eliminated. This exclusion does not apply to the introduction of pollutants to privately owned treatment works or to other discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other party not leading to treatment works.
4. Any discharge in compliance with the instructions of an on-scene coordinator pursuant to 40 CFR Part 300 (The National Oil and Hazardous Substances Pollution Contingency Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances).
5. Any introduction of pollutants from nonpoint source agricultural and silvicultural activities, including stormwater runoff from orchards, cultivated crops, pastures, range lands, and forest lands, but not discharges from concentrated animal feeding operations, discharges from concentrated aquatic animal production facilities, discharges to aquaculture projects, and discharges from silvicultural point sources.
6. Return flows from irrigated agriculture.
7. Discharges into a privately owned treatment works, except as the State Water Control Board may otherwise require.

9VAC25-870-310. Prohibitions.

A. Except in compliance with a state permit issued by the board pursuant to the Virginia Stormwater Management Act, it shall be unlawful for any person to discharge stormwater into state waters from Municipal Separate Storm Sewer Systems or land-disturbing activities.

B. Any person in violation of subsection A of this section, who discharges or causes or allows a discharge of stormwater into or upon state waters from Municipal Separate Storm Sewer Systems or land-disturbing activities, or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of subsection A of this section, shall notify the department of the discharge immediately upon discovery of the discharge but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted by the owner, 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;
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 the state permit.

C. No state permit may be issued:

1. When the conditions of the state permit do not provide for compliance with the applicable requirements of the CWA or the Act, or regulations promulgated under the CWA or the Act;
2. When the state permit applicant is required to obtain a state or other appropriate certification under § 401 of the CWA and that certification has not been obtained or waived;
3. When the regional administrator has objected to issuance of the state permit;
4. When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states;

5. When, in the judgment of the Secretary of the Army, anchorage and navigation in or on any of the waters of the United States would be substantially impaired by the discharge;

6. For the discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste;

7. For any discharge inconsistent with a plan or plan amendment approved under § 208(b) of the CWA;

8. For any discharge to the territorial sea, the waters of the contiguous zone, or the oceans in the following circumstances:

a. Before the promulgation of guidelines under § 403(c) of the CWA (for determining degradation of the waters of the territorial seas, the contiguous zone, and the oceans) unless the board determines state permit issuance to be in the public interest; or

b. After promulgation of guidelines under § 403(c) of the CWA, when insufficient information exists to make a reasonable judgment whether the discharge complies with them.

9. To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by the Act and §§ 301(b)(1)(A) and 301(b)(1)(B) of the CWA, and for which the department has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that:

a. There are sufficient remaining pollutant load allocations to allow for the discharge; and

b. The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. The board may waive the submission of information by the new source or new discharger required by this subdivision if the board determines that it already has adequate information to evaluate the request. An explanation of the development of limitations to meet the criteria of this paragraph is to be included in the fact sheet to the state permit under 9VAC25-870-520.

9VAC25-870-320. Effect of a state permit.

A. Except for any toxic effluent standards and prohibitions imposed under § 307 of the CWA and standards for sewage sludge use or disposal under § 405(d) of the CWA, compliance with a state permit during its term constitutes compliance, for purposes of enforcement, with the Act and with §§ 301, 302, 306, 307, 318, 403, and 405 (a) through (b) of the CWA. However, a state

permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in this chapter.

B. The issuance of a state permit does not convey any property rights of any sort, or any exclusive privilege.

C. The issuance of a state permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

#### 9VAC25-870-330. Continuation of expiring state permits.

A. The state permit shall expire at the end of its term, except that the conditions of an expired state permit continue in force until the effective date of a new state permit if:

1. The permittee has submitted a timely application as required by this chapter, which is a complete application for a new state permit; and

2. The board, through no fault of the permittee, does not issue a new state permit with an effective date on or before the expiration date of the previous state permit.

B. State permits continued under this section remain fully effective and enforceable.

C. When the permittee is not in compliance with the conditions of the expiring or expired state permit the board may choose to do any or all of the following:

1. Initiate enforcement action based upon the state permit which has been continued;

2. Issue a notice of intent to deny the new state permit. If the state permit is denied, the owner or operator would then be required to cease the activities authorized by the continued state permit or be subject to enforcement action for operating without a state permit;

3. Issue a new state permit with appropriate conditions; or

4. Take other actions authorized by this chapter.

#### 9VAC25-870-340. Confidentiality of information.

A. The board, the department, or the VSMP authority may require every state permit applicant or state permittee to furnish when requested such application materials, plans, specifications, and other pertinent information as may be necessary to determine the effect of his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the Act and this chapter. Any personal information shall not be disclosed except to an appropriate official of the board, department, or VSMP authority or as may be authorized

pursuant to the Virginia Freedom of Information Act (§ 2.2-3700 et seq. of the Code of Virginia). However:

1. Disclosure of records of the department, the board, or the VSMP authority relating to (i) active federal environmental enforcement actions that are considered confidential under federal law and (ii) enforcement strategies, including proposed sanctions for enforcement actions is prohibited. Upon request, such records shall be disclosed after a proposed sanction resulting from the investigation has been determined by the department, the board, or the VSMP authority.
2. Any secret formula, secret processes, or secret methods other than effluent data submitted to the department pursuant to this chapter may be claimed as confidential by the submitter in accordance with 40 CFR 122.7. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "secret formulae," "secret processes" "secret methods" on each page containing such information. If no claim is made at the time of submission, the department may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in the Virginia Freedom of Information Act (§ 2.2-3700 et seq. of the Code of Virginia).
3. This section shall not be construed to prohibit the disclosure of records related to inspection reports, notices of violation, and documents detailing the nature of any land-disturbing activity that may have occurred, or similar documents.

B. Claims of confidentiality for the following information will be denied:

1. The name and address of any state permit applicant or state permittee;
2. State permit applications, state permits, and effluent data.

C. Information required by state permit application forms provided by the department may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

9VAC25-870-350. Guidance documents.

The board may develop and use guidance, as appropriate, to implement technical and regulatory details of the state permit program. Such guidance is distinguished from regulation by the fact that it is not binding on either the board or permittees. If a more appropriate methodology than that called for in guidance is available in a given situation, the more appropriate methodology shall be used to the extent it is consistent with applicable regulations and the Stormwater Management Act.

Part VII  
State Permit Applications

9VAC25-870-360. Application for a state permit.

A. Duty to apply. Any person who discharges or proposes to discharge stormwater into or upon state waters from municipal separate storm sewer systems or land-disturbing activities and who does not have an effective state permit, except persons covered by general permits, excluded from the requirement for a state permit by this chapter, shall submit a complete application in accordance with this section.

B. Who applies. When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a state permit.

C. Time to apply. Any person proposing a new discharge shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the board. Stormwater discharges from large construction activities and stormwater discharges associated with small construction activities shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90-day or 180-day requirements to avoid delay.

D. Duty to reapply. All state permittees with a currently effective state permit shall submit a new application at least 180 days before the expiration date of the existing state 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 state permit.

E. Completeness. The board shall not issue a state permit before receiving a complete application for a state permit except for general permits. An application for a state permit is complete when the board receives an application form and any supplemental information which are completed to its satisfaction. The completeness of any application for a state permit shall be judged independently of the status of any other state permit application or state permit for the same facility or activity.

F. Information requirements. All applicants for state permits shall provide the following information using the application form provided by the department:

1. The activities conducted by the state permit applicant which require it to obtain a state permit;
2. Name, mailing address, and location of the facility for which the application is submitted;

3. Up to four SIC codes which best reflect the principal products or services provided by the facility;
4. The operator's name, address, telephone number, email address, ownership status, and status as federal, state, private, public, or other entity;
5. Whether the facility is located on Indian lands;
6. A listing of all permits or construction approvals received, applied for, or to be applied for under any of the following programs:
  - a. Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA) (42 USC § 6921);
  - b. UIC program under the Safe Drinking Water Act (SDWA) (42 USC § 300h);
  - c. VPDES program under the CWA and the State Water Control Law;
  - d. Prevention of Significant Deterioration (PSD) program under the Clean Air Act (42 USC § 4701 et seq.);
  - e. Nonattainment program under the Clean Air Act (42 USC § 4701 et seq.);
  - f. National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act (42 USC § 4701 et seq.);
  - g. Ocean dumping permits under the Marine Protection Research and Sanctuaries Act (33 USC § 14 et seq.);
  - h. Dredge or fill permits under § 404 of the CWA;
  - i. A state permit under the CWA and the Virginia Stormwater Management Act; and
  - j. Other relevant environmental permits, including state permits;
7. A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, which depicts: the facility and (i) each of its intake and discharge structures; (ii) each of its hazardous waste treatment, storage, or disposal facilities; (iii) each well where fluids from the facility are injected underground; and (iv) those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the state permit applicant in the map area; and
8. A brief description of the nature of the business.

G. Variance requests. A discharger which is not a publicly owned treatment works (POTW) may request a variance from otherwise applicable effluent limitations under any of the following statutory or regulatory provisions within the times specified in this subsection:

1. Fundamentally different factors.

a. A request for a variance based on the presence of fundamentally different factors from those on which the effluent limitations guideline was based shall be filed as follows:

(1) For a request from best practicable control technology currently available (BPT), by the close of the public comment period for the draft state permit; or

(2) For a request from best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT), by no later than 180 days after the date on which an effluent limitation guideline is published in the Federal Register for a request based on an effluent limitation guideline promulgated on or after February 4, 1987.

b. The request shall explain how the requirements of the applicable regulatory or statutory criteria have been met.

2. A request for a variance from the BAT requirements for CWA § 301(b)(2)(F) pollutants (commonly called nonconventional pollutants) pursuant to § 301(c) of the CWA because of the economic capability of the owner or operator, or pursuant to § 301(g) of the CWA (provided, however, that a § 301(g) variance may only be requested for ammonia, chlorine, color, iron, total phenols (when determined by the administrator to be a pollutant covered by § 301(b)(2)(F) of the CWA) and any other pollutant that the administrator lists under § 301(g)(4) of the CWA) must be made as follows:

a. For those requests for a variance from an effluent limitation based upon an effluent limitation guideline by:

(1) Submitting an initial request to the regional administrator, as well as to the department, stating the name of the discharger, the state permit number, the outfall number(s), the applicable effluent guideline, and whether the discharger is requesting a § 301(c) or § 301(g) of the CWA modification, or both. This request must have been filed not later than 270 days after promulgation of an applicable effluent limitation guideline; and

(2) Submitting a completed request no later than the close of the public comment period for the draft state permit demonstrating that: (i) all reasonable ascertainable issues have been raised and all reasonably available arguments and materials supporting their position have been submitted; and (ii) that the applicable requirements of 40 CFR Part 125 have been met. Notwithstanding this provision, the complete application for a request under § 301(g) of the CWA shall be filed 180 days before EPA must make a decision (unless the Regional Administrator establishes a shorter or longer period); or

b. For those requests for a variance from effluent limitations not based on effluent limitation guidelines, the request need only comply with subdivision 2 a (2) of this subsection and need not be preceded by an initial request under subdivision 2 a (1) of this subsection.

3. A modification under § 302(b)(2) of the CWA of requirements under § 302(a) of the CWA for achieving water quality related effluent limitations may be requested no later than the close of the public comment period for the draft state permit on the state permit from which the modification is sought.

4. A variance for alternate effluent limitations for the thermal component of any discharge must be filed with a timely application for a state permit under this section, except that if thermal effluent limitations are established on a case-by-case basis or are based on water quality standards the request for a variance may be filed by the close of the public comment period for the draft state permit. A copy of the request shall be sent simultaneously to the department.

#### H. Expedited variance procedures and time extensions.

1. Notwithstanding the time requirements in subsection G of this section, the board may notify a state permit applicant before a draft state permit is issued that the draft state permit will likely contain limitations which are eligible for variances. In the notice the board may require the state permit applicant as a condition of consideration of any potential variance request to submit a request explaining how the requirements of 40 CFR Part 125 applicable to the variance have been met and may require its submission within a specified reasonable time after receipt of the notice. The notice may be sent before the state permit application has been submitted. The draft or final state permit may contain the alternative limitations which may become effective upon final grant of the variance.

2. A discharger who cannot file a timely complete request required under subdivisions G 2 a (2) or G 2 b of this section may request an extension. The extension may be granted or denied at the discretion of the board. Extensions shall be no more than six months in duration.

I. Recordkeeping. State permit applicants shall keep records of all data used to complete state permit applications and any supplemental information submitted under this section for a period of at least three years from the date the application is signed.

#### 9VAC25-870-370. Signatories to state permit applications and reports.

##### A. All state permit applications shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, 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-making 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 that 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 state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All reports required by state permits, and other information requested by the board shall be signed by a person described in subsection A of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described in subsection A of this section;

2. 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 company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

3. The written authorization is submitted to the department.

C. If an authorization under subsection B of this section 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 subsection B of this section must be submitted to the department prior to or together with any reports, or information to be signed by an authorized representative.

D. Any person signing a document under subsection A or B of this section 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."

9VAC25-870-380. Stormwater discharges.

A. State permit requirements.

1. Prior to October 1, 1994, discharges composed entirely of stormwater shall not be required to obtain a state permit except:

- a. A discharge with respect to which a state permit has been issued prior to February 4, 1987;
- b. A stormwater discharge associated with large construction activity;
- c. A discharge from a large municipal separate storm sewer system;
- d. A discharge from a medium municipal separate storm sewer system; or
- e. A discharge that either the board or the regional administrator determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to surface waters. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying stormwater runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances that do not require a state permit under subdivision 2 of this subsection or agricultural stormwater runoff that is exempted from the definition of point source.

The board may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the board may consider the following factors:

- (1) The location of the discharge with respect to surface waters;
- (2) The size of the discharge;
- (3) The quantity and nature of the pollutants discharged to surface waters; and
- (4) Other relevant factors.

2. The board may not require a state permit for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing or treatment operations, or transmission facilities, composed entirely of flows that are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and that are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, by-product or waste products located on the site of such operations.

3. a. State permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

b. The board may either issue one system-wide state permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct state permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

c. The operator of a discharge from a municipal separate storm sewer that is part of a large or medium municipal separate storm sewer system must either:

(1) Participate in a state permit application (to be a state permittee or a state co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system that covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(2) Submit a distinct state permit application that only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(3) A regional authority may be responsible for submitting a state permit application under the following guidelines:

(a) The regional authority together with state permit co-applicants shall have authority over a stormwater management program that is in existence, or shall be in existence at the time Part 1 of the application is due;

(b) The state permit applicant or co-applicants shall establish their ability to make a timely submission of Part 1 and Part 2 of the municipal application;

(c) Each of the operators of municipal separate storm sewers within large or medium municipal separate storm sewer systems, that are under the purview of the designated regional authority, shall comply with the application requirements of subsection C of this section.

d. One state permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The board may issue one system-wide state permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

e. State permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the state permit, including different management programs for different drainage areas that contribute stormwater to the system.

f. State co-permittees need only comply with state permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

4. In addition to meeting the requirements of subsection B of this section, an operator of a stormwater discharge associated with a large construction activity that discharges through a large or medium municipal separate storm sewer system shall submit to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the location of the discharge; a description, including Standard Industrial Classification, that best reflects the principal products or services provided by each facility; and any existing state permit number.

5. The board may issue state permits for municipal separate storm sewers that are designated under subdivision A 1 e of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue state permits for individual discharges.

6. Conveyances that discharge stormwater runoff combined with municipal sewage are point sources that must obtain separate VPDES permits in accordance with the procedures of 9VAC25-31 and are not subject to the provisions of this section.

7. Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this subsection shall have no bearing on whether the owner or operator of the discharge is eligible for funding under Title II, Title III or Title VI of the CWA.

8. a. On and after October 1, 1994, for discharges composed entirely of stormwater, that are not required by subdivision 1 of this subsection to obtain a state permit, operators shall be required to obtain a state permit only if:

(1) The discharge is from a small MS4 required to be regulated pursuant to 9VAC25-870-400 B;

(2) The discharge is a stormwater discharge associated with small construction activity as defined in 9VAC25-870-10;

(3) The board or the EPA regional administrator determines that stormwater controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern; or

(4) The board or the EPA regional administrator determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to surface waters.

b. Operators of small MS4s designated pursuant to subdivisions 8 a (1), (3), and (4) of this subsection shall seek coverage under a state permit in accordance with 9VAC25-870-400 C through E. Operators of nonmunicipal sources designated pursuant to subdivisions 8 a (2), (3), and (4) of this subsection shall seek coverage under a state permit in accordance with subdivision B 1 of this section.

c. Operators of stormwater discharges designated pursuant to subdivisions 8 a (3) and (4) of this subsection shall apply to the board for a state permit within 180 days of receipt of notice, unless permission for a later date is granted by the board.

B. Application requirements for stormwater discharges associated with large and small construction activity.

1. Dischargers of stormwater associated with large and small construction activity are required to apply for an individual state permit or seek coverage under a promulgated stormwater general permit. Facilities that are required to obtain an individual state permit, or any discharge of stormwater that the board is evaluating for designation under subdivision A 1 e of this section and is not a municipal separate storm sewer, shall submit a state application in accordance with the requirements of 9VAC25-870-360 as modified and supplemented by the provisions of this subsection.

a. The operator of an existing or new stormwater discharge that is associated with a large or small construction activity shall provide a narrative description of:

(1) The location (including a map) and the nature of the construction activity;

(2) The total area of the site and the area of the site that is expected to undergo excavation during the life of the state permit;

(3) Proposed measures, including best management practices, to control pollutants in stormwater discharges during construction, including a brief description of applicable state and VESCP requirements;

(4) Proposed measures to control pollutants in stormwater discharges that will occur after construction operations have been completed, including a brief description of applicable state or local VESCP requirements;

(5) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the state permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(6) The name of the receiving water.

(7) Location of Chesapeake Bay Preservation Areas.

b. State permit applicants shall provide such other information the board may reasonably require to determine whether to issue a state permit.

C. Application requirements for large and medium municipal separate storm sewer discharges. The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the board under subdivision A 1 e of this section may submit a jurisdiction-wide or system-wide state permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a state permit coapplicant to the same application. State permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under subdivision A 1 e of this section shall include;

1. Part 1 of the application shall consist of:

a. The state permit applicants' name, address, telephone number, and email address; ownership status; status as a state or local government entity; and the name, address, telephone number, and email address of a contact person;

b. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in subdivision 2 a of this subsection, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria;

c. Source identification.

(1) A description of the historic use of ordinances, guidance or other controls that limited the discharge of nonstormwater discharges to any publicly owned treatment works serving the same area as the municipal separate storm sewer system.

(2) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000, if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the state permit application. The following information shall be provided:

- (a) The location of known municipal storm sewer system outfalls discharging to surface waters;
- (b) A description of the land use activities (e.g., divisions indicating undeveloped, residential, commercial, agricultural, and industrial uses) accompanied with estimates of population densities and projected growth for a 10-year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;
- (c) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;
- (d) The location and the state permit number of any known discharge to the municipal storm sewer that has been issued a state permit;
- (e) The location of major structural controls for stormwater discharge (retention basins, detention basins, major infiltration devices, etc.); and
- (f) The identification of publicly owned parks, recreational areas, and other open lands;

d. Discharge characterization.

- (1) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.
- (2) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.
- (3) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:
  - (a) Assessed and reported in § 305(b) of the CWA reports submitted by the state, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of the State Water Control Law and the CWA goals (fishable and swimmable waters), and causes of nonsupport of designated uses;
  - (b) Listed under § 304(l)(1)(A)(i), 304(l)(1)(A)(ii), or 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;
  - (c) Listed in State Nonpoint Source Assessments required by § 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to

attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(d) Identified and classified according to eutrophic condition of publicly owned lakes listed in state reports required under § 314(a) of the CWA (include the following: a description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(e) Areas of concern of the Great Lakes identified by the International Joint Commission;

(f) Designated estuaries under the National Estuary Program under § 320 of the CWA;

(g) Recognized by the state permit applicant as highly valued or sensitive waters;

(h) Defined by the state or U.S. Fish and Wildlife Service's National Wetlands Inventory as wetlands; and

(i) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(4) Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the state permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24-hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of nonstormwater discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR Part 136, the state permit applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(a) A grid system consisting of perpendicular north-south and east-west lines spaced 1/4 mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(b) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(c) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(d) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(e) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(f) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(g) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in subdivisions 1 d (4) (a) through (f) of this subsection, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the state permit applicant shall establish a grid system consisting of north-south and east-west lines spaced 1/4 mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the state permit applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(5) Information and a proposed program to meet the requirements of subdivision 2 c of this subsection. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under subdivision 2 c (1) of this subsection, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, and a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (see subdivision 1 d (3) of this subsection) to the extent practicable;

e. Management programs.

(1) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to, procedures to control pollution resulting from construction activities, floodplain management controls, wetland protection measures, best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under state law as well as local requirements.

(2) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented; and

f. Fiscal resources. A description of the financial resources currently available to the municipality to complete Part 2 of the state permit application. A description of the municipality's budget for existing stormwater programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for stormwater programs.

2. Part 2 of the application shall consist of:

a. A demonstration that the state permit applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts that authorizes or enables the state permit applicant at a minimum to:

(1) Control through ordinance, state permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity;

(2) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(3) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than stormwater;

(4) Control through interagency agreements among state permit coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(5) Require compliance with conditions in ordinances, state permits, contracts or orders; and

(6) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with state permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer;

b. The location of any major outfall that discharges to surface waters that was not reported under subdivision 1 c (2) (a) of this subsection. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) that best reflects the principal products or services provided by each facility that may discharge, to the municipal separate storm sewer, stormwater associated with industrial activity;

c. When quantitative data for a pollutant are required under subdivision 2 c (1) (c) of this subsection, the state permit applicant must collect a sample of effluent in accordance with 9VAC25-870-390 and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR Part 136. When no analytical method is approved the state permit applicant may use any suitable method but must provide a description of the method. The state permit applicant must provide information characterizing the quality and quantity of discharges covered in the state permit application, including:

(1) Quantitative data from representative outfalls designated by the board (based on information received in Part 1 of the application, the board shall designate between five and 10 outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls) covered in the application, the board shall designate all outfalls developed as follows:

(a) For each outfall or field screening point designated under this subsection, samples shall be collected of stormwater discharges from three storm events occurring at least one month apart in accordance with the requirements at 9VAC25-870-390 (the board may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(b) A narrative description shall be provided of the date and duration of the storm event or events sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(c) For samples collected and described under subdivisions 2 c (1) (a) and (1) (b) of this subsection, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of 40 CFR Part 122 Appendix D, and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

Chemical oxygen demand (COD)

Biochemical oxygen demand (BOD<sub>5</sub>)

Oil and grease

Fecal coliform

Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(d) Additional limited quantitative data required by the board for determining state permit conditions (the board may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to ensure representativeness);

(2) Estimates of the annual pollutant load of the cumulative discharges to surface waters from all identified municipal outfalls and the event mean concentration of the cumulative discharges to surface waters from all identified municipal outfalls during a storm event (as described under 9VAC25-870-390) for BOD<sub>5</sub>, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modeling, data analysis, and calculation methods;

(3) A proposed schedule to provide estimates for each major outfall identified in either subdivision 2 b or 1 c (2) (a) of this subsection of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under subdivision 2 c (1) of this subsection; and

(4) A proposed monitoring program for representative data collection for the term of the state permit that describes the location of outfalls or field screening points to be sampled (or the

location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment;

d. A proposed management program that covers the duration of the state permit. It shall include a comprehensive planning process that involves public participation and, where necessary, intergovernmental coordination to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions that are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each state permit coapplicant. Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the board when developing state permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(1) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the state permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(a) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(b) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in subdivision 2 d (4) of this subsection;

(c) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(d) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from stormwater is feasible;

(e) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which

shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under subdivision 2 d (3) of this subsection); and

(f) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities;

(2) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate state permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(a) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of nonstormwater discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to surface waters: water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration to separate storm sewers, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from firefighting only where such discharges or flows are identified as significant sources of pollutants to surface waters);

(b) A description of procedures to conduct on-going field screening activities during the life of the state permit, including areas or locations that will be evaluated by such field screens;

(c) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of nonstormwater (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (Methylene Blue Active Substances—MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(d) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(e) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(f) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(g) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(3) A description of a program to monitor and control pollutants in stormwater discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to § 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA, 42 USC § 11023), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(a) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(b) Describe a monitoring program for stormwater discharges associated with the industrial facilities identified in subdivision 2 d (3) of this subsection, to be implemented during the term of the state permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing separate VPDES permit for a facility; oil and grease, COD, pH, BOD<sub>5</sub>, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 9VAC25-870-390 F and G; and

(4) A description of a program to implement and maintain structural and nonstructural best management practices to reduce pollutants in stormwater runoff from construction sites to the municipal storm sewer system, which shall include:

(a) A description of procedures for site planning that incorporate consideration of potential water quality impacts;

(b) A description of requirements for nonstructural and structural best management practices;

(c) A description of procedures for identifying priorities for inspecting sites and enforcing control measures that consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(d) A description of appropriate educational and training measures for construction site operators;

e. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal stormwater quality management program. The assessment shall also identify known impacts of stormwater controls on groundwater;

f. For each fiscal year to be covered by the state permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under subdivisions 2 c and d of this subsection. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds;

g. Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination; and

h. Where requirements under subdivisions 1 d (5), 2 b, 2 c (2), and 2 d of this subsection are not practicable or are not applicable, the board may exclude any operator of a discharge from a municipal separate storm sewer that is designated under subdivision A 1 e of this section, or that is located in the counties listed in 40 CFR Part 122 Appendix H or Appendix I (except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties) from such requirements. The board shall not exclude the operator of a discharge from a municipal separate storm sewer identified in 40 CFR Part 122 Appendix F, G, H or I from any of the state permit application requirements under this subdivision except where authorized under this subsection.

#### D. Petitions.

1. Any operator of a municipal separate storm sewer system may petition the appropriate authority or the State Water Control Board to require a separate state permit for any discharge into the municipal separate storm sewer system.

2. Any person may petition the board to require a state permit for a discharge which is composed entirely of stormwater which contributes to a violation of a water quality standard or is a significant contributor of pollutants to surface waters.

3. Any person may petition the board for the designation of a large, medium or small municipal separate storm sewer system as defined by this chapter.

4. The board shall make a final determination on any petition received under this section within 90 days after receiving the petition with the exception of petitions to designate a small MS4, in which case the board shall make a final determination on the petition within 180 days after its receipt.

9VAC25-870-390. Effluent sampling procedures.

State permit applicants for discharges from large and small municipal storm sewers or municipal storm sewers designated under 9VAC25-870-380 A 1 e shall provide the following information to the department, using application forms provided by the department.

A. Information on stormwater discharges that is to be provided as specified in 9VAC25-870-380. When quantitative data for a pollutant are required, the state permit applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR Part 136. When no analytical method is approved the state permit applicant may use any suitable method but must provide a description of the method. When an a state permit applicant has two or more outfalls with substantially identical effluents, the board may allow the state permit applicant to test only one outfall and report that the quantitative data also apply to the substantially identical outfalls. The requirements in subsections E and F of this section that a state permit applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. For all other pollutants, 24-hour composite samples must be used. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than stormwater discharges, the board may waive composite sampling for any outfall for which the state permit applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four grab samples will be a representative sample of the effluent being discharged.

B. For stormwater discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50% from the average or median rainfall event in that area. For all state permit applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge. The flow-weighted composite sample for a stormwater discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of 15 minutes. However, a minimum of one grab sample may be taken for stormwater discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For stormwater discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first 30 minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in 9VAC25-870-380 C 1. For all stormwater state permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in 9VAC25-870-380 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The board may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations,

the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under 40 CFR Part 136, and additional time for submitting data on a case-by-case basis. A state permit applicant is expected to know or have reason to believe that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated stormwater runoff from the facility.)

C. Every state permit applicant must report quantitative data for every outfall for the following pollutants:

Biochemical oxygen demand (BOD<sub>5</sub>)

Chemical oxygen demand

Total organic carbon

Total suspended solids

Ammonia (as N)

Temperature (both winter and summer)

pH

D. The board may waive the reporting requirements for individual point sources or for a particular industry category for one or more of the pollutants listed in subsection C of this section if the state permit applicant has demonstrated that such a waiver is appropriate because information adequate to support issuance of a state permit can be obtained with less stringent requirements.

E. Each state permit applicant with processes in one or more primary industry category (see 40 CFR Part 122 Appendix A) contributing to a discharge must report quantitative data for the following pollutants in each outfall containing process wastewater:

1. The organic toxic pollutants in the fractions designated in Table I of 40 CFR Part 122 Appendix D for the state permit applicant's industrial category or categories unless the state permit applicant qualifies as a small business. Table II of 40 CFR Part 122 Appendix D lists the organic toxic pollutants in each fraction. The fractions result from the sample preparation required by the analytical procedure that uses gas chromatography/mass spectrometry. A determination that a state permit applicant falls within a particular industrial category for the purposes of

selecting fractions for testing is not conclusive as to the state permit applicant's inclusion in that category for any other purposes; and

2. The pollutants listed in Table III of 40 CFR Part 122 Appendix D (the toxic metals, cyanide, and total phenols).

F. 1. Each state permit applicant must indicate whether it knows or has reason to believe that any of the pollutants in Table IV of 40 CFR Part 122 Appendix D (certain conventional and nonconventional pollutants) is discharged from each outfall. If an applicable effluent limitations guideline either directly limits the pollutant or, by its express terms, indirectly limits the pollutant through limitations on an indicator, the state permit applicant must report quantitative data. For every pollutant discharged that is not so limited in an effluent limitations guideline, the state permit applicant must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

2. Each applicant must indicate whether it knows or has reason to believe that any of the pollutants listed in Table II or Table III of 40 CFR Part 122 Appendix D (the toxic pollutants and total phenols) for which quantitative data are not otherwise required under subsection E of this section, is discharged from each outfall. For every pollutant expected to be discharged in concentrations of 10 ppb or greater the state permit applicant must report quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol, where any of these four pollutants are expected to be discharged in concentrations of 100 ppb or greater the state permit applicant must report quantitative data. For every pollutant expected to be discharged in concentrations less than 10 ppb, or in the case of acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol, in concentrations less than 100 ppb, the state permit applicant must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged. A state permit applicant qualifying as a small business is not required to analyze for pollutants listed in Table II of 40 CFR Part 122 Appendix D (the organic toxic pollutants).

G. Each state permit applicant must indicate whether it knows or has reason to believe that any of the pollutants in Table V of 40 CFR Part 122 Appendix D (certain hazardous substances and asbestos) are discharged from each outfall. For every pollutant expected to be discharged, the state permit applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any quantitative data it has for any pollutant.

H. Each state permit applicant must report qualitative data, generated using a screening procedure not calibrated with analytical standards, for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) if it:

1. Uses or manufactures 2,4,5-trichlorophenoxy acetic acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); or

2. Knows or has reason to believe that TCDD is or may be present in an effluent.

9VAC25-870-400. Small municipal separate storm sewer systems.

A. Objectives of the stormwater regulations for small MS4s.

1. Subsections A through G of this section are written in a "readable regulation" format that includes both rule requirements and guidance. The recommended guidance is distinguished from the regulatory requirements by putting the guidance in a separate subdivision headed by the word "Note."

2. Under the statutory mandate in § 402(p)(6) of the Clean Water Act, the purpose of this portion of the stormwater program is to designate additional sources that need to be regulated to protect water quality and to establish a comprehensive stormwater program to regulate these sources.

3. Stormwater runoff continues to harm the nation's waters. Runoff from lands modified by human activities can harm surface water resources in several ways including by changing natural hydrologic patterns and by elevating pollutant concentrations and loadings. Stormwater runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients, heavy metals, pathogens, toxins, oxygen-demanding substances, and floatables.

4. The board strongly encourages partnerships and the watershed approach as the management framework for efficiently, effectively, and consistently protecting and restoring aquatic ecosystems and protecting public health.

B. As an operator of a small MS4, am I regulated under the state's stormwater program?

1. Unless you qualify for a waiver under subdivision 3 of this subsection, you are regulated if you operate a small MS4, including but not limited to systems operated by federal, state, tribal, and local governments, including the Virginia Department of Transportation; and

a. Your small MS4 is located in an urbanized area as determined by the latest decennial census by the Bureau of the Census (If your small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated); or

b. You are designated by the board, including where the designation is pursuant to subdivisions C 3 a and b of this section or is based upon a petition under 9VAC25-870-380 D.

2. You may be the subject of a petition to the board to require a state permit for your discharge of stormwater. If the board determines that you need a state permit, you are required to comply with subsections C through E of this section.

3. The board may waive the requirements otherwise applicable to you if you meet the criteria of subdivision 4 or 5 of this subsection. If you receive a waiver under this section, you may subsequently be required to seek coverage under a state permit in accordance with subdivision C 1 of this section if circumstances change. (See also subdivision E 2 of this section).

4. The board may waive state permit coverage if your MS4 serves a population of less than 1,000 within the urbanized area and you meet the following criteria:

- a. Your system is not contributing substantially to the pollutant loadings of a physically interconnected MS4 that is regulated by the board; and
- b. If you discharge any pollutants that have been identified as a cause of impairment of any water body to which you discharge, stormwater controls are not needed based on wasteload allocations that are part of an approved "total maximum daily load" (TMDL) that addresses the pollutants of concern.

5. The board may waive state permit coverage if your MS4 serves a population under 10,000 and you meet the following criteria:

- a. The board has evaluated all surface waters, including small streams, tributaries, lakes, and ponds, that receive a discharge from your MS4;
- b. For all such waters, the board has determined that stormwater controls are not needed based on wasteload allocations that are part of an approved TMDL that addresses the pollutants of concern or, if a TMDL has not been developed or approved, an equivalent analysis that determines sources and allocations for the pollutants of concern;
- c. For the purpose of subdivision 5 of this subsection, the pollutants of concern include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from your MS4; and
- d. The board has determined that future discharges from your MS4 do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

C. If I am an operator of a regulated small MS4, how do I apply for a state permit and when do I have to apply?

1. If you operate a regulated small MS4 under subsection B of this section, you must seek coverage under a state permit issued by the board.

2. You must seek authorization to discharge under a general or individual state permit, as follows:

a. If the board has issued a general permit applicable to your discharge and you are seeking coverage under the general permit, you must submit a registration statement that includes the information on your best management practices and measurable goals required by subdivision D 4 of this section. You may file your own registration statement, or you and other municipalities or governmental entities may jointly submit a registration statement. If you want to share responsibilities for meeting the minimum measures with other municipalities or governmental entities, you must submit a registration statement that describes which minimum measures you will implement and identify the entities that will implement the other minimum measures within the area served by your MS4. The general permit will explain any other steps necessary to obtain permit authorization.

b. (1) If you are seeking authorization to discharge under an individual state permit and wish to implement a program under subsection D of this section, you must submit an application to the board that includes the information required under 9VAC25-870-360 F and subdivision D 4 of this section, an estimate of square mileage served by your small MS4, and any additional information that the board requests. A storm sewer map that satisfies the requirement of subdivision D 2 c (1) of this section will satisfy the map requirement in 9VAC25-870-360 F 7.

(2) If you are seeking authorization to discharge under an individual state permit and wish to implement a program that is different from the program under subsection D of this section, you will need to comply with the state permit application requirements of 9VAC25-870-380 C. You must submit both parts of the application requirements in 9VAC25-870-380 C 1 and 2 by March 10, 2003. You do not need to submit the information required by 9VAC25-870-380 C 1 b and C 2 regarding your legal authority, unless you intend for the state permit writer to take such information into account when developing your other state permit conditions.

(3) If allowed by the board, you and another regulated entity may jointly apply under either subdivision 2 b (1) or (2) of this subsection to be state co-permittees under an individual state permit.

c. If your small MS4 is in the same urbanized area as a medium or large MS4 with a state permit and that other MS4 is willing to have you participate in its stormwater program, you and the other MS4 may jointly seek a modification of the other MS4 state permit to include you as a limited state co-permittee. As a limited state co-permittee, you will be responsible for compliance with the state permit's conditions applicable to your jurisdiction. If you choose this option you will need to comply with the state permit application requirements of 9VAC25-870-380, rather than the requirements of subsection D of this section. You do not need to comply with the specific application requirements of 9VAC25-870-380 C 1 c and d and 9VAC25-870-380 C 2 c (discharge characterization). You may satisfy the requirements in 9VAC25-870-380 C 1 e and 2 d (identification of a management program) by referring to the other MS4's stormwater management program.

d. NOTE: In referencing an MS4's stormwater management program, you should briefly describe how the existing plan will address discharges from your small MS4 or would need to be supplemented in order to adequately address your discharges. You should also explain your role in coordinating stormwater pollutant control activities in your MS4 and detail the resources available to you to accomplish the plan.

3. If you operate a regulated small MS4:

a. Designated under subdivision B 1 a of this section, you must apply for coverage under a state permit or apply for a modification of an existing state permit under subdivision 2 c of this subsection within 180 days of notice, unless the board grants a later date.

b. Designated under subdivision B 1 b of this section, you must apply for coverage under a state permit or apply for a modification of an existing state permit under subdivision 2 c of this subsection within 180 days of notice, unless the board grants a later date.

D. As an operator of a regulated small MS4, what will my MS4 state permit require?

1. Your MS4 state permit will require at a minimum that you develop, implement, and enforce a stormwater management program designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act, the Virginia Stormwater Management Act, and the State Water Control Law. Your stormwater management program must include the minimum control measures described in subdivision 2 of this subsection unless you apply for a state permit under 9VAC25-870-380 C. For purposes of this section, narrative effluent limitations requiring implementation of best management practices (BMPs) are generally the most appropriate form of effluent limitations when designed to satisfy technology requirements (including reductions of pollutants to the maximum extent practicable) and to protect water quality. Implementation of best management practices consistent with the provisions of the stormwater management program required pursuant to this section and the provisions of the state permit required pursuant to subsection C of this section constitutes compliance with the standard of reducing pollutants to the maximum extent practicable. The board will specify a time period of up to five years from the date of state permit issuance for you to develop and implement your program.

2. Minimum control measures.

a. Public education and outreach on stormwater impacts.

(1) You must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

(2) NOTE: You may use stormwater educational materials provided by the state, your tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce stormwater pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. The board recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. The board recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include: distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school-age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, the board recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. You are encouraged to tailor your outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

b. Public involvement/participation.

(1) You must, at a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.

(2) The board recommends that the public be included in developing, implementing, and reviewing your stormwater management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

c. Illicit discharge detection and elimination.

(1) You must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 9VAC25-870-10) into your small MS4.

(2) You must:

(a) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all surface waters that receive discharges from those outfalls;

(b) To the extent allowable under state, tribal or local law, effectively prohibit, through ordinance or other regulatory mechanism, nonstormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions;

(c) Develop and implement a plan to detect and address nonstormwater discharges, including illegal dumping, to your system; and

(d) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(3) You need to address the following categories of nonstormwater discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration (as defined in 40 CFR 35.2005(20)), uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water. (Discharges or flows from fire-fighting activities are excluded from the effective prohibition against nonstormwater and need only be addressed where they are identified as significant sources of pollutants to surface waters.)

(4) NOTE: The board recommends that the plan to detect and address illicit discharges include the following four components: (i) procedures for locating priority areas likely to have illicit discharges, (ii) procedures for tracing the source of an illicit discharge, (iii) procedures for removing the source of the discharge, and (iv) procedures for program evaluation and assessment. The board recommends visually screening outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling; a program to promote, publicize, and facilitate public reporting of illicit connections or discharges; and distribution of outreach materials.

d. Construction site stormwater runoff control.

(1) You must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre, or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Reduction of stormwater discharges from construction activity disturbing less

than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the board waives requirements for stormwater discharges associated with small construction activity in accordance with the definition in 9VAC25-870-10, you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

(2) Your program must include the development and implementation of, at a minimum:

(a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under state, tribal, or local law;

(b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(c) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(d) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(e) Procedures for receipt and consideration of information submitted by the public; and

(f) Procedures for site inspection and enforcement of control measures.

(3) NOTE: Examples of sanctions to ensure compliance include nonmonetary penalties, fines, bonding requirements and/or state permit denials for noncompliance. The board recommends that procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with VESCP requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. You are encouraged to provide appropriate educational and training measures for construction site operators. You may wish to require a stormwater pollution prevention plan for construction sites within your jurisdiction that discharge into your system. (See 9VAC25-870-460 L and subdivision E 2 of this section.) The board may recognize that another government entity may be responsible for implementing one or more of the minimum measures on your behalf.

e. Post-construction stormwater management in new development and redevelopment.

(1) You must develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or

sale, that discharge into your small MS4. Your program must ensure that controls are in place that would prevent or minimize water quality impacts.

(2) You must:

(a) Develop and implement strategies that include a combination of structural and/or nonstructural best management practices (BMPs) appropriate for your community;

(b) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state, tribal or local law; and

(c) Ensure adequate long-term operation and maintenance of BMPs.

(3) NOTE: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. The board recommends that the BMPs chosen be appropriate for the local community, minimize water quality impacts, and attempt to maintain pre-development runoff conditions. In choosing appropriate BMPs, the board encourages you to participate in locally based watershed planning efforts that attempt to involve a diverse group of stakeholders, including interested citizens. When developing a program that is consistent with this measure's intent, the board recommends that you adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or nonstructural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address stormwater runoff quality. In addition to assessing these existing documents and programs, you should provide opportunities to the public to participate in the development of the program. Nonstructural BMPs are preventative actions that involve management and source controls such as: (i) policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; (ii) policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; (iii) education programs for developers and the public about project designs that minimize water quality impacts; and (iv) measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. The board recommends that you ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are

built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Stormwater technologies are constantly being improved, and the board recommends that your requirements be responsive to these changes, developments or improvements in control technologies.

f. Pollution prevention/good housekeeping for municipal operations.

(1) You must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, state, tribe, or other organizations, your program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

(2) NOTE: The board recommends that, at a minimum, you consider the following in developing your program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and nonstructural stormwater controls to reduce floatables and other pollutants discharged from your separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by you, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all stormwater management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

3. If an existing VSMP requires you to implement one or more of the minimum control measures of subdivision 2 of this subsection, the board may include conditions in your state permit that direct you to follow that VSMP's requirements rather than the requirements of subdivision 2 of this subsection. A VSMP is a local, state or tribal municipal stormwater management program that imposes, at a minimum, the relevant requirements of subdivision 2 of this subsection.

4. a. In your state permit application (either a registration statement for coverage under a general permit or an individual permit application), you must identify and submit to the board the following information:

(1) The best management practices (BMPs) that you or another entity will implement for each of the stormwater minimum control measures provided in subdivision 2 of this subsection;

(2) The measurable goals for each of the BMPs including, as appropriate, the months and years in which you will undertake required actions, including interim milestones and the frequency of the action; and

(3) The person or persons responsible for implementing or coordinating your stormwater management program.

b. If you obtain coverage under a general permit, you are not required to meet any measurable goals identified in your registration statement in order to demonstrate compliance with the minimum control measures in subdivisions 2 c through f of this subsection unless, prior to submitting your registration statement, EPA or the board has provided or issued a menu of BMPs that addresses each such minimum measure. Even if no regulatory authority issues the menu of BMPs, however, you still must comply with other requirements of the general permit, including good faith implementation of BMPs designed to comply with the minimum measures.

c. NOTE: Either EPA or the board will provide a menu of BMPs. You may choose BMPs from the menu or select others that satisfy the minimum control measures.

5. a. You must comply with any more stringent effluent limitations in your state permit, including state permit requirements that modify or are in addition to the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis. The board may include such more stringent limitations based on a TMDL or equivalent analysis that determines such limitations are needed to protect water quality.

b. NOTE: The board strongly recommends that until the evaluation of the stormwater program in subsection G of this section, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality.

6. You must comply with other applicable state permit requirements, standards and conditions established in the individual or general permit developed consistent with the provisions of 9VAC25-31-190 through 9VAC25-31-250, as appropriate.

7. Evaluation and assessment.

a. You must evaluate program compliance, the appropriateness of your identified best management practices, and progress towards achieving your identified measurable goals. The board may determine monitoring requirements for you in accordance with monitoring plans appropriate to your watershed. Participation in a group monitoring program is encouraged.

b. You must keep records required by the state permit for at least three years. You must submit your records to the department only when specifically asked to do so. You must make your records, including a description of your stormwater management program, available to the

public at reasonable times during regular business hours (see 9VAC25-870-340 for confidentiality provision). You may assess a reasonable charge for copying. You may require a member of the public to provide advance notice.

c. Unless you are relying on another entity to satisfy your state permit obligations under subdivision E 1 of this section, you must submit annual reports to the department for your first state permit term. For subsequent state permit terms, you must submit reports in years two and four unless the department requires more frequent reports. Your report must include:

(1) The status of compliance with state permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving your identified measurable goals for each of the minimum control measures;

(2) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

(3) A summary of the stormwater activities you plan to undertake during the next reporting cycle;

(4) A change in any identified best management practices or measurable goals for any of the minimum control measures; and

(5) Notice that you are relying on another governmental entity to satisfy some of your state permit obligations (if applicable).

E. As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?

1. You may rely on another entity to satisfy your state permit obligations to implement a minimum control measure if:

a. The other entity, in fact, implements the control measure;

b. The particular control measure, or component thereof, is at least as stringent as the corresponding state permit requirement; and

c. The other entity agrees to implement the control measure on your behalf. In the reports you must submit under subdivision D 7 c of this section, you must also specify that you rely on another entity to satisfy some of your state permit obligations. If you are relying on another governmental entity regulated under the state permit program to satisfy all of your state permit obligations, including your obligation to file periodic reports required by subdivision D 7 c of this section, you must note that fact in your registration statement, but you are not required to file the periodic reports. You remain responsible for compliance with your state permit obligations if the other entity fails to implement the control measure (or component

thereof). Therefore, the board encourages you to enter into a legally binding agreement with that entity if you want to minimize any uncertainty about compliance with your state permit.

2. In some cases, the board may recognize, either in your individual permit or in a general permit, that another governmental entity is responsible under a state permit for implementing one or more of the minimum control measures for your small MS4. Where the board does so, you are not required to include such minimum control measure(s) in your stormwater management program. Your state permit may be reopened and modified to include the requirement to implement a minimum control measure if the entity fails to implement it.

F. As an operator of a regulated small MS4, what happens if I don't comply with the application or state permit requirements in subsections C through E of this section?

State permits are enforceable under the Clean Water Act and the Virginia Stormwater Management Act. Violators may be subject to the enforcement actions and penalties described in Clean Water Act §§ 309(b), (c), and (g) and 505 or under §§ 62.1-44.15:39 through 62.1-44.15:48 of the Code of Virginia. Compliance with a state permit issued pursuant to § 402 of the Clean Water Act is deemed compliance, for purposes of §§ 309 and 505, with §§ 301, 302, 306, 307, and 403, except any standard imposed under § 307 for toxic pollutants injurious to human health. If you are covered as a state co-permittee under an individual permit or under a general permit by means of a joint registration statement, you remain subject to the enforcement actions and penalties for the failure to comply with the terms of the state permit in your jurisdiction except as set forth in subdivision E 2 of this section.

G. Will the small MS4 stormwater program regulations at subsections B through F of this section change in the future?

EPA intends to conduct an enhanced research effort and compile a comprehensive evaluation of the NPDES MS4 stormwater program. The board will reevaluate the regulations based on data from the EPA NPDES MS4 stormwater program, from research on receiving water impacts from stormwater, and the effectiveness of best management practices (BMPs), as well as other relevant information sources.

9VAC25-870-410. General permits.

A. The board may issue a general permit in accordance with the following:

1. The general permit shall be written to cover one or more categories or subcategories of discharges, except those covered by individual permits, within a geographic area. The area should correspond to existing geographic or political boundaries, such as:

a. Designated planning areas under §§ 208 and 303 of CWA;

b. Sewer districts or sewer authorities;

- c. City, county, or state political boundaries;
- d. State highway systems;
- e. Standard metropolitan statistical areas as defined by the Office of Management and Budget;
- f. Urbanized areas as designated by the Bureau of the Census according to criteria in 30 FR 15202 (May 1, 1974); or
- g. Any other appropriate division or combination of boundaries.

2. The general permit may be written to regulate one or more categories within the area described in subdivision 1 of this subsection, where the sources within a covered subcategory of discharges are stormwater point sources.

3. Where sources within a specific category of dischargers are subject to water quality-based limits imposed pursuant to 9VAC25-870-460, the sources in that specific category or subcategory shall be subject to the same water quality-based effluent limitations.

4. The general permit must clearly identify the applicable conditions for each category or subcategory of dischargers covered by the permit.

5. The general permit may exclude specified sources or areas from coverage.

#### B. Administration.

1. General permits may be issued, modified, revoked and reissued, or terminated in accordance with applicable requirements of this chapter.

2. Authorization to discharge.

a. Except as provided in subdivisions 2 e and 2 f of this subsection, dischargers seeking coverage under a general permit shall submit to the department a written notice of intent to be covered by the general permit. A discharger who fails to submit a notice of intent in accordance with the terms of the state permit is not authorized to discharge, under the terms of the general permit unless the general permit, in accordance with subdivision 2 e of this subsection, contains a provision that a notice of intent is not required or the board notifies a discharger (or treatment works treating domestic sewage) that it is covered by a general permit in accordance with subdivision 2 f of this subsection. A complete and timely notice of intent (NOI) to be covered in accordance with general permit requirements fulfills the requirements for permit applications for the purposes of this chapter.

b. The contents of the notice of intent shall be specified in the general permit and shall require the submission of information necessary for adequate program implementation, including at a

minimum, the legal name and address of the owner or operator, the facility name and address, type of facility or discharges, and the receiving stream or streams. All notices of intent shall be signed in accordance with 9VAC25-870-370.

c. General permits shall specify the deadlines for submitting notices of intent to be covered and the date or dates when a discharger is authorized to discharge under the state permit.

d. General permits shall specify whether a discharger that has submitted a complete and timely notice of intent to be covered in accordance with the general permit and that is eligible for coverage under the state permit, is authorized to discharge in accordance with the state permit either upon receipt of the notice of intent by the department, after a waiting period specified in the general permit, on a date specified in the general permit, or upon receipt of notification of inclusion by the board. Coverage may be terminated or revoked in accordance with subdivision 3 of this subsection.

e. Stormwater discharges associated with small construction activity may, at the discretion of the board, be authorized to discharge under a general permit without submitting a notice of intent where the board finds that a notice of intent requirement would be inappropriate. In making such a finding, the board shall consider the (i) type of discharge, (ii) expected nature of the discharge, (iii) potential for toxic and conventional pollutants in the discharges, (iv) expected volume of the discharges, (v) other means of identifying discharges covered by the state permit, and (vi) estimated number of discharges to be covered by the state permit. The board shall provide in the public notice of the general permit the reasons for not requiring a notice of intent.

f. The board may notify a discharger that it is covered by a general permit, even if the discharger has not submitted a notice of intent to be covered. A discharger so notified may request an individual permit under subdivision 3 c of this subsection.

### 3. Requiring an individual permit.

a. The board may require any discharger authorized by a general permit to apply for and obtain an individual permit. Any interested person may request the board to take action under this subdivision. Cases where an individual permit may be required include the following:

(1) The discharger is not in compliance with the conditions of the general permit;

(2) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;

(3) Effluent limitation guidelines are promulgated for point sources covered by the general permit;

(4) A water quality management plan, established by the State Water Control Board pursuant to 9VAC25-720, containing requirements applicable to such point sources is approved;

(5) Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;

(6) The discharge(s) is a significant contributor of pollutants. In making this determination, the board may consider the following factors:

(a) The location of the discharge with respect to surface waters;

(b) The size of the discharge;

(c) The quantity and nature of the pollutants discharged to surface waters; and

(d) Other relevant factors;

b. State permits required on a case-by-case basis.

(1) The board may determine, on a case-by-case basis, that certain stormwater discharges, and certain other facilities covered by general permits that do not generally require an individual permit may be required to obtain an individual permit because of their contributions to water pollution.

(2) Whenever the board decides that an individual permit is required under this subsection, except as provided in subdivision 3 b (3) of this subsection, the board shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit within 60 days of notice, unless permission for a later date is granted by the board. The question whether the designation was proper will remain open for consideration during the public comment period for the draft state permit and in any subsequent public hearing.

(3) Prior to a case-by-case determination that an individual permit is required for a stormwater discharge under this subsection, the board may require the discharger to submit a state permit application or other information regarding the discharge under the Act and § 308 of the CWA. In requiring such information, the board shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a state permit under 9VAC25-870-380 A 1 within 60 days of notice or under 9VAC25-870-380 A 8 within 180 days of notice, unless permission for a later date is granted by the board. The question whether the initial designation was proper will remain open for consideration during the public comment period for the draft state permit and in any subsequent public hearing.

c. Any owner or operator authorized by a general permit may request to be excluded from the coverage of the general permit by applying for an individual permit. The owner or operator shall submit an application under 9VAC25-870-360 with reasons supporting the request. The request shall be processed under the applicable parts of this chapter. The request shall be granted by issuing of an individual permit if the reasons cited by the owner or operator are adequate to support the request.

d. When an individual permit is issued to an owner or operator otherwise subject to a general permit, the applicability of the general permit to the individual permit state permittee is automatically terminated on the effective date of the individual permit.

e. A source excluded from a general permit solely because it already has an individual permit may request that the individual permit be revoked, and that it be covered by the general permit. Upon revocation of the individual permit, the general permit shall apply to the source.

9VAC25-870-420. New sources and new discharges.

A. Criteria for new source determination.

1. Except as otherwise provided in an applicable new source performance standard, a source is a new source if it meets the definition of new source in this chapter and

a. It is constructed at a site at which no other source is located;

b. It totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or

c. Its processes are substantially independent of an existing source at the same site. In determining whether these processes are substantially independent, the board shall consider such factors as the extent to which the new facility is integrated with the existing plant and the extent to which the new facility is engaged in the same general type of activity as the existing source.

2. A source meeting the requirements of subdivisions 1 a, b, or c of this subsection is a new source only if a new source performance standard is independently applicable to it. If there is no such independently applicable standard, the source is a new discharger.

3. Construction on a site at which an existing source is located results in a state permit modification subject to 9VAC25-870-630 rather than a new source (or a new discharger) if the construction does not create a new building, structure, facility, or installation meeting the criteria of subdivisions 1 b or c of this subsection but otherwise alters, replaces, or adds to existing process or production equipment.

4. Construction of a new source has commenced if the owner or operator has:

a. Begun, or caused to begin as part of a continuous on-site construction program:

(1) Any placement, assembly, or installation of facilities or equipment; or

(2) Significant site preparation work including clearing, excavation or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

b. Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility engineering, and design studies do not constitute a contractual obligation under the paragraph.

B. Effect of compliance with new source performance standards. The provisions of this subsection do not apply to existing sources which modify their pollution control facilities or construct new pollution control facilities and achieve performance standards, but which are neither new sources or new dischargers or otherwise do not meet the requirements of this subdivision.

1. Except as provided in subdivision 2 of this subsection, any new discharger, the construction of which commenced after October 18, 1972, or new source which meets the applicable promulgated new source performance standards before the commencement of discharge, may not be subject to any more stringent new source performance standards or to any more stringent technology-based standards under § 301(b)(2) of the CWA for the soonest ending of the following periods:

a. Ten years from the date that construction is completed;

b. Ten years from the date the source begins to discharge process or other nonconstruction related wastewater; or

c. The period of depreciation or amortization of the facility for the purposes of § 167 or § 169 (or both) of the Internal Revenue Code of 1954 (26 USC 167 and 26 USC 169, respectively).

2. The protection from more stringent standards of performance afforded by subdivision 1 of this subsection does not apply to:

a. Additional or more stringent state permit conditions that are not technology based; for example, conditions based on water quality standards, or toxic effluent standards or prohibitions under the Act and § 307(a) of the CWA; or

b. Additional state permit conditions controlling toxic pollutants or hazardous substances that are not controlled by new source performance standards. This includes state permit conditions

controlling pollutants other than those identified as toxic pollutants or hazardous substances when control of these pollutants has been specifically identified as the method to control the toxic pollutants or hazardous substances.

3. When a separate VPDES or state permit issued to a source with a protection period under subdivision 1 of this subsection will expire on or after the expiration of the protection period, that permit shall require the owner or operator of the source to comply with the requirements of § 301 of the CWA and any other then applicable requirements of the CWA and the Act immediately upon the expiration of the protection period. No additional period for achieving compliance with these requirements may be allowed except when necessary to achieve compliance with requirements promulgated less than three years before the expiration of the protection period.

4. The owner or operator of a new source, a new discharger which commenced discharge after August 13, 1979, or a recommencing discharger shall install and have in operating condition, and shall start-up all pollution control equipment required to meet the conditions of its state permits before beginning to discharge. Within the shortest feasible time (not to exceed 90 days), the owner or operator must meet all state permit conditions. The requirements of this paragraph do not apply if the owner or operator is issued a state permit containing a compliance schedule under 9VAC25-870-490 A 2.

5. After the effective date of new source performance standards, it shall be unlawful for any owner or operator of any new source to operate the source in violation of those standards applicable to the source.

## Part VIII

### State Permit Conditions

9VAC25-870-430. Conditions applicable to all state permits.

The following conditions apply to all state permits. Additional conditions applicable to state permits are in 9VAC25-870-440. All conditions applicable to state permits shall be incorporated into the state permits either expressly or by reference. If incorporated by reference, a specific citation to this regulation must be given in the state permit.

A. The state permittee shall comply with all conditions of the state permit. Any state permit noncompliance constitutes a violation of the Act and the CWA, except that noncompliance with certain provisions of the state permit may constitute a violation of the Act but not the CWA. State permit noncompliance is grounds for enforcement action; for state permit termination, revocation and reissuance, or modification; or denial of a state permit renewal application.

The state permittee shall comply with effluent standards or prohibitions established under § 307(a) of the CWA for toxic pollutants within the time provided in the chapters that establish

these standards or prohibitions, even if the state permit has not yet been modified to incorporate the requirement.

B. If the state permittee wishes to continue an activity regulated by the state permit after the expiration date of the state permit, the state permittee must apply for and obtain a new state permit.

C. It shall not be a defense for a state 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 the state permit.

D. The state permittee shall take all reasonable steps to minimize or prevent any discharge in violation of the state permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. The state permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the state permittee to achieve compliance with the conditions of the state permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a state permittee only when the operation is necessary to achieve compliance with the conditions of the state permit.

F. State permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the state permittee for a state permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any state permit condition.

G. State permits do not convey any property rights of any sort, or any exclusive privilege.

H. The state permittee shall furnish to the department, within a reasonable time, any information that the board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the state permit or to determine compliance with the state permit. The board may require the state permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the Act. The state permittee shall also furnish to the department upon request, copies of records required to be kept by the state permit.

I. The state 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 state permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the state permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the state permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the state permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring state permit compliance or as otherwise authorized by the CWA and the Act, any substances or parameters at any location.

J. Monitoring and records.

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The state 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 the state permit, and records of all data used to complete the application for the state permit, for a period of at least three years from the date of the sample, measurement, report or application. 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 state permittee, or as requested by the board.
3. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The individual or individuals who performed the sampling or measurements;
  - c. The date or dates analyses were performed;
  - d. The individual or individuals who performed the analyses;
  - e. The analytical techniques or methods used; and
  - f. The results of such analyses.
4. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or alternative EPA approved methods, unless other test procedures have been specified in the state permit. Analyses performed according to test procedures approved under

40 CFR Part 136 shall be performed by an environmental laboratory certified under regulations adopted by the Department of General Services (1VAC30-45 or 1VAC30-46).

K. All applications, reports, or information submitted to the VSMP authority and department shall be signed and certified as required by 9VAC25-870-370.

L. Reporting requirements.

1. The state 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 alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 9VAC25-870-420 A; or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the state permit.

2. The state permittee shall give advance notice to the department of any planned changes in the permitted facility or activity that may result in noncompliance with state permit requirements.

3. State permits are not transferable to any person except in accordance with 9VAC25-870-620.

4. Monitoring results shall be reported at the intervals specified in the state permit.

a. Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the department.

b. If the state permittee monitors any pollutant specifically addressed by the state permit more frequently than required by the state permit using test procedures approved under 40 CFR Part 136 or as otherwise specified in the 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.

c. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

5. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the state permit shall be submitted no later than 14 days following each schedule date.

6. If any unusual or extraordinary discharge including a bypass or upset should occur from a facility and such discharge enters or could be expected to enter state waters, the state

permittee shall promptly notify, in no case later than 24 hours, the department by telephone after the discovery of such discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. The state permittee shall reduce the report to writing and shall submit it to the department within five days of discovery of the discharge in accordance with subdivision 7 a of this subsection. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

- a. Unusual spillage of materials resulting directly or indirectly from processing operations;
- b. Breakdown of processing or accessory equipment;
- c. Failure or taking out of service of the treatment plant or auxiliary facilities (such as sewer lines or wastewater pump stations); and
- d. Flooding or other acts of nature.

7. Twenty-four hour reporting.

a. The state permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the state permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the state permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; 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 steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this subdivision:

- (1) Any unanticipated bypass that exceeds any effluent limitation in the state permit.
- (2) Any upset that exceeds any effluent limitation in the state permit.
- (3) Violation of a maximum daily discharge limitation for any of the pollutants listed in the state permit to be reported within 24 hours.

c. The board may waive the written report on a case-by-case basis for reports under this subdivision if the oral report has been received within 24 hours.

8. The state permittee shall report all instances of noncompliance not reported under subdivisions 4, 5, 6, and 7 of this subsection, in writing at the time the next monitoring reports

are submitted. The reports shall contain the information listed in subdivision 7 of this subsection.

9. Where the state permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a state permit application or in any report to the department, it shall promptly submit such facts or information.

#### M. Bypass.

1. The state permittee may allow any bypass to occur that 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 subdivisions 2 and 3 of this subsection.

#### 2. Notice.

a. Anticipated bypass. If the state permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.

b. Unanticipated bypass. The state permittee shall submit notice of an unanticipated bypass as required in subdivision L 7 of this section (24-hour notice).

#### 3. Prohibition of bypass.

a. Bypass is prohibited, and the board may take enforcement action against a state 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 state permittee submitted notices as required under subdivision 2 of this subsection.

b. The board may approve an anticipated bypass, after considering its adverse effects, if the board determines that it will meet the three conditions listed in subdivision 3 a of this subsection.

#### N. Upset.

1. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based state permit effluent limitations if the requirements of subdivision 2 of

this subsection are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. A state permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the state permittee can identify the cause or causes of the upset;

b. The permitted facility was at the time being properly operated;

c. The state permittee submitted notice of the upset as required in subdivision L 7 b (2) of this section (24-hour notice); and

d. The state permittee complied with any remedial measures required under subsection D of this section.

3. In any enforcement proceeding the state permittee seeking to establish the occurrence of an upset has the burden of proof.

9VAC25-870-440. Additional conditions applicable to municipal separate storm sewer state permits.

In addition to those conditions set forth in 9VAC25-870-430, the operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the board under 9VAC25-870-380 A 1 e must submit an annual report by a date specified in the state permit for such system. The report shall include:

1. The status of implementing the components of the stormwater management program that are established as state permit conditions;

2. Proposed changes to the stormwater management programs that are established as state permit conditions. Such proposed changes shall be consistent with 9VAC25-870-380 C 2 d;

3. Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the state permit application;

4. A summary of data, including monitoring data, that is accumulated throughout the reporting year;

5. Annual expenditures and budget for year following each annual report;

6. A summary describing the number and nature of enforcement actions, inspections, and public education programs; and

7. Identification of water quality improvements or degradation.

9VAC25-870-450. Establishing state permit conditions.

A. In addition to conditions required in all state permits, the board shall establish conditions, as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the Stormwater Management Act, the State Water Control Law, the CWA, and attendant regulations. These shall include conditions under 9VAC25-870-480 (duration of state permits), 9VAC25-870-490 (schedules of compliance) and 9VAC25-870-460 (monitoring).

B. 1. An applicable requirement is a state statutory or regulatory requirement which takes effect prior to final administrative disposition of a state permit. An applicable requirement is also any requirement that takes effect prior to the modification or revocation and reissuance of a state permit to the extent allowed in Part X of this chapter.

2. New or reissued state permits, and to the extent allowed under Part X of this chapter modified or revoked and reissued state permits, shall incorporate each of the applicable requirements referenced in 9VAC25-870-460 and 9VAC25-870-470.

C. All state permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the state permit.

9VAC25-870-460. Establishing limitations, standards, and other state permit conditions.

In addition to the conditions established under 9VAC25-870-450 A, each state permit shall include conditions meeting the following requirements when applicable.

A. 1. Technology-based effluent limitations and standards based on effluent limitations and standards promulgated under § 301 of the CWA, on new source performance standards promulgated under § 306 of CWA, on case-by-case effluent limitations determined under § 402(a)(1) of CWA, or a combination of the three. For new sources or new dischargers, these technology-based limitations and standards are subject to the provisions of 9VAC25-870-420 B (protection period).

2. The board may authorize a discharger subject to technology-based effluent limitations guidelines and standards in a state permit to forego sampling of a pollutant found at 40 CFR Subchapter N if the discharger has demonstrated through sampling and other technical factors that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger. This waiver is good only for the term of the state permit and is not available during the term of the

first state permit issued to a discharger. Any request for this waiver must be submitted when applying for a reissued state permit or modification of a reissued state permit. The request must demonstrate through sampling or other technical information, including information generated during an earlier state permit term, that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger. Any grant of the monitoring waiver must be included in the state permit as an express state permit condition and the reasons supporting the grant must be documented in the state permit's fact sheet or statement of basis. This provision does not supersede certification processes and requirements already established in existing effluent limitations guidelines and standards.

B. Other effluent limitations and standards under §§ 301, 302, 303, 307, 318 and 405 of the CWA. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under § 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the state permit, the board shall institute proceedings under this chapter to modify or revoke and reissue the state permit to conform to the toxic effluent standard or prohibition.

C. Water quality standards and state requirements. Any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under §§ 301, 304, 306, 307, 318 and 405 of the CWA necessary to:

1. Achieve water quality standards established under the State Water Control Law and § 303 of the CWA, including state narrative criteria for water quality.

- a. Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the board determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any Virginia water quality standard, including Virginia narrative criteria for water quality.

- b. When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a Virginia water quality standard, the board shall use procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

- c. When the board determines, using the procedures in subdivision 1 b of this subsection, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a Virginia numeric criteria within a Virginia water quality standard for an individual pollutant, the state permit must contain effluent limits for that pollutant.

d. Except as provided in this subdivision, when the board determines, using the procedures in subdivision 1 b of this subsection, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable Virginia water quality standard, the state permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the board demonstrates in the fact sheet or statement of basis of the state permit, using the procedures in subdivision 1 b of this subsection, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative Virginia water quality standards.

e. Where Virginia has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable Virginia water quality standard, the board must establish effluent limits using one or more of the following options:

(1) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the board demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed Virginia criterion, or an explicit policy or regulation interpreting Virginia's narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, August 1994, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(2) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under § 307(a) of the CWA, supplemented where necessary by other relevant information; or

(3) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(a) The state permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

(b) The fact sheet required by 9VAC25-870-520 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(c) The state permit requires all effluent and ambient monitoring necessary to show that during the term of the state permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(d) The state permit contains a reopener clause allowing the board to modify or revoke and reissue the state permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

f. When developing water quality-based effluent limits under this subdivision the board shall ensure that:

(1) The level of water quality to be achieved by limits on point sources established under this subsection is derived from, and complies with all applicable water quality standards; and

(2) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by Virginia and approved by EPA pursuant to 40 CFR 130.7;

2. Attain or maintain a specified water quality through water quality related effluent limits established under the State Water Control Law and § 302 of the CWA;

3. Conform to the conditions of a Virginia Water Protection Permit (VWPP) issued under the State Water Control Law and § 401 of the CWA;

4. Conform to applicable water quality requirements under § 401(a)(2) of the CWA when the discharge affects a state other than Virginia;

5. Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under the Act or regulations in accordance with § 301(b)(1)(C) of the CWA;

6. Ensure consistency with the requirements of a Water Quality Management plan established by the State Water Control Board pursuant to 9VAC25-720 and approved by EPA under § 208(b) of the CWA;

7. Incorporate § 403(c) criteria under 40 CFR Part 125, Subpart M, for ocean discharges; or

8. Incorporate alternative effluent limitations or standards where warranted by fundamentally different factors, under 40 CFR Part 125, Subpart D.

D. Technology-based controls for toxic pollutants. Limitations established under subsections A, B, or C of this section, to control pollutants meeting the criteria listed in subdivision 1 of this subsection. Limitations will be established in accordance with subdivision 2 of this subsection. An explanation of the development of these limitations shall be included in the fact sheet.

1. Limitations must control all toxic pollutants that the board determines (based on information reported in a permit application or in a notification required by the state permit or on other

information) are or may be discharged at a level greater than the level that can be achieved by the technology-based treatment requirements appropriate to the state permittee; or

2. The requirement that the limitations control the pollutants meeting the criteria of subdivision 1 of this subsection will be satisfied by:

a. Limitations on those pollutants; or

b. Limitations on other pollutants that, in the judgment of the board, will provide treatment of the pollutants under subdivision 1 of this subsection to the levels required by the Stormwater Management Act, the State Water Control Law, and 40 CFR Part 125, Subpart A.

E. A notification level that exceeds the notification level of 9VAC25-870-440 A 1 a, b, or c, upon a petition from the state permittee or on the board's initiative. This new notification level may not exceed the level which can be achieved by the technology-based treatment requirements appropriate to the state permittee.

F. Twenty-four-hour reporting. Pollutants for which the state permittee must report violations of maximum daily discharge limitations under 9VAC25-870-430 L 7 b (3) (24-hour reporting) shall be listed in the state permit. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

G. Durations for state permits, as set forth in 9VAC25-870-480.

H. Monitoring requirements.

1. Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

2. Required monitoring including type, intervals, and frequency sufficient to yield data that are representative of the monitored activity including, when appropriate, continuous monitoring;

3. Applicable reporting requirements based upon the impact of the regulated activity and as specified in 9VAC25-870-430 and in subdivisions 5 through 8 of this subsection. Reporting shall be no less frequent than specified in the above regulation;

4. To assure compliance with state permit limitations, requirements to monitor:

a. The mass (or other measurement specified in the state permit) for each pollutant limited in the state permit;

b. The volume of effluent discharged from each outfall;

c. Other measurements as appropriate including pollutants; frequency, rate of discharge, etc., for noncontinuous discharges; pollutants subject to notification requirements; or as determined to be necessary on a case-by-case basis pursuant to the Stormwater Management Act, the State Water Control Law, and § 405(d)(4) of the CWA;

d. According to test procedures approved under 40 CFR Part 136 for the analyses of pollutants having approved methods under that part, or alternative EPA approved methods, and according to a test procedure specified in the state permit for pollutants with no approved methods; and

e. With analyses performed according to test procedures approved under 40 CFR Part 136 being performed by an environmental laboratory certified under regulations adopted by the Department of General Services (1VAC30-45 or 1VAC30-46).

5. Except as provided in subdivisions 7 and 8 of this subsection, requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year;

6. Requirements to report monitoring results for stormwater discharges associated with industrial activity that are subject to an effluent limitation guideline shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year;

7. Requirements to report monitoring results for stormwater discharges (other than those addressed in subdivision 6 of this subsection) shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge. At a minimum, a state permit for such a discharge must require:

a. The discharger to conduct an annual inspection of the facility site to identify areas contributing to a stormwater discharge and evaluate whether measures to reduce pollutant loading identified in a stormwater pollution prevention plan are adequate and properly implemented in accordance with the terms of the state permit or whether additional control measures are needed;

b. The discharger to maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the plan and the state permit, and identifying any incidents of noncompliance;

c. Such report and certification be signed in accordance with 9VAC25-870-370; and

8. State permits which do not require the submittal of monitoring result reports at least annually shall require that the state permittee report all instances of noncompliance not reported under 9VAC25-870-430 L 1, 4, 5, 6, and 7 at least annually.

I. Best management practices to control or abate the discharge of pollutants when:

1. Authorized under § 402(p) of the CWA for the control of stormwater discharges;
2. Numeric effluent limitations are infeasible; or
3. The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the Stormwater Management Act, the State Water Control Law, and the CWA.

J. Reissued state permits.

1. In the case of effluent limitations established on the basis of § 402(a)(1)(B) of the CWA, a state permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under § 304(b) of the CWA subsequent to the original issuance of such state permit, to contain effluent limitations that are less stringent than the comparable effluent limitations in the previous state permit. In the case of effluent limitations established on the basis of § 301(b)(1)(C) or § 303(d) or (e) of the CWA, a state permit may not be renewed, reissued, or modified to contain effluent limitations that are less stringent than the comparable effluent limitations in the previous state permit except in compliance with § 303(d)(4) of the CWA.

2. Exceptions. A state permit with respect to which subdivision 1 of this subsection applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if:

a. Material and substantial alterations or additions to the permitted facility occurred after permit issuance that justify the application of a less stringent effluent limitation;

b. (1) Information is available that was not available at the time of state permit issuance (other than revised regulations, guidance, or test methods) and that would have justified the application of a less stringent effluent limitation at the time of state permit issuance; or

(2) The board determines that technical mistakes or mistaken interpretations of the Act were made in issuing the state permit under § 402(a)(1)(B) of the CWA;

c. A less stringent effluent limitation is necessary because of events over which the state permittee has no control and for which there is no reasonably available remedy;

d. The state permittee has received a state permit modification under the Stormwater Management Act, the State Water Control Law, and § 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a) of the CWA; or

e. The state permittee has installed the treatment facilities required to meet the effluent limitations in the previous state permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the

limitations in the reviewed, reissued, or modified state permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of state permit renewal, reissuance, or modification).

Subdivision 2 b of this subsection shall not apply to any revised waste load allocations or any alternative grounds for translating water quality standards into effluent limitations, except where the cumulative effect of such revised allocations results in a decrease in the amount of pollutants discharged into the concerned waters, and such revised allocations are not the result of a discharger eliminating or substantially reducing its discharge of pollutants due to complying with the requirements of the Act or the CWA or for reasons otherwise unrelated to water quality.

3. In no event may a state permit with respect to which subdivision 2 of this subsection applies be renewed, reissued, or modified to contain an effluent limitation that is less stringent than required by effluent guidelines in effect at the time the state permit is renewed, reissued, or modified. In no event may such a state permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a Virginia water quality standard applicable to such waters.

K. Navigation. Any conditions that the Secretary of the Army considers necessary to ensure that navigation and anchorage will not be substantially impaired in accordance with 9VAC25-870-570.

L. Qualifying state, tribal, or local programs.

1. For stormwater discharges associated with small construction activity identified in 9VAC25-870-10, the board may include state permit conditions that incorporate qualifying state, tribal, or local erosion and sediment control program requirements by reference. Where a qualifying state, tribal, or local program does not include one or more of the elements in this subdivision, then the board must include those elements as conditions in the state permit. A qualifying state, tribal, or local erosion and sediment control program is one that includes:

a. Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

b. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

c. Requirements for construction site operators to develop and implement a stormwater pollution prevention plan. A stormwater pollution prevention plan includes site descriptions; descriptions of appropriate control measures; copies of approved state, tribal or local requirements; maintenance procedures; inspection procedures; and identification of nonstormwater discharges; and

d. Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

2. For stormwater discharges from construction activity that does not meet the definition of a small construction activity, the board may include state permit conditions that incorporate qualifying state, tribal, or local erosion and sediment control program requirements by reference. A qualifying state, tribal or local erosion and sediment control program is one that includes the elements listed in subdivision 1 of this subsection and any additional requirements necessary to achieve the applicable technology-based standards of "best available technology" and "best conventional technology" based on the best professional judgment of the state permit writer.

9VAC25-870-470. Calculating state permit conditions.

A. State permit effluent limitations, monitoring requirements, standards and prohibitions shall be established for each outfall or discharge point of the permitted facility, except as otherwise provided under 9VAC25-870-460.

B. All state permit effluent limitations, standards, or prohibitions for a metal shall be expressed in terms of total recoverable metal as defined in 40 CFR Part 136 unless:

1. An applicable effluent standard or limitation has been promulgated under the CWA and specifies the limitation for the metal in the dissolved or valent or total form; or
2. In establishing state permit limitations on a case-by-case basis under 40 CFR 125.3, it is necessary to express the limitation on the metal in the dissolved or valent or total form to carry out the provisions of the CWA, Stormwater Management Act and the State Water Control Law; or
3. All approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium).

C. Discharges that are not continuous, as defined in 9VAC25-870-10, shall be particularly described and limited, considering the following factors, as appropriate:

1. Frequency;
2. Total mass;
3. Maximum rate of discharge of pollutants during the discharge; and
4. Prohibition or limitation of specified pollutants by mass, concentration, or other appropriate measure.

D. Mass Limitations.

1. All pollutants limited in state permits shall have limitations, standards or prohibitions expressed in terms of mass except:

a. For pH, temperature, radiation, or other pollutants that cannot appropriately be expressed by mass;

b. When applicable standards and limitations are expressed in terms of other units of measurement; or

c. If in establishing technology-based state permit limitations on a case-by-case basis, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and state permit conditions ensure that dilution will not be used as a substitute for treatment.

2. Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the state permit shall require the state permittee to comply with both limitations.

9VAC25-870-480. Duration of state permits.

A. State permits shall be effective for a fixed term not to exceed five years.

B. Except as provided in 9VAC25-870-330, the term of a state permit shall not be extended by modification beyond the maximum duration specified in this section.

C. The board may issue any state permit for a duration that is less than the full allowable term under this section.

D. A state permit may be issued to expire on or after the statutory deadline set forth in §§ 301(b)(2) (A), (C), and (E) of the CWA, if the state permit includes effluent limitations to meet the requirements of §§ 301(b)(2) (A), (C), (D), (E) and (F) of the CWA, whether or not applicable effluent limitations guidelines have been promulgated or approved.

9VAC25-870-490. Schedules of compliance.

A. The state permit may, when appropriate, specify a schedule of compliance leading to compliance with the Act, the CWA and regulations.

1. Any schedules of compliance under this section shall require compliance as soon as possible, but not later than the applicable statutory deadline under the CWA.

2. The first state permit issued to a new source or a new discharger shall contain a schedule of compliance only when necessary to allow a reasonable opportunity to attain compliance with requirements issued or revised after commencement of construction but less than three years before commencement of the relevant discharge. For recommencing dischargers, a schedule of compliance shall be available only when necessary to allow a reasonable opportunity to attain compliance with requirements issued or revised less than three years before recommencement of discharge.

3. Schedules of compliance may be established in state permits for existing sources that are reissued or modified to contain new or more restrictive water quality-based effluent limitations. The schedule may allow a reasonable period of time, not to exceed the term of the state permit, for the discharger to attain compliance with the water quality-based limitations.

4. Except as provided in subdivision B 1 b of this section, if a state permit establishes a schedule of compliance that exceeds one year from the date of state permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

a. The time between interim dates shall not exceed one year.

b. If the time necessary for completion of any interim requirement is more than one year and is not readily divisible into stages for completion, the state permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

5. The state permit shall be written to require that no later than 14 days following each interim date and the final date of compliance, the state permittee shall notify the department in writing of its compliance or noncompliance with the interim or final requirements, or submit progress reports if subdivision 4 b of this subsection is applicable.

B. A state permit applicant or state permittee may cease conducting regulated activities (by termination of direct discharge for sources) rather than continuing to operate and meet state permit requirements as follows:

1. If the state permittee decides to cease conducting regulated activities at a given time within the term of a state permit that has already been issued:

a. The state permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

b. The state permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the state permit;

2. If the decision to cease conducting regulated activities is made before issuance of a state permit whose term will include the termination date, the state permit shall contain a schedule

leading to termination which will ensure timely compliance with applicable requirements no later than the statutory deadline;

3. If the state permittee is undecided whether to cease conducting regulated activities, the board may issue or modify a state permit to contain two schedules as follows:

a. Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date that ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities;

b. One schedule shall lead to timely compliance with applicable requirements no later than the statutory deadline;

c. The second schedule shall lead to cessation of regulated activities by a date that will ensure timely compliance with applicable requirements no later than the statutory deadline; and

d. Each state permit containing two schedules shall include a requirement that after the state permittee has made a final decision under subdivision 3 a of this subsection it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities; and

4. The state permit applicant's or state permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the board, such as a resolution of the board of directors of a corporation.

## Part IX

### Public Involvement

9VAC25-870-500. Draft state permits.

A. Once an application for an individual state permit is complete, the board shall tentatively decide whether to prepare a draft individual state permit or to deny the application.

B. If the board tentatively decides to deny the individual state permit application, the owner shall be advised of that decision and of the changes necessary to obtain approval. The owner may withdraw the application prior to board action. If the application is not withdrawn or modified to obtain the tentative approval to issue, the board shall provide public notice and opportunity for a public hearing prior to board action on the application.

C. If the board tentatively decides to issue a general permit, a draft general permit shall be prepared under subsection D of this section.

D. If the board decides to prepare a draft state permit, the draft state permit shall contain the following information:

1. All conditions under 9VAC25-870-430 and 9VAC25-870-450;
2. All compliance schedules under 9VAC25-870-490;
3. All monitoring requirements under 9VAC25-870-460; and
4. Effluent limitations, standards, prohibitions and conditions under 9VAC25-870-430, 9VAC25-870-440, and 9VAC25-870-460, and all variances that are to be included.

9VAC25-870-510. Statement of basis.

A statement of basis shall be prepared for every draft state permit for which a fact sheet under 9VAC25-870-520 is not prepared. The statement of basis shall briefly describe the derivation of the conditions of the draft state permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons supporting the tentative decision. The statement of basis shall be sent to the state permit applicant and, on request, to any other person.

9VAC25-870-520. Fact sheet.

A. A fact sheet shall be prepared for every draft individual state permit for a major facility or activity, for every general permit, for every draft state permit that incorporates a variance or requires an explanation under subsection B 8 of this section, and for every draft state permit that the board finds is the subject of wide-spread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft state permit. The board shall send this fact sheet to the state permit applicant and, on request, to any other person.

B. The fact sheet shall include, when applicable:

1. A brief description of the type of facility or activity that is the subject of the draft state permit;
2. The type and quantity of wastes, fluids, or pollutants that are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged;
3. A brief summary of the basis for the draft state permit conditions including references to applicable statutory or regulatory provisions;
4. Reasons why any requested variances or alternatives to required standards do or do not appear justified;

5. A description of the procedures for reaching a final decision on the draft state permit including:

a. The beginning and ending dates of the comment period for the draft state permit and the address where comments will be received;

b. Procedures for requesting a public hearing and the nature of that hearing; and

c. Any other procedures by which the public may participate in the final decision;

6. Name, telephone number, and email address of a person to contact for additional information;

7. Any calculations or other necessary explanation of the derivation of specific effluent limitations and conditions or standards for sewage sludge use or disposal, including a citation to the applicable effluent limitation guideline, performance standard, or standard for sewage sludge use or disposal and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed;

8. When the draft state permit contains any of the following conditions, an explanation of the reasons why such conditions are applicable:

a. Limitations to control toxic pollutants;

b. Limitations on indicator pollutants;

c. Technology-based limitations set on a case-by-case basis;

d. Limitations to meet the criteria for state permit issuance under 9VAC25-870-310; or

e. Waivers from monitoring requirements granted under 9VAC25-870-460 A; and

9. When appropriate, a sketch or detailed description of the location of the discharge or regulated activity described in the application.

9VAC25-870-530. Public notice of draft state permit actions and public comment period.

A. Scope.

1. The board shall give public notice that the following actions have occurred:

a. A draft state permit has been prepared under 9VAC25-870-500 D;

b. A public hearing has been scheduled under 9VAC25-870-550; or

c. A new source determination has been made under 9VAC25-870-420.

2. No public notice is required when a request for an individual state permit modification, revocation and reissuance, or termination is denied under 9VAC25-870-610 B. Written notice of that denial shall be given to the requester and to the state permittee. Public notice shall not be required for submission or approval of plans and specifications or conceptual engineering reports not required to be submitted as part of the application.

3. Public notices may describe more than one draft state permit or draft state permit actions.

B. Timing.

1. Public notice of the preparation of a draft state permit required under subsection A of this section shall allow at least 30 days for public comment.

2. Public notice of a public hearing shall be given at least 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft state permit and the two notices may be combined.)

C. Methods. Public notice of activities described in subdivision A 1 of this section shall be given by the following methods:

1. By mailing, either by electronic or postal delivery, a copy of a notice to the following persons (any person otherwise entitled to receive notice under this subdivision may waive his rights to receive notice for any classes and categories of permits):

a. The state permit applicant (except for general permits when there is no state permit applicant);

b. Any other agency that the board knows has issued or is required to issue a VPDES permit;

c. Federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected states (Indian Tribes);

d. Any state agency responsible for plan development under § 208(b)(2), 208(b)(4) or § 303(e) of the CWA and the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service;

e. Persons on a mailing list developed by:

(1) Including those who request in writing to be on the list;

(2) Soliciting persons for area lists from participants in past state permit proceedings in that area; and

(3) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press, and in such publications as EPA regional and state funded newsletters, environmental bulletins, or state law journals. (The board may update the mailing list from time to time by requesting written indication of continued interest from those listed. The board may delete from the list the name of any person who fails to respond to such a request.);

f. (1) Any unit of local government having jurisdiction over the area where the facility is proposed to be located; and

(2) Each state agency having any authority under state law with respect to the construction or operation of such facility;

2. By publication once a week for two successive weeks in a newspaper of general circulation in the area affected by the discharge. The cost of public notice shall be paid by the owner; and

3. Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

#### D. Contents.

1. All public notices issued under this part shall contain the following minimum information:

a. Name and address of the office processing the state permit action for which notice is being given;

b. Name and address of the state permittee or state permit applicant and, if different, of the facility or activity regulated by the state permit, except in the case of draft general permits;

c. A brief description of the business conducted at the facility or activity described in the individual state permit application or the draft state permit, for general permits when there is no application;

d. Name, address, telephone number, and email address of a person from whom interested persons may obtain further information, including copies of the draft state permit, statement of basis or fact sheet, and the application;

e. A brief description of the procedures for submitting comments and the time and place of any public hearing that will be held, including a statement of procedures to request a public hearing

(unless a hearing has already been scheduled) and other procedures by which the public may participate in the final individual or general state permit decision;

f. For an individual state permit, a general description of the location of each existing or proposed discharge point and the name of the receiving water; and

g. Any additional information considered necessary or proper.

2. In addition to the general public notice described in subdivision 1 of this subsection, the public notice of a public hearing under 9VAC25-870-550 shall contain the following information:

a. Reference to the date of previous public notices relating to the draft state permit;

b. Date, time, and place of the public hearing;

c. A brief description of the nature and purpose of the public hearing, including the applicable rules and procedures; and

d. A concise statement of the issues raised by the persons requesting the public hearing.

E. In addition to the general public notice described in subdivision D 1 of this section, all persons identified in subdivisions C 1 a through 1 d of this section shall be mailed, either by electronic or postal delivery, a copy of the fact sheet or statement of basis, the individual state permit application (if any) and the draft state permit (if any).

9VAC25-870-540. Public comments and requests for public hearings.

During the public comment period provided under 9VAC25-870-530, any interested person may submit written comments on the draft state permit and may request a public hearing, if no public hearing has already been scheduled. A request for a public hearing shall be in writing and shall meet the requirements of § 62.1-44.15:02 B of the Code of Virginia. All comments shall be considered in making the final decision and shall be answered as provided in 9VAC25-870-560.

9VAC25-870-550. Public hearings.

A. 1. Procedures for public hearings and permits before the board are those set forth in § 62.1-44.15:02 of the Code of Virginia.

2. Public notice of the public hearing shall be given as specified in 9VAC25-870-530.

3. Any public hearing convened pursuant to this section shall be held in the geographical area of the proposed discharge, or in another appropriate area. Related groups of individual state permit applications may be considered at any such public hearing.

B. Any person may submit oral or written statements and data concerning the draft individual state permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required.

C. A recording or written transcript of the hearing shall be made available to the public.

9VAC25-870-560. Response to comments.

A. At the time that a final individual or general state permit is issued, the board shall issue a response to comments. This response shall:

1. Specify which provisions, if any, of the draft individual or general state permit have been changed in the final individual or general state permit decision, and the reasons for the change; and

2. Briefly describe and respond to all significant comments on the draft state permit raised during the public comment period, or during any public hearing.

B. The response to comments shall be available to the public.

9VAC25-870-570. Conditions requested by the Corps of Engineers and other government agencies.

A. If during the comment period for a draft state permit, the district engineer advises the department in writing that anchorage and navigation of any of the waters of the United States would be substantially impaired by the granting of an individual or general state permit, the individual or general state permit shall be denied and the individual state permit applicant so notified. If the district engineer advises the department that imposing specified conditions upon the individual or general state permit is necessary to avoid any substantial impairment of anchorage or navigation, then the board shall include the specified conditions in the individual or general state permit. Review or appeal of denial of an individual or general state permit or of conditions specified by the district engineer shall be made through the applicable procedures of the Corps of Engineers, and may not be made through the procedures provided in this part. If the conditions are stayed by a court of competent jurisdiction or by applicable procedures of the Corps of Engineers, those conditions shall be considered stayed in the individual or general state permit for the duration of that stay.

B. If during the comment period the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, or any other state or federal agency with jurisdiction over fish, wildlife, or public health advises the department in writing that the imposition of specified conditions upon the individual or general state permit is necessary to avoid substantial impairment of fish, shellfish, or wildlife resources, the board may include the specified conditions in the individual or general state permit to the extent they are determined necessary to carry out the provisions of this regulation, the Act and of the CWA.

C. In appropriate cases the board may consult with one or more of the agencies referred to in this section before issuing a draft state permit and may reflect their views in the statement of basis, the fact sheet, or the draft state permit.

9VAC25-870-580. Decision on variances.

A. The board may grant or deny requests for variances requested pursuant to 9VAC25-870-360 G 4, subject to EPA objection. Decisions on these variances shall be made according to the criteria of 40 CFR Part 125, Subpart H.

B. The board may deny, or forward to the regional administrator with a written concurrence, or submit to EPA without recommendation a completed request for:

1. A variance based on the economic capability of the individual state permit applicant submitted pursuant to 9VAC25-870-360 G 2; or
2. A variance based on water quality related effluent limitations submitted pursuant to 9VAC25-870-360 G 3.

C. If the EPA approves the variance, the board may prepare a draft individual state permit incorporating the variance. Any public notice of a draft individual state permit for which a variance or modification has been approved or denied shall identify the applicable procedures for appealing that decision.

D. The board may deny or forward to the administrator with a written concurrence a completed request for:

1. A variance based on the presence of fundamentally different factors from those on which an effluent limitations guideline was based, made according to the criteria and standards of 40 CFR Part 125, Subpart D; or
2. A variance based upon certain water quality factors submitted pursuant to 9VAC25-870-360 G 2.

E. If the administrator approves the variance, the board may prepare a draft individual state permit incorporating the variance. Any public notice of a draft individual state permit for which a variance or modification has been approved or denied shall identify the applicable procedures for appealing that decision.

9VAC25-870-590. Appeals of variances.

When the board issues an individual state permit on which EPA has made a variance decision, separate appeals of the individual state permit and of the EPA variance decision are possible.

9VAC25-870-600. Computation of time.

- A. Any time period scheduled to begin on the occurrence of an act or event shall begin on the day after the act or event.
- B. Any time period scheduled to begin before the occurrence of an act or event shall be computed so that the period ends on the day before the act or event.
- C. If the final day of any time period falls on a weekend or legal holiday, the time period shall be extended to the next working day.
- D. Whenever a party or interested person has the right or is required to act within a prescribed period after the service of notice or other paper upon him by mail or by electronic or postal delivery, three days shall be added to the prescribed time.

Part X

Transfer, Modification, Revocation and Reissuance, and Termination of State Permits

9VAC25-870-610. Modification, revocation and reissuance, or termination of state permits.

- A. State permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the state permittee) or upon the board's initiative. When the department receives any information (for example, inspects the facility, receives information submitted by the state permittee as required in the state permit, receives a request for modification or revocation and reissuance, or conducts a review of the state permit file) it may determine whether one or more of the causes listed in this section for modification or revocation and reissuance, or both, exist. However, state permits may only be modified, revoked and reissued, or terminated for the reasons specified in 9VAC25-870-630 or 9VAC25-870-650. All requests shall be in writing and shall contain facts or reasons supporting the request. If cause does not exist under these sections, the board shall not modify, revoke and reissue or terminate the state permit. If a state permit modification satisfies the criteria for minor modifications, the state permit may be modified without a draft state permit or public review. Otherwise, a draft state permit must be prepared and other procedures in Part IX (9VAC25-870-500 et seq.) followed.
- B. If the board decides the request is not justified, it shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or public hearings.
- C. 1. If the board tentatively decides to modify or revoke and reissue a state permit, it shall prepare a draft state permit incorporating the proposed changes. The board may request additional information and, in the case of a modified state permit, may require the submission of an updated application. In the case of revoked and reissued state permits, the board shall require the submission of a new application.

2. In a state permit modification under this section, only those conditions to be modified shall be reopened when a new draft state permit is prepared. All other aspects of the existing state permit shall remain in effect for the duration of the unmodified state permit. When a state permit is revoked and reissued under this section, the entire state permit is reopened just as if the state permit had expired and was being reissued and the state permit is reissued for a new term. During any revocation and reissuance proceeding the state permittee shall comply with all conditions of the existing state permit until a new final state permit is reissued.

3. Minor modifications as defined in 9VAC25-870-640 are not subject to the requirements of this section.

D. If the board tentatively decides to terminate a state permit under 9VAC25-870-650, where the state permittee objects, it shall do so in accordance with the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia).

#### 9VAC25-870-620. Transfer of state permits.

A. Except as provided in subsection B of this section, a state permit may be transferred by the state permittee to a new owner or operator only if the state permit has been modified or revoked and reissued, or a minor modification made, to identify the new state permittee and incorporate such other requirements as may be necessary under the Virginia Stormwater Management Act and the CWA.

B. Automatic transfers. As an alternative to transfers under subsection A of this section, any state permit may be automatically transferred to a new state permittee if:

1. The current state permittee notifies the department at least 30 days in advance of the proposed transfer date in subdivision 2 of this subsection;

2. The notice includes a written agreement between the existing and new state permittees containing a specific date for transfer of state permit responsibility, coverage, and liability between them; and

3. The board does not notify the existing state permittee and the proposed new state permittee of its intent to modify or revoke and reissue the state permit. A modification under this subdivision may also be a minor modification. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in subdivision 2 of this subsection.

#### 9VAC25-870-630. Modification or revocation and reissuance of state permits.

A. Causes for modification. The following are causes for modification but not revocation and reissuance of state permits except when the state permittee requests or agrees.

1. There are material and substantial alterations or additions to the permitted facility or activity that occurred after state permit issuance that justify the application of state permit conditions that are different or absent in the existing state permit.

2. The department has received new information. State permits may be modified during their terms for this cause only if the information was not available at the time of state permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different state permit conditions at the time of issuance. For general permits this cause includes any information indicating that cumulative effects on the environment are unacceptable. For new source or new discharger state permits this cause shall include any significant information derived from effluent testing required on the state permit application after issuance of the state permit.

3. The standards or regulations on which the state permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the state permit was issued. State permits may be modified during their terms for this cause only as follows:

a. For promulgation of amended standards or regulations, when:

(1) The state permit condition requested to be modified was based on a promulgated effluent limitation guideline, EPA approved or promulgated water quality standards;

(2) EPA has revised, withdrawn, or modified that portion of the regulation or effluent limitation guideline on which the state permit condition was based, or has approved a state action with regard to a water quality standard on which the state permit condition was based; and

(3) A state permittee requests modification in accordance with this chapter within 90 days after Federal Register notice of the action on which the request is based;

b. For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA promulgated regulations or effluent limitation guidelines, if the remand and stay concern that portion of the regulations or guidelines on which the state permit condition was based and a request is filed by the state permittee in accordance with this chapter within 90 days of judicial remand; or

c. For changes based upon modified state certifications of state permits.

4. The board determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the state permittee has little or no control and for which there is no reasonably available remedy. However, in no case may a compliance schedule be modified to extend beyond an applicable CWA statutory deadline.

5. When the state permittee has filed a request for a variance pursuant to 9VAC25-870-360 G within the time specified in this chapter.
  6. When required to incorporate an applicable CWA § 307(a) toxic effluent standard or prohibition.
  7. When required by the reopener conditions in a state permit that are established under 9VAC25-870-460 B.
  8. Upon failure to notify another state whose waters may be affected by a discharge.
  9. When the level of discharge of any pollutant that is not limited in the state permit exceeds the level that can be achieved by the technology-based treatment requirements appropriate to the state permittee.
  10. To establish a notification level as provided in 9VAC25-870-460 E.
  11. To correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining state permit conditions.
  12. When the discharger has installed the treatment technology considered by the state permit writer in setting effluent limitations imposed under the Act and § 402(a)(1) of the CWA and has properly operated and maintained the facilities but nevertheless has been unable to achieve those effluent limitations. In this case, the limitations in the modified state permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by a subsequently promulgated effluent limitations guideline).
  13. For a small MS4, to include an effluent limitation requiring implementation of a minimum control measure or measures as specified in 9VAC25-870-400 D 2 when:
    - a. The state permit does not include such measures based upon the determination that another entity was responsible for implementation of the requirements; and
    - b. The other entity fails to implement measures that satisfy the requirements.
- B. Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a state permit:
1. Cause exists for termination under 9VAC25-870-650, and the board determines that modification or revocation and reissuance is appropriate; or
  2. The department has received notification of a proposed transfer of the state permit. A state permit also may be modified to reflect a transfer after the effective date of an automatic

transfer but will not be revoked and reissued after the effective date of the transfer except upon the request of the new state permittee.

#### 9VAC25-870-640. Minor modifications of individual state permits.

Upon the consent of the state permittee, the board may modify an individual state permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of Part IX of this chapter. Any individual state permit modification not processed as a minor modification under this section must be made for cause and with draft state permit and public notice. Minor modifications may only:

1. Correct typographical errors;
2. Require more frequent monitoring or reporting by the state permittee;
3. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing individual state permit and does not interfere with attainment of the final compliance date requirement;
4. Allow for a change in ownership or operational control of a facility where the board determines that no other change in the individual state permit is necessary, provided that a written agreement containing a specific date for transfer of individual state permit responsibility, coverage, and liability between the current and new individual state permittees has been submitted to the department;
5. a. Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge.  
  
b. Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with state permit limits.

#### 9VAC25-870-650. Termination of state permits.

A. The following are causes for terminating a state permit during its term, or for denying an individual state permit, or coverage under a general permit renewal application, after notice and opportunity for a hearing by the board.

1. The state permittee has violated any regulation or order of the board or department, any order of the VSMP authority, any provision of the Virginia Stormwater Management Act or this chapter, or any order of a court, where such violation results in the unreasonable degradation of properties, water quality, stream channels, and other natural resources, or the violation is representative of a pattern of serious or repeated violations that in the opinion of the board,

demonstrates the state permittee's disregard for or inability to comply with applicable laws, regulations, state permit conditions, orders, rules, or requirements;

2. Noncompliance by the state permittee with any condition of the state permit;

3. The state permittee's failure to disclose fully all relevant material facts, or the state permittee's misrepresentation of any relevant material facts in applying for a state permit, or in any other report or document required under the Act or this chapter;

4. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by state permit modification or termination;

5. A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge controlled by the state permit;

6. The activity for which the state permit was issued causes unreasonable degradation of properties, water quality, stream channels, and other natural resources; or

7. There exists a material change in the basis on which the state permit was issued that requires either a temporary or a permanent reduction or elimination of any discharge or land-disturbing activity controlled by the state permit necessary to prevent unreasonable degradation of properties, water quality, stream channels, and other natural resources.

B. The board shall follow the applicable procedures in this chapter in terminating any state permit under this section, except that if the entire discharge is permanently terminated by elimination of the flow or by connection to a POTW or a PVOTW (but not by land application or disposal into a well), the board may terminate the state permit by notice to the state permittee. Termination by notice shall be effective 30 days after notice is sent, unless the state permittee objects within that time. If the state permittee objects during that period, the board shall follow the applicable procedures for termination under 9VAC25-870-610 D. Expedited state permit termination procedures are not available to state permittees that are subject to pending state or federal enforcement actions including citizen suits brought under state or federal law. If requesting expedited state permit termination procedures, a state permittee must certify that it is not subject to any pending state or federal enforcement actions including citizen suits brought under state or federal law.

## Part XI

### Enforcement of State Permits

#### 9VAC25-870-660. Enforcement.

A. The board may enforce the provisions of this chapter by:

1. Issuing directives in accordance with the Act;

2. Issuing special orders in accordance with the Act;
3. Issuing emergency special orders in accordance with the Act;
4. Seeking injunction, mandamus or other appropriate remedy as authorized by the Act;
5. Seeking civil penalties under the Act; or
6. Seeking remedies under the Act, the CWA or under other laws including the common law.

B. The board encourages citizen participation in all its activities, including enforcement. In particular:

1. The board will investigate citizen complaints and provide written response to all signed, written complaints from citizens concerning matters within the board's purview;
2. The board will not oppose intervention in any civil enforcement action when such intervention is authorized by statute or Supreme Court rule; and
3. At least 30 days prior to the final settlement of any civil enforcement action or the issuance of any consent special order, the board will publish public notice of such settlement or order in a newspaper of general circulation in the county, city or town in which the discharge is located, and in The Virginia Register of Regulations. This notice will identify the owner, specify the enforcement action to be taken and specify where a copy of the settlement or order can be obtained. A consent special order is a special order issued without a public hearing and with the written consent of the affected owner. For the purpose of this chapter, an emergency special order is not a consent special order. The board shall consider all comments received during the comment period before taking final action.

C. When a state permit is amended solely to reflect a new owner, and the previous owner had been issued a consent special order that, at the time of state permit amendment was still in full force and effect, a consent special order issued to the new owner does not have to go to public notice provided that:

1. The state permit amendment does not have to go to public notice; and
2. The terms of the new consent order are the same as issued to the previous owner.

D. Notwithstanding subdivision B 3 of this subsection, a special order may be issued by agreement at a board meeting without further notice when a hearing has been scheduled to issue a special order to the affected owner, whether or not the hearing is actually held.

Part XII  
Miscellaneous

9VAC25-870-670. Delegation of authority.

The director, or his designee, may perform any act of the board provided under the Act and this chapter, except as limited by § 62.1-44.14 of the Code of Virginia.

9VAC25-870-680. Transition.

Upon the effective date of this chapter the following will occur:

1. All applications received after the effective date of this chapter will be processed in accordance with these procedures.
2. State permits issued by the Soil and Water Conservation Board allowing the discharge of stormwater into surface waters from municipal separate storm sewer systems or land-disturbing activities that have not expired or been revoked or terminated before or on the program transfer date to the board shall continue to remain in effect until their specified expiration dates.

9VAC25-870-690. (Reserved)

## Part XIII

### Fees

9VAC25-870-700. Purpose.

Sections 62.1-44.15:28 and 62.1-44.15:31 of the Code of Virginia authorize the establishment of a statewide fee schedule, including administrative charges for state agencies, for stormwater management for land-disturbing activities and for municipal separate storm sewer systems. This part establishes the fee assessment and the collection and distribution systems for those fees. The fees shall be established for individual permits or coverage under the General Permit for Discharges of Stormwater from Construction Activities (state permits for stormwater management for land-disturbing activities) to cover all costs associated with the implementation of a VSMP by a VSMP authority that has been approved by the board and by the department. Such fee attributes include the costs associated with plan review, registration statement review, permit issuance, state-coverage verification, inspections, reporting, database management, and compliance activities associated with the land-disturbing activities as well as for program oversight costs. Fees shall also be established for state permit maintenance, modification, and transfer.

Fees collected pursuant to this part shall be in addition to any general fund appropriations made to the department or other supporting revenue from a VSMP; however, the fees shall be set at a level sufficient for the department and the VSMP authority to fully carry out their responsibilities under the Act, this chapter, local ordinances, or standards and specifications where applicable.

When establishing a VSMP, the VSMP authority shall assess the statewide fee schedule and shall have the authority to reduce or increase such fees, and to consolidate such fees with other program-related charges, but in no case shall such fee changes affect the amount established in 9VAC25-870-820 as available to the department for program oversight responsibilities pursuant to § 62.1-44.15:28 A 5 a of the Code of Virginia. Accordingly, should a VSMP authority demonstrate to the board its ability to fully and successfully implement a VSMP without a full implementation of the fees set out in this part, the board may authorize the administrative establishment of a lower fee for that program provided that such reduction shall not reduce the amount of fees due to the department for its program oversight and shall not affect the fee schedules set forth herein.

A VSMP authority may establish greater fees than those base fees specified by this part should it be demonstrated to the board that such greater fees are necessary to properly administer the VSMP. Any fee increases established by the VSMP authority beyond those base fees established in this part shall not be subject to the fee distribution formula set out in 9VAC25-870-780. Nothing in this part shall prohibit a locality from establishing other local fees authorized by the Code of Virginia related to stormwater management within their jurisdictions.

A VSMP's portion of the fees shall be used solely to carry out the VSMP's responsibilities under the Act, this chapter, ordinances, or annual standards and specifications.

As part of its program oversight, the department shall periodically assess the revenue generated by both the VSMP authorities and the department to ensure that the fees have been appropriately set and the fees may be adjusted through periodic regulatory actions should significant deviations become apparent.

9VAC25-870-720. Authority.

The authority for this part is §§ 62.1-44.15:28 and 62.1-44.15:29 of the Code of Virginia.

9VAC25-870-730. Applicability.

A. This part applies to:

1. All persons seeking coverage of a MS4 under a new state permit. The fee due shall be as specified under 9VAC25-870-800.
2. All operators who request that an existing MS4 individual permit be modified, except as specifically exempt under 9VAC25-870-740. The fee due shall be as specified under 9VAC25-870-810.
3. All persons seeking coverage under the General Permit for Discharges of Stormwater From Construction Activities or a person seeking an Individual Permit for Discharges of Stormwater From Construction Activities. The fee due shall be as specified under 9VAC25-870-820.

4. All state permittees who request modifications to or transfers of their existing registration statement for coverage under a General Permit for Discharges of Stormwater From Construction Activities or of an Individual Permit for Discharges of Stormwater From Construction Activities. The fee due shall be as specified under 9VAC25-870-825 in addition to any additional fees necessary pursuant to 9VAC25-870-820 due to an increase in acreage.

5. Reinspection fees assessed by the department to recoup the costs associated with each visit to a land-disturbing project site that was necessary to check on the status of project site items noted to be in noncompliance and documented as such on a prior project inspection. The fee due shall be as specified under 9VAC25-870-790.

6. Business transaction costs assessed associated with processing credit card payments.

B. Persons who are applicants for an individual Municipal Separate Stormwater Sewer System permit as a result of existing state permit revocation shall be considered an applicant for a new state permit. The fee due shall be as specified under 9VAC25-870-800.

Persons whose coverage under the General Permit for Discharges of Stormwater From Construction Activities has been revoked shall reapply for an Individual Permit for Discharges of Stormwater From Construction Activities. The fee due shall be as specified under 9VAC25-870-820.

C. State and state permit coverage maintenance fees may apply to each state permit holder. The fee due shall be as specified under 9VAC25-870-830.

9VAC25-870-740. Exemptions.

A. No state permit application fees will be assessed to:

1. State permittees who request minor modifications to state permits as defined in 9VAC25-870-10 or other minor amendments at the discretion of the VSMP authority.

2. State permittees whose state permits are modified or amended at the request of the VSMP authority or department by the board. This does not include errors in the registration statement identified by the VSMP authority, department, or board or errors related to the acreage of the site.

B. State permit modifications at the request of the state permittee resulting in changes to stormwater management plans that require additional review by the VSMP authority shall not be exempt pursuant to this section and shall be subject to fees specified under 9VAC25-870-825.

9VAC25-870-750. Due dates for state permits.

A. Requests for a state permit, state permit modification, or general permit coverage shall not be processed until the fees required pursuant to this part are paid in accordance with 9VAC25-870-760.

B. Individual permit or general permit coverage maintenance fees shall be paid annually to the department or the VSMP authority, as applicable. No state permit will be reissued or automatically continued without payment of the required fee. Individual permit or general permit coverage maintenance fees shall be applied until a Notice of Termination is effective.

Permit maintenance fees for MS4 individual permits or MS4 general permit coverages are due by October 1 of each year. Effective April 1, 2014, any operator whose permit or general permit coverage (including operators whose permits or general permit coverages have been administratively continued) is effective as of April 1 of any given year shall pay the permit maintenance fee or fees to the department or the VSMP authority by October 1 of that same year.

Permit maintenance fees for discharges of stormwater from construction activities pursuant to 9VAC25-870-830 are due by April 1 of each year. After approval of a VSMP authority, including the department when acting in that capacity, any owner whose permit or general permit coverage authorizing discharges of stormwater from construction activities (including owners whose permits or general permit coverages have been administratively continued) is effective as of the effective date of the VSMP authority shall pay the permit maintenance fee or fees to the department or the VSMP authority by April 1 of that same year.

#### 9VAC25-870-760. Method of payment.

A. Fees shall be collected utilizing, where practicable, an online payment system. Until such system is operational, fees, as applicable, shall be, at the discretion of the department, submitted electronically or be paid by check, draft or postal money order payable to:

1. The Treasurer of Virginia, for a MS4 individual or general permit or for a coverage issued by the department under the General Permit for Discharges of Stormwater from Construction Activities or Individual Permit for Discharges of Stormwater from Construction Activities, and must be in U.S. currency, except that agencies and institutions of the Commonwealth of Virginia may submit Interagency Transfers for the amount of the fee. The Department of Environmental Quality may provide a means to pay fees electronically. Fees not submitted electronically shall be sent to the Virginia Department of Environmental Quality.

2. The VSMP authority, for VSMP operational costs of the VSMP authority under the General Permit for Discharges of Stormwater From Construction Activities, and must be in U.S. currency.

B. When fees are collected electronically pursuant to this part through credit cards, business transaction costs associated with processing such payments may be additionally assessed.

C. Nothing in this Part shall prohibit the department and a VSMP authority from entering into an agreement whereby the total fee to be paid by the applicant for coverage under the General Permit for Discharges of Stormwater from Construction Activities is payable to the VSMP authority and the VSMP authority transmits the department portion set forth in 9VAC25-870-820 to the department on a schedule set forth by the department.

D. Required information for state permits or state permit coverage: All applicants, unless otherwise specified by the department, shall submit the following information along with the fee payment or utilize the department Permit Application Fee Form:

1. Applicant name, address and daytime phone number.
2. The name of the facility/activity, and the facility/activity location.
3. The type of state permit applied for.
4. Whether the application is for a new state permit issuance, state permit reissuance, state permit maintenance, or state permit modification.
5. The amount of fee submitted.
6. The existing state permit number, if applicable.
- 7 Other information as required by the VSMP authority.

9VAC25-870-770. Incomplete and late payments.

All incomplete payments will be deemed as nonpayments. The department or the VSMP authority, as applicable, shall provide notification to the state applicant of any incomplete payments.

Interest may be charged for late payments at the underpayment rate set forth in § 58.1-15 of the Code of Virginia and is calculated on a monthly basis at the applicable periodic rate.

A 10% late payment fee shall be charged to any delinquent (over 90 days past due) account.

The department and the VSMP authority are entitled to all remedies available under the Code of Virginia in collecting any past due amount.

9VAC25-870-780. Deposit and use of fees.

A. All fees collected by the department or board pursuant to this chapter shall be deposited into the Virginia Stormwater Management Fund and shall be used and accounted for as specified in § 62.1-44.15:29 of the Code of Virginia. Fees collected by the department or board

shall be exempt from statewide indirect costs charged and collected by the Department of Accounts.

B. All fees collected by a VSMP authority pursuant to this chapter shall be subject to accounting review and shall be used solely to carry out the VSMP authority's responsibilities pursuant to the Act, Part II and Part III A of this chapter, local ordinances, or annual standards and specifications.

Pursuant to subdivision A 5 a of § 62.1-44.15:28 of the Code of Virginia, whenever the board has authorized the administration of a VSMP by a VSMP authority, 28% of the total revenue generated by the statewide stormwater management fees collected in accordance with 9VAC25-870-820 shall be remitted on a schedule determined by the department to the State Treasurer for deposit in the Virginia Stormwater Management Fund unless otherwise collected electronically. If the VSMP authority waives or reduces any fee due in accordance with 9VAC25-870-820, the VSMP authority shall remit the 28% portion that would be due to the Virginia Stormwater Management Fund if such fee were charged in full. Any fee increases established by the VSMP authority beyond the base fees established in this part shall not be subject to the fee distribution formula.

9VAC25-870-790. General.

A. The fees for individual permits, general permit coverage, state permit or registration statement modification, or state permit transfers are considered separate actions and shall be assessed a separate fee, as applicable.

B. Until July 1, 2014, the department is authorized to assess a \$125 reinspection fee for each visit to a project site that was necessary to check on the status of project site items noted to be in noncompliance and documented as such on a prior project inspection.

9VAC25-870-800. Fee schedules for municipal separate storm sewer system new state permit issuance.

The following fee schedule applies to state permit applications for issuance of a new individual municipal separate storm sewer system permit or coverage under a MS4 General Permit. All regulated MS4s that apply for joint coverage under an individual permit or general permit registration shall each pay the appropriate fees set out below.

Municipal Stormwater / MS4 Individual (Large and Medium)	\$16,000
Municipal Stormwater / MS4 Individual (Small)	\$8,000
Municipal Stormwater / MS4 General Permit (Small)	\$4,000

9VAC25-870-810. Fee schedules for major modification of MS4 individual permits requested by the operator.

The following fee schedule applies to state applications for major modification of an individual MS4 permit requested by the state permittee:

Municipal Stormwater / MS4 Individual (Large and Medium)	\$5,000
Municipal Stormwater / MS4 Individual (Small)	\$2,500

9VAC25-870-820. Fees for an individual permit or coverage under the General Permit for Discharges of Stormwater from Construction Activities.

The following fees apply, until June 30, 2014, to coverage under the General Permit for Discharges of Stormwater from Construction Activities issued by the department prior to a VSMP authority being approved by the board in the area where the applicable land-disturbing activity is located, or where the department has issued an individual permit or coverage under the General Permit for Discharges of Stormwater from Construction Activities for a state or federal agency.

General / Stormwater Management - Phase I Land Clearing ("Large" Construction Activity - Sites or common plans of development equal to or greater than five acres)	\$750
General / Stormwater Management - Phase II Land Clearing ("Small" Construction Activity - Sites or common plans of development equal to or greater than one acre and less than five acres)	\$450
General / Stormwater Management - Small Construction Activity/Land Clearing (Sites within designated areas of Chesapeake Bay Act localities with land disturbance acreage equal to or greater than 2,500 square feet and less than one acre) (Fee valid until July 1, 2014)	\$200
Individual Permit for Discharges of Stormwater from Construction Activities	\$15,000

The following total fees to be paid by applicant apply to (i) any operator seeking coverage under a July 1, 2014 General Permit for Discharges of Stormwater from Construction Activities or (ii) on or after July 1, 2014 to any operator seeking coverage under a General Permit for Discharges of Stormwater from Construction Activities, a state or federal agency that does not file annual standards and specifications or an individual permit issued by the board. On and after approval by the board of a VSMP authority for coverage under the General Permit for Discharges of Stormwater from Construction Activities, no more than 50% of the total fee to be paid by applicant set out in this part shall be due at the time that a stormwater management plan or an initial stormwater management plan is submitted for review in accordance with 9VAC25-870-108. The remaining total fee to be paid by applicant balance shall be due prior to the issuance of coverage under the General Permit for Discharges of Stormwater from Construction Activities.

When a site or sites are purchased for development within a previously permitted common plan of development or sale, the applicant shall be subject to fees ("total fee to be paid by applicant" column) in accordance with the disturbed acreage of their site or sites according to the following table.

Fee type	Total fee to be paid by applicant (includes both VSMP authority and department portions where applicable)	Department portion of "total fee to be paid by applicant" (based on 28% of total fee paid *)
Chesapeake Bay Preservation Act Land-Disturbing Activity (not subject to General Permit coverage; sites within designated areas of Chesapeake Bay Act localities with land-disturbance acreage equal to or greater than 2,500 square feet and less than 1 acre)	\$290	\$0
General / Stormwater Management - Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land-disturbance acreage less than one acre)	\$290	\$81
General / Stormwater Management - Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than one acre and less than five acres)	\$2,700	\$756
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than five acres and less than 10 acres)	\$3,400	\$952
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$4,500	\$1,260
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common	\$6,100	\$1,708

plans of development or sale with land-disturbance acreage equal to or greater than 50 acres and less than 100 acres)		
General / Stormwater Management - Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 100 acres)	\$9,600	\$2,688
Individual Permit for Discharges of Stormwater from Construction Activities (This will be administered by the department)	\$15,000	\$15,000
* If the project is completely administered by the department such as may be the case for a state or federal project or projects covered by individual permits, the entire applicant fee shall be paid to the department.		

The following fees apply, on or after July 1, 2014 to coverage under the General Permit for Discharges of Stormwater from Construction Activities issued by the board for a state or federal agency that has annual standards and specifications approved by the board.

General / Stormwater Management - Phase I Land Clearing ("Large" Construction Activity - Sites or common plans of development equal to or greater than five acres)	\$750
General / Stormwater Management - Phase II Land Clearing ("Small" Construction Activity - Sites or common plans of development equal to or greater than one acre and less than five acres)	\$450

9VAC25-870-825. Fees for the modification or transfer of individual permits or of registration statements for the General Permit for Discharges of Stormwater from Construction Activities.

The following fees apply to modification or transfer of individual permits or of registration statements for the General Permit for Discharges of Stormwater from Construction Activities issued by the board. If the state permit modifications result in changes to stormwater management plans that require additional review by the VSMP authority, such reviews shall be subject to the fees set out in this section. The fee assessed shall be based on the total disturbed acreage of the site. In addition to the state permit modification fee, modifications resulting in an increase in total disturbed acreage shall pay the difference in the initial state permit fee paid and the state permit fee that would have applied for the total disturbed acreage in 9VAC25-870-820. No modification or transfer fee shall be required until such board-approved programs exist. These fees shall only be effective when assessed by a VSMP authority, including the department when acting in that capacity, that has been approved by the board. No

modification fee shall be required for the General Permit for Discharges of Stormwater from Construction Activities for a state or federal agency that is administering a project in accordance with approved annual standards and specifications but shall apply to all other state or federal agency projects.

General / Stormwater Management – Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land disturbance acreage less than one acre)	\$20
General / Stormwater Management – Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than one and less than five acres)	\$200
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than five acres and less than 10 acres)	\$250
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$300
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 50 acres and less than 100 acres)	\$450
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 100 acres)	\$700
Individual Permit for Discharges of Stormwater from Construction Activities	\$5,000

9VAC25-870-830. State permit maintenance fees.

The following annual permit maintenance fees apply to each state permit identified below, including expired state permits that have been administratively continued. With respect to the General Permit for Discharges of Stormwater from Construction Activities, these fees shall apply until the state permit coverage is terminated, and shall only be effective when assessed by a VSMP authority including the department when acting in that capacity that has been approved by the board. No maintenance fee shall be required for a General Permit for Discharges of Stormwater from Construction Activities until such board approved programs exist. No maintenance fee shall be required for the General Permit for Discharges of Stormwater from Construction Activities for a state or federal agency that is administering a project in accordance with approved annual standards and specifications but shall apply to all other state or federal agency projects. All regulated MS4s who are issued joint coverage under an individual permit or general permit registration shall each pay the appropriate fees set out below:

Municipal Stormwater / MS4 Individual (Large and Medium)	\$8,800
Municipal Stormwater / MS4 Individual (Small)	\$6,000

Municipal Stormwater / MS4 General Permit (Small)	\$3,000
Chesapeake Bay Preservation Act Land-Disturbing Activity (not subject to General Permit coverage; sites within designated areas of Chesapeake Bay Act localities with land-disturbance acreage equal to or greater than 2,500 square feet and less than 1 acre)	\$50
General / Stormwater Management – Small Construction Activity/Land Clearing (Areas within common plans of development or sale with land-disturbance acreage less than one acre)	\$50
General / Stormwater Management – Small Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance equal to or greater than one acre and less than five acres)	\$400
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than five acres and less than 10 acres)	\$500
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 10 acres and less than 50 acres)	\$650
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater than 50 acres and less than 100 acres)	\$900
General / Stormwater Management – Large Construction Activity/Land Clearing (Sites or areas within common plans of development or sale with land-disturbance acreage equal to or greater 100 acres)	\$1,400
Individual Permit for Discharges from Construction Activities	\$3,000

## **APPENDIX C**

Locality Stormwater Management  
Ordinance – Locality to insert final  
ordinance.

## **APPENDIX D**

### VSMP Project Process Plan

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## VSMP Project Process Plan

	Applicant's Responsibilities	Authority's Responsibilities	Notes:	
Step 1: Application for Local VSMP Permit & General Permit for Discharges of Stormwater from Construction Activities Registration Statement (General Permit)				
A	General Permit Application	Complete the registration statement for the General Permit and provide to [Locality] with initial VSMP permit application package - refer to step 1C below.	Confirm the registration statement for the General Permit is complete and accurate, and enter the information into the DEQ system prior to issuance of the Completeness Review Form.	A copy of the Registration Statement is provided in Appendix F. The Registration Statement is only required for land-disturbances greater than one (1) acre or within a common plan of development, unless otherwise exempt - refer to section 3.1 of the Administrative Guidance Manual.
B	VSMP Fee Payment	Provide 50% payment for the Department and Local Authority portion of the General Permit fee commensurate with the construction activity / land clearing proposed to [Locality].	Confirm the VSMP fee provided is commensurate with the construction activity / land clearing proposed. Provide applicant with receipt acknowledging payment of the VSMP Fee.	The VSMP fee schedule is provided in [refer to local ordinance]. The Department portion of the fee is only required for land-disturbances greater than one (1) acre or within a common plan of development, unless otherwise exempt - refer to section 3.1 of the Administrative Guidance Manual.
C	Local Authority VSMP Permit Application Package	Submit required documentation and application checklist at the initial submittal including certification by a Licensed Professional. <u>Required documentation includes the following:</u>  ● Complete General Permit Registration Statement and payment of VSMP Permit Fee ● Certified and completed ESC & SWM Application Form and Checklist (Appendix G) ● ESC Plans, Details, Notes, etc. ● SWM Design Documents (Plans, Profiles, Details, Notes, etc.) ● SWPPP including ESC Report, Pollution Prevention Plan, and SWM narrative and calculations (Refer to Appendix I for template.) ● BMP Maintenance Agreement (may be submitted at a later date but prior to permit approval) ● ESC & SWM Bond Estimate (may be submitted at a later date but prior to permit approval) ● Other Local Requirements	Release Completeness Review Form after confirmation that the checklist is completed and certified. Forward via email and/or USPS Mail the completeness review form to the Applicant and Owner within 15 calendar days of the initial submittal of all required documents.	The Completeness Review Form (Appendix H) is not an approval letter for the information submitted; rather an acknowledgement that all required documents were provided for review.  Applicant is responsible for all other permits including any local land disturbance permits, erosion & sediment control approval, and other applicable permits.

## VSMP Project Process Plan

		Applicant's Responsibilities	Authority's Responsibilities	Notes:
<b>Step 1 (cont.): Application for Local VSMP Permit &amp; General Permit for Discharges of Stormwater from Construction Activities</b>				
<b>Registration Statement (General Permit)</b>				
<b>D</b>	<b>Incomplete Submittal</b>	If the Authority provides notification of an incomplete submission, the Applicant will be required to submit the required information.	When the required information is submitted to the Authority, the Authority will then have 15 calendar days from the date of resubmission to provide the completeness review.	
<b>Step 2: Local Review and Approval</b>				
<b>A</b>	<b>Review</b>		Review plans to ensure accordance with local and state Stormwater Requirements and approve or provide written comments explaining disapproval (within 60 calendar days from initial submittal).	The Authority will commence review of the application following submittal of all required information by the Applicant. If the submittal is deficient, the review timeframe will not begin until all required information is submitted by the Applicant.
<b>B</b>	<b>Subsequent Reviews</b>	If initial plan submittal is disapproved, address reviewer comments and re-submit with a letter including reviewer comments and responses.	Review and approve submittal or provide additional comments on submitted plan (within 45 calendar days from applicant re-submittal)	The Authority may require an additional fee for review of additional submittals exceeding three (3) reviews by the Authority prior to issuance of the final approval letter. This fee will be assessed as per the hourly rate of the reviewing agency to a maximum of \$1,000.
<b>C</b>	<b>Long Term Stormwater Facility Maintenance Agreement</b>	Complete the maintenance agreement and submit to the Authority for review prior to plan approval and issuance of the VSMP permit. The Applicant must revise and resubmit the maintenance agreement, as requested in writing by the Authority.	Review and approve the maintenance agreement prior to plan approval and issuance of the VSMP permit and prior to confirming plan approval with DEQ for the registration statement for the General Permit. If the maintenance agreement is found to be incomplete and/or deficient, provide notification in writing to the Applicant outlining the deficiencies.	A long-term stormwater facility maintenance agreement may not be applicable for individual projects included as part of a common plan of development with a separate long-term stormwater facility maintenance agreement. A Long-Term Stormwater Facility Maintenance Agreement is provided in Appendix K.
<b>D</b>	<b>ESC &amp; SWM Bonds</b>	Complete and submit the bond estimate to the Authority for review prior to issuance of the VSMP permit. The Applicant must revise and resubmit the bond estimate, as requested in writing by the Authority.	Review and approve the bond estimate prior to issuance of the VSMP permit. Confirm all ESC and SWM items are covered in the bond. If the bond estimate is found to be incomplete, provide notification in writing to the Applicant outlining the deficiencies in the bond estimate.	An Erosion and Sediment Control and Stormwater Management Facility (BMP) Bond Calculator is provided in Appendix M.

## VSMP Project Process Plan

		Applicant's Responsibilities	Authority's Responsibilities	Notes:
<b>Step 2: Local Review and Approval</b>				
<b>E</b>	<b>Approval &amp; Issuance of VSMP Permit</b>	1) Provide the final 50% payment via check to the Authority for the VSMP permit fee designated amount commensurate with the construction activity / land clearing proposed. 2) Provide a copy of the permit to the contractor to include in the SWPPP.	Upon approval of the elements required for the project's SWPPP, issue a local VSMP permit to the Owner, copy the Applicant, and confirm the plans are approved with DEQ for completion and issuance of the registration statement for the General Permit.	
<b>Step 3: Construction Inspections</b>				
<b>A</b>	<b>Inspections</b>	Provide access to the Authority for inspection of the construction site.	Complete inspections of the land-disturbing activity during construction for compliance with the approved stormwater plan, including implementation of any additional control measures necessary to address a local TMDL. The Construction Inspection Form shall be completed and provided to the Applicant noting any deficiencies and schedule to complete modifications for compliance.	A VSMP & SWPPP Construction Inspection Form is provided in Appendix N. Complete an inspection within 24 hours of a major rainfall event.
<b>B</b>	<b>SWPPP Updates</b>	Update the SWPPP as required during construction (refer to 9VAC25-880-70 - the VSMP General Permit for Discharges of Stormwater from Construction Activities.	Confirm SWPPP is updated as part of inspection.	
<b>C</b>	<b>Enforcement</b>		If violations noted in inspection reports are not corrected, follow the enforcement process as established in Section 11.0 of the Administrative Guidance Manual.	

## VSMP Project Process Plan

		<b>Applicant's Responsibilities</b>	<b>Authority's Responsibilities</b>	<b>Notes:</b>
<b>Step 4: Construction Closeout Documentation</b>				
<b>A</b>	<b>SWM Facility Construction Record Report</b>	Complete a construction record drawing for all permanent stormwater management facilities constructed as part of the project. The record drawing must include all the information listed in the Construction Record Drawing Checklist for Permanent Stormwater Management Facilities.	Review construction record drawings for all permanent stormwater management facilities constructed as part of the project for compliance with the Construction Record Drawing Checklist for Permanent Stormwater Management Facilities.	The Construction Record Drawing Checklist for Permanent Stormwater Management Facilities is provided in Appendix O.
<b>B</b>	<b>Project Completion Form</b>	Complete the Project Completion Form and submit to the Authority for review and approval. The Applicant must have an approved construction record drawing for all permanent stormwater management facilities constructed as part of the project.	Complete a final inspection to confirm the site meets the requirements of the Project Completion Form. If the site is deemed to meet the requirements of the Project Completion Form, sign the form and return to the Applicant.	A Project Completion Form Template is provided in Appendix P.
<b>C</b>	<b>Release of ESC &amp; SWM Bonds</b>	Complete the Project Completion Form and submit to the Authority for review and approval. The Applicant must have an approved construction record drawing for all permanent stormwater management facilities constructed as part of the project.	Once the site meets the requirements of the Project Completion form and the construction record drawing for permanent stormwater management facilities has been approved, the Authority can release the Erosion and Sediment Control and Stormwater Management Bonds / Letters of Credit and initiate permit termination.	
<b>Step 5: Post-Construction Inspections</b>				
<b>A</b>	<b>Post-Construction Inspections</b>	Provide inspections and reports for all stormwater management BMPs within classification 2, 3, and 4, as required by the long-term stormwater facility maintenance agreement, to the Authority at the frequency noted in Table 9.1 in the Administrative Guidance Manual.	Confirm all required stormwater management facilities (BMPs) have a long-term stormwater facility maintenance agreement.	
			Send reminders to the Owner to complete an inspection and provide a report, as per the frequency noted in Table 9.1 in the Administrative Guidance Manual.	
			Complete inspections and reports every 5 years for all facilities that are in BMP classification 1 (refer to Table 9.1 in the Administrative Guidance Manual).	Refer to Appendix Q for Post-Construction Inspection forms.

## **APPENDIX E**

General Permit for Discharges of Stormwater  
from Construction Activities - General Permit  
will be provided upon receipt of final version  
from DEQ, as revised at the State Water  
Control Board Meeting on December 17,  
2013.

## **APPENDIX F**

General Permit for Discharges of Stormwater  
from Construction Activities **Registration**

**Statement** - General Permit will be provided  
upon receipt of revised registration  
statement from DEQ.

**Gloucester County Stormwater Authority Permit Application**  
**under directive of Virginia Department of Environmental Quality**  
**Registration Statement**

**General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10)**

(Please Type or Print All Information)

1. **Construction Activity Operator:** *(General permit coverage will be issued to this operator. The Certification in Item #12 must be signed by the appropriate person associated with this operator.)*

Name: \_\_\_\_\_

Contact: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: (m) \_\_\_\_\_

Email address : \_\_\_\_\_ (h) \_\_\_\_\_

Indicate if Gloucester County / VDEQ may transmit general permit correspondence electronically: Yes ☐ No ☐

2. **Existing General Permit Registration Number (for renewals only):** \_\_\_\_\_

3. **Name and Location of the Construction Activity:**

Name: \_\_\_\_\_

Address (if available): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Tax Map Number: \_\_\_\_\_ RPC: \_\_\_\_\_

Latitude (decimal degrees): \_\_\_\_\_ Longitude (decimal degrees): \_\_\_\_\_

**Name and Location of all Off-site Support Activities to be covered under the general permit:**

Name: \_\_\_\_\_

Address (if available): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Tax Map Number: \_\_\_\_\_ RPC: \_\_\_\_\_

Latitude (decimal degrees): \_\_\_\_\_ Longitude (decimal degrees): \_\_\_\_\_

4. **Status of the Construction Activity (check only one):** Federal ☐ State ☐ Public ☐ Private ☐

5. **Nature of the Construction Activity (e.g., commercial, industrial, residential, agricultural, oil and gas, etc.):**

\_\_\_\_\_

6. **Name of the Receiving Water(s) and Hydrologic Unit Code (HUC):**

Name: \_\_\_\_\_ Name: \_\_\_\_\_

HUC: \_\_\_\_\_ HUC: \_\_\_\_\_

7. **If the discharge is through a Municipal Separate Storm Sewer System (MS4), the name of the MS4 operator:**

\_\_\_\_\_

8. **Estimated Project Start and Completion Date:**

Start Date (mm/dd/yyyy): \_\_\_\_\_ Completion Date (mm/dd/yyyy): \_\_\_\_\_

9. **Total Land Area of Development (to the nearest one-hundredth acre):** \_\_\_\_\_

**Estimated Area to be Disturbed (to the nearest one-hundredth acre):** \_\_\_\_\_

10. **Is the area to be disturbed part of a larger common plan of development or sale?** Yes ☐ No ☐

11. **A stormwater pollution prevention plan (SWPPP) must be prepared in accordance with the requirements of the General VPDES Permit for Discharges of Stormwater from Construction Activities prior to submitting this Registration Statement. By signing this Registration Statement the operator is certifying that the SWPPP has been prepared.**

12. **Certification:** "I certify under penalty of law that I have read and understand this Registration Statement and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**(Please sign in INK. This Certification must be signed by the appropriate person associated with the operator identified in Item #1.)**

# Instructions for Completing the Registration Statement

## General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10)

### GENERAL

#### A. Coverage Under this General Permit.

Any operator applying for coverage under this general permit who is required to submit a Registration Statement (see Section B below) must submit a complete Registration Statement to the Department. The Registration Statement serves as a Notice of Intent for coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10).

#### B. Single-family Detached Residential Structures.

Operators with an existing stormwater discharge or proposing a new stormwater discharge associated with the construction of a single-family detached residential structure are not required to submit a Registration Statement or the Department of Environmental Quality (DEQ) portion of the general permit fee.

Operators of these types of discharges are authorized to discharge under this general permit immediately upon the general permit's effective date of July 1, 2014; separate County fees may apply.

#### C. To Apply for Permit Coverage.

**1. New Construction Activities.** Any operator proposing a new stormwater discharge from construction activities shall submit a complete Registration Statement to the Department prior to the commencement of land disturbance, unless exempted by Section B above. Any operator proposing a new stormwater discharge from construction activities in response to a public emergency where the related work requires immediate authorization to avoid imminent endangerment to human health or the environment is immediately authorized to discharge under this general permit and must submit a complete Registration Statement to the Department no later than 30 days after commencing land disturbance; documentation to substantiate the occurrence of the public emergency must accompany the Registration Statement.

**2. Existing Construction Activities.** Any operator that was authorized to discharge under the general permit issued in 2009, and who intends to continue coverage under this general permit, shall submit a complete Registration Statement to the Department on or before June 1, 2014, unless exempted by Section B above.

#### D. Where to Submit Registration Statements.

All Registration Statements should be submitted to:

**Environmental Programs Department  
Stormwater Permitting  
P. O. Box 329  
6489 Main Street, Suite 235  
Gloucester, VA 23061**

### LINE-BY-LINE INSTRUCTIONS

#### Item 1: Construction Activity Operator Information.

"Operator" means the owner or operator of any facility or activity subject to the Stormwater Management Act and regulations. In the context of stormwater associated with a large or small construction activity, operator means any person associated with a construction project that meets either of the following two criteria: (i) the person has direct operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications or (ii) the person has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a stormwater pollution prevention plan for the site or other state permit or VSMP authority permit conditions (i.e., they are authorized to direct workers at a site to carry out activities required by the stormwater pollution prevention plan or comply with other permit conditions).

The entities that are considered operators will commonly consist of the owner or developer of a project (the party with control of project plans and specifications) or the general contractor (the party with day to day operational control of the activities at the project site which are necessary to ensure compliance with the general permit).

Provide the legal name (do not use a colloquial name), contact, mailing address, telephone number, and email address (if available) of the construction activity operator; general permit coverage will be issued to this operator. Indicate if the Department may transmit general permit correspondence electronically.

#### Item 2: Existing General Permit Registration Number.

For reapplications only, provide the existing general permit registration number for the construction activity. This item does not need to be completed for new construction activities applying for general permit coverage.

#### Item 3: Name and Location of the Construction Activity Information.

Provide the official name, street address (if available), city or county (if not located within a City) of the construction activity. Also, provide the latitude and longitude in decimal degrees of the approximate center of the construction activity (e.g., N 37.5000, W 77.5000).

#### Name and Location of Off-site Support Activity Information.

This general permit also authorizes stormwater discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) located on-site or off-site provided that (i) the support activity is directly related to a construction activity that is required to have general permit coverage; (ii) the support activity is not a commercial operation, nor does it serve multiple unrelated construction activities by different operators; (iii) the support activity does not operate beyond the completion of the construction activity it supports; (iv) the support activity is identified in the registration statement at the time of general permit coverage; (v) appropriate control measures are identified in a SWPPP and implemented to address the discharges from the support activity areas; and (vi) all applicable state, federal, and local approvals are obtained for the support activity.

Provide the official name, street address (if available), City and County (if not located within a City) of all off-site support activities to be covered under this general permit. Also, provide the latitude and longitude in decimal degrees of the approximate center of the off-site support activities (e.g., N 37.5000, W 77.5000). Also, if an off-site support activity is going to be covered under this general permit the total land area of the off-site support activity and the estimated area to be disturbed by the off-site support activity need to be included in Item #9.

#### Item 4: Status of the Construction Activity.

Indicate the appropriate status (Federal, State, Public, or Private) of the construction activity.

#### Item 5: Nature of the Construction Activity.

Provide a brief description of the construction activity, such as commercial, residential, agricultural, oil and gas, etc. This list is not all inclusive.

#### Item 6: Receiving Waters(s) and HUC Information.

Provide the name of the receiving water(s) and corresponding HUC for all stormwater discharges including any stormwater discharges from off-site support activities to be covered under this general permit. Hydrologic Unit Code or HUC is a watershed unit established in the most recent version of Virginia's 6<sup>th</sup> order national watershed boundary dataset.

**Item 7: MS4 Information.**

If stormwater is discharged through a municipal separate storm sewer system (MS4), provide the name of the MS4 operator. The name of the MS4 operator is generally the Town, City, County, Institute or Federal facility where the construction activity is located.

**Item 8: Construction Activity Start and Completion Date Information.**

Provide the estimated start date (month/day/year) of the construction activity. Provide the estimated completion date (month/day/year) of the construction activity.

**Item 9: Construction Activity Area Information.**

Provide the total area (to the nearest one-hundredth acre) of the development (i.e., the total acreage of the larger common plan of development or sale). Include the total acreage of any off-site support activity to be covered under this general permit.

Provide the estimated area (to the nearest one-hundredth acre) to be disturbed by the construction activity. Include the estimated area of land disturbance that will occur at any off-site support activity to be covered under this general permit.

**Item 10: Common Plan of Development or Sale Information.**

Indicate if the area to be disturbed by the construction activity is part of a larger common plan of development or sale. Larger common plan of development or sale is defined as a contiguous area where separate and distinct construction may be taking place at different times on different schedules. Plan is broadly defined as any announcement or documentation, including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, etc., or physical demarcation such as boundary signs, lot stakes, or surveyor markings indicating that construction activities may occur.

**Item 11: Stormwater Pollution Prevention Plan (SWPPP).**

A Stormwater Pollution Prevention Plan (SWPPP) must be prepared in accordance with the requirements of the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10) prior to submitting this Registration Statement. By signing this Registration Statement the operator is certifying that the SWPPP has been prepared.

**Item 12: Certification.**

A properly authorized individual associated with the operator identified in Item 1 of the Registration Statement is responsible for certifying and signing the Registration Statement. **Please sign the Registration Statement in INK.**

State statutes provide for severe penalties for submitting false information on the Registration Statement. State regulations require that the Registration Statement be signed as follows:

a. For a corporation: by a responsible corporate officer. For the purpose of this part, 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-making 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 that 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 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.

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

(i) The chief executive officer of the agency, or

(ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

Use the following site to access supporting information-  
[http://www.deq.state.va.us/Portals/0/DEQ/Water/Publications/CGP-GIS\\_HUC\\_Instructions.pdf](http://www.deq.state.va.us/Portals/0/DEQ/Water/Publications/CGP-GIS_HUC_Instructions.pdf)

## **APPENDIX G**

Erosion Control and Stormwater  
Management Plan Application Form &  
Checklist

# Erosion and Sediment Control and Stormwater Management Plan Application Form & Checklist

## GENERAL INFORMATION

Application Date: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Project Address: \_\_\_\_\_  
Tax Map / Parcel Number(s): \_\_\_\_\_

## PROPERTY OWNER / DEVELOPER

Firm Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
City / State / Zip: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

## APPLICANT

Firm Name: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Title: \_\_\_\_\_  
Address: \_\_\_\_\_  
City / State / Zip: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

***All the information requested above must be provided for the submittal to be deemed complete.***

## INFORMATION SUBMITTED

- ☐ Proof of VSMP General Permit Registration Statement completion and payment of VSMP Permit Fee (Department portion)
- ☐ VSMP Authority Permit Fee
- ☐ Certified and completed Erosion and Sediment Control and Stormwater Management Application Form and Checklist
- ☐ Erosion and Sediment Control Plan(s) (Plans, Details, etc.) or Agreement in-lieu-of
- ☐ Stormwater Management Design Plan(s) (Plans, Profiles, Details, etc.)
- ☐ Stormwater Pollution Prevention Plan (SWPPP), including Erosion and Sediment Control, Report, Pollution Prevention Plan, and Stormwater Management narrative and calculations.
- ☐ BMP Maintenance Agreement (must be provided and approved prior to VSMP permit approval)
- ☐ Erosion and Sediment Control and Stormwater Management Bond Estimate (must be provided and approved prior to VSMP permit approval)
- ☐ Other Local Requirements

*All submittals shall include this completed checklist, and certification statement below signed by the responsible licensed professional.*

*For all second and subsequent submittals, the submitting Engineer shall include a cover letter that provides explanation as to how each comment is addressed and references the relevant plan or narrative location. In addition, significant changes in the plan should be listed.*

*Additional comments may be warranted depending upon how prior submittal comments were addressed.*

### **Required Certification**

**I have reviewed the accompanying plan submission, this checklist, the Stormwater Ordinance and applicable Subdivision Ordinance and Zoning Ordinance provisions. The submitted plan is complete and meets all applicable requirements to the best of my knowledge.**

---

**Licensed Professional Signature**

---

**Date**

---

**Printed Name**

## Section 1: Erosion and Sediment Control

### GENERAL

☐ Complete set of plans; include all sheets pertaining to the site grading and stormwater and any activities impacting erosion and sediment control and drainage:

- Existing conditions
- Demolition
- Site grading
- Erosion and sediment control
- Storm sewer systems
- Stormwater management facilities
- Utility layout
- Landscaping
- On-site and off-site borrow and disposal areas that do not have separate approved ESC Plans

☐ Variance if necessary, requested in writing, for the plan approving authority to waive or modify any of the minimum standards and specifications of the *Virginia Erosion and Sediment Control Handbook (VESCH)* deemed inappropriate based on site conditions specific to this review case only. Variances which are approved shall be properly documented in the plan and become part of the approved erosion and sediment control plan for the site.

☐ Professional's seal; the designer's original seal, signature, and date are required on the cover sheet of each Narrative and each set of Plan Sheets. A facsimile is acceptable for subsequent Plan Sheets.

### PLANS

☐ Vicinity map - a small map locating the site in relation to the surrounding area. Include any landmarks that might assist in locating the site.

☐ Indicate north - The direction of north in relation to the site.

☐ Off-site areas - Include any off-site land-disturbing activities (e.g., borrow sites, disposal areas, waste areas, utility extensions, etc.) not covered by a separate approved ESC Plan.

☐ Erosion and sediment control notes - At a minimum, include the erosion and sediment control notes found in the *VESCH*. Ensure that all applicable Minimum Standards not covered elsewhere in the plan have been addressed. Include a note that any off-site land-disturbing activity associated with the project must have an approved ESC Plan.

- ☐ Legend - Provide a complete listing of all ESC measures used, including the VESCH uniform code symbol and the standard and specification number. Include any other items necessary to identify pertinent features in the plan.
- ☐ Property lines and easements - Show all property and easement lines. For each adjacent property, list the deed book and page number and the property owner's name and address.
- ☐ Existing vegetation - The existing tree lines, grassed areas, or unique vegetation.
- ☐ Limits of clearing and grading – Delineate all areas that are to be cleared and graded.
- ☐ Disturbed area estimates – in acres or square feet.
- ☐ Protection of areas not being cleared - Fencing or other measures to protect areas that are not to be disturbed on the site.
- ☐ Critical areas – Note all critical areas on the plan.
- ☐ Existing contours - The existing contours of the site at no more than a five foot contour interval.
- ☐ Final contours and elevations - Changes to the existing contours, including final drainage patterns, at no more than a two foot contour interval. Note the finished floor elevation (FFE) of all buildings on site, including basements.
- ☐ Existing and proposed spot elevations – to supplement existing and proposed contours, topography, or site grading information. Spot elevations may replace final contours in some instances, especially if terrain is in a low lying area or relatively flat.
- ☐ Existing site features – includes roads, buildings, homes, utilities, streams, fences, structures, and other important surface features of the site.
- ☐ Soils map – includes soil symbols, boundaries, and legend in accordance with the current Soil Survey of [LOCALITY].
- ☐ Environmental inventory – generally includes tidal shores and wetlands, non-tidal wetlands, resource protection area, hydric soils and slopes steeper than 25 percent. For wetlands, provide a copy of issued permits or satisfactory evidence that appropriate permits are being pursued for the entire project.

- ☐ 100-year floodplain limits – also includes any special flood hazard area or flood zones based on appropriate Federal Management Agency Flood Insurance Rate Maps (FIRMs) or Flood Hazard Boundary Maps (FHBMs) of [LOCALITY].
- ☐ Drainage areas - includes offsite and onsite areas, existing or proposed as applicable. Include drainage divides and directional labels for all subareas at points of interest and size (in acres), weighted runoff coefficient or curve number and times of concentration for each subarea.
- ☐ Critical erosion areas – these areas require special consideration or unique erosion and sediment control measures. Refer to the VESCH for criteria.
- ☐ Site development - All improvements such as buildings, parking lots, access roads, utility construction, above and below ground utilities, stormwater management and drainage facilities, trails or sidewalks, proposed vegetation and landscaping, amenities, etc. Show all physical items that could affect or be affected by erosion, sediment, and drainage.
- ☐ Adequate conveyances – Ensure that stormwater conveyances with adequate capacity and adequate erosion resistance have been provided for all on-site concentrated stormwater runoff. Off-site channels that receive runoff from the site, including those receiving runoff from stormwater management facilities, must be adequate. Increased volumes of sheet flows must be diverted to a stable outlet, adequate channel, pipe or pipe system, or a stormwater management facility.
- ☐ Location of practices - The locations of erosion and sediment control and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the VESCH.
- ☐ Temporary stockpile areas – Includes staging and equipment storage areas as required for onsite or offsite construction activities, or indicate that none are anticipated for this project.
- ☐ Direction of flow for conveyances - Indicate the direction of flow for all stormwater conveyances (storm drains, stormwater conveyance channels).
- ☐ Maintenance - A schedule of regular inspections, maintenance, and repair of temporary erosion and sediment control structures and permanent stormwater management facilities should be set forth.
- ☐ Storm drain profiles - Provide profiles of all storm drains except roof drains. If the type of pipe (RCP, CMP, HDPE, etc.) is not called out on the profiles, then the most conservative pipe material that may be specified for the project must be used in the adequacy calculations.

- ☐ Detail drawings - Any structural practices used that are not found in the VESCH or approved annual agency specifications should be described and illustrated with detail drawings.
- ☐ Trench dewatering – includes methods and erosion and sediment control if anticipated for the project.
- ☐ Construction sequence – outlines the anticipated sequence for installation of erosion and sediment controls and site grading and utility work to be performed for the project by the site contractor.
- ☐ Phasing plan – required for larger project sites that are to be developed in stages or phases.
- ☐ Professional seal and signature – required on final and complete approved plans, drawings, technical reports, and specifications.

## NARRATIVE

- ☐ Project description - Briefly describe the nature and purpose of the land-disturbing activity. Provide the area (acres) to be disturbed. Identify the Owner of the development.
- ☐ Existing site conditions - A description of the existing topography (% slopes), ground cover, and drainage (on-site and receiving channels).
- ☐ Adjacent areas - A description of all neighboring areas such as residential developments, agricultural areas, streams, lakes, roads, etc., that might be affected by the land disturbance.
- ☐ Off-site areas - Describe any off-site land-disturbing activities that may occur (borrow sites, disposal areas, easements, etc.). Identify the Owner of the off-site area and the locality responsible for plan review. Include a statement that any off-site land-disturbing activity associated with the project must have an approved ESC Plan. Submit documentation of the approved ESC Plan for each of these sites.
- ☐ Soils - Provide a description of the soils on the site, giving such information as soil name, mapping unit, ability to erode, permeability, surface runoff, and a *brief* description of depth,

texture and soil structure. Show the site location on the Soil Survey, if it is available. Include a plan showing the boundaries of each soil type on the development site.

☐ Critical areas - A description of areas on the site that have potentially serious erosion problems or that are sensitive to sediment impacts (steep slopes, watercourses, wet weather / underground springs, etc.).

☐ Erosion and sediment control measures - A description of the structural and vegetative methods that will be used to control erosion and sedimentation on the site. Controls should satisfy applicable minimum standards and specifications in Chapter 3 of the 1992 *Virginia Erosion and Sediment Control Handbook* (VESCH).

☐ Management strategies / Sequence of construction - Address management strategies, the sequence of construction, and any phasing of installation of ESC measures.

☐ Stabilization measures - A brief description, including specifications, of how the site will be stabilized after construction is completed, including temporary and permanent seeding and mulching, paving, stone, soil stabilization blankets, and matting, sodding, landscaping, or special stabilization techniques to be used at the site.

☐ Maintenance of ESC measures - A schedule of regular inspections, maintenance, and repair of erosion and sediment control structures should be set forth.

☐ Calculations for temporary erosion and sediment control measures - For each temporary ESC measure, provide the calculations required by the standards and specifications.

☐ Specifications for erosion and sediment control measures - For each erosion and sediment control measure employed in the plan, include in the Narrative the following sections from the standard and specification in the VESCH:

1. Construction Specifications
2. Installation
3. Maintenance
4. Any approved variances or revisions to the standards and specifications.

☐ Temporary sediment basin design data sheet – submitted for each basin along with a schematic or sketch cross section showing applicable design and construction data, storage volumes (wet-dry), dimensions, and elevations. Peak design runoff should be based on the 2- or 25-year design storm event based on maximum disturbed site conditions (existing, interim, or proposed conditions).

## MINIMUM STANDARDS (must be on plan sheets)

- ☐ **MS-1:** Has temporary stabilization been addressed for any period longer than 14 days and permanent stabilization been addressed for any period longer than one year in the narrative?
- ☐ **MS-2:** Has stabilization of soil stockpiles, borrow areas, and disposal areas been addressed in the narrative and on the plan?
- ☐ **MS-3:** Has the establishment and maintenance of permanent vegetative stabilization been addressed?
- ☐ **MS-4:** Does the plan specifically state that sediment-trapping facilities shall be constructed as a first step in land-disturbing activities?
- ☐ **MS-5:** Does the plan specifically state that stabilization of earthen structures is required immediately after installation? Is this noted for each measure on the plan?
- ☐ **MS-6:** Are sediment traps and sediment basins specified where needed and designed to the standard and specification?
- ☐ **MS-7:** Have the design and temporary/permanent stabilization of cut and fill slopes been adequately addressed? Is surface roughening provided for slopes steeper than 3:1?
- ☐ **MS-8:** Have adequate temporary or permanent conveyances (paved flumes, channels, slope drains) been provided for concentrated stormwater runoff on cut and fill slopes?
- ☐ **MS-9:** Has water seeping from a slope face been addressed (e.g., subsurface drains)?
- ☐ **MS-10:** Is adequate inlet protection provided for all operational storm drain and culvert inlets?
- ☐ **MS-11:** Are adequate outlet protection and/or channel linings provided for all stormwater conveyance channels and receiving channels? Is there a schedule indicating:
  - 1. Dimensions of the outlet protection? Lining? Size of riprap?
  - 2. Cross section and slope of the channels? Type of lining? Size of riprap, if used?
- ☐ **MS-12:** Are in-stream protection measures required so that channel impacts are minimized?
- ☐ **MS-13:** Are temporary stream crossings of non-erodible material required where applicable?

☐ **MS-14:** Are all applicable federal, state and local regulations pertaining to working in or crossing live watercourses being followed?

☐ **MS-15:** Has immediate re-stabilization of areas subject to in-stream construction (bed and banks) been adequately addressed?

☐ **MS-16:** Have disturbances from underground utility line installations been addressed?

1. No more than 500 linear feet of trench open at one time?
2. Excavation material placed on the uphill side of trenches (except where prohibited by safety standard requirements)?
3. Effluent from dewatering filtered or passed through a sediment-trapping device?
4. Proper backfill, compaction, and restabilization?

☐ **MS-17:** Is the transport of soil and mud onto public roadways properly controlled? (i.e., Construction Entrances, wash racks, transport of sediment to a trapping facility, cleaning of roadways at the end of each day, no washing before sweeping and shoveling)

☐ **MS-18:** Has the removal of temporary practices been addressed?

Have the removal of accumulated sediment and the final stabilization of the resulting disturbed areas been addressed?

☐ **MS-19:** Are properties and waterways downstream from development adequately protected from sediment deposition, erosion, and damage due to increases in volume, velocity and peak flow rate of stormwater runoff? Have adequate channels been provided on-site?

- a) Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
- b) Adequacy of all channels and pipes shall be verified in the following manner:
  - i) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
    - (1) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.

- (2) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
- (3) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
- ii) If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
  - (1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to channel the bed or banks; or
  - (2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances;
  - (3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
  - (4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.
- c) The applicant shall provide evidence of permission to make the improvements.
- d) All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
- e) If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
- f) Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipaters shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
- g) All on-site channels must be verified to be adequate.
- h) Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
- i) In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

- j) All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
- k) Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to:
  - i) Detain the water quality volume and to release it over 48 hours;
  - ii) Detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and
  - iii) Reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1-44.15:65 of the act.
- l) For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:51 for the act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 9VAC25-870-48 of the Virginia Stormwater Management Program (VSMP) permit regulations.
- m) Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSMP) permit regulations shall be deemed to satisfy the requirements of minimum standard 19.

## Section 2: Stormwater Management

### GENERAL

- ☐ Certification: Professional Seal and Signature required on final and complete approved stormwater management plans, drawings, technical reports, and specifications.
- ☐ Exception Request: If necessary, request in writing to the VSMP authority to waive or modify any requirements of the stormwater ordinance deemed inappropriate based on site conditions specific to this review case only. Exceptions, which are approved, shall be properly documented in the plan and become part of the approved stormwater management plan for the site.
- ☐ SWM Maintenance Agreement: An agreement is required to be prepared and executed with the [LOCALITY] for each proposed BMP for the project prior to permit approval.
- ☐ FEMA FIRM Panel: Reference designated special flood hazard areas or zone designations associated with the site, as applicable.
- ☐ Sequence of Construction: Modification plan(s), including notes and calculations, shall be provided for temporary sediment control structures which will be converted to permanent SWM/BMP structures. Modifications of temporary sediment control structures to bio-retention, infiltration, and filtering system facilities is discouraged.

### REPORT

- ☐ Format: The report should be bound in 8 ½ x 11 inch size format. [LOCALITY] recommends using the available comprehensive [SWPPP template](#) (refer to Appendix I) for the report. Report shall generally include:
  - Title sheet
  - Date
  - Project identification
  - Owner and preparer information
  - Table of contents
  - Narrative description of methodology and design of stormwater management facilities
  - Summary tables showing compliance with the regulations
  - Calculations (detailed below)
- ☐ Drainage Area Map: The map should be a maximum scale of 1" = 200' scale and include the following:
  - Drainage area boundaries, including delineation of forest/open space, managed turf, and impervious surface(s), for pre- and post-development conditions;

- Time of concentration (Tc) flow paths for pre- and post-development conditions; and
- Information tables for each drainage and sub-drainage areas shown on the map to include the following:
  - Δ Total area;
  - Δ Area of forest/open space, managed turf, and impervious surface(s);
  - Δ Runoff coefficient or curve number; and
  - Δ Time of concentration.

☐ Soils Map: The map should include soil symbols, hydrologic soil group, boundaries, and legend in accordance with the current Soil Survey of the [LOCALITY], Virginia with approximate locations of the project site, BMPs, and applicable drainage basins.

☐ Calculations

- Conveyance Systems
  - Δ Storm sewer design computations based on 10-year design event.
  - Δ Hydraulic grade line computations based on 10-year design event.
  - Δ Inlet computations based on current VDOT procedures for spread, ponding depth and grate size required.
  - Δ Culvert headwater computations. Design based on 10-year design storm event, or as otherwise required by VDOT, and check only for 100-year storm event.
  - Δ Open channel computations as required.
  - Δ Outlet protection or special energy dissipaters.
- Water Quality Control
  - Δ Runoff curve number or coefficient determinations – pre-developed, post-developed, and ultimate development (as applicable) land use scenarios.
  - Δ Runoff reduction method spreadsheet to show water quality compliance.
- Water Quantity Control
  - Δ Hydrologic Computations
    - The Soil Conservation Service (SCS) based methodology is preferred for the design of stormwater management/BMP facilities with watersheds. If a site is less than 200 acres, modified rational method or rational method may be used at the discretion of the VSMP Authority.
  - \*Use the modified runoff curve number as provided by the runoff reduction spreadsheet for each drainage area.\***
    - Time of concentration: Pre-developed, post-developed, and ultimate development (as applicable) indicating overland, shallow concentrated, and channel flow components (200 ft. maximum length for overland flow).

- Hydrographs: Provide graphical and/or tabular information for pre- and post-development conditions for the 1-, 2-, 10-, and 100-year design storm events.
- Δ Hydraulic Computations
  - 1-, 2-, 10-, and 100-year design storm events.
  - Elevation- or stage-storage curve and/or tabular data.
  - Emergency spillway capacity and depth of flow.
  - Elevation – discharge (outlet rating) curve and/or table. Provide all supporting calculations and/or design assumptions.
- Miscellaneous Computations
  - Anti-seep collar design (concrete preferred) or match material type.
  - Riser/base structure floatation analyses. FS = 1.25 minimum.

## PLANS

### ☐ General

- Plan View at 1" = 50' scale or less (1" = 30', 1" = 40', etc.)
- North arrow and plan legend
- Property lines
- Adjacent property information
- Existing site features and existing impervious cover areas
- Forest/open space, managed turf, and impervious cover tabulations
- Existing drainage facilities (natural or manmade)
- Existing environmentally sensitive areas (RPS, wetlands, floodplain, steep slopes, critical soils, buffers, etc.)
- Existing and proposed contours (1' or 2' contour interval) and spot elevations as necessary to define high and low topographic information
- Existing and proposed easement locations
- Proposed site improvements and proposed impervious cover areas
- Proposed landscaping and seeding plans (disturbed areas, pond interior, etc.)
- Proposed slope stabilization areas (riprap, blankets, mattings, walls, etc.)
- Delineation of ponding, headwater, surcharge, or backwater areas which may affect adjacent existing or proposed buildings, structures, or upstream adjacent properties.
- Test boring locations with reference surface elevations (if known)
- Existing and proposed site utilities and protection measures
- Erosion and sediment control measures (for site and BMP)
- Maintenance or access corridors to permanent stormwater BMPs or drainage facilities

☐ Stormwater Conveyance Systems

- Plan views
  - Δ Storm drain lengths, sizes, types, classes and slopes for all segments. Label directly on plan or use a structure/pipe schedule.
  - Δ Structure (inlets, manholes, junctions, end sections, etc.) information shall be provided for each structure and include, but not limited to, a unique identifier, rim elevation, pipe inverts and sizes, type, and required grate type or top unit and lengths labeled.
  - Δ Adequate horizontal clearance from other site utilities or structures.
- Profiles are generally not required but are encouraged to expedite review. If not provided, ensure all pipe segments have adequate minimum cover, do not exceed maximum depths of cover for the type/class of pipe specified and do not conflict with other site utilities or excavation areas.
- Details
  - Δ Typical storm drain bedding details or reference note.
  - Δ Typical pipe and/or underdrain details or reference note.
  - Δ Standard details or reference note for all purposed access structure types (inlets, manholes, junctions, etc.).
  - Δ Inlet shaping detail or applicable reference note.
  - Δ Step detail or applicable reference note (if depth of 4 feet or more).
  - Δ Typical open channel details with designation, location, shape, type, bottom width, top width, lining, slope, length, side slope, and installation depth required for construction. Channel design data as necessary may also be included.
  - Δ Outlet protection at all pipe outfalls.

☐ Stormwater Management Facilities (Best Management Practices – BMPs)

- Plan views
  - Δ Location and dimensions of proposed stormwater conveyance systems and BMPs with appropriate labeled construction data and information.
  - Δ Location and dimensions of pretreatment devices, as required by the BMP Clearinghouse specifications for the selected county BMP facility type.
  - Δ Delineation of permanent pool(s) and 1-, 2-, 10-, and 100-year design water surface elevations.
  - Δ Emergency spillway level and outlet channel section
- Details: Provide cross-section and details, as suggested in the VA DEQ Stormwater Design Specification provided on the [Virginia BMP Clearinghouse](#) website.
- Notes: Provide notes, as suggested in the VA DEQ Stormwater Design Specification provided on the [Virginia BMP Clearinghouse](#) website, including the following:

- Δ BMP landscaping (deep, shallow, fringe, perimeter, etc.)
- Δ Maintenance provisions for each proposed BMP
  - Entity responsible for maintenance identified.
  - Long-term schedule for inspection/maintenance of the facility and forebay(s), as applicable.
  - Access from public right-of-way or publicly traveled road.
  - Easement provided encompassing high water pool and buffer, principal and emergency spillways, outlet structures, forebays, embankment area, and possible sediment removal stockpile areas.

☐ Construction Specifications and General Notes

- Provisions to control base stream or storm flow conditions encountered during construction.
- Site and subgrade preparation requirements.
- Embankment, fill, and backfill material soil and placement (lift) thickness requirements.
- Compaction and soil moisture content requirements.
- Geosynthetics for drainage, filtration, moisture barrier, separation, and reinforcement purposes.
- Storm drain, underdrain, and pipe conduit requirements.
- Minimum depth of pipe cover for temporary construction and final cover conditions.
- Concrete requirements for structural components.
- Riprap and slope protection.
- Access or maintenance road surface, base, subbase.
- Temporary and permanent stabilization measures.
- Temporary or permanent safety fencing.
- Dust and traffic control (if warranted).
- Construction monitoring and certification by a certified project inspector for SWM.

## **GEOTECHNICAL REQUIREMENTS**

☐ Geotechnical report with recommendations specific to BMP facility type selected as required by the BMP clearinghouse. Report prepared by a registered professional engineer. Requires submission, review, and approval prior to issuance of VSMP Permit.

## **ADDITIONAL COMMENTS OR INFORMATION SPECIFIC TO THE PLAN**

**APPENDIX H**  
Completeness Review Form  
and Fee Form

"

# Gloucester County Environmental Programs

Telephone 804-693-1217 P. O. Box 329, Gloucester, Virginia 23061 Fax 804-824-2442

DATE IN-

Rcvd by-

✓ ed by-

P#

DATE OUT-

## Stormwater Management Plan Submittal Completeness Form

A complete stormwater management plan shall include the following elements:

Mark the line beside each component incorporated in the complete plan submittal; sign and date the bottom portion verifying compliance with Section 6.6 of Gloucester County's Stormwater Program Ordinance.

### PROJECT NAME--

- 
- \_\_\_ 1. Information on the type of and location of stormwater discharges, information on the features to which stormwater is being discharged including surface waters or karst features if present, and pre-development and post-development drainage areas;
  - \_\_\_ 2. Contact information including the name, address, telephone number, and email address of the owner and the tax parcel number and RPC of the property or properties affected;
  - \_\_\_ 3. A narrative that includes a description of current site conditions and final site conditions;
  - \_\_\_ 4. A general description of the proposed stormwater management facilities and the mechanism through which the facilities will be operated and maintained after construction is complete and a note that states the stormwater management meets the requirements set forth in the VSMP Permit Regulations (9VAC25-870-55) and the Administrative Guidance Manual;
  - \_\_\_ 5. Information on the proposed stormwater management facilities, including (i) the type of facilities; (ii) location, including geographic coordinates; (iii) acres treated; and (iv) the surface waters or karst features into which the facility will discharge;
  - \_\_\_ 6. Hydrologic and hydraulic computations, including runoff characteristics;
  - \_\_\_ 7. Documentation and calculations verifying compliance with the water quality and quantity requirements of Section 6-9 of Gloucester's Stormwater Program Ordinance;
  - \_\_\_ 8. A map or maps of the site that depicts the topography of the site and includes:
    - \_\_\_ a. All contributing drainage areas;
    - \_\_\_ b. Existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;
    - \_\_\_ c. Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
    - \_\_\_ d. Current land use including existing structures, roads, and locations of known utilities and easements;
    - \_\_\_ e. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;
    - \_\_\_ f. The limits of clearing and grading, and the proposed drainage patterns on the site;
    - \_\_\_ g. Proposed buildings, roads, parking areas, utilities, and stormwater management facilities; and
    - \_\_\_ h. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements;
  - \_\_\_ 9. If an operator intends to meet the requirements established in 9VAC25-870-63 or 9VAC25-870-66 through the use of off-site compliance options, where applicable, then a letter of availability from the off-site provider must be included; and
  - \_\_\_ 10. If payment of a fee is required with the stormwater management plan submission by the VSMP authority, the fee and the required fee form in accordance with Part XIII (9VAC25-870-700 et seq.) must have been submitted.

---

Plan Preparer Name (Print and Signature)

DATE

Incomplete Items-

The following items have not been identified within the current submittal. The inclusion of these items are necessary to consider the stormwater management plan submittal complete<sup>1</sup> and eligible for further review<sup>2</sup>. Plan review and approval are dependent upon a complete submittal.

---

<sup>1</sup> Gloucester County Stormwater Program Ordinance Section 6-6 -- Stormwater Management Plan; contents of plan

<sup>2</sup> Gloucester County Stormwater Program Ordinance Section 6-8 -- Review of Stormwater Management Plan

# Completeness Review Form

On behalf of [locality], this is a required notification that the information provided by [Applicant] on [Date] on behalf of [Owner/Developer] for the project known as [Project Name] located at [Address] or [Tax Map / Parcel Number(s)] appears to include the required elements for erosion and sediment control and stormwater management submittal for review. Official review and/or approval of the initial submittal will be provided to the Applicant and Owner within 60 calendar days and subsequent submittals within 45 days of the date of the letter. **This.from.has.been.supeceded.and.is.no.longer.valid.**

---

[Name of Authority Representative]

---

Response Date

---

[Title of Authority Representative]

## INFORMATION SUBMITTED

- ☐ Proof of VSMP General Permit Registration Statement completion and payment of VSMP Permit Fee (Department portion)
- ☐ VSMP Authority Permit Fee
- ☐ Certified and completed Erosion and Sediment Control and Stormwater Management Application Form and Checklist
- ☐ Erosion and Sediment Control Plan(s) (Plans, Details, etc.)
- ☐ Stormwater Management Design Plan(s) (Plans, Profiles, Details, etc.)
- ☐ Stormwater Pollution Prevention Plan (SWPPP), including Erosion and Sediment Control, Report, Pollution Prevention Plan, and Stormwater Management narrative and calculations.
- ☐ Other Local and Regulatory Agency Requirements

For plans not approved by the Administrator, all comments shall be addressed by the applicant within 180 calendar days. Plans that are not resubmitted within this time period may be subject to a new application fee.

**This.from.has.been.supeceded.and.is.no.longer.valid.**

Project Name: \_\_\_\_\_

Tax Map / Parcel No(s): \_\_\_\_\_

SWPPP Dated: \_\_\_\_\_

Plans Dated: \_\_\_\_\_

Submittal Number: \_\_\_\_\_

Incorporate in AGM

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
CONSTRUCTION ACTIVITY OPERATOR PERMIT FEE FORM**

(Please Type or Print All Information)

**Instructions:** Applicants for a Construction Activity Individual Permit are required to pay permit application fees. Fees are also required for registration for coverage under a Construction Activity General Permit. Fees must be paid when applications for state permit issuance or modification are submitted. Applications will be considered incomplete if the proper fee is not paid and will not be processed until the fee is received.

The fee schedule for state permits is included with this form. Fees for state permit issuance, reissuance, modification, maintenance, and reinspection are included. Once you have determined the fee for the type of application you are submitting, complete this form. The original copy of the form and your check or money order payable to "Treasurer of Virginia" should be mailed to:

**Department of Environmental Quality  
Receipts Control  
P.O. Box 1104  
Richmond, VA 23218**

A copy of this form and a copy of your check or money order should accompany the permit application (or registration statement). You should retain a copy for your records.

**Construction Activity Operator:**

Name: \_\_\_\_\_ FIN: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

**Name and Location Construction Activity:**

Name: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

County: \_\_\_\_\_

**Type of State Permit:** ☐ Construction Activity Individual Permit ☐ Construction Activity General Permit  
(from Fee Schedule)

**Type of Action:** ☐ New Issuance ☐ Reissuance ☐ Modification  
☐ Maintenance ☐ Reinspection

**Amount of Fee Submitted** (from Fee Schedule): \_\_\_\_\_

**Existing Permit Number** (if applicable): \_\_\_\_\_

FOR DEQ USE ONLY
Date: _____
DC #: _____

## CONSTRUCTION ACTIVITY PERMIT FEE SCHEDULE

**A. Individual Permits.** Applications for issuance of new Construction Activity individual permits, and for permittee initiated major modifications that occur (and become effective) before the specified state permit expiration date. (NOTE: Individual Construction Activity permittees pay an Annual State Permit Maintenance Fee instead of a reapplication fee. The permittee is billed separately by DEQ for the State Annual Permit Maintenance Fee.)

TYPE OF STATE PERMIT	ISSUANCE	MODIFICATION
Construction Stormwater Individual	\$15,000	\$0

**B. Registration Statements for Construction Activity General Permit Coverage.** The fee for filing a state permit application (registration statement) for coverage under a Construction Activity general permit issued by the Board is as follows:

TYPE OF STATE PERMIT	ISSUANCE
Construction General / Stormwater Management – Phase I Land Clearing (“Large” Construction Activity – Sites or common plans of development or sale equal to or greater than 5 acres)	\$750
Construction General / Stormwater Management – Phase II Land Clearing (“Small” Construction Activity – Sites or common plans of development or sale equal to or greater than 1 acre and less than 5 acres)	\$450
Construction General / Stormwater Management – Small Construction Activity / Land Clearing (Sites within designated areas of Chesapeake Bay Act localities with land disturbance acreage equal to or greater than 2,500 square feet and less than 1 acre) (Fee valid until July 1, 2014)	\$200

**C. Permit Maintenance Fees.** The annual permit maintenance fees apply to each state permit identified below, including expired permits that have been administratively continued.

TYPE OF STATE PERMIT	MAINTENANCE
Construction General / Stormwater Management – Phase I Land Clearing (“Large” Construction Activity – Sites or common plans of development or sale equal to or greater than 5 acres)	\$0
Construction General / Stormwater Management – Phase II Land Clearing (“Small” Construction Activity – Sites or common plans of development or sale equal to or greater than 1 acre and less than 5 acres)	\$0
Construction General / Stormwater Management – Small Construction Activity / Land Clearing (Sites within designated areas of Chesapeake Bay Act localities with land disturbance acreage equal to or greater than 2,500 square feet and less than 1 acre)	\$0
Individual Permit for Discharges from Construction Activities	\$3,000

**D. Reinspection Fee.** The reinspection fee is required to be paid when the Department is required conduct a follow-up inspection based upon the findings of a previous inspection.

TYPE OF FEE	REINSPECTION
Construction Activity Reinspection	\$125

## **APPENDIX I**

Comprehensive Stormwater Pollution  
Prevention Plan (SWPPP) Template

# SWPPP Template

## Instructions

To help you develop the narrative section for VSMP permit and construction site SWPPP, [Locality] has created this electronic comprehensive SWPPP template, which includes the requirements erosion and sediment control, stormwater management, and pollution prevention plans. The template is designed to help guide you through the development process and help ensure that your SWPPP addresses all the necessary elements stated in your construction general permit. For further guidance on developing your SWPPP, you may want to visit the EPA's website at [www.epa.gov/npdes/swpppguide](http://www.epa.gov/npdes/swpppguide).

This template covers the SWPPP elements that most construction general permits require. However, there are two major reasons to customize this template:

1. To reflect the terms and conditions of your construction general permit and
2. To reflect the conditions at your site.

### *Tips for completing the SWPPP template*

- Sections 1, 2, 3, and 4 of the Comprehensive SWPPP are required for the plan review submittal, as noted below. Sections 5, 6, and 7 of the Comprehensive SWPPP are not required to be completed at time of plan review submittal. However, these sections must be completed by the Applicant and/or the Contractor prior to construction. The Comprehensive SWPPP must be available at the construction site at all times during construction.
- The erosion and sediment control (Section 2) and stormwater management (Section 3) sections of the SWPPP shall be appropriately sealed and signed by a professional engineer, architect, surveyor, or landscape architect registered in the Commonwealth of Virginia pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.
- Multiple operators may share the same SWPPP, but make sure that responsibilities are clearly described.
- Modify this SWPPP template so that it addresses the requirements in your construction general permit and meets the needs of your project. Consider adding permit citations in the SWPPP when you address a specific permit requirement.

# Stormwater Pollution Prevention Plan

## For:

Insert Project Name

Insert Project Site Location/Address

Insert City, State, Zip Code

Insert Project Site Telephone Number (if applicable)

## Operator(s):

Insert Company or Organization Name

Insert Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

## Stormwater Manager:

Insert Name

## SWPPP Contact(s):

Insert Name

Insert Name

Insert Name

## SWPPP Preparation Date:

mm / dd / yyyy

*Estimated Project Dates:*

**Start of Construction:** mm / dd / yyyy

**Completion of Construction:** mm / dd / yyyy

---

## CERTIFICATION AND NOTIFICATION

---

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 gathered and evaluated 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.

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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## SECTION 1: SITE INFORMATION

### 1.1 Project/Site Information

1. Project/Site Name: Insert Project Name
2. Project Street/Location: Insert Project Location
3. City/Town: Insert City
4. State: Insert State
5. Zip Code: Insert Zip Code
6. County: Insert County
7. Subdivision: Insert Subdivision
8. Tax Reference Number of Parcel(s): Insert Data
9. Parcel Number(s): Insert Data  
Latitude/Longitude
10. Latitude: dd ° mm ' ss " N (degrees, minutes, seconds)  
Longitude: dd ° mm ' ss " W (degrees, minutes, seconds)  
or [Link to e-permitting site](#)
11. Method for determining latitude/longitude:  
☐ USGS topographic map (specify scale: Insert Scale) ☐ EPA Web site ☐ GPS  
☐ Other (please specify): Insert Other Method(s)
12. Is this project considered a federal facility? ☐ Yes ☐ No
13. VSMP permit number: Insert Permit Number  
a. (This is the unique identifying number assigned to your project by your permitting authority after you have applied for coverage under the construction general permit.)
14. Type of regional facility/facilities to which site contributes: Insert Type of Facility
15. Regional Facility Street/Location: Insert Facility Location
16. City: Insert City
17. State: Insert State
18. Zip Code: Insert Zip Code

## 1.2 Contact Information/Responsible Parties

### 1. Operator(s):

Insert Company or Organization Name

Insert Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

Insert area of control (if more than one operator at site)

Repeat as necessary

### 2. Project Manager(s) or Site Supervisor(s):

Insert Name

Insert Company or Organization Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

Insert area of control (if more than one operator at site)

Repeat as necessary

### 3. Stormwater Manager and SWPPP Contact(s):

Insert Name

Insert Company or Organization Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email (Optional)

Repeat as necessary

**4. This SWPPP Was Prepared By:**

Insert Name

Insert Company or Organization Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

**5. Subcontractor(s):**

Insert Company or Organization Name

Insert Name

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

Repeat as necessary

**6. Responsible Land Disturber:**

Insert Name

Insert DEQ Certification Number

Insert Address

Insert City, State, Zip Code

Insert Telephone Number

Insert Fax/Email

Repeat as necessary

**7. Emergency 24 hour contact:**

Insert Name

Insert Telephone Number

### 1.3 Nature and Sequence of Construction Activity

1. Describe the general scope of the work for the project, major phases of construction, etc.:

INSERT TEXT HERE

2. What is the function of the construction activity?

- ☐ Residential      ☐ Commercial      ☐ Industrial      ☐ Road Construction  
☐ Linear Utility  
☐ Other (please specify): INSERT TEXT HERE

3. Estimated Project Start Date: mm / dd / yyyy

4. Estimated Project Completion Date: mm / dd / yyyy

### 1.4 Construction Site Estimates & Statistics

The following are estimates of the construction site:

1. Construction Site Area to be disturbed \_\_\_\_\_ acres
2. Total Project Area \_\_\_\_\_ acres
3. Percentage impervious area before construction \_\_\_\_\_ %
4. Runoff coefficient before construction Refer to Sect 4.1 & 4.2
5. Percentage impervious area after construction \_\_\_\_\_ %
6. Runoff coefficient after construction Refer to Sect 4.1 & 4.2
7. Number of Acres treated by Regional Facility \_\_\_\_\_ acres

### 1.5 Existing Conditions

1. Soil type(s): Refer to Section 2.5.
2. Slopes (describe current slopes and note any changes due to grading or fill activities): Refer to Section 2.6.
3. Drainage Patterns: Refer to Section 4.1. or provide if Section 4.1 is not required.
4. Vegetation:  
INSERT TEXT HERE  
INSERT TEXT HERE
5. Other:

- INSERT TEXT HERE
- INSERT TEXT HERE

## 1.6 Receiving Waters

1. Description of receiving waters: INSERT TEXT HERE
2. Description of storm sewer systems: INSERT TEXT HERE
3. Description of waters subject to TMDLs:

Waters subject to TMDLs	Type of Impairment	Cause of Impairment
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

4. Provide link to impaired water referenced from Virginia's TMDL website: INSERT TEXT HERE
5. Describe the designated uses of the water body: INSERT TEXT HERE
6. Please include a description and map of the watershed boundary: INSERT TEXT HERE
7. Please list any measures that will be used to meet the TMDL(s): INSERT TEXT HERE

8. Description of impaired waters:

Impaired Waters	Pollutant	Project Specific Control Measures
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

### 1.7 Site Features and Sensitive Areas to be Protected

Description of unique features and measures to protect them:

- INSERT TEXT HERE

### 1.8 Potential Sources of Pollution

[These pollutants must be addressed in the pollution prevention plan.]

Potentials sources of sediment to stormwater runoff:

- INSERT TEXT HERE
- INSERT TEXT HERE

Potential pollutants and sources, other than sediment, to stormwater runoff:

- INSERT TEXT HERE
- INSERT TEXT HERE

## SECTION 2: EROSION AND SEDIMENT CONTROL

### 2.1 Project Description

1. General Description: Refer to Section 1.3.
2. Schedule: Refer to Section 1.3.
3. Site Data: Refer to Section 1.4.

### 2.2 Existing Site Conditions: Refer to Sections 1.5, 2.5, 2.6, and 4.1.

### 2.3 Adjacent Property

[Detailed description of adjacent properties including location]

### 2.4 Planned Earthwork Activities

1. General Earthwork: [General earthwork description]
2. Off-site Disposal: Any excess or unsuitable material will be transported to off-site disposal areas with erosion control plans that are approved by the authority having jurisdiction. The names of any offsite areas must be provided to the [jurisdiction] before any soil is transported offsite. The depths of topsoil/surficial soil in existing open areas range from approximately [depth] inches.
3. Trenching: Trenching will be performed to install the utilities.
4. Imported Material: Any imported material required for backfilling, stone bases, etc., is planned to be obtained from commercial regional quarries. All off-site land disturbing areas in which material is obtained or is disposed shall have an approved ESC plan.

### 2.5 Soils

[Add soils description and map and/or reference to soils information in appendices. Refer to <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm> ]

### 2.6 Critical Erosion Areas

Critical erosion areas may be encountered during grading operations as follows:

SWPPP  
Project Name: \_\_\_\_\_  
Tax / Parcel No(s): \_\_\_\_\_

Page 7 of 32

SWPPP Dated: \_\_\_\_\_  
Plans Dated: \_\_\_\_\_  
Submittal Number: \_\_\_\_\_

1. Proposed slopes near 3:1 or greater.
2. Drainage swales where surface runoff will be concentrated.

The proposed erosion and sediment control measures are intended to minimize any potential problems and promote stabilization.

[List any known critical erosion areas]

## 2.7 Erosion and Sediment Control Measures

All vegetative and structural erosion and sediment control practices will be constructed and maintained in accordance with the minimum standards and specifications of the "Virginia Erosion and Sediment Control Handbook" (VESCH), latest edition, as provided in the Appendix.

[Describe the areas that will be disturbed with each phase of construction and the methods (signs, fences, etc.) that you will use to protect those areas that should not be disturbed. Describe natural features identified earlier and how each will be protected during construction activity. Also describe how topsoil will be preserved. Provide a map showing the following information:

- a. Areas and timing of soil disturbance and areas that will not be disturbed
- b. Natural features to be preserved
- c. Locations of major structural and non-structural BMPs identified in the SWPPP
- d. Locations and timing of stabilization measures
- e. Locations of off-site material, waste, borrow, or equipment storage areas
- f. Locations of all waters of the U.S., including wetlands
- g. Locations where stormwater discharges to a surface water
- h. Locations of storm drain inlets
- i. Areas where final stabilization has been accomplished]

## 2.8 Structural Practices

[EXAMPLES BELOW FOR COMMONLY USED PRACTICES; INSERT APPROPRIATE PROJECT-SPECIFIC PRACTICES AS NEEDED]

### 1. SAFETY FENCE – STD. & SPEC. 3.01

Safety fence shall be installed as shown on the plans to prohibit the undesirable use of an erosion control measure or land disturbing activity by the public.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec 3.01
Removal Event:	Following stabilization of site

## **2. TEMPORARY STONE CONSTRUCTION ENTRANCE – STD. & SPEC. 3.02**

Temporary stone construction entrance shall be installed as shown on the plans to reduce the amount of soil transported onto public roads or other paved areas.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec. 3.02
Removal Event:	Immediately prior to paving

## **3. CONSTRUCTION ROAD STABILIZATION – STD. & SPEC. 3.03**

Temporary stabilization with stone shall be installed as shown on the plans for access roads and other traffic areas immediately after grading to reduce erosion caused by vehicles during wet weather, and to prevent having to regrade permanent roadbeds between initial grading and final stabilization.

Sequence of Installation:	Following establishment of subgrade elevation for the access drive and drive aisles
Maintenance:	Refer to Std. & Spec. 3.03
Removal Event:	Prior to placing subbase and pavement

## **4. STRAW BALE BARRIER – STD. & SPEC. 3.04**

Disturbed areas shall be lined with straw bale barriers in locations shown on the plans to detain sediment and decrease storm water runoff velocity

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec 3.04
Removal Event:	Following permanent stabilization of upstream areas

## **5. SILT FENCE - STD. & SPEC. 3.05**

Disturbed areas and soil stockpile areas shall be lined with silt fence as shown on the plans to detain sediment and decrease storm water runoff velocity.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec. 3.05
Removal Event:	Following permanent stabilization of entire site

## **6. BRUSH BARRIER - STD. & SPEC. 3.06**

Disturbed areas shall be lined with brush barriers as shown on the plans to intercept and retain sediment on-site.

Sequence of Installation:	Prior to any land disturbance
Maintenance:	Refer to Std. & Spec 3.06
Removal Event:	Following permanent stabilization of upstream areas

#### **7. STORM DRAIN INLET PROTECTION - STD. & SPEC. 3.07**

Storm drain inlet protection shall be placed at existing and proposed grate inlets to prevent sediment from entering the storm piping.

Sequence of Installation:	Existing structures - prior to any land disturbance Future structures – immediately following installation
Maintenance:	Refer to Std. & Spec. 3.07
Removal Event:	Following permanent stabilization of all upland areas

#### **8. CULVERT INLET PROTECTION – STD. & SPEC. 3.08**

Culvert inlet protection shall be installed and consist of a sediment filter located at the inlet to storm sewer culverts, which prevents sediment from entering, accumulating in and being transferred by the culvert. It provides erosion control at culverts during the phase of the project where elevations and drainage patterns are changing, causing original control measures to be ineffective.

Sequence of Installation:	Existing structures - prior to any land disturbance Future structures – immediately following installation
Maintenance:	Refer to Std. & Spec. 3.08
Removal Event:	Following permanent stabilization of all upland areas

#### **9. TEMPORARY DIVERSION DIKE - STD. & SPEC. 3.09**

Temporary diversion dikes shall be constructed to divert runoff from a disturbed area to a sediment-trapping facility.

Sequence of Installation:	Concurrent with the construction of the sediment traps
Maintenance:	Refer to Std. & Spec. 3.09

Removal Event: Following permanent stabilization of all upland areas

#### **10. TEMPORARY FILL DIVERSION - STD. & SPEC. 3.10**

Temporary fill diversions shall be constructed as shown on the plans to divert runoff along the top of an active earth fill to an appropriate stabilized outlet.

Sequence of Installation: As needed at the end of each work day at the top of active fill slopes.  
Maintenance: Refer to Std. & Spec. 3.10  
Removal Event: Following permanent stabilization of all upland areas

#### **11. TEMPORARY RIGHT-OF-WAY DIVERSION - STD. & SPEC. 3.11**

Temporary right-of-way diversions shall be constructed within a sloping right-of-way to an appropriate stabilized outlet.

Sequence of Installation: Concurrent with right-of-way grading activities.  
Maintenance: Refer to Std. & Spec. 3.11  
Removal Event: Prior to placing subbase and pavement

#### **12. DIVERSION - STD. & SPEC. 3.12**

Diversions shall be constructed as shown on the plans in accordance with design calculations to divert runoff to a stabilized outlet.

Sequence of Installation: As part of grading activities  
Maintenance: Refer to Std. & Spec. 3.12  
Removal Event: This is permanent and shall not be removed

#### **13. TEMPORARY SEDIMENT TRAP – STD. & SPEC. 3.13**

A temporary sediment trap shall be constructed as shown on the plans to detain sediment-laden runoff long enough for the majority of sediment to settle out.

Sequence of Installation: Prior to any site disturbance and grading activities  
Maintenance: Refer to Std. & Spec. 3.13  
Removal Event: Following permanent stabilization of upland areas

#### **14. TEMPORARY SEDIMENT BASIN – STD. & SPEC. 3.14**

A temporary dam with a controlled stormwater release structure formed by constructing an embankment of compacted soil shall be constructed as shown on the plans at the base of a sloping disturbed area to detain sediment-laden runoff from disturbed areas in “wet” and “dry” storage long enough for the majority of the sediment to settle out. Stabilization is required immediately after installation.

Sequence of Installation:	Prior to any site disturbance and grading activities
Maintenance:	Refer to Std. & Spec. 3.14
Removal Event:	Following permanent stabilization of entire site

#### **15. TEMPORARY SLOPE DRAIN – STD. & SPEC. 3.15**

Temporary slope drains shall be constructed as shown on the plans to temporarily conduct concentrated stormwater runoff safely down the face of a cut or fill slope without causing erosion on or below the slope.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.15
Removal Event:	Following permanent stabilization of upland and down slope areas.

#### **16. PAVED FLUME – STD. & SPEC. 3.16**

A permanent paved channel constructed to conduct stormwater runoff safely down the face of a slope without causing erosion problems on or below the slope.

Sequence of Installation:	Concurrent with the construction of the sediment traps
Maintenance:	Refer to Std. & Spec. 3.16
Removal Event:	This is permanent and shall not be removed.

#### **17. STORMWATER CONVEYANCE CHANNEL (SCC) – STD. & SPEC. 3.17**

Permanent SCCs are proposed to provide adequate channel to convey runoff, and shall be constructed in accordance with the plans, specifications, and engineering design calculations.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.17
Removal Event:	This is permanent and shall not be removed.

#### **18. OUTLET PROTECTION – STD. & SPEC. 3.18**

Structurally lined aprons or other acceptable energy dissipating devices placed at the outlets of pipes or paved channel sections, used to prevent scour at stormwater outlets, to protect the outlet structure and to minimize the potential for downstream erosion by reducing the velocity and energy of concentrated stormwater flows.

Sequence of Installation:	Existing structures - prior to any land disturbance Future structures – immediately following installation
Maintenance:	Refer to Std. & Spec. 3.18
Removal Event:	This is permanent and shall not be removed.

#### **19. RIPRAP – STD. & SPEC. 3.19**

Large, loose, angular stone with filter fabric installed to protect soil from the erosive forces of concentrated runoff or stabilize slopes.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.19
Removal Event:	This is permanent and shall not be removed.

#### **20. ROCK CHECK DAMS – STD. & SPEC 3.20**

Small temporary stone dams constructed across a swale or drainage ditch in order to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale or ditch and trap sediment from adjacent areas.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.20
Removal Event:	Unless indicated as permanent, remove following permanent stabilization of the site.

#### **21. LEVEL SPREADER – STD. & SPEC 3.21**

An outlet for diversions and dikes consisting of an excavated depression constructed at zero grade to convert concentrated runoff to sheet flow and release it uniformly onto areas stabilized by existing vegetation.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.21
Removal Event:	This is permanent and shall not be removed.

#### **22. STRUCTURAL STREAMBANK STABILIZATION – STD. & SPEC 3.23**

Structural streambank stabilization should be installed as shown and described on the plans to protect streambanks from the erosive forces of flowing water.

Sequence of Installation:	As part of grading activities
Maintenance:	Refer to Std. & Spec. 3.23
Removal Event:	This is permanent and shall not be removed.

### **23. TEMPORARY VEHICULAR STREAM CROSSING – STD. & SPEC 3.24**

Temporary vehicular stream crossings must be installed whenever more than two (2) crossings (one-way) occur within six months.

Sequence of Installation:	Prior to stream crossing
Maintenance:	Refer to Std. & Spec. 3.24
Removal Event:	After construction is complete and the need to cross the stream is eliminated.

### **24. UTILITY STREAM CROSSING – STD. & SPEC 3.25**

Utility stream crossings should be constructed in accordance with Std. and Spec. 3.25 to help protect sediment from entering the stream during construction and minimize the amount of disturbance.

Sequence of Installation:	As part of utility installation activities
Maintenance:	Refer to Std. & Spec. 3.25
Removal Event:	Following utility installation

### **25. DEWATERING STRUCTURE – STD. & SPEC. 3.26**

A temporary settling and filtering device for water which is discharged from dewatering activities.

Sequence of Installation:	As needed
Maintenance:	Refer to Std. & Spec. 3.26
Removal Event:	After all dewatering has taken place.

### **26. TURBIDITY CURTAIN – STD. & SPEC. 3.27**

A floating geotextile material to minimize sediment transport from a disturbed area adjacent to or within a body of water.

Sequence of Installation:	Prior to upstream land disturbance
Maintenance:	Refer to Std. & Spec. 3.27

Removal Event: Following permanent upstream stabilization

## **27. SUBSURFACE DRAIN – STD. & SPEC. 3.28**

A perforated conduit such as pipe, tubing or tile installed beneath the ground to intercept and convey ground water.

Sequence of Installation: As needed with slope grading  
Maintenance: Refer to Std. & Spec. 3.28  
Removal Event: This is permanent and shall not be removed

## **28. SURFACE ROUGHENING – STD. & SPEC. 3.29**

Provide a rough surface with horizontal depressions created by operating a tillage or other suitable implement on the contour, or by leaving slopes in a roughened condition by not fine-grading them.

Sequence of Installation: As part of grading activities, prior to seeding  
Maintenance: Refer to Std. & Spec. 3.29  
Removal Event: Not Applicable

## **29. MS-16: UTILITY INSTALLATION**

No more than 500 linear feet of utility trench may be opened at one time. Excavated material shall be placed on the uphill side of trenches. Effluent from dewatering operations shall be filtered or passed through approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property. Backfill material shall be properly compacted to minimize erosion and promote stabilization.

## **2.9 Vegetative Practices**

GENERAL: A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized by concrete or pavement. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion. New vegetation shall be maintained for one full year after planting. New seeding shall be supplied with adequate moisture, especially late in the season, and in abnormally hot or dry weather. Stabilization practices shall be accomplished in accordance with the appropriate VESCH Std. & Spec. as provided in the Appendix, and the Erosion and Sediment Control Plan. Selection of the appropriate seed mixture for temporary seeding will depend upon the time of year it is applied.

## 1. VEGETATIVE STREAMBANK STABILIZATION – STD. & SPEC. 3.22

Install vegetation to stabilize stream banks and protect from the erosive forces of flowing water where indicated on the plans.

Sequence of Installation:	Following grading activities
Maintenance:	Refer to Std. & Spec. 3.22; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event:	This is a permanent practice, refer to Std. & Spec. 3.22 for information on required repairs and vegetative establishment.

## 2. TOPSOILING – STD. & SPEC. 3.30

In order to stabilize final site grades, suitable, organic growth medium shall be used. This can be accomplished through on-site preservation of existing topsoil or imported topsoil.

Sequence of Installation:	Following final grading/surface roughening where applicable.
Maintenance:	Refer to Std. & Spec. 3.30; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event:	This is a permanent practice and shall not be removed.

## 3. TEMPORARY SEEDING – STD. & SPEC. 3.31

Temporary seeding shall be applied over denuded areas within 7 days for areas that will not be brought to final grade within 30 days. Temporary seeding mixes shall be as described on the detail drawings.

Sequence of Installation:	When cleared areas will not be brought to final grade within 30 days
Maintenance:	Refer to Std. & Spec. 3.31; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event:	As needed for final grading.

## 4. PERMANENT SEEDING – STD. & SPEC. 3.32

Permanent seeding shall also be used on all areas that are not at final grade and that will be left dormant for a period of more than 1 year. If conflicts exist between the project specifications and the VESCH Std. & Spec. 3.32, the more stringent requirement shall apply. Permanent seeding mixes and rates are found on sheet [XXX] Erosion and Sediment Control Details.

Sequence of Installation:	Within 7 days of achieving final grade or as noted above
Soil Testing Requirements:	Refer to Std. & Spec. 3.32
Maintenance:	Refer to Std. & Spec. 3.32; areas which fail to establish vegetative cover adequate to prevent rill erosion are to be immediately reseeded, following identification of the cause of poor germination.

#### **5. SODDING – STD. & SPEC. 3.33**

Sod shall be installed where indicated on the plans in fine-graded areas to establish an immediate permanent turf cover.

Sequence of Installation:	Following establishment of final grade
Maintenance:	Refer to Std. & Spec. 3.33
Removal Event:	This is a permanent practice and should not be removed.

#### **6. BERMUDAGRASS & ZOYSIAGRASS ESTABLISHMENT – STD. & SPEC. 3.34**

Bermudagrass & Zoysiagrass shall be planted only where indicated on the plans using plugs, sprigs, or stolons to provide a vegetative ground cover more rapidly than traditional seeding methods.

Sequence of Installation:	Within 7 days of achieving final grade or as noted above
Soil Testing Requirements:	Refer to Std. & Spec. 3.34
Maintenance:	Refer to Std. & Spec. 3.34

#### **7. MULCHING – STD. & SPEC. 3.35**

Application of plant residues or other suitable material shall be installed to prevent erosion and foster growth of vegetation to areas which have been seeded or in areas which cannot be seeded because of season to provide some protection to the soil surface.

Sequence of Installation:	Following establishment of final grade and placement of lime, fertilize, and seed or in areas which cannot be seeded because of the season
Maintenance:	Refer to Std. & Spec. 3.35
Removal Event:	not applicable unless used for temporary cover in areas which cannot be seeded because of the season

## 8. SOIL STABILIZATION BLANKETS AND MATTING – STD. & SPEC. 3.36

Blankets and matting shall be used to aid in controlling erosion on critical areas by providing a microclimate which protects young vegetation and promotes its establishment. In addition, some types of soil stabilization mats are also used to raise the maximum permissible velocity of turf grass stands in channelized areas by “reinforcing the turf” to resist the forces of erosion during storm events.

Sequence of Installation:	Following establishment of final grade and placement of lime, fertilize, and seed.
Maintenance:	Refer to Std. & Spec. 3.36
Removal Event:	This is permanent and shall not be removed.

## 9. TREES, SHRUBS, VINES, & GROUNDCOVERS – STD. & SPEC. 3.37

Trees, shrubs, vines, and groundcovers shall be planted as indicated on the plans in order to stabilize disturbed areas.

Sequence of Installation:	Following establishment of final grade.
Maintenance:	Refer to Std. & Spec. 3.37
Removal Event:	This is permanent and shall not be removed.

## 10. TREE PRESERVATION AND PROTECTION – STD. & SPEC. 3.38

Desirable trees shall be protected from mechanical and other injury during land disturbing activity to ensure their survival.

Sequence of Installation:	Prior to any site disturbance and grading activities
Maintenance:	Refer to Std. & Spec. 3.38
Removal Event:	Following permanent stabilization of entire site

## 11. DUST CONTROL – STD. & SPEC. 3.39

During land disturbance, reduce surface and air movement of dust in areas subject to dust problems in order to prevent soil loss and reduce the presence of potentially harmful airborne substances.

Sequence of Installation:	Immediately as needed to reduce surface and air movement of dust in areas subject to dust problems
Maintenance:	Refer to Std. & Spec. 3.39
Removal Event:	N/A

## 2.10 Management Strategies

The Contractor will designate an employee certified as the "Responsible Land Disturber" (RLD), by the Commonwealth of Virginia, Department of Environmental Quality (VADEQ), who is in charge of and is responsible for carrying out the land-disturbing activities on this project. This employee shall also inspect for deficiencies immediately after each rainfall, at least daily during prolonged rainfall, and at least weekly when no rainfall occurs. Contractors shall provide written documentation to [Owner] that they meet this requirement prior to [Owner] awarding the construction contract, and [Owner] shall provide the name of the RLD to [Regulatory Authority] and VADEQ prior to land disturbance. In the interim until the work starts, [Interim RLD], [the licensed professional] is the RLD.

1. As first step measures, the construction entrance, silt fence, diversions, temporary sediment traps, temporary sediment basins, and inlet/culvert protection shall be installed as indicated prior to upslope land disturbance. [Modify as appropriate for individual projects]
2. Stabilization measures shall be applied to earthen structures such as diversions immediately after installation. [Modify as appropriate for individual projects]
3. Inlet protection as indicated on the Plan shall be installed for new inlets as they become operational.
4. Stockpiling of soil [is/is not] planned.
5. Gravel stabilization shall be installed on the building pad area and paved areas as soon as the "final" subgrade elevation is obtained.
6. Permanent seeding will be used on all disturbed areas that are not scheduled to receive concrete surfacing, or landscaping (hardwood mulch, etc.).
7. Areas that are not to be disturbed shall be clearly marked by flags, signs, etc.

8. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

## **2.11 Phased Construction Activities**

[Describe the intended construction sequencing and timing of major activities, including grading activities, road and utility installation, and building phases. It may be useful to develop a separate, detailed site map for each phase of construction. Add phases as needed below.]

1. Phase I
  - a. Describe phase
  - b. Duration of phase (start date, end date)
  - c. List BMPs associated with this phase
  - d. Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)
2. Phase 2
  - a. Describe phase
  - b. Duration of phase (start date, end date)
  - c. List BMPs associated with this phase
  - d. Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)
3. Phase 3
  - a. Describe phase
  - b. Duration of phase (start date, end date)
  - c. List BMPs associated with this phase
  - d. Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)
4. After the stabilization of the site is complete, all temporary erosion and sediment control devices will be removed.

## **2.12 Permanent Stabilization**

All areas disturbed by construction shall be stabilized with permanent seeding, landscaping, pavement, or concrete following the final grading.

## **2.13 Maintenance**

1. The contractor shall inspect all erosion control measures immediately after each run-off producing rainfall event, at least daily during prolonged rainfall, at least weekly when no rainfall occurs, and in accordance with the Virginia Stormwater Management Program (VSMP) Permit Regulations. The following areas will be checked in particular:
  - a. All devices used at entrances to the storm drain system shall be checked for their performance. If repairs need to be made, they shall be done in a responsible manner.
  - b. Sediment shall be removed when the sediment has accumulated to one half the design depth of the barrier. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
  - c. All vegetated areas shall be checked regularly to ensure that a good stand is maintained. Areas shall be fertilized and repaired by reseeding as necessary.
2. [Entity responsible for maintenance] personnel will be responsible for maintenance.

#### **Required Certification**

The submitted erosion and sediment control narrative (Section 2), including its referenced appendices, and attached plans are complete and meet all applicable requirements to the best of my knowledge.

\_\_\_\_\_  
**Licensed Professional Signature / Seal**

\_\_\_\_\_  
**Date**

## SECTION 3: POLLUTION PREVENTION PLAN

### 3.1 Equipment and Vehicle Washing

[Describe measures to minimize the discharge of pollutants from wash waters.]

### 3.2 Building Materials/Products, Construction Wastes, Landscape Materials, and/or Other Materials

[Describe construction materials expected to be stored on-site and procedures for storage of materials to minimize exposure of the materials to stormwater.]

### 3.3 Chemical Spill/Leak Prevention and Control Plan

[Describe the spill prevention and control plan to include ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control.]

### 3.4 Washout Areas

[Describe location(s) and controls to minimize the potential for stormwater pollution from washout areas for concrete mixers, paint, stucco, etc.]

### 3.5 Equipment/Vehicle Fueling and Maintenance Practices

[Describe equipment/vehicle fueling and maintenance practices that will be implemented to control pollutants, including but not limited to, fuels, oils, soaps, and solvents, to stormwater (e.g., secondary containment, drip pans, spill kits, etc.).]

### 3.6 Allowable non-stormwater discharges

[For the allowable non-stormwater discharge(s) associated with construction activity, including dewatering activities, identified, describe controls and measures that will be implemented at those sites to minimize pollutant discharges. This includes irrigation, water related dust control, or other non-stormwater discharges.]

### 3.7 Material Handling and Waste Management

[Describe measures (i.e., trash disposal, sanitary wastes, recycling, and proper material handling) to prevent the discharge of solid materials to waters of the U.S., except as authorized by a permit issued under section 404 of the CWA.]

### 3.8 Additional BMPs:

[Describe any additional BMPs that don't fit into the above categories. Indicate the problem they are intended to address.]

## SECTION 4: STORMWATER MANAGEMENT

### 4.1 General Information

1. Existing Conditions: Refer to Sections 1.5, 2.5, 2.6, and 4.1 of this report and refer to Figure [X ] showing a map of existing conditions.

[Provide a map(s) showing the following information.

- a. Topography and Contributing Drainage Areas and patterns;
- b. Existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;
- c. Soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
- d. Natural features to be preserved;
- e. Current land use including existing structures, roads, and locations of known utilities and easements; and
- f. Sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels.]

2. Proposed Conditions: [Describe the proposed conditions and refer to Figure [X ] showing a map of existing conditions.]

[Provide a map(s) showing the following information.

- a. Proposed grading and Drainage Areas;
- b. The limits of clearing and grading, and the proposed drainage patterns on the site;
- c. Proposed buildings, roads, parking areas, utilities, and stormwater management facilities;
- d. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements; and
- e. Identification and location of proposed stormwater facilities and discharges, including description of the surface waters, or karst features, into which the facility will discharge.]

3. Rainfall Values: Rainfall values were based on the VDOT's adoption & implementation of NOAA Atlas 14 rainfall precipitation frequency data. Rational runoff method was utilized to determine peak design flows for the runoff analysis. Rainfall values can be found in [Refer to appendix or table – source: [http://hdsc.nws.noaa.gov/hdsc/pfds/pfds\\_map\\_cont.html?bkmrk=va](http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=va) ].

4. Time of Concentration: Times of Concentration (Tc) for drainage areas were calculated utilizing the [method]. "Time of Concentration" flow routes are shown on [Figures] and the calculations for Tc are located in [Appendix].
5. Hydrologic Methodology: [Provide description of methodology used]
6. Hydraulic Methodology: [Provide description of methodology used]
7. Pre-Development Analysis  
  
[Provide a summary table of pre-development drainage areas including area, curve number, and time of concentration]
8. Development Analysis  
  
[Provide a summary table of development drainage areas including area, curve number, and time of concentration]

## 4.2 Water Quality Compliance

1. Design Criteria: [provide summary of criteria; example – New Development: 0.41 lbs / acre / year = X.XX total lbs / acre / year of phosphorus removal required]
2. Proposed Best Management Practices (BMPs)
  - a. [type]
    - i. Location:
    - ii. XXX Acres Treated
    - iii. X.XX total lbs / acre / year of phosphorus removal provided
  - b. [type]
    - i. Location:
    - ii. XXX Acres Treated
    - iii. X.XX total lbs / acre / year of phosphorus removal provided
  - c. [type]
    - i. Location:
    - ii. XXX Acres Treated
    - iii. X.XX total lbs / acre / year of phosphorus removal provided
  - d. [type]
    - i. Location:
    - ii. XXX Acres Treated
    - iii. X.XX total lbs / acre / year of phosphorus removal provided
3. Compliance - Runoff Reduction Method: Refer to Appendix [X] for the runoff reduction spreadsheet.
  - a. Requirement: X.XX total lbs / acre / year of phosphorus removal

- b. Provided: X.XX total lbs / acre / year of phosphorus removal
- c. Adjusted Runoff Curve Number [Provide a summary table of development drainage areas, size, and adjusted runoff curve number]

### 4.3 Water Quantity Compliance

[Use adjusted curve numbers from the runoff reduction method in calculations below.]

1. Channel Protection Criteria: [Man-made][Restored][Natural] stormwater conveyance systems. Refer to Appendix [X] for detailed calculations.
  - a.  $Q_{\text{pre-developed, 1-yr, 24-hr}} = \text{XXX cfs}$
  - b.  $RV_{\text{pre-developed, 1-yr, 24-hr}} = \text{XXX cf}$
  - c.  $Q_{\text{developed, 1-yr, 24-hr}} = \text{XXX cfs}$
  - d.  $RV_{\text{developed, 1-yr, 24-hr}} = \text{XXX cf}$
  - e.  $IF = [0.8][0.9]$
2. Flood Protection Criteria: [Man-made][Restored][Natural] stormwater conveyance systems. Refer to Appendix [X] for detailed calculations.
  - a.  $Q_{\text{pre-developed, 10-yr, 24-hr}} = \text{XXX cfs}$
  - b.  $Q_{\text{developed, 10-yr, 24-hr}} = \text{XXX cfs}$

#### 3. Proposed Stormwater Management Facilities

[Provide description of any quantity storage, or explanation as to why none is required]

- a. [type and description]
  - i. Location:
  - ii. XXX Acres Tributary Drainage Area
  - iii. [Description of the surface waters, or karst features, into which the facility will discharge.]
  - iv. [Provide a table of pre/post runoff release rates tributary to the facility.]
- b. [type and description]
  - i. Location:
  - ii. XXX Acres Tributary Drainage Area
  - iii. [Description of the surface waters, or karst features, into which the facility will discharge.]
  - iv. [Provide a table of pre/post runoff release rates tributary to the facility.]

### 4.4 Post-Construction Inspections

1. **BMP Description:** INSERT TEXT HERE

SWPPP  
 Project Name: \_\_\_\_\_  
 Tax / Parcel No(s): \_\_\_\_\_

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SWPPP Dated: \_\_\_\_\_  
 Plans Dated: \_\_\_\_\_  
 Submittal Number: \_\_\_\_\_

a. Installation Schedule: INSERT TEXT HERE

b. Maintenance and Inspection:

Description	Method	Frequency	Time of year
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

c. Responsible Persons: INSERT TEXT HERE

**2. BMP Description:** INSERT TEXT HERE

a. Installation Schedule: INSERT TEXT HERE

b. Maintenance and Inspection:

Description	Method	Frequency	Time of year
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

c. Responsible Persons: INSERT TEXT HERE

**3. BMP Description:** INSERT TEXT HERE

a. Installation Schedule: INSERT TEXT HERE

b. Maintenance and Inspection:

Description	Method	Frequency	Time of year
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

c. Responsible Persons: INSERT TEXT HERE

**Required Certification**

The submitted stormwater management narrative (Section 4), including its referenced appendices, and attached plans are complete and meet all applicable requirements to the best of my knowledge.

\_\_\_\_\_  
**Licensed Professional Signature / Seal**

\_\_\_\_\_  
**Date**

SWPPP

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SWPPP Dated: \_\_\_\_\_

Project Name: \_\_\_\_\_

Plans Dated: \_\_\_\_\_

Tax / Parcel No(s): \_\_\_\_\_

Submittal Number: \_\_\_\_\_

## SECTION 5: CONSTRUCTION INSPECTIONS and MAINTENANCE

### 5.1 Inspections

- **Inspection Personnel:**

Identify the person(s) who will be responsible for conducting inspections and describe their qualifications.

- INSERT TEXT HERE

- **Inspection Schedule and Procedures:**

- a. Inspections will be conducted at least once every 14 calendar days and within 48 hours following any runoff producing storm event. Where areas have been temporarily stabilized or runoff is unlikely due to winter conditions (e.g., the site is covered with snow or ice, or frozen ground exists) such inspections will be conducted at least once every month.

- INSERT TEXT HERE

- b. Describe the general procedures for correcting problems when they are identified. Include responsible staff and timeframes for making corrections.

- INSERT TEXT HERE

- c. Attach a copy of the inspection report you will use for your site.

- See Appendix E.

### 5.2 Maintenance of Controls

**Table 5.1 – Maintenance Procedures**

Schedule Frequency	Actions to be Taken	Persons Responsible
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE
INSERT TEXT HERE	INSERT TEXT HERE	INSERT TEXT HERE

[illegible]

## SECTION 6: TRAINING

Describe Training Conducted:

- General stormwater and BMP awareness training for staff and subcontractors  
INSERT TEXT HERE
- Detailed training for staff and subcontractors with specific stormwater responsibilities  
INSERT TEXT HERE
- Individual(s) Responsible for Training:  
INSERT TEXT HERE

### 6.1 Pre-Construction Training

**Date:** mm / dd / yyyy

**Start Time:** hh:mm

**Finish Time:** hh:mm

#### Attendees

☐ Locality

Number of attendees: INSERT TEXT HERE

☐ A/E

Number of attendees: INSERT TEXT HERE

☐ Contractor

Number of attendees: INSERT TEXT HERE

☐ Subcontractor(s)

Number of attendees: INSERT TEXT HERE

#### Subjects Covered

• Locality

INSERT TEXT HERE

• Engineer

☐ ESC/SWM Measures

▪ INSERT COMMENTS HERE

☐ BMPs

▪ INSERT COMMENTS HERE

☐ Other(s)

▪ INSERT COMMENTS HERE

• Contractor

☐ Project Sequencing

▪ INSERT COMMENTS HERE

☐ Material Handling and Waste Management

▪ INSERT COMMENTS HERE

- ☐ Building Material Staging Area
  - INSERT COMMENTS HERE
- ☐ Washout Areas
  - INSERT COMMENTS HERE
- ☐ Equipment/Vehicle Fueling and Maintenance Areas
  - INSERT COMMENTS HERE
- ☐ Allowable Non-Stormwater Discharges
  - INSERT COMMENTS HERE
- ☐ Spill Prevention
  - INSERT COMMENTS HERE
- ☐ Map of Good Housekeeping BMPs
  - INSERT COMMENTS HERE
- ☐ Other(s)
  - INSERT COMMENTS HERE

- Subcontractor(s) INSERT TEXT HERE

## 6.2 Progress Report Meeting

**Date:** mm / dd / yyyy

**Start Time:** hh:mm

**Finish Time:** hh:mm

**Months to Project Completion:** INSERT TEXT HERE

### Attendees

- |   |  |
|---|--|
| <input type="checkbox"/> Locality         | Number of attendees: <u>INSERT TEXT HERE</u> |
| <input type="checkbox"/> Engineer         | Number of attendees: <u>INSERT TEXT HERE</u> |
| <input type="checkbox"/> Contractor       | Number of attendees: <u>INSERT TEXT HERE</u> |
| <input type="checkbox"/> Subcontractor(s) | Number of attendees: <u>INSERT TEXT HERE</u> |

### Subjects Covered

- Locality..... INSERT TEXT HERE
- Engineer
  - ☐ Final Stabilization Measures
    - (Refer to Section 7)

- INSERT COMMENTS HERE

☐ Other(s)

- INSERT COMMENTS HERE

• Contractor INSERT TEXT HERE

• Subcontractor(s) INSERT TEXT HERE

### 6.3 Post-Construction Training

**Date:** mm / dd / yyyy

**Start Time:** hh:mm

**Finish Time:** hh:mm

#### Attendees

☐ Locality

Number of attendees: INSERT TEXT HERE

☐ Engineer

Number of attendees: INSERT TEXT HERE

☐ Contractor

Number of attendees: INSERT TEXT HERE

☐ Subcontractor(s)

Number of attendees: INSERT TEXT HERE

#### Subjects Covered

• Locality INSERT TEXT HERE

• Engineer ☐ Final Stabilization Measures

- (Refer to Section 7)

- INSERT COMMENTS HERE

☐ Post-Construction BMPs

- (Refer to Section 4)

- INSERT COMMENTS HERE

☐ Other(s)

- INSERT COMMENTS HERE

• Contractor INSERT TEXT HERE

• Subcontractor(s) INSERT TEXT HERE

## SECTION 7: FINAL STABILIZATION

- INSERT PROCEDURES FOR FINAL STABILIZATION HERE

DRAFT

## **APPENDIX J**

Erosion Control Notes

## **Erosion and Sediment Control Plan Notes**

An erosion and sediment control program adopted by a district or locality must be consistent with the following minimum standard (MS) criteria, techniques and methods:

MS-1 Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant (undisturbed) for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

MS-2 During construction of the project, soil stockpiles shall be stabilized or protected with sediment trapping measures. The contractor is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.

MS-3 A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that, in the opinion of the local Authority, is uniform, mature enough to survive and will inhibit erosion.

MS-4 Sediment basins and traps, perimeter dikes, sediment barriers, and other measures intended to trap sediment shall be constructed as a first step in any land disturbing activity, and shall be made functional before upslope land disturbance takes place.

MS-5 Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

MS-6 Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.

- (a) The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
- (b) The surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a twenty-five year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.

MS-7 Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

MS-8 Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

MS-9 Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

MS-10 All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

MS-11 Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

MS-12 When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Non-erodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by non-erodible cover materials.

MS-13 When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of non-erodible material shall be provided.

MS-14 All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.

MS-15 The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

MS-16 Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

1. No more than 500 linear feet of trench may be opened at one time.
2. Excavated material shall be placed on the uphill side of trenches.
3. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.

4. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
5. Re-stabilization shall be accomplished in accordance with these regulations.
6. Applicable safety regulations shall be complied with.

MS-17 Where construction vehicle access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a public road surface, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual subdivision lots as well as to larger land-disturbing activities.

MS-18 All temporary erosion control measures shall be removed within 30 days after final site stabilization, or after the temporary measures are no longer needed unless otherwise authorized by the VESCP administrator. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

MS-19 Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:

1. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
2. Adequacy of all channels and pipes shall be verified in the following manner:
  - a) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
    - i) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.
    - ii) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and

- iii) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
- b) If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
  - i) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to channel the bed or banks; or
  - ii) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances;
  - iii) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
  - iv) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.
- 3. The applicant shall provide evidence of permission to make the improvements.
- 4. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
- 5. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
- 6. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipaters shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
- 7. All on-site channels must be verified to be adequate.
- 8. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
- 9. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
- 10. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
- 11. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements

for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to:

- a) Detain the water quality volume and to release it over 48 hours;
- b) Detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and
- c) Reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 10.1-562 or 10.1-570 of the Act.
- d) For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:51 for the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 4VAC50-60-48 of the Virginia Stormwater Management Program (VSMP) permit regulations.
- e) Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSMP) permit regulations shall be deemed to satisfy the requirements of minimum standard 19.

## **APPENDIX K**

Virginia Runoff Reduction Method  
Compliance Spreadsheets

**Virginia Runoff Reduction Method New Development Worksheet -- v2.7 Revised April 2013**

<b>Site Data</b>					
<b>Project Name:</b>					
<b>Date:</b>					
	data input cells				
	calculation cells				
	constant values				
<b>1. Post-Development Project &amp; Land Cover Information</b>					
<b>Constants</b>					
Annual Rainfall (inches)	43				
Target Rainfall Event (inches)	1.00				
Phosphorus EMC (mg/L)	0.26		Nitrogen EMC (mg/L)	1.86	
Target Phosphorus Target Load (lb/acre/yr)	0.41				
Pj	0.90				
<b>Land Cover (acres)</b>					
	<b>A soils</b>	<b>B Soils</b>	<b>C Soils</b>	<b>D Soils</b>	<b>Totals</b>
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed	0.00	0.00	0.00	0.00	0.00
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00
				<b>Total</b>	0.00
<b>Rv Coefficients</b>					
	<b>A soils</b>	<b>B Soils</b>	<b>C Soils</b>	<b>D Soils</b>	
Forest/Open Space	0.02	0.03	0.04	0.05	
Managed Turf	0.15	0.20	0.22	0.25	
Impervious Cover	0.95	0.95	0.95	0.95	
<b>Land Cover Summary</b>					
Forest/Open Space Cover (acres)	0.00				
Weighted Rv(forest)	0.00				
% Forest	0%				
Managed Turf Cover (acres)	0.00				
Weighted Rv(turf)	0.00				
% Managed Turf	0%				
Impervious Cover (acres)	0.00				
Rv(impervious)	0.95				
% Impervious	0%				
<b>Total Site Area (acres)</b>	0.00				
<b>Site Rv</b>	0.00				
Post-Development Treatment Volume (acre-ft)	0.00				
Post-Development Treatment Volume (cubic feet)	0				
Post_Development Load (TP) (lb/yr)	0.00	Post_Development Load (TN) (lb/yr)		0.00	
Total Load (TP) Reduction Required (lb/yr)	0.00				

[illegible]

13.b. Wet Pond #1 (Coastal Plain) (Spec. #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
13.c. Wet Pond #2 (Spec. #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
13.d. Wet Pond #2 (Coastal Plain) (Spec. #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
14. Manufactured BMP																
14. Inlet Name of Device	impervious acres draining to device	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
TOTAL IMPROVING COVER TREATMENT																
TOTAL IMPROVING COVER TREATMENT																
AREA CHECK OK																
PHOSPHORUS REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. A																
TOTAL PHOSPHORUS REMOVAL IN D.A. A (lb/yr)																
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS																
NITROGEN REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. A																
TOTAL NITROGEN REMOVAL IN D.A. A (lb/yr)																

Drainage Area B																							
Drainage Area B Land Cover (acres)																							
		A Soils	B Soils	C Soils	D Soils	Total	Land Cover %																
Forest/Open Space (acres)		0.00	0.00	0.00	0.00	0.00	0.00																
Municipal/Turf (acres)		0.00	0.00	0.00	0.00	0.00	0.00																
Impervious Cover (acres)		0.00	0.00	0.00	0.00	0.00	0.00																
		Total				0.00 <th colspan="2">0.00<th colspan="15">Post Development Treatment Volume (cfs)</th></th>	0.00 <th colspan="15">Post Development Treatment Volume (cfs)</th>		Post Development Treatment Volume (cfs)														
						0 <th colspan="2"></th> <th colspan="15"></th>																	
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area B																							
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cfs)	Runoff Reduction (cfs)	Remaining Runoff Volume (cfs)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs.)	Untrapped Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs.)	Untrapped Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)					
1. Vegetated Roof														1. Green Roof									
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
1.b. Vegetated Roof #2 (Spec #5)	acres of green roof	60% runoff volume reduction	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2. Rooftop Disconnection														2. Impervious Surface Disconnection									
2.a. Simple Disconnection to A/B Soils (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.b. Simple Disconnection to C/D Soils (Spec #1)	impervious acres disconnected	25% runoff volume reduction for treated area	0.25	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.c. To Soil Amended Filter Strip as per specifications (existing C/D soils) (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.d. To Dry Well or French Drain #1 Microinfiltration #1 (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
2.e. To Dry Well or French Drain #2 Micro-Infiltration #2 (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
2.f. To Rain Garden #1 (Micro-Bioretenion #1) (Spec #5)	impervious acres disconnected	40% of volume captured	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
2.g. To Rain Garden #2 (Micro-Bioretenion #2) (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area based on tank size and design specifications (see Spec #5)	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
2.h. To Rainwater Harvesting (Spec #5)	impervious acres captured		0.00	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.i. To Stormwater Pallet (Urban Bio-Retention) (Spec #5, Appendix A)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
3. Permeable Pavement														3. Permeable Pavement									
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "summer landscape" impervious	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
4. Grass Channel														4. Grass Channel									
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
5. Dry Swale														5. Dry Swale									
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00					
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00					
6. Bioretention														6. Bioretention									
6.a. Bioretention #1 or Urban Bioretention (Spec #9)	impervious acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
	turf acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
6.b. Bioretention #2 (Spec #9)	impervious acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
	turf acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
7. Infiltration														7. Infiltration									
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
	turf acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
8. Extended Detention Pond														8. Extended Detention Pond									
8.a. ED #1 (Spec #15)	impervious acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
	turf acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
9. Sheetflow to Filter/Open Space														9. Sheetflow to Conservation Area or Filter Strip									
9.a. Sheetflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
9.b. Sheetflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
9.c. Sheetflow to Vegetated Filter Strip in Soils or Compost Amended (Micro-Bioretention) (Spec #4 & 5)	impervious acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
TOTAL IMPERVIOUS COVER TREATED (sq. ft.)																							
TOTAL TURF AREA TREATED (sq. ft.)																							
AREA CHECK OK																							
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lbs.)														0.00									
TOTAL PHOSPHORUS REMOVAL REQUIRED IN A & B (lbs.)														0									
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN A & B (lbs.)														0.00									
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS														NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN A & B (lbs.)									
														0									
Apply Practices that Remove Pollutants but Do Not Reduce Runoff Volume																							
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cfs)	Runoff Reduction (cfs)	Remaining Runoff Volume (cfs)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs.)	Untrapped Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs.)	Untrapped Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)					
10. Wet Swale (Coastal Plain)														10. Wet Swale (Coastal Plain)									
	impervious acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
10.a. Wet Swale #1 (Spec #11)	turf acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	impervious acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
10.b. Wet Swale #2 (Spec #11)	turf acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
11. Filtering Practices														11. Filtering Practices									
	impervious acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
11.a. Filtering Practice #1 (Spec #12)	turf acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	impervious acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
11.b. Filtering Practice #2 (Spec #12)	turf acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
12. Constructed Wetland														12. Constructed Wetland									
	impervious acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
12.a. Constructed Wetland #1 (Spec #1)	turf acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	impervious acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
12.b. Constructed Wetland #2 (Spec #1)	turf acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
13. Wet Ponds														13. Wet Ponds									
	impervious acres draining to wet pond	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
13.a. Wet Pond #1 (Spec #14)	turf acres draining to wet pond	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					

13.b. Wet Pond #1 (Coastal Plain) (Slope #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
13.c. Wet Pond #2 (Slope #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
13.d. Wet Pond #2 (Coastal Plain) (Slope #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	65	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	65	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	65	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	65	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
14. Manufactured BMP																
14. Inlet Near of Device	impervious acres draining to device	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
TOTAL IMPROVING COVER TREATMENT																
TOTAL IMPROVING COVER TREATMENT																
AREA CHECK OK																
PHOSPHORUS REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. #																
TOTAL PHOSPHORUS REMOVAL IN D.A. # (b)(1)																
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS																
NITROGEN REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. #																
TOTAL NITROGEN REMOVAL IN D.A. # (b)(1)																

Drainage Area C																							
Drainage Area C Land Cover (acres)																							
		A Soils	B Soils	C Soils	D Soils	Total	Land Cover %																
Forest/Open Space (acres)		0.00	0.00	0.00	0.00	0.00	0.00																
Municipal/Turf (acres)		0.00	0.00	0.00	0.00	0.00	0.00																
Impervious Cover (acres)		0.00	0.00	0.00	0.00	0.00	0.00																
		Total				0.00 <th colspan="2">0.00<th colspan="15">Post Development Treatment Volume (cfs)</th></th>	0.00 <th colspan="15">Post Development Treatment Volume (cfs)</th>		Post Development Treatment Volume (cfs)														
						0.00			0														
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area C																							
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cfs)	Runoff Reduction (cfs)	Remaining Runoff Volume (cfs)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untrapped Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs)	Untrapped Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)					
1. Vegetated Roof														1. Green Roof									
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
1.b. Vegetated Roof #2 (Spec #5)	acres of green roof	60% runoff volume reduction	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2. Roofing Disconnection														2. Impervious Surface Disconnection									
2.a. Simple Disconnection to A/B Soils (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.b. Simple Disconnection to C/D Soils (Spec #1)	impervious acres disconnected	25% runoff volume reduction for treated area	0.25	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.c. To Soil Amended Filter Strip as per specifications (existing C/D soils) (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.d. To Dry Well or French Drain #1 Microinfiltration #1 (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
2.e. To Dry Well or French Drain #2 Microinfiltration #2 (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
2.f. To Rain Garden #1 (Microinfiltration #1) (Spec #5)	impervious acres disconnected	40% of volume captured	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
2.g. To Rain Garden #2 (Microinfiltration #2) (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area based on tank size and design specifications (see Spec #5)	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
2.h. To Rainwater Harvesting (Spec #5)	impervious acres captured		0.00	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.i. To Stormwater Plaster (Urban Retention Spec #5, Associated Urban Retention Spec #5)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
3. Permeable Pavement														3. Permeable Pavement									
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "summer landscape" impervious	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
4. Grass Channel														4. Grass Channel									
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
5. Dry Swale														5. Dry Swale									
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00					
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00					
6. Bioretention														6. Bioretention									
6.a. Bioretention #1 or Urban Bioretention (Spec #9)	impervious acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
	turf acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
6.b. Bioretention #2 (Spec #9)	impervious acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
	turf acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
7. Infiltration														7. Infiltration									
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	90% runoff volume reduction	0.90	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
	turf acres draining to infiltration	90% runoff volume reduction	0.90	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
8. Extended Detention Pond														8. Extended Detention Pond									
8.a. ED #1 (Spec #15)	impervious acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
	turf acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
9. Sheetflow to Filter/Open Space														9. Sheetflow to Conservation Area or Filter Strip									
9.a. Sheetflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
9.b. Sheetflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
9.c. Sheetflow to Vegetated Filter Strip in Soils or Compost Amended (Microinfiltration Spec #5 & A/B)	impervious acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
			TOTAL IMPERVIOUS COVER TREATED (sq. ft.)																				
			TOTAL TURF AREA TREATED (sq. ft.)																				
			AREA CHECK OK																				
			TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lbs.)				0.00																
			TOTAL RUNOFF REDUCTION IN D.A. C (cfs)				0																
			PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. C (lbs.)				0.00																
			SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS				NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. C (lbs.)																
							0.00																
Apply Practices that Remove Pollutants but Do Not Reduce Runoff Volume																							
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cfs)	Runoff Reduction (cfs)	Remaining Runoff Volume (cfs)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untrapped Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs)	Untrapped Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)					
10. Wet Swale (Coastal Plain)														10. Wet Swale (Coastal Plain)									
	impervious acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
10.a. Wet Swale #1 (Spec #11)	turf acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	impervious acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
10.b. Wet Swale #2 (Spec #11)	turf acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
11. Filtering Practices														11. Filtering Practices									
	impervious acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
11.a. Filtering Practice #1 (Spec #12)	turf acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	impervious acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
11.b. Filtering Practice #2 (Spec #12)	turf acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
12. Constructed Wetland														12. Constructed Wetland									
	impervious acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
12.a. Constructed Wetland #1 (Spec #1)	turf acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	impervious acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
12.b. Constructed Wetland #2 (Spec #1)	turf acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
13. Wet Ponds														13. Wet Ponds									
	impervious acres draining to wet pond	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
13.a. Wet Pond #1 (Spec #14)	turf acres draining to wet pond	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					

[illegible]

Drainage Area D Land Cover (Acres)																										
Forest/Open Space (acres)	A Soils	B Soils	C Soils	D Soils	Total	Land Cover %																				
Forest/Open Space (acres)	0.00	0.00	0.00	0.00	0.00	0.00																				
Maintained Turf (acres)	0.00	0.00	0.00	0.00	0.00	0.00																				
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00	0.00																				
Total					0.00	0.00		Post Development Treatment Volume (cfs)								0										
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area D																										
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cfs)	Runoff Reduction (cfs)	Remaining Runoff Volume (cfs)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs.)	Untrapped Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs.)	Untrapped Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)								
1. Vegetated Roof																										
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
1.b. Vegetated Roof #2 (Spec #5)	acres of green roof	60% runoff volume reduction	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
2. Roofing Disconnection																										
2.a. Simple Disconnection to A/B Soils (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
2.b. Simple Disconnection to C/D Soils (Spec #1)	impervious acres disconnected	25% runoff volume reduction for treated area	0.25	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
2.c. To Soil Amended Filter Strip as per specifications (existing C/D soils) (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
2.d. To Dry Well or French Drain #1 Microinfiltration #1 (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00								
2.e. To Dry Well or French Drain #2 Microinfiltration #2 (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00								
2.f. To Rain Garden #1 (Micro-Bioretenion #1) (Spec #5)	impervious acres disconnected	40% of volume captured	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00								
2.g. To Rain Garden #2 (Micro-Bioretenion #2) (Spec #5)	impervious acres disconnected	80% runoff volume reduction for treated area based on tank size and design specifications (see Spec #5)	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00								
2.h. To Rainwater Harvesting (Spec #5)	impervious acres captured		0.00	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
2.i. To Stormwater Pallet (Urban Bio-retention) (Spec #5, Appendix A)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00								
3. Permeable Pavement																										
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "summer degradation" impervious	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00								
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00								
4. Grass Channel																										
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
	turf acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
5. Dry Swale																										
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00								
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00								
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00								
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00								
6. Bioretention																										
6.a. Bioretention #1 or Urban Bioretention (Spec #9)	impervious acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00								
	turf acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00								
6.b. Bioretention #2 (Spec #9)	impervious acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00								
	turf acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00								
7. Infiltration																										
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00								
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00								
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00								
	turf acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00								
8. Extended Detention Pond																										
8.a. ED #1 (Spec #15)	impervious acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00								
	turf acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00								
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00								
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00								
9. Sheetflow to Filter/Open Space																										
9.a. Sheetflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
9.b. Sheetflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
	turf acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
9.c. Sheetflow to Vegetated Filter Strip in Soils or Compost Amended (MCOB Soils (Spec #4 & 5))	impervious acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
	turf acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00								
TOTAL IMPERVIOUS COVER TREATED (sq. ft.)			0.00																							
TOTAL TURF AREA TREATED (sq. ft.)			0.00																							
AREA CHECK OK																										
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lbs/yr)			0.00																							
TOTAL RUNOFF REDUCTION IN D.A. D (cfs)			0																							
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. D (lbs/yr)			0.00																							
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS																										
NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. D (lbs/yr)			0																							
Apply Practices that Remove Pollutants but Do Not Reduce Runoff Volume																										
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cfs)	Runoff Reduction (cfs)	Remaining Runoff Volume (cfs)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs.)	Untrapped Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs.)	Untrapped Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)								
10. Wet Swale (Coastal Plain)																										
	impervious acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
10.a. Wet Swale #1 (Spec #11)	turf acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
	impervious acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
10.b. Wet Swale #2 (Spec #11)	turf acres draining to wet swale	2% runoff volume reduction	0.02	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
11. Filtering Practices																										
	impervious acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
11.a. Filtering Practice #1 (Spec #12)	turf acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
	impervious acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
11.b. Filtering Practice #2 (Spec #12)	turf acres draining to filter	2% runoff volume reduction	0.02	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
12. Constructed Wetland																										
	impervious acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
12.a. Constructed Wetland #1 (Spec #1)	turf acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
	impervious acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
12.b. Constructed Wetland #2 (Spec #1)	turf acres draining to wetland	2% runoff volume reduction	0.02	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
13. Wet Ponds																										
	impervious acres draining to wet pond	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								
13.a. Wet Pond #1 (Spec #14)	turf acres draining to wet pond	2% runoff volume reduction	0.02	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00								

13.b. Wet Pond #1 (Coastal Plain) (Slope #14)	impervious acres draining to wet pond	2% runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	2% runoff volume reduction	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
	impervious acres draining to wet pond	2% runoff volume reduction	0.00	0.00				75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	2% runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
13.c. Wet Pond #2 (Slope #14)	impervious acres draining to wet pond	2% runoff volume reduction	0.00	0.00				66	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	2% runoff volume reduction	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
13.d. Wet Pond #2 (Coastal Plain) (Slope #14)	impervious acres draining to wet pond	2% runoff volume reduction	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	2% runoff volume reduction	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
14. Manufactured BMP																		
14. Inlet Near of Device	impervious acres draining to device	2% runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00
	surf acres draining to device	2% runoff volume reduction	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00
TOTAL IMPROVING COVER TREATMENT 0.00																		
TOTAL TREAT AREA TREATED 0.00																		
AREA CHECK OK																		
PHOSPHORUS REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. 0.00																		
TOTAL PHOSPHORUS REMOVAL IN D.A. 0.00																		
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS																		
NITROGEN REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. 0.00																		
TOTAL NITROGEN REMOVAL IN D.A. 0.00																		

Drainage Area E																			
Drainage Area E Land Cover (Acres)																			
	A.Sols.	B.Sols.	C.Sols.	D.Sols.	Total	Land Cover %													
Forest/Open Space	0.00	0.00	0.00	0.00	0.00	0.00													
Managed Turf Grass	0.00	0.00	0.00	0.00	0.00	0.00													
Impervious Cover (Acres)	0.00	0.00	0.00	0.00	0.00	0.00													
Total						0.00	Post Development Treatment Volume (cfs) 0												
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area E																			
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cf)	Runoff Reduction (cf)	Remaining Runoff Volume (cf)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Unreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs.)	Unreated Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)	
1. Vegetated Roof																			
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		1. Green Roof	0	0.00	0.00	0.00	0.00
1.b. Vegetated Roof #2 (Spec #5)	acres of green roof	60% runoff volume reduction	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
2. Rooftop Disconnection																			
2.a. Simple Disconnection to All Soils (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		2. Impervious Surface Disconnection	0	0.00	0.00	0.00	0.00
2.b. Simple Disconnections to C/D Soils (Spec #1)	impervious acres disconnected	25% runoff volume reduction for treated area	0.25	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
2.c. To Soil Amended Filter Path as per specifications involving C/D soils (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
2.d. To Dry Well or French Drain at Micro-infiltration #1 (Spec #8)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
2.e. To Dry Well or French Drain at Micro-infiltration #2 (Spec #8)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00	
2.f. To Rain Garden #1 (Micro-Infiltration #1) (Spec #8)	impervious acres disconnected	40% of volume captured	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00	
2.g. To Rain Garden #2 (Micro-Infiltration #2) (Spec #8)	impervious acres disconnected	80% runoff volume reduction based on tank size and design specification (See Spec #8)	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00	
2.h. To Rainwater Harvesting (Spec #8)	impervious acres captured	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
2.i. To Stormwater Planter (Urban Retention) (Spec #8, Appendix A)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00	
3. Permeable Pavement																			
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "existing" impervious	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00	
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00	
4. Grass Channel																			
4.a. Grass Channel All Soils (Spec #2)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
4.b. Grass Channel C/D Soils (Spec #2)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
4.c. Grass Channel with Compost Amended Soils as per spec (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to grass channels	30% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
5. Dry Swale																			
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00	
	turf areas draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00	
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00	
	turf areas draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00	
6. Bio-retention																			
6.a. Bio-retention #1 or Urban Retention (Spec #8)	impervious acres draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00	
	turf areas draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00	
6.b. Bio-retention #2 (Spec #8)	impervious acres draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00	
	turf areas draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00	
7. Infiltration																			
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00	
	turf areas draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00	
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	90% runoff volume reduction	0.90	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00	
	turf areas draining to infiltration	90% runoff volume reduction	0.90	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00	
8. Extended Detention Pond																			
8.a. ED #1 (Spec #15)	impervious acres draining to ED	8% runoff volume reduction	0.00	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00	
	turf areas draining to ED	8% runoff volume reduction	0.00	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00	
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00	
	turf areas draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00	
9. Shallow to Filter/Open Space																			
9.a. Shallow to Conservation Area with All Soils (Spec #9)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
	turf areas draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
9.b. Shallow to Conservation Area with C/D Soils (Spec #9)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
	turf areas draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
9.c. Shallow to Vegetated Filter Strip in A Soils or Compost Amended (Micro-Infiltration #3 & #4)	impervious acres draining to filter strip	90% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
	turf areas draining to filter strip	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00	
TOTAL IMPERVIOUS COVER TREATED (a-c)																			0.00
TOTAL TURF AREA TREATED (a-c)																			0.00
AREA CHECK OK																			
TOTAL PHOSPHORUS REMOVAL REQUIRED (ON SITE ABOVE)																			0.00
TOTAL RUNOFF REDUCTION IN D.A. E (b-c)																			0
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. E (b-c)																			0
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS																			
NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. E (b-c)																			0
Apply Practices that Remove Pollutants but Do Not Reduce Runoff Volume																			
Practice	Unit	Description of Credits	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cf)	Runoff Reduction (cf)	Remaining Runoff Volume (cf)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Unreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs.)	Unreated Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)	
10. Wet Swale (Coastal Plain)																			
10.a. Wet Swale #1 (Spec #11)	impervious acres draining to wet swale	2% runoff volume reduction	0.00	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to wet swale	2% runoff volume reduction	0.00	0.00	0	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
10.b. Wet Swale #2 (Spec #11)	impervious acres draining to wet swale	2% runoff volume reduction	0.00	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to wet swale	2% runoff volume reduction	0.00	0.00	0	0	0	40	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
11. Filtering Practices																			
11.a. Filtering Practice #1 (Spec #12)	impervious acres draining to filter	8% runoff volume reduction	0.00	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to filter	8% runoff volume reduction	0.00	0.00	0	0	0	60	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
11.b. Filtering Practice #2 (Spec #12)	impervious acres draining to filter	8% runoff volume reduction	0.00	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to filter	8% runoff volume reduction	0.00	0.00	0	0	0	65	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
12. Constructed Wetland																			
12.a. Constructed Wetland #1 (Spec #1)	impervious acres draining to wetland	8% runoff volume reduction	0.00	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to wetland	8% runoff volume reduction	0.00	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
12.b. Constructed Wetland #2 (Spec #1)	impervious acres draining to wetland	8% runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to wetland	8% runoff volume reduction	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
13. Wet Ponds																			
13.a. Wet Pond #1 (Spec #14)	impervious acres draining to wetland	2% runoff volume reduction	0.00	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	
	turf areas draining to wetland	2% runoff volume reduction	0.00	0.00	0	0	0	50	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00	

13.b. Wet Pond #1 (Coastal Plain) (Slope #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	0.00	0.00	0	0	0	45	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	impervious acres draining to wet pond	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	0.00	0.00	0	0	0	75	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
13.c. Wet Pond #2 (Slope #14)	impervious acres draining to wet pond	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	impervious acres draining to wet pond	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
	surf acres draining to wet pond	0.00	0.00	0	0	0	66	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00
14. Manufactured BMP																
14. Inlet Near of Device	impervious acres draining to device	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	surf acres draining to device	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
	TOTAL IMPROVING COVER TREATMENT	0.00	0.00									0	0.00	0.00	0.00	0.00
	TOTAL TREAT AREA TREATED	0.00	0.00									0	0.00	0.00	0.00	0.00
PHOSPHORUS REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. F																
TOTAL PHOSPHORUS REMOVAL IN D.A. F above																
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS																
NITROGEN REMOVAL BY PRACTICES THAT DO NOT REDUCE RUNOFF VOLUME IN D.A. F																
TOTAL NITROGEN REMOVAL IN D.A. F above																

<b>Site Results</b>						
	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
IMPERVIOUS COVER	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED	0.00	0.00	0.00	0.00	0.00	OK.
TURF AREA	0.00	0.00	0.00	0.00	0.00	OK.
TURF AREA TREATED	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	
<b>Phosphorus</b>						
TOTAL TREATMENT VOLUME (cf)	0					
TOTAL PHOSPHORUS LOAD REDUCTION REQUIRED (LB/YEAR)	0.00					
RUNOFF REDUCTION (cf)	0					
PHOSPHORUS LOAD REDUCTION ACHIEVED (LB/YR)	0.00					
ADJUSTED POST-DEVELOPMENT PHOSPHORUS LOAD (TP) (lb/yr)	0.00					
REMAINING PHOSPHORUS LOAD REDUCTION (LB/YR) NEEDED	CONGRATULATIONS!! YOU EXCEEDED THE TARGET REDUCTION BY 0 LB/YEAR!!					
<b>Nitrogen (for information purposes)</b>						
TOTAL TREATMENT VOLUME (cf)	0					
RUNOFF REDUCTION (cf)	0					
NITROGEN LOAD REDUCTION ACHIEVED (LB/YR)	0.00					
ADJUSTED POST-DEVELOPMENT NITROGEN LOAD (TN) (lb/yr)	0.00					

			1-year storm	2-year storm	10-year storm		
Target Rainfall Event (in)							
Drainage Area A							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area B							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area C							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area D							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area E							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Based on the use of Runoff Reduction practices in the selected drainage areas, the spreadsheet calculates an adjusted $RV_{Developed}$ and adjusted Curve Number.							
Drainage Area A			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	$RV_{Developed}$ (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	$RV_{Developed}$ (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	100	100	100			
Drainage Area B			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	$RV_{Developed}$ (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	$RV_{Developed}$ (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	100	100	100			
Drainage Area C			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	$RV_{Developed}$ (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	$RV_{Developed}$ (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	100	100	100			
Drainage Area D			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	$RV_{Developed}$ (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	$RV_{Developed}$ (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	100	100	100			
Drainage Area E			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		

Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	
	CN	39	61	74	80	
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	
	CN	98	98	98	98	
					Weighted CN	S
					0	1000.00
		1-year storm	2-year storm	10-year storm		
	RV <sub>Developed</sub> (in) with no Runoff Reduction	0.00	0.00	0.00		
	RV <sub>Developed</sub> (in) with Runoff Reduction	0.00	0.00	0.00		
	Adjusted CN	100	100	100		

## Virginia Runoff Reduction Method New Development Worksheet -- v2.7 Revised April 2013

**Site Data Summary**

Total Rainfall = 43 inches

**Site Land Cover Summary**

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Impervious (acres)	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00

Site Rv	0.00
Post Development Treatment Volume (ft <sup>3</sup> )	0
Post Development TP Load (lb/yr)	0.00
Post Development TN Load (lb/yr)	0.00
Total TP Load Reduction Required (lb/yr)	0.00

Total Runoff Volume Reduction (ft <sup>3</sup> )	0
Total TP Load Reduction Achieved (lb/yr)	0
Total TN Load Reduction Achieved (lb/yr)	0.00
Adjusted Post Development TP Load (lb/yr)	0.00
Remaining Phosphorous Load Reduction (Lb/yr) Required	0.00

**Drainage Area Summary**

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Impervious (acres)	0.00	0.00	0.00	0.00	0.00	0.00
						0.00

**Drainage Area Compliance Summary**

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Red. (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
TN Load Red. (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

**Channel and Flood Protection**

	Weighted CN	1-year storm Adjusted CN	2-year storm Adjusted CN	10-year storm Adjusted CN
Target Rainfall Event (in)		0.00	0.00	0.00
D.A. A CN	0	100	100	100
D.A. B CN	0	100	100	100
D.A. C CN	0	100	100	100
D.A. D CN	0	100	100	100
D.A. E CN	0	100	100	100

Virginia Runoff Reduction Method ReDevelopment Worksheet v2.7 Revised April 2013									
<b>Site Data</b>									
Project Name:									
Date:									
	data input cells								
	calculation cells								
	constant values								
<b>Post-ReDevelopment Project &amp; Land Cover Information</b>				<b>Total Disturbed Acreage</b>		0.00			
<b>Constants</b>									
Annual Rainfall (inches)	43								
Target Rainfall Event (inches)	1.00								
Phosphorus EMC (mg/L)	0.26				Nitrogen EMC (mg/L)	1.86			
Target Phosphorus Target Load (lb/acre/yr)	0.41								
Pj	0.90								
<b>Pre-ReDevelopment Land Cover (acres)</b>									
	A soils	B Soils	C Soils	D Soils	Totals				
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land	0.00	0.00	0.00	0.00	0.00				
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed	0.00	0.00	0.00	0.00	0.00				
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00				
	Total				0.00				
<b>Post-ReDevelopment Land Cover (acres)</b>									
	A soils	B Soils	C Soils	D Soils	Totals				
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land	0.00	0.00	0.00	0.00	0.00				
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed	0.00	0.00	0.00	0.00	0.00				
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00				
	Total				0.00				
<b>Area Check</b>	Okay	Okay	Okay	Okay					
<b>Rv Coefficients</b>									
	A soils	B Soils	C Soils	D Soils					
Forest/Open Space	0.02	0.03	0.04	0.05					
Managed Turf	0.15	0.20	0.22	0.25					
Impervious Cover	0.95	0.95	0.95	0.95					
<b>Land Cover Summary</b>									
<b>Pre-ReDevelopment</b>	Listed	Adjusted <sup>1</sup>			<b>Post-ReDevelopment</b>	<b>Land Cover Summary</b>			
Forest/Open Space Cover (acres)	0.00	0.00			Forest/Open Space Cover (acres)	0.00			
Composite Rv(forest)	0.00	0.00			Composite Rv(forest)	0.00			
% Forest	0%	0%			% Forest	0%			
Managed Turf Cover (acres)	0.00	0.00			Managed Turf Cover (acres)	0.00			
Composite Rv(turf)	0.00	0.00			Composite Rv(turf)	0.00			
% Managed Turf	0%	0%			% Managed Turf	0%			
Impervious Cover (acres)	0.00	0.00			ReDev. Impervious Cover (acres)	0.00	New Impervious Cover (acres)		
Rv(impervious)	0.95	0.95			Rv(impervious)	0.95	Rv(impervious)		
% Impervious	0%	0%			% Impervious	0%	% Impervious		
<b>Total Site Area (acres)</b>	0.00	0.00			<b>Total ReDev. Site Area (acres)</b>	0.00	<b>Total New Dev. Site Area (acres)</b>		
<b>Site Rv</b>	0.00	0.00			<b>ReDev. Site Rv</b>	0.00	<b>New Dev. Site Rv</b>		
Pre-Development Treatment Volume (acre-ft)	0.0000	0.0000			Post-Development Treatment Volume (acre-ft)	0.0000	Post-Development Treatment Volume (acre-ft)		
Pre-Development Treatment Volume (cubic feet)	0	0			Post-Development Treatment Volume (cubic feet)	0	Post-Development Treatment Volume (cubic feet)		
Pre-Development Load (TP) (lb/yr)	0.00	0.00			Post-Development Load (TP) (lb/yr)	0.00	Post-Development Load (TP) (lb/yr)		
<sup>1</sup> Adjusted Land Cover Summary reflects the pre redevelopment land cover minus the previous land cover (forest/open space or managed turf) acreage proposed for new impervious cover. The adjusted total acreage is consistent with the Post Redevelopment acreage (minus the acreage of new impervious cover). The load reduction requirement for the new impervious cover to meet the new development load limit is computed in Column I.			Maximum % Reduction Required Below Pre-Development Load		10%				
			TP Load Reduction Required for Redeveloped Area (lb/yr)		#DIV/0!		TP Load Reduction Required for New Impervious Area (lb/yr)		
			Total Load Reduction Required (lb/yr)		#DIV/0!				
Pre-Development Load (TN) (lb/yr)	0.00			Post-Development Load (TN) (lb/yr)	0.00				





Drainage Area B																																	
Drainage Area B Land Cover: Acres																																	
	A Soils	B Soils	C Soils	D Soils	Total	Land Cover Rv																											
Forest/Open Space (acres) – undisturbed, protected forest/open space or undisturbed land	0.00	0.00	0.00	0.00	0.00	0.00																											
Managed Turf (acres) – disturbed, graded for yards or other turf to be resodded/managed	0.00	0.00	0.00	0.00	0.00	0.00																											
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00	0.00																											
	Total				0.00	Post-Development Treatment Volume (cft)										0																	
														0.00																			
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area B																																	
Credit	Unit	Description of Credit	Credit	Credit Area (acres)	Volume from Upstream RR Practice (cft)	Runoff Reduction (cft)	Remaining Runoff Volume (cft)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs.)	Untreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices	Untreated Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)															
1. Vegetated Roof														1. Green Roof																			
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction for treated area	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
1.b. Vegetated Roof #2 (Spec #5)	acres of green roof	60% runoff volume reduction for treated area	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
2. Rooftop Disconnection														2. Impervious Surface Disconnection																			
2.a. Simple Disconnection to A/B Soils (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
2.b. Simple Disconnection to C/D Soils (Spec #1)	impervious acres disconnected	20% runoff volume reduction for treated area	0.20	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
2.c. To Soil Amended Filter Path as per specifications (existing C/D soils) (Spec #4)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
2.d. To Dry Well or French Drain #1 (Micro-Infiltration #1) (Spec #8)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00															
2.e. To Dry Well or French Drain #2 (Micro-Infiltration #2) (Spec #8)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00															
2.f. To Rain Garden #1 (Micro-Infiltration #1) (Spec #9)	impervious acres disconnected	40% of volume captured based on tank size and design spreadsheet (See Spec #8)	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00															
2.g. To Rain Garden #2 (Micro-Infiltration #2) (Spec #9)	impervious acres disconnected	40% of volume captured based on tank size and design spreadsheet (See Spec #8)	0.40	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00															
2.h. To Rainwater Harvesting (Spec #6)	impervious acres captured	40% runoff volume reduction for treated area	0.40	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
2.i. To Stormwater Planter (Urban Bio-retention) (Spec #9, Appendix A)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00															
3. Permeable Pavement														3. Permeable Pavement																			
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "retained" (vegetated) impervious pavement	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00															
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00															
4. Grass Channel														4. Grass Channel																			
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
4.c. Grass Channel Compost Amended Soils as per spec (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
	turf acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
5. Dry Swale														5. Dry Swale																			
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00															
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00															
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00															
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00															
6. Bio-retention														6. Bio-retention																			
6.a. Bio-retention #1 or Urban Bio-retention (Spec #6)	impervious acres draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00															
	turf acres draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00															
6.b. Bio-retention #2 (Spec #6)	impervious acres draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00															
	turf acres draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00															
7. Infiltration														7. Infiltration																			
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00															
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00															
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00															
	turf acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00															
8. Extended Detention Pond														8. Extended Detention Pond																			
8.a. ED #1 (Spec #15)	impervious acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00															
	turf acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00															
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00															
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00															
9. Sheeflow to Filter/Open Space														9. Sheeflow to Conservation Area or Filter Strip																			
9.a. Sheeflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
9.b. Sheeflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
	turf acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
9.c. Sheeflow to Vegetated Filter Strip in A Soils or Compost Amended B/C/D Soils (Spec #2 & #3)	impervious acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
	turf acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00															
TOTAL IMPERVIOUS COVER TREATED (ac)				0.00																													
TOTAL TURF AREA TREATED (ac)				0.00																													
AREA CHECK OK																																	
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lbs.)				0.00																													
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lbs.)				0.00																													
TOTAL PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. B (lbs.)				0.00																													
TOTAL NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. B (lbs.)				0																													
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS														NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. B (lbs.)																			
Apply Practices that Remove Pollutants but Do Not Reduce Runoff Volume																																	
Practice	Unit	Description of Credit	Credit	Area (excluding area treated by other RR practices)	Runoff from Upstream RR Practices (cft)	Runoff Reduction (cft)	Remaining Runoff Volume (cft)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs.)	Untreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices	Untreated Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)															
10. Wet Swale (Coastal Plain)														10. Wet Swale (Coastal Plain)																			
	impervious acres draining to wet swale		0.00	0.00	0.00	0	0	20	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
10.a. Wet Swale #1 (Spec #11)	turf acres draining to wet swale		0.00	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
	impervious acres draining to wet swale		0.00	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
10.b. Wet Swale #2 (Spec #11)	turf acres draining to wet swale		0.00	0.00	0.00	0	40	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
11. Filtering Practices														11. Filtering Practices																			
	impervious acres draining to filter		0.00	0.00	0.00	0	60	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
11.a. Filtering Practice #1 (Spec #12)	turf acres draining to filter		0.00	0.00	0.00	0	60	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
	impervious acres draining to filter		0.00	0.00	0.00	0	60	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
11.b. Filtering Practice #1 (Spec #13)	turf acres draining to filter		0.00	0.00	0.00	0	60	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															
12. Constructed Wetland														12. Constructed Wetland																			
	impervious acres draining to wetland		0.00	0.00	0.00	0	50	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00															



Drainage Area C																																		
Drainage Area C Land Cover: Acres																																		
	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv																												
Forest/Open Space (acres) – undisturbed, protected forestation (acres or undisturbed land)	0.00	0.00	0.00	0.00	0.00	0.00																												
Managed Turf (acres) – disturbed, graded for parks or other turf to be resodded/managed	0.00	0.00	0.00	0.00	0.00	0.00																												
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00	0.00																												
	Total				0.00			Post-Development Treatment Volume (cft)						0																				
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area C																																		
Credit	Unit	Description of Credit	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cft)	Runoff Reduction (cft)	Remaining Runoff Volume (cft)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices	Untreated Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)																
1. Vegetated Roof														1. Green Roof																				
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction for treated area	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
1.b. Vegetated Roof #2 (Spec #5)	acres of green roof	60% runoff volume reduction for treated area	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
2. Rooftop Disconnection														2. Impervious Surface Disconnection																				
2.a. Simple Disconnection to A/B Soils (Spec #1)	impervious acres disconnected	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
2.b. Simple Disconnection to C/D Soils (Spec #1)	impervious acres disconnected	20% runoff volume reduction for treated area	0.20	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
2.c. To Soil Amended Filter Path as per specifications (existing C/D soils) (Spec #4)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
2.d. To Dry Well or French Drain #1 (Micro-Infiltration #1) (Spec #8)	impervious acres disconnected	80% runoff volume reduction for treated area	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00																
2.e. To Dry Well or French Drain #2 (Micro-Infiltration #2) (Spec #8)	impervious acres disconnected	80% runoff volume reduction for treated area	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00																
2.f. To Rain Garden #1 (Micro-Retention #1) (Spec #9)	impervious acres disconnected	40% of volume captured	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00																
2.g. To Rain Garden #2 (Micro-Retention #2) (Spec #9)	impervious acres disconnected	80% runoff volume reduction for treated area	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00																
2.h. To Rainwater Harvesting (Spec #6)	impervious acres captured	based on tank size and design spreadsheet (see Spec #6)	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
2.i. To Stormwater Planter (Urban Retention) (Spec #9, Appendix A)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00																
3. Permeable Pavement														3. Permeable Pavement																				
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "retained" (vegetated) impervious pavement	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00																
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00																
4. Grass Channel														4. Grass Channel																				
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00																
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00																
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00																
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00																
4.c. Grass Channel Compost Amended Soils as per spec (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00																
	turf acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00																
5. Dry Swale														5. Dry Swale																				
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00																
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00																
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00																
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00																
6. Bio-retention														6. Bio-retention																				
6.a. Bio-retention #1 or Urban Bio-retention (Spec #9)	impervious acres draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00																
	turf acres draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00																
6.b. Bio-retention #2 (Spec #9)	impervious acres draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00																
	turf acres draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00																
7. Infiltration														7. Infiltration																				
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00																
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00																
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00																
	turf acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00																
8. Extended Detention Pond														8. Extended Detention Pond																				
8.a. ED #1 (Spec #15)	impervious acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00																
	turf acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00																
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00																
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00																
9. Sheeflow to Filter/Down Slope														9. Sheeflow to Conservation Area or Filter Strip																				
9.a. Sheeflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
9.b. Sheeflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
	turf acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
9.c. Sheeflow to Vegetated Filter Strip in A Soils or Compost Amended B/C/D Soils (Spec #2 & #3)	impervious acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
	turf acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00																
TOTAL IMPERVIOUS COVER TREATED (ac)				0.00																														
TOTAL TURF AREA TREATED (ac)				0.00																														
AREA CHECK OK																																		
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lbs)					REMOVE																													
TOTAL TURF RUNOFF REDUCTION IN D.A. C (cft)					0																													
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. C (lbs)					0.00																													
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS														TOTAL NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. C (lb)										0										

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VDCR														
Drainage Area D Land Cover: Acres														
	A Soils	B Soils	C Soils	D Soils	Total	Land Cover Rv								
Forest/Open Space (acres) – undisturbed, protected forest/open space or undisturbed land	0.00	0.00	0.00	0.00	0.00	0.00								
Managed Turf (acres) – disturbed, graded for yards or other turf to be resodded/managed	0.00	0.00	0.00	0.00	0.00	0.00								
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00	0.00								
				Total										
				0.00										
Post-Development Treatment Volume (cft)														
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area D														
Credit	Unit	Description of Credit	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cft)	Runoff Reduction (cft)	Remaining Runoff Volume (cft)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	
1. Green Roof														
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction for treated area	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0
1.b. Vegetated Roof #2 (Spec #6)	acres of green roof	60% runoff volume reduction for treated area	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0
2. Rooftop Disconnection														
2.a. Simple Disconnection to A/B Soils (Spec #1)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0
2.b. Simple Disconnection to C/D Soils (Spec #1)	impervious acres disconnected	20% runoff volume reduction for treated area	0.20	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0
2.c. To Soil Amended Filter Path as per specifications (existing C/D soils) (Spec #4)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0
2.d. To Dry Well or French Drain #1 (Micro-Infiltration #1) (Spec #8)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15
2.e. To Dry Well or French Drain #2 (Micro-Infiltration #2) (Spec #8)	impervious acres disconnected	80% runoff volume reduction for treated area	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15
2.f. To Rain Garden #1 (Micro-Bioretenion #1) (Spec #9)	impervious acres disconnected	40% of volume captured	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40
2.g. To Rain Garden #2 (Micro-Bioretenion #2) (Spec #9)	impervious acres disconnected	80% runoff volume reduction based on tank size and design spreadsheet (See Spec #8)	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60
2.h. To Rainwater Harvesting (Spec #6)	impervious acres captured		0.00	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0
2.i. To Stormwater Planter (Urban Bioretenion) (Spec #9, Appendix A)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40
3. Permeable Pavement														
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "retained" (vegetated) impervious pavement	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25
4. Grass Channel														
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20
4.c. Grass Channel Composite Amended Soils as per spec (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		20
	turf acres draining to grass channels	30% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20
5. Dry Swale														
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		25
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		35
6. Bioretention														
6.a. Bioretention #1 or Urban Bioretention (Spec #9)	impervious acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40
	turf acres draining to bioretention	40% runoff volume reduction	0.40	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		40
6.b. Bioretention #2 (Spec #9)	impervious acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60
	turf acres draining to bioretention	80% runoff volume reduction	0.80	0.00	0	0	50	0.00	0.00	0.00	0.00	0.00		60
7. Infiltration														
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15
	turf acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00		15
8. Extended Detention Pond														
8.a. ED #1 (Spec #15)	impervious acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10
	turf acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	15	0.00	0.00	0.00	0.00	0.00		10
9. Sheeflow to Filtration/Conservation Area or Filter Strip														
9.a. Sheeflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0
9.b. Sheeflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0
	turf acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0
9.c. Sheeflow to Vegetated Filter Strip in A Soils or Composite Amended B/C/D Soils (Spec #2 & #3)	impervious acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0
	turf acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00		0
TOTAL IMPERVIOUS COVER TREATED (ac)														
				0.00										
TOTAL TURF AREA TREATED (ac)														
				0.00										
AREA CHECK OK														
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lbs)														
TOTAL TURF RUNOFF REDUCTION IN D.A. D (cft)														
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. D (lbs)														
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS														
NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. D (lbs)														
Apply Practices that Remove Pollutants but Do Not Reduce Runoff Volume														
Practice	Unit	Description of Credit	Credits	Area (excluding areas treated by upstream RR practices)	Runoff from Upstream RR Practices (cft)	Runoff Reduction (cft)	Remaining Runoff Volume (cft)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	
10. Wet Swale (Coastal Plain)														
10.a. Wet Swale #1 (Spec #11)	impervious acres draining to wet swale		0.00	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		20
	turf acres draining to wet swale		0.00	0.00	0	0	20	0.00	0.00	0.00	0.00	0.00		20
10.b. Wet Swale #2 (Spec #11)	impervious acres draining to wet swale		0.00	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		20
	turf acres draining to wet swale		0.00	0.00	0	0	40	0.00	0.00	0.00	0.00	0.00		20
11. Filtration Practices														
11.a. Filtration Practice #1 (Spec #12)	impervious acres draining to filter		0.00	0.00	0	0	60	0.00	0.00	0.00	0.00	0.00		20
	turf acres draining to filter		0.00	0.00	0	0	60	0.00	0.00	0.00	0.00	0.00		20
11.b. Filtration Practice #2 (Spec #12)	impervious acres draining to filter		0.00	0.00	0	0	65	0.00	0.00	0.00	0.00	0.00		20
	turf acres draining to filter		0.00	0.00	0	0	65	0.00	0.00	0.00	0.00	0.00		20
12. Constructed Wetland														
12. Constructed Wetland	impervious acres draining to wetland			0.00	0.00	0	0	0	0.00	0.00	0.00	0.00		20

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Drainage Area E																							
Drainage Area E Land Cover: Acres																							
	A Soils	B Soils	C Soils	D Soils	Total	Land Cover %																	
Forest/Open Space (acres) – undisturbed, protected forest/open space or undisturbed land	0.00	0.00	0.00	0.00	0.00	0.00																	
Managed Turf (acres) – disturbed, graded for yards or other turf to be resodded/managed	0.00	0.00	0.00	0.00	0.00	0.00																	
Impervious Cover (acres)	0.00	0.00	0.00	0.00	0.00	0.00																	
	Total				0.00			Post-Development Treatment Volume (cft)						0									
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area E																							
Credit	Unit	Description of Credit	Credits	Credit Area (acres)	Volume from Upstream RR Practice (cft)	Runoff Reduction (cft)	Remaining Runoff Volume (cft)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untreated Phosphorus Load to Practice (lbs.)	Phosphorus Removed By Practice (lbs.)	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices	Untreated Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)					
1. Vegetated Roof														1. Green Roof									
1.a. Vegetated Roof #1 (Spec #5)	acres of green roof	45% runoff volume reduction for treated area	0.45	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
1.b. Vegetated Roof #2 (Spec #6)	acres of green roof	60% runoff volume reduction for treated area	0.60	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2. Rooftop Disconnection														2. Impervious Surface Disconnection									
2.a. Simple Disconnection to A/B Soils (Spec #1)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.b. Simple Disconnection to C/D Soils (Spec #1)	impervious acres disconnected	20% runoff volume reduction for treated area	0.20	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.c. To Soil Amended Filter Path as per specifications (existing C/D soils) (Spec #4)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.d. To Dry Well or French Drain #1 (Micro-Infiltration #1) (Spec #8)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
2.e. To Dry Well or French Drain #2 (Micro-Infiltration #2) (Spec #8)	impervious acres disconnected	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
2.f. To Rain Garden #1 (Micro-Retention #1) (Spec #9)	impervious acres disconnected	40% of volume captured	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
2.g. To Rain Garden #2 (Micro-Retention #2) (Spec #9)	impervious acres disconnected	80% runoff volume reduction for treated area based on tank size and design spreadsheet (See Spec #9)	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
2.h. To Rainwater Harvesting (Spec #6)	impervious acres captured		0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
2.i. To Stormwater Planter (Urban Retention) (Spec #9, Appendix A)	impervious acres disconnected	40% runoff volume reduction for treated area	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
3. Permeable Pavement														3. Permeable Pavement									
3.a. Permeable Pavement #1 (Spec #7)	acres of permeable pavement + acres of "retained" (vegetated) impervious pavement	45% runoff volume reduction	0.45	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
3.b. Permeable Pavement #2 (Spec #7)	acres of permeable pavement	75% runoff volume reduction	0.75	0.00	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
4. Grass Channel														4. Grass Channel									
4.a. Grass Channel A/B Soils (Spec #3)	impervious acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	20% runoff volume reduction	0.20	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
4.b. Grass Channel C/D Soils (Spec #3)	impervious acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	10% runoff volume reduction	0.10	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
4.c. Grass Channel Compost Amended Soils as per spec (see Spec #4)	impervious acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
	turf acres draining to grass channels	30% runoff volume reduction	0.30	0.00	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00					
5. Dry Swale														5. Dry Swale									
5.a. Dry Swale #1 (Spec #10)	impervious acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
	turf acres draining to dry swale	40% runoff volume reduction	0.40	0.00	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00					
5.b. Dry Swale #2 (Spec #10)	impervious acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00					
	turf acres draining to dry swale	60% runoff volume reduction	0.60	0.00	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00					
6. Bio-retention														6. Bio-retention									
6.a. Bio-retention #1 or Urban Bio-retention (Spec #9)	impervious acres draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
	turf acres draining to bio-retention	40% runoff volume reduction	0.40	0.00	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00					
6.b. Bio-retention #2 (Spec #9)	impervious acres draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
	turf acres draining to bio-retention	80% runoff volume reduction	0.80	0.00	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00					
7. Infiltration														7. Infiltration									
7.a. Infiltration #1 (Spec #8)	impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
7.b. Infiltration #2 (Spec #8)	impervious acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
	turf acres draining to infiltration	80% runoff volume reduction	0.80	0.00	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00					
8. Extended Detention Pond														8. Extended Detention Pond									
8.a. ED #1 (Spec #15)	impervious acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
	turf acres draining to ED	2% runoff volume reduction	0.02	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
8.b. ED #2 (Spec #15)	impervious acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
	turf acres draining to ED	15% runoff volume reduction	0.15	0.00	0	0	0	15	0.00	0.00	0.00	0.00		10	0.00	0.00	0.00	0.00					
9. Sheeflow to Filter/Cons Areas														9. Sheeflow to Conservation Area or Filter Strip									
9.a. Sheeflow to Conservation Area with A/B Soils (Spec #2)	impervious acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to conserved open space	75% runoff volume reduction for treated area	0.75	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
9.b. Sheeflow to Conservation Area with C/D Soils (Spec #2)	impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
9.c. Sheeflow to Vegetated Filter Strip in A Soils or Compost Amended B/C/D Soils (Spec #2 & #3)	impervious acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
	turf acres draining to conserved open space	90% runoff volume reduction for treated area	0.90	0.00	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00					
TOTAL IMPERVIOUS COVER TREATED (ac)														0.00									
TOTAL TURF AREA TREATED (ac)														0.00									
AREA CHECK OK																							
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)														0.00									
TOTAL PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. E (lb/yr)														0.00									
TOTAL NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. E (lb/yr)														0.00									
TOTAL NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. E (lb/yr)														0.00									
SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS																							
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<b>Site Results</b>						
	<b>D.A. A</b>	<b>D.A. B</b>	<b>D.A. C</b>	<b>D.A. D</b>	<b>D.A. E</b>	<b>AREA CHECK</b>
IMPERVIOUS COVER	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED	0.00	0.00	0.00	0.00	0.00	OK.
TURF AREA	0.00	0.00	0.00	0.00	0.00	OK.
TURF AREA TREATED	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	
<b>Phosphorous</b>						
TOTAL PHOSPHOROUS LOAD REDUCTION REQUIRED (LB/YEAR)	#DIV/0!					
RUNOFF REDUCTION (cf)	0					
PHOSPHOROUS LOAD REDUCTION ACHIEVED (LB/YR)	0.00					
ADJUSTED POST-DEVELOPMENT PHOSPHOROUS LOAD (TP) (lb/yr)	0.00					
REMAINING PHOSPHOROUS LOAD REDUCTION (LB/YR) NEEDED	#DIV/0!					
<b>Nitrogen (for information purposes)</b>						
RUNOFF REDUCTION (cf)	0					
NITROGEN LOAD REDUCTION ACHIEVED (LB/YR)	0.00					
ADJUSTED POST-DEVELOPMENT NITROGEN LOAD (TP) (lb/yr)	0.00					

			1-year storm	2-year storm	10-year storm		
Target Rainfall Event (in)			2.70	3.35	5.15		
Drainage Area A							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area B							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area C							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area D							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Drainage Area E							
Drainage Area (acres)		0.00					
Runoff Reduction Volume (cf)		0					
Based on the use of Runoff Reduction practices in the selected drainage areas, the spreadsheet calculates an adjusted RV <sub>Developed</sub> and adjusted Curve Number.							
Drainage Area A			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	RV <sub>Developed</sub> (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	RV <sub>Developed</sub> (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	#N/A	#N/A	#N/A			
Drainage Area B			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	RV <sub>Developed</sub> (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	RV <sub>Developed</sub> (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	#N/A	#N/A	#N/A			
Drainage Area C			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	RV <sub>Developed</sub> (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	RV <sub>Developed</sub> (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	#N/A	#N/A	#N/A			
Drainage Area D			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	98	98	98	98		
						Weighted CN	S
						0	1000.00
			1-year storm	2-year storm	10-year storm		
	RV <sub>Developed</sub> (in) with no Runoff Reduction	0.00	0.00	0.00	0.00		
	RV <sub>Developed</sub> (in) with Runoff Reduction	0.00	0.00	0.00	0.00		
	Adjusted CN	#N/A	#N/A	#N/A			
Drainage Area E			A soils	B Soils	C Soils	D Soils	
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	0.00	
	CN	30	55	70	77		

Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.00	
	CN	39	61	74	80	
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.00	
	CN	98	98	98	98	
					Weighted CN	S
					0	1000.00
		1-year storm	2-year storm	10-year storm		
	RV <sub>Developed</sub> (in) with no Runoff Reduction	0.00	0.00	0.00		
	RV <sub>Developed</sub> (in) with Runoff Reduction	0.00	0.00	0.00		
	Adjusted CN	#N/A	#N/A	#N/A		

## Virginia Runoff Reduction Method ReDevelopment Worksheet v2.7 Revised April 2013

**Site Data Summary**

Total Rainfall = 43 inches

**Site Land Cover Summary**

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Impervious (acres)	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00

Site Rv	#DIV/0!
Post Development Treatment Volume (ft <sup>3</sup> )	0
Post Development TP Load (lb/yr)	0.00
Post Development TN Load (lb/yr)	0.00
Total TP Load Reduction Required (lb/yr)	#DIV/0!

Total Runoff Volume Reduction (ft <sup>3</sup> )	0
Total TP Load Reduction Achieved (lb/yr)	0
Total TN Load Reduction Achieved (lb/yr)	0.00
Adjusted Post Development TP Load (lb/yr)	0.00
Remaining Phosphorous Load Reduction (Lb/yr) Required	0.00

**Drainage Area Summary**

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Impervious (acres)	0.00	0.00	0.00	0.00	0.00	0.00
						0.00

**Drainage Area Compliance Summary**

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Red. (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00
TN Load Red. (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

**Channel and Flood Protection**

	Weighted CN	1-year storm Adjusted CN	2-year storm Adjusted CN	10-year storm Adjusted CN
Target Rainfall Event (in)		2.70	3.35	5.15
D.A. A CN	0	#N/A	#N/A	#N/A
D.A. B CN	0	#N/A	#N/A	#N/A
D.A. C CN	0	#N/A	#N/A	#N/A
D.A. D CN	0	#N/A	#N/A	#N/A
D.A. E CN	0	#N/A	#N/A	#N/A

## **APPENDIX L**

Long-Term Stormwater Management Facility  
Maintenance Agreement

TAX MAP NO.: «Parcel»

Exempt from TTF pursuant to 17.1-279

Prepared by / Return to:  
Office of the County Attorney  
7400 Justice Drive  
P. O. Box 1309  
Gloucester, VA 23061

## Stormwater Maintenance Agreement

This MAINTENANCE AGREEMENT is made this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, between «OwnerName» (the "Owner") and the County of Gloucester, Virginia (the "County").

WHEREAS, «OwnerName» is the Owner of that «ParcelAcreage» ACRES parcels of land (Tax Map Numbers(s) «Parcel») located at «Address» in Gloucester County, Virginia (the "Property"); and

WHEREAS, a Development Plan prepared by «PlanPreparer», dated «DATE», last revised «REVISED DATE» and subsequent revisions approved by the County, and entitled "«PLANTITLE»" (the "Plan") has been approved by the County; and

WHEREAS, said Plan provides for stormwater management facilities for the treatment and control of stormwater runoff ("the Facilities") and described as: «BMPID»; and

WHEREAS, the County requires that the Facilities as shown on the Plan be properly constructed and adequately maintained by the Owner;

NOW THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein and the following terms and conditions, the parties hereto agree as follows:

1. The Owner shall maintain the Facilities in such a manner as to assure good working order acceptable to the County.
2. The Owner hereby grants permission to the County, its authorized agents and employees to enter upon the Property and to inspect the Facilities whenever it deems necessary. Whenever possible, the County shall notify the Owner prior to entering the Property.
3. In the event the Owner fails to maintain the Facilities in good working order acceptable to the County, the County may notify the Owner in writing of any obligation Owner fails to perform or satisfy under this agreement. Owner shall have 15 days after notice is received, except in cases of emergency, in which to remedy the situation and repair the facilities to working order as approved by the County. The County may enter upon the Property to maintain the said Facilities immediately in case of emergency, or after the fifteen day notice period. It is expressly understood and agreed that the County is under no

obligation to maintain or repair said Facilities and in no event shall this agreement be construed to impose any such obligations on the County.

4. In the event the County, pursuant to this agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Owner or its successors shall reimburse the County, upon demand, within 30 days of receipt thereof for all costs incurred by the County hereunder.

5. This Agreement shall be recorded in the Gloucester Circuit Court Clerk's office and SHALL CONSTITUTE A COVENANT RUNNING WITH THE LAND.

6. The Owner, its executors, administrators, assigns and other successors of interest shall indemnify and hold the County and its agents and employees harmless for any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the County from the construction of the Facilities. The Owner hereby agrees to indemnify and save the County harmless from any and all costs, liability, or expense arising from a malfunction of the Facilities or Owner's failure to repair same in accordance with the requirements hereof.

IN WITNESS WHEREOF, the Owner and the County have entered into this STORMWATER MAINTENANCE AGREEMENT as of this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

«OwnerName»

By: \_\_\_\_\_ (SEAL)  
«Signatory»

Commonwealth/State of: \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by \_\_\_\_\_ (name), \_\_\_\_\_ (title).

\_\_\_\_\_  
Notary Public

My commission expires: \_\_/\_\_/\_\_\_\_  
Notary Registration No.: \_\_\_\_\_

County of Gloucester, Virginia

By: \_\_\_\_\_  
Brenda Garton  
County Administrator

Commonwealth/State of: \_\_\_\_\_  
County of \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_ by \_\_\_\_\_ (name), \_\_\_\_\_ (title).

\_\_\_\_\_  
Notary Public

My commission expires: \_\_/\_\_/\_\_\_\_  
Notary Registration No.: \_\_\_\_\_

Approved as to form:

By: \_\_\_\_\_ (sign name)  
Edwin N. Wilmot  
County Attorney

My commission expires: \_\_\_\_\_.

**[A resolution, or a certified copy thereof, authorizing a designated officer of the corporation or other entity to execute this Agreement on behalf of the corporation or other entity shall be attached to this Agreement and recorded with said Agreement in the Clerk's Office of the Circuit Court of [LOCALITY], Virginia.]**

### RESOLUTION

I, \_\_\_\_\_, the duly elected and qualified Secretary of \_\_\_\_\_, a Virginia Corporation duly organized, validly existing and in good standing under the laws of Virginia, hereby certify that at a legally convened meeting of the Board of Directors of \_\_\_\_\_, duly called and held on the \_\_\_\_ day of \_\_\_\_\_, 20 \_\_, the following Resolution was duly adopted in accordance with the articles of incorporation and bylaws of \_\_\_\_\_, and is now in full force and effect:

BE IT RESOLVED by the Board of Directors of \_\_\_\_\_, a Virginia Corporation, that the \_\_\_\_\_ [specify office], \_\_\_\_\_ [name of officer], of this Corporation is authorized to execute, acknowledge, and deliver on behalf of the Corporation any deed or other instrument conveying or encumbering land, or interest therein, including but not limited to a Stormwater Management Facility Maintenance Agreement by and between the Corporation and the [LOCALITY], Virginia, or granting any easement or right-of-way over land owned by the Corporation.

BE IT FURTHER RESOLVED that the Secretary of the Corporation shall attach to such deed or other instrument a copy of this Resolution by the Board of Directors authorizing the above-named officer of the Corporation to execute, acknowledge, and deliver such deed or instrument on behalf of the Corporation.

I further certify that \_\_\_\_\_ is the duly elected and acting \_\_\_\_\_ [specify office] of the Corporation and, as such, has the authority to perform the powers listed above.

IN WITNESS WHEREOF, I have hereunto subscribed my name hereto as Secretary of \_\_\_\_\_, on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

[Name of Corporation] \_\_\_\_\_

[Signature of Corporate Secretary] \_\_\_\_\_ (SEAL)

[Print name of Secretary] \_\_\_\_\_, Secretary

DRAFT

## **APPENDIX M**

Erosion and Sediment Control and  
Stormwater Management Facility (BMP)  
Bond Calculator

and Letter of Credit Templates

## EROSION AND SEDIMENT CONTROL BOND CALCULATOR

Project: \_\_\_\_\_ Disturbed Acreage: \_\_\_\_\_  
 Date: \_\_\_\_\_

VESC Std.	DESCRIPTION	UNIT	UNIT COST	QUANTITY	TOTAL COST
3.01	Safety Fence	LF	\$18.00	0	\$0.00
3.02	Temporary Gravel Construction Entrance	EA	\$985.00	0	\$0.00
	<i>with Wash Rack</i>	EA	\$3,400.00	0	\$0.00
3.03	Construction Road Stabilization	SY	\$5.00	0	\$0.00
3.04	Straw Bale Barrier	LF	\$3.75	0	\$0.00
3.05	Silt Fence (SF)	LF	\$3.75	0	\$0.00
3.06	Brush Barrier	LF	\$2.00	0	\$0.00
3.07	Storm Drain Inlet Protection (IP)	EA	\$135.00	0	\$0.00
3.08	Culvert Inlet Protection (CIP)	EA	\$190.00	0	\$0.00
3.09	Temporary Diversion Dike	LF	\$5.20	0	\$0.00
3.10	Temporary Fill Diversion	LF	\$2.00	0	\$0.00
3.11	Temporary Right of Way Diversion	LF	\$2.40	0	\$0.00
3.12	Diversion (DV)	LF	\$7.00	0	\$0.00
3.13	Temporary Sediment Trap (ST)				
	<i>1 acre</i>	EA	\$1,250.00	0	\$0.00
	<i>2 acres</i>	EA	\$2,100.00	0	\$0.00
	<i>3 acres</i>	EA	\$2,300.00	0	\$0.00
3.14	Temporary Sediment Basin (SB)				
	<i>3 to 5.9 Acre Drainage Area</i>	EA	\$3,000.00	0	\$0.00
	<i>6 to 14.9 Acre Drainage Area</i>	EA	\$6,000.00	0	\$0.00
	<i>15 Acre Drainage Area</i>	EA	\$9,200.00	0	\$0.00
3.15	Temporary Slope Drain	LF	\$5.75	0	\$0.00
3.16	Paved Flume	SY	\$52.00	0	\$0.00
3.17	Stormwater Conveyance Channel				
	<i>Seeded</i>	SY	\$10.00	0	\$0.00
	<i>Sodded</i>	SY	\$20.00	0	\$0.00
	<i>Temporary Matting</i>	SY	\$30.00	0	\$0.00
	<i>Permanent Matting</i>	SY	\$40.00	0	\$0.00
	<i>Riprap</i>	SY	\$60.00	0	\$0.00
3.18	Outlet Protection (OP)	EA	\$175.00	0	\$0.00
	<i>Riprap</i>	SY	\$60.00	0	\$0.00
	<i>Grouted Riprap</i>	SY	\$60.00	0	\$0.00
	<i>Concrete</i>	SY	\$45.00	0	\$0.00
3.19	Riprap	TN	\$20.00	0	\$0.00
3.20	Rock Check Dams (CD)	EA	\$165.00	0	\$0.00
3.21	Level Spreader	SY	\$10.00	0	\$0.00
3.22	Vegetative Streambank Stabilization	SY	\$350.00	0	\$0.00
3.23	Structural Streambank Stabilization	LF	\$17.00	0	\$0.00
3.24	Temporary Vehicular Stream Crossing	EA	\$2,500.00	0	\$0.00
3.25	Utility Stream Crossing	EA	\$1,800.00	0	\$0.00
3.26	Dewatering Structure	LF	\$3.00	0	\$0.00
3.27	Turbidity Curtain	LF	\$16.00	0	\$0.00
3.28	Subsurface Drain	LF	\$50.00	0	\$0.00
3.29	Surface Roughening	SF	\$0.25	0	\$0.00
3.30	Topsoiling	AC	\$1,500.00	0	\$0.00

## EROSION AND SEDIMENT CONTROL BOND CALCULATOR

Project: \_\_\_\_\_  
Date: \_\_\_\_\_

Disturbed Acreage: \_\_\_\_\_

VESC Std.	DESCRIPTION	UNIT	UNIT COST	QUANTITY	TOTAL COST
3.31	Temporary Seeding	AC	\$1,875.00	0	\$0.00
3.32	Permanent Seeding	AC	\$2,250.00	0	\$0.00
3.33	Sodding	SY	\$5.00	0	\$0.00
3.34	Bermudagrass and Zoysiagrass Establishment	SY	\$7.50	0	\$0.00
3.35	Mulching	AC	\$3,750.00	0	\$0.00
3.36	Soil Stabilization Blankets and Matting	LF	\$2.50	0	\$0.00
3.37	Trees, Shrubs, Vines, and Ground Cover	SY	\$25.00	0	\$0.00
3.38	Tree Preservation and Protection	LF	\$9.00	0	\$0.00
3.39	Dust Control	LS	\$500.00	0	\$0.00

ESC BOND					\$0.00
25% Contingency					\$0.00
Total ESC Bond					\$0.00

**STORMWATER MANAGEMENT FACILITY (BMP) BOND CALCULATOR**

Project: \_\_\_\_\_  
 Date: \_\_\_\_\_

Disturbed Acreage: \_\_\_\_\_

**Practice**

No.	DESCRIPTION	UNIT	UNIT COST	QUANTITY	TOTAL COST
<b>1</b>	<b>Rooftop Disconnection</b>				
	Down Spout	LF	\$5.00	0	\$0.00
	Roof Drain	LF	\$20.00	0	\$0.00
	Turf Reinforcement (EC-2)	SY	\$3.00	0	\$0.00
	Turf Reinforcement (EC-3)	SY	\$8.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>2</b>	<b>Sheetflow to Vegetated Filter and Conserved Open Space</b>				
	Flow Bypass Structure	EA	\$2,000.00	0	\$0.00
	#57 Stone	TN	\$50.00	0	\$0.00
	#3 Stone	TN	\$25.00	0	\$0.00
	Level Spreader	LF	\$15.00	0	\$0.00
	Underdrain (for level spreader)	LF	\$20.00	0	\$0.00
	Concrete Footer (for level spreader)	CY	\$350.00	0	\$0.00
	Treated Timbers (6"x6")	LF	\$7.50	0	\$0.00
	Jute / Excelsior mesh	SY	\$1.60	0	\$0.00
	Gravel	CY	\$125.00	0	\$0.00
	Filter Fabric	SY	\$2.81	0	\$0.00
	Seeding	SY	\$2.10	0	\$0.00
	Plants / Shrubs	SF	\$2.50	0	\$0.00
	Trees	EA	\$1,000.00	0	\$0.00
	PB - Excavated Soil (for permeable berm)	CY	\$10.00	0	\$0.00
	Sand	TN	\$45.00	0	\$0.00
	#8 Pea Gravel	TON	\$35.00	0	\$0.00
	Geotextile	SY	\$2.50	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>3</b>	<b>Grass Channel</b>				
	Seeding	SY	\$2.10	0	\$0.00
	Check Dam	EA	\$300.00	0	\$0.00
	Excavation & Embankment	CY	\$6.00	0	\$0.00
	Lining (for gravel flow spreader)	SY	\$2.50	0	\$0.00
	E&SC Netting / Mats (E&SC spec 3.36)	SY	\$3.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>4</b>	<b>Soil Amendments</b>				
	Compost	CY	\$90.00	0	\$0.00
	Seeding	SY	\$2.10	0	\$0.00
	Undercut	CY	\$6.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>5</b>	<b>Vegetated Roof</b>				
	Extensive Green Roof (installed)	SF	\$10.00	0	\$0.00
	Intensive Green Roof (installed)	SF	\$25.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>

# **STORMWATER MANAGEMENT FACILITY (BMP) BOND CALCULATOR**

Project: \_\_\_\_\_  
Date: \_\_\_\_\_

Disturbed Acreage: \_\_\_\_\_

## **Practice**

<b>No.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>QUANTITY</b>	<b>TOTAL COST</b>
<b>6</b>	<b>Rainwater Harvesting</b>				
	Storage Tank	GAL	\$3.00	0	\$0.00
	Excavation	CY	\$6.00	0	\$0.00
	Pump	EA	\$4,000.00	0	\$0.00
	Booster Pump	EA	\$2,000.00	0	\$0.00
	Concrete Base	CY	\$400.00	0	\$0.00
	Valves, Backflow Preventers, Piping	LS	\$4,000.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>7</b>	<b>Permeable Pavement</b>				
	Excavation/Embankment (Subgrade Prep)	CY	\$6.00	0	\$0.00
	Pervious Concrete	SF	\$8.20	0	\$0.00
	Porous Asphalt	TN	\$100.00	0	\$0.00
	Stone Layer/Bedding Material	TN	\$50.00	0	\$0.00
	Interlocking Concrete Pavers	SY	\$45.00	0	\$0.00
	Filter Fabric (polypropylene)	SY	\$2.50	0	\$0.00
	Underdrain (perforated)	LF	\$20.00	0	\$0.00
	Drop Inlet	EA	\$3,500.00	0	\$0.00
	Observation well (PVC pipe)	LF	\$20.00	0	\$0.00
	Impermeable Liner (30 mil, PVC, geomembrane)	SY	\$5.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>8</b>	<b>Infiltration</b>				
	Flow Splitter	EA	\$3,000.00	0	\$0.00
	Topsoil	CY	\$40.00	0	\$0.00
	Sand Layer	CY	\$45.00	0	\$0.00
	Sod	SF	\$1.50	0	\$0.00
	Aggregate	TN	\$50.00	0	\$0.00
	Filter Fabric (polypropylene geotextile)	SY	\$2.50	0	\$0.00
	4" PVC Cleanout	LF	\$20.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>9</b>	<b>Bioretention</b>				
	Filter Media	CY	\$90.00	0	\$0.00
	Excavation	CY	\$6.00	0	\$0.00
	Riprap	SY	\$90.00	0	\$0.00
	Stone Layer	TN	\$50.00	0	\$0.00
	6" Underdrain (schedule 40 PVC with cleanouts)	LF	\$20.00	0	\$0.00
	Turf	SF	\$1.50	0	\$0.00
	Plants / Shrubs	SF	\$2.50	0	\$0.00
	Hardwood Mulch (shredded, aged bark)	SY	\$5.00	0	\$0.00
	Impermeable Liner (30 mil, PVC, geomembrane)	SY	\$5.00	0	\$0.00
	Outlet Pipe	LF	\$75.00	0	\$0.00
	Outlet Structure	EA	\$5,000.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>

**STORMWATER MANAGEMENT FACILITY (BMP) BOND CALCULATOR**

Project: \_\_\_\_\_  
 Date: \_\_\_\_\_

Disturbed Acreage: \_\_\_\_\_

**Practice**

No.	DESCRIPTION	UNIT	UNIT COST	QUANTITY	TOTAL COST
<b>10</b>	<b>Dry Swale</b>				
	Filter Media	CY	\$90.00	0	\$0.00
	Riprap	SY	\$90.00	0	\$0.00
	Excavation	CY	\$6.00	0	\$0.00
	6" Underdrain (schedule 40 PVC with cleanouts)	LF	\$20.00	0	\$0.00
	Check Dam	EA	\$300.00	0	\$0.00
	Turf	SF	\$1.50	0	\$0.00
	Plants / Shrubs	SF	\$2.50	0	\$0.00
	Hardwood Mulch (shredded, aged bark)	SY	\$5.00	0	\$0.00
	Impermeable Liner (30 mil, PVC, geomembrane)	SY	\$5.00	0	\$0.00
	Outlet Structure	EA	\$5,000.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>11</b>	<b>Wet Swale</b>				
	Excavation	CY	\$6.00	0	\$0.00
	Riprap	SY	\$90.00	0	\$0.00
	Plants / Shrubs	SF	\$2.50	0	\$0.00
	Turf	SF	\$1.50	0	\$0.00
	Check Dam	EA	\$300.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>12</b>	<b>Filtering Practice</b>				
	Filter Media	CY	\$90.00	0	\$0.00
	Excavation	CY	\$6.00	0	\$0.00
	Stone Layer	TN	\$50.00	0	\$0.00
	6" Underdrain (schedule 40 PVC with cleanouts)	LF	\$20.00	0	\$0.00
	Turf	SF	\$1.50	0	\$0.00
	Medium Aggregate Concrete Sand	TN	\$45.00	0	\$0.00
	Underdrain/Cleanouts	LF	\$20.00	0	\$0.00
	Outlet Pipe	LF	\$75.00	0	\$0.00
	Outlet Structure	EA	\$5,000.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>13</b>	<b>Constructed Wetland</b>				
	Outfall/Outlet Structure	EA	\$5,000.00	0	\$0.00
	Riprap	SY	\$90.00	0	\$0.00
	Outlet Pipe	LF	\$75.00	0	\$0.00
	Excavation & Embankment	CY	\$6.00	0	\$0.00
	Plants/Shrubs	SF	\$3.00	0	\$0.00
	Low Flow Pipe	LF	\$65.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>

# **STORMWATER MANAGEMENT FACILITY (BMP) BOND CALCULATOR**

Project: \_\_\_\_\_  
 Date: \_\_\_\_\_

Disturbed Acreage: \_\_\_\_\_

## **Practice**

<b>No.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>QUANTITY</b>	<b>TOTAL COST</b>
<b>14</b>	<b>Wet Pond</b>				
	Riser (w/ anti-flotation, anti-vortex, and trash rack devices)	EA	\$5,000.00	0	\$0.00
	Riprap	SY	\$90.00	0	\$0.00
	Pond Aeration	EA	\$4,000.00	0	\$0.00
	Plants/Shrubs	SF	\$3.00	0	\$0.00
	Outlet Pipe	LF	\$75.00	0	\$0.00
	Outlet Protection (riprap over filter fabric)	EA	\$300.00	0	\$0.00
	Low Flow Pipe	LF	\$65.00	0	\$0.00
	Concrete Weir	CY	\$400.00	0	\$0.00
	Liner	SY	\$5.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>15</b>	<b>Extended Detention Pond</b>				
	Excavation & Embankment	CY	\$6.00	0	\$0.00
	Riprap	SY	\$90.00	0	\$0.00
	Pond Aeration	EA	\$4,000.00	0	\$0.00
	Plants/Shrubs	SF	\$3.00	0	\$0.00
	Outlet Pipe	LF	\$75.00	0	\$0.00
	Outlet Protection (riprap over filter fabric)	EA	\$300.00	0	\$0.00
	Outlet Structure	EA	\$5,000.00	0	\$0.00
<b>Sub-total:</b>					<b>\$0.00</b>
<b>SWM BMP BOND</b>					<b>\$0.00</b>
<i>25% Contingency</i>					<i>\$0.00</i>
<b>Total SWM BMP Bond</b>					<b>\$0.00</b>

EROSION AND SEDIMENT CONTROL LETTER OF CREDIT

(PUT ON BANK LETTERHEAD)

IRREVOCABLE LETTER OF CREDIT NO. (1)

\_\_\_\_\_ (2) \_\_\_\_\_

County of Gloucester  
C/o Mr. A. Scott Rae  
Community Development  
Environmental Programs  
Post Office Box 329  
Gloucester, Virginia 23061

Re: \_\_\_\_\_ (3) \_\_\_\_\_ (13) \_\_\_\_\_

Gentlemen:

We hereby establish our Irrevocable Letter of Credit No. \_\_\_\_ (1) \_\_\_\_ in your favor, for the account of \_\_\_\_\_ (3) \_\_\_\_\_, available by your drafts drawn at sight on us up to the aggregate amount of \_\_\_\_\_ (4) \_\_\_\_\_, each such draft accompanied by the following document:

Your written statement certifying that \_\_\_\_\_ (3) \_\_\_\_\_ has defaulted in the performance of the Erosion and Sediment Control responsibilities as dictated on the plans entitled \_\_\_\_\_ (5), dated the (6) \_\_\_\_ day of \_\_\_\_\_, 20\_\_, latest revision dated the (6A) \_\_\_\_ day of \_\_\_\_\_, 20\_\_, and subsequent revisions approved by the County of Gloucester, and that you are, in consequence, entitled to the amount of the accompanying draft.

All drafts drawn under this letter of credit must be marked "Drawn under \_\_\_\_ (7) \_\_\_\_ Letter of Credit No. \_\_\_\_ (1) \_\_\_\_ dated \_\_\_\_ (2) \_\_\_\_".

This credit is valid until \_\_\_\_\_ (8) \_\_\_\_\_ or any extension thereof, and drafts drawn hereunder, if accompanied by documentation as specified above, will be honored if presented on or before that date to \_\_\_\_\_ (9) \_\_\_\_\_ at \_\_\_\_\_ (10) \_\_\_\_\_ or, if said bank is not doing business at such address, then to any other address or location of said bank or its successor. It is a condition of this Letter of Credit that it will be automatically extended without notification for successive one year periods of time, unless at least sixty (60) days but not more than ninety (90) days prior to any expiration date, we send written notice by certified mail to the Environmental Programs Administrator of Gloucester County, Virginia, which includes reference to the name of the Agreement, the amount of this letter of Credit and \_\_\_\_\_ (3) \_\_\_\_\_, that we elect not to renew this Letter of Credit for such additional period of time. Upon receipt by the Environmental Programs Administrator of such notice, you may draw upon us without regard for default by \_\_\_\_\_ (3) \_\_\_\_\_ by your draft at sight without other documentation, except as set forth above.

Except as otherwise expressly stated herein, this credit is subject to ISP98, and to the extent not inconsistent with ISP98, the "Uniform Customs and Practice for Documentary Credits", as most recently published by the International Chamber of Commerce.

Very truly yours,

\_\_\_\_\_ (7) \_\_\_\_\_

By: \_\_\_\_\_ (11) \_\_\_\_\_

\_\_\_\_\_ (12) \_\_\_\_\_

- (1) Number assigned to letter of credit by bank.
- (2) Date issued.
- (3) Name of person, corporation, or partnership submitting letter of credit.
- (4) Amount of letter of credit written in words and numerals, e.g., Fifty thousand and no/100 dollars (\$50,000.00).
- (5) Insert Project Name on plans, by Design Firm.
- (6) Date of Initial E&S/Site Plan.
- (6A) Date of last revision of E&S/Site Plan.
- (7) Name of bank.
- (8) Expiration date of letter of credit
- (9) Name and address of bank.
- (10) Address of bank or branch thereof where letter of credit is to be presented. No letter of credit will be acceptable unless it may be presented at a bank office in Gloucester County, York County, or James City County or in the City of Newport News, Hampton, Williamsburg, Norfolk, Virginia Beach, Chesapeake, or Richmond.
- (11) Signature of authorized officer of bank.
- (12) Title of authorized officer of bank.
- (13) Name of project.

STORMWATER MANAGEMENT FACILITIES (BMP) LETTER OF CREDIT

(PUT ON BANK LETTERHEAD)

IRREVOCABLE LETTER OF CREDIT NO. (1)

\_\_\_\_\_ (2) \_\_\_\_\_

County of Gloucester  
c/o Mr. A. Scott Rae  
Community Development  
Environmental Programs  
Post Office Box 329  
Gloucester, Virginia 23061

Re: \_\_\_\_\_ (3) \_\_\_\_\_ (13) \_\_\_\_\_

Gentlemen:

We hereby establish our Irrevocable Letter of Credit No. \_\_\_\_ (1) \_\_\_\_ in your favor, for the account of \_\_\_\_\_ (3) \_\_\_\_\_, available by your drafts drawn at sight on us up to the aggregate amount of \_\_\_\_\_ (4) \_\_\_\_\_, each such draft accompanied by the following document:

Your written statement certifying that \_\_\_\_\_ (3) \_\_\_\_\_ has defaulted in the performance of the responsibility to construct the Stormwater Management Facilities as depicted on the plans entitled \_\_\_\_\_ (5), dated the (6) \_\_\_\_ day of \_\_\_\_\_, 20\_\_, latest revision dated the (6A) \_\_\_\_ day of \_\_\_\_\_, 20\_\_, and subsequent revisions approved by the County of Gloucester, and that you are, in consequence, entitled to the amount of the accompanying draft.

All drafts drawn under this letter of credit must be marked "Drawn under \_\_\_\_ (7) \_\_\_\_ Letter of Credit No. \_\_\_\_ (1) \_\_\_\_ dated \_\_\_\_ (2) \_\_\_\_".

This credit is valid until \_\_\_\_\_ (8) \_\_\_\_\_ or any extension thereof, and drafts drawn hereunder, if accompanied by documentation as specified above, will be honored if presented on or before that date to \_\_\_\_\_ (9) \_\_\_\_\_ at \_\_\_\_\_ (10) \_\_\_\_\_ or, if said bank is not doing business at such address, then to any other address or location of said bank or its successor. It is a condition of this Letter of Credit that it will be automatically extended without notification for successive one year periods of time, unless at least sixty (60) days but not more than ninety (90) days prior to any expiration date, we send written notice by certified mail to the Environmental Programs Administrator of Gloucester County, Virginia, which includes reference to the name of the Agreement, the amount of this letter of Credit and \_\_\_\_\_ (3) \_\_\_\_\_, that we elect not to renew this Letter of Credit for such additional period of time. Upon receipt by the Environmental Programs Administrator of such notice, you may draw upon us without regard for default by \_\_\_\_\_ (3) \_\_\_\_\_ by your draft at sight without other documentation, except as set forth above.

Except as otherwise expressly stated herein, this credit is subject to ISP98, and to the extent not inconsistent with ISP98, the "Uniform Customs and Practice for Documentary Credits", as most recently published by the International Chamber of Commerce.

Very truly yours,

\_\_\_\_\_ (7) \_\_\_\_\_

By: \_\_\_\_\_ (11) \_\_\_\_\_

\_\_\_\_\_ (12) \_\_\_\_\_

- (1) Number assigned to letter of credit by bank.
- (2) Date issued.
- (3) Name of person, corporation, or partnership submitting letter of credit.
- (4) Amount of letter of credit written in words and numerals, e.g., Fifty thousand and no/100 dollars (\$50,000.00).
- (5) Insert Project Name on plans, by Design Firm.
- (6) Date of Initial (first) date on submitted project plans.
- (6A) Date of last revision of submitted project plans.
- (7) Name of bank.
- (8) Expiration date of letter of credit
- (9) Name and address of bank.
- (10) Address of bank or branch thereof where letter of credit is to be presented. No letter of credit will be acceptable unless it may be presented at a bank office in Gloucester County, York County, or James City County or in the City of Newport News, Hampton, Williamsburg, Norfolk, Virginia Beach, Chesapeake, or Richmond.
- (11) Signature of authorized officer of bank.
- (12) Title of authorized officer of bank.
- (13) Name of project.

## **APPENDIX N**

VSMP Permit & SWPPP Construction  
Inspection Report Form

## VSMP PERMIT & SWPPP CONSTRUCTION INSPECTION REPORT

Project Name: \_\_\_\_\_ VSMP Permit Number: \_\_\_\_\_  
Project Address: \_\_\_\_\_ County/City: \_\_\_\_\_  
Project Operator: \_\_\_\_\_ Operator Telephone: \_\_\_\_\_  
Operator Address: \_\_\_\_\_ County/City: \_\_\_\_\_  
Inspector Name: \_\_\_\_\_ Inspection Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Inspector Phone No: \_\_\_\_\_

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### Legal Status:

☐ Federal ☐ State ☐ Public ☐ Private

### Nature of Project:

☐ Commercial ☐ Industrial ☐ Residential ☐ Road ☐ Utility ☐ Agriculture ☐ Other:

### Stage of Construction:

☐ Pre-Con Conference ☐ Clearing & Grubbing ☐ Rough Grading ☐ Building Construction  
☐ Finish Grading ☐ Final Stabilization ☐ Construction of SWM BMPs ☐ Other:  
☐ Maintenance of SWM BMPs

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ITEM	General Information	YES	NO	N/A	Recommended Corrective Action and Notes
1	Project has permit coverage to discharge stormwater: §62.144.15:26				
2	Permit application submitted: 9VAC25-880-50				
3	Project's coverage letter posted near the site's entrance				
4	Internet address for viewing of SWPPP or the location of the SWPPP including name & telephone number of the contact person posted				
5	SWPPP has been prepared: 9VAC25-880-50				
6	SWPPP on-site or made available during the inspection				
7	SWPPP signed in accordance with the regulations				
8	SWPPP being amended (maintained) and updated				
9	SWPPP revisions signed and dated				
10	Prior to commencing construction, the operator obtained an approved ESC plan or agreement in lieu of a plan: 9VAC25-880-30				

ITEM	SWPPP Content	YES	NO	N/A	Recommended Corrective Action and Notes
1	Registration Statement for the project				
2	Copy of the Construction General Permit				
3	Description & nature of project				
4	Sequence & timing of land-disturbance activities				
5	Record of dates when major grading activities occurred				
6	Record of dates when grading temporarily or permanently ceased				
7	Record of dates when stabilization measures are initiated				
8	Estimate of total land-disturbance area including off-site areas				
9	Description of potential pollution sources (fuel, chemical storage, sanitary waste facilities, etc.)				
10	Identification of nearest receiving waters that will receive discharges from the project				
11	Location & description of industrial activity discharges covered by this permit such as dedicated asphalt & concrete plants				
12	Detailed site map identifying location of the project and receiving waters:				
13	Site map indicating the following:				
	1. Direction of final storm flows & slopes				
	2. Areas of disturbed & undisturbed sites				
	3. Location of controls				
	4. Location of stabilization practices				
	5. Location of surface water including wetlands				
	6. Location of stormwater discharges				
	7. Location of any off-site, waste, storage, and borrow areas				
	8. Location of potential pollutant sources				
	9. Areas of final stabilization				

ITEM	Controls to Minimize Pollutants	YES	NO	N/A	Recommended Corrective Action and Notes
1	Description of control measures to be implemented to minimize pollutants				
2	Identifies the contractor or subcontractor that will implement and maintain each control measure				
3	Approved ESC plan: Plans may be referenced in the SWPPP but need to be available at the time of inspection since they are enforceable under the permit.				
4	All control measures required by the ESC plan are designed, installed and maintained in accordance with good engineering practices and minimum standards of the VESCH (§62.1-44.15:51 et seq.) and regulations (9VAC25-840)				
5	All control measures properly selected, installed and maintained in accordance with good engineering practices and where applicable manufacturer specifications				
6	Paved or public roads cleaned as required				
7	Control measures replaced or modified as soon as practicable if periodic inspections or other information indicated a control measure has been used inappropriately or incorrectly				
8	Plans ensure existing vegetation preserved if possible & all disturbed portions stabilized				
9	Sediment escapes are removed at a frequency sufficient to minimize offsite impacts				
10	All control measures properly selected, installed and maintained.				
11	Litter exposed to stormwater is controlled from becoming a pollutant source				
12	Includes all necessary calculations describing post-construction stormwater management measures to address quantity and/or quality that will be installed				
13	Post-construction stormwater management measures are designed and installed in accordance with applicable local, state and federal requirements				
14	If applicable, the following required information about participation in a Regional Stormwater Management Plan				
	a. Type of regional facility to which the site contributes				
	b. Geographic location of facility (including city/county & HUC)				
	c. Geographic location of the site (including city/county & HUC)				
	d. Number of acres treated by regional facility				

ITEM	Controls to Minimize Pollutants (cont.)	YES	NO	N/A	Recommended Corrective Action and Notes
15	If applicable the following information about Nutrient Offset				
	a. Name of broker from which offsets will be acquired				
	b. Geographic location of offset generating facility (city/county & HUC)				
	c. Number of offsets to be acquired (lbs/acre/year)				
	d. Nutrient reductions to be achieved onsite (lbs/acre/year)				
16	Discharge from stormwater facilities or conveyance systems are to an adequate channel in accordance with VESCR (9VAC25-840-40)				
17	Description of control measures to prevent discharge of solid materials to state water				
18	Description of control measures to comply with state or local waste disposal, sanitary sewer or septic system regulations				
19	Description of construction and waste materials expected to be stored onsite with updates, including measure to minimize exposure of materials to stormwater, and for spill prevention and response				
20	Description of pollutant sources from areas other than construction (dedicated asphalt or concrete plants) and control measures to be used at those sites				
21	Control measures implemented at the site are consistent with applicable state, local and federal requirements for ESC & SW management				
ITEM	Maintenance of Controls	YES	NO	N/A	Recommended Corrective Action and Notes
1	Control measures properly maintained in effective operating condition in accordance with good engineering practices and, where applicable, manufacturer specifications				
2	Maintenance performed as soon as practical on control measures identified by inspections that are not operating effectively				
3	If site inspections required to identify existing control measures needed to be modified or if additional control measures were necessary for any reason, implementation was completed before the next anticipated storm event. If implementation before the next anticipated storm event was impracticable, the situation was documented in the SWPPP and alternative control measures were implemented as soon as practicable				

ITEM	Inspections	YES	NO	N/A	Recommended Corrective Action and Notes
1	Name & phone of the “Qualified Personnel” conducting inspections				
2	Inspections conducted at required frequency				
3	Inspections include all areas of the site disturbed, off-site areas covered by the permit, areas used for storage that are exposed to precipitation, control measures for proper installation, maintenance and operation, discharge locations where accessible, and downstream locations where discharge locations are not accessible				
4	For utility, pipeline, highway construction, representative inspections (For representative inspections, personnel must inspect control measures 0.25 miles above and below each point where access is allowed and points must be listed in the report.)				
5	Inspection reports are part of the SWPPP				
6	Inspection reports summarize the scope of the inspections including corrective actions				
	(1) The location(s) of discharges of sediment or other pollutants from the site				
	(2) Location(s) of control measures that need to be maintained				
	(3) Location(s) of control measures that failed to operate as designed or proved inadequate for a particular location				
	(4) Location(s) where additional control measures are needed that did not exist at the time of inspection				
	(5) Corrective action required including any changes to the SWPPP that are necessary and implementation dates				
	(6) An estimate of the amount of rainfall at the construction site (in inches) from the runoff producing storm event requiring the inspection, or if inspecting on a seven-day schedule, the amount of rainfall (in inches) since the previous inspection				
	(7) Weather information and a description of any discharges occurring at the time of inspection				
ITEM	Non-Stormwater Discharges	YES	NO	N/A	Recommended Corrective Action and Notes
1	Identification of allowable non-stormwater discharges and control measures for the non-stormwater discharges				
	a. Fire fighting controls				
	b. Fire hydrant flushing				
	c. Vehicle washing (no detergent)				
	d. Water used for dust control				
	e. Potable water source & uncontaminated flushing				
	f. Building washing (no detergent)				
	g. Pavement washwaters (no hazardous materials or detergent used on pavement)				
	h. Air conditioner or compressor condensation is uncontaminated				
	i. Uncontaminated ground water or springs				
	j. Foundation or footing drains				
	k. Uncontaminated excavation dewatering				
	l. Landscape irrigation				

ITEM	Total Maximum Daily Loads and Impaired Waters	YES	NO	N/A	Recommended Corrective Action and Notes
1	TMDL WLA for the construction activity identified				
2	Description of strategies and control measures implemented to meet TMDL WLAs				
3	Impaired waters identified as having impairments for pollutants that may be discharged from the construction activity				
4	Control measure protective of water quality standards for impaired waters identified as having impairments for pollutants that may be discharged from the construction activity				
5	Appears to be impact(s) to receiving waters {Provide location(s) & description of impact(s).}				
ITEM	Other Issues	Initial	Repeat	N/A	Recommended Corrective Action and Notes

Recommended Corrective Action Deadline Date: \_\_\_\_\_ Re-inspection Date: \_\_\_\_\_

The recommended corrective action deadline date applies to all conditions noted on this report unless otherwise noted. If listed condition(s) currently constitute non-compliance and/or corrective actions are not completed by the deadline, other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.

Inspector  
Signature \_\_\_\_\_ Date \_\_\_\_\_

Acknowledgement  
Of on-site receipt: \_\_\_\_\_ Date \_\_\_\_\_  
Signature \_\_\_\_\_

\_\_\_\_\_  
Printed Name

**Tabular Rating System Narrative**  
**[Inspection Frequency Table]**

**PURPOSE:**

The alternative inspection program described herein for **GLOUCESTER COUNTY** is designed to provide for oversight of urban land-disturbing activities effectively utilizing local staff to meet specific urbanization trends while addressing specific environmental conditions within the locality.

**AUTHORIZATION:**

§10.1-566 of Title 10.1 Chapter 5, Article 4 of the Code of Virginia and §4VAC50-30-60 of the Erosion and Sediment Control Regulations.

**POLICY:**

To most effectively utilize local staff and protect the resources of the **GLOUCESTER COUNTY** and the Commonwealth, **GLOUCESTER COUNTY** will implement an alternative program based on a system of priorities. The system of priorities will be based upon the amount of disturbed project area, site conditions, stages of construction, and site conditions noted on previous inspections.

**IMPLEMENTATION:**

1. After plan review and a site visit, ESC inspector and the program administrator will assign a classification number to the project.
2. Classification numbers will be assigned to projects which address site specific erosion potential and offsite environmental impact. These classification numbers will be used to determine the frequency of inspections. The classification numbers will range from one to three, one (I) requiring a less frequent inspection schedule and (III) requiring a more frequent inspection schedule.
3. The classification of a project may be adjusted to a higher or lower classification by the program administrator based upon complaints, violations, inspections and stages of construction.
  - a. When an ESC complaint and/or violation is documented, the project will automatically be moved to the Class III inspection schedule until the violation has been corrected.
  - b. When a scheduled ESC inspection reveals a violation, the project will automatically be moved to the Class III inspection schedule until the violation has been corrected.
  - c. The inspection class may change due to stages of construction. For example, a construction project in the initial phase of construction, such as during the land clearing, may be moved to a Class III to ensure that all ESC controls are adequate and properly functioning. In addition, a construction project nearing completion may be moved to a Class III inspection to ensure that all ESC issues are resolved and the site is appropriately stabilized.
4. The classification number shall be included on the approved plan, written on the file folder, written on the land disturbance permit, and made a part of the project database.
5. All inspections will be documented on an inspection log maintained as a part of each project file. Project owners will receive copies of inspection reports with noted violations.

**Tabular Rating System**  
**[Inspection Frequency Table]**

<u>Distance to Watercourse:</u>	<u>Rating</u>	<u>Buffer Vegetation Condition</u>	<u>Rating</u>
Less than 50 feet	5	Very Good	0
50 feet to 150 feet	3	Dense Grass, Hay Field	
Greater than 150 feet	0	Good	1
		Avg. Grass, Forest, Good Pasture	
<u>Buffer:</u>	<u>Rating</u>	Fair	3
		Poor Grass, Fair Pasture	
0-50 feet	5	Poor	5
50 – 150 feet	3	Bare Soil, Pavement, Poor Grass	
150 – 300 feet	1		
Greater than 300 feet	0	<u>Critical Slope</u>	<u>Rating</u>
<u>Distance from Disturbance</u>		Is the slope –	
<u>To Downstream Adjacent</u>		0-7%, Greater than or	
<u>Property</u>	<u>Rating</u>	Equal to 300' slope	
		Length or	Yes 3
Less than 50 feet	5	7-15%, Greater than	
50 feet to 150 feet	3	or Equal to 150' slope	No 0
Greater than 150 feet	0	length or	
		Greater than 15 %	
<u>Crossing Water Course</u>	<u>Rating</u>	and greater than or	
		= to 75' slope length?	
YES	No rating		
MUST inspect at a min. of 2-week freq.		Approximate Disturbed Acreage	<u>Rating</u>
NO	0		
		< ½ acre	0
<u>Soil Erodibility</u>		½ to 1 acre	3
<u>(based on K Factor)</u>	<u>Rating</u>	1 to 2 acres	5
		>2 acres	No rating
Low (0.23 and lower) frequency	1	Must inspect at a min. 2 week	
Moderate (0.24 – 0.36)	3		
High (0.37 and higher)	5		

**Overall Rating**

(Total of the above 8 categories)

If \_\_\_\_ is 26 to 33 then

If \_\_\_\_ is 20 –26 then

If \_\_\_\_ is 19 or less then

**Inspection**

**Return Frequency**

Once every 2-Weeks\* (Class III)

Once every 4-Weeks\* ( Class II)

Once every 8-Weeks\* (Class I)

\*In addition, inspection will be provided at the beginning and completion of projects.

**Notes:**

Inspection frequency is not limited to the above schedule and may increase in frequency due to runoff producing storm events or documented violations.

## **APPENDIX O**

Construction Record Drawing Checklist for  
Permanent Stormwater Management  
Facilities (BMPs)

## Construction Record Drawing Checklist for Permanent Stormwater Management Facilities (BMPs)

Record drawings are required for all components of permanent stormwater management facilities (BMPs). The record drawings shall be appropriately sealed and signed by a Professional engineer, architect, surveyor, or landscape architect registered in the Commonwealth of Virginia pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia. The record drawings shall:

- ☐ Be of the same sheet size; format, scale, etc. as the approved stormwater management plans;
- ☐ Show the as-built condition of the stormwater management facility(ies) calling attention to any changes from the approved drawings;
- ☐ Provide details, including, but not limited to, elevations for structure tops, pipe inverts, channels, outfalls; cross-sections; structure and pipe sizes/types; and other sensitive components of the facility(ies);
- ☐ Show lot lines, numbers, street names, and maintenance access easement information;
- ☐ Provide a benchmark with description;
- ☐ Include maintenance information should also be provided on the plan; and
- ☐ Contain a Certification statement that all permanent stormwater management facilities have been constructed and are functioning in accordance with the approved plans.

## **APPENDIX P**

VSMP Project Completion Form

# VSMP Project Completion Form

Project Name: \_\_\_\_\_

Date: \_\_\_\_\_

Tax / Parcel No(s): \_\_\_\_\_

Date of  
Approved Plans: \_\_\_\_\_

VSMP/Stormwater Permit Number: \_\_\_\_\_

- ☐ Has the project been built in conformance with the approved plans? (If no, provide a written explanation.)
- ☐ Have the stormwater conveyance system(s) and facility (ies), including, but not limited to BMPs, culverts, storm sewers, channels, etc., been installed in conformance with the approved plans?
- ☐ Have all storm structures and sewers been sealed/bricked and mortared and inverts been poured?
- ☐ Are all the storm sewer structures and pipes/channels clean?
- ☐ Have the inlet and/or outlet protection(s) been installed as shown on the approved plans?
- ☐ Have all disturbed areas been properly stabilized with a minimum of 70% vegetative cover and 100% vegetative cover over areas upstream of stormwater BMPs?
- ☐ Has a construction record drawing for each permanent stormwater management facility been submitted to the Administrator for stormwater management facilities requiring a maintenance agreement(s)? The construction record drawing shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities have been constructed in accordance with the approved plan. (This is required to release the financial guarantee.)

## Applicant's Contact Information

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

## Administrative Use Only

Inspection Date: \_\_\_\_\_

☐ Project conforms to plans

Financial Guarantee Release Date: \_\_\_\_\_

☐ Project eligible for release

Approved

---

*[Local Administrator]*

## **APPENDIX Q**

Post-Construction Inspection

# **Post-Construction Inspection Checklist**

## **For:**

Insert Project Name

Insert Project Site Location/Address

Insert City, State, Zip Code

Insert Project Site Telephone Number (if applicable)

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## 1 - ROOFTOP DISCONNECTION: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available:     Y / N

Element of BMP	Potential Problem	Problem? Y/N	Investigate? Y/N	Repaired? Y/N	How to Fix Problem	Who Will Address Problem	Comments
<b>Piping, Gutters, Drains and Pre-Treatment Sumps</b>	Fluid from a different practice is being piped near pervious areas.				Prevent adjacent uses from piping through or around pervious area.	Professional	
	Sediment and debris accumulation				Correct the source of sediment and debris and remove it immediately	Owner or professional	
	Mosquito proliferation				Correct gutter flow to eliminate standing water; treat for mosquitoes, as needed	Owner or professional	
	Runoff is not entering the receiving pervious area.				Check to see if connection spout or overflow pipe is clogged. Remove the sediment.	Owner or professional	
	The downspouts remain disconnected.				Restore disconnection.	Owner or professional	
<b>Manufactured Products</b>	Product or component is broken or not functioning correctly.				Follow the manufacturer's maintenance recommendations, and repair or replace as needed.	Owner or professional	
<b>Downstream Treatment</b>	The compensatory treatment units have not been maintained.				Correct identified problems, according to the maintenance guidelines for the specific supplementary BMP.	Owner or professional	
	Stormwater discharge is ponding at point of disconnection.				Dry wells or french drains may be needed, if not already present. Clean out manually, and reconstruct or replace when no longer functioning.	Professional	
	Erosion is evident at the simple disconnection, bioretention/rain gardens, filter paths, or foundation planter.				Remove the sediment and debris build-up at the points where runoff enters the pervious area. Then re-stabilize.	Owner or professional	
	Practices to which the disconnection discharges are not functioning.				Reference that practice's checklist for instructions to fix problems.	Professional	
	Practices to which the disconnection discharges are disturbed or have been converted.				Correct identified problems and stabilize as needed.	Owner or professional	
	The receiving pervious area(s) retain dimensions as shown on plans and are in good condition.				Restore dimensions and make needed repairs.	Owner or professional	
	There is encroachment on the receiving pervious area(s) or easement by buildings or other structures.				Inform involved property owners of BMPs status; clearly mark the boundaries of the receiving pervious area, as needed.	Owner or professional (and perhaps the locality)	

## 2 - SHEET FLOW TO VEGETATED FILTER AREAS AND CONSERVED OPEN SPACE: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

*Ideally, these BMP areas should be inspected annually, with the inspection conducted during the non-growing season when it is easier to observe the flow path. Once established, vegetated filter strips have minimal maintenance needs outside of the Spring cleanup: regular mowing, repair of check dams and other measures to maintain the hydraulic efficiency of the filter strip and a dense, healthy grass cover. Grass filter strips and boundary zones must be mowed at least twice a year to prevent woody growth. A conservation easement may be required to ensure that the vegetated filter strip area and any newly established or restored forest cover may not be cleared. Also, a responsible party should ensure that routine forest improvements are made over time (i.e., thinning, invasive plant removal, etc.).*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or bare or exposed soil.				Stabilize immediately.	Owner or professional	
Inlet	Inlets provide stable conveyance into facility.				Stabilize immediately, as needed.	Owner or professional	
	Excessive trash / debris / sediment accumulation at the inlet				Remove trash and debris immediately.	Owner	
	Evidence of erosion at / around the inlet				Correct the source problem and stabilize immediately.	Owner or professional	
Channel	Scour and erosion are present within the vegetated filter area				Sediments are to be cleaned out of Level Spreader forebays and flow splitters	Owner or professional	
	Debris and sediment build-up is present at the top of the vegetated filter area.				Check conveyance(s) to the filter area for trouble spots and correct any problems immediately. Manually remove the deposited sediment.	Owner or professional	
Gravel Diaphragm	Foot or vehicular traffic is compromising the gravel diaphragm.				Block foot and vehicular traffic. Re-stabilize the area immediately.	Professional	
Level Spreader	The level spreader is performing properly. Flows are not concentrating on the down-gradient side of the element				Search the spreader for chips, cracks, or any other fundamental compromise of the structure. Repair immediately.	Professional	
	There is excessive landscape waste and yard clippings.				Remove immediately.	Owner or professional	
Vegetation	Vegetative density is less than 90% cover in the boundary zone or grass filter.				Reseed and fertilize (if necessary) the exposed soil.	Owner or professional	
	The plant composition is consistent with the approved plans.				Make a judgment regarding whether plants need to be replaced, and replace if necessary.	Professional	
	Invasive species or weeds are present				Correctly destroy and/or remove the invasive species; make a judgment regarding whether other weeds need to be removed, and remove if necessary.	Owner or professional	
	There is troublesome pest infestation.				Use integrated pest management (IPM) techniques to minimize the use of pesticides and herbicides. Minimize use of organic (not chemical) fertilizer, as needed.	Owner or professional	
	There is dead vegetation and/or exposed soil.				Reseed or replace dead vegetation on exposed soil Areas.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overflow Area	Flows through the filter area short-circuit the overflow control section				Check that the structure is not clogged. If so, manually clean out debris immediately.	Owner or professional	
Outlet	The outlet provides stable conveyance away from the filter area.				Stabilize immediately, as needed.	Professional	
Overall	There is adequate access to the level spreader and filter area.				Establish adequate access.	Professional	
	There is evidence of standing water.				Fill in low spots and stabilize; correct flow problems causing ponding.	Owner or professional	
	There is excessive trash and debris.	.			Remove immediately.	Owner or Professional	
	Mosquito proliferation				Eliminate stagnant pools and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Complaints from local residents				Correct real problems	Owner or professional	
	Encroachment on the filter area or easement by buildings/structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed.	Owner or professional (and perhaps the locality)	

### 3 - GRASS CHANNELS: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Type of pretreatment facility:

☐ Sediment ☐ Forebay ☐ Dam

☐ Grass ☐ Filter ☐ Strip

☐ Stone ☐ Diaphragm

Other: \_\_\_\_\_

None: \_\_\_\_\_

*Ideally, these BMP areas should be inspected annually, with the inspection conducted spring when the health of the grass channel lining should be evident. Once established, Grass Channels have minimal maintenance needs outside of the Spring cleanup: regular mowing, repair of check dams and other measures to maintain the hydraulic efficiency of the channel and a dense, healthy grass cover.*

Element of BMP	Potential Problem	Problem? Y/N	Investigate? Y/N	Repaired? Y/N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or bare or exposed soil.				Stabilize immediately.	Owner or professional	
Pre-treatment	There is adequate access to the pre-treatment facility.				Establish adequate access.	Professional and, perhaps, the locality	
	There is excessive trash / debris / sediment in the facility				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or exposed soil.				Stabilize immediately.	Owner or professional	
	There is evidence of diaphragm or other clogging.				Identify and eliminate the source of the problem; . If necessary, remove and clean or replace the stone.	Professional	
	There is dead vegetation and evidence of erosion and / or exposed soil.				Repair erosion damage, and reseed or otherwise restabilize with vegetation.	Owner or professional	
Inlets	The inlet is not maintaining a calm flow of water entering the channel or the conveyance capacity is blocked.				Remove trash and sediment accumulated at the inflow. Sources of sediment and debris must be identified and corrected. Stone splash pads must be replenished to prevent erosion.	Owner or professional	
	There is evidence of erosion at / around Inlet.				Repair erosion damage, and reseed or otherwise restabilize with vegetation.	Owner or professional	
Vegetation	Native soil is exposed or erosion channels are forming.				If sediment deposits are thick enough to damage or kill vegetation, remove the sediment by hand, while protecting the vegetation.	Owner or Professional	
	Grass height does not reach standards				Grass channels must be mowed to keep grass at a height of 4" to 9". Remove grass clippings after mowing.	Owner or Professional	
	Vegetation requires fertilizer or pest control				Fertilize according to specifications. Use organic rather than chemical fertilizer. If feasible, use compost. Use integrated pest management (IPM) techniques to minimize the use of pesticides and herbicides.	Owner or Professional	
	The plant composition is consistent with the approved plans.				Make a judgment regarding whether plants need to be replaced, and replace if necessary	Professional	
	Invasive species or weeds are present				Correctly destroy and/or remove the invasive species; make a judgment regarding whether other weeds need to be removed, and remove if necessary.	Owner or professional	
	There is dead vegetation and/or exposed soil.				Reseed or replace dead vegetation and exposed soil areas.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y/N	Investigate? Y/N	Repaired? Y/N	How to Fix Problem	Who Will Address Problem	Comments
Side Slopes	Evidence of erosion on side slopes, introducing sediment into the swale.				Repair erosion damage immediately. Stabilize slopes using appropriate erosion control measures and plant appropriate vegetation.	Owner or Professional	
Check Dams	Dam is not functioning properly.				Check upstream and downstream sides of check dams for evidence of undercutting, side cutting or erosion and repair immediately.	Professional	
	There is a large accumulation of sediment or trash/debris behind the check dam.				Remove sediment when the accumulation exceeds 25% of the original Tv. Remove trash/debris and clear blockages of weep holes.	Professional	
Channel Bottom	Undesirable plant species, accumulations of fallen leaves, and other debris from deciduous plant foliage are present.				Remove woody vegetation from the channel. Prune adjacent trees and shrubs to keep the channel clear. Remove/replace invasive veg. or weeds if they cover < 25% of the channel area. Remove accumulated organic matter and debris immediately.	Owner or Professional	
	Base soils are compacted. The practice does not draw down within 48 hours after a storm.				De-thatch and aerate the channel. Remove sediment when the accumulation exceeds 25% of channel volume. Restore the original cross section and revegetate the channel.	Owner or Professional	
	There is unhealthy or dead grass cover or evidence of erosion, braiding, or excessive ponding in the channel bottom.				Fill in low spots, repair erosion, and add reinforcement planting to maintain 90% turf cover. Reseed any salt killed vegetation and stabilize immediately. Keep the grass in a healthy, vigorous condition at all times, since it is the primary erosion protection for the channel.	Owner or Professional	
Channel Outlet	The outlet does not maintain sheet flow of				The source of erosion damage must be identified and controlled when native soil is exposed or erosion channels		
	The outlet provides stable conveyance out of the channel.				Stabilize immediately, as needed.	Professional	
	There is excessive trash, debris or sediment accumulation at outlet.				Check inflow points for clogging and remove any trash and sediment deposits	Owner or professional	
	There is dead vegetation and/or exposed soil.				Reseed or replace dead vegetation and exposed soil areas	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Pest Control	There is evidence of standing water and mosquito habitat or rodent damage.				Pest control measures must be taken when mosquitoes and/or rodents are found to be present. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied <i>only if absolutely necessary</i> . Holes in the ground located in and around the swale must be filled and stabilized with vegetation. Burrowing animals should be humanely removed from the area.	Professional	
Overall	Access to the Grass Channel is adequate				Establish adequate access	Professional and, perhaps, the locality	
	Complaints from local residents				Correct real problems	Owner or professional	
	Encroachment by buildings or other structures				Clearly mark BMP and inform those involved of the BMPs.	Owner, professional (and perhaps the locality)	

#### 4 - SOIL COMPOST AMENDMENTS: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available:     Y / N

*Ideally, the amended soil area should be watered once every 3 days for the first month, and then weekly during the first growing season (April-October), depending upon rainfall. The area should be inspected at least after each storm event that exceeds 1/2-inch of rainfall during the first six months following the incorporation of soil amendments. Depending on the results of a soil test for the amended area, a one- time spot fertilization may be needed in the fall after the first growing season to increase plant vigor. The area should be de-thatched every few years to increase permeability.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or bare or exposed soil.				Stabilize immediately with grass cover.	Owner or professional	
	Evidence of excessive use of fertilizer or lawn chemicals				Develop and implement a nutrient and pest control management plan.	Owner or professional	
	Runoff is ponding, creating rills, and/or causing erosion.				Dethatch or aerate the soil. Introduce more compost amendments and/or lime. Restabilize eroded areas by replanting vegetation.	Owner or professional	
	Access to the amended soil area for maintenance is adequate.				Establish adequate access.	Professional	
	Absence of signs designating the area as a Conservation Area				Obtain or create and post appropriate signage.	Owner (and perhaps the locality)	
	There is evidence of erosion and / or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	Encroachment on the amended area or easement by buildings or other structures.				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed.	Owner or professional (and perhaps the locality)	
NOTE: Soil compost amendments do not need to be addressed in a maintenance agreement if they are incorporated to reduce lawn runoff volume or improve a residential rooftop disconnection. They probably should be addressed in a simple maintenance agreement if the soil restoration/improvement is associated with more than 10,000 square feet of reforestation. Soil compost amendments within a vegetated filter strip or grass channel should be located in a public right of way or within a dedicated stormwater or drainage easement.							

## 5 - VEGETATED ROOFS: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

*Ideally, following construction, this practice should be inspected monthly during the vegetation establishment period, and then every six months thereafter to assess the state of vegetative cover and to look for leaks, drainage problems and other functional or structural concerns. Maintenance may include watering, hand-weeding to remove invasive or volunteer plants, and to add plant materials to repair bare areas. The use of herbicides, insecticides, fungicides, and fertilizers should be avoided, since their presence could hasten degradation of the waterproof membrane. Also, power-washing and other exterior maintenance operations should be avoided so that cleaning agents and other chemicals do not harm the vegetated roof plant communities.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Vegetation	Plant cover is less 90% plant cover.				During establishment period, replace dead plants as needed. During the long-term period, dead plants must generally be replaced once per year in the fall.	Owner or professional	
	Plants are wilting				Water more frequently to promote growth and survival. Annual application of slow-release fertilizer is recommended in the fall during the first five years following installation. After that, fertilizer is generally not necessary and should not be applied.	Owner or professional	
	Plants are choking on excess vegetation				Fallen leaves and debris from deciduous plant foliage must be removed and should be recycled or composted.	Owner or professional	
	Invasive and nuisance plant species are present				Completely remove invasive plant species. Weeding must be done by hand, without the use of herbicides or pesticides. Remove weeds regularly and do not allow them to accumulate.	Owner or professional	
	Drought conditions are present				Mulch or shade cloth may be applied to prevent excess solar damage and water loss.	Professional	
	There is troublesome pest infestation.				Use integrated pest management (IPM) techniques to minimize the use of pesticides and herbicides. Minimize use of organic (not chemical) fertilizer, as needed.	Owner or professional	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	Grass has become unruly				Grass should be mowed as needed. Clippings must be removed and should be recycled or composted.	Owner or professional	
Vegetation Irrigation	During the establishment period (initial 1-3 years)				Water sufficiently to assure plant establishment, but do not exceed 1/4-inch of water once every 3 days.	Owner or professional	
	During the long-term period (3+ years)				Water sufficiently to maintain plant cover, but do not exceed 1/4-inch of water once every 14 days. For automatic sprinklers, use manufacturers' instructions for operation and maintenance.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Structural Components</b>	Waterproof membrane is leaking or cracked				Make necessary repairs immediately.	Professional	
	Root barrier is perforated				Replace swatch.	Professional	
<b>Drainage Layer/Inlet Pipes</b>	Soil substrate, vegetation, debris, litter or other materials clog the roof drain inlet, scuppers or gutters				Sources of organic matter, debris, litter, and other sediment must be identified and materials removed to prevent clogging drainage structures.	Professional	
	Drain inlet pipe is in poor condition				Repair as needed.	Professional	
<b>Soil Substrate/ Growing Medium</b>	Evidence of erosion from wind or water				If erosion channels are evident, they must be stabilized with additional soil substrate/growth medium and covered with additional plants.	Professional	
	Growth media has become clogged with sediment				Manually remove sediment so as not to damage plant materials.	Professional	
<b>Overall</b>	Access to the vegetated roof is adequate.				Egress and ingress routes must be restored to design standards. Walkways must be clear of obstructions and maintained to design standards.	Professional	
	There is evidence of damage or vandalism.				Maintain the vegetated roof's aesthetics as an asset to the property owner and community.	Owner or professional	
	Mosquitoes or other insects are breeding/ abundant at the practice				Standing water creating an environment for development of insect larvae must be eliminated manually. Chemical sprays must not be used.	Owner or professional	
	Threat of a spill is imminent.				Spill prevention measures must be exercised for mechanical systems located on roofs when substances that can contaminate stormwater are used. Releases of pollutants must be corrected as soon as they are identified.	Owner or professional	

## 6 - RAINWATER HARVESTING: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was Placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available:     Y / N

*Ideally, this practice should be inspected each Spring and Fall by the owner, with an extensive inspection every three years by a qualified third party inspector.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Overall</b> (Every third year)	A component of the system is leaking or damaged.				Make necessary repairs or replace damaged components.	Professional	
	Water is flowing out of the overflow pipe during the design rainfall or smaller storm (1-1.5 inch).				Check for clogging or damage and ensure the pump is operating correctly. Ensure water is being used at the volume for which the system was designed.	Owner or professional	
	Electric system is flawed.				Make any necessary repairs/adjustments.	Professional	
	Sediment accumulation in cistern exceeds 5% of the design volume				Remove sediment.	Professional	
	Excessive overhanging vegetation/trees present				Trim branches back to meet standards	Professional	
<b>Captured roof area</b> (Twice a year)	Excess debris/sediment on the rooftop				Remove debris immediately.	Owner or professional	
<b>Gutter system</b> (Twice a year)	Gutters are clogged and water is backed up.				Unclog/remove leaves and debris. May need to install gutter screens.	Owner or professional	
	Rooftop runoff is not reaching the gutter system.				Correct the positioning or installation of gutters. May need to replace the system	Owner or professional	
	Algae growth				Do not allow sunlight to penetrate cistern. Treat the water to remove/prevent algae	Owner or professional	
	Mosquitoes are present in the cistern.				Check screens for damage and repair/ replace. Treat with mosquito dunks if necessary.	Owner or professional	
	Lids are damaged. Be sure to check vents and screens on inflow and outflow spigots and mosquito screens.				Repair immediately. Ensure that lid damage has not led to any of the aforementioned problems with the cistern.	Owner or professional	
<b>Screens and filters</b> (Twice a year)	Debris/sediment accumulation. Screens are clogged.				Find the source of debris and sediment and remedy. Clear the screen/filter. Replace if necessary	Professional	
<b>Pump</b> (Twice a year)	Not operating properly				Check for clogging. Flush if needed. May need to be replaced.	Professional	
<b>Pre-screening devices and first flush devices</b> (Every 3 months)	Dirty/clogged				Have a professional ensure screens have not caused bacterial growth within the gutters or downspouts. The owner may remove the clean out plug from the first flush device and manually wipe it clean.	Owner or Professional	
<b>Backflow preventer</b> (Every third year)	Pressure is uneven and is causing backpressure or back-siphonage.				Immediately stop use of the indoor water supplied by the tank and call a professional.	Professional	
<b>Secondary water supply</b> (Every third year)	Not operating properly				Consult an expert only.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Overflow pipe</b> (Annually)	Erosion is evident at overflow discharge point, along the filter path/secondary runoff reduction practices.				Stabilize immediately. It may be necessary to refer to inspection checklists for other BMPs.	Professional	
	Overflow pipe in poor condition				Repair or replace pipe.	Professional	

## 7 - PERMEABLE PAVEMENT: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

*Ideally, each permeable pavement installation should be inspected in the Spring of each year, especially at large-scale installations.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	There is excessive landscape waste and yard clippings.				Remove immediately.	Owner or professional	
Adjacent Vegetation	Trees and shrubs are within 5 feet of the pavement surface				Check that tree roots have not penetrated the pavement and leaf residue has not clogged the pavement. Vegetation that limits access or interferes with the permeable pavement operation must be pruned or removed.	Owner or Professional	
Inlets, Pre-Treatment Cells and Flow Diversion Structures	There is excessive trash, debris or sediment accumulation.				Remove immediately.	Owner or Professional	
	There is evidence of erosion and / or exposed soil.				Stabilize immediately.	Owner or professional	
	Evidence of clogging				Clean out sediment or debris. Remove and wash or replace stone, as needed.	Professional	
Pavement Surface	Mosquito proliferation				Eliminate standing water and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then use a licensed pest controller to apply an approved mosquito larvicide ( <i>only if absolutely necessary</i> ).	Owner or professional	
Pavement Surface	There is evidence of erosion and / or bare or exposed soil in grid paver areas.				Stabilize immediately. Mow, irrigate and apply organic (not chemical) fertilizer, as needed to keep grass healthy and dense enough to provide filtering while protecting the underlying soil. Remove any grass clippings.	Owner or professional	
	There is loose material (e.g., bark, sand, etc.) stored on the pavement surface				Remove immediately and vacuum or sweep the area to prevent clogging the pavement pores.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Pavement Surface (continued)</b>	Pavement is stained and/or clogged or water is ponded, indicating the pavement is not draining properly. Measure the drawdown rate in the observation well for three (3) days following a storm event that exceeds 1/2-inch of rain. If standing water is still observed in the well after three days, this is a clear sign that the pavement is clogged. Significant amounts of sediment have accumulated between the pavers.				The surface must be kept clean and free of leaves, debris, and sediment by vacuum sweeping (without brooms or water spray) immediately and, otherwise, at a frequency consistent with the use and loadings encountered (at a minimum, annual dry-weather sweeping in the Spring). Where paving blocks are installed, the sweeper must be calibrated so it does <i>not</i> pick up the stones between the paver blocks. Following the vacuum sweeping, test pavement sections by pouring water from 5 gallon buckets, to ensure proper drainage.	Professional	
<b>Structural Integrity</b>	There is evidence of surface deterioration, such as slumping, cracking, spalling or broken pavers.				Repair or replace affected areas, as necessary.	Professional	
<b>Observation Wells</b>	Is each observation well still capped?				Repair, as necessary.	Professional	
<b>Outlet</b>	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	

## 8 - INFILTRATION PRACTICES: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Facility Location:	Hydraulic Configuration:
<input type="checkbox"/> Surface	<input type="checkbox"/> On-line facility
<input type="checkbox"/> Underground	<input type="checkbox"/> Off-line facility
Filtration Media:	Type of Pre-Treatment Facility:
<input type="checkbox"/> No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.)	<input type="checkbox"/> Sediment forebay (above ground)
<input type="checkbox"/> Sand	<input type="checkbox"/> Sedimentation chamber
<input type="checkbox"/> Bioretention Soil	<input type="checkbox"/> Plunge pool
<input type="checkbox"/> Peat	<input type="checkbox"/> Stone diaphragm
<input type="checkbox"/> Other:	<input type="checkbox"/> Grass filter strip
	<input type="checkbox"/> Grass channel
	<input type="checkbox"/> Other:

*Ideally, infiltration facilities should be inspected annually. Spill prevention measures should be used around infiltration facilities when handling substances that contaminate stormwater. Releases of pollutants should be corrected as soon as identified.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Contributing Drainage Area</b>	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or exposed soil.				Stabilize immediately.	Owner or professional	
	Vegetative cover is adequate				Supplement as needed.	Owner or professional	
	There are excessive landscape waste or yard clippings.				Remove immediately and recycle or compost.	Owner or professional	
<b>Pre-Treatment Facility</b>	There is adequate access to the pre-treatment facility.				Establish adequate access.	Professional and, perhaps, the locality	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or exposed soil.				Stabilize immediately.	Owner or professional	
	There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation).				Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material.	Professional	
	There is dead vegetation or exposed soil in the grass filter.				Restabilize and revegetate as necessary.	Owner or professional	
<b>Inlets</b>	Inlets provide a stable conveyance into facility				Stabilize immediately, as needed.	Owner or professional	
	There is excessive trash/debris/sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion at or around the inlet.				Repair erosion damage and reseed or otherwise restabilize with vegetation.	Owner or professional	
<b>Embankment, Flow Diversion Structures (e.g., Dikes, Berms, etc.) and Side Slopes</b>	There is evidence of erosion or bare soil.				Identify the source of erosion damage and prevent it from recurring. Repair erosion damage and reseed or otherwise restabilize with vegetation.	Owner or professional	
	There is excess sediment accumulation.				Remove immediately.	Owner or professional	
	Water is not detained in the infiltration basin.				Check for a breach in the containment structure and repair immediately.	Professional	
	Side slopes support nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from area.	Professional	
<b>Maintaining Facility Capacity and Proper Drainage</b>	Look for weedy growth on the stone surface indicating sediment accumulation and potential clogging				Identify and control sources of sediment and debris. Remove sediment and debris in excess of 4" in depth every 2-5 years (or sooner if performance is affected).	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Maintaining Facility Capacity and Proper Drainage (continued)</b>	Measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. If standing water is still observed after three days, this is a clear sign that clogging is a problem.				Immediately clear debris from the underdrain. Replace the underdrain if necessary. If needed, regrade and till to restore infiltration capacity (the need for this can be prevented by preventing upstream erosion and subsequent sediment transport to the facility).	Professional	
	There is excessive trash/debris.				Remove immediately.	Owner or professional	
<b>Vegetation</b>	Grass within the practice is overgrown.				Grass must be mowed to a height of 4"-9" and grass clippings removed (ideally recycled or composted).	Owner or professional	
	Pioneer trees are sprouting in the base of the facility.				Remove trees to prevent roots from puncturing the filter fabric, allowing sediment to enter.		
	Vegetation forms an overhead canopy that may drop leaf litter, fruit and other vegetative materials that may cause clogging.				Prune or remove vegetation as necessary.	Owner or professional	
<b>Observation Well</b>	Is each observation well still capped?				Repair, as necessary.	Professional	
<b>Outlet</b>	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	
	Evidence of flow bypassing facility				Repair immediately	Professional	
	There is excessive trash, debris, or sediment at the outlet.				Remove immediately	Owner or professional	
<b>Overflow or Emergency Spillway</b>	The pipe or spillway is not effectively conveying excess water to an adequate receiving system.				Clear sediment and debris whenever 25% or more of the conveyance capacity is blocked. When damaged pipe is discovered, it must be repaired or replaced immediately. Identify and control sources of erosion damage. Replace or reinforce stone armament whenever only one layer of stone remains.	Professional	
<b>Structural Components</b>	Evidence of structural deterioration				Repair as necessary.	Professional	
	Evidence of spalling or cracking of structural components				Repair or replace, as necessary.	Professional	
	Grates are in good condition				Repair or replace, as Necessary.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall     Overall (continued)	Access to the Infiltration facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that manholes, valves and/or locks can be opened and operated.	Professional and, perhaps, the locality	
	There is evidence of standing water.				Fill in low spots and stabilize; correct flow problems causing ponding.	Owner or professional	
	Mosquito proliferation				Eliminate standing water and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurensensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Complaints from local residents				Correct real problems.	Owner or professional	
	Encroachment on the infiltration area or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed.	Owner or professional (and perhaps the locality)	

## 9 - BIORETENTION PRACTICES: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was Placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Facility Location:	Hydraulic Configuration:
<input type="checkbox"/> Surface	<input type="checkbox"/> On-line facility
<input type="checkbox"/> Underground	<input type="checkbox"/> Off-line facility
Filtration Media:	Type of Pre-Treatment Facility:
<input type="checkbox"/> No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.)	<input type="checkbox"/> Sediment forebay (above ground)
<input type="checkbox"/> Sand	<input type="checkbox"/> Sedimentation chamber
<input type="checkbox"/> Bioretention Soil	<input type="checkbox"/> Plunge pool
<input type="checkbox"/> Peat	<input type="checkbox"/> Stone diaphragm
<input type="checkbox"/> Other:	<input type="checkbox"/> Grass filter strip
	<input type="checkbox"/> Grass channel
	<input type="checkbox"/> Other:

*Ideally, Bioretention facilities should be inspected and cleaned up annually, preferably during the Spring. During the first 6 months following construction of a bioretention facility, the site should be inspected at least twice after storm events that exceed 1/2-inch of rainfall. Watering is needed once a week during the first 2 months following installation, and then as needed during the first growing season (April-October), depending upon rainfall. If vegetation needs to be replaced, one-time spot fertilization may be needed, preferably using an organic rather than a chemical fertilizer. Each facility should have a customized routine maintenance schedule addressing issues such as the following: grass mowing, weeding, trash removal, mulch raking and maintenance, erosion repair, reinforcement plantings, tree and shrub pruning, and sediment removal.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	Adequate vegetation				Supplement as necessary.	Owner or professional	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	There are excessive landscape waste or yard clippings.				Remove immediately and recycle or compost.	Owner or professional	
	Oil, grease or other unauthorized substances are entering the facility				Identify and control the source of this pollution. It may be necessary to erect fences, signs, etc.	Owner or professional	
Pre-Treatment	There is adequate access to the pre- treatment facility.				Establish adequate access.	Professional and, perhaps, the locality	
	Excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or exposed soil.				Stabilize immediately.	Owner or professional	
	There is dead vegetation or exposed soil in the grass filter.				Restabilize and revegetate as necessary.	Owner or professional	
	Check for sediment build-up at curb cuts, gravel diaphragms or pavement edges that prevent flow from getting into the bed, and check for bypassing.				Remove sediment and correct any other problems that block inflow.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
Inlets	There is evidence of erosion at or around the inlet.				Repair erosion damage and reseed or otherwise restabilize with vegetation.	Owner or professional	
	Inflow is hindered by trees and/or shrubs.				Remove woody vegetation from points of inflow and directly above underdrains. (Trees and shrubs may be located closer to the perimeter.)	Owner or professional	
	There is evidence of rill or gully erosion or bare soil.				Identify the source of erosion damage and prevent it from recurring. Repair erosion damage and reseed or otherwise restabilize with vegetation.	Owner or professional	
	There is excess sediment accumulation.				Remove immediately.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Side Slopes</b> (Annually, after major storms)	Side slopes support nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.	Professional	
	Plant composition is consistent with the approved plans and any stakes or wires are in good condition.				Determine if existing plant materials are at least consistent with general Bioretention design criteria and replace inconsistent species.	Professional	
	There should be 75-90% cover (mulch plus vegetation), and the mulch cover should be 2-3 inches deep.				Supplement vegetation and mulch as needed.		
<b>Vegetation</b> (monthly)	There is evidence of hydrocarbons or other deleterious materials, resulting in unsatisfactory plant growth or mortality,				Replace contaminated mulch. If problem persists, test soils for hydrocarbons and other toxic substances. If excess levels are found, the soils, plants and mulch may all need to be replaced in accordance with the approved construction plans.	Professional	
	Invasive species or weeds make up at least 10% of the facility's vegetation				Remove invasive species and excessive weeds immediately and replace vegetation as needed.	Owner or professional	
	The grass is too high.				Mow within a week. Grass species should be selected that have dense cover, are relatively slow growing, and require the least mowing and chemical inputs. Grass should be from 6-10 inches high.	Owner or professional	
	Vegetation is diseased, dying or dead.				Remove and replace. Increase watering, but avoid using chemical fertilizers, unless absolutely necessary.	Professional	
	Winter-killed or salt-killed vegetation is present.				Replace with hardier species.	Owner or professional	
	The filter media is too low, too compacted, or the composition is inconsistent with design specifications				Raise the level, loosen and amend or replace the media, as needed, to be consistent with the state design criteria for Bioretention (85-88% sand 8-12% soil fines 3-5% organic matter in form of leaf compost). Other remediation options are described in the maintenance section of the state design criteria for Bioretention	Professional	
	The mulch is older than 3 years or is otherwise in poor condition				The mulch must be replaced every 2-3 years	Professional	
<b>Filter Media</b> (Annually)	There is evidence that chemicals, fertilizers, and/or oil/grease are present				Remove undesirable chemicals from media and facility immediately, and replace mulch or media as needed	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Filter Media</b> (Annually) (continued)	There is excessive trash, debris, or sediment.				Remove trash and debris immediately. Check plant health and, without damaging plants, manually remove the sediment, especially if the depth	Owner or professional	
	There is evidence of concentrated flows, erosion or exposed soil.				Identify the source of erosion damage and prevent it from recurring. Repair the erosion damage and reseed or otherwise restabilize with vegetation.	Professional	
	The filter bed is clogged and/or filled inappropriately.				Redistribute the soil substrate and remove sediment within 2 weeks.	Professional	
	The topsoil is in poor condition (e.g., the pH level is not 6-7, the composition is inappropriate, etc.).				Ensure a 3-inch surface depth of topsoil consistent with the state design criteria for Bioretention (loamy sand or sandy loam texture, with less than 5% clay content, and organic matter content of at least 2%). If the pH is less than 6.5, spread limestone.	Professional	
	The perforated pipe is not conveying water as designed				Determine if the pipe is clogged with debris or if woody roots have pierced the pipe. Immediately clean out or replace the pipe, as necessary.	Professional	
	The underlying soil interface is clogged (there is evidence on the surface of soil crusting, standing water, the facility does not dewater between storms, or water ponds on the surface of basin for more than 48 hours after an event).				Measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. After three days, if there is standing water on top but not in the underdrain, this indicates a clogged soil layer. If standing water is both on the surface and in the underdrain, then the underdrain is probably clogged. This should be promptly investigated and remediated to restore proper filtration. Grading changes may be needed or underdrain repairs made. The filter media may need to be raked, excavated and cleaned or replaced to correct the problem. Holes that are not consistent with the design and allow water to flow directly through a planter to the ground must be plugged.	Professional	
<b>Underdrain/ Proper Drainage</b>	The planter is unable to receive or detain stormwater prior to infiltration. Water does not drain from the reservoir within 3-4 hours of after a storm event.				Identify and correct sources of clogging. Topsoil and sand/peat layer may need to be amended with sand or replaced all together.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Underdrain/ Proper Drainage (continued)	The planter has structural deficiencies, including rot, cracks, and failure, or the planter is unable to contain the filter media or vegetation				Make needed repairs immediately.	Owner or professional	
Planters	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or professional	
Outlet/ Overflow Spillway	There is excessive trash, debris, or sediment at the outlet				Remove immediately, and keep the contributing area free of trash and debris.	Owner or professional	
	Any grates present are in good condition				Repair or replace as necessary	Owner or professional	
Observation Well	Is the observation well still capped?				Repair, as necessary.	Professional	
Overall	Access to the Infiltration facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	There is evidence of standing water.				Fill in low spots and stabilize; correct flow problems causing ponding.	Owner or professional	
	Mosquito proliferation				Eliminate stagnant pools and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurensensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Complaints from local residents				Correct real problems	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Overall (continued)</b>	Encroachment on the bioretention area or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	

## 10 - DRY SWALES: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was Placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Facility Location:	Hydraulic Configuration:
<input type="checkbox"/> Surface	<input type="checkbox"/> On-line facility
<input type="checkbox"/> Underground	<input type="checkbox"/> Off-line facility
Filtration Media:	Type of Pre-Treatment Facility:
<input type="checkbox"/> No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.)	<input type="checkbox"/> Sediment forebay (above ground)
<input type="checkbox"/> Sand	<input type="checkbox"/> Sedimentation chamber
<input type="checkbox"/> Bioretention Soil	<input type="checkbox"/> Plunge pool
<input type="checkbox"/> Peat	<input type="checkbox"/> Stone diaphragm
<input type="checkbox"/> Other:	<input type="checkbox"/> Grass filter strip
	<input type="checkbox"/> Grass channel
	<input type="checkbox"/> Other:

*Ideally, Dry Swales should be inspected annually in the Spring, triggering such maintenance activities as sediment removal, spot revegetation, inlet stabilization, and repairs to check dams, underdrains and outlets.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Contributing Drainage Area</b>	There is excessive trash and debris. There is evidence of erosion and / or bare or exposed soil. There are excessive landscape waste or yard clippings.				Remove immediately.  Stabilize immediately.	Owner or professional  Owner or professional	
<b>Pre-Treatment and Flow Spreaders</b>	There is adequate access to the pre-treatment facility. There is excessive trash, debris, or sediment. There is evidence of erosion and / or exposed soil. There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation).				Remove immediately and recycle or compost.  Establish adequate access.  Remove immediately.  Stabilize immediately.	Owner or professional  Professional and, perhaps, the locality  Owner or professional  Owner or professional	
<b>Pre-Treatment and Flow Spreaders (continued)</b>	There is dead vegetation or exposed soil in the grass filter. The pea gravel diaphragm is at the correct level.				Restabilize and revegetate as necessary.  Correct the installation, as needed.	Owner or professional  Professional	
<b>Inlet and Swale Sides and Base</b>	The inlet provides a stable conveyance into the swale. There is excessive trash, debris, or sediment. There is evidence of erosion at or around the inlet.				Stabilize immediately, as needed, and clear blockages.  Remove immediately.  Repair erosion damage and reseed.	Owner or professional  Owner or professional  Owner or professional	
<b>Check Dams</b>	A check dam is not functioning properly.  There is a large accumulation of sediment or trash/debris behind the check dam.				Check upstream and downstream sides of check dams for evidence of undercutting, side cutting or erosion and repair immediately.  Remove sediment when the accumulation exceeds 25% of the original Tv. Remove trash/debris and clear blockages of weep holes.	Professional  Professional	
<b>Vegetation</b>	Invasive species or weeds make up at least 10% of the facility's vegetation Trees form an overhead canopy that may drop leaf litter, fruit and other vegetative materials that may cause clogging.				Remove invasive species and excessive weeds immediately and replace vegetation as needed.  Prune or remove vegetation and organic litter as necessary.	Owner or professional  Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Vegetation (continued)	Grass height is not consistent with standards.				Dry Swales must be mowed to keep grass at a height of 4" to 9". Remove grass clippings after mowing. Increase watering and reseed, if necessary, to maintain 95% turf cover, but avoid using chemical fertilizers unless absolutely necessary. Replace salt- killed vegetation with salt- tolerant species.	Owner or professional	
	The grass cover is not dense enough or is dead or dying.					Professional	
Filter Media/ Soil	There is evidence that chemicals, fertilizers, and/or oil are present.				Remove undesirable chemicals from media and facility immediately, and replace mulch or media as needed.	Professional	
	There is excessive trash, debris, or sediment.				Remove trash and debris immediately. Check plant health and, without damaging plants, manually remove the sediment, especially if the depth exceeds 20% of the facility's design depth.	Owner or professional	
Filter Media/ Soil (continued)	There is evidence of erosion and / or exposed soil.				Stabilize immediately.	Owner or professional	
	There is evidence that chemicals, fertilizers, and/or oil are present.				Remove undesirable chemicals from media immediately, and replace mulch or media as needed.	Professional	
	The perforated pipe is not conveying water as designed.				Determine if the pipe is clogged with debris or if woody roots have pierced the pipe. Immediately clean out or replace the pipe, as necessary.	Professional	
	The underlying soil interface is clogged (there is evidence on the surface of soil crusting, standing water, the facility does not dewater between storms, or water ponds on the surface of basin for more than 48 hours after an event).				Measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. After three days, if there is standing water on top but not in the underdrain, this indicates a clogged soil layer. If standing water is both on the surface and in the underdrain, then the underdrain is probably clogged. This should be promptly investigated and remediated to restore proper filtration. Grading changes may be needed or underdrain repairs made.	Professional	
Outlet	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	
	There is excessive trash, debris, or sediment at the outlet.				Remove immediately, and keep the contributing area free of trash and debris.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall	Access to the Infiltration facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	Mosquito proliferation				Eliminate stagnant pools and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Complaints from local residents				Correct real problems.	Owner or professional	
	Encroachment on the swale or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed.	Owner or professional (and perhaps the locality)	

## 11 - WET SWALES: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was Placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Facility Location:	Hydraulic Configuration:
<input type="checkbox"/> Surface	<input type="checkbox"/> On-line facility
<input type="checkbox"/> Underground	<input type="checkbox"/> Off-line facility
Filtration Media:	Type of Pre-Treatment Facility:
<input type="checkbox"/> No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.)	<input type="checkbox"/> Sediment forebay (above ground)
<input type="checkbox"/> Sand	<input type="checkbox"/> Sedimentation chamber
<input type="checkbox"/> Bioretention Soil	<input type="checkbox"/> Plunge pool
<input type="checkbox"/> Peat	<input type="checkbox"/> Stone diaphragm
<input type="checkbox"/> Other:	<input type="checkbox"/> Grass filter strip
	<input type="checkbox"/> Grass channel
	<input type="checkbox"/> Other:

*Wet Swales have maintenance needs similar to Dry Swales, although woody wetland vegetation may need to be removed periodically.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	There are excessive landscape waste or yard clippings.				Remove immediately and recycle or compost.	Owner or professional	
Pre-Treatment	There is adequate access to the pre-treatment facility				Establish adequate access.	Professional and, perhaps, the locality	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or exposed soil.				Stabilize immediately.	Owner or professional	
	There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation).				Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material.	Professional	
Pre-Treatment (continued)	There is dead vegetation.				Replace dead vegetation as necessary.	Professional	
Inlets	The inlet provides a stable conveyance into the swale.				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion at or around the inlet.				Repair erosion damage and reseed.	Owner or professional	
Check Dams	A check dam is not functioning properly.				Check upstream and downstream sides of check dams for evidence of undercutting, side cutting or erosion and repair immediately.	Professional	
	There is a large accumulation of sediment or trash/debris behind the check dam.				Remove sediment when the accumulation exceeds 25% of the original Tv. Remove trash/debris and clear blockages of weep holes.	Professional	
Vegetation (monthly)	Plant composition is consistent with the approved plans.				Replace inconsistent species.	Professional	
	Invasive species (e.g., phragmites) are present.				Remove invasive species immediately and replace vegetation as needed.	Professional	
	Vegetation is dead or dying.				Replace dead vegetation as needed.	Professional	
Outlet	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	
	There is excessive trash, debris, or sediment at the outlet.				Remove immediately, and keep the contributing area free of trash and debris.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall	Access to the Infiltration facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	Mosquito proliferation				Eliminate stagnant pools if feasible, and treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurensensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Complaints from local residents				Correct real problems.	Owner or professional	
	Encroachment on the swale or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed.	Owner or professional (and perhaps the locality)	

## 12 - FILTERING PRACTICES: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was Placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Facility Location:	Hydraulic Configuration:
<input type="checkbox"/> Surface	<input type="checkbox"/> On-line facility
<input type="checkbox"/> Underground	<input type="checkbox"/> Off-line facility
Filtration Media:	Type of Pre-Treatment Facility:
<input type="checkbox"/> No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.)	<input type="checkbox"/> Sediment forebay (above ground)
<input type="checkbox"/> Sand	<input type="checkbox"/> Sedimentation chamber
<input type="checkbox"/> Bioretention Soil	<input type="checkbox"/> Plunge pool
<input type="checkbox"/> Peat	<input type="checkbox"/> Stone diaphragm
<input type="checkbox"/> Other:	<input type="checkbox"/> Grass filter strip
	<input type="checkbox"/> Grass channel
	<input type="checkbox"/> Other:

*An inspection and clean-up should be scheduled annually to remove trash and floatables that accumulate in the pre-treatment cells and filter bed. Frequent sediment cleanouts in the dry and wet sedimentation chambers are recommended every 2-3 years to maintain the function and performance of the filter. If the filter treats runoff from a hotspot, crews may need to test the filter bed media before disposing of the media and trapped pollutants. If the filter does not treat runoff from a hotspot, the media can be safely disposed by either land application or land filling, without prior testing.*

**Warning:** *If the filtering facility has a watertight cover; be careful regarding the possibility of flammable gases within the facility. Care should be taken lighting a match or smoking while inspecting facilities that are not vented. If the filtering facility is in a completely enclosed vault, the **OSHA Confined Space Entry** procedures must be followed.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Contributing Drainage Area and Side Slopes</b>	Adequate vegetation				Supplement as necessary.	Owner	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and / or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	There are excessive landscape waste or yard clippings.				Remove immediately and recycle or compost.	Owner or professional	
<b>Pre-Treatment</b>	There is adequate access to the pre-treatment facility.				Establish adequate access.	Professional and, perhaps, the locality	
	Excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
<b>Pre-Treatment (continued)</b>	There is evidence of erosion and / or exposed soil.				Stabilize immediately.	Owner or professional	
	There is dead vegetation.				Replace dead vegetation as necessary	Professional	
	Perimeter turf (or a grass filter strip) is too high.				Mow at least 4 times a year to keep the grass at a height of 4" to 9". Remove grass clippings after mowing.	Owner or professional	
	There is evidence of oil, grease, clogging (standing water, noticeable odors, water stains, algae).				Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material.	Professional	
<b>Inlets</b>	The inlet provides a stable conveyance into the swale.				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion at or around the inlet.				Repair erosion damage and reseed.	Owner or professional	
<b>Sedimentation Chambers</b>	Sediment or debris accumulations are excessive				Clean out the wet and dry sedimentation chambers.	Professional	
<b>Filter Media</b>	If facility takes longer than 48 hours to drain or filter media is discolored, the media is probably clogged.				Replace the top sand layer of an enclosed filter (typically done every 5 years). Till or aerate the surface to improve infiltration and grass cover of an open filter (also typically done every 5 years).		
<b>Oil and Grease</b>	Evidence of filter surface clogging				Clean or replace filter media, as necessary.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Underdrain	The underdrain is not conveying water as designed.				To determine if the pipe is clogged, measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. After three days, if there is standing water on top but not in the underdrain, this indicates a clogged sand layer that must be replaced. If standing water is both on the surface and in the underdrain, then the underdrain is probably clogged. Immediately clean out the pipe manually or, if needed, use a high-pressure hose. Replace the underdrain if it is structurally damaged.	Professional	
Observation Well (every 2 years)	Is the observation well still capped?				Repair, as necessary.	Professional	
Outlet	The outlet provides stable conveyance.				Remove blockages and stabilize, as needed.	Professional	
	Evidence of flow bypassing facility				Repair immediately.	Professional	
	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	
Structural Components	Evidence of structural deterioration				Repair as necessary.	Professional	
	Evidence of spalling or cracking of structural components				Repair or replace, as necessary.	Professional	
	Grates are in good condition				Repair or replace, as Necessary.	Owner or professional	
Pump (where applicable)	Catalog cuts and wiring diagram for pump available.				If missing, obtain replacements.	Owner	
	Waterproof conduits for wiring appear to be intact				Repair as necessary.	Professional	
	Panel box is well marked.				If not, mark it correctly.	Professional	
	No evidence of pump failure (excess water in pump well, etc.)				Repair as necessary.	Professional	
Overall	Access to the facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	Condition of hydraulic control components				Repair, as necessary.	Professional	
	Complaints from local residents				Correct real problems.	Owner or professional	
	Noticeable odors outside facility				Determine source and eliminate it.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall (continued)	Mosquito proliferation				Eliminate stagnant pools if feasible, and treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Encroachment on the filter or easement by buildings or other structures.				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed.	Owner or professional (and perhaps the locality)	

### 13 - CONSTRUCTED WETLANDS: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was Placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Hydraulic Configuration:	Type of Pre-Treatment Facility:
<input type="checkbox"/> On-line facility	<input type="checkbox"/> Sediment forebay (above ground)
<input type="checkbox"/> Off-line facility	<input type="checkbox"/> Vegetated buffer area
	<input type="checkbox"/> Grass filter strip
Type of wetland:	<input type="checkbox"/> Grass channel
<input type="checkbox"/> Emergent Forested	<input type="checkbox"/> Other:

*During the first 6 months following construction, the wetland should be inspected twice after storm events that exceed 1/2 inch of rainfall. Bare or eroding areas should be stabilized immediately with grass cover. Trees planted in the buffer and on wetland islands and peninsulas need to be watered every 3 days for the first month, and then weekly during the remainder of the first growing season (April-October), depending on rainfall. Due to typical vegetation survival problems, it is typical to plan and budget for a round of reinforcement planting after one or two growing seasons. Constructed wetlands should be inspected and cleaned up annually. A wetland professional should inspect the facility every 5 years, especially to determine if there is any significant negative change in the wetland species composition from the design or an otherwise healthy wetland.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	Adequate vegetation				Supplement as needed.	Owner	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	There are excessive landscape waste and yard clippings.				Remove immediately and recycle or compost.	Owner or professional	
Pre-Treatment	There is adequate access to the pre-treatment facility.				Establish adequate access.	Professional and, perhaps, the locality	
	There is excessive trash and debris				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or exposed soil.				Immediately identify and correct the cause of the erosion and stabilize the eroded or bare area.	Owner or professional	
	Sediment deposits are 50% or more of forebay capacity.				Dredge the sediment to restore the design capacity; sediment should be dredged from forebays at least every 5 years.	Professional	
Pre-Treatment (continued)	The sediment marker is not vertical.				Adjust the sediment depth marker to a vertical alignment.	Professional	
	There is dead vegetation.				Revegetate, as needed.	Owner or professional	
Inlets	The inlet provides a stable conveyance.				Stabilize immediately, as needed; clear blockages.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion/undercutting at or around the inlet.				Repair erosion damage and reseed.	Owner or professional	
	There is cracking, bulging, erosion or sloughing of the forebay dam.				Repair and restabilize immediately.	Professional	
	There is woody growth on the forebay dam.				Remove within 2 weeks of discovery.	Professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from area.	Professional	
Vegetation (trees, shrubs, aquatic plants)	Plant composition is consistent with the approved plans.				Determine if existing plant materials are at least consistent with the general Constructed Wetland design criteria, and replace inconsistent species.	Professional	

Element of BMP	Potential Problem	Problem? Y/N	Investigate? Y/N	Repaired? Y/N	How to Fix Problem	Who Will Address Problem	Comments
<b>Vegetation</b> (trees, shrubs, aquatic plants) <b>(continued)</b>	Invasive species are present.				Remove invasive species immediately and replace vegetation as needed. As a general rule, control of undesirable invasive species (e.g., cattail and Phragmites) should commence when their coverage exceeds more than 15% of a wetland cell area. Although the application of herbicides is not recommended, some types, such as Glyphosate, have been used to control cattails with some success. Extended periods of dewatering may also work, since early manual removal provides only short-term relief from invasive species.	Professional	
	Vegetation is dead or reinforcement planting is needed.				Remove and replace dead or dying vegetation.	Professional	
	Trees planted in the buffer and on wetland islands and peninsulas need watering during the first growing season.				Consider watering every 3 days for first month, and then weekly during first year (April – October), depending on rainfall.	Owner or professional	
<b>Vegetation</b> (trees, shrubs, aquatic plants) <b>(continued)</b>	Practice has become overgrown and is not developing into a mature wetland.				Harvest vegetation periodically if the wetland becomes overgrown or to guide maturing of forested wetlands (typically 5 and 10 years after constr.).	Owner or professional	
<b>Wetland Cells and Pools</b>	Sediment accumulation is 50% or more of capacity.				Dredge the sediment to restore the design capacity.	Professional	
	There is evidence of floating debris, sparse vegetative cover, erosion or slumping of side slopes.				Remove debris. Repair and stabilize.	Owner or professional	
	Open water is becoming overgrown.				Harvest the unwanted vegetation.	Professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.		
<b>Riser/Principle Spillway and Low-Flow Orifice(s)</b>	There is adequate access to riser for maintenance.				Establish adequate access.	Professional and, perhaps, the locality	
	Pieces of the riser are deteriorating, misaligned, broken or missing.				Repair immediately.	Professional	
	Adjustable control valves are accessible and operational.				Repair, as needed.	Professional	
	Reverse-slope pipes and flashboard risers are in good condition.				Repair, as needed.	Professional	

Element of BMP	Potential Problem	Problem? Y/N	Investigate? Y/N	Repaired? Y/N	How to Fix Problem	Who Will Address Problem	Comments
<b>Riser/Principle Spillway and Low-Flow Orifice(s) (continued)</b>	There is excessive trash, debris, or other obstructions in the trash rack.				Remove immediately.	Owner or professional	
	Seepage into conduit				Seal the conduit.	Professional	
<b>Berm/Dam/ Embankment and Abutments</b>	There is sparse veg. cover, settlement, cracking, bulging, misalignment, erosion rills deeper than 2 inches, or sloughing of the dam.				Repair and restabilize immediately.	Professional	
	There are soft spots, boggy areas, seepage or sinkholes present.				Reinforce, fill and stabilize immediately.	Professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from area.	Professional	
	There is woody vegetation on the embankment.				Removal of woody species near or on the embankment and maintenance access areas should be done when discovered, but at least every 2 years.		
<b>Emergency Spillway</b>	There is woody growth on the spillway.				Removal of woody species near or on the emergency spillway should be done when discovered, but at least every 2 years.	Owner or professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
	There is evidence of erosion/back-cutting.				Repair erosion damage and reseed.	Owner or professional	
	There are soft spots, seepage or sinkholes.				Reinforce, fill and stabilize immediately.	Owner or professional	
<b>Outlet</b>	The outlet provides stable conveyance from the wetland.				Stabilize as needed.	Professional	
	There are excessive sediment deposits.				Remove sediment.	Professional	
	Released water is causing undercutting, erosion or displaced rip-rap at or around the outlet.				Repair, reinforce or replace rip rap as needed, and restabilize.	Professional	
	Woody growth within 5 feet of the outlet pipe barrel.				Prune vegetation back to leave a clear discharge area.	Owner or Professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
<b>Overall</b>	Access to the facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	Water levels in one or more cells are abnormally high or low.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall (continued)	Complaints from local residents				Correct real problems.	Owner or professional	
	Mosquito proliferation				Eliminate stagnant pools if feasible, and treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied <i>only if absolutely necessary</i> . Can also stock the basin with mosquito fish to provide natural mosquito & midge control.	Owner or professional	
	Encroachment on the wetland or easement by buildings or other structures.				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	
	Safety signage is not adequate.				Provide sufficient, legible safety signage.	Owner or professional	

## 14 - WET PONDS: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Pond characteristics and functions  
(check all that apply)

- ☐ Water quality treatment
- ☐ Extended detention included
- ☐ Channel protection
- ☐ Ties into groundwater
- ☐ Single cell pond
- ☐ Multiple-cell pond system
- ☐ Pond with one or more wetland cells

Hydraulic Configuration:

- ☐ On-line facility
- ☐ Off-line facility

Type of Pre-Treatment Facility:

- ☐ Sediment forebay (above ground)
- ☐ Vegetated buffer area
- ☐ Grass filter strip
- ☐ Grass channel
- ☐ Other:

*During the first 6 months following construction, the pond should be inspected twice after storm events that exceed 1/2 inch of rainfall. The aquatic benches should be planted with emergent wetland species, consistent with the Wet Pond design specifications. Bare or eroding areas around the pond buffer should be stabilized immediately with grass cover. Trees planted in the buffer need to be watered every 3 days for the first month, and then weekly during the remainder of the first growing season (April-October), depending on rainfall. Due to typical vegetation survival problems, it is typical to plan and budget for a round of reinforcement planting during the second growing season after construction. Wet Ponds should be inspected and cleaned up annually.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	Adequate vegetation				Supplement as needed	Owner	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	There are excessive landscape waste and yard clippings.				Remove immediately and recycle or compost.	Owner or professional	
Pre-Treatment	There is adequate access to the pre-treatment facility.				Establish adequate access.	Professional and, perhaps, the locality	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or exposed soil.				Immediately identify and correct the cause of the erosion and stabilize the eroded or bare area.	Owner or professional	
Pre-Treatment (continued)	Sediment deposits are 50% or more of forebay capacity.				Dredge the sediment to restore the design capacity; sediment should be dredged from forebays at least every 5-7 years, and earlier if performance is being affected.	Professional	
	The sediment marker is not vertical.				Adjust the sediment depth marker to a vertical alignment	Professional	
	There is evidence of clogging.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications.	Professional	
	There is dead vegetation.				Revegetate, as needed.	Owner or professional	
Inlet	The inlet provides a stable conveyance into the pond.				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion/undercutting at or around the inlet				Repair erosion damage and restabilize.	Owner or professional	
	There is cracking, bulging, erosion or sloughing of the forebay dam.				Repair and restabilize immediately.	Professional	
	There is woody growth on the forebay dam.				Remove within 2 weeks of discovery.	Professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.	Professional	
	There is more than 1 inch of settlement.				Add fill material and compact the soil to the design grade	Owner or Professional	
	The inlet alignment is incorrect.				Correct immediately.	Owner or Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Vegetation	Plant composition is consistent with the approved plans.				Determine if existing plant materials are consistent with the general Wet Pond design criteria, and replace inconsistent species.	Professional	
	Invasive species are present.				Remove invasive species immediately and replace vegetation as needed.	Professional	
	Trees planted in the buffer and on wetland islands and peninsulas need watering during the first growing season.				Consider watering every 3 days for first month, and then weekly during first year (April – October), depending on rainfall.	Owner or professional	
	Grass around the facility is overgrown.				Mow (at least twice a year) to a height of 4"-9" high and remove grass clippings.	Owner or professional	
Vegetation (continued)	Vegetation is dead or reinforcement planting is needed.				Remove and replace dead or dying vegetation.	Professional	
Permanent Pool and Side Slopes	There is excessive trash and/or debris.				Remove immediately	Owner or professional	
	There is evidence of sparse vegetative cover, erosion or slumping side slopes.				Repair and stabilize physical damage, and reseed or plant additional vegetation.	Owner or professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Remove burrowing animals humanely from the area.		
	There is significant sediment accumulation.				Conduct a bathymetric study to determine the impact to design volumes, and dredge if necessary.	Professional	
Riser/Principle Spillway and Low-Flow Orifice(s)	There is adequate access to the riser for maintenance.				Establish adequate access	Professional and, perhaps, the locality	
	Pieces of the riser are deteriorating, misaligned, broken or missing.				Repair immediately.	Professional	
	Adjustable control valves are accessible and operational.				Repair, as needed.	Professional	
	Reverse-slope pipes and flashboard risers are in good condition.				Repair, as needed.	Professional	
	There is evidence of clogging.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specs.	Professional	
	Seepage into conduit				Seal the conduit	Professional	
	There is excessive trash, debris, or other obstructions in the trash rack.				Remove immediately.	Owner or professional	
Dam/ Embankment and Abutments	There is sparse veg. cover, settlement, cracking, bulging, misalignment, erosion rills deeper than 2 inches, or sloughing of the dam.				Repair and restabilize immediately, especially after major storms.	Professional	
Dam/ Embankment and Abutments (continued)	There are soft spots, seepage, boggy areas or sinkholes present.				Reinforce, fill and stabilize immediately.		

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Dam/ Embankment and Abutments (continued)</b>	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from area.		
	There is woody vegetation on the embankment.				Removal of woody species near or on the embankment and maintenance access areas should be done when discovered, but at least every 2 years.		
<b>Overflow/ Emergency Spillway</b>	There is woody growth on the spillway.				Removal of woody species near or on the emergency spillway should be done when discovered, but at least every 2 years.	Owner or professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
	There is evidence of erosion/backcutting				Repair erosion damage and Reseed.	Owner or professional	
	There are soft spots, seepage or sinkholes.				Reinforce, fill and stabilize immediately.	Owner or professional	
	Only one layer of stone armoring exists above the native soil.				Reinforce rip-rap or other armoring materials.	Professional	
<b>Outlet</b>	The outlet provides a stable conveyance from the pond.				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is woody growth within 5 feet of the outlet pipe barrel.				Prune vegetation back to leave a clear discharge area.	Owner or Professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
	There are excessive sediment deposits at the outlet.				Remove sediment.	Professional	
	Discharge is causing undercutting, erosion or displaced rip-rap at or around the outlet.				Repair, reinforce or replace rip rap as needed, and restabilize.	Professional	
<b>Overall</b>	Access to the facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	Fences are inadequate				Collapsed fences must be restored to an upright position. Jagged edges and damaged fences must be repaired or replaced.	Professional	
	Water levels in one or more cells are abnormally high or low.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications.	Professional	
	Complaints from local residents				Correct real problems.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall (continued)	Mosquito proliferation				Eliminate stagnant pools and stock the basin with mosquito fish to provide natural mosquito & midge control. Treat for mosquitoes as needed. If spraying, then use mosquito larvicide, (e.g., Bacillus thurendensis or Altoside formulations) <i>only if absolutely necessary</i> .	Owner or professional	
	Encroachment on the pond or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	
	Safety signage is not adequate.				Provide sufficient, legible safety signage.	Owner or professional	

## 15 - EXTENDED DETENTION PONDS: O&M CHECKLIST

Inspection Date: \_\_\_\_\_ VSMP Permit No.: \_\_\_\_\_

Project: \_\_\_\_\_

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

Date BMP was placed in Service: \_\_\_\_\_ Date of Last Inspection: \_\_\_\_\_

Inspector's Name: \_\_\_\_\_

Owner / Owner's Representative: \_\_\_\_\_

As-Built Plans available: Y / N

Facility Type: Level 1 \_\_\_\_\_ Level 2 \_\_\_\_\_

Pond characteristics and functions  
(check all that apply)

- ☐ Water quality treatment
- ☐ Channel protection
- ☐ Ties into groundwater

Hydraulic Configuration:

- ☐ On-line facility
- ☐ Off-line facility

Type of Pre-Treatment Facility:

- ☐ Sediment forebay (above ground)
- ☐ Vegetated buffer area
- ☐ Grass filter strip
- ☐ Grass channel
- ☐ Other:

*Ideally, Extended Detention Ponds should be inspected annually. ED Ponds are prone to a high clogging risk at the ED low-flow orifice. Ideally, the orifice should be inspected at least twice a year after initial construction. The constantly changing water levels in ED Ponds make it difficult to mow or manage vegetative growth. The bottom of ED Ponds often become soggy, and water-loving trees such as willows may invade and will need to be managed. Periodic mowing of the stormwater buffer is required only along maintenance rights-of-way and the embankment. The remaining buffer may be managed as a meadow (mowing every other year) or forest. Frequent removal of sediment from the forebay (every 5-7 years, or when 50% of the forebay capacity is filled) is essential to maintain the function and performance of the ED Pond. Sediments excavated from ED Ponds are usually not considered toxic or hazardous, so they can be safely disposed of either by land application or land filling.*

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	Adequate vegetation				Supplement as needed.	Owner	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or bare or exposed soil.				Stabilize immediately.	Owner or professional	
	There is excessive landscape waste and yard clippings.				Remove immediately.	Owner or professional	
Pre-Treatment	There is adequate access to the pre-treatment facility.				Establish adequate access.	Professional and, perhaps, the locality	
	There is excessive trash and debris.				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or exposed soil.				Immediately identify and correct the cause of the erosion and stabilize the eroded or bare area.	Owner or professional	
Pre-Treatment (continued)	Sediment deposits are 50% or more of forebay capacity.				Dredge the sediment to restore the design capacity; sediment should be dredged from forebays at least every 5-7 years, and earlier, as needed.	Professional	
	The sediment marker is not vertical.				Adjust the sediment depth marker to a vertical Alignment.	Professional	
	There is evidence of clogging.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications	Professional	
	There is dead Vegetation.				Revegetate, as needed.	Owner or professional	
Inlet	The inlet provides a stable conveyance into the pond.				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately.	Owner or professional	
	There is evidence of erosion/undercutting at or around the inlet				Repair erosion damage and restabilize.	Owner or professional	
	There is cracking, bulging, erosion or sloughing of the forebay dam.				Repair and restabilize immediately.	Professional	
	There is woody growth on the forebay dam.				Remove within 2 weeks of discovery.	Professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.	Professional	
	There is more than 1 inch of settlement.				Add fill material and compact the soil to the design grade	Owner or Professional	
	The inlet alignment is incorrect.				Correct immediately.	Owner or Professional	
Vegetation	Plant composition is consistent with the approved plans.				Determine if existing plant materials are consistent with the general Wet Pond design criteria, and replace inconsistent species.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Vegetation (continued)</b>	Invasive species are present.				Remove invasive species immediately and replace vegetation as needed.	Professional	
	Trees planted in the buffer and on wetland islands and peninsulas need watering during the first growing season.				Consider watering every 3 days for first month, and then weekly during first year (April – October), depending on rainfall.	Owner or professional	
	Grass around the facility is overgrown.				Mow (at least twice a year) to a height of 4"-9" high and remove grass clippings.	Owner or professional	
	Vegetation is dead or reinforcement planting is needed.				Remove and replace dead or dying vegetation.	Professional	
<b>Permanent Pool and Side Slopes</b>	There is excessive trash and/or debris.				Remove immediately.	Owner or professional	
	There is evidence of sparse vegetative cover, erosion or slumping side slopes.				Repair and stabilize physical damage, and reseed or plant additional vegetation.	Owner or professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from area.	Owner or professional	
	There is significant sediment accumulation.				Conduct a bathymetric study to determine the impact to design volumes, and dredge if necessary.	Professional	
<b>Riser/Principle Spillway and Low-Flow Orifice(s)</b>	There is adequate access to the riser for maintenance.				Establish adequate access.	Professional and, perhaps, the locality	
	Pieces of the riser are deteriorating, misaligned, broken or missing.				Repair immediately.	Professional	
	Adjustable control valves are accessible and operational.				Repair, as needed.	Professional	
	Reverse-slope pipes and flashboard risers are in good condition.				Repair, as needed.	Professional	
	Seepage into conduit				Seal conduit	Professional	
	There is evidence of clogging.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specs.	Professional	
	There is excessive trash, debris, or other obstructions in the trash rack.				Remove immediately.	Owner or professional	
<b>Dam/ Embankment and Abutments</b>	There is sparse veg. cover, settlement, cracking, bulging, misalignment, erosion rills deeper than 2 inches, or sloughing.				Repair and restabilize immediately, especially after major storms.	Professional	
	There are soft spots, seepage, boggy areas or sinkholes.				Reinforce, fill and stabilize immediately.		

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
<b>Dam/ Embankment and Abutments (continued)</b>	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.		
	There is woody vegetation on the embankment.				Removal of woody species near or on the embankment and maintenance access areas should be done when discovered, but at least every 2 years.		
<b>Overflow/Emergency Spillway</b>	There is woody growth on the spillway.				Removal of woody species near or on the emergency spillway should be done when discovered, but at least every 2 years.	Owner or professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
	There is evidence of erosion/backcutting				Repair erosion damage and reseed	Owner or professional	
	There are soft spots, seepage or sinkholes.				Reinforce, fill and stabilize immediately.	Owner or professional	
	Only one layer of stone armoring exists above the native soil.				Reinforce rip-rap or other armoring materials.	Professional	
<b>Outlet</b>	The outlet provides a stable conveyance from the pond.				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is woody growth within 5 feet of the outlet pipe barrel.				Prune vegetation back to leave a clear discharge area.	Owner or Professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
	There are excessive sediment deposits at the outlet.				Remove sediment.	Professional	
	Discharge is causing undercutting, erosion or displaced rip-rap at or around the outlet.				Repair, reinforce or replace rip rap as needed, and restabilize.	Professional	
<b>Overall</b>	Access to the facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	Fences are inadequate				Collapsed fences must be restored to an upright position. Jagged edges and damaged fences must be repaired or replaced.	Professional	
	Water levels in one or more cells are abnormally high or low.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications.	Professional	
	Complaints from local residents				Correct real problems.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall (continued)	Mosquito proliferation				Eliminate stagnant pools and stock the basin with mosquito fish to provide natural mosquito & midge control. Treat for mosquitoes as needed. If spraying, then use mosquito larvicide, (e.g., Bacillus thurendensis or Altoside formulations) <i>only if absolutely necessary</i> .	Owner or professional	
	Encroachment on the pond or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	
	Safety signage is not adequate.				Provide sufficient, legible safety signage.	Owner or professional	

## **APPENDIX R**

Example Notice of Corrective Action

[Date]

[Addressee]  
[Name of Company]  
[Street Address]  
[City, State, Zip Code]  
Via [*Certified Mail or Hand Delivered*]

**RE: Notice of Corrective Action**  
**[*Project Name, Location, VSMP Permit No.*]**

Dear [Addressee]:

On [*Fill in date of inspection.*], the [*Locality*] staff inspected the [*Fill in the name of construction site and VSMP Permit number.*] for compliance with the Virginia Stormwater Management Program (VSMP). During the inspection, staff observed the following conditions:

*[Describe the offending conditions. Use bullets. For example:*

- 1. A significant amount of sediment had left the site and accumulated in an adjacent wetlands area.*
- 2. At the time of inspection, a review of facility records revealed that inspections had not been performed at the required frequency.*
- 3. The Stormwater Pollution Prevention Plan (SWPPP) was not available onsite at the time of inspection.]*

An inspection report documenting these observations is attached.

*[Include any relevant facts that may help explain the situation (e.g., the person with whom you spoke, what was said, etc.) [Include if relevant and helpful--During prior inspections conducted on {Give dates of any previous inspections}], staff observed similar conditions. Please see the attached inspection reports.]*

*[Include relevant citations.]*

The VSMP Regulations at [*Fill in citation.*] require that [*State requirement*]. [*For example:*

- 1. The VSMP Regulations at 9VAC25-880-70 Requires that escaped sediments be removed to minimize off site impacts;]*

[Addressee]

[Date]

Page 2 of 2

While [Locality] makes no determination at this time regarding the observations documented by the staff, there appear to be discrepancies between the conditions observed at the [Fill in name of site.] and the requirements of the VSMP governing those conditions. Please contact [Fill in Inspector's name.] within five days of the date of this letter [Fill in date.] either to explain the apparent discrepancies or to describe any relevant changes in the conditions at the site. *[Allow five days if you deliver the NOCA by hand and 10 days for certified mail].*

The purpose of this letter is to provide you with information [Locality] has gathered regarding the [Fill in name of site.] and to solicit additional information from you regarding conditions observed at the site. This letter is not a case decision as defined in the Virginia Administrative Process Act, Virginia Code § 2.2 - 4001.

If the alleged discrepancies described above cannot be resolved to the satisfaction of [Locality] within the time allotted, [Locality] will pursue formal enforcement action regarding the allegations in this NOCA. The Virginia Stormwater Management Act provides for civil penalties of up to \$32,500 per day for any violation of the Act, the VSMP Regulations, or any condition of a permit issued pursuant to the Act.

If you have any questions regarding the above, please contact me at XXXXXX.

Sincerely,  
[Locality]

[Author's Name]  
[Title]

[Enclosure or Attachment]

cc:

## **APPENDIX S**

Stormwater Agreement-in-lieu



**Gloucester County Environmental Programs  
under directive of Virginia Department of Environmental Quality**

**AGREEMENT IN LIEU OF A STORMWATER MANAGEMENT PLAN  
FOR USE IN SUBDIVISIONS / COMMON PLANS OF DEVELOPMENT APPROVED >2004  
SINGLE-FAMILY DETACHED RESIDENTIAL STRUCTURE**

**Construction Activity Operator:**

Name: \_\_\_\_\_

Contact: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: \_\_\_\_\_

Email address : \_\_\_\_\_

**Location of Single-Family Detached Residential Structure:**

Address (if no address description of location): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Tax map #: \_\_\_\_\_ RPC#: \_\_\_\_\_ P'mation#: \_\_\_\_\_

In place of a Stormwater Management Plan for the construction of this single-family detached residential structure, I agree to comply with the requirements of this "Agreement in Lieu of a Stormwater Management Plan" (or other requirements as established by the Department when necessary) to ensure compliance with the applicable post-construction stormwater management provisions of the county and Virginia Stormwater Management Program (VSMP) Regulations.

**REQUIREMENTS**

- As required by the Construction General Permit (VAR10), a copy of this signed and dated "Agreement in Lieu of a Stormwater Management Plan" shall be maintained in my Stormwater Pollution Prevention Plan (SWPPP) for the construction activity.

- Post-construction runoff from the property shall be minimized to the maximum extent practicable and shall be controlled to prevent flooding or erosion damage from occurring on adjacent or downstream properties. In meeting this requirement, I agree to direct:
  - runoff from rooftops as non-erosive sheet flow to well-vegetated areas on the property to the maximum extent practicable,
  - runoff from on-lot impervious surfaces (e.g., driveways, parking areas, sidewalks) as non-erosive sheet flow to well-vegetated areas on the property to the maximum extent practicable, and
  - runoff from lawns as non-erosive sheet flow to undisturbed naturally-vegetated areas on the property to the maximum extent practicable.

I fully understand that not complying may result in the revocation of this “Agreement in Lieu of a Stormwater Management Plan” and that the submission of a project-specific Stormwater Management Plan in accordance with Section 6-6 of Gloucester's Stormwater Ordinance & 9VAC25-870-55 of the VSMP Regulations may be required.

This “Agreement in Lieu of a Stormwater Management Plan” does not authorize land disturbance. Land-disturbing activities cannot begin until the environmental approval and land disturbance permit have been issued.

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**(Please sign in INK. This certification must be signed by the operator of the construction activity identified above)**

## **APPENDIX T**

Stormwater Management Pollution Prevention Plan  
for Residential, Common Plan of Development

**STORMWATER POLLUTION PREVENTION PLAN**

Project/Site Name

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**SINGLE FAMILY RESIDENCE  
COMMON PLAN of DEVELOPMENT or SALE  
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)**

**For Construction Activities At:**

Project Name: \_\_\_\_\_

Site Location & Address: \_\_\_\_\_

Gloucester Virginia, 23061

Tax Map No. \_\_\_\_\_, RPC \_\_\_\_\_

Latitude: \_\_ . \_\_\_\_ N (decimal degrees)

Longitude: \_\_ . \_\_\_\_ W (decimal degrees)

**Construction Activity Operator:**

Company/Organization Name: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

24-hour Emergency Contact: \_\_\_\_\_

**SWPPP Preparation Date:**

\_\_\_\_\_  
Date

**CERTIFICATION**

"I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

Operator Name: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Agreement-in-lieu of stormwater management plan attached: YES

☐

NO

☐

**STORMWATER POLLUTION PREVENTION PLAN**

Project/Site Name

**1.0 SWPPP Documents Located Onsite & Available for Review**

SWPPP Document Type	Located Onsite & Available for Review?	
Registration Statement	<input type="checkbox"/> Yes	<input type="checkbox"/> NA
Notice of Coverage Letter	<input type="checkbox"/> Yes	<input type="checkbox"/> NA
Construction General Permit	<input type="checkbox"/> Yes	<input type="checkbox"/> NA
Site Plan	<input type="checkbox"/> Yes	<input type="checkbox"/> NA
Erosion & Sediment Control Plan (or agreement in lieu of)	<input type="checkbox"/> Yes	<input type="checkbox"/> NA
Stormwater Management Plan (or agreement in lieu of)	<input type="checkbox"/> Yes	<input type="checkbox"/> NA

**2.0 Authorized Non-Stormwater Discharges**

Type of Authorized Non-Stormwater Discharge	Likely Present at Your Project Site?	
External buildings wash down	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Uncontaminated foundation or footing drains	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Uncontaminated excavation dewatering	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Landscape irrigation	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**3.0 Pollution Prevention Awareness**

Employees will be given a "walk through" of the site identifying areas of possible pollution and will be shown Erosion and Sediment Controls and Pollution Prevention Practices (identified in Sections 4.0 and 5.0 of this SWPPP) that are applicable to their assigned job duties. A refresher meeting and "walk through" will be conducted on an as needed basis.

**4.0 Erosion & Sediment Controls**

Select all that apply	Erosion & Sediment Control	Estimated Installation Date	Estimated Removal Date	Responsible Party
<input type="checkbox"/>	Construction Entrance (Std. & Spec. 3.02)			
<input type="checkbox"/>	Silt Fence (Std. & Spec. 3.05)			
<input type="checkbox"/>	Culvert Inlet Protection (Std. & Spec. 3.08)			
<input type="checkbox"/>	Outlet Protection (Std. & Spec. 3.18)			
<input type="checkbox"/>	Temporary Seeding (Std. & Spec. 3.31)			
<input type="checkbox"/>	Permanent Seeding (Std. & Spec. 3.32)			
<input type="checkbox"/>	Sodding (Std. & Spec. 3.33)			
<input type="checkbox"/>	Mulching (Std. & Spec. 3.35)			
<input type="checkbox"/>				

## 5.0 Potential Sources of Pollution &amp; Pollution Prevention Practices

Pollutant-Generating Activity	Pollutants										Pollution Prevention Practice	Responsible Party
	Likely Present at your Project Site?	Sediment	Nutrients	Heavy Metals	pH (acids and bases)	Pesticides & Herbicides	Oil & Grease	Bacteria & Viruses	Trash, Debris, Solids	Other Toxic Chemicals		
Clearing, grading, excavating, and un-stabilized areas	<input type="checkbox"/> Yes <input type="checkbox"/> No										(1)	
Paving operations	<input type="checkbox"/> Yes <input type="checkbox"/> No										(2)	
Concrete washout and cement waste	<input type="checkbox"/> Yes <input type="checkbox"/> No										(3)	
Structure construction, stucco, painting, and cleaning	<input type="checkbox"/> Yes <input type="checkbox"/> No										(4)	
Dewatering operations	<input type="checkbox"/> Yes <input type="checkbox"/> No										(5)	
Material delivery and storage	<input type="checkbox"/> Yes <input type="checkbox"/> No										(6)	
Material use during building process	<input type="checkbox"/> Yes <input type="checkbox"/> No										(7)	
Solid waste disposal	<input type="checkbox"/> Yes <input type="checkbox"/> No										(8)	
Sanitary waste	<input type="checkbox"/> Yes <input type="checkbox"/> No										(9)	
Landscaping operations	<input type="checkbox"/> Yes <input type="checkbox"/> No										(10)	
Others [describe]	<input type="checkbox"/> Yes <input type="checkbox"/> No										(11)	

**Pollution Prevention Practices:**

- (1) **Clearing, grading, excavating and un-stabilized areas** – Utilize erosion and sediment controls to prevent sediment laden or turbid runoff from leaving the construction site. Dispose of clearing debris at acceptable disposal sites. Apply permanent or temporary stabilization, sodding and/or mulching to denuded areas in accordance with the erosion and sediment control specifications and the general VPDES permit for discharges of stormwater from construction activities.
- (2) **Paving operations** – Cover storm drain inlets during paving operations and utilize pollution prevention materials such as drip pans and absorbent/oil dry for all paving machines to limit leaks and spills of paving materials and fluids.
- (3) **Concrete washout and cement waste** – Direct concrete wash water into a leak-proof container or leak-proof settling basin that is designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes.
- (4) **Structure construction, stucco, painting and cleaning** – Enclose, cover or berm building material storage areas if susceptible to contaminated stormwater runoff. Conduct painting operations consistent with local air quality and OSHA regulations. Mix paint indoors, in a containment area or in a flat unpaved area. Prevent the discharge of soaps, solvents, detergents and wash water from construction materials, including the clean-up of stucco paint, form release oils and curing compounds.
- (5) **Dewatering operations** – Construction site dewatering from building footings or other sources may not be discharged without treatment. Sediment laden or turbid water shall be filtered, settled or similarly treated prior to discharge.
- (6) **Material delivery and storage** – Designate areas of the construction site for material delivery and storage. Place near construction entrances, away from waterways, and avoid transport near drainage paths or waterways.
- (7) **Material use during building process** – Use materials only where and when needed to complete the construction activity. Follow manufacturer's instructions regarding uses, protective equipment, ventilation, flammability and mixing of chemicals.
- (8) **Solid waste disposal** – Designate a waste collection area on the construction site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterway. Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible. Schedule waste collection to prevent the containers from overfilling.
- (9) **Sanitary waste** – Prevent the discharge of sanitary waste by providing convenient and well-maintained portable sanitary facilities. Locate sanitary facilities in a convenient location away from waterways.
- (10) **Landscaping operations** – Maintain as much existing vegetation as practicable. Apply permanent or temporary stabilization, sodding and/or mulching to denuded areas in accordance with the erosion and sediment control specifications and the general VPDES permit for discharges of stormwater from construction activities. Apply nutrients in accordance with manufacturer's recommendations and not during rainfall events.
- (11) **Others** – If applicable, describe your Pollution Prevention Practice.

**6.0 Stormwater Management Controls**

Select all that apply	Stormwater Management Control	Estimated Installation Date	Responsible Party
<input type="checkbox"/>	Post-development Stormwater Management Controls provided by a Larger Common Plan of Development or Sale		
<input type="checkbox"/>	Rooftop Disconnection		
<input type="checkbox"/>	Sheetflow to Vegetated Filter (1 or 2)		
<input type="checkbox"/>	Grass Channel		
<input type="checkbox"/>	Rainwater Harvesting		
<input type="checkbox"/>	Permeable Pavement (1 or 2)		

**STORMWATER POLLUTION PREVENTION PLAN**

Insert Project/Site Name

Select all that apply	Stormwater Management Control	Estimated Installation Date	Responsible Party
<input type="checkbox"/>	Infiltration (1 or 2)		
<input type="checkbox"/>	Bioretention (1 or 2)		
<input type="checkbox"/>			

**7.0 Spill Prevention & Response**

Most spills can be cleaned up following manufacturer specifications. Absorbent/oil dry, sealable containers, plastic bags, and shovels/brooms are suggested minimum spill response items that should be available at this location.

1<sup>st</sup> Priority: Protect all people  
 2<sup>nd</sup> Priority: Protect equipment and property  
 3<sup>rd</sup> Priority: Protect the environment

1. Check for hazards (flammable material, noxious fumes, cause of spill) – if flammable liquid, turn off engines and nearby electrical equipment. If serious hazards are present leave the area and call 911. LARGE SPILLS ARE LIKELY TO PRESENT A HAZARD.
2. Make Sure the spill area is safe to enter and that it does not pose an immediate threat to health or safety of any person.
3. Stop the spill source.
4. Call co-workers and supervisor for assistance and to make them aware of the spill and potential dangers.
5. If possible, stop spill from entering drains (use absorbent or other material as necessary).
6. Stop spill from spreading (use absorbent or other material)
7. If spilled material has entered a storm sewer; contact locality's storm water department.
8. Clean up spilled material according to manufacturer specifications, for liquid spills use absorbent materials and do not flush area with water.
9. Properly dispose of cleaning materials and used absorbent material according to manufacturer specifications.

**Emergency Contacts:****Normal Working Hours**

Gloucester Department of Emergency Services	804-693-1390
DEQ Piedmont Regional Office	804-527-5020
Gloucester County Environmental Programs	804-693-1217

**Nights, Holidays & Weekends**

VA Dept. of Emergency Management	804-674-2400
24 Hour Reporting Service	

**Local Contacts**

Gloucester Volunteer Fire Department	804-693-2148
Abingdon Volunteer Fire Department	804-642-2360
Local Police Department (non-emergency, dispatch)	804-693-3890

**8.0 Inspections & Corrective Action Log (make additional copies as necessary)****Qualified Inspector**

Company/Organization:

Name:

Telephone Number:

Qualifications:

**Inspection Schedule****Discharges to surface waters:**

- ☐ Once every 5 business days; or  
☐ Once every 10 business days and no later than 48 hours following a measurable storm event.

**Discharges to impaired waters, surface waters within a TMDL watershed, or exceptional waters:**

- ☐ Once every 4 business days; or  
☐ Once every 5 business days and no later than 48 hours following a measurable storm event.

**Inspection Date****Measurable Storm Event**

Best Management Practices (BMPs)	In Compliance with SWPPP?	Corrective Action Needed; Responsible Party	Date Corrective Action Taken
Erosion & Sediment Controls (Section 4.0)	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Pollution Prevention Practices (Section 5.0)	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Stormwater Management Controls (Section 6.0)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		

**Certification**

"I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

Operator Name: \_\_\_\_\_

Inspector Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**STORMWATER POLLUTION PREVENTION PLAN**[Insert Project/Site Name](#)**9.0 Grading & Stabilization Activities Log**

Date Grading Activity Initiated	Description of the Grading Activity (including location)	Date Grading Activity Ceased	Date Stabilization Measures Initiated	Description of the Stabilization Measure (including location)

**10.0 SWPPP Modification & Update Log**

Modification Date	Description of the Modification / Update	Modification Prepared By (name & title)

**INSTRUCTIONS for COMPLETING the  
SINGE FAMILY RESIDENCE, COMMON PLAN of DEVELOPMENT or SALE  
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)**

**General**

A Stormwater Pollution Prevention Plan (SWPPP) must be developed prior to obtaining locality (e.g., City, County, Town) authorization to commence land disturbance.

**Cover Page**

For a construction activity, enter the project/site name and physical address (if available), including city (or town), state and zip code. Enter the latitude and longitude in decimal degrees of the construction activity.

Enter the Construction Activity Operator's company/organization name, the Operator's name and mailing address, including city (or town), state, and zip code, telephone number, email address (if available), and a 24-hour emergency contact.

Enter the SWPPP preparation date.

The Construction Activity Operator identified on the cover page of the SWPPP is responsible for certifying the information contained therein. Please sign the certification in INK. Please note that state statutes require the SWPPP to be signed as follows:

- (1) For a corporation: by a responsible corporate officer;
- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
- (3) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

**Section 1.0 SWPPP Documents Located Onsite & Available for Review**

Utilize the provided checklist to ensure that the required SWPPP documents are located onsite and are available for review, if applicable.

**Section 2.0 Authorized Non-Stormwater Discharges**

Identify the authorized non-stormwater discharges likely to be present at the project site. If an unlisted authorized non-stormwater discharge is likely to be present at the project site, provide it here.

**Section 3.0 Pollution Prevention Awareness**

Provide employees with a "walk through" of the project site and identify areas of possible pollution, erosion and sediment controls, and pollution prevention practices which are applicable to their assigned job duties. Conduct refresher meetings and perform additional "walk throughs" on an as needed basis.

**Section 4.0 Erosion & Sediment Controls**

Identify the erosion and sediment controls to be implemented at the project site. For each erosion and sediment control, enter the estimated installation date and estimated removal date. If an unlisted erosion and sediment control will be implemented at the project site, provide the applicable information here.

**Section 5.0 Potential Sources of Pollution & Pollution Prevention Practices**

Identify the pollutant-generating activities likely to be present at the project site; implement and maintain the corresponding pollution prevention practices. If an unlisted pollutant-generating activity is likely to be present at the project site, describe it, identify the associated pollutant(s), and provide the corresponding pollution prevention practice(s) to be implemented and maintained.

**Section 6.0 Stormwater Management Controls**

Identify the stormwater management controls to be implemented at the project site, if applicable. For each stormwater management control, enter the estimated installation date. If an unlisted stormwater management control will be implemented at the project site, provide the applicable information here.

**Section 7.0 Spill Prevention & Response**

Most spills can be cleaned up following manufacturer specifications. The priority should be to protect all people, equipment, property, and the environment. Enter the telephone number of your local fire and police departments.

**Section 8.0 Inspections & Corrective Action Log**

Enter the qualified inspector's company/organization name, the inspector's name, telephone number, and qualifications. Select the applicable inspection schedule, enter the construction activity inspection date, and enter the date and rainfall amount of the last measurable storm event (if applicable). Identify if the implemented best management practices are in compliance with the SWPPP. Enter corrective actions needed; the party responsible for implementing the corrective actions, and the date corrective actions were taken, if applicable. Make additional copies of the inspection and corrective action log as necessary.

**Section 9.0 Grading & Stabilization Activities Log**

Enter the date grading activities were initiated, a description of the grading activities including location, the date grading activities ceased, the date stabilization measures were initiated, and a description of the stabilization measures including location.

**Section 10.0 SWPPP Modification & Update Log**

Enter the SWPPP modification date, description of the SWPPP modification/update, and the name and title of the SWPPP modification preparer, if applicable.