



Williamsburg, Virginia

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# Municipal Separate Storm Sewer System Program Plan & Annual Report

For

General Permit No. VAR040076

And

Annual Reporting through

July 1, 2015 through June 30, 2016

This plan and annual report is submitted in accordance with 9VAC25-890-30 and 9VAC25-890-40 as part of registration statement for permit coverage to discharge stormwater to surface waters of the Commonwealth of Virginia consistent with the VAR04 General Permit.

Submitted: September 30, 2016

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**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 ensure 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."

Printed Name: Chris L. Bowman Title: Director of operations

Signature: Chris L. Bowman Date: 9-13-16

## DEFINITIONS

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

"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 (4VAC50-90) adopted pursuant to the Chesapeake Bay Preservation Act.

"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.

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

"Department" means the Department of Environmental Quality.

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

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

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

"Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges resulting from firefighting activities, and discharges identified by and the following, unless identified by the MS4 operator as significant contributors of pollutants: water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration, 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.

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

"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 the following potential activities:

- ESH land-disturbing activities that disturb less than 2,500 square feet
- 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.

- 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 Department shall be advised of the disturbance within seven days of commencing the land-disturbing activity.

"Municipal separate storm sewer" or "MS4" 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

"MS4 Program Plan" means the completed registration statement and all approved additions, changes and modifications detailing the comprehensive program implemented by the operator under this state permit to reduce the pollutants in the stormwater discharged from its municipal separate storm sewer system (MS4) that has been submitted and accepted by the department.

"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.

"Public" means, for the purpose of this Program Plan, the staff employed by Eastern State Hospital.

"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 management plan" means a document(s) containing material for describing methods for complying with the requirements of the Virginia Stormwater Management Program

"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.

"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.

"Wasteload allocation" or "wasteload" or "WLA" means the portion of 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.

"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.

## **1.0 PROGRAM PLAN STRUCTURE**

Eastern State Hospital's (ESH) MS4 Program Plan is structured to serve as a stand-alone document that, when implemented, meets the requirements of the VAR04 *General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s)*, referred to in the remainder of this Plan as the General Permit. The Program Plan is intended to be subject to modifications throughout the permit cycle as part of an iterative process that seeks to improve the effectiveness of best management practices (BMPs). Measure(s) of effectiveness are incorporated into each BMP and annual reporting form in Section 3.

### **1.1 Minimum Control Measures**

The General Permit requires the ESH Program Plan to include BMPs to address the requirements of six minimum control measures (MCMs) described in Section II of the General Permit. The MCMs are summarized as:

- MCM 1: Public Education and Outreach on Stormwater Impacts
- MCM 2: Public Involvement and Participation
- MCM 3: Illicit Discharge Detection and Elimination
- MCM 4: Construction Site Stormwater Runoff Control
- MCM 5: Post-construction Stormwater Management
- MCM 6: Pollution Prevention/Good Housekeeping for Operations

Section 3.0 provides BMPs developed to address each General Permit requirements for each MCM. The title of each BMP is followed with a reference to the corresponding permit section. Each BMP included in the Program Plan is intended to specifically address permit requirements and includes the following information:

- A description of the BMP.
- A list of the necessary documentation to implement the BMP. This information is considered part of the Program and is readily available and updated, as necessary and consistent with the BMP schedule.
- The identification of the individual(s) responsible for implementation of the BMP.
- The objective of the BMP and the result expected from implementation of the BMP.
- An implementation schedule consistent with the General Permit.
- A description of the method(s) to be used to assess the effectiveness of the BMP.

### **1.2 Special Conditions for TMDLs**

ESH is subject to the Special Conditions for the Chesapeake Bay TMDL that requires the development and submission to DEQ (the Department), for its review and acceptance, an approvable TMDL Action Plan. The Action Plan becomes effective and enforceable 90 days after the date received by DEQ. A BMP is provided in Section 3.2 for development of the Action Plan, and a second BMP is reserved to be developed

for implementation of the Action Plan. BMPs are also provided to ensure ESH annually determines if a WLA has been assigned during the reporting year and to provide public opportunity for participation in development of new TMDLs.

### **1.3 Annual Reporting**

ESH will submit an Annual Report to the Department of Environmental Quality (DEQ) by October 1<sup>st</sup> of each year with the reporting period spanning from July 1<sup>st</sup> through June 30<sup>th</sup>. This Program Plan includes annual reporting forms in “fillable form” format. The completion of these forms provides all of the reporting requirements to satisfy the General Permit and include the:

- Cover sheet updated with the specific reporting year;
- Certification following the cover sheet;
- “Annual Reporting – General Information” form on the following page completed annually; and
- The annual reporting form following each BMP in Section 3 completed annually.

Information compiled for effectiveness for each BMP in Section 3.0 is utilized to evaluate and, if necessary, modify the corresponding BMP. Any modifications will be reported in the “Annual Reporting – General Information” form. Modifications to the Program made by ESH will be done in accordance with the General Permit requirements described in Section 1.4.

The General Permit requires certification of the annual report and is provided immediately after the table of contents of this document. Certification is required by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of ESH property operations and written authorization must be provided to the Department.

1.4 Annual Reporting – General Information Form			
<ul style="list-style-type: none"> <li>The BMPs described in Section 3 are the stormwater activities that ESH plans to undertake during the next reporting cycle.</li> <li>ESH relies on the Department of Environmental Quality for implementation of MCM 3.</li> <li>Completed Annual Reporting Forms for each BMP in Section 3 provide an assessment of the appropriateness of each BMP, progress towards achieving each measurable goal, and results of collected information analyzed for appropriate assessments and effectiveness of the BMP.</li> </ul>			
Were modifications to the responsible individual of any program role or responsibility or specific BMP included in the Program that occurred during the reporting year? (yes/no)			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, modification are listed below (provide BMP # in Section 3 to reference modification rationale): BMPs 4.1, 4.2, 4.3 and 5.1 have been modified to better clarify the BMP description, responsible individual for implementation, necessary documentation for implementation and the method to determine effectiveness. These modifications are based on recent conversations with the Department of Behavioral Health and Developmental Services Central Office and interpretation of law and regulations with regards to implementation responsibility.			
Number of new MS4 outfalls in HUC6 JL31:	0	Associated acreage for the new outfalls in HUC6 JL31:	0
Number of new MS4 outfalls in HUC6 JL34:	0	Associated acreage for the new outfalls in HUC6 JL34:	0
ESH finds the facility compliant with the permit conditions (yes/no):			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, listed below are additional BMPs and/or changes made to BMPs or measurable goals for any of the MCMs, including steps to address any deficiencies: _____			
* For Program modifications listed above, follow the guidance in Section 1.4 *			
Does ESH's MS4 directly discharge to waters that are identified as impaired in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report? (yes/no)			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, list the impaired waters and pollutant impairment: <u>N/A</u>			
Based on the water quality issues identified in BMP 1.2 (see page 13) and impairments identified above, does a review of the effectiveness of the BMPs listed in the program indicate they are appropriate? (yes/no)			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Please explain why they are effective for the impairments or identify potential modifications if not effective: <u>BMPs address potential pollutants into the system and therefore are considered appropriate and effective based on the measure of effectiveness for each BMP provided in Section 3.</u>			



## 1.5 Program Modifications

Modifications to the MS4 Program may occur throughout the life of this Program Plan as part of an iterative process to reduce the pollutant loadings and to protect water quality. Modifications will most often be made when a BMP is deemed ineffective. The effectiveness of each BMP is reported in Section 3. When a BMP is determined ineffective, updates and modifications to the MS4 Program must be made in accordance with the following procedures:

- Adding (but not eliminating or replacing) BMPs may be made by ESH at any time. Additions shall be reported as part of the annual report in the “Annual Reporting – General Information” form in Section 1.3.
- Updates and modifications to specific standards and specifications, schedules, operating procedures, manuals, checklists, and other documents routinely evaluated and modified are permitted provided that the updates and modifications are done in a manner that:
  - Is consistent with the conditions of the General Permit;
  - Follow any public notice and participation requirements established in the General Permit; and
  - Are documented in the annual report in the “Annual Reporting – General Information” form in Section 1.3.
- Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies, and BMPs with alternate strategies, policies, and BMPs may be requested at any time. Such requests must include the following:
  - An analysis of how or why the BMPs, strategies, or policies are ineffective or infeasible, including cost prohibitive;
  - Expectations on the effectiveness of the replacement BMPs, strategies, or policies;
  - An analysis of how the replacement BMPs are expected to achieve the goals of the BMP's to be replaced;
  - A schedule for implementing the replacement BMPs, strategies, and policies;
  - An analysis of how the replacement strategies and policies are expected to improve ESH's ability to meet the goals of the strategies and policies being replaced; and
  - Requests or notifications must be made in writing to the Department and signed by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of ESH property operations and written authorization must be provided to the Department.
  - ESH follows the public involvement requirements identified the General Permit.

## 2.0 SCHEDULE

As discussed in Section 1, each BMP described in the Program Plan includes an implementation schedule. Some of the BMPs require actions to be taken to assist in the development or implementation of a BMP. Table 1 lists some of these actions but does not summarize all necessary Program implementation described in Section 3. The Table provides a summary of dates critical for assuring compliance with the permit and is intended to assist with Program Plan implementation.

*Table 1. Summary of critical items and deadlines for program implementation.*

BMP	Necessary Action	Due date*
1.1, 1.2	Provide for public participation for education and outreach plan	<b>Complete</b>
1.2	Public Education/Outreach Plan	<b>Complete</b>
1.2, 2.1, 3.5, 4.2	Website postings (see BMPs for details)	Update annually
2.1	Post Annual Report on website	30 days after submittal annually
2.2	Public participation activities	4x annually
3.1	Notification of MS4 Interconnections	<b>Complete</b>
3.3	Develop IDDE Program Manual	<b>Complete</b>
3.5	Written Training program	<b>Complete</b>
6.2	Identify high priority areas	<b>Complete</b>
5.3	Post-construction SWM Inspection/Maintenance Program Manual	<b>Complete</b>
3.4, 6.1	Good Housekeeping/Pollution Prevention Program Manual	<b>Complete</b>
6.4	Improve contract language for contractors to include reference to the Good Housekeeping Manual	<b>Complete</b>
6.2b	Pesticides/herbicides contract language	<b>Complete</b>
CB-SC.1	Chesapeake Bay Action Plan	<b>Complete</b>
3.1	Storm sewer mapping/information table	<b>Complete</b>
SC.1	Mill Creek and Powhatan Creek Action Plan	<b>Complete</b>

### 3.0 PROGRAM PLAN BEST MANAGEMENT PRACTICES

This Section includes the BMPs that ESH will implement to meet the requirements for each MCM and the applicable Special Conditions described in the General Permit.

#### 3.1 Minimum Control Measures

BMP 1.1 Public Participation for Public Education and Outreach Plan Development (Section II B.1.c.4)	
<p><b>Description:</b> Provide for public participation during public education and outreach program development through a survey distributed to members of staff. The survey will be developed to assess the ESH's public knowledge regarding stormwater with the intent of assisting with the selection of high priority water quality issues. Opportunity to provide written comment will also be available with the survey.</p>	
<p><b>Necessary documentation for implementation:</b> (1) Survey and survey results</p>	
<p><b>Responsible individual for implementation:</b> ESH Director of Operations</p>	
<p><b>Objectives and expected results in meeting measurable goals:</b> The objective is to include the public in the selection of water quality issues selected for Public Education and Outreach Plan.</p>	
<p><b>Implementation schedule:</b> An opportunity for public participation was provided via a survey distributed in the fall of 2015. Survey results were incorporated into the Public Education and Outreach Plan (BMP 1.2). A public survey will be distributed again in the fall of 2017 and the Public Education and Outreach Plan revised as necessary.</p>	
<p><b>Method to determine effectiveness:</b> Effectiveness will be measured by the number of individuals responding to the survey and the incorporation of survey results into the Public Education and Outreach Plan.</p>	

BMP 1.1 Annual Reporting Form (Completed once during the development of the Public Education and Outreach Plan)	
Dates that survey was distributed:	Fall 2015
Number of surveys completed:	166
<p>Description of how survey results and responses were incorporated into the Program: <u>Survey responses were used to gauge the ESH staff's knowledge of stormwater impacts. Results were then used to identify three high-priority water quality issues, as described in BMP 1.2, for the program to focus it's public education and outreach efforts.</u></p>	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

## **BMP 1.2 Develop Public Education and Outreach Program (Section II B.1.c.1-6)**

**Description:** Identify three (3) high priority water quality issues contributed to by the discharge of stormwater. For each issue identified, provide

- Rationale for the selection of each issue;
- An identification and estimate of population size of the target audience who is most likely to have significant impacts on the water quality issue; and
- A relevant message and educational and outreach materials to convey the message for distribution to the target audience.

**Necessary documentation for implementation:** (1) Survey results from BMP 1.1; (2) Written Plan describing the rationale of the selection of each water quality issue, identification of target audience and estimated population, and relevant message; (3) Materials described in the written Plan.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** Objectives are to convey relevant information to target audiences regarding water quality issues. The expected result is that the target audiences will have an increased knowledge of the water quality issues over time.

**Implementation schedule:** Outreach will be conducted a minimum of once a year to at least 20% of each target audience for each water quality issue identified in the written Plan. A public survey to measure knowledge on the identified issues will be conducted in the fall of 2015 and will be distributed again in the fall of 2017 to measure effectiveness.

**Method to determine effectiveness:** A public survey will be distributed via email to assess the effectiveness of the message delivered for each water quality issue, as noted in the implementation schedule. The survey will be distributed once every two years, as determined appropriate for ESH. Effectiveness will be measured by using a scoring system to compare results of the latest survey to the previous survey to determine if public knowledge regarding each water quality issue has increased.

**BMP 1.2 Annual Reporting Form**

Has a written Public Education and Outreach Plan been developed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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If no, explain. If yes, summarize below: The Public Education and Outreach Plan was developed in the Fall of 2015. Please note that only 2 maintenance and grounds peronnel were employed at the time of training.

Water quality Issue #	List of educational and outreach activities identified in Public Education and Outreach Plan	# people reached	% of target audience
1	Brochure and link to ESH stormwater web	554	64%
2	Staff training for good housekeeping, pollution prevention, illicit discharge detection/elimination	2	100%
3	Staff training for good housekeeping, pollution prevention, illicit discharge detection/elimination	2	100%
Water quality Issue	List of educational and outreach activities that will be conducted during the <i>next</i> reporting year	# people to be reached	Atleast 20% of target audience to be reached
1	Brochure and link to ESH stormwater web	+/-172	20
2	Staff training for good housekeeping, pollution prevention, illicit discharge detection/elimination	+/-2	100
3	Staff training for good housekeeping, pollution prevention, illicit discharge detection/elimination	+/-2	100

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 years and are available upon request.

**Measure of Effectiveness**

Average "knowledge" score from previous survey:	37.95%
Average "knowledge" score from latest survey:	<u>TBD (Fall 2017)</u>
Has the "knowledge" score gone up over the permit cycle?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (See below)
If no, discuss potential ineffectiveness of the BMP (outreach materials, staff retention time, etc.). <u>N/A</u>	
If no, Suggest BMP modifications to the Program Plan with rationale to increase effectiveness: <u>N/A</u>	

### BMP 2.1 Public Involvement through web posting of MS4 Program information (Section II B.2.a.1-2)

**Description:** The following documentation will be maintained on the ESH stormwater website:

- The latest version of this MS4 Program Plan
- Each of the annual reports developed within the permit cycle.

Public education and outreach materials developed for BMP 1.2 will include links to the Program Plan and Annual Reports.

**Necessary documentation for implementation:** (1) ESH MS4 Program Plan; (2) ESH MS4 Annual Reports; (3) Web address of posted materials; (4) Educational and outreach material from BMP 1.2

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** Objectives are to provide opportunity for the public to review ESH MS4 Program documentation. Expected results are an increase in public knowledge of the BMPs implemented by ESH to improve water quality from stormwater runoff.

**Implementation schedule:** The Program Plan will be posted on the ESH website 30 days after approval from DEQ. Within 30 days of any modification to the Program Plan, the latest version will be posted. Annual reports will be posted on the web page within 30 days of submittal to DEQ, or by November 1<sup>st</sup> of each year.

**Method to determine effectiveness:** See method to determine effectiveness for BMP 1.2.

### BMP 2.1 Annual Reporting Form

Web links to posted program material are provided below

Program Plan link:	<a href="http://www.esh.dbhds.virginia.gov/StormWaterPlan.html">http://www.esh.dbhds.virginia.gov/StormWaterPlan.html</a>
Annual Report Link:	<a href="http://www.esh.dbhds.virginia.gov/StormWaterPlan.html">http://www.esh.dbhds.virginia.gov/StormWaterPlan.html</a>

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

### **BMP 2.2 Public participation (Section II B.1.b)**

**Description:** ESH will participate, through promotion, sponsorship, or other involvement, in a minimum of four local activities annually.

**Necessary documentation for implementation:** (1) A list of public participation opportunities; (2) Documentation of participation.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to increase public participation to reduce stormwater pollutant loads; improve water quality; and support local restoration and clean-up projects, programs, groups, meetings, or other opportunities for public involvement. Measurable goals will include a measure or estimation of the number of people that participate in each local activity.

**Implementation schedule:** Public participation will be conducted a minimum of four times a year.

**Method to determine effectiveness:** Effectiveness will be determined by successful public turn-out to each event. Selection of specific events may be modified from year to year based public on turn-out.

<b>BMP 2.2 Annual Reporting Form</b>			
Local activity	Type of ESH MS4 Program participation (e.g. promotion, sponsorship, other)	# people reached	Summary of documentation* that demonstrates participation
Adopt-a-Highway Program participation	Promotion	+/-7	See Appendix A
Adopt-a-Highway Program participation	Promotion	+/-7	See Appendix A
Adopt-a-Highway Program participation	Promotion	+/-5	See Appendix A
Adopt-a-Highway Program participation	Promotion	+/-5	See Appendix A

\* Documentation is attached in Appendix A

<b>Measure of Effectiveness</b>	
Local Activity (same as above)	Rationalization of effectiveness or ineffectiveness
Adopt-a-Highway Program participation	Effective due to turnout.
Adopt-a-Highway Program participation	Effective due to turnout.
Adopt-a-Highway Program participation	Effective due to turnout.
Adopt-a-Highway Program participation	Effective due to turnout.
For an ineffective activity identified above, describe modifications to be made for next reporting year (e.g. different activity or different approach): <u>The activities above were completed in the 2015-2016 reporting year. Additional participation activities will take place in the 2016-2017 reporting year.</u>	



### **BMP 3.1 Storm Sewer Map and Outfall Information Table (Section II B.3.a.1-5)**

**Description:** ESH will maintain an accurate storm sewer system map and information table. The map, at a minimum, will:

- Include the mapped location of all MS4 outfalls with a unique identifier that corresponds to the information table;
- Include the name and location of all waters receiving discharges from ESH's MS4 outfalls and the associated sixth order hydrologic unit code (HUC) from Virginia's 6th Order National Watershed Boundary Dataset; and
- Be updated in the case of installation of new storm sewer or outfalls.

The information table, at a minimum, will include for each outfall the:

- Unique identifier;
- Estimated acreage served;
- Name of the receiving surface water and indication as to whether the receiving water is listed as impaired on the Virginia 2010 303(d)/305(b) list; and
- Name of any applicable TMDL or TMDLs.

The information table will be updated as new outfalls come on-line. ESH will notify James City County and/or VDOT, where applicable, in writing, of any known physical connection to their MS4 regulated area or new interconnections that occur with new development.

**Necessary documentation for implementation:** (1) Storm sewer system map; (2) Outfall information table; (3) List of construction/development activity on ESH property; (4) Written notification of physical interconnections to the downstream MS4.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to maintain an up-to-date map of the storm sewer that provides a tool for IDDE procedures (see BMP 3.3). Expected results are that the mapping and the information table serves as a useful tool for tracking illicit discharges.

**Implementation schedule:** The storm sewer mapping and information table has been completed with the ESH IDDE Program Manual. Subsequently, the map and information table will be updated annually at the end of each reporting year. Notifications of interconnections were completed in the fall of 2015.

**Method to determine effectiveness:** Effectiveness will be determined based on its use as a tool for identifying illicit discharges.

**BMP 3.1 Annual Reporting Form**

Storm Sewer System Information Table

See Appendix B for outfall inventory.

If interconnected MS4s, have the downstream MS4s been notified of the outfall?  Yes  No  
If no, please explain why: VDOT was notified of interconnection as of September 16, 2015.

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 years and are available upon request.

**Measure of Effectiveness**

If any potential illicit discharges were identified or reported (refer to reporting for BMP 3.2 and 3.3), was outfall mapping used to address the issue: Yes, sewer overflow on adjacent property.

### **BMP 3.2 Prohibit non-stormwater discharges (Section II B.3.b)**

**Description:** ESH will prohibit non-stormwater discharges into the storm sewer system through language provided within the Stormwater/Pollution Prevention Policy for employees, which provides methods and procedures for reporting as well as corrective and disciplinary actions. Staff will be made aware of the methods and procedures for reporting and corrective and disciplinary action as part of the Public Education and Outreach Program described in BMP 1.2.

For effective prohibition of non-stormwater discharges from contractors operating on ESH property, refer to BMP 6.4.

**Necessary documentation for implementation:** (1) Stormwater/Pollution Prevention Policy for employees; (2) A list of any instances of violation and summary of actions taken by ESH.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to effectively prohibit non-stormwater discharge to the extent allowable under federal, state, or local law, regulation, or ordinance. Expected result is an effective deterrent for staff from willingly introducing non-stormwater discharge to the MS4.

**Implementation schedule:** The Stormwater/Pollution Prevention Policy for employees will be finalized and implemented in the spring of 2016. The Public Education and Outreach Program will be implemented with the schedule described in BMP 1.2.

**Method to determine effectiveness:** Effectiveness will be determined based on the elimination or reduction in the number of reported or observed non-stormwater discharges committed by members of staff. Effectiveness will also be based on implementation of methods and procedures in response to reports that are outlined in the Stormwater/Pollution Prevention Policy for employees.

<b>BMP 3.2 Annual Reporting Form</b>				
Non-stormwater discharge violations				
Total number of potential violations for reporting year:				0
Violation #	Date of violation	Location of violation	Description of violation	Corrective or Disciplinary Action taken
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 years and are available upon request.

<b>Measure of Effectiveness</b>	
Non-stormwater discharge violations committed by staff	
Total number of violations for reporting year 1:	N/A
Total number of violations for reporting year 2:	0
Total number of violations for reporting year 3:	0
Total number of violations for reporting year 4:	TBD
Total number of violations for reporting year 5:	TBD
Has the # of violations trended downward year to year or stayed at zero?	<input checked="" type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below)
If no, discuss potential cause of observed trend and determination if the BMP is ineffective. If deemed ineffective, suggest BMP modifications with rationale: <u>N/A</u>	
Were methods and procedures in the Stormwater/Pollution Prevention Policy for employees used where violations were determined to have occurred?	<input type="checkbox"/> Yes <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No violations)
If no, explain why and if modifications are necessary to the BMP to improve effectiveness: <u>N/A</u>	

### BMP 3.3 Develop Illicit Discharge Detection and Elimination Procedures (Section II B.3.c)

**Description:** ESH will develop and implement an Illicit Discharge Detection and Elimination (IDDE) Program Manual that includes written procedures to detect, identify, and address non-stormwater discharges, including illegal dumping, to the small MS4. Procedures will include written dry weather field screening methodologies that include field observations and field screening monitoring and that provide:

- A schedule of field screening activities to ensure all outfalls are screened annually;
- Methodologies to collect information such as time since the last rain, the quantity of the last rain, site descriptions (e.g., conveyance type and dominant watershed land uses), estimated discharge, and visual observations (e.g., order, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology);
- A time frame upon which to conduct an investigation to identify and locate the source of any observed continuous or intermittent non-stormwater discharge prioritized based on potential hazard to human health;
- Methodologies to determine the source of all illicit discharges shall be conducted with the required minimum investigations and timeframes per ESH's General Permit;
- Mechanisms to eliminate identified sources of illicit discharges including a description of the policies and procedures for when and how to use legal authorities;
- Methods for conducting a follow-up investigation in order to verify that the discharge has been eliminated; and
- A mechanism to track all investigations to document, at a minimum, the date(s) that the illicit discharge was observed and reported; the results of the investigation; any follow-up of the investigation; resolution of the investigation; and the date that the investigation was closed.

**Necessary documentation for implementation:** (1) Illicit Discharge Detection and Elimination (IDDE) Manual; (2) Outfall information table; (3) Outfall screening schedule and field forms.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to establish effective methods and procedures for detecting, identifying, and addressing non-stormwater discharges, including illegal dumping, into the storm sewer. Expected results are effective response to reports of illicit discharge and detection of non-stormwater discharge during outfall screenings.

**Implementation schedule:** Annual outfall screening, as described in ESH's IDDE Program Manual that includes the schedules, mechanisms, and procedures described in this BMP and the General Permit.

**Method to determine effectiveness:** Effectiveness will be determined based on the percentage of the reported and identified non-stormwater discharges that are eliminated.

<b>BMP 3.3 Annual Reporting Form</b>	
Outfall Screening Record	
Total # of outfalls (refer to BMP 3.1):	3
Total # of outfalls screened during the reporting year:	3
If 100% of outfalls were not screened during the reporting year, explain why: <u>Please note, 3 outfalls (#1, #2 and #3) were taken out of the inventory because of the Power Plant property sale.</u>	
See Appendix B for outfall inventory and required reporting information.	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

<b>Measure of Effectiveness</b>
Percentage of identified non-stormwater discharges during screening that are eliminated: N/A
Please provide rationale that describes if the percentage listed indicates the BMP is effective. If not, describe modifications to increase effectiveness: <u>Please note, no illicit discharges were found during screenings.</u>

### **BMP 3.4 Eliminate or minimize discharge of hazardous substances or oil (Section II B.3.e)**

**Description:** ESH will eliminate or minimize the potential for hazardous substance or oil in stormwater runoff through:

- The implementation of the methods, inspection schedules, and procedures in the ESH Good Housekeeping & Pollution Prevention Manual described in BMP 6.1; and
- The expected measurable goals of the training component provided in BMP 6.2 for spill response, good housekeeping and pollution prevention for maintenance workers, and reporting illicit discharge.

**Necessary documentation for implementation:** (1) Good Housekeeping and Pollution Prevention Manual; (2) Training documentation

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective of the Good Housekeeping & Pollution Prevention Manual and associated training is to provide reference procedures, schedules, resource material and education to staff that result in daily operations that eliminate or prevent potential introduction of hazardous substances and oil to stormwater runoff. The expected result is the elimination of hazardous substances and oil spills and exposure.

**Implementation schedule:** The ESH Good Housekeeping & Pollution Prevention Program Manual and incorporated training program are complete.

**Method to determine effectiveness:** Effectiveness will be determined by the number of hazardous substances or oils related illicit discharges reported or identified in the reporting forms for BMPs 3.2 and 3.3, respectively, that are found to originate from staff activities.

**BMP 3.4 Annual Reporting Form**

No information to report.

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

**Measure of Effectiveness**

Were any illicit discharges reported or identified in the reporting forms for BMPs 3.2 and 3.3 found to originate from staff activities?

Yes (See below)

No (BMP effective)

If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: N/A



### **BMP 3.5 Facilitate public reporting of illicit discharges and provide response (Section II B.3.d)**

**Description:** ESH will promote, publicize, and facilitate public reporting of illicit discharges into or from MS4s with information describing an illicit discharge and contact information on the ESH stormwater website. ESH will investigate all reports using methods and procedures described in the ESH IDDE Manual described in BMP 3.3. Tracking of reports will be recorded in the IDDE Tracking form in Appendix D of the ESH IDDE Program Manual.

**Necessary documentation for implementation:** (1) Web address of posted material; (2) Completed IDDE Tracking Form for each incident.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to first educate the public to recognize an illicit discharge and provide contact information that allows for the reporting of an observed illicit discharge. The ultimate objective is track and eliminate reported illicit discharges.

**Implementation schedule:** Illicit discharge material and contact information were on the website during the reporting year. Response to illicit discharge reports will be on-going, occurring in response to reports per the IDDE Manual.

**Method to determine effectiveness:** Effectiveness will be measured as a percentage of illicit discharge reports closed (as will be documented in the IDDE Tracking Forms).

BMP 3.5 Annual Reporting Form				
Illicit Discharge Reports				
Total # of illicit discharge reports for the reporting year:				1
Description of Reported Potential Illicit Discharge	Date observed and/or reported	Description of how the investigation was resolved/follow up	Resolution of the investigation	Close date
Sewer overflow on adjacent property. Reported and corrected by ESH. See attached.	3/29/2016	DEQ notified, sewer blockage resolved.	Blockage resolved, report sent to DEQ. Isolated incident.	3/29/2016
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness
Percentage of reported illicit discharge instances that have been closed: 100%
If not all reports have been closed, please provide the reason and any necessary modification to the BMP: <u>No reports occurred within the reporting period on ESH property. Please note, the illicit discharge reported to DEQ was observed from the previous ESH powerplant property which had been sold.</u>

#### **BMP 4.1 ESC compliance for land disturbance activities (Section II B.4.a-c3, c5 c6, e1-6)**

**Description:** DBHDS owns and operates all construction activities on the facility. ESH, as a facilities operational unit under DBHDS , does not have operational control over the DBHDS construction program and/or DBHDS construction sites. Regulated land disturbance activity on the ESH property is managed by the Erosion and Sediment Control Regulations of the Code of Virginia, 9VAC25-840. Regulated land disturbance activities are those that disturb greater than 2,500 square feet except for the exceptions listed in the definition for “land disturbance activity” provided in the Definitions section of this document. DBHDS relies on DEQ for plan-approval, inspection, and enforcement of these requirements, in addition to the General Conditions of the construction contract document developed by the Department of General Services.

**Responsible individual for implementation:** DBHDS to ensure necessary documents are obtained prior to land disturbance, see also BMP 4.3 and BMP 5.1). DEQ for plan review, inspection and enforcement. CVTC Physical Plant Services Director for obtaining annual reporting information.

**Necessary documentation for implementation:** (1) CPSM and/or contract language requiring DEQ-approved plans; (2) Approved ESC plans for land disturbance 2,500 square feet or greater

**Objectives and expected results in meeting measurable goals:** The objective is to ensure ESC plans are prepared according to ESC Laws and Regulations, that ESC inspections are performed as specified in the regulations, and that correction or enforcement, when appropriate, occurs when inspections find deficiencies. The expected result is that all regulated land disturbance has an approved ESC plan, the appropriate number of inspections are performed, and a minimization of the number of recurring violations on ESC inspection reports and the number of issued Notices to Comply and Stop Work Orders by DEQ.

**Implementation schedule:** The implementation of this BMP will be on-going with all regulated land disturbance activities on ESH property.

**Method to determine effectiveness:** Effectiveness will be measured by the percentage of regulated land disturbance activities that have an approved ESC Plan, and DEQ for the implementation of the required inspection, enforcement, and plan review.

<b>BMP 4.1 Annual Reporting Form</b>				
Annual Land Disturbance Activity Record				
Total # of regulated land disturbing activities that commenced or occurred during the reporting year:				0
Construction Site Plans			DEQ Inspector	
Regulated Land Disturbance Activity Description	Approved plan (yes/no)	Total disturbed acreage	Number of DEQ inspections	# of repeat violations identified on all inspection forms
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	N/A	N/A	N/A
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	N/A	N/A	N/A
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	N/A	N/A	N/A

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 year and are available upon request.

<b>Measure of Effectiveness</b>	
Did DBHDS or the Contractor obtain DEQ plan-approval for all land disturbance activities greater than 2,500 square feet?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No activities)
Describe program modifications to ensure approved plans are acquired when required: _____	

#### **BMP 4.2 Receive and respond to complaints regarding land disturbing activity (Section II B.4.c4)**

**Description:** Through the stormwater webpage, ESH will promote to the public information on land disturbance erosion and sediment controls and provide a contact number for reporting complaints regarding regulated land disturbing activities. ESH will provide the appropriate information to DBDHS and DEQ for investigation within 72 hours of the complaint.

**Necessary documentation for implementation:** (1) Web address of posted material; (2) Land disturbance complaint/report tracking record with date, description, and resolution for each complaint.

**Responsible individual for implementation:** ESH Director of Operations will receive and record the complaint which will be provided to DBDHS and DEQ for enforcement. ESH will coordinate to provide information for MS4 annual reporting purposes.

**Objectives and expected results in meeting measurable goals:** The objective is to educate the public to understand the purpose of ESC controls on a land disturbance activity, recognize the off-site impacts resulting from potential failure of ESC controls, and provide contact information that allows for the reporting of an off-site impact and ultimately the resolution of a reported issue.

**Implementation schedule:** Information regarding ESC controls for land disturbance activities and for reporting complaints was placed on the website.

**Method to determine effectiveness:** Effectiveness will be measured by the percentage of resolved complaints that are reported by the public.

**BMP 4.2 Annual Reporting Form**

The # of complaints from the public related to land disturbance activity during the reporting year: 0

Complaint #	Date of complaint	Description of complaint	Resolution of the investigation
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

**Measure of Effectiveness**

Were all complaints resolved?

Yes (BMP effective)  
 No (See below)  
 N/A (no complaints)

Describe the reason for any unresolved complaint and any necessary program modifications to ensure complaints are resolved in the future. If no modifications are needed, provide rationale: N/A

### **BMP 4.3 Ensure land disturbance activities secure VSMP General Permit (Section II B.4.c.7, d)**

**Description:** DBHDS owns and operates all construction activities on the facility. ESH, as a facilities operational unit under DBHDS, does not have operational control over the DBHDS construction program and/or DBHDS construction sites. Land disturbance activities equal to or greater than an acre require coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities (9VAC25-880). DBHDS will ensure that all land disturbance activities equal to or greater than an acre will obtain approved plans from DEQ (see BMP 4.1) and obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities before starting work on the facility.

The VAR10 General Permit requires a Stormwater Pollution Prevention Plan that specifies appropriate controls to prevent non-stormwater discharges such as wastewater, concrete washout, fuels and oils, and other illicit discharges will be implemented. DBHDS will ensure that a Pollution Prevention Plan is provided for land disturbance activities equal to or greater than an acre. DEQ to provide period inspection oversight and enforcement.

**Necessary documentation for implementation:** (1) CPSM and/or contract language requiring DEQ-approved plans, a Stormwater Pollution Prevention Plan; and coverage letter for the General VPDES Permit for Discharges of Stormwater from Construction Activities; (2) Applicable construction site documents (i.e. approved plans, permit coverage letter).

**Responsible individual for implementation:** DBHDS to ensure necessary documents prior to land disturbance. DEQ to provide period inspection oversight and enforcement. ESH Director of Operations to obtain necessary information for annual reporting.

**Objectives and expected results in meeting measurable goals:** Ensure necessary documentation as required by the CPSM is provided.

**Implementation schedule:** All regulated land disturbance activities that disturb greater than 1-acre will continue to obtain a VAR10 General Permit.

**Method to determine effectiveness:** Effectiveness will be determined based on: (1) all regulated land disturbance activity operating under VSMP General Permit coverage and a SWPPP, (2) the number of DEQ violations related to pollution prevention from a construction site identified in the reporting for BMP 3.2, 3.3, 3.5, and 4.2.

<b>BMP 4.3 Annual Reporting Form</b>			
The # of regulated land disturbance activities during the reporting year:			0
1	2	3	4
Regulated Land Disturbance Activity Description (should match 4.1 reporting column)	If greater than 1-acre, was VSMP General Permit coverage obtained? (yes/no)	If permit coverage is required, is a site-specific SWPPP available on site for the project? (yes/no)	Any illicit discharge reports from construction activities (see reporting for BMPs 3.2, 3.3, 3.5, and 4.2? (yes/no)
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

<b>Measure of Effectiveness</b>	
If no is answered in columns 2 or 3 above, explain why and actions taken to address the issue. Include rationale that describes if they BMP is ineffective, and if so, modification to the BMP to improve effectiveness: <u>N/A</u>	
Is yes answered in column 4? (yes/no)	<input type="checkbox"/> Yes (See below) <input type="checkbox"/> No (Effective BMP) <input checked="" type="checkbox"/> N/A (No activity)
If yes, describe the instance(s) and provide rationale if BMP modification is necessary, or not necessary, to improve the effectiveness of the BMP? <u>N/A</u>	



**BMP 5.1 Compliance to post-construction stormwater management regulation (Section II B.5.a, b. d.1,2)**

**Description:** Ensure post-construction stormwater management (SWM) for all regulated land disturbance activities over 2,500 square feet through plan approval by the DEQ. Approval from the DEQ is assumed to ensure the SWM plan has been prepared per the VSMP Regulations that, in part, require that stormwater runoff controls:

- are designed and installed in accordance with the appropriate water quality and water quantity design criteria as required in Part II (9VAC25-870-40 et seq.) of 9VAC25-870; and
- Have an inspection and maintenance plan.

Implementation of this BMP will be accomplished through the verification of a Department approved stormwater management plan.

ESH will extract and retain a copy of SWM facility inspection and maintenance plans from the approved stormwater management plan for proposed stormwater management facilities to be used with the implementation of BMP 5.3.

**Necessary documentation for implementation:** (1) DEQ approved SWM Plans and Calculations (Maintained on active construction sites); (2) SWM Facility Inspection and Maintenance Plan.

**Responsible individual for implementation:** DBHDS to ensure DEQ-approved plan prior to land disturbance. ESH Director of Operations to obtain information for annual reporting.

**Objectives and expected results in meeting measurable goals:** The objective is to ensure regulated projects are in compliance with the VSMP Stormwater Management Regulations. The expected goal is that all regulated projects have DEQ approved SWM Plans with SWM facility inspection and maintenance plans.

**Implementation schedule:** The implementation of this BMP will be on-going with all regulated land disturbance activities on ESH property.

**Method to determine effectiveness:** Effectiveness will be measured by: (1) all regulated land disturbance activities having a Department approved SWM Plan; and (2) all stormwater management facilities with inspection and maintenance plans.

<b>BMP 5.1 Annual Reporting Form</b>			
The # of regulated land disturbance activities during the reporting year:			0
1	2	3	4
Regulated Land Disturbance Activity Description (Same as BMP 4.1)	If greater than 2,500 square feet, does it have an approved SWM plan? (yes/no)	If SWM Plan includes a SWM facility, does it have an inspection and maintenance plan? (yes/no/no facility required)	If has an inspection and maintenance plan, has ESH retained it on file? (yes/no/no facility)
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

<b>Measure of Effectiveness</b>	
Was yes answered for all activities in Column 2 above?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No activity)
Describe the reason for that an activity does not have an approved SWM plan and any necessary program modifications to the BMP to ensure an approved plan is obtained. If no modifications are needed, provide rationale: <u>N/A</u>	
Was yes answered for all activities in Column 3 above?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No activity)
Describe the reason for that an activity does not have an approved inspection and maintenance plan and any necessary program modifications to the BMP to ensure a plan is obtained. If no modifications are needed, provide rationale: <u>N/A</u>	

### **BMP 5.2 Stormwater management facility tracking and reporting (Section II B.5.e)**

**Description:** ESH will maintain an updated electronic database in Excel format of all known stormwater management (SWM) facilities that discharge into the MS4. The database will include:

- The SWM facility ID #;
- The stormwater management facility type;
- A general description of the facility's location, including the address or latitude and longitude;
- The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;
- The date the facility was brought online (MMYYYY);
- The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;
- The name of any impaired water segments within each HUC listed on the 2010 § 305(b)/303(d) Water Quality Assessment Integrate Report to which the stormwater management facility discharges;
- Whether the stormwater management facility is operator-owned or privately-owned;
- The date of the last inspection.

Upon final inspection of a newly constructed stormwater management facility, the facility will be included within the database.

**Necessary documentation for implementation:** (1) Updated SWM Tracking and Reporting Excel database; (2) Completed inspection checklist forms (see BMP 5.2)

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to maintain an updated record of all of the SWM facilities. The expected result is that the list will be utilized to assist with implementation of BMP 5.3 and will be maintained as new SWM facilities come online.

**Implementation schedule:** The implementation of this BMP will be on-going as inspections are performed as specified for each BMP in the BMP database.

**Method to determine effectiveness:** Effectiveness will be measured by the completeness of the annually reported database.

BMP 5.2 Annual Reporting Form	
Stormwater Management Facility Tracking and Reporting*	
Did any new SWM facilities come on-line during the reporting year? (yes/no)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, was the electronic database updated? (yes/no)	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> N/A (No facilities)
If no, explain why the database was not updated: <u>N/A</u>	

\* Provided as electronic database with annual report in Excel format and hard copy as Appendix C.

Measure of Effectiveness	
Is the database complete to include all of the attributes for each new facility described above in this BMP?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No facilities)
If no, describe the reason that the database is incomplete and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of the data base: <u>N/A</u>	

**BMP 5.3 Inspection, operation, and maintenance verification of SWM facilities  
(Section II B.5.c, d.3, 5)**

**Description:** ESH will perform long-term operations and maintenance of all stormwater facilities on ESH property utilizing the inspection and maintenance plans obtained from implementation of BMP 5.1. Where inspection and maintenance plans are not available from approved SWM plans, ESH will utilize BMP-specific inspection and maintenance instruction from the BMP Clearinghouse or the ESH Post Construction SWM Manual. Inspections will be performed either:

- As dictated on the schedule provided on the inspection and maintenance plans; or
- A minimum of once annually, whichever are the more frequent criteria.

Inspections will be performed using the best management practice (BMP) inspection and maintenance checklist, corresponding with the type of BMP, as provided in the latest edition of the Virginia Stormwater Management Handbook (Handbook) or the ESH Post Construction SWM Manual. The checklists provide lists of potential issues and methods to address the issue. Necessary maintenance identified during inspections will be conducted in a timely manner as indicated on the checklist or no later than the next scheduled inspection.

**Necessary documentation for implementation:** (1) BMP Database described in BMP 5.2; (2) BMP-specific Inspection and Maintenance Plan; (3) Completed BMP Specific inspection and maintenance checklist from the Virginia Stormwater Management Handbook or the ESH Post Construction SWM Manual.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to ensure the intended function of all SWM facilities through long-term maintenance. The expected result is completed inspection forms in accordance with the schedule described in the description above.

**Implementation schedule:** The implementation of this BMP will be on-going as inspections, operations and maintenance are performed for each facility.

**Method to determine effectiveness:** Effectiveness will be measured by: (1) Completion of required inspections, as scheduled, and (2) timely maintenance once a maintenance issue is identified during inspections.

**BMP 5.3 Annual Reporting Form****Stormwater Management Facility Inspection Record\***

The following information is provided in SWM Facility database described in BMP 5.2 or reported below:

- SWM Facility ID
- Inspection Schedule (e.g. monthly, quarterly, annually)
- Dates of inspection(s) for the reporting year
- If inspected, any identified necessary maintenance per inspection form
- If maintenance is necessary, type and date the maintenance was performed

\* Provided as electronic database with annual report in Excel format and hard copy as Appendix B.

**Measure of Effectiveness**

Do dates in the database indicate that inspections were performed as required for each BMP for the reporting year?

- Yes (BMP effective)  
 No (See below)

Describe the reason for inspections that were not performed and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of inspections: N/A

Do dates in the database indicate that maintenance was performed, where necessary, in a timely manner?

- Yes (BMP effective)  
 No (See below)  
 N/A (None Needed)

Describe the reason for that maintenance was not performed in a timely manner (e.g. minor repair needed that does not affect function of the facility) and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of inspections: N/A

### **BMP 6.1 Pollution Prevention Procedures for Operations & Maintenance Activities (Section II B.6.a)**

**Description:** ESH will develop and implement comprehensive written procedures for good housekeeping and pollution prevention for daily operations and equipment maintenance within the ESH Good Housekeeping and Pollution Prevention Program Manual. At a minimum the written procedures will include procedures that include the following goals:

- Prevent illicit discharge;
- Ensure the proper disposal of waste materials, including landscape waste;
- Prevent discharge of vehicle wash water to the storm sewer;
- Prevent the discharge of wastewater to the storm sewer;
- Require best management practices to filter water pumped from maintenance activities;
- Require best management practices to prevent pollutants in runoff from stored and stockpiled materials (e.g. soil stockpiles and salt storage);
- Prevent pollution discharge from leaking automobiles and equipment;
- Ensure application of materials, such as pesticides, is conducted in accordance with manufacturer's specifications.

Effective implementation will be supported with the Employee Good Housekeeping/Pollution Prevention training described in BMP 6.2.

**Necessary documentation for implementation:** (1) ESH Good Housekeeping/Pollution Prevention Program Manual; (2) Training documentation. All documentation is incorporated into the ESH Good Housekeeping/Pollution Prevention Program Manual.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to minimize or prevent pollutant discharges from operations and maintenance activities. The expected result is staff adherence to the ESH Good Housekeeping/Pollution Prevention Manual during daily activities.

**Implementation schedule:** The Good Housekeeping/Pollution Prevention Manual is complete and staff training will be provided on an annual basis.

**Method to determine effectiveness:** Measure of effectiveness for this BMP will be the same as described for BMP 3.4.

**BMP 6.1 Annual Reporting Form**

Good Housekeeping/Pollution Prevention Manual

Has a Good Housekeeping/Pollution Prevention Manual been developed? (yes/no)

 Yes  NoIf no, explain why: N/A

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

**Measure of Effectiveness**

See measure of effectiveness for BMP 3.4



### **BMP 6.2a Employee Good Housekeeping/Pollution Prevention Training Plan (Section II B.6.d)**

**Description:** ESH will incorporate a written training plan into its Good Housekeeping/Pollution Prevention and IDDE Program Manuals, including a schedule of training events. The Program Manuals will serve as the training material and include Appendices to document training and list relevant staff for the following specific training:

- Annual training to relevant field personnel in the recognition and reporting of illicit discharges. Training will utilize the IDDE Manual described in BMP 3.3.
- Annual training to relevant staff in good housekeeping and pollution prevention practices that are to be employed during road and parking lot maintenance and around maintenance and operations facilities. Training will utilize the ESH Good Housekeeping/Pollution Prevention Manual described in BMP 6.1.

The plan will also require the following:

- Training or certification in spill response for emergency response employees.
- Training or certification for applying pesticides and herbicides in accordance with the Virginia Pesticide Control Act (§ 3.1-249.27 et seq. of the Code of Virginia) for employees performing applications.

Training required by the General Permit that is not applicable to ESH includes the following:

- Training to employees in and around recreational facilities.
- Certifications as required under the Virginia Erosion & Sediment Control Law (See BMPs 4.1 and 4.3)

**Necessary documentation for implementation:** (1) Training documentation or appropriate certifications for employees; (2) ESH IDDE Manual; (3) ESH Good Housekeeping/Pollution Prevention Program Manual.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to ensure effective training on the procedures provided in the Good Housekeeping/Pollution Prevention and IDDE Program Manuals and to have them carried out during employee daily operations. The expected result is well trained employees that minimize pollutant discharge through good housekeeping practices and IDDE screening and source identification and elimination.

**Implementation schedule:** The written training plan is complete and incorporated in the ESH Good Housekeeping/Pollution Prevention and IDDE Program Manuals. Training and certification requirements will occur in, or prior to, the spring of 2016, with illicit discharge and good housekeeping training occurring once every two years thereafter.

**Method to determine effectiveness:** Effectiveness will be measured by the results of a “Knowledge Check” quiz that will be taken by each staff member that participates in the training. The “Knowledge Check” quiz is provided in the Appendix of the Program Manuals.

BMP 6.2a Annual Reporting Form	
Training Plan	
Has the ESH annual written Training Plan been developed? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Training & Certifications	
Has employee training been provided per the plan? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain: _____	
Date of latest training to relevant field personnel in the recognition and reporting of illicit discharges:	5/10/2016
Number of employees that participated in the latest training in the recognition and reporting of illicit discharges:	2
Date of last training to relevant employees in good housekeeping and pollution prevention practices:	5/3/2016
Number of employees that participated in the latest training in good housekeeping and pollution prevention practices:	2
Do the number of individuals reported above that participated in training represent all employees that conduct daily activities that could potentially affect stormwater runoff? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain: _____	
Did any employees apply pesticides and herbicides? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, identify the employee and their certification: <u>Charles Carlton, Registered Tech for BL#2628/Certificate 71551-T</u>	
Provide a summary of the training or certification program provided to emergency response employees that includes training in spill response: <u>Emergency and spill response training was included in the training described above. The fire department is notified in the case of need for a major spill response.</u>	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness	
Did scores from the "Knowledge Check" quiz improve from the previous training? (yes/no)	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (See below)
If no or N/A, describe modifications to the BMP to increase effectiveness (e.g. training frequency, training material, etc.): <u>Knowledge score comparisons will be provided in the 2016-2017 reporting year.</u>	

**BMP 6.2b Contractor Certification for Pollution Prevention (Section II B.6.d.4)**

**Description:** ESH will require, through contract language, the certification for contractors applying pesticides and herbicides in accordance with the Virginian Pesticide Control Act (§ 3.1-249.27 et seq. of the Code of Virginia). Contract language will require contractors provide proof of the appropriate certification prior to contract execution.

**Necessary documentation for implementation:** (1) Contract language; (2) Proof of certifications.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objectives are to ensure the proper application of pesticides and herbicides. The expected result is that contractors used by ESH will have appropriate certifications for application of pesticides and herbicides.

**Implementation schedule:** ESH will develop and begin implementation of contract language by the spring of 2016.

**Method to determine effectiveness:** Effectiveness will be measured by evaluation of trends in confirmed reports of illicit discharge related to herbicides and pesticides.

**BMP 6.2b Annual Reporting**

Pesticides and Herbicides	
Number of contracts executed during the reporting year that includes application of pesticides and herbicides?	1
Was proof of certification provided for each contract that includes the application of pesticides and herbicides? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain:	<u>N/A</u>

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

**Measure of Effectiveness**

Were any illicit discharges related to herbicides and pesticides application by contractors reported or identified in the reporting forms for BMPs 3.2 and 3.3?	<input type="checkbox"/> Yes (See below) <input checked="" type="checkbox"/> No (BMP effective)
If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: <u>N/A</u>	

**BMP 6.3 Turf and Landscape Management (Section II B.6.c)**

**Description:** ESH is regulated under §10.1-104.4 of the Code of Virginia which states that “all state agencies, state colleges and universities, and other state governmental entities that own land upon which fertilizer, manure, sewage sludge or other compounds containing nitrogen or phosphorus are applied to support agricultural, turf, plant growth, or other uses shall develop and implement a nutrient management plan for such land.”

In addition, ESH will not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

**Necessary documentation for implementation:** N/A. ESH does not apply nutrients and therefore not subject to a nutrient management plan.

**Responsible individual for implementation:** N/A

**Objectives and expected results in meeting measurable goals:** N/A

**Implementation schedule:** N/A

**Method to determine effectiveness:** N/A

**BMP 6.3 Annual Reporting Form**

Nutrient Management Plans

Were nutrients used during the reporting year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If no, no further reporting necessary for this BMP
Total acreage of lands where nutrient management plans are required:	N/A	
Acreage of lands upon which nutrient management plans have been implemented:	N/A	
Date of last NMP update:	N/A	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

**Measure of Effectiveness**

Was the NMP’s fertilizer application record maintained and in adherence to the NMP? (yes/no)	<input type="checkbox"/> Yes (BMP effective) <input checked="" type="checkbox"/> No (See below)
If no, describe how the BMP can be modified to improve effectiveness. Provide rationalization for modification or if modification is deemed unnecessary. <u>No modification necessary; no nutrients were applied.</u>	

#### **BMP 6.4 Contractor Safeguards to Ensure Program Consistent Measures and Procedures (Section II B.6.e)**

**Description:** ESH will use contract language that references sections within the ESH Good Housekeeping and Pollution Prevention Manual to require ESH contractors use appropriate control measures and procedures for stormwater discharges, when applicable. Oversight will be provided through bi-weekly inspections using a contractor inspection form provided in the Manual. Contract language will require contractors address items identified during inspections within a time period appropriate to prevent the potential of non-stormwater discharges. The contract language will also allow ESH to stop-work, address the problem, and recoup cost for the remedy from the contractor.

Contract language described in this BMP is not intended for regulated land disturbance activity addressed with BMPs 4.1, 4.2, and 4.3.

**Necessary documentation for implementation:** (1) ESH Good Housekeeping and Pollution Prevention Manual; (2) Completed inspection forms; (3) Contract language.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective and expected result is to minimize or prevent pollutant discharges from contractor activities.

**Implementation schedule:** ESH has developed contract language to require contractors to use appropriate control measures and procedures for stormwater discharges.

**Method to determine effectiveness:** Effectiveness will be measured by the inspection results specific to work performed by contractors, the responsiveness of contractors to address observed issues, and reported illicit discharges originating from contracted work on ESH property .

BMP 6.4 Annual Reporting Form	
Contractor Safeguards	
Has contract language, as described above, been included in contracts with all contractors where the work performed could require appropriate control measures and procedures for stormwater discharges? This does not include regulated land disturbance activity addressed with BMPs 4.1, 4.2, and 4.3 (yes/no)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If no, explain: <u>Per the previously reported schedule, ESH developed improved contract language by July 1, 2016. Future contracts will utilize this</u>	
Were bi-weekly inspections performed to ensure oversight? (yes/no)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If no, explain: Per the previously reported schedule, ESH developed improved contract language by July 1, 2016. Future contracts will utilize this update.	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness	
Were any illicit discharges related to contracted work on ESH property (other than regulated land disturbance activity) reported or identified in the reporting forms for BMPs 3.2 and 3.3?	<input type="checkbox"/> Yes (See below) <input checked="" type="checkbox"/> No (BMP effective)
If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: N/A	

### 3.2 Special Conditions for the Chesapeake Bay TMDL

#### BMP CB-SC.1 Chesapeake Bay TMDL Action Plan (Section I C.2)

**Description:** ESH will develop a phased Chesapeake Bay Action Plan that incorporates public comment and includes:

- A review of the Program Plan BMPs described in Section 3.1 for consistency with the TMDL and for the purpose of identifying necessary modifications;
- An estimate of the annual POC loads discharged from the existing sources as of June 30, 2008, based on the 2009 progress run;
- An estimate of the total reductions necessary to reduce the annual POC loads from existing sources to the L2 implementation level;
- The means and methods that will be utilized to implement sufficient reductions from existing sources equal to 5.0% of the estimated total reductions necessary;
- Mechanism to address any modification to the TMDL or watershed implementation plan that occurs during the term of this state permit as part of its permit reapplication and not during the term of this state permit;
- An estimate of the expected costs to implement the requirements of this special condition during the state permit cycle; and
- An opportunity for receipt and consideration of public comment regarding the draft Chesapeake Bay TMDL Action Plan.
- A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing pollutant load by an additional 35%

The Action Plan development will consider DEQ's Chesapeake Bay Action Plan Guidance. Additional BMPs will be included in this Section of the Program Plan to include the identified means and methods.

**Necessary documentation for implementation:** (1) Chesapeake Bay TMDL Action Plan; (2) Documentation of public participation; (3) ESH Program Plan Updates, as necessary.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to achieve reductions required by the Chesapeake Bay TMDL for sediment, phosphorus, and nitrogen. The expected result is the development of a TMDL Action Plan.

**Implementation schedule:** The Chesapeake Bay Action Plan will be developed by April 18, 2016. The schedule developed in the Action Plan will be implemented thereafter.

**Method to determine effectiveness:** Effectiveness will be determined by the selection of cost effective BMPs supported by model quantification to achieve the required pollutant reductions.

BMP CB-SC.1 Annual Reporting Form	
Chesapeake Bay Action Plan	
Has the ESH Chesapeake Bay Action Plan been developed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, please explain and provide expected date of completion: _____	
Method to receive and consider public comment, including dates: <u>Chesapeake Bay TMDL Action Plan was posted online for two weeks to receive public comments.</u>	
Date of Action Plan submittal to DEQ: <u>With 2015 Annual Report</u>	
Does pollutant load reduction quantification demonstrate the selected means and methods in the completed Action Plan can achieve the required reductions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Implementation	
Chesapeake Bay Action Plan	
Has the street sweeping proposed in the Chesapeake Bay TMDL Action Plan begun?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If no, please explain progress and provide expected date of completion: <u>Eastern State Hospital has begun the process of finding an appropriate vendor for street sweeping. As required by the MS4 General Permit, ESH will achieve the 5% required reductions by July 1, 2018 and annually thereafter. No monitoring data was collected during this reporting year.</u>	

Measure of Effectiveness	
Does pollutant load reduction quantification demonstrate the selected means and methods in the completed Action Plan can achieve the required reductions in the required time frames?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain how the Action Plan can be modified to achieve the required reductions in the required time frames: _____	



### 3.3 Special Conditions for Approved TMDL other than the Chesapeake Bay TMDL

#### BMP SC.1 Mill Creek and Powhatan Creek TMDL Action Plan (Section I B)

**Description:** ESH has been assigned a waste load allocation (WLA) for E. coli in the Mill Creek, Powhatan Creek Watersheds TMDL approved on July 27, 2009. ESH will develop an action plan to address the WLA that includes:

- A list of legal authorities applicable to reducing E. coli;
- Identification and methods for maintaining a list of practices, methods, and controls implemented to reduce the E. coli;
- Description of means for incorporation of identified practices, methods, and controls into the public education and outreach and employee training programs;
- Results of an assessment of facilities of concern for significant contribution of E. coli;
- Develop methodology for assessing effectiveness of the TMDL Action Plan using modeling tools (in-lieu of water quality monitoring), specifically the Excel spreadsheet based Watershed Treatment Model (WTM). Assessment will also incorporate methodology for evaluation of facilities identified to significantly contribute to the POC;
- An annual reporting worksheet consistent with the TMDL Action Plan and the General Permit.

Additional BMPs will be included in this Section of the Program Plan, as necessary, to include implementation of the Action Plan.

**Necessary documentation for implementation:** (1) Mill Creek and Powhatan Creek Watersheds ESH TMDL Action Plan; (2) ESH Program Plan updates, as necessary.

**Responsible individual for implementation:** ESH Director of Operations

**Objectives and expected results in meeting measurable goals:** The objective is to achieve reductions required by the Mill Creek and Powhatan Creek Watersheds TMDL for E. coli. The expected result is the development of a TMDL Action Plan.

**Implementation schedule:** The Mill Creek and Powhatan Creek Watersheds ESH Action Plan will be developed by July 1, 2016. The schedule developed in the Action Plan will be implemented thereafter.

**Method to determine effectiveness:** Effectiveness will be determined by the selection of cost effective BMPs supported by model quantification to achieve the required pollutant reductions.

<b>BMP SC.1 Annual Reporting Form</b>	
Mill Creek and Powhatan Creek Action Plan	
Has the ESH Mill Creek and Powhatan Creek Action Plan been developed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, please explain and provide expected date of completion: _____	

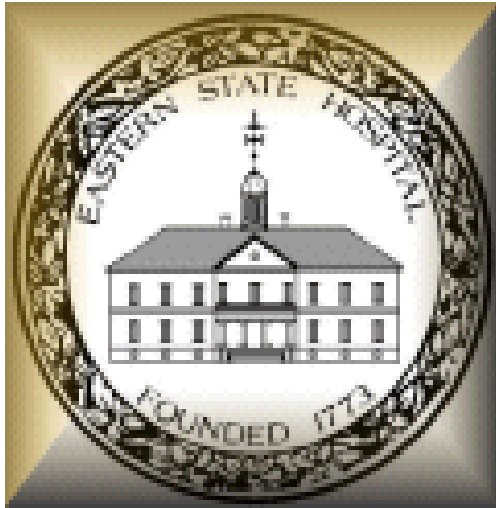
Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

<b>Implementation</b>	
Mill Creek and Powhatan Creek Action Plan	
Have the proposed BMPs in the Mill Creek and Powhatan Creek Action Plan been implemented?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If no, please explain progress and provide expected date of completion: <u>The Mill Creek and Powhatan Creek Action Plan was not due until July 1, 2016. The proposed BMP's will be implemented and reported on in the 2017-2018 reporting year. No monitoring data was collected during this reporting year.</u>	

<b>Measure of Effectiveness</b>	
Does pollutant load reduction quantification demonstrate the selected means and methods in the completed Action Plan can achieve the required reductions in the required time frames?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain how the Action Plan can be modified to achieve the required reductions in the required time frames: _____	

**Appendix A - Documentation for Public Education and Public Involvement Activities**

(To be completed per BMP schedule and provided with subsequent annual reports)



## Stormwater Runoff Impacts



### What Is Stormwater Runoff?

Stormwater runoff is precipitation such as rain or snow that does not soak into the ground. Impervious surfaces such as driveways, parking lots, roofs, sidewalks and roads prevent stormwater runoff from naturally soaking into the ground. Stormwater runoff flows over vegetated areas and impervious surfaces into the storm sewer system and ultimately a natural waterway.



### Why is Stormwater Important?

As stormwater runoff flows over vegetated areas and impervious surfaces, it picks up pollutants such as pesticides, pet waste, oil and debris along the way. These pollutants are then carried through the storm sewer system and discharged to natural waterways. Urban stormwater runoff is the number one source of surface water pollution in the United States, causing public safety hazards, health risks and environmental threats.



### What is an Illicit Discharge?

Any substance other than stormwater that enters the storm sewer system or receiving waters is considered an illicit discharge. Many illicit discharge sources originate from maintenance facilities or construction sites, such as vehicle maintenance areas or equipment washout bays. Daily activities at these sites, specific spill incidents, or illegal dumping can result in illicit discharges. Examples of source pollutants include automotive fluids, paints, solvents, pesticides and herbicides, sediment, and trash.

Exceptions are made for non-stormwater discharges that do not significantly contribute pollutants to the storm sewer system, including fire-fighting activities, water line flushing, and landscape or lawn irrigation. These discharges may flow into the storm sewer or waterway without consequence.

Illicit discharges are significant due to the threat stormwater pollution poses to public safety, public health, and the environment. Due to the importance of reducing and preventing stormwater pollution, illicit discharges, potential sources for illicit discharges, and illegal dumping should be reported to the locality immediately so that appropriate corrective actions can be taken.

## ESH's Stormwater Program

### Stormwater Issues?

**Flooding:** Stormwater runoff from intense rainfall can at times exceed the carrying capacity of the stormwater pipe system, creating a backup in the system which can lead to the flooding of roads, yards and structures.

**Pollution:** When rain falls, stormwater flows across grass and impervious surfaces such as sidewalks, driveways, parking lots, rooftops and roads. It mobilizes contaminants such as animal waste, chemicals, pesticides, trash and sediment. These contaminants are then transported downstream to streams, rivers and ultimately the ocean.

**Water quality:** Stormwater runoff is a leading cause of nutrient contamination, predominately responsible for algae blooms and low oxygen levels, which can result in fish kills and elimination of native vegetation.

**Soil erosion:** Uncontrolled stormwater rapidly increases the amount of water flowing into a stream, which can wash away stream banks and over time, cut streambeds down deeper to bedrock.

The U.S. Environmental Protection Agency (EPA) and the Virginia Department of Environmental Quality (DEQ) regulate stormwater and require most localities to implement and maintain a comprehensive stormwater management program. ESH has a Municipal Separate Storm Sewer System (MS4) permit, which further obligates the hospital to manage their stormwater runoff and achieve an allocation of pollutant reductions. ESH is required to meet specific pollutant TMDL (total maximum daily load) reductions for nitrogen, phosphorus, sediment, and E. coli. ESH is working to implement measures that improve water quality in its waterways. Some of these measures include:

- Street sweeping to help prevent debris and sediment from being washed into the storm system and waterways
- Storm drain inspections to screen for illicit discharges
- Employee and public education on pollutants in stormwater runoff to help determine pollutant sources and increase public awareness.
- Please visit ESH's stormwater website at <http://www.esh.dbhds.virginia.gov> for more detailed information.

### How Can I Report an Illicit Discharge?

If you see an illicit discharge, a potential source for an illicit discharge, or witness illegal dumping, you should contact the ESH Director of Operations at 208-7837 or the ESH Information Center at 253-5161.

### How Can I Help Reduce Stormwater Pollution?

- Pick up and properly dispose of pet waste
- Appropriately clean up vehicle fluid leaks and spills
- Properly dispose of hazardous substances such as automotive oil, cooking oil, paint, cleaners, etc.
- Exercise caution when using pesticides, herbicides, and fertilizers
- Report illicit discharges, potential illicit discharge sources, and any illegal dumping



## Adopt-A-Highway

1<sup>st</sup> Quarter) - July thru September 2015 was done on July 18, 2015.  
7 people, 7.5 man hours.

2<sup>nd</sup> Quarter) - October thru December 2015 was done on Oct. 17, 2015.  
7 people, 7 man hours.

3<sup>rd</sup> Quarter) - January thru March 2016 was done on March 12, 2016.  
5 people, 6 man hours.

4<sup>th</sup> Quarter) - April thru June 2016 was done on June 11, 2016.  
5 people, 5 man hours.

## Bi-weekly trash pick-up w/ Patient Re-hab Program

Patients Weekly Trash Pick-Up: They Average 5 patients per day and are scheduled for 45 minutes per day minutes 4 days per week. That is a weekly average of 15 hours.

**Appendix B – BMP 3.1 Outfall Inventory**

**2015 Eastern State Hospital Outfall Inventory Table**

<b>Outfall_ID</b>	<b>Northing</b>	<b>Easting</b>	<b>Area Drainage to Outfall (Acres)</b>	<b>Name of Receiving Water</b>	<b>Is Receiving Water Impaired in 2010 305(b)/303(d)? (Yes / No)</b>	<b>Applicable TMDL(s)</b>
ESH-04	37.295031	-76.742365	3.3	Unnamed Tributary to Chisel Run	Not Assessed	Cheapeake Bay, Mill Creek & Powhatan Creek
ESH-05	37.290763	-76.748081	2.35	Unnamed Tributary to Chisel Run	Not Assessed	Cheapeake Bay, Mill Creek & Powhatan Creek
ESH-06	37.288074	-76.739162	5.65	Unnamed Tributary to Chisel Run	Not Assessed	Cheapeake Bay, Mill Creek & Powhatan Creek



**Appendix C- BMP 5.2 SWM Facility Tracking Database**

(Completed and provided as an electronic database)