



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

May 23, 2016

Tony Dawood
Director of Utilities
City of Manassas
8500 Public Works Dr
Manassas, VA 20110

Transmitted electronically: tdawood@ci.manassas.va.us

RE: Virginia Pollutant Discharge Elimination System (VPDES) MS4 Permit
VAR040063, City of Manassas, Chesapeake Bay TMDL Action Plan Approval

Dear Mr. Dawood:

The Department of Environmental Quality (DEQ) has reviewed the Chesapeake Bay TMDL Action Plan received on September 30, 2015 in accordance with Section I.C of the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). Additional information was received November 30, 2015, January 20, 2016, April 11, 2016, April 25, 2016, April 26, 2016, and May 13, 2016.

As submitted, the action plan will result in the following annual reduction of pollutants of concern in the Potomac River Basin:

Pollutant of Concern	Annual Load Reduction (lb/yr)	Percentage of L2 Reduction Achieved After Implementation	Percentage of New Source Reduction Achieved After Implementation
Total Nitrogen	5,785.01	131.15%	5%
Total Phosphorus	951.16	270.36%	5%
Total Suspended Solids	2,257,911.41	589.97%	5%

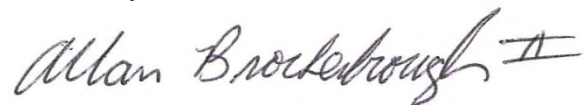
The Chesapeake Bay TMDL Action Plan is hereby approved and is an enforceable part of the MS4 Program Plan. The approved action plan is based on the 2000 Urbanized Area as designated by the U.S. Census Bureau; and reductions were calculated based on land use data from 2009. Please note that additional reductions may be required to address loads from expanded urbanized area as a result of the 2010 Census in accordance with Section II.C.5 of the MS4 General Permit.

Please note any modifications to the Chesapeake Bay TMDL Action Plan shall be made in accordance with the Program Plan Modification Section of the MS4 General Permit (Section II.F).

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date you received this decision within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Virginia Department of Environmental Quality.

Please contact Kelsey Brooks at (804) 698-4321 or at kelsey.brooks@deq.virginia.gov if you have any questions.

Sincerely,



Allan Brockenbrough II, P.E.
Manager, Office of VPDES Permits

Copies: File

Patrick Moore (pmoore@ci.manassas.va.us)
Jacob Renaud (jrenaud@ci.manassas.va.us)

Chesapeake Bay TMDL Action Plan



City of Manassas
Public Works Department
8500 Public Works Dr
Manassas, VA 20110

Permit Number : VAR040063

Chesapeake Bay TMDL Action Plan

In compliance with the Section I C of the MS4 permit, the City is required to address the Special Conditions for the Chesapeake Bay TMDL. The MS4 permit requires the development and implementation of the Chesapeake Bay TMDL Action Plan to reduce the pollutants of concern (POC) determined by the estimation of the annual POC loads discharged from the existing sources as of June 30, 2009, based on the 2009 progress run. The following sections address the requirements of the Special Conditions for the Chesapeake Bay.

a. (1) Review of the MS4 program

The City has reviewed its current MS4 Program Plan and has determined that the existing legal authority and the City’s ability are sufficient to ensure compliance with this special condition.

a. (2) Identification of Legal Authority

No new or modified legal authority has been necessarily identified to meet the requirements of this special condition.

a. (3) Means and Methods to Address New Sources

The City adopted the Virginia Stormwater Management Act requirements into local ordinance in 2014. This included water quantity and water quality requirements being adopted locally and will be utilized to address discharges into the MS4 from new sources.

a. (4) Estimate of the Annual POC loads

An estimate of the annual POC loads discharged from the existing sources as of June 30, 2009, based on the 2009 progress run is provided below;

Table 1: Estimation of Existing Source Loads for the Potomac River Basin

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	2009 EOS* Loading Rate (lbs/acre)	Estimated Total POC Load Based on 2009 Progress Run
Regulated Urban Impervious	Nitrogen	1395	16.86	23,519.70
Regulated Urban Pervious		3626	10.07	36,513.82
Regulated Urban Impervious	Phosphorus	1395	1.62	2,259.90
Regulated Urban Pervious		3626	0.41	1,486.66
Regulated Urban Impervious	Total Suspended Solids	1395	1,171.32	1,633,991.40
Regulated Urban Pervious		3626	175.8	637,450.80

* EOS – Edge of Stream

a. (5) Determination of the Total Pollutant Load Reduction

A determination of the total pollutant load reductions necessary to reduce the annual POC loads from existing sources utilizing the table provided in the permit based on the Potomac River Basin is provided below;

Table 2: Determination of Total POC Reductions Required During this Permit Cycle for the Potomac River Basin

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/acre)	Total Reduction Required First Permit Cycle (lbs)
Regulated Urban Impervious	Nitrogen	1395	0.08	111.60
Regulated Urban Pervious		3626	0.03	108.78
Regulated Urban Impervious	Phosphorus	1395	0.01	14.95
Regulated Urban Pervious		3626	0.001	3.63
Regulated Urban Impervious	Total Suspended Solids	1395	11.71	16,335.45
Regulated Urban Pervious		3626	0.77	2,792.02

a. (6) Means and Methods to Achieve the Total POC Reductions

The City has an existing and comprehensive water quality improvement program. The means and methods implemented to date include regional stormwater management facility project, stream restoration projects, pond restoration projects, redevelopment-based reductions, street sweeping program, and 2006-2009 ‘historical BMPs.’ The City intends to achieve the required reductions included in Table 2 through the regional stormwater management facility project to meet the first permit term required reductions. This project has been initiated in 2012 and the pollutant reduction credits have been calculated using the approved removal rates for the wet pond developed by the Chesapeake Bay Program Expert Panel. The removal rates are 865.70 lb/yr for Total Nitrogen, 201.69 lb/yr for Total Phosphorus, and 255,986.50 lb/yr for Total Suspended Solids. The construction is anticipated to start in March 2016 and last approximately 18 months.

a. (7) Means and methods to offset the increased loads from new sources initiating construction between July 1, 2009 and June 30, 2014, that disturb one acre or greater as a result of the utilization of an average land cover condition greater than 16% impervious cover for the design of post-development stormwater management facilities

The City identified five projects for new sources initiating construction between July 1, 2009 and June 30, 2014 that disturb one acre of greater and exceeded an average

land cover condition of 16% impervious cover for the design of post-development stormwater management facilities. All lands regulated under an Individual Permit were excluded from the City's regulated area. The aggregate accounting method was selected to determine the additional treatment requirements from new sources. This resulted in an increase in the POC loads and the 5% offset from the calculated increased load from the new sources are shown in Table 3 and Table 4 respectively.

Table 3. POC Loads as of July 01, 2014

Subsource	Pollutant	Total Existing Acres Served by MS4 as of 07/01/14	2009 EOS Loading Rate (lbs/acre)	Estimated Total POC Load as of 07/01/14
Regulated Urban Impervious	Nitrogen	2623.6	16.86	44,233.9
Regulated Urban Pervious		3707.4	10.07	37,333.5
Regulated Urban Impervious	Phosphorus	2623.6	1.62	4,250.2
Regulated Urban Pervious		3707.4	0.41	1,520.0
Regulated Urban Impervious	Total Suspended Solids	2623.6	1,171.32	3,073,075.2
Regulated Urban Pervious		3707.4	175.8	651,760.9

Table 4. Total Load Change from "New Source" between 06/30/09 and 07/01/14 and Additional Reductions Required during first permit cycle

Subsource	Pollutant	Estimated Total POC Load as of 07/01/14	Estimated Total POC Load as of 06/30/09	Load Change	Total Load Change (lbs/yr)	5% Offset (lbs/yr)
Regulated Urban Impervious	Nitrogen	44233.90	44072.04	161.86	65.18	3
Regulated Urban Pervious		37333.52	37430.19	-96.67		
Regulated Urban Impervious	Phosphorus	4250.23	4234.68	15.55	11.62	1
Regulated Urban Pervious		1520.03	1523.97	-3.94		
Regulated Urban Impervious	Total Suspended Solids	3073075.15	3,061,830.48	11244.67	9556.99	478
Regulated Urban Pervious		651760.92	653448.6	-1687.68		

The City implemented the regional stormwater comprehensive plan and accounted for the increased POC loads by reducing the credit taken for the oversized regional BMPs that

resulted in over-treatment. City will verify the long-term maintenance and upkeep of stormwater management facilities.

a. (8) Means and methods to offset the increased loads from projects as grandfathered in accordance with 4VAC50-60-48, that disturb one acre or greater that begin construction after July 1, 2014, where the project utilizes an average land cover condition greater than 16% impervious cover in the design of post-development stormwater management facilities.

The City identified three grandfathered projects in accordance with 4VAC50-60-48, that disturb one acre or greater that begin construction after July 1, 2014, where the project utilizes an average land cover condition greater than 16% impervious cover in the design of post-development stormwater management facilities. . All lands regulated under an Individual Permit were excluded from the City's regulated area. The Site by Site Accounting method was selected to determine the additional treatment requirements from the grandfathered projects. The loading rates of the grandfathered projects are 5.34 lbs/yr for Total Phosphorus, 36.85 lbs/yr for Total Nitrogen, and 2505.53 lbs/yr for Total Suspended Solids. Additional load offsets during this permit cycle are 0.27 lbs/yr for Total Phosphorus, 1.84 lbs/yr for Total Nitrogen, and 125.28 lbs/yr for Total Suspended Solids. The City will apply excess credit from reductions required for existing sources to offset required reductions from the grandfathered projects.

a. (9) TMDL Implementation Plan

The City has updated the TMDL Action Plan and will be addressed as part of the permit reapplication.

a. (10) Future Projects that qualify as grandfathered

Upon review, the City has determined that three projects that qualify as grandfathered in accordance with 4VAC50-60-48 are listed below. Projects associated with lands that are regulated under an Individual Permit and by other jurisdiction are excluded from the list.

Name	Address	Site Area (Acres)
Firestone Complete Auto Care Center	9850 Liberia Ave	2.50
Prescott Court	9214 Prescott Ave	1.62
Grant Corner	Orchard Ln	1.47

a. (11) Expected Costs to implement

The City estimates that it will cost \$5,300,000, including \$1,921,471 in SLAF funding, to meet the existing source reductions during the state permit cycle.

a. (12) The City plans to make the draft Chesapeake Bay TMDL Action Plan available at the City website to provide an opportunity for receipt and consideration of public comment.

The City has currently planned the capital improvement projects to achieve the required reductions for the current and future permit cycles. Nine projects have been identified by the City:

- Prince William Hospital Regional SWM Pond (FY16)
- Cockrell Branch SWM Pond Restoration/Dredging (FY20)
- Hazel Drive Channel Improvements (FY18)
- Sumner Lake SWM Pond Restoration/Dredging (FY16)
- Sills Pond Upgrade (Future)
- Tudor Oaks SWM Pond Restoration (Future)
- Winter's Branch Stream Restoration (Future)
- Flat Branch Stream Restoration (Future)
- Sumner Lake Stream Restoration (Future)

The existing projects identified in this first permit period this plan exceed the required reductions and the additional reductions will be applied toward achieving the additional 35 percent reductions required by the next permit cycles. The City will continue to plan for compliance and the Plan will be updated accordingly.