

BRIEF DESCRIPTION OF THE TOWN OF VINTON'S STORMWATER MANAGEMENT PROGRAMS

Introduction

The Federal Clean Water Act was originally passed in 1972. This legislation, along with subsequent amendments, requires the U.S. Environmental Protection Agency (USEPA) to enact regulations to permit and eliminate pollutants discharged into the nation's waterways. These efforts have been largely effective in eliminating and minimizing discharges from industries and wastewater treatment plants. However, many streams still do not meet Virginia's water quality standards. The largest remaining source of pollutants is stormwater runoff, which washes sediment, nutrients, and bacteria into area waterways.

In order to lessen the adverse impacts from stormwater runoff from land disturbing activities and from existing development, the Town of Vinton has continued to be involved in the following state-required programs: (1) Erosion and Sediment Control, which is administered by County of Roanoke since February 1984, (2) Virginia Stormwater Management Program (VSMP) – Currently working with the County of Roanoke for the County to be the Town's VSMP Administrator, (3) Municipal Separate Storm Sewer System (MS4) permit, and (4) Total Maximum Daily Load (TMDL) Program. All of these programs are overseen by VA Department of Environmental Quality (DEQ), with federal oversight by the USEPA.

Program Descriptions

1. Erosion and Sediment Control – The erosion and sediment control (ESC) program has been administered for the Town by Roanoke County since February 1984. Development projects must post a bond and obtain a permit. Construction must comply with an erosion and sediment control plan that is reviewed and approved by the County. The County performs periodic field inspections until final site stabilization is obtained. This is a relatively mature program. As of July 1, 2014, changes to this program are required in the next several years as a result of VSMP, MS4, and TMDL permit requirements.

2. VSMP – Town of Vinton currently has stormwater management (SWM) requirements; however, DEQ is responsible for administering the requirements of the state General Permit for the Discharge of Stormwater from Construction Activities. In order to increase the effectiveness of the program, the administration of the VSMP has been transferred to the localities and the stormwater management requirements are revised, effective **July 1, 2014**. In April 2015, the Town adopted the new Stormwater Management Ordinance and Illicit Discharge Ordinance.

The Town becoming the local VSMP authority will result in the need for some additional plan review efforts, field inspections, education activities, enforcement actions, and coordination with DEQ. The ESC and SWM plan reviews and field inspection will be performed by Roanoke County Engineering Division personnel through the two Memoranda of Understanding (MOUs) that were signed by the Town and County in August 2013. The stormwater management technical requirements for new development are changing from an emphasis on maintaining the pre-development peak rate of stormwater flow leaving a site to an emphasis on maintaining the

pre-development total volume of stormwater leaving a site. This change in stormwater requirements will result in fundamental changes in land development design. There will be an increase in the number of smaller stormwater management facilities, instead of, or in addition to, the larger stormwater management basins that are common in our area today. As of April 2015, the State allows a locality to transfer the VSMP administration to the County. Since August 2015, staff has been working with the County of Roanoke to take over this responsibility through a Memorandum of Understanding. At the same, the County has been working in amending its ESC and SWM ordinances to meet the state requirements.

3. MS4 Permit – Beginning March 2003, DEQ issues MS4 permits to urbanized areas of the state. In the immediate vicinity, the Cities of Roanoke and Salem, the Counties of Roanoke and Botetourt, and the Towns of Blacksburg and Christiansburg are covered by the state General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems. The Town latest MS4 permit was issued on July 1, 2013, and is valid for 5 years. This permit requires the Town to address stormwater runoff through implementing programs and actions in six minimum control measures (MCM) best management practices (BMPs) and by addressing TMDLs. The update for the MS4 program was required as of July 1, 2014.

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 in New Development and on Prior Developed Lands

MCM 6 – Pollution Prevention and Good Housekeeping for Municipal Operations

TMDLs – Must address TMDLs to meet “Wasteload Allocations”

4. TMDL – DEQ periodically monitors the state’s streams. Where it determines that a stream does not meet Virginia’s water quality standards, DEQ places the stream on the “Impaired Waters” list and performs a study to determine the pollutant that is causing the impairment and how much of the pollutant the stream can accept without being impaired. This pollutant amount is called the **Total Maximum Daily Load**. Once the TMDL is determined, DEQ assigns a share of the TMDL to different stakeholders. Four of the Town’s waterways; Tinker Creek, Glade Creek, Roanoke River, and Wolf Creek are listed by DEQ as impaired and the Town has been assigned four different “wasteload allocations” (WLA) to limit the pollutants entering the Town’s impaired waterways from its storm sewer system. These impairments are due to sediment, bacteria, and PCBs. Currently, the Town has not been assigned a PCBs WLA. The Town is required through its MS4 Permit to lower these pollutants, over time, to meet the assigned wasteload allocations.

The Town’s existing MS4 permit included increased requirements over the previous permit. In general, the Town needs to increase its activities in all of the listed areas. Of particular concern is the need to increase public education and outreach, work with Roanoke County to update the GIS database, and actively address the TMDLs. As of July 1, 2015, two action plans: TMDL Action Plan for Bacteria/E.coli Reduction and TMDL Action Plan for Sediment

Reduction were completed. Annual reporting requirements include implementation of the listed BMPs and evaluation of each BMP.

In order to address the TMDL wasteload allocations for bacteria and sediment, the Town anticipates the need to construct physical improvements, such as stream restorations along Tinker Creek, Glade Creek and Wolf Creek. These projects may cost in the neighborhood of **\$2 million/stream mile**, and they will have continuing maintenance costs after they are completed. As an example, the County was recently awarded a grant from DEQ, in the amount of \$474,600, to cover 50% of the cost to design and construct a stream restoration project on approximately 2,500 linear feet of Glade Creek in Vinyard Park. The County will need to pay the remaining 50% of the cost (\$474,600) from local funds. The state intends to annually allocate money to this grant program.

Stormwater Program Administration

Beginning March 2003, The Town Planning and Zoning Department has been responsible in the administration and implementation of the multiple stormwater programs, as described above. The requirements under the VSMP program, MS4 permit, and TMDL Action Plans, are changing and increasing. The VSMP program changes will have significant impacts on the development community and minor to moderate impacts on the Town budget. The MS4 permit compliance will have significant costs to the Town, particularly in addressing its TMDL wasteload allocations.

Municipal Separate Storm Sewer Systems (MS4) Permit Program Components

MCM 1 and MCM 2 – Public Education & Outreach and Public Involvement and Participation

Some of the components of the MCM 1 and MCM 2 are implemented through contractual services with Clean Valley Council (CVC) and Roanoke Valley Television (RVTV) along with Roanoke County and City of Roanoke.

MCM 3 – Illicit Discharge Detection and Elimination

Accurate storm sewer system map and information table need to be completed, maintained and updated. The need to continue to identify other point of discharge and minimize non-stormwater discharges into storm sewer systems by performing dry weather field screening of outfalls.

MCM 4 – Construction Site Stormwater Runoff Control

Roanoke County is the Town's ESC agent. Town's continued coordination with County staff is handled by the Planning and Zoning Department for the implementation, administration and reporting requirements of this MCM.

MCM 5 – Post-Construction Stormwater Management in new Development and Development on prior Developed Land

The Town is to operate state compliant VSMP. Some components of this MCM are to be handled by County of Roanoke through MOUs. All stormwater BMPs need to be inspected once for every five years for private BMPs, and every year for public BMPs.

MCM 6 – Pollution Prevention/Good Housekeeping for Municipal Operations.

As of April 2014, Town of SOP was developed and implemented to minimize and/or prevent pollutants from daily town operations. As of July 1, 2014, all town high priority facilities have been identified and Stormwater Pollution Prevention Plan (SWPPP) was completed for one facility, Public Works Building. As of July 1, 2014, annual training plan for Town employees has been developed and implemented. Additionally, Vinton War Memorial is the only Town-owned property that needed a Nutrient Management Plan (NMP), which was completed by July 1, 2015.

Name of High-Priority Facility	Activities that Make It High-Priority	High Potential of Discharging Pollutants (Yes or No)	Reasons for High Potential/Or Not	Scheduled SWPPP Development
1. Public Works Building: Fueling Center; Parking Areas; Secondary Containment Areas; Garage/Service Bay; Workshop/Maintenance Area	Fueling Area; Parking Areas; Inside/Outside Storage Areas; Vehicle/Equipment; Maintenance Area	Yes	Fueling activities; parking areas; storage areas; vehicle/equipment maintenance;	By July 1, 2015
2. Outdoor Storage of Construction Materials	Outdoor Storage	Yes	Outdoor storage of construction materials	By July 1, 2016
3. Road Salt and Vehicle/Equipment Storage	Storage of salt and vehicle/equipment	Yes	Chemical and storage of vehicle/equipment	By July 1, 2016
4. Organic Materials Collection Site	Outdoor storage	Yes	Organic leachate	By July 1, 2017
5. Vehicles/Equipment Storage	Indoor and outdoor storage	Yes	Storage of vehicles/equipment	By July 1, 2017

Total Maximum Daily Load (TMDL) Action Plans for Sediment and E. coli Reductions Program Components

Note that all of the BMPs used to address sediment are also effective in addressing the Town’s E.coli wasteload allocations.

BMP Designation	BMP Name/Task	Implementation Dates (Start – Finish)
BMP 3-3	MS4 Outfall Inspection	Underway
BMP 3-4	Illicit Discharge Detection and Elimination Program	Underway
BMP 4-3	Erosion and Sediment Control (ESC) Plan Review	Underway – Roanoke County
BMP 4-4	Erosion and Sediment Control (ESC) Inspection	Underway – Roanoke County
BMP 4-5	Erosion and Sediment Control (ESC) Compliance and Enforcement	Underway – Roanoke County
BMP 5-1	Stormwater Management (SWM) Ordinance and Manual	Underway
BMP 5-2	Stormwater Management (SWM) Plan Review	Underway

BMP 5-3	Stormwater Management Facility (SWMF) Construction Inspection	Underway
BMP 5-4	Stormwater Management Facility (SWMF) Post-Construction Inspection	Underway
BMP 5-6	Strategies to Encourage Long-Term Maintenance of Single-Family Residential Structure Stormwater Control Measures	Underway
T-1	Initial Streams Assessment and BMP Planning	Begin Fall of 2016 Anticipated completion Fall of 2018
BMP 1-1 to BMP 1-6:T-2	Enhanced Public Education and Outreach	Underway
BMP 6-3	Public Street Sweeping	Underway
BMP 6-4:T-3	Enhanced Stormwater Training Program for Town Employees	Underway
BMP 6-6	Standard Operating Procedures (SOPs)	Underway
BMP 6-7:T-4	Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities <u>Town Facilities Assessments and Corrections</u> <u>Screen Facilities/Schedule Assessments</u> Perform 1 Assessment – Public Works Building: Facility # 1 Perform 2 Assessments – Outdoor Storage of Construction Materials: Facility # 2 and Road Salt & Vehicle/Equipment Storage: Facility # 3 Perform 2 Assessments – Organic Materials Collection Site: Facility # 4 and Vehicles & Equipment Storage: Facility # 5	Underway <u>Completion Date:</u> By June 2015 By June 2016 By June 2017
BMP 6-8	Nutrient Management Plan (NMP)	Completed Vinton War Memorial is the only town-owned property of contiguous area of an acre or more, where nutrients are being applied on. The application is on as needed basis.
BMP 6-9	Responsible Land Disturber	Underway – Town of Vinton/Roanoke County
T-5	Enhanced Illicit Discharge Detection and Elimination Program	Begin July 2017
T-6	Erosion and Sediment Control Enhanced Enforcement Evaluate Policies Implement Changes (If Needed)	By June 2017 To Be Determined
T-10	Stream Buffers Research Ordinances Identify possible Impacted Properties Obtain Public Input Discuss with Town Council Prepare Ordinance for Town Council Consideration	By June 2017 By June 2017 By December 2017 By December 2017 By June 2018
	Capital Improvements Identify Feasible Capital Projects	Identify Initial Capital Project by June 2018.

	Construction	To Be Determined
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Stormwater Program Costs and Action Plan

The above stormwater management requirements and regulations increased staff responsibilities due to: MS4 and TMDL program implementation compliance; project reviews and coordination; specialized inspections; public awareness and education; record keeping and documentation; bonding and surety; enforcement actions; and Town liability.

Since March 2003, the Planning and Zoning staff has been responsible in the administration of the stormwater program requirements. The permit cycle runs for five years: 2003-2008; 2008-2013, and 2013-2018. As of July 1, 2014, the Town, like the rest of the MS4s localities, became the VSMP authority, which means the Town is responsible for accepting and administering the VSMP permit application for construction activities in addition to enforcing the new SWM regulations. As of July 1, 2015, under the VSMP and MS4 permits program requirements, a TMDL Action Plan for E. coli reduction in the Roanoke River, Tinker and Glade Creeks and a TMDL Action Plan for Sediment reduction in the Roanoke River were prepared and submitted to DEQ. The MS4, VSMP and TMDL program requirements require an annual report to be submitted to DEQ by October 1st of each year.

The initial/2003 MS4 permit fee was \$600.00. The MS4 permit reissuance fee in 2013 was \$4,000.00, which was in addition to the annual MS4 permit maintenance fee of \$3,000.00.

On September 17, 2013, authorization was given by Town Council for the Town to be included in the SWM Program Development Study/Stormwater Utility Feasibility Study by AMEC.

At the conclusion of the January 9th the County Stormwater Advisory Committee (SAC) meeting, there seemed to be a consensus among the SAC members (1) on continuing to explore a stormwater utility fee to fund the stormwater program; and, (2) on the following points:

- The County/Town should fund stormwater through a dedicated fund and move it out of the general fund.
- The County/Town should fund stormwater through a utility structure because of equity.
- Non-profits should not be excluded from paying for stormwater.
- The County/Town should establish a credit program to encourage stormwater management measures by property owners.
- The County’s general fund taxes should be decreased if the entire stormwater program is funded through a dedicated fund – Beginning July 2003; the County has been allocating \$200,000 a year for stormwater program administration.

Stormwater Utility Fee

1. Distribute cost based on impervious cover.
2. Rate structure depends on goals and available impervious surface data.

3. Key considerations:

- Tax-exempt properties do pay.
- Nexus between programs need ad fees paid by property owners.
- Funds are legally segregated from other uses.
- Does provide credit for on-site stormwater facilities
- Allows for greater program stability.
- More complex – requires ordinance and ability to track changes to impervious areas.



Current Program Costs

■ *Vinton - Estimated Cost*

- Based on employee time spent on stormwater related tasks and operating expenses related to stormwater (supplies, equipment, materials, etc.).
- Development services for stormwater provided by the County.

	Administration	Development Services	MS4 and TMDLs	Infrastructure Maintenance & Improvements	Total
Personnel	\$25,312		\$30,532	\$181,390	\$237,235
Operating			\$106,551	\$35,610	\$142,161
Total	\$25,312		\$137,083	\$217,000	\$379,396

Stormwater Utility Rate Options:

1. Fixed Unit for Single Family Detached (SFD) Residential: Equivalent Residential Units (ERUs). Median impervious for SFD in the Town of Vinton = 2,500 square feet. All SFD pay the same flat rate. Other pay based on number of ERUs. Annual rate per ERU **\$88.92 (Year One) and \$78.24 (Year Five)**.
2. Billing Unit Based on Impervious Area: Everyone pays based on impervious cover on their property, regardless of land use. City of Roanoke used 500 square feet. Annual rate per 500 square feet (all properties) **\$16.56 (Year One) and \$14.52 (Year Five)**.