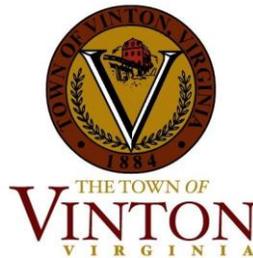


**TOWN OF VINTON, VIRGINIA**  
**Virginia Stormwater Management Program (VSMP)**  
**General Permit for Discharges of Stormwater from Small**  
**Municipal Separate Storm Sewer System (MS4)**  
**Program Plan**  
**Updated for 2018-19 reporting period**



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**Virginia Department of Environmental Quality (DEQ)**  
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**901 Russell Drive**  
**Salem VA 24153**

**Pursuant to General Permit Number VAR040026**



# **TOWN OF VINTON MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PROGRAM PLAN**

## **Introduction**

This document represents the Town of Vinton’s plan to meet the requirements of 4VAC50-60 “General Virginia Stormwater Management Program (VSMP) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)”. The Town was originally issued a VSMP permit effective July 8, 2003 (Permit No. VAR040026) and successfully met the requirements over the initial five year permit period. The VSMP permit was re-issued on July 14, 2008 and expired on July 8, 2013. The third VSMP permit was re-issued on July 1, 2013 and will expire on June 30, 2018. The fourth VSMP permit was re-issued on July 1, 2018 and will expire on June 30, 2023. While the basic framework has not changed, several permit modifications require changes to the Town’s stormwater management program. This plan demonstrates how the Town will meet the new requirements through 2023.

Mandated by Congress under the Clean Water Act and implemented in Virginia by the Department of Environmental Quality, the VSMP permit regulations are design to protect water quality from urban stormwater pollution. Stormwater runoff from urban areas may contain sediments, fertilizers, pesticides, bacterial, motor oil, and other pollutants generated by various land uses and human activities. When left uncontrolled, this pollution can result in the impairment and/or destruction of aquatic habitats; a loss in aesthetic value; and threats to public safety and health by contaminating food, drinking water supplies, and recreational waterways.

The Town is committed to continuing the development, implementation, and enforcement of its Municipal Separate Storm Sewer System (MS4) Program that is designed to reduce the discharge of pollutants from the regulated MS4 and to addressing impaired waters that the MS4 discharges into, to the maximum extent practicable (MEP). The main goal of this program is to protect water quality, and to improve waters into which the regulated small MS4 discharges. This program is also designed to meet the appropriate water quality requirements of the Clean Water Act (CWA), Virginia Stormwater Management Act, and associated regulations.

Since 2003, the Town has and continues to develop a comprehensive plan to meet the conditions of the MS4 permit to the maximum extent practicable as outlined in six minimum control measures (MCMs) practices:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination;
4. Construction Site Stormwater Runoff Control;
5. Post-Construction Stormwater Management in New Development and Development on Prior Developed Lands; and
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

In addressing these six minimum control measures, the Town emphasizes the importance of lowering sediment, bacteria, and PCB discharges to the storm sewer systems in accordance with the approved TMDLs within the Town.

The Town has engaged in an extensive review and assessment of the existing stormwater management operations, ordinances, protocols, and programming against the VSMP permit compliance requirements. Based on that review and assessment, the Town has developed appropriate and cost effective best management practices (BMPs) with the goal of controlling pollution to the maximum extent practicable.

## **Community Profile**

The Town has a population of 8,098 based on 2010 Census; contains 3.2 square miles in area; and 90 miles of roadways. Based on the 2003 land use survey, the Town's developed land use can be categorized as follows: Residential 51%; Commercial 8%; Industrial 6%; Public/Semi-Public 14%; and Transportation 21%. The undeveloped/vacant land is about 16% and consists of heavily wooded areas with steep slopes that are not optimal for development. Majority of the residential areas were developed before the Town adopted the stormwater quality management requirements in 2008 under the VSMP Phase II requirements.

The Town owns and maintains its roadway systems, solid waste collection operation, and provides water and sewer system services to both Town and East Roanoke County residents. The Town pumps its sewage to the Roanoke Regional Wastewater Treatment Plant located in the City of Roanoke. The Town owns and operates its water system, which uses a series of ten wells drawing ground water from the Falling Creek Aquifer.

The Town transports its solid waste to Tinker Creek Transfer Station, which is owned and operated by the Roanoke Valley Resource Authority (RVRA) and funded by the City of Roanoke, County of Roanoke, City of Salem, and Town of Vinton.

## **Town of Vinton's Stormwater Management Program**

The Town's commitment to establish and sustain a comprehensive program that protects the Town's stormwater quality has been made through strong regional cooperation for the implementation of the minimum control measures practices. The Town has and continues to partner with the County of Roanoke in the stormwater management program. The County of Roanoke continues to provide services to the Town through already in place agreements such as erosion and sediment control administration; schools, parks, recreation and tourism services and administration; building review, inspections, and approval services and administration, and memoranda of understanding to provide stormwater management plan review services and stormwater management best management program (BMP) facilities inspections.

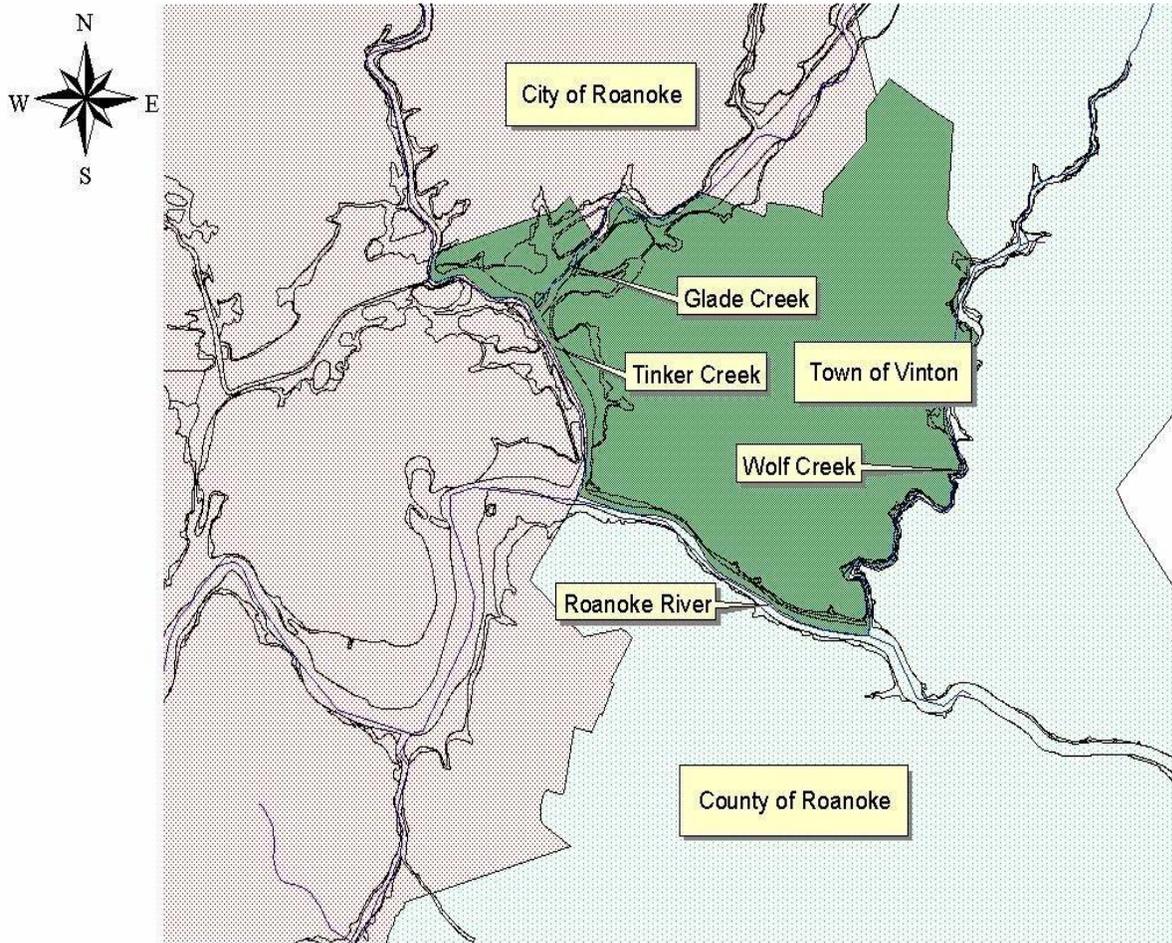
The Town intends to continue its participation in regional efforts to educate the general public and developers. These efforts are in cooperation with Roanoke County and City of Roanoke, and other regional organizations such as the Clean Valley Council (CVC), Roanoke Valley Resource Authority (RVRA), Roanoke Valley Television (RVTV) Channel 3, Roanoke Valley Alleghany

Regional Commission (RVARC), Upper Roanoke River Roundtable (URRR), Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council (RVUFC), Western Virginia Water Authority (WVWA), and Blue Ridge Land Conservancy. Strong regional cooperation is instrumental in minimizing pollutants in the Roanoke River, creeks and streams, and providing Roanoke Valley citizens with clean water now and into the future.

The Town seeks to implement a comprehensive stormwater management program that addresses stormwater quality and quantity, and protects aquatic habitats through positive action. The Department of Planning and Zoning is responsible for overall coordination of VSMP compliance.

### **The Town of Vinton's Physically Interconnected MS4's to which It Discharges**

The Town is located in Roanoke County, bordered on its western and northern limits by the City of Roanoke. To the east, lie Roanoke County and the southern border lies along the Roanoke River and Roanoke County. The northwest and west portions of the Town are bordered by Glade Creek and Tinker Creek; the eastern portion is bordered by Wolf Creek; and the southern portion is bordered by Roanoke River. The Town's stormwater outfalls discharging to the waters of the state: Glade Creek, Tinker Creek, Wolf Creek and Roanoke River; see Figure 1.



**Figure 1. Map of Interconnected MS4s and Receiving Waters for the Town of Vinton Watershed Summary**

This section details a list of all known waters currently receiving discharges or that have potential to receive discharges from the regulated small MS4. The following Table 1 lists the waterways and the Hydrologic Unit Codes (HUC) as identified in the most recent version of the Virginia’s 6<sup>th</sup> Order National Watershed Boundary Dataset and the estimated drainage areas in the Town of Vinton, served by the regulated small MS4 discharging to these surface waters.

**Table 1: Town of Vinton Watersheds HUC’s, Impaired Receiving Waters, and Drainage Areas**

Watershed	Hydrologic Unit	Impaired Receiving Waters	Drainage Area (Estimated in Acres)
Glade Creek	RU13	Glade Creek	711
Roanoke River	RU14	Roanoke River	148
Tinker Creek	RU13	Tinker Creek	489
Wolf Creek	RU14	Roanoke River	663

## **Description of Land Use for Each Watershed Discharging to Impaired Receiving Waters**

### **Glade Creek:**

The Glade Creek watershed is a 33 square mile drainage basin located in northeast Roanoke County, northeast Roanoke City, and northwest Vinton which also stretches into Botetourt County. Glade Creek originates in the Blue Ridge Mountains near Curry Gap and flows southwesterly until its confluence with Tinker Creek. **Cook Creek** is a tributary on the northwestern reach of Glade Creek. The Glade Creek watershed contains fifteen land uses, but the four major land uses are: woods, agriculture, 1/2- acre and 1/4- acre residential lots and commercial development. Approximately 50% of the watershed consists of wooded areas, 20% of the watershed is agriculture, 15% of the watershed is residential, and 5% is commercial. The remaining 10% of the watershed consists of pasture, brush, industrial development and open space. Glade Creek has been listed as impaired and has a wasteload allocation for E-coli from a TMDL report that was completed in 2004.

### **Tinker Creek:**

The Tinker Creek watershed is a 112 square mile watershed located in northeast Roanoke County, northeast Roanoke City, northwest Vinton and southeast Botetourt County. The Tinker Creek watershed originates on Tinker Mountain near Mt. Union at an elevation of approximately 2400 ft and flows in a southerly direction until its confluence with the Roanoke River. There are four significant streams that drain the Tinker Creek watershed: **Carvin Creek, Glade Creek, West Tinker Creek, and Lick Run.**

The Tinker Creek watershed consists of sixteen existing land uses but only 3 predominate: woods, agriculture and 1/4- acre residential lots. Approximately 50% of the watershed is wooded. Agricultural land use comprises approximately 25% of the watershed. Approximately 10% of the watershed is comprised of 1/4- acre residential lots. The remaining 15% of the watershed consists of mainly open space, commercial areas, 1/2- acre residential lots and industrial areas. Tinker Creek has been listed as an impaired water (Category 5A) for Benthic, (Category 5C) for temperature; and has a TMDL wasteload allocation for E-coli from a TMDL report completed in 2004. A wasteload allocation for PCBs from a TMDL report completed in 2010 but the study left out the PCB WLA for the Town of Vinton.

### **Wolf Creek:**

The Wolf Creek watershed is a 4.9 square mile drainage basin located in eastern Roanoke County, and east Vinton. The Wolf Creek basin originates in the Blue Ridge Mountains at Stewart Knob at an approximate elevation of 2435 ft and flows in a southwesterly direction until its confluence with the Roanoke River.

The Wolf Creek watershed contains eleven land uses, but only 5 predominate: woods, agriculture, and 1/2- , 1/3- and 1/4- acre residential lots. Approximately 40% of the watershed is comprised of wooded areas, 20% is agricultural and 25% is 1/4- acre residential. One half- and 1/3- acre residential land uses each comprise about 5% of the watershed. The remaining 5% of the watershed consists of the other 6 land uses: pasture, commercial, open space, 1- and 2- acre residential and paved areas. Wolf Creek directly discharges to the impaired receiving waters of the Roanoke River. Wolf Creek

has a wasteload allocation for PCBs from a TMDL report completed in 2010 but the study left out the PCB WLA for the Town of Vinton.

**Special Requirements for Impaired Waters and Strategies to Ensure Program Consistency with TMDL Assumptions**

While the focus of the Town’s VSMP permit is on pollution prevention, the permit requires special measures to address water bodies that are already identified as impaired on the DEQ’s 303(d) list. In addition, the permit provides for specific action when a Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA) has been assigned for a specific pollutant of concern. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards.

The Town of Vinton has several local creeks that have a TMDL completed at the time when the MS4 permit was issued. The creeks, associated pollutants, and waste load allocations are listed below. Table 2 lists all the current wasteload allocations for the Town watersheds with completed TMDL

**Table 2: Wasteload Allocations for the Town of Vinton Watershed with Completed TMDLs**

<b>TMDL Waterways and Tributaries*</b>	<b>Year Completed</b>	<b>Parameter</b>	<b>WLA</b>
<i>Tinker Creek Watershed</i>	<b>2004</b>	<b>E.Coli (EC)</b>	
Glade Creek			8.78E+10 cfu/year
Tinker Creek			3.42E+11 cfu/year
<i>Roanoke River Watershed</i>	<b>2006</b>	<b>E.Coli (EC)</b>	
Roanoke River			3.32E+10 cfu/year
<i>Roanoke River Watershed</i>	<b>2006</b>	<b>Sediment (SED)</b>	
Roanoke River			119.3 tons/year

**\*This information is based upon DEQ list of approved and draft TMDL's at <http://www.deq.state.va.us/tmdl/develop.html> for streams located within the urbanized Town of Vinton as define by the 2010 Census**

**Schedule to Update Town of Vinton MS-4 Program Plan**

This Program Plan, revised for 2019, contains updates as required by the 2013 General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s). The Town intends to continue to update its MS4 Program Plan as required by Table 1 of the 2013 General Permit for Discharges of Stormwater from Small MS4s.

**Inter-Jurisdictional Cooperation**

The Town of Vinton regularly meets with Cities of Roanoke and Salem, and the County of Roanoke to discuss our common water quality issues and to coordinate our MS4 activities to the extent that is appropriate. The Town, City of Roanoke, and County of Roanoke have jointly contracted with a local non-profit organization, Clean Valley Council (CVC) to provide region-

wide education and outreach programs. A copy of the contract agreement between the Town and CVC is attached.

## **MINIMUM CONTROL MEASURES TO ADDRESS STORMWATER QUALITY**

The following sections describe the best management practices (BMPs) that the Town of Vinton will utilize and implement to meet each of the six minimum control measures (MCMs). Included with each BMP is a description of:

- The objective and expected results of each BMP in meeting the measurable goals of the minimum control measures.
- The implementation schedule for the proposed BMP.
- The parties responsible for BMP implementation; and
- The method that will be used to document BMP implementation, including policies, ordinances, schedules, inspection forms, and written procedures, and to determine the effectiveness of the BMP.

The following Minimum Control Measures (MCMs) describe the actions that the Town intends to use to develop, implement, and enforce its MS4 Program, which are all designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP). The measures will also be employed to protect water quality and comply with the current water quality standards and requirements determined by the Clean Water Act and its attendant regulations.

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 Development on Prior Developed Lands

MCM 6: Pollution Prevention and Good Housekeeping for Municipal Operations

TMDL: Special Conditions for Approved TMDLs other than Chesapeake Bay

**This MS4 Program Plan has been revised in accordance with the General Permit requirements. Items in italics were required to be completed by the end of permit year 1. Other requirements are due as noted.**

MCM 1 - As required by Section II B 1 of the General Permit,

1. *Revise Public Education and Outreach Plan*
  - a. *Identify three (3) high-priority water quality issues.*
  - b. *Identify and estimate the population size of target audiences for each high-priority water quality issue.*
  - c. *Develop relevant messages and associated outreach strategies to reach target audiences.*

- d. *Provide for public participation during public education and outreach program development.*
- e. *Annually conduct sufficient education and outreach activities to reach 20% of each target audience.*

MCM-2 – As required by Section II B 2 of the General Permit

- 1. *Increase the number of public events from one (1) per year to four (4)per year.*

MCM 3 – As required in Section II B 3 of the General Permit,

- 1. *Provide written Illicit Discharge Detection and Elimination Procedures.*
  - a. *The Program Plan includes all procedures developed by the operator to detect, identify, and address nonstormwater discharges to the MS4.*

MCM 5 – As required in Section II B 5 of the General Permit,

- 1. *Individual Residential Lot Criteria*
  - a. *The Town may develop and utilize strategies other than maintenance agreements, such as periodic inspections, homeowner outreach and education, and other methods targeted at promoting the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot.*
- 2. *Stormwater Management Inspection Procedures for Operator-Owned Stormwater Management Facility.*
  - a. *A list of the applicable legal authorities to ensure compliance with post-construction stormwater management in new development and development on prior developed lands.*
  - b. *Written policies and procedures utilized in conducting design reviews.*
  - c. *Written inspection policies and procedures utilized in conducting inspections.*
  - d. *Written procedures for inspection, compliance and enforcement to ensure maintenance is conducted on private stormwater facilities.*
  - e. *Written procedures for inspection and maintenance of Town-owned stormwater facilities.*
  - f. *Roles and responsibilities of each of the Town’s departments in implementing requirements associated with post-construction stormwater management in new development and development on prior developed lands.*
- 3. *Progressive Compliance and Enforcement*
  - a. *By the end of permit year 2, the Town may develop a written progressive compliance and enforcement policy.*

MCM 6 – As required in Section II B 6 of the General Permit,

- 1. *Stormwater Pollution Prevention Plans (SWPPPs)*
  - a. *Identify all municipal high-priority facilities.*
  - b. *Identify which of the municipal high-priority facilities have a high potential for discharging pollutants.*

- c. By the end of permit year 4, prepare and implement SWPPPs for each municipal high-priority facility that has a high potential for discharging pollutants.
- d. Keep each SWPPP updated and utilize as part of staff training.
- 2. Nutrient Management Plan (NMP)
  - a. *Identify all lands of 1 acre or more where nutrients are applied.*
  - b. By the end of permit year 2, 15% of identified acreage must be covered by a Nutrient Management Plan.
  - c. By the end of permit year 3, 40% of identified acreage must be covered by a Nutrient Management Plan.
  - d. By the end of permit year 4, 75% of identified acreage must be covered by a Nutrient Management Plan.
  - e. By the end of permit year 5, 100% of identified acreage must be covered by a Nutrient Management Plan.
- 3. Training Schedule and Program
  - a. *Annual written training plan.*
- 4. Daily Good Housekeeping Procedures
  - a. By the end of permit year 2, develop and implement written procedures to minimize or prevent pollutant discharge from daily operations such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers.

TMDL – As required in Section I B of the General Permit

- 1. By the end of permit year 2, develop updated TMDL Action Plans for Sediment and E-coli.

## ***MCM 1: PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS***

The Town of Vinton, Roanoke County, and City of Roanoke entered into a contract agreement with Clean Valley Council (CVC), Inc., since August 2006 to help fulfill most of the Best Management Practices (BMPs) within the MCM 1 and MCM 2. The MCM 1 is intended to implement a public education program to distribute and make available educational materials to the community and conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

A mix of best management practices (BMPs) has been chosen to target school children through outreach programs in the Roanoke County School System which include the Town of Vinton. Homeowners, restaurateurs, industries and the general public will also be targeted through wastewater education, public forums, and Save Our Streams (SOS) field days. A list of programs or BMPs to meet these educational, and outreach measures is:

### **BMP 1-1. Stormwater Educational Resources, Publications, and Programs Review**

Update and distribute a comprehensive review of existing stormwater educational programs available to Town of Vinton and the Roanoke Valley area. Revised to coordinate with BMP 1-5.

### **BMP 1-2. Development and Distribution of Stormwater Educational Materials**

Develop and distribute a Roanoke County Stormwater Informational Mailer to Town of Vinton Residents and Businesses. Revised to coordinate with BMP 1-5.

### **BMP 1-3. Stream School Seminars – Stream Monitoring and Education**

On behalf of Town of Vinton, Clean Valley Council will provide stream monitoring and informational stream seminars for Town of Vinton residents.

### **BMP 1-4. Stormwater Educational Programs and Activities**

Develop and implement a stormwater educational program for Town of Vinton/Roanoke County school age children. Different programs will target appropriate grade levels. Revised to coordinate with BMP 1-5.

### **BMP 1-5. Stormwater Public Awareness Programs**

Develop and implement a Stormwater Public Awareness Program that includes the distribution of stormwater merchandise, public service announcements, and other high visibility educational media.

This program has been revised by identifying at least three (3) High Priority Water Quality Issues and their respective Target Audiences; and development of appropriate messages and media to target these issues and audiences.

**BMP 1-6. Town of Vinton Stormwater Webpage where Citizens Can Obtain Information Concerning the Town’s Stormwater Management Program, Ordinances, Design Guidelines, Contact Information, Educational Programs, and Links to Other Organizations and Web Sites**

Maintain and expand the Town’s Stormwater webpage that informs the public about water quality, community-based outreach and local projects. Revised to coordinate with BMP 1-5.

Included in this document is a detailed description of the objective and measurable goal of each BMP; the strategies to ensure consistency with the identified local TMDLs; the responsible parties, and the applicable supporting documents that include contract agreements, policies, ordinances, inspection forms, written procedures, and other documents necessary for the implementation of the BMPs.

**BMP 1-1. Stormwater Educational Resources, Publications, and Programs Review**

**Goal:** To continue to update and distribute a list of current publications, educational programs, websites, videos, maps, and training opportunities that directly address stormwater issues such as stormwater management, stormwater quality, impaired water bodies, floodplain management, pollution prevention, conservation practices, and riparian habitat protection. The target audiences and messages shall be coordinated with BMP 1-5.

**TMDL Consistency:** The sources to be made available on the Town’s websites will provide extensive educational material concerning the damage pet waste and sediment can do to the waterways (EC/FC, SED). The website will provide links to Roanoke County and state erosion and sediment control regulations for developers that are interested in ways to stabilize a construction site, etc.

**Responsible Party:** Department of Public Works and Clean Valley Council, Inc.

**Schedule and Evaluation:** The Town has created and maintained this education programs review in the form of a stormwater programs database. The database will continue to document educational programs, brochures, pamphlets, videos, maps, and training opportunities related to stormwater quality, stormwater management, floodplain management, pollution prevention, conservation practices and riparian habitat. The Town proposes to continue to maintain and update this stormwater programs database.

The database is accessible through Town’s website and includes instructions on accessing the variety of educational materials located on the site. At the end of each annual period, the Town will analyze website usage to determine the most effective format in which to distribute the list of programs. The Town along with Roanoke County is planning to form target groups based on website usage to distribute specific program lists to libraries, schools and/or public organizations. The Town will submit a copy of this database, documentation of the number of visits, and provide the website where the stormwater programs database can be found.

**Supporting Document:** Town of Vinton and Clean Valley Council Cooperative Agreement.

**Measurable Goal:** Success of this BMP will be measured by tracking website usage and documentation of the number of programs lists distributed.

**Items to be Reported in the Annual Report:** Listing of documents available in the database, documentation of number of visits, and website address. Evaluation and modifications to this BMP based on results of analysis of the measurable goals.

## **BMP 1-2. Development and Distribution of Stormwater Educational Mailers for Town Residents and Businesses**

**Goal:** To continue to develop stormwater educational mailer for general public and for specific commercial businesses. The material will be designed as a regional document and will touch on the stormwater program, general stormwater quality education, updates of local impaired water bodies, and TMDL's. It will be based on the unique issues and concerns for the Roanoke River Watershed. Specific businesses will be targeted in an effort to increase business owners' awareness of the impacts of illicit discharges into the Town's storm sewer systems. The messages for the mailer will be coordinated with the high-priority water quality issues identified in BMP 1-5.

**TMDL Consistency:** The educational mailer will provide information on pet waste (EC/FC), sediment (SED), hazardous waste, stormwater management facility maintenance guide, and other applicable stormwater outreach programs.

**Responsible Party:** Department of Public Works and Clean Valley Council, Inc.

**Schedule and Evaluation:** The Town will continue to provide its citizens an annual calendar in early December of each year. The calendar provided information on stormwater program such as special refuse pick-ups, household hazardous waste and recycling collections, and list environmental events in the Town and Roanoke Valley.

The Town will continue to develop a list of target businesses and distributing information to business owners and their personnel. The number of phone calls and emails received shows that the mailer, calendar, etc. serve as an effective format to distribute stormwater information.

The Town proposes to continue to educate Town's residents and businesses on its stormwater program through this educational mailers and business education program. Additionally, the Town will post a version of educational mailers on the website for additional outreach. At the end of each annual period, the Town will document annual distribution totals of the mailer and calendar.

**Supporting Document:** None

**Measurable Goal:** Success of this BMP will be measured by documenting the numbers of mailers and Town’s annual calendars being distributed, and specific business mailer and the list of businesses targeted.

**Items to be Reported in the Annual Report:**

- The number of mailers being distributed.
- The number of annual calendars being distributed.

**BMP 1-3. Stream School Seminars – Stream Monitoring and Education**

The Town of Vinton in cooperation with Clean Valley Council and the local chapter of the Virginia Save Our Streams will coordinate and conduct “Stream School Seminar” with school students, teachers and interested citizens during school year and at local environmental events such as the annual Fall Waterways Clean-up.

**Goal:** The goal of this BMP is to educate students, teachers, and citizens on the field procedures that have been established to determine water quality, in addition to motivating citizens to monitor waterways in their neighborhood and enhance grassroots cooperation to promote the importance of stream monitoring within the Town and East Roanoke County. These seminars and monitoring sessions will provide some field exposure to aquatic habitats, update citizens on local, state, and federal water quality regulations, and keep citizens updated on local stream health.

**TMDL Consistency:** Stream school activity allows citizens to have an understanding of the many factors that can affect the life in a stream. The effects of pet waste, stream bank erosion, and agricultural runoff are discussed during the monitoring sessions as being likely contributors to degraded water quality in receiving streams (EC/FC and SED).

**Responsible Party:** Department of Public Works, in cooperation with Clean Valley Council.

**Schedule and Evaluation:** The Town proposes to cooperate with the Clean Valley Council to educate citizens by holding stream education seminars and monitoring sessions. Special emphasis will be placed on monitoring stream segments with a TMDL designation. The Town will create a database to track the names of monitored streams and the number and type of groups participating. The database will be submitted to DEQ in the annual report.

**Supporting Documents:** Town of Vinton and Clean Valley Council Cooperative Agreement.

**Measurable Goals:** Success for this BMP will be measured by tracking the number of citizens involved in streams monitored activities. In addition, the Town will track the number of stream schools given by CVC, the number of participating students and their grade level(s).

**Items to be reported in the Annual Report:**

- Names of streams monitored in Town and East Roanoke County using the benthic macro invertebrate method.
- Number of participants in stream monitoring.
- Number of stream schools provided.

- Number of attendees present at each stream school.
- Modifications to this BMP based upon results of analyses of measurable goals.

## **BMP 1-4. Stormwater Educational Programs and Activities**

Clean Valley Council (CVC) educators under the direction of the Town, County of Roanoke, and City of Roanoke through contractual agreement, has been and will continue developing and providing programs addressing stormwater quality issues at public and private schools. Town residents are served by Roanoke County Public School in addition to a number of private and parochial schools. In conjunction with these year-long school programs, the CVC also holds an annual Earth Summit, in which select seniors and juniors from area high schools attend environmental workshops and lectures. The Town believes that this program is successful in teaching school children about stormwater issues and the benefits of healthy water bodies.

**Goal:** The Town will continue to work with CVC in developing and providing programs addressing stormwater and related water quality issues. Different programs will target appropriate grade levels and will be SOL correlated.

**TMDL Consistency:** The educational programs that have been and continue to be presented target sources of bacteria/E. Coli, sediment, and/or nutrients, such as “Indoor and Outdoor Stream Schools”, “Soil Who Need It”, “The Water Game”, “Traveling Trash”, “Drains to Rivers”, “Reeling in Runoff”, “Who Polluted the River”, “Groundwater”, “Oceans of Trash” (EC/FC, Nutrients), “Watershed to Oceans”, “Oceans of Trash”, “All About Natural Resources”, “Green Game”, “Land Use”, “Lorax”, “Environmental Science”, and “Think Earth”.– (EC/FC, SED, and Nutrients).

**Responsible Party:** Department of Public Works and Clean Valley Council, Inc.

**Schedule and Evaluation:** The Town will continue with its contractual agreement with CVC for these educational programs that are grade levels appropriate and SOL applicable. The educational programs will continue to be evaluated and new program may be incorporated to address new issues that impact the community.

At the end of each annual period, the Town will analyze the numbers of how many school programs were developed and provided and how many children were reached to determine the effectiveness of this BMP.

**Supporting Document:** Cooperative Agreement between the Town of Vinton and Clean Valley Council.

**Measurable Goal:** Success of this BMP will be measured by tracking the number of programs given and the number of children participated in the programs.

### **Items to be Reported in the Annual Report:**

- The number of programs developed.
- The number of programs offered at schools.
- The number of schools and number of children participated.

## **BMP 1-5. Stormwater Public Awareness Programs**

A Stormwater Public Awareness Program continues to be developed including the distribution of stormwater merchandise, public service announcements, and other high visibility educational media by utilizing social media marketing methods to bring stormwater quality issues to the attention of the Town's citizens.

**Goal:** The Town in cooperation with CVC, and/or RVTV will develop a Stormwater Public Awareness Program that includes distribution of stormwater merchandise, public service announcements (PSAs), and other high visibility educational media to promote the importance of stormwater quality by utilizing social media marketing methods.

**TMDL Consistency:** The Stormwater Public Awareness PSA and/or promotional merchandise that will be developed and/or given out at special events, and/or made available at public buildings will incorporate the applicable TMDLs (EC/FC and SED).

**Responsible Party:** Department of Public Works in cooperation with CVC, and/or RVTV.

**Schedule and Evaluation:** The Town finds this BMP to be effective and intends to combine the promotional merchandise BMP with the PSA BMP to create a Public Awareness Program that will incorporate the distribution of stormwater merchandise, the creation of PSAs, and work with CVC, RVTV and local TV news networks to bring stormwater quality issues to the attention of citizens of the Town.

To supplement this effort, the Town has been informed by the County that they have purchased and will be sharing with the Town a set of video programs that were designed for educating the general public on Illicit Discharge Detection and Elimination (IDDE) to the storm drainage system; such discharges include the selected three high-priority water quality issues: excess bacteria, sediment, and nutrients in stormwater. The kit includes five videos of varying run times, as shown below, which are designed to be used in specific medium/media or to reach a specific audience.

- 30 sec, for local public media (as a Public Service Announcement)
- 60 sec, for broad community audiences
- 2 min, for short presentations booths, fairs, public events
- 5½ min, for short speaker presentations or young audiences
- 10½ min, in-depth for full understanding of illicit discharge and what can be done

The Town will track the size of audiences exposed to the various videos and evaluate the response it receives from the public.

**Supporting Document:** Cooperative Agreement between the Town and CVC; and the list of the stormwater management video programs.

**Measurable Goal:** Document the type of public awareness method to be utilized, including the number of audience and any impact indicators that show how effective this method will have on the Town's residents' behavior.

**Items to be Reported in the Annual Report:**

- Annual activities.
- Proposed program changes over the permit year.
- Conclusion of effectiveness of and any modifications to this BMP based on the analysis of effectiveness.

**BMP 1-6. Town of Vinton Webpage of Town's Stormwater Management Program**

**Goal:** The Town will continue to maintain and monitor the Town's Stormwater webpage, where citizens and visitors can obtain information concerning the Town's Stormwater Management Program, ordinances, general and contact information, illicit discharge reporting form, pollution prevention information, public outreach and education, publications, resources, links to other organizations and sites, and VSMP General Permit. Additionally, the Town's website, calendar, and Facebook will also inform citizens of regional clean-up events, drug take-back events, household hazardous waste and e-cycling collection events, and other local water quality educational programs, in addition of having the capability of receiving citizens' requests and/or complaints on stormwater issues.

**TMDL Consistency:** The Town's stormwater webpage, website and Facebook posting inform and educate the general public, citizens, and visitors the overall pollution problem (EC/FC, SED) and how a citizen can prevent nonpoint source pollution through the pamphlets, brochures, flyers, PSAs. Additionally, the illicit discharge reporting form that can accessed from the Town's stormwater webpage and/or the request tracker that can be accessed from the Town's website are capable of receiving citizens' requests and/or complaints on stormwater issues.

**Responsible Party:** Department of Public Works and Department of Planning and Zoning.

**Schedule and Evaluation:** During the two permit cycles, the Town developed a stormwater webpage where citizens and visitors can obtain information concerning the Town's Stormwater Management Program. The Town proposes to continue to expand and update the website to include watershed information, floodplain management, and other water quality issues. The Town will monitor the most and least visited page to determine how to best make changes to expand the audience. The Town will submit page statistics and any intended changes to be made with annual report.

**Supporting Document:** None

**Measurable Goal:** Webpage statistics including the most and least popular materials will be analyzed for effectiveness of the website and the number of citizens' requests and/or complaints on stormwater issues received.

**Items to be Reported in the Annual Report:**

- Page statistics
- Intended changes
- Evaluation and resulting modification of this BMP based on results of analysis of measurable goal.

## **BMP 1-7. Targeted Education Program**

**\* This BMP is a joint project with the County of Roanoke. The annual mailing and/or distribution of the educational materials for this targeted education program by the County of Roanoke included the Town of Vinton households, businesses, and contractors involved in land-disturbing activities.**

**Goal:** The goal of this BMP is to develop a stormwater quality education program for specific target audiences. This BMP will provide information to these audiences in an effort to increase awareness of the impact of illicit discharges into the Town's storm sewer system from activities around the home or in connection with various business operations, and it is focused on the aforementioned three high-priority water quality issues: sediment, bacteria, and nutrients. The program is directed toward residents and certain groups of commercial, industrial, and institutional organizations that are most likely to have significant impacts to local stormwater quality. County of Roanoke included the Town's household and business owners when they do their annual mailing of these education mailers.

**TMDL Consistency:** The car wash postcard targets local businesses that may have uncontrolled discharges from vehicle washing operations, which could increase sediment discharges into local receiving waters. Therefore, these postcards address the TMDL for sediment (SED). Similarly, the restaurant postcard addresses rinsing of kitchen equipment and accessories, which may contribute bacteria to receiving waters. Thus, the restaurant postcard helps address the Town's TMDL for bacteria (EC/FC). The materials developed exclusively by the County/Town also address the TMDLs, as shown in the table.

**Responsible Party:** Roanoke County and Department of Planning and Zoning.

**Schedule and Evaluation:** The County distributes postcards on annual basis. Staff has received feedback and questions after mail-out. Effectiveness will be evaluated, and modifications to program considered. The Town will submit any intended changes to be made with annual report.

**Supporting Document:** None

**Measurable Goal:** Observe number of phone calls and other responses following the mail-out of the various materials by the County to gauge awareness about the impact of illicit discharges into the storm sewer system.

### **Items to be Reported in the Annual Report:**

- Annual activities.
- Proposed program changes over the permit year.

## ***MCM 2: PUBLIC INVOLVEMENT/PARTICIPATION***

This control measure is intended to implement a program that helps to inform and educate Town citizens about the components of the stormwater management program. Support from citizens is crucial for the success of the program. Town of Vinton along with Roanoke County, City of Roanoke, and Clean Valley Council (CVC), Inc. will continue to have the community involved with clean-up projects along local streams and riparian corridors through the annual Spring Clean Valley Day and Fall Waterways Cleanup.

To get the citizens' support, the Town has and will continue to coordinate several programs to engage citizens' interest in stormwater quality as listed:

### **BMP 2-1. A Storm Drain Marking Program**

Coordinate a storm drain marking program with area schools, organizations, and businesses to engage group involvement and educate people about the consequences of dumping waste into the storm drain system.

### **BMP 2-2. Cleanup and Environmental Events to Bring Attention to Current Stormwater Issues**

Conduct public events to bring attention to current stormwater issues and allow feedback from citizens on the condition of the Town's Stormwater Management Program, from a citizen's point of view. The 2013 General Permit increased this requirement from 1 event per year to 4 events per year.

### **BMP 2-3. Staff and Citizens Representatives in Regional Environmental Organizations**

Staff and/or Town citizens serve on the regional organizations such as Roanoke Valley Alleghany Regional Commission (RVARC), Clean Valley Council (CVC), Inc., Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council (RVUFC), Roanoke Valley Resource Authority (RVRA), and Western Virginia Water Authority (WVWA). The Town suspended **the occasional** meetings of the "Litter Task Force", in which staff and citizens met with business operators to discuss litter reduction strategies.

### **BMP 2-4. Post Town's VSMP MS4s General Permit Registration Statement and Annual Report on the Town's website for Citizen Access**

Posting of the Town's VSMP Municipal Separate Storm Sewer Systems (MS4s) General Permit and Annual Report on the Town's website which citizens may view and comment upon.

Included in this document is a detailed description of the objective and measurable goal of each BMP, the strategies to ensure consistency with identified TMDL's, responsibility party, and schedule and evaluation of the BMP to better achieve the goals of the stormwater program. The TMDL compliance is broken down by the identified impairment type: e.coli, fecal coliform (EC/FC) and sediment (SED).

## **BMP 2-1. A Storm Drain Marking Program**

**Goal:** To coordinate a storm drain marking program with local schools, neighborhood groups, businesses, and other organizations, to stencil messages on storm drains that educate people about the consequences of dumping waste into the storm drain system.

**TMDL Consistency:** The storm drain stenciling program is an outreach method to inform and remind citizens that what goes into the storm drain goes directly to local creeks and streams. The stenciling activity and message will make the citizens understand that the storm drains are not treated by the sanitary sewer, therefore they will be less likely to allow pet waste or other non-stormwater waste to enter the storm drain through the road-side inlets (EC/FC).

**Responsible Party:** Clean Valley Council with direction of the Department of Public Works

**Schedule and Evaluation:** The Town finds this BMP to be an effective method of information and distribution and proposes to continue with the coordination and implementation of this BMP. The Town will continue to document the stenciling of the storm drains as an effort to enhance the education and outreach of its stormwater management program.

**Supporting Document:** Cooperative Agreement between the Town of Vinton and CVC.

**Measurable Goal:** The Town will document the number of storm drains stenciled and the groups that participated in the stenciling program. Using these numbers as indicators, the Town will evaluate the effectiveness of this BMP.

### **Items to be Reported in the Annual Report:**

- Area of the storm drains stenciled
- Number of storm drains stenciled
- Name of the group(s) participating and number of participants in each group
- Evaluation and proposed modification of this BMP based on the above items

## **BMP 2-2. Cleanup and Environmental Events to Bring Attention to Current Stormwater Issues**

Town Staff continues to be involved in the coordination of regional cleanup and environmental events such as the annual Spring Clean Valley Day and Fall Waterways Cleanup Event; Electronic Waste Collection events; public forum on environmental issues related to water quality and impaired water bodies; Earth Summit; Better Living Expo; Energy Expo, and events on the area greenways.

The Town coordinated with CVC, Roanoke County, and City of Roanoke to conduct public forum meetings in conjunction of the Fall Waterways Cleanup and Energy Expo Events, describing what the three localities (Town, City, and County) are doing concerning stormwater management issues. The meetings allowed for input and concerns to be received on stormwater issues. After evaluating the success, these three Valley governments believe that combining the

forum with a stormwater and/or other environmental events would improve the effectiveness of the BMP by increasing public attendance.

The Town will continue to publicize its curbside recycling program and fund the recycling collection center at the Lake Drive Plaza Shopping Center in its efforts to increase awareness about the importance of recycling. The Town will continue to participate in the Annual Clean Valley Day and Fall Waterways Event. Town staff and Town-appointed citizens are also board members of the RVRA, CVC, Roanoke Valley Greenway Commission, and Roanoke Valley Alleghany Regional Commission (RVARC), which enables special environmental events and projects to be done regionally to reduce costs and reach a wider audience.

**Goal:** To continue to participate in the cleanup and environmental events to address stormwater issues including impairment to the water bodies.

**TMDL Consistency:** At least three times a year, the Town is involved in one or more regional public events to promote and celebrate Roanoke Valley's citizens' commitment to regional water quality. In addition to litter, debris, and hazardous waste, pet waste and erosion of stream banks are common themes at each of these events since these are regional water quality issues (EC/FC, SED).

**Responsible Party:** Department of Public Works in conjunction with Clean Valley Council.

**Schedule and Evaluation:** The Town finds this BMP to be an effective method in involving the citizens to address stormwater issues based on the citizens' involvement and attendance in these events. The Town proposes to participate in at least four public events to address stormwater issues and the Town's progress towards stormwater quality improvements. The Town will have an informational booth at these events to receive inputs from the public on their concerns about stormwater issues and the Town's stormwater management program. The events and number of participants/attendance will be documented.

**Supporting Document:** Town and CVC Cooperative Agreement.

**Measurable Goal:** The Town will document the details of the environmental events including cleanup events, number of participants in cleanup events, and attendance. Success of this BMP will be measured by an increase in the number of attendees at public environmental events and number of participants in the cleanup events.

**Items to be Reported in the Annual Report:**

- Name of the Environmental Events and Cleanup Events
- Attendance and number of participants in the cleanup events
- Adjustments that are proposed to be made, if needed for the next annual period.

## **BMP 2-3. Staff and Town Representatives on Environmental Related Regional Organizations**

The Town continues to have staff and/or Town citizens serve on the regional organizations such as Roanoke Valley Alleghany Regional Commission (RVARC), Clean Valley Council (CVC), Inc., Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council (RVUFC), Roanoke Valley Resource Authority (RVRA), and Western Virginia Water Authority (WVWA). The Town suspended the occasional meetings of the "Litter Task Force", in which staff and citizens met with business operators to discuss litter reduction strategies.

**Goal:** To continue to have staff and/or citizen representatives on environmental focused regional organizations to enable Town's participation in regional events and projects, and to increase wider involvement in environmental and stormwater quality issues.

**TMDL Consistency:** Each of the events makes citizens aware on the importance of taking care of the environment. The continued construction of greenways and trails in the Valley and annual event at the Roanoke River Greenway have made the residents of the Valley appreciate the trails along the local waterways for them to recreate and to keep these waterways clean from pet waste, litter, and/or excess sediment and eroded streambanks (EC/FC and SED).

**Responsibility Party:** Department of Public Works

**Schedule and Evaluation:** Based on media coverage and well attended by general public of these events, the Town finds this BMP to be an effective method by having Town's representatives serve on these regional committees. The Town will continue to have staff and appointed citizens to serve on these regional environmental committees.

**Measurable Goal:** The Town will continue to document the public involvement and participation in these regional environmental events of annual Fall Waterways Cleanup event, Clean Valley Day, E-Waste Recycling Event, Earth Day, Annual Greenway Festival by the River, Better Living Expo, and other related events.

**Items to be Reported in the Annual Report:**

- List and dates of regional environmental events.
- Number of participants in the events.
- Proposed modification to the BMP if needed, for the next annual period.

**BMP 2-4. Post Town's VSMP MS4s General Permit Statement and Annual Report on the Town's website for Citizens' Access**

The Town continues to post the Town's Municipal Separate Storm Sewer Systems (MS4) Program on the Town's website which citizens may view and comment upon. This form of public viewing will allow Town citizens to become knowledgeable about the goals of the program and have information with which to comment on existing issues and influence changes in future programs. Each annual report as required will be posted on the website to keep citizens current on annual evaluations of the program's effectiveness and any proposed changes to the stormwater program.

**Goal:** To continue to post the MS4 permit application and each subsequent annual report submitted to Department of Environmental Quality (DEQ). Each annual report will be posted on the Town's website to keep citizens current on annual evaluations of program effectiveness.

**Responsible Party:** Department of Public Works and Planning and Zoning Department

**Schedule and Evaluation:** Town proposes to post the MS4 permit application and each subsequent annual report submitted to Department of Environmental Quality (DEQ). The information will be posted no more than 30 days after the Town receives permit approval and coverage from DEQ. Each annual report will be posted to the website no more than 30 days after annual renewal date. Any appropriate correspondence between the Town and DEQ will also be posted on the website for the public to view.

**Supporting Document:** None

**Measurable Goal:** Success of this BMP will be measured by the successful posting of the MS4s permit and annual report within the 30-day period.

**Items to be Reported in the Annual Report:**

- Date of posting of the Town's MS4s permit.
- Date of posting of the MS4 Annual Report and Program Plan.
- Comments received from citizens regarding website posted MS4s documents.

### ***MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION***

The goal of this measure is to develop, implement, and enforce a program to detect and eliminate illicit discharges to the Town's storm sewer systems. The programs that have been put in place to complete this measure are listed:

#### **BMP 3-1. A Town-wide Storm Sewer System Map**

A town-wide storm sewer system map in the GIS Database has been completed for all known locations of municipal storm sewer systems. The Town storm sewer database will be maintained through Roanoke County GIS Division, so that a map of all the public storm sewers in the Town will be available to the public.

#### **BMP 3-2. The Town's Illicit Discharge Ordinance**

The adoption of an ordinance to prohibit illicit discharges and enforcement authority by the Vinton Town Council. Additionally, policy, procedures, reporting, and enforcement measures have been developed to minimize non stormwater discharges into the storm drainage system.

#### **BMP 3-3. MS4 Outfall Inspections**

The Town will design and implement a program to inspect a minimum of 50 storm drain outfalls, within its MS4 area, annually.

#### **BMP 3-4. Illicit Discharge Detection and Elimination Program**

The Town will prepare and implement written procedures to detect, identify, and address nonstormwater discharges to the MS4 system.

Included in this document is a detailed description of the objective and measurable goal of each BMP, the strategies to ensure consistency with identified TMDLs, implementation schedules, the responsible parties, and the supporting documents that include policies, ordinances, schedules, inspection forms, written procedures, and other documents necessary for the implementation of the BMPs. The TMDL compliance is broken down by the identified impairment type: e.coli, fecal coliform (EC/FC) and sediment (SED).

### **BMP 3-1. A Town-wide Storm Sewer System Map**

Roanoke County Department of Communication/Information Technology GIS Division has been responsible for Town's mapping services and needs. Since 2003, under the direction of Town Planning and Zoning Department, and now with Public Works Department, the County has developed and continues to update the Town's storm drain map.

**Goal:** To continue working with Roanoke County GIS Division in developing and updating the storm drain map which identifies all of the municipal separate storm sewers within the Town which discharge to natural drainage ways.

**TMDL Consistency:** An updated and accurate storm drain map which identifies all of the municipal separate storm sewers system will help the Town in the discovery of illicit discharge

connections (EC/FC) and the locations where sediment may be entering the regulated MS4 (SED).

**Responsible Party:** Department of Public Works using the services of the Roanoke County Department of Communications and Information Technology GIS Division.

**Schedule and Evaluation:** The Town proposes to continue this program with Roanoke County GIS Division, by expanding and updating the storm sewer map of the Town, as needed.

**Supporting Document:** Town of Vinton Watersheds and Storm Sewer System Map.

**Measurable Goals:** The Town will continue this program by expanding and updating the storm sewer map of the Town with the assistance from Roanoke County GIS Division. Success of this BMP will be measured by tracking the number of new structures added, to include stormwater BMP facility, outfalls, pipes, ditches and other conveyances, and drainage inlets.

**Items to be Reported in the Annual Report:**

- Number of new structures located.
- Analysis of progress.
- Adjustments needed to be made to the program, based on the analysis of the progress.

### **BMP 3-2. The Town's Illicit Discharge Ordinance**

The Town has established a program to detect and eliminate illicit discharges in the Town's storm sewer system by developing and adopting ordinances and regulations, and an enforcement program to minimize illicit discharges and prevent illegal discharges into the storm drain system.

Illicit discharge detection, identification, and enforcement will be addressed by Town personnel as authorized under **Article 3. Illicit Discharge Division 4. Inspections and Monitoring and Division 5. Enforcement and Penalties** of the Stormwater Management Ordinance adopted on May 20, 2014.

**Goal:** To detect and eliminate illicit discharges in to the MS4 by adopting regulations and an enforcement program to prevent illegal discharges into the storm drain system.

**TMDL Consistency:** An illicit discharge ordinance will greatly assist in the enforcement of the illicit discharges to the MS4 system. This legal method can help the Town in discontinuing existing connections and discouraging future illicit discharges to the system (EC/FC, SED).

**Responsible Party:** Department of Planning and Zoning, Department of Public Works in cooperation with Police Department, and Town Attorney.

**Schedule and Evaluation:** The stormwater management ordinance which include illicit discharge ordinance was adopted on May 20, 2014 that is in compliant with the state stormwater management regulations. Enforcement measures and penalties are included in the ordinance. The Town will update the ordinance when necessary to maintain the effectiveness of the program.

**Supporting Document:** Town of Vinton Ordinance No. 952 Stormwater Management Ordinance.

**Measurable Goals:** Success of this BMP will be measured by the continued compliance of the Town's stormwater ordinance on illicit discharge with the MS4 General Permit rules and regulations.

**Items to be Reported in the Annual Report:**

- Analysis of compliance of the stormwater management ordinance on illicit discharges.
- Any changes to the ordinance.

**BMP 3-3. MS4 Outfall Inspections**

**Goal:** To detect dry weather illicit discharges so that actions may be taken to eliminate illegal connection and/or discharges.

**TMDL Consistency:** Outfall inspections can detect an illicit discharge will greatly assist in the enforcement of the illicit discharges to the MS4 system. This inspection can help the Town in discontinuing existing illegal connections and discouraging future illicit discharges to the system (EC/FC, SED).

**Responsible Party:** Department of Public Works

**Schedule and Evaluation:** The Town proposes to continue with its MS4 outfall inspection program to detect dry weather illicit discharges that enter its municipal separate storm sewer systems.

**Supporting Document:** Copy of the inspection report.

**Measurable Goals:** Success of this BMP will be measured by field screening a minimum of 50 outfalls per year and documenting the results of these inspections.

**Items to be reported in the Annual Report:**

- The number of MS4 Outfall Inspections performed.
- A summary of the inspection results.

**BMP 3-4. Illicit Discharge Program to Minimize Illicit Discharges as defined under VSMP General Permit 4VAC50-60-400 D 2 c(3) into the regulated municipal separate storm sewer systems (MS4s)**

**Goal:** To detect, identify, and address nonstormwater discharges into the Town's regulated storm sewer system. The Illicit Discharge Detection and Elimination Program will have written procedures for the following components:

1. A prioritized schedule of field screening activities,
2. Minimum number of field screening activities to be performed annually,
3. Methodologies to collect general information,
4. A time frame upon which to conduct an investigation to identify and locate the source of any observed continuous or intermittent nonstormwater discharge.
5. Methodologies to determine the source of all illicit discharges.
6. Mechanisms to eliminate identified sources of illicit discharges.
7. Methods for conducting a follow-up investigation to verify that the discharge has been eliminated.
8. A mechanism to track all investigations to document the date(s) that the illicit discharge was observed and reported, results of investigation, any follow-up to the investigation, resolution of the investigation, and the date that the investigation was closed.

**TMDL Consistency:** An illicit discharge program will assist in locating illicit discharges to the MS4 system. This method can give staff the methodology needed to screen, target and monitor the storm drain system in the efforts to discover existing illegal connections to the Town's storm drain system (EC/FC, SED).

**Responsible Party:** Department of Planning and Zoning and Department of Public Works.

**Schedule and Evaluation:** Each incidence investigated when reported to Town staff. List of reports and resolution included in annual report.

**Supporting Document:** A copy of program written procedures is attached.

**Measurable Goals:** The Town has developed procedures to detect, address, and report illicit discharges that enter the Town's separate storm sewer system. The illicit discharge ordinance (BMP 3-2) includes procedures to address illicit discharges through enforcement process. Success for this BMP will be measured by the successful completion of the screening factors determination and by compliance with written procedures.

**Items to be Reported in the Annual Report:**

- A summary of each illicit discharge investigation including the date the suspected discharge was observed or reported, how the investigation was resolved, the resolution of the investigation, and the date the investigation was closed.

## ***MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL***

**\* The implementation of this MCM and its associated BMPs will be the responsibility of Roanoke County Department of Community Development in conjunction with Vinton Planning and Zoning Department and Department of Public Works.**

Since February 14, 1984, the County of Roanoke has been responsible for the Erosion and Sediment Control program for the entire County area, including the Town of Vinton. On May 20, 2014, the Vinton Town Council adopted Ordinance No.952 to amend the Vinton Town Code by the adoption of **Chapter 79 known as the Stormwater Management which includes Article I. Stormwater Management Ordinance, Article II. Erosion and Sediment Control, and Article III. Illicit Discharge Ordinance.** On April 5, 2016, a resolution was adopted by the Vinton Town Council for the establishment of a Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

The Town and County recognize that construction sites can deposit significant amounts of silt and sediment in stormwater runoff due to large areas of land disturbances. The goal of this MCM is to implement and enforce a program that will reduce pollutants in stormwater runoff to the regulated municipal separate storm sewer system from construction sites and activities. The programs that have been established by the County and supported by the Town to meet this MCM measure are listed below:

### **BMP 4-1. Erosion and Sediment Control Ordinance**

Establish and maintain an Erosion and Sediment Control Ordinance to require erosion and sediment controls during construction activities, as well as sanctions, to ensure compliance, under local law, for all land disturbances of 2,500 square feet or more

### **BMP 4-2. Erosion and Sediment Control Certification**

Identify County employees that require DEQ Erosion and Sediment Control training and track employees' certifications to ensure they remain current.

### **BMP 4-3. Erosion and Sediment Control Plan Review**

Develop and maintain written procedures for site plan review which addresses construction site stormwater runoff.

### **BMP 4-4. Erosion and Sediment Control Inspection**

Develop and maintain written procedures for site inspections to confirm that construction complies with approved plans and that construction site stormwater runoff is properly addressed.

### **BMP 4-5. Erosion and Sediment Control Compliance and Enforcement**

Develop and maintain written procedures for compliance and enforcement when necessary to compel compliance with construction site stormwater runoff requirements.

Town Staff continues to work cooperatively with Roanoke County in the implementation of this measure including: the review and adoption of the County's ESC ordinance; notification of any land disturbance without any permit; site and subdivision plans review process; and in the issuance of any land disturbance permit in the Town Limits. Any new development, re-development, and/or addition meeting certain criteria will require site plans be submitted for review and approval as stated in the County's and Town's codes. The site plans must be submitted to the Planning and Zoning Department and be distributed to appropriate persons for comments and review.

The Planning and Zoning Director, who is also serves as the Town's Development Review Coordinator and Stormwater Program Manager, is responsible for the review coordination, including providing written comments pertaining site plans received from applicable departments and state agencies.

The property owner/developer is also notified by the Development Review Coordinator in writing that the DEQ requires that any land disturbance of one (1) acre or greater obtain a Virginia Stormwater Management Program (VSMP) permit. On April 5, 2016, a resolution was adopted by the Vinton Town Council for the establishment of a Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton. The County became the Town of Vinton VSMP administrator as of June 1, 2016, with the approval of the State Water Control Board.

Included in this document is a detailed description of the objective and measurable goals of each BMP, the strategies to ensure consistency with identified TMDL's, the status of the Town's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the goals of the stormwater program. The TMDL compliance is broken down by the identified impairment type: e.coli, fecal coliform (EC/FC) and sediment (SED).

#### **BMP 4-1. Erosion and Sediment Control (ESC) Ordinance**

**Goal:** To maintain an ESC ordinance that will reduce pollutants in the stormwater runoff to the storm sewer system from construction activities. These regulations, included in the ESC ordinance require erosion and sediment controls as well as sanctions to ensure compliance under Roanoke County/Town of Vinton law. The ordinance requires E & S controls for all land disturbances of 2,500 square feet or more and an engineered ESC Plan for any land disturbance greater than 10,000 square feet. The E & S Plan will require construction site operators to implement appropriate ESC best management practices specific to the site. Site inspection and enforcement actions are also incorporated in the ESC Ordinance.

**TMDL Consistency:** This ordinance targets reducing sediment (SED) in stormwater runoff from construction sites. These regulations require ESC BMPs on the site as well as sanctions to ensure compliance, under the County/Town ESC law.

**Responsibility Party:** Town of Vinton Department of Planning and Zoning and Roanoke County Department of Community Development

**Schedule and Evaluation:** Roanoke Code, Chapter 8.1. Erosion and Sediment Control and Steep Development, as amended. Roanoke County’s Code **Section 8.1-2. Applicability of chapter in the Town of Vinton**, states that “The provision of this chapter shall be applicable within the corporate limits of the Town of Vinton. Administrative procedures and review fees may be established to accommodate the review of plans for development located within the Town.”

The Town believes that the ESC ordinance is critical component in reducing pollutants in stormwater runoff to the regulated small MS4 storm sewer system from construction activities.

The Town and County propose to annually evaluate this ordinance to ensure its compliance with Virginia’s Erosion and Sediment Control regulations. The Town and County will track the total number of regulated land-disturbing activities and the total acreage disturbed.

**Supporting Documents:** None

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the County’s E&S Ordinance and its continued compliance with Virginia Erosion and Sediment Control regulations.

**Items to be reported in the Annual Report:**

- Analysis of the Roanoke County Erosion and Sediment Control Ordinance and any proposed changes to the Ordinance.
- Total number of regulated land disturbing activities.
- Total acreage disturbed.

## **BMP 4-2. Erosion and Sediment Control (ESC) Certification**

**Goal:** To identify County employees that require DEQ training and certification as Erosion and Sediment Control Administrators, Plan Reviewers, and/or Inspectors; and track certifications to ensure that they are kept current.

**TMDL Consistency:** This program identified County employees that need ESC training and tracks their certifications to determine if they have lapsed in their required training and certifications. This program minimizes the locality’s site erosion potential by educating the employees on correct E & S procedures and policy (SED).

**Responsible Party:** Town of Vinton Department of Planning and Zoning and Roanoke County Department of Community Development

**Schedule and Evaluation:** The County of Roanoke has continued to allocate personnel for plan review and inspection. The County has maintained ESC Certified employees to be involved in the plan review, inspection, and enforcement processes. The Town has been informed that the

County proposes to continue this program to identify the positions needing a certified E&S employee and to identify those employees currently certified in ESC practices.

**Supporting Document:** 2016 Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCO) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

**Measurable Goals:** Success of this BMP will be measured by the County maintaining current E&S Certifications for all the County positions that are identified as needing an E&S certification.

**Items to be Reported in the Annual Report:**

- Number and title of position needing an E&S certification.
- List of employees and titles that have current E&S certification, with certification expiration dates.
- Total number of positions identified for which appropriate certifications have not been obtained, or have expired certificates.

**BMP 4-3. Erosion and Sediment Control Plan Review**

**Goal:** To ensure that the procedures for site plan review incorporate considerations for water quality impacts by addressing the most current local stormwater management regulations which are outlined in the Roanoke County/Town of Vinton Stormwater Management Ordinance.

**TMDL Consistency:** The land development procedures list the steps needed for a site plan to meet the state and local ESC and permanent stormwater management facility requirements. Keeping these procedures in compliance with any changes at the state level guarantees that site plans are reviewed by the Town and County with the most current regulations available. This program minimizes erosion and flooding potential due to the benefit of an educated engineering design team and construction crew on the Town public and private land development sites (SED).

**Responsible Party:** Town of Vinton Department of Planning and Zoning and Roanoke County Department of Community Development per agreed MOU.

**Schedule and Evaluation:** The Land Development Procedures document gives detailed instructions as to the required information needed to be incorporated in the development plan for review and approval. The Town and the County will continue to update the Land Development Procedures to ensure that the site plan review requirements and process are consistent with the most recent stormwater management regulations. As state stormwater management regulations change, the local ordinance must also be changed, and keeping the Land Development Procedures up to date makes the procedures a useful tool to utilize when developing a site.

**Supporting Document:** 2016 Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

**Measurable Goal:** Success of this BMP will be measured by the evaluation of the Land Development Procedures and its continuous consistency with the Roanoke County/Town of Vinton Stormwater Ordinance and the regulations set forth and enforced by the VA DEQ.

**Items to be reported in the Annual Report:**

- Analysis of the site plan review procedures and any proposed change.

#### **BMP 4-4. Erosion and Sediment Control Inspection**

**Goal:** To develop and maintain written procedures for inspections to confirm that construction complies with approved plans and that construction site stormwater runoff is properly addressed.

**TMDL Consistency:** The routine inspection of the site and the ESC measures as identified in the will ensure that the ESC measures are in place, therefore it will minimize erosion and flooding potential (SED).

**Responsible Party:** Town of Vinton Department of Planning and Zoning and Roanoke County Department of Community Development.

**Schedule and Evaluation:** Written procedures have been developed for site inspections.

**Supporting Documents:** 2016 Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written site inspection procedures.

**Items to be reported in the Annual Report:**

- Analysis of the site inspection procedures and any proposed changes.
- Total number of construction site stormwater runoff inspections.

## ***MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND DEVELOPMENT ON PRIOR DEVELOPED LANDS***

The Town and Roanoke County recognize that addressing water quality in post construction runoff is an important way to prevent deposition of sediment and other pollutants into our streams and river. The programs that have been established to complete this measure are listed below:

### **BMP 5-1. Stormwater Management Ordinance and Manual**

The Town of Vinton has adopted a Stormwater Management Ordinance and Design Manual, which complies with the July 1, 2014 state requirements.

### **BMP 5-2. Stormwater Management Plan Review**

Develop and maintain written procedures for site plan review which addresses post-construction stormwater.

### **BMP 5-3. Stormwater Management Facility Construction Inspection**

Develop and maintain written procedures for site construction inspections to confirm that construction complies with approved plans.

### **BMP 5-4. Stormwater Management Facility Post-Construction Inspection**

Develop and maintain written procedures for post-construction inspections of privately owned and Town-owned stormwater management facilities.

### **BMP 5-5. Stormwater Management Facility Tracking**

Develop and maintain a GIS based system to track Stormwater Management Facilities to ensure that proper post-construction inspection and maintenance is occurring.

### **BMP 5-6. Strategies to Encourage Long-Term Maintenance of Single Family Residential Structure Stormwater Control Measures**

Develop and implement strategies to promote the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot. These strategies would be used to replace recorded maintenance agreements and required Town/County post-construction inspections.

The Town will work with Roanoke County to develop programs to address the post-construction runoff with structural and nonstructural BMPs on a regional level to address the stormwater quality and impairment of water bodies. Please see 2016 Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton. This formalizes agreement for Roanoke County to provide stormwater management plan review for development plans and to provide inspection services for stormwater management facilities to the Town.

Included with this document is detailed description of each BMP, the objective, the measurable goals and implementation schedules, the responsible parties, and support documents that include policies, ordinances, schedules, inspection forms, written procedures, or other documents necessary for the implementation of the BMPs.

## **BMP 5-1. Stormwater Management Ordinance and Manual**

**Goal:** To adopt and enforce an ordinance and design manual that comply with the current VSMP requirements. These documents ensure that controls are in place that would prevent or minimize water quality and quantity impacts due to new development and development on prior developed lands.

**TMDL Consistency:** The stormwater management ordinance and stormwater design manual goal is to reduce the quantity of stormwater runoff and improving the quality of stormwater runoff from new development, redevelopment, and existing developed areas. This manual and ordinance protects against erosion from stream banks, construction sites, developed areas, and redeveloped area (SED, EC/FC).

**Responsibility Party:** Town of Vinton Department of Planning and Zoning and Roanoke County Department of Community Development.

**Schedule and Evaluation:** On May 20, 2014 the Town amended and adopted a revised Stormwater Management Ordinance and on July 1, 2014, adopted a Resolution to adopt by reference the County of Roanoke Stormwater Design Manual to reflect the changes in the state stormwater regulations, which became effective on July 1, 2014. These documents will be evaluated annually to ensure continual compliance with federal and state regulations.

**Supporting Document:** See Town of Vinton Stormwater Ordinance No. 952.

**Measurable Goal:** Success for this BMP will be measured by an annual evaluation of the Stormwater Management Ordinance and Design Manual and their continued compliance with federal and state regulations.

Beginning July 2015, Roanoke County/Town of Vinton stormwater ordinances and design manual have been updated and presented to the Roanoke Homebuilders Association for their review and input. The revised documents were adopted by Roanoke County Board of Supervisors on February 23, 2016, and on April 5, and April 19, 2016, the Vinton Town Council adopted the County's ordinance and design manual by reference. As of June 1, 2016, the County became the Town's VSMP administrator with the approval of the State Water Control Board as indicated in the DEQ correspondence dated, May 27, 2016.

### **Items to be Reported in the Annual Report:**

- Analysis of compliance of the SWM ordinance and design manual.
- Any changes that are planned to the SWM ordinance to ensure compliance with federal and state Regulations.

## **BMP 5-2. Stormwater Management Plan Review**

**Goal:** To develop and maintain written procedures for site plan review which addresses post-construction stormwater runoff to ensure consistency of reviews. On April 5, 2016, a resolution was adopted by the Vinton Town Council for the establishment of a Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

**TMDL Consistency:** The plan review will ensure the site will have in place measures to protect against erosion from the construction sites, developed areas, and/or redeveloped area (SED).

**Responsible Party:** Town of Vinton Department of Planning and Zoning and Roanoke County Department of Community Development.

**Schedule and Evaluation:** Written procedures have been developed for site plan review.

**Supporting Documents:** See stormwater management plan review written procedures, and 2016 Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written plan review procedures.

**Items to be reported in the Annual Report:**

- Analysis of the site plan review procedures and any proposed changes

## **BMP 5-3. Stormwater Management Facility Construction Inspection**

**Goal:** To develop and maintain written procedures for construction inspections to confirm that construction complies with approved plans.

**TMDL Consistency:** The construction inspection will ensure that the SWM facility is constructed according to the submitted plan to minimize pollution leaving the site (EC/FC, SED).

**Responsible Party:** Town of Vinton Planning and Zoning Department and Roanoke County Community Development Department.

**Schedule and Evaluation:** Written procedures have been developed for site construction inspections.

**Supporting Documents:** The stormwater management construction inspection written procedures, and 2016 Memorandum of Understanding (MOU) agreement between the County of

Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written site construction inspection procedures.

**Items to be reported in the Annual Report:**

- Analysis of the site construction inspection procedures and any proposed changes.

### **BMP 5-4. Stormwater Management Facility Post-Construction Inspection Program**

**Goal:** To enforce procedures for the stormwater management facility inspection program.

**TMDL Consistency:** Continuing to track and inspect permanent stormwater management facilities is vital for the long term success of the facilities and the prevention of sediment and other pollutants from being transported into the local streams and river (SED, EC/FC).

**Responsible Party:** Town of Vinton Department of Planning and Zoning and Roanoke County Department of Community Development per agreed MOU.

**Schedule and Evaluation:** The Town has conducted an inventory of the structural runoff controls and has developed procedures for the stormwater management facility inspection program. Continuing to track and inspect permanent stormwater management facilities is vital for the long term success of the facilities and the prevention of sediment and other pollutants from being transported into the local streams and river.

At a minimum all Town-owned Stormwater Management Facilities shall be inspected annually, and all privately-owned Stormwater Management Facilities shall be inspected once every 5-years.

**Supporting Documents:** 2016 Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written post-construction inspection procedures; and completion of the required post-construction inspections.

**Items to be Reported in the Annual Report:**

- Number of known stormwater management facilities in the inventory.
- Number of inspections performed, both private and public.
- Evaluation of program and any modifications to the program to improve the inspection program effectiveness.

## **BMP 5-5. Stormwater Management Facility Tracking**

**Goal:** To develop and maintain a GIS based system to track stormwater management facilities to ensure that proper inspection and maintenance is occurring.

The GIS information shall include the, unique identifier, facility type, address or latitude and longitude, acres treated including total acres as well as the breakdown of pervious and impervious acres, the date the facility was brought online (MM/YYYY) (if the date is not known use June 30, 20005), 6<sup>th</sup> order HUC, name of any impaired stream sections within the HUC, whether the facility is County or privately owned, whether or not a maintenance agreement exists if the facility is private, date of the most recent post-construction inspection.

**TMDL Consistency:** Proper maintenance of permanent stormwater management facilities is vital for the long term success of the facilities and the prevention of sediment and other pollutants from leaving the site and being transported into the local streams and river (SED, EC/FC).

**Responsible Party:** Town of Vinton Planning and Zoning Department and Roanoke County Community Development Department with the assistance of Roanoke County Department of Communications and Information Technology.

**Schedule and Evaluation:** The Town will continue to expand and update the GIS system as needed with the assistance of Roanoke County Department of Communications and Information Technology.

**Supporting Documents:** GIS Database

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written post-construction inspection procedures; and completion of the required post-construction inspections.

**Items to be reported in the Annual Report:**

- Information on Stormwater Management Facilities that have been brought online during the current reporting year.

## **BMP 5-6: Strategies to Encourage Long-Term Maintenance of Single-Family Residential Structure Stormwater Control Measures**

**Goal:** To develop and implement strategies to promote the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot. These strategies would be used to replace recorded maintenance agreements and required County post-construction inspections.

**TMDL Consistency:** Stormwater management techniques target reducing sediment in stormwater runoff from developed sites and are designed to reduce volume and velocity of peak runoff rates during and after development. By implementing strategies to promote the long-term

maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot, this BMP helps to assure that such sites are not contributing large volumes of sediment to receiving waters (SED).

**Responsible Party:** Town of Vinton Planning and Zoning Department and Roanoke County Community Development Department.

**Schedule and Evaluation:** The County and Town believe this is an effective BMP to address the maintenance of relatively simple stormwater management practices used on individual single-family residences (SFRs). However, as the County has more experience with it, revisions may be made in the future.

**Supporting Documents:** None at this time.

**Measurable Goals:** Success for this BMP will be measured by tracking the number of new residential lots covered by the strategies, proper implementation of the strategies, and evaluating the effectiveness of the strategies in promoting the long-term maintenance of stormwater control measures.

**Items to be reported in the Annual Report:**

- Number of new residential lots using the strategies each year.
- Implementation of the strategies.
- Evaluation of the effectiveness of the strategies in promoting long-term maintenance.

## ***MCM 6: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS***

The main goal of the pollution prevention and good housekeeping program is to reduce stormwater runoff pollution from the Town's day-to-day operations. The Town needs to continue to evaluate its facilities and also provide education and training programs that will educate Town employees about pollution prevention and hazardous waste. The programs that continue to be established to meet this measure are listed below.

### **BMP 6-1. Storm Sewer Systems Maintenance Program**

The Town will continue to provide storm sewer system maintenance.

### **BMP 6-2. Public Street Sweeping and Leaf Collection Programs**

The Town will continue with its street sweeping and leaf collection programs.

### **BMP 6-3. Enhanced Training Program for Town Employees**

The Town will develop and implement biennial training for applicable employees in (1) recognition and reporting of illicit discharges; (2) good housekeeping and pollution prevention practices for, (a) road, street and parking lot maintenance, (b) maintenance and public works facilities, and (c) greenway/recreational facilities; (3) spill response by emergency response employees; (4) herbicide application training when applicable; and (5) contractor oversight for environmental compliance.

### **BMP 6-4. Household Hazardous Waste Event**

The Town will continue to participate in Household Hazardous Waste Collection events to help citizens dispose of household materials that could be hazardous to dispose of in landfills.

### **BMP 6-5. Standard Operating Procedures**

The Town has developed and will implement the standard operating procedures (SOPs) for daily operations and maintenance activities that have a potential of discharging pollutants directly or with stormwater runoff into the MS4. SOPs will be used in training activities.

### **BMP 6-6. Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities**

The Town will identify all high-priority facilities that have a high potential to discharge pollutants in stormwater. Stormwater Pollution Prevention Plans (SWPPPs) will be prepared, implemented, and maintained. SWPPPs will be used in training activities.

### **BMP 6-7. Nutrient Management Plan**

The Town will identify all Town-owned lands where nutrients are applied to a contiguous area of 1 acre or more. Nutrient Management Plans will be implemented and maintained.

Included in this report is a detailed description of each BMP, the objective, the measurable goals, implementation schedules, the responsible parties, and all County support documents that include: policies, ordinances, schedules, inspection forms, written procedures, or other documents necessary for the implementation of the BMP.

## **BMP 6-1. Storm Sewer Systems Maintenance Program**

**Goal:** To continue to actively maintain the Town's storm sewer system. Keeping the storm sewer system properly maintained is very important for the Town because it keeps the regulated storm sewer working as designed, minimizing the potential for flows to surcharge or surpass the capacity of the regulated storm sewer system. The maintenance crews also have the potential of discovering illicit connections and additional areas where hazardous waste may be entering the regulated storm sewer system.

**TMDL Consistency:** This program is responsible for maintaining the regulated storm sewer system. This program involves cleaning up storm inlets, fixing eroded areas around storm drains and inlets to minimize sediment being eroded and washed into channels and streams (SED). This program also increases the potential for discovering illicit connections to the storm drain system (EC/FC).

**Responsible Party:** Public Works Department.

**Schedule and Evaluation:** The Town will continue to maintain this program of maintaining and repairing its storm sewer system to keep the system functioning properly. By being in the field, increases the opportunity to discover potential illicit discharge connections to the storm drain system. The number of large stormwater projects will be documented. In addition, the number of emergency projects and small-scale maintenance projects that the stormwater maintenance crews complete for each reporting year will be tracked.

**Supporting Document:** None

**Measurable Goal:** The success of this BMP will be measured by the continuation of this program and the increase in total value of improvements that have been completed to maintain the storm sewer system.

### **Items to be Reported in the Annual Report:**

- Total expenditures for labor, materials, and equipment to maintain the storm sewer system on an annual basis.
- Number of large projects completed.
- Number of small projects and/or emergency projects completed.

## **BMP 6-2. Public Street Sweeping and Leaf Collection Program**

**Goal:** To maintain an effective street sweeping and the leaf collection program.

**TMDL Consistency:** The street sweeping program offers the greatest benefit to capture roadway contaminants, debris, and sediment (SED) before entering the Town's storm sewer collection system. The leaf collection program minimizes leaf and yard debris that contaminated with pet waste from entering storm sewer system (EC/FC).

**Responsible Party:** Public Works Department

**Schedule and Evaluation:** Town will continue to maintain the street sweeping and vacuuming program and the leaf collection program. This program of collections of roadway contaminants, sediment, debris, leaf, yard waste, prevents them from entering the Town's storm sewer collection system.

**Supporting Document:** None

**Measurable Goal:** The street sweeping program to target weekly sweeping of all primary streets will return the greatest benefit of collecting and thus preventing roadway contaminants, sediment and debris, from entering the stormwater collection system. Other streets are swept bi-weekly or at three week intervals. The leaf collection program, which is normally done in the months of November and December, also minimizes leaf and yard waste from entering the stormwater collection system. Additionally, with the street sweeper being configured to vacuum debris from drainage inlet continues to optimize both the use and effectiveness of the Town single street sweeper and achieves desired results.

Success of this BMP will be measured mileage of streets swept; amount of debris vacuumed from drainage inlets; amount of leaf collected; and total expenses of street sweeping and leaf collection programs.

**Items to be Reported in the Annual Report:**

- Total mileage of streets swept.
- Total expense of the street sweeping program.
- Total expense of the leaf collection program.

### **BMP 6-3. Enhanced Training Programs for Town Employees**

**Goal:** To provide Town employees with adequate training to support the requirements of the General Permit and to perform their duties in a manner that protects water quality. The Town will develop and implement biennial training for applicable employees in (1) recognition and reporting of illicit discharges; (2) good housekeeping and pollution prevention practices for, (a) road, street, and parking lot maintenance, (b) maintenance and public works facilities, and (c) greenway/recreational facilities; (3) spill response by emergency response employees; (4) herbicide application training if needed; and (5) contractor oversight for environmental compliance.

**TMDL Consistency:** This program makes sure that all Fire and Rescue personnel maintains basic hazardous waste training to prevent mishandling of hazardous materials in ways that could be detrimental to the environment. The program is also responsible for education Town

employees on environmental awareness and management training. This effort targets every employee, whether they are in a high risk field or not about some good housekeeping practices. This program will train every employee to be the eyes and ears of pollution prevention. This will increase the likelihood that any potentially hazardous situation will be brought to the attention of a supervisor and adequately addressed (EC/FC, SED).

**Responsible Party:** Department of Human Resources; Public Works Department; and Fire and EMS Department.

**Schedule and Evaluation:** The Town currently maintains basic hazardous waste training for Fire and Rescue and Emergency Management Services (EMS) paid and volunteer personnel. The Town considers this BMP to be successful and proposes to continue with this program. In permit year one, a training program has been established. Beginning in permit year two, and thereafter, approximately 50% of the required training will be performed (biennial).

**Supporting Document:** None

**Measurable Goal:** The success of this BMP will be measured by the total number of employees trained.

**Items to be Reported in the Annual Report:**

- Summary Report of Training Activities, including:
  - List of training events
  - Training dates
  - Number of employees attending
  - Objective of the training

## **BMP. 6-4. Household Hazardous Waste Collection Event**

**Goal:** To encourage and identify strategies and events to help citizens dispose of household materials and waste that could be hazardous safely in bulk and out of the landfills.

**Responsible Party:** Department of Planning and Zoning and Roanoke Valley Resource Authority (RVRA)

**Schedule and Evaluation:** The Town considers this BMP to be successful and proposes to continue with the funding to keep the monthly collection at the RVRA facility. This monthly collection makes it easier for citizens to dispose of their household hazardous materials and waste. The Town continues to advertise this monthly hazardous waste collection on its website to increase participation to keep hazardous wastes from being disposed inappropriately into the Roanoke Valley streams and river.

**Supporting Document:** None

**Measurable Goals:** The success of this BMP will be measured by the continued participation in the collection of hazardous waste; types and amount of each hazardous waste collected.

**Items to be Reported in the Annual Report:**

- Number of participants participates in the collection of the hazardous waste.
- Types and amount of each hazardous waste collected.

**BMP 6-5. Standard Operating Procedures (SOPs)**

**Goal:** To develop and implement standard operating procedures (SOPs) for daily operations and maintenance activities that have a potential of discharging pollutants directly or with stormwater runoff into the MS4. SOPs will be used in training activities.

SOPs are designed to prevent pollutant discharge from (1) daily operations such as road, street, and parking lot maintenance, (2) equipment maintenance, and (3) the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers.

The SOPs shall be designed to (1) prevent illicit discharges, (2) ensure the proper disposal of waste materials, including landscape wastes, (3) prevent discharge of municipal vehicle wash water into the MS4, (4) prevent discharge of wastewater into the MS4, (5) require use of BMPs when discharging water pumped from utility construction and maintenance activities, (6) minimize pollutants in stormwater runoff from bulk storage areas; (7) prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and (8) ensure that the application of materials, including fertilizers and pesticides is conducted in accordance with the manufacturer’s recommendations.

**TMDL Consistency:** This program will train every employee to be diligent on their daily operation to minimize pollutions being discharged from their daily operations (EC/FC, SED).

**Responsible Party:** Department of Public Works, and Human Resources Specialist to provide support to other departments. Applicable departments are responsible to comply with SOPs.

**Schedule and Evaluation:** The SOPs will be implemented by next reporting annual report. The SOPs will be annually evaluated and revised as needed.

**Supporting Documents:** A copy of the SOPs is attached.

**Measurable Goals:** Employees' training on appropriate SOPs.

**Items to be reported in the Annual Report:**

- Summary report on the development and implementation of the daily operational procedures.

**BMP 6-6. Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities**

**Goal:** To identify municipal facilities that have a high potential to discharge pollutants and provide SWPPPs for them. Town of Vinton will identify all high-priority facilities that have a

high potential to discharge pollutants in stormwater. Stormwater Pollution Prevention Plans (SWPPPs) will be prepared, implemented, and maintained. SWPPPs will be used in training activities as a part of the SOP training, where appropriate.

High-priority facilities include composting facilities, equipment storage and maintenance facilities, materials storage yards, pesticide storage facilities, public works yards, recycling facilities, salt storage facilities, solid waste handling and transfer facilities, and vehicle storage and maintenance yards.

High-priority facilities that have a high potential to discharge pollutants in stormwater include the following – (1) areas where residuals from using, storing or cleaning machinery or equipment remain exposed to stormwater; (2) materials or residuals on the ground from spills or leaks; (3) material handling equipment; (4) materials or products that would be expected to be mobilized by stormwater during loading/unloading or transporting activities; (5) materials or products stored outdoors; (6) materials or products that would be expected to be mobilized by stormwater contained in open, deteriorated or leaking storage containers; (7) waste materials, except waste kept in covered non-leaking containers; (8) disposal of process wastewater; or (9) particulate matter or visible deposits of residuals from roof stacks or vents.

**TMDL Consistency:** SWPPPs is a tool to prevent the discharge of pollutants from town facilities into the waterways.

**Responsible Party:** Department of Public Works and appropriate departments are responsible to comply with SWPPPs.

**Schedule and Evaluation:** All town high-priority facilities have been identified. The SWPPPs shall be maintained thereafter.

**Supporting Documents:** None

**Measurable Goals:** Success for this BMP will be measured by the development, implementation, and maintenance of the required SWPPPs.

**Items to be reported in the Annual Report:**

- Summary Report on the development and implementation of the SWPPPs.

## **BMP 6-7. Nutrient Management Plans**

**Goal:** To ensure that excessive nutrients are not being applied to Town-owned lands.

**TMDL Consistency:** NMP aims to limit the amount of nutrient rich runoff reaching the waterways by following a site-specific, agronomical and environmentally sound NMP (EC/FC, SED, and Nutrient).

**Responsible Party:** Department of Public Works and Department of Planning and Zoning

**Schedule and Evaluation:** The Town has identified one Town-owned land, where nutrients are applied to a contiguous area of 1 acre or more – Vinton War Memorial Grounds.

**Supporting Documents:** None

**Measurable Goals:** Success for this BMP will be measured by compliance of the NMP by landscape contractor for the War Memorial.

**Items to be reported in the Annual Report:**

The total acreage where nutrient management plan is required and the acreage of land upon which nutrient management plan has been implemented.

## **ANNUAL REPORT AND PROGRAM EVALUATION**

The Town will submit annual reports to the Department of Environmental Quality (DEQ) each year covering the period of July 1<sup>st</sup> through June 30<sup>th</sup>. The reports will be submitted to DEQ no later than October 1<sup>st</sup> of each year. The information provided to DEQ will be accordance with the provisions of 4VAC50-60-1240 Section II.E.3.

## **TOTAL MAXIMUM DAILY LOAD (TMDL) ACTION PLANS**

The Town of Vinton has four TMDL wasteload allocations as described above. The MS4 General Permit requires that, each permit cycle, the Town show sufficient progress toward lowering pollutants discharged through the MS4 to meet the wasteload allocations.

The six Minimum Control Measures (MCMs), as listed address some of the pollutants of concern; however, they are basic requirements required by all Phase 2 MS4 permittees.

Additional control measures are required where DEQ has performed TMDL studies and assigned wasteload allocations to permittees. These additional control measures are documented in TMDL Action Plans that are prepared and adopted by the permittee.

The current MS4 General Permit requires that localities that have TMDLs that were approved before July 2008 have updated TMDL Action Plans completed by July 1, 2015; and that localities that have TMDLs that were approved after July 2008 have updated TMDL Action Plans completed by July 1, 2016.

Currently, the Town of Vinton has relied on the six Minimum Control Measures (MCMs) to address TMDL requirements. Formal TMDL Action Plans have been submitted to DEQ in the VSMP annual reports.