

## **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 Public Works Department.**

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 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 (VЕСP) 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 Town and County departments/personnel for comments and review.

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

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 (VESCO) 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 Goal 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) Plan Ordinance**

**Goal:** The goal of this BMP is to maintain an Erosion and Sediment Control (E&S) Ordinance designed to reduce pollutants in stormwater runoff from construction activities, in an overarching effort to keep such pollutants from entering the County's and Town's MS4. The Ordinance requires use of erosion and sediment controls, site inspection requirements, and sanctions to ensure compliance under state and local law. This ordinance requires E&S controls for all land disturbances of 2,500 square feet or more and an engineered E&S Plan for any land disturbance greater than 10,000 square feet. The E&S Plan must require construction site operators to implement appropriate erosion and sediment controls specific to the site.

**Measurable Goal:** Roanoke County's initial Erosion and Sediment Control Ordinance was in compliance with the regulations previously set forth and enforced by the Virginia Department of Conservation and Recreation (DCR). DCR reviewed the County E&S Program during July 2012. As a result of the DCR review, Roanoke County developed, and DCR approved, an alternative inspection program. However, with the recent changes to the Virginia's erosion and sediment control regulations, the County adopted revisions to its ordinance in February 2016 to meet the newer state requirements. A copy of the ordinance is on the attached compact disk under the folder titled **BMP 4-1**.

During this fourth year of the reissued permit, the County including the Town of Vinton had **198** regulated land-disturbing activities, and a total of **154.62** acres disturbed. The monthly counts of land disturbing activities, both residential and commercial, can be found on the County of Roanoke submitted compact disk under the folder titled **BMP 4-1**.



Year	Action	Changes and Modifications
2013-2014 (YEAR ONE)	Amended the ESC Ordinance/Land Development Procedures	Updated to Coordinate with State Regulations
2014-2015 (YEAR TWO)	To Amend the ESC Ordinance/Land Development Procedures	ESC Ordinance to be Amended per State Guidance
2015-2016 (YEAR THREE)	Adopted the County of Roanoke ESC and SWM Ordinance by reference on April 5, 2016.	Revised ESC and VSMP to meet state requirement were completed.
2016-2017 (YEAR FOUR)	None	None

**TMDL Consistency:** This ordinance targets reducing sediment in stormwater runoff from construction sites. These regulations require erosion and sediment controls on the site, as well as sanctions, to ensure compliance under local law (SED).

**Evaluation and Modifications:** The E&S Ordinance was revised to align with the revised state regulations, as noted above. Roanoke County and the Town believe that the Erosion and Sediment Control Ordinance is a critical component to aid in reducing pollutants carried by stormwater runoff from construction activities into its MS4. To that end, it is also critical that the ordinance remain in compliance with the Virginia Erosion and Sediment Control Regulations.

Year	Total Acres Disturbed – ROCO & TOV	Total # of Regulated Land-Disturbing Activities – ROCO & TOV
2013 - 2014 (YEAR 1)	102.4	168
2014 - 2015 (YEAR 2)	66.31	189
2015 - 2016 (YEAR 3)	68.067	159
2016 - 2017 (YEAR 4)	154.62	198

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

**Goal:** The goal of this Roanoke County BMP is to identify current Erosion and Sediment Control (E&S)-certified employees and develop a program for certification maintenance, additional certifications, and cross-training.

**Measurable Goal:** Roanoke County Community Development Department has staff whose job responsibilities necessitate erosion and sediment control training and certification, such as the County Engineer, Plan Review Engineers, Stormwater Program Manager, and Site Inspectors, to name a few. Currently, the County utilizes training and certification through the Virginia Department of Environmental Quality's E&S training and certification program. Any new employees hired into positions whose job responsibilities have already been determined as needing training in E&S will also be certified using this program.

**TMDL Consistency:** For this BMP, the County identifies employees that need E&S training and tracks their certifications to ensure that such certifications remain current. This BMP helps to minimize onsite erosion by educating key employees involved with this topic on correct E&S procedures and policy (SED).

**Evaluation and Modification:** No modifications are planned for this BMP. The Town is concurrent with the County that the certification of certain positions that could significantly impact erosion through land disturbance is a critical component in reducing pollutants in stormwater runoff.

ESC & STORMWATER MANAGEMENT CERTIFICATIONS				
NAME		CERTIFICATION	CERTIFICATE #	EXPIRATION DATE
Atkinson	Bob	Professional Engineer	0402 041822	01/31/19
Henderson	David	Professional Engineer	0402 022296	05/31/19
Yates	Morgan	Plan Reviewer	458	05/31/20
Younger	Carter	Plan Reviewer	Provisional	Provisional
Linkenhoker	Cindy	ESC Combined Administrator	363	11/30/18
Thompson	Philip	ESC Combined Administrator	698	12/09/19
Atkinson	Bob	SWM Combined Administrator	SWCA0283	12/08/18
Fuller	RG	SWM Combined Administrator	SWCA0325	03/15/19
Linkenhoker	Cindy	SWM Combined Administrator	Provisional	Provisional
Henderson	David	Dual SWM Combined Administrator	DCA0259	10/17/17
Covey	Arnold	Dual Program Administrator	DPA0108	06/30/19
Sowder	Denise	Dual Program Administrator	DPA0107	02/05/19
Carroll	Curtis	ESC Inspector	1966	11/30/19
Forry	Shane	ESC Inspector	Provisional	Provisional
Fowler	Bill	ESC Inspector	3740	11/30/19
Fuller	RG	ESC Inspector	3848	11/30/19
Holland	Dale	ESC Inspector	1945	05/31/19
Peters	Bruce	ESC Inspector	3469	05/31/18
Prillaman	Rhonda	ESC Inspector	ESIN0250	09/04/18
Waldron	Larry	ESC Inspector	3930	05/31/17
Yates	Morgan	ESC Inspector	1929	05/31/19
Prillaman	Prillaman	SWM Inspector	SWIN0364	10/16/18
Shrewsbury	Nick	Dual Inspector	DIN0239	10/28/18
Altice	Jeff	Responsible Land Disturber	39411	04/04/19

**Table 6. Roanoke County Personnel ESC and SWM Certifications**



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

**Goal:** The goal of this BMP is 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 Town of Vinton/Roanoke County ESC Ordinance.

**Measurable Goal:** The Town along with Roanoke County has revised its Land Development Procedures to ensure compliance with the new adopted Stormwater Management Ordinance and Roanoke County Design Manual and the new Virginia Stormwater Management Regulations. Success for this BMP is measured by the annual evaluation of the written plan review procedures, as described below.

**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. This program minimizes erosion and flooding potential due to the benefit of an educated engineering design team and construction crew on the public and private land development sites. This BMP minimizes erosion and flooding potential through its education of the County’s engineering design team and construction crew for all public and private land development sites that require a site plan. Erosion and sediment control plans target reducing sediment in stormwater runoff from construction sites. Reviewing the plans for consistency to plan review procedures helps to ensure the proper erosion and sediment controls will be employed and properly maintained on the site (SED, EC/FC).

**Evaluation and Modification:** 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.

Year	Total # of E&S Plan Reviews: ROCO & TOV
2013 - 2014 (YEAR 1)	Not reported
2014 - 2015 (YEAR 2)	196
2015 - 2016 (YEAR 3)	130 SFR 49 Commercial (incl. subdivisions)
2016 - 2017 (YEAR 4)	131 SFR (3 in TOV; 128 in RoCo) 41 Commercial (incl. subdivisions) (2 in TOV; 39 in RoCo)

Permit Number	Date Issued	Project Name	Address of Property	Disturbed Acreage
	8/11/16	Harrison SFR	105 Raleigh Avenue	0.14
	8/11/16	Harrison SFR	109 Raleigh Avenue	0.15
SP-1600428	8/11/17	Law Dental Office	990 Hardy Road	0.72
B-1602156	9/16/16	Four S Associates SFR	1206 Fairmont Drive	0.084
SP-1601757	11/1/16	New York Pizza Drive-Thru	700-708 Hardy Road	0.33
B-1602636	5/1/16	Mountain Brook Builders Duplex	338 Franklin Avenue	0.093
			<b>Total Disturbed Area</b>	<b>1.517</b>

**Table 7: Town of Vinton Regulated Land-Disturbing Activities for Year Four**

**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.

**Measurable Goal:** Success for this BMP is measured by the annual evaluation of the written site inspection procedures.

**TMDL Consistency:** Erosion and sediment control inspections of construction activities help to ensure that the required erosion controls, as shown on the approved plan, are implemented and properly maintained in the field; such controls reduce sediment in stormwater runoff from construction sites. The routine inspection of the site and the VSMP and ESC measures as identified will ensure that the VSMP and ESC requirements and measures are in place, therefore any construction activity will minimize erosion and flooding potential (SED, EC/FC).

**Evaluation and Modification:** No modifications are planned for this BMP. Roanoke County and the Town believe that inspecting construction sites against written procedures and approved plans helps to reduce pollutants in stormwater runoff during land-disturbing activities.

Year	# of Inspections Conducted (Commercial and SFR Projects): ROCO & TOV
2013 - 2014 (YEAR 1)	18,694
2014 - 2015 (YEAR 2)	14,131
2015 - 2016 (YEAR 3)	11,889* [SFR=9,679; Comm = 2,210]
2016 - 2016 (YEAR 4)	9,443* [SFR=6,723; COM = 2,720] 24 SFR: 42 COM in TOV 1,085 SFR, 2,678 COM in RoCo

SFR = Single Family Residential                      COMM = Commercial  
\*Residential inspections occur with every building inspection



## **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.

**Goal:** The goal of this County/Town BMP is to develop and maintain written procedures for compliance and enforcement, in order to ensure program consistency.

### **Measurable Goals:**

Success for this BMP will be measured by the annual evaluation of the written plan review procedures by Roanoke County. A summary of the enforcement actions taken, if any including the total number and type of enforcement actions is provided by Roanoke County Department of Community Development.

<b>Year</b>	<b># of Enforcement Actions: ROCO &amp; TOV</b> NTC = Notice to Comply SWO = Stop Work Order
2013-2014 (YEAR 1)	12 - NTC 2- Civil Penalties [Summons]
2014 - 2015 (Year 2)	19 - NTC 1 - SWO
2015 - 2016 (YEAR 3)	20 - NTC 4 - SWO 1 - Civil Penalty [Summons]
2016 - 2017 (YEAR 4)	7- NTC 9 - SWO 1 - Civil Penalty [Summons]

### **TMDL Consistency:**

Written procedures that allow for the enforcement of the erosion and sediment control program help to ensure that the required erosion controls, as shown on the approved plan, are implemented and properly maintained in the field; such controls reduce sediment in stormwater runoff from construction sites (SED).

### **Evaluation and Modification:**

No modifications are planned for this BMP. Roanoke County and the Town believe that implementing enforcement actions based on written procedures is critical to help reduce pollutants in stormwater runoff during land-disturbing activities.