



**Office of Environmental Management**  
**Christopher J. Blakeman, MS, REM**  
**Environmental Administrator**  
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Virginia Department of Environmental Quality  
Blue Ridge Regional DEQ Office  
Attn: MS4 Permitting Division  
3019 Peters Creek Road  
Roanoke, 24019

September 24, 2013

**Re: City of Roanoke MS4 Permit #VAR040004, Year Five (2013) Annual Report and MS4 Program Plan Update**

To whom it may concern,

The City of Roanoke is pleased to submit our year five (2013) MS4 Annual Report and Program Plan Update (General Permit #VAR040004). Enclosed please find a CD-ROM with our annual report for the preceding permit year. Note that our documentation of some measurable goals appear within the report as hypertext links or downloadable files, and as such must be accessed by a computer with an internet connection.

The City of Roanoke remains committed to maintaining a comprehensive MS4 Program. In addition, we continue to work collaboratively with our neighboring MS4s and other partners to improve stormwater issue and regulation awareness throughout the Roanoke Valley and beyond.

You're welcome to contact me should you have any questions or comments. Thank you for your time and consideration of our submission.

Sincerely,

Christopher J. Blakeman, MS, REM  
Environmental Administrator

Encl: 2013 MS4 Annual Report and Program Plan Update, and Executive Certification  
Cc: NPDES MS4 Permit - 2013 Annual Report File

# City of Roanoke Year Five (2013) MS4 Annual Report

## Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Executive Officer Name: Christopher P. Morrill

Title: City Manager

Signature:  \_\_\_\_\_

Date: September 20, 2013

**City of Roanoke, Virginia  
MS4 Year Five  
Annual Report and Program Plan Update**

**Reporting Period  
July 1, 2012 - June 30, 2013**



**Submitted to: The Virginia Department of  
Environmental Quality  
Blue Ridge Regional DEQ Office  
MS4 Stormwater Permitting Division  
3019 Peters Creek Road  
Roanoke, VA 24019**

**Prepared by: The City of Roanoke  
Office of Environmental Management  
Noel C. Taylor Municipal Building  
215 Church Avenue, Suite 354  
Roanoke, VA 24011**



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## **Annual Report and Program Plan Update Sections**

This report consists of documentation of the City of Roanoke's compliance with the following seven Minimum Control Measures as required by the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)

City of Roanoke Permit Number VAR040004

- I. VSMP Permit Section I – Special Conditions, TMDL Requirements***
- II. MCM#1 Public Education and Outreach on Stormwater***
- III. MCM#2 Public Participation and Involvement***
- IV. MCM#3 Illicit Discharge Detection and Elimination***
- V. MCM#4 Construction Site Stormwater Runoff Control***
- VI. MCM#5 Post-Construction Stormwater Management***
- VII. MCM#6 Pollution Prevention and Good Housekeeping for Municipal Operations***

## **City of Roanoke, VA MS4 Program Plan**

**October 01, 2012 To October 01, 2013**

This program consists of the following 7 Minimum Control Measure(s).

1. VSMP Permit Section I - Special Conditions, TMDL Requirements
2. MCM#1 Public Education and Outreach on Stormwater Impacts
3. MCM#2 Public Participation/Involvement
4. MCM#3 Illicit Discharge Detection and Elimination (IDDE)
5. MCM#4 Construction Site Stormwater Runoff Control
6. MCM#5 Post-Construction Stormwater Management in New Development and Redevelopment
7. MCM#6 Pollution Prevention/ Good Housekeeping for Municipal Operations

# 1 VSMP Permit Section I - Special Conditions, TMDL Requirements

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

## Description

A. Coverage under this permit is for the period from July 9, 2008 to July 8, 2013. B. Special Conditions. If a total maximum daily load (TMDL) includes a wasteload allocation to the regulated small MS4, the pollutant identified in the wasteload allocation (WLA) must be addressed through the measurable goals of the MS4 Program Plan. A wasteload allocation does not establish that the operator of a regulated small MS4 is in or out of compliance with the conditions of this permit.

1. The operator shall update its MS4 Program Plan to include measurable goals, schedules, and strategies to ensure MS4 Program consistency with the assumptions of the TMDL WLA by December 9, 2009 to include wasteloads allocated to the regulated small MS4 after issuance of permit coverage.

2. The measurable goals, schedules, strategies, and other best management practices (BMPs), required in an updated MS4 Program Plan to assure MS4 Program consistency with an approved TMDL for the pollutant identified in a WLA are, at a minimum: a. The operator shall develop a list of its current ordinances and legal authorities, BMPs, policies, plans, procedures and contracts implemented as part of the MS4 Program that are applicable to reducing the pollutant identified in a WLA. b. The operator shall evaluate existing ordinances and legal authorities, BMPs, policies, plans, procedures and contracts of the existing MS4 Program to determine the effectiveness of the MS4 Program in addressing reductions of the pollutant identified in the WLA. The evaluation shall identify any weakness or limitation in the MS4 Program to reduce the pollutant identified in the WLA in a manner consistent with the TMDL. c. The operator shall develop a schedule to implement procedures and strategies that address the MS4 Program weaknesses such as timetables to update existing ordinances and legal authorities within two years (July 2010), BMPs, policies, plans, procedures and contracts to ensure consistency with the assumptions of the TMDL WLA. When possible, source elimination shall be prioritized over load reduction. d. The operator shall implement the schedule (developed in (c) immediately above) established in Section I B 2 c.

3. The operator shall integrate an awareness campaign into its existing public education and outreach program that promotes methods to eliminate and reduce discharges of the pollutant identified in the WLA. This may include additional employee training regarding the sources and methods to eliminate and minimize the discharge of the pollutant identified in the WLA.

4. The operator is encouraged to participate as a stakeholder in the development of any implementation plans developed to address the TMDL and shall incorporate applicable best management practices identified in the TMDL implementation plan in their MS4 Program Plan. The operator may choose to implement BMPs of equivalent design and efficiency instead of those identified in the TMDL implementation plan, provided that the rationale for any substituted BMP is provided and the substituted BMP is consistent with the TMDL and the WLA.

5. The operator shall develop and implement outfall reconnaissance procedures to identify potential sources of the pollutant identified in the WLA from anthropogenic activities. The operator shall conduct reconnaissance in accordance with the following: a. Should the operator have 250 or more total outfalls discharging to the surface water identified in the WLA, the operator shall perform reconnaissance on a minimum of 250 outfalls for each WLA assigned at least once during the 5-year permit period, and shall perform reconnaissance on a minimum of 35 outfalls per year. b. Should the operator have less than 250 total outfalls discharging to an identified surface water, the operator shall perform reconnaissance on all outfalls during the five-year permit period and shall annually conduct reconnaissance on a minimum of 15% of its known MS4 outfalls discharging to the surface waters for which the WLA has been assigned. \*Option b. applies to the City of Roanoke, as none of our surface waters with WLAs assigned to them have more than 250 outfalls discharging to them. The department recommends that the operator review the

publication entitled "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments," EPA cooperative agreement number X-82907801-0, for guidance in implementing its outfall reconnaissance procedures. The operator shall implement procedures designed to reduce the discharge of the pollutant in a manner consistent with the TMDL. Physically interconnected MS4s may coordinate outfall reconnaissance to meet the requirements of this subdivision.

6. The operator shall evaluate all properties owned or operated by the MS4 operator that are not covered under a separate VPDES permit for potential sources of the pollutant identified in the WLA; Within three years of the required date for updating the MS4 Program Plan (no later than Dec. 9, 2012), the operator shall conduct a site review and characterize the runoff for those properties where it determines that the pollutant identified in the WLA is currently stored, or has been transferred, transported or historically disposed of in a manner that would expose it to precipitation in accordance with the following schedule: a. As a part of the site review, the operator shall collect a total of two samples from a representative outfall for each identified municipal property; One sample shall be taken during October through March, and the second during April through September. b. All collected samples shall be grab samples and collected within the first 30 minutes of a runoff producing event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previous measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where the preceding measurable storm event did not result in a measurable discharge from the property. The required 72-hour storm event interval may also be waived where the operator documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. Analytical methods shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the Environmental Protection Agency (EPA). Where an approved 40 CFR Part 136 method does not exist, the operator must use a method consistent with the TMDL. c. For properties where there is found to be a discharge of the pollutant identified in the WLA, the operator shall develop and implement a schedule to minimize the discharge of the pollutant identified in the WLA in a manner consistent with the approved TMDL.

7. The operator shall conduct an annual characterization that estimates the volume of stormwater discharged, in cubic feet, and the quantity of pollutant identified in the WLA, in a unit consistent with the WLA, discharged by the regulated small MS4.

8. As part of the annual evaluation, the operator shall update the MS4 Program Plan to include any new information regarding the TMDL in order to ensure consistency with the TMDL.

9. Along with reporting requirements in Section II E, the operator shall include the following with each annual report:

a. Copies of any updates to the MS4 Program Plan completed during the reporting cycle and any new information regarding the TMDL in order to evaluate its ability to assure the consistency of its discharge with the assumptions of the TMDL WLA.

b. The estimate of the volume of stormwater discharged, in cubic feet, and the quantity of pollutant identified in the WLA, in a unit consistent with the WLA, discharged by the regulated small MS4 for each WLA.

## Best Management Practices

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### 1.1 TMDL Tools and BMP Assessment

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

As required under Section I.B 2 of the VSMP General Permit, the City of Roanoke will conduct a review of the tools, programs, policies, regulations, and BMPs that the City of Roanoke has, or may need to develop, in order to address the TMDL priority pollutants identified in the Waste Load Allocations assigned to our MS4.

#### Annual Reporting Items

An updated list of the tools, etc., their status and related schedules.

## Goals

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### 1.1.1 TMDL Tools & BMP Update

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

An updated status and implementation plan of the tools and other resource identified to help align our MS4 Program Plan with the approved TMDLs in our jurisdiction.

**Planned:** 2010 2011 2012 2013

**Complete:** 2010 2011 2012 2013

Activity Date	Name
09/12/2013	FY-13 TMDL Tools Assessment Report

#### Description

Updated and revised documentation of tools and resources for combating benthic and bacterial impairment of our waterways.

File Attachment [TMDL Tools List\\_v7\\_091213.xls](#)

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## 1.2 Outfall Reconnaissance

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

### Description

As required under Section I.B 5 of the VSMP General Permit, the City of Roanoke will implement an outfall reconnaissance program to identify potential sources of TMDL priority pollutants for each water body for which a TMDL Waste Load Allocation has been assigned to our MS4. The City of Roanoke will perform reconnaissance on all such outfalls during the 5 year permit period (2008 - 2013), and annually no less than 15% of such outfalls.

### Annual Reporting Items

Annually, for each reporting year (July 1 through June 30) a report of the outfalls that have been surveyed for each TMDL water body, with a corresponding waste load allocation assigned to, and located within our MS4 jurisdiction.

### Goals

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#### 1.2.1 Annual Outfall Reconnaissance Reporting

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Description of the number of outfalls surveyed, their TMDL water body, and the findings of the surveyor(s). Copies of field data sheets and/or related notes.

**Planned:** 2008 2009 2010 2011 2012 2013

**Complete:** 2008 2009 2010 2011 2012 2013

Activity Date	Name
09/04/2013	FY13 Outfall Survey Sheets

### Description

Reconnaissance sheets from surveys done in FY13, which include Tinker Creek, Lick Run, and parts of the Roanoke River.

File Attachment [Lick Run Dry Weather Surveys.pdf](#)

File Attachment [Tinker Creek Dry Weather Surveys.pdf](#)

File Attachment [Roanoke River Dry Weather Surveys.pdf](#)

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09/04/2013	FY13 Outfall Reconnaissance Update
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### Description

Attached is the log/schedule of outfall surveys updated through FY13.

File Attachment [Outfall Inventory & Survey Log\\_REVISED-2013.xls](#)

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### 1.3 City-Owned Property Assessment & Stormwater Sampling

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

In accordance with Section I,B 6, on or before January 9, 2013, the City of Roanoke will evaluate it's properties for potential sources of TMDL priority pollutants. Further, as required under sub-sections a-c, we will collect the requisite samples, analyses, and whatever corrective action responses are necessary to minimize the discharge of any priority pollutants where found.

#### Annual Reporting Items

Remains under development as of 2011 Annual Reporting.

#### Goals

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##### 1.3.1 City-Owned Property Assessment & SW Sampling

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Plans and progress in meeting VSMP General Permit Section I,B 6, and corressponding sub-sections. Report planning and progress in 2012, and actual compliance results in 2013.

**Planned:** 2012 2013

**Complete:** 2012 2013

Activity Date	Name
09/17/2013	City-owned Property Evaluation

#### Description

The sites that were targeted in our 2012 MS4 report for TMDL assessment were the SPCA Animal Shelter and our Public Works Service Center.

Since the 2012 report, ownership and operation of the Animal Shelter has changed such that it is no longer a City-owned facility, and as such further assessment was not undertaken in this reporting year. With that said, the City's Environmental Management Division has coordinated with the City Attorney's Office and others to implement alterations to the facility design and operations that will eliminate the risk of animal waste discharge to the MS4. In February of 2013 the Public Works Service Center (PWSC) completed the process of securing Exemplary Environmental Enterprise status through the DEQ's VA Environmental Excellence Program. This accomplishment was met through our voluntary establishment of an Environmental & Sustainability Management System (ESMS) for the facility and the operations based there. In our ESMS Stormwater Pollution Prevention was established as a Significant Environmental Aspect and procedures and practices were put in place to eliminate and/or respond appropriately to any threats of stormwater pollution.

- Two MS4 drains at the PWSC were identified as being at high risk and those were both sampled in Feb of 2013. The sample results are attached here. Note that sample collection occurred prior to the implementation of sediment and bacteria source mitigation SOPs.
- The data for sample ID# PW1-RL refers to a drop inlet that is located near the area where solid waste packer trucks park when not in service. An SOP has since been developed to increase the wash frequency of those trucks from once to twice/week, as well as to perform bi-weekly cleaning and sweeping of the parking lot in this area.

- The data for sample ID# PW1-L:D refers to a curb inlet that drains the facility's loading dock. SOPs for this location focus on sediment removal from the dock area, and preventing the introduction of oils and fuel from nearby bulk above ground storage tanks.

File Attachment [2013-2-13 - PWSC Bacteria Results.pdf](#)

File Attachment [2013-2-13 - PWSC Sediment Results.pdf](#)

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## 1.4 Stormwater Volume & TMDL Pollutant Discharge Estimates

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

### Description

As required under Section I.B 7 of the VSMP General Permit, the City of Roanoke will annually characterize the stormwater volume and quantity of TMDL priority pollutants discharged to each water body for which a TMDL Waste Load Allocation has been assigned to our MS4.

### Annual Reporting Items

Annually, for each reporting year (July 1 through June 30) a calculation of stormwater discharge (cubic feet), bacteria load (coliform forming units) and sediment load (tons), will be reported for each TMDL water body, with a corresponding waste load allocation assigned to, and located within our MS4 jurisdiction.

### Goals

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#### 1.4.1 Annual TMDL Discharge Estimates

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Annual reporting of our MS4's stormwater discharges.

**Planned:** 2010 2011 2012 2013

**Complete:** 2010 2011 2012 2013

Activity Date	Name
09/03/2013	FY13 TMDL Discharge Estimates

### Description

The TMDL Stormwater Discharge Estimate Report for FY13 is attached, in the same format as last year.

File Attachment [Annual Stormwater Volume and TMDL Pollutant Discharge Estimate\\_2013 Report.pdf](#)

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## **2 MCM#1 Public Education and Outreach on Stormwater Impacts**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### **Description**

To satisfy this minimum control measure, the operator of a regulated MS4 must: (1) Implement a public education program to distribute educational materials to the community or 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. The operator shall identify, schedule, implement, evaluate and modify, as necessary, BMPs to meet the following public education and outreach measurable goals: a. Increased individual and household knowledge about the steps that they can take to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns; b. Increased public employee, business, and general public knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; c. Increased individual and group involvement in local water quality improvement initiatives including the promotion of local restoration and clean up projects, programs, groups, meetings and other opportunities for public involvement; d. Diverse strategies to target audiences specific to the area serviced by the regulated small MS4; e. Improved outreach program to address viewpoints and concerns of target audiences, with a recommended focus on minorities, disadvantaged audiences and minors; and f. Targeted strategies towards local groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts.

## Best Management Practices

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### 2.1 Educational Resource Inventory and Activity Update

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

Public education and outreach efforts regarding stormwater quality will include the use of various media outlets. Periodic informational articles addressing stormwater quality, paying particular attention to raising community awareness of over-all watershed health, the TMDL process (at the local level), and the City of Roanoke's obligation to reduce the introduction of priority pollutants into our MS4, are proposed for inclusion in the Roanoke Citizen magazine. Video segments pertaining to storm water quality and pollution prevention for Inside Roanoke, a local cable program, are planned to supplement those already completed. Particular attention will be given to reaching minority groups, the business community, and those industries likely to have the most significant impacts.

#### Justification

A variety of publications and programs are necessary to reach a diverse public and to address interests and practices that may be unique to specific stakeholder groups (elected officials, business, churches, civic groups, school teachers/children, etc...).

#### Goals

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##### 2.1.1 Maintain Educational Resource, Tools & Information Listing

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Revise existing, and develop new listings of publications, programs and educational opportunities found in the region and continually update the library (at least) annually. Documentation of this goal will be an updated record of publication and publication library inventory. Maintenance and updating of library is ongoing and subject to audit as per contract between City and CVC.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY13 Resource Update

#### Description

Several new resources were made available during the previous fiscal year. Please see the attachment for a listing of the new resources, as well as the old ones.

File Attachment [\*FY13 Resource List.pdf\*](#)

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##### 2.1.2 Conduct Educational Opportunities

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Continue to offer existing and develop new educational opportunities for public audiences to address stormwater quality issues. Documentation of this goal will be a summary of educational opportunities offered each reporting period (July 1 - June 30).

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**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/10/2013	FY13 CVC Youth Educational Program Report

**Description**

The in-school programs for grades K-12 in the City of Roanoke for FY13 resulted in the following: 88 Programs; 1,769 Students reached; 81 Adults/Teachers reached; and 628 articles of take-home educational materials distributed. Most of the programs occurred in-school, but a few were delivered to after-school youth groups, such as the cub scouts. A copy of the entire report with detail is attached.

File Attachment [\*FY13 Youth Education Report.pdf\*](#)

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**2.1.3 Public Education & Outreach Campaign**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Description**

The City of Roanoke and it's local & regional partners have committed themselves to serve as an avenue for public education and outreach regarding stormwater pollution prevention, regulations, issues, events, opportunities and over-all general awareness. This goal may be achieved through a variety of means, and the documentation of those efforts is included here.

**Planned:** 2011 2012 2013

**Complete:** 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/12/2013	FY13 Third Party Public Education & Outreach

**Description**

Attached is a summary of third party public education efforts in our area for FY13, some of which include the City of Roanoke or our sponsorship.

File Attachment [\*FY13 3rd Party PubEd Summary.pdf\*](#)

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## 2.2 Produce Supporting Documents for General Publication

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

### Description

Develop and maintain supporting documents on the subject of stormwater education for inclusion in various general publications, including feature programs on "Inside Roanoke" and articles in the Roanoke "Citizen" magazine, and other local media outlets. Additional outreach vehicles may include public meetings, City and/or CVC websites, and others.

### Goals

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#### 2.2.1 Produce Feature Materials and/or Programs

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Produce and deliver stormwater awareness materials. Examples may include: feature program on Inside Roanoke, published article(s) in the Roanoke "Citizen" or other local journals, conduct presentations at public meetings, post information and resource on the internet, and otherwise make use of available media and/or communications outlets. Documentation of this goal will be copies and/or excerpts of programs and/or material produced and published.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY-13 Features & Programs Summary

### Description

A variety of features and programs were done in this reporting year. These included both public input driven efforts, as well as those intended to educate and persuade greater public involvement in stormwater pollution prevention. Some example of those efforts are attached here.

File Attachment [SW P2 PSA\\_05-09-13.pdf](#)

File Attachment [Citizen Survey & High Risk Outreach notes 2-06-13.doc](#)

File Attachment [RVTV City Stream Health PSA.doc](#)

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### **3 MCM#2 Public Participation/Involvement**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### **Description**

The operator shall comply with applicable state, tribal, and local public notice requirements and identify, schedule, implement, evaluate and modify, as necessary, BMPs to meet the following public involvement/participation measurable goals: a. Promote the availability of the operator's MS4 Program Plan, and any modifications, for public review and comment. Public notice shall be given by any method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation. Provide access to or copies of the MS4 Program Plan, or any modifications, upon request of interested parties in compliance with all applicable freedom of information regulations; b. Provide access to or copies of the annual report upon request of interested parties in compliance with all applicable freedom of information regulations; and c. Participate, through promotion, sponsorship, or other involvement, in local activities aimed at increasing public participation to reduce stormwater pollutant loads and improve water quality.

## Best Management Practices

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### 3.1 Public Involvement Opportunities and Actions - General/Not Recurring

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

This BMP shall serve as a place holder to record public participation/involvement actions that may be generalized in their scope, still under development, date specific and/or not recurring. Examples may include seminars/workshops, field trips, community or business-specific events or activities, etc.

#### Justification

Experience has shown that these sorts of generalized and non-recurring activities can often form the foundation for future public involvement actions, as well as evolve in response to public input and/or engagement. These exchanges are key to ensuring community issues and concerns are heard, and in securing their support for the development of local and regional stormwater management planning, policy and procedure.

#### Goals

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##### 3.1.1 Local & Regional Stormwater Management Planning

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Actions where public input is a component of our local and regional stormwater management planning.

**Planned:** 2011 2012 2013

**Complete:** 2011 2012 2013

Activity Date	Name
09/10/2013	FY-13 Local & Regional SW Mgmt. Planning Summary

#### Description

A large number and great variety of local & regional planning events and activities occurred during this reporting year. Example documentation of two such efforts is attached here.

1. Notes from a series of meetings held in Roanoke and Roanoke County where regional stakeholders provided review and comment on the draft 2013-2018 MS4 Phase II General Permit.

2. A flyer advertising a community wide Upper Roanoke River TMDL Open HOuse and implementation awareness meeting at the Roanoke Civic Center.

File Attachment [Regional AC Notes on DRAFT 2013-18 MS4 Permit Changes\\_12-13-12.pdf](#)

File Attachment [RCC MeetingFlyer\\_RoanokeIP.pdf](#)

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### 3.2 Citizen Stormwater Advisory Committee

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

A citizen advisory committee (meeting quarterly), comprised of citizens and business representatives, has been established to review and comment on the City's stormwater management program. The committee also serves as a conduit to transfer information back to each participant's respective community/ neighborhood association, and provides constructive feedback on proposed initiatives and activities relating to storm water quality within the City. Of particular importance during the current permit period will be presenting on, and gathering feedback for, the phased implementation of local TMDLs and the relevant WLAs for the City's MS4.

#### Justification

Provides an efficient and educated vehicle for two-way communications about stormwater management.

#### Education Program / Public Outreach

The Advisory Committee both sponsors and receives educational programs and presentations related to stormwater, and other water quality topics.

#### Annual Reporting Items

Documentation of meetings.

#### Goals

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##### 3.2.1 Quarterly Committee Meetings

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

The citizen work group will meet four times a year to be updated on the Storm Water Quality Management Program, and to review informational materials and educational components of the program. Measurement of this goal will be documentation of workgroup activities and meetings.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY13 Advisory Committee Update

#### Description

The Stormwater Citizen Advisory Committee has continued to meet through FY13, with the Clean Valley Council serving as coordinators. During FY13 a total of 4 CAC meetings were held at regular intervals. A summary of the meeting dates, locations, speakers and agenda topics is attached.

File Attachment [FY13 CAC Meeting Summary.pdf](#)

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### 3.2.2 Annual Citizen Advisory Committee Membership Update

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

#### Description

Annually review citizen workgroup membership and participation level; evaluate for effective representation and consider rotation / expansion of membership. Measurement of this goal will be documentation of members showing regular participation in quarterly meetings.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/11/2013	FY13 Membership Update

#### Description

Attached is a current list of all members on the Stormwater Citizen Advisory Committee.

File Attachment [FY13 Stormwater CAC Member List.pdf](#)

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### 3.3 Storm Drain Stenciling/Marking Campaign

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

A storm drain stenciling/marketing program, administered by the City's Transportation Division and performed by volunteer groups, has been established to raise awareness about the function of storm sewer drains and how they must be maintained to function properly. The stenciling/marketing is designed so as to be the finishing step as drain inlets are cleaned out and/or repaired, and to accompany the installation of any new storm sewer drain catchments.

#### Justification

Functions as a site-specific reminder to not pollute the waterways.

#### Education Program / Public Outreach

By using volunteer and civic groups to perform some of this work, the City is able to provide hands-on education and training about the linkage between storm sewer inlets and the water quality of our local streams, creeks, and the Roanoke River.

#### Annual Reporting Items

Number and locations of drains marked and/or stenciled.

#### Goals

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##### 3.3.1 Annual Storm Drain Stenciling/ Marking

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Stencil/ mark a minimum of fifty (50) storm drains annually. Measurement of this goal will be documented with an annual record of the number and location of marked drains and of all participating groups/ persons.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY13 Drain Marking Update

#### Description

In FY13, a total of 81 storm drains were marked by stencil and spray paint in City. This was coordinated and completed by the Clean Valley Council. A summary of each marking event is attached.

In addition, a community outreach committee of Roanoke Civic Center employees approached our office about stenciling storm drains as a community outreach activity. They were given the stencils and supplies and estimate that they had stenciled approximately 30 drains before July 1, 2013.

File Attachment [\*FY13 Storm Drain Stenciling Report.pdf\*](#)

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### 3.3.2 Establish Policy for Storm Drain Marking

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### **Description**

Establish a policy for identifying at least 50 drains annually for stenciling and/or marking and a policy for marking new or recently repaired storm drains. The policy shall also include procedures for accessing and working with volunteer and civic groups, as well as safety policies, and budgeting for the necessary supplies. Documentation of this goal was provided in the City of Roanoke's 2011 MS4 Annual Report. All storm drain stenciling/ marking activity will follow the same protocols in subsequent years, unless this section is revised in future reports or Program Plan updates.

**Planned:** 2009 2010

**Complete:** 2009 2010

<b>Activity Date</b>	<b>Name</b>	<b>Description</b>
<hr/>		
None		
<hr/>		

### 3.4 Annual Community Involvement Events

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

Regional community and/or public waterways cleanup, other public involvement, and educational events will be conducted throughout the year. Such events will receive direct support and/or sponsorship from the City of Roanoke, and be conducted in coordination with the City's Office of Environmental Management, other City Departments & Divisions, the Clean Valley Council, and other environmental, civic, and community organizations.

#### Goals

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##### 3.4.1 Regional Community Involvement & Educational Outreach

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Conduct at least one regional, public community involvement, cleanup and/or educational outreach event. Participants for all events receive a variety of environmental education materials, and when possible speakers and performers provide supplemental information and education. Measurement of this goal will include reporting of the total tonnage of waste removed and total number of participants for each event.

**Planned:** 2008 2009 2010 2011 2012 2013

**Complete:** 2008 2009 2010 2011 2012 2013

Activity Date	Name
09/12/2013	FY13 Community Involvement & Outreach Report

#### Description

In FY13, a total of eleven separate events were held and are estimated to have included nearly 6,000 citizens. A summary report of the events, dates, and estimated participation levels is attached.

File Attachment [FY13 Stormwater Event Summary.pdf](#)

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## 4 MCM#3 Illicit Discharge Detection and Elimination (IDDE)

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

The operator must: a. Develop, implement and enforce a program to detect and eliminate illicit discharges, as defined at 4VAC50-60-10, into the regulated small MS4. The department recommends that the operator review the publication entitled "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments," Environmental Protection Agency (EPA) cooperative agreement number X-82907801-0, for guidance in implementing and evaluating its illicit discharge detection and elimination program; b. Develop, if not already completed, and maintain, an updated storm sewer system map, showing the location of all known outfalls of the regulated small MS4 including those physically interconnected to a regulated MS4, the associated surface waters and HUCs, and the names and locations of all impaired surface waters that receive discharges from those outfalls. The operator shall also estimate the acreage within the regulated small MS4 discharging to each HUC and impaired water; c. To the extent allowable under state, tribal or local law or other regulatory mechanism, effectively prohibit, through ordinance, or other regulatory mechanism, nonstormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions; The following categories of nonstormwater discharges or flows (i.e., illicit discharges) must be addressed only if they are identified by the operator, the State Water Control Board, or by the board as significant contributors of pollutants to the regulated small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water, discharges or flows from fire fighting activities, and flows that have been identified in writing by the Department of Environmental Quality as de minimis discharges that are not significant sources of pollutants to state waters and not requiring a VPDES permit; d. Develop and implement procedures to detect and address nonstormwater discharges, including illegal dumping, to the regulated small MS4; e. Prevent or minimize to the maximum extent practicable, the discharge of hazardous substances or oil in the stormwater discharge(s) from the regulated small MS4. In addition, the MS4 Program must be reviewed to identify measures to prevent the recurrence of such releases and to respond to such releases, and the program must be modified where appropriate. This permit does not relieve the operator or the responsible part(ies) of any reporting requirements of 40 CFR Part 110 (2001), 40 CFR Part 117 (2001) and 40 CFR Part 302 (2001) or §62.1-44.34:19 of the Code of Virginia; f. Track the number of illicit discharges identified, provide narrative on how they were controlled or eliminated, and submit the information in accordance with Section II E 3; and g. Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system.

## Best Management Practices

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### 4.1 IDDE Response and Enforcement Program

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

The City will develop and maintain a response and enforcement program for an ordinance prohibiting illicit storm sewer system discharges.

#### Goals

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##### 4.1.1 Standard Operating Procedures (SOP) for IDDE Ordinance Enforcement

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Establish Standard Operating Procedures (SOPs) for response and enforcement of IDDE ordinance, and process for tracking violations and actions taken. Documentation of this goal was provided in the City of Roanoke's 2011 MS4 Annual Report. All IDDE investigation & enforcement activity will follow the same protocols in subsequent years, unless this section is revised in future reports or Program Plan updates.

**Planned:** 2008 2009 2010 2011

**Complete:** 2008 2009 2010 2011

Activity Date	Name	Description
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None

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##### 4.1.2 IDDE Response and Ordinance Enforcement

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### Description

Implement IDDE SOPs for illicit discharge response and ordinance enforcement actions and revise as needed. Documentation of this goal will be annual reporting of IDDE ordinance violations and actions taken.

**Planned:** 2008 2009 2010 2011 2012 2013

**Complete:** 2008 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY13 Stormwater Violations Log

#### Description

Attached is the updated Stormwater Violations Tracking Log, which details 24 investigated incidents during FY13. Please note that this is a rolling log, so incidents from previous fiscal years, as well as from FY14 are also detailed.

File Attachment [\*IDDE Violations Log.xls\*](#)

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## 4.2 Maintain GIS Map/ Database for City Storm Sewer System

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

### Description

The city has developed a storm sewer system map using Global Positioning System (GPS) technology that readily identifies MS4 features, down versus up-gradient pipe orientation, termination points and outfalls.

### Justification

Provides a centralized graphical information and data source that assists other City Depts, as well as developers and the general public, in understanding the presence and orientation of existing infrastructure. Also supports ready access to potential pollutant migration pathways in the event of a hazardous materials spill and/or disaster.

### Education Program / Public Outreach

Helps articulate the largely unseen, subsurface infrastructure that many take for granted in providing control of localized flooding. Provides a model that shows how storm sewer water is entirely untreated and flows to our local rivers, streams, and creeks.

### Annual Reporting Items

1. Annual mapping & database update 2. 2010 - Policy & procedure for maintaining accuracy of this GIS data layer.

## Goals

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### 4.2.1 Maintain City Storm Sewer System GIS Database

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Maintain GIS map and object file database for City storm sewer system, including catchments and out-falls. Measurement of this goal will be documented by an annual report of all new and updated features in the GIS map and object file database.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY13 MS4 GIS Update

### Description

In FY13, the City developed a new on-line GIS website, which is more user friendly than the previous site. The new site also provides more information, such as the individual identifiers for each storm drain feature (inlet, outfall, etc.), which can make it easier to communicate exactly which feature is being discussed.

Outside of data display, GIS practices remain the same as in previous reporting years. New and altered features are included after as-built drawings are field verified, and the map is then updated, and made available on-line. The map that was developed and reported in our 2011 MS4 Annual Report was used once again for our TMDL discharge estimates and reporting, as required by Section I of the MS4 permit.

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**4.2.2 Maintain Online Public Access to City GIS Data**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Description**

Post GIS coverage and updates of the City's MS4 components on the City's internet GIS website for public viewing/ use. Documentation of this goal is confirmation of continued internet access to the City's current GIS website.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/03/2013	FY13 GIS Access Verification

**Description**

Access to the City of Roanoke's new on-line storm sewer system mapping is available through the following URL: <http://gisre.roanokeva.gov/>

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### 4.3 Illicit Discharge Detection and Elimination Ordinance

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### **Description**

The City's IDDE ordinance establishes the MS4 program authority and requirements for illicit discharge detection and elimination in compliance with the VPDES Permit.

#### **Goals**

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##### **4.3.1 Maintain IDDE Ordinance**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### **Description**

Maintain and periodically review IDDE ordinance for permit compliance and operational effectiveness. Documentation of this goal will be an annual review of ordinance effectiveness for actions taken in response to violations.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/23/2013	FY13 Ordinance Review

#### **Description**

Ordinance review was completed and is summarized in the attached document.

No new updates have been made to the illicit discharge ordinance in FY-13. Updates to our IDDE ordinance are planned for FY-14, to coincide with those being made to our Stormwater Management ordinance, as well as a proposed new Stormwater Utility ordinance. Access to the IDDE ordinance is available through the MuniCode database's City of Roanoke webpage,

<http://library.municode.com/index.aspx?clientID=11474&stateID=46&statename=Virginia>.

File Attachment [4.3.1 FY13 IDDE Ordinance Review\\_09-23-13.doc](#)

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#### 4.4 Maintain IDDE Survey and Investigation Program

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

##### Description

The City has and will maintain a program to conduct dry weather surveys of all watersheds within the City, wherein all outfalls will be inspected. Further the City has and will maintain an inspection and enforcement program for improper/unauthorized connections to the storm sewer system, in the event that suspect discharges and/or connections are found, all relevant facts will be gathered and an investigation will be initiated.

##### Annual Reporting Items

1. The number of illicit discharges &/or connections found, and a narrative of how each was addressed.

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##### Goals

#### 4.4.1 Conduct Dry-Weather Surveys

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

##### Description

Conduct focused dry-weather surveys of City watersheds. Pursue suspect outfall and/or pipe camera findings. Documentation of this goal will be summarized in Section I of this annual report under "Annual Outfall Reconnaissance Reporting," wherein we present our TMDL compliance efforts as required in Section I of the MS4 General Permit. Separate IDDE-related surveys and investigations are reported in this section of the annual report under "IDDE Response and Enforcement."

**Planned:** 2008 2009 2010 2011

**Complete:** 2008 2009 2010 2011

Activity Date	Name	Description
None		

#### 4.4.2 Infrastructure inspections for illicit discharges &/or connections

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

##### Description

As storm sewer repair and construction crews are working they will inspect all storm sewer infrastructure within the work area for illicit discharges/connections. If necessary, manned inspections and/or pipe cameras may be used for this purpose.

**Planned:** 2008 2009 2010 2011 2012 2013

**Complete:** 2008 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY13 Infrastructure Inspections

**Description**

In FY13, 287 storm sewer drains were inspected by the City storm drain crews (see Measurable Goal 6.3.1). Where suspect conditions were found by these crews or by citizen reports or other City inspections, the Office of Environmental Management follows up with IDDE investigation and response and records the results in the IDDE Investigation Log (see the first section of this MCM regarding IDDE Response and Enforcement for a copy of the log).

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## 5 MCM#4 Construction Site Stormwater Runoff Control

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

To satisfy this minimum control measure, the operator of a regulated MS4 must: a. The operator shall develop, implement, and enforce procedures to reduce pollutants in any stormwater runoff to the regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The procedures must include the development and implementation of, at a minimum: (1) An ordinance or other mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance with the Erosion and Sediment Control Law and attendant regulations, to the extent allowable under state, tribal, or local law. Such ordinances and other mechanisms shall be updated as necessary; (2) Requirements for construction site owners and operators to implement appropriate erosion and sediment control best management practices as part of an erosion and sediment control plan that is consistent with the Erosion and Sediment Control Law and attendant regulations and other applicable requirements of state, tribal, or local law. Where determined appropriate by the operator, the operator shall encourage the use of structural and non-structural design techniques to create a design that has the goal of maintaining or replicating predevelopment runoff characteristics and site hydrology; (3) Requirements for construction site owners and operators to secure authorization to discharge stormwater from construction activities under a VSMP permit for construction activities that result in a land disturbance of greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Additionally, stormwater discharges from construction activity disturbing less than one acre must if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more; (4) Procedures for receipt and consideration of information submitted by the public; and (5) Procedures for site inspection and enforcement of control measures. b. The operator shall ensure that plan reviewers, inspectors, program administrators and construction site operators obtain the appropriate certifications as required under the Erosion and Sediment Control Law; c. The operator shall track regulated land-disturbing activities and submit the following information in accordance with Section II E 3: (1) Total number of regulated land-disturbing activities; and (2) Total disturbed acreage.

## Best Management Practices

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### 5.1 Require Erosion and Sediment (E&S) Control Plans

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Required** Yes

#### Description

The City of Roanoke currently requires erosion and sediment (E&S) control plans for any land disturbance equal to or greater than 2,000 square feet. The City's Department of Planning, Building, and Development will ensure that E&S plans are prepared and compliant with all Federal, State, and local requirements.

#### Goals

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##### 5.1.1 Ensure City E&S Control Program Permit Compliance

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

#### Description

Ensure city regulations and Erosion and Sediment control programs are fully compliant with the VPDES Phase II regulations and track regulated land disturbing activities. Documentation of this goal will be annual records of all regulated land disturbing activities, total acreage disturbed and inspections of all applicable sites.

**Planned:** 2008 2009 2010 2011 2012 2013

**Complete:** 2008 2009 2010 2011 2012 2013

Activity Date	Name
08/28/2013	'12 - '13' Land Disturbances

#### Description

A total of 38 land disturbance permits were issued for this past fiscal year with the total disturbed acreage of 60.52 acres. A record of all permitted land disturbance activities detailing permit number, address, acreage disturbed, contractor and dates has been included as the excel files labeled: '12 – '13 Land Disturbing Report.

A total of 3,204 erosion and sediment control inspections were conducted this past fiscal year. Of those 3,204 inspections 1154 of them were rain event inspections that are required to be performed within 48 hours after a rain fall event. A report detailing permit number, address and number of inspections per permit has been included as the pdf file labeled '12 – '13 E&S Inspections Report and a Rain Event Report is attached as well.

File Attachment ['12 - '13 E&S Inspections Report.pdf](#)

File Attachment ['12 - '13 Land Disturbing Report.xls](#)

File Attachment ['12 -'13 Rain Event Inspections Report.pdf](#)

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##### 5.1.2 E&S Review and Contractor Bonding Policy

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

#### Description

\*Not required for 2010 reporting year and beyond. In 2009 a policy was established for contractor bonding and E&S plan submission, review, and approval prior to issuance of City permits. This policy is maintained on an on-going basis as required. Documentation of this goal can be found in the City of Roanoke Erosion and Sediment Control Ordinance, Sections 11.1-6, 11.1-7, 11.1-8 and 11.1 -10 (See section 5.4.1 of this report for a link to the Ordinance).

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**Planned:** 2009

**Complete:** 2009

<b>Activity Date</b>	<b>Name</b>	<b>Description</b>
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None

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**5.1.3 E&S Budget Program**

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Description**

Dedicate staff and other resources to conduct plan reviews and field inspections in compliance with VPDES Permit and City MS4 Program requirements pertaining to erosion and sediment control at applicable construction sites. Documentation of this goal will be annual budgeting of staff and resources as noted and achievement of related goals.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
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08/28/2013	'12-'13 E&S Budget Program
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**Description**

No new positions or resources have been dedicated to this program within the last fiscal year of 2012 - 2013. Level funding was provided for this division of the department. It is anticipated that for fiscal year 2014 – 2015 a new position will be needed to help with the VSMP requirements.

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## 5.2 VSMP Construction Permit Compliance

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Required** Yes

### Description

Requirement of all construction site owners/operators to secure a VSMP Construction permit for all qualifying land disturbances, as specified in VSMP MS4 General Permit Section IIB 4(3).

### Education Program / Public Outreach

All persons applying to the City of Roanoke for a land disturbance permit of notified at least 3 times, in writing, or their obligation to secure a VSMP Construction permit for their project.

### Annual Reporting Items

SOP and notification statement

### Goals

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#### 5.2.1 Construction Permit Compliance

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

### Description

Notification to all land disturbance permit applicants of their obligation to secure a VSMP Construction permit for their projects.

**Planned:** 2010 2011 2012 2013

**Complete:** 2010 2011 2012 2013

Activity Date	Name
08/28/2013	FY13 Compliance Update

### Description

No changes have been made to our method of notifying developers or contractors on the requirement for a VSMP permit. It is understood that July 1, 2014 the City of Roanoke will be responsible for issuance of the VSMP Authority permit and that no other local permits could be issued until that permit was obtained.

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### 5.3 Conduct Erosion and Sediment Control Compliance Training

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Required** Yes

#### **Description**

Ensure erosion and sediment control compliance training is provided to all applicable employees.

#### **Goals**

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##### **5.3.1 Erosion and Sediment Control Certification Program**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### **Description**

Maintain program of Erosion and Sediment Control certification for employees and a list of positions with responsibilities necessitating Erosion and Sediment Control training certification. This will include training of new employees as hired and retraining of existing employees as their certifications expire. Documentation of this goal will be an annual summary of the number of employees trained and certified in Erosion and Sediment Control procedures, including their names, positions or responsibilities within the MS4 program and date of certification expiration.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
08/28/2013	'12 -'13 Staff Certification

#### **Description**

Staff is the same as the last few fiscal years. There are 5 staff members responsible for E&S compliance within the Department of Planning, Building and Development.

Danielle Bishop – Development Review Coordinator – E&S and Stormwater Administrator for the City of Roanoke – Professional Engineer’s License 038057 – recertifying as Combined Administrator November 14, 2013.

Kenneth Richardson - Certified Combined Administrator – Plan Reviewer – Certification #775, exp. 05/31/2014

George Nevergold - Certified Combined Administrator – Plan Reviewer – Certification #6021, exp. 11/30/2013

Lewis Blankenship – Certified Inspector – Development Inspector – Certification #3369, exp. 05/31/2015

Winston Corbett – Certified Inspector – Development Inspector – Certification #838, exp. 12/15/2014

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## 5.4 Maintain Erosion and Sediment Control Ordinance

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Required** Yes

### Description

The City's Erosion & Sediment Control Ordinance establishes the MS4 program authority and requirements for managing storm water quality at construction projects in compliance with the VPDES Permit. This BMP involves annual review of the ordinance and MS4 Program compliance with VPDES Permit requirements and evaluation of effectiveness. Maintain the Erosion and Sediment Control Ordinance in compliance with VPDES Permit requirements. The City of Roanoke has developed an Ordinance for this purpose, Municipal Code Chapter 11.1 (E&S Control). It is available for viewing on the Planning, Building & Development Dept's website. <http://www.roanokeva.gov/WebMgmt/ywbase61b.nsf/vwContentByKey/N27HUPPA490FGUREN>

### Annual Reporting Items

Annual review and evaluation of the E&S ordinance.

### Goals

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#### 5.4.1 Erosion and Sediment Control Ordinance - Annual Evaluation

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

### Description

Maintain E&S ordinance; evaluate annually for compliance with VPDES Permit requirements and for program effectiveness. Documentation of this goal will be continued online access of the ordinance and any subsequent updates or revisions. The ordinance is available for viewing on-line at: <http://www.roanokeva.gov/85256A8D0062AF37/vwContentByKey/N27H9HBK816FGUREN>

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
08/30/2013	'12 - '13 E&S Ordinance - Evaluation

### Description

Ordinance: While no new updates have been made to the erosion and sediment control ordinance, we will be looking to make updates based on changed to SWM Law and regulations in July of 2014. Access is available through the Planning Department webpage: <http://www.roanokeva.gov/85256A8D0062AF37/CurrentBaseLink/N27A2LAK411FGUREN>

Evaluation: E&S inspections are being performed by certified personnel in a consistent manner. The governing agency for erosion and sediment control moved from DCR to DEQ, therefore we expect some changes as a result of that move.

Inspections: Erosion and sediment control inspections are completed at a minimum once per every two weeks and within 48 hours of a rainfall event. Most violations are handled as verbal notification. Our permitting system was also sending out email notification last fiscal year however we have had an internal change to our security policy and are currently not able to send automatic email notifications. We are working with our department of technology to correct this situation. Until such time the inspections are communicated verbally.

Plan Review: Erosion and Sediment Control Plans are reviewed within a time frame that is faster than the state with

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our standard review time at 12 business days. Plan reviewers utilize a checklist that incorporates City requirements as well as standard State requirements. The plan reviews visit most of the sites during the initial plan review period to verify existing drainage patterns and potential erosion concerns.

Enforcement: If verbal notifications of E&S violations is not enough we move to formal Notices to Comply and if necessary Stop Work Orders. In addition we issue Stop Work orders for any land disturbance that occurs without an approved plan.

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## **6 MCM#5 Post-Construction Stormwater Management in New Development and Redevelopment**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### **Description**

To satisfy this minimum control measure, the operator of a regulated MS4 must: a. The operator shall develop, implement, and enforce procedures to address stormwater runoff to the regulated small MS4 from new development and redevelopment projects that disturb greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the regulated small MS4. The procedures must ensure that controls are in place that would prevent or minimize water quality and quantity impacts in accordance with this section. b. The operator shall: (1) Develop and implement strategies which include a combination of structural and/or nonstructural best management practices (BMPs) appropriate for the operator's community. Where determined appropriate by the operator, the operator shall encourage the use of structural and non-structural design techniques to create a design that has the goal of maintaining or replicating predevelopment runoff characteristics and site hydrology; (2) Use an ordinance, regulation, or other mechanism to address post-construction runoff from new development and redevelopment projects to ensure compliance with the Virginia Stormwater Management Act (§10.1-603.1 et seq. of the Code of Virginia) and attendant regulations, and to the extent allowable under state, tribal or local law. Such ordinances and other mechanisms shall be updated as necessary; (3) Require construction site owners and operators to secure authorization to discharge stormwater from construction activities under a VSMP permit for new development and redevelopment projects that result in a land disturbance of greater than or equal to one acre or equal to or greater than 2,500 square feet in all areas of the jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act. Additionally, stormwater discharges from construction activity disturbing less than one acre must secure authorization to discharge under a VSMP permit if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more; (4) Require adequate long-term operation and maintenance by the owner of structural stormwater management facilities through requiring the owner to develop a recorded inspection schedule and maintenance agreement to the extent allowable under state, tribal or local law or other legal mechanism. The operator shall additionally develop, through the maintenance agreement or other method, a mechanism for enforcement of maintenance responsibilities by the operator if they are neglected by the owner; (5) Conduct site inspection and enforcement measures consistent with the Virginia Stormwater Management Act and attendant regulations; and (6) Track all known permanent stormwater management facilities that discharge to the regulated small MS4 and submit the following information in accordance with Section II E 3: (a) Type of structural stormwater management facility installed as defined in the Virginia Stormwater Management Handbook; (b) Geographic location (HUC); (c) Where applicable, the impaired surface water that the stormwater management facility is discharging into; and (d) Number of acres treated.

## Best Management Practices

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### 6.1 Enforce Post-Construction Stormwater Management Ordinance

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Required** Yes

#### Description

The City's Post-Construction Stormwater Management ordinance addresses storm water quality in both development and post-construction projects. This ordinance provides a mechanism for enforcement actions to be taken against applicable property owners/ developers who do not maintain their installed storm water quality Best Management Practices (BMPs).

#### Goals

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##### 6.1.1 Post-Construction Project and BMP Documentation

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

#### Description

Document the number of projects affected by the ordinance and the number of BMPs installed annually in compliance with the Post-Construction Site Storm Water Management Ordinance. Measurement of this activity is annual documentation of the projects affected and BMPs installed as noted.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
08/28/2013	'12-'13 SWM BMP Inspections

#### Description

A total of 366 inspections were performed on existing stormwater management facilities (BMPs) within the City of Roanoke for this past fiscal year. A report detailing the permit number and location has been attached. Furthermore, an excel spreadsheet has been supplied that details each BMP with the associated hydrologic data (ie: HUC, Impaired water, drainage area, etc.

File Attachment ['12 -'13 BMP Data Report.xls](#)

File Attachment ['12 - '13 SWM Inspections Report.pdf](#)

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##### 6.1.2 Post-Construction Stormwater Management Violations

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

#### Description

Document violations of the Post-Construction Stormwater Management Ordinance. Measurement of this activity will be annual documentation of ordinance violations as noted.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
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**Description**

The inspection/enforcement policies and procedures for SWM inspections remains the same as previous fiscal years in terms of issuance of inspection reports and formal notices. This process has worked well for us in terms of our compliance rate. The property owner is notified by inspection report of any violations and the necessary actions needed with a re-inspection date specified. If no action is take after the inspection notice is issued then a formal Notice of Violation is issued to the property by certified mail. This fiscal year a total of 85 notices of violation were issued this last fiscal year, either by way of inspection report or formal certified letter. A report is attached detailing the locations and associated permits where violations were noted and corrected.

File Attachment ['12 -'13 SWM Violations Report.pdf](#)

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**6.1.3 SWM Budget Program****Responsible Staff / Position:**

Danielle Bishop  
Development Review Coordinator

**Description**

Dedicate staff and other resources to conduct plan reviews and field inspections in compliance with VPDES Permit and City MS4 Program requirements pertaining to stormwater management at applicable sites. Documentation of this goal will be annual budgeting of staff and resources as noted and achievement of related goals.

**Planned:** 2010 2011 2012 2013

**Complete:** 2010 2011 2012 2013

**Activity Date****Name**

08/28/2013

'12 - '13 SWM Budget Program

**Description**

No new positions or resources have been dedicated to this program within the last fiscal year. Level funding was provided for this division of the department for this fiscal year. It is anticipated that new positions will be needed for successful implimentation of the VSMP Authority program come July 1, 2014. Attached is a draft funding and staffing plan that was submitted to DCR as part of our 1 year extension request.

File Attachment [Funding and Staffing Plan.pdf](#)

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## 6.2 Maintain Construction Design Manual

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Required** Yes

### Description

The City of Roanoke has developed a Stormwater Management Design Manual to control site run-off impacts to receiving waters and to assist developers in identifying proper storm water quality BMPs for their project(s). This manual differs from the guidance documents prepared by the Commonwealth in that the manual only addresses BMPs that can reasonably be incorporated within the Roanoke Valley. The manual further clarifies the responsibility for developers to establish legally binding maintenance agreements for site/project-specific BMPs throughout the project development phases, passing them to the property owner and all successors or other owners.

### Goals

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#### 6.2.1 Stormwater Management Design Manual

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

### Description

To facilitate compliance with stormwater regulations, the City of Roanoke maintains a Stormwater Management Design Manual. This manual is available for viewing at:  
[http://www.roanokeva.gov/85256A8D0062AF37/CurrentBaseLink/07A84359BDCFBBCAD852573E900595C32/\\$File/Design%20Manual%2001-30-08-Revised.pdf](http://www.roanokeva.gov/85256A8D0062AF37/CurrentBaseLink/07A84359BDCFBBCAD852573E900595C32/$File/Design%20Manual%2001-30-08-Revised.pdf)

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
08/28/2013	'12 - '13 SWM Design Manual

### Description

The SWM Manual can be accessed through the Planning Departments webpage. No new changes have been made this past fiscal year. However we have completed a through review of the manual and have planned changes for July 1, 2014 in order to be in compliance with the VSMP regulations.

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### 6.3 Maintain Stormwater Management Ordinance

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

**Required** Yes

#### Description

The City's Stormwater Management ordinance establishes the MS4 program authority and requirements for managing storm water quality in both development and post-construction projects in compliance with the VPDES Permit. This BMP involves annual review of the ordinance and MS4 Program compliance with VPDES Permit requirements and evaluation of effectiveness. Maintain Stormwater Management Ordinance in compliance with VPDES Permit requirements. The City of Roanoke has developed an Ordinance for this purpose, Municipal Code Chapter 11.4 (Stormwater Management). It is available for viewing on the Planning, Building & Development Dept's website. <http://www.roanokeva.gov/WebMgmt/ywbase61b.nsf/vwContentByKey/N27HUPPA490FGUREN>

#### Annual Reporting Items

Annual review and evaluation of the Stormwater Management ordinance.

#### Goals

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##### 6.3.1 Stormwater Mgmt. Ordinance - Annual Evaluation

**Responsible Staff / Position:** Danielle Bishop  
Development Review Coordinator

#### Description

Maintain SWM ordinance; evaluate annually for compliance with VPDES Permit requirements and for program effectiveness. Documentation of this goal will be continued online access of the ordinance and any subsequent updates or revisions. The ordinance is available for viewing on-line at: <http://www.roanokeva.gov/85256A8D0062AF37/vwContentByKey/N273PHHX460BTFKEN>

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
08/30/2013	'12 - '13 SWM Ordinance & Evaluation

#### Description

**SWM Ordinance:** This fiscal year we have submitted a draft ordinance to the SW Board in order to meet the requirements to obtain a 1 year extension for the implementation of the VSMP. The state continues to work on the model ordinance and with the recent shift of the SWM program and E&S program to DEQ the ordinance will have other updates that will need to be made.

**Evaluation:** The City of Roanoke operates its stormwater management program with the same staff that manages the erosion and sediment control program. This staff has been consistent for the past seven years. It is anticipated that when the City takes over the VSMP that the same staff will perform those additional functions. It is also understood that additional staff may be needed to successfully operate as a VSMP Authority.

**Inspections:** Our post construction inspections program continues to operate effectively. We document all inspections with inspection reports and photos that are digitally attached to the permit. We continue to conduct inspections during construction to ensure that the BMPs are installed according to the approved plans. We also require as-builts and 3rd party certifications to be submitted to ensure compliance with the approved stormwater management plan. Our inspectors have attended the first round of SWM training classes in order to be certified by DEQ to do SWM Inspections.

Plan Review: Review of SWM plans continues as dictated by the amount of land a development disturbs. Our reviewers use checklists that link to our design manual to ensure all code requirements are being addressed. Review of PPP will be added to the duties of the plan reviewers starting July 2014.

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## **7 MCM#6 Pollution Prevention/ Good Housekeeping for Municipal Operations**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### **Description**

To satisfy this minimum control measure, the operator of a regulated MS4 must: Develop and implement an operation and maintenance program consistent with the MS4 Program Plan that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials including those available from EPA, state, tribe, or other organizations, the program shall include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and MS4 maintenance. The operator is encouraged to review the Environmental Protection Agency's (EPA's) National Menu of Stormwater Best Management Practices for ideas and strategies to incorporate into its program. The menu can be accessed at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>. The operator shall identify, implement, evaluate and modify, as necessary, BMPs to meet the following pollution prevention/good housekeeping for municipal operations measurable goals: a. Operation and maintenance programs including activities, schedules, and inspection procedures shall include provisions and controls to reduce pollutant discharges into the regulated small MS4 and receiving surface waters; b. Illicit discharges shall be eliminated from storage yards, fleet or maintenance shops, outdoor storage areas, rest areas, waste transfer stations, and other municipal facilities; c. Waste materials shall be disposed of properly; d. Materials that are soluble or erodible shall be protected from exposure to precipitation; e. Materials, including but not limited to fertilizers and pesticides, that have the potential to pollute receiving surface waters shall be applied according to manufacturer's recommendations.

## **Best Management Practices**

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### **7.1 Maintain Stormwater Pollution Prevention, Control and Countermeasures Programs**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### **Description**

A spill prevention control and countermeasures (SPCC) plan is required for one municipal facility within the MS4 program. Additional facilities with bulk liquid haz-mats are covered by unofficial SPCC-like Plans. Additional stormwater pollution prevention programs, not linked to bulk petroleum storage, are also in-place.

#### **Goals**

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##### **7.1.1 SPCC Plan**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### **Description**

Maintain SPCC plans as required for applicable municipal facilities. Documentation of this activity will be access to or reference to existing SPCC plans for applicable municipal facilities.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/20/2013	FY13 SPCC Plan Update

#### **Description**

As reported last year, an SPCC plan was written for the City's Public Works Service Center (PWSC). This year, staff in the Office of Environmental Management began to edit this plan to reflect any recent changes in practices. The edits have not been finalized yet, but noted changes have mostly been small and clerical in nature.

In the coming months, the City's Fleet Maintenance shop is planning to install a new aboveground storage tank (AST) system to better suit their operations. Personnel in the Office of Environmental Management have already noted this imminent change and are prepared to update the SPCC plan as soon as the removal and installation is scheduled.

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##### **7.1.2 Pollution Prevention & Related Training for City Employees**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### **Description**

Continue P2 and related program training and updates for employees responsible for SPCC maintenance, spill response, and related activities that may pose a pollution risk. Documentation of this activity will be annual records of related training or plan update sessions conducted, including a record of employee attendance.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

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<b>Activity Date</b>	<b>Name</b>
09/03/2013	FY13 Employee Training Update

**Description**

The training rosters for ESMS general awareness training, which includes a section on stormwater pollution prevention, are attached. Under our ESMS directives, City personnel within the ESMS fenceline are to be presented with this training once every fiscal year. These are the training rosters for Fiscal Year 2013.

File Attachment [FY13 ESMS General Awareness Training Rosters.pdf](#)

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**7.1.3 Facility Inspections**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Description**

Conduct weekly, monthly, and/or annual facility inspections and/or reviews as required. Documentation of this activity will be examples of completed inspections and reviews.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/20/2013	FY13 Facility Inspections

**Description**

During this reporting year, the City of Roanoke's facilities have been inspected in several ways. First, every waste accumulation area at the Public Works Service Center (PWSC) is inspected monthly to ensure proper practices and procedures are being followed. These inspections are documented and any corrective action is immediately requested of the responsible party.

In addition, the City's ESMS dictates that emergency drills are to be conducted regularly. Since one of the listed Significant Aspects is stormwater pollution prevention, two drills have been directed at spill response. Each of these drills occurred at separate storm drains at the PWSC. A simulated spill occurred and personnel were asked to respond. Afterwards, an evaluation of personnel knowledge, tool effectiveness, and overall performance occurred. Improvements were made wherever necessary and the drill was run again. This happened until the ESMS team was satisfied with the spill response results.

The ESMS also has directives for performing internal ESMS audits. One such audit was performed during this reporting year. Four auditors from different departments looked at the requirements of our ESMS (which again includes an emphasis on stormwater pollution prevention) and ensured that they were being adhered to by the different divisions at the PWSC.

Lastly, the City's Municipal Building has both a green roof and a rainwater harvesting system. Regular inspections and maintenance occur on both of these systems to ensure they are operating properly and providing the intended benefit.

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**7.1.4 Operational BMPs**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Description**

This section of the report is meant as a place holder for assorted municipal BMPs associated with our operations and/or policies. It will be updated as needed to reflect any new or revised policies and/or procedures related to the City's over-all stormwater management operations.

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**Planned:** 2011 2012 2013

**Complete:** 2011 2012 2013

**Activity Date**                      **Name**

09/12/2013                      FY13 Operational BMP's

**Description**

The City of Roanoke now has a fully implemented ESMS. As part of the ESMS, team members have developed SOP's to direct personnel in how to properly complete tasks associated with our identified "Significant Aspects." One of our significant aspects is Stormwater Pollution Prevention, so there is an SOP for storm drain inspection and cleaning. There are also SOP's for proper disposal of specific wastes, proper use of fueling stations, and proper cleanup of accidental spills. Training presentations were also developed for each of these SOP's, and it has been mandated that personnel must view each presentation that is pertinent to their position once per yer.

In addition to the SOP's, we have performed spill drills at each at-risk storm drain on-site at our Public Works Service Center. The spill drill at one drain went terrifically, but issues were identified with the drill at another drain. So, ESMS team members devised new drain-blocking mechanisms and another drill was performed and deemed successful.

Lastly, the City has previously received recognition for "Excellence in Salt Storage" from the Salt Institute. During this reporting year, that award was replaced with a new recognition entitled "The Safe and Sustainable Snowfighting Award." The City was granted this award for its exemplary salt storage and snowfighting techniques. The certificate for this award is attached.

File Attachment [FY13 SSS Award Certificate.pdf](#)

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## 7.2 Household Hazardous Waste Collection Program

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

### Description

The City of Roanoke conducts Household Hazardous Waste disposal day events with an opportunity for citizens to dispose of household hazardous materials in an environmental-friendly manner. This promotes community good-will and also reduces the amount of potentially hazardous waste being poured down storm drains or improperly mixed with household solid wastes. Beginning in the summer of 2009, Household Hazardous Waste collection events will increase to once monthly in partnership with other local governments and the Roanoke Valley Resource Authority.

### Goals

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#### 7.2.1 Conduct HHW Collection Event

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Conduct at least ten (10) Household Hazardous Waste collection events annually. Beginning July 2009, the HHW events will be occurring monthly on the 3rd Saturday of each month. These events will continue to be held at the Roanoke Valley Regional Authority's Tinker Creek Transfer Station. For additional detail see: <http://www.rvra.net/HHW.htm>. Documentation of this activity will be a report from the Roanoke Valley Regional Authority showing participation by area residents, amounts of wastes collected, and their related program expenditures.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/04/2013	FY13 HHW Event Report

### Description

Attached are data reporting local public participation in household hazardous waste collection events held throughout FY13.

File Attachment [\*HHW FY13 ExpReport\\_1.pdf\*](#)

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#### 7.2.2 Establish HHW Event Funding/Facilitation Agreement

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Beginning in June 2009, the Roanoke Valley Resource Authority (RVRA) has fully absorbed the expense of operating the regional HHW events. As such there is no longer a cooperative funding requirement of member jurisdictions. Additionally, this change has allowed for an increase in event frequency for just 3 times per year, to once each month. All HHW events are operated by the licensed hazardous waste management firm Clean Harbors using only their own properly trained and certified staff. RVRA and City staff act almost exclusively as event promoters and facilitators.

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**Planned:** 2009 2010

**Complete:** 2009 2010

<b>Activity Date</b>	<b>Name</b>	<b>Description</b>
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None

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### **7.2.3 Establish HHW Event Publication Mechanism**

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

#### **Description**

Establish mechanism for HHW collection event to advise public of opportunity. Measurement of this activity will be documentation of HHW collection event public notification as noted.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/03/2013	FY13 HHW Event Publication

#### **Description**

These events, as well as the wastes that are accepted daily, are promoted on the RVRA website, as well in local newspapers. RVRA website - <http://www.rvra.net/HHW.htm>

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### 7.3 Storm Sewer System Maintenance

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

#### Description

The City's extensive storm sewer system must be inspected, cleaned and maintained on an on-going, regular basis.

#### Justification

Maintenance of the system is needed to help mitigate localized flooding during storm events. Periodic cleaning and debris/litter removal is needed to prevent pollution and wastes from entering our local waterways.

#### Annual Reporting Items

Record the number of labor hours committed to this work, as well as the number, type, and location of various maintenance activities.

#### Goals

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##### 7.3.1 Storm Sewer System Inspection, Cleaning and Maintenance

**Responsible Staff / Position:** Steve Taylor  
Maintenance Supervisor  
(540) 853-1254

#### Description

Continue program of storm sewer inspection, cleaning and maintenance activity annually. Goal = 1,200 or more drains inspected annually. Measurement of this activity will be documentation of the number of drains inspected. "Inspected" means the drain inlet was opened and the vault cleaned out or un-clogged as needed. If significant infrastructure damage is found, those drains are scheduled for later repair.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/10/2013	FY13 Inspection and Maintenance Report

#### Description

The maintenance report for the previous fiscal year is attached. In total, 287 storm drains were inspected, 218 were cleaned, and 46 were repaired.

File Attachment [Storm Drain Maintenance.xls](#)

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##### 7.3.2 Storm Sewer System Maintenance Staff and Resources

**Responsible Staff / Position:** Steve Taylor  
Maintenance Supervisor  
(540) 853-1254

#### Description

Establish storm sewer system maintenance program with required staffing, supplies and equipment dedicated for this purpose within the Transportation Division. Documentation of this activity will be documentation of annual budgeting.

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**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/10/2013	FY13 Storm Sewer System Maint. Allocations

**Description**

Attached is a listing of the operational and labor budget established for storm sewer system maintenance, including street sweeping, for the next fiscal year (FY14).

File Attachment [Sweeping and Storm Drain Budget Allocations.doc](#)

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## 7.4 Street Sweeping Program

**Responsible Staff / Position:** Steve Taylor  
Maintenance Supervisor  
(540) 853-1254

**Required** Yes

### Description

Regular sweeping of City streets is required to collect dirt, litter, and debris for proper disposal, and to avoid transport of those pollutants through the storm sewer system to local rivers and streams.

### Justification

The use of mechanized street sweepers is an effective and efficient means of removing debris and litter from the City's streets, before those materials get washed into storm sewer system drains and inlets.

### Annual Reporting Items

Record the number of lane mile swept annually. Record the number of cubic yards of debris collected.

### Goals

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#### 7.4.1 Establish Street Sweeping Policy and Procedure

**Responsible Staff / Position:** Steve Taylor  
Maintenance Supervisor  
(540) 853-1254

### Description

\*Completed in 2009. Will remain unchanged unless revised and reported here. Establish a policy for a street sweeping program in compliance with the MS4 Program and related Standard Operating Procedures. Documentation of this activity will be completion of the street sweeping policy and related SOPs as noted.

**Planned:** 2009

**Complete:** 2009

Activity Date	Name	Description
None		

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#### 7.4.2 Annual Street Sweeping Performance Report

**Responsible Staff / Position:** Steve Taylor  
Maintenance Supervisor  
(540) 853-1254

### Description

Sweep a total of 4,770 lane miles throughout the City annually. Measurement of this activity will be documentation of the total number of lane miles swept annually. When/where able we will also report the number of cubic yards of debris removed.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

**Activity Date**                      **Name**

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**Description**

Summary report of street sweeping activity for FY13. A total of 10,795 lane miles were swept and 9,956 cubic yards (8,363 tons) of debris were removed from roadways & streets (estimate 1 yd<sup>3</sup> = 0.84 tons).

File Attachment [\*FY13 Street Sweeping Report.pdf\*](#)

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**7.4.3 Street Sweeping Program Budget**

**Responsible Staff / Position:** Steve Taylor  
Maintenance Supervisor  
(540) 853-1254

**Description**

Establish requisite budget to support staff assignment and requisite equipment for street sweeping program in compliance with MS4 Program requirements. \*Note on budget allocation beginning in FY11. In an effort to save costs and maximize resources, the operations and labor allocations for street sweeping have been combined with those for storm sewer system maintenance. This new combined budget report is now reported under the BMP "Storm Sewer System Maintenance." Documentation of this activity will be annual budgeting as noted and completion of required street sweeping activities.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

<b>Activity Date</b>	<b>Name</b>
09/03/2013	*Note on FY13 Street Sweeping Budget

**Description**

In an effort to save costs and maximize resources, the operations and labor allocations for street sweeping have been combined with those for storm sewer system maintenance. This new combined budget report is now reported under the BMP "Storm Sewer System Maintenance." This practice began in FY11 and has continued through FY13.

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## 7.5 City Employee Environmental Awareness Training

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

### Description

City employee training related to environmental awareness, pollution prevention, hazardous waste programs and other requirements of the MS4 Program to comply with the VPDES Permit is required on an ongoing basis.

### Goals

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#### 7.5.1 Establish Environmental Policy / Program Training

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

\* Completed in 2009. Policy and procedures shall remain the same unless revised and reported here. Establish a policy to provide environmental awareness training to all employees including job-site or position-specific hazardous materials, pollution prevention, spill response training (at least) annually and in response to operational changes, poor internal audit or finding of improper incident response. Measurement of this goal will be documentation of the policy and program as noted.

**Planned:** 2009

**Complete:** 2009

Activity Date	Name	Description
None		

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#### 7.5.2 Maintain and Conduct Employee Training

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Ensure applicable training programs for environmental awareness, pollution prevention and hazardous waste training programs for City employees are conducted per the MS4 Program. Documentation of this activity includes an annual record of the type and number of classes held including a list of employees attending.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/19/2013	FY13 Trainee Report

### Description

The City of Roanoke continues to provide Environmental Awareness Training as part of its New Employee Orientation. Included in this training is a section with a heavy emphasis on stormwater pollution prevention, which helps trainees to understand the impact stormwater pollution can have on our community. A list of training dates and number of attendees is shown below:

<u>Date</u>	<u>Number of Attendees</u>
9/12/12	16
10/24/12	14
11/7/12	16
1/9/13	17
3/7/13	26
5/8/13	24

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## 7.6 Pet Waste Collection

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

**Required** Yes

### Description

The City's Parks & Recreation Department has implemented a program to provide pet waste collection stations in City parks and greenways as an effort to abate a recurring public nuisance as well as minimize bacterial waste loads to our local streams and rivers. These stations are located in the downtown residential district, where grassy and other areas conducive to pet walking are less prevalent, as well as in many City Parks and Greenways frequented by pets and their owners.

### Goals

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#### 7.6.1 Maintain Pet Waste Collection Units

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Maintain pet waste collection units. Documentation of this activity will be an updated annual listing of the number and location of pet waste collection units.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/03/2013	FY13 Pet Waste Station Inventory

### Description

Three new pet waste stations were added during FY13. This brings the total number of pet waste stations to 36. It was reported that there were 36 stations last year, but it was discovered that three stations were accidentally counted twice. The attached list provides the full list of all pet waste stations, including these three new stations.

File Attachment [Mutt Mitt Station List-2013.xls](#)

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#### 7.6.2 Expand Pet Waste Collection Program

**Responsible Staff / Position:** Christopher Blakeman  
Environmental Administrator  
(540) 853-1173

### Description

Install additional pet waste collection stations in City parks and greenways. Documentation of this activity will be a written update.

**Planned:** 2009 2010 2011 2012 2013

**Complete:** 2009 2010 2011 2012 2013

Activity Date	Name
09/03/2013	FY13 Pet Waste Station Expansion

### Description

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Three new stations were added in FY13: One at Fern Park, one at Kennedy Park, and one at Strauss Park.

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