

City of Richmond

Municipal Separate Storm Sewer System

2014 - 2015 Annual Report

Introduction

This annual report covers the reporting cycle July 1, 2014 through June 30, 2015 - Permit Year 2. The report includes the status of compliance with the permit conditions, the appropriateness of the best management practices and progress towards achieving the identified measurable goals for each of the minimum control measures, and the reporting requirements of the general permit.

Roles and responsibilities described in the program plan have not changed during this reporting period. DPU administers all aspects of stormwater management including operation and maintenance, design, construction, and regulatory compliance. The City constructed one new MS4 outfall during this reporting period. The outfall is located in the Broad Rock creek watershed, HUC code JL01 and drains 7.6 acres.

The status of the MS4 program plan and a summary of the activities planned for the next reporting cycle are included in the following sections. The Utility continues to adjust to assuming responsibility for the VSMP Program. The Utility will continue to plan for compliance with both programs during the next year. The new MCMs will incorporate the state stormwater regulations into the City's stormwater program.

The City of Richmond does not rely on another government entity to satisfy any of the permit obligations.

Monitoring data collected by city staff during this reporting cycle from the following creeks (Shockoe, Grindall, Rattlesnake, Manchester Canal, Goose, Princeton, and Powhite) is included in Attachment (A). Samples collected by volunteers and analyzed by the DPU laboratory are also included in the Attachment. Creeks sampled by volunteers include Crooked Branch (a tributary to Reedy), Gillies, Grindall, Manchester Canal, Pocosham, Reedy, Upham Brook and Stony Run (tributary to Gillies).

The City investigated 30 potential illicit discharges during this reporting cycle. A summary of illicit discharge investigations is in Attachment (B).

There were 467 regulated land disturbing activities during the reporting cycle and 344.533 acres disturbed.

A full inventory of structural controls located within the City (Attachment C) is included in electronic format.

A list of new structural controls placed in operation during the reporting cycle is included in Attachment (D).

MS4 Program Plan Compliance Status

1. Public Education & Outreach on stormwater impacts

Purpose

The objective of this BMP is to increase target audience knowledge about steps to take to reduce stormwater pollution and about the hazards of illegal discharges and improper waste disposal.

Measurable Goals

1a. Continue Public Education and Outreach program

1b. Program goals:

1. Increase knowledge on reducing stormwater pollution;
2. Increase knowledge on illegal discharge/improper waste disposal hazards;
3. Target program to audiences most likely to have significant stormwater impacts

1c. Program components:

1. ID three high priority water quality issues, including selection rationale

The three water quality issues we will focus our efforts on are:

1. *Pollution Prevention and Illicit Discharge Awareness*
2. *Reducing bacteria pollution from pet waste*
3. *Reducing nutrient pollution from improper application of fertilizers*

2. ID and estimate target population size of audience who has most impact
3. Develop messages to targeted audiences
4. Provide for public participation
5. Reach 20% of target audience;
6. Adjust messages as necessary.

Our estimates for target audiences for each of the issues are as follows:

Water Quality Issue	Target Audience Population	Target Audience Population
PP Awareness	All city residents	215,000
Pet Waste	Dog owners	56,000
Nutrient pollution	City residents, lawn care professionals	50,000

1d. Coordinate with other MS4s

As evidence of our public education and outreach effort, we held the following activities during the reporting period:

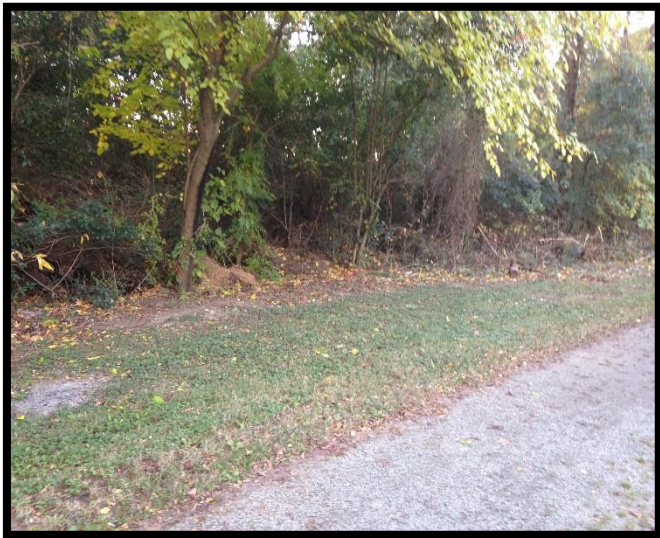
Schedule of Activities held this Reporting Cycle

The Utility held the following activities this year and our audience outreach is reported below.

High Priority Issue #1: Pollution Prevention & Illicit Discharge Awareness



View of debris before clean up in Swansboro neighborhood, Aug. 2014.



*View of same area after clean up. Twenty-seven volunteers participated in the event, removing over **5,000 lbs of trash**, including **400 tires**.*

Measureable Goal	Est. # of People Reached	Est. % of Target Audience Reached	Actual # of people reached	Actual % of target audience reached
Neighborhood clean up	75	3%	27	1.1 %
Household Hazardous Waste Collection	5,000	10%	0	0 %
Distribute FOG brochures	200	20%	165	8.3 %
Distribute commercials	20 M	20%	1.5 M	7.5 %
Write articles for newsletters	3 articles	20%	6000 readers	2.8 %
Train new COR employees	100	20%	20	5 %
Educate 5 th and 8 th graders	2800	20%	1752	7.3 %
Civic Association Meetings	20 meetings	20%	878	0.4 %

High Priority Issue #2: Bacteria

Measureable Goal	Est. # of bags	Est. % of Target Audience Reached	Actual # of people reached	Actual % of target audience reached
Distribute pet waste bags	35,000	30%	66,670	32.6 %

High Priority Issue #3: Nutrient Reduction

Measureable Goal	Est. # of People Reached	Est. % of Target Audience Reached	Actual # of people reached	Actual % of target audience reached
Public Service Announcement	20 M	20%	1.0 M	5 %
Conduct Nutrient Management Workshop with golf courses, lawn care professionals	50,000	30%	1000 people	2 %
Provide posters at Garden Centers	5 businesses	20%	3 centers	1 %

Schedule of Activities for Next Reporting Cycle

During the next year, DPU will continue its public education efforts. The list of activities planned for next year is as follows:

High Priority Issue #1: Pollution Prevention & Illicit Discharge Awareness

Measureable Goal	Est. # of People Reached	Est. % of Target Audience Reached
Household Haz Waste Collection Insert/Event	500	0.2 %
Distribute commercials/PSAs	200,000 x 10 views	7.5 %
Billboard Campaign	200,000 x 10 views	5.0 %
Educate RPS	3,263	13.6 %
Civic Association Meetings	1,200	0.6 %

High Priority Issue #2: Bacteria

Measureable Goal	Est. # of people reached	Est. % of Target Audience Reached
Provide pet waste to DPR	125,000	12.2 %
Billboard Campaign	200,000 x 10 views	5.0 %
Public Service Announcements	200,000 x 10 views	7.5 %

High Priority Issue #3: Nutrient Reduction

Measureable Goal	Est. # of People Reached	Est. % of Target Audience Reached
Public Service Announcements	200,000 x 10 views	7.5 %
Billboard Campaign	200,000 x 10 views	5.0 %

2. Public Involvement & Participation

Purpose

The objective of this BMP is to be a tool to promote public involvement in preventing polluted stormwater runoff from reaching the MS4.

Measurable Goals

2a. Maintain & post online an updated MS4 Program Plan and Annual Report.

A link to the MS4 Program Plan is here [2013 - 2018 MS4 Program Plan](#). A link to the Annual Report is [here](#).

2b. Participate, through promotion, sponsorship, or other involvement, in a minimum of four local activities annually.

As evidence of our Public Participation effort, Stormwater Utility staff participated and/or planned the following activities held during the reporting period:



A happy homeowner after receiving her decorated rain barrel. James River Association River Rats volunteers provided installation. June 2015

Activity	Pollutant Target	Audience
Rain Barrel Decoration Contest for RPS Students	Pollution Prevention	students
Participate in other watershed organizations	Pollution Prevention	citizens

2c. The MS4 Program Plan shall include written procedures for these items.

Schedule of Activities for Next Reporting Cycle

Activity	Pollutant Target	Audience
Drain Marking Program	Illicit Discharge	residents
Host stream clean up	Pollution Prevention	residents
Participate in other watershed organizations	Pollution Prevention	residents
Host Nutrient Education Event	Nutrients	residents

3. Illicit Discharge Detection and Elimination

Purpose

The objective of this Minimum Control Measure is to reduce the discharge of pollutants from the MS4, to protect water quality and ensure compliance with water quality standards and with the Clean Water Act. DPU has a process to investigate and reduce illicit discharges through the industrial pretreatment program and the Community Assisted Public Safety (CAPS) program.

A list of illicit discharges investigated in 2014 - 2015 is in Attachment B.

Measurable Goals

3a. Maintain an accurate storm sewer system map and information table.

DPU has a schedule to map the remaining storm sewer system by the end of the permit term, including all relevant required information. We intend to map points of discharge from the MS4 and outfalls to receiving waters. We expect to coordinate with adjacent MS4 permit holders, including VDOT.

3b. DPU has an ordinance that prohibits non-stormwater discharges into the storm sewer system, in accordance with federal, state, and local laws and regulations.

The ordinance that prohibits non-stormwater discharges can be read [here](#).

3c. DPU has procedures to inspect and identify unauthorized non-stormwater discharges, including illegal dumping to the MS4.

The department has procedures to inspect and identify unauthorized non-stormwater discharges.



Green dye was used to confirm a sanitary leak to the storm sewer system at this rental property on Keighly St. in June 2015. The leak was referred to Code Enforcement and was subsequently repaired.

The total number of outfalls screened during the reporting period was 248; 245 of the outfalls were dry, leaving 3 outfalls discharging; after reporting the problems to the appropriate department for fixing, samples were collected from these outfalls. Results for the discharging outfalls are in Attachment E.

Pretreatment staff investigated 30 potential illicit discharge activities; a summary of the investigations is included in Attachment B.

Schedule of Activities for Next Reporting Cycle

Throughout the permit term, DPU will continue to investigate and eliminate illicit discharges through the Industrial Waste & Pretreatment and CAPS programs.



City staff reported this diesel spill at the base of the Manchester Bridge repair project in April 2015. The spill was a result of vandalism at the project. Pretreatment staff notified the contractor and he cleaned the affected area.

4. Construction Site Stormwater Runoff Control

Purpose

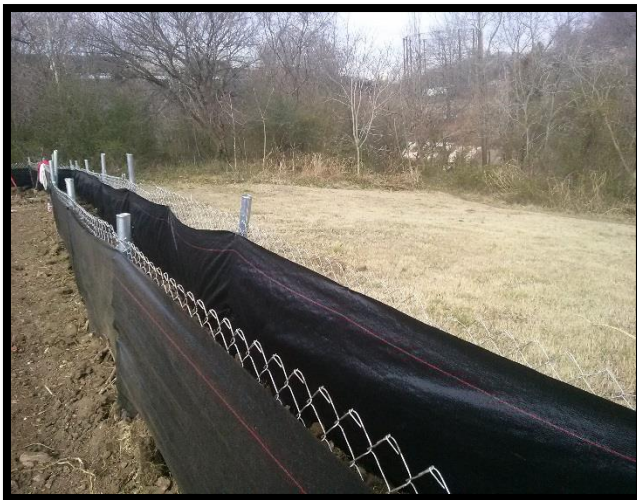
The objective is to administer an erosion and sediment control program in accordance with the Virginia Erosion and Sediment Control Regulations, Section 4VAC50-30-40.

Measurable Goals

4a. applicable oversight

The program compiled the following statistics for construction site inspections during the reporting period:

ESC Activity	#
Total # of regulated land-disturbing activities	467
Total # of acres disturbed	344.533
Total # of inspections conducted	1901
Total # of enforcement actions taken	43
Notice to Comply	34
Stop Work Orders	9



*Example of a "super" silt fence in use
at Stone Brewery site Feb 2015*

Schedule of Activities for Next Reporting Cycle

DPU will continue to manage the ESC program.

5. Post-construction stormwater management in new development and development on prior developed lands

Purpose

The objective is address post-construction stormwater runoff that enters the MS4 from new development and development of prior developed lands.

Measurable Goal

- 5a. Maintain applicable oversight requirements;
- 5b. Require design criteria for stormwater runoff controls;
- 5c. Inspect operate and verify maintenance of stormwater management facilities;
- 5d. Have an updated Program Plan;
- 5e. Track stormwater management facilities.

Post-construction Activity	#
Total # of inspections conducted	43
Total # of enforcement actions taken	1
Notice to Comply	0

Schedule of Activities for Next Reporting Cycle

DPU will continue to monitor and track both private and public stormwater management facilities.

6. Pollution prevention/good housekeeping for municipal operations

Purpose

The objective is to minimize or prevent pollutant discharge from daily operations (road and parking lot maintenance, bulk material storage, etc.) The objective is to prevent pollution at operations facilities from entering the MS4.

Measurable Goal

6a. Minimize or prevent pollution from daily operations;

6b. Identify all municipal high priority (9 types) facilities, and their activities that could contribute to pollution and develop SWPPPs for such facilities;

Summary report on development and implementation of SOPs

Summary report on development and implementation of SWPPPs

Dept.	Facility	ESM	MS	PSF	PW	SSF	VSM	SWPPP
DPR	FHP Field Office	X	X	X				Jul '16
DPR	Byrd Park Field Office	X	X	X				Jul '16
DPR	Oakwood Cemetery	X	X					Jul '16
DPR	Riverview Cemetery	X	X	X				Jul '16
DPR	Maury/Mt. Olivet Cemetery	X	X					Jul '16
DPR	Ops Center	X	X	X				Jul '16
DPU	Ops Center – Jeff Davis	X	X	X			X	Jun '16
DPW	Parker Field – Ops Center	X	X			X	X	Sep '15
DPW	Urban Forestry	X					X	Sep '15
DPW	Grounds Maintenance	X	X	X			X	Sep '15
DPW	Richmond Ambulance Authority						X	Sep '15
DPW	Whitcomb Laydown Yard	X	X		X			Sep '15
DPW	First Tee Golf Course			X				Sep '15

6c. Implement turf and landscape management plans for all areas greater than 1 acre that apply nutrients;

The First Tee Public Golf Course at 400 School Street will have a Nutrient Management Plan by July 2018.

6d. Conduct training for employees;

City staff developed a training program for stormwater awareness for all city employees and for those employees involved in areas that are likely to have an effect on the MS4. The program covers spill prevention, vehicle maintenance, bulk material storage, road and parking lot maintenance and facility maintenance. We developed a biennial training schedule to reach the appropriate personnel.

A summary report on required training follows.

Date	Dept.	Objective	# of emp
10/7/14	WTP	Vehicle & Equipment Maintenance, Storage, Facility Maintenance/Ops	25
10/8/14	Fleet	Facility Maintenance & Ops, VEM, Vehicle Storage	10
10/13/14	DPW/Street Maintenance	VEM, Storage, Facility Maint/Ops, Road, Street, Parking Lot Maint	22
10/14/14	WTP Maintenance/Ops	VEM, Vehicle Storage, Facility Maintenance	18
10/16/14	Stormwater/Collections	VEM, Vehicle Storage, Facility Maintenance, Road, Street & Parking Lot Maintenance	27
10/17/14	DPW/Roadway Maint.	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	43
10/17/14	Parker Field	EPA Training	13
10/21/14	WWTP Maintenance	VEM, VS, Facility Maintenance/Ops	24
10/21/14	WWTP Ops	VEM, VS, Facility Maintenance/Ops	14
10/22/14	Fleet Maintenance	VEM, VS, Facility Maintenance/Ops	19
10/24/14	WWTP Ops	VEM, VS, Facility Maintenance/Ops	11
11/3/14	WW Collections	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	21
11/3/14	DPRCF - Cemeteries	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	12
11/5/14	DPRCF - SW/Byrd Park Shop	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	23
11/6/14	DPW - Grounds Maint	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	39
11/7/14	DPU - Water Dist.	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	24
11/10/14	DPRCF - SS, FH shop	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	16
11/12/14	DPRCF - Maintenance	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	18
11/13/14	DPRCF - Cemeteries	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	18
11/14/14	DPRCF	VEM, VS, Facility Maint/Ops, Road, Street, PL Maint	1
		Total =	398

6e. Require municipal contractors use appropriate control measures for stormwater discharges.

City staff is developing a program to satisfy this requirement.

Schedule of Activities for Next Reporting Cycle

The plan is currently under development.

Employee Pollution Prevention and Training

Description

DPU will implement an employee-training program for operations staff involved with vehicle maintenance and field activities that may affect the MS4. The objective of this BMP is to provide pollution prevention training to City employees to inform them of proper practices to reduce the potential of pollutants entering the MS4.

Schedule of Activities for Next Reporting Cycle

Dept.	# of emp	Equip, Vehicle Maint	PP Awareness	Recreation, Public works yard	Timeline
Mounted Police Stables & K-9	16		X	X	Jul 2015 – Jun 2016
RPS School Bus Maintenance Facility	20	X	X		Jul 2015 – Jun 2016
RPS Transit Warehouse	20	X	X	X	July 2015 – Jun 2016
RPS Maintenance Yard	20	X	X	X	Jul 2015 – Jun 2016
Additional Maintenance Crews	200		X	X	Jul 2015 – Jun 2016
Animal Care and Control	23		X		Jul 2015 – Jun 2016
All Depart. Make-Up	50				Mar 2015 – Jun 2016

Note: All City staff is required to take the online training video.

Other Information:

H. Information required for any applicable TMDL special condition contained in Section 1 of the general permit.

The Chesapeake Bay TMDL Action Plan is in Attachment F.