Municipality/Organization:	Shrewsbury, Massachusetts
EPA NPDES Permit Number:	MAR041158
MassDEP Transmittal Number:	**W-036325**
Annual Report Number & Reporting Period:	**Year 15** **April 1, 2017 – March 31, 2018**

NPDES PII Small MS4 General Permit Annual Report
(Due: May 1, 2018)

Part I. General Information

Contact Person: Jeff Howland Title: Town Engineer

Telephone #: (508) 841-8502 Email: jhowland@shrewsburyma.gov

Mailing Address: Richard D. Carney Municipal Office Building, 100 Maple Avenue, Shrewsbury, MA 01545

Certification:

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.

Signature:

Printed Name: Kevin Mizikar

Title: Town Manager

Date: 4/26/18

Part II. Self-Assessment

The Town has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

Current State of the Phase II Program in Shrewsbury:

The Town in the past has budgeted $5,000 per year for the Phase II Program. This cost does not include money for catch basin cleaning and street sweeping, which is currently budgeted separately with the Town Highway Department. It also does not include funds used for reviews, inspections, research, and reporting for compliance with the permit conditions. Those funds are part of the Engineering Department budget. Occasionally funds have been made available for the Phase II Program from other sources within town budget areas as well. The Town was able to appropriate $50,000 for stormwater during Year 15.

Town budgets as a whole have been greatly reduced in recent years, and the stormwater program has suffered due to the lack of available funding. Catch basin cleaning is one example in town. Just prior to the issuance of the 2003 Phase II Permit, the Town was cleaning 100% of the catch basins within public roadways annually. With each passing year there has been a steady decrease in the amount of catch basins the Town has been able to maintain. During Year One of the permit, the Town was able to clean 60% of the catch basins. By Year Six the Town cleaned 30% of the catch basins annually, and during Permit Year Eight, the Town was only able to clean 4% of the catch basins. During Year 15 the Town was fortunate to be able to clean approximately 52% of the catch basins in town.

While it's clear that an additional funding source is needed to simply maintain the status quo in town, the Town has also been reviewing the potential fiscal impact of the next Phase II Permit. It is apparent that the projected costs cannot be covered within the existing Town budget, and a new revenue source such as a stormwater utility fee will be needed. During Year 15 the Town has been working on creating a stormwater utility. There have been a few challenges, and one of the bigger ones includes trying to set-up the billing process. The different software packages that Shrewsbury uses for water, sewer and property taxes can't communicate with each other. We're told by our vendors that making adjustments to existing software packages could take almost two years to accommodate the stormwater utility billing. We're currently looking for alternative solutions to this, as we would like to get the utility in place. We conducted cost estimates based upon the new MS4 Permit that was issued on April 4, 2016, and we anticipate the cost of compliance to be at least a few million dollars. During Year 12, Shrewsbury submitted a comment letter to EPA regarding various components of the Draft MS4 Permit, and program costs was a major concern of ours.

In addition to exploring funding sources, the Town is also being proactive by recommending changes to the Stormwater Bylaw that would give Shrewsbury more control over construction activities. A revision to the Bylaw was made this year, and it's anticipated that another revised bylaw will be presented as a warrant article at Annual Town Meeting in the future.

This past year Shrewsbury was pleased to take part again in the Central Massachusetts Regional Stormwater Coalition group. The group now consists of 30 communities in Central Massachusetts. Shrewsbury is proud to have served on the CMRSWC Steering Committee since the group's inception, and will continue to remain a major contributor to the Coalition's efforts. Shrewsbury and other communities contributed $4,000 each to cover a funding gap to keep the group viable this year. Attached is a summary of the Coalition's achievements. This year the Coalition adopted bylaws and Shrewsbury has a representative serving as the chair for the Technical Subcommittee.

Shrewsbury is also member of the newly formed Massachusetts Statewide Stormwater Coalition. The goal of the group is to bring the regional coalitions together to work collaboratively and share resources. The group initially received a $50,000 grant from the Department of Environmental Protection that allowed the coalition to produce public education tools and provide workshops for municipal officials. More recently the Coalition received a $200,000 grant to develop and implement a stormwater outreach campaign. Shrewsbury's Town Engineer serves as the chair for the Technical Subcommittee for the statewide coalition.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
01	Pamphlet Mailings	Water & Sewer	# Pamphlets Mailed	One pamphlet mailed to approximately 11,000 subscribers of municipal water/sewer utilities.	Continue mailing pamphlets.
Revised					
CMRSWC	BMP Tour	Engineering Dept.	# Videos Produced	A BMP technical tour was held, and 12 videos were produced that included the site visits and presentations.	
Revised					
CMRSWC	DCR Tour	Engineering Dept.	Distribution of Educational Materials	A BMP Tour of Department of Conservation & Recreation sites was held and DCR made educational materials for participants to distribute.	
Revised					
CMRSWC	School Stormwater Curriculum	Engineering Dept.	Develop Classroom Curriculum	On March 15, 2018 Shrewsbury met with students from Worcester Polytechnic Institute to assist them with Developing an elementary school stormwater curriculum.	Assist with completion of project.
Revised					
CMRSWC	Stormwater Repository	Engineering Dept.	Develop Stormwater Repository	On March 20, 2018 Shrewsbury met with students from Worcester Polytechnic Institute to assist them with developing a stormwater repository for educational materials.	Assist with completion of project.
Revised					

1a. Additions

CMRSWC	Training Sessions	Engineering Dept.	# Training Sessions	The Town had 2 employees attend a training session held at MassDOT on	March 27, 2018

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
04	Water Monitoring & Sampling	Health Dept.	Sample Data	Samples for E. Coli & Total Coliform bacteria were taken on a weekly basis during the bathing season in Lake Quinsigamond	
Revised					
CMRSWC	School Stormwater Curriculum	Engineering Dept.	Develop Classroom Curriculum	On March 15, 2018 Shrewsbury met with students from Worcester Polytechnic Institute to assist them with Developing an elementary school stormwater curriculum.	Assist with completion of project.
Revised					
CMRSWC	Stormwater Repository	Engineering Dept.	Develop Stormwater Repository	On March 20, 2018 Shrewsbury met with students from Worcester Polytechnic Institute to assist them with developing a stormwater repository for educational materials.	Assist with completion of project.
Revised					
CMRSWC	DCR Tour	Engineering Dept.	Distribution of Educational Materials	A BMP Tour of Department of Conservation & Recreation sites was held and DCR made educational materials for participants to distribute.	
Revised					
Revised					
Revised					

2a. Additions

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
05	Local Ordinance	Engineering Dept.	Bylaw Adopted	Local Bylaw adopted at Annual Town Meeting in May 2007. Revised at Annual Town Meeting May 2015.	Possible revisions to Bylaw and additional regulations.
Revised					
06	Storm Sewer Map	Engineering Dept.	GIS Map	GIS Map under production to show additional drainage utility components such as catch basins, interconnection points and manholes.	Continue updating map.
Revised					
14	Grease Trap Inspection Program	Water & Sewer Dept. & BOH	Grease Traps Inspected	Continued to inspect grease traps. Sewer regulations were revised to include internal grease traps.	Continue grease trap inspections.
Revised					
CMRSWC	BMP Tour	Engineering Dept.	# Videos Produced	A BMP technical tour was held, and 12 videos were produced that included the site visits and presentations.	
Revised					
Revised					
Revised					

3a. Additions

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
05	Local Ordinance	Engineering Dept.	Bylaw Adopted	Local Bylaw adopted at Annual Town Meeting in May 2007. Revised at Annual Town Meeting May 2015.	Possible revisions to Bylaw and additional regulations.
Revised					
08	Mass Stormwater Policy	Engineering Dept.	# Projects Reviewed	4 Projects submitted to the Conservation Commission and/or Planning Board were reviewed.	Continue to review new applications.
Revised					
09	Site Plan Reviews	Engineering Dept.	Bylaw Adopted	Reviewed 13 construction projects with >1 acre disturbance.	Continue to review projects.
Revised					
CMRSWC	BMP Tour	Engineering Dept.	# Videos Produced	A BMP technical tour was held, and 12 videos were produced that included the site visits and presentations.	
Revised					
Revised					
Revised					

4a. Additions

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
05	Local Ordinance	Enineering Dept.	Bylaw Adopted	Local Bylaw adopted at Annual Town Meeting in May 2007. Revised at Annual Town Meeting May 2015.	Possible revisions to Bylaw and additional regulations.
Revised					
08	Mass. Stormwater Policy	Engineering Dept.	# Projects Reviewed	4 Projects submitted to the Conservation Commission and/or Planning Board were reviewed.	Continue to review new applications.
Revised					
CMRSWC	BMP Tour	Engineering Dept.	# Videos Produced	A BMP technical tour was held, and 12 videos were produced that included the site visits and presentations.	
Revised					
19	System Inspections	Engineering Dept.	# Inspections	The Town inspected 48 detention basins within the MS4.	Continue to inspect system components.
Revised					
19	System Inspections	Engineering Dept.	# Inspections	The Town purchased 5 iPad tablets to assist with field inspections of the MS4.	Use the equipment for inspections.
Revised					
Revised					

5a. Additions

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
10	Catch Basin Cleaning	Highway Dept.	Catch Basins Cleaned	A total of 2,602 catch basins were cleaned, approximately 52% of all catch basins.	Continue to clean catch basins.
Revised					
11	Street Sweeping	Highway Dept.	Streets Swept	All Public streets and parking lots were swept.	Continue to sweep streets and parking lots.
Revised					
18	Yard Refuse Disposal	Highway and BOH	Collection Days	The Town had 7 curbside collection events of yard refuse for each residence, and offered self-disposal at the maintenance garage facility	Continue to collect yard refuse and compost waste at the Shrewsbury landfill facility.
Revised					
CMRSWC	BMP Tour	Engineering Dept.	# Videos Produced	A BMP technical tour was held, and 12 videos were produced that included the site visits and presentations.	
Revised					
19	System Inspections	Engineering Dept.	# Inspections	The Town inspected 48 detention basins within the MS4.	Continue to inspect system components.
Revised					
19	System Inspections	Engineering Dept.	# Inspections	The Town purchased 5 iPad tablets to assist with field inspections of the MS4.	Use the equipment for inspections.
Revised					

6a. Additions

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) *<<if applicable>>*

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
05	Local Ordinance	Engineering Dept.	Bylaw Adopted	Local Bylaw adopted at Annual Town Meeting in May 2007. Revised at Annual Town Meeting May 2015.	Possible revisions to Bylaw and additional regulations.
Revised					
08	Mass Stormwater Policy	Engineering Dept.	# Projects Reviewed	4 Projects submitted to the Conservation Commission and/or Planning Board were reviewed.	Continue to review applications.
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2015 through March 31, 2016)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures **	($)	
Total program expenditures since beginning of permit coverage	($)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					
Accompanying Regulation Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	

% of population on septic systems	(%)	

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	
Site inspections completed **	(# or %)	
Tickets/Stop work orders issued **	(# or %)	
Fines collected **	(# and $)	
Complaints/concerns received from public **	(#)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	
Qty of structures cleaned **	(#)	
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	($)	
• Hourly or per basin contract rate **	($/hr or $ per basin)	
• Disposal cost**	($)	
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	
• Vacuum truck(s) owned/leased	(#)	
• Vacuum trucks specified in contracts	(y/n)	
• % Structures cleaned with clam shells **	(%)	
• % Structures cleaned with vactor **	(%)	

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	($)	
• Hourly or lane mile contract rate **	($/hr. or ln mi.)	
• Disposal cost**	($)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:

("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	
Zero-velocity spreaders used **	(y/n or %)	
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	
% of salt/chemical pile(s) covered in storage shed(s)	(%)	
Storage shed(s) in design or under construction	(y/n or #)	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	
Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	

Office of the
HIGHWAY DEPARTMENT

TELEPHONE: (508) 841-8513
FAX: (508) 841-8497
jknipe@shrewsburyma.gov

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5398

MEMORANDUM

Date: March 23, 2017

To: Brad Stone, Town Conservation

From: John Knipe, Jr., Superintendent of Streets

Re: Storm Water Permit

From April 27, 2017 through March 23, 2018 the following is an estimate of man-hours related to storm water management activities:

Street Sweeping in the town was 100% completed

Catch Basin Cleaning drainage outlets- 800 hours

Total of 2,602 catch basins cleaned or 52% of total catch basins
Detention Basin Activities- 326 hours

During this period all streets were swept and we cleaned approximately 52% of the catch basins and waterway outlets in town.

With current staffing levels and limited funding we found it difficult to clean all the catch basins.

cc: Kevin J. Mizikar, Town Manager

Volume XII Issue 1

Shrewsbury Water Works

The Shrewsbury Water & Sewer Department Newsletter

2017

Water Conservation Kits For Sale

- **Where:** Shrewsbury Water Dept. Office, Shrewsbury Town Hall
- **Hours:** 8 am - 4:30 pm Monday through Friday
- **Cost:** $6 or $8 per kit.

Indoor ($6 each) and outdoor ($8 each) water conservation kits are now on sale at the Water Department at the Shrewsbury Town Hall.

Kits for Shrewsbury Residents only.

GARDEN HOSE TIMER are available for purchase for $5.00.

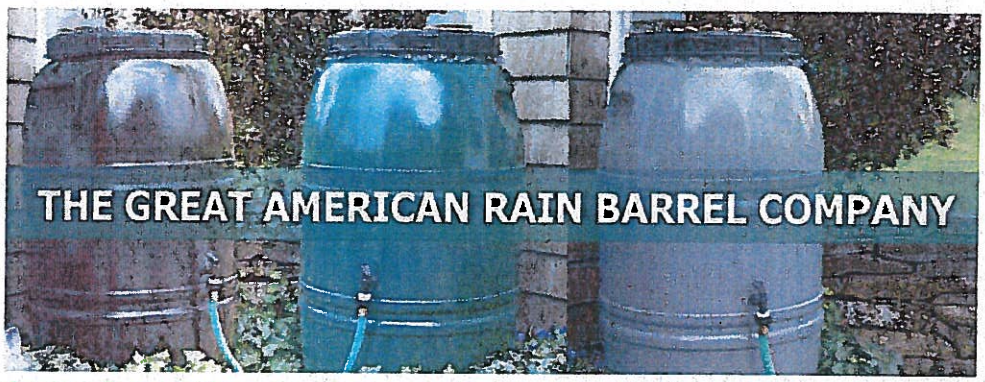
Conserve water, time and energy with this easy to set Garden Hose Timer. Automatic yard watering without the waste is made easier. Set the timer to water early in the morning during times of least evaporation and when it doesn't interfere with your schedule. By setting the timer, you won't over water the yard. The timer will automatically shut off when it has completed the water cycle. Ideal for watering the lawn, garden and micro-watering hanging baskets and potted plants. It is made of durable plastic hosing and a brass connector.

SHREWSBURY WATER CONSERVATION PROJECT

2018 - Shrewsbury Rain Barrel Program

Save Money, Collect Rain Water, Conserve Energy

with the **Great American Rain Barrel**



Did you know **that using a rain barrel to collect rainwater conserves energy, reduces storm water runoff and pollution, and may help you save money on your water bill?**

The Great American Rain Barrels are heavy duty and come with a choice of two ports to use with either a watering can or a garden hose. Each barrel holds 60 gallons and is available in 3 earth tone colors and unpainted.

Residents are eligible to purchase rain barrels at the discounted rate of $69 for green, brown, and gray and $64 for unpainted (saving over 40% off the retail price).

Some Facts about the Great American Rain Barrel

- Versatile design, sturdy construction
- Each barrel holds 60 gallons
- Manufactured in the USA
- Choice of 3 earth tone colors
- 100% recycled containers
- 20 years of satisfied customer

To Order:

Visit www.tgarb.com search 'Community Programs' for your town or city *or* call (800) 251-2352

Pickup Info:

Saturday May 19th 2018
9:00 am - 11:00 am
Town Hall Parking Lot
100 Maple Avenue
Shrewsbury, MA 01545

Deadline for ordering: May 11th 2018, 5:00 pm

Where Does Your Household Rank?

Check your current water bill. If your family's quarterly water use is higher than the target numbers listed below, your household needs to make a greater effort to conserve water.

Target Quarterly Residential Water Use								
No. of People in Household	1	2	3	4	5	6	7	8
Target Quarterly Water Use (in gallons)	5,931	11,862	17,793	23,724	29,655	35,586	41,517	47,448

If your family's quarterly water usage is equal to or lower than the target numbers in the chart above, keep up the good work! You are doing your part to conserve water at home, and your family meets or beats the State's 65 gallons per person per day water use goal.

CONSTRUCTION NEWS

Work has been completed on Lake Street for the installation of approximately 2,800 linear feet of 8-inch CLDI water main pipe. **J.A. Polito & Sons, Inc.** was awarded the Contract in the amount of $593,787.05 to do the work which includes 450 linear feet of 12-inch & 18-inch storm drain pipe on Francis Avenue and Greenwood Street.

WATER USE IT WISELY

Tips for Saving Water

Here is some water saving tips to conserve water.

Outdoor

Save water by using hose washers between spigots and hoses, which will eliminate leaks.

Use shut-off nozzles on hoses and automatic shut-off devices on irrigation systems.

Capture and reuse rainwater to water your vegetable/flower garden.

Indoor

Shorten your shower time by one minute.

Don't use running water to thaw frozen foods.

Wash only full loads of Laundry.

When cleaning out fish tanks, use the nutrient-rich water to your plants.

SHREWSBURY WATER CONSERVATION PROJECT

Test Your WaterSense!

How much do you know about water? Test your knowledge of water use behaviors and common water saving opportunities with these questions below.

1. There are 7.48 gallons in a cubic foot of water. Therefore, 2000 cubic feet of water is how many gallons?	2. How many billion gallons of water per day for domestic and public use do public water supplier's process?	3. How many water wells are drilled each year in the United States for domestic, farming, commercial and water testing purposes?
A. 5,280 gallons B. 8,623 gallons C. 14,960 gallons D. 22,484 gallons	A. 17 billion gallons B. 25 billion gallons C. 38 billion gallons D. 48 billion gallons	A. 200,000 wells B. 600,000 wells C. 800,000 wells D. 1,000,000 wells

Answers: 1C; 2C; 3C

Management of Non-Dispersibles in Wastewater

In recent years, municipalities and sewer districts have faced an increasingly frequent challenge: the tendency for consumer products - such as baby wipes, cleaning wipes (i.e., sanitizing wipes, shop wipes, dusting wipes, and mop heads, etc.), personal wipes, and feminine hygiene products - to interfere with private plumbing and public collection systems, to plug pumps, and to cause further interference at treatment plants. This interference often requires equipment to be taken offline for maintenance or replacement. Consequences of this trend include increased operating costs, a reduced level of service to customers, increased risk for personnel to be injured when responding, capital expenses to replace equipment, difficulty pumping septic tanks, emergency plumber costs and property damage incurred by homeowners. Utilities may experience environmental damage from sanitary sewer overflows that occur when interference reduces the capacity of wastewater conveyance and treatment systems.

Clogs are caused by products that are not truly dispersible, as well as non-dispersible products that are not intended to be flushed. These products make their way into sewers by a combination of inconsistent or misleading labeling, poor marketing, and lack of attention by consumers. Examples of challenges and inconsistency include the following:

- Difficulty developing a standard for "compatible," "unrecognizable," and "reasonable period of time," and determining how these attributes would be evaluated consistently in a third-party testing environment;
- Products that do not satisfy the above Assessment but are nevertheless marketed as flushable;
- Package labeling states that a product is flushable, when it has not been certified as satisfying the three-part Assessment;
- Package labeling or design implies flushability, such as packages designed to hang from a standard toilet paper holder, or label is silent on disposal method;
- Package labeling includes disposal instructions in fine print, not displayed prominently, or with qualifiers (e.g., the number of products disposed, disposal in septic systems vs. public sewer);
- Non-dispersible products are placed on the same store shelf as toilet paper, confusing the customer and implying flushability; and
- Non-dispersible products intended for a use that promotes disposal by flushing, such as baby wipes, personal care wipes, feminine hygiene products, and disposable toilet wand heads.

The consumer market for flushable products is forecast to increase substantially in the next decade, so resolving this issue needs to be a priority.

Central Massachusetts Regional Stormwater Coalition
Coalition Activities in Year 15 (April 1, 2017-March 31, 2018)

Introduction

The Central Massachusetts Regional Stormwater Coalition (CMRSWC) is an MS4 resource for all 30 member communities. CMRSWC has three standing sub-committees to allow members to focus efforts on specific issues important to the Coalition. These sub-committees are:

- Education Sub-Committee: responsible for developing and promoting outreach and educational materials required by the MS4 permit. The Education sub-committee is also responsible for planning and scheduling the Annual Meeting, educational workshops, and other forums for discussion of MS4 topics. The committee is CMRSWC's primary liaison to professional organizations and university partnerships.
- Technical Sub-Committee: responsible for managing Coalition's website and shared equipment resources; advising members on relevant technical issues including GIS system maintenance and upgrades.
- Legislative Sub-Committee: serves as the liaison to the Massachusetts Statewide Stormwater Collaborative; responsible for tracking MS4 related legislation and regulations and keeping the legislature and regulatory agencies informed of the concerns of member communities.

The CMRSWC Steering Committee held four meetings during this 12 month reporting cycle. The CMRSWC Annual Meeting was held on November 15, 2017 in Worcester. Members of CMRSWC also attended and actively participated in the Massachusetts Statewide Municipal Stormwater Coalition meetings.

MS4 Workshops and Technical Training (Minimum Control Measures 3, 4, 5, and 6)

Best Management Practices Technical Tour

On October 25, 2017, CMRSWC sponsored a technical tour and workshop for DPWs, Highway, and other staff in member communities responsible for the operations and maintenance of local roads, drainage, sidewalks, parking lots, and other public infrastructure. The tour was led by a team from Fuss & O'Neill and took attendees from 14 communities on a "road trip" to visit sites at Dennison Lubricants (Worcester), Tufts Veterinary School (North Grafton), and several Mass DCR sites. At each site, participants had the opportunity to learn about the BMPs in use at the site from a variety of staff from DCR and Mass DOT, as well as engineers and project owners. A lunch program offered additional opportunities to discuss stormwater management techniques. Handouts, presentation materials, and video footage of the tour are being offered to CMRSWC members through the website.

Videos and Templates (Minimum Control Measures 1, 3, 4, 5, 6)

As a follow-up to the Best Management Practices Technical Tour, 12 new CMRSWC videos were produced that feature the various BMPs visited on the tour, presentations from the day, and additional detailed footage recorded at the BMP sites after the event.

Department of Conservation and Recreation Education and Outreach Materials (Minimum Control Measures 1 and 2)

As part of the Stormwater BMP Technical Tour, Kelley Freda from the Department of Conservation and Resources presented participants with stormwater education and outreach materials available from DCR. She distributed a packet of various brochures targeting a diverse audience. These materials are available from the DCR website www.mass.gov/dcr/watersupply

Worcester Polytechnic Institute Water Resource Outreach Center (Minimum Control Measures 1 and 2)

Worcester Polytechnic Institute's (WPI) Massachusetts Water Resource Outreach Center (WROC) is dedicated to assisting Central and Eastern Massachusetts municipalities and watershed associations with their water resource needs through student project collaboration. CMRSWC has been working with the WPI-WROC and MassDEP on Interactive Qualifying Projects (IQPs) since 2012.

The CMRSWC and MassDEP sponsored a 2017 WPI-WROC project called "Stormwater Management Educational Materials for Central Massachusetts Municipalities." Municipalities are required to distribute educational materials on stormwater issues to comply with the MS4 permit; "the ultimate objective being to increase knowledge and change behavior of the public so that pollutants in stormwater are reduced." The project team used public surveys and questionnaires to assess the public's understanding of stormwater and stormwater runoff. The results showed that most people do not understand what stormwater is, how it gets into our waterbodies and the impacts it has on water quality and public health. Focusing on increasing awareness of the importance of protecting our water among our elementary school student population, the WPI students developed a stormwater toolkit featuring an activity book and stickers for children. The activity book includes opportunities for parents to participate and ask questions.

Building on the previous work for educational materials, the 2018 student team worked with stormwater experts at MassDEP, MA Department of Education representatives and school teachers from Shrewsbury and Holden to develop a 5th grade watershed curriculum that meets the new Massachusetts Next Generation science standards. Components of the curriculum include the water cycle, watersheds, stormwater runoff and other environmental features that demonstrate to children how runoff and contaminants affect water quality. The students will be presenting their findings on May 1, 2018 at 4:00 p.m. at the MassDEP Central Regional Office in Worcester.

More information is available at: http://wp.wpi.edu/wroc/

EnviroScape Nonpoint Source Pollution Model (Minimum Control Measures 1 and 2)

The CMRSWC owns two 3D EnviroScape® Watershed/Nonpoint Source models which are available for use by our members. These models provide a hands-on, interactive demonstration of the sources and effects of water pollution and ways to prevent pollution. The CMRSWC sponsored a booth at the EcoTarium's Earth Day Celebration in April using the model to teach about stormwater education. Several member communities including Holden, Charlton, Framingham, Hopkinton, Lunenburg, Palmer, Shrewsbury, Auburn, & Dudley have used the EnviroScape model for presentations at Earth Day festivals, school programs, scouting events, and public works open houses.

Member Needs Survey

In March 2018, CMRSWC contracted with Fuss & O'Neill to develop a technical needs survey that measured the concerns of member communities with respect to compliance with the updated MS4 General Permit for Stormwater Discharges (which is currently stayed pending judicial review). The survey served as a follow-up to the first coalition member survey in the fall of 2016 and asked members to rank certain programs/tasks that CMRSWC could support to assist members in complying with the MS4 Permit. The survey also requested that respondents identify the CMRSWC tools, resources, and events that they made use of during 2017 or provide feedback on why they chose not to take advantage of such tools or events.

Coalition members ranked their needs as follows:

1. Maintain the CMRSWC Website with Available Tools and Templates
2. Provide Written IDDE Program Template and Training
3. Provide NOI/SWMP Template and Training

Coalition members ranked their compliance concerns as follows:

1. Preparation of NOI and SWMP
2. Performing Outfall Inspections
3. Performing Outfall Inventory Ranking
4. Meeting TMDL Requirements
5. Developing Written Catchment Investigation Procedures
6. Designing and Constructing BMP Retrofits
7. Designing and Maintaining SWPPPs
8. Identifying and Removing Illicit/Illegal Discharges
9. Developing a Written IDDE Program
10. Mapping the Storm Sewer System

Statewide Stormwater Coalition Grant Award

CMRSWC announced at its January 8th Steering Committee Meeting a $200,000 grant from the State to the Statewide Stormwater Coalition to develop and implement a statewide stormwater education and outreach campaign. The project will provide stormwater education materials to communities across the state, including CMRSWC member communities. The funds, issued through the Commonwealth's Fiscal Year 2018 "MS4 Municipal Assistance Grant Program," recognize the important work of stormwater coalitions and regionalized stormwater management. Materials will be made available in July 2018.

Conclusion

Working as a group, CMRSWC collectively protects regional water resources while assisting communities with meeting requirements of the MS4 permit in an efficient and cost-effective manner. Member communities continue to benefit from the use of CMRSWC tools, resources, and events to continue to implement their MS4 program with local staff and resources.