

Municipality/Organization: Town of Charlton

EPA NPDES Permit Number: MAR041100

MaDEP Transmittal Number: W-036476

Annual Report Number

& Reporting Period: No. 15: May 1, 2017 - April 30, 2018

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Todd Girard

Title: Conservation Commission Agent

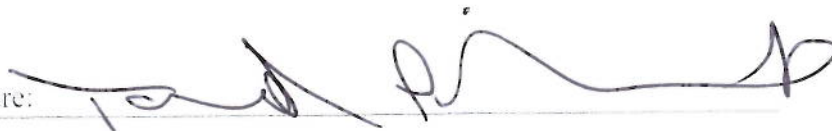
Telephone #: 508-248-2247

Email: todd.girard@townofcharlton.net

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: Todd P. Girard

Title: Conservation Agent

Date: April 30, 2018

Part II. Self-Assessment

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

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	Planned Activities – Next Permit Term
1A	Public Ed for residents.	Board of Selectmen & Town Administrator	Annual article in the Charlton Gazette, Cable Broadcasts	Four articles were published in the Gazette for spring and fall clean up activates (a free paper that is delivered to every address in Charlton) on Household Hazardous Waste Disposal. Articles and events were broadcast on the local cable network. Flyers detailing Hazardous Waste Collection Events were added to the Gazette four times in the year, and placed in Town Hall and library.	Continue publishing articles on stormwater and broadcasting related events and information on the local cable network. Distribute stormwater education pamphlets at upcoming household hazardous waste collection events.
Revised					
1B	Stormwater Education for students.	Board of Selectmen & Town Administrator	Posters in Public Schools w/ permission. Student participation hours & activities completed.	Science Club Students and local Boy & Girl Scouts participated in Earth Day, Town, Stream, and Farm Clean Up days. The Town continued the Science Club Study group for Stormwater to include the local watershed group Last Green Valley and USACE. Outreach programs were had with the Senior Center quarterly. CMRSC has established educational materials available on the web page	Continue to incorporate students in stormwater education expand to high school or college students and volunteer events and begin tracking participation. Continue Educational outreach with CMRSC
Revised					
1C	Public Ed community reach out.	Board of Selectmen & Town Administrator	Charlton website posts stormwater info. Record # of website hits.	The Town website was maintained with web links to EPA, DEP and other stormwater sites. A total of 10679 hits were recorded on the Conservation Commission web page during the Year 15 reporting period.	Update the website with information on stormwater and continue to record the number of hits to the website
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
1D	Stormwater Education Survey	Board of Selectmen & Town Administrator	Conduct survey in Gazette w/ permission.	Charlton continues to be active with CMRSC and has utilized existing survey data for its portion of stormwater improvements	Publish previously obtained survey and the results in the Gazette as well as on website and a Press Release. Further utilize CMRSC educational materials
Revised					

1a. Additions.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
1E	Distribute Education Flyers	Board of Selectmen & Town Administrator	Hand out Flyers at Hazardous Waste Collection Events.	The local Boy Scout Chapter was recruited to hand out educational flyers at the Household Hazardous Waste Collection Events held in May & October 2017. All 927 participants received a flyer.	Continue to hand out/provide flyers and educational material at Household Hazardous Waste Collection Events, as well as other community events such as the Earth Day cleanup (see BMP 2E).
Revised					

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
2A	Community participation.	Board of Selectmen /Chairman	Establish a Stormwater Panel.	The Stormwater Panel, consisting of: the Building Inspector, Town Planner, Conservation Commission Agent, and Highway Superintendent, meet quarterly throughout the permit year to discuss specific SWMP activities. ConCom and Highway meet approximately monthly to discuss stormwater issues. A Press Release was sent out for the Public Information Session held at the June 2017 Town Selectmen's Meeting. The Information Session focused on stormwater	Continue to set up advertisements of the Panel's meetings on the website and in the Town Gazette to increase public awareness, receive input and solicit involvement. Will continue to utilize Central Massachusetts Regional Stormwater Coalition for further community specific tasks

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
Revised				permitting standards and was televised. Town is also participating in Central Massachusetts Regional Stormwater Coalition	
2B	SWMP recommendations.	Board of Selectmen/Members	Board of Selectmen considers the recommendations.	The Town Administrator met with the Town Planner and Highway to discuss the progress of the SWMP and upcoming program needs in September 2017. ConCom met throughout the year to discuss stormwater projects, SWMP development and next steps, as well the annual report. Town is also participating in Central Massachusetts Regional Stormwater Coalition	Continue to review SWMP recommendations with the Board of Selectmen. Town Administrator and Stormwater Panel. Seek opportunities to broadcast SWMP updates on local TV and receive public input at meeting. Continue to work with CMRSC
Revised					
2C	Community participation/Household Hazardous Waste collection.	Household Hazardous Waste Committee	Annual Hazardous waste day (depends on funding).	Hazardous Waste Collection Events were held in May and October of 2017. As discussed in BMP IE, the local Boy Scout Chapter was recruited to hand out educational flyers at the event. Flyers will be distributed by Town staff at the May 2017 collection event.	Hold at least two Hazardous Waste Collection Events and recruit students and/or boy scouts to hand out educational stormwater flyers as a part of community service (also refer to BMP 1B).
Revised					
2D	Community participation.	Household Hazardous Waste Committee	Publish the results of Hazardous Waste Collection in the Gazette w/ permission.	Participation in the Hazardous Waste Collection Events was tracked by a tally of cars and resulted in 867 cars for the May and October 2017 events. This information was posted on the town website.	Continue tracking community participation. Establish a method of tracking the amount of hazardous waste collected at events and post information on the Town website.
Revised			Results on website.		

2a. Additions.

2E	Earth Day: Town and Stream Clean Up Activity	BOS. Board of Health, Conservation Commission	Number of volunteers and trash/debris collected. Before and after photos.	The Town hosted a farm cleanup event on April 29 and May 6, 2017 at the Fay Mountain Farm. Volunteers performed maintenance around the farm, including	Continue tracking amount of volunteers participating in the event and trash/debris collected and posting information on Town website.
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Revised				litter removal and tree pruning. The Town planned for Earth Day cleanup activities to be conducted on April 29, 2017. The Town anticipates collecting litter from streams and roadsides that are prone to dumping or accumulation of litter.	Identify specific streams to be cleaned, track streams cleaned and clean new areas each year.
BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
2F	Shoreline Cleanup Annual Event	BOS & Conservation Commission	Number of volunteers and trash/debris collected. Before and after photos.	Seasonally Town performs a four-foot drawdown on the recreational lakes and ponds for residents to conduct shoreline cleanup activities near their property. The following ponds were cleaned: Glen Echo, S. Charlton Reservoir and Baker Pond. Town notifies residents of the activity by posting notices and advertising on the local cable network.	Continue to advertise and support cleanup events. Encourage waterfront residents to clean up areas abutting their property. Utilized newly formed lake and ponds committee
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
3A	Hazardous Waste Education.	Household Hazardous Waste Committee	Annual Hazardous Waste Day (Depending on funding).	Hazardous Waste Collection Events were held in May and October 2017. The events were advertised in the local paper and cable (refer to BMP 1A).	Hold at least two Hazardous Waste Collection Events and distribute education handouts (refer to BMP 1E).
Revised					
3B	Identification of Illicit Connections.	Highway/Gerry Foscett	Will seek appropriation to train majority of DPW employees.	DPW staff members inspect for illicit discharges while performing regular catch basin cleanings. Inspection forms as part of Charlton's SOPs were used to	Annually review training program in-house and incorporate into existing inspection procedures. Use the catch basin inspection form found in the

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
Revised			Train DPW staff annually	record conditions of catch basins for follow-up actions. Town is also participating in Central Massachusetts Regional Stormwater Coalition to improve the existing system	SOPs to incorporate illicit discharge inspection information. Town is also participating in Central Massachusetts Regional Stormwater Coalition
3C	Storm Drainage System Map.	Highway and Conservation Commission	Initial Base Map completed	All outfalls within the urban area were field verified using a GPS and compiled on a GIS base map in 2007. A total of 65 outfalls were mapped. Additional mapping was performed in Year 14 locating outfalls discharging into water bodies. Town is also participating in Central Massachusetts Regional Stormwater Coalition for mapping	Review mapping requirements under the new permit (when available) and begin planning to meet funding requirements. Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					
3D	Illicit Connection Data.	Highway/Gerry Fokett	Use data to assess progress.	Previous outfall inspections did not reveal any obvious illicit discharges. A 2007 study identified 9 outfalls with dry weather flow. A second study in 2008 revisited all 9 outfalls and analyzed water quality data from 5 outfalls exhibiting dry weather flow. No illicit discharges were identified in previous studies and further investigation was not warranted during the permit year. Town is also participating in Central Massachusetts Regional Stormwater Coalition	Continue to monitor outfalls and catch basins and take necessary actions to eliminate illicit discharges.
Revised					

3a. Additions.

3E	Illicit Discharge Ordinance	Planning Board & Consultant	Plan to seek Town meeting approval.	By law was approved at the May 2011 meeting	Town continues participating in Central Massachusetts Regional Stormwater Coalition
Revised					

3F	Outfall Screening Strategy and Inspections for Illicit Discharges.	DPW/ Conservation Commission, Consultant	All outfalls inspected for illicit discharges by end of permit term.	A subwatershed prioritization and approach for IDDE activities was developed in 2007. Dry weather flows were sampled as outlined in BMP 3D. Additional funding was not available in Permit Year 15 to evaluate outfalls outside of the urbanized area.	Review the new permit requirements (when available) related to illicit discharge inspections and begin planning to meet funding requirements. Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised		Consultant			

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
4A	Construction Site Runoff Inspection Checklist.	Building Inspector/ Curt Meskus	Seek approval to develop SW quality checklist.	The checklist previously developed and approved for the building inspector was used for all inspections. Town is also participating in Central Massachusetts Regional Stormwater Coalition	Continue to revise checklist as needed with introduction of new stormwater ordinance or bylaw.
Revised					
4B	Construction Site Runoff Inspection Checklist. Develop Erosion Control Regulation	Building Inspector/ Curt Meskus, Planning Board	Seek approval to implement the checklist. Regulation at Town Meeting.	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission	Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					
4C	Construction Site Runoff Control Education. Procedure for Public Input	Planning Board/Alan Gordon, Highway & Conservation Commission	Require Erosion Control. Record number of calls regarding site runoff	Developers use the checklist as a reference for inspections of sites. The Highway Dept. and Conservation Commission handle complaints for construction site issues in Town. Numerous calls were received by the	Encourage public involvement by updating the website with whom to contact regarding construction runoff problems. Continue to handle complaints that are received. Town is also participating in Central

Revised				Conservation Commission and all issues were addressed.	Massachusetts Regional Stormwater Coalition
4D	Construction Site Runoff - Site Plan.	Planning Board/Alan Gordon	Require Construction in Phases.	The Site Plan regulations were amended in June 2006 to address construction phasing.	Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					

4a. No additions at this time.

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	Planned Activities – Next Permit Term
5A	Assess Existing Post Construction Runoff Program	Planning Board/Building Inspector	Meet with Board & Inspector to Review	Existing regulatory controls were reviewed in Year 1. The Subdivision regulations were amended in June 2006 to address construction phasing.	Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					
5B	Develop stormwater ordinance	Planning Board/Building Inspector	Seek Approval to review Subdivision bylaws	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission	Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
5C	Review stormwater ordinance	Planning Board/Building Inspector/BOS	Plan to Seek Town Meeting Approval	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission Town is also participating in Central Massachusetts Regional Stormwater Coalition.	Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
5D	Revisit stormwater ordinance	Planning Board/Building Inspector/BOS	Review for any Changes	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission Town is also participating in Central Massachusetts Regional Stormwater Coalition.	Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					

5a. Additions.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
5E	Develop and implement inspection program, public input procedure	Planning Board/Building Inspector, Conservation Commission	Checklist and O&M Plan by end of year 4. Records of inspections completed and results.	The checklist developed for the building inspector was used for numerous inspections. No complaints were received from the public regarding stormwater management facilities.	Continue to conduct site inspections to ensure BMPs are constructed as designed. Encourage public involvement by updating the website as deemed necessary. Continue to handle complaints that are received.
Revised					

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	Planned Activities – Next Permit Term
6A	Municipal Good Housekeeping: Highway, Storm Drain System Inspection and Maintenance	Highway Gerry Foscett	Catch Basin & Street Sweeping Schedule, Inspect and maintain storm drain system at least annually	All catch basins in Town were cleaned at least once and some areas prone to sediment build up were cleaned twice. All streets were swept one to two times based on accumulation of sediment. DPW maintained a record of cleanings and storm drain system maintenance needs with an inspection form that was completed at the time of cleaning. The Town utilized its Standard Operating Procedures (SOPs) to track cleaning and inspection activities for BMPs.	Utilize SOPs and continue storm drain system inspection and maintenance. Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
6B	Municipal Good Housekeeping: Earth Day	Board of Selectmen, Board of Health Conservation Commission	Seek approval to provide assistance with Earth Day & Stream Clean Up.	The Town hosted farm cleanup events on April 29 and May 6, 2017 at the Fay Mountain Farm. Volunteers performed maintenance around the farm, including litter removal and tree pruning.	Continue soliciting and tracking number of volunteers participating in event and trash/debris collected and post on Town website (refer to BMP 2E). Target streams and other areas known for problems.
Revised				The Town planned for Earth Day cleanup activities to be conducted on April 29, 2017. The Town anticipates collecting litter from streams and roadsides that are prone to dumping or accumulation of litter.	Town is also participating in Central Massachusetts Regional Stormwater Coalition.
6C	Municipal Good Housekeeping: Highway	Highway Gerry Foscett	Review Cleaning Schedule & Revise if needed.	The Town continued to reuse catch basin cleanings as landfill capping material, as approved by DEP.	Continue to conduct follow-up maintenance activities and/or revise cleaning schedules as appropriate and as funding allows.
Revised			Storm drain system cleaning review.	Cleaning and maintenance needs identified during previous stormwater outfall screening efforts were addressed as resources allowed (see also BMP 6H).	

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
6D	Municipal Highway	Highway Gerry Foscett	Meet with Highway to talk about any updates. Phase II Training Update	ConCom and Highway meet approximately once a month to discuss the progress of the SWMP. Town is also participating in Central Massachusetts Regional Stormwater Coalition. ConCom provides updates to the Town Administrator at department meetings.	Incorporate new information regarding storm drain system maintenance (e.g., BMP 6C) and incorporate any modifications into training sessions (see BMP 6F below). Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					

6a. Additions.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
6E	Evaluate Municipal Facilities for Stormwater impacts	Highway Gerry Foscett, Consultant	Pollution Prevention Inspection Checklist, Record of Inspections and Maintenance.	Stormwater recommendations outlined in October 14, 2005 report nearing completion. Construction for the new Highway Dept. building has been completed.	Continue to inspect municipal facilities on a regular basis. Clean stormwater structures as per the SOPs.
Revised					
6F	Conduct Town Employee Stormwater Training.	Highway Gerry Foscett	Attendance sheet and copy of program	Informal (in-house) training is conducted on a regular basis for DPW staff for spill prevention and cleanup techniques, as well as other pollution prevention practices.	Continue/update training program and track attendance annually. Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
6G	Develop and implement a SPCC Plan for the Fueling Station.	Highway Gerry Foscett	Copy of SPCC Plan & Records	The SPCC Plan for the Town Fueling Station was developed in 2006 and compliance is ongoing.	Continue compliance with the SPCC Plan requirements and update the plan as necessary.
Revised					
6H	BMP evaluation and O&M Plan	Highway Gerry Foscett	Record of Maintenance and/or Improvements	The Town maintained 17 detention basins in accordance with the Standard Operating Procedures (SOPs) outlined	Continue to track BMP maintenance. Utilize SOPs and O&M Plan when maintaining BMPs.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15	Planned Activities – Next Permit Term
Revised				in the Operation and Maintenance (O&M) Plan. The detention basins were inspected and maintained as needed: mowed, brush cut, forebays and outfalls cleaned and inspected, and trash removed. The results of the retrofit evaluation for the 15 Town-owned BMPs remained under consideration due to budget constraints.	

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	Planned Activities – Next Permit Term
7A	Map outfalls to TMDL Waters	Highway, Conservation Commission	All outfalls mapped to TMDL waters by end of year 4.	All outfalls within the urban area were field verified using a GPS and compiled on a GIS base map in 2007. Additional funding for mapping was not available in Permit Year 15. Town is also participating in Central Massachusetts Regional Stormwater Coalition for further mapping	Continue mapping outfalls and the contributing drainage system with priority to those which contribute to TMDL waters, as budget is available. Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
7B	Evaluate existing data for TMDL waters to develop BMPs	Conservation Commission	Data sheets, list of potential BMP recommendations	As discussed in BMP 3D, outfalls have been inspected and sampled for illicit discharges. As discussed in BMP 6H,	Evaluate outfall and other water quality data and develop BMPs to address water quality of the TMDL

Revised				The results of the retrofit evaluation for the 15 Town-owned BMPs remained under consideration. The Town and its consultant reviewed the TMDL requirements under the draft Interstate, Merrimack and South Coastal Watershed permit during a September 2011 status meeting for the SWMP.	waters, as budget and staff resources are available. Review the requirements of the new permit (once finalized) and modify SWMP as appropriate.
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7b. WLA Assessment

While several water bodies in Charlton have TMDLs, it is first necessary to locate outfalls and determine their ownership and drainage collection areas before it will be possible to assess waste loads for which the Town of Charlton is responsible and to devise appropriate BMPs. Charlton has mapped the stormwater outfalls within the urban area, evaluated outfalls for the presence of illicit discharges, and conducted an evaluation of retrofit opportunities for BMPs to improve water quality. Further evaluation is needed to determine what BMPs will be both effective and feasible. The Town anticipates reviewing the final permit and the requirements related to TMDLs and impaired water bodies to develop a strategy and BMPs to improve water quality. This strategy will consider the data collection requirements (and timelines) outlined in the permit to develop the most appropriate and cost-effective recommendations.

Part IV. Summary of Information Collected and Analyzed

65 stormwater outfalls were previously mapped and screened for potential illicit discharges within the regulated area: field observations and monitoring data did not reveal any obvious illicit discharges; dry weather flow was present at 9 outfalls; a second study revisited all 9 outfalls and analyzed water quality data from 5 outfalls with dry weather flow; results did not reveal elevated concentrations at any outfall. Additional outfall mapping, inspection and sampling were not performed due to budget constraints.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures	(\$)	5,000

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	100% homes
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	Yes
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Yes
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2
▪ community participation	(%)	912 cars
▪ material collected	(tons or gal)	Unknown
School curricula implemented	(y/n)	YES

Legal/Regulatory

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

* Draft bylaws and a warrant article were developed for the May 16, 2011 Town Meeting.

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100%*
Estimated or actual number of outfalls	(#)	65
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	-

▪ CADD	(%)	-
▪ GIS	(%)	100%
Outfalls inspected/screened	(# or %)	65
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	N/A
% of population on sewer	(%)	11.8 %
% of population on septic systems	(%)	88.2 %

*100% of outfalls within the urban area have been mapped.

Construction

Number of construction starts (>1-acre)	(#)	58
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(# or %)	Numerous
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	16

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100% regulated design, build, maintain
Site inspections completed	(# or %)	100%
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1-2
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	2-4
Total number of structures cleaned	(#)	

Storm drain cleaned	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	
Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1-2
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	1-2
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Landfill
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	1 owned
Vacuum street sweepers specified in contracts	(y/n)	
Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	yes
Manual control spreaders used	(y/n)	yes
Automatic or Zero-velocity spreaders used	(y/n)	no
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	Yes
Storage shed(s) in design or under construction	(y/n)	

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.

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 DPW's, 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

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