

**Municipality/Organization:** Town of Upton, MA  
**EPA NPDES Permit Number:** MAR041165  
**MassDEP Transmittal Number:** X274829  
**Annual Report Number & Reporting Period:** Year 15  
April 1, 2017 – March 31, 2018

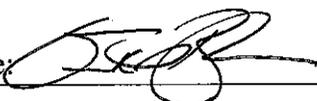
## NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2018)

### Part I. General Information

Contact Person: Dennis Westgate Title: Director of Public Works  
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Mailing Address: 1 Main Street, Suite 13, Upton, MA 01568-1687

#### 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: Derek Brindisi, Town Manager

Title: Town Manager, Town of Upton

Date: April 28, 2018

## **Part II. Self-Assessment**

In Year 15, the Town of Upton continued to be an active participant in the Central Massachusetts Regional Stormwater Coalition (the Coalition). The Coalition's work in Year 14 (which overlaps municipal fiscal years 2015 and 2016) was funded entirely by contributions of approximately \$4,000 from each of the 31 participating Towns, including Upton.

### **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](http://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 5<sup>th</sup> 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 8<sup>th</sup> 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.

### 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
1	Develop & distribute brochures to residents.	Upton DPW	Distribution of brochures.	<i>Note: BMP #1 was revised in Permit Year 11 to reflect that outreach opportunities have expanded beyond stated “brochure” format.</i>	Continue to review different brochures, provide additional information and continue distribution. Consider CMRSWC brochures and pamphlets for distribution.
Revised	Develop & distribute educational materials to residents.	Upton DPW	Distribution of information using multiple media formats.	Continued brochure distribution to residents. Brochures included as mail stuffers for water bills. Also available at Town Hall & Code Enforcement office.  In Permit Year 14, the DPW distributed a Town-specific flyer about its Stormwater Management Program as a bill stuffer for residential areas on spring yard maintenance. The latter addresses pet waste management, respecting Stormwater BMPs, good fertilizer application practices, and household hazardous waste management.	In Year 1 of the new MS4 Permit, all new outreach and educational materials, including flyers and articles, will be available on the Town’s DPW Stormwater website page. Stormwater information is also available within the Town’s Water Quality Report.  Materials will also be placed on Upton’s local cable access channel.
2	Develop & distribute brochures to businesses.	Upton DPW	Distribution of brochures.	Continued brochure distribution to businesses. Brochures included as mail stuffers for water bills. Also available at Town Hall & Code Enforcement office.	Continue Reviewing different brochures, provide additional information and continue distribution. Consider CMRSWC brochures and pamphlets for distribution. Brochures will be placed on new DPW “Stormwater Information” section of the Town’s website.
Revised					

3	Install watershed signage.	Upton DPW	Installation of watershed signs.	In Permit Year 11, the Town designed a sign that reads “Help Upton Keep the Blackstone River Watershed Clean”, and includes the Town seal and the CMRSWC logo. Ten were installed in Year 13.	Maintain signs that have already been posted
Revised				These signs have been placed on well-traveled roadways so that they are visible to people entering Upton or when entering the Blackstone River Watershed from another watershed.	
4	Develop collection program for household hazardous waste.	Upton DPW / Board of Health	Conduct collection program.	One Household Hazardous Waste (HHW) Collection day event was hosted in Permit Year 15, on June 10, 2017.	A similar HHW Collection Day event, “Spring Cleanup”, will be held on June 24,2018. Flyer attached.
Revised					
5	Develop school curricula & and distribute to schools.	Upton DPW / Board of Health	Implementation of curricula.	No program has been developed yet. In previous years, discussed several alternatives within school administration to include awareness/ education into existing curricula.	Focus on incorporating CMRSWC teaching materials, such as Enviroscape table and World Water Monitoring Day kits into curricula.
Revised					

**1a. Additions**

*(None)*

## 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
6	Public meeting to discuss Stormwater management plan.	Upton DPW/Board of Selectmen	Conduct a public meeting to discuss goals of the Stormwater management plan.	Several meetings were held in Permit Year 15 with the Town Manager and other stake holders in preparation of the new requirements with the new permit. Held a Town Staff education/training workshop with BETA Engineering.	The Stormwater Committee may convene in <b>Permit Year 16</b> to host a multi-departmental refresher training workshop on illicit discharge detection and elimination, based on an approach developed by the CMRSWC.  Coordinate with cable access personnel on televising pertinent material on local cable access.
Revised					
7	Public Hearing to discuss water quality data of beach.	Board of Health/Board of Selectmen	Conduct a public discussion of goals and results of water testing.	No public hearings were held in Permit Year 15 as this was not necessary: no pathogens were detected in weekly sampling of Pratt Pond.  Upton DPW continue to perform regular cleanups of waterfowl feces and litter at Pratt Pond.	Similar to above, utilize local cable access programming to notify public of water quality results. A public hearing will be conducted if pathogens in Pratt Pond are detected above allowed limits.  Continue to perform regular cleanups at Pratt Pond.
Revised		Board of Health/Upton DPW			
8	Develop and implement composting program.	Board of Health	Implementation of composting program.	A composting program has not been implemented due to lack of a proper location.	Currently, the Town is not planning to implement a composting program. Implementation still to be determined.
Revised					
9	Coordinate & implement beach cleanup program.	Board of Health/Board of Selectmen	Conduct a beach clean-up.	The Upton DPW staff routinely performs regular cleanups of waterfowl feces and litter at this location. “Don’t feed waterfowl” signs have been installed at the beach.	Encourage and continue similar efforts annually, including coordination with local volunteer groups.  Continue to perform regular cleanups at Pratt Pond.
Revised		Board of Health/Upton DPW			

10	Form citizen watch groups to identify polluters to waterways.	Board of Health / Board of Selectmen	Creation of watch group.	No public advertisement or meetings have been held. Community citizens are very vigilant about reporting pollution.	Generate public interest by using additional media to explain and demonstrate the Town's stormwater management responsibilities and activities.
Revised					

**2a. Additions**

*(None)*

**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
11	Develop Stormwater system map.	Upton DPW	Creation of system map.	Progress toward this goal was completed in previous Permit years but this task is ongoing, by its nature.  In Permit Year 15, Upton DPW continued efforts to map portions throughout the community as well as mapping stormwater infrastructure beyond outfalls.  Mapping and inspections completed in Year 14 fully utilized the CMRSWC online platform and equipment.	Continue to inspect outfalls and map new outfalls as they are constructed and that are in Urbanized Area.  Mapping efforts will focus on catch basins, drain manholes, and pipe infrastructure, consistent with new requirements in 2018 MS4 Permit.  The stormwater system map will continue to be revised as necessary to reflect actual conditions.
Revised					
12	Identify illicit discharges.	Upton DPW	Create a list of illicit discharges.	Efforts to detect illicit discharges are ongoing. In Permit Year 15, outfall inspection and catch basin mapping and inspection by the Upton DPW did not indicate the presence of any illicit discharges.  No illicit discharges were identified in Permit Year 15.	Continue to investigate illicit discharges in Town through additional dry weather and wet weather monitoring and sampling on an as-needed basis.
Revised		Upton DPW/ Code Enforcement			

13	Commence with elimination of identified illicit discharges.	Upton DPW	Removal of all identified illicit discharges.	No illicit discharges were identified during Permit Year 15.	Continue monitoring discharges as funding allows. Follow up on discharges within schedule identified.
Revised					
14	Review & implement ordinances.	Board of Selectmen	Adoption of additional bylaws & regulations.	Prior to Permit Year 14, Final Regulations based on the SMB were put in place. These continue to be implemented.	Continue to implement activities regulated by the SMB.
Revised					
15	Develop employee training program to identify discharges.	Upton DPW	Implementation of training program.	In Permit Year 15, Upton DPW staff members received training workshops from BETA Engineering. Topics addressed included practical illicit discharge detection and elimination tools, and using the Coalition's water quality field kits and meters, among other things.	The Town will use CMRSWC tools including the IDDE Documentation and Communication program to update its IDDE program.  The Town will use online mapping and inspection platform and field water quality monitoring and test kits as much as possible under the new permit requirements.
Revised					

**3a. Additions**

*(None)*

**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
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16	Develop procedures to inform public of upcoming projects.	Planning Board/ Conservation Commission/ Upton DPW	Advertise to the public of upcoming activities. Develop and implement review process.	The SMB includes review by the Conservation Commission of upcoming construction projects. Upcoming projects are placed on the meeting agenda allowing public notification. Meeting minutes also allow public viewing of upcoming projects and conservation commission decisions.	Continued review of projects as required by the SMB. Develop and consider further mediums for notifying public of upcoming projects.
Revised					
17	Develop & implement site plan review process for sites.	Planning Board/ Conservation Commission/ Upton DPW	Develop and implement review process.	The approved SMB includes a site plan review process. Reviews are completed in accordance with the SMB. The SMB continues to be considered adequate to fully comply with permit requirements.	Continue to review site plans in accordance with the SMB, and consider any amendments to the SMB that may be necessary. Continue to utilize Checklist for a Stormwater Management Operation & Maintenance Plan, Stormwater Management Plan Application, Construction Notification Form and Checklist, and the Erosion and Sediment Control Plan Application and Checklist.
Revised					
18	Develop & implement erosion & sediment control ordinances.	Planning Board/ Conservation Commission	Develop and implement control ordinances.	The SMB addresses erosion and sedimentation, including an Erosion and Sediment Control Plan Application and Checklist, and a Construction Notification Form and Checklist for qualifying projects. The SMB continues to be considered adequate to fully comply with permit requirements.  Site plans are being reviewed in accordance with the SMB. Fines are categorized in the SMB based on the severity of the violation.	Continue to review site plans in accordance with the SMB, and consider any amendments to the SMB that may be necessary. Continue to utilize Checklist for a Stormwater Management Operation & Maintenance Plan, Stormwater Management Plan Application, Construction Notification Form and Checklist, and the Erosion and Sediment Control Plan Application and Checklist.
Revised					
19	Develop construction inspection program.	Planning Board/ Conservation Commission	Implementation of inspection program.	The Town developed a successful construction inspection program in previous Permit Years and has	Continue performing inspections of active construction projects.

Revised				continued to implement that program, which is adequate to comply with permit requirements.	Consider any necessary changes to the SMB inspection procedure based upon new state or federal regulations.
20	Implement construction inspection program with fines for violations.	Planning Board / Conservation Commission	Implementation of inspection program and fine schedule.	The SMB addresses enforcement of construction erosion and sediment controls. The SMB delineates a fine schedule based on the severity of the violation. The SMB continues to be considered adequate to fully comply with permit requirements.	Continue inspection program in accordance with the SMB and state regulations.
Revised				In Permit Year 15, the Conservation Commission regularly inspected the Crosswinds development, JR Estates development and Whitney Estates. No violations were detected, no “stop work” orders were issued, and no fines were assessed.	Consider changes to inspection procedures based on new state or federal regulations.

**4a. Additions**  
(None)

## 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
21	Review existing nonstructural BMPs.	Planning Board/ Conservation Commission/ Upton DPW	Development and addition of any necessary amendments and/or bylaws.	Progress toward this goal was completed in previous Permit years, including development of Good Housekeeping Practices in the Stormwater Pollution Prevention Plan for the Upton DPW Garage.	Review existing non-structural BMPs as necessary and recommend improvements.
Revised				Street sweeping and catch basin cleaning are completed once a year.	
22	Review of existing structural BMPs.	Conservation Commission/ Planning Board/ Upton DPW	Development and addition of any necessary amendments and/or bylaws.	Prior to Permit Year 14, the SMB was approved which provides reasonable guidance for the regulation of development and post-development stormwater runoff for protecting local water resources from degradation. The SMB continues to be considered adequate to fully comply with permit requirements.	Review existing structural BMPs as necessary and recommend improvements.
Revised					
23	Require O&M manuals for newly installed BMPs.	Conservation Commission/ Upton DPW	Catalogue and review of all new structural BMPs.	Engaged a consultant to inspect Town owned BMPs and provide O&M procedures as well as identify potential BMPs for all 27 Town owned parcels within hydrologic soil group rating of A or B.	Continue to update O & M procedures as necessary.
Revised					
24	Develop inspection program of newly installed BMPs.	Conservation Commission/ Upton DPW	Implement new BMP inspection program.	The Town has a successful inspection program for newly installed BMPs.	Continue to enforce BMP Operations and Maintenance Plans that are submitted by applicants as part of meeting the SMB.
Revised					
25	Conduct inspections of BMPs within 1st year of operation.	Conservation Commission / Upton DPW	Conduct Inspections.	Upton DPW and Conservation Commission conducted inspections as necessary and as part of routine	Maintenance of BMPs is a challenge that will continue to be addressed in future permit years. Rehabilitate

Revised				maintenance.	BMPs that were noted as requiring maintenance when inspected.
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**5a. Additions**

*(None)*

**6. Pollution Prevention and Good Housekeeping in Municipal Operations**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)</b>	<b>Planned Activities</b>
26	Inspection of Town - owned sand/salt storage areas.	Upton DPW	Conduct inspections, make recommendations, and review procedures.	The Stormwater Pollution Prevention Plan and SPCC for the Upton DPW Garage, developed and implemented prior to Permit Year 12, continue to be reviewed regularly.	Continue inspection and good housekeeping efforts.
Revised				Refresher training on the importance of SWPPPs was provided in Permit Year 13.	Review existing stockpile locations and implement any appropriate improvements.
27	Review snow removal & street sweeping procedures.	Upton DPW	Review procedures and make recommendations	Review of procedures continues.  Town contracts Lloyd Truax for catch	Continue catch basin cleaning, street sweeping, and sidewalk sweeping.

Revised				<p>basin cleaning, and Dan Amarillo for street sweeping.</p> <p>Street sweeping and catch basins cleaning were conducted once a year.</p>	<p>Moving forward, the DPW plans to document how full catch basins are when they are cleaned (using CMRSWC online inspection system) and document structures that may require more than one cleaning per year.</p> <p>Town will use CMRSWC Salt/Sand Application Benchmarking Tool to review deicing operations.</p> <p>Town will use CMRSWC integrated mapping and inspection forms to conduct catch basin inspection and cleaning operations.</p>
28	Develop & implement maintenance schedules – BMPs.	Upton DPW	Implement annual BMP maintenance program.	Upton DPW and Conservation Commission have been active in addressing private BMP neglect.	Maintenance of BMPs by Upton DPW and coordination with Conservation Commission are challenges that will be continue to be reviewed in Year 14.
Revised		Upton DPW/ Conservation Commission			
29	Develop & implement employee training program.	Upton DPW	Implement training program.	<p>In Permit Year 15, numerous Upton DPW staff members received training at BETA Engineering workshops. Topics addressed included calibrating deicing equipment, stormwater pollution prevention, practical illicit discharge detection and elimination tools, and using the Coalition’s water quality field kits and meters, among other things.</p> <p>DPW staff also attended a Baystate Roads course on calibrating deicing equipment.</p>	<p>Continue to increase employee awareness and aid in IDDE, catch basin inspection, chloride application reduction, and water quality monitoring using CMRSWC Tools.</p> <p>Implement additional CMRSWC tools in employee training programs.</p>
Revised					

30	Review & Update Town's recycling program.	Upton DPW/ Board of Health/ Board of Selectmen	Review existing program and make recommendations.	Curbside, single-stream recycling was introduced in previous Permit Years.	Continue existing program, reviewing as needed.
Revised					

**6a. Additions**

*(None)*

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

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities</b>
	Not Applicable	Not Applicable	Not Applicable	The following Upton water bodies are considered impaired (per the <i>Final</i>	Evaluate any TMDLs developed for Upton impaired waters.

Revised				<p><i>Massachusetts Year 2012 Integrated List of Waters</i> (CWA Sections 303d and 305b):</p> <p><u>Mill River</u>: Category 5- Requires a TMDL (Aquatic Plants, Non-Native Aquatic Plants, PCB in Fish Tissue)</p> <p><u>West River</u>: Category 5- Requires a TMDL (Non-Native Aquatic Plants, low pH, Cadmium, Chloride, Copper, Lead, and Nutrient/ Eutrophication Biological Indicators)</p> <p><u>Mill Pond</u>: Category 4C: no TMDL required (Non-Native Aquatic Plants)</p> <p><u>Pratt Pond</u>: Category 4C: no TMDL required (Non-Native Aquatic Plants)</p> <p><u>Taft Pond</u>: Category 4C: no TMDL required (Non-Native Aquatic Plants)</p> <p>However, final TMDLs have not been developed for any of these water bodies at this time.</p>	
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**7a. Additions**

**7b. WLA Assessment**

**Part IV. Summary of Information Collected and Analyzed**

N/A

**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, 2016 through March 31, 2017)

**Programmatic**

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures **	(\$)	\$50,600
Total program expenditures since beginning of permit coverage	(\$)	\$280,000
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General

**Education, Involvement, and Training**

Estimated number of property owners reached by education program(s)	(# or %)	75%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	Y
Shoreline cleaned since beginning of permit coverage	(mi.)	0.1
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	1
▪ community participation **	(# or %)	21%
▪ material collected **	(tons or gal)	485 lbs. and 22 DF
School curricula implemented	(y/n)	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					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

## Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	209
Estimated or actual number of outfalls	(#)	209
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	90
Mapping method(s)		
▪ Paper/Mylar	(%)	20%
▪ CADD	(%)	0
▪ GIS	(%)	100
Outfalls inspected/screened **	(# or %)	209
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	209
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(# ); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0

% of population on sewer	(%)	30
% of population on septic systems	(%)	70

### Construction

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

### Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	40%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

### Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr.)	1
Qty of structures cleaned **	(#)	858
Qty. of storm drain cleaned **	(%, LF or mi.)	100%
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or	100%

	tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$20,000
• Hourly or per basin contract rate **	(\$/hr. or \$ per basin)	
• Disposal cost**	(\$)	5,000
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1
• Vacuum truck(s) owned/leased	(#)	0
• Vacuum trucks specified in contracts	(y/n)	0
• % Structures cleaned with clam shells **	(%)	100%
• % Structures cleaned with vector **	(%)	0

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	1
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	1,400 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$20,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	\$110/hr.
• Disposal cost**	(\$)	\$5,000
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	0
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N

• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	2,200 lbs.
▪ Herbicides	(lbs. or %)	10.9 lbs.
▪ Pesticides	(lbs. or %)	0.6 lbs.
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Yes

	(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 <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	85 - - - - - 15
Pre-wetting techniques utilized **	(y/n or %)	Y 3,900 gal CaCl <sub>2</sub>
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	N
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	+2,061 tons/yr
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	50%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N

100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Y

**Water Supply Protection**

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

## Attachment- MCM 1: Public Education and Outreach

### Help Upton Keep the Blackstone River Watershed Clean!

We hope that you've seen the new signs posted around Upton asking for your help to keep the Blackstone River Watershed clean. It may have surprised you to see the Blackstone River's name shown on the sign, since it's miles away. It's true, though: with the exception of the northernmost edge of Town, any drop of rain that lands in Upton is going to flow toward the Blackstone River. The challenge for the Blackstone River is that it receives stormwater from 28 other Massachusetts communities in addition to Upton- from Paxton to Plainville- and ten more in Rhode Island, and treated wastewater from several facilities, too. The watershed draining to the Blackstone River covers a whopping 640 square miles, 60% of which is here in Massachusetts!



With a watershed that large, how can an individual resident possibly do anything to keep it clean?

Well, we can start by not treating our stormwater systems like trash cans. Our drainage systems- which include pipe, ditches, catch basins, drain manholes, rain gardens, and more- are designed to move water safely away from roadways during storm events. Catch basins can remove some sand, salt, rocks, gravel and other debris present in that stormwater (as long as they're cleaned out regularly), and some structures can remove oil, metals, and some nutrients, like nitrogen and phosphorus. However, stormwater is NOT treated by a facility like the one that treats Upton's wastewater. When motor oil is dumped (or a bag of pet waste is flung) into a catch basin, those pollutants enter the surface water body. Grass clippings dumped into a ditch or stream don't become *habitat*- they *decompose*, removing dissolved oxygen from water and stressing fish and other aquatic life. Leaves and dirt swept from a sidewalk into a catch basin don't *disappear*- they enter a stream, if they don't clog the pipe first!

**Thinking about connectivity of the drainage system to surface water can go a long way to reducing pollution.**

Preventing water pollution can include some other simple changes in everyday behavior. Before deciding if fertilizer would improve your yard, test your soil with a kit commonly available at home improvement centers: it may be that your soil would not be improved by the addition of nitrogen, phosphorus, or potassium present in most fertilizers. If you chose to use fertilizer, follow the application instructions on the package, including the time of year to apply it. The "more is better" approach to lawn care has been proven ineffective: applying twice the recommended weight per square foot won't make the grass twice as green. When applied in excess, nitrogen and phosphorus run off lawns during rain and enter surface waters, where they create algae blooms and remove dissolved oxygen from the water. Don't apply fertilizer right before a large storm, and take care to prevent spreading it on your driveway, paved walk, or other impervious surfaces where it will run off with the rain. Removal of piles of pet waste from your lawn will prevent bacteria and more nutrients from washing into streams.

In the next few months, we'll share more information about how the Upton's Department of Public Works (DPW), Conservation Commission, and Planning Board are working together to protect our local water resources- part of helping keep the Blackstone River Watershed clean. This will involve a new page on the current DPW website, [www.upton.ma.us/Pages/UptonMA\\_DPW/index](http://www.upton.ma.us/Pages/UptonMA_DPW/index), that's dedicated to sharing information on how our daily activities- like catch basin cleaning and street sweeping- help reduce stormwater pollution. Until then, you can learn more by visiting the Central Massachusetts Regional Stormwater Coalition website- Upton is one of 30 members!- at [www.CentralMAStormwater.org](http://www.CentralMAStormwater.org), or the Blackstone River Watershed Association page at [www.thebrwa.org](http://www.thebrwa.org).