

5/5/14

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**Municipality/Organization: Town of West Boylston**

**EPA NPDES Permit Number:**

**MaDEP Transmittal Number: W-**

**Annual Report Number  
& Reporting Period: 1 APRIL 2013 – 31 March 2014**

## NPDES PII Small MS4 General Permit Annual Report

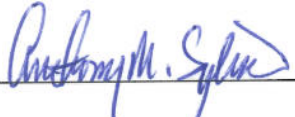
### Part I. General Information

Contact Person: Anthony M. Sylvia Title: Director of Public Works

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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: Anthony M. Sylvia

Title: Director of Public Works

Date: 30 April 2014

## Part II. Self-Assessment

West Boylston instituted a Pay As You Throw program for municipal solid waste on July 1, 2009, and the Program continues with success. Recycling went from 20% to 32%. In 2011, the Town implemented Single-Stream recycling as well, and recycling levels continue at levels consistently above 30%.

West Boylston is committed to full compliance with its NOI, and looks forward to complying with the new Permit anticipated to be finalized in 2014. The Town invested \$185K in a new street sweeper in 2013, and is working toward replacing its catch basin truck in either 2014 or 2015 – another \$180-200K investment to mitigate stormwater pollution. Also of note was DPW's revised approach to snow and ice control. The cognizant change was to eliminate use of sand, and use an EPA-designated DFE product ("Clearlane") which is essentially a NaCl treated with MgCl. Clearlane performance was very good in our first year of use, Winter 2013-14, in terms of reduced sandy roads, quicker ice melting, and lower temperature melting. Sand was needed on a few occasions due to icy precipitation and National salt shortages. The goal, however, remains to eliminate as much sand as possible from deicing operations, and in doing so, remove that host for non-point source pollution. Side benefits will be reduced street sweeping and catch basin cleaning time, effort and residuals.

Listed below are all of the activities that were required in the last year of the permit and the activities that have taken place. Activities that are not required at this time have not been listed. Details of those activities can be found in the Permit.

I note appreciation for assistance by the Board of Selectmen, the Town Administrator, the Board of Health, the Public Works Department, the School Department, the DCR's Water Quality Department, and the rest of the Municipal Team and other individuals that have contributed to this Program. Protection of water resources, whether surface or groundwater is a high priority for the Town of West Boylston, so we appreciate assistance by other organizations as noted above. Public education continues in order to foster respect for the Wachusett Reservoir as a potable water source, and for the brooks and streams tributary to the Reservoir.

**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 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
1a	Local cable channel	DPW	Air one new message quarterly	Message is aired on local cable channel.	<ul style="list-style-type: none"> <li>➤ Continue to air messages.</li> <li>➤ The DPW will air “AFTER THE STORM” video on the local cable channel.</li> <li>➤ Conduct public service/info interview by DPW Director</li> </ul>
1b	Update stormwater information to website	DPW	Complete update.	The town’s Stormwater by/law is posted on the town’s website.	Continue to post by/law.
1d	Inform residents of town recycling programs	DPW	Distribute program schedule to all town residents	<ul style="list-style-type: none"> <li>➤ The town instituted a Pay As You Throw program for municipal solid waste on July 1, 2009. Recycling &gt; 30%.</li> <li>➤ The DPW’s website contains information on recycling.</li> <li>➤ Single-stream recycling program implemented</li> </ul>	<ul style="list-style-type: none"> <li>Continue to mail the WEST BOYLSTON RECYCLING INFO to all town residents on an annual basis.</li> <li>Single stream recycling continues.</li> </ul>



## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
2a	Collect household hazardous waste from residents	DPW, Board of Health	Arrange for hazardous waste collection days	<p>➤ A permanent hazardous waste collection site was constructed by the Department of Conservation and Recreation (DCR) in West Boylston and is called the Wachusett Watershed Regional Recycling Center. West Boylston residents can drop off hazardous waste during public events.</p>	Continue to be a member of the Wachusett Watershed Regional Recycling Center to allow residents to properly dispose of their hazardous waste. There are currently four collection days per year.
2b	Implement annual, volunteer waterways clean-up day	DPW, Board of Health, Sewer Dept, DCR	Hold waterways clean-up day once per year.	The DCR holds an annual clean-up day on Earth Day.	Continue to support the DCR's annual clean-up day. Consider event on America Recycles Day in November 2013.
2c	Develop storm drain stenciling program	DPW		Worked with Eagle Scouts for CB stencil program. Storm drains have been stenciled in the past.	Working with an Eagle Scout and DCR to stencil catch basins, and help inspect/photograph outfalls.
2d	Make SWMP available for public review/comment	DPW	Post SWMP on town website and in DPW	The SWMP is available for public review.	The SWMP will continue to be available for public review.
2e	Pet Waste Management in Neighborhoods	DPW & DCR	Monitor less Pet Waste in Catch Basins	Mailed approx. 150 letters to Woodland Heights neighborhood to educate on pet waste pollution. DPW removed several dozen bags of pet waste from catch basins.	Quantify pet waste findings; revise letter to neighborhood, possibly to thank for cooperation.

### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
3a	Map outfalls, receiving waters, and storm drain system	DPW & DCR	Mapping Completed, more planned	<ul style="list-style-type: none"> <li>➤ The mapping of the town's drainage infrastructure is mostly complete, through combined efforts of Weston &amp; Sampson Engineers, DPW and DCR.</li> <li>➤ The DPW and the Planning Board's inspection engineer, VHB, monitored all subdivision construction and required developers to properly maintain erosion control measures and to take all necessary corrective actions during construction.</li> </ul>	Conduct GIS/GPS efforts in conjunction with DCR and Central Mass Regional Stormwater Coalition. DPW to obtain its own GPS unit for additional data collection and GIS development.
3b	Develop illicit discharge detection & elimination plan	DPW	Make recommendations for proposed sampling plan	The DPW checks catch basins and outfalls for illicit discharge on an annual basis when cleaning its catch basins	Continue annual checks, and work to locate and eliminate pollution sources
3c	Present bylaw for town meeting action	DPW	Evaluate Stormwater Bylaw, and revise as needed	Town meeting approved a "Stormwater Bylaw" in 2010	Plan dry-weather inspection of outfalls to assess existing conditions
3f	Water Quality Sampling	DPW	Conduct WQ Sampling		Document zero-minimum pollutants; locate and remove pollution sources identified.

#### 4. Construction Site Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
4c	Present bylaw for town meeting action	DPW	Bylaw Enacted	Town meeting approved a “Stormwater Bylaw” in 2010	Continued coordination with the Planning Board for construction inspections
4e	Develop/modify site inspection practices	DPW/Planning Board	If necessary, make recommendations for updating existing practices	No modifications necessary – Planning Board recently updated its Subdivision Regulations to include stormwater BMPs and they are enforced and inspected by their inspection engineer, VHB.	Continue coordination with the Planning Board for construction inspections. DPW assists with inspections as needed.

### 5. Stormwater Management Program Summary

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
5c	Review existing bylaws and regulations	Planning/Zoning/Building/Sewer	Determine whether existing bylaws/regs are adequate If necessary, propose recommendations for bylaw updates	Town meeting approved a “Stormwater Bylaw” in 2010	Coord w/Planning & Building Depts. Make adjustments for new Permit in 2014.
5e	Develop/modify bylaws for construction site runoff	Planning/Zoning/Building/Sewer		Town meeting approved a “Stormwater Bylaw” in 2010	Coord w/Planning & Building Depts. Make adjustments for new Permit in 2014.



## 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 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
6a	Sweep Streets	DPW	Sweep all streets	The DPW sweeps all of its 65 miles of public roads annually in the spring. Town bought a new street sweeper for \$185K in 2013. Approximately 1000 yds of sandy debris was collected via street sweeping in 2013. The State also sweeps its roads in town.	Continue to sweep all public roads annually. Winter deicing operations changed to reduce use of sand, and alter the type of salt used – being a mixture of NaCl and MgCl which holds the EPA’s DFE-endorsement.
6b	Clean/Repair catch basins	DPW	Clean all catch basins	The DPW attempts to clean all of its catch basins annually after the streets have been swept. Five catch basins were repaired by the DPW in 2013.	Continue to try to clean all catch basins annually.  Approximately 600 yds of sandy debris was collected via catch basin cleaning in the reporting year.



## APPENDIX 1

The following information describes the cooperative efforts between the Department of Conservation and Recreation (DCR) and the Town of West Boylston from April 2013 – March 2014, and indicates a combined commitment to protecting and restoring water resources proximate to the Town, through its Stormwater Management Program.

Many of the MS4 control measures continue to be addressed cooperatively by area communities through efforts of the Central Massachusetts Regional Stormwater Coalition. The DCR Division of Watershed Management continues to work with communities and independently to address stormwater issues.

### **Public Education and Outreach (CM1)**

*The permittee shall implement an education program that includes goals based on specific stormwater issues within the small MS4 community. The ultimate goal is to create a change in public behavior and knowledge so that pollutants in stormwater are reduced.*

The DCR Division of Water Supply Protection continues to assist watershed communities with public education and outreach efforts. The following took place in West Boylston during the current reporting period – Year 11.

#### West Boylston:

- 25 dog waste brochures made available at Town Hall
- 25 dog waste brochures and letter were mailed to Westland Circle neighborhood
- 18 dog waste brochures and letters were mailed Waushacum Street Oakdale neighborhood
- 50 pharmaceutical disposal brochures were made available at the Recycling Center
- 50 Household Stormwater Pollution Prevention brochures available at the Recycling Center
- 20 Fire Department stormwater brochures mailed to West Boylston FD
- 350 student pet waste brochures handed out at Major Edwards School
- Spoke with West Boylston Girl Scout troop about stormwater and pet waste
- 102 letters and 'Stormwater Tips for Businesses' were mailed out to businesses located along Route 12
- Bulletin board in meeting room at John Augustus Hall had information on pet waste, the MS4 program, and nutrient pollution
- Provided West Boylston DPW Director a copy of DCRs BMP and Good Housekeeping PowerPoint for training purposes
- Participated in West Boylston scarecrow festival with a scarecrow and a clean water message

Watershed-wide:

- DCR Staff put together a physical stormwater pollution prevention matching game that can be lent out to watershed DPWs, schools, or other groups.
- Mass Envirothon - stormwater is now a part of the statewide curriculum. Approximately 125 copies each of the Pet waste, Household Stormwater Pollution Prevention, and Non-permitted Discharges brochures were distributed.
- Created a "Stormwater Pollution Prevention Public Service Announcement" to be read by Ranger Staff at all public interpretive programs.
- Fire Department stormwater brochure now available on State Fire Marshal's website

Interaction with an additional 2500 students, teachers, and members of the public occurred at more than forty events and workshops across the watershed during the reporting period. Topics included area history, wildlife, recreation, and how a watershed works. As part of all interactions, staff took the opportunity to remind people about protection of the environment and the water supply and provided specifics about stormwater issues and solutions.

**Public Involvement and Participation (CM2)**

*The permittee shall provide opportunities for public participation in the review and implementation of the SWMP.*

Opportunities for public involvement and participation in stormwater management decisions and activities have increased as a result of the efforts of the Central Massachusetts Regional Stormwater Coalition. Actions taken by the group are cooperative measures focused on more efficient and cost effective efforts to manage stormwater and should be very familiar to town officials. This Annual Report is posted for public review on West Boylston's DPW-Stormwater webpage, also.

DCR staff participated in the Wachusett Reservoir Dam Openings in late May 2013 and October 2013 by having a table with stormwater education materials. The event was attended by more than 3,000 people. 'We All Live Downstream' wristbands, stormwater brochures (Household Stormwater Pollution Prevention, Dog Waste, Non-Permitted Discharges to the Storm Drain System) and coloring sheets, activity sheets, and 'Dwayne, the Storm Drain' books for children were available at both of these events. EPA 'After the Storm' and 'Be a Solution to Stormwater Pollution' brochures were also distributed.

DCR staff participated in West Boylston Fall Festival (+400 attendees) where 'Dwayne, the Storm Drain' activity books and brochures on Pet Waste, Household Stormwater Pollution Prevention, Non-Permitted Discharges to the Storm Drain System were made available.

The DCR remains open to any and all proposals to work cooperatively with citizens in the watershed communities on activities that



engage the public in efforts to control stormwater runoff and protect surface water quality.

***Illicit Discharge Detection and Elimination (IDDE) Program (CM3)***

*The permittee shall implement a program to eliminate sources of non-stormwater from the storm sewer system and prevent illicit connections and discharges. The permittee must develop a storm sewer system map with locations of all outfalls and names of all waters that receive discharges. The permittee must effectively prohibit, through ordinance or other regulatory mechanism, non storm water discharges into the system and implement appropriate enforcement procedures.*

The DCR and WBDPW have done extensive mapping of catch basins and stormwater drainage structures to meet this requirement. DCR and WBDPW staff continue to improve and update maps by adding connectivity information and directional flow and will coordinate continued teamwork efforts.

DCR personnel continue to look for illicit discharges or other stormwater problems during routine stream investigations and will pass on any relevant information to the WBDPW. Likewise, WBDPW stays alert to abnormal discharges while conducting concerted stormwater investigations or any other O&M throughout the Town.

***Construction Site Stormwater Runoff Control (CM4)***

*The permittee shall continue to enforce a program to reduce pollutants in stormwater runoff discharged to the MS4 from construction activities that result in a land disturbance of more than one acre. The program should include an ordinance that requires use of sediment and erosion control practices at construction sites.*

Routine inspections of construction sites that disturb more than one acre are done by the DCR during dry and wet weather. In accordance with Town Bylaw, WBDPW or its designee inspects construction sites that disturb land of 10,000 SF or greater. Records of such inspections are with DPW, Planning Board or Zoning Board, in-line with the highest project approval. The following site inspections were completed by the DCR during the April 2013-March 2014 period. No significant problems were identified and all minor necessary remedial activities were completed promptly. Monthly summaries of inspections and any remediation efforts are on file at DCR offices in West Boylston and are available for review.

<u>TOWN</u>	<u># OF SITES</u>	<u>TOTAL # OF DRY INSPECTIONS</u>	<u>INSPECTIONS DURING STORM EVENT</u>
West Boylston	6	14	2

**Post Construction Stormwater Management – New Development/Redevelopment (CM5)**

*The permittee shall continue to implement and enforce a program to address post construction stormwater runoff from new development and redevelopment projects that disturb one or more acres and discharge into the municipal stormwater system. The objective of this control measure is for the hydrology resulting from new development to mirror or improve pre-development hydrology of the site and reduce discharge of stormwater. An ordinance or other regulatory mechanism to address post construction runoff from new development and redevelopment should be in place.*

The DCR continues to monitor structural best management practices (BMPs) in the watershed and determine maintenance needs. DCR interviewed and hired an additional environmental analyst to work specifically on stormwater issues and to interact with watershed communities.

All agricultural sites are regularly monitored by DCR staff for stormwater related issues such as erosion and manure runoff. Most sites do not pose a risk to storm drain systems or surface waters. During the reporting period inspections were done at sixty-four sites in Sterling, forty-three sites in Holden, thirty-one sites in West Boylston, twenty sites in Boylston, twelve sites in Rutland, and eight sites in Paxton. No problems were noted at any location during the past twelve months.

Routine inspections identified six stormwater-related issues in the watershed during this reporting period. Stormwater runoff containing sediment was addressed at a private business and at a town-owned property in Sterling. A construction project in Boylston needed improvements to the access road. Three sites in West Boylston needed attention including a private driveway near Edwards Pond, a town-owned road crossing Waushacum Brook, and a DCR stormwater improvement project near the Beaman Street Bridge.

**Good House Keeping and Pollution Prevention for Permittee Owned Operations (CM6)**

*The permittee shall implement an operations and maintenance program for municipal operations that includes a training component and will prevent or reduce pollutant runoff and protect water quality.*

The DCR continues to offer a Stormwater Pollution Prevention Training Program for DCR maintenance staff and municipal employees in watershed communities. Trained DCR Water Supply Protection labor and supervisory staff on BMPs and Good Housekeeping practices (Approximately 50 employees)

DCR staff continued to work with the West Boylston DPW director on cooperative efforts to manage stormwater, identify and maintain BMPs throughout town, and at the DPW yard, where a sediment collection system is monitored and maintained on a regular basis by the Town.



## APPENDIX 2

### Summary of Activities by the Central Massachusetts Regional Stormwater Coalition (CMRSWC) Year 11: April 1, 2013 – March 31, 2014

In Year 11, the Town of West Boylston continued to be an active participant in the Central Massachusetts Regional Stormwater Coalition (the Coalition). The Coalition's work in Year 11 was funded by a \$115,000 fiscal year 2013 (FY2013) Community Innovation Challenge (CIC) grant from the Massachusetts Executive Office of Administration and Finance. This grant was supplemented by a contribution of approximately \$2,800 from each of the 30 Towns, including West Boylston.

#### *Overview of the Coalition*

The FY2013 Coalition communities included 13 communities that formed the Coalition during the previous year (Auburn, Charlton, Dudley, Holden, Leicester, Millbury, Oxford, Paxton, Shrewsbury, Spencer, Sturbridge, Webster, and West Boylston) plus 17 new "Expansion" Towns (including Boylston, Grafton, Hardwick, Hopkinton, Monson, Northbridge, Northborough, North Brookfield, Palmer, Rutland, Southbridge, Sterling, Upton, Uxbridge, Ware, Westborough, and Wilbraham).

The FY2013 work included numerous technical tasks focused on compliance with the 2003 Massachusetts MS4 Permit, although much of the Coalition's work prepares the communities to comply with requirements anticipated in the pending 2014 Massachusetts MS4 Permit. The Coalition's FY2013 efforts were facilitated by the consulting firms of Tata & Howard, Inc., and Verdant Water, supported by vendor PeopleGIS. However, the Coalition members themselves are responsible for putting the tools developed by the Coalition to use.

The FY2013 effort included monthly meetings of the Coalition Steering Committee, four formal training workshops, and other presentations. West Boylston participated in two training workshops, reviewed deliverables, and served other key roles as described in this Annual Report.

#### *The Coalition's Partnerships in Central Massachusetts*

The Coalition is actively engaged with many water quality agencies and organizations and is committed to sharing the knowledge it has developed for the benefit of other communities.

The Coalition expanded its partnership with the Massachusetts Department of Environmental Protection (MassDEP) in FY2013, formally including budget in its FY2014 CIC Grant Application to support and assist in development of the stormwater-focused Interactive Qualifying Project (IQP) with four students at the Worcester Polytechnic Institute (WPI). The IQP underway in spring

2014 is the third such project the Coalition is doing in conjunction with MassDEP and WPI.

The IQP that was completed in Fall 2013 developed two products that will be highly useful to Coalition communities:

1. A Compliance Checklist, evaluating the 2003 Massachusetts MS4 Permit and looking forward to the pending 2014 Massachusetts MS4 Permit (based on the Draft 2013 New Hampshire MS4 Permit). This serves as a tool for Coalition communities to identify their most critical priorities as in preparation of the new MS4 permit and fully compliments the Coalition's other tasks.
2. A Catchment Ranking tool, which processes user input including water quality screening data, land use and development, history of illicit discharges, and other criteria to suggest ranking into one of the four catchment categories defined in the Draft 2013 New Hampshire MS4 Permit.

Many Coalition communities are working in spring 2014 with the WPI IQP project, benefiting from the students' mapping and inspection services as well as a detailed review of municipal stormwater management programs. For the latter, the WPI IQP will quantify the actual cost of the participants' stormwater programs, which will serve as the foundation for ongoing discussions about how each community will fund future stormwater programs. The Coalition appreciates the dedication of MassDEP to work with our members so closely and collaboratively.

Further documentation of the Coalition's dedication to stormwater management is evidenced by its coordinating with several other groups with a similar stormwater focus- some existing and some just developing- that are also funded at least in part by CIC Grants. These include:

- The Merrimack Valley Stormwater Collaborative (coordinated by the Merrimack Valley Regional Planning Commission);
- The Neponset Valley Regional Stormwater Collaborative (coordinated by the Metropolitan Area Planning Council);
- The Northern Middlesex Stormwater Collaborative Expansion (coordinated by the Northern Middlesex Council of Governments);
- The Southeastern Massachusetts Regional Stormwater group (just forming, coordinated by the Southeast Regional Services Group); and
- The North Suburban Planning Council (also coordinated by the Metropolitan Area Planning Council).

The benefits of collaboration between these groups include:



1. Sharing the tools that the Coalition developed in FY2012 and FY2013 with other groups, honoring the goal of the CIC Grant Program that projects produce deliverables that can be shared regionally;
2. The ability to utilize organic, innovative projects being developed and implemented by those groups that focus on additional stormwater management or education opportunities that the Coalition had not specifically addressed; and
3. Reducing redundancy or scope overlap in projects funded by the CIC Grant Program.

In Year 11, the Coalition began to coordinate with the Massachusetts Coalition for Water Resources Stewardship, and will present on its work at its 5th Annual Water Resources Strategies Symposium, to be held on Friday, May 16, 2014.

Finally, the Coalition has initiated conversations with technical assistance staff in USEPA Region 1, with the goal of benefiting from knowledge and experience of the agency's staff and from its network. An example of this outreach to the agency is the March 26, 2014 presentation by USEPA Region 1's Josh Secunda, which the Coalition hosted at MassDEP's Central Office in Worcester. Mr. Secunda's presentation focused on the critical role of engaging community stakeholders in the evaluation and decision-making processes that are part of developing a sustainable stormwater funding program. Representatives from many of the other stormwater groups listed previously also attended this meeting. When the actual municipal stormwater program budgets quantified by the WPI IQP student project are evaluated through the lens of Mr. Secunda's presentation, the Coalition believes the result will be a new motivation for many communities to review their current funding approach.

In March 2014, the Coalition met with representatives of USEPA Region 1, encouraging the agency to take an active role in sharing the materials produced by the Coalition (and similar groups) across the state, for the benefit of all MS4 communities. We are supported in this goal by the Massachusetts Municipal Association.

The Coalition intends to submit formal comments to USEPA when the 2014 Draft Massachusetts MS4 Permit is issued.

Representatives of the Coalition presented its work at the following other events in Year 11:

- "Doing More With Less: *The Benefits of Stormwater Regionalization Within Your Watershed*", in Woonsocket, RI on September 30, 2013, at a workshop sponsored by MassDEP and Rhode Island's Department of Environmental Management;
- "Managing Stormwater for Water Supply Protection", in Worcester, MA on December 3, 2013, at a Drinking Water Source Protection seminar sponsored by USEPA Region 1.

The Coalition has already given additional presentations in Year 12 to other organizations, with more planned.

*Tasks Included in this Annual Report*



In the following sections, descriptions of the technical tasks and resources made possible by the CIC grant funding have been separated into sections that mirror the six Minimum Control Measures (MCM's) in the 2003 Massachusetts Small MS4 Permit.

One of the more innovative tools- developed by the Coalition in Year 10 and expanded in Year 11- supports many MCM's and has been noted separately: an integrated online mapping and inspection database. The database is cloud-based, and can be accessed by all 30 member communities through a desktop or tablet computer. The Coalition communities are depicted in the screenshot shown below.



In Year 11, the online mapping and inspection system was expanded for all 30 communities to include the ability to add pipe between structures, and gather data related to that pipe. Prior to Year 11, the system managed only point geometry, such as outfall, catch basin, drain manhole, and Best Management Practice infrastructure. All 30 Coalition communities will benefit from this new linear infrastructure feature, which is consistent with the requirements anticipated in the pending 2014 Massachusetts MS4 Permit based on what is included in the Draft 2013 New Hampshire MS4 Permit. All 30 communities can see each other's infrastructure, but each maintains full control over their asset information and water quality data. This tool represents the essence of the Coalition project's message, which is that stormwater is regional- it doesn't stop at a community boundary.

Mapped infrastructure is connected to inspection reports that mirror hard-copy forms developed in Year 10 in the 15 Standard Operating Procedures discussed under MCM 1, below: for example, outfall and catch basin inspections. The developed integrated mapping and inspection system is so comprehensive and flexible that does not fit into just one of the MCM's. It aids communities



with public education and outreach (MCM 1), as surveying is a highly-visible activity that will generate questions, and would make an engaging demonstration to school groups). The integrated mapping and inspection database documents evidence of potential illicit discharges or the absence thereof (MCM 3), aids construction site stormwater control (MCM 4) by allowing for data evaluation of how much sediment is contained in a sump, and makes good housekeeping (MCM 6) easier by collecting data on how often catch basins are cleaned. Other tasks and tools of the project connect to the integrated mapping and inspection database, which was designed to serve the needs of the Coalition communities well beyond the 2003 Massachusetts Small MS4 Permit.

Each of the online forms is fluid- many were updated in Year 11 and will continue to be revised, as needed, to meet the goals of the Coalition members and the Massachusetts MS4 Permit requirements.

#### **Minimum Control Measure 1: Public Education and Outreach**

In Year 11, West Boylston continued to utilize materials appropriate for public education and outreach, with materials on a variety of topics, which were compiled or developed by the Coalition in Year 10. The topics included illicit discharge detection and elimination, management of pet wastes, and appropriate use of fertilizer, among others. These materials are all available on the Coalition's website, [www.CentralMAStormwater.org](http://www.CentralMAStormwater.org). The benefit of this delivery format is that the group members can print materials on demand. West Boylston also has access to presentations on stormwater management, with content focused on educating the general public, elected officials, and volunteer groups.

In Year 11, West Boylston continued to utilize water quality monitoring kits from the World Water Monitoring Challenge program ([www.worldwatermonitoringday.org](http://www.worldwatermonitoringday.org)), purchased by the Coalition in Year 10. These kits "build public awareness and involvement in protecting water resources around the world by engaging citizens to conduct basic monitoring of their local water bodies". Several communities used this in Year 11 to work with teachers in their local school department or district to do outreach to elementary and middle-school aged students. The kits are being stored in Spencer and Shrewsbury for distribution to the Coalition members.

West Boylston continued to utilize the Enviroscope table focused on non-point source pollution education (<http://www.enviroscopes.com/nonpoint-source.html>), purchased by the Coalition in Year 10. This tool is a hands-on, visual trainer to demonstrate the importance of good housekeeping and low-impact development for pollution prevention, with the objective of maintaining water quality in our communities.

The Coalition continued to expand its educational website, [www.CentralMAStormwater.org](http://www.CentralMAStormwater.org), focused on providing information about the project to a number of audiences, including the general public, educators, and kids. In Year 11, a members-only area was created within this website to share materials for communities to review.



## **Minimum Control Measure 2: Public Involvement and Participation**

In Year 11, West Boylston continued to utilize several presentations on stormwater management, with content focused on educating elected officials and municipal department heads about the requirements of the 2003 Small MS4 Program, changes likely in the anticipated 2014 Massachusetts MS4 Permit, and the financial impact these potential changes may have on Massachusetts communities.

## **Minimum Control Measure 3: Illicit Discharge Detection and Elimination**

The Coalition provided training at two Year 11 workshops (September 17 and 26, 2013) on SOP 10, "Locating Illicit Discharges", intended to define the types of illicit discharges that may be observed in the Coalition communities and provide guidance on tools that can be used to identify each. SOP 10 includes an Illicit Discharge Incident Tracking Sheet. West Boylston attended the 9/26/13 Workshop.

The Coalition also provided training in Year 11 at a workshop on November 20, 2013 on the Coalition's Illicit Discharge Detection and Elimination (IDDE) Documentation Packet, which specifies how illicit discharges are detected and what department or person is responsible for eliminating them. Identifying and removing illicit discharges, and ensuring that they are not reconnected, remains a substantial challenge to many MS4 communities. Without documentation of the entity responsible for this task for a variety of types of illicit discharge, communities may not satisfy the requirements of the 2003 Massachusetts Small MS4 Permit and may be unprepared for increased IDDE compliance in the new Small MS4 Permit. This deliverable clarified USEPA's minimum IDDE requirements and incorporated appropriate existing IDDE Plans and materials by reference. More importantly, the task provides a framework for people in multiple departments to understand each person's responsibilities, encourage cooperation and communication toward a single objective, and provide templates for documenting observations, actions, and compliance. The November 2013 training workshop included a comprehensive review of many types of illicit discharges, and an interactive discussion with attendees about how several examples would presently be managed in their own community.

In Year 11, West Boylston continued to utilize the two Leica surveying devices (purchased by the Coalition in Year 10) that can be used to map new structures with very high accuracy, using connection to a military-grade Real Time Kinematic (RTK) satellite network. During these efforts, DCR joined WBDPW in collection of GPS data. In Year 11, West Boylston also continued to utilize the ASUS tablet device and portable wireless service (MiFi) that were purchased in Year 10, although on a limited basis as compared to the Leica GPS equipment. Together, these tools were used to directly access the online mapping and inspection system: the Leica is the most valuable for mapping outfalls, catch basins, pipe, drain manholes, BMPs, and other components of the MS4, while the tablet computers will be most valuable for ongoing inspection of the structures. These two activities serve as the foundation of IDDE. The Leica units rotate between the 30 Coalition communities on a schedule, with documented chain-of-custody.



In Year 10, the Coalition purchased several water quality field kits and meters, most of which are focused on identifying illicit discharges and aligned with the field screening parameters expected to be listed in the pending Massachusetts Small MS4 permit. In Year 11, the Coalition began the process of rotating these water quality kits and meters around the 30 Coalition communities, including West Boylston, on a schedule that follows the use of the Leica device. The objective of this approach was that inspection and mapping activities completed with the Leica may result in a list of outfalls or structures for which screening-level monitoring should be completed. The Coalition provided training on the use of these water quality kits at the workshop on November 20, 2013; this training was professionally recorded so that Towns can review it if and when they need a refresher.

The Coalition purchased additional water quality field kits in Year 11, based on materials provided by USEPA Region 1 Technical Assistance staff that summarized products recently approved by the agency for this use. The online inspection and mapping database enables any community to add screening-level or full analytical data to any inspection form, for any type of infrastructure, in the field. The online water quality monitoring forms are pre-populated with the specific water quality field kits and meters purchased and used by the Coalition.

As noted, in Year 11, the online mapping and inspection system was expanded for all 30 communities to include the ability to add pipe between structures, and gather data related to that pipe. All 30 Coalition communities will benefit from this new linear infrastructure feature, which is consistent with the requirements anticipated in the pending 2014 Massachusetts MS4 Permit based on what is included in the Draft 2013 New Hampshire MS4 Permit.

In Year 11, the Coalition revised the Request for Proposals (RFP) for a third-party firm to perform many of the field or inspection services defined in the 15 SOP's, including outfall inspection (dry weather and/or wet weather), water quality monitoring, catch basin inspection, and other related tasks. These services are all vital to the effort to identify illicit discharges in the Coalition communities. It was originally anticipated that the work of the RFP would be funded using FY2013 CIC monies. However, in Year 11, the Coalition Steering Committee voted to postpone the RFP out to bid, based on the fact that the new Massachusetts MS4 Permit has not yet been issued. This RFP will be re-evaluated in Year 12.

In Year 11, the Coalition performed a review of industrial facilities located in each of the 30 FY2013 communities, including facilities that applied for coverage under the USEPA's Multi-Sector General Permit (MSGP) program, and the compliance status of each. The objective of this activity was to connect data the two permit programs, consistent with requirements anticipated in the pending 2014 Massachusetts MS4 Permit.

Finally, the Coalition is currently planning a demonstration of Environmental Canine Services for May 2014 (in Year 12). This



company uses highly-trained dogs to detect the presence of human sewage at very low levels in water, and represents a quick, innovative and cost-effective screening tool for locating illicit discharges.

#### **Minimum Control Measure 4: Construction Site Stormwater Runoff Control**

Construction activities- including erosion control, stormwater pollution prevention, and appropriate management of waste materials- are covered in the Stormwater Best Management Practices (BMP) Toolbox, development of which began in Year 10 and which was finalized in Year 11. The Stormwater BMP Toolbox was written to inform the general public about the importance of managing private construction projects responsibly. The Coalition provided training on the Stormwater BMP Toolbox at two Year 11 workshops (September 17 and 26, 2013).

#### **Minimum Control Measure 5: Post-Construction Stormwater Management in New Development and Redevelopment**

In Year 11, West Boylston received access to the Stormwater Best Management Practices (BMP) Toolbox, developed in Year 10 and finalized in Year 11. This tool compiles the stormwater post-development tools currently permitted and encouraged for small development or redevelopment, specifically single-family homes and limited commercial renovations that have a small development footprint. The Stormwater BMP Toolbox provides technical data, design factors, and construction limitations with these BMPs in non-technical language. The Coalition provided training on the Stormwater BMP Toolbox at two Year 11 workshops (September 17 and 26, 2013).

The objective was to provide the average property owner with easy-to-understand information that encourages them to select low-impact stormwater management tools for their properties, construct them safely, and maintain them for long-term benefit. The BMPs in the Toolbox are consistent with the requirements of the current Small MS4 Permit, the Massachusetts Stormwater Handbook (February 2008), and other current guidance documents.

#### **Minimum Control Measure 6: Pollution Prevention and Good Housekeeping in Municipal Operations**

In Year 11, West Boylston continued to utilize the Stormwater Pollution Prevention Plan (SWPPP) template in the form of a word processing document. This document was developed in Year 10 and addresses elements common to all SWPPPs, including storage of materials, site inspection practices, water sampling, training, spill prevention and cleanup, Standard Operating Procedures for a number of activities, and other sections. The Coalition provided training on the SWPPP Template at two Year 11 workshops (September 17 and 26, 2013). The SWPPP template covers many types of municipal properties. This includes highway department garages and public works yards- where salt is stored and vehicle maintenance or storage is completed- as well as parks, golf courses, and cemeteries, where fertilizers and pesticides may be applied and lawn mowing activities may result in small spills. The SWPPP



template includes built-in instructions to make it as simple as possible for each community to develop a SWPPP for a property, simply by deleting text that doesn't apply.

In Year 11, West Boylston continued to apply its Stormwater Bylaw, and utilize the 15 Standard Operating Procedures (SOP's) developed by the Coalition in Year 10, and intended to provide guidance on activities required or encouraged by the 2003 Massachusetts Small MS4 Permit. The Coalition provided training on these SOP's at two Year 11 workshops (September 17 and 26, 2013). These SOPs addressed such diverse activities or needs as outfall inspection (both dry weather and wet weather), catch basin cleaning, erosion and sedimentation control, oil/water separator maintenance, use and storage of pesticides and fertilizers, and many more. The group developed standard forms and methodologies for these procedures, many of which were incorporated into the Integrated Online Mapping and Inspection System, described in following paragraphs.

In Year 11, West Boylston continued to utilize two presentations developed in Year 10 on pollution prevention in stormwater management, with content focused on educating employees of public works, engineering, conservation, planning, highway, and other similar municipal departments on the requirements of the 2003 Small MS4 Program. The Coalition provided training on how to use these presentations to educate staff at two Year 11 workshops (September 17 and 26, 2013). One presentation is focused on using the SWPPP Template and the responsibilities of municipal personnel to implement requirements of the SWPPP, and the second training presentation provides explanation and insight on the 15 SOP's described previously.

In Year 11, West Boylston continued to utilize a Sump Pump Discharge Policy developed in Year 10 that provides a framework for the member communities to respond to needs to remove sump pumps from the sanitary sewer system without causing property damage or creating a hazardous condition for the public. The Coalition provided training on the Sump Pump Discharge Policy at two Year 11 workshops (September 17 and 26, 2013). The Policy discusses considerations related to potential contamination and reduction in capacity of the storm drain system when sump pumps are permitted to connect to the drainage system, and lays out a situational approach to provide flexibility in administering a policy. The Policy includes guidance for when such a connection should be considered, what information the municipality can request from a residential or commercial property to guide in its decision, and outlines the responsibilities of the property owner.

In Year 11, West Boylston continued to utilize a Salt/Sand Benchmarking tool developed in Year 10 to guide member communities in calibrating deicing equipment. The Coalition provided training on the calibration approaches and spreadsheets at two Year 11 workshops (September 17 and 26, 2013). The Benchmarking tool calculates the present loading rate of chloride (per lane-mile) presently applied by its salt trucks and other municipal vehicles, regardless of the compound (e.g.: sodium chloride, green salt, calcium chloride) or form (e.g., solid or liquid, mixed with sand), and in evaluating alternative application methods and materials to current practices. The Benchmarking tool deliverable guides communities through two different equipment calibration processes

and suggests a target reduction rate that is coupled to and appropriate for the benchmarked loading rate. The objective of this task is to reduce the overall loading of chlorides to surface waters in the region while maintaining safe conditions on roadways. Additionally, the Town of West Boylston revised its SOP for snow and ice control by eliminating use of sand, and using an all-salt method – a product called Clearlane, which is essentially NaCl pretreated with MgCl. The product has EPA’s DFE-endorsement, and likewise was approved by the DCR for use, given the expected environmental improvements of reduced sand dispersal.

### MISCELLANEOUS

The Sump Pump Discharge Policy and the Private Drainage Connection SOP (SOP 15) documents both include technical criteria for a member community to evaluate when considering granting approval to residential and/or commercial users to connect such private drainage into engineered storm drain systems within the MS4. However, this approach is not effective in areas where no engineered storm drain system exists. In Year 11, the Coalition finalized an approach to connect pieces of data managed by multiple departments within a community for the benefit of all departments. Specifically, the task merges knowledge of areas where high inflow (i.e., sump pumps and drainage connections) to the sanitary sewer has been identified but where no engineered storm drain system exists. This knowledge includes drainage Capital Improvement Plan (CIP) categories and fields to prioritize the extension of the engineered drain system, within the parameters of the Sump Pump Policy and the Private Drainage Standard Operating Procedure, to reduce inflow to the sanitary sewer while protecting surface water quality. In Year 11, the Coalition provided training on the Drainage Extension Approach at the November 20, 2013 training workshop.