

Municipality/Organization: Town of Watertown EPA NPDES

Permit Number: MAR041083 MaDEP

Transmittal Number: X-274548

**Annual Report Number
& Reporting Period:** No. 14: April 2016-March 2017

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Gerald S. Mee, Jr. **Title:** Superintendent 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: Michael J. Driscoll

Title: Town Manager

Date:

4/27/2017

Part II. Self-Assessment

During Permit Year 14, the Town continued implementing the six minimum control measures necessary to comply with the permit and has determined that it is in substantial compliance with all requirements. Key aspects of this year's program are outlined below:

Measure 1: Public Education and Outreach

During Permit Year 14, DPW, working with the SAC, has continued education and outreach efforts around several stormwater issues in Watertown.

- DPW maintained, and updated as necessary, its Stormwater Management, Illicit Discharge Detection Program, and DPW Permits web-pages at www.watertowndpw.org.
- Working with the Town's IDDE consultant, the Town inspected all outfall signage along the Charles River. Several signs were replaced and some signage was updated to reflect current outfall numbering.
- As noted in the Permit Year 13 annual report, the DPW and SAC are not focusing efforts on a public education speaker series, however we are partnering with the Charles River Watershed Association to hold a Rain Garden Training event in May, 2017.
- A signature element of the Town's public education and outreach program is participation in the annual Faire on the Square. The SAC Chair and Town Engineer staffed a stormwater table at the Town's annual Faire on the Square, held on September 24, 2016. Residents were encouraged to pin their residence on a town map that showed outfall locations. Residents were then shown where their stormwater outfall was and it was noted that the Town has separate stormwater and sanitary sewer systems. There were several posters with other information available about the Town's stormwater programs and 604b/319 grant information. Over 100 residents participated.
- The Town is also collaborating with the Mystic River Watershed Association and neighboring communities in the Mystic River Stormwater Education Collaborative. The Mystic River Watershed Association (MyRWA) will create a multimedia education program about stormwater pollution. Principal outputs will include stormwater education materials for all the municipalities in the watershed in formats that include video public-service announcements, utility bill inserts, posters, social media campaigns, and interactive on-line data displays.

Measure 2: Public Involvement and Participation

A key part of the Town's Public Involvement and Participation program is the Watertown Stormwater Advisory Committee. Formed in 2009, the Committee is comprised of the Conservation Agent, the Planning Director, the Town Engineer and four individuals from the general public. During the permit term, the SAC held 10 public meetings. The meetings are posted and open to the public. During the permit term, the SAC began developing a "stormwater tool box" that contains materials that can be used to give presentations to local groups.

Although no additional public meetings were held specific to stormwater during the permit year, stormwater management and the benefits of stormwater control were discussed in the context of a variety of different issues at various Town meetings. Topics included the benefits of grass

borders versus paved borders, implementing green infrastructure in certain Town road reconstruction projects, and stormwater funding.

The Town advertised its rain barrel program on the local watertownmanews.com web-site. Rain barrels are available for sale and pick-up at the DPW year-round. There was a small uptick in number of barrels sold after the press release was distributed.

The Town has had great difficulty obtaining public participation in the catch basin stenciling program. One community group has approached us, but we were unable to schedule a fall program. It is anticipated that stenciling will occur during the upcoming permit year.

Measure 3: Illicit Discharge Detection and Elimination

During Permit Year 14, work in drainage sub-areas 11, 12, 20, 33, 99, and 109 continued, with additional investigations beginning in sub-areas 6, 8, and BEL-1. Progress is reported in detail in the Town's quarterly reports, submitted to EPA and also available on the Town's web-site at: <http://www.watertowndpw.org/pages/watertown-idde-plans/index>.

One enforcement action was taken under the Town's IDDE Ordinance, related to operations at a commercial/industrial property. The property is taking actions to reduce and mitigate pollutants that could enter the Town's drainage system.

Measure 4: Construction Site Stormwater Runoff Control

During the permit year, the Town enforced the Stormwater Management and Erosion Control Ordinance. The Ordinance requires projects that reach certain thresholds to obtain a permit from DPW. The two major thresholds include creation of 500 square feet or more of impervious area, and disturbance of more than 5,000 square feet of land. Rules and Regulations have also been developed and are anticipated to be adopted in the current permit year.

Measure 5: Post-Construction Stormwater Management in New Development and Redevelopment

As noted above, the Stormwater Management and Erosion Control Ordinance was adopted during Permit Year 13. Rules and Regulations have also been developed, but have not been adopted. During the permit year, 13 single/two family projects were issued stormwater permits and 6 commercial/industrial permits were issued. Post-construction best management practices are also being installed on three Town projects:

- As part of stormwater mitigation for a local project, a developer installed a sub-surface infiltration system in the municipal parking lot. The system includes water quality pre-treatment units and is sized to infiltrate 1-inch of rainfall with no overflow for the drainage area of approximately 0.96-acres. The work was also highlighted in an article posted at watertownmanews.com, which discussed the stormwater benefits of the project.
- The Town worked with a local developer to install a green infrastructure bioretention basin on Beacon Park, in an area of reclaimed pavement. The work is currently under construction.
- As part of adjacent development, a hydrodynamic separator was installed on the Phillips Street drain line to remove sediment.

- As part of the Common Street road reconstruction project, the Town will be installing 4 to 5 green infrastructure stormwater treatment devices. Design is currently underway.

Measure 6: Pollution Prevention and Good Housekeeping in Municipal Operations

Annual operation and maintenance programs, such as catch basin cleaning and street sweeping continued during the permit year.

Optional

- 604(b) Grant: Throughout the permit year, DPW and the SAC, working with our consultant Horsley Whitten (HW), continued work on the 604(b) grant. A list of potential Green Infrastructure locations was identified and evaluated by HW. A televised community meeting was held on June 21, 2016. The meeting focused on stormwater basics, green infrastructure basics, and background on the 12 potential green infrastructure sites identified to date. The public was encouraged to comment on the sites and provide additional sites for review.

Based on input from the Community Meeting, DPW met with the SAC at its September 15, 2016 meeting to select two locations from the previous list to advance to 30-percent design level. The two locations chosen were the DPW and Hosmer Elementary School. HW is advancing the designs for each location. At DPW, there was insufficient “as-built” information and a new on-the-ground survey was performed. An update was provided to the Town Council Public Works Sub-committee at its October 27, 2016 meeting and monthly updates are provided to the SAC.

- Section 319 Grant: DPW continued working with the SAC and Charles River Watershed Association (CRWA) on the green infrastructure implementation project on Edenfield Avenue. During the permit period, the design for road diet and green infrastructure was finalized and the project was put out to bid.

A neighborhood/abutter meeting was held on April 14, 2016 to discuss the project. The meeting focused on road diets and green streets and included a discussion of the concept designs for the project. A neighborhood walk-through of the project area was held on May 31, 2016. During this period, staff from DPW, DCDP, and CRWA were available to discuss the project and specific concerns with property owners/residents.

The construction contract was awarded in the summer of 2016. A pre-construction meeting was held with the contractor on September 21, 2016. Due to contractor scheduling constraints, the project was not constructed during the 2016 season, but will be constructed during the 2017 season.

As part of the project, pre-construction stormwater runoff sampling was also performed at various locations and analyzed for Total Suspended Solids (TSS), total phosphorus, turbidity, ammonia, and E.coli. This information will be compared with post-construction sampling.

Information about each grant is available at the DPW web-site:

<http://www.watertowndpw.org/Pages/Stormwater%20Mgmt%20MISC%20Info/Green%20Infrastructure%20Grants>.

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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
1A Revised	Distribute public education brochures	DPW, Health Dept.	1 brochure each permit year Develop, print and distribute brochures.	<ul style="list-style-type: none"> • DPW continued to maintain brochures in display racks at Town facilities including DPW Office, Town Hall, Libraries, and Schools. Brochures were also handed out at the annual Faire on the Square. • The Stormwater Advisory Committee (SAC) continued to maintain its web page. <i>(new)</i> • The Town is participating as a matching partner in the Mystic Stormwater Education Collaborative grant, administered by MyRWA. The goal of the grant is to develop targeted, multi-media outreach and education materials for communities in and around the Mystic River watershed. 	<ul style="list-style-type: none"> • Continue distribution and displaying of brochures and other educational materials. • Distribute stormwater education materials at the annual Faire on the Square. • Continue to update and enhance the Stormwater Advisory Committee website. • Continue participation in the Mystic Stormwater Education Collaborative.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
1B Revised	Participate in municipal services exhibit at local mall <i>The Town's annual Faire on the Square is effectively a municipal services day.</i>	DPW	1 day per permit year	<ul style="list-style-type: none"> The Faire on the Square was held on Saturday, September 24, 2016. DPW staffed a table and included public education materials about stormwater management. The DPW and SAC also staffed a stormwater table at the annual Faire on the Square. Residents were encouraged to pin their residence on a town map that showed outfall locations. Residents were then shown where their stormwater outfall was and it was noted that the Town has separate stormwater and sanitary sewer systems, with other information available. Over 100 residents participated. Information about several stormwater projects was also presented. 	<ul style="list-style-type: none"> Continue staffing a table at the annual Faire on The Square event.
1C Revised	Send stormwater information and work with science depts.	DPW/public schools	Continue meetings and discussions with High School Science Dept. for enhancing curriculum for understanding of impacts to public waterways and measures for stormwater pollution prevention.	<ul style="list-style-type: none"> The SAC completed work with the classes of one 9th grade English teacher at Watertown High School. After the students reviewed dozens of potential candidates, four educational videos related to stormwater were methodically selected to be hosted on the SAC website, under "Resource Links". 	<ul style="list-style-type: none"> Continue seeking outreach and education opportunities in the schools.
1D	Outfall Signs	DPW/Community Groups	Label all outfalls with signs	<ul style="list-style-type: none"> All outfall signs were inspected during the permit year and replaced as needed. Some outfall signs were relabeled to use current outfall numbering system. 	<ul style="list-style-type: none"> Continue inspection program and repair as needed.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
1E	Pet Waste Management	Health Dept., DPW and citizens	Enforcement of pet waste rules through issuance of fines by Bd. of Health or Police Verify enforcement by number of citations issued each permit year.	<ul style="list-style-type: none"> The pet waste brochure developed during Permit Year 12 continues to be available at the Health Department. The brochure is also distributed to residents that are observed to have violations and posted on the Health Department web page. 	<ul style="list-style-type: none"> Continue program.
1F	Education of restaurant owners and auto service garage owners	DPW/Board of Health	Visit and provide educational materials on preventing stormwater pollution at least once every 3 years.	<ul style="list-style-type: none"> In 2016, the Health Department inspected 252 grease traps at local food service establishments. Grease trap logs were reviewed and some were opened and inspected. The Health Department provided information to establishments who did not comply with the Health Department Grease Trap Regulation. 	<ul style="list-style-type: none"> Continue program.
1G	Public education through environmental speaker series	DPW, Environmental Committee, Stormwater Advisory Committee and other Town committees and citizen groups	Three to five annual speakers or movies on environmental topics	<ul style="list-style-type: none"> Public meetings and educational opportunities held during Permit Year 14 are listed in Section 2A. There were no environmental speakers during Year 14, however DPW and SAC began collaborating with CRWA to conduct a Rain Garden training in May, 2017. 	<ul style="list-style-type: none"> Hold Rain Garden training in May, 2017. Continue to evaluate resources and opportunities for environmental speakers/education.
1F	DPW Web Page	DPW, Stormwater Advisory Committee		<ul style="list-style-type: none"> The DPW continued to maintain and update its web page. 	<ul style="list-style-type: none"> Continue to maintain and update the DPW web page as needed.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
2A	Public stormwater meetings	Stormwater Advisory Comm. DPW, Planning Bd., Con. Comm.	1 meeting per permit year with S.A.C., Con. Comm., Planning Bd., Bd. of Health & DPW	<ul style="list-style-type: none"> • The Stormwater Advisory Committee held 10 public meetings during Permit Year 14. • Stormwater benefits and the potential for green infrastructure were discussed at the April 20, 2016 Public Works Sub-committee meeting about the Town’s Common Street project. • The May 5 and June 29, 2016 discussions at Public Works Sub-committee about planting strips included information about the benefits of reduced impervious area. • A discussion was held on October 27, 2016 at the Public Works Sub-committee related to stormwater grants and funding opportunities. • The Town’s stormwater program was discussed at the March 1, 2017 Budget and Finance Committee meeting. 	<ul style="list-style-type: none"> • Continue to conduct formal and informal meetings on stormwater issues with the Stormwater Advisory Committee and other Town bodies.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
2B Revised	Community Clean Up <i>Participate in/support of community clean up</i>	DPW/volunteers DPW supports community clean up	1 cleanup day per year. Participation by at least 100 volunteers Support 1 cleanup day per year. Aim for participation by at least 50 volunteers	<ul style="list-style-type: none"> • A community clean-up event took place on April 30, 2016 as part of the River Clean-up event described below in BMP 2C. • The Town Tree Warden authorized the planting of 141 trees throughout the Town. At the Arbor Day Event held at the Hosmer School on April 29, 2016 the Tree Warden spoke to students about issues of stormwater and the importance of a clean and healthy Charles River. • A new Arbor Day event was held during the permit year, the annual Arbor Day of Service and Environmental Fair, held at the Commander's Mansion on April 28. Various groups were on hand to promote ideas that support a healthy environment. The event was created through a program run by the Massachusetts Arborist Association. 	<ul style="list-style-type: none"> • Continue to support annual community clean up events through supply and pick-up of disposal bags • Tree planting is an annual program and will continue next year.
2C Revised	River Clean Up Community Clean Up	DPW DPW, Police, local senator	1 cleanup day per year. Participation by general public and local community groups.	<ul style="list-style-type: none"> • Annual spring clean-up conducted on April 30, 2016. The DPW supplied barrels and a truck for collecting litter and debris and arranged for its removal and proper disposal and distributed informational brochures. 	<ul style="list-style-type: none"> • Continue to provide support for community and river clean-ups.

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<p>2D Revised</p> <p><i>Further revised</i></p>	Citizen Watch Group	Citizens, DPW, Purchasing Agent	<p>2 meetings per year with WCES and participation by at least one volunteer from each neighborhood to perform weekly inspections of neighborhood areas and report to local authorities incidents of pollution.</p> <p>-----</p> <p>2 meetings per year with WCES, one with the Recycling committee and one with the Environment and Energy Efficiency Committee. Aim for 1 cleanup day per year.</p> <p>Participation by general public and local community groups.</p> <p>Monthly meetings of Environment and Energy Efficiency Committee, Recycling Committee, occasional meetings with informal groups on topics such as planting strips, snow removal practices, etc.</p>	<ul style="list-style-type: none"> • There were no meetings with neighborhood groups during the permit year. • The SAC began developing a stormwater toolbox that can be used for presentation to local groups. 	<ul style="list-style-type: none"> • Continue to work with various groups and committees.
2E	Riverwatch Program	DPW	2 times per permit year	<ul style="list-style-type: none"> • The Riverwatch Program is no longer in practice. 	<ul style="list-style-type: none"> • N/A

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2F	Household Hazardous Waste Day. The Town is a member of the Minuteman Household Hazardous Waste Collection Location	Health Dept.	8 events per year	<ul style="list-style-type: none"> Watertown residents disposed of various types of household hazardous waste, including oil based paints, pesticides, cleaning solvents and other materials, at the Minuteman Regional Household Products Facility (MRHPF) in Lexington. The facility operates one day per month from April through November, staffed on each day by one of the eight participating communities, and accepts a wide variety of household hazardous waste. In 2016, 156 Watertown residents visited the facility to dispose of household hazardous waste, resulting in the collection of 146 “full-car” loads. 	<ul style="list-style-type: none"> Continue HHW Program in conjunction with Minuteman Household Hazardous Waste Collection Days.
2G	CB Stenciling Program	DPW/SAC/ Volunteers	Stencil 25% of key CBs in Town each year over 4 years	<ul style="list-style-type: none"> No storm drain stenciling was performed during the permit year. The Town is working with a local community group to perform stenciling in the spring. 	<ul style="list-style-type: none"> Continue to seek opportunities to engage the public in catch basin stenciling or perform stenciling in-house.
2H	Water Quality Monitoring Program	DPW/Environmental Community Groups/Volunteers	Conduct Water Quality Monitoring quarterly of waterways known to have high bacterial counts.	<ul style="list-style-type: none"> A total of 245 water quality samples were taken at the MS4 outfalls, non-municipal outfalls and in-system locations during Permit Year 14 including 64 samples under wet weather conditions. 	<ul style="list-style-type: none"> Continue and further refine water quality monitoring program.
2I	Adopt a Storm Drain Program	DPW/SAC/ Environmental Community Groups/Volunteers	Participation by 15- 20 Adopt a Storm Drain volunteers each year.	<ul style="list-style-type: none"> Due a lack of general interest by the public, the Town was unable to draw up support for the proposed Adopt a Storm Drain Program and has decided to end the program due to a lack of public interest. 	<ul style="list-style-type: none"> N/A

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
2J	Rain Barrel Distribution	DPW	Distribute rain barrels for purchase by Watertown residents.	<ul style="list-style-type: none"> DPW distributed a “press release” to increase awareness about the rain barrel program. The press release was published in the on-line Watertown News. The Town sold 13 rain barrels during CY 16. 	<ul style="list-style-type: none"> Continue program.
2K	Healthy Lawns and Landscapes Workshop	DPW/SAC	Conduct a workshop on lawn and landscape maintenance measures that reduce impacts to the Town’s waterways.	<ul style="list-style-type: none"> The DEP is no longer offering the Healthy Lawns Workshop. There are currently no plans for future workshops. 	<ul style="list-style-type: none"> N/A
2L	Mercury Collection	DPW	Collect and properly dispose of mercury containing household items	<ul style="list-style-type: none"> Mercury devices may be dropped off at DPW or the Recycling Center. The local vendor no longer accepts them. 	<ul style="list-style-type: none"> Continue program.
2M	Curbside CRT Collection	DPW / Private Waste Hauling Company	Collect and properly dispose of Cathode Ray Tube TV’s and computer monitors	<ul style="list-style-type: none"> The Town provides curbside collection of CRTs in addition to allowing homeowners to bring them to the Recycling Center. 	<ul style="list-style-type: none"> Continue program.
2N	Tire Collection Drop Off	DPW/ Private Waste Hauling Company	Collect and properly dispose of tires	<ul style="list-style-type: none"> The Town provides two annual drop off events, as part of larger recycling events. 	<ul style="list-style-type: none"> Continue program.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
3A	Work with private consultants	Coordinate with DPW	<p>Perform top down investigation of entire MS4 to detect illicit connections within 3 years</p> <p>Eliminate identified illicit connections within 3 months of detection.</p> <p>Most illicit discharge sources detected and eliminated within 5 years</p>	<ul style="list-style-type: none"> • DPW has worked with private consultants to implement the Town's IDDE program. Additional information is provided in the quarterly reports submitted to the EPA and posted on the DPW web site. • Since 1997, a total of 169 out of 172 (98%) key junction manholes have been inspected and monitored, and tested for the presence of indicator parameters. Manholes with positive findings are traced upstream to locate the source of the illicit connection, and repairs made as necessary. • The Town estimates approximately 2,451 gpd of illicit discharges have been removed from the drainage system as part of the IDDE Program. 	<ul style="list-style-type: none"> • Continue implementing the Town's approved IDDE program. • Continue investigations in high priority outfalls drainage areas and re-evaluate upstream tributary areas to outfalls where high bacterial counts continue to be observed.
3B	Work with various Town agencies	Building, FD, Con. Comm, DPW	Training of public employees on illicit discharges completed within one year	<ul style="list-style-type: none"> • The DPW continues to coordinate with the Health Department about improper waste disposal issues and possible impacts to MS4 and water bodies. 	<ul style="list-style-type: none"> • Continue joint efforts of DPW, SAC, Building Department and other Town Depts. and Agencies regarding the serious nature of illicit connections and to be continually on the lookout while working around Town for incidents of illicit discharges so they can be promptly addressed.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
3C Revised	Update Stormwater Map	DPW/Consultants	<p>Update map each year during permit period as new information becomes available. Complete supplemental info. Mapping by 2007.</p> <p>Update map each year during permit period as new information becomes available.</p>	<ul style="list-style-type: none"> The sewer, drain, and drainage area mapping is updated, as needed, based on the results of field investigations and record plans. 	<ul style="list-style-type: none"> Continue updating the base mapping as needed.
3D	TV, smoke and dye testing	DPW/Consultants		<ul style="list-style-type: none"> Approximately 9,850 linear feet of various sewer and drain pipe were inspected by CCTV during 2016. 238 building inspections were performed during the permit year. 	<ul style="list-style-type: none"> Continue investigations in accordance with Town's Illicit Discharge Detection and Elimination Program, approved by the EPA.
3E	Remove dry weather overflows	DPW/Consultants	Eliminate dry weather overflows within 1 year	<ul style="list-style-type: none"> 8 sources of dry weather flow were identified in 2015. A total of 51 illicit discharges have been identified since program inception. 6 sources of dry weather flow were removed from the system during 2016. To date, 42 illicit discharges have been removed from the system. 	<ul style="list-style-type: none"> Continue IDDE program to remove dry weather sources of flow to the drainage system.

3a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
3F	IDDE Educational Outreach	DPW/SAC/Health Dept./Con. Comm./Volunteers	Include IDDE Education with public education goals under BMP #1.	<ul style="list-style-type: none"> The DPW Illicit Discharge Detection Program web-page is updated as needed. 	<ul style="list-style-type: none"> Provide updates to the SAC and public as needed, maintain and update the IDDE web-page.
3G Revised	Prohibition of Illicit Discharges	DPW / SAC	Since 1990, town regulations “Sanitary Sewer and Storm Drain Regulations” have forbidden improper discharges to the storm drains. Supplant existing Storm Drain and Sanitary Sewer Regulations with more specific language regarding prohibition of Illicit Discharges to the MS4. Draft supplanting Illicit Discharge text for Town Council approval by the end of 2010.	<ul style="list-style-type: none"> There was one enforcement action taken using the IDDE Ordinance during Year 14. The property is implementing a plan for pollution reduction and mitigation. 	<ul style="list-style-type: none"> Use the Ordinance for enforcement, as needed.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
4A Revised	Update Town Ordinances	DPW, SAC, Planning, Con. Comm.	Update ordinance by the Jan 2015 and adopt by end of 2015.	<ul style="list-style-type: none"> The Stormwater Management and Erosion Control Ordinance was adopted by the Town Council on February 23, 2016. The Ordinance is being enforced using the draft Rules and Regulations. 	<ul style="list-style-type: none"> Adopt Rules and Regulations to implement the Ordinance.
4 B Revised	Coordinate construction reviews and site inspections	DPW, Planning, Con. Comm.	Internal review and 1 site inspection per project with 100% compliance with sediment and erosion controls by site operators.	<ul style="list-style-type: none"> Projects that disturb 5,000 square feet or increase impervious area by 500 square feet require full plan review and implementation of an erosion and sediment control plan. Projects are inspected at least once and then as needed, for compliance with the approved erosion and sediment control plan. 	<ul style="list-style-type: none"> Continue erosion and sediment control reviews and site inspections, in accordance with the Town Ordinance and Rules and Regulations.
4C Revised	Standard Construction Details Construction Standards	DPW, Planning, Con. Comm.	Update details 1 time during permit period. Require 100% of the projects with areas of 1 acre or more to include in their plans the necessary measures to adequately control erosion and sedimentation in stormwater runoff that meet or exceed those in the Town's standards and the MA DEP Stormwater Management Policy performance standards, whichever is more stringent.	<ul style="list-style-type: none"> Standard erosion and sediment control details are available on the DPW web site and distributed as-need. 	<ul style="list-style-type: none"> Review standards and update as needed. Provide developers with standards and review plans and site conditions for compliance.

4D	Standard Erosion Control Details	DPW, Planning, Con. Comm.	Update details 1 time during permit period. Require 100% of the projects with areas of 1 acre or more to include in their plans the necessary measures to adequately control erosion and sedimentation in stormwater runoff that meet or exceed those in the Town's standards and the MA DEP Stormwater Management Policy performance standards, whichever is more stringent.	<ul style="list-style-type: none"> • See Item 4C above. 	<ul style="list-style-type: none"> • Review standards and update as needed. Provide developers with standards and review plans and site conditions for compliance.
4E	Oil/gas separators for areas greater than 4 parking spaces.	DPW	100% of all new construction sites that connect to the Town system with plans for 4 or more parking spaces to include oil/gas separators.	<ul style="list-style-type: none"> • Based on the new Ordinance, water quality improvements are required on parking lots with an area of 5,000 square feet or greater that will be excavated or overlain. There were no parking lots meeting this threshold during Year 14. 	<ul style="list-style-type: none"> • Continue requiring drainage retrofits at parking lot repaving sites meeting the parking space criteria.
4F	DPW Construction Standards	DPW	Enacted in 2002, project proponents appearing before DPW must comply with provisions. Require 100% of projects to include in their plans the necessary measures to adequately control erosion and sedimentation in stormwater runoff that meet or exceed those in the Town's standards and the MA DEP Stormwater Management Policy performance standards, whichever is more stringent.	<ul style="list-style-type: none"> • DPW enforced the Town's <i>Stormwater Management and Erosion Control Ordinance</i> as noted in 4A. • DPW continued to require Applicants complete a checklist entitled <i>Site Plan Review Checklist for Single and Two-Family Construction</i>. 	<ul style="list-style-type: none"> • Continue use of these requirements.

4G	Public observation and reporting	DPW/Board of Health	Implement procedures for receipt and follow-up of public comments on construction site violations of the Town's standards for erosion and sediment control by the end of 2007.	<ul style="list-style-type: none"> • DPW has a link on its website that allows the public to report any problems or concerns they may have with activities or conditions at construction sites. • During Permit Year 13, one comment was received from the public about construction issues various locations in Town. Each comment was addressed by the DPW/DCDP/BOH, working with the applicant. 	<ul style="list-style-type: none"> • Continue monitoring any public comments, concerns or questions regarding construction activities and impacts to stormwater quality.
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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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
5A Revised	Update Town Ordinances	DPW, SAC, Planning, Con. Comm.	Draft an ordinance by the January 2015 requiring the implementation of post construction runoff controls and long-term operation and maintenance of such controls. The goal for the approval of this ordinance by the Town and its adoption is by the end of 2015.	<ul style="list-style-type: none"> • The Stormwater Management and Erosion Control Ordinance was adopted by the Town Council on February 23, 2016. • The Ordinance is being enforced using the draft Rules and Regulations. 	<ul style="list-style-type: none"> • Adopt Rules and Regulations to implement the Ordinance.
5B Revised	Update BMP's and details <i>Post construction runoff controls strategies.</i>	DPW, Planning, Con. Comm.	<p>Reduce the percentage of impervious surfaces associated with new developments and redevelopment projects of one acre and above to 25% of the site or less.</p> <p>Reduce sedimentation in stormwater runoff and local water bodies downstream of the development as determined from routine observations.</p> <p>Experience has shown reducing impervious areas by 25% or more is unrealistic. The new goal is to reduce impervious areas as much as practicable provide additional stormwater management controls to the maximum extent practicable.</p>	<ul style="list-style-type: none"> • Projects that disturb 5,000 square feet or increase impervious area by 500 square feet require full plan review and implementation of post-construction stormwater controls. • Stormwater permits were issued for 13 single/two-family residential projects during the permit year. • Stormwater permits were issued for the following commercial/industrial projects: Athena Phase I (garage); Cresset Development Phase I (200 Arsenal Street); Greystar (58 Irving Street); Goddard School (26 Chestnut Street); Watertown Ford (625 Pleasant Street); 20 Summer Street. 	<ul style="list-style-type: none"> • Continue to work with developers throughout the permitting process to reduce impervious areas practicable and provide additional stormwater management controls to the maximum extent practicable. • Continue enforcement of the Stormwater Management and Erosion Control Ordinance

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 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
6A	Clean and inspect outfalls	DPW	Clean and inspect at least 1 time per year	<ul style="list-style-type: none"> Outfalls are inspected routinely as part of the Town's IDDE program and in response to public comment. Maintenance is performed as-needed. 	<ul style="list-style-type: none"> Continue program
6B	Clean catch basins	DPW	Clean every catch basin at least once every 2 years	<ul style="list-style-type: none"> 3,021 catch basins, representing over 95% of the system, were cleaned during calendar year 2016, and 329.5 tons of catch basin debris were disposed of. 	<ul style="list-style-type: none"> Annual cleaning of catch basins to continue.
6C	Street Sweeping	DPW	2 street sweepers employed year round, weather permitting to clean all town streets at least once per year.	<ul style="list-style-type: none"> All main streets and major arterials received more than 2 street sweepings during calendar year 2015. All other streets received sweeping twice during the year. A total of approximately 181.06 tons of street sweeping debris was collected and properly disposed during 2016. 	<ul style="list-style-type: none"> Continue program
6D	Inspection and maintenance of stormwater system	DPW	Inspect problematic system locations of the MS4 at least once per year and more frequently as conditions dictate.	<ul style="list-style-type: none"> Problem locations were reviewed as often as possible/needed, but minimally once per year. 	<ul style="list-style-type: none"> Continue program
6E	Update Emergency Management Plan	DPW / Emergency Services	Update Plan 1 time per permit period	<ul style="list-style-type: none"> DPW met with the BOH as well as the Police and Fire Departments on a routine basis to discuss emergency management issues. 	<ul style="list-style-type: none"> Review and update Emergency Management Plan as appropriate, continue departmental coordination meetings.

6a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
6F	EPA/DPW Spill Truck	DPW	Respond to spill emergencies.	<ul style="list-style-type: none"> The truck is available as needed. During the permit year, there were no major spills and the spill truck was not deployed. 	<ul style="list-style-type: none"> Available as needed.
6G	Integrated Pest Management Program	DPW	Use IPM methods to exclude pesticides on Town properties.	<ul style="list-style-type: none"> DPW did not apply pesticides to public parks, open spaces or other greenways during the reporting period. 	<ul style="list-style-type: none"> Continue IPM program for open spaces, parks and greenways under Town jurisdiction.
6H	Wet weather testing.	DPW and consultants	DPW will supplement existing testing program with wet weather testing 5-6 times per year.	<ul style="list-style-type: none"> Wet weather testing of the MS4 was performed on 2 occasions during Permit Year 14. A total of 64 water quality samples were collected from outfalls and surface water locations under wet weather conditions and sent to a lab for analysis. 	<ul style="list-style-type: none"> Continue wet weather testing in accordance with the approved IDDE plan.
6I	Reduce Salt/Sand Usage	DPW	Reduce salt and sand use by 5% normalized for # and severity of storms.	<ul style="list-style-type: none"> The DPW evaluates weather and road conditions during each winter event to balance the use of road salt with the needs of public safety. The Town is implementing a computerized control system for its salting equipment to improve salt distribution and application efficiency. The system adjusts the salt application rate with vehicle speed. This is anticipated to provide a significant reduction in salt usage. 	<ul style="list-style-type: none"> Continue best practices for salt application. Continue implementation of Cirus control system.
6J	Train public works employees on pollution prevention and good housekeeping techniques.	DPW	Gather training materials and implement training to public employees by July 31, 2006.	<ul style="list-style-type: none"> Pollution prevention and good housekeeping practices are implemented and expanded whenever possible. 	<ul style="list-style-type: none"> Continue to encourage public works employees to follow pollution prevention and good housekeeping practices.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<not applicable>>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

See IDDE Quarterly reports submitted to EPA

Part V. Program Outputs & Accomplishments (OPTIONAL) Programmatic

Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures	(\$)	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	2,000
Stormwater management committee established (Stormwater Advisory Committee)	(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 (entire length of Charles River)
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	8
▪ community participation	(%)	156 cars
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	Y

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			X
▪ Erosion & Sediment Control	X		X	
▪ Post-Development Stormwater Management	X		X	

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	27
System-Wide mapping complete	(%)	99%
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100%
Outfalls inspected/screened	(# or %)	100%
Illicit discharges identified	(#)	8
Illicit connections removed	(#) (est. gpd)	6 163 gpd
% of population on sewer	(%)	99.99 %
% of population on septic systems	(%)	<0.01%

Construction

Number of construction starts (>1-acre)	(#)	3
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	(#)	1

Post-Development Stormwater Management

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

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	Annually
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	Annually
Total number of structures cleaned	(#)	3,021
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.)		
Cost of screenings disposal	(\$)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1-2x
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	2+
Qty. of sand/debris collected by sweeping	(lbs. or tons)	181.06 tons

Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	LoRusso Landfill – Plainville, MA
Cost of sweepings disposal	(\$)	\$3,612.20
Vacuum street sweepers purchased/leased (We own 2 mechanical sweepers)	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	N

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management program mitigating against use of chemicals in place since 2001.		

Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	95% 5%
Pre-wetting techniques utilized	(y/n)	Y
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	Y
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	N