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Municipality/Organization: Town of Watertown
EPA NPDES Permit Number: MAR041083
MaDEP Transmittal Number: W-131118
**Annual Report Number
& Reporting Period:** No. 9: April 2011-March 2012

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: April 30, 2012

day to inspect the bank of the Charles River for signs of dumping and pollution and to keep the outfalls free and clear of debris. The DPW continues to support activities of the Watertown Citizens for Environmental Safety (WCES), a grass roots group that promotes environmental awareness through development and distribution of information to the public and businesses in Town. As noted above the WCES co-sponsored with the Stormwater Advisory Committee the screening of the movie "After the Storm" at the public library on 7 April 2011. Postcards on pet waste management and impacts on stormwater pollution from over-paving were made available to the public at the movie screening event.

The Household Hazardous Waste Collection program continued to be a success in Permit Year 9 with over 148 vehicles participating during 8 separate collection days. Water quality monitoring remained a high priority over the past year with a total of 75 water samples taken at the Town's stormwater outfalls over 4 quarterly sampling periods. Outfall sampling included 2 quarterly rounds under wet weather conditions and 2 quarterly rounds under dry weather conditions. In addition to sampling at outfalls, water quality samples of stormwater runoff were also collected and analyzed at ten (10) locations throughout the Town on 3 occasions at entrances to catch basins for the purposes of gaining a better understanding of the impacts of urban runoff on stormwater contamination.

The Department of Public Works continued the successful program for the sale of rain barrels to the public on a full-time year-round basis as opposed to the previous practice of holding a single rain barrel sale event day. The Department advertised through the local newspaper, and cable TV. Benefits of rain barrels were even promoted in tax bills. The DPW is continuing this program promoting the benefits of rain barrel usage for capturing roof runoff and providing rain barrels at a nominal fee to local residents. Rain barrels will continue to be offered for sale to the public on a year-round basis.

Illicit Discharge Detection and Elimination

The IDDE Program activities continued the aggressive schedule with a goal to complete the top-down inspection and testing of the entire MS4 system by Permit Year 10. Some on-going issues with unidentified sources of contamination in upstream tributary areas has precluded completing the IDDE investigations in Permit Year 9. Through the past year 168 out of 172 key junction manholes (97%) plus 37 upstream tributary manholes were inspected and tested for the presence of illicit connections indicator parameters. Through Permit Year 10 a total of approximately 308,000 linear feet of storm drain, representing over 85 percent of the entire MS4 system, has been inspected and tested under the IDDE Program. A total of 2 drain manholes were sandbagged and monitored for contaminated flow under dry weather conditions. As a result, 46 dye tests were performed to confirm the locations of illicit connections. Four illicit connections were identified during Permit Year 9 and repairs made to remove 3 of the 4 identified illicit connections. The fourth illicit discharge is from an apartment building at 14 Riverside Street is the result of a leaking sewer lateral from the building crossing over a private storm drain that connects to a Town catch basin in front of the property. The DPW is coordinating with the private property owner to make the necessary repairs to the defective sewer lateral causing the illicit discharge.

Enacting protocols in its IDDE program, the Town continued wet weather runoff testing with its water quality monitoring this past year which included 3 rounds of sampling and analysis for bacterial contamination in stormwater runoff. Refinements are being made to GIS mapping of the Town's storm drain, sewer and water systems that were completed in 2005.

In response to concerns by the EPA that progress had slowed in identifying and removing illicit discharges as evidenced from continued incidents of high bacterial counts at certain outfalls, the Town requested and received approval from EPA to modify the

approved IDDE Protocol of the “top-down” approach for finding illicit connections. The “modified top-down” approach involves bypassing the immediate upstream area with low level contamination to search for more significant sources of downstream illicit discharges. Starting just downstream of the low level contamination, the top-down approach in the approved IDDE Plan would continue to be followed. The investigations of the MS4 key junction manholes downstream of the low level contamination using the field test kits would account for the background level of ammonia and/or surfactants recorded just upstream in determining if illicit discharges existed before moving downstream. Any increase in the concentration of ammonia and/or surfactants above the background level would serve as an indicator of a potential illicit discharge. In such a case, steps would be taken to locate and remove the illicit discharge source(s) prior to proceeding further downstream. The benefit of the modified top-down approach is the ability to continue searching for illicit discharges that would otherwise require delaying investigations until the elusive sources of the low level contamination are found and removed. Watertown began implementing the modified top-down approach in September 2011 which proved to be successful with 4 illicit discharges being identified .

As part of the MWRA Local Financial Assistance Program, the Nichols Avenue and Boylston Street sewer project was packaged with Fayette Street sewer repairs to replace 1,860 feet of deep sewers. This project was awarded to J. D’Amico, Inc. of Randolph, MA. Construction will be completed in the Spring of 2012. Advanced Pipe Inspection of Dedham, MA will be installing the Cured-in-Place-Pipe liner following completion of sewer repairs. The Watertown DPW replaced 266 linear feet of an old 24-inch storm drain on Waverly Avenue between Fitchburg Street and Orchard Street with new 24-inch reinforced concrete drain including 2 new catch basins and one drain manhole. The Watertown DPW replaced 714 linear feet of vitrified clay sanitary sewer mains and associated service laterals. The sewer replacements included 308 linear feet of 10-inch PVC sewer on Fayette Street between Waverly Avenue and Forest Street, and 406 linear feet of 10-inch PVC sewer on Boylston Street between Nichols Avenue and #201 Boylston Street. The DPW replaced or rehabilitated 1,814 linear feet of defective sewers identified by IDDE field investigations. The completion of the sewer improvements reduced I/I by an estimated 6,700 gpd and mitigated the potential for inter-communication with nearby storm drains.

The Town Council voted on the formation of the Stormwater Advisory Committee in April 2009. The SAC finalized edits to the IDDE ordinance and forwarded it to the Town’s legal counsel for refining to comply with the applicable legal language and presented to the Town Council for approval and adoption. A Public Hearing on the IDDE ordinance was held on 11 May 2011. Subsequently, the IDDE ordinance was voted upon and approved for adoption.

Construction Site Stormwater Runoff Control

The DPW is one of multiple departments responsible for reviewing site development plans prior to Site Plan Approval by the Planning Board and ensuring that the proper measures are incorporated for controlling erosion and sediment runoff to the Town’s stormwater system and waterways. Developers and land owners seeking new construction permits are provided a set of the Town’s standard site construction details including erosion and sediment control requirements. The DPW performs inspections of the construction sites of all sizes to ensure compliance with the stormwater runoff control requirements. The DPW also enforces its parking lot drainage standard of using oil/gas separators for areas with 4 or more parking spaces if they connect to the Town’s drainage system. The DPW requires new construction sites to post a copy of their Construction Permit in a conspicuous location for easy reference by the public. The permit sign includes the phone number of the DPW for the public to report complaints of erosion and sedimentation, litter or other contaminants from the site reaching public ways. No complaints regarding construction site activities and problems were received in

the reporting period.

The Stormwater Advisory Committee reviewed and made final edits to the erosion and sediment control ordinance drafted and presented it to the Town Council Subcommittee on Public Works and Rules and Ordinances who held a meeting on 3 April 2012 to consider the Erosion and Sediment Control Ordinance. The Subcommittee voted unanimously to recommend approval to the Full Town Council after legal review by the Town Attorney.

Post-Construction Stormwater Management in New Development and Redevelopment

The draft ordinance is in the process of being reviewed and edited by the Stormwater Advisory Committee. The finalized ordinance will include references to non-structural and structural Best Management Practices (BMPs) for post construction runoff control of projects exceeding one acre in size. The Stormwater Center model "Post-Construction Stormwater Runoff Control Ordinance" is being used as the basis of drafting language for an ordinance suited to Watertown's situation requiring post-construction runoff control at developed and redeveloped parcels in accordance with the NPDES General Permit conditions in Part II.B.5.(a).

The Stormwater Advisory Committee will have input in the ordinance language and in facilitating its adoption by the Town Council.

Currently the DPW requires that a post construction maintenance schedule be submitted with plans prior to approval.

Pollution Prevention and Good Housekeeping in Municipal Operations

The DPW continued its extensive list of activities for stormwater pollution prevention. Each of the Town's 27 outfalls were inspected at least once during the permit year to review its condition and appropriate steps were taken to remove blockages, clean-up debris and maintain its full function. A contract for catch basin cleaning was bid in 2011 and a total of 3,022 catch basins were cleaned removing and disposing of 486 cubic yards. The DPW's two street sweepers were used to sweep all the Town's streets at least once during the permit year for removal of salt residue, sand, debris, leaves and litter before entry into the storm drain system. The DPW continued maintenance of the stormwater system focusing on problem locations where blockages and flooding have occurred.

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
1A	Distribute public education brochures	DPW, Health Dept.	1 brochure each permit year	Brochures have been placed in display racks at Town facilities including DPW Office, Town Hall, Libraries, and Schools. DPW participated in the annual river clean-up held 23 April 2011.	Continue distribution and displaying of “Protecting Our Waterways”, “Reducing I&I” and Phosphorous in the Charles River” brochures. Print additional brochures as needed to maintain adequate supply for distribution at annual environmental events and for posting at DPW and Town building venues. Distribute brochures at the annual river clean-up program scheduled for 21 April 2012 and Faire on the Square scheduled for 22 September 2012.
Revised			Develop, print and distribute brochures.	The Charles River Watershed Association brochure <i>Phosphorus in the Charles River: What You Should Know</i> brochure was distributed at the Conservation Commission's table at the Faire on the Square in Sept. 2011 and was available at the After the Storm, April 7th event organized by the Stormwater Advisory Committee. In both instances, it was made available for people to take copies of the brochure.	

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
1C	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. Fully implement program by Fall 2008.	Work is ongoing have the High School Science Department include the environmental sciences and engineering studies in its curriculum. An “Environmental Studies” class for the future and stormwater pollution prevention would be one of the topics covered.	Continue to work with the High School Science Dept. regarding stormwater pollution control education in the coursework. The goal is to have stormwater pollution control be a part of the science department curriculum at as many grade levels as possible.
Revised			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.	The DPW continued its public education program with local middle school students by scheduling with the Middle School to have student volunteers install curb markers on catch basins on 31 April 2011. Unfortunately, the student chaperone was ill on the scheduled date and the event had to be cancelled.	
1D	Outfall Signs	DPW/Community Groups	Label all outfalls with signs	The DPW continues to perform maintenance and repairs to signs damages by vandalism and weather. There is still on-going issue with the DCR on placement of two outfall signs on their boardwalk.	Missing and damaged signs will be replaced to bring labeling of all outfalls up to standards. The Town will continue to work with DCR to resolve the placement of the two outfall signs on their boardwalk.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
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.	The Town's current Animal Control Ordinance requires pet owners to leash, curb and clean up after pets. Pet waste education included Health Dept. brochures on requirements for pet waste management as well as information contained in DPW's "Protecting Our Waterways" brochure. Enforcement of pet waste management rules continued this year through routine inspections of public park areas by Animal Control Officer and issuance of citations. Pet Waste Management for riverfront areas are beyond Watertown's jurisdiction and the Town relies upon DCR to enforce this BMP in these public areas. The Health Dept. issued information on requirements for picking up pet waste which were distributed by the Town Clerk's office at the time pet owners renewed pet licenses.	Continuation and expansion of public education and enforcement activities. The DPW published "Protecting Our Waterways" brochure includes a section on pet waste management and will be distributed to the public and pet owners at town sponsored events and public displays. The Department of Public Works and the Health Department will work with the Clerk's office to have them distributed when pet licenses are renewed.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
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.	In Permit Year 9, the Health Department conducted approximately 259 grease trap inspections at food service establishments. Any individual establishment with repeated violations was sent an administrative order letter for non-compliance. The Health Dept. requires restaurants to produce receipts to prove they have had grease removed and disposed with an appropriate contractor. For establishments that did not have grease removal service records they were provided with the attached document that summarizes key points of the regulation and five a partial list of vendors that provide the grease removal and disposal services.	Provide information to restaurants on impacts of grease disposal in storm drains and to automotive service garages on impacts of improper handling and disposal of oil and coolant wastes.

1a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
1G	Public education through environmental speaker series	DPW, Environmental Committee, Stormwater Management Committee and other Town committees and citizen groups	Three to five annual speakers or movies on environmental topics	During Permit Year 9 efforts included planning for a Special Screening of <i>After the Storm</i> at the public library on 7 April 2011 which was promoted by the Watertown Stormwater Advisory Committee and Watertown Citizens for Environmental Safety (WCES). The flyer developed to promote the event is attached. In addition to co-sponsoring the movie “After the Storm”, Stormwater Advisory Committee and WCES made available at the event postcards on pet waste management and impacts on stormwater pollution from over-paving.	Continue to support activities of citizen advisory groups, distribute existing brochures, expand information on the DPW page of the Town website.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
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	In April 2009 the Town Council voted to form the Stormwater Advisory Committee (SAC) which is comprised of the DPW Superintendent and his designees, the Planning Director, the Conservation Agent and private citizens. The SAC was formed as an advocacy group for stormwater management and pollution prevention. Their mission is to: (1) Review and make recommendations on a new stormwater ordinance and related regulations being developed by the Town; (2) Identify and advocate for stormwater funding through grants and other sources; (3) Develop educational programs to increase public awareness of stormwater management; and (4) Perform any other tasks relevant to assisting the Superintendent of Public Works with the implementation of best practices for stormwater management. The SAC conducts posted public meetings on a monthly basis at the DPW and has met on 11 occasions during Permit Year 9. The SAC's initial focus has been on re-drafting MS4 related local ordinances including: (1) Illicit Discharges Prohibition; (2) Construction Site Erosion and Sediment Control; and (3) Post-Construction Stormwater Management.	Conduct both formal and informal meetings on stormwater issues with Stormwater Advisory Committee throughout the year to review progress on initiatives to reduce impacts of runoff on waterways, measures to improve public education and awareness on the issue, setting of appropriate stormwater erosion and sediment control requirements in Orders of Condition issued to developers, and identification of priority areas for community clean-up events. Notices of the formal meetings are posted at the Town Hall and included in the local newspaper in an effort to encourage public attendance at the meeting.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
2A (Cont.)	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	The SAC successfully completed development of the IDDE Ordinance which was reviewed and approved by the Town's legal counsel and subsequently adopted by the Town Council after a public hearing on 11 May 2011. The SAC also completed the drafting of Erosion and Sediment Control Ordinance which then went to the Town Council Subcommittee on Public Works and Rules and Regulations where a joint meeting was conducted on 3 April 2012. They voted unanimously to recommend approval of the ordinance to the full Town Council. This will be followed by a public comment period and vote to approve. Final drafting of the Post-Construction Stormwater Management Ordinance was performed. The Stormwater Advisory Committee in cooperation with the Watertown Citizens for Environmental Safety made preparations and arrangements to screen the movie "After the Storm" at the Watertown Public Library on 7 April 2011. A copy of the announcement is attached to this Annual Report.	

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
2B	Community Clean Up	DPW/volunteers	1 clean up day per year. Participation by at least 100 volunteers	A formal community clean-up event took place on 23 April 2011. Local citizens groups and institutions participated in cleaning up around waterfront areas and open spaces in conjunction with the River Clean-up event described below in BMP 2C. The groups included the Coolidge Ave. area citizens group and the Perkins School group. There were no Conservation Commission sponsored Arbor Day events.	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. DPW to hold an event on 18 April 2012 at the Watertown Public Schools to distribute tree seedlings with instructions on planting and care.
Revised	<i>Participate in/support of community clean up</i>	DPW supports community clean up	Support 1 clean up day per year. Aim for participation by at least 50 volunteers		
2C	River Clean Up	DPW	1 clean up day per year. Participation by general public and local community groups.	Annual spring clean up conducted on 23 April 2011. The DPW supplied barrels and a truck for collecting litter and debris and arranged for its removal and proper disposal and distributed informational brochures. The River Watch program was conducted in conjunction with the river clean up.	Conduct River Clean Up day and associated Community Clean-up activities. Work with volunteers and other participants on a variety of activities aimed at improving environmental quality, river water quality being one of them. The Town is proposing that students assist with clean up and removal of items to prevent entry into the storm drain system as part of satisfying community service obligations. The River clean-up for Permit Year 10 is scheduled for 21 April 2012.
Revised	Community Clean Up	DPW, Police, local senator			

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
2D Revised	Citizen Watch Group	Citizens, DPW, Purchasing Agent	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. ----- 2 meetings per year with WCES, one with the Recycling committee and one with the Environment and Energy Efficiency Committee. .Aim for 1 clean up day per year. Participation by general public and local community groups.	The newly formed Stormwater Advisory Committee joined the list of groups the Town works with on an ongoing basis. DPW continued working with Watertown Citizens for Environmental Safety (WCES), a grass roots group that promotes environmental awareness through development and distribution of information to the public and businesses in Town. The Environment and Energy Efficiency Committee prepared and issued an Energy Study evaluating projects to reduce the Town's consumption of fossil fuel based electricity which included replacement of street lights with LED lights and installation of solar panels at the DPW facilities.	The Town will continue to work with WCES, Bicycling, Recycling, Stormwater Advisory, Environment and Energy Efficiency Committees. The DPW intends to meet with multiple groups to review topics of environmental interest and to seek participation to support and promote Town initiatives. The DPW will continue to work with the student volunteers such as Roots and Shoots. It is anticipated that this year's Faire on the Square will again feature an environmental section under the auspices of the Environment and Energy Efficiency Committee.
Further revised			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.		
Revised April 2009					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
2E	Riverwatch Program	DPW	2 times per permit year	DPW conducted Riverwatch Program during the river clean-up day on 23 April 2011 to inspect the river bank areas and outfalls for signs of pollution and dumping of debris. Inspection of the outfalls and waterway is by use of the DPW's boat which was taken out during the river clean-up event. The bank areas were inspected each of the 4 quarterly periods the outfalls were sampled for water quality during Permit Year 9.	Continue Riverwatch Program with 2 inspections performed in Permit Year 10.
2F	Household Hazardous Waste Day. The Town is a member of the Minuteman Household Hazardous Waste Collection Location	Health Dept.	8 events per year	There are eight events in any given year. Watertown residents sent 148 cars to Household Hazardous Waste events in 2011.	Continue HHW Program in conjunction with Minuteman Household Hazardous Waste Collection Days.

2a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
2G	CB Stenciling Program	DPW/SAC/Volunteers	Stencil 25% of key CBs in Town each year over 4 years	The DPW continued its public education program with local middle school students by scheduling with the Middle School to have student volunteers install curb markers on catch basins on 31 April 2011. Unfortunately, the student chaperone was ill on the scheduled date and the event had to be cancelled.	As noted under the Public Education Minimum Control Measure #1, Watertown implemented a catch basin labeling program in Permit Year 5 and will continue to support the efforts of volunteers seeking to participate in this program in Permit Year 10. Stencils have been replaced with discs that affix to the curb behind the drain with adhesive.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
2H	Water Quality Monitoring Program	DPW/Environmental Community Groups/Volunteers	Conduct Water Quality Monitoring quarterly of waterways known to have high bacterial counts.	DPW routinely sampled and analyzed water quality from drainage outfalls to identify signs of illicit connections and to take measures to remove the sources from the storm drains. A total of 75 water quality samples were taken at the MS4 outfalls and in-system locations over 4 quarterly periods and sent to the lab for analysis during Permit Year 9 including 46 samples under wet weather conditions.	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.	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.	The Town along with the Stormwater Advisory Committee will continue its efforts to enlist volunteers for the upcoming permit year to launch the Adopt a Storm Drain program in Watertown.
2J	Rain Barrel Distribution	DPW	Distribute rain barrels for purchase by Watertown residents.	Changed the rain barrel distribution from a single day, once a year event to full-time year-round practice.	The Town will continue offering the sale of rain barrels on a year-round basis and will continue promoting benefits of rain barrel usage for capturing roof runoff to reduce runoff from paved surfaces and lawn areas reaching the storm drain system and waterways.
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.	The DEP is no longer offering the Healthy Lawns Workshop.	The DPW will continue to promote healthy lawn and landscape practices to reduce impacts of runoff from treated lawns entering the Town's stormwater system and waterways.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
2L	Mercury Collection	DPW / Local Hardware Store	Collect and properly dispose of mercury containing household items	The Town received a mercury shed provided by the Wheelabrator North Andover consultant and collections of small mercury bearing devices began at the DPW in early summer 2008. A local vendor is collecting fluorescent tubes for the Town in concert with the program. The program continued successfully in Permit Year 9.	Continue and expand the program.
2M	Curbside CRT Collection	DPW / Private Waste Hauling Company	Collect and properly dispose of Cathode Ray Tube TV's and Computer Monitors	The program of curbside collection of CRT's instead of requiring homeowners to bring them to the Drop-off Center continued successfully. The program increases the convenience of disposal and reduces the likelihood of illegal dumping and associated contamination of the environment. Program began in January 2009.	Continue and expand program.
	Tire Collection Drop Off	DPW/ Private Waste Hauling Company	Elect and properly dispose of Tires	The Town is providing two annual drop off events.	Continue and expand program.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
3A	Work with private consultants	Coordinate with DPW	Perform top down investigation of entire MS4 to detect illicit connections within 3 years Eliminate identified illicit connections within 3 months of detection. Most illicit discharge sources detected and eliminated within 5 years	The Department of Public Works has conducted an extremely active program since 1997, has continued its routine monitoring of outfalls and hot spots to locate the presence of illicit connections. A total of 168 out of 172 (97%) key junction manholes were inspected and monitored for illicit connections through Permit Year 9. In addition, 37 supplemental drain manholes upstream of the key junction manholes were inspected and monitored for the presence of illicit connections. Key Junction Manholes identified in the Illicit Discharge Detection and Elimination program were opened, inspected and sampled for the presence of indicator parameters. Manholes with positive findings were traced upstream to locate the source of the illicit connection. Four (4) illicit connections that were discovered in Permit Year 9 of which 3 have been removed. The DPW is coordinating with the private landowner for eliminating the fourth illicit discharge which is a defective sewer lateral crossing over a drain pipe. Through March 2012, approximately 308,000 lf (87%) of the MS4 has been inspected and tested following the IDDE top-down protocol.	Implement Updated IDDE Plan with the modified top down approach for the remaining 13% of the entire MS4. Begin process of re-evaluating upstream tributary areas to outfalls where high bacterial counts are still observed. Remove remaining identified illicit connections as soon as feasible. Re-evaluate outfall contaminant levels and establish an updated priority list of drainage areas for follow-up IDDE investigations to find other illicit connections not identified by original top-down investigations. Focus on locations where highest contaminant levels have been observed and greatest chance for indirect communication between the storm drain and sanitary sewer could be occurring.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
3B	Work with various Town agencies	Building, FD, Con. Comm, DPW	Training of public employees on illicit discharges completed within one year	The DPW continues to coordinate with the Health Department about improper waste disposal issues and possible impacts to MS4 and water bodies.	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.
3C	Update Stormwater Map	DPW/Consultants	Update map each year during permit period as new information becomes available. Complete supplemental info. Mapping by 2007.	Mapping of Town's MS4, sanitary sewer, and water systems was completed in the Townwide GIS System in 2005. As new information from field investigations during Permit Year 9 became available, it was compiled and used for updating the Stormwater Map.	Continue updating mapping with IDDE investigation results. Incorporate the other features, to the degree the information is available, recommended by the Center for Watershed Protection.
3C Revised			Update map each year during permit period as new information becomes available.		
3D	TV, smoke and dye testing	DPW/Consultants		TV inspected 10,771 linear feet of piping and dye tested 46 suspect illicit connections. As a result of findings from field investigations for illicit connections and I/I sources, a total of 1,814 linear feet of sewers were replaced or rehabilitated by the DPW in Permit Year 9 removing an estimated 6,700 gpd of I/I.	Based on results from top down investigations, perform TV, smoke and dye testing to pinpoint illicit sources. In conjunction with the MWRA's Local I/I Financial Assistance Program, the DPW will work with Consultants to arrange for TV inspection of sewers in areas known to have significant infiltration and structural problems.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
3E	Remove dry weather overflows	DPW/Consultants	Eliminate dry weather overflows within 1 year	The Department has an active program including work with outside consulting firms to inspect and test its MS4 looking for sources of dry weather flow and determining if it is from an illicit source. To date, investigations have identified 22 illicit discharge locations and all but one of the discharges have been repaired and illicit discharges removed. The DPW is in the process of coordinating with the private landowner and scheduling the repairs to remove the one remaining identified illicit discharge.	Use information gained from the top down approach to follow-up investigations to identify illicit sources and have them removed immediately.

3a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
3F	IDDE Educational Outreach	DPW/SAC/Health Dept./Con. Comm./Volunteers	Include IDDE Education with public education goals under BMP #1.	The DPW published and distributed the “Protecting Our Waterways” brochure to the public at Town sponsored community events and posted in public forums. The brochure includes the topic of illicit discharges. The DPW continued its public education program with local middle school students by scheduling with the Middle School to have student volunteers install curb markers on catch basins on 31 April 2011. Unfortunately, the student chaperone was ill on the scheduled date and the event had to be cancelled.	The IDDE outreach program will continue for Permit Year 10 and will include the following components: • Distribution of stormwater brochures developed under BMP #1A at Town events and make available within municipal buildings to employees and the public. • Continue collaboration with the volunteer groups for river watch and community clean-up programs. • Continue meeting with restaurant owners and auto service garages as indicated under BMP #1F to review with methods to prevent illicit discharges from reaching the stormwater system and procedures for proper disposal of wastes from their operations. • Install discs on catch basin inlet curbs throughout the Town using Middle School students as noted under BMP #2G. • Repair and replacement of labeling of outfalls under BMP #1D with contact information and phone numbers for the public to report suspicious or confirmed illicit discharges. • Continue collaboration with the High School science dept. for teaching stormwater curricular stormwater management info the environmental sciences and engineering curriculum.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
3G	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.	The Stormwater Advisory Committee completed finalizing the Illicit Discharge Prohibition ordinance which was submitted to the Town’s legal counsel for refining to comply with the applicable legal language. The legal review was completed and the IDDE Ordinance submitted to the Town Council for review, approval and adoption which took place following on public hearing on 11 May 2011.	The goal for Permit Year 10 is to continue searching for sources of illicit discharges and implementing Discharge Prohibition Ordinance as necessary to ensure compliance.
Revised					

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
4A	Update Town Ordinances	DPW, SAC, Planning, Con. Comm.	Update ordinance by the end of 2006 and adopt by end of 2007.	The Stormwater Advisory Committee was formed in April 2009. One of its primary objectives	The goal for Permit Year 10 is to have the full Town Council vote to adopt the “Sediment and Erosion

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
Revised			Update ordinance by the June 2010 and adopt by end of 2010.	is to help finalize the development of local ordinances required under the MS4 permit and advocate for their adoption by the Town Council. This includes the construction site erosion and sediment control ordinance. The SAC completed final editing of the Erosion and Sediment Control Ordinance and presented to The Town Council Subcommittee on Public Works and Rules and Ordinances for review. The Town Council Subcommittee held a meeting on 3 April 2012 and voted unanimously to recommend approval of the Ordinance to the full Town Council after legal review by the Town's Attorney.	Control Ordinance" by June 2012.
4B	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.	Relevant Departments review and inspect projects more than once. All relevant DPW divisions are included in review process. All sites were inspected by the Town pursuant to the permit process.	Continue review of plans of new site development. Pay special attention to the plans and details provided by the developer for controlling erosion and sediment runoff that could lead to impacts to the Town's stormwater system and waterways. Conduct a site inspection after the erosion and sediment control measures are installed, as appropriate, for each new construction project of one acre or larger to ensure consistency with local requirements.
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
4C	Standard Construction 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.	Distributed site construction and erosion and sediment control standards to developers, site construction contractors, and private property owners. State trenching requirements incorporated in conjunction with 520 CMR 14.00 Excavation and Trench Safety Regulations. Development projects over 1 acre included 270 Pleasant St, 140 Pleasant St. and 175 North Beacon St. (Perkins School).	Review standards and update as needed. Provide developers with standards and review plans and site conditions for compliance.
Revised	Construction Standards				
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.	Distributed site construction and erosion and sediment control standards to developers, site construction contractors, and private property owners.	Review standards and update as needed. Provide developers with standards and review plans and site conditions for compliance.
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
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.	Require new projects connected to Town drain system to have separators installed during new or renovation work. In Permit Year 9, there were four (4) new or redeveloped properties with 4 or more parking spaces with their drainage connecting to the MS4 which incorporated oil/gas separators. These properties included 264 Arlington St., 24 Arsenal St., 175 N. Beacon St. (Perkins School), and 60 Main St. rear lot (Watertown Savings Bank).	Continue enforcement of oil/gas separator installation at sites with 4 or more parking spaces at 100% of new sites connected to Town drain system.
Revised					
Revised					

4a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
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.	Distributed site construction and erosion and sediment control standards to developers, site construction contractors, and private property owners.	Review standards and update as needed. Provide developers with standard details and review plans and site conditions for compliance.
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.	No reports were received during the permit year. The Town has established an on-line link to their website that allows the public to report any problems or concerns they may have with activities or conditions at construction sites.	Continue requiring all construction site operators receiving DPW permits to post a sign at the site providing the phone number and address for the public to contact the DPW to report any concerns or questions regarding construction activities and impacts to stormwater quality. Comments made on-line, telephone calls made or correspondence written to the DPW by the public will be tracked in a written log noting the location of the project, date of the contact, and nature of the concern or comment made by the public. As appropriate, the DPW or other local authority will follow-up with a site inspection to review construction conditions and speak to the site inspector.

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
5A	Update Town Ordinances	DPW, SAC, Planning, Con. Comm.	Draft an ordinance by the spring of 2008 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 2008.	The Stormwater Advisory Committee was formed in April 2009. One of its primary objectives is to help finalize the development of local ordinances required under the MS4 permit and advocate for their adoption by the Town Council. This includes the Post-Construction Stormwater Management Ordinance. The SAC is currently reviewing and making final edits to the post construction stormwater ordinance that was drafted in a prior permit year the EPA Stormwater Center model ordinance and is preparing to present it to Town Council Subcommittee on Public Works and Ordinances for review and recommended approval by the full Town Council.	Complete drafting of Post-Construction Stormwater Management Ordinance by SAC and approval by legal counsel. Present the finalized ordinance to Town Council Subcommittee by June 2012 and work to get adopted by end of 2012.
5A Revised			Draft an ordinance by the June 2010 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 2010.		Advocate having the post-construction stormwater runoff control ordinance adopted by Town Council by end of 2012.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
5B	Update BMP's and details	DPW, Planning, Con. Comm.	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. Reduce sedimentation in stormwater runoff and local water bodies downstream of the development as determined from routine observations.	In Progress	Continue to work on strategies for post construction runoff control of projects exceeding one or more acres that include non-structural and structural BMP's for reference in ordinance to be developed under BMP #5A. Non-structural BMP's to be included in the strategies for post construction runoff control are the following: • Limiting area of disturbance and use of impervious surfaces for new development and redevelopment projects to the maximum extent possible while meeting the building and infrastructure space requirements of the project. • Promoting the use of cluster type developments to maximize open space. • Promoting the use of buffer zone in sensitive areas that are risk of impacting water quality from stormwater runoff.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
Revised	<i>Post construction runoff controls strategies.</i>				Structural BMP's to be included for post construction runoff control are the following: • Limiting off-site runoff to pre-development levels or less through the use of on-site detention storage or ponds. • Maximizing the use of pervious surfaces to promote percolation of runoff through the soil to the groundwater table such as infiltration basins, dry wells and porous pavement.

5a. Additions

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
6A	Clean and inspect outfalls	DPW	Clean and inspect at least 1 time per year	Each outfall was inspected a minimum of once and up to 4 times during Permit Year 9. Areas of known difficulty were inspected more often. Upstream testing and inspection was also performed.	Continue program
6B	Clean catch basins	DPW	Clean every catch basin at least once every 2 years	A total of 3,022 catch basins were cleaned in in Permit Year 9.	Continue program
6C	Street Sweeping	DPW	2 street sweepers employed year round, weather permitting to clean all town streets at least once per year.	All main streets and major arterials received 30 street sweepings during Permit Year 9. All other streets received sweeping at least twice during Permit Year 9.	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.	Problem locations were reviewed as often as possible/needed, but minimally once per year.	Continue program
6E	Update Emergency Management Plan	DPW / Emergency Services	Update Plan 1 time per permit period	Water System Emergency Response Plan was updated.	Review and update Emergency Management Plan as appropriate.
6F	EPA/DPW Spill Truck	DPW	Respond to spill emergencies.	The truck is available as needed. During the permit year, there were no major spills and the spill truck was not deployed.	Available as needed.

6a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
6G	Integrated Pest Management Program	DPW	Use IPM methods to exclude pesticides on Town properties.	No pesticides whatsoever were applied by the Town to public parks, open spaces and other greenways in Town during the reporting period. Limited application of pesticides is used on problem roadside areas.	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.	Wet weather testing of the MS4 was performed on 5 occasions during Permit Year 9 including 2 rounds on the outfalls and 3 rounds of the 10 designated in-system locations.	Wet weather testing of outfalls on 2 occasions and on the 10 areas identified in IDDE Plan 4 times in Permit Year 10.
6I	Reduce Salt/Sand Usage	DPW	Reduce salt and sand use by 5% normalized for # and severity of storms.	The DPW took all steps possible to limit use of salt on roadways to the degree it could be done without increasing risks to the traveling public. The Department of Public Works discontinued its past practice of placing salt in barrels around Town for public use and also discontinued availability of salt to the public at the DPW facility. This represents a sizeable reduction in salt use.	Take care to not overload salt/sand spreading trucks, instruct operators on proper methods of controlling the dispensing of salt/sand to prevent overdosing, and pay special attention to weather conditions to optimize the usage of sand and sand as needed to provide safe driving conditions.
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.	Pollution prevention and good housekeeping practices are implemented and expanded whenever possible.	Continue to encourage public works employees to follow pollution prevention and good housekeeping practices. The Department will place containers for recycling in public spaces.

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

75 Water Quality Samples collected and sent to laboratory analysis.
 8,340 linear feet of storm drains inspected and tested for illicit connections
 61 Key junction and upstream manholes inspected for presence of illicit discharges
 46 Building inspections and dye tests for illicit connections
 0 linear feet of smoke testing
 1,814 linear feet of sewer replacement and rehabilitation construction work completed

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 %)	20,000
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	(%)	148 cars
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	Y

Legal/Regulatory

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

Mapping and Illicit Discharges

Outfall mapping complete		(%)	100%
Estimated or actual number of outfalls		(#)	27
System-Wide mapping complete		(%)	100%
Mapping method(s)			
▪ Paper/Mylar		(%)	
▪ CADD		(%)	
▪ GIS		(%)	100%
Outfalls inspected/screened		(# or %)	100%
Illicit discharges identified		(#)	0
Illicit connections removed		(#)	3
% of population on sewer		(est. gpd)	180 gpd
% of population on septic systems		(%)	99.99 %
		(%)	<0.01%

Construction

Number of construction starts (> 1-acre)	(#)	4
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed	(# or %)	100%
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	0

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections 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)	Once bi-annually
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	Once bi-annually
Total number of structures cleaned	(#)	3,022
Storm drain cleaned	(LF or mi.)	0 lf
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	486 CY
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal	(\$)	\$ 65,214

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)	432.3 tons

Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	LoRusso Landfill – Plainville, MA
Cost of sweepings disposal	(\$)	\$6,052.20
Vacuum street sweepers purchased/leased	(#)	2
Vacuum street sweepers specified in contracts	(y/n)	N

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)	(lbs. or %)	
▪ 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