

Municipality/Organization: City of Waltham, MA

EPA NPDES Permit Number: MA0410066

MassDEP Transmittal Number: W-041267

Annual Report Number Year 9
& Reporting Period: April 1, 2011 – March 31, 2012

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2012)

Part I. General Information

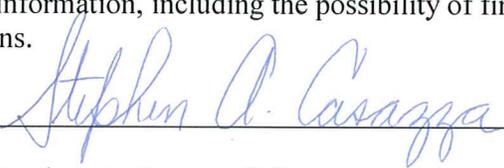
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Certification:

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: Stephen A. Casazza, P.E.

Title: City Engineer

Date: 04/27/2012

Part II. Self-Assessment

The City of Waltham has completed a self-evaluation regarding its stormwater management activities for Permit Year 9. The City of Waltham continues to be fully engaged with its stormwater management program and is in compliance with the 2003 NPDES Phase II Small MS4 General Permit. The City of Waltham acknowledges that some aspects of its stormwater management program can be improved and the implementation of some of the Best Management Practices (BMPs) proposed for Permit Year 9 requires additional time for full implementation. A brief evaluation of each minimum control measure is as follows:

1) Public Education and Outreach

The City of Waltham continues to publicize information about its stormwater program mainly on the City's web-site, which has been fully re-designed. The stormwater site within the Engineering Department's web-site has functioned continuously through Permit Year 9 and contained links to related documents such as the City's Stormwater Ordinance, the stormwater program web-site and the stormwater brochure as well as the Illicit Discharge Detection and Elimination (IDDE) Program web-site. Links to EPA, MassDEP and MWRA were also available. Additionally, links to the EPA, DEP web-sites, and information on release, spill, and tank removal issues as well as other stormwater-related links (such as LID development) have been included in the City's Emergency Management web-page.

2) Public Involvement and Participation

The City of Waltham performed several stormwater-related activities in collaboration with residents. An example is the annual cleanup of Hardy Pond and catch basin stenciling in the watershed area or cleanup of the Charles River public shores in collaboration with the Charles River Watershed Association.

Collaboration with local educational institutions and residents continued this year in the form of an exchange student from China who did outreach to the Chinese school in Waltham as well as a Brandeis University graduate and a high school student, both residents of Waltham, who were hosted by the Recycling Department.

3) Illicit Discharge Detection & Elimination (IDDE)

The City of Waltham is successfully implementing its IDDE Program. Identified sources of contamination are being removed from the City's storm system.

The City of Waltham has almost completed the second construction work package which included outstanding Phase I outfall areas (second round of construction) along with Phase II outfalls (first round of construction). Only proposed work along Longfellow Street is remaining. Phase III of the IDDE Project was bid on March 31st, 2012 and has been awarded. Sampling of Phase III outfalls will start in spring of 2012 and subsequent work package design and construction will be executed thereafter. To date, a total of sixteen outfall areas have been investigated during IDDE Phases 1 and 2. These areas were found to be the largest pollutant contributors to the Charles River. To date, IDDE work in seven out of these sixteen areas is considered complete, five more areas will be resampled this spring in order to verify the proposed mitigation measures in Work Package #2 were effective and another four areas still require further mitigation work. In Phase I, a total of twelve illicit flow sources were eliminated which represented approximately 2.5 million gallons per year (MGY) of polluted flow. In Phase II, a total of thirteen illicit sources of flow were identified and nine have been removed to date, which represents 1MGY of contaminated flow removed approximately.

4) Construction Site Stormwater Runoff Control

The City of Waltham continues to perform construction erosion control management inspection and enforcement activities as mandated in its Stormwater Ordinance. Final draft Rules and Regulations describing clear requirements for construction projects of different size have been clearly specified in this document, which are expected to be set in front of the City Council by the Mayor for promulgation this permit year. The City of Waltham has been performing bi-weekly erosion control inspections in 110 Bear Hill Road, which is located within a drinking water supply watershed.

5) Post-Construction Stormwater Management in New Development and Redevelopment

The City of Waltham has continued to implement its stormwater, on-site treatment policy for new development and redevelopment. In an attempt to make this policy a firm rule, the City of Waltham has drafted post-construction stormwater management Rules and Regulations that are expected to be sent by the Mayor for promulgation to the City Council this permit year.

6) Pollution Prevention and Good Housekeeping in Municipal Operations

All the proposed measures for Permit Year 9 were executed by the City of Waltham. These activities will be continued during Permit Year 10 to guarantee proper stormwater management and avoid stormwater pollution. Additional written O&M procedures will be written in the form of a municipal Standard Operating procedure (SOP) for proper management of waters in existing or new spray parks.

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
<p>1.1</p> <p>Revised by:</p> <p>Stormwater Subcommittee members</p> <p>Recycling Coordinator</p>	<p>Recycling Department Web-Site</p>	<p>Recycling Coordinator</p>	<p>Goal in PY9: To have an operational web-site with similar number of hits per year as PY8</p> <p>Goal in PY10: Continue to have an operational web-site and achieve a similar number of hits with respect to PY9</p>	<p>Planned Activity: Continue to make recycling brochures available at all municipal departments and buildings.</p> <p>Status: On-going</p> <p>Planned Activity: Continue to have an operational web-site where all information is available to the general public.</p> <p>Status: City of Waltham’s web-site has been fully redesigned and is now more user friendly and appealing. All links and information sources have been maintained and are active.</p> <p>In February of 2012, the Recycling web-site had 2,500 hits and over 3,100 hits in March as of 03-22-12.</p>	<p>Great effort will continue to go into improving the new Recycling Department web-site.</p> <p>The City of Waltham will continue to mail information to those residents with no computer availability, particularly seniors.</p> <p>A new mercury-reduction initiative was launched in April, 2012, for thermometer exchange and collection of thermostats</p>

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
1.2 Revised by: Stormwater Subcommittee members	Targeted Communications	Engineering	<p>Goal in PY 9: Keep web-links active during PY9</p> <p>Have at least 250 hits to the stormwater brochure</p> <p>Goal in PY10: Keep web-links active during PY10</p>	<p>Planned Activity: Keep links active during PY9</p> <p>Status: Completed. The new web-site has been redesigned and the links to the stormwater program, IDDE Program, MassDEP, EPA, and MWRA are active.</p> <p>Stormwater and sewer project updates are posted regularly in the Engineering Department web-site. The Stormwater Program had 18 unique hits and the IDDE Program web-site had 19 unique hits during march of 2012, which is very close to the target monthly average of 21 hits (250 hits a year)</p>	Continue to have an operational web-site where all information is available to the general public.
1.3 Revised by: Stormwater Subcommittee members	NPDES Phase II Brochure	Engineering	<p>Goal in PY 9: Achieve at least 300 hits to the new stormwater brochure</p> <p>Goal in PY10: Achieve at least 300 hits to the new stormwater brochure</p>	<p>Planned Activity: The brochure will be updated and distributed as necessary and/or posted on the City's web-site after the 2010 NPDES PII Small MS4 General Permit is issued.</p> <p>Status: 18 hits were recorded in March 2012 to the Stormwater web-site, which hosts the current stormwater brochure. This is below the future target monthly average of 25 hits (300 a year). The brochure can also be accessed thru the Recycling Dept. and the Emergency Management Dept.</p> <p>The new NPDES PII Small MS4 General Permit has not been issued to date. Therefore, the stormwater brochure has not been updated.</p>	The brochure will be updated and distributed as necessary and/or posted on the City's web-site after the 2010 NPDES PII Small MS4 General Permit is issued.

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
1.4 Revised by: Stormwater Subcommittee members	Watershed Signage	Engineering in cooperation with the City of Cambridge	Goal in PY9: Keep adequate level of signage in Cambridge Reservoir Area (as needed) Goal in PY10: Same as PY9	Planned Activity: Continue to install watershed signs in coordination with Cambridge as needed. Status: On-going, new signs are installed as needed	Same as PY9

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
1.5 Revised by: Stormwater Subcommittee members	Recycling Department Initiatives	Recycling Department	<p>Goal in PY9: Distribute at least 20 rain barrels during PY9</p> <p>Goal in PY10: Continue outreach and collaboration activities with local institutions and residents</p>	<p>Planned Activity: Continue the rain barrel campaign and continue to distribute the rain barrel brochure through the Department’s web-site.</p> <p>Status: The Recycling Dept. has continued to distribute rain barrels. Exact number was not available from New England Barrel Company at the time of reporting.</p> <p>Planned Activity: Continue hosting students from local universities or high schools to provide them with environmental learning experiences.</p> <p>Status: The Recycling Dept. hosted an exchange student from China who did outreach to the Chinese school in Waltham. A Brandeis graduate/Waltham resident volunteered in the Recycling Department for 6 months. The Recycling Dept. is hosting a Waltham resident/high school graduate for 6 weeks this spring.</p> <p>Planned Activity: Continue to offer recycling bins at a \$5 cost.</p> <p>Status: On-going. Recycling bins now cost \$6 but residents get the first one for free.</p>	Continue to implement activities in PY9

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
1.6 Revised by: Stormwater Subcommittee members	Other Targeted Communications	Engineering	<p>Goal in PY9: If the business brochure is approved, send an educational message via hard copy or through the City’s web-site to at least 70% of businesses, institutions and commercial spaces during PY9.</p> <p>Goal in PY10: Same as PY9</p>	<p>Planned Activity: If the business brochure is approved, send an educational message via hard copy or through the City’s web-site to at least 70% of businesses, institutions and commercial spaces during PY9.</p> <p>Status: The stromwater business brochure is being reviewed by the Mayor. Upon the Mayor’s approval, it’ll be posted on the City’s web-site and/or distributed via mailings.</p>	Same as PY9

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
2.1 Revised by: Stormwater Subcommittee members	Stream Cleanup	CPW	<p>Goal in PY9: Cleanup at least 2 stream sections per year</p> <p>Hardy Pond annual weed harvesting in collaboration with the Hardy Pond Association</p> <p>Goal in PY10: Cleanup of Beaver Brook section along Waverley Oaks Road</p> <p>Hardy Pond annual weed harvesting in collaboration with the Hardy Pond Association</p>	<p>Planned Activities: The Engineering Department and CPW are evaluating the need to perform a comprehensive maintenance and cleaning effort along Chester Brook. At the same time, feasibility of flooding mitigation alternatives are being evaluated.</p> <p>Status: Flood mitigation options are being proposed in front of the JFK Middle School.</p> <p>Weed harvesting in Hardy Pond was performed in July of 2011 in collaboration with the Hardy Pond Association</p> <p>Cleanup of all public sections of the Charles River was executed in association with the Charles River Watershed Association on Earth Day</p> <p>Planned Activities: Continue to perform cleanup of the Chester Brook banks behind the City Yard as indicated in the City Yard’s SWPPP.</p> <p>Status: Cleanup of the Chester Brook banks behind the City Yard was completed on January 13th, 2012</p>	<p>Participate in the annual weed harvesting at Hardy Pond with the Hardy Pond Association</p> <p>Continue collaboration with CRWA to cleanup public shores along the Charles River on Earth Day</p> <p>CPW will lead Earth Day volunteer cleanup of the Beaver Brook section along Waverley Oaks Road</p>

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
2.2 Revised by: Stormwater Subcommittee members	Clear Racks of Debris	CPW	<p>Goal in PY9: Maintain racks frequently</p> <p>Goal in PY10: Inspect and clear if necessary hydraulic bottlenecks twice a year</p>	<p>Planned Activity: Continue cleaning debris from the racks before forecasted heavy storms.</p> <p>Status: Debris racks as well as other hydraulic bottlenecks were inspected and maintained in 2011 (see attached list of locations and dates in Attachment I)</p> <p>Planned Activity: Continue to update the City’s GIS system with information from routine rack cleaning and installation of new racks.</p> <p>Status: Routine rack maintenance activities were uploaded to the City’s GIS system</p>	Continue maintaining racks to prevent debris from blocking the drainage pipes.

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
3.1 Revised by: Stormwater Subcommittee members	Mapping	Engineering & GIS Coordinator	<p>Goal in PY9: Update GIS map as necessary based on findings from the outfall inventory for phase III of the IDDE program.</p> <p>Goal in PY10: Update GIS map as necessary based on findings from the outfall inventory for phase III of the IDDE program.</p>	<p>Planned Activity: Execute second IDDE construction package.</p> <p>Execute round 2 of investigations for Phase II junction manholes</p> <p>Start Phase III of the IDDE Program (outfall sampling and outfall area ranking)</p> <p>Map locations of drywells and add to the GIS system</p> <p>Status: Second IDDE construction package is fully executed with the exception of one pipe reach in Longfellow Road.</p> <p>Second round of investigations in Phase II junction manholes has been completed.</p> <p>Outfall sampling of Phase III outfalls to start in Spring of 2012. Phase III was bid in January of 2012.</p> <p>Location of 554 dry wells has been uploaded to the GIS system</p>	Update GIS map as necessary based on findings from the outfall inventory for Phase III of the IDDE program.

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
3.2 Revised by: Stormwater Subcommittee members	Illicit Discharge Ordinance	Engineering & Law Department	<p>Goal in PY9: Implementation of Rules & Regulations in new projects, if promulgated by the City Council.</p> <p>Goal in PY10: Implementation of Rules & Regulations in new projects, if promulgated by the City Council.</p>	<p>Planned Activity: If promulgated by the City Council, implement Rules and Regulations</p> <p>Status: Draft Rules and Regulations are undergoing final review by the Law Dept. before sending it to the Mayor prior to presenting it to the City Council for promulgation.</p>	Implementation of Rules & Regulations in new projects, if promulgated by the City Council.

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
<p>3.3</p> <p>Revised by:</p> <p>Stormwater Subcommittee members</p>	<p>Illicit Discharge Detection and Elimination Program</p>	<p>Engineering</p>	<p>Goal in PY9: Sample all IDDE Phase III outfalls (25 approx.) and include them in the outfall ranking list</p> <p>Investigate most polluting outfalls and respective catchment areas up to 50 junction manholes.</p> <p>Eliminate identified sources of illicit flows</p> <p>Goal in PY10: Continue the implementation of the IDDE Program</p>	<p>Planned Activity: Sample outfalls in Clematis Masters, and Sibley Brook (Phase III outfalls).</p> <p>Include results in outfall database and continue junction manhole investigations of most polluted areas.</p> <p>Eliminate identified sources of illicit flows</p> <p>Status: The IDDE Phase III Program was bid in January of 2012 and awarded in February of 2012.</p> <p>Outfalls in Clematis, Masters, and Sibley Brook will be sampled in Spring of 2012.</p> <p>Results will be added to the outfall database and junction manhole investigations of most polluted areas will continue.</p> <p>Identified sources of illicit flows will be removed.</p>	<p>Continue the implementation of the IDDE Program</p>

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
3.3 (continued) Revised by: Stormwater Subcommittee members	Illicit Discharge Detection and Elimination Program	Engineering	<p>Goal in PY9: Sample Phase III outfalls and include them in the outfall ranking list</p> <p>Investigate most polluting outfalls and respective catchment areas up to 50 junction manholes.</p> <p>Eliminate identified sources of illicit flows</p> <p>Goal in PY10: Implementation of Phase III of the IDDE Project</p>	<p>Planned Activity: The top priority areas (up to 50 junction manholes) will be investigated to identify illicit connections and contaminated flows entering the storm system.</p> <p>Adopt mitigation and corrective measures whenever new illicit connections are identified.</p> <p>Status: After sampling Phase III outfalls, the most contaminated outfall areas (up to 50 junction manholes) will be investigated. If illicit sources of sanitary inflow are identified they will be removed.</p>	Implementation of Phase III of the IDDE Project

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
3.4 Revised by: Stormwater Subcommittee members	Testing of All Interior Floor Drains in Municipal Buildings	Engineering & Building Department	<p>Goal in PY9: Execute floor drain inspections of all pre-1950 municipal buildings</p> <p>Goal in PY10: Complete</p>	<p>Planned Activity: Investigation of municipal buildings will be completed</p> <p>Status: All pre-1950 municipal buildings were inspected. Identified illicit connection in Lake Street Police sub-station (which is an inactive facility) and Willow Street Fire Station (floor drain) are being addressed by the City’s Building Department. Target completion date is 05/01/2012.</p>	This task is complete

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
3.5 Revised by: Stormwater Subcommittee members	Employee Training	CPW & Engineering	<p>Goal in PY9: Perform one training session with participation of CPW and Engineering staff</p> <p>Goal in PY10: Same as PY9</p>	<p>Planned Activity: Continue to provide IDDE and stormwater management training to staff members with a direct or indirect role in stormwater.</p> <p>Status: The City’s stormwater Coordinator attended a workshop in Tewksbury and organized by SUASCO dealing with "Municipal Funding Strategies for Stormwater Management” in December 2011.</p> <p>The Assistant City Engineer and the City Engineer attended two workshops in statewide seminar series sponsored, in part, by EPA and MassDEP on:</p> <ol style="list-style-type: none"> 1. Massachusetts Stormwater Ordinance 2. Subdivision regulations on stormwater 3. Building an effective stormwater program 4. Funding Stormwater Operation and Maintenance <p>The seminars were held on September 3rd and October 27th, 2011</p> <p>Appropriate CPW staff has received training under the CPW SWPPP during November of 2011 on spill prevention.</p> <p>Small MS4 General Stormwater Permit and Low Impact Development Training Clinic sponsored by EPA Region 1 held April 27, 2011 was attended by the City’s Environmental Specialist</p> <p>NPDES MS4 Workshop: <i>“Leverage GIS Data: A Higher Return on Your Compliance Investment”</i> sponsored by Kleinfelder SEA held June 28, 2011 was attended by the City’s Environmental Specialist, the GIS Coordinator and other staff from the Information Technology Dept.</p>	Continue to provide IDDE and stormwater quality management training to staff members with a direct or indirect role in stormwater.

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
4.1 Revised by: Stormwater Subcommittee members	Construction Site Runoff Control Ordinance	Engineering & Law Department	<p>Goal in PY9: Start implementation of the Rules and Regulations if approved by the City Council</p> <p>Goal in PY10: Send proposed Rules and Regulations to the City Council for promulgation</p>	<p>Planned Activity: Implementation of proposed Rules and Regulations if promulgated by the City Council</p> <p>Status: The final draft of the Stormwater Rules and Regulations will be sent to the Mayor for consideration and submittal to the City Council for promulgation.</p>	Implementation of proposed Rules and Regulations if promulgated by the City Council
4.2 Revised by: Stormwater Subcommittee members	Conservation Commission Rules & Regulations	Conservation Commission	<p>Goal in PY9: Perform project review as needed</p> <p>Goal in PY10: Perform project review as needed</p>	<p>Planned Activity: The City of Waltham’s Conservation Commission reviews proposed mitigation measures for construction projects and activities located in areas affected by the <i>Massachusetts Wetlands Protection Act</i>.</p> <p>Status: As of 04/09/2012, a total of 15 Notices of Intent (NOI) were submitted and reviewed by the Conservation Commission during Permit Year 9.</p>	Continue activity during PY10

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
4.3 Revised by: Stormwater Subcommittee members	Plan Review Process	Engineering, CPW, Bldg. Department	<p>Goal in PY9: Review projects as needed and according to protocol established in the proposed stormwater Rules and Regulations</p> <p>Goal in PY10: Rules and Regulations are being finalized before promulgation by City Council</p>	<p>Planned Activity: Implement plan review process activities proposed in the Rules and Regulations if promulgated by the City Council</p> <p>Status: The final draft of the Stormwater Rules and Regulations will be sent to the Mayor for consideration and submittal to the City Council for promulgation.</p>	Implement review tasks described in the Rules and Regulations if promulgated by the City Council.
4.4 Revised by: Stormwater Subcommittee members	Large Construction Site Oversight in Sensitive Areas	Engineering	<p>Goal in PY10: Monitor implementation of BMP in large construction sites bi-weekly</p>	<p>Planned Activity: Bi-weekly site inspections and reporting of large construction sites in sensitive areas such as 110 Bear Hill Road</p> <p>Status: Ongoing since June 2011</p>	Continue activity during construction phase

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
5.1 Revised by: Stormwater Subcommittee members	Post-construction Rules & Regulations	Engineering & Law Department	<p>Goal in PY9: Promulgation of Rules & Regulations for post-construction stormwater management</p> <p>Goal in PY10: Implementation of activities described in the Rules and Regulations after promulgation</p>	<p>Planned Activity: Implementation of activities described in the Rules and Regulations if promulgated by the City Council.</p> <p>Status: The final draft of the Stormwater Rules and Regulations will be sent to the Mayor for consideration and submittal to the City Council for promulgation.</p>	Implementation of activities described in the Rules and Regulations if promulgated by the City Council.

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
5.2 Revised by: Stormwater Subcommittee members	Enhancement of Engineering Design Guidelines	Engineering	<p>Goal in PY9: Two meetings among staff members of the Engineering Department involved in stormwater management</p> <p>Goal in PY10: Same as PY9</p>	<p>Planned Activity: Investigate the need for an evaluation of potential enhancements to the City of Waltham Engineering Design Guidelines following issuance of requirements and deadlines in the 2010 NPDES Phase II Small MS4 General Permit. The evaluation of potential changes in the engineering guidelines will be geared towards reduction of impervious surfaces in new construction projects and retrofitting existing areas whenever possible.</p> <p>Status: On hold since the new NPDES Permit Phase II Small MS4 General Permit has not been issued to date. However, current policy and proposed Rules and Regulations require on-site treatment of stormwater in newly paved areas over 150 square feet.</p>	Same as PY9

BMP ID #	<u>BMP Description</u>	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.3 Revised by: Stormwater Subcommittee members	BMP Monitoring & Maintenance Plan	Engineering and GIS Coordinator	<p>Goal in PY9: Receive stormwater O&M plans for all projects that need site-plan review after promulgation of Rules & Regulations</p> <p>Goal in PY10: Same as PY8</p>	<p>Planned Activity: Request a long-term O&M Plan for privately operated stormwater structures as part of the site-plan review process after promulgation of Rules & Regulations.</p> <p>Perform inspection and enforcement activities to secure proper O&M of private stormwater infrastructure to ensure compliance with promulgated Rules & Regulations.</p> <p>Continue to update the City’s GIS system with private stormwater structures.</p> <p>Status: The final draft of the Stormwater Rules and Regulations will be sent to the Mayor for consideration and submittal to the City Council for promulgation.</p> <p>The City of Waltham continued to add stormceptors, separators, and other stormwater treatment structures to the GIS system.</p>	Implementation after promulgation of Stormwater Rules and Regulations if promulgated by the City Council.

BMP ID #	<u>BMP Description</u>	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.4 Revised by: Stormwater Subcommittee members	Develop Long-Term O&M Requirements	Engineering	Goal in PY9: If adopted, distribute to current City developers and contractors prior to site plan review Goal in PY10: N/A	Planned Activity: The Engineering Department will assess the need to create a document listing the minimum O&M requirements for different types of structures used for stormwater control Status: Upon approval of the Stormwater Rules and Regulations, the Engineering Department will perform a thorough review of the proposed structures and recommended O&M activities by the manufacturer or the developer prior to issuing any new permit.	N/A

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
6.1 Revised by: Stormwater Subcommittee members	Catch Basin Cleaning	Engineering	<p>Goal in PY9: Improve the quality of information collected for future prioritization of catch basin cleanings</p> <p>Goal in PY10: Continue maintenance and sediment monitoring</p>	<p>Planned Activity: Continue catch basin cleaning and repair activities as needed.</p> <p>Status: A total of 1,973 catch basins were cleaned during this reporting period</p> <p>Planned Activity: Use the information collected and uploaded to the GIS system to prioritize areas to be maintained and cleaned more frequently.</p> <p>Status: Currently, priority in catch basin cleaning is given to heavy traffic/high volume vehicle areas. Moody Street is a high priority, usually performed before rush hour at least annually. Catch basin cleaning crew hits hot spots where drain problems have been reported and that typically flood.</p>	Continue maintenance and sediment monitoring

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
<p>6.2</p> <p>Revised by:</p> <p>Stormwater Subcommittee members</p>	<p>Stormwater Manhole and Pipe Cleaning</p>	<p>Engineering</p>	<p>Goal in PY9: Address emerging issues throughout the year</p> <p>Improve quality of information collected for future prioritization of municipal drain & sewer cleaning operations</p> <p>Goal in PY10: Continue collecting information for prioritization of areas that need to be maintained</p>	<p>Planned Activity: Continue cleaning activities as needed.</p> <p>Status: During the past year, the Cabot-Boynton neighborhood drains were cleaned as well as Shirley Road, Trapelo Road, and other areas under the IDDE Program. An estimated 3,000 to 5,000 LF were cleaned.</p> <p>Approximately 24 sewer and drain manholes were cleaned.</p> <p>Planned Activity: Use information collected in the GIS system to prioritize areas around the City that may require more frequent cleaning.</p> <p>Status: The City currently does not have a prioritized drain cleaning plan and will work on creating a priority plan in the next year.</p>	<p>Create a prioritized drain cleaning plan</p>

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
6.3 Revised by: Stormwater Subcommittee members	Watershed Maintenance Program	CPW	<p>Goal in PY9: Perform two watershed maintenance or cleanup activities per year</p> <p>Goal in PY10: Same as PY9</p>	<p>Planned Activity: Continue to perform the annual weed harvesting in collaboration with the Hardy Pond Association.</p> <p>Status: In July of 2011 the annual weed harvesting in Hardy Pond was performed in collaboration with the Hardy Pond Association.</p> <p>Planned Activity: The Engineering Department and CPW are evaluating the need to perform a comprehensive maintenance and cleaning effort along Chester Brook. At the same time, flooding mitigation alternatives are being evaluated in Chester Brook.</p> <p>Status: A flood mitigation project has been proposed in front of the JFK School.</p>	

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
6.4 Revised by: Stormwater Subcommittee members	BMP Maintenance	Engineering	<p>Goal in PY9: Clean particle separators once a year</p> <p>Goal in PY10: Same as PY9</p>	<p>Planned Activity: Clean 10 particle separators located near Hardy Pond and various public schools. Status: This activity could not be performed during PY9. These structures will be re-inspected in May 2012 and cleaning will be performed accordingly.</p> <p>Planned Activity: Record mass of sediment removed, BMP condition at time of cleanup, dates, location, and crew members. Status: This information will be collected during cleaning operations.</p> <p>Planned Activity: The City of Waltham will inherit more particles separators installed by private developers and will be in charge of operating and maintaining them. A detailed inspection and maintenance schedule for these devices will be created and executed on an on-going basis.</p> <p>Status: A detailed maintenance schedule of these devices has been created and attached in Attachment II</p>	Same as PY9

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
6.5 Revised by: Stormwater Subcommittee members	City Yard Drainage Study and Improvements	CPW, Engineering and Environmental Specialist	Goal in PY9: Zero spills to the City Yard's stormwater system Goal in PY10: Same as PY9	Planned Activity: Continue to implement proper O&M maintenance and implementation of the City Yard's SWPPP. Monthly walk-throughs by the Pollution Prevention (P2) team Staff training on pollution prevention will be performed. Status: Monthly walk-throughs have been performed regularly an only minor issues were noted, which were promptly addressed/corrected. Appropriate CPW staff has received training under the CPW SWPPP during November of 2011 on spill prevention.	Continue activity

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
6.6 Revised by: Stormwater Subcommittee members	O&M Procedures for Municipal Housekeeping Activities and Facilities	CPW & Engineering	Goal in PY9: Creation of O&M municipal procedures Goal in PY10: Develop municipal O&M procedures for buildings and facilities stormwater management.	Planned Activity: Develop municipal O&M procedures for at least one of these municipal properties: parks and open space, buildings and facilities. Status: A municipal Standard Operation Procedure (SOP) for water management in spray parks will be created.	Develop an SOP for water management in City operated spray parks

New Planned Activities for PY10

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
6.7 Revised by: Stormwater Subcommittee members	Revision and update of the Rhodes Municipal Center/CPW yard SWPPP	CPW & Environmental Specialist	Goal in PY10: Update and implement the SWPPP for the City Yard and Rhodes Municipal Center	Planned Activity: Update and revise Rhodes Municipal Center and City Yard SWPPP and implement projected activities. Status: On-going	When revised and approved, CPW will implement a program to train it's employees in the revised SWPPP and municipal stormwater pollution prevention practices

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

N/A

7a. Additional BMP for Permit Year 9

N/A

7b. WLA Assessment

N/A

Part IV. Summary of Information Collected and Analyzed

The City of Waltham has practically finalized the execution of the second IDDE Construction Work Package, which included outfall areas from Phase I and Phase II of the IDDE project.

To date, the top sixteen stormwater catchment areas with the highest dry weather pollutant loads have been investigated for illicit connections. And removal of sources of illicit flows have been identified and removed during construction package 1 or 2. Approximately 11.2 million gallons per year of polluted flow have been during phase 1 and 2 of the IDDE Program. To date, IDDE work in seven out of these sixteen areas is considered complete, five more areas will be resampled this spring in order to verify the proposed mitigation measures in Work Package #2 were effective and another four areas still require further mitigation work. Additional outfall sampling, illicit flow detection and elimination of stormwater contamination sources will be performed during 2012 under phase III of the IDDE Program.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2011 through March 31, 2012)

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

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	60%
Stormwater management committee established	(y/n)	y
Stream teams established or supported	(# or y/n)	n
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	y
Shoreline cleaned since beginning of permit coverage	(mi.)	--
Household Hazardous Waste Collection Days	One day per month April through November	
▪ days sponsored **	(#)	8 days
▪ community participation **	(# or %)	365
▪ material collected **	(tons or gal)	--
School curricula implemented	(y/n)	n

Legal/Regulatory

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

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	~200
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	N/A
▪ CADD	(%)	N/A
▪ GIS	(%)	100
Outfalls inspected/screened **	(# or %)	0
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	159
Illicit discharges identified **	(#)	13 (IDDE phase II)
Illicit discharges identified (Since beginning of permit coverage)	(#)	25
Illicit connections removed **	(#); and (est. gpd)	9 (2,713)
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	19 (10,878)
% of population on sewer	(%)	99.9
% of population on septic systems	(%)	<1%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	2
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100
Site inspections completed **	(# or %)	
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	0

Post-Development Stormwater Management

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

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	<1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1
Qty of structures cleaned **	(#)	1,973
Qty. of storm drain cleaned **	(%, LF or mi.)	3,000LF
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	---
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	---
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	---
• Disposal cost**	(\$)	---
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1
• Vacuum truck(s) owned/leased	(#)	1
• Vacuum trucks specified in contracts	(y/n)	---
• % Structures cleaned with clam shells **	(%)	99% of cleaned catch basins; 1% of cleaned manholes
• % Structures cleaned with vector **	(%)	1% of cleaned catch basins and 99% of cleaned manholes

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	3
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	10
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	1,494 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Vanaria & Son's
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$20,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	----
• Disposal cost**	(\$)	---
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	4 owned
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	0
• % Roads swept with rotary brush sweepers **	%	100
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	2000
▪ Herbicides	(lbs. or %)	0
▪ Pesticides	(lbs. or %)	0
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	50 10 0 0 0 0 40
Pre-wetting techniques utilized **	(y/n or %)	n
Manual control spreaders used **	(y/n or %)	y
Zero-velocity spreaders used **	(y/n or %)	n
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	0%
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	0%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100
Storage shed(s) in design or under construction	(y/n or #)	Complete
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	--

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	n
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	y
<ul style="list-style-type: none"> Treatment units induce infiltration within 500-feet of a wellhead protection area 	# or y/n	

Attachment I

Attachment II

City of Waltham
Eng. DEPT.

STORMCEPTOR MAINTENANCE
Schedule

Object ID (GIS)	Date Inspected	Street	Street No.	Sediment Depth	Sediment Removed During Cleaning (CF or inches)	Date Cleaned	Oil/Floatable Depth	Maintenance Performed (Inspected or Cleaned)	Maintenance Personnel	Comments	Unit Type	Plan Name	Plan No.	Recommendations	Reinspect	Jurisdiction
(NEEDS FID)		Hardy Pond Road	24		75.4CF	6/27/2011		Could Not Access	AMF		Conc. Sedimentation Tank	Hardy Pond-Sedimentation Tank Site G	128.075.007	Notify Residents for access and Clean (Engineer should be on hand for inspection)	May-13	Engineering/Water and Sewer
30652	10-May-11	Winter Street-Goose Pond	550	18"	24"	6/28/2011		Inspected	JL / AMF		STC-900	As Built Plan-November 9, 2010-No 4	147.025.023/024 & 147.025.025	Requires Cleaning	May-13	Engineering/Water and Sewer
30654	10-May-11	Winter Street-Goose Pond	550	7"				Inspected	JL / AMF	Oil sheen on water	STC-900	As Built Plan-November 9, 2010-No 8	147.025.023/024 & 147.025.025	Requires Cleaning	May-13	Engineering/Water and Sewer
(NEEDS FID)	17-May-11	Seminole Avenue	173	8"	26CF	6/3/2011		Inspected	AMF		8,000 Gallon Gross Particle Separator	Gross Particle Separator Site C-Seminole Avenue	128.075.003	Requires Cleaning	May-13	Engineering/Water and Sewer
(NEEDS FID)	17-May-11	Lakeview Avenue	146	12"	41.6CF	6/3/2011		Inspected	AMF		10,000 Gallon Gross Particle Separator	Gross Particle Separator Site A-Lakeview Avenue	128.075.001	Requires Cleaning	May-13	Engineering/Water and Sewer
(NEEDS FID)	17-May-11	Hibiscus Avenue	109	24"	70.2CF	6/3/2011		Inspected	AMF		10,000 Gallon Gross Particle Separator	Gross Particle Separator Site B-Hibiscus Avenue	128.075.002	Requires Cleaning	May-13	Engineering/Water and Sewer
15406	10-May-11	Sylvan Road	40	2"				Inspected	JL / AMF	Oil sheen on water	STC-900	General Plan-Sheet 9 of 11 (February 6, 2009)	148.024		May-12	Engineering/Water and Sewer
30689	10-May-11	Sylvan Road	40	0				Inspected	JL / AMF		STC-900	General Plan-Sheet 9 of 11 (February 6, 2009)	148.024		May-12	Engineering/Water and Sewer
30658	10-May-11	Winter Street	West	2"				Inspected	JL / AMF		STC-900	As Built Plan-November 9, 2010	147.025.021 & 147.025.025		May-12	Engineering/Water and Sewer
30657	10-May-11	Winter Street-Goose Pond	550	<1"				Inspected	JL / AMF		STC-900	As Built Plan-November 9, 2010	147.025.023/024 & 147.025.025		May-12	Engineering/Water and Sewer
30656	10-May-11	Winter Street-Goose Pond	550	2"				Inspected	JL / AMF		STC-900	As Built Plan-November 9, 2010	147.025.023/024 & 147.025.025		May-12	Engineering/Water and Sewer
30655	10-May-11	Winter Street-Goose Pond	550	0				Inspected	JL / AMF		STC-900	As Built Plan-November 9, 2010	147.025.023/024 & 147.025.025		May-12	Engineering/Water and Sewer
30653	10-May-11	Winter Street-Goose Pond	550	0				Inspected	JL / AMF		STC-900	As Built Plan-November 9, 2010	147.025.023/024 & 147.025.025		May-12	Engineering/Water and Sewer
(NEEDS FID)		Windsor Village	29/34								6,000 Gallon Gross Particle Separator	Gross Particle Separator Site D-Windsor Village	128.075.004		NA	PRIVATE-Notified Windsor Village
(NEEDS FID)		Windsor Village	46								7,000 Gallon Gross Particle Separator	Gross Particle Separator Site E-Windsor Village	128.075.005		NA	PRIVATE-Notified Windsor Village
(NEEDS FID)		Windsor Village	41								5,000 Gallon Gross Particle Separator	Gross Particle Separator Site F-Windsor Village	128.075.006		NA	PRIVATE-Notified Windsor Village
7978/7972	26-May-11	Lincoln Street	540	12"				Inspected	JL / AMF / MG		Stormceptor 1800 (1800 gallon unit)	McArthur School		Inspection Port should be cut down for access	May-12	School Department
		Ash Street	14					No Plans				Fitzgerald School		Mark Good to Find Plan		School Department
7430	26-May-11	Lexington Street	655	12"				Inspected	JL / AMF / MG		Vorcentrix (Two chambers-one on either side of weir wall)	JFK Middle School Renovation/Addition	178.029	Requires Cleaning	May-13	School Department
7454	26-May-11	Lexington Street	655	12"				Inspected	JL / AMF / MG		Vorcentrix at outlet to brook	JFK Middle School Renovation/Addition	178.029	Requires Cleaning	May-13	School Department
6447	26-May-11	Hovey Road	7	~4"				Inspected	JL / AMF / MG		Not a stormceptor model, looking for detail	As-built Plan of Whittemore Elementary School	154.005	Requires Cleaning	May-13	School Department
9746		Bacon Street	160					Could Not Open	JL / AMF / MG		Stormceptor 1800	New Plympton Elementary School	176.026	Requires Inspection (carry out during cleaning of other units)	May-13	School Department
16326	26-May-11	School Street	38	6"				Inspected	JL / AMF / MG		Stormceptor 2 (8' diameter, 2400 or 3600)	School Street Middle School	153.016		May-12	School Department
7309	26-May-11	School Street	38	6"				Inspected	JL / AMF / MG		Stormceptor 1 (8' diameter, 2400 or 3600)	School Street Middle School	153.016		May-12	School Department
9469	26-May-11	Putney Lane	70	6"				Inspected	JL / AMF / MG		Stormceptor 2 (8' diameter, 2400 or 3600)	Northeast Elementary			May-12	School Department
9466	26-May-11	Putney Lane	70	12"				Inspected	JL / AMF / MG		Stormceptor 1 (8' diameter, 2400 or 3600)	Northeast Elementary			May-12	School Department