

Municipality/Organization: City of Waltham, MA

EPA NPDES Permit Number: MAR0410066

MassDEP Transmittal Number: X280417

Annual Report Number Year 15
& Reporting Period: April 1, 2017 – March 31, 2018

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

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: _____

4.26.2018

Part II. Self-Assessment

The City of Waltham has completed a self-evaluation regarding its storm water management activities for Permit Year 15. The City of Waltham continues to be fully engaged with its storm water management program and is in compliance with the 2003 NPDES Phase II Small MS4 General Permit. The City has retained the services of a consulting engineering firm in October 2013 for a period of three years and has extended the services till May 1, 2018 to assist the City with the implementation of the Small MS4 General Permit. Waltham acknowledges that some aspects of its storm water management program can be improved and the implementation of some of the Best Management Practices (BMPs) proposed for Permit Year 15 may require additional time for full implementation.

The City has been aggressively planning and preparing for the requirements of the new MS4 Permit effective July 1, 2018.

- The City is participating in the Charles River Stormwater Collaborative meetings closely working with the City of Newton.
- The City is also collaborating closely with the Charles River Watershed Association (CRWA).
- The City partnered with CRWA to submit an application for the "Water Quality Management Planning Grant 604b Program" and has received a grant for retrofit designs for the Embassy Parking Garage with Green Infrastructure Features to improve the stormwater runoff to the Charles River.

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 storm water program mainly on the City's web-site. The storm water site within the Engineering Department's web-site has functioned continuously through Permit Year 15 and contained links to related documents such as the City's Storm Water Ordinance, the storm water program web-site, the general storm water brochure, informational brochure for businesses, and pet waste management 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 storm water-related links (such as LID development) continued to be active in the City's Emergency Management web-page.

The Recycling Department web-site provides information on recycling, yard waste and hazardous waste management. A newsletter that provides alternatives for pesticides in residential gardens is being developed for spring 2018 and made available on the City's recycling website. This newsletter will also be made available in Spanish language.

Information about three vendors providing food waste curbside subscription collection program for residents was provided on the City's recycling website. Also, information on "Reuse, Repair, or Repurpose" for items that can't go in the trash bin was prepared and made available to the residents on the website.

The City purchased a tabletop display board titled, "Stormwater Matters - Outreach and Participation" at a

cost of \$1,550 from SuAsCo. The City has displayed this board for a period of one month at each of its elementary schools and also at the Waltham Public Library for a period of 6 weeks in 2016. The City plans to do this again in 2018.

2) Public Involvement and Participation

The City of Waltham performed several storm water-related activities in collaboration with residents. Numerous volunteer cleanup activities along surface water bodies and educational walks/tours have been organized by the Waltham Land Trust.

Collaboration with local educational institutions and residents continued this year in the form of 2 interns from Brandeis University to provide them with environmental learning experiences. The City's Recycling Department is actively promoting a new program "Reuse, Repair, or Repurpose" for items that cannot go in the recycling bins. The Recycling Department has also initiated a pilot program for residential curb side food waste pickup.

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.

Sampling activities were conducted at the Prospect Street outfall and its up-gradient drainage structures on October 27, 2017 after there was a report of a gasoline release where an oily sheen was found in the Charles River adjacent to the Prospect Street outfall. The results of the sampling from two (2) manholes and one (1) catch basin along the drainage system of Prospect Street indicate that there was non-detect levels of VOCs, EPH and VPH at all three (3) sampling locations.

The trenchless construction project (IDDE Work Package #2) was submitted to the Central Register and CommBuys for public bid on June 28, 2017. The bid was awarded to National Water Main on September 19, and the Pre-construction meeting was held on Tuesday, November 28. Work began on December 4 and is projected to continue through Spring 2018 (weather dependent).

The City prepared and submitted two (2) semi-annual IDDE Program Reports to the EPA: #18, July 2017 and #19, January 2018.

4) Construction Site Storm water Runoff Control

The City of Waltham continues to monitor construction erosion control management on large construction projects. The City's Engineering Department receives periodic reports for storm water compliance from the former Polaroid Site and the 110 Bear Hill Road development, which is located within a drinking water supply watershed. Final draft rules and regulations describing clear requirements for construction projects of one acre or more are anticipated to be in front of the City Council by the Mayor this permit year for review and approval.

5) Post-Construction Storm water Management in New Development and Redevelopment

The City of Waltham has continued to implement its storm water 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 storm water management rules and regulations for developments of one acre or more that are expected to be sent by the Mayor to the City Council for approval this permit year.

6) Pollution Prevention and Good Housekeeping in Municipal Operations

Most of the proposed measures for Permit Year 15 were executed by the City of Waltham. These activities will be continued during Permit Year 16 to guarantee proper storm water management and avoid storm water pollution. The Municipal Standard Operating Procedure (SOP) for proper management of waters in existing or new City –owned and operated spray parks has been developed and is pending final implementation.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.1 Revised by: Recycling Coordinator	Recycling Department Web-Site	Recycling Coordinator	Goal in PY15: Continue to have an operational web-site and achieve a similar number of hits with respect to PY14 Goal in PY16: Keep improving web- site and keep reaching out to residents with no computer availability. Mail information (mailer) annually to every household. This covers residents with no computer access. Spanish translation of the mailer will be distributed as needed and posted on web site.	Planned Activity: Great efforts have been made to revamp the new Recycling Department web-site. Status: The web-site received a total of 46,823 hits since April 1, 2017 and has been fully active. Planned Activity: The City of Waltham will continue to mail information to those residents with no computer availability, particularly seniors. Status: A mailer including Recycling, Yard Waste and Hazardous waste information was mailed city-wide (22,000 households) early March 2018.	Keep improving web-site and keep reaching out to residents with no computer availability. Examples include: The 2018-2019 <i>Recycling, Yard Waste, and Hazardous Waste Mailer</i> will be mailed out city-wide this year. <i>Capitol Waste</i>, City's waste and recycling vendor will provide funding for printing and mailing. The City will promote its rain barrel program and encourage the residents to conserve rainwater. The City of Waltham will continue to distribute the Mass Water Resources Authority's booklet, <i>Guide to Reducing Household Hazardous Products</i>. There has been a strong show of interest in this booklet.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.2 Revised by: Engineering	Targeted Communications	Engineering	Goal in PY 15: Keep web-links active during PY15 Goal in PY16: This task is complete but the web-links are updated regularly	Planned Activity: Continue to have an operational web-site where all information is available to the general public. Status: On-going	Continue to update the web-links with updated information on regular basis.
1.3 Revised by: Engineering	NPDES Phase II Brochure	Engineering	Goal in PY 15: Achieve at least 300 hits to the new storm water brochure Goal in PY16: Achieve similar number of hits as PY15	Planned Activity: The brochure will be updated and distributed as necessary and/or posted on the City's web-site after the new NPDES PII Small MS4 General Permit is issued. Status: There were 286 hits on the storm water brochure on the City's website in PY15. The new NPDES PII Small MS4 General Permit has been issued effective July 1, 2018. Therefore, the storm water brochure has not been updated.	The City plans to consolidate and streamline stormwater information at one dedicated central location on the City's website. Stormwater brochures that have been previously prepared will be updated and posted on the City's website such as homeowners, commercial, industrial, institutional etc. in accordance with the new NPDES MS4 Permit.
1.4 Revised by: Engineering	Watershed Signage	Engineering in cooperation with the City of Cambridge	Goal in PY15: Keep adequate level of signage in Cambridge Reservoir Area (as needed) Goal in PY16: Same as PY15	Planned Activity: Continue to install watershed signs in coordination with Cambridge as needed. Status: This activity has continued on an as-needed basis during PY15	Same as PY15

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s)– Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.5 Revised by: Recycling Coordinator	Recycling Department Initiatives	Recycling Department	Goal in PY15: Continue outreach and collaboration activities with local institutions and residents Goal in PY16: Continue outreach and collaboration activities with local institutions and residents	Planned Activity: Continue the rain barrel campaign. Status: The City continues to collaborate with the vendor for rain barrels. Planned Activity: Continue hosting students from local universities or high schools to provide them with environmental learning experiences. Status: The Department has hosted 2 interns from Brandeis University. Planned Activity: Continue to offer recycling bins. Status: Large wheeled recycling bins were delivered to households in November 2017. These replaced the smaller ones to enable recycling larger quantities of material for curbside pickup.	Continue outreach and collaboration activities with local institutions and residents. Host two interns per semester from Brandeis University who research and write news articles for newsletter, which is e-mailed to residents and posted on Recycling website.
1.6 Revised by: Engineering	Other Targeted Communications	Engineering	Goal in PY15: Continue to have the business brochure active for Waltham residents and business owners Goal in PY16: Continue to have the brochure active for Waltham residents and business owners	Planned Activity: The business brochure was posted on the Engineering Department's website in May 2012 and remains active. The City purchased a tri-fold on stormwater education and has displayed it in the elementary schools. Status: A total of 2 hits were recorded during PY15.	Continue to have the business brochure active for Waltham residents and business owners. The City will coordinate with <i>128 Business Council of Waltham</i> and the <i>West Suburban Chamber of Commerce</i> to help distribute the business brochure to the targeted audience.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2.1 Revised by: CPW	Stream Cleanup 231-249 Lexington Street along Chester Brook	CPW	Goal in PY15: Hardy Pond annual weed harvesting in collaboration with the Hardy Pond Association Goal in PY16: Continue collaboration with Hardy Pond Association and CRWA	Planned Activities: Participate in the annual weed harvesting at Hardy Pond with the Hardy Pond Association Status: Completed Planned Activities: Continue collaboration with CRWA to cleanup public shores along the Charles River on Earth Day Status: Completed Planned Activities: CPW lead Earth Day volunteer City-Wide cleanup on April 29, 2017 Earth Day Tree Planting was conducted on April 28, 2017 Status: Completed	Continue collaboration with Hardy Pond Association for cleanup. Weed harvesting is a contracted project and is funded for July 2017. CPW will lead Earth Day volunteer City-Wide cleanup on April 28, 2018.
2.2 Revised by: CPW	Clear Trash Racks of Debris	CPW	Goal in PY15: Inspect and clear if necessary hydraulic bottlenecks twice a year Goal in PY16: Continue activity	Planned Activity: Continue cleaning debris from the racks before forecasted heavy storms. Status: Completed. See Attachment 1.	Continue activity for 2018.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.1 Revised by: Engineering & GIS Coordinator	Mapping	Engineering & GIS Coordinator	Goal in PY15: Update GIS map as necessary based on findings from the outfall inventory for Phase 3 of the IDDE program. Goal in PY16: Continue activity	Planned Activity: Update GIS map as necessary based on findings from the outfall inventory for Phase 3 of the IDDE program. Status: A total of forty outfalls have been inventoried and uploaded to the City's GIS as part of Phase 3.	Update GIS Mapping as necessary. Integrate Lidar survey data into GIS database and continue updating city owned drainage structure inventory and also GPS locate and map drainage utilities and on-site drainage control structures located on private property. Continue development of web based mapping system showing the location and configuration of drainage utilities.
3.2 Revised by: Engineering & Law Department	Illicit Discharge Ordinance	Engineering & Law Department	Goal in PY15: Implementation of Rules & Regulations in new projects upon approval by the Mayor and the City Council Goal in PY16: Implementation of Rules & Regulations in new projects upon approval by the City Council.	Planned Activity: Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council Status: Initial draft Rules and Regulations were modified to only affect developments of one acre or more after review by the Law Dept. Final draft version is complete and was sent to Mayor for review and approval and then her subsequent submittal to the City Council for approval.	Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.3 Revised by: Engineering	Illicit Discharge Detection and Elimination Program	Engineering	Goal in PY15: Sample all IDDE Phase 3 outfalls (25 approx.) and include them in the outfall ranking list Investigate most polluting outfalls and respective catchment areas up to 50 junction manholes. Eliminate identified sources of illicit flows Goal in PY16: Continue the implementation of the IDDE Program	Planned Activity: Sample outfalls in Clematis Masters, and Sibley Brook (Phase 3 outfalls). Status: See Attachment 3 for details of the activities on-going, completed and planned for PY14. Design of remediation work package is complete and construction is on-going and will be complete in Spring 2018. Planned Activity: Adopt mitigation and corrective measures whenever new illicit connections are identified. Status: After sampling Phase 3 outfalls, the most contaminated outfall areas are being investigated. Remediation measures to remove identified sources of illicit flow are being designed based on the investigation results.	Continue implementation of the IDDE Program. Details of work planned for PY16 (year 2018) is summarized in Attachment 3.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.5 Revised by: CPW and Engineering	Employee Training	CPW & Engineering	Goal in PY15: Perform one training session with participation of CPW and Engineering staff Goal in PY16: Same as PY15	Planned Activity: Continue to provide IDDE and storm water management training to staff members with a direct or indirect role in storm water. Status: Posters on pollution and storm water BMPs in municipal operations have been developed by the Environmental Specialist and CPW and posted in various appropriate areas in municipal buildings as part of the municipal employee storm water and pollution prevention training program	Continue to provide IDDE and storm water quality management training to staff members with a direct or indirect role in storm water. Including, but not limited to, SSO management, first responders, and spill prevention.

4. Construction Site Storm water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.1 Revised by: Engineering & Law Department	Construction Site Runoff Control Ordinance	Engineering & Law Department	Goal in PY15: Send proposed Rules and Regulations to the City Council for promulgation Goal in PY16: Implementation	Planned Activity: Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council Status: Initial draft Rules and Regulations were modified to only affect developments of one acre or more after review by the Law Dept. Final draft version is complete and was sent to Mayor for review and approval and then her subsequent submittal to the City Council for approval.	Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council
4.2 Revised by: Conservation Commission	Conservation Commission Rules & Regulations	Conservation Commission	Goal in PY15: Perform project reviews as needed Goal in PY16: Perform project reviews as needed	Planned Activity: The City of Waltham's Conservation Commission reviews proposed mitigation measures for construction projects and activities located in areas affected by the Massachusetts Wetlands Protection Act. Status: As of 3/31/2018, a total of 10 Notices of Intent (NOI) were submitted and reviewed by the Conservation Commission during PY15.	Continue activity during PY16

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.3 Revised by: Engineering, CPW, Bldg. Department	Plan Review Process	Engineering, CPW, Bldg. Department	Goal in PY15: Rules and Regulations are being finalized before approval by the Mayor and the City Council Goal in PY16: Implementation	Planned Activity: Implement review tasks described in the Rules and Regulations upon approval by the Mayor and the City Council Status: Initial draft Rules and Regulations were modified to only affect developments of one acre or more after review by the Law Dept. Final draft version is complete and was sent to Mayor for review and approval and then her subsequent submittal to the City Council for approval.	Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council
4.4 Revised by: Engineering	Large Construction Site Oversight in Sensitive Areas	Engineering	Goal in PY15: Monitor implementation of BMP in large construction sites Goal in PY16: Monitor implementation of BMP in large construction sites	Planned Activity: Monitor reporting of large construction sites in sensitive areas such as 110 Bear Hill Road and former Polaroid site Status: The Engineering Department receives monthly reports from major construction sites and monitors the BMP implementation	Continue to monitor BMP implementation in large construction sites

5. Post-Construction Storm water Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.1 Revised by: Engineering & Law Department	Post-construction Rules & Regulations	Engineering & Law Department	Goal in PY15: Implementation of activities described in the Rules and Regulations after promulgation Goal in PY16: Implementation	Planned Activity: Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council Status: Initial draft Rules and Regulations were modified to only affect developments of one acre or more after review by the Law Dept. Final draft version is complete and was sent to Mayor for review and approval and then her subsequent submittal to the City Council for approval.	Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council
5.2 Revised by: Engineering	Enhancement of Engineering Design Guidelines	Engineering	Goal in PY15: Same as PY9 Goal in PY16: Same as PY9	Planned Activity: Same as PY9 Status: The proposed Rules and Regulations require on-site treatment of storm water in newly paved areas of one acre or more.	Enhance Design Guidelines to meet additional requirements of the new NPDES Phase II Small MS4 General Permit when it becomes effective

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.3 Revised by: Engineering and GIS Coordinator	BMP Monitoring & Maintenance Plan	Engineering and GIS Coordinator	Goal in PY15: Same as PY9 Goal in PY16: Start implementing post- construction requirements upon approval of the proposed Rules and Regulations by the Mayor and the City Council.	Planned Activity: Implementation of proposed Rules and Regulations upon approval by the Mayor and the City Council Status: Initial draft Rules and Regulations were modified to only affect developments of one acre or more after review by the Law Dept. Final draft version is complete and was sent to Mayor for review and approval and then her subsequent submittal to the City Council for approval.	Request a long-term O&M Plan for privately operated storm water structures as part of the site-plan review process after approval of the proposed Rules & Regulations. Continue to update the City's GIS system with private storm water management structures.
5.4 Revised by: Engineering	Develop Long-Term O&M Requirements	Engineering	Goal in PY15: On hold Goal in PY16: On hold	Planned Activity: Develop O&M requirements for storm water infrastructure draining into the public conveyance system Status: This task is on hold until the new NPDES Permit requirements are clearly defined.	This task is on hold until the new NPDES Permit requirements are clearly defined.

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.1 Revised by: Engineering	Catch Basin Cleaning	Engineering	Goal in PY15: Continue maintenance and sediment monitoring Goal in PY16: Continue maintenance and sediment monitoring	Planned Activity: Continue maintenance and sediment monitoring Status: Catch basins were cleaned city-wide during this reporting period, totaling 634 tons of sediment. See Attachment 2.	Continue maintenance and sediment monitoring
6.2 Revised by: Engineering	Storm water Manhole and Pipe Cleaning	Engineering	Goal in PY15: Continue collecting information for prioritization of areas that need to be maintained Goal in PY16: Continue collecting information for prioritization of areas that need to be maintained	Planned Activity: Create a prioritized drain and sanitary sewer cleaning plan. Status: Particle separators located within the schools were inspected on 02/22/2018 (Attachment 4).	Continue regular cleaning of drains and sanitary sewer especially in areas that are more vulnerable and prone to clogging as recorded in the City's records for stoppages, sanitary overflows as well as other drainage problems due to blockages and accumulation of debris in the pipes. Finalize prioritization strategy.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s)– Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.3 Revised by: CPW and Engineering	Watershed Maintenance Program	CPW and Engineering	Goal in PY15: Perform two watershed maintenance or cleanup activities per year Goal in PY16: Same as PY15	Planned Activity: Continue to perform the annual weed harvesting in collaboration with the Hardy Pond Association. Status: Hardy Pond weed harvesting project was completed in July of 2017 and is scheduled and funded for July 2018. Planned Activity: The Engineering Department and CPW are evaluating the need to perform a comprehensive maintenance and cleaning effort along Chester and Beaver Brooks along with evaluating flood mitigation alternatives. Status: Beaver Brook cleaning and maintenance plan is being developed.	Continue activity Develop a plan to remove sediment and debris from brooks
6.4 Revised by: Engineering	BMP Maintenance	Engineering	Goal in PY15: Perform annual inspections and cleaning as needed Goal in PY16: Perform annual inspections and cleaning as needed	Planned Activity: Clean particle separators located near Hardy Pond and various public schools. Status: Stormceptors and particle separators were inspected.	Perform annual inspections and cleaning as needed

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s)– Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.5 Revised by: CPW, Engineering and Environmental Specialist	City Yard Drainage Study and Improvements	CPW, Engineering and Environmental Specialist	Goal in PY15: Zero spills to the City Yard's storm water system Goal in PY16: Zero spills to the City Yard's storm water system	Planned Activity: Continue activity Status: Monthly walk- through by the CPW Pollution Prevention (P2) Team have been conducted. There were no spills to report in PY15.	Continue activity
6.6 Revised by: CPW & Engineering	O&M Procedures for Municipal Housekeeping Activities and Facilities	CPW & Engineering	Goal in PY15: Develop municipal O&M procedures for buildings and facilities storm water management. Goal in PY16: Begin implementation of the SOP for water management in the City-owned and operated spray parks.	Planned Activity: Develop an SOP for water management in City operated spray parks Status: An SOP for water management in the City-owned and operated spray parks has been developed.	Begin implementation of the SOP for water management in the City-owned and operated spray parks.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s)– Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.7 Revised by: CPW & Environmental Specialist	Revision and update of the Rhodes Municipal Center/CPW yard SWPPP	CPW & Environmental Specialist	Goal in PY15: Update and implement the SWPPP for the City Yard and Rhodes Municipal Center Begin implementation of the training program Goal in PY16: Continue implementation of the SWPPP and the training program	Planned Activity: When revised and approved, CPW will implement a program to train it's employees in the revised SWPPP and municipal storm water pollution prevention practices Status: The SWPPP has been updated, revised and reviewed by the Environmental Committee and all departments operating at the City Yard and/or Rhodes Municipal Center and is currently being implemented. Posters on pollution and storm water BMPs in municipal operations have been developed by the Environmental Specialist and CPW and posted in various appropriate areas in municipal buildings as part of the municipal employee storm water and pollution prevention training program	Continue to implement SWPPP and training program

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

Not Applicable

7a. Additions

Not Applicable

7b. WLA Assessment

Not Applicable

Part IV. Summary of Information Collected and Analyzed

Please see Part II Self Assessment for the City summary of information collected and analyzed. Summarized below are City's major accomplishments:

An IDDE Work Package for primarily trenchless rehabilitation of pipelines and manholes was awarded to National Water Main. construction began on December 4, 2017 and is projected to continue through Spring 2018 (weather dependent).

The City conducted CCTV inspection of the Elm Street drain (Outfall 28-A) to identify potential direct connections to the drain. The City discovered and removed a direct sanitary connection from #16 Felton Street to the drain line.

Wet weather sampling was conducted downstream of the completed construction work in South Street (Outfall 36) to verify the completeness of the illicit connection removal work. Wet weather sampling showed no contamination.

Wet weather sampling was attempted in the Thornton Road area to confirm that the removal of the 51 Thornton Road connection (Outfall SIB-7) resolved the contamination problem. No flow was observed in the downstream junction manhole. Samples were obtained further downstream and appear to indicate that the illicit connection has been resolved.

Sampling activities were conducted at the Prospect Street outfall and its up-gradient drainage structures on October 27, 2017 after there was a report of a gasoline release where an oily sheen was found in the Charles River adjacent to the Prospect Street outfall. The results of the sampling from two (2) manholes and one (1) catch basin along the drainage system of Prospect Street indicate that there was non-detect levels of VOCs, EPH and VPH at all three (3) sampling locations.

To date, approximately 13.5 million gallons per year of polluted flow have been eliminated during phase 1 and 2 of the IDDE Program. A total of twenty-one sources of illicit flow have been removed to date.

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, 2017 through March 31, 2018)

Programmatic

	(Preferred Units)	Response
Storm water 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 %)	
Storm water 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 %)	--
▪ 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 Storm water Management					X
Accompanying Regulation Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination				X	
▪ Erosion & Sediment Control				X	
▪ Post-Development Storm water 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 %)	~200
Illicit discharges identified **	(#)	6 new
Illicit discharges identified (Since beginning of permit coverage)	(#)	31
Illicit connections removed **	(#); and (est. gpd)	2 (17,104)
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	21 (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 %)	0
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	0

Post-Development Storm water Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction storm water 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 **	(#)	2,060
Qty. of storm drain cleaned **	(%, LF or mi.)	<1% As Needed
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**	(\$)	\$28,013
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; 99% of cleaned manholes

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	10
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	35-40 Main St, Moody St, Lexington St
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	2,000 lbs
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Vendor
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$40,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	N/A
• Disposal cost**	(\$)	\$28,000
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	3
• 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 %)	~2,000 lbs
▪ Herbicides	(lbs. or %)	N/A
▪ Pesticides	(lbs. or %)	N/A
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
Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	--

**Attachment 1
Brook Cleaning
2017-2018**

LOCATION	DATE DONE	DEBRIS AMT.	DATE DONE	DEBRIS AMT.
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*** denotes trash rack

Leitha Drive	10/18/2017	Minimal	3/26/2018	Minimal
Copeland Street	10/18/2017	Minimal	3/26/2018	Minimal
Pinevale Road	10/18/2017	Minimal	3/26/2018	Minimal
Greenwood Lane ***	10/18/2017	Minimal	3/26/2018	Minimal
44 Worcester Lane ***	10/18/2017	1/2 Yard	3/26/2018	1/2 yard
Clark Lane @ Cowassett Lane ***	10/18/2017	Minimal	3/26/2018	1/2 yard
Bacon St. @ Worcester Lane ***	10/18/2017	1/2 Yard	3/26/2018	Minimal
Bacon St. @ Hollow	10/18/2017	Minimal	3/26/2018	Minimal
Totten Pond Road	10/18/2017	1/2 Yard	3/26/2018	Minimal
Pond End School Lane	10/18/2017	1/2 Yard	3/26/2018	Minimal
Linden Street ***	10/18/2017	1 yard	3/26/2018	1 yard
Winter St. Loop	10/18/2017	Minimal	3/26/2018	Minimal
Upper Main Street	10/18/2017	Minimal	3/26/2018	Minimal
Bow St. (Falzone Field)	10/18/2017	Minimal	3/26/2018	Minimal
Forest St. (Bentley)	10/18/2017	Minimal	3/26/2018	Minimal
Beaver St. @ Rail Road	10/18/2017	Minimal	3/26/2018	Minimal
Prospect Street Park	10/18/2017	1/2 Yard	3/26/2018	Minimal
Waverly Oaks Road	10/18/2017	1/2 Yard	3/26/2018	Minimal
Lexington Street @ Windsor	10/18/2017	Minimal	3/26/2018	Minimal
City Yard	10/18/2017	Minimal	3/26/2018	Minimal
Over 128 (in Hollow)	10/18/2017	Minimal	3/26/2018	Minimal
Trapelo Road (behind park)	10/18/2017	Minimal	3/26/2018	Minimal
Lakeview Housing	10/18/2017	Minimal	3/26/2018	Minimal
Behind #1080 & 1088 Trapelo Rd.	10/18/2017	Minimal	3/26/2018	Minimal
1643 Trapelo Road	10/18/2017	Minimal	3/26/2018	Minimal
136 Lyman Street	10/18/2017	Minimal	3/26/2018	Minimal
Graverson Park	10/18/2017	Minimal	3/26/2018	Minimal
Samosett @ Woodland ***	10/18/2017	1/2 Yard	3/26/2018	Minimal
Hemlock Terrace	10/18/2017	Minimal	3/26/2018	Minimal

Attachment 2

Catch Basin Tailings Disposal History April 13, 2017 through February 21, 2018

<u>Date of Pick-up</u>	<u>Amount of Sediment Removed (Tons)</u>	<u>Amount per Ton</u>	<u>Amount of Bill</u>
4/13/2018	41.5	\$ 41.50	\$ 4,154.57
5/23/2017	131.64	\$ 41.50	\$ 5,463.06
7/13/2017	70.55	\$ 41.50	\$ 2,927.83
8/17/2017	130.49	\$ 41.50	\$ 5,415.34
9/29/2017	81.94	\$ 41.50	\$ 3,400.51
2/21/2018	177.39	\$ 37.50	\$ 6,652.13
Totals	633.51		\$ 28,013.44

ATTACHMENT 3

City of Waltham Illicit Discharge Detection and Elimination Program IDDE Program Summary - 2017

Completed and On-Going Work

Work completed between July 31, 2017 and January 31, 2018 is presented below.

IDDE Investigation

The following sampling and testing activities have been completed:

Wet Weather Sampling

Date	Outfalls	Drainage Sub-Area Outlets	Junction Manholes/ Catch Basins	Sub-Area Outlets
October 27, 2017	1	1	3	Prospect Street (MB-1)

Prospect Street Outfall

Sampling activities were conducted at the Prospect Street outfall and its upgradient drainage structures after there was a report of a gasoline release where an oily sheen was found in the Charles River adjacent to the Prospect Street outfall. The results of the sampling from two (2) manholes and one (1) catch basin along the drainage system of Prospect Street indicate that there was non-detect levels of VOCs, EPH and VPH at all three (3) sampling locations. TPH was found at low levels within the one (1) catch basin sample and is common in an urban setting that would expect to have low levels of TPH due to exposure to engine emissions, petroleum residues incidental to the normal operation of motor vehicles.

The City will continue to check on the Prospect Street outfall location to confirm there is no recurring release to the Charles River.

IDDE Work Package 2017

An IDDE Work Package was bid and awarded in September 2017. The work is primarily trenchless rehabilitation of pipelines and manholes.

Mitigation Program Summary:

The trenchless construction project (IDDE Work Package #2) was submitted to the Central Register and CommBuys for public bid on June 28, 2017. This work package includes the following areas identified for trenchless repairs:

- BB-6; Upton/ Brookfield CIPP line sewer; CIPP line drain pending investigation
- BB-14; Canterbury /Candace CIPP line sewer
- BB-27; Pierce St/ River St CIPP line sewer; seal sewer and drain manholes
- BB-12; Barbara Rd & Beal Rd Seal drain and sewer manholes
- IMC-11; Fuller St / Newton St CIPP line sewer; seal sewer and drain manholes
- MB-6; Irving St / Oak Hill Rd Cut protruding connection in sewer; complete CCTV

The Pre-Bid Meeting took place on Thursday, July 27 and the Bid Opening occurred on Thursday, September 7. The bid was awarded to National Water Main on September 19, and the Pre-construction meeting was held on Tuesday, November 28. Work began on December 4 and is projected to continue through March 2018 (weather dependent).

The following project is currently under design for public bid:

- MBN-4; Jennings Road
 - o Replace segments of 12-inch sewer and 15-inch drains, including manholes. The drains and sewers have been inspected via CCTV and are in deteriorated condition.
 - o Existing Conditions Survey was conducted in November 2017.
 - o Geotechnical Borings were conducted in December 2017.

The following projects are included in other contracts:

- CL-9; Juniper Hill Rd / Cliff Rd
 - o The sewer has been lined with CIPP by an independent contractor as part of the City's I/I mitigation program.
- MB-2; Prospect Street
 - o The excavation and replacement of a crushed drain will be included in the City's contract to replace the downstream drain in Prospect Street.

Status of Outfall Areas and Illicit Flow Removal

Work planned for 2018

The attached schematic shows the status of the City's IDDE program in the Masters Brook Watershed. Nine (9) drainage areas have been cleared of illicit connections through dry weather and wet weather sampling. Outfall 28-A will be monitored visually because previous sampling did not indicate a consistent potential illicit connection. Three (3) areas in the Masters Brook Watershed are pending construction work packages. The remaining construction work is aimed at resolving previous sampling issues in other watersheds. Twelve (12) drainage areas in the Masters Brook Watershed will be sampled as the upstream issues are resolved. The SIB catchment areas are on the schedule to investigate areas downstream of SIB-7.

Recommendations are included in the following Table. Check marks () indicate a completed task.

Status Update and Construction Contract Recommendations

Phase 3-Work Package 1	Investigate	Contract Type		Notes
		Excavation	Trenchless	
CL-9; Juniper Hill Rd / Cliff Rd		✓	✓	Completed. To be removed from status updates.
BB-6; Upton / Brookfield			x	CIPP included in the trenchless contract
BB-14; Canterbury / Candace		✓	x	Relocated sewer service lateral; CIPP sewer
BB-27; Pierce St/ River St			x	CIPP Sewer; Repair manholes
MB-6; Irving St / Oak Hill Rd	✓		✓	Separated sewer/drain in manhole. CCTV of sewer under upcoming work package.
MBN-3; Dermody/ Hansen	✓	✓		Completed. To be removed from status updates
SIB-6; Weston St (RTE 20)	✓	x		CCTV completed; Future project to excavate drain in easement: non-IDDE issue
Phase 2-Work Package 3				
BB-12; Barbara Rd & Beal Rd		✓	x	Sealed an illicit connection; Seal 3 DMH, 1 SMH
IMC-11; Fuller St / Newton St	✓	✓	x	#75 and #111 services repaired; Excavated 10' of sewer; Seal 4 SMHs, 1 DMH; CIPP sewer
BB-23; Main St@Heard & Newton	x			City Engineer to contact previous consultant to determine location of defect and corrective action
2017 Investigations				
MBN-4; Jennings Road	✓	x		CCTV completed; Sewer replacement, broken drains, and manhole leaks will be included in an infrastructure replacement project. Currently under contract for Design.
MB- I ; Prospect Street	✓	x		Investigation of outfall sheen was conducted in October 2017. Drain to be repaired with other drain improvements. Continue to visually monitor.
28-A; Elm Street	✓	✓		Investigation complete. Temporary construction dewatering connection located and removed. Upstream direct connection located and removed. Continue to visually monitor.

Sub-areas Pending Wet Weather Sampling after Upstream Sub-area Construction Work

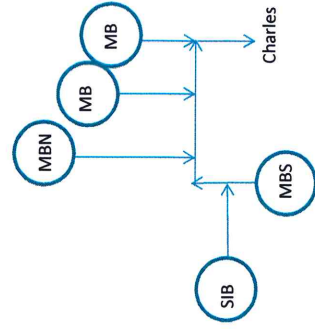
Outfall Sub-Area	Comments
MB-1	Downstream of MB-2
SIB-5	Downstream of SIB-6
SIB-4	
SIB-3	
SIB-2	
SIB-1	
MBS-3	
MBS-2	
MBS-1	
MB-3	Downstream of MBN-4/5
MBN-5	
MBN-4	
MBN-3	
MBN-1	

Summary

The resolution of illicit connections to the drains has moved forward with the completion of the design of Trenchless Work Package 1. The reported illicit connections upstream of the South Street outfall (36) and the Elm Street (28-A) appear to be resolved. The City continues to respond quickly to citizen observations and reports of potential illicit connections to the drain system. The next 6-month look-ahead schedule is attached.

IDDE Program Status Schematic

9



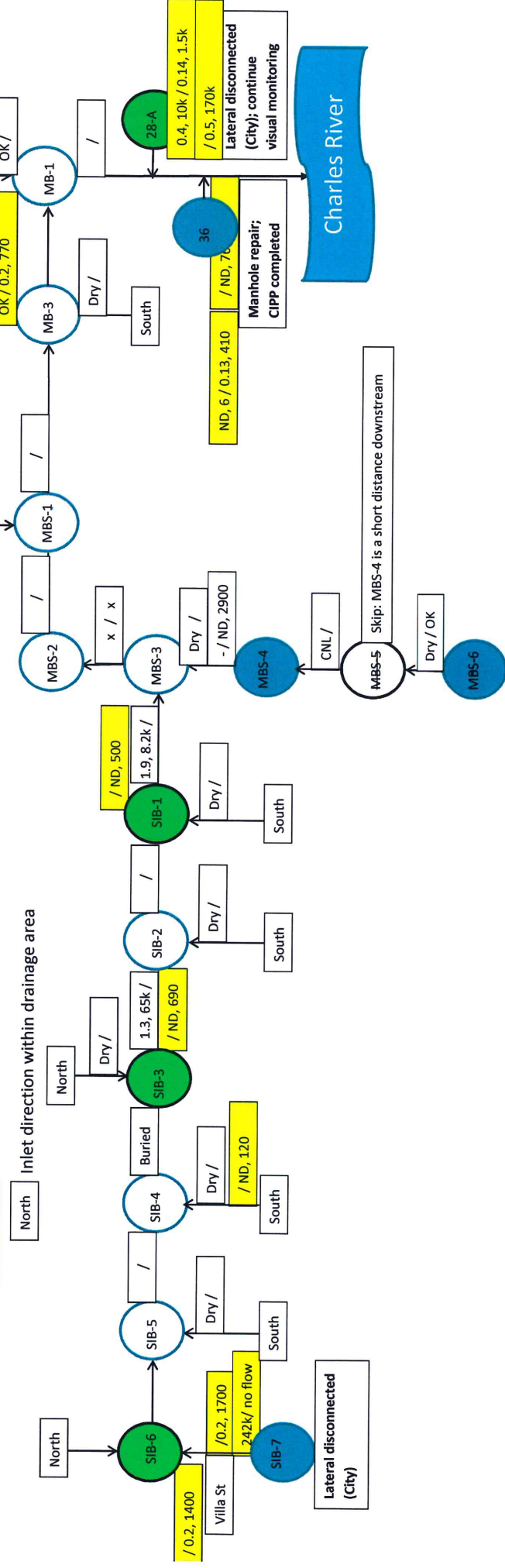
12

3



WHA construction complete

OK / 1.280k



City of Waltham, MA
EPA IDDE Program Six Month Look-Ahead Schedule
January 2018

Construction Work Packages		February	March	April	May	June	July
Design	Jennings Road						
	Construction Cost Estimate						
Construction	Secure Funding						
	Trenchless Repairs						
Field IDDE Program		February	March	April	May	June	July
Wet Weather investigation (SIB-1, SIB-3, SIB-6)	Additional sampling as needed						
	Additional CCTV and field investigation as needed						

Notes: Follow-up sampling will continue as needed to identify IDDE sources

ATTACHMENT 4
Inspection Log - Particle Separators/Stormceptors
Waltham Public Schools
Date of Inspection - 02/22/2018

Date Inspected	Name of School	Street	Structure Depth (ft)	Sediment Depth (in)	Oil/Floatable Present	Date of Last Cleaning	Maintenance Performed (Inspected or Cleaned)	Inspected By	Observations	Unit Type	Recommendations	Jurisdiction
02/23/16	McArthur	Lincoln Street	17.3	1	No	UNK	Inspected	Sam Bade	Light sediment observed	Stormceptor 1800 (1800 gallon unit)	No cleaning required	School Department
02/23/16	Fitzgerald	Beal Road	8.5	2	No	UNK	Inspected	Sam Bade	Light sediment observed	Unknown	No cleaning required	School Department
02/23/16	JFK Middle	Lexington Street	8.4	2	No	UNK	Inspected	Sam Bade	Light sediment observed	Vorcentrix (Two chambers-one on either side of weir wall)	No cleaning required	School Department
02/23/16	JFK Middle	Lexington Street	10.3	2	No	UNK	Inspected	Sam Bade	Light sediment observed	Vorcentrix at outlet to brook	No cleaning required	School Department
02/22/18	Whittemore	Hovey Road	7.1	1	Yes	UNK	Inspected	Sam Bade	Floatables found	Unknown	Light cleaning, remove floatables	School Department
02/23/16	New Plympton	Bacon Street	8.4	1	No	UNK	Inspected	Sam Bade	Light sediment observed	Stormceptor 1800	No cleaning required	School Department
02/23/16	McDevitt Middle	School Street	10.6	6	Yes	2016	Inspected	Sam Bade	Floatables observed	Stormceptor 2 (8' diameter, 2400 or 3600)	Requires cleaning	School Department
02/23/16	McDevitt Middle	School Street	10.8	4	Yes	2016	Inspected	Sam Bade	Floatables observed; slight oil sheen	Stormceptor 1 (8' diameter, 2400 or 3600)	Remove floatables & trash,	School Department
02/23/16	Northeast	Putney Lane	20.8	1	No	UNK	Inspected	Sam Bade	Light sediment observed	Stormceptor 2 (8' diameter, 2400 or 3600)	No cleaning required	School Department
02/23/16	Northeast	Putney Lane	12.9	1	NO	UNK	Inspected	Sam Bade	Light sediment observed	Stormceptor 1 (8' diameter, 2400 or 3600)	No cleaning required	School Department
02/23/16	JFK Middle	Lexington Street	9.5			UNK	Not Inspected - Sewer	Sam Bade		Unknown	Inspection required	School Department
02/23/16	McDevitt Middle	Church Street	14.5	4	Yes	UNK	Inspected	Sam Bade	Floatables observed; slight oil sheen	Unknown	Remove floatables, sediment cleaning required	School Department

Inspected on February 22, 2018

Follow up inspection required to observe existing conditions in 2018