P

Municipality/Organization: **City of Waltham, MA**

EPA NPDES Permit Number: **MA041066**

MaDEP Transmittal Number: **W-041267**

Annual Report Number & Reporting Period: **No. 5: May 07-April 08**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Joan Lastovica, P.E. City Engineer

Telephone #: 781-314-3830 Email: jlastovica@city.waltham.ma.us

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: Joan Lastovica

Printed Name: Joan Lastovica, P.E.

Title: City Engineer

Date: 04/30/08

Signature: _____

Printed Name: _____

Title: _____

Date: _____

I acknowledge the Certification of the parties who have signed above.

Signature: Jeannette A. M

Printed Name: Ms. Jeannette A. McCarthy

Title: Mayor

Date: 4/30/08

Part II. Self-Assessment

The City of Waltham has completed the required self assessment and has determined that our municipality is in compliance with all permit conditions based on the following update.

Part II.C.2 The City of Waltham has been actively working with the City of Cambridge to identify stormwater discharges which are tributary to the Cambridge Reservoir. The Cambridge Water Board also works with the Waltham Conservation Commission and the City Engineer to review proposed development projects and ensure that adequate water quality BMP's are implemented.

Attachment A

Attachment A

ACO Sections 53 and 54

In accordance with Section 53 of the ACO, on January 28, 2005 the City filed an initial report on the Costco Drainage Lot contamination detailing the investigation phase, proposed plan and schedule of remediation at this location. The investigation phase identified the contamination source as a cracked and leaking sewer in Winter Street. In 2005 the City cleaned and relined 800 linear feet of 8-inch sewer main on Winter Street between First Avenue and Second Avenue. Additionally, four manholes on Winter Street were cleaned and lined with cementitious liner.

Although initial post-sampling results by the Cambridge Water Department showed an improvement at the site, more recent sampling results have again shown varying levels of contamination. Thus the City of Waltham replaced 1100 linear feet of 8-inch sewer main and installed six new sewer manholes in First Avenue. The existing sewer was found to have leaking joints and sags; plus it had originally been constructed horizontally offset around ledge.

It appears that the First Avenue Sewer Reconstruction Project has remediated the contamination at the Costco Drainage swale. Attached are post-First Avenue construction project sampling results by the City of Cambridge Water Department. The results indicate a marked improvement in water quality. We will continue to monitor the site with Cambridge.

Attachment A
(2)

Spring 2005 – 8" sewer pipe and manholes between Winter Street and First Avenue were rehabilitated by Eastern Pipe Service. Pipe was lined with Ultraliner Fold and Form pipe specification PVC F 1871. Manholes were lined using cementitious lining by Strong Systems, Inc.

June 2006 – The 300 foot long drainage swale between Costco and the Doubletree Hotel was cleaned by National Water Main Cleaning Company. This is an open swale that is part of a brook that becomes piped again and eventually reaches the Stony Brook Basin.

September 2006 – 500 foot drain through Doubletree Hotel cleaned by Eastern Pipe Service (to complete spring 2005 contract). This drain catches runoff from a small portion of Winter Street, and then runs through a series of bends within the Doubletree property, catching some catch basins within that property, to the swale described above.

November 2007 – full length First Avenue sewer pipe and manholes replaced by Gravity Construction. Manholes are new precast units. Pipe is 8" PVC.

Cambridge Waterworks monitors the pipe at the swale weekly. Prior to replacement of the First Avenue sewer, sampling results varied from 2000 CFU/mgl to "too numerous to count." Now that the new sewer has been in place for four months, readings are averaging 100 CFU/mgl with a one time high of 692 CFU/mgl. Monitoring results and charts are attached.

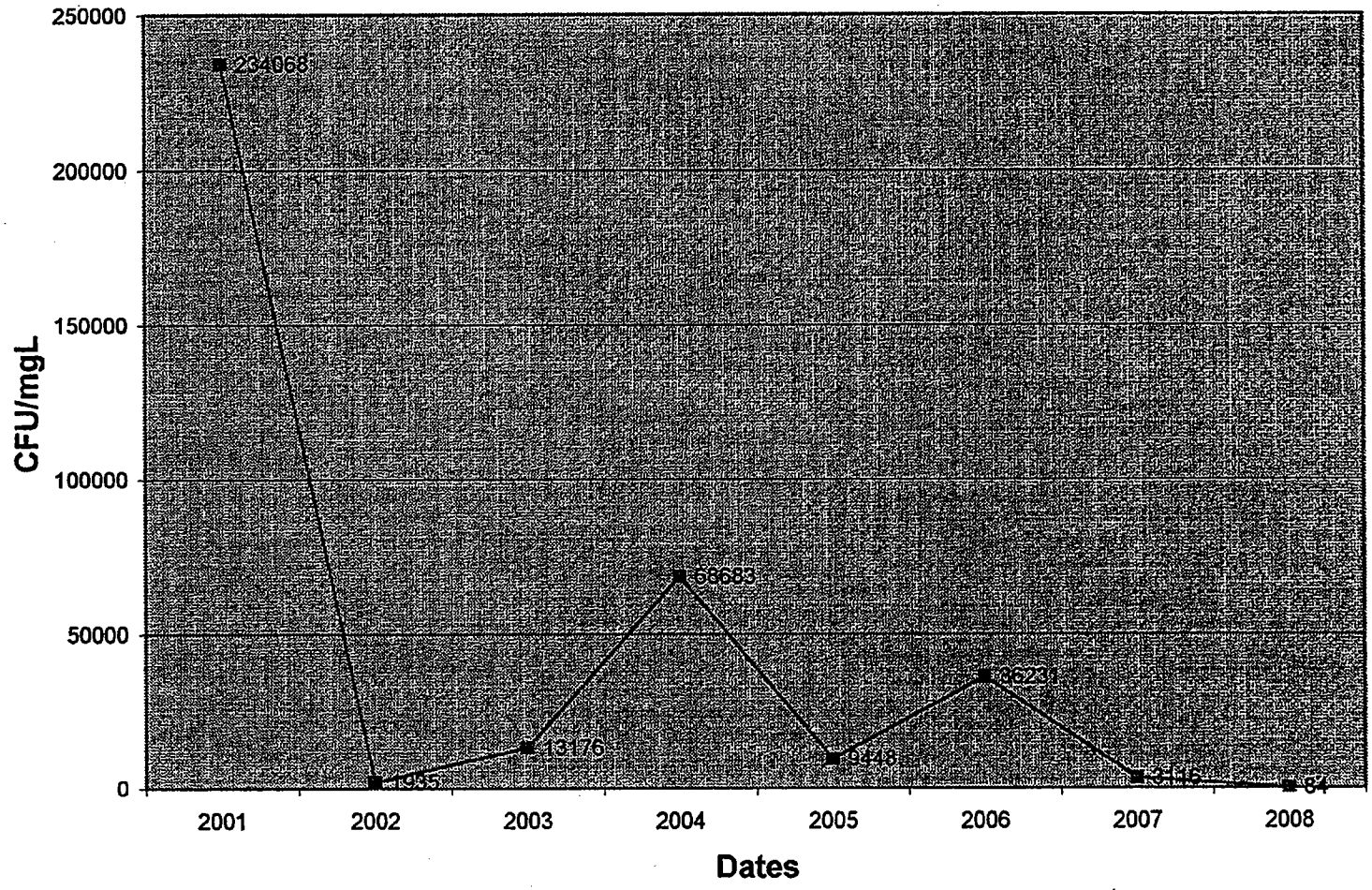
Costco Fecal Data

TNTC = too numerous to count

2001	(CFU/mgL)	2002	(CFU/mgL)	2003	(CFU/mgL)	2004	(CFU/mgL)	2005	(CFU/mgL)	2006	(CFU/mgL)	2007	(CFU/mgL)	2008	(CFU/mgL)
1-Jan	1800000	7-Feb	13300	23-Jan	590	8-Jan	200	No data for this time period		5-Jan	290	4-Jan	18400	3-Jan	75
1-Jan	TNTC	19-Feb	4300	29-Jan	2100	15-Jan	200			15-Jan	30	11-Jan	TNTC	17-Jan	162
4-Jan	19200	21-Feb	0	19-Feb	60	22-Jan	1000000			19-Jan	33	18-Jan	750	24-Jan	45
9-Jan	2200	26-Feb	5000	27-Feb	1200	29-Jan	40000			26-Jan	15	25-Jan	3500	31-Jan	20
9-Jan	32	14-Mar	8200	12-Mar	12200	12-Feb	400000			2-Feb	15	1-Feb	2000	7-Feb	166
22-Jan	4	20-Mar	1600	27-Mar	376	19-Feb	tntc			9-Feb	tntc	22-Feb	15	14-Feb	34
22-Feb	267	2-Apr	271	3-Apr	81	26-Feb	3000			16-Feb	5600	1-Mar	TNTC		
20-Nov	50800	16-Apr	112	10-Apr	70	11-Mar	2000			23-Feb	3100	8-Mar	TNTC		
20-Dec	40	3-May	262	24-Apr	41	18-Mar	700			2-Mar	150	15-Mar	4		
		22-May	534	8-May	5	25-Mar	100000			9-Mar	130	22-Mar	136		
		30-May	463	22-May	2500	15-Apr	2000			16-Mar	130	29-Mar	760		
		13-Jun	336	29-May	800	22-Apr	80000			30-Mar	tntc	5-Apr	52		
		24-Jun	1232	4-Jun	2200	29-Apr	100000			4-Apr	17000	12-Apr	TNTC		
		2-Jul	1038	19-Jun	2500	20-May	80000	30-Jun	300	4-Apr	30	26-Apr	440		
		11-Jul	284	17-Jul	272000	3-Jun	9000	14-Jul	3	13-Apr	400	3-May	2600		
		24-Jul	1480	24-Jul	8300	10-Jun	70000	28-Jul	150	20-Apr	410	10-May	350		
		21-Aug	800	31-Jul	1300	17-Jun	300000	4-Aug	195	27-Apr	70	17-May	TNTC		
		28-Aug	240	14-Aug	500	1-Jul	30	11-Aug	220	4-May	100	31-May	700		
		3-Sep	400	5-Sep	TNTC	8-Jul	20	1-Sep	1910	11-May	190	7-Jun	1500		
		12-Sep	4	11-Sep	25000	15-Jul	70	8-Sep	400	18-May	1800	14-Jun	16000		
		18-Sep	1300	18-Sep	20	22-Jul	90	15-Sep	220	25-May	6000	21-Jun	5000		
		24-Sep	1130	2-Oct	4000	29-Jul	40	29-Sep	240	1-Jun	1900	26-Jul	10300		
		8-Oct	180	16-Oct	300	26-Aug	30	6-Oct	9800	8-Jun	6000	2-Aug	7400		
		21-Oct	tntc	23-Oct	Lab Error	2-Sep	10	13-Oct	9600	15-Jun	25000	9-Aug	6200		
		31-Oct	300	30-Oct	17000	8-Sep	10000	20-Oct	150000	20-Jul	885000	30-Aug	4000		
		6-Nov	300	6-Nov	400	16-Sep	53	27-Oct	10200	10-Aug	122000	6-Sep	2000		
		13-Nov	600	13-Nov	300	7-Oct	41	10-Nov	1300	17-Aug	46000	13-Sep	5600		
		5-Dec	40	20-Nov	1000	14-Oct	7	17-Nov	580	24-Aug	24300	20-Sep	100		
		12-Dec	3500	3-Dec	900	21-Oct	43	23-Nov	150	31-Aug	TNTC	27-Sep	0		
		19-Dec	8900			4-Nov	61	1-Dec	1500	7-Sep	13600	25-Oct	200		
						18-Nov	200	15-Dec	900	21-Sep	720	15-Nov	3780		
						16-Dec	43	22-Dec	1100	5-Oct	TNTC	22-Nov	4600		
						22-Dec	32	28-Dec	190	12-Oct	TNTC	29-Nov	0		
										19-Oct	110000	6-Dec	0		
										26-Oct	200	20-Dec	73		
										1-Nov	10500	27-Dec	147		
										9-Nov	2800				
										16-Nov	2500				
										14-Dec	2000				
										21-Dec	13000				
										28-Dec	3300				
Median	1234	Median	534	Median	960	Median	200	Median	490	Median	1950	Median	760	Median	160
Mean	234068	Mean	1935	Mean	3176	Mean	68683	Mean	9448	Mean	85233	Mean	3115	Mean	84

Attachment A
(6)

Mean Trend



Attachment A
(4)

Attachment A
(5)

Feb. 21 2008 3:54PM No. 366 P

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE
205B Lowell Street, Wilmington, MA 01887 • (978) 694-3200

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

MassDEP NERO FACSIMILE TRANSMITTAL FORM

TO:

Date: Feb. 21, 2008
Attention: Russell Yashinsky
Company Name: Waltham City Engineer's Office
Company Fax Number: 781-314-3844
Company Phone Number: 781-314-3835

FROM:

DEP Contact Person: Jenny Birnbaum
DEP Bureau: BRP/WW
Contact Telephone: 978-694-3234
Comments:
Please find attached a draft data report for samples collected Jan. 7, 2008.

Transmittal Form plus 3 pages.
To report transmission problems call the DEP CONTACT PERSON.
FAX Number for MassDEP NERO is 978-694-3499

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.
http://www.mass.gov/dep • Fax (978) 694-3499
Printed on Recycled Paper

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE
205B Lowell Street, Wilmington, MA 01887 • (978) 694-3200

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

Attachment A (6)

Draft

Table 1. January 7, 2008 Precipitation Data Summary

Survey Dates	5 Days Prior	4 Days Prior	3 Days Prior	2 Days Prior	1 Day Prior	Survey Day
	Boston	Boston	Boston	Boston	Boston	Boston
7 January	T	0	0	0	0	0

T = trace amounts, NOAA/NWS precipitation station = Boston
Precipitation data reported in inches.

Table 2. NERO BST Lab *E. coli* Concentration (MPN/100mL) and MassDEP Wall Experiment Station Human Marker (HM) Analysis for January 7, 2008

Site ID	Type	Basin	Water Body	Town	*E. coli*	HM Analysis	Site Description
GPO / 579-81, 85	tributary	Charles	Hobbs Brook	Waltham	20 j	Inconclusive, 3 cfu/100mL Enterococci	Hobbs Brook: unnamed tributary where it daylights S of Winter St and E of Doubletree Hotel, Lat/Long: 42.39611N, 71 26523W
GPO / 582-84	tributary/ duplicate	Charles	Hobbs Brook	Waltham	na	Inconclusive, 11 cfu/100mL Enterococci	Hobbs Brook: unnamed tributary where it daylights S of Winter St and E of Doubletree Hotel, Lat/Long: 42.39611N, 71.26523W
WIN1 / 586	manhole-drain	Charles	Hobbs Brook	Waltham	20 j	na	Hobbs Brook: brick drain manhole in sidewalk on N side of Doubletree Hotel (550

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 866-539-7622 or 617-574-6868.
http://www.mass.gov/dep • Fax (978) 694-3499
Printed on Recycled Paper

Site ID	Type	Basin	Water Body	Town	*E. coli*	HM Analysis	Site Description
							Winter St), Lat/Long: 42.39688N, 71.26591W
FIR-2A / 588-90, 93	manhole-drain	Charles	Hobbs Brook	Waltham	20 j	Inconclusive, 660 cfu/100mL Enterococci	Hobbs Brook: brick drain manhole at intersection of Winter St and First Ave, Lat/Long: 42.39698N, 71 26660W
FIR-2 / 594	manhole-drain	Charles	Hobbs Brook	Waltham	<10 j	na	Hobbs Brook: brick drain manhole at northern end of First Ave, Lat/Long: 42.39689N, 71.26661W
FIR-King / 595	manhole-drain	Charles	Hobbs Brook	Waltham	10 j	na	Hobbs Brook: brick drain manhole at First Ave & Robert King Blvd (N intersection), Lat/Long: 42.39557N, 71.26736W
FIR-1A / 596	manhole-drain	Charles	Hobbs Brook	Waltham	<10 j	na	Hobbs Brook: brick drain manhole on First Ave at Home Depot entrance, flow fr. S branch of drain, Lat/Long: 42.39455N, 71.26781W
FIR-1A / 597	manhole-drain	Charles	Hobbs Brook	Waltham	20 j	na	Hobbs Brook: brick drain manhole on First Ave at Home Depot entrance, flow fr. SE branch of drain, Lat/Long: 42.39455N, 71.26781W
598-600	blank	na	na	na	na	None, <3 cfu/100mL Enterococci	na

J = Evidence strength may be overestimated due to bias high recovery in the analysis of caffeine, j = estimated value due to incubator temperature outside the acceptable range
MPN/100mL is proportionate to cfu/100mL

Synopsis

NOTE: This data is currently being validated by MassDEP, and is considered DRAFT. As a result of MassDEP's data validation process, some of this data may be censored or qualified. Users of this data are cautioned to check with MassDEP for the latest available and final (published) data.

On January 7, 2008 the MassDEP NERO Bacteria Source Tracking (BST) lab performed *E. coli* analysis using Colilert. All samples are qualified as "estimated values" due to a recorded incubator temperature outside the acceptable range; however, all blanks, duplicates, and spikes returned values within the acceptable ranges.

Feb 2 2008 3:54PM
Attachment A (7)
N: 366 P 3

E. coli samples were collected from drain manholes in Waltham, with flow draining to an unnamed tributary of Hobbs Brook. Although samples were collected during dry weather conditions, there was significant snowmelt on the sampling date. Sites were chosen based on historical data collected by the City of Waltham, which indicated elevated bacteria concentrations at these sites. All samples yielded very low *E. coli* concentrations, none greater than 20 MPN/100mL.

The Wall Experiment Station (WES) performed Human Marker (HM) analysis on two samples, one duplicate, and one blank collected by NERO staff on January 7, 2008. Analyses performed included *Enterococcus* spp. concentration, *Enterococcus* spp. DNA analysis by polymerase chain reaction (PCR), Bacteroidetes DNA analysis by PCR, fluorescent whitening agent concentration, and caffeine concentration. WES has developed an algorithm using a "weight of evidence" approach to rank the combined results of the analyses. Indication of human sources of bacteria can be ranked as "none," "inconclusive," "weak," or "strong." There was "inconclusive" evidence of human bacteria sources in the samples and duplicate. The bacteria sample collected at FIR-2A (intersection of Winter Street and First Avenue) and analyzed by WES yielded an Enterococci concentration of 660 cfu/100mL, while the *E. coli* concentration in the sample analyzed by the NERO BST lab was significantly lower at 20 MPN/100mL. *Enterococcus* spp. typically survive better than *E. coli* in saline conditions, and it is possible that the low *E. coli* concentrations observed in the seven samples analyzed by the NERO BST lab were characteristic more of the salty snowmelt in the stormdrain system, than of typical ambient bacteria concentrations. Therefore, the results of the NERO BST lab should not be viewed as representing long-term trends.

Feb. 2. 2008 3:54PM No. 366 P. 4

Attachment A (8)

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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
1.1 Revised	Recycling Department Web Site	Recycling Coordinator	An Operational Web Site	The web site was created during year 1. During year 2 the website was updated and maintained with revisions and additional information. The website was updated regularly in year three. Over six thousand (6,000) hits were received this permit year. Conducted Mayor-appointed Solid Waste Citizen Advisory Committee (SWAC) to assess City's solid waste management services and costs. Together with MassDEP grant-funded liaison, made recommendations to the Mayor.	Continue to maintain web site, including comprehensive listing for Charities donation and Freecycle membership instructions. Over 9,000 hits as of Feb 08. Outreach to all small businesses in Waltham, offering City recycling collection services at no charge. Have enlisted 136 businesses, to date. Outreach to multi-family developments without recycling. Established recycling collection in 7 developments, representing 1500 units. Recycling Department e-mails quarterly newsletter. Plan to include insert in City tax bills, disclosing costs of Solid Waste Management in City. (SWAC recommendation.)
1.2	Office Park Targeted Communication	CPW Director	Communications to Office Parks	.	Complete the draft stormwater brochure and post it on website. Continue to maintain website. This brochure will include information for the construction industry, office parks and pet owners. A separate mailing to facility managers of commercial accounts will be made. The City will add links to the DEP and EPA websites to its CPW Engineering

Revised		City Engineer CPW Director Conservation Commission Environmental Committee			
1.3	NPDES Phase II Brochure	City Engineer	The City will use the periodic billing inserts to inform the residents of the location of the availability of comprehensive stormwater brochure on the website.	A Storm water brochure for homeowners has been designed and is being mailed in the water bills.	Post Brochure on website. Continue to maintain website. The City will add links to the DEP and EPA websites to its CPW, Engineering Dept. and Conservation Commission web pages.
Revised		City Engineer CPW Director Conservation Commission Environmental Committee			
1.4	Watershed Signage	City Engineer	Install 10 Watershed signs for Cambridge Reservoir	Ongoing	Signs to be made, areas to be identified by Engineering. Additional areas for signage will be Identified. The Reservoir Manager has been requested to provide locations for signs
Revised		City Engineer Traffic Engineer			

Take More Credit

1a. Additions
Check Website

	Recycling Department	Recycling Coordinator	The Department is developing recycling literature in Spanish.	The literature has been sent to the Parent Information Center	The literature will be circulated to the Spanish community this permit year.

	Recycling Department	Recycling Coordinator	Promote the sale of rain barrels to conserve rainwater.	The sale was promoted through inserts in the water bills, cable television and newspaper announcements. Evaluate rain barrel program and repeat if it is successful.	- Sold 87 rain barrels in 2007. Program will be repeated, 2008. Through MADEP grant, will provide incentive with reduced price for first 25 buyers. - A new 22 gallon curbside recycling bin w/lid is being promoted to the public, on web site.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
2.1	Earth Day Celebration	CPW Director/Mayor	Provide & staff a booth at the City's annual celebration.	Earth Day Celebration took place on 4/13/08 with Hardy Pond Clean up, as well as the clean up of the Paine Estate and Shades Pond.	Earth Day Celebration scheduled
Revised			Organize and staff annual celebration.		
2.2	Stream Clean-Up	CPW Director	Support existing cleanup program & identify new areas for future clean up efforts.	Streams were cleaned of blockages, trees, and debris on a regular basis.	Organizing cleanup for Beaverbrook @ Linden Street w/Brandeis Students for Fall, 2008.
Revised					
2.3	Catch Basin Stenciling	Assistant Supt. Of Streets & Forestry	Stencil 80 CBs per year, install castings at 15 CBs per year	CPW purchased and installed 500 Catch basin decals	Continue catch basin stenciling activities. CPW is purchasing decals to mark storm drains as they last longer than stencils. A service project will be planned with schools and scouting organizations.
Revised		City Engineer CPW Director			
				Stenciled CB locations were added to the GIS.	
Revised		GIS Coordinator			

Revised					
Revised					

2a. Additions

	Clear racks of debris	CPW	How Many? 9 Racks maintained repeatedly as well as brooks and streams with and without racks for a total of 34 areas maintained	The CPW clears racks and clears brooks frequently. Usually before or during heavy rainfall.	
			Complete	Locations of Racks have been identified and added to the GIS.	

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
3.1	Mapping	City Engineer	Completion of city-wide drainage GIS	The City has completed the Drainage GIS mapping. The City has completed the review of the mapping and has since made updates.	Continue to make updates.
Revised					
3.2	Illicit Discharge Ordinance	City Engineer	Adoption of Ordinance.	The Engineering Department, Environment Committee and Law Department prepared a draft ordinance to prohibit non-storm water discharges into the system. The draft ordinance is currently before the City Council for consideration and approval.	Continue working with City Council to gain passage of an ordinance.
Revised					

3.3	Illicit Discharge Detection Program	City Engineer	Inspect 40 or more outfalls per year	In 2007, the City removed 28 illicit connections. (Attachment B)	Continue to televise and repair illicit sanitary laterals; contract with IDDE consultant; continue sampling program
Revised					

3a. Additions

	All interior Drains	Engineering, Water & Sewer Division and Building Department	Dye Testing 1 to 2 complete buildings per month, charting outflow, and then tracking and diagramming event.	To date, 24 municipal buildings have been inspected; upgrading of outflow drains as necessary.	Identify and plug or re-plumb to gas oil MWRA separator
	All Park Drains	CPW Assistant Director		Specified drains have been blocked	

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
4.1	Construction Site Runoff Control Ordinance	City Engineer	Enforce existing runoff BMP's	Implemented	Continue implementation.
Revised					

4.2 Revised	Conservation Commission Rules & Regulations	Conservation Commission	Continue to review projects and uphold the WPA, which includes the Rivers Act, and Massachusetts Stormwater Management Policy. Address stormwater management with special conditions added to every permitted project.	Implemented	Continue implementation.
4.3 Revised	Review Existing Runoff Control Ordinance	City Engineer	Review existing text, revise and implement as needed. Propose new ordinance provisions.	The Engineering Department, Environment Committee and Law Department prepared a draft storm water ordinance that would require sediment and erosion controls, BMP's etc, for construction activities that result in land disturbance of 1 acre or more. The draft ordinance is currently before the City Council for consideration and approval.	Continue working with City Council to gain passage of an ordinance.
4.4 Revised	Plan Review Process	City Engineer	Develop a checklist to be completed and submitted for a plan review process.	New checklist is complete.	Utilize checklist and update as required.

4a. Additions

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 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
5.1	Plan Rules & Regulations	City Engineer	Continue to enforce the existing rules and regulations.	Existing rules and regulations are being enforced.	Continue to enforce existing rules and regs.
Revised					
5.2	Enhance Engineering Guidelines	City Engineer	Implementation of improved engineering design guidelines.	The City is reviewing the existing engineering design guidelines and will update for compliance with new ordinances	Implement guidelines
Revised					
5.3	BMP Monitoring & Maintenance Plan	City Engineer	Develop database for population by City.	GIS mapping in development	Continue updating
Revised		City Engineer GIS Specialist ConCom	Develop database for BMP's and GIS map.		
Revised					
Revised					
Revised					

5a. Additions

	Storm water Ordinance	City Engineer	Propose new ordinance provisions	The Engineering Department, Environment Committee and Law Department prepared a draft storm water ordinance that would address post-construction runoff from new development and redevelopment of sites of 1 acre or more and institute procedures to ensure long-term O&M of BMP's and controls to prevent/minimize impacts to water quality. The draft ordinance is currently before the City Council for consideration and approval.	Continue working with City Council to gain passage of an ordinance; Implement ordinance.

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
6.1	Catch Basin Cleaning	City Engineer	Perform annual cleaning of catch basins.	City contracted Catch Basin cleaning this year to ensure compliance.	Continue activity with city crews.
Revised					
6.2	Drain Cleaning	City Engineer	Address emerging issues throughout the year.	19,000 linear feet of drains were cleaned under contract.	City Engineer will request Fiscal Year 09 capital program for city wide drain cleaning.
Revised					
6.3	Street Sweeping	Assistant Supt. Of Streets & Forestry	Sweep city streets at least once annually.	The City has performed street sweeping at least 3-4 times on major roads and 2 times on secondary roads.	Continue implementation.
Revised					Unchanged.
6.4	Recycling Program	Recycling Coordinator	Continue to publicize recycling activities.	Web page is up & recycling events are well publicized.	08 – Continually updating website; MADEP- funded public space recycling containers will be installed at Waltham Parks.
Revised					

6.5	Watershed Maintenance Program	CPW/Conservation Commission	Implement pilot program on two streams.	Chester & West Chester Brook Cleaning project is complete. The City is in the process of identifying the next stream for cleaning.	City with perform ongoing maintenance of brooks and streams 1. Beaver Brook – Linden Street to Beaver Street 2. Trapelo Road to Beaver Street
Revised		City Engineer Conservation Commission			
				Chester & West Chester Brook Phase I Stream Channel Improvements project is complete. Phase II is in planning process.	City will perform ongoing maintenance of brooks and streams
Revised					

6a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
6.6	Watershed Maintenance Program	CPW Director	Perform Annual Weed Harvesting	The City completed the annual weed harvesting in Hardy Pond to improve water quality and aquatic life. Contract awarded for 2008.	Ongoing annually.
Revised					
6.7	BMP maintenance	Engineering	Annual cleaning of sediment and debris from particle separators	The City has completed cleaning of the 10 particle separators located near Hardy Pond and various public schools.	The City will continue to perform this on an annual basis. The cleaning has been scheduled for early to mid May, 2008.
6.8	City Yard Drainage Study and Improvements	City Engineer, CPW Director & Environment Committee	Assess City Yard drainage and implement measures to improve stormwater discharges	Constructed improvements have been designed by the Engineering Department, and the contract has been awarded. The existing City Yard maintenance is being implemented.	The project is scheduled to begin in May, 2008.

6.9	Recycling Program	Recycling Coordinator	New initiative to reduce idling of vehicles in the City to reduce air pollution.	Idling-reduction street signs from a MADEP grant program have been posted at City schools.	The Recycling Department will publish and distribute an Idling-Reduction brochure to Waltham residents. 2008 – Conducting Idling Reduction Campaign in City schools; street signs posted at schools bus and parent pick-up areas at Waltham Schools. Educational brochure will be mailed City-wide (together with the Annual Recycling and Hazardous Waste Brochures). Other informational flyers will be distributed by parent volunteers at parent-pick-up areas.

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
Revised					
Revised					

7a. Additions

7b. WLA Assessment

N/A

Part IV. Summary of Information Collected and Analyzed

Historically catch basins were cleaned approximately once every two years. The City plans to continue with this schedule. We are generating approximately 1,500 hundred tons per year of catch basin cleanings assuming the above schedule.
The City of Waltham has a stormwater-sampling program. There were approximately 19 water samples drawn and analyzed during the time period covered by this report.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures	($)	DNA
GIS		Yes

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	Approx 10%
Stormwater management committee established	(y/n)	No
Stream teams established or supported	(# or y/n)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Yes
Household Hazardous Waste Collection Days		

▪ days sponsored	(#)	8 days per yr
▪ community participation	(%)	1.6 % of population
▪ material collected – Tanning Salon Bulbs; residential thermostats, CRT's. ▪ Minuteman Regional Hazardous Products Facility – mercury-bearing products, paint cleaners, ▪ Lawn & garden products, automotive products, etc.	(tons or gal)	*
School curricula implemented	(y/n)	No

* Several communities participated and quantities collected are not broken down. Waltham had 239 cars participate.
*The Science Department under the School's curriculum on storm water at the High School and Middle School Levels has scheduled a date of Tuesday, April 29, 2008 to install the labeling of the storm water drains. A volunteer group, consisting of Students and Teachers, will be applying the decals at the Middle School and High School. At the Elementary School level, the volunteer group will consist of Mark Good, John Pinzone, and one or two site-based custodial staff. These will be installed during April 08 vacation week.

Legal/Regulatory

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

Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	56
System-Wide mapping complete	(%)	100%

Mapping method(s)		
▪ Paper/Mylar	(%)	N/A
▪ CADD	(%)	N/A
▪ GIS	(%)	100%
Outfalls inspected/screened	(# or %)	25%±
Illicit discharges identified	(#)	25
Illicit connections removed Farnsworth – 5; Wheelock – 28(Complete) Candance – 5 (In Design) Warrendale Project	(#) (est. gpd)	25 (4,082 gpd)
% of population on sewer	(%)	99.9%
% of population on septic systems	(%)	<1%

Construction

Number of construction starts (>1-acre)	(#)	0
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(# or %)	180±
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 stormwater control	(%)	100%
Site inspections completed	(# or %)	100%
Estimated volume of stormwater recharged	(gpy)	Unk.

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
Total number of structures cleaned	(#)	Approx. 1200-1500
Storm drain cleaned	(LF or mi.)	18,979.2 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	1,500 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	($)	$40,000

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	>1 (monthly)
Qty. of sand/debris collected by sweeping	(lbs. or tons)	1500CY
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Landfill
Cost of sweepings disposal	($)	$29,000
Vacuum street sweepers purchased/leased	(#)	2
Vacuum street sweepers specified in contracts	(y/n)	0

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(Lbs. or %)	0
▪ Herbicides	(Lbs. or %)	100%
▪ Pesticides	(Lbs. or %)	100%

Anti-/De-Icing products and ratios Typical mix of 30% salt and 70% sand used predominantly.	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	98 2 0 0 0 0 100
Pre-wetting techniques utilized	(y/n)	N
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	Y
Estimated net reduction in typical year salt application	(Lbs. or %)	0%
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	N

Attachment B

Calender Year 2007
Water Usage
EPA Report

ADDRESS	USAGE CF	USAGE GALLONS
6 WHEELOCK RD	3,700	27,676
9 WHEELOCK RD	2,800	20,944
12 WHEELOCK RD	9,200	68,816
18 WHEELOCK RD	9,100	68,068
19 WHEELOCK RD	14,900	111,452
33 WHEELOCK RD	700	5,236
34 WHEELOCK RD	7,400	55,352
39 WHEELOCK RD	5,500	41,140
40 WHEELOCK RD	1,500	11,220
45 WHEELOCK RD	3,200	23,936
46 WHEELOCK RD	2,700	20,196
51 WHEELOCK RD	6,900	51,612
52 WHEELOCK RD	1,600	11,968
57 WHEELOCK RD	5,200	38,896
58 WHEELOCK RD	3,800	28,424
63 WHEELOCK RD	13,400	100,232
3 WHEELOCK TER	1,600	11,968
4 WHEELOCK TER	4,400	32,912
11 WHEELOCK TER	8,300	62,084
12 WHEELOCK TER	3,500	26,180
15 WHEELOCK TER	6,000	44,880
16 WHEELOCK TER	3,800	28,424
12-14 FARNSWORTH	10,300	77,044
16-18 FARNSWORTH	13,700	102,476
20-22 FARNSWORTH	6,900	51,612
30-32 FARNSWORTH	3,800	28,424
20 FARNSWORTH ST	31,000	231,880
167 PARSONS	14,300	106,964
TOTAL	**199,200**	**1,490,016**

Calender Year 2006
Water Usage
EPA Report

ADDRESS	USAGE CF	USAGE GALLONS
61 ELM ST	2,400	17,952
180 CALVARY ST	76,800	574,464
TOTAL	**79,200**	**592,416**