1075

Municipality/Organization: **Town of Brookline, MA**

EPA NPDES Permit Number: **MARNEC813**

MaDEP Transmittal Number: **W-035336**

Annual Report Number & Reporting Period: **No. 2: March 04-March 05**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Peter M. Ditto, P.E. Title: Director of Engineering and Transportation

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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: Richard Kelliher

Title: Town Administrator

Date: 4-26-05

Part II.

II A. Self-Assessment

The Town of Brookline has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions, accept Minimum Control Measure #3 Illicit Discharge Detection and Elimination (IDDE). The Town has found bacterial contamination in some of its drains. The Town has been working with the EPA to develop a Comprehensive IDDE Plan to locate and remove these sources of pollution. The IDDE plan has been approved by the EPA and added to Brookline's Stormwater Management Program (see BMP ID# 3F). The IDDE Plan has been attached to the annual report.

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
1A	Informational Brochures	DPW/Engineering	Distribute brochures	Brochures placed at libraries and DPW facilities	Continue to distribute brochures
Revised					
1B	Town Stormwater Website	DPW/Engineering, IT Dept, and Con Comm	Develop Website	Maintained Website. Added link to Stormwater By-law	Update Website as needed.
Revised					
1C	"Infoline"	DPW/Engineering	Set up "Infoline"	Maintained "Infoline"	Continue to handle calls
Revised					
1D	Stormwater email account	DPW/Engineering	Website has an email account so residents may ask questions	Maintained Stormwater email account.	Maintain email account
Revised					
1E	Posters/Videos in Schools	DPW/Engineering and School Dept.	Education material for schools and libraries	Posters placed in schools and Public Libraries in Town.	Update posters as needed.
Revised					

1a. Additions

1D					

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
2A	Local Advertisements	DPW/Engineering	Annual Public Service Announcements	handouts placed at public locations (Town Hall and Public Library)	Continue to Distribute handouts
Revised					
2B	Local Clean-ups	DPW, Con Comm, and local groups	Conduct Annual clean-ups around water resource areas.	DPW, Con Comm, and Local groups conducted annual clean-ups around Muddy River, Halls Pond, and other water resource areas.	Continue annual clean-ups.
Revised					
2C	Community "Hotline"	DPW/Engineering	Create "Hotline"	"Hotline" maintained by DPW/Engineering.	Continue to Maintain "Hotline"
Revised					
2D	Storm Drain Stenciling Program	DPW/Parks and Con Comm	Maintain Storm Drain Stenciling Program	Conducted annual stenciling	Continue stenciling program
Revised					
Revised					
Revised					

2a. Additions

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3A	Storm Drain System Map	DPW/Engineering and GIS dept.	Maps have been created	Updated maps	Continue to update GIS maps as needed based on changes and drain system.
Revised					
3B	Illicit Discharge Detection and Elimination (IDDE) Program	DPW/Engineering and Water and Sewer Division	Town has had an aggressive IDDE program for years	Continued to maintain an aggressive IDDE Program. Located and removed 15 Illicit discharges. (Town developed Comprehensive IDDE plan – See BMP ID# 3F)	Continue to maintain an aggressive IIDDE Program.
Revised					
3C	IDDE Ordinance	DPW/Engineering	Create By-law	Maintained and enforced Storm Water By-law	Continue to maintain and enforce Storm Water By-law.
Revised					
3D	IDDE "Hotline"	DPW/Engineering	Create "Hotline"	"Hotline" maintained by DPW/Engineering.	Continue to Maintain "Hotline" and email account
Revised					
3E	Revise Sewer and Drain Use Regulations	DPW/Engineering	Revise and Adopt new regulations	DPW/Engineering in the process of revising Sewer and Drain Use Regulations.	Regulate Sewer and Drain use and work with contractors and public to eliminate non-storm water discharges
Revised					
Revised					

3a. Additions

3F	Comprehensive IDDE Plan	DPW/Engineering	Implement Plan and assess improvements in water quality (see attached plan)	Implement Plan	See attached plan for future IDDE work

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
4A	Site Runoff Control (Erosion and Sediment Control ESC By-law)	DPW/Engineering	Create ESC By-law	Maintained and enforced ESC component of Storm Water By-law.	Continue to maintain and enforce Storm Water By-law.
Revised					
4B	ESC Plan Review	DPW/Engineering	Conduct Plan review after adoption of Storm Water By-law	DPW/Engineering reviewed and approved ESC plans for construction projects	Continue ESC plan review.
Revised					
4C	Construction Inspection	DPW/Engineering	Conduct Inspections	DPW/Engineering inspected ESC at construction sites	Continue Construction Site Inspections.
Revised					
4D	"Hotline" for non-compliant construction sites	DPW/Engineering	Create "Hotline"	"Hotline" maintained by DPW/Engineering.	Continue to Maintain "Hotline"
Revised					
Revised					

4a. Additions

4E	Creation of contractors BMP handbook for construction activities	DPW/Engineering	Create handbook	Drafted Handbook	Issue Handbook 2005.

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
5A	Post Construction Control By-law	DPW/Engineering	Create By-law	Implemented Post Construction Controls as part of Storm Water By-law	Continue to maintain and enforce Storm Water By-law.
Revised					
5B	Plan Review	DPW/Engineering and Building Dept.	Conduct Plan Review	Coordinated with Building and Planning Department to ensure plan review on all projects.	Continue Plan Review Process
Revised					
5C	O&M of Runoff Control Structures/Practices	DPW/Engineering	Incorporate into all plans of Storm Water Management Structures and Practices	Worked with developers, contractors, engineers, and architects to include O&M into all plans.	Continue to ensure O&M of Storm Water Structures and Practices.
Revised					
5D	Inspection of Runoff Control Structures/Practices	DPW/Engineering	Conduct Inspections	Conducted inspections	Continue inspections.
Revised					
Revised					
Revised					

5a. Additions

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
6A	DPW Employee Training	DPW/Engineering	Conduct Annual Training	Met with various Division Personnel (Highway/Sanitation, Water/Sewer, and Parks) to discuss Storm Water issues related to municipal operations.	Continue DPW personnel training and education.
Revised					
6B	Municipal Maintenance Activities	DPW/Engineering	Conduct Annual Inspection and review operation practices	Conducted inspections at DPW facilities	Continue inspections
Revised					
6C	Household Hazardous Waste Collection Program	DPW	Conduct HHP day	Collected household hazardous Products in the Spring.	Continue to maintain waste collection program
Revised					

6a. Additions

6D	Street Sweeping Program	DPW/Highway	Conduct Street Sweeping.	Conducted Street Sweeping. Documented material collected, transported and disposed (See Part V O&M Section).	Continue Street Sweeping Program
6E	Catch Basin Cleaning Program	DPW/Water and Sewer/Engineering	Conduct Catch Basin Cleaning	Cleaned catch basins (See Part V O&M Section).	Continue Catch Basin Cleaning Program.

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

Not Applicable

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

The following is a summary of information collected and analyzed for Permit Year 2:

Drainage System

- Began investigation of the Town's drainage system under the Comprehensive IDDE plan.
- Working with MWRA to research possible areas to separate storm drain lines from Combined Sewer System.
- Working with Boston Water and Sewer Commission to address pollution issues at inter-municipal connections.
- Working with Mass. Highway to assess catch basins along Boylston Street (Route 9). All structures will be cleaned as part of resurfacing project summer 2005.

Pollution Sources

- Bacterial Contamination is a source of pollution in some of the drains. The Town has been working with the EPA to develop and implement and aggressive Illicit Discharge Detection and Elimination (IDDE) Plan (please refer to the attached IDDE plan).
- Small construction sites, illicit connections, and illegal discharges (dumping waste into catch basins) appear to be the main sources of pollution to the Town's drainage system. Inspections have helped to reduce the amount of sediment washing off construction sites.

Muddy River Flood Control, Water Quality, and Habitat Enhancement Project

- The Muddy River Project, managed jointly by the Town of Brookline and City of Boston Parks Department, involves improving flood storage, developing and implementing storm water management controls to improve water quality, and enhancing habitat areas along the riverway and associated water bodies. Recently a significant permitting milestone was reached. The Town and City received a certificate from the Executive Office of Environmental Affairs stating the project had complied with the requirements for MEPA. Both parties are preparing to move forward with the design stage of the project.

Funding

- Available Budget for Capital Improvement Projects (CIP) = approx. $1,000,000 for Drainage Improvements
- Operations, Maintenance, and Management = See Part V. Programmatic Summary

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Storm water management position created/staffed – Town created and staffed Environmental Engineer	(y/n)	Y
Estimated Annual program budget/expenditures	($)	
Catch Basin Cleaning/Drain Maintenance (Personnel, equipment, and maintenance)		$150,000.00
Street Sweeping (Personnel, equipment, and maintenance)		$375,000.00
DPW/Engineering (Program Management-Personnel and equipment)		$100,000.00
Annual Cleaning of 2-Oil/Sediment/Water Separators – does not include installation (approx. $120K/unit)		$5,000.00
Household Hazardous Waste Collection, Transport, and Disposal		$27,000.00
Total Storm Water Management Program Expenditures (Note: Does not include CIP)		**$657,000.00**

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	10,000
Stormwater management committee established	(y/n)	N
Stream teams established or supported (6 different "Friends Groups" associated with waters resource areas in and around Brookline)	(# or y/n)	6
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Y
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	1
▪ community participation	(%)	690
▪ material collected (type of waste collected: Pesticides, Bug sprays, Cathode Ray Tubes (CRTs or TVs), Rodent poisons, Paint thinner, Urethanes, Oil or enamel based paints, Weed killers, Concentrated fertilizers, Cleaning solvents, Caustic cleaners, Photo chemicals, Antifreeze, Kerosene, Diesel oil, Aerosol cans, Waste motor oil, Auto and household batteries, Fluorescent bulbs, Tires, and Propane tanks Other Quantities:	(tons or gal)	2,000 gallons liquid waste plus other (see other quantities)
School curricula implemented (Note: videos placed in schools and public libraries)	(y/n)	See Note

Tires	464
Propane Tanks	154
Automobile Batteries	107
Fluorescent Bulbs (2/4/8 ft)	3566 ft
Batteries (mercury, lithium ion, lead acid, alkaline)	492 lbs

Legal/Regulatory

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

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	10
System-Wide mapping complete	(%)	100
Mapping method(s)		
▪ Paper/Mylar (Drainage System Range Plans)	(%)	95
▪ CADD (as-builts from new projects)	(%)	5-10
▪ GIS (Drain and sewer mains and service connections)	(%)	98
Outfalls inspected/screened (Visual Inspections of each outfall during dry and wet weather conditions – estimated observations per outfall = 10)	(# or %)	10
Illicit/Illegal discharges identified (30 out of 45 under investigation as part of Town's IDDE plan)	(#)	45
Illicit/Illegal connections/discharges removed = # Cross-connections removed	(#) (est. gpd)	15
% of population on sewer	(%)	99.9
Number of houses with septic systems	(#)	29

Construction

Estimated Number of construction starts (>1-acre)	(#)	2
Estimated percentage of construction starts adequately regulated for erosion and sediment control (Sites regulated by new Town by-law)	(%)	95
site inspections (multiple visits per site)	(# or %)	21 sites
Tickets/Stop work orders issued	(# or %)	1
Fines collected	(# and $)	1
Estimated Complaints/concerns received from public	(#)	10

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control (Note: Sites currently under construction)	(%)	95
Site inspections completed (21 Sites, 2-3 inspections per site = est. 50)	(# or %)	50
Estimated volume of stormwater recharged (Note: No info available)	(gpy)	

Operations and Maintenance

Average frequency of catch basin inspection and/or cleaning (non-commercial/non-arterial streets)	(times/yr)	1/yr
Average frequency of catch basin inspection and/or cleaning (commercial/arterial or other critical streets)	(times/yr)	2/yr
Total number of structures cleaned (Approximate)	(#)	1,551
Storm drain cleaned (Note: Drain lines are cleaned as needed)	(LF or mi.)	See Note
Qty. of screenings/debris removed from storm sewer infrastructure Catch Basin Cleanings	(lbs. or tons)	873 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Est. Cost of catch basin cleanings disposal	($)	$27,150

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	Once a week
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	Every Night
Qty. of sand/debris collected by sweeping (Note: Approximately 10,323 lane miles swept)	(lbs. or tons)	1690 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Landfill
Cost of sweepings disposal	($)	$39,900
Vacuum street sweepers purchased/leased (Own and operate)	(#)	4
Vacuum street sweepers specified in contracts	(y/n)	N

Reduction in application on public land of: ("N/A" = not used; "100%" = elimination)		
▪ Fertilizers (Note: Park Division uses approx. 9000 lbs/yr on athletic fields)	(lbs. or %)	0 (See Note)
▪ Herbicides	(lbs. or %)	N/A
▪ Pesticides	(lbs. or %)	N/A

Operations and Maintenance (continued)

Anti-/De-Icing products and ratios (Note: An estimated 3575 tons of salt (NaCL) and 4011 tons of sand/salt mix were applied during the winter season. Fourteen trucks conduct the de-icing operations. All trucks are automated to dispense 200 pounds of sand/salt mixture per lane mile. Sand to salt ratio 7:1)	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	See Note
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 (Note: New DPW materials storage yard to be constructed Summer 2005 will include covered material storage bins and storm water management facilities ex. Oil/sediment separators and detention basins.)	(y/n)	See Note

Part VI. Discussion of activities for the next reporting cycle

The following is a discussion of activities planned for the next reporting cycle:

- Report on progress of Town's Comprehensive IDDE plan.
- Continue funding Storm Water Program management, maintenance, operations, and CIP.
- Approve new Sewer and Drain Regulations.
- Issue Construction Site BMP handbook.
- Work on educating the general public of storm water issues
- Install Storm Water BMPs on Town Properties (as projects come up for redevelopment or restoration).
- Town is in the process of capping two landfill sites and redeveloping an existing transfer station that will improve storm water management in those areas. Projects are scheduled to begin Summer 2005 with estimated completion Spring of 2007.
- Report on progress of Muddy River Flood Control, Water Quality, and Habitat Enhancement Project.