Municipality/Organization: **Pembroke, MA**

EPA NPDES Permit Number: **MAR041054**

MaDEP Transmittal Number: **W035403**

Annual Report Number & Reporting Period: **No. 2: May 1, 2005 - April 30, 2006**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: **Michael F. Valenti** Title: **DPW Director**

Telephone #: **(781) 293-5620** Email:

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: **Edwin J. Thorne**

Title: **Town Administrator**

Date: April 28, 2006

Part II. Self-Assessment

The town of Pembroke has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions, except for the following provision:

- **BMP ID 6a: Not all of the town's catchbasins were cleaned in the last permit cycle, but the town's intent is to get them all cleaned in this permit cycle. The process was begun in March 2006.**

The town has made a concerted effort to meet the conditions outlined in our permit; in addition, the DPW staff has exceeded some permit conditions and exceeded the schedule requirements. The town outfalls are nearly completely mapped. In addition, quantities of salt, sand and other chemicals used in municipal de-icing operations have been significantly reduced.

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
1a	Air stormwater messages on local cable channel	Department of Public Works	Air a message every two weeks	Stormwater messages were developed and are being aired on the local cable access channel. The town's quarterly SWAC (Drainage Commission) meetings are aired on local cable access channel.	One stormwater message will be aired for two weeks every quarter. The town will continue their quarterly SWAC meetings.
Revised					
1b	Distribute/post non-point source pollution posters	Department of Public Works	Post in all schools and town-owned buildings	The town checked that the posters were still up. Replacements were provided where the posters were missing.	The town will check that the posters are still up. Replacements will be provided if the posters are missing or in disrepair.
Revised					
1c	Include stormwater info in Consumer Confidence Report	Department of Public Works	Distribute Consumer Confidence Report yearly to all residents	The town included information on stormwater pollution prevention in its annual Consumer Confidence Report. Several of the water bodies in town are drinking water sources for surrounding towns, and preventing pollution discharges from stormwater outfalls is necessary to keep these sources clean.	The town will continue to include information on stormwater pollution prevention in its annual Consumer Confidence Report.
Revised					
1d	Develop children's coloring book on Pembroke recycling	Board of Health	Distribute coloring books outside of Board of Health office	The town has developed an informative coloring book to educate children on the importance of recycling, which is available outside the Board of Heath office.	The town will continue to make this coloring book available outside the Board of Health Office in permit years four through five.
Revised					

1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
2a	Form Storm Water Advisory Committee	Department of Public Works	Hold quarterly meetings	The Storm Water Advisory Committee (SWAC) meets quarterly and includes both town officials and local residents.	The SWAC will meet quarterly to review the town's progress and to ensure that the town's Storm Water Management goals are being implemented.
Revised					
2b	Collect household hazardous waste from residents	Board of Health	Hold household hazardous waste collection day once per year	The town held their annual household hazardous waste collection day (July 2005). It was announced in the local press, on cable and at BOH and Selectmen meetings. The town also continued its involvement in the South Shore Recycling Cooperative, which allows Pembroke residents to participate in the Hazardous Waste Days of surrounding towns.	Pembroke will continue to hold household hazardous waste collection days once per year in permit years four through five.
Revised			The town is holding their Household Hazardous Waste Collection Day in August as opposed to the spring as previously indicated.		
2c	Implement annual, volunteer waterways clean-up day	Department of Public Works	Hold waterways clean-up day once per year beginning in the Spring of 2005 (Permit Year 3)	The town held its annual, volunteer waterways clean-up day on May 21 and May 22, 2005.	Another waterway clean-up day will be held on May 21, 2006.
Revised					
2d	Make SWMP available for public comment/review	Department of Public Works	Post SWMP in DPW office and Town library	Copies of the Stormwater Management Plan are available for public review and comment.	Throughout the fourth permit year, the town will continue to make the SWMP available at the town library, at the DPW office, and on the town website.
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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
3a	Map outfalls and receiving waters	Department of Public Works	Complete mapping by end of fifth permit year	The town mapped 80% of its outfalls this year.	The town's intent is to resume their outfall mapping during the fourth permit year. We plan to complete the required drainage system mapping by the end of the fifth permit year.
Revised					
3b	Develop illicit discharge detection & elimination plan	Department of Public Works	Make recommendations for proposed plan	None to date.	The development of the illicit discharge detection plan will include methods for identifying priority areas and locating illicit discharges and their sources. It will also include a procedure for removal of illicit discharges. All actions will be documented.
Revised					
3c	Review existing bylaws and regulations	Department of Public Works/Stormwater Advisory Committee	Determine whether existing bylaws/regs are adequate	The town reviewed the existing bylaws and regulations for requirements relating to illicit discharge detection and elimination.	None.
Revised					
3d	Develop/modify general illicit discharge bylaw	Department of Public Works/Stormwater Advisory Committee	If necessary, propose recommendations for bylaw updates	A general illicit discharge bylaw that meets USEPA requirements was developed during the third permit year.	None.
Revised					
3e	Present bylaw for Town meeting action	Department of Public Works/Stormwater Advisory Committee	Make presentations for Town meeting action, if necessary	None to date.	During the fourth permit year, the general illicit discharge bylaw will be presented for Town Meeting action.
Revised					

3a. Additions

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
4a	Review existing bylaws and regulations	DPW/Planning/Zoning	Determine whether existing bylaws/regs are adequate	The town reviewed the relevant sections of the Rules and Regulations Governing the Subdivision of Land, the Zoning Bylaws, and the Water Resource Protection Bylaw as required.	None.
Revised					
4b	Develop/modify bylaws for construction site runoff	DPW/Planning/Zoning	If necessary, propose recommendations for bylaw updates	The existing regulations do not cover all types of construction; therefore, new regulations are required.	Applicable bylaws will be modified as necessary during the fourth year of the permit.
Revised					
4c	Present bylaw for Town meeting action	DPW/Planning/Zoning	Make presentations for Town meeting action, if necessary	None to date.	Applicable bylaws will be presented for Town Meeting action during the fourth year of the permit.
Revised					
4d	Review existing site inspection practices	DPW/Planning/Zoning	Determine whether existing practices are adequate	None to date.	The town will review the erosion/ sedimentation control and drainage submittal requirements, as well as the site inspection practices, during the fourth permit year.
Revised					
4e	Develop/modify site inspection practices	DPW/Planning/Zoning	If necessary, make recommendations for updating existing practices	None to date.	None. During the fifth permit year, the town will make recommendations for improving site inspection practices.
Revised					

4a. Additions

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
5a	Review existing bylaws and regulations	DPW/Planning/Zoning	Determine whether existing bylaws/regs are adequate	The town evaluated regulations regarding the control of post-construction stormwater runoff, including the Rules and Regulations Governing the Subdivision of Land and the Zoning Bylaws.	None.
Revised					
5b	Develop/modify bylaws for post-construction runoff	DPW/Planning/Zoning	If necessary, propose recommendations for bylaw updates	The existing regulations do not cover all types of construction; therefore, new regulations are required.	The town will continue to develop a post-construction site runoff control bylaw that meets USEPA requirements and will consider MA DEP Stormwater Management Policy Standard 3 (Recharge to Groundwater).
Revised					
5c	Present bylaw for Town meeting action	DPW/Planning/Zoning	Make presentations for Town meeting action, if necessary	None to date.	The post-construction site runoff control bylaw will be presented for Town Meeting action during the fourth year of the permit.
Revised					
5d	Review existing site inspection practices	DPW/Planning/Zoning	Determine whether existing practices are adequate	The town will review existing site inspection and maintenance practices. The town will subsequently determine whether the existing site inspection and maintenance practices comply with USEPA's stormwater management plan requirements.	None.
Revised					
5e	Develop/modify site inspection practices	DPW/Planning/Zoning	If necessary, make recommendations for updating existing practices	None to date.	None. In the fifth permit year, the town's existing site inspection and maintenance practices will be modified accordingly to ensure compliance with USEPA requirements.
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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
6a	Sweep streets & clean catch basins	Department of Public Works	Sweep all town-owned streets and clean all catch basins once per year	During the spring, the Pembroke Highway Department began sweeping. All streets in town will be swept, at least once, this spring. The town shares an additional sweeper with neighboring communities. The town has between 1,100 and 1,200 catch basins. This spring all catch basins will be cleaned at least once. Cleaning began in March 2006 and is ongoing.	In permit years four through five, the town intends to continue sweeping all streets and cleaning all catch basins once per year. We will track the amount of debris removed from streets and catch basins.
Revised					
6b	Maintain filtration system at North & Indian Head Rivers	Department of Public Works	Inspect baffle tank and leaching basin, and remove sediment	The town inspected the filtration system installed at the confluence of the North and Indian Head Rivers and is making arrangements to remove sediment when 1/3 full.	The town will continue to regularly maintain this filtration system during permit years four through five.
Revised					
6c	Train municipal employees at each facility	Department of Public Works	Target all applicable municipal facilities	The town continued the process of examining existing practices at municipal facilities. Also, the town trained employees at these facilities in construction methods to prevent soil erosion and 17 employees attended a snow & ice workshop. Pesticide application is extremely limited and assigned only to licensed applicator.	In the fourth and fifth years of the permit, annual follow-ups will be performed to ensure that employees working at these facilities are following the required stormwater management practices.
Revised					
6d	Implement items in EPA env. audit report for DPW facility	Department of Public Works	Ensure action items completed and BMPs followed	The town made changes during the first permit year to comply with this program that included prohibiting municipal vehicles from being washed outside and developing a SPCC plan. The town continues to comply with this program.	The town will continue to comply with the items included in the EPA Environmental Audit report for the DPW Facility
Revised					
6e	Retrofit catch basins around Furnace and Oldham Ponds	Department of Public Works	Install vortex separators and new piping	The town's contract to retrofit the catch basins around Furnace Pond and Oldham Pond is completed. The retrofit included the installation of vortex oil/water separators and some re-piping.	Catch basins and vortex units will be maintained and cleaned regularly throughout permit years four through five, and beyond. .
Revised					

6a. Additions

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

BMP ID #	**BMP Description**	**Responsible Dept./Person Name**	**Measurable Goal(s)**	**Progress on Goal(s) – Permit Year 2** (Reliance on non-municipal partners indicated, if any)	**Planned Activities – Permit Year 3**
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

No water quality sampling has been conducted for this permit.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures	($)	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	6,000
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	Y
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	(%)	
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	

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	(%)	80%
Estimated or actual number of outfalls	(#)	150 < # < 200
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	100%
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened	(# or %)	
Illicit discharges identified	(#)	
Illicit connections removed	(#) (est. gpd)	
% of population on sewer	(%)	0
% of population on septic systems	(%)	100

Construction

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

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections completed	(# or %)	
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1/yr
Total number of structures cleaned	(#)	270
Storm drain cleaned	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	CY	168.5
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal	($)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1/yr
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	1/yr
Qty. of sand/debris collected by sweeping	CY	476
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	recycle
Cost of sweepings disposal	($)	$0
Vacuum street sweepers purchased/leased	(#)	1.3

Vacuum street sweepers specified in contracts	(y/n)	

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

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	 38% 70%
Pre-wetting techniques utilized	(y/n)	
Manual control spreaders used	(y/n)	
Automatic or Zero-velocity spreaders used	(y/n)	
Estimated net reduction in typical year salt application	(%)	35
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	

March 24, 2006

United States Environmental Protection Agency
Water Technical Unit
P.O. Box 8127
Boston, Massachusetts 02114-2023

Re: National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems
Annual Report for Town of Pembroke
Permit Number: MAR041054/MA DEP Transmittal Number: W035403

To Whom It May Concern:

Pursuant to the requirements of EPA's "National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems" issued May 1, 2003; the Town of Pembroke is pleased to submit the enclosed Annual Report.

If you have any questions regarding this report, please feel free to contact me.

Very truly yours,
Eugene B. Fulmine for Assistant Director
For

Michael F. Valenti
Director

Enclosures

cc: Edwin J. Thorne, Town Administrator
Charlene E. Johnston, P.E., Weston & Sampson Engineers