

Municipality/Organization: Marlborough, MA

EPA NPDES Permit Number:

MaDEP Transmittal Number: W-035393

**Annual Report Number
& Reporting Period:** No. 4: May 06-May 07

NPDES PII Small MS4 General Permit
MAR041128
Annual Report
#4

Part I. General Information

Contact Person: Priscilla Ryder

Title: Conservation Officer

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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: *Nancy F. Stevens*

Printed Name: Nancy E. Stevens

Title: Mayor

Date: May 1, 2007

Part II. Self-Assessment

The City of Marlborough has completed the required self assessment and has determined that our municipality is in compliance with all permit conditions, a few items as noted below were delayed for reasons noted and we have highlighted some of the tasks that proved successful in this past year- May '06- May'07.

Part D 1-1 – Informational brochures. The informational brochure was not mailed out in '06. Having done a brief survey at numerous presentations it was clear that most people do NOT read the inserts in their utility bills. Therefore, we have decided to do a city wide mailing of the brochure (copy is attached in the appendix). This should be mailed by June 30th of '07. We have however been putting door hangers on all doors on streets where storm drain markers are being installed. This has proved to be a very good means of education and we are considering this option as a better means for mass distribution of the information.

Part D 1-2 – Storm Drain Stenciling. The boy scouts continue to advance our storm drain stenciling program. We now have more than 3/4 of the storm drains marked. However, the markers which were installed 7 years ago are now fading. A new marker will need to be found which is more durable. We have looked at some metal markers, and are now considering adding marker replacement to our catch basin cleaning contract. We are working on institutionalizing the storm drain marking program in some fashion in '07. In addition to marking the drains, a door hanger is hung on every door in the neighborhood where storm drain markers have been installed. This has served as a great education tool.

Part D 1-3 – Cable TV show- Although we have come up with a great script and have lined up the local cable station to produce a short PSA and ½ hour show, this was not produced in '06. It is our intention to have this done during the summer of '07 by our summer interns and have it begin airing in September of '07. We were not able to have our summer intern in '06 cover this task so it fell by the wayside. Our new schedule will coincide with our education efforts to get the Stormwater Management Ordinance passed and implemented and will be a great education effort for residents as well as construction workers alike.

Part D 1-4 Student Education- The Conservation Commission worked again with the local watershed group the Organization for the Assabet River and taught the curriculum for the "Water Wise workshops" which were held again during the summer months in '06 at three separate times at The Grove conservation land. The workshops taught kids and adults about water conservation and water quality issues. In '05 a college student was hired who put together a curriculum and video to help teach high school students how to teach the class. In '06 two high school students ran the show based on the curriculum produced in '05. This was successful and got some press coverage- (see appendix). This is planned again for '07. Students are currently being interviewed for this project.

In addition staff did presentations to garden club and scout organizations regarding Stormwater protection. The event was titled "Protecting the Nature of Marlborough"

information and covered Stormwater management issues. The programs were well attended. All participants received the Stormwater door hanger and were asked to spread the word that storm drains drain to waterways.

Part D 1-5 – Web site - The Storm Water web page has been designed and will be posted in May '07. A copy of the web page information is attached in the appendix.

Part D 2-4 Public Hearing – As the Stormwater Management Ordinance has not been finalized and all other items were moving along, the Storm Water Management Advisory Committee did not have any meetings in '06. However, as part of the Stormwater Management Ordinance passage in '07 several public meetings will be held in '07 to ensure passage of this ordinance.

Part D 2-5- Stream Teams. - The stream team leadership was formed in April of 2007, a training session is being held on May 22, 2007 and surveys of the streams will be done in the first weeks of June. Results will be reported by mid June '07 and we will develop an action plan on what corrective measures, if any, are needed in the stream section we survey. Based on volunteer effort and enthusiasm we may do a fall stream team event, but will certainly continue a spring '08 stream team to continue the effort and cover more streams within the city. Now that 95% of our GIS drainage maps are complete this timing will coincide nicely with completing that mapping as well and verifying where additional outfalls or problem areas might be located. (See stream team flier notice in appendix)

Part D 3-1 – GIS Mapping –95% of the city's drainage and connectivity has been mapped. A sample of this project is included in the appendix. In '05 summer staff verified drainage locations and flow direction in the field. This project is now complete. The final 5% of the drainage connections are on private property and will be added as this information is submitted to the city over the next few years. Stream team data will also help to improve this data base.

Part D 3-2, 3-3, 3-4- An ordinance has been drafted and revised several times. With a change in our City Engineer personnel, this item was put on hold and is now being revived and is intended to fit more smoothly into the existing permit system the city has. The final version is due to be reviewed by the Stormwater Management Advisory Committee in June of '07 and the city is also hiring a consulting firm to review it for consistency and “usability” funds have been allocated and need to be spent before June 30, 2007 for this review. Once this step is done, the final document will be submitted to City Council for review and adoption hopefully by September '07.

However, it should be noted that as a matter of current city policy **all** projects must meet the state DEP Stormwater Policy, regardless of the projects proximity to a wetland. All projects must meet the 80% total suspended solids removal requirement, must meet all infiltration requirements, and when located in a sensitive watershed such as the Millham Reservoir watershed or Sudbury Reservoir watershed (which cover three fourths of the city) must meet the tougher requirements of treating the first flush of one inch rather than

the half inch of each storm event. Although this is now the standard practice for all project the Stormwater Ordinance to be passed will provide this requirement more clout and enforceability should it be challenged.

Part 4-2; 4-4– During this year '06 by chance we did some baseline testing for several streams in the Millham Reservoir watershed during storm events generating one inch or more of rain. This sampling was done to monitor a construction site, but also provided some valuable base line data as well. As the ordinance is not yet in place we have not yet finally determined what testing we want to do or what protocols should be followed to get some usable results. This will be discussed as the ordinance is finalized and a testing protocol established in '07. However, we know of several baseline data sets we have collected over the years that we will use when establishing our testing protocol. We have information regarding the Sudbury Reservoir done in 1997 for nutrient loading; Nutrient loading testing done in 1999 for Ft. Meadow Reservoir, and now water quality sampling for heavy metals done for the Millham Watershed in 2006. This data will all be helpful for future comparisons.

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1-1	Informational brochures	Conservation/ Priscilla Ryder	Distribute city wide annually	The brochure is complete. (copy attached) This was not mailed out in '06 and will be sent individually to a city wide mailing rather than inserted into the water bill.	Will be distributed in May-June 2007 in a city wide mailing
1-2	Storm drain stenciling	Conservation/ Priscilla Ryder	Stencil ¼ of drains per year	Eagle Scouts placed markers on catch basins in the Sudbury Reservoir Watershed in '06. Both boy and girl scouts were involved with this project.	The remaining catch basins in the Sudbury Reservoir Watershed and Hop Brook Watershed as well as replacements in the Ft. Meadow Reservoir Watershed will be completed in '07.
1-3	Cable TV Program	Conservation/ Priscilla Ryder	Tape/ air once annually	Contact made with M8 Cable TV show and developed script. However, this was not completed in '06 as planned.	Taping set for summer of '07 as part of a summer internship program. This will be aired several times annually. One ½ hour show and a public service announcement will be developed.
1-4	Student Education		Speak to middle school class	The Water Wise Workshop series was developed and 3 classes were held at The Grove during the summer of '06 (see article attached). In class programs were not held due to difficulty with scheduling and MCAS conflicts. However presentations to scout groups and garden clubs proved great avenues for education on Stormwater related issues.	Funding has been provided for another summer of Water Wise Workshops in summer of '07. Scouts, camps and other clubs and groups will be targeted to be the audience for these hands on workshops. High school students will teach the class as was done successfully in '06. In additions presentations to scout groups, watershed groups and garden clubs will also continue in '07
Revised		Patt Koscinski- High School Environmental Science Teacher	Water Wise workshop program developed and implemented		

1-5	Web site posting		Post storm water information on City Web site	The Stormwater web page will be posted on the web site in May'07. (copy attached)	Information to be updated as needed annually
revised		Conservation/ Priscilla Ryder			
1-6	Prepare compliance report	Conservation/ Priscilla Ryder	Prepare annual report	Report prepared April '07	Report to be prepared April '08
1-7	Annual Reporting Reminders	Conservation/ Priscilla Ryder	Notices to non-residential properties	10 inspections done of commercial and industrial sites. Annual reports from companies are being filed. We received 6 such reports and did follow up compliance.	Letters to 10 new companies to be mailed July '07 Inspections to be done in Aug '07.
1.7a NEW	Annual Reporting Reminders	Conservation /Priscilla Ryder	Notices to commercial properties	No brochure was developed as it will follow the establishment of the Ordinance.	Develop a brochure to educate businesses to meet stormwater maintenance requirements. Include enforcement provision of ordinance in brochure.

2. Public Involvement and Participation

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
2-1	Volunteer for stenciling	Conservation/ Priscilla Ryder	Volunteers to install storm drain markers	Eagle scouts applied markers and distributed door hangers in '06	Several additional eagle scouts and a girl scout troupe as well as members of the lake association at Ft. Meadow will be working on drain markers and fliers in the Sudbury Watershed and replace markers in the Ft. Meadow Watershed in '07. A system to institutionalize marker replacement with storm drain cleaning will be investigated in '07.

2-2	Household Hazardous Waste Collection day	Emerg. Mgt/ Don Cusson	Hold HHWCD Annually	Two events were held 5-20-06 and 10-14-06	Two events scheduled for 4-19-07 and 10-13-07 (see flier)
2-3	Storm Water Management Advisory Committee	Conservation/ Priscilla Ryder	Form SWMAC	The SWMAC did not meet in '06	SWMAC will meet at least twice in '07 -'08.
2-4	Public Hearings	Conservation/ Priscilla Ryder	Hold Public Meeting on SWP	The public meeting was held on May 12, 2005	We will have additional hearing related to passage of the ordinance in '07
2-5	Stream Team	Conservation/ Priscilla Ryder	Form Stream Team	Stream team leadership group was established in '06. Stream team training is scheduled for May '07 (see attached flier)	Stream Team to monitor several streams in the city in May and June '07, will continue in fall of '07 and again in spring of '08.
2-6	Clean up day		Sponsor city wide Clean-up day	400+ volunteers participated in 4-29-06 earth day cleanup.	Annual cleanup to continue 4-28-07 (see flier attached)
Revised		Mayor and City Council			

3. Illicit Discharge Detection and Elimination

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
3-1	GIS Mapping	DPW/ Nat Bowen GIS coordinator	Map City ¼ of Drainage System	95% of the city's drainage system has been entered onto the GIS mapping system. This includes catchbasin locations and pipe connectivity.	The remaining 5% of the final drainage linkages through private property will be done by interns as time permits. Stream teams will also help to fill in the gaps. This will be ongoing updates. This task is complete.

3-2	Ordinance Review	DPW/ city engineer Tom Cullen and Priscilla Ryder Conservation Officer	Review applicable ordinances	The Stormwater Management Ordinance was drafted and reviewed by the SWMAC and revised again. Final version to be reviewed in June '07.	Draft ordinance and rules changes to be presented to City Council 9-'07
3-3	Protocol development for IDDE	DPW/ city engineer Tom Cullen	Develop protocol for IDDE	DPW Engineer, Conservation Officer and Public Utility Commissioner reviewed IDDE issues. Many items listed are already being done. A system of keeping track of these corrections has not yet been developed.	Develop check off list for IDDE items to gage compliance.
3-4	Ordinance Modifications	DPW/ city engineer Tom Cullen	Drainage ordinance modifications	Draft Stormwater Management Ordinance was developed and is under review by the SWMAC, it has been much debated.	The draft ordinance will be presented to City Council in September '07 for approval.
3-5	Stream Team inspections	Conservation/ Priscilla Ryder	Inspect city's streams/outfalls	See 2-5 above	See 2-5 above Will begin in '07
3-6	Ill. Dis. Notice/Enforcement	DPW/ city engineer Tom Cullen	Disconnect w/in 6 mos.		Will begin in '07

4. Construction Site Storm water Runoff Control

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
4-1	Regulation Review	DPW/ City Engineer- Tom Cullen	Review applicable regulations	See 3-2 above	See 3-2 above
4-2	Sampling/Testing		Sample/test to est. baseline	Have not established	Protocol for baseline sampling will be

Revised		DPW/city engineer- Tom Cullen		baseline for sampling.	developed '07 after Ordinance is passed
4-3	Storm water management policy		Adopt DEP Policy	See 4-1 above	See 4-1 above
Revised		DPW/ City Engineer- Tom Cullen			
4-4	Re-sampling retesting discharges		Resample/retest discharges		Resampling to begin in '08 first sampling after protocol established.
Revised		DPW/ city engineer- Tom Cullen			

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
5-1	Regulation Reviews		Review applicable regulations	See 4-1 above	See 4-1 above
Revised		DPW/ city engineer- Tom Cullen			
5-2	Sampling/testing		Sample/test to est. baseline	See 4-2 above	See 4-2 above
Revised		DPW/city engineer- Tom Cullen			
5-3	Storm water management policy		Adopt DEP Policy	See 4-1 and 4-3 above	See 4-1 and 4-3 above
Revised		DPW/ city engineer- Tom Cullen			
5-4	Re-sampling/retesting	DPW/ city engineer- Tom Cullen	Resample/retest discharge	See 4-4 above	See 4-4 above
5-5	Annual Reporting	Conservation/ Priscilla Ryder	Achieve annual reporting compliance	See 1-7 above	See 1-7 above
5-6	Random inspections	Conservation/ Priscilla Ryder	Inspect 10 facilities	See 1-7 and 1-7a above	See 1-7 and 1-7a above

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
6-1	Street Sweeping	DPW/ Tom Cullen Jr.	Sweep all streets annually	All streets were swept between April and Nov. 2006 (see map from city web site attached)	All streets will be swept between April and Nov. 2007
6-2	Catch basin cleaning	DPW/ Tom Cullen Jr.	Clean ½ catch basins annually	1/3 of catch basins were cleaned in 2006	1/3 of catch basins will be cleaned in 2007
6-3	Employee training	DPW/ city engineer	Train DPW employees	Training on integrated pest management practices was done for school buildings and field maintenance. The DPW has been keeping up with good housekeeping practices discussed in pervious years.	In-house employee training will be ongoing regarding materials storage, sweeping, and IPM management. Also training of custodial staff will be done in ‘07.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

– The TMDL for the Assabet River and “Brook and Pond assessment” for Hop Brook were both issued. In short the Assabet River TMDL requires the city to implement stringent controls on its POTW’s and reduce sediment phosphorous loads, both of which are currently being pursued. The report does not require any non-point source controls at this time. However, the implementation of the city’s Stormwater Ordinance and the current practice of requiring the Massachusetts DEP Stormwater Management Policy for all projects in the city will help to reduce phosphorous inputs for runoff from new developments.

Currently the City is nearing completion of its facility planning for upgrades to its Westerly Wastewater Treatment Plant (Assabet River) and will shortly begin the design

of these facilities. The design and construction of upgrades to the Easterly Wastewater Treatment Plant (Hop Brook) will follow construction of the Westerly Wastewater Treatment Plant. The design of both plants will include facilities that will markedly reduce point source nutrient loadings to the receiving waters by reducing phosphorus from our present permitted limit of .75 mg/L to .1 mg/L, an 80% reduction.

In addition, the Army Corps of Engineers is conducting separate sediment and dam removal studies on the Assabet River and the Hop Brook pond and stream system to identify other sources of water quality impairment to these resources such as sediment reflux, storm water, impoundment management, etc.

The city will continue to be actively involved with the corps to assist, as resources permit, with the development of these documents. It is likely there will be specific recommendation made regarding non-point sources of nutrient loading to these receiving waters and we will report on these next year.

Part IV. Summary of Information Collected and Analyzed

All applicable information is included in Part II and III above.

Attachments:

The following documents are attached for your review as noted above. The numbers in parentheses references the BMP ID # listed in the chart above.

1. Brochure for city wide distribution (1-1)
2. Map of locations where our storm drain stenciling markers have been installed to date. (1-2)
3. Water Wise Workshop – articles (1-4)
4. Storm Water Management Web site- (1-5)
5. Household Hazardous Waste Collection Day flier (2-2)
6. Stream Team Flier (2-5)
7. Clean Sweep – city wide cleanup day flier and news clippings (2-6)
8. GIS – drainage map – sample map showing catch basins and piping and direction of flow (3-1)
9. Draft Stormwater Management Ordinance) (3-2)
10. City wide street sweeping schedule and web page (6-1)

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