Municipality/Organization: **Marlborough, MA**

EPA NPDES Permit Number:

MaDEP Transmittal Number: **W-035393**

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

NPDES PII Small MS4 General Permit

MAR041128

Annual Report

#5

Part I. General Information

Contact Person: Priscilla Ryder Title: Conservation Officer

Telephone #: 508-460-3769 Email: pryder@marlborough-ma.gov

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 C. Stevens

Printed Name: Nancy Stevens

Title: Mayor

Date: 4/30/08

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, except as noted below. The items as noted below were changed slightly or delayed for reasons noted and we have also highlighted some of the tasks that proved successful in this past year- May '07-May'08.

Part D 1-1 – Informational brochures. The informational storm water pollution brochures were mailed in the spring '08 water bills. 10,500 pieces are being mailed. A copy of the brochure is attached for your review. We will evaluate the effectiveness of the bill insert throughout the year to determine if this is a good means of education.

Part D 1-2 – Storm Drain Stenciling. The boy scouts and other volunteers continue to advance our storm drain stenciling program. We now have more than 95% of the storm drains marked. However, the markers which were installed 7 years ago are now fading. A summer intern will replace old faded markers this summer and finish the last 10% of the city streets which were missed. 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. We are also working on institutionalizing the storm drain marking program and combine it with the storm drain cleaning program to have markers replaced when missing as an ongoing way of keeping these in place, the logistics of which are still being worked out. .

Part D 1-3 – Cable TV show- A ½ hour show on storm drains and watersheds and a 1-2minute PSA will be aired sometime May-June of '08. Unfortunately it was not produced in '07 as scheduled, but is on track for being aired in the end of May. A copy of the PSA will be available then (we may try to put it on a link as well).

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 '07. A summary of our outreach this past year is as follows:

- all at least 80 children from Marlboro, Hudson and Northborough attended the 4 workshops
- 4 workshops had parents present too, who took literature from our information tables
- 9 adults and 1 child attended the Family workshop/skit
- 2 high school students gained valuable work experience on the environment, stewardship and teaching
- workshop titles: "Watersheds and The Water Cycle", "Water Plants & Animals", "Water Testing & Conservation", and "Water Bugs Mystery".
- family workshop skit "Water Matters" covered storm water, environmental lawn care and invasive species

In addition several students did high school science projects related to storm water, based on things they had learned in the school as well.

Part D 1-5 – Web site - The Storm Water web page has been designed and is posted at http://www.marlborough-ma.gov/Gen/MarlboroughMA_PublicWrks/MarlboroughMA_Engineerng/Stormwater-Management. A copy of the web page information is attached in the appendix. This will be updated annually and as needed.

Part D 2-5- Stream Teams. - Four streams, Mowry Brook, the North Branch of Mowry Brook, Millham Brook and the North Branch Brook have all been walked by our 17 member (and growing) Stream Team Volunteers. The first report on the Mowry Brook is completed and the firs section is attached for review. The full document can be found at http://greenmarlborough.org/StreamTeam.pdf . The report for the Millham Brook system will be completed at the end of May. A few areas of litter and trash have been identified. Fortunately, illicit discharges from drain pipes or into drainage pipes have not been found to date. The volunteers will continue the stream team program until all streams have been walked and monitored. It was determined that spring and fall when the leaves are off the trees is the best time to navigate the streams and be able to locate outfalls before the vegetation obscures some of them. We've had great results thus far as reflected in the attached report. The report on the second two streams is due out on June 15th.

Part D 3-1 – GIS Mapping –95% of the city's drainage and connectivity has been mapped and ground truth-ed with GPS units including inverts to manholes. These maps have already proved to be useful in following drainage problems and locating sources of problems. A sample of this project is attached. Stream team data will also help to improve this data base.

Part D 2-4;3-2, 3-3, 3-4, 4-2- 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. A copy of Drainage Report Requirement is attached. In addition current policy prohibits the discharge of any materials other than clean storm water into storm drains and is enforceable by the Department of Public Works.

Although these items have already been in place we have committed, in our NOI for Discharges from MS4s, for Storm water Phase II general permit to promulgate and enforce a Storm water Ordinance which will be more comprehensive and bring all storm water and construction related storm water management into one document and provide for tougher enforcement. We have secured funding to hire a consultant to produce such a document that can dovetail more closely with current permitting practices within the city of Marlborough. We are now looking at the City of Salem's ordinance as a model. Past attempts at ordinance changes were considered too complicated given the fact that the

city was already requiring the implementation of good storm water practices. A consultant is expected to be hired in June of '08, with a final ordinance to be voted on in the fall of '08 by the City Council. A public hearing and several public meetings will be part of this process, and will dovetail nicely with the PSA and ½ hour cable TV show to be aired during the summer and fall as an education component on why such an ordinance is necessary.

We therefore have not completely met our obligation under section 3-2 of our permit however, we feel that we are in fact requiring the physical structures and storm water management plans currently as noted above and are doing some enforcement on compliance at this time to meet our obligations under the permit. We intend to follow through with the ordinance by years end with the assistance of a consulting firm, as staff time has proved to be limited in carrying out this task. We have also not established a baseline testing protocol given that the ordinance has not yet been completed.

Part D 4-2; 4-4– We have not established a baseline testing protocol as the ordinance is not yet in place. As noted in previous reports we do have some data on several streams based on other reports and testing done on lake health, or reservoir health which can be used in the future as needed for future comparison.

Part D 6-3 Employee Training - The DPW has an Integrated Contingency Plan dated Sept. 03 which is being updated as required in Sept. 08. The purpose of the plan is: "[To describe how the] Marlborough DPW handles emergencies associated with fires, injuries and releases and spills of hazardous chemicals, hazardous and extremely hazardous substances, hazardous wastes, hazardous matters and petroleum products." As noted in previous reports this documents helps guide the handling and proper storage of hazardous materials. (Copy is attached)

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 – continuing
1-1	Informational brochures	Conservation/ Priscilla Ryder	Distribute city wide annually	The brochure is complete. (copy attached) This was mailed out in the water bill cycle in April of '08	We will evaluate the effectiveness of the water bill stuffing, if effective, will mail again in '09
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 '07. There are some individual streets that still need to be done.	Summer intern will complete storm drain marking installation on streets that were missed.
1-3	Cable TV Program	Conservation/ Priscilla Ryder	Tape/ air once annually	Contact made with M8 Cable TV show a ½ hr show and 1-2 minute PSA will be finalized in May '08 and begin airing in May '08.	PSA will continue to air indefinitely.
1-4	Student Education		Speak to middle school class	The Water Wise Workshop series was held again in summer of '07 and was successful.	Funding has been provided for another summer of Water Wise Workshops in summer of '08 in conjunction with the Organization for the Assabet River and The Mass Audubon society and will reach several other towns as well. This will be ongoing.
Revised		Patt Koscinski- High School Environmental Science Teacher	Water Wise workshop program developed and implemente d		
1-5	Web site posting		Post storm water information on City Web site	The Stormwater web page has been posted at http://www.marlborough-ma.gov/Gen/MarlboroughMA_PublicWrks/MarlboroughMA_Engineerng/Stormwater-Management	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 several such reports and did follow up compliance.	Ongoing monitoring and letters of compliance will occur annually.
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 5** (Reliance on non-municipal partners indicated, if any)	**Planned Activities – Continuing**
2-1	Volunteer for stenciling	Conservation/ Priscilla Ryder	Volunteers to install storm drain markers	Eagle scouts applied markers and distributed door hangers in '07	We will finish marking storm drains where they are missing and will try to work to institutionalize this with storm drain cleaning.
2-2	Household Hazardous Waste Collection day	Emerg. Mgt/ Don Cusson	Hold HHWCD Annually	Two events were held in May and November of '07	Two events scheduled annually.
2-3	Storm Water Management Advisory Committee	Conservation/ Priscilla Ryder	Form SWMAC	The SWMAC did not meet in '07 as we had no ordinance to discuss.	SWMAC will meet several times in '08 to assist in review and passage of storm water ordinance.
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 '08

2-5	Stream Team	Conservation/ Priscilla Ryder	Form Stream Team	Stream team leadership groups went out to investigate four streams. No illicit discharges were detected.	Stream Team to monitor several streams in the city in spring and fall before leaf out and annually until all streams have been monitored.
2-6	Clean up day		Sponsor city wide Clean-up day	200 volunteers worked for three hours collecting 5.4 tons of trash and 129 lbs. of recyclable material in April '07.	Annual cleanup to continue 5-3-08 and annually.
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 5** (Reliance on non-municipal partners indicated, if any)	**Planned Activities – continuing**
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	Current Site plan Review requirements require all construction to adhere to the State Storm water Management Policy/Regulations. (See attached Drainage report checklist). Consultant to be hired to write a Storm water ordinance that better fits into existing permitting process. To be hired June '08.	Regulations will be updated when new storm water ordinance is adopted.
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	Consultant to be hired June '08 to draft ordinance that better fits with existing permit process.	The draft ordinance will be presented to City Council in September '08 for approval.
3-5	Stream Team inspections	Conservation/ Priscilla Ryder	Inspect city's streams/outfalls	See 2-5 above	See 2-5 above
3-6	Ill. Dis. Notice/Enforcement	DPW/ city engineer Tom Cullen	Disconnect w/in 6 mos.	This is currently ongoing when detections are made they are required to disconnect.	This will be ongoing

4. Construction Site Storm water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5	Planned Activities – continuing

				(Reliance on non-municipal partners indicated, if any)	
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 baseline for sampling.	Protocol for baseline sampling will be developed '08 after Ordinance is passed
Revised		DPW/city engineer-Tom Cullen			
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 5** (Reliance on non-municipal partners indicated, if any)	**Planned Activities – continuing**
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 5** (Reliance on non-municipal partners indicated, if any)	**Planned Activities – continuing**
6-1	Street Sweeping	DPW/ Tom Cullen Jr.	Sweep all streets annually	All streets were swept between April and Nov. 2007 (see map from city web site attached)	All streets will be swept between April and Nov. 2008
6-2	Catch basin cleaning	DPW/ Tom Cullen Jr.	Clean ½ catch basins annually	1/3 of catch basins were cleaned in 2007	1/3 of catch basins will be cleaned in 2008
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. In the future custodial staff will also be trained.

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. Storm Water Management Web site- (1-5)
3. Household Hazardous Waste Collection Day flier (2-2)
4. Stream Team report – (introduction and first section) (2-5)
5. Clean Sweep – city wide cleanup day flier (2-6)
6. GIS – drainage map – sample map showing catch basins and piping and direction of flow (3-1)
7. Drainage Report Check list (3-2)
8. Integrated Contingency Plan (6-3)