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Town of North Reading
Massachusetts

Department of Public Works

May 3, 2006

U.S. Environmental Protection Agency
Water Technical Unit
PO Box 8127
Boston, MA 02114

RE: Year 3 (March 2005 to March 2006) Annual Report for the NPDES Phase II Permit
Town of North Reading, Massachusetts
EPA NPDES Permit Number: MAR041215

To Whom It May Concern:

Enclosed please find the Year 3 Annual Report for the NPDES Phase II Small MS4 General Permit with an original certification signature page for the Town of North Reading.

If you have any questions or require any additional information, please do not hesitate to contact me at (978) 664-6060.

Very truly yours,

Town of North Reading

Michael P. Soraghan, P.E.
Town Engineer

cc: MADEP, Division of Watershed Management
D. Hanlon, Town of North Reading
J. Lachmayr, Malcolm Pirnie Inc.

235 North Street, North Reading, MA 01864 ... 978/664-6060 – FAX 978/664-1713

Municipality/Organization: **Town of North Reading, MA**

EPA NPDES Permit Number: **MAR041215**

MaDEP Transmittal Number: **W- 041239**

Annual Report Number & Reporting Period: **No. 3: March 05-March 06**

MAY - 9 2006

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Michael P. Soraghan, P.E. Title: Town Engineer

Telephone #: 978-664-6026 Email: msoraghan@northreadingma.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:

Printed Name: Greg Balukonis

Title: Town Administrator

Date: 5/4/2006

Part II. Self-Assessment

The Town of North Reading has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

The schedule modifications for some of the best management practices (BMPs) include the following:

- **BMPs 1A, 1B, 2A, and 2B (Public Education and Outreach and Public Involvement and Participation BMPs) - extended schedules through Permit Year 5. Town has met the original measurable goals; the Wastewater and Storm Water Advisory Committee (WSWAC) and/or local volunteer organizations (including the Reading/North Reading Stream Team and Martins Pond Association) continue to hold meetings and work on programs as specified in the Annual Report.**

- **BMP 3C (Ordinance development to prohibit non-storm water flows) - extended schedule through Permit Year 5. Bylaw expected to be presented at Fall 2006 Town Meeting.**

- **BMP 3D (Storm Water map development) - extended schedule through Summer 2005. Outfall mapping was finalized based on the completion of outfall assessments in Summer 2005.**

- **BMPs 4C, 4E, 5A, and 5B (Construction and Post Construction ordinance requirements) - extended schedule through Permit Year 5. Bylaw expected to be presented at Fall 2006 Town Meeting.**

- **BMPs 4D and 5C (BMP Manual/Handbook) - completed BMP Manual ahead of schedule in Summer 2005.**

- **BMPs 6A and 6C (Employee Training and Spill Response and Prevention) - completed employee training and Good Housekeeping Manual ahead of schedule in Permit Year 2.**

As part of the Town's Storm Water Management Program, a comprehensive assessment of the Town-wide drainage system was conducted and summarized into a Storm Water Capital Improvement Program report. The CIP includes recommendations for long term operation and maintenance and capital improvement projects that are intended to address flooding problems and improve the water quality of waterbodies within the Town. These waterbodies include the impaired waterbodies (Ipswich River, Martins Brook, and Martins Pond) and the Skug River.

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	Two meetings with Town	DPW/ M. Soraghan	Hold a meeting on storm water in Town.	WSWAC held several meetings to act as a forum for public input on storm water management issues in Town.	WSWAC to continue to hold regular meetings to act as a forum for public input on storm water management issues in the Town.
Revised					
1B	Develop plan for public education	DPW/ M. Soraghan	Identify and develop public education programs.	WSWAC implemented public education programs. Activities included: coordination with the Reading/North Reading Stream Team and the Martins Pond Association, development of public outreach materials including septic system brochures, local newspaper advertisements, storm water information and links on Martins Pond's website; and programs for storm drain stenciling and river clean-ups. Please refer to the attached document entitled "Martins Pond Assessment and Remediation Project Water Flow Improvements and Public Outreach Report", January 18, 2006, that includes a description of public education and outreach activities that the Martins Pond Reclamation Study Committee has been involved with.	Continue to coordinate public outreach activities.
Revised					
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	Two meetings with Town	DPW/ M. Soraghan	Number of meetings held.	Held several meetings with the Town that included public involvement from the WSWAC and Martins Pond Association. Continued Ipswich River Park clean-up day & BBQ sponsored by the Reading/North Reading stream team.	If funds are available continue the Ipswich River Park clean-up day.
Revised					
2B	Public Participation Plan	DPW/ M. Soraghan	Number of programs developed.	WSWAC coordinated with existing Town agencies/groups including the Martins Pond Association, Reading/North Reading Stream Team, and the Ipswich River Watershed Association to implement three programs: stenciling, development of public outreach materials, and a low phosphate detergent exchange as part of a detergent program.	Continue with public outreach activities.
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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
3A	Illicit Connection Identification	DPW/ M. Soraghan	# of dry weather outfalls assessed.	524 out of 524 outfalls have been assessed.	No action anticipated.
Revised					
3B	Illicit Source Identification	DPW/ M. Soraghan	# of illicit sources investigated.	24 total outfalls have been identified for further investigation.	Develop program to conduct further investigations on illicit connections at 24 suspect outfalls.
Revised					
3C	Ordinance development to prohibit non-storm water flows	DPW/ M. Soraghan	Bylaw/Ordinance adopted by Town.	Met with applicable Town departments to discuss bylaw language development. Completed draft Storm Water Management Bylaw that includes an Article titled Non-Storm Water Discharges to prohibit non-storm water flows.	Present Bylaw at Fall Town Meeting for consideration for adoption.
Revised			Recommend Bylaw/Ordinance language at Town Meeting.		
3D	Storm Water map development	DPW &Planning M. Soraghan K. Honetschlager	Map completed showing outfalls.	Completed mapping of storm water systems.	No action anticipated.
Revised					
Revised					
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 Revised	Ordinance development for waste control	DPW/ M. Soraghan	Recommend ordinance/bylaw language at Town Meeting.	Met with applicable Town departments to further discuss bylaw language development. Completed draft Storm Water Management Bylaw that includes an Article titled Construction and Post Construction Storm Water Management of New and Redevelopments and created separate Rules and Regulations that address construction waste control.	Revise Bylaw based on public meetings/presentations to be held with selected Town Departments and stakeholders and present at Fall Town Meeting for consideration for adoption. Continue work on Rules and Regulations.
4B Revised	Formalize site plan review procedures	DPW/ M. Soraghan	Site plan review procedures document complete.	Met with applicable Town departments (including the Department of Public Works, Community Planning Commission, Conservation Commission, Building Inspector, and Board of Health) to further discuss bylaw language development and site plan review responsibilities. Revisions to the draft Storm Water Management Bylaw and separate Rules and Regulations were made based on the meeting.	Present finalized Bylaw at Fall Town Meeting for consideration for adoption. Continue work on Rules and Regulations.
4C Revised	Revised ordinance to address storm water pollution	DPW/ M. Soraghan	Recommend ordinance/bylaw language at Town Meeting.	Met with applicable Town departments to determine bylaw language development. Completed draft Storm Water Management Bylaw that includes an Article titled Construction and Post Construction Storm Water Management of New and Redevelopments and created separate Rules and Regulation that address storm water pollution related to construction activities. Town Counsel reviewed the Bylaw.	Present finalized Bylaw at Fall Town Meeting for consideration for adoption. Continue work on Rules and Regulations.

4D	BMP Manual	DPW/ M. Soraghan	Handbook completed and adopted by Town.	The Town of North Reading's BMP Manual was reviewed and finalized. Manual is referenced in the draft Rules and Regulations.	No action anticipated.
Revised					
4E	Formalize Inspection Procedures	DPW/ M. Soraghan	Standard operating procedures on inspections complete.	Met with applicable Town departments to finalize bylaw language development and procedures. Completed draft Storm Water Management Bylaw that includes an Article titled Construction and Post Construction Storm Water Management of New and Redevelopments and separate Rules and Regulation that include inspection requirements.	Present finalized Bylaw at Fall Town Meeting for consideration for adoption. Continue work on Rules and Regulations.
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 Revised	Procedures for long-term O&M	DPW/ M. Soraghan	Adoption of procedures by Town.	Met with applicable Town departments to further develop bylaw language and procedures.	Revise Bylaw based on public meetings/presentations to be held with Town Departments and stakeholders and present at Fall Town Meeting for consideration for adoption. Continue work on Rules and Regulations.
5B Revised	Site plan review procedures for water quality impacts	DPW/ M. Soraghan	Adopt procedures.	Met with applicable Town departments (including the Department of Public Works, Community Planning Commission, Conservation Commission, Building Inspector, and Board of Health) to further discuss bylaw language development and site plan review responsibilities. Revisions to the draft Storm Water Management Bylaw and separate Rules and Regulations were made based on meeting.	Present finalized Bylaw at Fall Town Meeting for consideration for adoption. Continue work on Rules and Regulations.
5C Revised	BMP Handbook	DPW/ M. Soraghan	BMP Handbook.	The Town of North Reading's BMP Manual was reviewed and finalized. Manual is referenced in the draft Rules and Regulations.	No action anticipated.
5D Revised	Revise ordinance to address storm water pollution	DPW/ M. Soraghan	Recommend ordinance/bylaw language at Town Meeting.	Met with applicable Town departments to determine bylaw language development. Completed draft Storm Water Management Bylaw that includes an Article titled Construction and Post Construction Storm Water Management of New and Redevelopments and separate Rules and Regulation that address storm water pollution related to post construction activities.	Present finalized Bylaw at Fall Town Meeting for consideration for adoption. Continue work on Rules and Regulations.

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
6A	Employee Training	DPW/ M. Soraghan	# of employees trained.	Conducted Storm Water Management workshop with Town departments including the DPW in Permit Year 2. Eighteen (18) employees were trained. No action taken.	No action anticipated.
Revised					
6B	Prioritized Street Sweeping	DPW/ M. Soraghan	Schedules and prioritized street sweeping.	Reviewed current practices and made recommendations for future street sweeping activities. DPW purchased a street sweeper to have more versatility in conducting sweeping.	Conduct Town-wide street sweeping on a more frequent basis in prioritized areas.
Revised					
6C	Spill Response and Prevention	DPW/ M. Soraghan	Develop procedures.	At Storm Water Management Workshop discussed proper spill response and prevention BMPs in Permit Year 2. No action taken.	No action anticipated.
Revised					
6D	Prioritized Catch Basin Cleaning	DPW/ M. Soraghan	Schedules and prioritizes cleaning.	Reviewed current practices and made recommendations for future catch basin cleaning activities.	Consider changes to the catch basin cleaning program based on prioritization and cleaning equipment recommendations.
Revised					
Revised					
Revised					

6a. Additions

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

- The draft "Martins Pond Assessment and Remediation Project Diagnostic/Feasibility Study", November 5, 2005, by Merrimack College provides the first installment of a Diagnostic/Feasibility Study to continue water quality assessment work conducted on Martins Pond and assess potential nonpoint source pollution in the Martins Pond Watershed. Team members include the Town of North Reading, the Martins Pond Association, Malcolm Pirnie, Inc., and Merrimack College.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

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

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	
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**	**X**	
▪ Erosion & Sediment Control		**X**	**X**	
▪ Post-Development Stormwater Management		**X**	**X**	
Accompanying Regulation Status (indicate with "**X**")				
▪ Illicit Discharge Detection & Elimination		**N/A**	**N/A**	
▪ Erosion & Sediment Control		**X**	**X**	
▪ Post-Development Stormwater Management		**X**	**X**	

Mapping and Illicit Discharges

Outfall mapping complete	(%)	**100**[1]
Estimated or actual number of outfalls	(#)	**524**[2]
System-Wide mapping complete		
Mapping method(s)		
▪ Paper/Mylar	(%)	**100**[3]
▪ CADD	(%)	**Unknown**
▪ GIS	(%)	**100%**[4]
Outfalls inspected/screened	(# or %)	**524 or 100%**
Illicit discharges identified	(#)	**24**
Illicit connections removed	(#) (est. gpd)	**0**
% of population on sewer	(%)	**1%**
% of population on septic systems	(%)	**99%**

Notes:
1. Based on available mapping of outfalls.
2. Updated based on revised mapping and outfall assessments conducted.
3. 100% of all new and existing outfalls have drainage plans filed with Town.
4. 100% correlates to the percentage of outfalls visited and GPS located.

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**
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	**1**
Total number of structures cleaned	(#)	**1,476**
Storm drain cleaned	(LF or mi.)	**0 (unless clogged)**
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		**Beneficial use**
Cost of screenings disposal	($)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	**1**
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	**1**
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	**Beneficial use**
Cost of sweepings disposal	($)	
Vacuum street sweepers purchased/leased	(#)	**1**[5]
Vacuum street sweepers specified in contracts	(y/n)	**N**

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

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	**60% NaCL** **35% Sand** **5% CaCL2**
Pre-wetting techniques utilized	(y/n)	**Y**
Manual control spreaders used	(y/n)	**Y**
Automatic or Zero-velocity spreaders used	(y/n)	**N**
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	**Y**
Storage shed(s) in design or under construction	(y/n)	**N**

Notes:

5. One mechanical street sweeper purchased in 2005.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Watershed Management

BRP WM 08A NPDES Stormwater General Permit Notice of Intent for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)

F. Storm Water Management Program TIME FRAMES

Transmittal Number W 041239

Facility ID (if known)

	PERMIT YEAR ONE				PERMIT YEAR TWO				PERMIT YEAR THREE				PERMIT YEAR FOUR				PERMIT YEAR FIVE				
BMP ID #	**Spring 03**	**Summer 03**	**Fall 03**	**Winter 03-04**	**Spring 04**	**Summer 04**	**Fall 04**	**Winter 04-05**	**Spring 05**	**Summer 05**	**Fall 05**	**Winter 05-06**	**Spring 06**	**Summer 06**	**Fall 06**	**Winter 06-07**	**Spring 07**	**Summer 07**	**Fall 07**	**Winter 07-08**	**Next Permit**
1A			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
1B			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2A			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2B			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
3A				—	—	—	—	—	—	—											
3B			—	—	—	—	—	—	—	—	—	—	—	—	—	—					
3C			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
3D			—	—	—	—	—	—	—	—											
4A						—	—	—	—	—	—	—	—	—	—	—					
4B						—	—	—	—	—	—	—	—	—	—	—					
4C						—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
4D						—	—	—	—	—											
4E						—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5A						—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5B						—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5C						—	—	—	—	—											
5D						—	—	—	—	—	—	—	—	—	—	—					
6A								—													
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6D								—	—	—	—	—									

Revision Date: April 30, 2006