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TOWN OF NORTH READING
Massachusetts

Department of Public Works

MAY 1 2009

May 1, 2009

Glenda Velez – CIP
U.S. Environmental Protection Agency – Region 1
1 Congress Street, Suite 1100
Boston, MA 02114-2023

RE: Year 6 (April 1, 2008 to March 31, 2009) Annual Report for the NPDES Phase II Permit
Town of North Reading, Massachusetts
EPA NPDES Permit Number: MAR041215

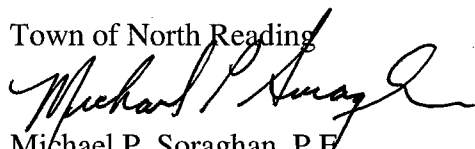
Dear Ms. Velez:

Enclosed please find the Year 6 Annual Report for the NPDES Phase II Small MS4 General Permit with an original certification signature page for the Town of North Reading.

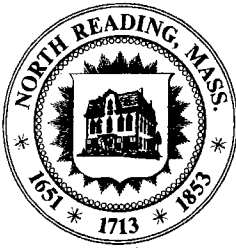
If you have any questions or require any additional information, please do not hesitate to contact me at (978) 357-5226.

Very truly yours,

Town of North Reading


Michael P. Soraghan, P.E.
Town Engineer

cc: Fred Civian, MADEP
D. Hanlon, Town of North Reading
J. Lachmayr, Malcolm Pirnie Inc.



TOWN OF NORTH READING
Massachusetts

Department of Public Works

May 1, 2009

Fred Civian
Phase II Coordinator
Massachusetts Department of Environmental Protection
One Winter Street – 5th Floor
Boston, MA 02108

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Town of North Reading, Massachusetts
EPA NPDES Permit Number MAR041215

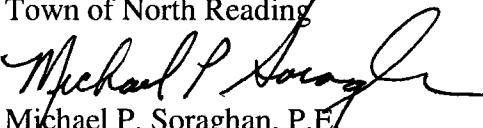
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Town of North Reading


Michael P. Soraghan, P.E.
Town Engineer

cc: Glenda Velez, US Environmental Protection Agency
D. Hanlon, Town of North Reading
J. Lachmayr, Malcolm Pirnie Inc.

Municipality/Organization: Town of North Reading, MA

EPA NPDES Permit Number: MAR041215

MassDEP Transmittal Number: W-041239

Annual Report Number Year 6

& Reporting Period: April 1, 2008 – March 31, 2009

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2009)

Part I. General Information

Contact Person: Michael P. Soraghan, P.E.

Title: Town Engineer

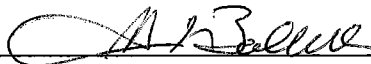
Telephone #: 978-357-5226

Email: msoraghan@northreadingma.gov

Mailing Address: Town of North Reading, 235 North Street, North Reading, MA 01864

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: April 30, 2009

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 Town continues to meet with community stakeholders and support efforts to evaluate BMPs, projects, and funding opportunities that will reduce pollutant inputs to the Town's surface waters and the watershed.

The schedule modifications based on the Year 6 Annual Report Schedule for some of the best management practices are the following:

- BMPs 3B and 3D (Illicit Discharge Detection and Elimination) – extended schedule through Permit Year 7. The Town is expected to investigate the 24 suspect outfalls found during the illicit connection identification program to determine the source of the connection based on recommended methods identified in the Town's *Storm Water Capital Improvement Report*. The Town recently passed the Storm Water Management Bylaw that includes Article I, Non-Point Source Discharges that gives the Town the authority to require residents and businesses to eliminate any illicit discharges that have to the storm drainage system. The Town completed mapping of storm water system in Permit Year 6 and will continue to continue updating GIS as needed based on as-built submissions and field work through Permit Year 7.
- BMPs 4 (Construction Site Stormwater Runoff Control) and 5 (Post-Construction Stormwater Management in New Development and Redevelopment) – extended schedules through Permit Year 7. Town has met the goals; the Storm Water Management Bylaw was approved at Fall 2006 Town Meeting and became effective with the Attorney General Office's approval. The Bylaw identifies the Building Inspector to be the responsible official for Article II, Construction and Post Construction Storm Water Management of New Developments and Redevelopment. The Town is working towards finalizing the Rules and Regulations for Article II in Permit Year 7.
- BMP 6D (Pollution Prevention and Good Housekeeping in Municipal Operations) – extended schedule through Permit Year 7. The Town is expected to solicit price quotes for purchasing a vacuum truck in Permit Year 6, and to schedule and prioritize catch basin cleaning based on recommendations provided in the *Storm Water Management Improvement 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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
1A Revised	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 the Town.	WSWAC to continue to hold regular meetings to act as a forum for public input on storm water management issues in the Town.
1B Revised	Develop plan for public education	DPW/ M. Soraghan	Identify and develop public education programs.	Continued to coordinate public outreach activities. Activities included: coordinating with the Reading/North Reading Stream Team, Headwaters Stream Team, Ipswich River Watershed Association, and the Martins Pond Association; development of public outreach materials including stormwater pollution handouts and posters, storm water information and links on Martins Pond's website; and programs for storm drain stenciling and river clean-ups.	Continue to coordinate public outreach activities.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
2A Revised	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.	Continue to hold meetings.
2B Revised	Public Participation Plan	DPW/ M. Soraghan	Number of programs developed.	Continued to coordinate with existing Town agencies/groups including the Martins Pond Association, Reading/North Reading Stream Team, and the Ipswich River Watershed Association to conduct stenciling, development of public outreach materials, and an outreach program on shoreline restoration and erosion and sediment control.	Continue with public outreach activities.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
3A Revised	Illicit Connection Identification	DPW/ M. Soraghan	# of dry weather outfalls assessed.	524 out of 524 outfalls have been assessed in Permit Year 3.	No action anticipated.
3B Revised	Illicit Source Identification	DPW/ M. Soraghan	# of illicit sources investigated.	Outlined a program in the Town's <i>Storm Water Capital Improvement Program Report</i> that includes field investigation methods to identify illicit discharge locations in Permit Year 3. Article I, Non-Storm Water Discharges of the Storm Water Management Bylaw (effective in Permit Year 4) gives the Town the authority to have residents and businesses disconnect (or eliminate) any illicit connections to the drainage system.	Conduct investigations on illicit connections at 24 suspect outfalls
3C Revised	Ordinance development to prohibit non-storm water flows	DPW/ M. Soraghan	Bylaw/Ordinance adopted by Town.	Storm Water Management Bylaw was approved and became effective in Permit Year 4.	No action anticipated.
3D Revised	Storm Water map development	DPW & Planning/ M. Soraghan and K. Honetschlager DPW & Planning/ M. Soraghan and S. Murphy	Map completed showing outfalls.	Completed mapping of storm water system that included outfalls, drainage piping, catch basins, and manholes in Permit Year 3. Updated GIS as needed based on as-built submissions and field work.	Update GIS as needed based on as-built submissions and field work.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
4A Revised	Ordinance development for waste control	DPW/ M. Soraghan	Recommend ordinance/bylaw language at Town Meeting.	Storm Water Management Bylaw was approved and became effective in Permit Year 4.	No action anticipated.
4B Revised	Formalize site plan review procedures	DPW/ M. Soraghan	Site plan review procedures document complete.	Storm Water Management Bylaw was approved and became effective in Permit Year 4, and Rules and Regulations were drafted for review and approval in Permit Year 4.	Finalize Rules and Regulations and implement with Bylaw.
4C Revised	Revised ordinance to address storm water pollution	DPW/ M. Soraghan	Recommend ordinance/bylaw language at Town Meeting.	Storm Water Management Bylaw was approved and became effective in Permit Year 4.	No action anticipated.
4D Revised	BMP Manual	DPW/ M. Soraghan	Handbook completed and adopted by Town.	The Town of North Reading's BMP Manual was reviewed and finalized in Permit Year 3. Manual is referenced in the draft Rules and Regulations.	Finalize Rules and Regulations and implement with Bylaw.
4E Revised	Formalize Inspection Procedures	DPW/ M. Soraghan	Standard operating procedures on inspections complete.	Storm Water Management Bylaw became effective in Permit Year 4. Draft Rules and Regulation include inspection requirements.	Finalize Rules and Regulations and implement with Bylaw.

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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
5A Revised	Procedures for long-term O&M	DPW/ M. Soraghan	Adoption of procedures by Town.	Storm Water Management Bylaw was approved and became effective in Permit Year 4, and Rules and Regulations were drafted for review and approval in Permit Year 4.	Finalize Rules and Regulations and implement with Bylaw.
5B Revised	Site plan review procedures for water quality impacts	DPW/ M. Soraghan	Adopt procedures.	Storm Water Management Bylaw was approved and became effective in Permit Year 4. Rules and Regulations were drafted for review and approval in Year 4.	Finalize Rules and Regulations and implement with Bylaw.
5C Revised	BMP Handbook	DPW/ M. Soraghan	BMP Handbook.	The Town of North Reading's BMP Manual was reviewed and finalized in Permit Year 3. Manual is referenced in the draft Rules and Regulations.	Finalize Rules and Regulations and implement with Bylaw.
5D Revised	Revise ordinance to address storm water pollution	DPW/ M. Soraghan	Recommend ordinance/bylaw language at Town Meeting.	Storm Water Management Bylaw was approved and became effective in Permit Year 4.	No action anticipated.

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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
6A Revised	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 anticipated.
6B Revised	Prioritized Street Sweeping	DPW/ M. Soraghan	Schedules and prioritized street sweeping.	The Town purchased a mechanical sweeper in 2005 and has since increased street sweeping on a more frequent basis in prioritized areas.	Continue to conduct Town-wide street sweeping. In prioritized areas conduct more frequent sweeping.
6C Revised	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 anticipated.
6D Revised	Prioritized Catch Basin Cleaning	DPW/ M. Soraghan	Schedules and prioritizes cleaning.	Outlined recommendations in the Town's <i>Storm Water Capital Improvement Program Report</i> that includes modifications to the Town's current catch basin cleaning program in Permit Year 3. Considered changes to the catch basin cleaning program based on prioritization and cleaning equipment recommendations.	Make changes to the catch basin cleaning program based on prioritization and cleaning equipment recommendations. Solicit price quotes for purchasing a vector truck.

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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities - Permit Year 7
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2006 through March 31, 2007)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners 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
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	2
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

Regulatory Mechanism Status (indicate with "X")	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X
Accompanying Regulation Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination				N/A	
▪ Erosion & Sediment Control				X	
▪ Post-Development Stormwater Management				X	

Mapping and Illicit Discharges

	(Preferred Units)		Response
Outfall mapping complete	(%)		100 ¹
Estimated or actual number of outfalls	(#)		524 ²
System-Wide mapping complete (complete storm sewer infrastructure)	(%)		100
Mapping method(s)			
▪ Paper/Mylar	(%)		100 ³
▪ CADD	(%)		Unknown
▪ GIS	(%)		100 ⁴
Outfalls inspected/screened **	(# or %)		0
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)		524 or 100%
Illicit discharges identified **	(#)		0
Illicit discharges identified (Since beginning of permit coverage)	(#)		24
Illicit connections removed **	(#); and (est. gpd)		0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)		0
% of population on sewer	(%)		1

% of population on septic systems	(%)	99
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Construction

(Preferred Units) Response		
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 (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

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
Qty of structures cleaned **	(#)	1,821
Qty. of 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 screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Beneficial use

Basin Cleaning Costs			
• Annual budget/expenditure (labor & equipment)**	(\$)		
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)		
• Disposal cost**	(\$)		
Cleaning Equipment			
• Clam shell truck(s) owned/leased	(#)		
• Vacuum truck(s) owned/leased	(#)		
• Vacuum trucks specified in contracts	(y/n)		
• % Structures cleaned with clam shells **	(%)		
• % Structures cleaned with vacor **	(%)		

(Preferred Units)		Response
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
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or in mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1^s
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	N
• % Roads swept with rotary brush sweepers **	%	100
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)	
▪ Fertilizers	(lbs. or %)
▪ Herbicides	(lbs. or %)
▪ Pesticides	(lbs. or %)
Integrated Pest Management (IPM) Practices Implemented	(y/n)

(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used **	60% NaCl 35% Sand 5% CaCl₂
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand
Pre-wetting techniques utilized **	(y/n or %)
Manual control spreaders used **	(y/n or %)
Zero-velocity spreaders used **	(y/n or %)
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/lb mi. or %)
Estimated net reduction or increase in typical year sand application rate **	(±lbs/lb mi. or %)
% of salt/chemical pile(s) covered in storage shed(s)	100
Storage shed(s) in design or under construction	(y/n or #)
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated		# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas		# or y/n	
Treatment units induce infiltration within 500-feet of a wellhead protection area		# or y/n	

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.
5. One mechanical sweeper purchased in 2005.