

**Municipality/Organization:** Town of Reading

**EPA NPDES Permit Number:** MAR041056

**MaDEP Transmittal Number:** W-040966

**Annual Report Number  
& Reporting Period:** No. 9: April 1, 2011 – March 31, 2012

## NPDES PII Small MS4 General Permit Annual Report

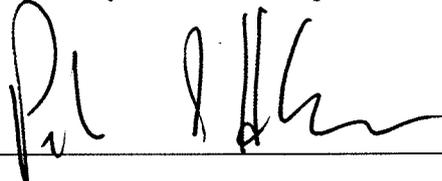
### Part I. General Information

**Contact Person:** George J. Zambouras **Title:** Town Engineer

**Telephone #:** (781) 942-9082 **Email:** gzambouras@ci.reading.ma.us

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:** Peter I. Hechenbleikner

**Title:** Town Manager

**Date:** April 30, 2012

## **Part II. Self-Assessment**

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

**The Town has performed the self-assessment and believes it is in compliance with the permit conditions.**

**Part III. Summary of Minimum Control Measures**

**1. Public Education and Outreach**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 9</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 10</b>
1	Research available public educational materials	Community Services/Public Works	Compilation of educational materials	Continued to research and update collection of public education materials for use in future programs.	Ongoing BMP no additional planned activities
2	Develop a Public Education Plan	Community Services/Public Works	Development of plan	Public Education Plan developed and included in the Town’s Storm Water Handbook	BMP complete. Review and update existing plan for compliance with new MS4 permit when issued.
3	Present Annual Report to Town Meeting	Public Works	Make presentation	Report provided at Fall Town Meeting	BMP ongoing, next planned report Town Meeting in Fall 2013
4	Implement Public Education Plan	Community Services/Public Works	Meet schedules identified in the plan	Continue Public Education Activities identified in the Public Education Plan. - Continued informational updates in the Community News Letter, Mailings with water billings, RCTV bulletin board, and quarterly Community Connection; maintained Stormwater Hot Line, updated Stormwater page on Towns web site, distributed spring clean-up poster ; and established storm water displays at Friends & Family Day Library Day and at Town offices. Gave stormwater presentation at Middle School Science Fair.	Continue with Public Education Activities identified in the Public Education Plan, Town wide events and expand outreach in public schools.
Revised					

**1a. Additions**

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## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
5	Establish a Stormwater Management Advisory Committee	General Services/Board of Selectmen	Establish Committee	BMP completed in year 1. Committee accomplished all goals. Committee was dissolved and all duties now under direction of Board of Selectman. No activities were planned for year 9.	BMP Complete, no planned activities
6	Comply with Public Meeting Laws for Committee meetings	Public Works	Keep records of postings/advertising	The Water, Sewer and Storm Water Management Advisory Committee was dissolved on June 2007, All power and duties transferred to Board of Selectman which meet weekly. All meetings are duly posted and/or advertised in accordance with State Law	Continue meetings, develop and review new regulations and policies as necessary.
7	Develop a Public Involvement/Participation Plan	Community Services/Public Works	Development of plan	Completed development of the public participation plan.	Continue with public outreach. Review and modify existing plan as needed to comply with new MS4 permit when issued.
8	Solicit volunteers for public participation plan	Community Services/Public Works	Keep records of organizations contacted	Volunteer group performed clearing of trails adjacent to and within conservation areas; continue outreach to businesses for participation in catch basin stenciling or other volunteer programs.	Continue solicitation for local organizations and groups for public involvement.
9	If sufficient volunteers are identified, implement plan	Community Services/Public Works	Keep records of public involvement/participation activities	Local businesses volunteered for stenciling program but cancelled at last minute.	Continue to solicit volunteers for participation in public participation.
Revised					

### 2a. Additions

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### 3. Illicit Discharge Detection and Elimination

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 9</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 10</b>
10	Develop outfall map using existing information	Public Works	Map developed	Continued updating known outfall locations to GIS format. Purchased survey grade GPS equipment for stormwater mapping and maintenance.	Town hired consultant to develop complete GIS stormwater layer; all unknown outfalls will be located. The project is expected to be completed Jan. 2013.
11	Review exiting by-laws to determine if a new by-law is necessary	Community Services/Public Works	Report on adequacy of existing by-laws	A partial review of current laws was performed to identify required new regulations required under anticipated new MS4 permit	Complete review of existing laws upon issuance of new MS4 permit.
12	If necessary, develop non-storm water by-law	Community Services/Public Works	Write by-law and bring to Town Meeting	Review of sewer use regulation previously completed.	BMP complete. No planned activities
13	Develop three year plan to identify and eliminate illicit discharges	Public Works	Plan developed	Plan completed - Continued funding of Stormwater Enterprise fund through fees - Review existing plan for compliance with new MS4 permit regulations.	Revise and develop new plan based on compliance with anticipated new MS4 permit when issued

14	Implement 3-year illicit discharge detection program	Public Works	Complete each phase of the program by dates outlined in plan	<p>New Town wide 40 scale aerial digital mapping completed to assist in illicit detection and drainage system mapping (Phase I).</p> <ul style="list-style-type: none"> <li>- In house scanning of storm water system records 100% complete.</li> <li>- Field identified and inspected known outfalls</li> </ul> <p>(Phase II)</p> <ul style="list-style-type: none"> <li>-Began GIS layer of stormwater system</li> <li>- Developed rough draft of new illicit discharge detection program to coordinate with new MS4 permit.</li> <li>-Completed 2 year program of smoke resting entire sewer system, identified and eliminated 3 cross connections with stormwater system resulting from damaged pipes. Identified 5 potential private property cross connections, investigations are ongoing.</li> </ul>	<p>Town awarded illicit detection, sampling, Town wide GIS mapping and MS4 permit compliance contract.</p> <p>Complete inspection and screening of outfalls for illicit discharge detection under mapping and detection contract.</p> <p>Determine validity of 5 potential private property cross connections and expedite their removal if confirmed.</p>
Revised					

**3a. Additions**


#### 4. Construction Site Stormwater Runoff Control

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 9</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 10</b>
15	Review existing by-laws and regulations	Community Services/Public Works	Summary report of regulatory review prepared	Review completed	Review existing laws and regulations for compliance with anticipated new MS4 permit when issued.
16	If necessary, develop new erosion control by-law	Community Services/Public Works	New by-law brought to Town Meeting	Existing regulations previously amended, no new activities were planned. Reviewed regulations for compliance of anticipated new MS4 permit.	BMP complete. Reviewed regulations for compliance of new MS4 permit when issued.
17	If necessary, amend existing erosion control regulations	Community Services/Public Works	Regulations amended	Subdivision Regulations were previously amended to expand application of Stormwater Management control.	BMP complete. Review regulations to determine need for amendments to meet new stormwater regulations or standards, based on new permit requirements.
18	Revise/resubmit by-law if not approved by Town Meeting	Community Services/Public Works	By-law revised and resubmitted to Town Meeting	No planned activities	No planned activities. Submission of new by-laws to Town Meeting for approval if deemed necessary based on new MS4 permit when issued.
19	Enforce new by-laws or regulations	Community Services	Keep records of enforcement	Stormwater management (SWMP) and record keeping were required on all conservation, site plan, special permit and subdivision submittals. - Inspected and monitored private construction activities for compliance with SWMP. - Received record drawings of private stormwater devices to update database. - Received annual reports from private developments regarding stormwater O & M -Continued requiring annual reporting of all stormwater O & M for all developments.	Continue enforcement of erosion control program through existing regulations. Continue to monitor private stormwater management devices for compliance with approved SWMP. Continue to update database of all privately owned regulated stormwater management devices and annual compliance. Continued to require establishment of stormwater plan and O & M for all developments and site improvements.

Revised					
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**4a. Additions**

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## 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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
20	Review existing by-laws and regulations	Community Services/Public Works	Summary report of regulatory review prepared	Review completed	Review existing laws and regulations for compliance when new MS4 permit is issued.
21	If necessary, develop post-construction runoff by-law	Community Services/Public Works	New by-law brought to Town meeting	The Town has incorporated compliance with the DEP Stormwater Management Policy into its Subdivision Rules and Regulations, Site Plan Rules and Conservation Commission Rules and Regulations. A new by-law is not necessary. Continued requiring annual reporting of all stormwater O & M for all developments	BMP complete. No planned activities
22	Inventory existing BMPs that are under Town jurisdiction	Public Works	All BMPs inventoried	Inventory of BMP's previously completed via ACAD mapping. Conversion to GIS database ongoing. Updated inventory for new BMP's installed.	Ongoing updating and field verification of BMP inventory as necessary. Continue to update GIS mapping and database for new BMP installed.
23	Develop five-year O&M plan for Town-owned BMPs	Community Services/Public Works	O&M Plan written	Completed, O&M plan developed for identified BMP's. Updated plan for newly installed BMP's.	Continue to monitor and update five-year O&M plan based on field verification\changes of inventory as necessary. Modify plan as needed when new MS4 permit is issued.
23A	River Stabilization	Public Works	River erosion control and stabilization	Hired consultant to develop hydraulic model of Aberjona and Saugus River. Project to investigate and develop capital plan for flooding improvements and stream stabilization. Results expected summer 2013.	Hold public meetings on recommended improvements; develop capital plan for improvement implementation.
23B	Aberjona River Watershed BMP Development Study	Public Works	Implement pollution BMP (s) within basin	Town entered into multi community state 604B grant to study, recommend and install BMP within Aberjona Basin. Grant service performed in corporation with MyRWA and Tufts University	Review recommended BMP(s) and install BMP during 2013.

24	Begin implementation of five-year O&M Plan	Public Works	Records of O&M activities maintained in accordance with O&M schedule	Implemented O&M plan and recorded maintenance and repair activities. Repaired damaged drainage structures, cleaned conduits and dredged swales as permitted by available funding. Purchased new combination vac/jet vehicle under Capitol Plan. Installed 1 pre-treatment unit in Causeway Roadway improvement Project.	Additional drainage repair, waterway cleanup and storm water treatment devices proposed in FY 2013 Capitol Plan. Update plan as required to comply with new Ms4 permit when issued.
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**5a. Additions**

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## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 9</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 10</b>
25	Evaluate Town's current good housekeeping practices	Public Works	Report prepared on good housekeeping practices	Evaluation completed, continue implementation and monitoring Town's practices. Continued with update to employees at annual DPW meeting	BMP completed. Continue to monitor Town's practices. Review practices and recommend improvements as necessary to meet new MS4 permit.
26	Develop written O&M plan to formalize Town's practices	Public Works	O&M Plan developed	Written O&M plan previously developed no updates determined.	Update O&M plan as needed.
27	Implement O&M Plan	Public Works	Records of O&M activities maintained	Continued activities of final O&M plan.	Continue activities of O&M plan
28	Sweep all Town owned streets and parking lots once per year	Public Works	All streets and parking lots swept, records maintained	All Town owned parking lots and streets were swept in the ninth year of the permit and records were kept. Town purchased new street sweeper.	Continue street sweeping a minimum of once per year.
29	Clean all Town owned catch basins once per year	Public Works	All catch basins cleaned, records maintained	All accessible Town owned catch basins were cleaned and records were kept. Repaired 12 damaged and/or inaccessible catch basins during year. No unknown catch basins were identified.	Continue catch basin cleaning once per year. Identify damaged catch basins for repair. Continue to verify list of catch basins and stormwater devices through field inspection and GIS mapping.
30	Provide one household hazardous waste drop off per year	Community Services/Public Works	Household hazardous waste drop-off conducted	Household hazardous waste drop-offs were conducted on May 2011 and September 2011	Two household hazardous waste drop-offs are planned - May 2012 and September 2012
31	Provide used oil drop-off at the Public Works Garage at least 10 hours per week	Public Works	Used oil drop-off maintained, records of used oil maintained	Used oil drop-off at the Public Works garage is held Monday-Friday 7:30 AM-2:30 PM and Saturdays 9:00 AM-12:00 PM	Used oil drop-off expected to continue during the same hours as last year

32	Recycle Town generated tires, batteries, scrap metal, used oil	Public Works	Identified materials recycled, records kept	The Town recycled all its used tires, vehicle batteries, scrap metal, electronics and used oil in accordance with various contracts with recyclers. Town revised recycling program to weekly pick-up and curbside pickup of electronics and white goods. Town expanded recycling program to weekly pickup off all recycling. Town expanded recycling to include styrofoam and is researching recycling of other products.	The Town intends to continue its expand and improve its recycling programs
Revised					

**6a. Additions**

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

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 9</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 10</b>
Revised					

**7a. Additions**


**7b. WLA Assessment**

No TMDLs have been established for any of the receiving waters.

**Part IV. Summary of Information Collected and Analyzed**

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

\*\* Reflects Annual Totals or Amounts

**Programmatic**

Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures**	(\$)	\$450,000

**Education, Involvement, and Training**

Estimated number of residents reached by education program(s)	(# or %)	
Stormwater management committee established (Committee Dissolved – Now under authority of Board of Selectman)	(y/n)	100%
Stream teams established or supported	(# or y/n)	Y
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	N
Household Hazardous Waste Collection Days **		
▪ days sponsored	(#)	
▪ community participation	(%)	2
▪ material collected	(tons or gal)	415 (vehicles)
School curricula implemented – Recycling Program	(y/n)	
		Y

**Legal/Regulatory**

	In Place	Prior to	Under	Drafted	Adopted
	Phase II	Review			
Regulatory Mechanism Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					

Accompanying Regulation Status (indicate with “X”)				
▪ Illicit Discharge Detection & Elimination				
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				

### Mapping and Illicit Discharges

Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	325
System-Wide mapping complete	(%)	15%
Mapping method(s)		
▪ Paper/Mylar	(%)	0 %
▪ CADD	(%)	100 %
▪ GIS	(%)	15 %
Outfalls inspected/screened	(# or %)	90 %
Illicit discharges identified	(#)	7 (5 pending further review)
	X	
Illicit connections removed	(#) (est. gpd)	7
% of population on sewer	(%)	97%
% of population on septic systems	(%)	3%

### Construction

Number of construction starts (>1-acre)**	(#)	4
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed	(# or %)	100%
Tickets/Stop work orders issued**	(# or %)	1
Fines collected	(# and \$)	0
Complaints/concerns received from public**	(#)	2


### Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections completed	(# or %)	100%
Estimated volume of stormwater recharged	(gpy)	

### Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1 time/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	2 time/yr
Total number of structures cleaned **	(#)	2746
Storm drain cleaned **	(LF or mi.)	2800 LF
Qty. of screenings/debris removed from storm sewer infrastructure**	(lbs. or tons)	1000 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal**	(\$)	
Drainage ditch/swale cleaned**		250 ft
Drainage ditch/swale bank stabilization/repaired**		350 ft

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1 time/yr
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	2 times/yr
Qty. of sand/debris collected by sweeping**	(lbs. or tons)	300 Tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	0
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 <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	32% CaCl <sub>2</sub>
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