

**Municipality/Organization:** City of Beverly, MA  
**EPA NPDES Permit Number:** MAR041181  
**MassDEP Transmittal Number:** W-040371  
**Annual Report Number & Reporting Period:** April 1, 2006 – March 31, 2007

5-1-07  
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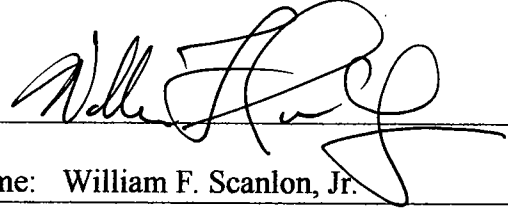
## NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2007)

### Part I. General Information

**Contact Person:** Roland Adams **Title:** GIS Coordinator  
**Telephone #:** 978 921 6000 ext 405 **Email:** radams@beverlyma.gov  
**Mailing Address:** 191 Cabot St., Beverly, MA 01915

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:** William F. Scanlon, Jr.

**Title:** Mayor

**Date:** 4-24-07

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

The City of Beverly has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions. The Stormwater Committee believes the BMP's remain appropriate for the community. In general, we believe we have made good progress relative to specific goals—refer to BMP summary for details.

### 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 Revised	Article/brochure about stormwater in the annual Consumer Confidence Report	Engineering Dept.	Article(s) published in the CCR annually for distribution to all residents	Article in 2005 Water Quality Report-Distributed Summer 2006	Article in report to be distributed Summer 2007
1-2 Revised	Stormwater education program for school children.	Engineering Dept	Integration of stormwater program to school curriculum	Discussion of Storm and Sanitary sewer with several science related classes	Continue school presentations complementing related classes/projects.
1-3 Revised	Public Education and protection	Health Dept.		Beach test results for summer 2005 posted on <a href="http://www.state.ma.us/dph">www.state.ma.us/dph</a> A link to this site exists from <a href="http://www.beverlyma.gov">www.beverlyma.gov</a> . Test results also posted at library	Continue practice
1-4 Revised	Educate dog owners about picking up dog waste	Recreation Dept.	Revise Fact sheet-Mail with dog license.	Revised fact sheet not completed for dog license mailing deadline. Related to new ordinance—dog on leash	Resolve dog on leash ordinance, create new fact sheet and mail with dog license 2008.
1-5 Revised	Install and maintain pet waste clean-up signs at parks	Recreation Dept.		Inventory completed. Creating and installing new signs dependent on Council approval of Dog Leash Ordinance.	Define language for signs after adoption of new leash ordinance adopted and prioritize installation of new signs based on budget.
1-6 Revised	Annual update of SWMP at a televised City Council Meeting	Engineering Dept	Annual update of SWMP given years 3-5	Presentation to City Council, January 26, 2006. Emphasis on tracing a pollution at catch basin to outfall	Continue practice with emphasis on “current” event.

Revised					
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**1a. Additions**


## 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	Form Stormwater Advisory Committee	Engineering Dept	Committee formed first year meet at least once annually	Committee formed and met August 29, 2006, January 30, February 26, and March 29, 2007. Committee includes Resident	Meet at least once per year.
Revised					
2-2	Comply with state public notification guidelines at MGL Ch.39s.23B	Planning Dept,	Notices posted City Hall and Library	Meetings posted	Continue practice
Revised					
2-3	Stencil up to 25 catch basins with don't dump message	Public Service/Recreation Dept	Up to 25 catch basins stenciled per year in years 2-5	None were stenciled because lack of organization interest	Stencil up to 25 catch basins. Also meeting with organizations (such as Boy Scouts) to create interest.
Revised					
Revised					
Revised					

### 2a. Additions

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### 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 Revised	Map Stormwater Outfalls	Engineering Dept.	GIS map of outfalls created in the first year	Outfalls mapped.	Complete
3-2 Revised	Review and amend City's ordinance to prohibit illicit discharges and connections, and to require inspection of new construction for correct connection	Planning Dept	Create an illicit discharge and connection ordinance for City Council adoption.	Committee concluded the City needed a comprehensive Stormwater Ordinance/Regulation. Illicit connection one component. Document created and approved by Legal Dept. to be presented to City Council for adoption	Present to City Council for adoption and implement.
3-3 Revised	Conduct dry weather outfall screening	Public Services	Screen outfalls in Years 1 & 2, percent of outfalls screened	Outfalls mapped and inspected. Those from observation requiring sampling have been sampled. Results have been coordinated with Salem Sound Data (public activist group) and Horslet Witten data (Regional consultant). Final report issued.	Compete-Continue as needed.
3-4 Revised	Develop and implement plan to identify and remove non-stormwater discharges	Public Services	Prioritize outfalls in Year 3. Number of illicit connections found and removed throughout Years 4 & 5.	None were removed.	Remove illicit connections as found.
3-5	Create a GIS for the stormwater collection system	Engineering Dept.	GIS stormwater collection system will be completed by the end of second year of permit period	GIS stormwater system mapped.	Complete

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
4-1	Erosion Sediment Control (ESC) ordinance for construction sites greater than 1 acre in area	Planning Dept.	Develop draft ordinance in Year 1. Present to City Council starting in Year 2, implement thereafter.	Ordinance adopted	Completed/continue to implement
Revised					
4-2	Require a waste management plan at construction sites greater than 1 acre in area	Planning & Engineering Depts.	Amend planning regulations to require a plan development for each construction site greater than 1 acre	A component of ESC—Refer to 4-1	Completed
Revised					
4-3	Consider public input on project greater than 1 acre in area	Planning Dept.	Public review and comment procedure; newspaper notification and signs posted at each construction site.	A component of ESC. Refer to BMP 4-1	Completed
Revised					
4-4	Inspect erosion and sediment controls on projects greater than 1 acre in area	Planning & Engineering Dept's.	Develop a procedure for conducting inspections by end 2 <sup>nd</sup> year. Begin inspections in 3 <sup>rd</sup> year. Develop procedures for reviewing monthly reports from site operators by end of 3 <sup>rd</sup> year. Require monthly inspections reports by end of 4 <sup>th</sup> year	A component of ESC. Inspection documents created	Inspect sites greater than 1 acre at milestones defined in ESC.

Revised					
Revised					
Revised					

**4a. Additions**

4-5	Drainage Alteration Ordinance	Engineering Dept.	Ordinance requiring permit if grade modified more than 2 feet	Projects reviewed	Continue to review grade alteration projects grater than 2 feet

## 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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
5-1	Develop an ordinance to apply standards 2,3,4,7 and 9 of the Mass Stormwater Policy to the entire City	Planning Dept.	Develop draft ordinance by end year 2. Present to City Council.	Ordinance/Regulation component of “Stormwater” Ordinance/Regulation. Final draft completed by Committee and approved by Legal Dept. To be presented to City Council for adoption.	Gain City Council approval and implement.
Revised			Ordinance presented to City Council in year 5.		
5-2	Specify a stormwater BMP manual to be used for consistent design and performance standards	Planning & Engineering Depts.	BMP Manual selected by year 2.	Include in BMP5-1	Refer to BMP 5-1.
Revised					
5-3	Develop an ordinance that ensures long-term maintenance of structural BMP’s.	Planning, Health & Public Services	Develop draft ordinance by end year 2. Present to City Council	Include in BMP5.1	Refer to BMP 5-1.
Revised					
Revised					
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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
6-1 Revised	Identify sensitive receptors within City	Engineering & Public Services	Inventory created and staff notified in Year 2 Identify sensitive receptors and provide training to Public Service Employees	Committee established criteria for sensitive receptors. Based on criteria sensitive receptors have been identified in GIS map.	Map created and presented to Public Services.
6-2 Revised	In-house employee training program.	Public Services	Number/percent of employees who receive stormwater related training once every two years during permit period.	Building a new training program with Union -expect program to be completed by year-end.	In-house training.
6-3 Revised	Hazardous Materials Inventory & Training	Public Services	Number of employees trained every two years; inventory of hazardous materials updated annually	Building a new training program with Union-expect program to be completed by year-end.	In-house training—hazardous materials and practices. Will be component of BMP 6-2.
6-4 Revised	Street sweeping	Public Services	Percent of roads swept annually.	Entire City swept three times—high traffic streets two times per week during season.	Continue practice
6-5 Revised	Storm drain maintenance	Public Services	Number of catch basins cleaned annually	100% storm catch basins cleaned.	Continue practice

6-6	Roadway deicing	Public Services	Investigate alternative deicers & spreaders every other winter starting Year 1. Year 2 maintain records on deicer dispensing & spreader calibration	Initiated practice of using liquid in conjunction with salt reducing volume and expanding temperature range that salt is effective. Purchased a new truck with electronic controls for salt dispensing.	Continue practice—depending on budget.
Revised					
6-7	Minimize impacts from vehicle washing	Public Services	Determine car wash facility by end Year 2. Prepare a plan for construction of a car wash facility by the end of Year 3. Begin implementation years 4 & 5	Present requirement for car wash to Building Committee. Funds not allocated for building.	Attempt to secure funding.
Revised			Attempt to secure funding		
6-8	Park and Landscape maintenance	Public Services	Number of employees trained in second year and records of herbicide/fertilizer used annually. Year 3 initiate discussions with the School Dept. to reduce chemical application	Dispensers of herbicide/fertilizers are licensed. License requirement is continuing education. Total 5 employees. School Department does not dispense on their fields.	Continue practice
Revised					
6-9	Hazardous Waste Day	Health Dept.	Investigate locations and cost alternatives for holding a household hazardous waste collection and develop a program in year 2. Present to council in Year 3.	Hazardous waste day was held April 26, 2006.	Continue practice
Revised					

**6a. Additions**


**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 4 (Reliance on non-municipal partners indicated, if any)</b>	<b>Planned Activities – Permit Year 5</b>
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)	Y
Annual program budget/expenditures **	(\$)	In Dept. budgets
Total program expenditures since beginning of permit coverage	(\$)	In Dept Budgets
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General and Enterprise

**Education, Involvement, and Training**

Estimated number of property owners reached by education program(s)	(# or %)	School and Local Cable TV—Don't know number
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	N
Shoreline cleaned since beginning of permit coverage	(mi.)	NA
Household Hazardous Waste Collection Days		

▪ days sponsored **	(#)	1 Hazardous waste plus 1 electronics collection days
▪ community participation **	(# or %)	271 Vehicles-
▪ material collected **	(tons or gal)	2528lb plus 24 Ft truck
School curricula implemented	(y/n)	Y

### Legal/Regulatory

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

### Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	390-Of which 65 Federal Outfall
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100%
Mapping method(s)		

▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	N/A
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	50%
Illicit discharges identified **	(#)	1
Illicit discharges identified (Since beginning of permit coverage)	(#)	0
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0
% of population on sewer	(%)	92%
% of population on septic systems	(%)	8%

### Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	4
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	6
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	0

### Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	N/A
Site inspections (for proper BMP installation & operation) completed **	(# or %)	N/A
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	N/A

Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

### 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 **	(#)	4435
Qty. of storm drain cleaned **	(%, LF or mi.)	N/A
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	540.7 ton
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$25,000
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	\$10.00
• Disposal cost**	(\$)	\$8,000
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	2
• Vacuum truck(s) owned/leased	(#)	1
• Vacuum trucks specified in contracts	(y/n)	N
• % Structures cleaned with clam shells **	(%)	99%
• % Structures cleaned with vector **	(%)	1%

(Preferred Units) Response

Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	3
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	20
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	333.5 ton
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$20,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	N/A
• Disposal cost**	(\$)	\$4,000
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:  
 (“N/A” = never used; “100%” = elimination)

▪ Fertilizers	(lbs. or %)	N/A
▪ Herbicides	(lbs. or %)	Very little used
▪ Pesticides	(lbs. or %)	N/A
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used **  (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	100%
Pre-wetting techniques utilized **	(y/n or %)	Y
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	N
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	0
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	0
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N/A
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Y

### Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	N
<ul style="list-style-type: none"> <li>Treatment units induce infiltration within 500-feet of a wellhead protection area</li> </ul>	# or y/n	N