Municipality/Organization: Town of Watertown

EPA NPDES Permit Number: MAR041083

MaDEP Transmittal Number: **W-035609**

Annual Report Number & Reporting Period: **No. 2: March 04-March 05**

05

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Gerald S. Mee, Jr. Title: Superintendent of Public Works

Telephone #: 617.972.6420 Email: c/o stamber@ci.watertown.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: Michael J. Driscoll

Title: Town Manager

Date: APRIL 28, 2005

Part II. Self-Assessment

The Watertown Department of Public Works takes pride in its continuing hard work and ongoing programs dedicated to guaranteeing the quality of water discharged to the Charles River. Countless hours of staff time have been devoted to these efforts.

A detail of $ 482,442.58 in stormwater management program expenses incurred during the reporting period is attached.

For the past eight or nine years, the Department has been working extensively with outside contractors on outfall testing, removal of illicit connections and leaking pipes, smoke and dye testing and television inspection.

Since 2000, the Department has maintained an Integrated Pest Management program, using the services as an outside consultant for an annual review and implementing changes recommended. Along with a commitment to avoid use of pesticides at all costs, when chemicals must be used, they are only placed in dry weather to minimize run off.

2004-2005 Highlights

The Town has continued all programs described in the first annual report submitted for May 2004.

Renovation of the Department of Public Works facility continued and is near completion. The new storage shed for sand and salt was completed and two particle separators, including a new state of the art Vortex separator, were installed. The facility includes a new Emergency Operations Center. In addition to snow and storm events, stormwater events of extraordinary and daily magnitude will be monitored from this location.

The new facility features a totally new drainage system: all catch basins have been replaced with precast structures and all piping is new PVC.

The new facility also features a truck wash which recycles water: water from truck washing is captured in floor drains, re circulated and re-used for further vehicle washing.

The new total energy management system includes lighting on motion detectors, a state of the art HVAC system and weekly generator use to reduce power demands on the NStar grid in peak energy use periods.

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
1A Revised	Distribute brochures	DPW, Health Dept.	1 brochure each permit year	Board of Health and Health Dept. publish brochures on a variety of topics. The DPW funded the publication of ten flyers by the Environment and Energy Efficiency Committee. The Department is working closely with its consultant to develop the first brochure of its type for Watertown. 90% complete.	Approve final draft, print and distribute DPW brochures. Continue to support the public education work of the Environment and Energy Efficiency Committee. Update materials for distribution as appropriate.
1B Revised	Participate in municipal services exhibit at local mall The Town's annual Faire on the Square is effectively a municipal services day	DPW	1 day per permit year	The Department participates in the annual Faire on The Square.	Continue and expand participation.
1C Revised	Send stormwater information and work with science depts.	DPW /public schools	On going	Contacts with School Department established and initial meetings scheduled.	DPW staff will meet with a variety of School Dept. staff members to plan steps and content of school curriculum.
1D Revised	Outfall Signs	DPW	Label all outfalls	Revision of outfall numbering completed, shared with EPA in December 2004.	New signs will be placed by 15 September 2005.
1E Revised	Pet Waste Management	Health Dept., DPW and citizens	Enforcement of pet waste rules	Animal Control Ordinance requires pet owners to leash, curb and clean up after pets. Pet waste education included Health Dept. brochures and in forthcoming brochure from DPW [above]. Town departments continue to discuss ways to deal with waste from wild geese.	Continuation and expansion of public education and enforcement activities.

1a. Additions

	Town Website	All Town Departments	Public information now available on Town website	Brochures as well as useful website links are available to members of the public including residents, the business community and the audience of interested internet users	Continue to expand website publications of Town Departments. Official Town committees will develop information for posting through a host Department.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
2A	Public stormwater meetings	DPW, Planning Bd., Con Comm	1 meeting per permit year	Yes. Conservation holds multiple meetings per year.	Continue meetings, use as additional forum for public education.
Revised					
2B	Community Clean Up	DPW	1 clean up day per year	Community groups hold annual clean up in late spring. DPW supplies barrels and truck. Arranges for removal of debris collected.	Continue
Revised	Participate in/ support of community clean up	DPW supports community clean up			
2C	River Clean Up	DPW	1 clean up day per year	Community groups hold annual clean up in late spring. DPW supplies barrels and truck. Arranges for removal of debris collected. Extensive area is covered, but has not been measured in linear or square feet.	Continue
Revised	Participate in/ support of community clean up	DPW supports community clean up			
2D	Citizen Watch Group	Citizens, DPW	2 meetings per year	WCES [Watertown Citizens for Environmental Safety] is long standing, active citizen group. WCES has published a pesticide awareness brochure/ pamphlet in conjunction with the Board of Health. The new Environment and Energy Efficiency Committee has developed public education materials for general public and business community. Will be working with the Town to develop standards for environmentally friendly building construction to be used for municipal buildings. The Town Bicycle Committee and Recycling Committees also continue to promote environmentally friendly activities that have positive impacts on the river.	Town will continue to work with WCES, Bicycling, Recycling Environment and Energy Efficiency Committees.
Revised	The Town works with but does not control citizens' groups	Citizens			

2E Revised	Riverwatch program	DPW	2 times per permit year	Ongoing.	Continue program
Revised	Household Hazardous Waste Day. The Town is a member of the Minuteman Household Hazardous Waste Collection Location	Health Dept.	8-10 events per year	Continue	Continue

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3A	Work with private consultants	Coordinate w DPW	Remove illicit connections	The Department of Public Works has conducted an extremely active program since 1997 and is updating its protocols for isolation and detection of potential problems in concert with the EPA.	Continue program.
Revised					
3B	Work with various Town agencies	Building, FD, Con Comm, DPW		The DPW continues to work with the Health Department about improper waste disposal by food establishments.	Continue and further develop program.
Revised					
3C	Update Stormwater Map	DPW	Update map 1 time during permit period	New storm drain mapping is 90% complete.	Continue work.
Revised					
3D	TV, smoke and dye testing	DPW	On going	The DPW has an active program with two outside consulting firms.	Continue program
Revised					
3E	Remove dry weather overflows	DPW	On going	The Department has an active program including work with outside consulting firms. Testing is performed at outfalls and upstream. **Identified sources are removed immediately** by in house staff.	Continue program
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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
4A	Update Town Ordinances	DPW, Planning, Con Comm.	Update ordinance 1 time during permit period	The Department of Public Works has requested formation of a subcommittee to undertake update.	Commence work on update.
Revised					
4B	Coordinate construction reviews and site inspections	DPW, Planning, Con Comm.	Internal review and 1 site inspection per project	Relevant Departments review and inspect projects more than once. All relevant DPW divisions are included in review process.	Continue and expand program.
Revised					
4C	Standard Construction Details	DPW, Planning, Con Comm.	Update details 1 time during permit period		
Revised					
4D	Standard Erosion Control Details	DPW, Planning, Con Comm.	Update details 1 time during permit period	DPW already requires silt fencing and placement of hay bales.	Updates ongoing.
Revised					
4E	Oil/gas separators for areas greater than 4 parking spaces	DPW	On going	This continues to be a DPW requirement for new projects. Separators have been installed during the renovation process at the DPW yard.	
Revised					

4a. Additions

4F	DPW Construction Standards	DPW	Enacted in 2002, project proponents appearing before DPW must comply with provisions.	Requires all projects to comply with performance standards of MA DEP Stormwater Management Policy. Language automatically incorporates updates at State level.	Continue and expand.
Revised					

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
5A	Update Town Ordinances	DPW, Planning, Con Comm	Update ordinances 1 time per permit period	In progress.	In progress.
Revised					
5B	Update BMP's and details	DPW, Planning, Con Comm	Update details 1 time during permit period	In progress.	In progress.
Revised					
5C	Adopt non-structural BMPs	DPW, Planning, Con Comm	Update non-structural BMP's 1x during permit period	The Department has worked towards improved relations with the Conservation Commission.	In progress.
Revised					
Revised					

5a. Additions

	DPW Construction Standards	DPW	Enacted in 2002, project proponents appearing before DPW must comply with provisions.	Requires all projects to comply with performance standards of MA DEP Stormwater Management Policy. Language automatically incorporates updates at State level.	Continue and expand.

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
6A Revised	Clean and inspect outfalls	DPW	Clean and inspect at least 1 time per year	Outfalls continue to be inspected a minimum of once per year. Areas of known difficulty are inspected more often. Upstream testing and inspection also performed.	Continue program
6B Revised	Clean catch basins	DPW	Clean every catch basin 1 time per year More appropriate once every other year	Catch basin cleaning is performed by outside contractors. Previous scope of work was half of 3700 catch basins or 1850. This year all 3700 catch basins were cleaned by outside contractor.	Continue program
6C Revised	Street Sweeping	DPW	2 street sweepers employed year round, weather permitting	Ongoing	Continue program
6E Revised	Inspection and mtce. of stormwater system	DPW	Inspect problematic system locations regularly	Problem locations are reviewed as often as possible/needed, but minimally once per year.	Continue program
6F Revised	EPA/DPW Spill Truck	DPW	Respond to spill emergencies	The truck is available as needed. Fortunately, the reporting period did not have emergencies requiring deployment of the truck.	Available as needed.

6a. Additions

	Integrated Pest Management Program	DPW	Consultant services utilized in planning process and all relevant decisions. Dept. implements recommendations	No pesticides whatever were applied by the Town in the reporting period.	Continue program
	Wet weather testing	DPW and consultants		DPW will supplement existing testing program with wet weather testing 5 -6 times per year	First full year of wet weather testing program.

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 2
	N/A				
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

N/A

Part IV. Summary of Information Collected and Analyzed

In keeping with the growth and progress of the Clean Charles initiatives, the Town of Watertown has expanded its program from the initial goal of elimination of illicit connections to stormwater management. In concert with the Environmental Protection Agency, the Department of Public Works has added wet weather testing to its rigorous and multi faceted program of testing of testing and investigation which includes TV inspection, smoke and dye testing, visual inspections and exploratory excavations. We have replaced or repaired numerous leaking pipes to further tighten our system and improve the quality of water delivered to the Charles River.

During the second year of the Phase II permit, the Town has continued its aggressive work in all aspects of stormwater management and water quality to comply with conditions of the permit.

As stated previously, the development of the programs has not only resulted in improvement of river water quality discharged to the river, but has served to better educate the staff about the system with which we are entrusted. **We are constantly refining techniques and updating procedures. Our experiences have reaffirmed the principal that water quality assurance is not a simple, linear process with a start, midpoint and end, but is an intricate and complex process that constantly evolves; and that initial efforts pave the way for higher levels of refinement.**

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n) Y	Water Quality Foreman: shared responsibilities stormwater and drinking water
Annual program budget/expenditures	$482,442.58	Attached

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	Target 100%
Stormwater management committee established Watertown Citizens for Environmental Safety and Environment and Energy Efficiency Committee	(y/n)	Two equivalent committees
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned		Annual spring river clean up
Household Hazardous Waste Collection Days : MinuteMan HHW Permanent Drop Off, Lexington		
▪ days sponsored	(#) 8-10/yr	

▪ community participation	(%)	Open to whole community
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	In process
Annual Medical Waste Day		2nd annual

Legal/Regulatory

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

Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	< 40
System-Wide mapping complete	(%)	~90%
Mapping method(s)		
▪ Paper/Mylar	(%)	0%
▪ CADD	(%)	0%
▪ GIS	(%)	100%
Outfalls inspected/screened	(# or %)	All inspected
Illicit discharges identified	(#)	0

Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	100%
% of population on septic systems	(%)	0%

Construction

Number of construction starts (>1-acre)	(#)	private developments: 1
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed	(# or %)	10
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and $)	0
Complaints/concerns received from public	(#)	Aware of none

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections completed	(# or %)	
Estimated volume of stormwater recharged	(gpy)	1,000,000 gpy

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	Once per year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	Once per year
Total number of structures cleaned	(#)	100% = 3,700
Storm drain cleaned	(LF or mi.)	As needed

Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	Estimated 370 c.y.
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal	($)	
Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	Continuous loop: ~10+
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	Continuous loop: 14-15+
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	
Cost of sweepings disposal	($)	
Vacuum street sweepers purchased/leased	(#)	
Vacuum street sweepers specified in contracts	(y/n)	

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides Integrated pest management program since 2000	(lbs. or %)	

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	 N/A N/A N/A N/A N/A
Pre-wetting techniques utilized	(y/n)	Y
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	Y
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)	