City of Woburn, Massachusetts

Department of Public Works
50 North Warren Street, Woburn, MA 01801
FAX (781)-932-4438

Vincent Ferlisi
Superintendent
781-897-5986

Thomas C. Quinn
Deputy Superintendent
781-897-5992

April 30, 2008

Ann Herrick - CIP
United States Environmental Protection Agency – Region 1
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Fred Civian
Massachusetts Department of Environmental Protection
One Winter Street - 5th Floor
Boston, MA 02108

Subject: Woburn, Massachusetts (NPDES# MAR041073)
NPDES Phase II Small MS4 General Permit – Fifth Annual Report

Dear Ms. Herrick:

The City of Woburn, Massachusetts is pleased to submit this Fourth Annual Report for coverage under the EPA's National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) for the period from April 2007 to March 2008.

We trust that this Annual Report meets the compliance requirements of the Phase II Stormwater Rule General Permit conditions. Please do not hesitate to contact me at (781) 897-5980 if you have any questions regarding this submittal.

Sincerely,

Vincent Ferlisi
Commissioner of Public Works

cc: Jay Corey, City Engineer
James Drake, CDM
Eric Johnson, CDM

Municipality/Organization: City of Woburn, Massachusetts

EPA NPDES Permit Number: MAR041073

MassDEP Transmittal Number: W-041026

Annual Report Number & Reporting Period: **No. 5: April 07-March 08**

NPDES PII Small MS4 General Permit Annual Report
(Due May 1, 2008)

Part I. General Information

Contact Person: Vincent Ferlisi Title: Commissioner of Public Works

Telephone #: 781-897-5980 Email: vferlisi@cityofwoburn.com

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: Thomas L. McLaughlin

Title: Mayor

Date: 4-29-2008

Part II. Self-Assessment

The City of Woburn has completed the required self-assessment and has determined that our municipality is in compliance with all of the permit conditions. We have also undertaken several initiatives during the entire permit term to enhance our stormwater management program. The highlights of our program are presented below:

Public Education/Outreach/Involvement

- Developed stormwater web pages to supplement its public education program. The stormwater website is accessible from the Department of Public Works (DPW) page on the City's website. The site includes information on stormwater contamination, the City's NOI and Annual Reports, and links to environmental groups in the City. (www.cityofwoburn.com/index.asp?nid=386)
- Set up a booth at the local Earth Day event at the Woburn Mall where information on the City's stormwater program was displayed. City staff were on hand to answer any questions.
- Developed two posters presenting efforts by DPW and the city on the stormwater program that are hanging in the DPW lobby. These are used to increase awareness of stormwater issues for DPW employees. The posters have also been presented at the annual Earth Day events.
- On August 9, 2006, DWP, in conjunction with CDM and the Woburn Residents Environment Network (WREN), sponsored an event to install markers at approximately 100 catch basins around Horn Pond. The markers were used to promote public involvement and raise awareness about the City's stormwater management program. In addition, a video was prepared in conjunction with the city's Local Access Channel (LAC) to discuss stormwater impacts and the catch basin marking program. This video has run periodically on the LAC. .

Illicit Discharge Detection and Elimination Program

- A comprehensive field program was undertaken in Fall/Winter 2003 along the banks of all water bodies (Horn pond and other ponds) and rivers and streams (Aberjona River, Middlesex Canal, Shaker Glen Brook, etc.) to locate and inspect stormwater outfalls. This field program consisted of a substantial effort to locate the outfalls and was required because the city had limited mapping of the existing outfalls. As a result, over 600 outfalls were located and the physical features and status of each was recorded on a field inspection sheet. Each outfall was photographed and the data was summarized in two large binders and an electronic database. Approximately 1/3 of the outfalls are actually outfalls from private property and are not owned by the city.
- The outfall locations were recorded in the City's GIS database.

Part II. Self-Assessment (continued)

Illicit Discharge Detection and Elimination Program (cont.)

- Follow-up field inspections of the outfalls were performed between 2004 and summer 2007 to identify any outfalls with dry weather flow. To-date, each city owned outfall has been inspected at least twice during the permit period.
- Approximately forty five (45) outfalls have had dry weather flow during the comprehensive dry weather outfall screening program conducted by the city. Most of the outfalls that have had dry weather flow during these inspections have been sampled at least three times over the last 4 years. Laboratory analysis of the flow has shown that most of the outfalls have no evidence of contamination from illicit sewer connections. At many of the outfalls, dry weather flow from the outfalls is not consistent from inspection to inspection and laboratory sampling indicates no presence of any significant bacteria. Thus, these outfalls have been eliminated from further study.
- There are ten (10) outfalls with consistent dry weather flow during most of the inspection periods and laboratory analyses results that indicated the presence of some level of bacterial contamination. However, based on repeated testing results of these outfalls coupled with the lack of other illicit discharge indicators (i.e. surfactants, odors, flotables etc.) and field inspections, the city has concluded that (with one exception) the presence of coliform in the dry weather flow from these outfalls is probably caused by background contamination from the watershed related to animal feces and is not evidence of bacteriological contamination from a potential illicit sewer connection. Some of the background animal contamination has been confirmed by TV inspections of the pipe and visual observations of animal feces around catch basins that contribute to the outfalls.
- One outfall was identified as having a potential illicit discharge. This outfall is a 60-inch diameter RCP that drains to an open stream between Water Street and Woburn Parkway. The dry weather flow in the drain system was sampled multiple times to help isolate the potential contamination/cross connection. The entire main drain line has been inspected via television camera as a result the high fecal coliform, but no illicit connections were observed. Pipe system sampling indicated the presence of higher coliform concentrations around Ellis Street.

  There are two sewer lines on Ellis Street that parallel the 60" drain line. The City was performing a concurrent I/I study of the sewer system and television inspection of the sewers indicated that at least one of the sewers was in failing condition and could be the cause of the contamination (as sewer flow was exfiltrating from the pipe). The city replaced this failing sewer system within the last two years. Additional sampling will be scheduled this year to confirm that the dry weather flow contamination was addressed.

Part II. Self-Assessment (continued)

Illicit Discharge Detection and Elimination Program (cont.)

- IDDE Highlights:
  - Approximately 140 dry weather samples have been collected and analyzed to date.
  - Approximately 2,500 linear feet of drain pipe was TV inspected within the drainage systems tributary to the outfalls that exhibited the potential for illicit connections.
  - The City's Public Services ordinance was updated in January 2007 to incorporate language prohibiting illicit connections and discharges to the drainage system.
  - One outfall had consistent dry-weather flow and consistently high coliform concentrations and was suspected to have an indirect illicit connection. The city addressed a failing sewer on Ellis Street to address this potential storm drain contamination. Additional sampling will be performed to confirm the removal of the potential illicit connection.

Drainage System Mapping and Geographic Information System (GIS)

- The city had no substantial mapping available of the existing drainage pipe system and undertook a comprehensive field inspection program to compile the drainage database.
- Approximately 1,900 manholes were inspected and mapped comprising approximately 70 miles of drain pipe to-date. Drain system manhole and pipe information is collected during the inspections and is incorporated into the GIS system to locate and record all drainage system physical features.
- During the inspections, cleaning requirements for manholes, catch basins and drain lines are identified. The city has followed up on most of the recommended system cleaning requirements noted during the inspections.
- Mapping of the drainage system continues and the GIS will be updated, as needed, as pipes are either added to the system or replaced.

Part II. Self-Assessment (continued)

Drainage System Maintenance and Management Computerization

- Configured and deployed new computerized maintenance management software (CMMS). This software (Azteca *Cityworks*) is directly integrated with the GIS database and will use the asset information in the database to control recordkeeping for this drainage system. The software is used to record and track drainage system maintenance and operations, generator work orders, trace the history of customer complaints, and to monitor the SWMP implementation. The City owns five (5) user licenses for the software and has been in use since August 2006.
- The city is now using all of the information gathered from drainage system mapping effort to complete discrete hydrologic/hydraulic analyses of problem drainage areas.

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

BMP 6-8 – Employee Training: The proposed employee training program to increase stormwater awareness and impacts among DPW employees has not yet been fully implemented. Staff received daily instruction before they start their day to watch out for spills and other watershed activities that could impact stormwater quality. The City engineers also are trained to ensure that sewer connections are not inadvertently made to the drainage system. Continued Employee Training will be the focus of a renewed effort by the city in the upcoming period and a training date should be scheduled for Summer 2008.

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 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
1-1	Hold Earth Day Celebration	Conservation Commission	Hold event annually	Earth Day was held on April 21, 2007 at the Woburn Mall.	**BMP completed** Earth Day festivities are planned for April 19, 2008 at the Woburn Mall.
1-2	Hold Conservation Day Event	Conservation Commission	Hold event annually	Conservation Day was held on May 5, 2007. The City notified the public about the event through newspapers, on the City's website and flyers about 2 weeks in advance. Trees were sold to the public at discounted prices.	**BMP completed** Conservation Day festivities are planned for May 3, 2008.
1-3	Continue Pet Waste Disposal Practices	Dept. of Public Works	Maintain signs and doggie mitts	Doggie mitt supply was checked/ restocked every month. Pet waste disposal signs and waste reception bins were checked daily from April 1st through November 30th.	**BMP completed** Continue existing program
1-4	Maintain Environmental Awareness Brochures	Dept of Public Works and Conservation Commission	Brochures available	Several hundred brochures were distributed in 2007. Brochures restocked once during the permit year.	**BMP completed** Continue existing program
1-5	Develop Stormwater Brochure	Dept. of Public Works	Brochure developed by May 1, 2004	**BMP completed (May 2004)**	**BMP completed**
	Brochure Available for Distribution	Dept. of Public Works	Distribute brochure via mass mailing once during permit term	**BMP Completed (February 2005)**	**BMP Completed**

1. Public Education and Outreach (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
1-6	DPW staff available for classroom discussions/tours	Dept. of Public Works	Schools aware of opportunity for speakers each fall and spring	Schools were notified of the opportunity.	**BMP completed** Continue to notify schools of opportunity. Massachusetts Water Resources Authority also has been involved at the middle school level giving stormwater presentations.
1-7	Stormwater bulletins added to Kiosks at Horn Pond	Dept. of Public Works	Bulletin posted on kiosks by May 1, 2004	**BMP Completed**	**BMP completed** - Maintain/ update bulletins on kiosks
1-8	Stormwater Information added to DPW's Website	Dept. of Public Works	Stormwater information added to website by May 1, 2005	City added stormwater link to the DPW website in 2005.	**BMP completed** http://www.cityofwoburn.com/index.asp?nid=386
	Maintain/update information on DPW Website	Dept. of Public Works	Maintain/update website as necessary	Website updated as necessary to provide residents notice of public stormwater events.	**BMP completed** Continue to update website as necessary.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
2-1	Comply with State Public Notification Guidelines	Planning Board and Any City Department	Post notices on all applicable meetings and environmental awareness events	The City complied with the required state meeting notification guidelines.	**BMP completed** Notify public of meetings as necessary. DPW to consider adding meeting notifications to website.
2-2	Used Oil Collection Program	Board of Health	Collection held monthly	(Collection held each month by Bill Murphy Waste Oil).	**BMP completed** Continue monthly collection
2-3	Hold Household Hazardous Waste/Tire Collection Days	Board of Health	Collection held every three months	Collection held 4 times in 2007 at the City Hall. Collected items include auto batteries, tires, propane tanks, mercury and batteries, fluorescent lights.	**BMP completed** Continue quarterly collection
2-4	City-Wide Recycling Program	Board of Health	Recyclables collected every two weeks	(Recyclables were collected by a subcontractor bi-weekly).	**BMP completed** Continue existing program
2-5	Street Tree Planting Program	Dept. of Public Works	Maintain tree-planting program	50 public shade trees were planted in 2007.	**BMP completed** Maintain existing program

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
3-1	Continue to inspection new sewer connections	Engineering Department	Continue inspection of all new sewer connections	City inspected 30 new/updated sewer connections.	**BMP completed** Continue existing program
3-2	Map Outfalls/Receiving Waters	Engineering Department	Map completed by May 1, 2005	**BMP Completed** - Approximately 600 outfalls have been located. Approximately 65 additional outfalls have been located as part of the City's drainage system mapping program.	**BMP completed** – update GIS system as necessary
3-3	Complete dry weather screening of outfalls	Engineering Department	All outfalls screened once during permit period	**BMP Completed** – All outfalls that have been located have been screened at least once.	**BMP Completed**
3-4	Stormwater Ordinance	Engineering Department	Draft stormwater ordinance by May 1, 2005	Draft city ordinances have been prepared and are being considered for adoption.	**BMP Completed** - Stormwater ordinance adopted 1/22/07.
3-5	Develop and implement system for elimination of illicit discharges	Engineering Department	Based on prioritized results in BMP#3-4, determine procedures to identify and remove illicit connections to drain; maintain records.	**BMP Completed** - City has adopted the *Illicit Discharge Detection and Elimination – A Guidance Manual for Program Development and Technical Assessments* by the Center for Watershed Protection and Robert Pitt (October 2004) for its IDDE program.	City to continue the illicit connection identification and removal plan

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
4-1	Continue to apply Standard 8 of MA Stormwater Policy	Conservation Commission	Standard 8 of the MSP applied during the permit term	City applied Standard 8 as necessary to all relevant development projects. 10 development plans were reviewed by the Conservation Commission in 2006.	**BMP completed** Continue existing program
4-2	Procedures for Collection of Public Comments	Engineering Department	Maintain existing procedure throughout permit term	Public comments are received/reviewed and filed accordingly.	**BMP completed** Continue existing program
4-3	Continue inspections for erosion control measures at construction sites within Conservation Commission review	Conservation Commission	Maintain existing policy throughout permit term. Number of construction sites inspected each year	City completed 10 construction site inspections for erosion and sediment control.	**BMP completed** Continue existing program
4-4	Procedure for Control of Discarded Building Materials	Board of Health and Building Department	Maintain existing procedure throughout permit term. Number of demolition permits issued each year.	29 demolition permits were issued by the City. Every applicant is required to complete a debris disposal form, which includes the location of the facility that will be accepting the debris.	**BMP completed** Continue existing program
4-5	Amend Subdivision Regulations to Require Erosion and Sediment Control Plan for Sites Disturbing More than 1-acre	Engineering Department	Draft amendment to regulations by May 1, 2005.	City is developing modifications to existing regulations.	**BMP completed** Adopt amendment to regulations

4. Construction Site Stormwater Runoff Control (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
4-6	Amend Zoning Ordinance to Require Erosion and Sediment Control Plan for Sites Disturbing More than 1-acre	Engineering Department	Draft amendment to regulations by May 1, 2005.	City is developing modifications to existing regulations.	Adopt amendment to regulations

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 5 (2006) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
5-1	Continue to implement City's Planning Board Rules and Subdivision Regulations	Engineering Department	Continue enforcement of existing regulations throughout permit term. Number of subdivisions reviewed each year.	City has enforced Rules and Regulations for all projects that have come under its review. The City reviewed 10 site and subdivision plans.	**BMP completed** Continue existing program
5-2	Maintain Policy Ensuring Long-term Maintenance of Private Structural BMPs	Engineering Department	Maintain existing policy throughout permit term. Number of private structural BMP O&M plans submitted by developers each year.	There were no projects reviewed during this permit period that required private structural BMPs with long-term operation and maintenance.	**BMP completed** Maintain existing policy
5-3	Adopt Massachusetts Stormwater Policy Standards #,2, 3, 4, 7, and 9 in City ordinances	Engineering Department	Draft amendment to regulations by May 1, 2005	Amendments to City ordinances incorporate the MA Stormwater Policy.	Adopt amendment to Regulations

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 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
6-1	Continue Street Sweeping Program	Dept. of Public Works	Sweep all streets in the City twice annually	All streets were swept twice in 2007. Some streets in priority areas swept more than twice as needed.	**BMP completed** Continue existing program
6-2	Continue Catch Basin Cleaning Program	Dept. of Public Works	Clean 33% of catch basins in City each year. All CBs cleaned on a three year rotating schedule.	All known catch basins were cleaned this year. Some catch basins in sensitive receptors were cleaned more than once.	**BMP completed** Continue existing program
6-3	Continue Salting/ Snow Removal Practices	Dept. of Public Works	Continue existing practices throughout permit term.	Salt was stored in covered areas and spreaders were calibrated as needed to limit salt. Records of salt use are kept by DPW. Alternative deicing methods were used where practical and near sensitive receptors.	**BMP completed** Continue existing program
6-4	Hazardous Waste Response Program	Dept. of Public Works	Continue existing program throughout permit term	The City maintained spill kits and followed Spill Prevention Control and Counter Measure Plan	**BMP completed** Continue existing program
6-5	Continue Vehicle Washing Practices	Dept. of Public Works	Continue existing practices throughout permit term	City vehicles were washed at a local private car wash facility. Oversized vehicles were spayed cleaned without soap in an improved area.	**BMP completed** Continue existing program
6-6	Continue Vehicle Maintenance Practices	Dept. of Public Works	Continue existing practices throughout permit term	Municipal vehicle maintenance, including police vehicles, was performed in a garage that has oil and grease traps, and an oil/water separator.	**BMP completed** Continue existing program

6. Pollution Prevention and Good Housekeeping in Municipal Operations (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (2007) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
6-7	Park and Landscape Maintenance	Dept. of Public Works	Continue existing practices throughout permit term	The City does not use fertilizers near Horn Pond and the Aberjona River.	**BMP completed** Continue existing program
6-8	Develop/Implement Employee Education/Training Program	Dept. of Public Works	4 hours of stormwater related training during permit term for each appropriate employee	City compiled some examples of educational materials that could be shared with employees.	City to initiate training of employees on stormwater impacts during permit term.

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 5 (2006) (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6 (2008)
	Not Applicable				