P 5/1/08

Municipality/Organization: Town of Shirley, Massachusetts

EPA NPDES Permit Number: MA041221

MaDEP Transmittal Number: W-041141

Annual Report Number & Reporting Period: **No. 3: March 07-April 30 2008**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Joseph W. Lynch Title: Director of Public Works

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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: Joseph W. Lynch

Title: Director of Public Works

Date: April 28, 2008

platforms on which to base its Public Education and Public Participation BMP's. The Town's Conservation Administrator and I have continued to work with public school teachers in expanding the science and geography lesson plans as well as offering our services as teacher aids for the stormwater science elements. Both the Conservation Administrator and I have taught classes in waste prevention, water cycle, resource management and habitat values to various elementary school science classes. This contact has resulted in the elementary school adopting a local brook which they study, clean, and "maintain as a hands-on learning experience". In years past the planned poster contest was coolly received by the school department. However, I am happy to report, that our involvement in the elementary school classes has evolved into a new-found appreciation for the "stormwater science", which has directly resulted in the first school stormwater poster contest. The contest was open to all grade 4 elementary school classes and judging from the large number, and quality of posters received I am very pleased that the youth of our town have a very good understanding of the importance of stormwater issues and what they can do to protect their water quality heritage.

The town has continued to spread the word to the community at large of the importance of NPDES-II on their community through the public hearing process, and implementation of strict site plan review process. Posters, leaflets, and demonstration videos are available at both the Town Hall and at the DPW headquarters.

The Town's DPW continues to be a very instrumental participant in various good housekeeping practices. They employ multiple-time-per-year (not fewer than two and these past few years) street sweepings, catch basin cleaning, contained equipment washing, and contained storage of salt and new and waste petroleum products. The DPW continues to employ more responsible irrigation, fertilization, and pest management practices. They have also reduced their application of road salt and road sand in winter months; a practice that has been improving over each of the past four years. Lastly, the Shirley DPW continues to train with their DPW colleagues in abutting communities regarding better good housekeeping practices and maintenance of structural BMP's..

We will continue to strive toward achieving success in all of our BMP's. We will at least make every effort towards maintenance of our clean local and regional environs.

PE-2	Feature SW info an annual town events.	Conservation Commission/ Anne Gagnon	Y1: Create or obtain SW brochures or info, solicit sponsors. Y2: Feature SW info at Cons-Comm. booth at annual hoedown. Y3-Y5: Continue providing SW info.	Have continued gathering and compiling information to improve flyer content. Desktop Published two brochures, one pertaining to Construction Protection Measures, and One pertaining to general "citizen awareness" for stormwater issues. Also made available EPA brochures from the EPA website. Made these flyers available at Town Hall, DPW, and Library. Issued Construction Flyers to all construction permit holders. Hoedown was resurrected again this year. Stormwater brochures were made available at the Conservation Commission's booth at the hoedown. As in Y1, Y2, Y3, and Y4 continued to seek out funding for broader publication. However, we feel that we are accessing the significant population with current measures. Made brochures available at information table at annual Town Meeting. Frequently broadcast the educational video "REINING IN THE STORM" on local community access television.	Assuming the Hoedown takes place in coming years, stormwater brochures will be made available at the Conservation Commission's booth at the Hoedown. Will also seek to identify any other public display opportunities and will continue development of our own information brochure. We will continue to place brochures on information table for public to pick up at annual Town Meeting.
PE-3	Provide SW information at Town buildings.	Selectman's Office / Kyle Keady	Y1: Obtain materials Y2: Provide info Y3-Y5: Maintain and update info.	Desktop Published two brochures, one pertaining to Construction Protection Measures, and One pertaining to general "citizen awareness" for stormwater issues. Also made available EPA brochures from the EPA website Made these flyers available at Town Hall, DPW, and Library. Issued Construction Flyers to all construction permit holders.	We will continue with the same practices as years 1, 2, 3, 4, and 5 and will continue to seek out and secure funding to publish hand-out the town's own information brochure.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Beyond Permit Year 5
PP-1	Partner/Support Local Watershed Group	Conservation Commission / Anne Gagnon	Y1: Support Nashua River Watershed Association Y2:-Y5: Maintain Support	Various Commission members continue to maintain active participation in NRWA by attending meetings and participating in watershed events. Three town officials and NRWA members attended a field trip to UNH's Stormwater Research Center in Durham, NH. Town officials also participated in a NRWA joint task-force in addressing local issues in development of Stormwater Bylaws within NRWA membership area. Commission member(s) and other town staff members remain actively involved with NRWA, MACC, MSMCP, and Mass Audubon, and Trustees of the Reservation.	Maintain continued participation with NRWA and other environmental organizations.

PP-3	Storm Drain Stenciling Program	DPW / Joseph Lynch	Y1: Outline Program; identify labor pool (scouts, inmates). Y2: Obtain stencils, develop plan and approach. Y3: Stencil 25% of catch basins. Y4: Stencil additional 40% of catch basins. Y5: Stencil remaining 35% of catch basins	In Y1 and Y2 two Eagle Scout candidates undertook a catch basin program. These programs inventoried all basins in the "area north of Hazen Road and south of Great Road", designed stencil, and painted basins along with their volunteer teams. The effort of these two scouts has resulted in approximately 80% of the town's basins being stenciled, which puts the town far ahead of its fourth year goal. However, no new volunteer has step forward to complete the final 20% of the stenciling.	Identify other individual and group volunteers whom can pick up on this program so that it remains effective over next and future years. Enhance identification program to include signage (or otherwise labeling of stream crossings along town roads. Establish a schedule were existing stencil markings are refreshes periodically so that they remain legible.
PP-4	Incorporate SW message into public meetings	Town Administrator / Kyle Keady	Y1: Identify / target meetings and develop message content, discuss SW at one public meeting. Y2-Y5: Discuss SW at 2 public meetings	Stormwater management was again discussed part and parcel with most Planning Board, Bylaw Review Committee, and Conservation Commission meetings included discussions on Stormwater Management as it pertains to impact protection by use of construction BMPS and specific conditions imposed under the authority of each board or commissions' issued permits. Stormwater management was specifically discussed before the Town's Bylaw Review Committee in debating the provisions that were proposed to be included in the Stormwater Bylaw. Two stormwater public hearings were conducted, and a warrant article for the stormwater bylaw was also acted upon at Town Meeting. Periodically broadcast the educational video "REINING IN THE STORM" on local community access television.	Continue to press the message on the importance of effective Stormwater Management through Bylaw development and continue to develop forums where this message can be heard by the public. Continue to periodically air "REINING IN THE STORM" on local community access television.

PP-7	Implement Stormwater Clean-up Day	Town Administrator / Kyle Keady	Y1: Review Clean-up Day practices Y2: Identify compatible stormwater goals Y3-Y5: Have one stormwater clean-up day.	Continued to undertake "Clean-up Day" with staff and partnered with two local corporations (Phoenix Park, and Bemis). Organized two formal clean-up days, on in late summer and one in mid spring. Also promoted Earth Day Clean-up through schools, Cub Scouts, Boy Scouts, and Girl Scouts. Developed daily "team litter pick-up" with local youth baseball, soccer, and football programs. Made use of Mass. Department of Corrections (MCI) inmates on a frequent basis to conduct roadside clean-up across town.	Will continue to perform Clean-up days at least once annually. Will continue to partner with local business community, and will continue to make use of MCI prison work crew.

ID-2	Implement Illicit Discharge Bylaw	Bylaw Committee / Joseph Lynch	Y1: Form Committee, research Phase II requirements and compare to existing Town regulations. Y2: Develop Bylaw or modify existing one. Y3: Present Bylaw at Town Meeting Y4: Implement and enforce bylaw. Y5: Review effectiveness of bylaw.	Stormwater committee fully established and met at least bi-weekly. Illicit discharge NPDES-II requirements have been reviewed. Town has obtained a number of bylaws from other communities similar in size and makeup as Shirley. The Town has also obtained copies of a number of model bylaws. The committee has incorporated various provisions of these documents into a final draft for our Illicit Discharge Bylaw. During this process it became evident that issues regarding illicit discharges were already fairly well addressed within the Town's Sewer Commission Bylaw and Rules and Regulations. The Sewer Commission's established bylaw provides for an Industrial Pretreatment Program serving commercial and industrial sewer users and speaks to identification and control of illicit discharges.	Formal Stormwater Committee will continue to meet regularly. The committee will work to either expand the Sewer Commission Bylaw to more completely address illicit discharges, or will work to complete a stand alone Bylaw that does not detract from the provisions covered under the Sewer Commission's prevue. Bylaw (either revised Sewer Bylaw, or standalone Illicit Connection Bylaw) will move forward for (hopeful) adoption at the Fall Special Town Meeting in October or November 2008.

4. Construction Site Stormwater Runoff Control

BMPID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Beyond Permit Year 5
CS-1	Implement Erosion and Sedimentation Control Bylaw.	Bylaw Committee / Joseph Lynch	Y3: Assess current erosion and sediment control measure regulations with respect to NPDES-II Y4: Modify existing subdivision regulations and/or develop and add Erosion and Sediment Control Bylaw. Create sanctions for non-compliance with Erosion and Sediment Control Bylaw and site requirements. Y5: Enforce Bylaw.	Finalized development of Erosion and Sediment Control Bylaw. Bylaw was passed at Spring Special Town meeting and awaits approval by the Attorney General's Office Continued with an aggressive inspection protocol for new subdivision, and commercial/industrial construction projects. Issued sanctions to at least two large developers for non-compliance with Erosion and Sediment Control permit requirements.	Formal Stormwater Committee will continue to meet regularly. The new bylaw will be enforced upon approval of the Attorney General. Will continue with aggressive inspections for new subdivisions, and commercial/industrial construction projects.

CS-3	Site Inspection and Enforcement	Planning Board / Joseph Lynch	Y3: Add construction site runoff control measures to building inspector protocol Y4: Implement inspection for runoff control measures and site waste control. Y5: Review inspection guidelines and enhance if necessary.	Continued with an aggressive inspection protocol (one formal the second informal) for all of the construction sites in town. Provided outreach and council to contractors relative to improved use of construction BMP's. Issued a number of enforcement orders against contractors and developers for violations to erosion control procedures. Continued to use a formal "Clerk of the Works" "Environmental Monitor" program at one of the Town's more vulnerable (and non-compliant) construction sites. Actively worked with DEP in assuring (a return to) compliance at this site.	Continue to conduct inspections, provide outreach and guidance, and continue with enforcement as necessary and appropriate.
CS-4	Solicit and record public comments regarding stormwater	Stormwater Committee / Joseph Lynch	Y1-Y2: Continue existing public hearing process to allow for public comments. Incorporate construction site concerns into PE-BMP. Y3-Y5: Use hotline established in PE-5 to receive and record public comments.	Public hearing processes for "land planning applications" have been conducted during every one of the last five years. Hearings and meetings regarding zoning, conservation, and land use issues almost always contained some element of stormwater management. The feedback obtained during these hearings indicates that stormwater flooding, and water quality issues continue to be important issues to the townspeople. Many of the issues and concerns that were raised during the various hearings have been included in the final stormwater bylaw, which has passed at Town Meeting and now awaits Attorney General approval.	Will continue to track any need for evaluation and/or changes to provisions of the bylaw, rules, and/or regulations. Will continue to conduct public hearings and meetings accordingly.

PC-2	Implement Stormwater Regulations.	Stormwater Committee	Y1: Review current subdivision regulations relative to NPDES-II requirements Y3: Evaluate adopting MA DEP Stormwater Management Standards 2, 3, 4, and 7 into local subdivision regulations.	Completed a clearly defined stormwater bylaw in order to preserve water quality with direct respect to NPDES-II. These provisions have been written into a final stormwater bylaw, which has passed at Town Meeting and awaits approval by the Attorney General's office. Since January 1, 2008, have included all of the stormwater standards as normal course of review for all new permit applications, where applicable.	Will continue to include all stormwater standards in conservation and planning review.
PC-3	Develop and review inspection procedures for commercial and residential drainage systems / structural BMP's	DPW / Joseph Lynch	Y3: Inventory and review current maintenance procedures for private systems. Y4: Develop plan, procedure, and authority for inspections. Determine O&M requirements for structural BMP's. Y5: Implement inspection plan.	This Y3 BMP was first initiated by DPW in Y1, and was continued through all five years of the program. The DPW has moved towards full implementation of these procedures by increased frequency of municipal maintenance while trying to minimize the financial burden brought on by new private systems coming on line. The new Bylaw has provisions for requiring and funding ongoing operations and maintenance and inspections at the sole cost of the system operator.	Will continue to identify, and verify all of the private stormwater facilities in town. Will begin to track what O&M procedures are used at those private facilities. Upon receipt of the Attorney General's approval of the Stormwater Bylaw, will implement annual reporting mechanism, gathering of data, and compliance tracking from the private system operators to the town.

GH-1	Operation and Maintenance Program.	DPW / Joseph Lynch	Y1-Y2: Inventory maintenance activities, identify potential pollutant runoff, and continue current drain system and street maintenance. Y3: Identify means of reducing potential pollutant runoff, implement reductions. Y4: Evaluate current drain system maintenance routine, develop schedule, identify improvements or refinements Y5: Reduce pollutant runoff potential.	Continued to maintain inventory of much of the town's O&M activities which include, CB and detention pond cleaning, grate cleaning, headwall maintenance, street sweeping, winter sand and salt storage, vehicle washing, fleet maintenance, turf management, and floor drain liquid collection. Used the completed inventory of the town's O&M activities and evaluated each activity for potential for pollutant runoff. We continued to make progress in developing various means reducing potential pollutant runoff, implement reductions. Achieved a measurable reduction in use of winter road sand as a way to minimize TSS loads. Implemented a stringent "pre-wetting" protocol as a way to increase salt melting efficiency and therefore reduce salt application total tonnage. Salt reduction is difficult to measure since there are a great many factors affecting this item. However, we have worked with the Water Department's water quality statistics which indicate that there has been a continuing trend of lowering sodium content in the sampled town wells. Continued with the program of roadway shoulder cleaning and litter picking as they are proven to beneficial water quality. Continued with town-wide roadway litter pick project twice during this year with use of MCI inmates. Continued with the program of fortifying soft roadway shoulders with stone and/or rip rap and installed treatment swales and sumps as a	Will continue with roadside litter and trash picking projects. Will likely continue with a roadway shoulder cleaning and grading project BMP. Additionally, the town will seek to identify an effective means of controlling damage and pollution caused by beaver activities.

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 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Beyond Permit Year 5
TMDL-1	Check current impairment lists	Stormwater Committee	Y1-Y5: Reference current 303(d) water impairment lists for new TMDL's for water bodies into which Shirley stormwater outfalls directly or indirectly.	As in Y1, Y2, and Y3 the town has again referred to the applicable 303(d) impairment listing located at the US-EPA Website. Relative to the Nashua River, Squannacook River, Lake Shirley, and Catacunemaug Brook we have noted that no changes in TMDL for these water bodies were report in the past year. This is similar in that no changes were reported over the same period of the last prior year. We have sought out assistance in reading, and understanding the information contained in the impairment listing. We have met with members of the Nashua River Stream Team and have reviewed their water quality data with them.	We will continue to reference the applicable 303(d) impairment listing relative to the Nashua River, Squannacook River, Lake Shirley, and Catacunemaug Brook. We will continue to note any changes in TMDL for these water bodies and adjust the deployment of BMP's accordingly.

Stream teams established or supported	(# or y/n)	Established (no) ; Supported (yes)
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	No
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2 per year
▪ community participation	(%)	Less than 20%
▪ material collected	(tons or gal)	Not available
School curricula implemented	(y/n)	Yes, at Grade 4 Science Level – Poster Contest was huge measure of success.

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "**X**")				
▪ Illicit Discharge Detection & Elimination			Yes	Part of Town's Existing Sewer Regulations

System-Wide mapping complete	(%)	10%
Mapping method(s)		
▪ Paper/Mylar	(%)	X manual
▪ CADD	(%)	
▪ GIS	(%)	
▪ GPS	(%)	10%
Outfalls inspected/screened	(# or %)	45
Illicit discharges identified	(#)	0 No problems found
Illicit connections removed	(#) (est. gpd)	0 No problems found
% of population on sewer	(%)	70% +/-
% of population on septic systems	(%)	30% +/-

Construction

Number of construction starts (>1-acre)	(#)	0
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	N/A
Site inspections completed	(# or %)	More than 300
Tickets/Stop work orders issued	(# or %)	2 ACO's by DEP
Fines collected	(# and $)	$25,000 by DEP
Complaints/concerns received from public	(#)	More than 50, nearly all regarding the same site. See ACO's above

Cost of sweepings disposal	($)	Not available
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	0

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	75%
▪ Herbicides	(lbs. or %)	100%
▪ Pesticides	(lbs. or %)	100%

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	0% sand {Spot treatments only for traction improvement (Nearly complete reduction)}, 100% NaCl
Pre-wetting techniques utilized	(y/n)	Yes
Manual control spreaders used	(y/n)	No (Only when manual override of automatic control is needed for spot treatment)
Automatic or Zero-velocity spreaders used	(y/n)	Yes

Town of Shirley
DEPARTMENT OF PUBLIC WORKS

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Director

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April 30, 2008

United States Environmental Protection Agency - Region 1
One Congress Street
Boston, MA 02114-2023

Attn: Stormwater Program

RE: NPDES-II
Permit #MA041221
Annual Report – March 07– April 08

To whom it may concern,

Pursuant to the terms of our permit requirements enclosed please find the fifth year Annual Report for the Town of Shirley, Massachusetts - NPDES-II Small MS4 permit. A copy of this Annual Report has also been forwarded to Mass DEP Boston and the Mass DEP Central Regional Office.

Thank you for your consideration in this matter.

Respectfully submitted,

Joseph W. Lynch
Director – Department of Public Works

CC: MA-DEP - CERO
DEP – Headquarters - Boston