



TOWN OF TEWKSBURY

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TEWKSBURY, MASSACHUSETTS 01876

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APR 30 2009

Department of Community Development

Michele Jodar Stein, P.E.
Town Engineer

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To: U. S. Environmental Protection Agency
Water Technical Unit
P.O. Box 8127
Boston, MA 02114

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street
Worcester, MA 01608

From: Michele Stein, P.E.
Town Engineer

Re: The Town of Tewksbury's 2009 Annual NPDES Stormwater Report

Date: April 30, 2009

Enclosed is The Town of Tewksbury's 6th Annual NPDES Phase 2 Small MS4 General Permit Report.

If there are any questions, please call the number above.

Copy to:

David G. Cressman, Town Manager

Municipality/Organization: Tewksbury, MA

EPA NPDES Permit Number: MA-041226

MaDEP Transmittal Number: W-035320

**Annual Report Number
& Reporting Period:** No. 6: March 08-March 09

APR 30 2009

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: David Cressman **Title:** Town Manager

Telephone #: 978-640-4300 **Email:** cressmandg@town.tewksbury.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: David G. Cressman

Title: Town Manager

Date: 4/30/09

Part II. Self-Assessment

The Town of Tewksbury continued to follow the guidelines for the NPDES PII Small MS4 General Permit six. The Stormwater Committee has tried to comply with all requirements as best as our budgeting constraints and our struggles this year, the Committee recognized the need to find an alternative funding source for this program. In order to move into implementing a Stormwater Utility Fee. The Town of Tewksbury, through the Office of Town Manager, solicited several qualified consulting firms to complete the detailed mapping of the Town's drainage and stormwater system, perform a drainage study to inspect existing drainage systems, examine problem resource areas, and recommend site specific measures to mitigate flood damage and utilize BMP's in a phased project through out Town. Included in this proposal was the Town's Stormwater Utility Fee to fund this project and identify any other funding sources available to complete the Stormwater/Drainage Plan for the Town of Tewksbury. The Town was hoping to have a consultant volunteer their efforts promoting the Stormwater Utility Fee, which if approved at Spring Town Meeting 2009 would then appropriate their efforts for the remainder of the desired study. Unfortunately, these efforts were not successful. The Town will continue to try and appropriate the funds for the next Fall Town Meeting 2009 in order to have a consultant help promote the project. This would hopefully result in a positive vote on implementing the Stormwater Utility Fee during Spring Town Meeting 2009. However, due to the current financial constraints this may be extremely optimistic.

It should be noted the Town of Tewksbury's Stormwater Committee takes a proactive stance and has brainstormed ideas for our future years within our stormwater program. For instance, under the Minimum Control Measures, Section 2. *Public Education and Outreach*: The Town is considering initiating a DPW Day which would have a stormwater education booth. 2. *Construction Site Stormwater Control*: The Town would implement a Stormwater Utility Fee. This would help fund our many efforts to meet the general permit. In addition, the Town is drafting a notice to residential and commercial properties to remind them not to release nitrogen and/or phosphorus in their landscaping efforts. 3. *Illicit Discharge Detection and Elimination*: The Town is drafting a stormwater bylaw for governing discharge to the municipal storm drain system. The intention is to have it voted on at Spring Town Meeting 2009. 4. *Construction Site Stormwater Runoff Control*: An extended, more defined application with associated fees will be implemented. 5. *Post-Construction Stormwater Management in New Development and Redevelopment*: A list will be compiled of detention ponds, public and private, throughout town with dates for last inspected and maintained. 6. *Pollution Prevention*: *Housekeeping in Municipal Operations*: Apply for 319 grants that would fund BMP's for the various ponds, streams, and wetlands in Town. The Town of Tewksbury is anticipating the new requirements for the next five years of the NPDES PII Small MS4 General Permit. We look forward to conquering both the physical and financial challenges as well as the positive results from our efforts.

Being said, the following section of this report entails the Town of Tewksbury's Minimum Control Measure goals achieved during the sixth year of our permit. The Town feels we have achieved and complied as much as possible with all our required control measures for year 6.

Michele Stein, P.E.
Town of Tewksbury
Town Engineer

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 6 (Reliance on non-municipal partners indicated, if any)
1D	Held a Storm Water Media Campaign	SuAsCo Watershed Community Council (WCC), Assistant to Town Manager	-a media information packet created by SuAsCo was delivered and distributed to the local cable channel and local newspaper.	<p>SuAsCo delivered their Public Education and Outreach product in May 2008. This product entailed a “Stormwater Ad Campaign”. The campaign focused on 7 stormwater topics as follows, 1) What is stormwater, 2) No dumping down storm drains, 3) Littering, 4) Car care, 5) Lawn care, 6) Pet waste, and 7) Low impact development techniques.</p> <p>As quoted by SuAsCo, “The ads feature catchy slogans and eye-catching imagery along with succinct explanatory text in layman’s language”. These ads were in several formats: postcard, poster, website, and a DVD for cable TV. The postcards were handed out during Tewksbury’s Annual Town Meeting 2008. The postcards and posters were distributed at the Department of Public Works, Town Hall, Town Hall Annex, Police Department, Library, Tewksbury School Administrative Building, and the Community Development counter.</p> <p>We received a website-compatible version of the ads and posted it on the town’s official website for all to view. The local cable network played the ads before Board of Selectman Meetings on a quarterly basis.</p> <p>The local cable network replayed the stormwater training video that was developed in permit year 2008. This video was burned onto DVD’s that were distributed on February 12, 2009 to all the Town Boards for additional review. Signature of review was requested.</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
1E	Show a Storm Water Video on Local Cable Stations and at Local Meetings	SuAsCo Watershed Community Council (WCC), Assistant to Town Manager	- Show storm water video at a minimum of one public meeting	<p>DVD's were distributed on February 12, 2009 to all the Town Boards for additional review.</p> <p>In addition, the Engineering Division and the Tewksbury High School class worked together on stormwater education and outreach. In December 2008, the Senior Environmental class presented to the Board of Selectman a program on the importance of stormwater as well as their GPS outfall monitoring program.</p>

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
2E	Participate in the SuAsCo Storm Water Super Summit and Conduct an Evaluation and Assessment of Public Awareness of Storm Water	SuAsCo Watershed Community Council (WCC), Town Engineer	- Municipal participation in the Storm Water Super Summit Storm Water Self Test distributed to a minimum of 75% of residents compiled and considered municipal and multi-watershed-wide “self test” results	<p>Based on information provided by SuAsCo, the stormwater super summit had logistical and implementation difficulties. They have stated, “the public awareness assessment was premature to reap desired results”.</p> <p>As a result, the Town has focused on their relationship with the Tewksbury High School Senior Environmental Class. The class goes into the field with the engineering staff and GPS outfalls and drainage structures, takes water samples, drafts a report and presents it to the Board of Selectman at the end of the semester. By educating and involving the students, it is our intention this will excite the students and bring active communication with their families. The youth presentations during the Board of Selectman grasp the residents and public official’s attention and in return bring stormwater awareness to the public and increase their involvement and participation. The first presentation was in December 2008. The second presentation will be held at the end of the school semester. Date TBD.</p> <p>In addition, our Chief Operating Engineer for the Water Treatment Plant was involved in a shoreline clean up along the Merrimack River. This covered approximately 3 miles. One – 30 yard dumpster was filled with debris ranging from simple plastic items, tires, and metal objects as large as refrigerators and as small as hypodermic needles.</p> <p>The Town of Tewksbury began researching the opportunity to have a Stormwater Utility Fee. We have discussed options with various consultants to gather information and develop a plan. DPW staff will be attending a seminar on April 30th on Establishing a Stormwater Utility. The Town is hoping to appropriate funds to hire a consultant to assist with this goal in the near future.</p>

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
3A	Capital Planning/Budgeting	DPW	<p>-Estimate costs for purchases and maintenance</p> <p>- Capital requests for future purchases</p>	<p>The DPW has implemented a Capital Improvement Plan (CIP) for fiscal planning for identification, funding and years for the implementation of various projects. During this permit period we have made improvements ranging from \$25,000-\$75,000 in construction costs.</p> <p>In addition, DPW has minor ongoing projects in which annual maintenance and repairs are required town wide such as street sweeping, catch basin cleaning, cleaning of drain ditches, and installation of drain pipe and structures to meet resident's requests when possible at an annual cost of approximately \$150,000.</p> <p>Through the Sewer Expansion Project, the DPW has a sewer service located on the property. The Town has an article submitted for the Annual Town Meeting to raise the appropriation for the internal plumbing work in the building and garage and final connection to the sewer. If the vote goes in favor, plans and specifications will be created and the bids for construction will be procured.</p>
3B	DPW Employee Training	DPW, Town Engineer	- 80% of employees trained each year	For Permit year 5, the Town contracted Coughlin Environmental for training modules for DPW and other municipal employees. During permit year 6, this video has been played on the local cable channel.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
3D	Mapping Known Stormwater Outfalls	Engineering and DPW Personnel	<ul style="list-style-type: none"> - Creation of a map with known outfalls. -Put data in an electronic format 	<p>The outfall map was created manually. The Town is continuing to work on inputting this data as well as all our drainage structures electronically through our GIS/GPS program. These efforts include the Town in collaboration with the High School, to attempt to locate and map drainage structures on the streets along the Shawsheen River. In addition, as part of the Department of Housing and Community Development Peer to Peer Technical Assistance Grant Program, the Town has contracted the services of the Town of Westford's GIS Coordinator to digitize the drainage structures listed on the Town's Sewer Expansion Program digital as-built drawings. This grant effort will be completed by FY 2009.</p>
3E	Failing Septic Systems	Board of Health	<ul style="list-style-type: none"> - Review Title 5 Reports to identify problems - Use current reporting system to follow through with rectifying failed systems 	<p>Title 5 Inspection Reports are reviewed and tracked as submitted. When a failed septic system is identified, appropriate remediation action is taken to ensure repairs are performed in a timely manner and/or connection to municipal sewer system when available.</p> <p>Additionally, due to the Town's Master Sewer Program, fewer residents are on individual septic systems. The Town anticipates more residents tying into the municipal system in the future.</p>
3F	Sampling Programs	Board of Health	<ul style="list-style-type: none"> - Up to 24 stations sampled 3 times/year 	<p>Up to 24 stations have been sampled 3 times per year for bacteria. Said stations include street drainage systems at catch basins, manhole connections, and outfall pipes and associated discharge points.</p> <p>Furthermore, through the High School Program, sampling has been done on the streets along the Shawsheen River. The Engineering Division has also worked with the Merrimack River Watershed Council, Inc. and the Shawsheen River Watershed to physically go on the Rivers via boat, locate outfalls and sample.</p>

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
4H	Spill Prevention Plans	Board of Health/DPW, Planning Board	- File with Site Plan Application	The Planning Board is currently in the process of promulgating the regulations to include Stormwater Pollution Prevention Plan (SPPP) in site plan reviews. In addition, an application for land disturbance is being developed and it is our attention to have this proposed to the Planning Board by September 2009.

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 6 (Reliance on non-municipal partners indicated, if any)
5E	Sub-Division Regulations	Planning Board	<ul style="list-style-type: none"> - Review Current by-laws - Draft and present; adjust until accepted - Directly connected impervious road surfaces in new development and redevelopment areas will be reduced by 20% (relative to the traditional scenario in which curbs and gutters are used) over the course of the 5 year permit. 	<p>This permit year, the Engineering Division has begun compiling a list in an effort to map and locate detention ponds on private and public developments in order to keep track of its maintenance efforts and good housekeeping operations.</p>

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 6 (Reliance on non-municipal partners indicated, if any)
6A	CB/Drain System/Parking Lot Cleaning	DPW	<ul style="list-style-type: none"> - Clean 50% of Catch Basins annually - Clean 100% of parking lots annually - Clean 50% of streets annually 	<p>1% of all CB were cleaned this year due to budget reductions.</p> <p>100% of all parking lots were cleaned this year.</p> <p>50% of the streets were cleaned this year due to budget reductions.</p>
6B	Training of All Municipal Employees	DPW, Board of Health	<ul style="list-style-type: none"> - 80% of employees trained - Housekeeping activities successfully implemented 	For Permit year 5, the Town contracted Coughlin Environmental for training modules for DPW and other municipal employees. During permit year 6, this video has been played on the local cable channel.
6C	Capital Planning and Budgeting	DPW	<ul style="list-style-type: none"> - Capital planning for funds to purchase a tight tank for vehicle washing in Winter 2006 	Tank was purchased but it was never installed. Through the Sewer Expansion Project, the DPW has a sewer service on the property. The Town has an article submitted for the Annual Town Meeting to raise the appropriation for the internal plumbing work in the building and garage and final connection to the sewer. If the vote goes in favor, plans and specifications will be created and the bids for construction will be procured.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
6D	Stormwater Pollution Prevention Plan (SPPP)	DPW	- Compliance with Town's SPPP	The Town abides by our SPPP on an ongoing daily basis.
6E	Housekeeping Policies	DPW	-Publication of housekeeping document -Performance of items in document	Components of a housekeeping document have been completed and are being implemented.
6F	Hazardous Material Storage	DPW	-Inspection Reports of Storage areas -Review of current storage procedures	All reports are kept in DPW superintendent's office and are in compliance with DEP regulations.
6G	Used Oil Recycling	DPW	-DPW will participate in Town recycling program -DPW will track amount of oil recycled	Once a month, DPW hosts a recycling/hazardous item drop off day. The Town collects motor oil. Plaster Board is dropped off twice a year and TV's are now picked up curbside with prepaid tickets. DPW has a contract with Clean Harbors to remove the waste oil for recycling. The current amount collected to date is approximately 843 gallons.
6I	Road Salt Application and Storage	DPW	-Maintain Storage shed/area -Keep pile covered	Storage Shed is maintained and utilized keeping the Town's road salt covered.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
6J	Spill Response and Prevention	DPW	<ul style="list-style-type: none"> -Develop plans describing spill prevention and control procedures by the end of year 1 -Conduct annual spill prevention and response training sessions for all municipal employees 	The Town of Tewksbury contracted CEI to prepare a Spill Prevention Control and Countermeasure (SPCC) Plan. The DPW has and will continue to perform training with the employees on this plan as needed.
6K	Illegal Dumping and Storage	Board of Health	-Investigate as reported	The Town continues to investigate and track complaints. Complaints of illegal dumping are investigated and appropriate action is taken.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 6 (Reliance on non-municipal partners indicated, if any)
6L	Landscaping and Lawn Care	DPW/Recreation Department	<ul style="list-style-type: none"> -In the first year, develop a pollution prevention workshop for all municipal employees responsible for grounds maintenance and landscaping at public facilities. -Once per year, hold an additional workshop for new employees and crew managers -Achieve a 25% reduction in fertilizer and pesticide use after year 3. 	<p>The Town has complied with these Measurable Goals. DPW and the Recreation Department continue to review the procedures and requirements updating new employees when applicable.</p>
6M	Hazardous Waste Collection	Board of Health	<ul style="list-style-type: none"> -Annual Collection Day, as funded -Record and track amount collected 	<p>The Assistant to the Town Manager is currently working with a regional planning group to investigate and establish regional Household Hazardous Waste Days for the immediate future.</p>

Part IV. Summary of Information Collected and Analyzed

The Town of Tewksbury is currently in the last phase of construction for the town wide sewer expansion project. As the As-built plans are created, more and more of the Town's drainage structures and outfalls are being electronically located in AutoCAD. Through the grant that was received by the Department of Housing and Community Development, the technical training will be developed internally to transfer this AutoCAD data into the GIS Map. This expertise will greatly help the progress of transferring our Stormwater/Drainage map to electronic format. Our current map shows approximately 286 locations including catch basins, drain manholes, culverts, retention ponds inlets, swales, and outlets located throughout the Town. Water outfall samples were taken at various outlets this year through the Merrimack River Watershed, Shawsheen River Watershed, engineering staff and the Tewksbury High School Environmental Students.

Ongoing, the Town continues to collect Stormwater Pollution Prevention Plans from developers and engineers for new projects constructed in Town. These plans are used to formulate each individual stormwater inspection for the construction site. Individual inspection checklists are created using the project's SWPPP submittal as a guide.

Michele Stein, P.E.
Town of Tewksbury
Town Engineer

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures	(\$)	0

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	50%
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
Household Hazardous Waste Collection Days		
<ul style="list-style-type: none"> ▪ days sponsored ▪ community participation ▪ material collected 	(#) (%) (tons or gal)	1/Month <10% ?
School curricula implemented	(y/n)	Y

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	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

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	~ 189
System-Wide mapping complete	(%)	~ 100
Mapping method(s)		
▪ Paper/Mylar	(%)	~ 100
▪ CADD	(%)	50
▪ GIS	(%)	10
Outfalls inspected/screened	(%)	20
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	58
% of population on septic systems	(%)	42

Construction

Number of construction starts (>1-acre)	(#)	6
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	95
Site inspections completed	(# or %)	~ 9
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	4

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	10
Site inspections completed	(# or %)	0
Estimated volume of stormwater recharged	(gpy)	?

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	0
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	0
Total number of structures cleaned	(#)	30
Storm drain cleaned	(LF or mi.)	600 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	4 tons
Disposal or use of screenings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		compost
Cost of screenings disposal	(\$)	NA
Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	0.5
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	0.5
Qty. of sand/debris collected by sweeping	(lbs. or tons)	30 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	compost
Cost of sweepings disposal	(\$)	NA
Vacuum street sweepers purchased/leased	(#)	1
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 %)	10
▪ Herbicides	(lbs. or %)	100
▪ Pesticides	(lbs. or %)	100

Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	65 %
Pre-wetting techniques utilized	(y/n)	Y
Manual control spreaders used	(y/n)	N
Automatic or Zero-velocity spreaders used	(y/n)	Y
Estimated net reduction in typical year salt application	(lbs. or %)	10 %
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	N