

Municipality/Organization: Tyngsborough

EPA NPDES Permit Number: MAR051229

MaDEP Transmittal Number: X260825

**Annual Report Number
& Reporting Period:**

No. 10: April 2016 - April 2017

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Danielle Mucciarone

Title: Director of Conservation

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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: Matt Hanson

Title: Acting Town Administrator

Date: May 8, 2017

Part II. Self-Assessment

This year was a busy year for the Town of Tyngsborough. In March 2017, the Conservation Director's hours were increased to 35 hours a week, which will enable the Director to increase implementation and enforcement and focus even more on Stormwater Management. As a reminder, in 2003 the Department of Planning and Community Development was dissolved, and all duties set forth in the original permit under the Department of Planning and Community Development are now conducted through the Conservation Commission. Despite fiscal constraints, the Town of Tyngsborough continues to accomplish the proposed activities set forth in our permit application. In 2013, we joined the Northern Middlesex Stormwater Collaborative (NMSC), a regional coalition of 13 municipalities working together to meet the terms of the MS4 permit through increased regionalization and efficiencies. Through the NMSC, we also are also represented in the Massachusetts Statewide Stormwater Collaborative, which formed in 2016.

1. ***Public Education and Outreach:*** The Town successfully completed BMPs 1 and 2. We created a storm water education and outreach pamphlet with the help of the Northern Middlesex Stormwater Collaborative, which we distribute at local events such as town meeting, household hazardous waste collection days, and Earth Day events. The school department continues to develop and execute a stormwater poster contest. Most recently, the town initiated a Rain Barrel program through the Great American Rain Barrel Company (GARBC). On Earth Day of 2016, the town kicked-off the Rain Barrel Program by having a booth at the Sherburne Nature Center Earth Day Event. The booth contained information on Stormwater and provided tips for residents and homeowners. The booth also had a rain barrel on display and a signup sheet for those interested in purchasing a barrel. The Conservation Director also worked with the School Department on Science projects last year and engaged the class in discussion and an educational lesson on stormwater.
2. Articles regarding storm water management were published outlining the implementation of regulations promulgated, as well as and homeowner prevention tips. The Town Conservation Director ran two local cable access specials on storm water and, beginning in July 2014, implemented a monthly series, which will involve the appearance of local personalities and officials. The Board of Health continued to distribute pamphlets on household waste disposal and guides for homes, schools, and restaurants on grease traps. In addition to the public education components proposed in our permit, the Conservation Commission has integrated an educational program on storm water management on the cable access channel as stated above. Most recently, the Conservation Director began working with the Media Director to conduct a series of short informational videos to highlight open space parcels and educate residents on the important connection between stormwater and open space. The Conservation Director is investigating the formation of a Healthy Lakes and Ponds Collaborative for the town.
3. ***Public Involvement and Participation:*** The Conservation Director is in the process of planning an educational presentation on stormwater for the Board of Selectmen and the public. The Conservation Director plans to invite the Massachusetts Department of Environmental Protection (DEP) stormwater coordinator to a BOS meeting to educate them on the importance

of stormwater management.

4. ***Illicit Discharge Detection and Elimination:*** The Town contracted with NMCOG to map catch basins and outfalls and other public drainage structures. This mapping is complete and maintained. All departments have fulfilled BMP #14 requiring employee training for spill prevention. In-house training has been comprehensive and been kept up to date. A comprehensive Hazardous Materials Release Plan for the Town was previously completed. The Highway Department has continued wet and dry weather inspections of priority outfalls. Illicit Discharge Detection and Elimination Studies completed in 2002 and 2009 showed minor infiltration of storm water into the sewer system. The Sewer Department has purchased a camera for the purpose of illicit discharge detection and elimination and the camera can be shared between the sewer department and the stormwater management program. The sewer department has also developed and distributed a pamphlet for sewer users regarding illicit connections to the sewer system, especially pertaining to sump pumps. The pamphlet is routinely distributed with the sewer bills. The Town completed a CWMP in 2008, which is being followed and updated as fiscal constraints allow. The Board of Health continues to provide a 24/7 hotline for detection of failed septic systems. The Board of Health held their regularly scheduled Hazardous Waste Day in May 2016. The Conservation Commission is in the process of developing water quality procurement specifications with the North Middlesex Storm Water Collaborative. The North Middlesex Storm Water Collaborative held an IDDE training for municipal officials and board members on storm water issues in March 2016. The Town in cooperation with the Northern Middlesex Council of Governments (NMCOG), updated our aerial photography database through the Pictometry Program.
5. ***Construction Site Stormwater Runoff Control:*** The Conservation Commission revised their rules and regulations requiring all filings involving a new storm drain system or connection to an existing storm drain system to provide the Commission with a detailed storm water pollution prevention plan (SWPPP) for construction, as well as for long-term maintenance of the storm water system. This plan shall specify detailed construction methods for erosion control, identify responsible parties and shall include a signed affidavit that all conditions of the pollution prevention plan shall be met. The discharge of any substances into the storm drain system, other than storm water, is strictly prohibited. The Planning Board has revised their Subdivision Rules and Regulations for construction site runoff control to conform to the Massachusetts Department of Environmental Protection Stormwater Management Policy Standards and Best Management Practices. The Conservation Commission has implemented and currently holds local stormwater permit hearings complete with a local permit form issued to applicants. The Commission also has instituted a fee structure based on promulgated regulations to aid in funding for inspections and the running of the Conservation office. Additionally, the Planning Board has instituted construction phasing and bonding schedules to minimize adverse impacts to water quality. These revisions were implemented in 2007 as outline in item 5.
6. ***Post-construction Stormwater Management in New Development and Redevelopment:*** At the October 2007 town meeting, the Town adopted a By-Law entitled "*By-law for the Management of Storm water and Illicit Connections, Obstructions and*

Illegal Discharges to the Storm Sewer System". The By-Law addresses issues to minimize negative impacts of storm water on water quality, control of runoff during and after development, as well as enhanced erosion control. NMCOG, under contract to the Town, assisted the Town with the development of this By-Law. Regulations to promulgate under this by-law were completed in the October of 2010 and are implemented and ongoing.

7. ***Pollution Prevention and Good Housekeeping in Municipal Operations:*** All BMPs for this requirement have been satisfactorily completed. The North Middlesex Storm Water Collaborative held a training for municipal officials and board members on Good Housekeeping in Municipal Operations in March 2016. Tyngsborough's Conservation Director attended the training and relayed all materials to the Town Manager, Sewer Department and Highway Department.

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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
1	Develop pamphlet on stormwater	Stormwater Committee, Conservation Department	Distribute with water, sewer, tax bills	Completed. Distributed with sewer bills.	Disperse at Household Hazardous Waste Collection Day, Earth Day Events, Town Meeting, at the Library and at other Town Events.
Revised					
2	Develop stormwater poster design program	Stormwater Committee, Conservation Department	Annual contest by students	The school dept held a poster contest and one student had his presentation exhibited on earth day.	Continue annual contest.
Revised					
3	Develop pamphlet on household waste disposal	Board of Health	Distribute with Hazardous Waste collection info	Completed	Continue distribution of pamphlet at Health Fair and Hazardous Waste Day.
Revised					
4	Guide for home, school, restaurant for grease traps.	Board of Health	Distribute at Health Fair, with septic approvals and inspections.	Completed	Continue distributing guide.
Revised					
5	Articles in newsletter	Conservation Director	Quarterly articles on related topics.	Articles published this year.	Continue with articles on related topics.
Revised					

6	Health Fair	Board of Health	Annual booth on Storm water	Completed. Information also distributed by Conservation Director at Earth Day Celebration.	Display stormwater information at Health Fair next year and Earth Day.
Revised					
7	Catch basin stencil program	Highway Department	Stencil catch basins over three years.	ALL BASINS STENCILED-stencils inspected by Conservation Director.	Continue stenciling program as new basins are installed and older ones are maintained. Will recruit volunteers for this program through local groups such as girl scouts and boy scouts.
Revised					

1a. Additions

7A	Storm water video on cable access.	Conservation Department	Play a few times throughout the year	Played during Year 10.	Create videos regarding Open Space and the many benefits that Open Space provides to our community including how open space can help with stormwater.
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2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities Interim Period
8	Public hearings on SWMP with annual review and comment	Selectmen, Conservation Commission	One public meetings on SWMP.	Two meetings held.	Plan is in place and on website.
Revised					
9	Create Stormwater Advisory Committee	Selectmen, Stormwater Committee	Meet twice annually for review of program.	Due to funding cutbacks, Committee did not meet.	Conservation Commission continues to administer through the public meeting process.

Revised					
10	Volunteer water quality monitoring program	Conservation Department	Develop program Year 2, annual testing thereafter	A water quality monitoring program has been initiated for Lake Mascuppig, programs for other waterways will be developed in Year 10.	Develop and implement water quality monitoring program for additional water bodies. Continue working with storm water collaborative for regional lab services bid.
Revised					
11	Volunteer stream clean-up days	Conservation Department	Annual cleanup of selected streams	Adopt-a-stream program has been initiated.	Continue to implement adopt-a-stream program.
Revised					
12	Hazardous Waste Collection Day	Board of Health	Annual collection of hazardous materials	Completed See Attachment	Annual Hazardous Waste Day
Revised					
Revised					

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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities Interim Period
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13	GIS mapping of outfalls and receiving waters	Conservation Department, Highway Department	Portions of Town to be done annually	Completed	New basins or outfalls will be mapped and stenciled. We will continue to improve our GIS Map and will investigate new mapping software.
Revised					
14	Employee training on spill prevention	School, Water, Highway, Sewer Depts.	Annual Training	Completed. Staff attended trainings provided by the Northern Middlesex Stormwater Collaborative.	Training will continue on spill prevention through partnership with the Northern Middlesex Stormwater Collaborative.
Revised					
15	Response plan for hazardous spills	Local Emergency Management Committee	Develop and implement plan for employees and public	A Comprehensive Hazardous Materials Release Plan for the Town has been completed.	Implementation, as needed.
Revised					
16	Wet & dry weather inspections for priority outfalls	Highway and Conservation Director	Identify likely areas, perform annually	Continue performing wet and dry inspections	Continue sampling program. Will create a more in-depth plan for systematic sampling of outfalls.
Revised					
17	Modify bylaws to prohibit dumping into storm systems	Planning Board, Conservation Commission, Selectmen	Develop bylaw for town meeting vote.	New By-law adopted in 2007.	Implement bylaw.
Revised					
18	Monitor illicit discharges into sewer & storm water systems	Sewer	Identify likely portions of town and monitor annually.	The Sewer Superintendent has identified areas of concern and monitors continually.	Continue to monitor and eliminate illicit connections to the sewer and storm systems.
Revised					

19	Detection of failed septic systems	Board of Health	Provided Hotline for public	Two telephone lines are connected to the Board of Health office 24 hours a day with voice mail.	Continue to provide hotline.
Revised					

3a. Additions

19A	Pamphlet developed and distributed regarding illicit connections to sewer system	Sewer Commission	Distribute yearly with sewer bills.	Developed and Distributed brochures with bills. Have an I&I memo on the website.	Continue to distribute with sewer bills. Place on website.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities Interim Period
20	Enhance zoning for sediment and erosion control	Planning Board, Conservation Commission	Prepare zoning bylaw for town meeting vote	New By-law adopted in 2007.	Continue to implement. Revisions on flood plain by-laws proposed with FEMA approved and now being implemented.
Revised					
21	Revise site plan, subdivision, conservation regulations	Planning Board, Conservation Commission	Revise to require stormwater pollution prevention plan.	The Conservation Commission and Planning Board implemented regulations requiring conformance with the Massachusetts Department	Completed and Continue Implementation

Revised				of Environmental Protection Stormwater Management Policy Standards and Best Management Practices.	
22	Develop regulations for erosion and sedimentation	Conservation, Planning Board, Selectmen,	Regulations including control of waste & portable toilets	The Planning Board and Conservation Commission have developed regulations regarding erosion and sedimentation.	Planning Board to develop regulations regarding control of waste and portable toilets. Commission implements erosion and sediment controls through local regulations and the public meeting process.
Revised					
23	Revise site plan & subdivision regulations	Planning Board, Conservation Commission, Selectmen	Regulations including inspection and enforcement in Bond amount	Completed	Implementation
Revised					
24	Revise site plan & subdivision regulations	Planning Board, Conservation Commission, Selectmen	Regulations including signed affidavit that conditions will be met.	Completed	Implementation
Revised					
Revised					

4a. Additions

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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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities Interim Period
25	Modify zoning for control of post development runoff	Planning Board, Highway	Prepare zoning bylaw for town meeting vote	New By-law adopted in 2007	Implementation
Revised					
26	Modify site plan & subdivision regulations for maintenance	Planning Board, Conservation Commission, Selectmen	Regulations including long term maintenance of stormwater	Completed	Implementation
Revised					
27	Modify site plan & subdivision regulations for water quality	Planning Board, Conservation Commission, Selectmen	Regulations including minimizing impacts to water quality	Revisions to By-law under consideration	Implementation.
Revised					
Revised					
Revised					

Revised					

5a. Additions

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities Interim Period
28	Training program for town employees	School, Water, Highway, Sewer, Emergency Management Committee	Annual training for fertilizer, snow, dumping, maintenance and waste	Completed.	Continue annual training Working on specialized training sessions with North Middlesex Stormwater Collaborative for employees and Board members both elected and appointed.
Revised					
29	Street Sweeping	Highway	Annual sweeping of streets	Street sweeping took place in May and June of 2016.	Continue to sweep streets first chance in the spring. Scheduled for May and June 2017.
Revised					
30	Catch basin cleaning	Highway	Annual cleaning of basins	A total of 1,476 catch basins were cleaned in May and June cleaned.	Continue catch basin cleaning program in the spring of each year.
Revised					
31	Water main flushing with dechlorination	Water	Annual flushing after street sweeping	Completed after street sweeping completed	Continue to flush water main first chance in spring after street

Revised					sweeping completed.
32	Spill kits at municipal facilities	All Depts.	Annual Training	All municipal buildings have spill kits. Fire, Highway, Board of Health, Conservation, and most of the Police Dept. have had HAZMAT 1 st Response Awareness training.	Ongoing
Revised					
33	TV or inspect all sewer lines in 20 years	Sewer, Highway	Develop plan in five years	Sewer Department purchased a camera package to inspect sewer lines. The camera can be utilized, as feasible, to investigate storm drains as well.	Initiate inspection of possible illegal connections and propose dye testing this summer along with using the camera to ensure that all connections are approved and tested for discharge parameters.
Revised					
34	Develop salt alternatives for sensitive areas	Highway	Develop and purchase in two years	Researching alternatives. Uses reduced salt/sand mixture in sensitive areas.	Will continue to research alternatives.
Revised					
35	Inspect and maintain salt shed	Highway	Annual inspection	Deicing materials storage facility continually monitor with close scrutiny at the ends and beginning of each season	Continued monitoring
Revised					

6a. Additions

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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Interim Period
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Flood Plain to River revised per MassDOT major road realignment and Bridge Repair Project. All Storm water utilities updated to bring Major Intersection of Rtes 113, 3A and the River to up-to-date specifications. All information and calculations and planting plans on file.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Storm water management position created/staffed	(y/n)	Yes
Annual program budget/expenditures	(\$)	0

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	70 %
Stormwater management committee established	(y/n)	YES
Stream teams established or supported	(# or y/n)	NO
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	YES
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	1
▪ community participation	(%)	10%
▪ material collected	(tons or gal)	See enclosure
School curricula implemented	(y/n)	YES

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	(#)	138
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	100
▪ CADD	(%)	
▪ GIS	(%)	100
Outfalls inspected/screened	(# or %)	
Illicit discharges identified	(#)	
Illicit connections removed	(#) (est. gpd)	
% of population on sewer	(%)	30%
% of population on septic systems	(%)	70%

Construction

Number of construction starts (>1-acre)	(#)	50
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed	(# or %)	100%
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	50

Post-Development Stormwater Management

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

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1/yr
Total number of structures cleaned	(#)	1432
Storm drain cleaned	(LF or mi.)	350 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	Not weighed
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Screened for loam
Cost of screenings disposal	(\$)	Free

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1/yr
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	1/yr
Qty. of sand/debris collected by sweeping	(lbs. or tons)	Not weighed
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Screened for loam
Cost of sweepings disposal	(\$)	None
Vacuum street sweepers purchased/leased	(#)	None
Vacuum street sweepers specified in contracts	(y/n)	No

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	100 lbs.
▪ Herbicides	(lbs. or %)	4 gals.
▪ Pesticides	(lbs. or %)	N/A

Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	33% 67%
Pre-wetting techniques utilized	(y/n)	No
Manual control spreaders used	(y/n)	No
Automatic or Zero-velocity spreaders used	(y/n)	Yes
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	Yes
Storage shed(s) in design or under construction	(y/n)	No

