Year 1 Annual Report

Massachusetts Small MS4 General Permit Reporting Period: May 1, 2018-June 30, 2019

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed.

Part I: Contact Information

Name	of Municipality or Organi	zation: Town of North	borough		
EPA N	NPDES Permit Number: M	AR041143			
Prima	ry MS4 Program Manag	er Contact Informat	ion		
Name:	Fred Litchfield		Title: Town	n Engineer	
Street	Address Line 1: Town Ha	11			
Street	Address Line 2: 63 Main S	Street			
City:	Northborough	State: MA	Zip Code: 0	1532	
Email:	flitchfield@town.northbo	rough.ma.us	Phone Nur	mber: (508) 39	23-5015
Fax N	umber: (508) 393-6996				
Storm	water Management Prog	gram (SWMP) Inforn	nation		
SWMI	P Location (web address):	https://www.town.norstormwater-drainage	thborough.ma	us/engineerin	ng-department/pages/
Date S	WMP was Last Updated:	September 2018			
	SWMP is not available on sted on the web:	the web please provid	e the physical	address and a	n explanation of why it is

Part II: Self Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4.

Impairment(<u>(s)</u>			
	☒ Bacteria/Pathogens☒ Solids/ Oil/ Grease (Hy	☐ Chloride ydrocarbons)/ Meta	☐ Nitrogen	☐ Phosphorus
TMDL(s)				
In State:			eria and Pathogen Lake and Pond	☐ Cape Cod Nitrogen I Phosphorus
Out of State:	☐ Bacteria/Pathogens	☐ Metals	☐ Nitrogen	☐ Phosphorus
			Cl	ear Impairments and TMDLs
you have con	npleted that permit require dditional information will b	ment fully. If you ho	ave not completed a r	ch box you are certifying that equirement leave the box
		an and autroach nro	, crom	
	op and begin public education of years	-	_	scharged to the MS4 in the
•	• The SSO inventory is	attached to the ema	il submission	
	○ The SSO inventory can	n be found at the fo	llowing website:	
	op written IDDE plan includ	ding a procedure for	screening and sampl	ing outfalls
\boxtimes IDDE	ordinance complete			
	fy each outfall and interconr y rank each catchment for in		from MS4, classify in	nto the relevant category, and
	• The priority ranking o	f outfalls/interconne	ections is attached to	the email submission
	○ The priority ranking of	f outfalls/interconne	ections can be found a	at the following website:
	· /F · 10 1:	. C . 1 (FGG)	1. 1 .	
	ruction/ Erosion and Sedime		_	
Develo measu	op written procedures for sit res	te inspections and e	nforcement of sedime	ent and erosion control
⊠ Develo	op written procedures for si	te plan review		
-	a log of catch basins cleaned	-		
	lete inspection of all stormy	vater treatment struc	etures	

Town of Northborough Page 3
⊠ Keep records relating to the permit available for 5 years and make available to the public
Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicabl Annual Requirements
Public Education and Outreach*
Annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
Permittee or its agents disseminate educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria
* Public education messages can be combined with other public education requirements as applicable (se Appendix H and F for more information)
Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)
Annual Requirements
Public Education and Outreach*
Distribute an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers Distribute an annual message in the summer (June/July) encouraging the proper management of pet
waste, including noting any existing ordinances where appropriate
Distribute an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter
* Public education messages can be combined with other public education requirements as applicable (se Appendix H and F for more information)
Good Housekeeping and Pollution Prevention for Permittee Owned Operations
Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)
Use the box below to input additional details on any unchecked boxes above or any additional information yo would like to share as part of your self assessment:
Year 1 Requirements, Develop written procedures for site inspections and enforcement of sediment and
erosion control and site plan review: The Town implements and enforces its local bylaws and regulations in regards to sediment and erosion control in accordance with General Permit requirements. Written procedures

to document current practices were drafted in Permit Year 1 and will be finalized in Permit Year 2.

Year 1 Requirements, Inspect all stormwater treatment structures: Mapping of structural BMPs and

stormwater treatment structures is not due until Permit Year 2. Therefore, BMPs were not inspected during Permit Year 1. This will begin after Town-owned structural BMPs and treatment structures have been identified and mapped as part of Phase I mapping efforts and SOPs for inspection and maintenance have been written in the Town-wide Good Housekeeping Program in Permit Year 2.

Phosphorus Good Housekeeping: All streets are swept at least once annually, and priority areas are swept twice annually. The Town will estimate the budget needed for increased street sweeping as the entire Town is within the Assabet River watershed; the increased budget will need to be presented as part of the FY21 operating budget request and is subject to Selectmen and Town Meeting approval.

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?	
Yes □ No ⊠	
If yes, describe below, including any relevant impairments or TMDLs:	

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education Number of educational messages completed during the reporting period: 4 Below, report on the educational messages completed during the first year. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program. BMP: 1A-1D: Education and Outreach to All Audiences (Multi-Media Methods) Message Description and Distribution Method: Northborough is a member of the Central Massachusetts Regional Stormwater Coalition (CMRSWC). The Think Blue Massachusetts campaign was created in October 2018 to educate businesses and residents on the effects of stormwater pollution on waterways and to encourage residents to reduce pollution from stormwater runoff. Think Blue Massachusetts created a baseline survey to gauge community knowledge on stormwater, released a "Fowl Water" advertising campaign that targeted CMRSWC member communities, and carried out a follow-up survey to measure the impact of the advertising campaign. Targeted Audience: All Audiences Responsible Department/Parties: DPW - Engineering Measurable Goal(s): In 2018, the follow-up survey indicated that there was a 14% increase in understanding of how stormwater starts and a 12% increase in where stormwater goes. The educational efforts of the 2018 campaign reached over 195,000 individuals in central Massachusetts. The campaign also printed ads in regional newspapers in central Massachusetts. In 2019, the follow-up survey indicated that more than 15% of respondents recalled seeing the "Fowl Water" video and were more likely to know that stormwater pollution ends up in local waterways. The 2019 campaign received 4,782 impressions across Facebook, Instagram, and YouTube for Northborough. Message Date(s): May-June 2018 and June-July 2019 Appendix F Requirements ⊠ Appendix H Requirements ⊠ Message Completed for: Was this message different than what was proposed in your NOI? Yes □ No ⊠

BMP: 1A-1D: Education and Outreach to All Audiences (Multi-Media Methods)

Message Description and Distribution Method:

If yes, describe why the change was made:

The Northborough Engineering Department posts several educational resources on its webpage, including the EPA brochure "After the Storm." "After the Storm" provides information about stormwater runoff, the effects

of pollution, fertilizer use, septic system maintenance, proper pet waste disposal, and ideas for green landscaping. The webpage includes additional links to EPA websites about nonpoint source pollution, green infrastructure, low impact development, and other stormwater management resources.
Targeted Audience: All Audiences
Responsible Department/Parties: DPW - Engineering
Measurable Goal(s):
Educational materials are available to all visitors of Town website.
Message Date(s): Ongoing
Message Completed for: Appendix F Requirements ⊠ Appendix H Requirements ⊠
Was this message different than what was proposed in your NOI? Yes ☐ No ☒
If yes, describe why the change was made:
BMP: 1B: Education and Outreach to Businesses (Multi-Media Methods)
Message Description and Distribution Method:
The Town's Conservation Agent staffed a booth at the first annual environmental fair held at the Northborough Campus of the Sanofi Corporation on Forbes Road. Information on Town resources, conservation, and stormwater was distributed. A Think Blue video was also incorporated into the display, as well as information on non-point source pollution and stormwater runoff.
Targeted Audience: Businesses, institutions and commercial facilities; Residents
Responsible Department/Parties: DPW - Engineering
Measurable Goal(s):
Approximately 200 attendees were present at the Environmental Fair.
Message Date(s): April 22, 2019
Message Completed for: Appendix F Requirements ⊠ Appendix H Requirements ⊠
Was this message different than what was proposed in your NOI? Yes ☐ No ☒
If yes, describe why the change was made:

Town of Northborough

Page 7

Town of Northborough Page 8 Message Description and Distribution Method: The Town's Conservation Agent participated in the Northborough Junior Woman's Club STEM event, and presented four workshops to middle school girls about water quality, stormwater runoff, and non-point source pollution. Attendees also conducted water quality tests and learned about water quality standards. The Town's Conservation Agent presented a workshop at the WPI Women in Science Day Camp. Topics included water quality and its relation to food waste, and attendees learned about water quality standards, stormwater runoff, and non-point source pollution. Targeted Audience: Residents and Businesses, institutions and commercial facilities Responsible Department/Parties: DPW - Engineering Measurable Goal(s): Approximately 60 middle school girls attended the Northborough Junior Woman's Club Stem Event. Approximately 25 fifth grade girls and 4 staff members attended the WPI Women in Science Day Camp. Message Date(s): March 30, 2019 Message Completed for: Appendix F Requirements Appendix H Requirements Was this message different than what was proposed in your NOI? Yes ☐ No ⊠ If yes, describe why the change was made: BMP:1A: Education and Outreach to Residents (Multi-Media Methods) Message Description and Distribution Method: Pet Waste Education: The Dog License form from the Town Clerk includes a summary of regulations, including the "Pooper Scooper Bylaw" (Town Bylaw 2-24-090). In Permit Year 2, Town Clerk will also begin sending the MassDEP / DCR brochure in the mail with license renewals, "Dog Waste and Surface Water Quality." Targeted Audience: Residents Responsible Department/Parties: DPW - Engineering Measurable Goal(s): There were 1,813 licenses issued this year.

Appendix F Requirements

Was this message different than what was proposed in your NOI?

Appendix H Requirements ⊠

Yes ☐ No ⊠

Message Date(s): Ongoing

Message Completed for:

Town of Northborough	Page 9
If yes, describe why the change was made:	
Add an Educational Message	
MCM2: Public Participation	
Describe the opportunity provided for public involvement in the development of the Sto Program (SWMP) during the reporting period:	ormwater Management
The Stormwater Management Plan (SWMP) was posted for public review and made pure Town's website. The SWMP was also presented at a public Conservation Commission of 10, 2018 where public comments and feedback were solicited.	•
Was this opportunity different than what was proposed in your NOI? Yes ☐ No ☒	3
Describe any other public involvement or participation opportunities conducted during	
The Town holds multiple cleanup and collection events throughout the Permit Year that pollution and litter. A household hazardous waste collection day was held on November Town Cleanup was held on April 27, 2019. Brush collection days were held on May 31, 2019 where residents were encouraged to bring yard waste, including grass and leaves, for proper disposal. The collection days were advertised on the Town's webpage and in	r 10, 2018. The Annual , 2019 and June 1, to the Highway Garage
The Town's Conservation Agent regularly presents workshops to students, residents, an Northborough. See MCM 1 for additional information about the presentations complete	
	DE'
MCM3: Illicit Discharge Detection and Elimination (ID)	DE)
Sanitary Sewer Overflows (SSOs) Below, report on the number of SSOs identified in the MS4 system and removed during to	this reporting period.
Number of SSOs identified: 0	
Number of SSOs removed: N/A	
Below, report on the total number of SSOs identified in the MS4 system and removed to report SSOs identified since 2013.	date. At a minimum,
Total number of SSOs identified: 0	
Total number of SSOs removed: N/A	

MS4 System Mapping

Describe the status of your MS4 map, including any progress made during the reporting period (phase I map due in year 2):

Phase I mapping elements are largely complete. Additional mapping is needed for Town-owned stormwater treatment structures. Many Phase II mapping elements are complete, including manholes, catch basins, and most connectivity. The Town will continue to improve the map as modifications are made and the IDDE Program is implemented.

Samoning of Outfalls/Interconnections
<u>Screening of Outfalls/Interconnections</u> If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring
results should include the date, outfall/interconnection identifier, location, weather conditions at time of
sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses.
O The outfall screening data is attached to the email submission
The outfall screening data can be found at the following website:
N/A
Below, report on the number of outfalls/interconnections screened during this reporting period.
Number of outfalls screened: 0
Below, report on the percent of total outfalls/interconnections screened to date.
Percent of total outfalls screened: 0
Catchment Investigations
If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.
 The catchment investigation data is attached to the email submission
The catchment investigation data can be found at the following website:
N/A
Below, report on the number of catchment investigations completed during this reporting period.
Number of catchment investigations completed this reporting period: 0
Below, report on the percent of catchments investigated to date.
Percent of total catchments investigated: 0
Optional: Provide any additional information for clarity regarding the catchment investigations below:
No catchment investigations were completed in Permit Year 1 as investigations of problem catchments are not

required to begin until Permit Year 2. Additionally, the Town has not identified any problem catchments.

IDDE Progress

If illicit discharges were found, please submit a document desperiod, and cumulative to date, including location source; deduce of discovery; and date of elimination, mitigation, or only	scription of the discharge; method of discovery;
date of discovery; and date of elimination, mitigation, or enfo schedule of removal.	rcement OR plannea corrective measures and
The illicit discharge removal report is attac	hed to the email submission
The illicit discharge removal report can be	found at the following website:
N/A	
Below, report on the number of illicit discharges identified are removed during this reporting period.	nd removed, along with the volume of sewage
Number of illicit discharges identified: 0	
Number of illicit discharges removed: N/A	
Estimated volume of sewage removed: N/A	[UNITS]
Below, report on the total number of illicit discharges identify the number of illicit discharges identified and removed since	*
Total number of illicit discharges identified:)
Total number of illicit discharges removed:	N/A
Optional: Provide any additional information for clarity regardlength to be removed below:	rding illicit discharges identified, removed, or
Employee Training	
Describe the frequency and type of employee training condu	cted during the reporting period:
An interdepartmental meeting was conducted on June 10, 20 of the IDDE Plan and IDDE Program responsibilities. The T	
provided with a "Pocket Guide to Illicit Discharges" in May illicit discharges and provides contact information for report	2019, which helps identify different types of

Town of Northborough

Page 11

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance Development

Describe the status of the post-construction ordinance required to be complete in year 2 of the permit term:

The Town will review existing bylaws and regulations and determine whether updates or additions are needed to meet the requirements of the General Permit in Permit Year 2.

As-built Drawings

Describe the status of the measures the MS4 has utilized to require the submission of as-built drawings and ensure long term operation and maintenance of completed construction sites required to be complete in year 2 of the permit term:

Northborough Wetland Regulations require as-built drawings and an O&M Plan to be submitted with requests for certificates of compliance. The Groundwater Zoning bylaw also requires as-builts to be submitted to prove regulations are being met. The Town will review existing bylaws and regulations and determine whether updates or additions are needed to meet the requirements of the General Permit in Permit Year 2.

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

Preparation for the Street Design and Parking Lots Report has not yet begun as this requirement is due in Permit Year 4.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

Preparation for the Green Infrastructure Report has not yet begun as this requirement is due in Permit Year 4.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

Preparation for the Retrofit Properties Inventory has not yet begun as this requirement is due in Permit Year 4.

MCM6: Good Housekeeping	
Catch Basin Cleaning	
Describe the status of the catch basin cleaning optimization plan:	
The plan will be formalized during development of a written operation and maintenance	e plan in Permit Year
If complete, attach the catch basin cleaning optimization plan or the schedule to gather the optimization plan: The catch basin cleaning optimization plan or schedule is attached to	
The catch basin cleaning optimization plan or schedule can be found website:	at the following
N/A	
Below, report on the number of catch basins inspected and cleaned, along with the total removed from the catch basins during this reporting period.	l volume of material
Number of catch basins inspected: 1,607	
Number of catch basins cleaned: 1,607	
Total volume or mass of material removed from all catch basins: 483	tons
Below, report on the total number of catch basins in the MS4 system, if known.	
Total number of catch basins: 1,672	
If applicables	
If applicable:	secutive routine
Report on the actions taken if a catch basin sump is more than 50% full during two con inspections/cleaning events:	

Page 13

Town of Northborough

Describe the status of the written procedures for sweeping streets and municipal-owned lots:

All streets are swept at least once annually, and priority areas are swept twice annually. Written procedures for street sweeping will be formalized during development of a written operation and maintenance plan in Permit Year 2. The Town will estimate the budget needed for increased street sweeping as the entire Town is within the Assabet River watershed; the increased budget will need to be presented as part of the FY21 operating

Town of Northborough			Page 14
budget request and is subject to Selectmen and	Town Meeting	approval.	
Report on street sweeping completed during th	e reporting perio	od using one of the three metr	rics below.
O Number of miles cleaned:			
O Volume of material removed	: 179	CY (2019)	
• Weight of material removed:	457.59	tons (2018)	
If applicable:			
For rural uncurbed roadways with no catch bastargeted sweeping plan:	sins, describe the	e progress of the inspection, d	locumentation, and
Winter Road Maintenance			
Describe the status of the written procedures for sand:	or winter road m	aintenance including the store	age of salt and
Deicing materials are stored in a covered shed formalized during development of a written op			
Inventory of Permittee-Owned Properties			
Describe the status of the inventory, due in year parks and open spaces, buildings and facilities	_		
The Town possesses institutional knowledge of Town will develop a written inventory during	-	properties to be included in th	e inventory. The
O&M Procedures for Parks and Open Space	es, Buildings ar	d Facilities, and Vehicles a	nd Equipment
Describe the status of the operation and mainted permittee-owned properties (parks and open spinclude maintenance activities associated with	paces, buildings		·
Operation and maintenance procedures association formalized during development of a written op	-	±	•

Stormwater Pollution Prevention Plan (SWPPP)

Town of Northborough	ge 15
Describe the status of any SWPPP, due in year 2 of the permit term, for permittee-owned or operated faci including maintenance garages, public works yards, transfer stations, and other waste handling facilities vapollutants are exposed to stormwater:	
The Town implements a SWPPP (dated February 2018) for the DPW facility. The Town did complete so inspections in Permit Year 1 and the inspection frequency will be increased in accordance with SWPPP inspection schedules in Permit Year 2. The Town will identify if additional properties or facilities are in rof a SWPPP and will prepare these in accordance with the General Permit by the end of Permit Year 2.	
Below, report on the number of site inspections for facilities that require a SWPPP completed during this reporting period.	
Number of site inspections completed: 1	
Describe any corrective actions taken at a facility with a SWPPP:	
None	
O&M Procedures for Stormwater Treatment Structures	
Describe the status of the written procedure for stormwater treatment structure maintenance:	
Written procedures for operation and maintenance of stormwater treatment structures will be formalized during development of a written operation and maintenance plan in Permit Year 2.	

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or

permit effect	tiveness must be attached.
	Not applicable
	O The results from additional reports or studies are attached to the email submission
	○ The results from additional reports or studies can be found at the following website(s):
	itoring or studies were conducted on your behalf or if monitoring or studies conducted by other reported to you, a brief description of the type of information gathered or received shall be blow:

Additional Information	
Optional: Enter any additional information relevant to your stormwater management program implementati during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above	

Page 16

Activities Planned for Next Reporting Period

Town of Northborough

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 2 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ⊠

- Complete system mapping Phase I
- Begin investigations of catchments associated with Problem Outfalls
- Develop or modify an ordinance or other regulatory mechanism for post-construction stormwater runoff from new development and redevelopment
- Establish and implement written procedures to require the submission of as-built drawings no later than two years after the completion of construction projects
- Develop, if not already developed, written operations and maintenance procedures
- Develop an inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; review annually and update as necessary
- Establish a written program detailing the activities and procedures the permittee will implement so that the MS4 infrastructure is maintained in a timely manner
- Develop and implement a written SWPPP for maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater
- Enclose or cover storage piles of salt or piles containing salt used for deicing or other purposes
- Develop, if not already developed, written procedures for sweeping streets and municipal-owned lots
- Develop, if not already developed, written procedures for winter road maintenance including storage of salt and sand
- Develop, if not already developed, a schedule for catch basin cleaning
- Develop, if not already developed, a written procedure for stormwater treatment structure maintenance
- Develop a written catchment investigation procedure (18 months)

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4 in the last 5 years
- Continue public education and outreach program

• Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted

- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all uncurbed streets at least annually

Provide any additional	details on activities	s planned for permi	t year 2 below:	

The Town acknowledges the General Permit Year 2 requirements and intends to complete as many activ	vities as
possible based on funding and staff availability.	

Part V: Certification of Small MS4 Annual Report 2019

40 CFR 144.32(d) 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, I certify that 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.

Name:	Frederic E. Litchfield	Title: Town Engineer	
Signature	[Signatory may be a duly authorized representative]	Date: 9/27/19	