

**Municipality/Organization:** Town of Braintree, MA

**EPA NPDES Permit Number:** [MAR041029]

**MaDEP Transmittal Number:** W- 041000 (for No.1)

**Annual Report Number  
& Reporting Period:** No. 12: March 2014-March 2015

## NPDES PII Small MS4 General Permit Annual Report

### Part I. General Information

Contact Person: Bob Campbell

Title: Town Engineer

Telephone #: 781-794-8012

Email: rcampbell@braintreema.gov

#### 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: Robert P. Campbell, P.E.

Title: Town Engineer

Date: June 26, 2015

ATTACHMENT

DECLARATION

I declare under penalty of perjury that I am Robert P. Campbell, P.E., the Town Engineer of the Town of Braintree, Massachusetts, that I am authorized to respond on behalf of the Town and that the foregoing is a complete, true and correct response.

Executed on June 26, 2015

A handwritten signature in black ink that reads "Robert P. Campbell". The signature is written in a cursive style with a horizontal line underneath it.

Robert P. Campbell P.E., Town Engineer

## **Part II. Self-Assessment**

The Town of Braintree is committed to protection of our water resources and is in compliance with all permit conditions, except for the following provisions:

As part of PP3 we were to incorporate stormwater curriculum into the public school system, but that proved to be unworkable. The schools already have environmental awareness built into their curriculum other than Planning or Public Works suggested items. The Braintree High School Environmental Club has focused on stormwater management and is planning a rain garden on school property.

## 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 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
PE 1	<b>Partner w/ local organization</b>		Continue to work with partners	The Planning & Community Development Department coordinated with the Fore River Watershed Association and Sustainable Braintree <sup>3</sup> on a well-attended Monatiquot River clean-up. The Department continues to work on environmental issues with these groups as well as the East Braintree Civic Association and the environmental clubs at Thayer Academy.	Continue to work with partners
Revised		<i>Christine Stickney – Planning and Community Development</i>			
PE 2	<b>Develop public education brochures/press releases</b>		Continue to distribute stormwater-related educational materials.	Included stormwater information in periodic mailings.	Include brochures in water department periodic mailings, and target 1 message each to two of the following groups: residential, commercial/institutional, construction and industrial audiences.
Revised		<i>Thomas W. Whalen - DPW</i>			
PE 3	<b>Classroom instruction</b>		Work with schools to incorporate into curriculum	The Braintree High School Environmental Club is focusing on stormwater management and planning a rain garden on school property.	Work with schools to incorporate into curriculum
Revised		<i>Christine Stickney – Planning and Community Development</i>			

PE 4	<b>Develop web page</b>		Maintain and update webpage	An educational webpage on stormwater was posted to the Town website and can be viewed at <a href="http://www.townofbraintreegov.org/Stormwater.htm">http://www.townofbraintreegov.org/Stormwater.htm</a> The Wetlands Protection Act and local regulations are posted and updated on the Town's web site. Results of water quality testing at Town beaches are also posted and maintained.	Maintain and update webpage. Add the annual report, and the SWMP when available.
Revised		<i>Christine Stickney – Planning and Community Development</i>			
PE 5	<b>Cable Access TV Show</b>			Sent DVD to BCAM for intermittent broadcast.	Continue to supply storm-water topic information to local cable broadcasters.
Revised		<i>Thomas W. Whalen - DPW</i>			

**1a. Additions**


## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
PP 1, PP 2 Revised	<b>Partner w/ local organization</b>	<i>Christine Stickney – Planning and Community Development</i>	Continue partnerships	The Town-sponsored annual beautification day included clean-ups throughout Town. Various civic groups and residents participated.	Continue partnership with civic groups and residents.
PP 4 Revised	<b>Organize public meetings and panels/</b>	<i>Thomas W. Whalen - DPW</i>	Discussion of stormwater at public meeting	Stormwater management is a frequent topic of discussion in many of the televised meetings of the Braintree Planning Board and meetings of the Conservation Commission	Town Councilors will annually incorporate stormwater hearing into one of their meetings.
PP 5 Revised	<b>Town Departments Involved</b>	<i>Thomas W. Whalen - DPW</i>	Continue to involve departments	Stormwater management continues to be a frequent topic at the DPW Department weekly meetings. Also, The DPW and other departments work on various BMP projects, “Beautify Braintree Day” and the overall stormwater program.	Continue to involve departments

### 2a. Additions


### 3. Illicit Discharge Detection and Elimination

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 12</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 13</b>
ID 1	<b>Develop a comprehensive Storm Drain Map for the Town</b>		Continue to update and infill data, integrate into GIS	Devoted much greater effort into integration of stormwater system information, revealing need for even more.	Continue to update and infill data, integrate into GIS
Revised		<i>Thomas W. Whalen - DPW</i>			
ID 2	<b>Implement a Town Bylaw</b>		Reevaluate the need for a distinct IDDE bylaw	Several Town Departments (Engineering, Highway and Planning & Community Development) worked on evaluating the adequacy of the existing regulations relative to illicit discharge. The departments decided to recommend the Town adopt a distinct IDDE ordinance, but did not succeed in getting an ordinance to the Mayor and Council.	Finish development of IDDE ordinance for Council and Mayoral approval. Samples of successful ordinances from other communities are being examined for adaptation.
Revised		<i>Christine Stickney – Planning and Community Development</i>			
ID 3	<b>Perform an illicit discharge detection campaign</b>		Continue	Discussed with consultant (W&S) re: assisting in setting up illicit discharge detection program as part of new MS4 requirements.	Develop a proactive, written plan for inspection and sampling, particularly dry weather discharges. Include budget. Tweak with results of public meeting. Check once a year.
Revised		<i>Thomas W. Whalen - DPW</i>			
ID 4	<b>Correct Illicit Discharges</b>		Continue	No illicit discharges were confirmed.	Fix illicit discharges confirmed in accordance with plan, and in public view / forums, to promote awareness.
Revised		<i>Thomas W. Whalen - DPW</i>			

ID 5	<b>Educate Citizens</b>	<i>Thomas W. Whalen - DPW</i>	Re-distribute fliers	Discussed internally assisting in finding different ways to educating citizens about illicit discharges. Determined locations where sewer service cleanouts will be installed to monitor possible sump pump operations that could overtax local sewers.	Edit DCR brochure, put it on web site, place at library and Town Hall. Install the sewer cleanouts.
Revised					

**3a. Additions**

					Compile documentation of SSO's over the last 5 years.
					Ramp up IDDE efforts as follow: <ul style="list-style-type: none"> <li>a. Obtain legal authority to prohibit, investigate and remove illicit discharges.</li> <li>b. Assess, rank and prioritize stormwater catchment areas.</li> <li>c. Perform stormwater outfall screening and sampling during dry and wet weather conditions.</li> <li>d. Develop and implement a written procedure for identifying suspected illicit discharges.</li> <li>e. Remove illicit discharges and confirm their removal.</li> </ul>



#### 4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
CS 1	<b>Implement by-law related to construction runoff control</b>	<i>Christine Stickney – Planning and Community Development</i>	Continue to implement	The Town continues to review its ability to regulate construction site runoff. The Town has existing authority to adequately regulate disturbance of 5000 square feet or more through the Planning Board grading permit/erosion control permit .	Continue to implement grading/erosion control permits as well as stormwater review as part of general development review. Modify bylaws to make them consistent with the recharge and treatment requirements of the new permit. Samples of successful ordinances from other communities are being examined for adaptation.
Revised					
CS 2	<b>Incorporate sanctions into By-Law to ensure compliance</b>	<i>Christine Stickney – Planning and Community Development</i>	Continue to implement	The Conservation Commission and Planning Board have authority to issue fines for non-compliance under the zoning bylaw and wetland bylaw.	Continue to implement. Samples of successful ordinances from other communities are being examined for adaptation.
Revised					
CS 3	<b>Site Plan Review</b>	<i>Christine Stickney – Planning and Community Development</i>	Continue to implement	The Planning Board continues to require applicants to comply with stormwater standards during the site plan review or special permit processes.	Continue to implement.
Revised					
CS 4	<b>Site inspection and enforcement of control measures</b>	<i>Christine Stickney – Planning and Community Development</i>	Continue to implement	The Conservation Commission and Planning Board continue to inspect and enforce on stormwater and erosion control issues.	Continue to implement

Revised		<i>Christine Stickney – Planning and Community Development</i>			
CS 5	<b>Establish procedures to record and address public inquiries or concerns</b>	<i>Christine Stickney – Planning and Community Development</i>	Continue to implement	The Planning and Community Development Department and Engineering Department respond to any public inquiries or concerns they receive.	Continue to implement
Revised					

**4a. Additions**

					Assess current street design and parking lot guidelines and other local requirements that affect creation of impervious cover and modify Town by-laws, guidelines and regulations as appropriate. Assess feasibility of allowing green infrastructure practices and modify Town by-laws, guidelines and regulations as appropriate. Update Site Plan Review requirements to track impervious area and directly connected impervious area and a stormwater BMP operations and maintenance manual.

## 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 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
PC 1	<b>Evaluate, enhance and implement zoning requirements</b>	<i>Peter Lapolla –Planning/ConCom</i>	Continue to implement	The Planning Board and Conservation Commission review plans for post-construction stormwater management.	Continue to implement
Revised		<i>Christine Stickney – Planning and Community Development</i>			
PC 2	<b>Develop regulations requiring specific structural storm water controls/</b>	<i>Peter Lapolla –Planning/ConCom</i>	Continue to implement	The Conservation Commission and Planning Board continue to require adherence to the DEP's stormwater standards. Said standards require achieving specific standards through the use of a menu of Best Management Practices and structures.	Continue to implement
Revised		<i>Christine Stickney – Planning and Community Development</i>			
PC 3	<b>Develop review and inspection procedures for private storm water systems</b>	<i>Peter Lapolla –Planning/ConCom</i>	Continue inspection procedure	Conditions of approval on all special permits, site plan reviews and subdivision decisions and Conservation Commission Orders of Conditions require the applicant	Continue inspection procedure

Revised		<i>Christine Stickney – Planning and Community Development</i>		or their successors to provide and continually implement a stormwater management plan. Conditions require regular inspections and detailed cleanliness standards for paved areas, stormwater structures and pipes, and detention basins.	
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**5a. Additions**


## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 12</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 13</b>
GH 1	<b>Audit of Town Facilities</b>	<i>John McMahon - DPW</i>	Implement audit of Town maintenance activities and operations that have potential to contribute pollutants to stormwater runoff	Still discussing with consultant (W&C) re: assistance in setting up audit of Town Facilities	Update materials stored, secondary containment, floor drains, traps, SOP's
Revised		<i>Thomas W. Whalen - DPW</i>			
GH 2	<b>Operation and Maintenance Program</b>	<i>John McMahon - DPW</i>	Continue to implement	New Town standard frame & grate has "dump no waste...drains to waterway" cast into grate. The new grates are being installed at all road reconstruction projects and anywhere that catchbasins are being repaired.	Continue to implement. Develop Stormwater Pollution Prevention Plans for applicable municipal facilities. Assess Town properties for retrofitting with BMP's where feasible. Add more good housekeeping practices to all municipal buildings/facilities. Annually inspect Town's stormwater treatment structures.
Revised		<i>Thomas W. Whalen - DPW</i>			
GH 3	<b>Employee Training Programs</b>	<i>John McMahon - DPW</i>	Continue to implement	Discussed with custodians use of catchbasins near facilities... no dumping wash waters.	Re- present "Storm Watch" Everyday BMP's, employee training package by EXCAL Visual.
Revised		<i>Thomas W. Whalen - DPW</i>			
GH 4	<b>Recycling Program</b>	<i>John McMahon - DPW</i>	Monitor and enhance recycling program	The Single Stream recycling has made it easier to recycle in every home in town. Participation is	Monitor and enhance recycling program

Revised		<i>Thomas W. Whalen - DPW</i>		growing.	
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**6a. Additions**

					Enact by-laws to require appropriate operation and maintenance of stormwater controls and for Town oversight.

**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 12</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 13</b>
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

**7a. Additions**


**7b. WLA Assessment**

**Part IV. Summary of Information Collected and Analyzed**

The Town hired a consultant, Brown and Caldwell, for the task of collecting data and analyzing the current status of our MS4 operations and how to transition to the new Permit. Many of their conclusions and recommendations are incorporated into this annual report. The analysis will also be utilized to secure council action to create and fund the framework for MS4 operations going forward.

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures	(\$)	Not yet tracked

**Education, Involvement, and Training**

Estimated number of residents reached by education program(s)	(# or %)	10-12%
Stormwater management committee established	(y/n)	Not per se
Stream teams established or supported	(# or y/n)	Y
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	0.5 – 1.0 mi.
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2
▪ community participation	(%)	4% (very good)
▪ material collected	(tons or gal)	9 tons
School curricula implemented	(y/n)	N




**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				
Accompanying Regulation Status (indicate with “X”)				
▪ Illicit Discharge Detection & Elimination	X	X		
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				

**Mapping and Illicit Discharges**

Outfall mapping complete	(%)	About 95%
Estimated or actual number of outfalls	(#)	247
System-Wide mapping complete (*As detail is added more omissions apparent.)	(%)	97% *
Mapping method(s)		
▪ Paper/Mylar	(%)	85
▪ CADD	X (%)	90%*
▪ GIS	(%)	90%*
Outfalls inspected/screened	(# or %)	5%
Illicit discharges identified	(#)	0
Illicit connections removed	(#)	0

X

	(est. gpd)	
% of population on sewer	(%)	99
% of population on septic systems	(%)	1

### Construction

Number of construction starts (>1-acre) (Quirk, Quincy Av, CATS Academy, South St)	(#)	2
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(# or %)	dozens
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	2

### 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)	Not tracked

### Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	0.33 /year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	0.33/year
Total number of structures cleaned	(#)	770
Storm drain cleaned	(LF or mi.)	~2000 lf

Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	Unknown
Disposal or use of screenings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)	compost	3000 cy
Cost of screenings disposal	(\$)	\$70,000

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	2
Qty. of sand/debris collected by sweeping	(lbs. or tons)	2700 t/yr
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	SEMASS
Cost of sweepings disposal	(\$)	N/A
Vacuum street sweepers purchased/leased	(#)	0
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 %)	Can't compare
▪ Herbicides	(lbs. or %)	Can't compare
▪ Pesticides	(lbs. or %)	Can't compare

Anti-/De-Icing products and ratios	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub>	82%  10% (~3700Gal)
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	% CMA % Kac % KCl % Sand	0%  8%
Pre-wetting techniques utilized	(y/n)	Y
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	N
Estimated net reduction in typical year salt application	(lbs. or %)	Can't compare
Salt pile(s) covered in storage shed(s) (Shed collapsed under winter snow load.)	(y/n)	N
Storage shed(s) in design or under construction	(y/n)	Y