

**Municipality/Organization:** Town of Durham, NH

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**EPA NPDES Permit Number:** NHR041006

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**MaDEP Transmittal Number:** W-

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**Annual Report Number  
& Reporting Period:** No. 13: May 1, 2016 to April 30, 2017

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## NPDES PII Small MS4 General Permit Annual Report

### Part I. General Information

Contact Person: April Talon Title: Town Engineer

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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: 

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Printed Name: April Talon

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Title: Town Engineer

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Date: April 29, 2016

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

The Town of Durham, New Hampshire (Town) has continued to work toward meeting goals set for 2015-16 and proceed into the 13<sup>th</sup> year of the 2003 permit. The following is an overview of the efforts performed by the Town to satisfy the Phase II requirements for all six minimum control measures.

**Public Education and Outreach** – In 2015 and 2016, the Town continued to take an active role in educating local government officials, municipal staff, and the citizens of Durham and elsewhere about stormwater management and the community's responsibilities with regard to MS4 Phase II Stormwater regulations.

The Town of Durham and the University of New Hampshire (UNH) continue to discuss and further develop the comprehensive integrated watershed management plan for the Oyster River Watershed. In 2015, The Town/University completed a \$67,000 technical assistance grant from EPA to assist with Integrated Planning Efforts. Tetra Tech worked with staff to evaluate Town and UNH stormwater resources, completed an assessment of current and potential wastewater stormwater funding strategies, as well as completed an analyses of nitrogen loading by Durham's WWTP and other sources in the Oyster River Watershed.

Secondly, also in 2015, the Town received a \$7,500 grant for consultant assistance in the Great Bay Pollution Tracking and Accounting Pilot Project (PTAPP). This project is a collaborative effort between local communities in our region, regional planning commissions NHDES, and EPA, to enable regional coordination on nitrogen tracking and accounting for the Great Bay region. Great Bay region communities will save time and money by combining available resources to develop shared approaches and tools. Goals of the project include creation of a tracking tool to track implementation of structural and non-structural BMPs, development of a regional accounting system to account, credit, and track estimated pollutant load reductions achieved through BMP implementation.

Friday Updates email blasts are used on a regular basis, to inform local residents about various local stormwater programs and non-point source control efforts using the Town's list-server which sends out a weekly email entitled "The Town of Durham Friday Update" to more than 2000 area residents.

The Town Engineer continues to support the Durham Planning Board with site plan reviews of proposed development project for compliance with the Town's updated stormwater

management regulations which were recently revised in 2015 as part of the update to the Site Plan Regulations. These regulations strongly encourage and create incentives for developers to incorporate Low Impact Development (LID) design features into their projects.

**Public Participation/Involvement** – On September 26, 2015, the Town Engineer in conjunction with the Conservation Commission attended Durham Day 2015, which is a yearly Town event for the community, to promote safe fertilizer use in the watershed. The public was asked to describe on their own how fertilizer was harmful to our local streams and rivers. They were also asked to submit comments and questions via a drop box on how we can better inform them about environmental issues in our community. The event was very successful and this will be a yearly involvement.

A new bio retention system was constructed at an Oyster River stormwater outfall near the corner of Oyster River Road and Garden Lane. The Town is worked in conjunction with the UNH stormwater center and received grant funding for this project. The Town and UNH Stormwater center answered questions from the public and explained how the new treatment system would better treat the stormwater generated from the neighborhood.

The “Project Stormdrain - Online Stormwater Observation Form” webpage continues on the Town’s website enabling residents to easily report personal observations of the condition of stormwater system and report any water quality or system problems. This webpage gives area residents an easy opportunity to be actively involved in protecting the local waterways. Town staff and various active Town Board/Committee members and resident volunteers continue to be involved with local watershed associations, local river advisory committees, conservation commissions, and regional planning commissions that review and report on conditions and status of stormwater management within the Town and region. These groups are instrumental in monitoring the watersheds that encompass the Town and promoting responsible stormwater management. In 2011, the Oyster River was officially designated in the New Hampshire Rivers Management and Protection Program under RSA 483 and as a result a local advisory committee dedicated to the Oyster River was formed which includes representatives from both Durham and UNH.

**Illicit Discharge Detection and Elimination (IDDE)** – No confirmed illicit discharges were detected over the past year. IDDE language was incorporated into the Town’s Water Ordinance (Chapter 158 of the Town Code) for the protection of water resource and enforcement provisions regarding illicit discharge detection and elimination (IDDE). Durham now has the legal authority to impose fines for any illicit discharge that threatens a water body within the Town of Durham.

The Durham Town Engineer remains active with the New Hampshire Seacoast Stormwater Coalition (NHSSC), which is a regional coalition of municipal stormwater system managers who meet monthly to collaborate, exchange information, and share/participate in stormwater educational opportunities. As described above, Durham maintains an online report form which is accessed through the Town of Durham’s website. The online form provides a real-time opportunity for area residents to electronically report personal observations on illicit discharges immediately to Town staff.

**Construction Site Stormwater Runoff Control** – Within the past year, 4 major mixed-use commercial/residential construction projects were completed in the downtown area. Each project met with town staff on a weekly basis to review the construction process and ensure that erosion control measures are adequate and in place. Every meeting includes review of the Conditions of Approval of each project. These documents are inclusive to ensure that stormwater management requirements from the Site Plan Regulations are met.

**Post-Construction Runoff Control** – As stated above, current Town regulations require ALL developments to provide adequate up-to-date stormwater management facilities and provides incentives for developments to include LID design features in their stormwater management systems and BMPs. Durham continues to work with area stormwater professionals including the UNH Stormwater Center (a local academic stormwater management research facility), who regularly assist the Town with its stormwater projects. Local developers and design engineers consistently propose innovative stormwater systems for developments in Durham with extremely high standards.

As stated above, the stormwater management requirements incorporated in the Site Plan Review and Subdivision Regulations in 2015 have been valuable in helping Durham comply with the MS4 post-construction runoff control requirements.

**Pollution Prevention/Good Housekeeping** – The Durham Department of Public Works (DPW) continues to follow through with its three year rotational maintenance plan, in which approximately one-third of the Town's catch basins are cleaned and maintained each year. And, the catch basins located in the busiest area of Durham's urban center are cleaned a minimum of every year or more frequently as needed. A minimum of 175 catch basins are scheduled to be cleaned in 2016. The Town is continuing to develop its stormwater management system Master Plan - Capital Improvement Plan (CIP). This will help to identify, prioritize, and track areas of the stormwater system that are in greatest need of improvement. The Town maintains an aggressive street sweeping program in which all downtown streets are swept at least weekly and other areas are swept at least quarterly. The Town purchased a new state-of-the-art street sweeper in 2012, which replaced a much older model and enables the Town to more effectively and efficiently remove sediment and particulates from the streets of Durham. In addition, all repairs and maintenance of stormwater structures within the MS4 area are performed with public works staff using updated BMPs and materials.

### Part III. Summary of Control Measures

#### 1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Person	Measurable Goal(s)	Progress on Goal(s) for 2015 – 16	Planned Activities for 2016 – 17
1 Revised X	Develop Educational Resources	Town Engineer	Provide new information and educational opportunities.	Continue to promote local stormwater projects, sharing them with the community and teaching them of the projects need and effectiveness.	Provide more opportunities for area residents to participate in the rain garden projects. Publish more information on the benefits and uses of LID techniques and ways to reduce impervious cover.
2 Revised	Implement Educational Activities	Town Engineer	Broadcast Stormwater related program on local cable TV network	The Town Broadcasted the Planning Board meetings and public hearings relative to developments proposing and implementing innovative stormwater BMPs.	Continuation of public programs and continue publishing stormwater tips and program updates in DPW Newsletters
3 Revised X	Storm Drain Stenciling	Town Engineer	Apply stencils and medallions near catch basins.	A local school group installed stencils and on a series of catch basins in the downtown area.	The Town plans to work with more local school groups installing stencils and medallions on catch basins throughout Town.
4 Revised X	Public Informational Meetings	Town Engineer	Inform public about stormwater improvement projects	The Town and UNH Stormwater Center are involved in the construction of a bio retention system at the corner of Oyster River Road and Garden Lane, utilizing grant funding to repair an old stormwater outfall.	Continue to educate the public by holding project meetings for stormwater improvement projects.

## 2. Public Participation/Involvement

BMP ID #	BMP Description	Responsible Person	Measurable Goal(s)	Progress on Goal(s) for 2015 – 16	Planned Activities for 2016 – 17
1	Create Citizen Committee/ Organization	Town Engineer	Actively participate on local Watershed Associations	Actively participate in various local Citizen Groups such as NH Seacoast Stormwater Coalition (NHSSC).	Continue to play active roles in local organizations.
Revised X					
2	Maintain a Cooperative Relationship with UNH, Boards and Committees, and the Community in general	Town Engineer	Work with UNH and residents on stormwater related issues	Continue to develop and refine the Oyster River Integrated Watershed Plan with UNH and encourage public input.	Coordinate more stormwater activities and programs for public participation and encourage attendance at other related programs.
Revised X					
3	Building and Maintaining Rain Gardens and green bio retention systems.	Town Engineer	Encourage use of green bio retention systems and rain gardens.	The Town construction two new rain gardens as part of the New Town Hall construction project.	Continue working with community groups performing maintenance to local rain gardens and constructing new rain gardens.
Revised X					
4	Community Watershed Monitoring Clean-ups	Town Engineer and other public officials	Coordinate watershed walks and clean-ups, and participate in watershed management planning efforts.	On a monthly basis the Oyster River Watershed Assoc. performs river walks along some portions of the Oyster River in an effort to monitor conditions. River and coastal clean-ups sponsored by various groups are held as annual events. The Oyster River Local Advisory Committee (established in 2011 under RSA 483) includes community members committed to promoting Durham's non-point source management efforts.	Continue to support local organizations sponsoring watershed management of non-point source pollution.
Revised X					

### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Person	Measurable Goal(s)	Progress on Goal(s) for 2015 – 16	Planned Activities for 2016 – 17
1 Revised X	Stormwater Mapping	Town Engineer	Complete map implement within GIS system. Perform IDDE survey	Mapping is 100% complete. Catch basins, drain pipes, culverts, and outfalls were IDDE assessed using pollution sniffing dogs. A system condition prioritization is part of a stormwater system Capital Improvement Plan (CIP).	DPW to continue to assess stormwater infrastructure within MS4 area. The GIS and stormwater system CIP will continue to be updated and improved upon.
2 Revised X	Stormwater Regulations	Town Engineer and Code Enforcement Officer	Adopt IDDE Regulations.	Enforce IDDE requirements per the updated Water Ordinance.	Enforce IDDE requirements per the updated Water Ordinance.
3 Revised	Implement an Information Management System for Tracking Illicit Discharges	Town Engineer	Develop method to routinely monitor for illicit discharges.	The stormwater CIP is ongoing to prioritize problems areas and track for signs of illicit discharges. IDDE observations made during system maintenance and through a Town's "Online Storm Drain Report" are utilized for tracking.	Continue updating data and tracking the stormwater system's condition and visually monitoring the quality of local drainage ways.

#### 4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Person	Measurable Goal(s)	Progress on Goal(s) for 2015 – 16	Planned Activities for 2016 – 17
1	Maintain Ordinance / Regulatory Information	Town Engineer, Town Planner, Code Enforcement Officer	Updated Stormwater Regulations adopted in 2010	Complete overhaul of Site Plan Regulations.	Monitor the activities related to the stormwater regulations by the Planning Board.
Revised X					
2	Informational Management System	Town Engineer	Maintain and update GIS based mapping , track catch basin cleaning & street sweeping, and continue developing/refining a stormwater CIP.	Expanded data input to Town system regarding catch basins cleaning and maintaining construction based stormwater BMPs.	Use GIS system to track construction based stormwater management BMPs.
Revised					
3	Support Ordinance/Regulatory Mechanism	Engineering, Code Enforcement, and Planning Departments	Enforce new IDDE ordinance.	Regulations specific to IDDE were adopted in 2013 as part of the Town's Water Ordinance Chapter 158.	Continue to enforce IDDE regulations.
Revised X					
4	Staff Training	Town Engineer	DPW, Code Enforcement, and Planning Staff to attend training/ workshops on stormwater Management	Town staff annually attends stormwater education workshops, as well as presents at many conferences, workshops, and seminars as well as informing staff of information received.	Continue to educate Town staff and local government officials to stay current with new developments in stormwater management.
Revised X					
5	Construction Site Monitoring	Town Engineer	Ensure that the appropriate BMPs are deployed and maintained	Perform regular inspections and weekly project meetings take place to ensure compliance.	Continue to observed private and public construction activities to ensure appropriate BMP were deployed and maintained
Revised X					

### 5. Post-Construction Stormwater Management in New Development and Redevelopment

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Person</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) for 2015 – 16</b>	<b>Planned Activities for 2016– 17</b>
1 Revised X	Identification of BMPs	Town Engineer	Develop possible BMPs for use within the Town	Implemented a variety of BMPs on municipal projects and continued evaluating the efficiency of each item.	Continue to evaluate BMPs that are effective in our geographical area.
2 Revised X	Existing Ordinance / Regulatory Information	Town Engineer, Town Planner, Code Enforcer	Maintain high standards for post-construction monitoring of stormwater design	Perform regular inspections of recently completed projects.	Monitoring stormwater regulations by Public Works.
3 Revised X	New Ordinance / Regulatory Information	Town Engineer and Town Planner	Adopt new IDDE ordinance.	Regulations specific to IDDE were adopted in 2013 as part of the Town's Water Ordinance Chapter 158.	Continue to enforce IDDE regulations.
4 Revised X	Post-Construction Site Monitoring	Town Engineer	Ensure that the appropriate BMPs are maintained	Town Staff regularly observed private and public construction sites post-development to ensure appropriate BMP are maintained	Continue to observed private and public post-development construction sites to ensure appropriate BMP are maintained

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

BMP ID #	BMP Description	Responsible Person	Measurable Goal(s)	Progress on Goal(s) for 2015 – 16	Planned Activities for 2016 – 17
1	Develop Pollution Prevention Plan	Town Engineer	Assess and evaluate all Town Facilities and methods of operations relative to Stormwater management.	Developing the Oyster River Integrated Watershed Management Plan to comprehensively enhance pollution prevention with sustainable and GREEN non-point source pollution controls. Clean all catch basins on a three year rotation.	<ul style="list-style-type: none"> <li>• Develop and refine the Oyster River Integrated Watershed Management Plan.</li> <li>• Continue rotational catch basin cleaning schedule.</li> </ul>
Revised X					
2	Employee Training Materials	Town Engineer and Assist. Director for DPW Operations	Provide staff with educational opportunities relevant information	Town Engineer worked directly with DPW's Highway and Grounds Division crews to employ more effective BMPs in general stormwater system repairs and maintenance.	Take advantage of local training opportunities and obtain and distribute up-to-date materials through suppliers, NHSSC, the UNH Stormwater Center, and provide Town staff with stormwater BMP information.
Revised					
3	Informational Management Systems	Town Engineer	Maintain and updated GIS base mapping, track structure maintenance of operations using stormwater CIP.	Information and project planning and scheduling relative to municipal operations was updated and expanded.	Town to investigate future GIS Department. Met with City of Dover to learn more about their GIS system and workflow.
Revised X					
4	Employee Training	Town Engineer	Provide staff with more educational opportunities	Town staff constructed two rain gardens as part of the construction of the New Town Hall.	Take advantage of local training opportunities available to town Staff, and partake in more hand-on BMP installations.
Revised X					

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

Data specific to the physical condition of the stormwater system discharge Town owned outfalls and culverts within the MS4 area were assessed and evaluated for signs of illicit discharges and general deterioration. No signs of illicit discharges were observed.

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

Stormwater management position created/staffed	(y/n)	N
Annual program budget/expenditures	(\$)	200,000

**Education, Involvement, and Training**

Estimated number of residents reached by education program(s)	(# or %)	80 %
Stormwater management committee established	(y/n)	N
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Y Not logged
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	1
▪ community participation	(%)	70+ house holds
▪ material collected	(tons or gal)	Not available
School curricula implemented	(y/n)	N

**Legal/Regulatory**

Regulatory Mechanism Status (indicate with "X")	In Place Prior to Phase II	Under Review	Drafted	Adopted <i>NEW</i>
▪ Illicit Discharge Detection & Elimination		X	X	<i>complete</i>
▪ Erosion & Sediment Control	X	X	X	<i>complete</i>
▪ Post-Development Stormwater Management	X	X	X	<i>complete</i>
Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination		X	X	<i>complete</i>
▪ Erosion & Sediment Control	X	X	X	<i>complete</i>
▪ Post-Development Stormwater Management	X	X	X	<i>complete</i>

**Mapping and Illicit Discharges**

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	60
System-Wide mapping complete (catch basins, outfalls, and culverts)	(%)	100

Mapping method(s)		
▪ Paper/Mylar	(%)	0
▪ CADD	(%)	0
▪ GIS	(%)	100
Outfalls inspected/screened	(# or %)	100
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	30
% of population on septic systems	(%)	70

### Construction

Number of construction starts (>1-acre)	(#)	1
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(# or %)	75+
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	5

### Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100
Site inspections completed	(# or %)	6
Estimated volume of stormwater recharged	(gpy)	+100,000

### Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1/3 of all CBs each yr
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Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1 /yr
Total number of structures cleaned	(#)	120
Storm drain cleaned	(LF or mi.)	150 LF
Qty. of screenings/debris removed from storm drain infrastructure	(lbs. or tons)	Not available
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		beneficial use
Cost of screenings disposal	(\$)	N/A

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	4+
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	40
Qty. of sand/debris collected by sweeping	(lbs. or tons)	Not available
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	beneficial use
Cost of sweepings disposal	(\$)	N/A
Vacuum street sweepers purchased/leased	(#)	1 owned
Vacuum street sweepers specified in contracts	(y/n)	

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	0
▪ Herbicides	(lbs. or %)	0
▪ Pesticides	(lbs. or %)	0

Anti-/De-Icing products and ratios	% NaCl	10
	% Sand	90
Note: little to no salt is used on roads in the winter within the Durham MS4 area.		
Pre-wetting techniques utilized	(y/n)	N
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 %)	N/A
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	Y