

**New Hampshire Small MS4 General Permit  
Annual Report**

**Town of Durham**

**Permit Year 3**

**July 1, 2020 through June 30, 2021**

EPA NPDES Permit Number NHR041006

# Certification

**Authorized Representative:**

The authorization letter is:

- Attached to this document (document name listed below):

- Publicly available at the website:

[https://www.ci.durham.nh.us/sites/default/files/fileattachments/public\\_works/page/55264/nh\\_ms4\\_authorization\\_durham\\_nhr041006.pdf](https://www.ci.durham.nh.us/sites/default/files/fileattachments/public_works/page/55264/nh_ms4_authorization_durham_nhr041006.pdf)

"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 gathered and evaluated 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."

Printed Name

Rich Reine

Signature



Date

9.28.2021

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# Small MS4 Authorization

The following annual report, which serves as a self-assessment, is intended to document the activities undertaken over the **reporting period from July 1, 2020 through June 30, 2021** in accordance with the Permit.

The Notice of Intent (NOI) can be found at the following (document name or web address):

<https://www.epa.gov/npdes-permits/regulated-ms4-new-hampshire-communities>

Compliance activities have been identified and described in the Town of Durham's Stormwater Management Plan (SWMP) and Illicit Discharge Detection and Elimination Plan (IDDE). Those documents can be found at the following websites and will be referred to throughout this report:

SWMP: <https://www.ci.durham.nh.us/publicworks/stormwater>

IDDE: <https://www.ci.durham.nh.us/publicworks/stormwater>

## MCM1 - Public Education and Outreach

### Year 3 Activities

#### BMP: Grass and Fertilizer

##### Document Name and/or Web Address:

Green Grass & Clear Water Brochure: [https://www4.des.state.nh.us/nh-ms4/?page\\_id=54](https://www4.des.state.nh.us/nh-ms4/?page_id=54).



**Green Grass & Clear Water**


*Did you know that you can have a healthy, green lawn that is both attractive and safer for the environment?*

Some lawn care practices create local water quality problems. Excess nutrients (including nitrogen and phosphorus found in fertilizers) that run off our properties into nearby waterbodies can trigger harmful algal blooms.


Many of us enjoy the time we spend working on our lawns and are willing to try new practices as long as our lawns continue to look good. This information card shares simple and easy tips, customized for northern New England, that can lead to **Green Grass & Clear Water**.

For more details about these tips and others:

[extension.unh.edu/tags/home-lawn-care](https://extension.unh.edu/tags/home-lawn-care)

-  **1 Choose the right grass seed.** The best seed mixes include low maintenance varieties with higher % of fine-leaf fescues and turf- or compact-type tall fescues, and lower % of Kentucky bluegrass and perennial rye grass.
-  **2 Mow smart.** Leave grass at least 3" high. Cut no more than one-third (1/3) of the blade each time you mow to encourage longer, stronger roots. Leave the grass clippings after mowing so they can return nutrients to the soil.
-  **3 Don't overwater.** 1" of water per week (from rain or irrigation) is usually enough. Overwatering can cause nutrients to move out of root zones and into waterbodies or groundwater.
- 4 Have your soil tested** to learn more about specific characteristics and needs of your lawn. Contact UNH Cooperative Extension: [extension.unh.edu/programs/soil-testing-services](https://extension.unh.edu/programs/soil-testing-services)

**Only if your lawn requires added nutrients from fertilizer:**

-  **5 Avoid overapplying.** Measure the area where you plan to apply and calculate the square footage. For lawns 10+ years old, apply half (1/2) the amount recommended for your square area one time per season. New lawns may need another application. Apply no more than 4 times per season.
-  **6 Choose the right fertilizer.** Select fertilizers with zero or low phosphorus unless a soil test says otherwise. Slow release nitrogen fertilizer is generally preferable. Over-applying fertilizer (any type) can cause water quality issues.
-  **7 Know when and where to apply.** Apply only after spring "green up" and before mid-September. Avoid applying in mid-summer. Never apply near waterbodies or storm drains.

# Green Grass & Clear Water

Preservation of the Town's water resources is a priority for our community. These are helpful tips and pollution prevention measures that residents can take to help protect water quality in the Oyster and Lamprey Rivers, as well as the Great Bay Estuary.

This outreach message helps our community meet U.S. Environmental Protection Agency (EPA) stormwater permit requirements as part of the MS4 program for some New Hampshire municipalities.

With support from:



PRSRT STD  
U.S. POSTAGE  
PAID  
PERMIT #1  
DURHAM, NH

(\*Note that Post Card was personalized for Town of Durham to recognize our connection with the Oyster River, Lamprey River and Great Bay\*)

## Description:

Distribution and promotion of flyers produced by UNH Cooperative Extension and NH Sea Grant outlining simple recommendations to keep lawns healthy while reducing water quality impacts - including proper fertilizer techniques and disposal of grass clippings.

## Targeted Audience:

Residential and/or Business and Institutions

## Measurable Goal(s):

Lawn care enthusiast residents understand the potential water quality impacts from fertilizer and improper disposal of grass clippings and are aware of the proper lawn care management techniques for reducing those impacts. Measurement includes quantity of materials distributed and numbers and change in visits to UNH Cooperative Extension or municipal stormwater webpages.

Following is the number of flyers that were distributed:

Year 3 = 1461, Mailed on June 10, 2021

**Goal was achieved.**

## Message Date:

Also promoted in Durham Friday Updates May 21, 2021 as well as on the Town's Facebook Page. The weekly Durham Friday Updates email is sent to 4,862 email addresses (subscribers) <https://www.ci.durham.nh.us/fridayupdate/friday-updates-may-21-2021>

## **BMP: Pet Waste Disposal**

### **Document Name and/or Web Address:**

"Every Drop" post cards or flyer [https://www4.des.state.nh.us/nh-ms4/?page\\_id=54](https://www4.des.state.nh.us/nh-ms4/?page_id=54)

### **Description:**

Distribution and promotion of "Every Drop" post cards or flyers with proper pet waste management, impacts of improper management, pet waste ordinance, and disposal requirements messaging. May include pledge to pick up pet waste to be made available during dog registration and other events or venues (veterinarians, dog training, groomers, etc.). Every Drop is a collaborative education effort with PREP, NHDES and other partners.

### **Targeted Audience:**

Residents - Pet Owners

### **Measurable Goal(s):**

Dog owners and/or dog walkers are aware of the potential water quality impacts from pet waste, local pet waste ordinances, and how to dispose of pet waste properly. If pledges are signed, there will be an increase of dog owners committed to picking up pet waste.

Following is the number of residents that pledged through the PREP "Every Drop" website:  
Year 3 = 1

### **Goal was achieved.**

### **Message Date:**

Summer or time of license renewal, "Scoop the Poop" Town Regulation message posted in Durham Community Friday Updates on March 26, 2021 found here

<https://www.ci.durham.nh.us/fridayupdate/friday-updates-march-26-2021>

Durham Community Friday Updates on April 2, 2021 found here

<https://www.ci.durham.nh.us/fridayupdate/friday-updates-april-2-2021>

Durham Community Friday Updates on April 9, 2021 found here

<https://www.ci.durham.nh.us/fridayupdate/friday-updates-april-9-2021>

## **BMP: Disposal of Leaf and Grass Clippings**

**Document Name and/or Web Address:**

[https://www4.des.state.nh.us/nh-ms4/?page\\_id=54](https://www4.des.state.nh.us/nh-ms4/?page_id=54)

**Description:**

Distribute and promote informational flyers, pledge cards, and/or door hangers, with messaging about impacts from yard waste to waterbodies, alternatives to dumping yard waste and laws against dumping yard waste near or in waterbodies.

**Targeted Audience:**

Residential &/or Business

**Measurable Goal(s):**

Residents are aware of the water quality impacts of yard waste dumping near or in water bodies and safe alternatives for yard waste disposal.

Following is the number of Durham Public Works newsletters that were distributed:

Year 3 = 2,118

**Goal was achieved.**

**Message Date:**

In Year 2, 69 flyers were distributed at Household Hazardous Waste Collection Day on October 24, 2020. In Year 3, flyers will be distributed at Household Hazardous Waste Collection Day on October 23, 2021. This information will be shared on the Town's website and via the communities Friday Updates

## **BMP: Septic System Maintenance**

**Document Name and/or Web Address:**

[https://www4.des.state.nh.us/nh-ms4/?page\\_id=54](https://www4.des.state.nh.us/nh-ms4/?page_id=54)

**Description:**

Distributed and promoted brochure or door hangers, directing to website to educate New Hampshire homeowners with septic systems on how to identify, locate and maintain those systems. Get Pumped NH is a collaborated effort between the New Hampshire Association of Septage Haulers (NHASH) and the New Hampshire Department of Environmental Services (NHDES).

**Targeted Audience:**

Septic System Owners

**Measurable Goal(s):**

Residents are aware of water quality impacts from septic systems, the importance of

maintaining septic systems and how to maintain them.

**Goal was achieved.**

**Message Date:**

The Town shared a post on the Town of Durham Facebook Page originally posted by NH DES during Septic Smart Week on September 22, 2021. The post includes information on septic system management.

The Building/Code Enforcement Office reported that their files indicated 20 septic systems were reconstructed between July 1, 2020 and June 30, 2021. They also reported that there are some cases where the State approved replacements that the Town did not review.

Brochures are available at Building/Code Enforcement Office/Public Works Office.

**BMP: Industrial Outreach**

The Town of Durham does not have any industrial audiences.

**MCM2 - Public Participation**

**BMP: Public Participation in Stormwater Management Program Development**

**Description:** The Stormwater Management Program was publicly reviewed at <https://www.ci.durham.nh.us/publicworks/stormwater>. Documents and records relating to the permit are retained and available for 5 years to the public at the Durham Public Works Office. The Town distributed information via the Town of Durham Facebook Page regarding a local rain barrel sale held in April 2021.

**Measurable Goal(s):**

Input was received and records are maintained. **Goal was achieved.**

**MCM3 – Illicit Discharge Detection and Elimination**

**BMP: IDDE Legal Authority**

The municipality has established legal authority as outlined in the IDDE plan.

**BMP: Sanitary Sewer Overflow (SSO) Inventory**

This is not applicable to Town of Durham because we do not have sanitary sewer or known sanitary sewer overflows.

**BMP: Map of Storm Sewer System**

In Year 3, the remainder of the Phase I mapping requirements were mapped, including stormwater BMPs, open channel conveyances, interconnections with other MS4s, and initial catchment delineations. Additionally, previously unidentified outfalls were added to the Town's outfall inventory, and the GIS location of all outfalls were improved. The connectivity and



feature information of stormwater structures within some catchments were improved based on field activities. Two memorandums summarizing the GIS improvements completed by the Town of Durham in Year 3 are available upon request.

The Town has hired a GIS Program Administrator who will be working to improve the Town's stormwater GIS. The Town has made significant progress on their GIS this year and will continue to make improvements ahead of the Year 10 deadline for Phase II mapping elements.

**BMP: IDDE Program (Screenings of Outfalls/Interconnections, Catchment Investigations, and IDDE Progress)**

All outfalls and interconnections (excluding problem and excluded outfalls) were inspected and screened. Outfall catchments and interconnections priority ranking were updated based on the information collected during the dry weather inspections. These rankings were taken into account when selecting catchments for catchment investigations, which began in summer 2021. A written IDDE plan has been developed and updated, and written catchment investigation procedures are included.

Outfall identification and characterization and prioritization information has been updated and included in the IDDE plan based on dry weather sampling.

The following tasks have been completed in accordance with the permit.

Number of dry weather outfall investigations/screenings: 72

Number of dry weather outfall samples taken: 8

Number of dry weather interconnection investigations/screenings: 11

Number of dry weather interconnection samples taken: 2

*The outfall/interconnection sampling reports are attached to this submission. In addition, the Town of Durham identified four new outfalls in August 2021 during mapping improvements in Year 4. Dry weather screening results found all four outfalls to be dry. The current outfall inventory for the Town of Durham is 76 outfalls. All outfall initial dry weather outfall screenings are complete.*

Number of wet weather outfall inspections/sampling events: To be started in Year 4.

Number of wet weather samples taken: To be started in Year 4.

Number of catchment investigations: 0

No catchment investigations were conducted in Year 3. However, 5 catchment investigations were completed in Year 4 (August 2021) and a 6<sup>th</sup> catchment investigation was started. The investigation data is included in this submission.

Number of illicit discharges: 0

Number of illicit discharges removed: 0

Estimated gallons of flow removed: 0

### **BMP: Employee Training**

The Town of Durham held an IDDE training session for municipal staff on June 24, 2021 and June 28, 2021. In addition, as a routine, IDDE materials and training, including information on how to identify illicit discharges and SSOs are made available to applicable employees in accordance with IDDE plan. Training logs are included in Appendix F of the IDDE report.

### **MCM4 – Construction Site Stormwater Runoff Control**

A written site inspection and enforcement program for erosion and sediment control measures was created and is included in our SWMP.

The following tasks are in progress in accordance with the permit.

Number of site plan reviews completed: Mill Plaza (Review Ongoing), 74 Main St. (Review Ongoing), 19-21 Main St (Review Ongoing), Gerrish Drive (Review Ongoing), 38 Bagdad Road Bagdad Wood (Review Completed and Constructed), 18 Garrison Ave (Review Completed), 88A Dover Road (Review Completed)

Number of inspections: 3

Number of enforcement actions: 0

### **MCM5 – Post Construction Stormwater Management in New Development and Redevelopment**

#### **BMP: Post-Construction Ordinance (due in year 3)**

A Post-Construction Ordinance, consistent with the permit requirements, has been adopted.

#### **BMP: As-built Drawings**

Procedures for new development and re-development have been adopted and are included as part of the Stormwater Management Regulations within the Site Plan Regulations. The purpose of these standards is to provide reasonable guidance for the regulation of stormwater runoff, during planning, design, construction and post-construction phases, to protect local natural resources from degradation and prevent adverse impacts to adjacent and downstream land, property, facilities and infrastructure. These standards regulate discharges from stormwater and runoff from land development projects and other construction activities to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff. The stormwater management standards apply to any development or redevelopment projects that disturb 5,000 or more square feet. The Planning Board reserves the right to require any development that disturbs less than 5,000 square feet to submit, and then implement, an approved Stormwater Management Plan (complete, as described below, or abbreviated) to prevent degradation of local water resources. The Planning Board may solicit input from the Conservation Commission in making this determination, at its discretion. The applicant shall submit as-built drawings of the constructed stormwater management system to the Town of Durham Department of Public Works following construction. As-built drawings are required prior to the issuance of the Certificate of Occupancy at the completion of the project.

Number of as-built drawings received: 1 (Riverwoods Durham, Received October 2020)

**BMP: Long-term Operation and Maintenance Procedures**

As part of the effort to standardize the long-term O&M and inspection submission requirements across all New Hampshire MS4 communities, as well as standardize any non-compliance actions taken by the municipality, the Seacoast Stormwater Coalition is in the process of working with a selected engineering group (VHB) to develop standardized resources, guidance and an inspection template that towns and municipalities can use to better promote, track and enforce the implementation of best management practices for privately-owned parking areas and drainage infrastructure. These are anticipated to be finalized in the fall of 2021 and will be adopted by the Town of Durham.

**BMP: Street Design and Parking Lot Guidance Report (due in year 4)**

Deliverables will progress in accordance with the permit and is scheduled for year 4.

**BMP: Green Infrastructure Report (due in year 4)**

Deliverables will progress in accordance with the permit and is scheduled for year 4.

**BMP: List of Municipal Retrofit Opportunities (due in year 4)**

Deliverables will progress in accordance with the permit and is scheduled for year 4.

**MCM6 – Good Housekeeping and Pollution Prevention for Permittee Owned Operations**

**BMP: Catch Basin Cleaning Program**

A schedule for catch basin cleaning has been established with the goal of ensuring that a catch basin should not be more than 50% full. Catch basin cleanings were properly stored and disposed of so that they did not discharge to receiving waters. This is detailed in the SWMP.

The following tasks are in progress in accordance with the permit.

Number of catch basins within MS4 regulated area: 642 (This number was updated in Year 3 following GIS mapping work completed by the Town's Stormwater Consultant Environmental Partners, Inc.)

Number catch basins inspected in accordance with the SWMP: Summer 2021, 162

Number of catch basins cleaned: Summer 2021, 162

Total volume or mass of material removed: Approximately 4 CY

### **BMP: Street Sweeping Program**

A street sweeping program has been established such that all streets with curbing and/or catch basins and permittee-owned parking lots are swept in accordance with permit conditions. Street sweepings were properly stored and disposed so that they did not discharge to receiving waters.

The following tasks are in progress in accordance with the permit.

Number of (lane) miles swept: Downtown core roadways are swept every weekday in the month of March and twice per week during the remaining 11 months of the year.

Volume or mass of swept material: Recorded volume of swept material from Aug 2020 – Nov 2020 and Apr 2021 to June 30, 2021 = 53 loads or approximately 159 CY

### **BMP: Winter Road Maintenance Program**

A winter road maintenance program has been established with a goal of reducing salt usage. Salt reduction strategies have been implemented as outlined in our SWMP. All road salt storage piles are enclosed/covered to prevent runoff into storm drains and water bodies.

The Town of Durham has adopted a Salt Reduction Plan in accordance with Appendix H that has been implemented in the MS4 regulated area and/or community-wide. Town of Durham Salt Reduction Plan can be found at: <https://www.ci.durham.nh.us/publicworks/stormwater>

### **BMP: Permittee Owned Facilities Inventory**

All permittee owned facilities, including inventory, are included in our SWMP. There were no changes to report during Year 3.

### **BMP: O&M Programs and Procedures for Permittee-Owned Properties**

O&M programs for all permittee owned facilities have been completed and are included in our SWMP. All maintenance procedures have been implemented for permittee owned facilities in accordance with O&M programs.

### **BMP: Permittee Owned Treatment Structures**

The Town of Durham has inspected all permittee owned treatment structures (excluding catch

basins).

### **BMP: SWPPP (due year 3)**

A SWPPP was implemented at the Durham Public Works Department facility, Town's Transfer Station and Wastewater Treatment Plant.

Inspections are completed, corrective actions taken, and employees regularly trained as outlined in the SWPPP(s). The SWPPP(s) and associated documentation are located at Durham Public Works Office, Transfer Station and Wastewater Treatment Plant.

Number of site inspections for facilities that require a SWPPP completed: 4 (Quarterly)

Number of corrective actions identified: 0

Number of corrective actions taken: 0

### **BMP: Stormwater Treatment Structures Inspection and Maintenance Procedures**

The Town of Durham has completed the inventory and formally inspected all municipally owned BMPs. Maintenance is carried out in accordance with the procedures outlined in the SWMP. Stormwater BMPs that have a site-specific SOP and inspection forms include a raingarden at the library, a bioretention basin and tree filter at Littlehale Culvert on Bagdad Road, and two raingardens at Wagon Hill and at the Town Hall. Any BMPs that are safety or flooding hazards are dealt with as needed.

## **TMDL's and Water Quality Limited Waters**

### **Bacteria/Pathogens**

Outfalls to these receiving waters have been ranked as high priority for the IDDE implementation in the initial outfall ranking and enhanced BMP's have been implemented in accordance with the SWMP.

### **Nitrogen**

Outfalls to these receiving waters have been ranked as high priority for the IDDE implementation in the outfall ranking and enhanced BMP's have been implemented in accordance with the SWMP.

The Town of Durham through its participation in the Seacoast Stormwater Coalition, and continued involvement with the NHDES led Pollutant Tracking and Accounting Program (PTAP) and the Pollutant Loading Maps (aka Hot Spot Maps), will satisfy the tracking and accounting requirement of the municipally-owned structural and non-structural BMP's. Calculations are in accordance with attachments of Appendix F.

### **Chloride**

Outfalls to these receiving waters have been ranked as high priority for the IDDE implementation in the initial outfall ranking.

Tracking of the amount of salt applied to all municipally owned and maintained surfaces, and reporting of salt use has been completed using the [New Hampshire DES MS4 annual salt usage](#) reporting form and was submitted on September 15, 2021. In the MS4 year 3 reporting period, the Town of Durham treated 1,760 lane miles. This represents 55 miles of paved roadway during 16 recorded storm events. Durham Public Works staff calibrated all plow salt spreaders in late November 2020 and recorded 864 tons of salt used during 16 record storm events.

The Town of Durham, through its participation in the Seacoast Stormwater Coalition, and continued involvement with the NHDES-led Green Snow Pro Program, have completed winter road maintenance procedures and continue to develop public education efforts regarding impacts of salt use, methods to reduce salt use on private property, and modifications to driving behavior in winter weather.

The Municipal Green Snow Pro Certification Program bill was delayed during the 2020 legislative session due to COVID-19. The bill was put back into legislation during the 2021 legislative session. In June of 2021, it was noted as “ought to pass” by the House of Representatives.

The Town of Durham has created a Salt Reduction Plan which can be found at <https://www.ci.durham.nh.us/publicworks/stormwater>.

## **Additional Required Information**

### **Monitoring or Study Results**

No additional monitoring or studies were completed.

## **Description of Any Changes in Identified BMPs or Measurable Goals**

The Town of Durham has implemented activities in accordance with the permit and outlined in the SWMP. All BMPs and measurable goals outlined in the SWMP are appropriate.

## **Activities for the Next Reporting Cycle**

Town of Durham will continue to implement activities in accordance with the permit and SWMP.