

**STORMWATER  
MANAGEMENT**  
*MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)*  
**2017 NH MS4 PERMIT**  
**FEBRUARY 29, 2023**  
 UPDATED: January 6, 2021



Prepared by:  
Dawn Tuomala, PE, LLS, CWS

(Provided by NHDES)

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**NH Communities Affected by MS4**

- EPA – Determined if a community is subject to MS4
  - Urbanized Areas from 2000 & 2010 Census
    - 60 regulated communities in NH
      - 16 communities have waivers
      - Plus 3 non-traditional
      - Totals – 47 Regulated Communities

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**NH Communities – Waived (16)**

- Barrington
- Bow
- Brentwood
- Candia
- Chester
- East Kingston
- Epping
- Fremont
- Hampton Falls
- Lee
- Lyndeborough
- Madbury
- Mount Vernon
- Newfields
- Newington
- South Hampton

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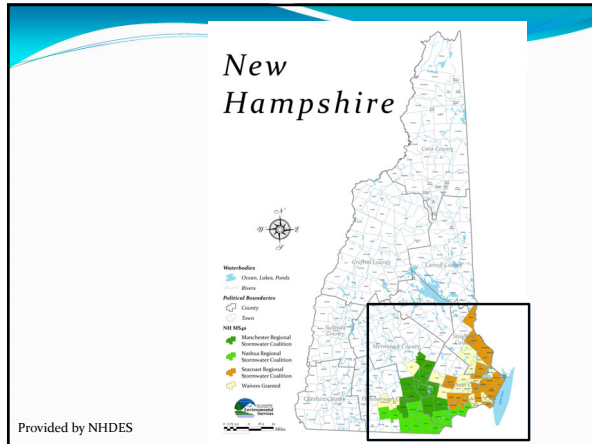
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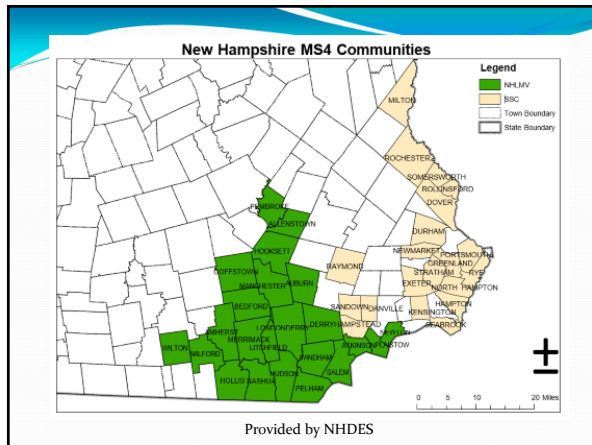
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## NH Stormwater Coalitions

1. **Seacoast Stormwater Coalition**  
19 Communities are Members (22 Total Communities)
2. **NH Lower Merrimack Valley Stormwater Coalition**  
(Formerly Manchester/Nashua Stormwater Coalition)  
22 Communities are Members (28 Total Communities)

NH Department of Environmental Services NHDES  
Involvement with both Coalition Groups

- ❖ Attend all coalition meetings
- ❖ Keep meeting minutes
- ❖ Keep a blog for sharing among participating communities
- ❖ Creating Templates
- ❖ (NHDES Submits Water Sampling Results to EPA)

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### NH Communities – NH-LMV

- Allenstown
- Amherst
- Atkinson
- Auburn
- Bedford
- Danville
- Derry
- Goffstown
- Hampstead
- Hollis
- Hooksett
- Hudson
- Litchfield
- Londonderry
- Manchester
- Merrimack
- **Milford**
- Nashua
- Newton
- NHDOT
- Pelham
- Pembroke
- Plastow
- Salem
- Sandown
- VA Medical Center-Manchester
- Wilton
- Windham
- Laconia

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### Stormwater Management Program

- SWMP Document used by permittee to describe the activities and measures that will be implemented to meet the terms and conditions of the permit
- UPDATE!**  
Is to be changed, updated and modified throughout the permit as the permittee's activities change
- **\*\*Comply with the schedules\*\***
- Continue Updates on all of the **Minimum Control Measures (MCM's)**
- **Appendix F & H – Requirements for Water Impairments & Total Maximum Daily Loads (TMDL's)**

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### MCM'S

MCM 1 – Public Education and Outreach

MCM 2 – Public Involvement and Participation

MCM 3 – Illicit Discharge Detection and Elimination (IDDE) Program **\*\*\***

MCM 4 – Construction Site Stormwater Runoff Control

MCM 5 – Post Construction Stormwater Management in New Development and Redevelopment

MCM 6 – Good Housekeeping and Pollution Prevention for Permittee Owned Operations

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### MCM 1 – Public Education and Outreach

- Targeting 4 Audiences: (2 for each/5 years)
  - Residents & Homeowners - \*\*\* New Dog POOP Flier
  - Commercial & Business Properties
  - Developers/Construction/Reconstruction
  - Industrial Properties \*\*\* New letter due this year
- NHDES & Subcommittees created different templates
- Communities take the templates & created their own educational pamphlets

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**Please... Scoop the Poop!** 

When pet waste is left on your lawn, the side of the road, or along our trails, rain (or snow melt) washes the waste (and contaminants) into the town's drainage system bodies of water.

*Please carry plastic or paper bags with you and clean up after your pet. Don't throw the plastic bag into the woods, it compounds the problem because plastic bags are litter! Dispose of the waste bag in the garbage properly.*

**PLEASE... CLEAN UP AFTER YOUR PET**

**Pet Waste can contain:**

- E.coli
- Salmonella
- Giardia
- Roundworms and Hookworms
- Nitrogen, which in excessive amounts depletes oxygen levels for other organisms.

These contaminants can overload the town's water bodies, causing impairment.

When a water body has impairments, such as E.coli, the water cannot be used for all of the recreational activities the residents of Milford enjoy!






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Many NH towns have over 1,000 dogs living in them, and each dog "goes" once or twice a day. That's a lot of poop! Not only is it gross when it's left around, but it can be dangerous. Harmful bacteria and parasites – such as Giardia or Salmonella – that lives in pet waste, can come in contact with other people and pets or wash into nearby waterways or storm drains.

**Town of Milford  
Community Development  
1 Union Square  
Milford, NH 03055**



*This outreach message HELPS  
Our community meet the U.S. Environmental Protection Agency (EPA) storm water Permit requirements as part of the MS4 program  
PLEASE do your part*

**Please... CLEAN UP AFTER YOUR PET**

**Scoop it!** 




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## Green Grass & Clear Water

Water-quality friendly lawn care and fertilizer recommendations for northern New England

According to a recent survey, it's likely that you and your neighbors believe having a lawn is safe for the environment and very important! However, some lawn care practices can create water quality problems. Plants need nutrients to grow, but excess nutrients (including nitrogen and phosphorous found in fertilizers) that run off our properties into local waterbodies can trigger algal blooms that cloud water and rob it of oxygen.



### RECOMMENDATIONS

1. Choose the Right Grass Seed
2. Don't overwater
3. Test your soil
4. Mow Smart
5. Determine How much Fertilizer to apply
6. Know When and Where to Apply
7. Choose the Right Fertilizer

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## RAKE IT OR LEAVE IT

What to do with your leaves and grass clippings

### Why Does It Matter?

You Choose - your leaves and grass clippings can be a valuable resource OR a source of water pollution.




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### WHY SHOULD I PUMP?

Every home generates wastewater - via toilets, showers, sink drains, and dish and clothes washers - which must be treated and disposed of properly to protect human health and the environment.

### WHEN SHOULD I PUMP?

Don't wait for a failure! Septic tanks should be inspected or pumped every 3-5 years. Get pumped today! Only contact a NHDES-licensed septic hauler. Visit [pumpednh.com](http://pumpednh.com) to find a New Hampshire Association of Septic Haulers (NHASH) member in your area.

### COMMUNITY MESSAGE

Our community cares about clean water and is doing its part to help prevent water pollution in local waterways. This outreach message helps our community meet its Environmental Protection Agency (EPA) requirements (including as part of the NCE program) to share pollution prevention information with its residents.

### PROTECT YOUR FAMILY

If your septic system gets clogged with too much solid waste, it can force the wastewater to back up into your house... it can also overwhelm your leach field, which will turn your yard into a soggy mess. The bacteria in wastewater are not just smelly - they are also a health hazard!

### PROTECT YOUR COMMUNITY

If a septic system fails, untreated wastewater can run off into local lakes, ponds or streams, negatively impacting water quality, wildlife and community enjoyment of the water body.

### PROTECT YOUR WALLET

Getting your tank pumped costs about \$250-\$300 every 3-5 years. If you have a failure, it could cost you \$5,000-\$15,000 to replace or repair your system.

## GET PUMPED! New Hampshire

No butts about it - a septic system failure can impact your family, community and wallet.





Produced in partnership:

[nhash.com](http://nhash.com)  
[www.nhdes.nh.gov](http://www.nhdes.nh.gov)




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**MCM 3 – Illicit Discharge Detection & Elimination Program (IDDE) (Continued)**

- Outfall Inventory & Interconnections Initial Ranking
- Dry Weather Outfall Screening & Sampling
- Wet Weather Outfall Screening & Sampling
- Follow-up Rankings
- Catchment Investigations
- Employee Training

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**MCM 4 – Construction Site Stormwater Runoff Control**

- Objective to minimize or eliminate erosion and maintain sediment on construction sites
- Part of Regulation updates
  - Any Regulation updates need to be approved by the Planning Board by Public Hearings

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**MCM 5 – Post Construction Stormwater Management in New Development and Redevelopment (Year 2)**

- Objective is to minimize the water quality impact from new development and reduce the water quality impact due to stormwater runoff from a redeveloped area.
- NEW STORMWATER MANAGEMENT ORDINANCE  
Adopted December 2022
- Create Operations and Maintenance Plans for each development and reporting requirements to Town

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**MCM 6 – Good Housekeeping and Pollution Prevention for Permittee Owned Operations**

- Inventory of:
  - Parks and Open Spaces:
    - Pesticides, herbicides & fertilizers – stored how much used
  - Buildings and Facilities: Schools, Town Offices, Police, Fire Station, Pools and Highway Garage etc.
  - Vehicles and Equipment
    - Storage of vehicles
    - Spills/Containment
    - Wash water

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**MCM 6 – Good Housekeeping and Pollution Prevention for Permittee Owned Operations (Continued)**

- Infrastructure Operations and Maintenance
  - Street Sweeping
  - Catch Basin Cleaning
  - Winter Road Maintenance
    - Green Sno Pro (Min. salt useage) & Training
- Stormwater Pollution Prevention Plan (SWPPP)
  - Pollution Prevention Team
  - Desc. Facility & ID Pollutant Sources
  - Spill Avoidance
  - Evaluations – record keeping

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**APPENDIX F**

- Requirements of Approved Total Maximum Daily Loads (TMDL's)
  - Chloride TMDL – (Presently N/A)
  - Bacteria TMDL \*\*\* (Escherichia Coli)**
    - Souhegan River
    - Witches Brook
    - Purgatory Brook
    - Great Brook
    - Ox Brook
  - Lake & Pond Phosphorus TMD's – (Presently N/A)

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**APPENDIX F**

- Requirements of Approved **BACTERIA**  
Total Maximum Daily Loads (TMDL's)  
(Bacteria & Pathogens)
  - MCM 1 – Outreach & Education
    - Pet Waste & Septic Systems
  - MCM #3 – IDDE Program
    - Catchment Sampling and Investigations
    - (Designated as Problem Catchments or HIGH Priorities)

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**APPENDIX H**

- Requirements Related to Discharges to Certain  
Water Quality Limited Waterbodies
  - Nitrogen WQ Limitation
  - Phosphorus WQ Limitation
  - Bacteria & Pathogens WQ Limitation
  - Chloride WQ Limitation

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**APPENDIX H**

- Requirements Related to Discharges to Certain  
Water Quality Limited Waterbodies
  - Dissolved Oxygen saturation
  - Oxygen, Dissolved
  - PCBS
  - pH
  - Aluminum

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New Hampshire MS4 Year 5 Requirements						
MCM/ Appendix	Requirement	Permit Page Number	Permit Section	Annual Requirement	Year 5 Requirement	Status
Appendix H: Phosphorus impairment	The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation.	6	II.1.c		X	Resource coming soon
Appendix H: Phosphorus impairment	The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential. The permittees shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the Year 5 annual report.	6	II.1.c		X	This is a Year 6 requirement, but permittees should try to plan ahead for this since it will require some form of funding.
Appendix H: Chloride impairment	The Salt Reduction Plan shall be fully implemented five years after the effective date of the permit.	10	IV.2		X	See <a href="#">Winter Maintenance Page</a> for templates and resources

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New Hampshire MS4 Year 5 Requirements						
MCM/ Appendix	Requirement	Permit Page Number	Permit Section	Annual Requirement	Year 5 Requirement	Status
Appendix H: Solids, oil and grease, or metals impairment	Street sweeping schedule for high pollutant loading areas included in the annual report (related to section 2.3.7.1.d.iii).	13	V.1.a.1.2	X		Municipal Specific

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### Environmental/GIS Technician (Employee Needed – Engineering Intern)

- Dry Weather Screening/Sampling
- **Wet Weather Screening/Sampling**
- System Mapping – Phase I & II
  - **Updating the GIS Locations of Structures and Lines; size type material and age**
  - **Receiving Waters**
  - **Open Channel Conveyances & Treatment Areas**
- Catchment Area Determination/Delineation Investigation
- Outfall/Interconnection Inventory and Ranking
  - Problem, High Priority, Low Priority and Excluded Outfalls

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### Highway/Stormwater Foreman (Employee Needed)

- Maintaining all of MCM 6 Requirements
  - Catch Basins – Cleaning, Maintenance records, Quantities
  - Out falls & Detention Basins – Operations & Maintenance Plans
  - Street Sweeping – Records, Quantities, all streets are swept
  - Winter Road Maintenance Program
    - Green Sno Pro Program
    - Training for Employees
- SWPPP for each Town owned Facility
  - Spill Avoidance
  - ID Pollutant Sources

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### Priority Project Properties

Table 2: Priority municipal, non-conservation parcels ranked by descending IC with NH GIS ID and street address. \*\*\*

Treatment Priority	IC (ac)	NH GIS ID	Street Address
1	4.35	06142-044-002-000-000	564 Nashua St
2	4.12	06142-025-017-000-000	9 Elm St
3	3.20	06142-019-010-000-000	127 Elm St
4	2.75	06142-043-054-000-000	460 Nashua St
5	2.06	06142-025-133-000-000	45 Elm St
6	1.95	06142-008-019-000-000	76 North River Rd
7	1.90	06142-025-067-000-000	19 Garden St
8	1.84	06142-025-012-000-000	39 Elm St
9	1.59	06142-026-152-000-000	49 Nashua St
10	1.53	06142-043-017-000-000	283 South St
11	1.03	06142-031-032-000-000	448 Nashua St
12	0.82	06142-026-168-000-000	39 School St
13	0.80	06142-051-003-000-000	0 Osgood Rd
14	0.52	06142-025-125-000-000	66 Elm St
15	0.42	06142-025-108-000-000	0 West St
16	0.42	06142-031-033-000-000	418 Nashua St
17	0.35	06142-025-032-000-000	0 Union Sq

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### Projected Costs

Table 1: Summary of priority municipal, non-conservation parcels. The total IC, TSS, TN, and TP reductions using the stated assumed treatment, and estimated cost of treatment are summarized for the priority parcels and their percentage of total municipal, non-conservation parcels.

	IC	TSS Red.	TN Red.	TP Red.	Cost
Top 17 Parcels Total	29 ac	24,531 lb/yr	475 lb/yr	50 lb/yr	\$1,346,000
Percent of Municipal, Non-Cons.	87%	74%	68%	71%	88%

\*\*[https://www.unh.edu/unhsc/sites/default/files/media/ms4\\_permit\\_nomographs\\_sheet\\_final\\_2020.pdf](https://www.unh.edu/unhsc/sites/default/files/media/ms4_permit_nomographs_sheet_final_2020.pdf)

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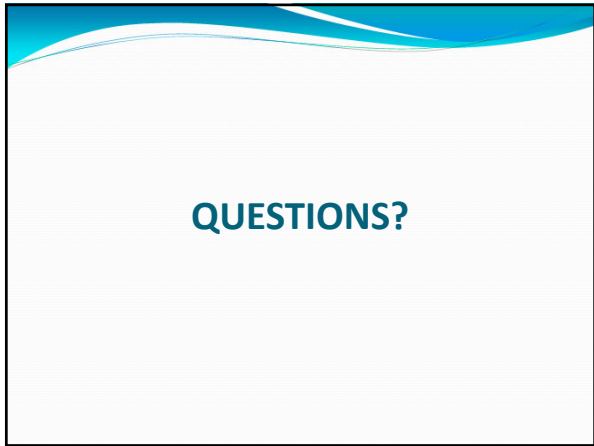
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