

Year 5 Annual Report
New Hampshire Small MS4 General Permit
Reporting Period: July 1, 2022-June 30, 2023

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form. Also ensure any websites included on this form are to publicly accessible sites

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. Please ONLY report on activities between July 1, 2022 and June 30, 2023 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization:

EPA NPDES Permit Number:

Primary MS4 Program Manager Contact Information

Name:

Title:

Street Address Line 1:

Street Address Line 2:

City:

State:

Zip Code:

Email:

Phone Number:

Stormwater Management Program (SWMP) Information

SWMP Location (publicly available web address):

Date SWMP was Last Updated:

If the SWMP is not available on the web please provide the physical address:

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: <https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state>

Impairment(s)			
<input checked="" type="checkbox"/> Bacteria/Pathogens	<input checked="" type="checkbox"/> Chloride	<input type="checkbox"/> Nitrogen	<input checked="" type="checkbox"/> Phosphorus
<input checked="" type="checkbox"/> Solids/ Oil/ Grease (Hydrocarbons)/ Metals			
TMDL(s)			
<input checked="" type="checkbox"/> Bacteria and Pathogen	<input type="checkbox"/> Chloride	<input checked="" type="checkbox"/> Lake and Pond Phosphorus	
			<input type="button" value="Clear Impairments and TMDLs"/>

Next, check off all requirements below that have been completed. **By checking each box you are certifying that you have completed that permit requirement fully.** If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.

Annual Requirements

- Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
- Kept records relating to the permit available for 5 years and made available to the public
- The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
 - This is not applicable because we do not have sanitary sewer
 - This is not applicable because we did not find any new SSOs
 - The updated SSO inventory is attached to the email submission
 - The updated SSO inventory can be found at the following publicly available website:

- Updated system map due in year 2 as necessary
- Provided training to employees involved in IDDE program within the reporting period
- Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- All curbed roadways were swept at least once within the reporting period
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Updated inventory of all permittee owned facilities as necessary
- O&M programs for all permittee owned facilities have been completed and updated as necessary

- Implemented all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implemented program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Inspected all permittee owned treatment structures (excluding catch basins)

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
- Provided 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 (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Chloride Impairment

- Implemented the Salt Reduction Plan
- Reported amount of salt applied to all municipally owned and maintained surfaces using the UNH Technology Transfer Center online tool

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Phosphorus Impairment

Annual Requirements*Public Education and Outreach**

- Distributed an annual message in the spring (April/May) encouraging the proper use and disposal of grass clippings and encouraging the proper use of slow-release and phosphorus-free fertilizers
- Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Distributed 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 (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- Increased 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)

Structural BMPs

- Completed the evaluation of all permittee owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d or identified in the Phosphorus Source Identification Report, including: *(select the items of the evaluation that have been completed below)*
 - Next planned infrastructure, resurfacing, or redevelopment activity planned for the property (if applicable) OR planned retrofit date
 - Estimated cost of redevelopment or retrofit BMPs
 - Engineering and regulatory feasibility of redevelopment or retrofit BMPs
- Completed a listing of planned structural BMPs and a plan and schedule for implementation
 - The BMP list and implementation schedule is attached to the email submission
 - The BMP list and implementation schedule can be found at the following publicly available website:

Refer to Phosphorus Impairment Plan located at: <https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>

- Any structural BMPs already existing or installed in the regulated area by the permittee or its agents was tracked and the phosphorus removal by the BMP was estimated consistent with Attachment 3 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP were documented.
 - No BMPs were installed
 - The BMP information is attached to the email submission
 - The BMP information can be found at the following website:

This is an appendix to the Phosphorus Impairment Plan located at <https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>

Total estimated phosphorus removed in **lbs/year** from the installed BMPs: 28.11

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Solids, Oil and Grease (Hydrocarbons), or Metals Impairment(s)

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads
- The street sweeping schedule is attached to the email submission
 - The street sweeping schedule can be found at the following publicly available website:

This is an appendix to the SWMP located at: <https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Increased Street Sweeping - The City has impairments for lead (Black Brook-Hardy Brook), iron (Little Cohas-Unnamed Brook, South Perimeter Brook) and aluminum (Merrimack River) only. Increased sweeping was determined not to be necessary in these areas as they are not observed to accumulate more sediment and debris than other areas within the City.

Lake and Pond Phosphorus TMDL

- Completed the written Lake Phosphorus Control Plan (LPCP), including: *(select the items in the LPCP that have been completed)*
- Planned nonstructural and structural controls
 - O&M program for structural controls
 - Implementation schedule
 - Cost of implementation

The LPCP: *(select one of the following options)*

- is attached to the email submission
- can be found at the following publicly available website:

See Phosphorus Impairment Plan located at <https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>

Baseline phosphorus export reduction required from LPCP Area (**lbs/ year**):

0

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The City has prepared a combined Phosphorus Source Identification Plan and Lake Phosphorus Control Plan (LPCP) titled Phosphorus Impairment Plan. These were combined due to the many overlapping requirements

and because all of the LPCP waterbodies are within the watershed of the Merrimack River, which is impaired for phosphorus, but does not have a TMDL.

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:

As outlined in our Year 2, 3 and 4 Annual Reports, the MS4 Permit requires the City to achieve a significant reduction in phosphorus loads (50-71%) to waters with phosphorus TMDLs, a significant portion of which comes from existing privately developed properties and Interstate 93 that discharge to the City's MS4 or directly to surface waters. The City has control of 41% of the land in its LPCP MS4 catchment areas. The existing private properties are currently not subject to stormwater permits and are not regulated to reduce their share of phosphorus contributions to TMDL waters. Instead, the City is responsible for achieving phosphorus reductions from these private developments because these developments are located within Manchester's MS4. The City continues to recommend a state or federal level stormwater permit for existing large commercial, industrial and institutional properties located within TMDL watersheds, similar to that in Vermont or that proposed for the Charles River Watershed in Massachusetts, with the same phosphorus or more stringent reduction requirements that the MS4 permitted communities are required to achieve to help mitigate impacts from existing development.

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:

Changes in impairments from the NOI include:

1. Black Brook-Hardy Brook (NHRIV700060801-05-01): new impairment for dissolved oxygen (DO) saturation
2. Crystal Lake-Town Beach (NHLAK700060703-02-01): no longer impaired for (DO) saturation
3. Melody Pines Day Camp Beach (NHLAK700060703-02-03): no longer impaired (DO and DO saturation)
4. Massabesic Lake (NHLAK700060702-03): wasn't included on the NOI, however, is impaired for DO, DO saturation, cyanobacteria, non-native aquatic plants and pH
5. McQuesten Brook (NHRIV700060803-16): no longer impaired for DO; new impairment for E. coli added
6. Merrimack River (NHRIV700060802-14-02): wasn't included on the NOI (extremely small portion of the river in Manchester), however, was impaired for aluminum, DO saturation, pH, E. coli at time of NOI; no longer impaired for DO saturation
7. Merrimack River (NHRIV700060803-14-02): new impairment for phosphorus
8. Saint Anselm Brook-To Piscataquog River (NHRIV700060607-35): new impairment for DO saturation and chloride

The City maintains an ongoing online GIS database of dry weather inspection results, which includes the identification and location of any new outfalls and any impairments of the receiving water. These new outfalls are also incorporated into the updated outfall priority ranking included in the IDDE Plan. In June 2023, the City clarified ownership and maintenance of NHDOT and private vs. City roads, which resulted in adjustment of the number of City-owned outfalls. The City has 696 MS4 outfalls, including 32 that discharge to a long culverted stream (e.g., watercourse that has been enclosed underground).

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 this reporting period:**

Below, report on the educational messages completed **during this reporting period**. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.

BMP:Septic System Outreach

Message Description and Distribution Method:

EPD leaves "Get Pumped" magnets and brochures at the WWTF front desk for septic haulers to take and distribute to their customers.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

10 of 10 magnets and 5 of 50 brochures have been picked up.

Message Date(s):

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:

Education to septic owners was not specifically called out in the NOI, but does apply to a small percentage of City residents.

BMP:Scoop the Poop Pet Waste Management Summer Message

Message Description and Distribution Method:

The Scoop the Poop pledge was published in the Sunday Union Leader. The article included a link and QR code to take the Scoop the Poop pledge. The Scoop the Poop fact sheet is permanently posted at the Manchester Urban Ponds kiosks and three new City kiosks located at CSO outfalls along the Merrimack River (posted 6/23/23). Scoop the Poop messages were posted on two digital billboards in the City for a period of 30 days. The City also distributes an education fact sheet with dog license registration forms.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Circulation for Sunday Union Leader (27,528). Number of kiosk postings (12 postings). Number of Scoop the Poop pledges (16 pledges). Billboard posting for 30 days (535,187 impressions).

Message Date(s): Ongoing (fact sheets, kiosks). 7/24/22 (newspaper article). 7/15/22-8/14/22 (billboards).

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:Rake It or Leave It Leaf Letter Fall Message

Message Description and Distribution Method:

An article outlining proper disposal of leaf litter was published in the Sunday Union Leader. The Rake It or Leave It - Leaf Litter fact sheet is permanently posted at the Manchester Urban Ponds kiosks. Rake It or Leave It messages were posted on two digital billboards in the City for a period of 60 days.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Circulation for Sunday Union Leader (27,528). Number of kiosk postings (9 postings). Billboard posting for 60 days (1,070,374 impressions).

Message Date(s): Ongoing (fact sheets, kiosks). 10/3/22 (newspaper article). 10/1/22-11/30/22 (billboards).

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:Green Grass Clippings/Fertilizer Spring Message

Message Description and Distribution Method:

An article outlining proper disposal of grass clippings and proper application of fertilizer was published in the Sunday edition of the Union Leader. The Green Grass Clean Water fact sheet is permanently posted in the Manchester Urban Ponds kiosks. Green Grass messages were posted on two digital billboards in the City for a period of 30 days.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Circulation for Sunday Union Leader (27,528). Number of kiosk postings (9 postings). Billboard posting for 30 days (535,187 impressions).

Message Date(s): Ongoing (fact sheets, kiosks). 4/23/23 (newspaper article). 8/15/22-9/14/22 (billboards).

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: Catch Basin Cleaning Message Share

Message Description and Distribution Method:

A message to keep storm drains clear was posted in the Sunday Union Leader and in the Manchester Urban Ponds Restoration Program Spring 2023 Program Update posted on Urban Ponds Facebook page.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Circulation for Sunday Union Leader (27,528). Number of people reached, engagements, and likes to Facebook posts (716 people reached, 6 engagements, 8 likes).

Message Date(s): 10/23/22 (newspaper article). 4/3/23 (Facebook post).

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:

Catch basin cleaning education was not included as a message in the NOI, however, has been added to increase awareness of the function of the drainage system and importance of keeping it functional to prevent flooding.

BMP: Hazardous Waste and Yard Waste Message

Message Description and Distribution Method:

Posts about Manchester's Hazardous Waste and yard waste drop off locations and hours were made to the Urban Ponds Facebook page and DPW Facebook page.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached and likes to Urban Pond Facebook posts (716 people reached, 1 like). Number of people reached and likes to DPW Facebook posts (807 reached, 5 likes). Billboard posting for 30 days (535,187 impressions).

Message Date(s): Ongoing (fact sheets, kiosks), 5/7/23 (Urban Ponds Facebook posts). 5/6/23 & 5/12/23 (DPW Facebook posts). 9/15/22-10/15/22 (billboards).

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:Solid Waste and Recycling Message

Message Description and Distribution Method:

Solid and Yard Waste Composting brochure was sent to customers with water bills between 3/15/23 and 5/24/23. Posts about Manchester's Drop Off and link to State Environmental Report made to DPW Facebook.

Targeted Audience: Residents & Businesses

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached and likes to DPW Facebook posts (807 people reached, 8 likes). Number of brochures sent with water bills (24,494 residential customers, 1,985 other customers).

Message Date(s): 2/7/23 & 2/23/23 (DPW Facebook posts). 3/15/23 - 5/24/23 (brochures with water bills).

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:General Lake/River Health Messages

Message Description and Distribution Method:

General fact sheets about lake/river health are permanently posted at the Manchester Urban Ponds kiosks and three new City kiosks located at CSO outfalls along the Merrimack River (posted 6/23/23). Fact sheets include information about waterbody cleanups, the Urban Pond Restoration Program, and threats to water quality. The 2023 Urban Ponds Newsletter outlines similar information and was emailed to local press, project partners, the Mayor and Board of Aldermen, and volunteers on 4/1/23. It was also posted to the Urban Ponds Facebook page (4/3/23). Multiple other posts were made to the Urban Ponds Facebook page including posts about invasive and native plant species (7/16/22, 1/12/23, 6/24/23, 6/25/23) and posts about the Urban Ponds

Restoration Program, restoration projects in the City and Clean Up Days (7/1/22, 7/28/22, 9/19/22, 10/19/22, 12/30/22, 1/21/23, 2/10/23, 3/12/23, 4/2/23, 4/3/23, 4/7/23, 4/14/23, 4/17/23, 4/21/23, 4/22/23, 4/25/23, 4/28/23, 4/29/23, 5/3/23, 5/6/23, 5/8/23, 6/7/23, 6/21/23, 6/28/23). Posts on cleanup days and City information kiosks were also made on the DPW Facebook page (2/14/23, 4/7/23, 4/12/23, 4/20/23, 4/21/23, 4/28/23, 5/4/23, 6/28/23, 6/29/23). Number of kiosk postings (12 postings).

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached, engagements, and likes to Urban Pond Facebook posts (716 people reached, 175 engagements, 406 likes) and emails sent (142). Number of people reached, engagements, and likes to DPW Facebook posts (807 people reached, 10 engagements, and 23 likes).

Message Date(s): 7/1/22, 7/16/22, 7/28/22, 9/19/22, 10/19/22, 12/30/22, 1/12/23, 1/21/23, 2/10/23, 2/14/23, 3/12/23, 4/2/23, 4/3/23, 4/7/23, 4/12/23, 4/14/23, 4/17/23, 4/20/23, 4/21/23, 4/22/23, 4/25/23, 4/28/23, 4/29/23, 5/3/23, 5/4/23, 5/6/23, 5/8/23, 6/7/23, 6/21/23, 6/24/23, 6/25/23, 6/28/23, 6/29/23 (Facebook posts). 4/1/23 (Emails). Ongoing (factsheets, kiosks).

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: Winter Maintenance

Message Description and Distribution Method:

A mailing (letter and brochure) outlining the requirements for the application of salt on private parking lots and streets, including using a certified SnowPro contractor, was sent 11/29/22 to all businesses with 10 or more parking spaces located within a chloride impaired watershed. After receiving feedback that most businesses hire a snow contractor in early Summer, a postcard reminding businesses to hire a SnowPro certified contractor was sent 5/23/23. A factsheet promoting Green SnowPro certification was mailed to salt applicators in the City on 5/22/23. Salt usage messages were posted on two digital billboards in the City for a period of 60 days.

Targeted Audience: Businesses, institutions and commercial facilities, Industrial facilities, Residential

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Fall letter and brochure (493 mailings targeting 277 parcels). Spring postcard (411 mailings targeting 272 parcels). Spring factsheet to salt applicators (50 mailings). Billboard posting for 30 days (535,187 impressions).

Message Date(s): 11/29/22 (fall letter and brochure mailing). 5/23/23 (spring postcard mailing). 5/22/23 (spring applicator mailing). 12/1/22-12/31/22 (billboards).

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: Combined Sewer Separation & WWTF Treatment

Message Description and Distribution Method:

DPW-EPD hosted 40 young professionals as part of NEWEA "Poo & Brew" where the \$25 million WWTF upgrades to improve phosphorus removal were discussed. The event was posted on DPW's Facebook page. The progress of several sewer separation projects and their benefits to water quality were also posted on DPW's Facebook page and the Urban Pond Restoration Program Facebook page.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

40 young professionals (NEWEA "Poo & Brew" event). Number of people reached and likes to Urban Pond Facebook posts (716 people reached and 10 likes). Number of people reached, engagements, and likes to DPW Facebook posts (807 people reached, 1 engagement, and 16 likes).

Message Date(s): 12/14/22 (NEWEA "Poo & Brew" event). 1/12/23, 2/13/23, 6/6/23 (Urban Ponds Facebook posts). 12/28/22, 2/13/23, 3/30/23, 6/6/23, 6/7/23 (DPW Facebook posts).

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:

WWTF and combined sewer infrastructure improvement education was not included as a message in the NOI, however, has been added to increase awareness of the the City's investment in infrastructure improvements to reduce pollutant loads from its wastewater treatment facility and combined sewer system.

BMP: Geese Impacts on Water Quality

Message Description and Distribution Method:

A post on goose overpopulation, impacts on water quality and why it is important not to feed them was posted on the Urban Ponds Restoration Facebook page.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached, engagements, and likes to Urban Pond Facebook posts (716 people reached, 2 engagements, and 12 likes).

Message Date(s): 5/24/23

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:

The impacts of geese on water quality was not identified as a specific public education message in the NOI, however, can be a non-point source of pollution that is made worse when they are fed by residents. The education was added to make residents aware of the negative impacts these birds and feeding them can have on water quality.

BMP:General Stormwater Pollution Messages

Message Description and Distribution Method:

General information on stormwater pollution in Manchester was permanently posted at the Manchester Urban Ponds kiosks and three new City kiosks located at CSO outfalls along the Merrimack River (posted 6/23/23). Fact sheets posted at the kiosks are entitled "Just Remember", "What Can You Do to Reduce Stormwater Runoff and Pollution", and "Watersheds and the Basics of Stormwater". Messages on Vehicle Maintenance were posted on two digital billboards in the City for a period of 60 days.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of kiosk postings (12 postings). Billboard posting for 30 days (535,187 impressions).

Message Date(s): Ongoing (fact sheets, kiosks). 6/1/22-7/31/22 (billboards).

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:Construction and Development Practices

Message Description and Distribution Method:

EPD has a webpage with stormwater resources for site development and construction activities, including information on Construction General Permit (CGP) requirements, City stormwater and sewer regulations, and best practices for construction sites. EPD also has a stormwater regulation webpage with summaries and links to City stormwater regulations and fact sheets for site developers. A Homeowner's Guide to Managing Stormwater is also included on the webpage and handed out to homeowner's that come to Planning for smaller projects.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

5 Homeowner's Guide fact sheets handed out. Website is continuously available.

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:General Stormwater Pollution Messages for Industrial

Message Description and Distribution Method:

EPD has a webpage with stormwater resources for site industrial facilities, including information on outdoor storage, proper disposal of toxic and hazardous wastes and good housekeeping to minimize contact of pollutants with stormwater runoff.

Targeted Audience: Industrial facilities

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Website is continuously available.

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:

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) **during this reporting period:**

The SWMP is published on Manchester's website (<https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>) and available for public review.

Was this opportunity different than what was proposed in your NOI? Yes No

Describe any other public involvement or participation opportunities conducted **during this reporting period:**

The SWMP webpage provides a link to an EPD phone number and email encouraging residents to provide any comments/concerns on the current SWMP. No comments were received in Year 5.

A link to report non-emergency concerns to the Public Works app was posted on DPW's Facebook page on 12/15/22 and 1/17/22.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period.***

Number of SSOs identified:

Number of SSOs removed:

MS4 System Mapping

Optional: Provide additional status information regarding your map:

The City continues to investigate data gaps in its stormwater drainage infrastructure mapping (e.g., missing piping and connectivity). All field investigations and identification of data gaps are performed using an online GIS platform that allows changes identified in the field to be recorded directly into an online GIS, including more accurate outfall locations, identification of new outfalls, catch basins and pipes, and relabeling of structures misidentified as outfalls. As of Year 6, the City has 696 MS4 outfalls, including 32 that discharge to a long culverted stream (e.g., watercourse that has been enclosed underground).

Screening of Outfalls/Interconnections

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. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.

No outfalls were inspected

- The outfall screening data is attached to the email submission
- The outfall screening data can be found at the following publicly available website:

*Below, report on the number of outfalls/interconnections screened **during this reporting period**.*

Number of outfalls screened:

*Below, report on the percent of total outfalls/ interconnections screened **to date**.*

Percent of outfalls screened:

Optional: Provide additional information regarding your outfall/interconnection screening:

In June 2023, the City clarified ownership and maintenance of NHDOT and private vs. City roads and performed some additional data gap investigations of the drainage system. With these clarifications and investigations, the City has 696 MS4 outfalls, including 32 that discharge to a long culverted stream (e.g., watercourse that has been enclosed underground).

The City located and screened another 9 outfalls/interconnections this period (8 new outfalls and 1 previously located but not yet screened), found as part of its investigations to address data gaps in the mapping. In cases where an outfall could not be found, or was inaccessible, the upgradient catch basin or manhole was inspected for dry weather flows as a proxy for the outfall. The City has a number of long culverted streams where stormwater drainage networks discharge directly into the culvert at a junction structure such as a manhole or catch basin. The junction structure discharge points into the culverted stream are mapped as outfalls.

A total of 10 City-owned outfalls remain to be investigated and will be inspected during dry weather conditions during Year 6.

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.

- No catchment investigations were conducted
- The catchment investigation data is attached to the email submission
- The catchment investigation data can be found at the following publicly available website:

*Below, report on the number of catchment investigations completed **during this reporting period**.*

Number of catchment investigations completed this reporting period:

*Below, report on the percent of catchments investigated **to date**.*

Percent of total catchments investigated:

Optional: Provide any additional information for clarity regarding the catchment investigations below:

The City has begun catchment investigations, including dry weather inspections of key junction structures and wet weather sampling of outfalls with known SVFs in the catchment area (based on record reviews completed to date). Many catchments do not have key junction manholes and/or SVFs, and thus inspections are complete,

as outfalls have been screened during dry weather. These will be reviewed and documented with Year 6 IDDE updates. The City is continuing its review of records to identify all potential catchment areas with SVFs, while progressing with sampling in areas with identified SVFs. The SVF analysis is included in the appendix to the IDDE Plan on the City's website at (<https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>).

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- No illicit discharges were found
- The illicit discharge removal report is attached to the email submission
- The illicit discharge removal report can be found at the following publicly available website:

See below "Optional" information for details.

*Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed **during this reporting period**.*

Number of illicit discharges identified:

Number of illicit discharges removed:

Estimated volume of sewage removed: gallons/day

*Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed **since the effective date of the permit (July 1, 2018)**.*

Total number of illicit discharges identified:

Total number of illicit discharges removed:

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

An illicit discharge into the City's MS4 (Outfall DOU-112459) from Colonial Apartments on West River Drive was identified through dry weather screening of outfalls and reported in the Year 4 Annual Report. After many weeks of investigations, including sampling, dye testing and camera inspection of the drain lines, the management company traced the source back to a sewer connection from a building referred to as "The Mansion". The Mansion was built in the 1800s and converted into 8 apartment units after the property was purchased and developed as an apartment/condominium complex.

In November 2022, the property management disconnected the old sewer service line cross connection with the stormwater system from inside the building and ran a new sewer service line to the City's sewer main. The City performed followup sampling of the outfall on 4/11/23 and 6/8/23, which showed the ammonia had dropped below illicit discharge benchmark values, but surfactants and bacteria remained above benchmarks during both sampling events. On 7/19/23, three on-site drainage structures were sampled to help further bracket the source of surfactants and E. coli, which confirmed the most likely source is still associated with The Mansion. On 8/3/23, the City performed an on-site inspection with the property manager and found that

the laundry facilities in The Mansion basement were still connected to the storm drain system, only the sanitary sewage had been rerouted to the City's sewer main. The property manager is in the process of installing a pump system to send the laundry wastewater to the City's sewer main, as well as perform dye testing in each of The Mansion apartment units to ensure no pipes were overlooked. The City will resample after these activities have been completed.,

The full investigation will be documented in a report once completed. The removal report for the illicit discharge to DOU-109404 was included with the Year 2 report.

Employee Training

Describe the frequency and type of employee training conducted **during this reporting period**:

Employee training was conducted on May 16, 2023 at the Manchester Highway Department offices at 475 Valley Street. Training focused on water pollution, MS4 permit requirements, IDDE program requirements, illicit discharge investigations, sanitary sewer overflows, good housekeeping, erosion and sediment controls, operations and maintenance, and management of street wastes. Twenty-two city employees from DPW-EPD attended the training. The training log will be included in the next update of the Illicit Discharge Detection Plan posted on the City's Stormwater website.

Employee training was conducted on May 16, 2023 at the Bridge Street Maintenance Center. Training focused on Water Pollution, MS4 Permit Requirements, and the Stormwater Pollution Prevention Plan. Five city employees from Parks and Recreation attended the training.

MCM4: Construction Site Stormwater Runoff Control

*Below, report on the construction site plan reviews, inspections, and enforcement actions completed **during this reporting period**.*

Number of site plan reviews completed:

Number of inspections completed:

Number of enforcement actions taken:

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

The City completed 16 plan reviews for development/redevelopment projects with land disturbance. The City performed 192 site inspections and received 104 inspection reports prepared by third party inspectors.

When performing construction site inspections, the City discusses any observed issues with the Contractor at the time of the inspection. These are resolved through the inspection process, limiting the need for formal enforcement actions. Of the 192 site inspections performed by the City, minor issues were noted during 14 of the inspections and resolved with the Contractor. One major issue was observed and also resolved with the Contractor without the issuance of a Notice of Violation.

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

Ordinance or Regulatory Mechanism

Date update was completed (due in year 3):

Storm Water Ordinance updated 6/30/21 and approved November 2021
Storm Water Regulations Manual updated 6/30/21 and signed 9/17/21.
Subdivision and Site Plan Review Regulations updated 6/3/21.
Standard Specifications revised 6/30/21.

Website of ordinance or regulatory mechanism:

<https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Regulations>

As-built Drawings

Below, report on the number of as-built drawings received during this reporting period.

Number of as-built drawings received:

Optional: Enter any additional information relevant to the submission of as-built drawings:

Street Design and Parking Lots Report

Below, describe any changes made or planned to be made to local regulations and guidelines based on the report completed in Year 4:

No changes made to date. Recommendations have been shared with Planning with changes to be determined pending ongoing discussions between various responsible departments.

Green Infrastructure Report

Below, describe progress towards making green infrastructure practices allowable based on the report completed in Year 4:

No changes made to date. Recommendations have been shared with Planning with changes to be determined pending ongoing discussions between various responsible departments.

Retrofit Properties Inventory

Below, list all properties that have been modified or retrofitted with BMPs to mitigate impervious area that were inventoried as part of 2.3.6.e of the permit. Non-MS4 owned properties that have been modified or retrofitted with BMPs to mitigate impervious area may also be listed, but must be indicated as non-MS4.

No municipal properties were modified or retrofitted with BMPs this period. Beginning in FY25, the City will have \$3 million in construction funds every 3 years for drainage improvement projects, including infrastructure repair and replacement, and installation of stormwater treatment BMPs with priority given to failing infrastructure and safety issues. This is in addition to the \$300 million over 20 years the City is spending on sewer separation and WWTF upgrade projects to reduce pollutants to surface waters from these sources.

MCM6: Good Housekeeping

Catch Basin Cleaning

*Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins **during this reporting period.***

Number of catch basins inspected:

Number of catch basins cleaned:

Total volume or mass of material removed from all catch basins:

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins:

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

The City cleans its catch basins by Ward and there are approximately 12,000 catch basins in the City (8,586 in the MS4 and the remainder in the combined sewer area). Catch basins in the combined sewer area are also inspected and cleaned as part of the on-going program. To remain within the City's catch basin cleaning budget, approximately two Wards out of 12 are cleaned each year. The City also has designated priority areas around its urban ponds, where 566 catch basins are cleaned on a more frequent basis at a minimum of once every two years.

The City began its second round of catch basin cleaning by Ward in Year 5. Two rounds of cleaning records have been collected for two Wards as of Year 5. The City plans to continue cleaning by Ward until two full

rounds of data are available for the City. This data will then be analyzed to develop optimized catch basin cleaning routes within the City's budget. The data is also being evaluated to identify catch basins with no and very small sumps for potential upgrade as part of the City's paving program and drainage improvement program.

Street Sweeping

Report on the number of miles swept **during this reporting period** below.

Number of miles cleaned:

Report either the volume or weight of street sweeping materials collected **during this reporting period** below.

- Volume of material removed:
- Weight of material removed:

Stormwater Pollution Prevention Plan (SWPPP)

Below, report on the number of site inspections for facilities that require a SWPPP completed **during this reporting period**.

Number of site inspections completed:

Describe any corrective actions taken at a facility with a SWPPP:

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 effectiveness must be attached.

- Not applicable
- 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):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

Water quality testing of five Manchester ponds is performed under the State's Volunteer Lake Assessment Program (VLAP). VLAP establishes a volunteer-driven lake sampling program to assist NHDES in evaluating lake water quality, and provides volunteer monitors and lake residents with reports on lake health. Ponds tested

under the program include Crystal Lake, Dorrs Pond, Nutt Pond, Pine Island Pond and Stevens Pond, which are monitored for alkalinity, Chlorophyll-a, Chloride, Color, Conductivity, Total Phosphorus, Transparency, Turbidity and pH. Annual reports of the monitoring results are posted on the City's and NHDES's websites.

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above. If any of the above year 5 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

-MCM3: SSOs - There was an increase in SSOs due to increased rain events. 16 of the 17 SSOs reported are associated with the CSO system and will be addressed with the City's CSO program. One SSO was a result of a grease backup in the sewer line and was removed.

-MCM3: Screening of Outfalls - Additional outfalls were identified for inspection as a result of the City clarifying ownership and maintenance of NHDOT and private vs. City roads and investigation of data gaps. The City has 696 MS4 outfalls, including 32 that discharge to a long culverted stream (e.g., watercourse that has been enclosed underground). A total of 10 City-owned outfalls remain to be investigated and will be inspected during dry weather conditions during Year 6.

-MCM6: CB Cleaning - The reported number of catch basins inspected and cleaned under MCM6 includes catch basins within and outside of the City's MS4. The City has approximately 12,009 catch basins that it cleans on a rotating cycle. Approximately 8,586 of these are part of the MS4. Note that the number of City-owned catch basins is higher than reported in previous years. This is the result of the City clarifying ownership and maintenance of NHDOT and private vs. City roads and investigation of data gaps.

-MCM6: Street Sweeping - The reported miles of streets swept represent lane miles and include City streets within and outside of the City's MS4 and also accounts for multiple sweepings of the same road. The lane miles swept have been updated to reflect clarifications in roadway ownership and maintenance responsibility .

-Other Stormwater Programs - The City has prepared a prioritized list of maintenance and repair projects using information collected from its MS4 drainage infrastructure inspection and cleaning program and from other City initiatives to inspect and evaluate culverts and channels. The list includes: stormwater piping and outfalls in need of jetting to remove sediment; repairs to damaged catch basins, culverts, outfalls and headwalls; culvert replacements; and channel maintenance needs. Repair and maintenance of these structures can help prevent erosion, flooding and road damage that can impact water quality and cost more to address once they become a problem, while also ensuring the safety of Manchester's residents.

Activities Planned for Next Reporting Period

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 6 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree

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

- 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 curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements
- Inspect all permittee owned treatment structures (excluding catch basins)
- Identify additional permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas so that the permittee maintains a minimum of 5 sites in their inventory, until such a time when the permittee has less than 5 sites remaining

Provide any additional details on activities planned for permit year 6 below:

Part V: Certification of Small MS4 Annual Report 2023

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:

Frederick J. McNeill

Title:

Chief Engineer - EPD

Signature:



Date:

09/28/23

[Signatory may be a duly authorized representative]