

**Year 5 Annual Report**  
**Massachusetts 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)**

Bacteria/Pathogens     
  Chloride     
  Nitrogen     
  Phosphorus  
 Solids/ Oil/ Grease (Hydrocarbons)/ Metals

**TMDL(s)**

*In State:*     
  Assabet River Phosphorus     
  Bacteria and Pathogen     
  Cape Cod Nitrogen  
 Charles River Watershed Phosphorus     
  Lake and Pond Phosphorus

*Out of State:*     
  Bacteria/Pathogens     
  Metals     
  Nitrogen     
  Phosphorus

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
- Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities

- 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:

Training - No training was conducted during Permit Year 5 due to the loss of its dedicated stormwater engineer.  
 Stormwater BMP Inspections - The City was unable to inspect all permittee owned treatment structures due to lack of manpower.

**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
  - This is not applicable because there are no septic systems present

*\* 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:

Septic System Maintenance - Information to owners of septic systems was not provided during Permit Year 5. The City has approximately 8,000 properties tied into the municipal sewer system and less than 80 properties on septic, under 1% of properties.

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

The City, Brown and Caldwell, and Merrimack Valley Planning Commission worked in collaboration to develop an electronic early-alert system for potential risks of elevated levels of unsafe bacteria in the Merrimack River due to upstream Combined Sewer Overflows (CSOs). The tool is currently located at <https://mvpc.org/cso-monitoring/>

The Engineering Division assisted Brown and Caldwell with collecting storm and wastewater samples within

Newburyport for research of a new field test that provides advanced methods of source tracking. The field test relies on excitation emission analysis and measuring fluorescence of water quality samples over a wide range of excitation wavelengths to develop an excitation-emission matrix (EEM) "fingerprint". These fingerprints are indicative of compounds present in a given water quality sample. Previous studies have indicated that wastewater has a characteristic EEM fingerprint and could be used to test for the presence of sewage contamination, making it a promising tool for IDDE investigations.

### 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:

As noted in previous annual reports, the number of outfalls discharging to each receiving waterbody has been updated from the NOI. No new updates were made during Permit Year 5.

## 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:Video - "Fowl Water"**

Message Description and Distribution Method:

The Think Blue Massachusetts "Fowl Water" video defines stormwater and explains the impact that pollution like trash, oil, cigarettes and dog poop can have on stormwater and our waterways. Video available at <https://www.thinkbluemassachusetts.org/> , [www.greenscapes.org/resources-videos/](http://www.greenscapes.org/resources-videos/) and spread as an advertisement on Facebook, Instagram, & YouTube

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Follow "Think Blue" Campaign on Social Media platforms. Note, results of the statewide ThinkBlue campaign were not available prior to submitting this annual report.

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:

Advertisement campaign not included in NOI

#### **BMP:[Message name here]**

Message Description and Distribution Method:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

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:

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 City's Stormwater Advisory Committee held an annual public meeting on April 10, 2023 to provide an opportunity for public participation in review and implementation of the SWMP during the reporting period.

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:**

### **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:*

All new and updated GIS data was captured using ArcGIS Collector, a mobile data collection application. This work built on past stormwater mapping efforts to confirm system components and better delineate outfall catchment areas.

**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 above referenced outfall screening data is attached to the email submission
- The above referenced 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 outfalls/interconnections screened **to date.***

Percent of outfalls screened: *Optional: Provide additional information regarding your outfall/interconnection screening:*

In Permit Year 3, 100% of outfalls had been screened to date. In year 4, MS4 system mapping identified additional outfalls that have not yet been screened, resulting in 90% to date. The remaining 10% were screened during Permit Year 5.

**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 is assessing catchment investigation status during Year 6. Many catchments do not have Key Junction Manholes and/or System Vulnerability Factors; and thus inspections are complete as outfalls have been screened during dry weather.

### **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:

Note, please see description below.

*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:*

A sanitary sewer service was installed through a catch basin which was observed to be broken during an inspection. The City fixed the pipe.

### **Employee Training**

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

No training was conducted during Permit Year 5 due to the loss of its dedicated stormwater engineer.

**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:

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

**Ordinance or Regulatory Mechanism**

Date update was completed (due in year 3): (year 4).

Ordinance Chapter 17 - Stormwater Management revisions were introduced to City Council on November 8, 2021, first reading on April 25, 2022 and approved via 2nd reading on May 9, 2022

Revisions to Stormwater Management Rules and Regulations are scheduled to be approved in August 2022 (year 5).

Website of ordinance or regulatory mechanism:

**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 updates were recommended.

### **Green Infrastructure Report**

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

No updates were recommended.

### **Retrofit Properties Inventory**

Below, list remaining permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas (must maintain a minimum of 5 sites in inventory until less than 5 sites remain):

DPS Facility and Administrative Building (16A Perry Way)  
Sewer Treatment Plant (157 Water St.)  
Nock Middle School (70 Low St.)  
Cashman Park (244 Merrimac St.)  
Recycling Center (23 Colby Farm Ln.)

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.d 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 properties have been modified or retrofitted to BMPs to date.

## 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:  [Select Units]

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:

### Street Sweeping

Report on street sweeping completed **during this reporting period** using one of the three metrics below.

Number of miles cleaned:

Volume of material removed:  [Select Units]

Weight of material removed:  [Select Units]

### 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:

Note, no site inspections were completed during Permit Year 5 due to the loss of its dedicated stormwater engineer.

## **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 publicly available 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:

### **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:

Program Staffing - In Permit Year 5, the City lost its dedicated stormwater engineer, as well as the public outreach lead. The City is actively looking to fill both positions to complete work required by the Permit.

### **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:

Title:

Signature:

Date:

*[Signatory may be a duly authorized representative]*