

Year 3 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: July 1, 2020-June 30, 2021

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

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, 2020 and June 30, 2021 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Manchester-by-the-Sea, MA

EPA NPDES Permit Number: MAR041207

Primary MS4 Program Manager Contact Information

Name: Mr. Charles Dam P.E. Title: DPW Director

Street Address Line 1: 10 Central Street

Street Address Line 2:

City: Manchester-by-the-Sea State: MA Zip Code: 01944

Email: damc@manchester.ma.us Phone Number: (978) 526-1242

Stormwater Management Program (SWMP) Information

SWMP Location (web address): <http://ma-manchesterbythesea.civicplus.com/709/Stormwater-Management-Program>

Date SWMP was Last Updated: JUNE 2021

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 type="checkbox"/> Chloride	<input type="checkbox"/> Nitrogen	<input type="checkbox"/> Phosphorus
<input type="checkbox"/> Solids/ Oil/ Grease (Hydrocarbons)/ Metals			

TMDL(s)

<i>In State:</i>	<input type="checkbox"/> Assabet River Phosphorus	<input checked="" type="checkbox"/> Bacteria and Pathogen	<input type="checkbox"/> Cape Cod Nitrogen
	<input type="checkbox"/> Charles River Watershed Phosphorus	<input type="checkbox"/> Lake and Pond Phosphorus	
<i>Out of State:</i>	<input type="checkbox"/> Bacteria/Pathogens	<input type="checkbox"/> Metals	<input type="checkbox"/> Nitrogen
			<input type="checkbox"/> Phosphorus

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.

Year 3 Requirements

- Inspected and screened all outfalls/interconnections (excluding Problem and Excluded outfalls)
- Updated outfall/interconnection priority ranking based on the information collected during the dry weather inspections as necessary
- Post-construction bylaw, ordinance, or other regulatory mechanism was updated and adopted consistent with permit requirements

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above year 3 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:

Due to the COVID-19 pandemic, the scheduled Town Meeting in May was pushed to June and the IDDE bylaw was taken off the agenda. The new updates for the bylaw have been drafted and approved by Town counsel. The Town plans on having the IDDE bylaw on the fall Town Meeting agenda on November 15, 2021.

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 website:

- Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- Provided training to employees involved in IDDE program within the reporting period
- All curbed roadways were swept at least once within the reporting period
- Updated system map due in year 2 as necessary
- 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, provide any additional information, and/or if any of the above annual 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:

With regards to the last item (treatment structures), the Town is still in the process of identifying locations. Once locations are found, proper inspections will occur.

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:

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

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:

Additional outfalls were discovered in the past year and are conveyed in the outfall inventory and mapping data.

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: 9

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:Continuing education on stormwater pollution

Message Description and Distribution Method:

During outfall and catch basin inspections, the DPW and their consultants educate the public on the stormwater infrastructure, how to combat any potential pollution from their private property into the Town's stormwater system, and the negative impacts of pet waste on septic system maintenance.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

The residents are educated on the specific issues they may have on their property and understand the importance of debris clearing and pollution prevention.

Message Date(s): July 2020 - June 2021

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:Greenscapes Guide

Message Description and Distribution Method:

Comprehensive 24 page magazine, describing sustainable landscaping practices, DIY residential stormwater management projects, native plant suggestions and more.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Greenscapes North Shore Coalition has their guides in the Town Hall available to the public and available online at www.greenscapes.org/greenscapes-guide/

Message Date(s): July 2020 - June 2021

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:Greenscapes "Water for People" Post

Message Description and Distribution Method:

Social Media about getting a lawn sign for "Save our rivers and streams Water for people, not grass"

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Posted on Greenscapes North Shore Coalition facebook on July 2020

Message Date(s): July 22, 2020

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: EPA "Do Your Part, Be Septic Smart" Post

Message Description and Distribution Method:

Social media post containing information and tips for proper septic system maintenance.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Posted on Greenscapes North Shore Coalition facebook on August 2020

Message Date(s): August 26, 2020, March 3, 2021

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:EPA "Protect it and Inspect it" Post

Message Description and Distribution Method:

Social media post containing information and resources about how to protect and maintain your septic systems

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Posted on Greenscapes North Shore Coalition facebook on September 2020

Message Date(s): September 16, 2020

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:Greenscapes "Fall Landscaping" Post

Message Description and Distribution Method:

Social media post about fall yard maintenance to protect water resources

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Posted on Greenscapes North Shore Coalition facebook on September 2020

Message Date(s): September 30, 2020

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: Greenscapes "Leave the leaves" Post

Message Description and Distribution Method:

Social media post containing an article about the importance about leaf compost

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Posted on Greenscapes North Shore Coalition facebook on October 2020

Message Date(s): October 16, 2020

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:Greenscapes "keep storm drain clear" Post

Message Description and Distribution Method:

Social media post containing information on the importance of keep storm drains clear of debris.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Posted on Greenscapes North Shore Coalition facebook on November 2020

Message Date(s): November 24, 2020

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:Greenscapes "winter reminder" Post

Message Description and Distribution Method:

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes North Shore Coalition

Measurable Goal(s):

Posted on Greenscapes North Shore Coalition facebook on January 2021

Message Date(s): January 8, 2021

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 always available on website and the public can provide feedback. Available at: <https://www.manchester.ma.us/709/Stormwater-Management-Program>

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**:

Due to the COVID-19 pandemic, public involvement and participation has been limited.

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:

Stormwater infrastructure GIS is edited and maintained by DPW staff on the Sedaru platform. Updates are sent to the AppGeo GIS viewer and can be accessed here: <https://manchesterma.mapgeo.io/datasets/properties?abuttersDistance=120&latlng=42.576809%2C-70.756883>

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 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:

All outfalls have been inspected upon discovery. The Town continues to investigate areas for potential outfalls and updates the GIS accordingly.

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 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:

To date, the Town has performed upstream investigations on all outfalls with elevated levels of bacteria. As investigations progress, all inaccurate or incomplete data is updated. The goal for next reporting period is to provide detailed delineations for all catchments.

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 website:

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:

Found four outfall locations that tested above Massachusetts standards for bacteria. Based on upstream investigations, the Town believes the high levels are from wild animal and dog feces.

Employee Training

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

The DPW trains Department heads on IDDE once a year. This year, the focus of the training was on natural vs chemical sheens and foams.

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

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

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

The assessment is in progress and will be completed by Year 4.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

The assessment is in progress and will be completed by Year 4.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

The inventory is in progress and will be completed by Year 4.

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: 71

Number of catch basins cleaned: 36

Total volume or mass of material removed from all catch basins: 908 cubic feet

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

Total number of catch basins: 71

If applicable:

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

Not Applicable

Street Sweeping

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

Number of miles cleaned: 75

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: 3

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

Corrective actions were taken at the Compost facility and the DPW informed the third-party leasing the land of ways to improve runoff and improper storage of materials. The DPW went back to the site recently and all recommendations were put in place.

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):

<https://www.salemsound.org/CB&S.html>

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:

The link above includes results from the Salem Sound Coastwatch. From June to August, water samples are taken from streams and outfall pipes as they empty out on to our coastal beaches. All samples are tested for Enterococcus. Like the more familiar E. coli, enterococci are part of the normal intestinal flora of humans and animals but are also important pathogens that are responsible for serious infections. US EPA has determined

that the Enterococcus group is a better indicator of potential public health risk of waterborne disease than fecal coliform bacteria in marine waters. Salem Sound Coastwatch sampled the Wolf Trap Marsh Culvert four times during Year 3 for Enterococcus. See results on website.

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:

Manchester-by-the-Sea has continued to inspect stormwater pipes and confirm the connections of stormwater assets. The DPW has plans to improve the MS4 including replacing old infrastructure and re-routing the flow of water to reduce flooding throughout Town.

COVID-19 Impacts

Optional: If any of the above year 3 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:

As previously stated, implementation of the bylaw updates along with opportunities for public participation have been delayed due to the COVID-19 Pandemic.

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

Yes, I agree

- Develop a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover
- Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist
- Identify a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas

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

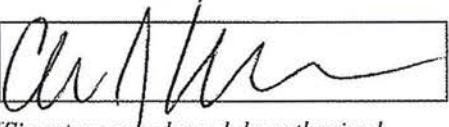
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part 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)

Provide any additional details on activities planned for permit year 4 below:

Part V: Certification of Small MS4 Annual Report 2021

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: Charles DamTitle: Director of Public WorksSignature: Date: 09/27/2021

[Signatory may be a duly authorized representative]

Note: When prompted during signing, save the document under a new file name.

Annual Report Submission

Please submit the form electronically via email to both EPA and MassDEP by clicking on one of the links below or using the email addresses listed below. Please ensure that all required attachments are included in the email and not attached to this PDF.

EPA:

MassDEP:

Paper Signature:

If you did not sign electronically above, you can print the signature page by clicking the button below.

Optional: If you did not sign electronically above, you may lock the form by clicking the "Lock Form" button below which will prompt you to save the locked version of the form. Save this locked version under a new file name.

Lock Form