

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:

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 (web address):

Date SWMP was Last Updated:

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

Physical copy is also available at the DPW Offices at 44 Centennial Grove Road. A copy has yet to be made available on the Town's website but the plan is to have a established link by the end of 2021. In the meantime, a copy continues to be available through the Google Drive link above.

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

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:

The Town has updated its catchment delineations and the majority of the catchments and associated outfalls have been identified as "Problem" based on the definitions in the permit. Problem outfalls are excluded from dry weather screening.

A revised version of the Town's Stormwater Bylaw was approved at the May 15, 2021 Town Meeting and was adopted on September 1, 2021. This revised version includes the required Land Disturbance language and addresses post-construction requirements as required by the 2016 Permit. The Town's Bylaws are available on the Town Website through the following link: <https://www.essexma.org/>.

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:

Due to COVID-19 restrictions, opportunities for public participation in the review and implementation of SWMP were limited, but information related to the MS4 program is available on the Town's website.

Due to COVID-19 meeting restrictions formal training was not performed during the permit year but is planned for the fall of 2021.

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:

The Town of Essex has contracted with Greenscapes Massachusetts to manage the Public Education and Outreach component of the Permit. As described under MCM1 below, hard copy rack cards of Greenscapes "Scoop the Poop" message were provided to Town staff and are available for viewing on the Greenscapes website. Over the next year, the Town will improve public awareness of the information developed by Greenscapes. This is expected to include postings of the link to Greenscapes website and the inclusion of Greenscapes "Scoop the Poop" card with the issuance of pet licenses.

Solids, Oil and Grease (Hydrocarbons), or Metals

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
- Prioritized inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Cleaned catch basins more frequently if inspection and maintenance activities indicated excessive sediment or debris loadings

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:

Although the Town has not implemented increased street sweeping or prioritized inspection and maintenance of catchbasins in select areas of the Town the Town has maintained a regular and consistent annual street sweeping and catchbasin cleaning program for a number of years. Because of this program and the Town's restrictions on the use of sand on its streets, catchbasin sumps do not reach 50% full.

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

N/A

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:

N/A

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 - What Not to Flush

Message Description and Distribution Method:

An instructional video that broadly describes the different water systems at work within our watersheds and the importance of protecting all of them. After going into more detail about the wastewater system, it takes viewers through an experiment that illustrates the importance of keeping wipes out of the wastewater stream. Created by the Greenscapes Coalition in place of the Keeping Water Clean in-person program. The video was posted on Vimeo and Salem Sound Coastwatch Facebook, is available on the Greenscapes website and was shared with municipal staff in the Greenscapes newsletter.

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:

BMP: Video - The World Beneath Our Feet

Message Description and Distribution Method:

An instructional video that takes the audience through an experiment that explores how plants (grass seed) grows with different types of fertilizer; chemical fertilizer versus all natural. Created by the Greenscapes Coalition as a supplement to other Keeping Water Clean related videos. This video was posted on Vimeo Greenscapes and Salem Sound Coastwatch Facebook, it is available on the Greenscapes website and was shared with municipal staff in the Greenscapes newsletter.

Targeted Audience:

Responsible Department/Parties: Greenscapes Coalition and Municipal Staff

Measurable Goal(s):

76 views on Vimeo, 200 people reached on Facebook

Message Date(s): Posted by Greenscapes on May 26, 2020. Shared to municipal staff August 25th, 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:

The Keeping Water Clean program is normally conducted in person

BMP: Social Media - Septic Smart Post

Message Description and Distribution Method:

Distribution of EPA's "Do Your Part, Be Septic Smart" Infographic that includes tips for homeowners about proper septic maintenance. Graphic was posted on Greenscapes Facebook, is available on the Greenscapes website and was shared with municipal staff in the Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and Municipal Staff

Measurable Goal(s):

11 people reached on Greenscapes Facebook

Message Date(s): Posted on Greenscapes Facebook on August 26th, 2020 and shared with municipal staff on August 25, 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: Social Media - Good Septic Owner Posts

Message Description and Distribution Method:

Distribution of EPA's "10 Ways to be a Good Septic Owner" lists in both english and spanish. The list includes 10 tips for sustainable septic maintenance. The graphics were posted on Greenscapes Facebook, are available on the Greenscapes website and were shared with municipal staff in the Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):
14 people reached on Greenscapes Facebook.

Message Date(s): Posted on Greenscapes social media September 16, 2020. Sent to municipal staff on Sept. 17, 2020 and again on 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: Social Media - Protect It & Inspect It Post

Message Description and Distribution Method:
Distribution of EPA's "Protect It and Inspect It" post, which describes the importance of regularly inspecting and emptying your septic tank. Graphic was posted on Greenscapes Facebook and is available on the Greenscapes website.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):
12 people reached on Greenscapes Facebook.

Message Date(s): Posted on Greenscapes Facebook Sept 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: Social Media - Fall Calendar Post

Message Description and Distribution Method:
Distribution of a Fall Greenscaping Calendar/Checklist that includes several tips and tricks for sustainable landscaping and yard maintenance. It includes the suggestion of composting yard waste, planting native trees, watering less, using fescue grass mix - all of which would reduce the need/use of chemical fertilizers. the graphic was posted on Greenscapes social media, is available on the Greenscapes website and was shared with

municipal staff in the Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

359 people reached on Greenscapes Facebook, 10 people reached on Greenscapes Instagram.

Message Date(s): Sent to municipal staff October 1, 2020. Posted on Greenscapes SM September 1, 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: Article/Social Media - Leave the Leaves

Message Description and Distribution Method:

Distribution of an article from the Ecological Landscape Alliance, detailing the benefits of leaving "leaf litter" in your yard, as opposed to collecting and removing it. The article discusses the resultant biodiversity, nutrient, water retention and chemical reduction benefits of "Leaving the Leaves". Article was posted on Greenscapes Facebook.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition

Measurable Goal(s):

133 people reached on Greenscapes Facebook.

Message Date(s): Posted on Greenscapes Facebook 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: Brochure - Industrial Stormwater Management

Message Description and Distribution Method:

Distribution of a one page "brochure" designed for industrial audiences that details BMPs for industrial sites, and the importance of keeping waste like salts, heavy metals, oils and other hazardous materials out of our

surface waters. the brochure is available on the Greenscapes website and was sent to municipal staff in the Greenscapes newsletter. The newsletter also included distribution tips such as: posting the brochure to town websites, mailing it to industrially zoned parcels, etc.

Targeted Audience: Industry

Responsible Department/Parties: Greenscapes Coalition and municipal staff.

Measurable Goal(s):

Message Date(s): Sent to municipal staff October 1, 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:

Industrial brochure was supposed to be delivered in Year 2 of the permit.

BMP: Social Media - Yard Waste Post

Message Description and Distribution Method:

Distribution of a graphic created by Greenscapes, that encourages homeowners to compost yard waste (either at home or with curbside pickup), and indicates that yard waste does NOT belong in wetlands or in the trash. Graphic is available on the Greenscapes website, was posted on Greenscapes social media and was sent to municipal staff in the Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

7 people reached on Greenscapes Instagram, 8 people reached on Greenscapes Facebook.

Message Date(s): Sent to municipal staff October 1, 2020, Posted on Greenscapes social media November 18, 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: Social Media - Keep Drains Clear Post

Message Description and Distribution Method:

Distribution of a graphic created by Greenscapes that stresses the importance of keeping storm drain clear of lawn waste and other debris. The graphic is available on the Greenscapes website, was posted on Greenscapes social media and shared with municipal staff in the Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff.

Measurable Goal(s):

12 people reached on Greenscapes Instagram, 11 people reached on GNSC Facebook.

Message Date(s): Posted on Greenscapes SM on November 24, 2020. Sent to municipal staff December 1, 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: Social Media - PPE Post**Message Description and Distribution Method:**

Distribution of Greenscapes PPE litter awareness post. "Don't want to see dirty masks in your news feed? We don't want to see them on the ground! Masks belong on your face or in the trash."

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

327 people reached on Greenscapes Facebook, 17 people reached on Greenscapes Instagram.

Message Date(s): Sent to municipal staff on December 1, 2020. Posted on Greenscapes SM November 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: Social Media - Halloween Street Litter Post

Message Description and Distribution Method:

Distribution of a photo taken by Greenscapes of a decorative halloween witch holding a mask and other litter, along with a sign that reads "Trick or Treat. Please keep litter off the street!". Graphic was posted on Greenscapes social media.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition

Measurable Goal(s):

14 people reached on Greenscapes Instagram

Message Date(s): Posted on Greenscapes SM on November 18, 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: Social Media - Unflushables Post**Message Description and Distribution Method:**

Distribution of Greenscapes infographic that lists many of the commonly flushed "unflushables", such as wipes, dental floss, q-tips, tampons, contact lenses, oils and grease. Graphics were were posted on Greenscapes social media.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition

Measurable Goal(s):

16 people reached on GNCS Instagram, 8 people reached on GNCS Facebook

Message Date(s): Posted on Greenscapes SM November 18, 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: Social Media - Help the Melt Post

Message Description and Distribution Method:

Distribution of Andover DPW's social media post about keeping storm drains clear of snow and ice. Reposted on Greenscapes social media.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition

Measurable Goal(s):

20 people reached on GNSC Instagram

Message Date(s): Posted by Greenscapes Dec. 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: Video - What Not to Flush Activity (version 2)**Message Description and Distribution Method:**

Distribution of an abridged version of the original "What Not to Flush" Greenscapes activity video. This experiment video illustrates why wipes and oils and greases cannot be flushed down our sinks or toilets. Video was posted on youtube and vimeo and sent to municipal staff in Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

14 views on Youtube, 15 views on Vimeo (this does not include any views of the video embedded in the classroom materials).

Message Date(s): Posted on youtube November 23, 2020. Sent to municipal staff December 1, 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:

The Keeping Water Clean school program is normally conducted in-person

BMP: Video - Crumpled Watershed Activity

Message Description and Distribution Method:

Distribution of a video created by Greenscapes that takes viewers through an activity normally conducted as part of the Keeping Water Clean program. The activity has viewers/students delineate their own watershed and see where the water goes, how it collects and also considers all of the things that water could run into along the way. Video was posted on youtube and vimeo and sent to municipal staff in Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

13 views on Youtube, 18 views on Vimeo (this does not include any views of the video embedded in the classroom materials).

Message Date(s): Posted on youtube November 23, 2020. Sent to municipal staff December 1, 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:

The Keeping Water Clean program is normally conducted in person.

BMP: Video - Groundwater Exploration Activity**Message Description and Distribution Method:**

Distribution of Greenscapes activity video that walks viewers through an activity normally conducted as part of the Keeping Water Clean school program. The activity uses an Envision groundwater model that illustrates all of the "water beneath our feet". It helps students visualize how water (and water pollution) are always moving underground, never staying in one final place. It helps students consider how behaviors on land can affect the water underground and eventually even the water we use to drink or swim in. Video was posted on youtube and vimeo and sent to municipal staff in Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

106 views on Youtube, 8 views on Vimeo (this does not include any views of the video embedded in the classroom materials).

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:

The Keeping Water Clean program is normally conducted in person.

BMP: Social Media - Pet Waste

Message Description and Distribution Method:

Distribution of Greenscapes "Scoop the Poop" messaging. Hard copy rack cards were reprinted and PDFs of all documents are available on Greenscapes website and were sent to municipal staff in Greenscapes Newsletter.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

500+ reprinted for each community

Message Date(s): PDFs sent to municipal staff February 3rd, 2021 and again on April 29, 2021. Rack cards were printed in February 2021 and municipal staff was notified April 29, 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: Social Media - Salt Alternative Post

Message Description and Distribution Method:

Distribution of Greenscapes graphic that makes various suggestions of natural alternatives to harsh road salt. Graphics are available on Greenscapes website and social media, and were sent to municipal staff in Greenscapes newsletter.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

Message Date(s): Sent in newsletter on February 3rd, 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: Social Media - Shovel More Salt Less Post

Message Description and Distribution Method:

Distribution of a graphic created by the Mystic River Watershed Council that encourages homeowners to "Salt More, Shovel Less" to reduce the amount of salt that ends up in stormwater and in our waterways. Graphic was posted on Greenscapes social media.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition

Measurable Goal(s):

15 people reached on GNSC Facebook, 14 people reached on GNSC Instagram

Message Date(s): Posted on Greenscapes social media Jan 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:

BMP: Video/Social Media - Salt Smart

Message Description and Distribution Method:

Distribution of a "More Isn't Always Better" video created by the Salt Smart Collaborative in Illinois. The video illustrates several instances where more isn't always better and applies the same thinking to salt use, while including a few specific suggestions for sustainable winter salt use. Sent to municipal staff in Greenscapes newsletter and posted on Greenscapes social media.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

10 people reached on Greenscapes Facebook

Message Date(s): Posted on Greenscapes social media Feb. 11, 2021. Sent to municipal staff Feb. 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: Brochure - Complete Homeowners Septic Guide

Message Description and Distribution Method:

Distribution of EPA's Complete Homeowner's Septic Guide. The guide explains how a septic system works and details the importance of maintaining it for the sake of the environment and to save homeowners money. It also discusses a proper inspection, maintenance and emptying routine and includes tips and tricks to use water more efficiently in an attempt to put less stress on the septic system. The guide is available on the Greenscapes website and was sent to municipal staff in the Greenscapes newsletter. Included in the newsletter were suggestions on how to share with residents, such as: posting on town websites, new homeowner guides, etc.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

Message Date(s): Sent to municipal staff on 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: Social Media - Septic Infographic Post

Message Description and Distribution Method:

Distribution of an infographic created by ThinkBlueMA that describes "5 Signs Your Tank Needs Cleaning", and includes tips and tricks for proper septic maintenance. Graphic was posted on Greenscapes social media and shared with municipal staff in the Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

12 people reached on GNSC Facebook, 24 people reached on GNSC Instagram

Message Date(s): Sent to municipal staff on March 3, 2021. Posted on Greenscapes social media 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: Social Media - Stormwater Pollution Post

Message Description and Distribution Method:

Distribution of a "Sources of Stormwater Pollution" infographic created by Central MA Stormwater Collaborative. The infographic illustrates many different sources of stormwater pollution and describes the flow of water throughout an average Massachusetts watershed. It also provides tips and tricks for reducing and eliminating stormwater pollution. Posted on Greenscapes social media.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition

Measurable Goal(s):

16 people reached on GNSC Instagram

Message Date(s): Posted on April 24, 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: Social Media - Rain Garden Post

Message Description and Distribution Method:

Distribution of a Rain Garden infographic created by Greenscapes that describes the different functions of a rain garden and encourages homeowners to explore the possibility of installing one in their yards. Infographic is available on Greenscapes website and was shared with municipal staff via Greenscapes newsletter.

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff.

Measurable Goal(s):

Message Date(s): Sent to municipal staff April 29, 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: Webinar - Pesticides 101

Message Description and Distribution Method:

Distribution of a webinar recording, originally hosted by Sustainable Marblehead. Speaker Chip Osborne discusses sustainable landscaping tips such as limited pesticide use and/or using organic alternatives. Recording was shared with municipal staff in the Greenscapes newsletter

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

Message Date(s): Sent to municipal staff April 29, 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: Social Media - Lawn Care Post

Message Description and Distribution Method:

Distribution of an infographic created by ThinkBlueMA that illustrates several tips for sustainable lawn care such as getting your soil tested, limiting use of nitrogen & phosphorous rich fertilizers, leaving leaf litter to naturally fertilize lawns and gardens, and more. Graphic is available on the Greenscapes website and was shared with municipal staff in the Greenscapes newsletter

Targeted Audience: Residents

Responsible Department/Parties: Greenscapes Coalition and municipal staff

Measurable Goal(s):

Message Date(s): Sent to municipal staff April 29, 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: Video/Social Media - Fowl Water Video

Message Description and Distribution Method:

Distribution of a video created by ThinkBlueMA that defines stormwater and explains the impact of pollution like trash, oil, cigarettes and dog poop on stormwater and our waterways. The video is available on the Greenscapes website, the ThinkBlueMA website, and was spread as an advertisement on Facebook, Instagram and Youtube.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition and ThinkBlueMA

Measurable Goal(s):

678,448 impressions in Greenscapes region

Message Date(s): Advertisement run from May 17 to June 4, 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: School Program - Keeping Water Clean

Message Description and Distribution Method:

Distribution of virtual classroom materials that engage 5th grade students in several activities/experiments designed to raise their stormwater and water conservation awareness. Students learn what a watershed is, what stormwater, groundwater and wastewater are, how they can negatively or positively affect those water systems and how they can become better stewards of their watershed(s). Materials include 3 "chapters" of watershed learning in the form of powerpoints, videos, hands-on experiments, quizzes and more. All materials are available on the Greenscapes website and were shared directly with 5th grade educators throughout the region.

Targeted Audience: Residents +

Responsible Department/Parties: Greenscapes Coalition

Measurable Goal(s):

Sent to 113 teachers in the Greenscapes region

Message Date(s): Sent to teachers on January 29, 2021 and resent on February 22, 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:

The Keeping Water Clean program is normally conducted in person at individual schools.

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:**

Opportunities for public involvement were limited due to the restrictions posed by COVID-19. A copy of the SWMP is available for public review at the DPW offices and the Town will look to include a link to the SWMP on the Town's Stormwater Information webpage.

The Town has also considered establishing a Stormwater Committee that will focus on ensuring compliance with the SWMP and other stormwater-related issues. Establishment of that committee has been placed on hold due to COVID-19, but when restrictions are lifted, the committee will again be visited.

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 public was provided the opportunity to review and comment on the proposed changes to the stormwater bylaw during this reporting period, but additional public involvement or participation was restricted due to COVID-19 limitations.

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:

As noted in the IDDE Plan the Town of Essex completed an extensive investigation into possible SSOs as part of the Town's sewer program that was completed in the 1990s. Since the completion of the sewer project, no additional SSOs have been identified.

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 of the Town's outfalls were screened for dry weather flows during a previous reporting period.

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:

The Town will continue to investigate the individual catchments and will update its documents as appropriate.

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:

As noted in the IDDE Plan and above, the Town of Essex completed an extensive investigation into possible SSOs as part of the Town's sewer program that was completed in the 1990s. That investigation included an illicit connection identification and removal program. Therefore, the possibility that illicit connections continue to exist is expected to be minimal, but the Town will continue to investigate illicit connections and will remove any identified.

Employee Training

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

Formal training was not conducted during this reporting period due to COVID-19 restrictions and limitations.

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: 0

Number of inspections completed: 0

Number of enforcement actions taken: 0

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

N/A

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: 0

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

N/A

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:

To be completed in 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:

To be completed in 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:

To be completed in 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:

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:

N/A

Street Sweeping

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

Number of miles cleaned: 23

Volume of material removed: 21 cubic yards

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: 1

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

A SWPPP inspection of the Town's DPW Barn and Transfer Station Site was completed during the 3rd quarter of 2020. COVID-19 restrictions and staff limitations hindered the ability to conduct further inspections but an approach will be developed to ensure that regular inspections are conducted in accordance with the 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):

N/A

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:

N/A

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:

N/A

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:

The Town's ability to perform annual training, SWPPP inspections and to fully comply with the Public Involvement component of the permit could not be met due to COVID-19 meeting restrictions.

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:

N/A

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: Title:

Signature: Date:

[Signatory may be a duly authorized representative]