Year 5 Annual Report
Massachusetts Small MS4 General Permit
New Permittees
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 publicly accessible

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: University of Massachusetts Amherst

EPA NPDES Permit Number: MAR042056

Primary MS4 Program Manager Contact Information

Name: Theresa Wolejko Title: Asst Dir, Environmental Health and Safety

Street Address Line 1: 117 Draper Hall

Street Address Line 2: 40 Campus Center Way

City: Amherst State: MA Zip Code: 01003

Email: twolejko@umass.edu Phone Number: (413) 545-2682

Stormwater Management Program (SWMP) Information

SWMP Location (web address): https://ehs.umass.edu/umass-storm-water-management-plan

Date SWMP was Last Updated: 09/28/2023

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

We will be undergoing a website revamp so the below link may be temporary https://ehs.umass.edu/umass-storm-water-management-plan.
New address will be updated for 2024 annual report.
University of Massachusetts, 117 Draper Hall, 40 Campus Center Way, Amherst, MA 01003 (contact Terri Wolejko)

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4.

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 5 Requirements

☒ Completed Phase I of system mapping

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:

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 the outfall and interconnection inventory and priority ranking as necessary

- ○ The priority ranking of outfalls/interconnections is attached to the email submission
- ◉ The priority ranking of outfalls/interconnections can be found at the following website:

https://ehs.umass.edu/umass-storm-water-management-plan

☒ 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:

SWPPP - portions of the campus SWPPP have been completed. Completed pollutant sources, maps, outfalls and receiving waters, control measures. The majority of activities are within a building or covered, equipment maintained (preventive maintenance in Work Management system), spill prevention and response (local training and a campus Hazwoper team), erosion and sediment control with management of runoff, covered salt storage, and maintenance of control measures. Implemented a Waste Recycling Transfer Facility Management Plan to include Storm Water Management. Need to establish a SWPPP team to conduct documented inspections, (PVTA and WRTF are conducting inspections).

Through the inspection/mapping process we have discovered some Vortech treatment structures that were not incorporated into our listed treatment structures. These will be added to our inspections/cleanout.

Nitrogen (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distributed an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers

☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

☐ Any structural BMPs listed in Table 3 of Attachment 1 to Appendix F already existing or installed in the regulated area by the permittee or its agents was tracked and the nitrogen removal by the BMP was estimated consistent with Attachment 1 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP were documented.

- ○ No BMPs were installed
- ○ The BMP information is attached to the email submission
- ◉ The BMP information can be found at the following website:

https://ehs.umass.edu/umass-storm-water-management-plan.

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:

Many BMPs have been noted we are working on the catchments associated with each structure and need to determine design volumes. BMPs are listed under section 14

Lake and Pond Phosphorus TMDL

☐ Completed the written Lake Phosphorus Control Plan (LPCP), including: *(select the items in the LPCP that have been completed)*

- ☐ Planned nonstructural controls
- ☐ Planned structural controls
- ☒ O&M program for structural controls
- ☐ Implementation schedule
- ☐ Cost of implementation

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

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

https://ehs.umass.edu/umass-storm-water-management-plan.

Below, calculate your current phosphorus export rate by first filling out the individual phosphorus loading components (labeled [A], [B], [C], and [D]) and then computing your current phosphorus export rate using the equation provided.

Baseline phosphorus export reduction required from LPCP Area **(lbs/ year) [A]**:	292

☐ Documented the nonstructural control measures implemented during **this reporting period** and their phosphorus reduction

total phosphorus reduction from all nonstructural controls this reporting period **(lbs/year) [B]**:	2.2

- ○ No nonstructural control measures were implemented
- ◉ The nonstructural control measures information is attached to the email submission
- ○ The nonstructural control measures information can be found at the following publicly available website:

https://ehs.umass.edu/umass-storm-water-management-plan.

☐ Documented the structural control measures implemented during **this reporting period and all previous years**, including location, phosphorus reduction in weight/year, and date of last completed maintenance and inspection for each control

total phosphorus reduction from all structural controls installed this reporting period and all previous years **(lbs/year) [C]**: 10.9

- ○ No structural control measures were implemented
- ○ The structural control measures information is attached to the email submission
- ◉ The structural control measures information can be found at the following publicly available website:

https://ehs.umass.edu/umass-storm-water-management-plan.

Phosphorus load increase due to development incurred since baseline loading was calculated in **lbs/year [D]**: -57.1

Current phosphorus export rate from the LPCP Area in **lbs/year [=A-(B+C)+D** from above**]**: 222

☐ I certify under penalty of law that all source control and treatment Best Management Practices being claimed for phosphorus reduction credit have been inspected, maintained and repaired in accordance with manufacturer or design specification. I certify that, to the best of my knowledge, all Best Management Practices being claimed for a phosphorus reduction credit are performing as originally designed.

☒ All municipally owned and maintained turf grass areas are being managed in accordance with Massachusetts Regulation 331 CMR 31.00 pertaining to proper use of fertilizers on turf grasses

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:

Many structural and nonstructural BMPs have been implemented for this permit period. We are working on the catchments associated with each structure and design storage capacities.
Non structural controls include
- street sweeping (noted in "B")
- we have also established fountains and native vegetation around the pond to substantially reduce the geese population
- Our planning department looks for ways to have water infiltrate locally and reduce impervious areas during remodeling. Utilizing a 2020 flyover of our campus shows a significant reduction in impervious space with the Ellis Way project around the Student Union and Campus Center as the most significant, (recorded in "D")
Structural Controls
We are currently working on the catchment areas and storage capacities for structural controls to include vegetated wetlands, parking lot porous pavement, a green roof, bioswales, detention basins, and rain gardens. For calculation purposes the LPCP has the minimum reductions noted in Table F until we can determine more

accurate dimensions. See information in the LPCP (section 14 of the SWMP).

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? 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

- ○ Yes
- ◉ No

If yes, describe below, including any relevant impairments or TMDLs:

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**: 15

*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:#1. Think Blue Connecticut River Website

Message Description and Distribution Method:

The Think Blue Connecticut River website is at the core of all regional messaging about stormwater. The website at www.thinkblueconnecticutriver.org does the following:
 Covers major areas of messaging about reducing polluted stormwater flows, including lawn and yard care, pet waste management, car care, controlling soil erosion, soaking up the rain, and septic system care
 Addresses the key 4 audiences plus educators
 Serves as the "landing place" for information on nearly all social media messaging

Targeted Audience: Residents, business/institutional/commercial, developers, and industrial

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

A total of 5,625 people visited the Think Blue Connecticut River website during Year 5 and spent an average of 19 seconds on viewing pages on stormwater best practices. Beyond the web analytics reported below on specific messages, there were the following views of the general audience pages on the Think Blue Connecticut River website:

Residents views = 89; Businesses and Institutions views = 69; Developers views = 49;
Industries views = 39; and Educators views = 37

Message Date(s): July 1, 2022 through June 30, 2023

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:

As indicated in previous annual reports, the website was not mentioned in the NOI and SWMP, but it has been central to all messaging in the region, providing additional information and resources on key topics.

BMP:#2. Nip Bottles

Message Description and Distribution Method:

See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/

ms4-communities/ to see the images mentioned below.

Connecticut River Stormwater Committee members identified messaging on nip bottles as a priority at the start of the permit term. As such, the group conducted a robust, multi-faceted messaging campaign with materials developed in Year 4. Connecticut River Stormwater Committee members launched the campaign to reduce nip bottles litter was launched in Year 5 in order to capture the largest audience possible, including students that come to the region for university studies.
The campaign included the following:
 Message displayed on internal and external signs on PVTA buses servicing the region in both English and Spanish, including 6 exterior queen panels with two running out of each PVTA garage (UMass, Springfield, and Northampton) Panels were switched during January break from UMass to include one additional panel out of the other two garages. All panels included a QR code to link to more information on the Connecticut River Think Blue website (See images in report)
 Web page on Connecticut River Think Blue website with additional information on nip bottle litter to which all messaging provided links (See image in report)
 Social media mini ad campaign targeted to zip codes in member municipalities on Facebook and Instagram that linked to information on Connecticut River Think Blue web page (See image in report)
 Press release to local media, which yielded at least three news stories in print and televised media. (See image in report.)

Targeted Audience: Residents, but really all audiences in the Connecticut River Stormwater Committee region

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

PVTA bus messages
Exterior signs, estimated by PVTA to provide 1,465,974 impressions
Interior signs, estimated by PVTA to provide 90,264 impressions
Total impressions during period messages run = 1,556,238

Facebook and Instagram message
Reached 69,888 people in the region, with 1,084 clicks and 63 shares

Think Blue Connecticut River web page on litter / nip bottles
Visits = 868 with average time spent viewing information at 2 minutes and 34 seconds

Message Date(s):
PVTA bus ads - early October 2022 to early February 2023
Facebook and Instagram ads – December 20 to January 1 = 12 days
Press release issued – December 20, 2022

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:

Connecticut River Stormwater Committee members including UMass, identified messaging on nip bottles as a priority issue

BMP:#3. Better Management of Runoff from Parking Lots (formerly Installation of Hooded Catch Basins

Message Description and Distribution Method:

Messaging to this audience has been further developed from Year 4 to Year 5. In Year 4, a letter went to municipalities for use with large parking lot owners that recommended retrofits of conventional catch basins with deep sump hooded catch basins. This year, the Committee decided to broaden the messaging to include promotion of low impact development retrofit approaches. As such, an updated letter went to Connecticut River Stormwater Committee members for use in reaching out to property owners with large parking lots. Also, an op-ed piece was written and then published by Business West, the most prominent publication in the region.

See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/ for an image of the opinion piece in Business West

Targeted Audience: Businesses, institutions, and commercial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

Business West has a readership of some 30,000. See the following link to the publication's readership demographics: https://businesswest.com/wpcontent/uploads/2018/06/READERSHIP.pdf
The following municipalities sent updated letters to large parking lot owners within their jurisdictions (number denotes number of parking lot owners reached):
Belchertown – 65
Easthampton – 53

Message Date(s): Op-ed published June 26, 2023

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:

to recommend installation of hooded catch basins and retrofits with planted green infrastructure facilities in parking lots.

BMP:#4. Low Impact Development Strategies and Technologies Workshop

Message Description and Distribution Method:

On behalf of the Connecticut River Stormwater Committee, PVPC partnered with the Center for Watershed Protection and the Neponset River Watershed Association to develop and coordinate four training workshops for the development / construction community. The aim of the workshops was to provide construction-focused stormwater pollution prevention information to companies who engage in land-disturbing activities in participating towns.

Workshops were held live on-line in June and promoted through stormwater networks in the region, and

through statewide organizations, including the Homebuilders Association of Massachusetts and NAIOP, the Commercial Real Estate Development Association. The series has also been edited by the Center for Watershed Protection as an on-demand, selfpaced series available through the Neponset Stormwater Partnership website. These trainings were made possible through an MS4 Municipal Assistance Grant provided to PVPC by MassDEP. One of the resources highlighted at the training workshops included a green infrastructure stormwater management facility library of specifications developed by Rob Roseen of Waterstone Engineering with guidance from Connecticut River Stormwater Committee members under a MassDEP 604b grant to PVPC. See: https://thinkblueconnecticutriver.org/wp-content/uploads/2023/05/PVPC-GI-DesignStandards_FINAL-2023.04.25.pdf

Targeted Audience: Developers

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

65 people attended virtual workshops

Post workshop survey indicated that 76% of attendees received information from the training that strengthened their knowledge or provided them with new tools to do their job.

32 people downloaded the library for green infrastructure stormwater management facility specifications.

Message Date(s): June 2023

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:

A great additional training idea as part of joining the Connecticut River Stormwater Committee

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BMP:#5. Better Management of Runoff from Parking Lots (formerly Installation of Hooded Catch Basins

Message Description and Distribution Method:

Given the refinements in #3 above, the message to industrial facility managers was also broadened, in this case to include NPDES permitted facilities. Letters signed by the Committee Chair and Co-chair went to all 140 multi-sector general permit holders in member communities.

Targeted Audience: Industrial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

Letters sent to all 140 multi-sector general permit holders in member communities

Message Date(s): June 2023

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:

A great additional informational idea as part of joining the Connecticut River Stormwater Committee

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BMP:#6. Proper Disposal of Leaf Litter

Message Description and Distribution Method:

PVPC updated messaging used previously based on Be a Leaf Hero social media posts developed by the Cape Cod Commission, but now customized for the Connecticut River Stormwater Committee. For Year 5, messaging included slides displayed by local cable access television stations, a regionally posted social media message, and a flyer for posting on member webpages. All three messaging elements promoted linking to a series of tips and more in-depth content on the Think Blue Connecticut River website. The flyer included a link to locations for proper disposal of leaves and yard waste. See website page at: https://thinkblueconnecticutriver.org/be-a-leaf-hero/. The content seeks to promote better practices with leaf litter and build understanding about potential contamination of stormwater with leaf litter. PVPC also updated a PDF document for member communities use on their municipal websites. Note too that an attempt was made to run a paid social media ad in October, but social media consultants reported the message was rejected because it was deemed a "social issue." This is similar to problems encountered in other pre-election periods.

See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/ for ""Be a Leaf Hero" graphic

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

Local cable access television message went to 17 stations in the region.
Regional Facebook message drew 12 shares.
Analytics for the Think Blue Connecticut River website page on Be a Leaf Hero, indicates that there were a total of 213 views of the Leaf Hero landing page with average time spent by visitors on that resource page at 3 minutes and 25 seconds, and 193 clicks to download posted PDF resources.

Message Date(s): Local cable access television message - aired during several weeks starting mid October to early November.
PVPC Facebook message - posted October 24

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:

A great additional informational idea as part of joining the Connecticut River Stormwater Committee

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BMP:#7. Importance of Soil Test, Proper Use of Fertilizers, Disposal of Grass Clippings

Message Description and Distribution Method:

A 30-second radio message ran for 3 weeks in April with a total of 216 messages aired in the region on WRSI, WHMP, and Lazer 99.3.
The radio message read as follows:

"It's lawn care season!
So remember, what you put on your lawn and garden can wash with the next rainstorm to our rivers and lakes.
Here's two tips for better lawn care:
• One: Test your soil! Find out what your lawn needs before spending money on product. UMass Extension offers testing.
• Two: Leave grass clippings where they fall! When mowing, this will put nutrients back into your lawn naturally.
Healthy lawns, healthy waters.
Brought to you by the Connecticut River Stormwater Committee.
Learn more at Think Blue Connecticut River.org"

In addition, a paid social media message ran on Facebook and Instagram and continued to promote the idea of keeping lawns safe for families. The "Learn More" link provided in the social media post connects to the Think Blue Connecticut River web page on lawn and yard care, which lays out important best practices and links to useful resources, including soil testing services at the University of Massachusetts – Amherst. The link to Think Blue Connecticut River is: https://thinkblueconnecticutriver.org/lawn-and-yard-care/.
See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/ for additional information

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

The radio message reached a total estimated audience of 65,000 people per week.

Facebook and Instagram ads reached 58,529 individuals who match "gardening," "home improvement," or "do it yourself" identifiers in Connecticut Stormwater Committee zip codes. One thousand twenty five people clicked on the "Learn More" button to go the Think Blue Connecticut River landing page on lawn care. Social media consultants note that there is a greater diversity of click rates for the 25+ age demographics and a more even gender split compared to previous stormwater messages, which generally skewed toward women.

Analytics for the Think Blue Connecticut River website page on lawn care, indicate that there were a total of 1035 views on the website landing page, with average time spent by visitors on that resource page at 1 minute and 54 seconds, and 47 downloads of posted resources.

Message Date(s): Radio ad ran for 3 weeks in April
Paid Facebook and Instagram message ran for 10 days, from June 12 to June 22

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:

A great additional informational outreach idea as part of joining the Connecticut River Stormwater Committee

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BMP:#8. Proper Management of Pet Waste (during time of licensing and summer)

Message Description and Distribution Method:

Pet waste messaging in Year 5 occurred at time of licensing and during the summer. Messaging is based on the "Think picking up Spike's poop is gross? Try swimming in it," and aimed at driving people to the pet waste pick up pledge on the Think Blue Connecticut River website. Paid placement social media messages at both time of licensing and summer targeted people in Connecticut Stormwater Committee zip codes who had identifiers that match "pets at home" and "dog walking."

At time of licensing
Messaging included a slide for use by local cable access television stations, a paid social media message, and an e-mail message to municipal clerks/dog officers providing materials for use in the licensing process. Materials provided to municipal clerks and licensing officers was based on a survey done in Year 3 about what might be the most effective methods for messaging through their licensing process. The cable access message was simplified based on feedback from cable tv stations on the fall leaf litter messages. This message also focused specifically on communicating that pet waste should be put in a trash bin. Public works officials on the committee had stressed the importance of this point because they are frequently finding bagged pet waste in catch basins.

Summer
Summer messaging involved running paid placement on Facebook and Instagram around the Labor Day weekend.

See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/ for more information

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

During time of licensing
Local cable access television message went to 17 stations in the region.

Paid social media messaging on Facebook and Instagram reached 41,936 people inStormwater Committee communities with 1,028 individuals clicking on the "Pledge" button to go to the Pick Up Poop pledge on the Think Blue Connecticut River website.

Summer
Paid social media messaging on Facebook and Instagram reached 53,264 people in Stormwater Committee communities with 943 individuals clicking on the "Pledge" button to go to the Pick Up Poop pledge on the

Think Blue Connecticut River website.

Analytics for the Think Blue Connecticut River website, indicate that there were another 195 people went to the pet waste landing page on the Connecticut River Think Blue website with average time spent by visitors on that resource page at 2 minutes and 4 seconds

Message Date(s):

During time of licensing
Facebook ad ran for 12 days, from February 22 to March 6
The cable access message went to 17 local stations

Summer
The social media message ran on Facebook and Instagram for seven days, from September 5 through 12. The aim had been to have the message run before and during the Labor Day weekend, but approvals from Facebook and Instagram were slow in coming.

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:

A great additional informational outreach idea as part of joining the Connecticut River Stormwater Committee

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BMP:#9. Proper Septic System Care

Message Description and Distribution Method:

PVPC again timed messaging on septic system care to coincide with EPA's Septic Smart Week, from September 18 to 25, with a Facebook ad and regional post to its Facebook page. These posts provide a link to a great infographic on septic system maintenance developed by Whatcome County Public Works and Health Department.
See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

The Facebook ad reached 47,536 people whose interest matches "Septic Tank" in Connecticut Stormwater Committee zip codes. There were 838 clicks on the ad's"Learn More" button which links to the Think Blue Connecticut River website septic system landing page.

The regional Facebook post drew a total of 8 "shares," including member communities.

There were a total of 782 views of the Think Blue Connecticut River website septic system landing page with people spending an average of 1 minute and 48 seconds. Analytics indicate that there were 199 clicks to download information.

Message Date(s): The Facebook ad ran between September 18 and 25, 2022

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 campus currently does not have any septic in the MS4 however this informs the neighboring community who work on our campus

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BMP:#10. Proper Disposal of Leaf Litter

Message Description and Distribution Method:

This year, PVPC issued a letter to reach the landscaper and landcare business and commercial audience with best practices messaging on disposal of leaf letter. Signed by the Committee Chair and Co-chair, the letter promoted several key best practices:

 Keep leaves off of driveways and roadways where they can easily wash into storm drains and contribute to higher nutrient flows during the fall season.

 Use a mulching mower. By mulching the leaves into turf aeas, you avoid having to rake/blow and bag and you offer a way to manage autumn leaves while providing clients with free fertilizer. Mulched leaves recycle nutrients and reduce the overall need for applied fertilizer, which can help to reduce nutrient loading for local rivers, streams, and lakes.

 Alternatively, if your client has an existing compost pile, you can recommend that they consider allowing you to add leaves to the pile. Leaves provide a critically important element (carbon) to the composting process, making for a more soil enriching product to be used in the next growing season. Be sure compost piles are located away from streams, lakes, or storm drains as these decomposing materials and nutrients could easily reach these water resources

See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/ for additional information

Targeted Audience: Businesses/institutions/commercial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

Letter – sent to 145 landscaping companies in the region

Message Date(s): Letter – sent October 17, 2022

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:

A great additional informational outreach idea as part of joining the Connecticut River Stormwater Committee

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BMP:#11. Importance of Soil Test, Proper Use of Fertilizers, Disposal of Grass Clippings

Message Description and Distribution Method:

For spring messaging on best landcare practices, PVPC prepared an updated letter that went to 145 landscaping companies operating in the region. The letter, signed by the Connecticut River Stormwater Committee Chair and Co-chair, continued to emphasize two important strategies:
1. Leave grass clippings where they fall. Of course, you want to leave things nice and neat for your clients, but let them know that grass clippings left on the lawn will decompose, returning valuable nutrients back into the soil. This will save them money by reducing the need for applied fertilizer and promote a healthier lawn. To make best use of this free, natural fertilizer: mow high according to the grass species and use of the turf, do not remove more than 1/3 of the blade per mowing event, and mow when grass is dry.
2. Test your client's soil. A soil test lets you know more specifically what your client's lawn and garden need for nutrients so that you don't waste time and money. UMass Extension provides soil testing services. See: http://umass.edu/soiltest If a soil test shows your client's lawn needs nutrients, go for slow-release fertilizers. These products more effectively deliver what plants need and don't wash off as easily as chemical fertilizers. Also, take the time to understand how much and when and where to apply fertilizers.
For additional information - See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/

Targeted Audience: Business/institutions/commercial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

Letter – sent to 145 landscaping companies in the region

Message Date(s): Letter - sent April 20, 2023

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:

A great additional informational outreach idea as part of joining the Connecticut River Stormwater Committee

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BMP:#12. Proper Management of Pet Waste

Message Description and Distribution Method:

An article was written and distributed to Business West for publication. When the article did not get published in the September 4 issue, PVPC worked for publication through other news outlets. WWLP covered the messaging on its digital news feed, pointing to resources on the Think Blue Connecticut River website, including a design template for a humorous 12x18" sign, quotes for sign production and hardware, and a pet waste message for business to share on social media.
For additional information - See annual reporting for education and outreach activities, Year 5 at: www.thinkblueconnecticutriver.org/ms4-communities/

Targeted Audience: Businesses/institutions/commercial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

WWLP, Channel 22 News, is an NBC affiliate with a large au

Message Date(s): September 12, 2022

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:

A great additional informational outreach idea as part of joining the Connecticut River Stormwater Committee

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BMP: #13 Training classes for Physical Plant

Message Description and Distribution Method:

Training Casses for SPCC, Storm Water Pollution Prevention , Emergency Response Procedures

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Environmental Department

Measurable Goal(s):

Awareness and proper response in a timely manner to chemical releases. During FY23 notification procedures were followed by trained staff. We had one spill at the pumps by an academic department staff where we will need to close the loop. PVTA/Fleet emergency response to this incident was excellent.

Message Date(s): training held on 10/26/22

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:#14 Preconstruction classes for contractors

Message Description and Distribution Method:

Safety orientation Video for contractors to include stormwater management, SPCC, chemical storage and various othe environmental precautions

Targeted Audience: Developers (construction)

Responsible Department/Parties: Environmental Department

Measurable Goal(s):

Contractors on campus must watch the EHS Contractor Safety training annually if working on campus. There were 124 viewings of the video (this could be grouped) and 18 in person preconstruction classes which includes contractors and their subs, as well as designers and in house project managers and supervisors.

Message Date(s): trainings held between 7/1/22 and 6/30/23

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP:#15 EarthDay Event to include Stormwater Table

Message Description and Distribution Method:

A stormwater table was set up at the campus' earthday event sponsored by the permaculture club. Table information included Pet Waste (incuding the PetWaste challenge mentioned above), Storm Water Green Infrastructure installed on campus and how it works, how the traditional systems work and Nip bottles

Targeted Audience: Residents (students) as well as Businesses, institutions and commercial facilities

Responsible Department/Parties: Environmental Department

Measurable Goal(s):

Hundreds of entrants with a minimum of 160 inquiries (counted by number of giveaway glasses)

Message Date(s): April 21st

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**:

Provided the opportunity for the public to review and comment on the SWMP as posted on our website
Website content for handling of hazardous, universal and solid waste is posted
We handled 5,907 hazardous waste pickup requests from the UMass community
We encourage students to be members of committees, help on projects, use projects for internships or theses.
- A lot of new and innovative ideas come from our professors and students for green infrastructure (master theses)
- Students and staff have partnered with Environmental Health and Safety, Facilities and Campus Planning and Physical Plant during design and construction.
- Various Students have been invaluable in helping with catch basin monitoring, GIS mapping, outfall identifications and screening, Catchment delineations, GIS Conservation Viewer, discussions on GIS mapping Landscape Management Areas and Maintenance Zone Layers

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**:

Our faculty and staff are great resources for soil testing, composting, water quality.
The University is a living classroom!
Theresa Wolejko taught a class on Storm Water and Green Infrastructure to landscape architects BCT597V on April 12, 2023

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: 0

Number of SSOs removed: 0

*Below, report on the total number of SSOs identified in the MS4 system and removed to date. At a minimum, report SSOs identified **since the effective date of the permit (July 1, 2018)**.*

Total number of SSOs identified: 0

Total number of SSOs removed: 0

MS4 System Mapping

Below, check all that apply.

The following elements of the Phase I map have been completed:

☒ Outfalls and receiving waters

- ☒ Open channel conveyances
- ☒ Interconnections
- ☒ Municipally-owned stormwater treatment structures
- ☒ Waterbodies identified by name and indication of all use impairments
- ☒ Initial catchment delineations

Optional: Describe any additional progress you made on your map during this reporting period or provide additional status information regarding your map:

We have roughly identified catchment delineations, but further investigations will improve the accuracy of the 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 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: 0

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

Percent of outfalls screened: 0

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

During FY22 we had identified wet outfalls during dry weather inspections. During FY23 we have identified appropriate sampling locations for outside consultant to be performed for FY24

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: 0

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

Percent of total catchments investigated: 0

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

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: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 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: 0

Total number of illicit discharges removed: 0

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

Employee Training

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

Many of our staff are trained to recognize improper handling/spills of chemicals, with stormwater incorporated within other trainings. After covid much of our general staff environmental health and safety training is done online, thus done throughout the year. This includes custodians, tradesworkers, landscaping researchers and others. In person toolbox talks are also performed.

Contractors are required to watch our preconstruction video before coming on site, which often includes an in-

person section prior to start of construction.

EH&S has a HAZWOPER team and we are trained live bimonthly

We had 2 students specifically working on the IDDE, training is done annually.

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: 2

Number of enforcement actions taken: 0

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

There were no new construction projects started greater than 1 acre during this reporting period.
There were 2 inspections performed on projects started in FY23 > 1 acre.
Weekly perimeter inspections performed for all construction sites, including those less than an acre not requiring an NOI or written SWPPP.
Geothermal test wells were inspected daily while drilling was occurring on 5 sites from March 2022 through January 2023. Special care required for red sandstone/sugarloaf foundation with a very fine TSS of approx 8000.

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

Ordinance or Regulatory Mechanism

Date ordinance was completed (due in year 3): 2008 in existence prior to regulation

Website of ordinance or regulatory mechanism:

https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1006&context=cp_reportsplans

All projects on campus are under the control of a UMass or UMass affiliated project manager.

Requirements can be found under the FCP Bid documents

As-built Drawings

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

Number of as-built drawings received: 32

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

As built drawings are required as part of the bid specification. As built drawings are maintained electronically on the FCP OCE drive.
Requirements can be found under the FCP Bid documents

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment including any planned or completed changes to local regulations and guidelines:

Street design and parking lot modifications are planned and managed by the University.

Green Infrastructure Report

Describe the status of the green infrastructure report including the findings and progress towards making the practice allowable:

In 2010, the university created the Green Building Guidelines, which provide a framework for approaching new construction and major renovation projects on campus. The guidelines, developed and updated by students, faculty, and staff, encourage active conversations between designers, stakeholders, and building users. It requires that all new design and major renovations be certified LEED Silver plus.

One of the University's 6 key over arching principals is to Control Stormwater Runoff.
See https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1006&context=cp_reportsplans

Landscape Design:
Creation of low mow, no now, and meadows in the campus landscape, which include a balanced blend of fine fescue grasses in no mow combines each variety's individual characteristics to create a turf that:
• Grow to form a dense sod
• Thrive in full sun to partial shade
• Require little if any fertilization
• Need minimal watering (only during extended dry periods)
• Resist most turf grasses diseases
• Biologically reduce weed growth
• Reduce lawn maintenance dramatically
• Serve as an ecological alternative to traditional high maintenance lawns

Retrofit Properties Inventory

Describe the status of the inventory 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:

Porous pavement was installed as part of the resurfacing of Parking Lot 28.

Future improvement to remove sediment from Tan Brook (Study phase)
- Creation of a sediment silt trap/flood control structure adjacent to the inlet structure.

- Repairing eroded channels and developing a series of man-made wetlands and sediment traps adjacent to Boyden Field in Amherst and Hadley.

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: 0

Number of catch basins cleaned: 0

Total volume or weight of material removed from all catch basins: 55.75 tons

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

Total number of catch basins: 3,600

If applicable:

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

We are working on a numbering system for catch basins. Catch basins were not recorded for FY23.
Catch basins near Boyden and the Recreational Center were found to have excessive solids, were cleaned and will be evaluated again in FY24.

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: 92.75 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: 15

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

trash removed from underneath compactor at WRTF
compost area needs to be regraded from heavy rains

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- ○ Not applicable
- ◉ The results from additional reports or studies are attached to the email submission
- ○ The results from additional reports or studies can be found at the following website(s):

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

Surface samples of Tan Brook. The adjacent solid waste landfill is regulated by the Massachusetts Department of Protection.

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:

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 ☒

- 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
- Continue public education and outreach program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Sweep all curbed roadways at least once within the reporting period
- Annual training to employees involved in IDDE program
- Clean catch basins in accordance with catch basin cleaning procedures to ensure that no catch basin is greater than 50% full
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspections of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Implement 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
- Enclose all road salt storage piles or facilities and implement 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

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

Part VI: 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: Theresa M Wolejko Title: Asst Director, Environmental Health

Signature: Theresa M Wolejko Digitally signed by Theresa M Wolejko Date: 2023.09.28 18:49:41 -04'00' Date: 09/28/23

[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: stormwater.reports@epa.gov MassDEP: Stormwater.DEP@mass.gov

Paper Signature:

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

Print Signature Page

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