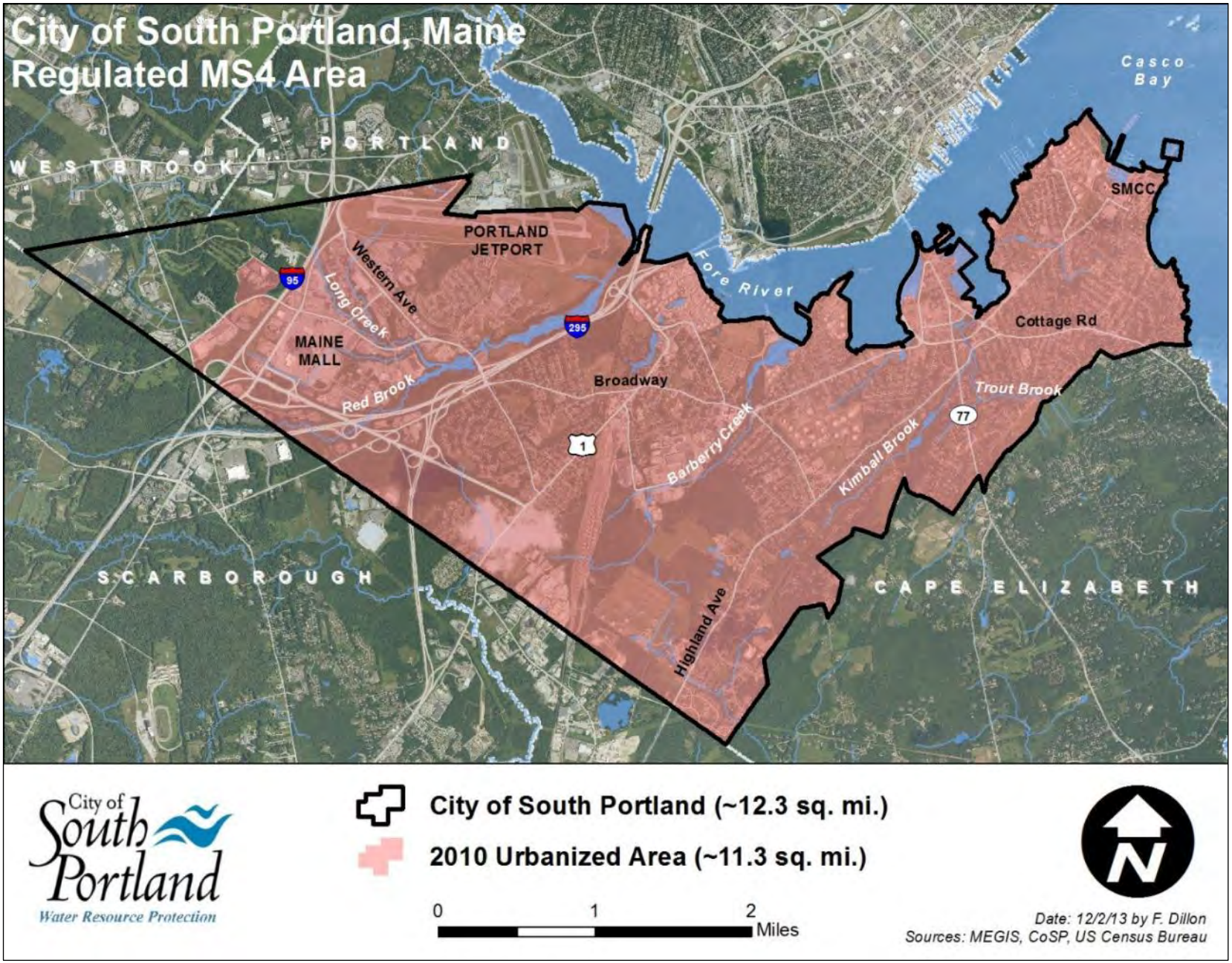
Stormwater Phase II
Annual Report for
Permit Year 9* (2021-22)

City of South Portland
Water Resource Protection

**2013 MS4 General Permit administratively extended*

Submitted Electronically to MEDEP on 9/15/22



Cover: Red Brook macroinvertebrate sampling with Kristin Feindel (DEP), Stephanie Taylor (South Portland) and Tracy Krueger (DEP) – Aug. 2022

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ACKNOWLEDGEMENTS

This report summarizes a wide variety of activities completed in support of the City's Stormwater Management Program. The following individuals were involved in some capacity:

- **Brad Weeks** ~ *Director of Water Resource Protection Department*
- **Dave Thomes** ~ *Collection Systems Manager*
- **Jeff Moulton** ~ *Sewer Maintenance Supervisor*
- **Collection Systems Division Crew:** *Mike Adriance, Jay Cooke, Jarrod Erskine, Lee Gagnon, Randy Keenan, John Larsen, Mike Lorello, Randy Rafuse*
- **Justin Gove** ~ *Engineering Division Manager*
- **Tom Wiley** ~ *Treatment Systems Manager*
- **Dave Dane** ~ *Compliance Administrator*
- **Colleen Mitchell** ~ *WRP Office Manager*
- **Fred Dillon** ~ *Stormwater Program Coordinator*
- **Stephanie Taylor** ~ *Stormwater Program Intern*
- **Aaron Weston & Nick Weber** ~ *CAI GIS Consultants*

WRP staff would also like to thank the following individuals and groups for their ongoing assistance and support of the City's Stormwater Management Program goals:

- **Katelyn Bruzgo, April Caricchio, Linda Cohen, Deqa Dhalac, Susan Henderson, Jocelyn Leighton, Katherine Lewis & Misha Pride** ~ *City Council*
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- **South Portland Conservation Commission & South Portland Land Trust**
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- **Wendy Garland, Addie Halligan, Kristin Feindel & Jeff Dennis** ~ *Maine Department of Environmental Protection*
- **Peter Carney** ~ *Long Creek Watershed Management District*
- **Meagan Sims** ~ *Maine Healthy Beaches Program (MEDEP)*
- **The various teachers & students interested in the City's water resource protection efforts**

Introduction

In accordance with Maine's Small Municipal Separate Storm Sewer Systems (MS4) program, the City of South Portland continued its commitment to protect and improve water resources through the implementation of our Stormwater Program Management Plan. City staff and program partners from the Maine Department of Environmental Protection (MEDEP), Cumberland County Soil & Water Conservation District (CCSWCD), Interlocal Stormwater Working Group (ISWG), Long Creek Watershed Management District (LCWMD), Friends of Casco Bay (FOCB), Casco Bay Estuary Partnership (CBEP), the Maine Healthy Beaches Program (MHB), the South Portland Conservation Commission (SPCC) and the South Portland Land Trust (SPLT) - among others - all participated in a wide variety of activities to mitigate the adverse effects of stormwater pollution. This annual report documents these activities for the ninth Permit Year (2021-22) in the third five-year General Permit Cycle for 2013-18 period (permit administratively extended for ongoing negotiations of next MS4 General Permit, which was finalized in late 2021 and went into effect on 7/1/22).

Minimum Control Measure 1 – Public Education and Outreach

The City of South Portland fulfilled its requirements for Public Education and Outreach Minimum Control Measure primarily through continued participation with the Interlocal Stormwater Working Group (ISWG) and the ongoing funding to the CCSWCD for Public Education and Outreach services. **Appendix 1** provides detailed summaries for the activities completed by CCSWCD on behalf of ISWG in compliance with MCM1 requirements. Due to the COVID19 pandemic, the City's ongoing collaborations with various organizations was curtailed somewhat. We worked on a more limited (and often virtual) basis with the Maine Department of Environmental Protection, Maine Healthy Beaches Program, Friends of Casco Bay, South Portland Conservation Commission, South Portland Land Trust, and South Portland & Cape Elizabeth Public Schools (among others) to increase public awareness about stormwater pollution. Despite COVID19, WRP staff were able to provide several presentations about the City's water resource protection efforts to municipal officials and local schools.

The overall goals for this Minimum Control Measure are:

1. To raise awareness that stormwater pollution is the most significant source of water quality problems for Maine's waters;
2. To motivate people to use BMPs that reduce stormwater pollution; and
3. To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.

BMP 1.1 Continue Awareness Outreach Efforts from Previous MS4 Permit Cycle

Responsible Party: Stormwater Program Coordinator *Additional Party: ISWG Education Coordinator*

INTENT

To promote and increase awareness about the issues associated with stormwater pollution, which is the most significant source of water quality problems in the state.

METHODOLOGY

Beginning July 1, 2013, the City continued its collaboration with the Interlocal Stormwater Working Group (ISWG) to conduct outreach efforts for increasing public awareness of stormwater management issues.

MEASURABLE GOALS

- ***Measureable Goal 1.1.1*** – engage in efforts to increase awareness about stormwater pollution including through ongoing collaboration with the Interlocal Stormwater Working Group.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued collaborating with the ISWG and provided Think Blue Maine and YardScape links on our website and educational materials in municipal buildings to help promote public awareness of local and regional stormwater management concerns.

BMP 1.2 Stormwater Public Awareness Plan

Responsible Party: Stormwater Program Coordinator *Additional Party: CCSWCD for ISWG*

INTENT

To raise awareness of polluted stormwater runoff issues for a target audience outside of municipal government.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to develop and implement a Stormwater Public Awareness Plan.

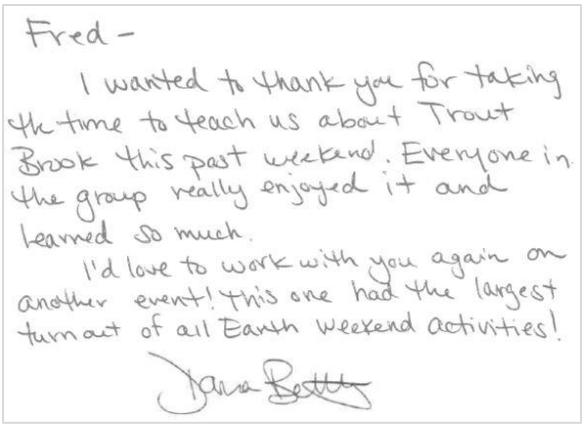
MEASURABLE GOALS

- ***Measureable Goal 1.2.1*** – by February 1, 2014, develop new or revise existing Stormwater Public Awareness Plan to raise awareness of stormwater issues for target audience outside of municipal government. The Plan's goal will be to raise awareness of polluted stormwater runoff issues such as the path stormwater runoff takes, sources of stormwater pollution, and the impact that polluted stormwater runoff has on local water resources.
- ***Measureable Goal 1.2.2*** – by December 1, 2013 submit draft Stormwater Public Awareness Plan to Maine DEP for review and approval; draft Plan will be considered approved by February 1, 2014 unless DEP indicates otherwise. Stormwater Public Awareness Plan must identify:
  a. The target audience
  b. The outreach tool(s) to be used
  c. The message
  d. The distribution system
  e. The time line and implementation schedule
  f. The person(s) responsible for implementation
  g. An impact evaluation protocol
  h. A plan modification protocol (including DEP approval of significant plan modifications)
  i. The goals (e.g., targeted level of change sought as a result of the education and outreach effort)

- ***Measureable Goal 1.2.3*** – provide review of Stormwater Public Awareness Plan in each annual report that specifies process indicators to assess execution of the Plan and includes impact indicators according to the following schedule (unless otherwise indicated in Plan):
    - o Permit Year 5: provide in-depth assessment of both implementation and impact of Plan
- ***Measureable Goal 1.2.4*** – include comprehensive review of Stormwater Public Awareness Plan in PY5 Report that includes an analysis of process and impact indicators.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with the ISWG to implement the Stormwater Public Awareness Plan, as described in **Appendix 1**. Additionally, Stormwater Program staff continued providing presentations and conducting education and outreach activities on the sources and impacts of polluted stormwater runoff (Figure 1 & Table 1). While the COVID19 pandemic was somewhat less restrictive than in previous years, there were still fewer people involved in the City's outreach efforts than is typically the case.


Fred –

I wanted to thank you for taking the time to teach us about Trout Brook this past weekend. Everyone in the group really enjoyed it and learned so much.

I'd love to work with you again on another event! This one had the largest turnout of all Earth Weekend activities!

Dana Bettez

Figure 1: thank-you card from South Portland Land Trust's Dana Bettez

Table 1: presentations & activities provided by City Stormwater Program staff during PY2021-22

Date	School / Organization	# Participants (approx)	Contact	Subjects	Comments
8/1/21	Ecology School (Saco)	20	Sarah Plummer - PWD	MS4 partnership opportunities	Teacher Institute for w'shed science & conservation
8/6/21	Ecology School (Saco)	20	" "	" "	" "
4/7/22	USM Food Studies	15	Jamie Picardy	Landcare ordinance	Panel discussion on community survey for City's landcare management ordinance
4/24/22	South Portland Land Trust	15	Dana Bettez	Summary of Trout Brook restoration projects	Trout Brook field visit to discuss various grant-funded restoration projects
4/26/22	South Portland High School	15	JB Kavaliauskas	MS4 basics, urban impaired streams, macroinvertebrates	Class presentation in prep for macroinvertebrate field event (which was cancelled due to COVID)
5/19/22	Sunrise Guide	10	Heather Chandler	MS4 basics, water quality & landcare ordinance	Part of a speaker series promoting sustainable landcare practices
Total Participants (approx.):		***95***			

The City also continued our partnership with Loyal Companion and the Maine Healthy Beaches Program for the (COVID-safe) April Stools Day event at Hinckley Park, Mill Creek Park and Willard Beach (Figure 2 below). Loyal Companion and MHB staff worked with the City and the SoPo Dogs group to help inform park and beach goers about the importance of picking up and properly disposing of dog waste – particularly given ongoing issues with cyanobacteria blooms in Hinckley Park's two ponds and fact that Willard is a public swimming beach. Dozens of event participants at each location received informational brochures on the

relationship between dog waste and water quality along with doggie treats, poop bags and coupons for use at Loyal Companion. Each location also featured a "golden turd" scavenger hunt for which the winner received a $25 gift certificate to Loyal Companion.

Figure 2: SoPo Dogs & MHB staff at the (very chilly!) 2022 April Stools event for Willard Beach

BMP 1.3 Municipal Permit Awareness Plan

Responsible Party: Stormwater Program Coordinator
Additional Party: ISWG Education Coordinator

INTENT

To raise awareness of polluted stormwater runoff and MS4 program requirements for municipal staff including municipal employees, volunteers, Council members and other elected officials.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to develop and implement a **Permit Awareness Plan**.

MEASURABLE GOALS

- ***Measureable Goal 1.3.1*** – by January 6, 2014, submit draft Permit Awareness Plan to Maine DEP for review and approval; draft Plan will be considered approved by March 1, 2014 unless DEP indicates otherwise and implementation shall begin within one week of approval. The Permit Awareness Plan must identify:
  a. The target audience
  b. The outreach tool(s) to be used
  c. The distribution system
  d. Method to address turnover of employees, elected officials and volunteers
  e. The time line and implementation schedule
  f. The person(s) responsible for implementation
  g. An impact evaluation protocol
  h. A plan modification protocol (including DEP approval of significant plan modifications)
  i. The goal (e.g., the target level of awareness for each audience)
- ***Measureable Goal 1.3.2*** – by March 1, 2014 or within one week of DEP approval, the Permit Awareness Plan will be implemented to raise awareness of stormwater issues including MS4 permit requirements for municipal employees, elected officials and volunteers within municipal government. The Permit Awareness Plan's goal is to raise awareness of polluted stormwater runoff such as the sources of stormwater pollution, the path polluted stormwater runoff takes from the pollution sources to waters of the State, the impact polluted stormwater runoff has on the community, potential measures to reduce or eliminate pollution sources, and General Permit obligations and responsibilities to ensure permit compliance.
- ***Measureable Goal 1.3.3*** – Provide review of Permit Awareness Plan in Annual Reports that includes

process indicators to assess execution of Plan according to the following schedule (unless otherwise indicated in the Plan):

- Permit Year 5: provide in-depth assessment of both the implementation and impact of **Permit Awareness Plan**

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with ISWG to implement the Municipal Permit Awareness Plan (**Appendix 1**). In particular, the Stormwater Program Coordinator informed the Council, Planning Board, Conservation Commission and City staff about Stormwater Permit Awareness training co-sponsored by the CCSWCD and Maine Municipal Association (MMA) in late January and early February of 2022. Several elected and appointed officials and staff attended this virtual event.

BMP 1.4 Targeted BMP Adoption Plan

Responsible Party: Stormwater Program Coordinator *Additional Party: ISWG Education Coordinator*

INTENT

To continue outreach efforts from the previous MS4 General Permit while developing or revising a new Targeted BMP Adoption Plan.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to develop a new or revised Targeted BMP Adoption Plan with the goal of promoting behavior change through the implementation of at least one specific BMP targeted for focused outreach.

MEASURABLE GOALS

- ***Measureable Goal 1.4.1*** – beginning July 1, 2013, continue outreach efforts from the previous MS4 General Permit while developing or revising a new Targeted BMP Adoption Plan.
- ***Measureable Goal 1.4.2*** – by November 1, 2013, submit draft Targeted BMP Adoption Plan to DEP for review and approval; Plan will be considered approved by January 15, 2014 unless DEP indicates otherwise and implementation shall begin within one week of approval. The Targeted BMP Practices Adoption Plan must identify:
  a. The BMP
  b. The target audience
  c. The outreach tool(s) to be used
  d. The message
  e. The distribution system
  f. The time line and implementation schedule
  g. The person(s) responsible for implementation
  h. An impact evaluation protocol
  i. A plan modification protocol (including DEP approval of significant plan modifications)
  j. The goal (e.g., the target level BMP adoption for each audience)
- ***Measureable Goal 1.4.3*** – by January 15, 2014, implement new or revised Targeted BMP Adoption

Plan that promotes behavior change through the implementation of BMPs; emphasize at least one specific BMP to target for adoption by at least 15% of the segmented audience.

- ***Measureable Goal 1.4.4*** – include review of Targeted BMP Adoption Plan in Annual Reports that includes process indicators to assess Plan execution; also include impact indicators according to the following schedule (unless otherwise indicated in the Plan):
  - Permit Year 5: provide final assessment of Plan implementation and impact; include comprehensive review of Plan with analysis of process and impact indicators

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with the ISWG to implement the Targeted BMP Adoption Plan, which established a goal to reduce the amount of lawn chemicals (fertilizers and pesticides) used by 15% of college-educated homeowners aged 35-55 as further described in **Appendix 1**. In addition to and consistent with ISWG's YardScaping efforts, the City continued to implement the Landcare Management Ordinance, which greatly restricts the use of synthetic pesticides and fertilizers except in very limited circumstances. The Grow Healthy South Portland website serves as an information hub for residents and businesses to learn more about sustainable landcare practices consistent with the ordinance.

In April 2021, the City also partnered with the University of Southern Maine's Food Studies Program and assisted students with developing a resident questionnaire to determine awareness of the Landcare Management Ordinance and attitudes about landcare practices (Figure 3). USM students conducted door to door surveys for 58 households throughout the City and established that a majority of respondents were familiar with and approved of the City's Landcare Management Ordinance. Nearly half of all respondents also expressed an interest in having the City develop a technical assistance program supporting the implementation of organic landcare practices. The Sustainability and Water Resource Protection Departments are currently collaborating on a "100 Resilient Yards" program to do exactly that. This significant effort will (hopefully) be funded primarily through various grants and will involve project partners including the CCSWCD, Friends of Casco Bay, Main Organic Farmers and Gardeners Association, Maine Cooperative Extension, Wild Seed Project, Garbage to Garden and Maine Audubon.

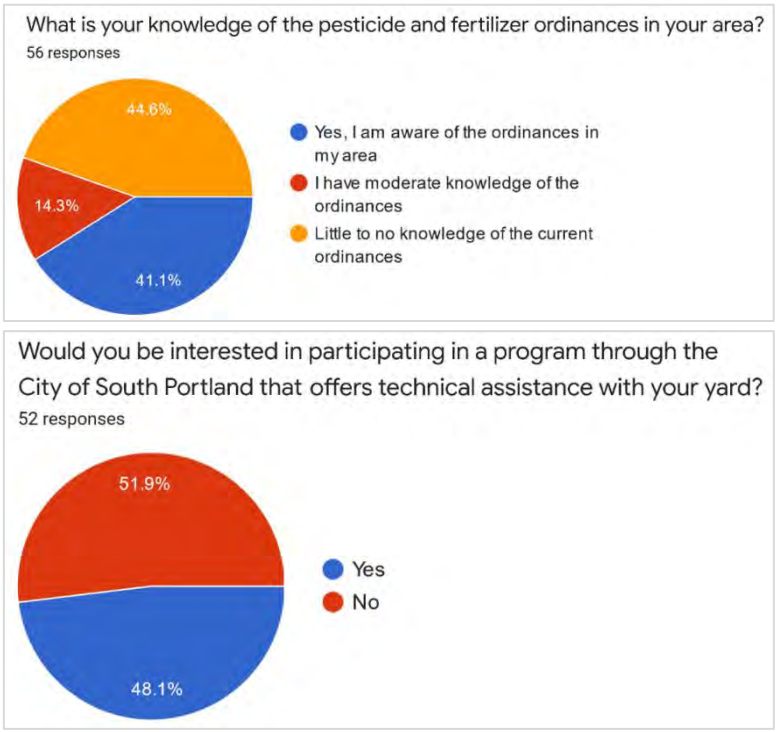


Figure 3: results from USM's Food Studies Program neighborhood survey (Source: Jamie Picardy, USM Food Studies Program)

Beginning in the spring of 2022, new development and redevelopment projects for single family residential buildings and larger had to meet minimum soil quality requirements that include subsoil de-compaction broken up to 10" deep and 6" of topsoil containing at least 5% organic matter with a pH between 6 and 6.5. (Based on contractor and developer feedback and consultation with landcare professionals, staff will be recommending an ordinance revision expanding the pH range to 6.0 – 7.0). Similar to erosion & sediment control inspections, these requirements are verified for each project by a City-designated 3rd party inspector. Staff developed an informational guide to assist developers and contractors in complying with the ordinance. The Stormwater Program Coordinator continued providing staff support to the City's Landcare Management Advisory Committee, which held (usually monthly) virtual meetings per Maine CDC COVID19 guidelines.

BMP 1.5 Enhanced Outreach Plan

Responsible Party: Stormwater Program Coordinator *Additional Party: ISWG Education Coordinator*

INTENT

To target a specific activity for an impaired waterbody that if successfully addressed will improve and/or protect water quality in the priority or impaired watershed; alternately, identify common regional or statewide stormwater pollution issue with the goal of reducing or eliminating pollutant(s) of concern.

METHODOLOGY

Continue collaboration with the Interlocal Stormwater Working Group (ISWG) to either target specific activity for improving and/or protecting water quality in priority / impaired watershed or identify common regional or statewide stormwater pollution issue for pollutant load reduction or elimination.

MEASURABLE GOALS

- ***Measureable Goal 1.5.1*** – by July 1, 2014, provide draft Education & Outreach Plan to DEP for either targeted activity or regional / statewide stormwater issue that addresses the following element:
  a. Identify the specific stormwater activity or pollutant to be addressed
  b. The target audience(s)
  c. The outreach tool(s) to be used
  d. The message and the BMPs to be encouraged
  e. The time line and implementation schedule
  f. The person(s) responsible for implementation
  g. The goal of the outreach effort
  h. An impact evaluation protocol
- ***Measureable Goal 1.5.2*** – by November 1, 2014, provide final Education & Outreach Plan to DEP; Plan will be considered approved by January 5, 2014 unless DEP indicates otherwise with implementation to begin immediately.
- ***Measureable Goal 1.5.3*** – annual reports will include progress and results of targeted outreach efforts; permit year 5 report will include analysis of the process and impact indicators for implementation of the **Education & Outreach Plan.**

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to collaborate with the ISWG to implement the Enhanced Outreach Plan as described in **Appendix 1**. The ISWG's efforts emphasized awareness about the state law that will soon begin banning the sales and use of coal tar sealant products. The City also partnered with the Long Creek Watershed Management District to implement a Sustainable Winter Maintenance (SWiM) program to reduce winter salt use. SWiM uses technology to track calibrated salt use along with weather stations and cameras to identify real-time optimal salt application rates. This process involved the LCWMD's consultant working directly with Public Works Department staff to outfit plow trucks with the tracking devices. Unfortunately, staffing shortages due to the COVID19 pandemic prevented the equipment from being installed for the 2021-22 winter season. The LCWMD's consultant is currently working with DPW staff to install the equipment ahead of the 2022-23 winter season. On 4/12/22, the Stormwater Coordinator also provided a presentation to DPW staff emphasizing the importance of minimizing winter salt use (Figure 4).

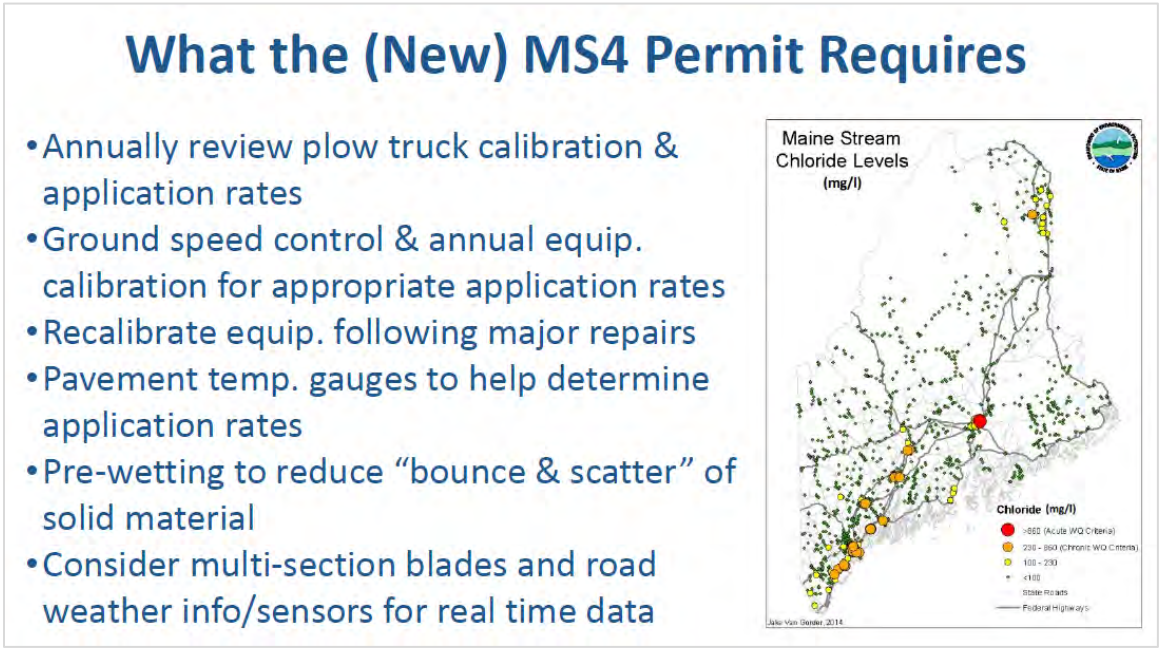


Figure 4: slide from presentation to DPW staff by Stormwater Program Coordinator on 4/12/22

Minimum Control Measure 2 – Public Involvement and Participation

The overall goal of this MCM is to involve the public in both the planning and implementation process of improving water quality and reducing stormwater quantity via the City's stormwater program. The City addresses these requirements for Public Involvement and Participation primarily through continued collaboration with the Interlocal Stormwater Working Group (ISWG) and the continued funding to the ISWG for Public Involvement and Participation services, most notably including the Urban Runoff (**Appendix 1**).

The City has also established public involvement and participation procedures as part of its development review process (e.g., Planning Board meetings) that provide regular opportunities for members of the public to offer comments on the implementation of stormwater performance standards. City staff and public

officials have also been appointed to the **Long Creek Watershed Management District** (LCWMD), which has an open process whereby members of the public can participate in implementing the Long Creek Watershed Management Plan (LCWMP). The LCWMP was developed largely in response to the stormwater pollution impacts from surrounding land uses and was commissioned by the City of South Portland through an EPA/DEP 319 grant. The City's Stormwater Program Coordinator continued to serve as the LCWMD's Board Chair in PY2021-22.

BMP 2.1 Comply with Public Notice Requirements

Responsible Party: Water Resource Protection & Planning Departments

Additional Parties: ISWG Stormwater Program Coordinator & LCWMD Executive Director

INTENT

To comply with applicable state and local public notice requirements by using effective mechanisms for reaching the public; to comply with Maine Freedom of Access Act public notice requirements (1 M.R.S.A. §§ 401 et. seq. – "FOAA") when involving stakeholders in General Permit implementation.

METHODOLOGY

Continue participation in the ISWG and conform to applicable MEDEP, City of South Portland and Long Creek Watershed Management District public notice requirements.

MEASURABLE GOALS

- ***Measureable Goal 2.1.1*** – ISWG, the City and the Long Creek Watershed Management District will follow all applicable state and local Public Notice requirements.
- ***Measureable Goal 2.1.2*** – ISWG, the City and the Long Creek Watershed Management District will follow state and local Public Notice requirements when involving stakeholders in the implementation of the MS4 General Permit, the City's Stormwater Program Management Plan, the City's Stormwater Management Performance Standards (Sec. 27-1536), the City's Landcare Management Ordinance (Ch. 32) and the Long Creek Watershed Management Plan.

ACTIONS COMPLETED DURING PERMIT YEAR

Following the adoption of Stormwater Management Performance Standards by the City in April of 2009, virtually every Planning Board meeting affords the public with an opportunity to participate in efforts to improve local water quality through the reduction of impacts from stormwater pollution. This occurs because nearly every Planning Board meeting consists of new development and redevelopment proposals with provisions for stormwater management. Records of public notices, attendance and minutes for these meetings are maintained by the City's Planning Department and posted on the City's website. The Long Creek Watershed Management District also allows public participation for efforts to reduce impacts from stormwater pollution at each of its regular meetings and posts meeting agendas and minutes on its website. Finally, the City's Landcare Management Advisory Committee (formerly the Pest Management Advisory Committee) holds monthly meetings that allow public input for the implementation of the pesticide and fertilizer ordinances, which are both important elements of the City's stormwater pollution reduction efforts.

BMP 2.2 Host, Conduct or Participate in a Public Event

Responsible Party: Water Resource Protection Dept. *Additional Party: ISWG Education Coordinator*

INTENT

To increase public awareness by hosting, conducting or participating in a public event for a target audience that includes a pollution prevention and/or water quality theme.

METHODOLOGY

Provide highly visible opportunities for members of the public to meaningfully participate in activities that increase awareness about reducing impacts from polluted stormwater runoff.

MEASURABLE GOALS

- ***Measurable Goal 2.2.1*** – ISWG and/or the City will annually host/conduct or participate in at least one public event such as storm drain stenciling, stream cleanup, household hazardous waste collection day, volunteer monitoring, neighborhood educational events, conservation commission outreach program, Urban Impaired Stream outreach program, or adopt a storm drain or local stream program. The target audience will be a segment of the urbanized area population that the City wishes to reach. The ISWG and/or the City will consult with DEP to ensure the event will satisfy the requirements for this BMP.

ACTIONS COMPLETED DURING PERMIT YEAR

Household Hazardous Waste Collection Days

The Water Resource Protection Department continued to provide the popular annual Household Hazardous Waste Collection Day events for South Portland residents in partnership with the Public Works Department. Our 10/16/21 event was well attended with approximately 225 participants while our 4/9/22 event was more modest with approximately 125 participants. In both cases the majority of respondents to our questionnaires were over 55 while more women (~60%) attended the October event and more men (~53%) attended the April event. A summary of the questionnaire responses is as follows:

- A strong majority of respondents lived in single family residences and the greatest numbers were from the eastern side of the City
- Paints & solvents were the most common products dropped off followed by automotive fluids and cleaning supplies
- More than half the October respondents had the waste items for 1-5 years while slightly less than half of the April respondents had the items for this same time frame
- More October respondents learned about the event from the electronic message boards while more April respondents learned about the event from the City's newsletter
- Large majorities of respondents for both events participated in previous HHW events
- Respondents for both events indicated that the most common reason for participating the HHW event was to protect human health & the environment and nearly all respondents stated they would participate in future HHW events

- About two thirds of respondents for both events were familiar with the City's pesticide use ordinance and around half were familiar with the City's Stormwater Management Program

Please see **Appendix 2** for the complete summary of the HHW questionnaire responses.

As mentioned above, the City also resumed our "April Stools Day" event on 4/2/22 while observing Maine CDC recommended COVID guidelines. This outdoor event allowed staff from the City, the Maine Healthy Beaches Program and Loyal Companion to provide numerous dog owners visiting Willard Beach, Mill Creek Park and Hinckley Park with information on the how proper dog waste disposal relates to water quality and City's stormwater program. The ISWG was again able to hold a virtual version of the Urban Runoff 5K during the month of April 2022. A more detailed summary of the event is described in **Appendix 1**. The City donated $500 to help fund the effort.

Minimum Control Measure 3 – Illicit Discharge Detection & Elimination

The overall goal of this MCM is to implement and enforce a program to detect and eliminate illicit and non-stormwater discharges.

BMP 3.1 Continue to Keep Watershed-Based Storm Sewer System Infrastructure Map Current and Update Annually

Responsible Party: Water Resource Protection Dept. *Additional Party: N/A*

INTENT

To maintain a current, detailed and accurate digitally-based map of the City's storm drain infrastructure to assist in stormwater management and planning.

METHODOLOGY

Continue updating GIS map layer of storm sewer system and add features as new stormwater infrastructure is constructed and/or as previously unidentified stormwater infrastructure is discovered.

MEASURABLE GOALS

- ***Measurable Goal 3.1.1*** – annually review GIS map layer of storm sewer system and update based on construction of new publicly owned storm sewer infrastructure and/or discovery of previously unidentified storm sewer infrastructure.
- ***Measurable Goal 3.1.2*** – annually incorporate construction of private storm sewer infrastructure into GIS map layer for new development or redevelopment projects as funding allows.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to invest considerable time and money in maintaining, updating and improving GIS data layers of the publicly owned stormwater system with thorough and comprehensive spatial datasets for municipal stormwater (and sewer) infrastructure. The City's ongoing CSO mitigation efforts continue to result in the creation of new stormwater infrastructure – often including stormwater treatment systems in addition to more traditional drainage systems (i.e., pipes and catch basins). The following updates were

made to our GIS data layers to reflect projects completed during PY2021-22.

GIS layer updates included:

- Wastewater lateral lines
- Wastewater lateral points
- Wastewater pipes
- Wastewater structures
- Drainage pipes
- Drainage structures
- Stormwater BMPs
- Drainage culvert openings
- Drainage outfalls
- Easements

BMP 3.2 Continue Implementation of Non-Stormwater Discharge Ordinance to Prohibit Unauthorized Discharges into Storm Sewer System

Responsible Party: Stormwater Program Coordinator *Additional Party: Compliance Administrator*

INTENT

To prohibit unauthorized non-storm water discharges to the storm drainage system through municipal ordinance and to establish the legal authority and procedures to carry out all inspection, monitoring and enforcement activities necessary to ensure compliance with this ordinance.

METHODOLOGY

Use the authority granted by the ordinance to enforce the provisions therein; coordinate and cooperate with the Maine DEP, Portland Water District and Interlocal Stormwater Working Group to develop hydrant flushing policies that are protective of local water resources.

MEASURABLE GOALS

- ***Measurable Goal 3.2.1*** – the City of South Portland will continue to enforce the Non-Stormwater Discharge Ordinance. This ordinance is referenced in the South Portland Code of Ordinances as Chapter 22 Sewer and Drains, Article XIV Non-Stormwater Discharge (§§22-200 -- 22-209) which was passed on September 8, 2004.
- ***Measureable Goal 3.2.2*** – in Permit Year 1, coordinate with the Portland Water District (PWD) via mail or in person to evaluate whether water line and hydrant flushing are significant contributors of pollutants to the City's MS4 system. Evaluation will include the following actions:
    - Provide the PWD with a location map showing the extent of the municipal urbanized area, and the highest priority watershed(s).
    - Gather information from the PWD, specific to the urbanized area and priority watershed(s), including the number and location of hydrants and details on water line or hydrant flushing that outlines procedures, including how often flushing occurs, typical flow rates and

duration, where the water is conveyed, what the target or actual chlorine concentrations are, and what best practices are employed to prevent erosion and address potential pollutants.

- ***Measureable Goal 3.2.3*** – by no later than December 30, 2014, unless otherwise approved by the Department, using available GIS or other municipal mapping information, the location of hydrants will be added to the storm sewer system infrastructure map to aid in the evaluation; the City of South Portland will work with the PWD to prioritize the hydrants or water lines that have the potential to cause exceedances of the ambient water quality criterion for chlorine when discharged through the MS4. The City will request a water quality progress report that documents what best management practices are being implemented for flushing activity at the prioritized hydrants as well as the PWD's testing results of the total residual chlorine for any such discharges.
- ***Measureable Goal 3.2.4*** – in Permit Years 3-5, the City will request an annual water quality progress report that documents what best management practices are being implemented for flushing activity at the prioritized hydrants as well as the PWD's testing results of the total residual chlorine for any such discharges.
- ***Measureable Goal 3.2.5*** – if it is determined by the end of Permit Year 3, that water line or hydrant flushing is a significant contributor of pollutants to the MS4, and the PWD has demonstrated that it will not voluntarily implement BMPs in order to reach ambient water quality criteria for chlorine, the City will, as soon as practicable or by no later than the end of Permit Year 4, update their IDDE ordinance to allow enforcement of discharges that cause exceedances of water quality criteria.

Reporting: the annual report will include a summary of Non-Stormwater Discharge incidents; it will also include a status update on the evaluation of water line and hydrant flushing as a significant contributor of pollutants to the MS4 and an update on subsequent actions.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to enforce the Non-Stormwater Discharge Ordinance as specified in the South Portland Code of Ordinances Chapter 22 Sewer and Drains, Article XIV Non-Stormwater Discharge (§§22-200 - 22-209), which was enacted on September 8, 2004. City staff responded to 29 incidents of potential illicit discharges or spills and followed up on all of them (Table 2). The City contacted the operators or owners of problem properties and issued warnings to cease and desist and/or offered technical assistance as needed. Reports, follow-up correspondence and any other related documentation (e.g., maps and photos) for these incidents are maintained on a shared folder accessible by relevant City staff in the Water Resource Protection Department and Code Enforcement Office.

Table 2: spills or IDDE incidents reported for PY2021-22

Report Date	Incident Location	MBL	Description	Findings / Follow-up	Non-SW to MS4?
7/19/21	Hobart Street	NA	Resident complaint about oily water discharge	Site visit (after rain event) unable to identify presence of oily residue	Unknown

8/2/21	Hannaford warehouse complex	40-65	DEP's Greg O'Brien requests map of SW system to identify whether diesel spill entered system	DEP & ADUSA determine that impacts to SW system and Barberry Creek negligible	No
8/5/21	125 John Roberts Rd	75A-11E	Contractor accidentally knocked down electrical pole while felling tree	DEP & SPFD report to contain spill which site investigation confirms	No
8/12/21	37 Rigby Rd	41-132	Staff observes trailer washout into private CB	Spoke with owner who claimed that no detergents are used; will continue to monitor	Unknown
8/24/21	1142 Highland Ave	57-6B	School bus hydraulic line ruptures on facility access road	Prompt staff response to clean up spill area; DEP notified	No
8/24/21	491 Cottage Rd	11-60	Tenant of vehicle service facility intentionally washed waste petroleum products into MS4	Waste oil discharge to Willard Beach results in major response by SPFD, USCG, DEP &WRP. Enforcement actions pending as of 9/21/21.	Yes
9/1/21	35 Park Ave	32-29A	Staff observes non-SW discharge in combined CB while cleaning	Site visit confirms discharge from improperly stored brewery waste products which owner promptly addressed.	No
9/8/21	Waterman Drive	NA	City bus coolant line rupture results in antifreeze discharge	City staff respond promptly to apply absorbents and clean up spill area	No
9/13/21	61 Ridgeland Ave	32-182	Resident complaint about oily water discharge from driveway washing operations	Site visit confirms oily residue and WRP works with Codes on potential enforcement response.	Unknown
9/20/21	Veteran's Bridge	NA	Collision between cement and dump truck results in antifreeze spill onto pavement	Truck drivers and Portland Fire Dept respond promptly to clean spill area with absorbents	No
10/8/21	Broadway & Mussey Diesel Spill	NA	Troiano rubbish truck fuel tank rupture	AR-1 report stated that approx. 40 gal fuel spilled at low spot in road; cleaned by Troiano and SPFD	No
10/8/21	23 Morse Garbage Leakage	25-187	Casella rubbish truck spilled garbage leachate onto street	Casella cleaned spill area same day; confirmed by WRP staff on 10/8/21.	No
11/2/21	Rosedale Ave Sediment Tracking	33-7	Opportunistic inspection by WRP staff identifies tracking issue from 1156 Broadway stockyard (combined sewer area)	WRP contacted property owner same day about street sweeping	No
11/7/21	220 Maine Mall Rd	68-1	Anonymous complaint about detergent discharge from TD Bank building washing to LCWMD SW treatment system	WRP contacted bank manager who stated they would instruct their contractor to not discharge detergents in future	No
11/12/21	Channel Rd Fuel Spill	NA	Resident complaint following cleanup of spill area by responsible party; concerns with pavement staining in area with no SW system	WRP inspected site and determined additional cleanup was not necessary	No

11/26/21	Boothby & Highland Kerosene spill	NA	~20 gal of kerosene spilled	SPFD AR-1 report provided very little detail on cause or nature of incident	Unknown
11/27/21	Mass Ave Leaf Litter	NA	Resident complaint about leaf litter clogging CB via SW complaint webpage	WRP inspected site and determined additional cleanup was not necessary; followed up with complainant	No
12/1/21	731 Highland Sediment Discharge	35-29	Opportunistic inspection identified dirt bag rupture from PWD residential water service repair (trench dewatering)	Site visit to instruct construction crew to replace failing dirt bag	Yes
12/9/21	740 Broadway	18-23A	Shallow trench to Anthoine Creek alleviate parking lot drainage problem	Probably required City building permit and DEP PBR; forwarded to Planning & Codes	No
12/12/21	Alfred St Fuel Spill	NA	Anonymous spill report with pavement staining	Site visit and follow up with DPW; concluded little benefit to applying sand to absorb spill	No
12/12/21	245 Western Ave	49-209	Tree & vegetation removal along riparian area of Long Creek tributary	Site visit and follow up with Codes Office and DEP	No
12/15/21	200 Gorham Rd	66-11A	Grease discharge next to waste receptacle observed during SW outfall inspections	Site visit and follow up with restaurant manager	No
1/4/22	Oil Spill at Evans & Hill	NA	Oil spill with absorbent material left on street following utility work for 66 Evans; unable to identify source	Site visit and follow up with DPW, which dispatched sweeper to remove absorbent material	No
1/30/22	TPike vehicle crash into Long Creek	NA	Pickup truck lost control and rolled into LC's main stem	Communication from MTA's Sean Donohue who confirmed no fluid discharges to LC	No
2/18/22	25 Cole St	26-65	Plugged sewer service discharging to ground through roof drain	Contacted building owner who stated problem had been fixed;	No
3/2/22	Walnut Street	NA`	Resident provided photos of PWD water line repair that dumped sediment onto street and into MS4	Contacted PWD utility managers and requested cleanup of area ASAP	Yes
3/15/22	Sable Oaks	73-7B	Selective tree cutting across large portions of wooded area	Site visit confirms tree removal so contacted Planning and DEP for info on permit submittals. No permits submitted so activity may not have required permits.	No
3/25/22	Thai Taste - 435 Cottage Rd	11-106A	Resident reported outside washing of greasy restaurant exhaust fan.	Contacted restaurant and pressure washing business owners and provided info on use of appropriate BMPs.	Yes

3/28/22	Dirt Direct - 1369R Highland Ave	61-1	Resident reported extensive clear cutting activity.	Clear cutting & large wood waste material processing resulted in drainage ditch nutrient enrichment. No permits obtained for activity. Contacted Planning & DEP.	Yes
4/21/22	Billy Vachon Drive	NA	Salt spill on road near MDOT catch basin	Contacted facility manager and asked him to have drivers / loader operators fill trucks with less salt.	Yes
4/26/22	Dyer School	35-180	Maintenance for indoor sprinkler system resulted in rusty water discharge to MS4	Contacted facility manager for clarification of incident.	No
5/4/22	B. Good Restaurant	66-11	CCSWCD notified City about poor dumpster management; confirmed rubbish strewn about on ground	Coordinated with CCSWCD & LCWMD on notifying operator to improve GH-PP practices	No
5/14/22	Redbank Village	50-133A	FOCB notified City about salt plume from storage bunker; confirmed plume to catch basin	Contacted property manager and informed of NSDO; suggested practices to prevent salt discharge	Yes
6/15/22	923 Broadway	25-53	Pool water discharge into MS4 system	Site visit determines no chlorine in discharge	No
6/15/22	2 Deake St	1-76	Yard waste dumping onto beach	Sent letter to resident explaining water quality problems from yard waste & requested no more dumping	No
6/16/22	160 Brigham St	42-42A	Pool water discharge into MS4 system	Site visit determines pool discharge contaminated with decaying leaf litter; spoke with contractor and notified owner to contact City prior to emptying pool in future.	Yes
6/27/22	Main St, Broadway, Gorham Rd, Running Hill Rd, Cummings Rd	NA	Liquid asphalt spill from tanker truck	Spill began in SoPo and continued through Westbrook to Gorham; coordinated with both communities to identify source (tanker truck); liquid asphalt solidified shortly after spill	No

The Portland Water District (PWD) provided an annual water quality report for PY2021-22 documenting that their water line and hydrant flushing SOP successfully prevented pollutant discharge (i.e., total residual chlorine) in concentrations above DEP's stated threshold of 0.05 ppm (**Appendix 3**).

BMP 3.3 Continue Implementation of Prioritized Dry Weather Outfall Inspection Program

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To identify potential sources of illicit non-stormwater discharges for elimination in watersheds or sub-

watersheds that pose the greatest potential threat to local receiving waters.

METHODOLOGY

Physically inspect stormwater outfalls in priority subwatersheds during dry weather periods.

MEASURABLE GOALS

- ***Measureable Goal 3.3.1*** – continue conducting dry weather outfall inspections in all the subwatersheds of Long Creek (formerly the highest priority watershed for the 2008-13 MS4 permit) and Trout Brook (the highest priority watershed for the 2013-18 MS4 permit). The boundaries of all subwatersheds may be further refined as additional mapping and field assessment is conducted or as development / redevelopment occurs.
- ***Measureable Goal 3.3.2*** – by the end of Permit Year 1, the City will identify the subwatersheds for dry weather outfall inspections within the second highest priority watershed, Barberry Creek. By the end of Permit Year 3, the City will conduct dry weather outfall inspections in all subwatersheds of Barberry Creek. The boundaries of all subwatersheds may be further refined as additional mapping and field assessment is conducted or as development / redevelopment occurs.
- ***Measureable Goal 3.3.3*** – the City will continue using the standard operating procedure (SOP) and data collection system for the dry weather outfall inspection program from the previous permit cycle and modify either as needed. The SOP includes inspection forms and a policy/procedure or protocol that identifies the steps that must be taken when an illicit discharge is encountered during routine and opportunistic inspections.

Reporting: inspection results will be documented in a database management system or other recordkeeping system. The annual report will provide a summary of the inspection results.

ACTIONS COMPLETED DURING PERMIT YEAR

Dry weather outfall inspections for Barberry Creek, Long Creek and Trout Brook were completed using a cloud-based data collection application in November and December of 2021 and January of 2022 when temperatures were below freezing (or there was no rain for the prior 72 hours). Due to increasing concerns with the spread of Lyme disease and other tick-borne illnesses, the City continued conducting outfall inspections during times of the year when the temperatures were below freezing and ticks were much less likely to be active. The inspection summaries for all three watersheds are included in **Appendix 4**. While there were a number of potential maintenance issues identified, such as erosion and vegetative overgrowth, no obvious occurrences of illicit discharges were detected. The City relies on our Illicit Discharge Detection & Elimination Plan, developed in compliance with the upcoming 2022 MS4 General Permit and submitted with our final Stormwater Management Plan on 8/4/22.

BMP 3.4 Continue Development & Implementation of Dry Weather Open Ditch Inspection Program

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

Identify potential sources of illicit discharge from open drainage ditches that serve as part of the City's stormwater collection and conveyance system.

METHODOLOGY

Identify the extent, location and hydrologic connectivity of drainage ditches in priority watershed in relation to the City's stormwater collection system and develop an IDDE strategy for all relevant ditches.

MEASURABLE GOALS

- ***Measureable Goal 3.4.1*** – continue implementing the inspection program from the previous permit cycle to detect any illicit discharges in the open ditch system of the Long Creek watershed.
- ***Measureable Goal 3.4.2*** – by the end of Permit Year 1, the City will identify the length of open ditches within the highest priority watershed, Trout Brook.
- ***Measureable Goal 3.4.3*** – by the end of Permit Year 2, the City will implement a strategy to detect any illicit discharges in the open ditch system of the Trout Brook watershed.
- ***Measureable Goal 3.4.4*** – by the end of Permit Year 4, the City will identify the length of open ditches within the second highest priority watershed, Barberry Creek.
- ***Measureable Goal 3.4.5*** – by the end of Permit Year 5, the City will implement a strategy to detect any illicit discharges in the open ditch system of the Barberry Creek watershed.

Reporting: inspection results will be documented in a database management system or other recordkeeping system. The annual report will provide a summary of the inspection results.

ACTIONS COMPLETED DURING PERMIT YEAR

WRP staff inspected and photographed all of the open ditches in the Long Creek and Barberry Creek watersheds (**Appendix 5**). We continued to use the ArcGIS Online (AGOL) application for data collection. There were no overt signs of illicit discharges observed at the time of inspections though there were numerous ditches in need of maintenance follow-up for vegetation removal, erosion repair and/or riprap replacement. Given the extensive use of piped stormwater systems to provide drainage for the densely developed residential and commercial areas in the Trout Brook watershed, no open ditches are present in the public right-of-way and therefore no inspections are necessary in this watershed.

BMP 3.5 Develop List & Evaluation Protocols for Septic Systems 20 Years Old or Greater with Potential to Discharge into MS4 System in Event of Failure

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To identify and assess the potential for discharges from failing septic systems to enter City's MS4 system and adversely affect local water resources.

METHODOLOGY

Develop list of septic systems 20 years or older and an evaluation protocol to determine whether any of these may be discharging to the MS4 system and/or nearby water resources.

MEASURABLE GOALS

- ***Measureable Goal 3.5.1*** – by the end of Permit Year 3, develop a list and evaluation protocols for septic systems that are 20 years old or greater and have the potential to discharge into the MS4 for the Long Creek watershed (formerly the highest priority watershed for the 2008-13 MS4 permit) and Trout Brook (the highest priority watershed for the 2013-18 MS4 permit).
- ***Measureable Goal 3.5.2*** – by the end of Permit Year 4, implement a drive-by evaluation and documentation program for septic systems that are 20 years old or greater and have the potential to discharge into the MS4 for the Long Creek watershed and Trout Brook. This septic system inspection and documentation program will include a mechanism for addressing any discharges to the MS4 from malfunctioning septic systems.

Reporting: the annual report for Permit Year 3 will provide a summary of the progress made on developing the septic system list and evaluation protocols; the reports for Permit Years 4 and 5 will include a summary of septic system inspection results and associated corrective actions if needed.

ACTIONS COMPLETED DURING PERMIT YEAR

In PY2015-16, drive-by septic system evaluations were conducted for 183 parcels throughout the City (Figure 8). In most cases, the evaluations were of limited value because septic systems located on the rear of properties could not be accessed directly for inspection. However, 19 systems were identified for potential follow up primarily due to the presence of greener grass above the leach fields (the inspections were conducted during an extended period of extreme drought). No corroborating indicators, such as ponding or sewage breakout, were observed. There has been considerable discussion within the State's MS4 community about the efficacy and value of drive-by septic system evaluations and the next MS4 General Permit (dated 10/15/20) does not include any such requirements. Therefore, no further actions for septic system evaluations will be completed by the City unless resident complaints or opportunistic inspections indicate potential illicit discharges from malfunctioning systems.

BMP 3.6 Continue Hosting Annual Household Hazardous Waste Collection Day

Responsible Parties: Water Resource Protection & Public Works Departments *Additional Party: N/A*

INTENT

To provide a means for residents to dispose of household hazardous waste.

METHODOLOGY

Host an annual Household Hazardous Waste collection day.

MEASURABLE GOALS

- ***Measureable Goal 3.6.1*** – as funding allows, provide a reasonable means for residents to dispose of hazardous materials by continuing to host an Annual Household Hazardous Waste (HHW) collection day.

ACTIONS COMPLETED DURING PERMIT YEAR

As described in BMP 2.2, the City's Water Resource Protection and Public Works Departments partnered to

hold HHW collection events on 10/16/21 and 4/9/22. The City invested $28,436 for both events, which diverted significant amounts of HHW from the municipal waste stream and reduced potential sources of stormwater pollution (and potentially toxic discharges to the City's wastewater treatment facility). Please refer to the summary of activities for BMP 2.2 and **Appendix 2** for more details.

BMP 3.7 Continue Supporting the Friends of Casco Bay Mobile Vessel Pumpout Service

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To support the Friends of Casco Bay's mobile vessel pumpout service.

METHODOLOGY

Annual financial contribution ($5,000) to pumpout program.

MEASURABLE GOALS

- ***Measureable Goal 3.7.1*** – as funding is available, continue to financially support the mobile vessel pumpout service.

ACTIONS COMPLETED DURING PERMIT YEAR

The City contributed another $5,000 to the Friends of Casco Bay's Boat Pumpout Program for PY2021-22. In 2020, FOCB temporarily curtailed this program due to the COVID 19 pandemic but reinitiated it in the summer of 2021.

BMP 3.8 Continue Providing Confidential Public Complaint Hotline for Suspected Illicit Discharges

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To provide a confidential method for residents to report suspected illicit discharges to the City's stormwater system.

METHODOLOGY

Use voicemail and online system for residents to anonymously report suspected illicit discharges and conduct follow up inspections to document findings from resident reports.

MEASURABLE GOALS

- ***Measureable Goal 3.8.1*** – continue to provide an easy and confidential method for individuals to report suspected illicit connections or illegal dumping via the voice mail system and / or the online complaint form for the Water Resource Protection Department.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to maintain a Stormwater Violations Hotline and Online Complaint Report form that allowed concerned citizens to easily and anonymously report any suspected incidents of non-stormwater discharge violations to the publicly owned stormwater system. No complaints were filed through the online

reporting system during the permit year. As summarized in Table 2, when illicit discharge incidents are reported by any means, follow up inspections are almost always conducted.

BMP 3.9 Continue Storm Drain Stenciling Program

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To provide a visible reminder to residents about the close connections between their activities, the stormwater collection / conveyance system and potential impacts to local surface waters.

METHODOLOGY

Continue ongoing annual catch basin stenciling program.

MEASURABLE GOALS

- ***Measureable Goal 3.9.1*** – continue to annually stencil catch basins in conjunction with catch basin cleaning.

ACTIONS COMPLETED DURING PERMIT YEAR

In the fall of 2021, we partnered with the Friends of Casco Bay for stenciling in the Red Bank neighborhood of South Portland. FOCB volunteers stenciled approximately catch basins in the area to help make the connection between how materials left on the ground can end up in the stormwater system and eventually Casco Bay. The City also hired a Stormwater Intern in June 2022, who completed some limited catch basin stenciling. Additionally, our Stormwater Intern created an ArcGIS StoryMap for an Adopt-a-Drain program which we hope to begin implementing some time in PY2022-23.

Minimum Control Measure 4 – Construction Site Stormwater Runoff Control

The City of South Portland completed a variety of activities for the Construction Site Stormwater Runoff Minimum Control Measure. The overall goals of this MCM are to develop, implement, and enforce a program that reduces pollutants in stormwater runoff to the City's regulated small MS4 from construction activities that result in a land disturbance of an acre or more.

BMP 4.1 Continue Notification to Construction Site Developers and Operators of Maine Construction General Permit or Chapter 500 Registration Requirements

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To reduce the amount of stormwater runoff pollution by ensuring that construction site developers and operators use appropriate stormwater BMP practices and are aware of their obligations under applicable state regulations.

METHODOLOGY

Use existing municipal notification procedures through development application and review process.

MEASURABLE GOALS

- ***Measurable Goal 4.1.1*** – continue notification procedures from previous permit cycle that occur through the site plan review permitting process. Additionally, notification is provided to building permit applicants that meet the one-acre threshold.
- ***Measureable Goal 4.1.2*** – continue annual evaluations of current notification system and modify if necessary.

Reporting: the annual report will include a description of any updates made to the notification procedures.

ACTIONS COMPLETED DURING PERMIT YEAR

The City requires property owners, developers and contractors for all permitted construction activities from single family residential house lots to large commercial projects constructing principle structures and disturbing a minimum of 15,000 ft^2 (often less) of land area to comply with Planning Board Regulation #2. This local regulation was developed specifically for erosion and sediment control and refers directly to the Maine Erosion and Sediment Control Practices Field Guide for Contractors (which refers to the Maine's Erosion and Sedimentation Control Law, the Natural Resources Protection Act, the Maine Construction General Permit, the Shoreland Zoning Act, and the Stormwater Management Law).

Applicants for construction projects are required to sign a certification statement that the owner/developer and excavation contractor/subcontractor have read and will follow the applicable provisions in the most current version of the Maine Erosion & Sediment Control Practices Field Guide for Contractors. As part of this process, owners/developers and their excavation contractors are also required to attend a pre-construction meeting prior to the start of the project to review site-specific erosion and sediment control plans. The City also provides an informative brochure for developers and contractors on our construction project oversight procedures that includes an EPA diagram on the types of typical erosion & sediment control (ESC) BMPs needed for most projects. The brochure is available on the City's Erosion & Sediment Control for Construction Projects webpage and on display in the City's Planning Department office.

The City's Stormwater Performance Standards (Ch. 27-1536) require projects subject to a modified site plan approval process to comply with the provisions of Planning Board Regulation #2. In addition to conducting internal staff reviews for proposed development/redevelopment projects, the City also continued to use third party inspectors to evaluate development/redevelopment projects. Each application packet was reviewed to ensure that proposed construction projects included appropriate soil erosion and sedimentation control practices. Applications lacking adequate erosion and sediment control plans or practices were returned to the developer's design consultant(s) with specific comments on how to address these deficiencies.

Finally, and as described in section BMP 1.4, the City's soil quality requirements went into effect in the spring of 2022 and apply to all projects that result in 2,000 square feet or more of soil disturbance that will not be

covered with impervious surfaces. As part of the application process, developers and contractors are provided with information on the applicable criteria (6" of topsoil with pH between 6.0 – 6.5 and minimum 5% organic content; soil compaction <300 psi).

BMP 4.2 Continue to Document Every Construction Activity that Disturbs One or More Acres within the Urbanized Area

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To annually document all construction activities disturbing one or more acres within the urbanized area for use in the construction site inspection program (BMP 4.3).

METHODOLOGY

Use shared computer network to implement electronic filing & tracking system for documentation of applicable construction activities.

MEASURABLE GOALS

- ***Measurable Goal 4.2.1*** – continue implementation of tracking system to record every activity that disturbs greater than or equal to one acre of land area. This system will track and differentiate construction activities within an urban impaired stream watershed; priority watershed(s), and all other watersheds. The system will be used to summarize data to be included in the annual report submitted to the DEP.

Reporting: the number of construction activities disturbing greater than or equal to one acre is included under MCM 4, BMP 4.3, described below.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to document periodic inspections of construction activities disturbing one or more acres of area (see discussion in BMP 4.3). Third parties appointed by the City (or the Long Creek Watershed Management District for projects covered under the Long Creek General Permit) conducted Erosion & Sediment Control (ESC) inspections on at least a monthly basis and on a weekly basis whenever significant deficiencies were identified. The City's Planning Director, Community Planner, Field Inspector and Stormwater Program Coordinator reviewed all third party ESC reports to determine whether any follow up actions were needed to address deficiencies. Reports were electronically filed in a shared network folder accessible to all City staff responsible for ensuring compliance with the City's Stormwater Permit.

BMP 4.3 Continue Implementation of Construction Site Inspection Program

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To ensure construction projects an acre or larger are in compliance with the MCGP and Chapter 500 and to reduce the amount of stormwater pollution entering local water resources through the City's MS4 system.

METHODOLOGY

Develop and implement construction site inspection program in accordance with local and state stormwater laws (South Portland Ordinance § 27-1536, Maine Construction General Permit, Chapter 500, and General Permit for Small MS4s, respectively).

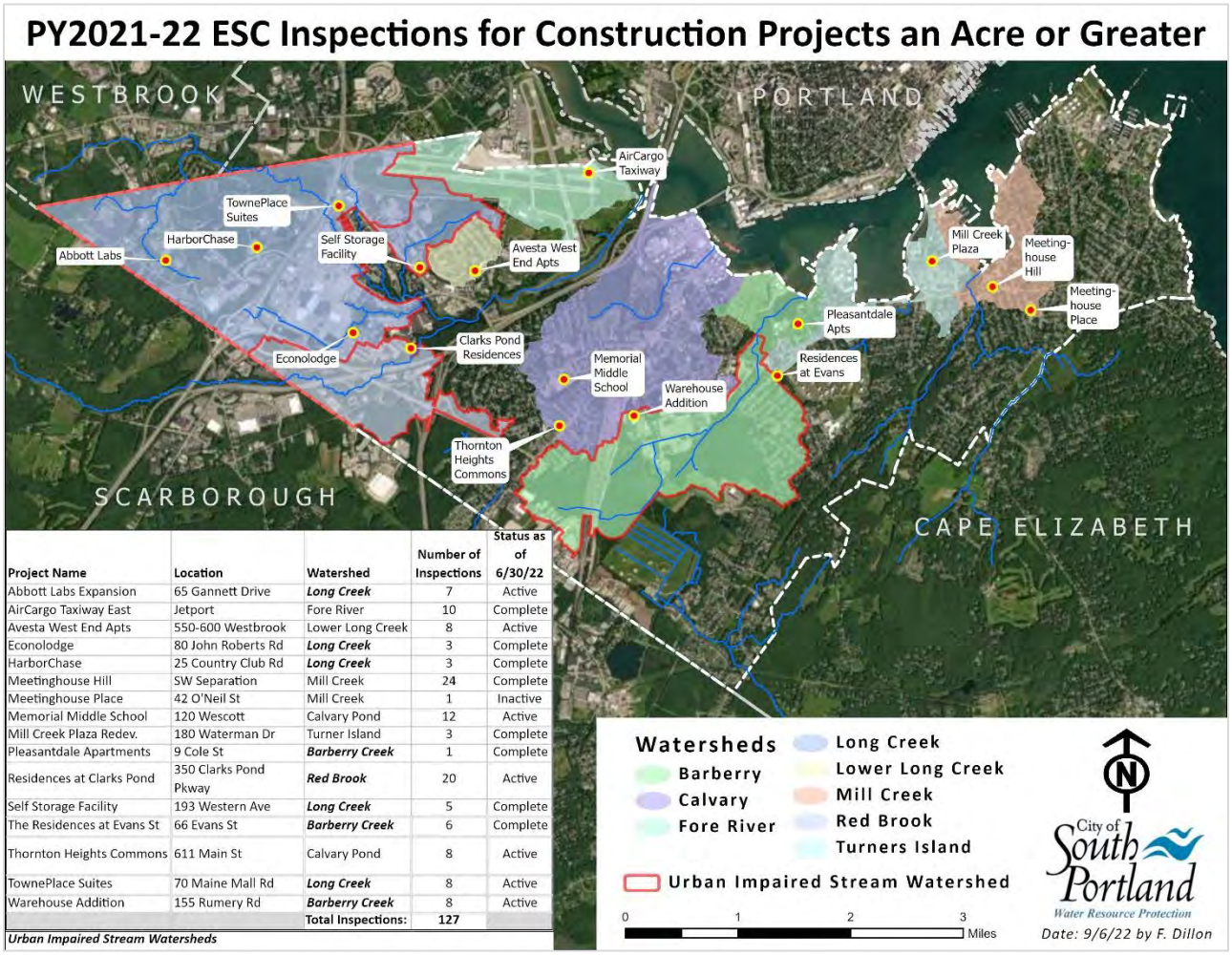
MEASURABLE GOALS

- ***Measurable Goal 4.3.1*** – continue procedures for construction site inspections that meet the terms and conditions of the General Permit and modify if necessary.
- ***Measurable Goal 4.3.2*** – continue use of standardized inspection form to ensure documentation of all required inspections.
- ***Measurable Goal 4.3.3*** – continue implementation of process for tracking and notifying the site developer or contractor of non-compliance issues. The inspector will complete an inspection report that will be transmitted to the City, and necessary enforcement will be the responsibility of the City. Sites that are not in compliance will be issued a written letter from the City requiring the site to come into compliance within a specified time period. If the violation continues, the City's Code Enforcement Officer will contact the Corporation Counsel to authorize legal proceedings needed to enforce all applicable ESC requirements. Continued non-compliance will be reported to the DEP with supporting documentation.
- ***Measurable Goal 4.3.4*** – continue inspecting construction sites located in the watershed of an urban impaired stream a minimum of three times, and inspect construction sites located in all other watersheds a minimum of two times. For all construction sites, at least one of the required inspections will be at project completion to ensure that all post-construction BMPs were properly installed and that final stabilization of the site has been completed. All construction inspections will be properly documented.

Reporting: inspection results will be documented in a database management system or other recordkeeping system. The annual report will provide a summary of the inspection results.

ACTIONS COMPLETED DURING PERMIT YEAR

The WRP Department and Planning Division continued to share construction project oversight duties for PY2021-22 and continued to use the process flow chart that clearly defines roles & responsibilities for the third party inspector (3PI), relevant City staff, the owner and the contractor. It also establishes processes for submitting and filing inspection reports and escalating enforcement responses by the City to correct BMP deficiencies. The first significant deficiency identified by the 3PI results in an increased inspection frequency from monthly to weekly; the second deficiency results in a warning letter from the Field Inspector to the contractor and owner; and the third deficiency results in a Notice of Violation (and potentially a Stop Work Order) from the Code Enforcement Officer with an option to involve DEP. There were several instances that required follow up inspections to ensure correction of BMP deficiencies as well as a formal enforcement action to bring construction projects into compliance with applicable erosion & sediment control requirements. There were a total of 127 inspections completed for 16 separate projects by the City's 3PIs, Field Inspector and/or Stormwater Program Coordinator (Figure 5).



Project Name	Location	Watershed	Number of Inspections	Status as of 6/30/22
Abbott Labs Expansion	65 Gannett Drive	***Long Creek***	7	Active
AirCargo Taxiway East	Jetport	Fore River	10	Complete
Avesta West End Apts	550-600 Westbrook	Lower Long Creek	8	Active
Econolodge	80 John Roberts Rd	***Long Creek***	3	Complete
HarborChase	25 Country Club Rd	***Long Creek***	3	Complete
Meetinghouse Hill	SW Separation	Mill Creek	24	Complete
Meetinghouse Place	42 O'Neil St	Mill Creek	1	Inactive
Memorial Middle School	120 Wescott	Calvary Pond	12	Active
Mill Creek Plaza Redev.	180 Waterman Dr	Turner Island	3	Complete
Pleasantdale Apartments	9 Cole St	***Barberry Creek***	1	Complete
Residences at Clarks Pond	350 Clarks Pond Pkway	***Red Brook***	20	Active
Self Storage Facility	193 Western Ave	***Long Creek***	5	Complete
The Residences at Evans St	66 Evans St	***Barberry Creek***	6	Complete
Thornton Heights Commons	611 Main St	Calvary Pond	8	Active
TownePlace Suites	70 Maine Mall Rd	***Long Creek***	8	Active
Warehouse Addition	155 Rumery Rd	***Barberry Creek***	8	Active
		Total Inspections:	**127**	

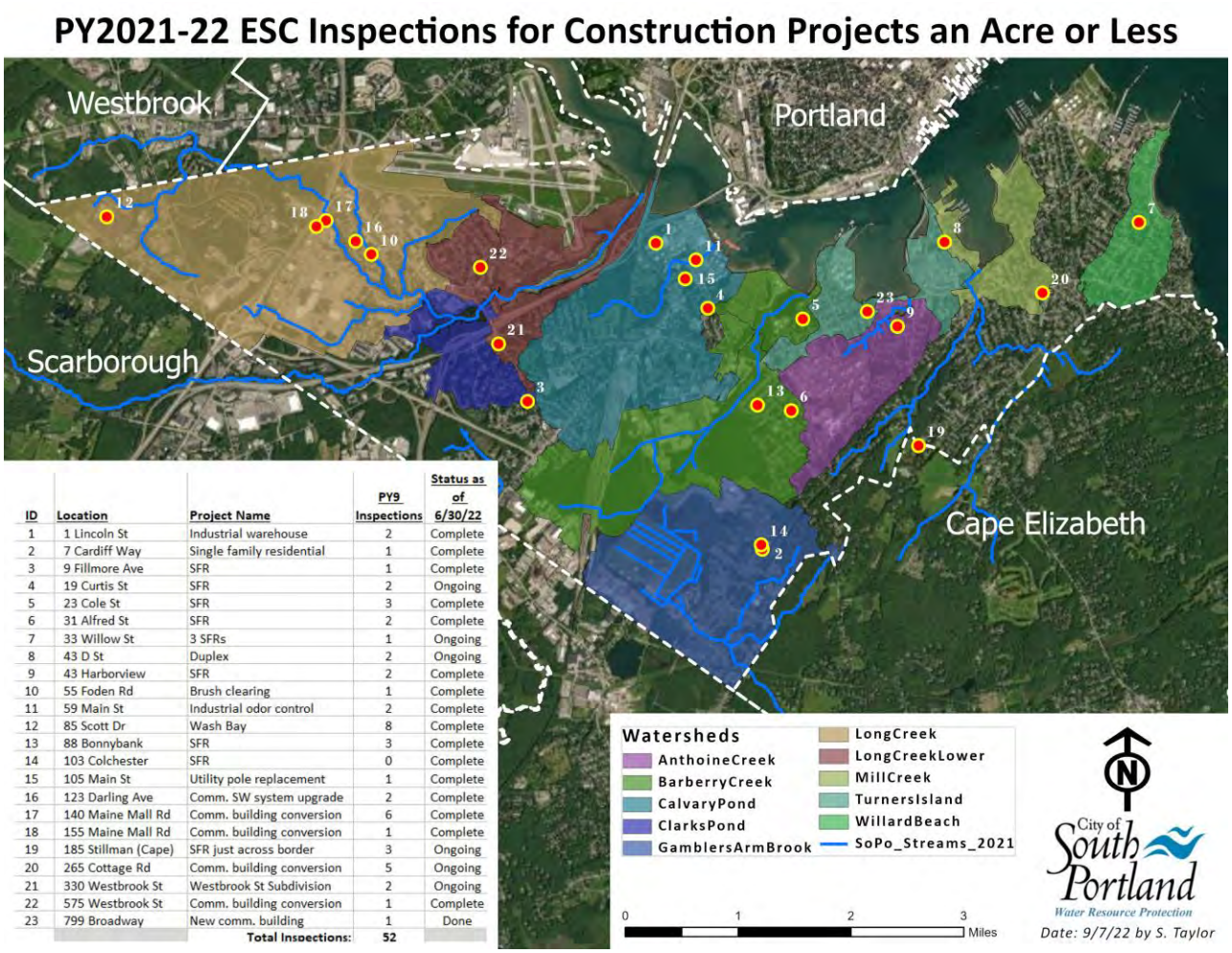
Urban Impaired Stream Watersheds

Figure 5: PY2021-22 ESC inspections for construction projects 1 acre or larger

The City and our 3PIs continued to use a comprehensive erosion & sedimentation control (ESC) inspection report form developed by ISWG and intended to comply with the MS4 General Permit, the MCGP and Chapter 500. To facilitate nearly real-time ESC report transmittal from 3PIs to City staff, we adapted this form for use with Fulcrum, a cloud-based data collection application. 3PIs can also simply submit completed ESC report forms via email provided this is done shortly after the inspections are completed (i.e., within 1 or 2 days). During PY2021-22 there were 16 active construction projects an acre or larger that were inspected 127 times by City-appointed inspectors and/or City staff. All sites were inspected on at least a monthly basis (Figure 5 above), which greatly exceeds minimum MS4 permit requirements.

In exceedance of MS4 permit requirements for construction site inspections and documentation, a City-appointed 3rd party inspector, City's Field Inspector and/or the Stormwater Program Coordinator also conducted 52 inspections for 23 construction projects that disturbed less than one acre (Figure 6). Most

inspections were recorded using the Fulcrum application for numerous single family residential projects, stormwater treatment system maintenance, utility work and several small commercial projects.



ID	Location	Project Name	PY9 Inspections	Status as of 6/30/22
1	1 Lincoln St	Industrial warehouse	2	Complete
2	7 Cardiff Way	Single family residential	1	Complete
3	9 Fillmore Ave	SFR	1	Complete
4	19 Curtis St	SFR	2	Ongoing
5	23 Cole St	SFR	3	Complete
6	31 Alfred St	SFR	2	Complete
7	33 Willow St	3 SFRs	1	Ongoing
8	43 D St	Duplex	2	Ongoing
9	43 Harborview	SFR	2	Complete
10	55 Foden Rd	Brush clearing	1	Complete
11	59 Main St	Industrial odor control	2	Complete
12	85 Scott Dr	Wash Bay	8	Complete
13	88 Bonnybank	SFR	3	Complete
14	103 Colchester	SFR	0	Complete
15	105 Main St	Utility pole replacement	1	Complete
16	123 Darling Ave	Comm. SW system upgrade	2	Complete
17	140 Maine Mall Rd	Comm. building conversion	6	Complete
18	155 Maine Mall Rd	Comm. building conversion	1	Complete
19	185 Stillman (Cape)	SFR just across border	3	Ongoing
20	265 Cottage Rd	Comm. building conversion	5	Ongoing
21	330 Westbrook St	Westbrook St Subdivision	2	Ongoing
22	575 Westbrook St	Comm. building conversion	1	Complete
23	799 Broadway	New comm. building	1	Done
		Total Inspections:	52	

Figure 6: PY2021-22 ESC inspections for construction projects less than 1 acre

BMP 4.4 – Continue Promotion of Certified Contractors in Erosion Control Practices

Responsible Party: Planning Dept.

Additional Party: Water Resource Protection Dept.

INTENT

To encourage contractors to receive MEDEP certification (or equivalent training) in erosion control practices as a means of reducing the amount of stormwater pollution into the City's water resources.

METHODOLOGY

Provide informational materials from the MEDEP's Nonpoint Source Training Center to contractors and developers as part of the project proposal and site plan review process.

MEASURABLE GOALS

- ***Measurable Goal 4.4.1*** – continue to encourage contractors to be certified in erosion and sediment control through the DEP Non-Point Source Training and Resource Center or its designee.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to provide information to contractors about the DEP's erosion and sediment control certification as part of the project proposal and site plan review process. We also provided the following information on our website encouraging the use of contractors certified by DEP in erosion and sediment control practices:

> *The City strongly encourages property owners and/or developers to use excavation contractors that have been certified by the Maine Department of Environmental Protection (MEDEP) in the proper use of erosion and sediment control (ESC) practices. State law requires excavation contractors working in the shoreland zone to have MEDEP's ESC certification.*

Minimum Control Measure 5 – Post-Construction Stormwater Management of Development and Redevelopment

The overall goals of this MCM are to develop and implement a program that addresses stormwater runoff from new development and redevelopment projects greater than or equal to one acre in size, including projects less than one acre that discharge to the MS4 and are part of a larger common plan of development or sale; implement local ordinance regulations to ensure the adequate long-term operation and maintenance and proper functioning of post-construction BMPs; and to annually document all related post-construction activities for inclusion the City's annual stormwater report.

BMP 5.1 Continue Implementation of Program to Address Stormwater Runoff from New Development and Redevelopment Projects

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To ensure that controls are in place to prevent or minimize water quality impacts from newly developed or redeveloped projects.

METHODOLOGY

Continue using City's Stormwater Management Performance Standards (Section 27-1536) to address post-construction stormwater runoff from new development and redevelopment projects greater than or equal to one acre in size, including projects less than one acre that discharge to the MS4 and are part of a larger common plan of development or sale.

MEASURABLE GOALS

- ***Measureable Goal 5.1.1*** – implement Stormwater Management Performance Standards to ensure installation of post-construction BMPs for applicable new development and redevelopment projects.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to implement the Stormwater Management Performance Standards (local ordinance Sec. 27-1536) to ensure that post-construction BMPs were being installed for applicable new development and redevelopment projects. Implementation of these standards occurs through the Planning Board application review process for all new development or redevelopment projects disturbing 15,000 square feet of land or for nonconforming lots of record. As such, the City's ordinance requirements exceed state standards which generally do not require stormwater management practices for projects disturbing less than 1 acre of land. Following the finalization of the LID requirements for the 2022 MS4 permit in November 2021, the City will be developing technical standards requiring LID strategies consistent with Appendix F in the Final MS4 General Permit Modification. We also continue to engage in discussions with the Long Creek Watershed Management District about an interlocal collaboration to develop stormwater treatment standards that will provide increased protections beyond those currently afforded by municipal ordinances in the watershed.

BMP 5.2 Continue Implementing Tracking Program for Post-Construction BMPs in Urbanized Area

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To ensure the adequate long-term operation and maintenance of post-construction stormwater BMPs for new development or redevelopment projects that disturb an acre or more (including projects less than 1 acre that are part of a larger common plan of development) and discharge to the City's MS4 system.

METHODOLOGY

Establish and implement a process to notify owners/operators of qualifying properties about annual inspection requirements for post-construction stormwater BMPs; establish and implement a tracking system to ensure that these systems are being inspected annually and properly maintained to ensure effective long-term operation.

MEASURABLE GOALS

- ***Measurable Goal 5.2.1*** – continue implementing tracking program for post-construction stormwater BMPs in the Urbanized Area to ensure completion and receipt of annual inspection certification reports from owner/operator of BMPs.
- ***Measurable Goal 5.2.2*** – conduct yearly evaluations of tracking program and modify if necessary.

Reporting*:* documentation of all BMPs and annual certifications will be entered into a database management system or other recordkeeping system for tracking and annual reporting to DEP. The following information will be included in the annual report:

  - Cumulative number of sites that have post construction BMPs discharging to City's MS4.
  - Summary of the number of sites that have post-construction BMPs discharging into the City's MS4 that were reported to municipality.
  - Number of sites with documented functioning post-construction BMPs.

- Number of sites that required routine maintenance or remedial action to ensure the post-construction BMP was functioning as intended.

ACTIONS COMPLETED DURING PERMIT YEAR

The City's tracking program for the annual post-construction stormwater BMP inspections in the Urbanized Area continued to document the submittal of certified 3rd party inspection reports for all qualifying properties (Figure 11). In addition to inspection requirements for new or redevelopment projects disturbing an acre or more as specified in the MS4 permit, the City's Stormwater Performance Standards (27-1536) also require stormwater BMPs and inspections for projects disturbing 15,000 square feet or more and occasionally for small non-conforming lots (~5,000 s.f.). Annual inspections must be completed (in most cases by City-approved 3rd parties) by 6/30 of each year and corresponding reports must be received by 7/15.

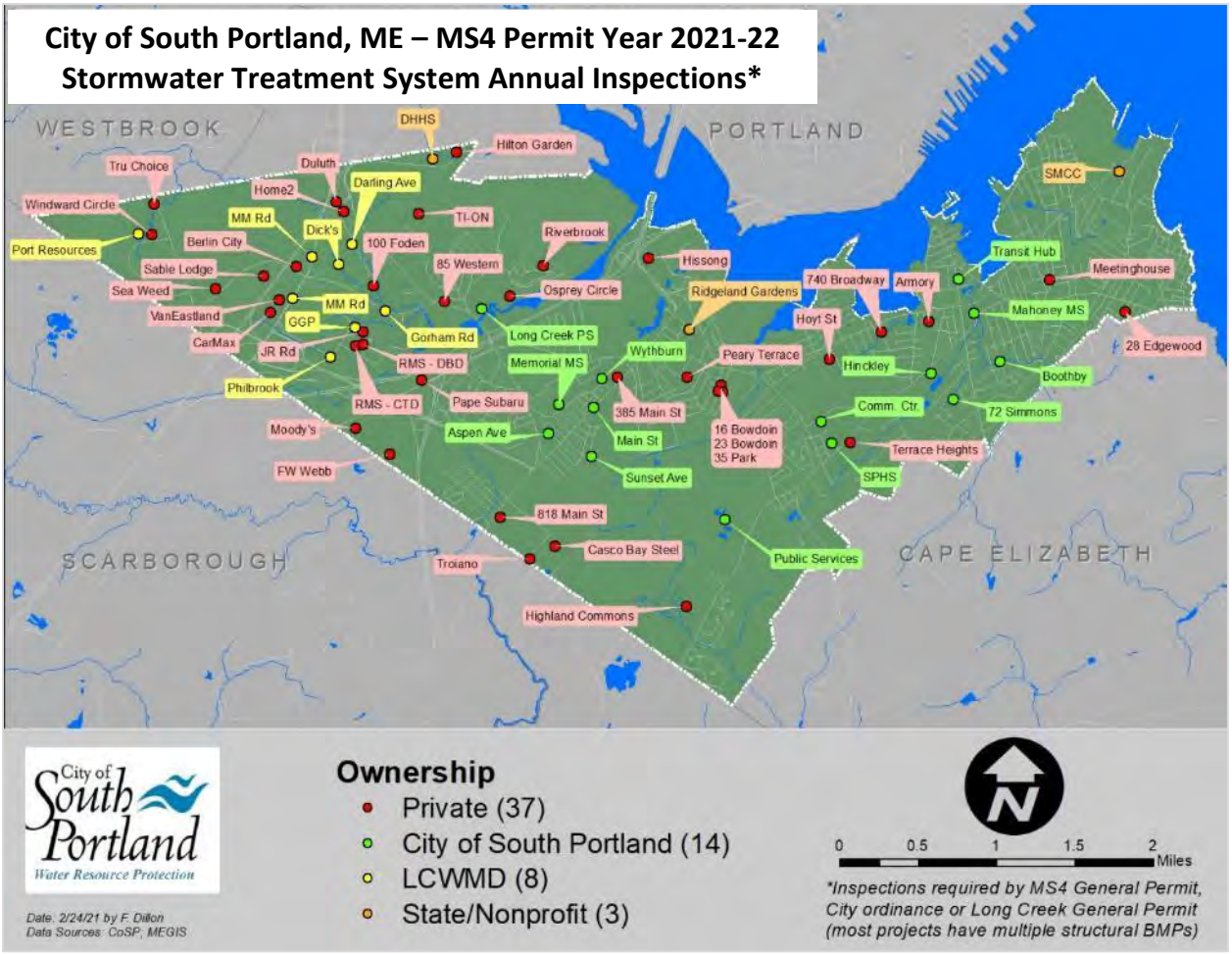


Figure 7: locations of qualifying post-construction structural stormwater BMPs in South Portland for PY2021-22

The City sent notification letters in early April 2022 to all qualifying property owners not participating in the Long Creek General Permit informing them of the annual post-construction BMP 3rd party inspection (3PI) requirements specified in the MS4 permit and City's ordinance. Nearly all stormwater treatment system inspection reports required by the MS4 permit were received by 8/15/21 (Table 4 below). Most 3PI reports received indicated that the systems were functioning as designed and intended or would be with minor

maintenance tasks. We will be sending certified letters informing the owners / operators of stormwater treatment systems requiring inspections by the City's ordinance or the MS4 General Permit to submit their reports as soon as possible. The City also requests inspection reports from the Long Creek Watershed Management District for stormwater systems covered under the Long Creek General Permit.

Table 3: PY2021-22 properties requiring post-construction inspections for stormwater treatment BMPs

INSPECTIONS (new PY2021-22)	Discharge to MS4	3PI Report Received	Working as Designed	Comments
Privately Owned				*Notification letters sent in early April 2022*
1 Industry Rd - Troiano Waste Services	Yes	Yes	Yes	7/13/22L received report with minor maint items noted
1 Lincoln St - Hissong	No	Yes	Yes	7/11/22: received 7/11/22 inspection report with maint items noted
1 Wallace Ave - Casco Bay Steel	Yes	Yes	Yes	7/14/22: received report with minor maint items noted
5 Foden Rd - Texas Instruments	Yes	Yes	Yes	6/26/22: received 5/16/22 report with minor maint items noted
9 Cole St - Pleasantdale Apartments	Yes	Yes	Yes	7/11/22: sent email reminder to DM Roma which confirmed inspection done and report pending; 8/4/22: received initial and follow up reports indicating completion of recommended maintenance items
16 Bowdoin Avenue	Yes	Yes	Yes	4/27/22: received 3/29/22 inspection report with maint tasks noted
20 Lydia Ln - Riverbrook Apartments	No	Yes	Yes	7/11/22: received report with no maint items noted
23 Bowdoin Avenue	Yes	Yes	Yes	4/27/22: received 3/29/22 inspection report with maint tasks noted
25 Preservation Ln - Terrace Heights Condos	Yes	Yes	Yes	5/4/22: received 3/23/22 report with minor maint recommended
25 Country Club Rd - Harbor Chase	Yes	Yes	Yes	7/6/22: received 6/25/22 report with no maint items identified
25R Brickhill Ave - Osprey Circle	No	No		6/29/22: sent reminder email; 8/4/22: emailed Sterling Stormwater on 3PI status; 9/7/22: sent email inquiry
28 Chris Toppi Dr - RMS Chris Toppi Drive	Yes	Yes	Yes	6/24/22: received 6/10/22 report with no maint. noted
28 Edgewood Rd*	No	Yes	Yes	6/18/22: received June 2022 self-inspection report with no maint noted
30 Donald Dean Dr - RMS Donald Dean Drive	Yes	Yes	Yes	6/24/22: received 6/10/22 report with no maint. noted
31 Hoyt St - Hoyt Street Apartments	Yes	Yes	Yes	7/6/22: received report for 5/17/22 inspection with minor maint items noted (bare areas needed revegetation)
33 Chris Toppi Dr - John Roberts Rd Office Park	No	Yes	Yes	6/30/22: inspection & maintenance reports received with no maint items noted (maint completed)
35 Park Avenue	Yes	Yes	Yes	4/27/22: received 3/29/22 inspection report with maint tasks noted
50 Maine Mall Rd - Home2 Suites by Hilton	Yes	Yes	Yes	6/30/22: received 5/12/22 inspection report with maint items noted (sediment removal and plantings)

50 Peary Terrace* - Military Museum	No	Yes	Yes	7/15/22: report received from owner
50 Postal Service Way - Moody's Collision Center	No	Yes	Yes	12/29/21: received 7/20/21 report with no maint recommended
52 Peary Terrace* - Lui	No	Yes	Yes	4/21/22: report/photos sent by owner.
54 Peary Terrace* - Morin	No	Yes	Yes	4/8/22: report/photos sent by owner.
55 Maine Mall Rd - Duluth Trading	Yes	Yes	Yes	6/13/22: received 5/6/22 report with maint items noted.
56 Peary Terrace* - Sullivan	No	No		
64 Southeast Rd* - Cadorette	No	Yes	Yes	4/9/22: owner sent self-inspection minor maint items noted
70 Southeast Rd* - Wright	No	Yes	Yes	5/4/22: no photos so not sure system is OK but most likely is
74 Running Hill Rd - Sable Lodge	No	Yes	Yes	6/30/22: received report for 5/10/22 inspection & 5/16/22 maint with more maint items noted
76 Southeast Rd* - Manley	No	No		
77 Gary Maietta Pk - Highland Commons	No	Yes	Yes	12/29/21: received 7/20/21 & 10/1/21 reports; no maint recommended
82 Southeast Rd* - Parker	No	No		
85 Western Ave - Western Avenue Crossing	Yes	Yes	No	7/14/22: received inspection report with major maint needed
100 Foden Rd - The Park at 100 Foden	Yes	Yes	Yes	4/28/22: received 3/29/22 inspection with minor maint items noted
145 Jetport Blvd - Hilton Garden Inn	Yes	Yes	Yes	6/13/22: received 4/28/22 report with maint items noted.
150 Postal Service Way - F.W. Webb	Yes	Yes	Yes	7/14/22: received report with minor maint items noted
180 Waterman Drive - Millcreek Plaza	No	Yes	Yes	5/4/22: received 3/28/22 report with no maint recommended
185 Running Hill Rd - Sea Weed	No	Yes	Yes	6/9/22: received 5/6/22 report with no maint. needed
255 Maine Mall Rd - Berlin City	Yes	Yes	Yes	7/6/22: received 6/22/23 inspection report with minor maint noted
312 Gannett Dr - Windward Circle Unit 8	Yes	Yes	Yes	7/15/22: received report with no maint items noted
332 Cummings Rd - Tru Choice Credit Union	No	No		7/11/22: sent reminder email; 8/4/22: emailed DM Roma on report status; 9/6/22: report to be sent pending maint completion
340 Main St - Trademark Federal Credit Union	Yes	Yes	Yes	12/17/21: received 10/1/21 inspection with minor maint items noted
341 Pine St - Meetinghouse Lofts	Yes	Yes	Yes	7/15/22: received report with minor maint items noted (fix bare areas)
363 Maine Mall Rd - VanEastland LLC	Yes	Yes	Yes	6/30/22: received 5/12/22 inspection report with minor maint items noted
385 Main St - Main Street Retail	Yes	Yes	Yes	6/24/22: received 6/9/22 inspection report with no maint noted
415 Maine Mall Rd - CarMax	Yes	Yes	Yes	7/6/22: received report for 5/19/22 & 6/14/22 inspections with minor maint items noted (flush #2 isolator rows)
682 Broadway - Armory	Yes	Yes	Yes	6/30/22: received 10/8/21 & 5/10/22 inspection reports with maint items noted (ressed bare areas; add more pea stone)

740 Broadway	No	Yes	Yes	6/28/22: received 6/7/22 report with minor maint noted (inspection missed UDSF)
818 Main St - Dunkin' Donuts	Yes	Yes	No	7/11/22: sent reminder email; 7/12: left VM with Plymouth Engineering; 7/15: Plymouth completed 3PI earlier this week; 8/4/22: email reminder on late report; 8/9/22: received report with maint items noted
2065 Broadway - Pape Subaru	Yes	Yes	No	7/11/22: received 5/6/22 inspection report with significant maint items noted (remove 18" sediment from CBs)
Carlisle Place	No	No		7/11/22: sent inquiry to Sebago Technics on repair/retrofit status; 7/26/22: STI confirms repairs planned for Aug-Sept
**Ordinance allows self-inspections for projects not requiring DEP SW permit*				
Publicly Owned**				
25 Wythburn Rd - Wythburn Gravel Wetland**	Yes	Yes	Yes	12/8/21 STI inspection with maint items noted
30 Broadway - SMCC Parking Lot	Yes	Yes	Yes	6/24/22: received 6/9/22 inspection report with no maint noted
44 Nutter Rd - Community Center Det. Pond**	Yes	Yes	No	12/7/21 STI inspection with major maint items noted
72 Simmons Rd Rain Garden**	Yes	Yes	Yes	11/17/21 STI inspection with minor maint items noted
101 Ridgeland Ave - Ridgeland Gardens	Yes	Yes	Yes	6/17/22: received 6/10/22 report with minor maint items noted
120 Wescott Rd - Memorial MS Gravel Wetland**	Yes	Yes	Yes	12/13/21 STI inspection with maint items noted related to MS upgrades
151 Jetport Blvd - DHHS Office Building	Yes	Yes	Yes	6/27/22: received 5/19/22 report with no major maint noted
160 Ocean St - Transit Hub / City Hall (7)**	Yes	Yes	Yes	11/17/21 & 12/8/21 STI inspections with minor maint noted
240 Ocean St - Mahoney Middle School**	Yes	Yes	Yes	11/17/21 STI inspection with no maint items noted
300 Highland Ave - Hinckley Park Rain Garden**	No	Yes	Yes	11/15/21 STI inspection with maint items noted
463 Westbrook St - Long Creek PS (3)**	No	Yes	No	11/15/21 STI inspection with maint items noted (esp. for bioretention cell)
637 Highland Ave - South Portland High School (7)**	Yes	Yes	Yes	12/7/22 & 12/13/22 STI inspections with maint noted
929 Highland Ave - Municipal Services Facilities (2)**	No	Yes	Yes	12/7/21 STI inspection with maint items noted
Aspen Ave Biofilter**	Yes	Yes	Yes	11/18/21 STI inspection with maint items noted
Boothy Ave StormTree**	No	Yes	Yes	11/17/21 STI inspection with maint items noted
Main St Biofilters (10)**	Yes	Yes	Yes	11/18/21 STI inspection with maint items noted
Sunset Ave Gravel Wetlands (2)**	No	Yes	No	12/8/21 STI inspection with maint items noted
***STI completed inspections for all City-owned stormwater treatment systems (parentheses indicate number of separate BMPs)*				
SUMMARY				
Yes:	40	60	54	
No:	26	6	6	*Inspection Completion Rate*
Totals:	**66**	**66**	**60**	*90.9%*

City staff also continued to use the Stormwater Treatment System Maintenance Manual to guide annual maintenance activities for all 39 City-owned stormwater treatment systems. Each system has a unique identifier and 2-page maintenance form that briefly describes the type of system (e.g., bioretention, gravel wetland, etc.), includes a maintenance checklist, location map, photo and schematic diagram.

BMP 5.3 Continue Implementing Procedures for Notifying Site Developers to Consider Incorporating Low Impact Development Techniques

Responsible Party: Planning Dept. *Additional Party: Water Resource Protection Dept.*

INTENT

To promote the use of LID practices for new development and redevelopment projects.

METHODOLOGY

Use Stormwater Management Performance Standards (Sec. 27-1536) to encourage the use of LID practices.

MEASURABLE GOALS

- ***Measurable Goal 5.3.1*** – as specified in the City's Stormwater Management Performance Standards (Sec. 27-1536), projects requiring a Chapter 500 stormwater permit will comply with the practices described in Maine DEP's Stormwater Management Manual, which include low impact development techniques.
- ***Measureable Goal 5.3.2*** – as specified in the City's Stormwater Management Performance Standards (Sec. 27-1536), projects not requiring a Chapter 500 stormwater permit but requiring a Post-Construction or Basic Stormwater Management Plan from the City will use LID practices as determined by the Planning Board to be appropriate for the site.
- ***Measureable Goal 5.3.3*** – as specified in the City's Stormwater Management Performance Standards (Sec. 27-1536), projects not requiring a Chapter 500 stormwater permit but requiring a Drainage Plan from the City are encouraged but not required to use LID practices appropriate for the type of development identified in the Maine DEP's Volume III – BMP Technical Design Manual or City's Stormwater Manual.

ACTIONS COMPLETED DURING PERMIT YEAR

We continued to rely on Stormwater Management Performance Standards (Sec. 27-1536) to encourage the use of LID practices. All new or redevelopment projects requiring Planning Board review are subject to these standards. As mentioned above, we also engaged in discussions with ISWG to develop LID strategies in compliance with Appendix F of the Final 2022 MS4 General Permit Modification.

Minimum Control Measure 6 – Pollution Prevention / Good Housekeeping for Municipal Operations

The City completed a variety of activities for the Pollution Prevention / Good Housekeeping for Municipal Operations Minimum Control Measure as described below. The overall goals of this MCM are to develop an inventory of all municipal operations that have the potential to generate stormwater pollution; conduct a

municipal employee training program; develop a sweeping program for all publicly owned streets and parking lots; develop a cleaning and maintenance program for all City-owned catch basins and other stormwater structures; evaluate and implement a prioritized schedule for maintaining and upgrading the City's stormwater system; and develop Stormwater Pollution Prevention Plans (SWPPPs) for all applicable municipal facilities and operations.

BMP 6.1 Continue to Maintain Inventory of Municipal Properties, Facilities & Activities for Implementation of Operation & Maintenance Plans

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To ensure the use of structural and non-structural controls at all applicable municipally owned or operated properties and facilities that will reduce stormwater pollution to the maximum extent practicable.

METHODOLOGY

Continue to maintain GIS-based inventory of all City properties with a list of associated municipal activities that have the potential to generate stormwater pollution and continue implementation of O&M procedures.

MEASURABLE GOALS

- ***Measurable Goal 6.1.1*** – continue maintaining and updating inventory of all municipal operations conducted in, on, or associated with facilities, buildings, golf courses, cemeteries, parks and open space owned or operated by the City that have the potential to cause or contribute to stormwater or surface water pollution.
- ***Measurable Goal 6.1.2*** – continue implementing written operation and maintenance (O&M) procedures that include maintenance schedules and inspection procedures to ensure long-term operation of structural and non-structural controls that reduce stormwater pollution to the maximum extent practicable for all areas of the City within the Urbanized Area. These procedures must address the following, as applicable:
    - Proper use, storage, and disposal of petroleum and non-petroleum products, hazardous materials, waste materials, pesticides and fertilizers, including minimizing the use of these products and an alternative product analysis;
    - Spill response and prevention;
    - Vehicle and equipment storage, maintenance, and fueling;
    - Amount and type(s) of deicing materials used each deicing season;
    - Landscaping and lawn care, including, where applicable, an evaluation of reduced mowing frequencies, establishing and maintaining buffers, and cutting vegetation within 100 feet of a stormwater conveyance or surface water;
    - Erosion and sedimentation control;
    - Feeding gulls, waterfowl or other wildlife.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued to maintain an inventory of City-owned properties subject to O&M procedures developed to reduce polluted stormwater runoff to the maximum extent practicable. South Portland's most recent cadastral records (from April 2020) identify 204 parcels that are owned by the City (Figure 13). Various municipal departments are responsible for maintaining these properties in accordance with the Operations & Maintenance Plans developed by the Interlocal Stormwater Working Group.

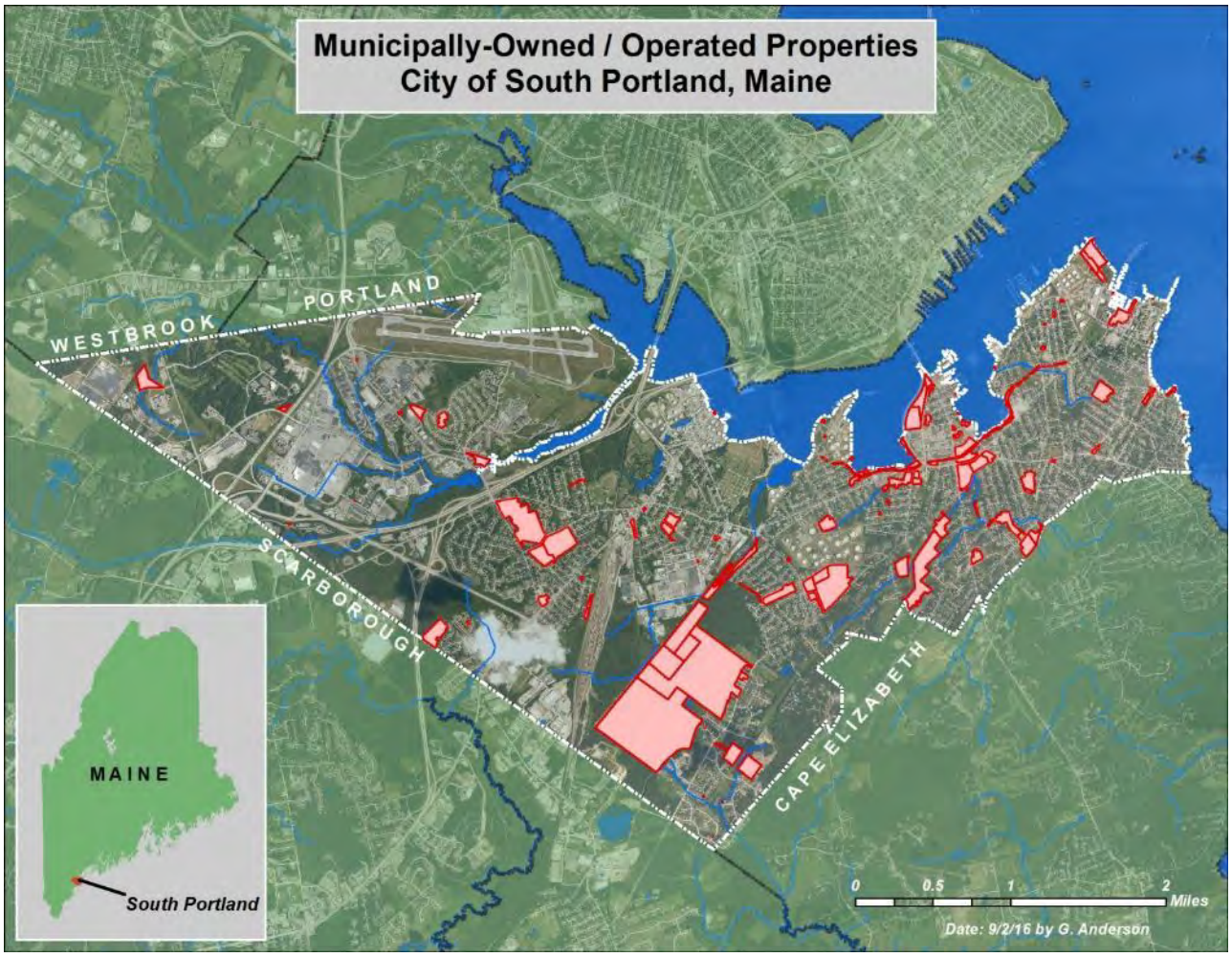


Figure 8: properties owned and operated by the City and subject to O&M plans to minimize / prevent polluted stormwater runoff

BMP 6.2 Continue Implementation of Municipal Employee Training Program

Responsible Party: Stormwater Program Coordinator *Additional Party: N/A*

INTENT

To provide employee training that will prevent or reduce stormwater pollution from municipal operations and facilities.

METHODOLOGY

Continue working independently and in partnership with the Interlocal Stormwater Working Group and

Maine DEP to provide municipal employees with relevant training for the prevention or reduction of stormwater pollution from municipal operations.

MEASURABLE GOALS

- ***Measurable Goal 6.2.1*** – continue to identify training needs and materials and revise / update as necessary.
- ***Measurable Goal 6.2.2*** - continue implementing municipal employee training program to reduce stormwater pollution potential from municipal operations. Topics to be covered by the training program may include, but not be limited to:
    - Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural stormwater controls to reduce pollutants discharged from the separate storm sewers.
    - Controls for reducing or eliminating the discharge of pollutants into the separate storm sewers from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, snow disposal areas, and waste transfer stations.
    - Procedures for disposing of waste removed from the separate storm sewers and areas listed above in accordance with all regulatory requirements (such as dredge spoil, accumulated sediments, floatables, and other debris).

ACTIONS COMPLETED DURING PERMIT YEAR

The Stormwater Program Coordinator provided all Pollution Prevention / Good Housekeeping training for PY2021-22. More City staff participated in these four training events than in any of the previous years since this permit requirement first went into effect in PY2010-11 (Figure 9). As with previous years, staff completed questionnaires before and after the training event to measure how well they understood the relevant topics presented.

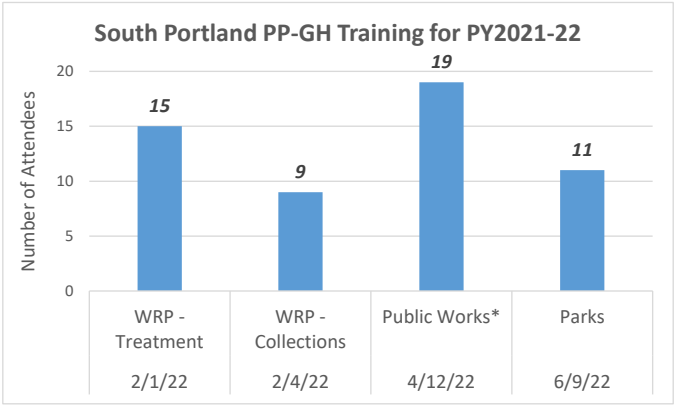


Figure 9: 54 City staff received PP-GH training for PY2021-22

BMP 6.3 Continue Implementation of Street Sweeping Program

Responsible Party: Public Works Dept.

Additional Party: Water Resource Protection Dept.

INTENT

To continue (and refine as needed) the City's ongoing pavement sweeping program for all municipally owned or operated streets and parking areas.

METHODOLOGY

Annually assess the effectiveness of the City's ongoing pavement sweeping program and refine as needed based on the latest research and available funding.

MEASURABLE GOALS

- ***Measurable Goal 6.3.1*** – continue or modify as needed the City's ongoing pavement sweeping program for all municipally owned or operated streets and parking areas and ensure that sweeping is conducted at least once a year as soon as possible after snowmelt.

ACTIONS COMPLETED DURING PERMIT YEAR

The City continued its ongoing sweeping program for all municipally owned or operated paved streets and parking areas. In the late fall of 2021 and early spring of 2022, we also continued to provide sweeping services to the Long Creek Watershed Management District in support of the ongoing restoration efforts there. We continued using regenerative air sweepers (Tymco 500X and Tymco 600), which are generally one of the most effective (and expensive) types of street sweeper for preventing pollutants attached to fine particles from entering local waterways. A portion of the City's streets were also swept using mechanical broom sweepers provided by a private contractor. While the Google Forms we have been using to track sweeping activities have been helpful, we are currently exploring other options for developing a cloud-based application to more closely account for location, labor allocation, fuel use and volume of grit swept across the entire City – potentially on a watershed basis.

BMP 6.4 Continue Cleaning of Stormwater Structures Including Catch Basins

Responsible Party: Water Resource Protection Dept. *Additional Party: N/A*

INTENT

To ensure that all municipally owned or operated stormwater structures and catch basins are properly functioning and maintained and that the materials removed from them are disposed of appropriately per applicable state law.

METHODOLOGY

Conduct annual cleaning activities for stormwater structures and catch basins to ensure their proper functioning and dispose of associated materials appropriately.

MEASURABLE GOALS

Measurable Goal 6.4.1 – continue or modify as needed the City's ongoing stormwater structure and catch basin cleaning program with cleaning frequencies determined by sediment accumulation rates. At a minimum, all stormwater structures and catch basins should be cleaned every other year. Stormwater structures and catch basins will be cleaned more frequently if inspections indicate excessive sediment accumulation (i.e., when the sump is greater than or equal to 50 percent filled).

ACTIONS COMPLETED DURING PERMIT YEAR

For calendar year 2022 (through early September), the City cleaned over 80% of our publicly-owned catch basins with sumps (2,218 basins as of 9/8/22). We continued using ArcGIS Online (AGOL) with iPads to track

data collection and removed approximately 277 tons of grit material. The total operational cost to complete this work was just under $49,000 and the average catch basin cleaning cost was approximately $21.95 (Table 5) – which compares very favorably with the private sector. We anticipate that virtually all publicly-owned catch basins will have been cleaned before the end of calendar year 2022.

Table 4: summary of 2022 catch basin cleaning activities and costs

Watershed	Total CBs	CBs Cleaned	Complete	Labor Hours	Labor Cost[1]	Fuel Use (Gallons)	Fuel Cost[2]	Grit Tons	Disposal Cost[3]	Grit Tons / CB	Ops. Cost	Ops. Cost/CB[4]
Anthoine Creek	165	125	76%	27.3	$935	37.6	$165	16.8	$638	0.13	$1,737	$13.90
Barberry Creek	195	149	76%	10.0	$343	15.0	$66	10.2	$386	0.07	$794	$5.33
Breakwater	293	289	99%	47.6	$1,630	63.2	$277	39.2	$1,491	0.14	$3,398	$11.76
Calvary Pond	443	343	77%	73.5	$2,517	91.0	$399	36.6	$1,390	0.11	$4,306	$12.55
Clarks Pond	111	80	72%	19.0	$651	35.5	$155	12.8	$487	0.16	$1,293	$16.16
Danforth Cove	19	19	100%	4.9	$168	4.2	$18	3.6	$136	0.19	$322	$16.94
Gamblers Arm Bk	227	131	58%	15.0	$514	17.0	$74	9.2	$348	0.07	$936	$7.15
Kimball Brook	48	45	94%	10.3	$353	14.5	$64	5.6	$212	0.12	$628	$13.96
Long Creek	244	244	100%	109.0	$8,105	208.0	$911	40.0	$1,521	0.16	$10,537	$43.19
Long Creek Lowe	96	53	55%	16.0	$548	28.0	$123	8.5	$324	0.16	$994	$18.76
Mill Creek	165	132	80%	26.0	$891	31.0	$136	14.0	$531	0.11	$1,558	$11.80
Nonesuch River	115	94	82%	17.0	$582	-	-	14.2	$538	0.15	$1,121	$11.92
Red Brook	27	0	0%	-	-	-	-	-	-	-	-	-
Trout Brook	136	136	100%	26.7	$914	47.7	$209	21.5	$818	0.16	$1,941	$14.27
Turners Island	305	265	87%	37.0	$1,267	39.1	$171	20.0	$761	0.08	$2,199	$8.30
Willard Beach	113	113	100%	30.6	$1,048	35.0	$153	25.7	$977	0.23	$2,178	$19.28
Totals/Averages:	**2702**	**2218**	**82%**	**470**	**$20,466**	**667**	**$2,921**	**277.82**	**$10,557**	**0.13**	**$33,944**	**$15.30**
Stetco Replacement Cost[5]:	**$9,250**									**Total CB Cleaning Cost:**		**$48,692**
Vac Truck Replacement Cost[6]:	**$5,498**			**Total Annual Replacement Cost:**			**$14,749**			**Cost/CB Cleaned:**		**$21.95**

NOTES *1. Stetco @ 34.25; Vac @ 74.36*
2. $4.38/gal
3. $50/yd (assuming 1.3 tons/yd)
4. Compares very favorably with private sector
5. Not used in Long Creek
6. Primarily used in Long Creek

BMP 6.5 Continue Maintenance and Upgrade of Stormwater Conveyances, Structures and Outfalls

Responsible Party: Water Resource Protection *Additional Party: N/A*

INTENT

To ensure that all municipally owned or operated stormwater conveyances and outfalls are properly functioning and maintained.

METHODOLOGY

Conduct ongoing annual inspection and maintenance program to identify condition of stormwater conveyances and outfalls and repair, replace or install new infrastructure as needed.

MEASURABLE GOALS

- ***Measurable Goal 6.5.1*** – continue repairing or upgrading MS4 system conveyances, structures, and outfalls through general maintenance, repairs and new construction, and as part of the combined sewer system separation program.
- ***Measurable Goal 6.5.2*** – continue to evaluate and implement a prioritized schedule, as necessary, for repairing or upgrading the conveyances, structures and outfalls of the its MS4.

ACTIONS COMPLETED DURING PERMIT YEAR

Our VUEWorks asset management program allows us to closely track investments in our piped infrastructure for routine maintenance and improvements. It also allows to summarize this data in a variety of ways, including by activity and maintenance types (e.g., whether what we did was for preventative, corrective or general maintenance). For PY2021-22, approximately 1,990 work orders were completed by the Collection Systems Division staff for a wide variety of tasks. Collectively, this work represents over $561,000 of investment to operate and maintain the City's sewer and stormwater systems. Investments for construction projects represented nearly $347,000 with the largest expenditures (~$168,000) dedicated to the stormwater system (Figure 10).

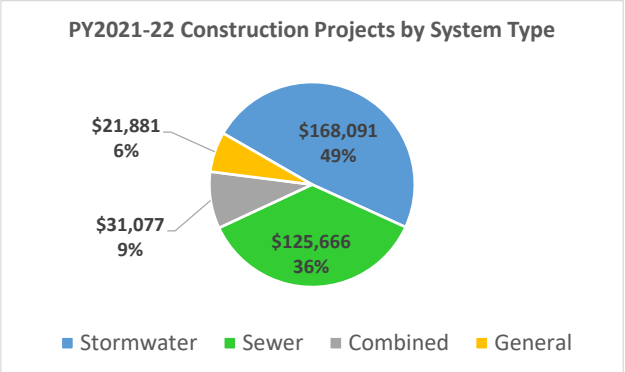


Figure 10: piped infrastructure investments for PY2021-22

VUEWorks also collects data on a variety of additional tasks, including catch basin cleaning, ditching, outfall inspections, spill response, televising to inspect pipe conditions, and traffic control, among many others. Consequently, this more comprehensive approach is not fully comparable with our previous tracking methods. The ultimate goal of the Asset Management Program is to track most (or all) of our activities in conjunction with an ongoing condition assessment of our infrastructure to provide a rational basis for optimizing operations & maintenance and capital improvement planning (i.e., short and long-term budgeting).

BMP 6.6 Continue Implementation of Stormwater Pollution Prevention Plans (SWPPPs)

Responsible Party: Stormwater Program Coordinator *Additional Party: Public Works & School Depts.*

INTENT

To ensure that all applicable municipal facilities (public works, transfer station, school bus maintenance garage) in the urbanized area have current Stormwater Pollution Prevention Plans (SWPPP) that are being implemented accordingly.

METHODOLOGY

Work with department heads and other relevant staff to ensure that SWPPPs are current being implemented as specified.

MEASURABLE GOALS

- ***Measurable Goal 6.6.1*** – continue implementing SWPPPs for public works facilities, transfer station and school bus maintenance facilities. Collaborate with DEP and ISWG on developing and implementing a training program for municipal facility staff informing them about the requirements of the SWPPP and how to implement it effectively. The managers for each facility will retain an up-to-date printed copy of the SWPPP on each site so affected employees can refer to it as needed.

ACTIONS COMPLETED DURING PERMIT YEAR

SWPPPs have been developed for the school bus maintenance garage, transfer station and public works facilities. The public works facilities are now housed in a Municipal Services Facility (MSF) that also includes operations for the Parks, City Bus and Fire Departments. As described for BMP 6.2 above, staff from numerous City departments attended municipal GH/PP trainings provided by the City's Stormwater Program Coordinator. All SWPPPs will be updated by 7/1/22 to comply with additional requirements in the 2022 MS4 General Permit.

Certification Statement

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, 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.

Fred Dillon – Stormwater Program Coordinator

9/15/22
Date

APPENDICES

Appendix 1: ISWG Permit Year 9 Summary of MCMs 1 & 2

The following is a summary of work facilitated by the Cumberland County Soil & Water Conservation District (District) on behalf of the Interlocal Stormwater Working Group (ISWG). The 2013 MEPDES MS4 Permit expired on June 30, 2018 but was administratively continued. Guidance from the Maine Department of Environmental Protection (Maine DEP) indicated that compliance may be maintained by implementing modified Permit Year 8 activities for "Permit Year 9" (PY9). The District submitted permit continuance plans for PY9 MCM 1 and MCM 2 tasks on 3/23/2021 via an email to Maine DEP and no written response from Maine DEP was received within 30 days' time. Per Plan Modification procedures, "if no response is received in writing by the Maine DEP within one month of the amended plan's submission, the ISWG will implement the amended plan".

This report includes a summary of all four education & outreach plans required under MCM 1 of the 2013 MEPDES MS4 Permit including the Stormwater Public Awareness Plan, the Targeted BMP Adoption Plan, the Municipal Permit Awareness Plan, and the Enhanced Outreach Plan. This report also includes a summary of the regional public event (Urban Runoff) in fulfillment of MCM 2 of the 2013 MEPDES MS4 Permit. Additional voluntary (not required by the permit) outreach activities are also included.

MCM1: Public Education and Outreach on Stormwater Impacts

Stormwater Public Awareness Plan

<table>
<tr><th>Task</th><th>Status</th><th>Details[1]</th></tr>
<tr><td>Summarize plan implementation to date</td><td>Complete</td><td>Plan goal: As a result of our efforts, at the end of this permit cycle, 50% of homeowners, aged 35-55, in the 30 regulated small MS4 municipalities will understand that water does run off their property, not all is absorbed, and it will carry with it pollutants, such as lawn chemicals, pet waste, and oil drops. This polluted water will enter the storm drain system and discharge, untreated, directly to water bodies used for drinking, fishing, and swimming.</td></tr>
<tr><td>Conduct online ad campaign for a minimum of 6 months</td><td>Complete</td><td>The District coordinated an online media campaign for the ISWG region through the placement of ads on Facebook. The Think Blue video PSA "Don't Fowl Our Waters" ran on Facebook from July 1, 2021 to September 30, 2021 and from April 1, 2022 to June 30, 2022. Ads were targeted to the identified awareness audience (homeowners, aged 35-55). The following data were obtained from Facebook's advertising metrics for the PSA video:
<table>
<tr><td></td><td>Fall Run of Ad</td><td>Spring Run of Ad</td></tr>
<tr><td>Reach[2]</td><td>12,942</td><td>7,466</td></tr>
<tr><td>Impressions[3]</td><td>72,773</td><td>37,241</td></tr>
<tr><td>Frequency[4]</td><td>5.62</td><td>4.99</td></tr>
</table></td></tr>
</table>

[1] CCSWCD maintains documentation for all MCM 1 & 2 activities detailed in this summary report.
[2] Reach is the number of people who saw the ad at least once.
[3] Impressions are the number of times the ad was on screen.
[4] Frequency is the average number of times each person saw the ad.

		Post Engagement[5]	6,571	3,245
		Video Plays at 50%[6]	686	337
		Link Clicks[7]	34	21
		Link Click-Through Rate[8]	0.05%	0.06%
		Additional Facebook ads were used in the ISWG region to highlight individual stormwater pollutants (chlorides and litter). The chlorides ad ran November 1, 2021 through March 31, 2022 and encouraged people to manually remove snow and ice with shovels, snow blowers, or plows instead of using sand and salt to remove snow and ice. The litter ad ran September 1, 2021 through October 31, 2021 and encouraged people to not use storm drains for trash disposal and to pick up litter. The following data were obtained from the Facebook advertising metrics for these ads:		
			Litter	**Chlorides**
		Reach	9,432	20,399
		Impressions	21, 712	73,670
		Frequency	2.30	3.61
		Post engagement	12	76
		Link Clicks	12	73
		Link Click-Through Rate	0.06%	0.1%
		Based on WordPress analytics, 2,166 people visited the Think Blue Maine website during PY9. These visit numbers reflect traffic being directed from AVSWG, ISWG, and SMSWG online ads. Traffic was highest when ISWG and SMSWG chloride ads were directing visitors to the website November through January.		
Promote and participate in local public event	Complete	*Urban Runoff 5k* *Promotion* ISWG community members assisted the District with the promotion of their public event, the Urban Runoff 5k, via social media, paid online ads, and direct email communication to participants. WMTW/CW Channel 8 developed a 15 second ad that ran on their station during April 2022. *Participation*		

[5] Post engagement is the total number of actions that people take involving the ad (reacting to, commenting, sharing, viewing a photo or video, or clicking on a link).
[6] Video play at 50% is the number of times the video was played at 50% of its length, including plays that skipped to this point.
[7] Link clicks are the number of clicks on a link within the ad that led to destinations on or off Facebook.
[8] Link click-through rate is the percentage of times people saw the ad and performed a link click.

		Staff from the ISWG municipalities participated in the in-person event on April 23 and/or in the virtual event during the month of April 2022. Please see the MCM2 summary for more details about the events.

Targeted Best Management Practices Adoption Plan

Task	Status	Details
Summarize plan implementation to date	Complete	Plan goal: As a result of our efforts, at the end of this permit cycle, 15% of college-educated homeowners, aged 35-55, residing in the urbanized area and/or the priority watershed within the ISWG communities and who currently apply fertilizers and pesticides to their lawns will reduce their use of lawn chemicals.

Point of Sale

Provide YardScaping information in a minimum of 21 Point of Sale locations in the ISWG communities	Complete	The ISWG YardScaping Point of Sale Program continued to be maintained at more than the 21 locations required. Twenty-four stores participated in PY9, including the four regional Home Depots. The distribution of the stores in PY9 is as follows:
		Biddeford: 1
		Cape Elizabeth: 0
		Cumberland: 1
		Falmouth: 3
		Freeport: 1
		Gorham: 2
		Old Orchard Beach: 0
		Portland: 2
		Saco: 1
		Scarborough: 1
		South Portland: 4
		Westbrook: 2
		Windham: 4
		Yarmouth: 2
Maintain Point of Sale program in Home	Complete	The ISWG YardScaping Point of Sale program continued to be maintained in the four Home Depot stores located in ISWG municipalities (Biddeford, Portland, South Portland, and Windham). Due to COVID-19, the fall educational events were not

Depot stores within ISWG communities		held but were held at Biddeford and Windham in the spring. Portland and South Portland Home Depot managers would not allow us to hold events in the spring.

Adult Education

Offer a minimum of seven YardScaping classes	Complete	The number of YardScaping educational events offered in the ISWG municipalities exceeded the minimum required in the Plan. In PY9, YardScaping events were provided as follows:
		Falmouth: 8/19/21, community workshop, 9 participants
		Westbrook: 8/25/21, community webinar, 4 participants
		Old Orchard Beach: 9/9/21, community hybrid workshop, 4 participants
		Portland: 9/23/21, community workshop, 11 participants
		Windham: 3/30/22, community hybrid workshop, 2 participants
		Yarmouth: 4/14/22, community hybrid workshop, 3 participants
		Webinar: 4/26/22, regional webinar, 5 participants
		South Portland: 4/9/22, Green Home & Energy Show, 8 participants
		Webinar: 5/19/22, Green & Healthy Maine, 10 participants, 13 views of recording
		Biddeford: 6/4/22, Home Depot outreach, 12 conversations
		Windham: 6/18/22, Home Depot outreach, 11 conversations
Promote adult education classes	Complete	Information on YardScaping classes was promoted using social media, email newsletters, and through regional partners.
Track behavior change	Complete	The District staff documented class evaluations and contacted past class participants to determine which YardScaping practices were implemented. Please see the summary of behavior change reported by participants of PY8 classes, as well as which practices the participants of PY9 classes intend to implement below.

Adult Education Behavior Change Tracking

During the fall of 2021, emails and phone calls were made to participants of YardScaping workshop classes held in the fall of 2020 and spring of 2021 to determine class participants' level of implementation of the YardScaping practices. Follow up emails and phone calls are made six months to one year after the class to allow participants a growing season to implement the recommended practices. Our follow up provided an anticipated rate of behavior change for the YardScaping practices that class participants intended to implement. Of the 34 class participants, 20 participants completed a survey upon completion of the class. Two-thirds of the surveyed class participants responded to the fall 2021 follow up emails and phone calls.

Follow up from Permit Year 8 Adult Education Classes			
Lawn Care Practice	**Plan to implement**	**Implemented Practice**	**% behavior change**
Set Mower to a height of 3"	6	3	50.0%

Leave grass clippings	4	1	25.0%
Sharpen mower blades	11	3	27.3%
Aerate	13	6	46.2%
Topdress	16	5	31.3%
Overseed	14	8	57.1%
Use low maintenance seed	17	9	52.9%
Outcompete weeds	18	2	11.1%
Get a soil test	14	2	14.3%
Use nitrogen-only fertilizer	16	1	6.3%
Use compost tea	14	2	14.3%

As part of follow up behavior change tracking, the District asked past participants about barriers to implementing YardScaping practices, if they did not adopt the practices as indicated on their post-class evaluation. The following were common responses:

- *Lack of time to implement practices*
- *Lack of access to equipment, supplies, and/or lawncare professionals*
- *Implementing practices in phases due to budget*

Some participants also noted that by implementing some of the recommended practices, they no longer needed to use other practices to address their lawncare issues.

A total of 38 people participated in the YardScaping adult education classes in PY9. Below are the results of the Permit Year 9 post-class evaluations completed by the YardScaping class participants.

Permit Year 9 Post-Class Evaluations			
Lawn Care Practice	**Plan to implement**	**Currently do not implement**	**% planning to implement**
Set Mower to a height of 3"	5	5	100.0%
Leave grass clippings	3	4	75.0%
Sharpen mower blades	13	13	100.0%
Aerate	19	21	90.5%
Topdress	16	21	76.2%
Overseed	14	16	87.5%
Use low maintenance seed	15	18	83.3%
Outcompete weeds	18	23	78.3%
Get a soil test	16	18	88.9%

Use nitrogen-only fertilizer	14	20	70.0%
Use compost tea	13	21	61.9%

Targeted Information Distribution

<table>
<tr>
<td>Provide outreach to residents of one targeted neighborhood per ISWG community</td>
<td>Complete</td>
<td>ISWG used online Facebook ads directed at the target audience for behavior change (college educated homeowners, aged 35-55) in each of the ISWG impaired watersheds. The ads discussed lawncare product impacts in watersheds, provided a YardScaping tip, and directed people to upcoming YardScaping workshops.

The following data were selected from Facebook's advertising metrics:
<table>
<tr><th>Watershed</th><th>Reach</th><th>Impressions</th><th>Frequency</th><th>Post Engagement</th><th>Link Clicks</th><th>Link Click-Through Rate</th></tr>
<tr><td>What's a Watershed?[9]</td><td>6,638</td><td>14,246</td><td>2.15</td><td>225</td><td>5</td><td>0.04%</td></tr>
<tr><td>Brickyard Hollow (Yarmouth)</td><td>1,172</td><td>2,078</td><td>1.77</td><td>70</td><td>3</td><td>0.14%</td></tr>
<tr><td>Capisic Brook (Portland)</td><td>2,054</td><td>2,927</td><td>1.43</td><td>73</td><td>4</td><td>0.14%</td></tr>
<tr><td>Concord Gully Brook (Freeport)</td><td>1,013</td><td>2,142</td><td>2.11</td><td>123</td><td>4</td><td>0.19%</td></tr>
<tr><td>East Brach Piscataqua River (Cumberland)</td><td>1,541</td><td>2,572</td><td>1.67</td><td>59</td><td>4</td><td>0.16%</td></tr>
<tr><td>Goosefare Brook (Old Orchard Beach & Saco)</td><td>1,626</td><td>2,734</td><td>1.68</td><td>87</td><td>2</td><td>0.07%</td></tr>
<tr><td>Mill Brook (Westbrook)</td><td>2,053</td><td>2,705</td><td>1.32</td><td>63</td><td>1</td><td>0.04%</td></tr>
<tr><td>Mill Creek (Falmouth)</td><td>1,236</td><td>2,112</td><td>1.71</td><td>49</td><td>2</td><td>0.09%</td></tr>
</table>
</td>
</tr>
</table>

[9] This ad was targeted to all of the ISWG communities through the Think Blue Maine Facebook page during its run time (March 16, 2022 through April 27, 2022).

		Pleasant River (Windham)	1,827	2,752	1.51	62	3	0.11%
		Red Brook (Scarborough)	1,606	2,413	1.50	38	0	0%
		Tannery Brook (Gorham & USM)	2,042	2,859	1.40	78	3	0.10%
		Thatcher Brook (Biddeford)	1,388	2,243	1.62	67	3	0.13%
		Trout Brook (Cape Elizabeth & South Portland)	1,926	2,864	1.49	67	5	0.17%

Websites & Free Media

Maintain and monitor the District YardScaping webpage	Complete	The YardScaping page on the District's website is up to date with partner stores and updated fact sheets. YardScaping event information is posted on both the District's website and Facebook page.
Newspaper coverage related to YardScaping activities and healthy lawn care	Complete	*Portland Press Herald:* Lobster shells promote healthy gardens (August 2, 2021)
		Portland Press Herald: Town of Scarborough thanked for ban of synthetic pesticides and herbicides (August 6, 2021)
		Portland Press Herald: Honoring 10 years of pesticide-free parks in Scarborough (August 13, 2021)
		The Times Record: Gardening when it's dry: prep soil, select plants wisely (September 14, 2021)
		South Portland Sentry: Pope Preserve project possible with volunteers and donors (September 23, 2021)
		Scarborough Leader: Transitioning to organic lawn care part-fall (September 24, 2021)
		Portland Press Herald: Falmouth to test its waters for pesticides, fertilizers for the first time (November 30, 2021)
		Portland Press Herald: Water Wise: How to channel it during downpours and save it for a sunny day (April 3, 2022)
		The Times Record: Plant native species, practice benign neglect (April 26, 2022)
		South Portland Sentry: A healthy lawn starts with soil (April 27, 2022)
		Portland Press Herald: Our view: With No Mow May, you can help the planet by doing nothing (April 28, 2022)
		Scarborough Leader: Spring tips for transitioning to organic lawn care (June 16, 2022)
		The Times Record: How gardeners can control pests and also protect pollinators (June 21, 2022)
		The Times Record: Embracing native plants doesn't have to be all or nothing (June 27, 2022)

Municipal Permit Awareness Plan

Municipalities may have conducted additional outreach outside of the efforts tracked through the ISWG Municipal Permit Awareness Plan.

Task	Status	Details
Summarize plan implementation to date	Complete	Plan goal: As a result of our efforts, at the end of this permit cycle, municipal councilors, managers, and directors of Planning, Public Works, and Parks & Recreation (or equivalent) departments in the ISWG communities will understand that they are subject to a Maine Pollutant Discharge Elimination System (MPDES) permit and will understand the requirements under that permit. They will also gain an understanding of stormwater pollution, how their municipal operations may contribute to stormwater pollution, and steps that can be taken to reduce stormwater pollution.

Materials Development

Develop permit awareness materials	Complete	Fact sheets developed in PY2 were updated for ISWG municipalities as needed in PY9. These fact sheets were provided to incoming municipal staff and elected officials in ISWG municipalities.

Targeted Outreach

Provide updated information on MS4 permit compliance to all ISWG municipal officials — Complete

The District provided updated information on MS4 compliance to ISWG municipal officials in PY9. These presentations discussed the permit timeline, changes in the new permit, and impacts these changes may have regarding ordinances, staffing, and budgets. The District and Maine Municipal Association Permit Update Presentation was recorded and shared with additional officials not tracked below. YouTube analytics tracked 24 views.

Municipality	GPCOG Monthly Municipal Managers Meeting August 10, 2021 (0.5 hour)	District and MMA Permit Update Presentations February 2, 2022 @5:30 PM & 7:00 PM (1 hour each)
Biddeford	0	7
Cape Elizabeth	1	1
Cumberland	1	0
Falmouth	1	0
Freeport	0	0
Gorham	1	5

		Old Orchard Beach	1	4
		Portland	0	2
		Saco	0	3
		Scarborough	0	15
		South Portland	0	7
		Westbrook	0	0
		Windham	1	7
		Yarmouth	1	0

General Outreach

<table>
<tr><td rowspan="3">ISWG representatives meet with newly elected officials to introduce the municipal stormwater program</td><td rowspan="3">Complete</td><td colspan="4">ISWG representatives provided newly elected municipal officials with information regarding the municipal stormwater program. Due to COVID-19, some ISWG representatives provided their presentation materials to their new municipal officials through a virtual meeting, call, or email.</td></tr>
<tr><td>Number of Newly Elected Officials:</td><td>Swear-in Date:</td><td>Date Stormwater Program Information was Shared:</td><td>Notes</td></tr>
<tr><td>1</td><td>Dec. 2021</td><td>Feb. 2022</td><td>Former South Portland City Clerk; former South Portland Mayor / Councilor</td></tr>
<tr><td colspan="6">Municipalities may have conducted additional outreach outside of the efforts tracked through the ISWG Municipal Permit Awareness Plan.</td></tr>
<tr><td rowspan="6">Provide outreach through a minimum of one partner organization</td><td rowspan="6">Complete</td><td rowspan="6">Casco Bay Coastal Academy

ISWG/District partnered with the Casco Bay Estuary Partnership, Greater Portland Council of Governments, and New England Environmental Finance Center to provide quarterly stormwater related trainings to municipal boards, commissions, and councils through the Casco Bay Coastal Academy.</td><td colspan="3">Number of Members Participating</td></tr>
<tr><td>Municipality</td><td>Community Intertidal Data Portal 10/28/21

(1.5 hours)</td><td>Conservation Citizen Science 6/7/22 (1.5 hours)</td></tr>
<tr><td>Biddeford</td><td>1</td><td>0</td></tr>
<tr><td>Cape Elizabeth</td><td>1</td><td>1</td></tr>
<tr><td>Cumberland</td><td>3</td><td>0</td></tr>
<tr><td>Falmouth</td><td>2</td><td>0</td></tr>
</table>

			Freeport	0	0
			Gorham	0	1
			Old Orchard Beach	1	0
			Portland	1	0
			Saco	0	0
			Scarborough	0	0
			South Portland	0	0
			SMCC	0	0
			USM	0	0
			Westbrook	0	0
			Windham	0	0
			Yarmouth	0	0
		IDDE Workshops Integrated Environmental Engineering, GZA, and the District presented workshops to help prepare permittees with upcoming IDDE requirements. One workshop focused on project management, budgeting, and supplies, while the other training took place at an outfall to demonstrate field sampling procedures.	**Municipality**	**February 17, 2022 (2 hours)**	**March 31, 2022 (2 hours)**
			Biddeford	2	2
			Cape Elizabeth	1	3
			Cumberland	0	0
			Falmouth	1	2
			Freeport	1	1
			Gorham	1	1
			Old Orchard Beach	1	1
			Portland	2	5
			Saco	2	1
			Scarborough	1	2
			South Portland	1	5
			SMCC	1	0
			USM	2	1

<table>
<tr><td></td><td></td><td></td><td>Westbrook</td><td>2</td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>Windham</td><td>1</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>Yarmouth</td><td>1</td><td>5</td></tr>
<tr><td></td><td></td><td>POOllution Prevention Pilot Surveys</td><td colspan="3">The District and the New England Environmental Finance Center hosted two summer Bates College student interns to survey local trails and parks for improper dog waste disposal in preparation of the 2022 permit requirements during July and August 2021. The pilot project concluded with site specific and regional trends identified to help guide education and outreach efforts in the new permit.</td></tr>
<tr><td rowspan="16">Provide regional Good Housekeeping Pollution Prevention Training</td><td rowspan="16">Complete</td><td rowspan="15">Municipal staff were provided the option of using the PY7 or PY8 recorded trainings for their PY9 GHPP training. YouTube analytics tracked 20 additional views of the recorded Westbrook (PY7) training since PY8.

YouTube analytics tracked 97 additional views of the recorded Portland (PY8) training since PY8.

Note: Some municipalities did not attend this training because they chose to provide their own in-house training.</td><td>Municipality</td><td colspan="2">Staff Participation</td></tr>
<tr><td>Biddeford</td><td colspan="2">53</td></tr>
<tr><td>Cape Elizabeth</td><td colspan="2">0</td></tr>
<tr><td>Cumberland</td><td colspan="2">0</td></tr>
<tr><td>Falmouth</td><td colspan="2">0</td></tr>
<tr><td>Freeport</td><td colspan="2">0</td></tr>
<tr><td>Gorham</td><td colspan="2">0</td></tr>
<tr><td>Old Orchard Beach</td><td colspan="2">0</td></tr>
<tr><td>Portland</td><td colspan="2">11</td></tr>
<tr><td>Saco</td><td colspan="2">0</td></tr>
<tr><td>Scarborough</td><td colspan="2">0</td></tr>
<tr><td>South Portland</td><td colspan="2">41</td></tr>
<tr><td>SMCC</td><td colspan="2">0</td></tr>
<tr><td>USM</td><td colspan="2">0</td></tr>
<tr><td>Westbrook</td><td colspan="2">0</td></tr>
<tr><td>Windham</td><td colspan="2">0</td></tr>
<tr><td>Yarmouth</td><td colspan="2">0</td></tr>
<tr><td colspan="4">Evaluation of Good Housekeeping Pollution Prevention Training:
An online quiz assessing attendees' understanding of stormwater issues was given before and after the training. The quiz contains the same 10 questions for before and after the training. Fewer wrong answers given after the training indicates the level of effectiveness of the messages.</td></tr>
</table>

<table>
<tr><td></td><td></td><td colspan="3">All but two questions with incorrect responses had an increase in correct answers between the pre-training quiz and the post-training quiz. The questions that saw a decrease in correct answers were “True or False: Snowmelt doesn’t count as stormwater runoff since it happens long after the storm” (five wrong after training) and “True or False: Floor drains should be connected to storm drains or flow outside” (four wrong after training).</td></tr>
<tr><td>Provide specialized continuing education training to relevant member staff on a stormwater related topic.</td><td>Complete</td><td>The District held an online municipal staff training on June 16, 2022 for two hours. Training topics included: BMP options for reducing lawn and increasing other vegetation such as vegetative buffers, rain gardens, pollinator gardens, edible landscaping, and other landscaping options on residential, commercial, and municipal properties. Attending municipal staff were also able to provide feedback on the training before it is presented to their communities.</td><td>Municipality</td><td>Attendance</td></tr>
<tr><td></td><td></td><td></td><td>Biddeford</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>Cape Elizabeth</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>Cumberland</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>Falmouth</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>Freeport</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>Gorham</td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>Old Orchard Beach</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>Portland</td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>Saco</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>Scarborough</td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>South Portland</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>SMCC</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>USM</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>Westbrook</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td>Windham</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>Yarmouth</td><td>1</td></tr>
</table>

Evaluation

Conduct annual survey of ISWG municipalities to gauge awareness	Complete	The survey was administered to ISWG representatives in PY9. A summary of survey responses is provided at the end of this report.

Enhanced Outreach Plan

<table>
<tr><th>Task</th><th>Status</th><th>Details</th></tr>
<tr><td>Summarize plan implementation to date</td><td>Complete</td><td>Plan goal: Raise awareness of new coal tar legislation to consumers.</td></tr>
<tr><td>Conduct online ad campaign</td><td>Complete</td><td>ISWG used three 30-day Facebook ads directed at three audiences: residents in the ISWG region, commercial property managers and contractors in the ISWG region, and the public in the ISWG region. The ads discussed pavement sealing tips and directed people to Think Blue Maine for more information.

The following data were selected from Facebook's advertising metrics:
<table>
<tr><th>Topic</th><th>Reach</th><th>Impressions</th><th>Frequency</th><th>Post Engagement</th><th>Link Clicks</th><th>Link Click-Through Rate</th></tr>
<tr><td>Resident</td><td>10,289</td><td>18,319</td><td>1.78</td><td>27</td><td>26</td><td>0.14</td></tr>
<tr><td>Commercial</td><td>9,272</td><td>16,375</td><td>1.77</td><td>18</td><td>18</td><td>0.11</td></tr>
<tr><td>Spot the Difference</td><td>9,804</td><td>16,864</td><td>1.72</td><td>25</td><td>25</td><td>0.15</td></tr>
</table>
</td></tr>
<tr><td>Provide information to raise awareness regarding the new law, the impacts of coal tar, and alternative methods and products on the Think Blue Maine website</td><td>Complete</td><td>Factsheets on coal-tar sealant impacts and pavement maintenance methods are posted on the Think Blue Maine website, additional information and edits will be made as needed when the law goes into effect.</td></tr>
<tr><td>Additional Coal Tar Efforts</td><td>Complete</td><td>While not required by the permit, the District also provided technical assistance to property managers about coal tar sealants and alternative products. The District also provided educational information to the Town of Yarmouth in their ordinance passage of a coal tar sealant ban, effective February 22, 2022.</td></tr>
</table>

Additional Outreach Activities not identified in the Permit or Outreach Plans

Maine Water Environment Association (MEWEA)

ISWG/District continues to serve on MEWEA's Stormwater Committee, attend meetings, and assist with the Committee's technical and outreach efforts. ISWG outreach materials are being used as a basis to educate MEWEA's membership about stormwater.

ISWG Youth Education

Although not a permit requirement, ISWG provides funding to deliver clean water education to K-12 students in each municipality. District staff provide the education on behalf of ISWG member communities. The City of Portland also supports additional stormwater education efforts in Portland schools through their *Greener Neighborhoods Cleaner*

Streams program. The District also provides lessons on behalf of the Portland Water District and Yarmouth Water District. A summary of students reached, contact hours, and topics covered is provided below.

Educator contact information

Ali Clift, Education & Outreach Coordinator, aclift@cumberlandswcd.org, 207-892-4700

Jenna Martyn-Fisher, Educator & Technical Specialist, jfisher@cumberlandswcd.org, 207-892-4700

Total Students	Total Contact Hours
1,631	4,405

Municipality	Total Students	Total Contact Hours	School(s)	Lesson Topics
Biddeford	15	45	Biddeford High School	Water quality testing
Cape Elizabeth[10]	101	404	Cape Elizabeth Middle School	Water cycle, water movement, water quality, watersheds, best management practices, human impact, stewardship, brook trout life cycle and habitat
Cumberland	145	145	Cumberland Elementary School	Pesticide impacts, pollinators, native plants
Falmouth	No lessons were able to be delivered to Falmouth schools this year.			
Freeport	72	72	Freeport Middle School	Macroinvertebrates, water quality
Gorham	90	90	Gorham Middle School	Brook trout life cycle and habitat
Old Orchard Beach	50	200	Loranger Memorial School	Brook trout life cycle and habitat, watersheds, macroinvertebrates, water quality, human impacts
Portland[11]	529	2,053	Deering High School, King Middle School, Lincoln Middle School, Longfellow Middle School, Rowe School, Talbot Community School	Macroinvertebrates, water quality, human impacts, brook trout life cycle and habitat, pesticide impacts, pollinators, local foods, climate change, soil nutrients, erosion, stormwater pollutants, rain gardens, lawn care practices, invasive forest pests, invasive plants, native plants
Saco	135	135	Saco Middle School	Water cycle, water movement
Scarborough[12]	196	784	Scarborough Middle School	Water cycle, water movement, water quality, watersheds, best management practices, human impact, stewardship
South Portland	95	190	Mahoney Middle School	Macroinvertebrates, water quality, human impacts, brook trout habitat

[10] Additional funding for these lessons was provided by Portland Water District.

[11] Additional funding for these lessons was provided by the City of Portland's Greener Neighborhoods Cleaner Streams program.

[12] Additional funding for these lessons was provided by Portland Water District.

Westbrook	No lessons were able to be delivered to Westbrook schools this year.			
Windham	84	168	Windham Middle School	Macroinvertebrates, water quality, invasive plants
Yarmouth[13]	119	119	Frank H. Harrison Middle School	Groundwater, water movement, water pollutants, human impact

MCM2: Public Involvement and Participation

Urban Runoff

ISWG supported, promoted, and participated in the Urban Runoff 5k, a community event that promotes clean water and raises awareness of water pollution. In addition to raising awareness, funds raised from the Urban Runoff help support in-school youth education programs in Cumberland and parts of York Counties. The Urban Runoff 5k was held virtually from April 1 through April 30, 2022 and in person on April 23, 2022 in South Portland. The race served as the Public Involvement and Participation event for all ISWG communities. Participation by each ISWG municipality is summarized in the table below, with municipal staff choosing to complete the 5k virtually or in person or by volunteering for the in-person event.

Despite the pandemic, over 260 runners and walkers registered for the race. Many local businesses supported the race through sponsorships, in-kind donations, and employee participation as race participants. Local media outlets advertised the events, including the donation of tv advertisement by Channel 8 WMTW/CW who developed and ran a 15-second ad promoting the event. Clean water messages were included on the event website, social media, emails, paid online advertising, and other marketing tools to reach community members, registered participants, and sponsors. Virtual participants submitted photos of their completed Stormwater Hero Bingo cards, sights (including stormwater BMPs) they saw along their route, and their route course designs through social media and email.

Summary of ISWG Involvement in the 2022 Urban Runoff

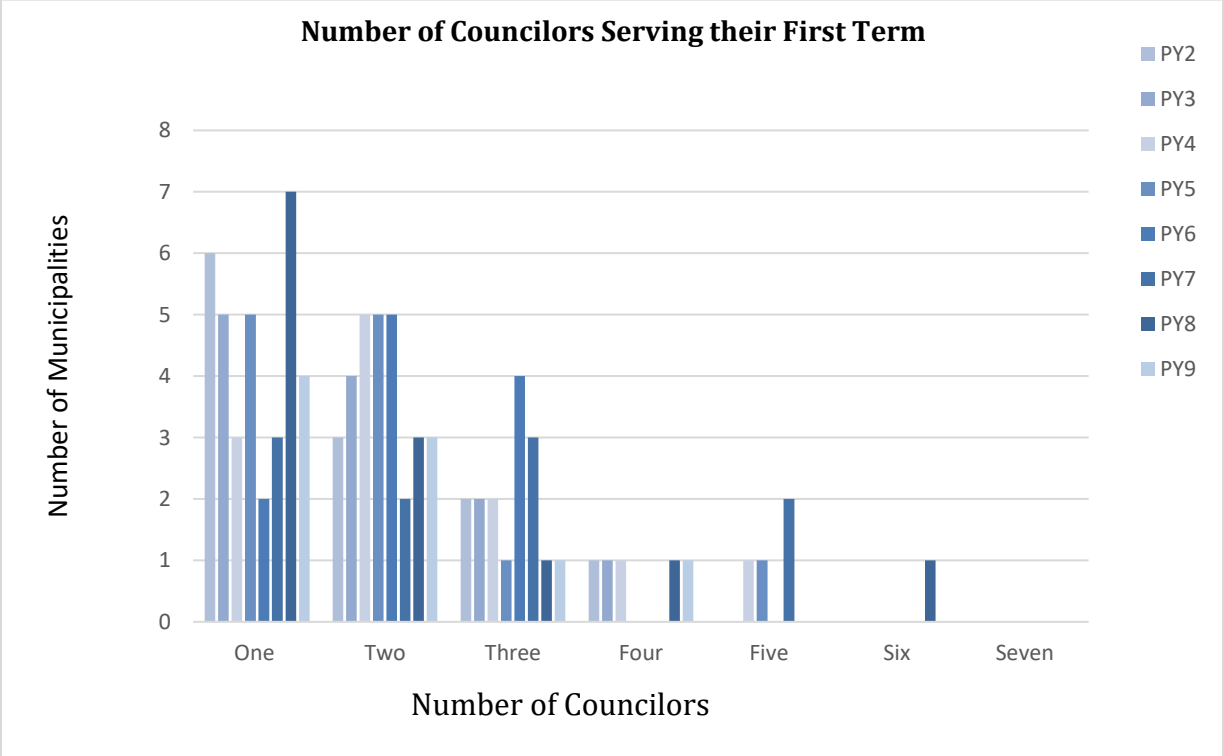
	Race Participants	Municipal Team Members	Additional Contribution
Biddeford		1	
Cape Elizabeth	4	2	
Cumberland	24	12	Provided virtual racecourse
Falmouth	15	3	
Freeport	3		
Gorham	8	2	Provided virtual racecourse
Old Orchard Beach	3	2	
Portland	42	4	Provided virtual racecourse

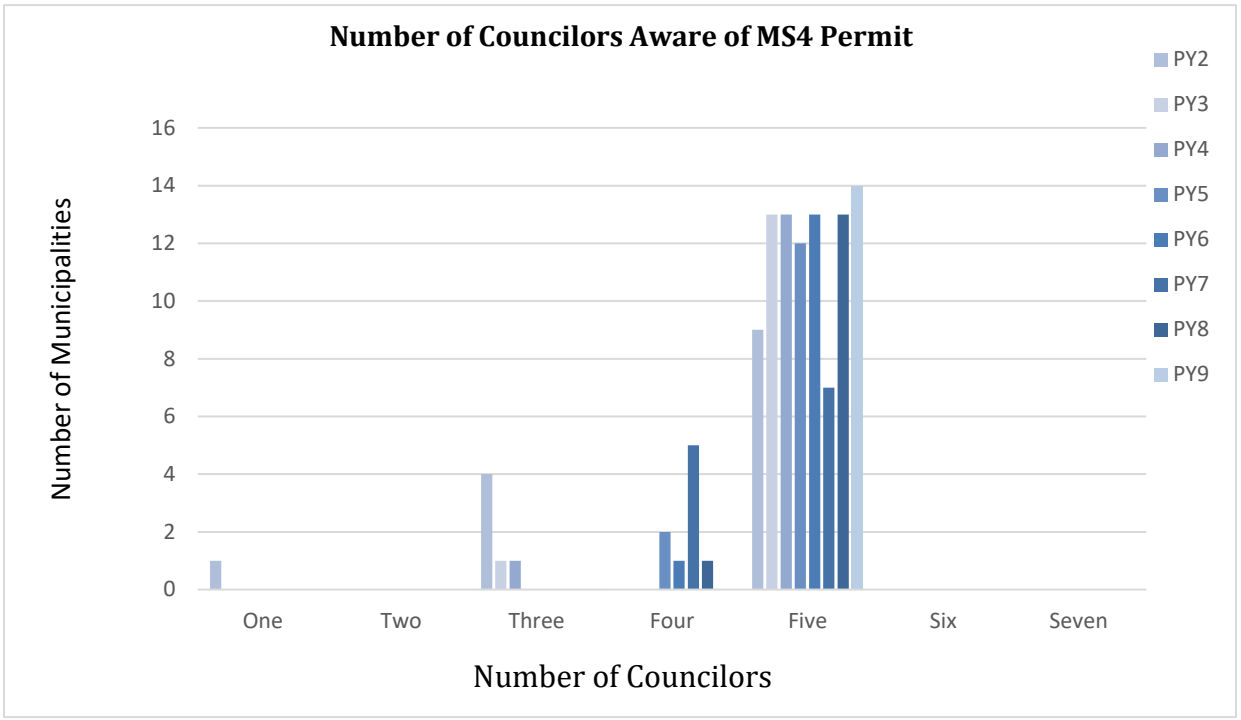
[13] Additional funding for these lessons was provided by Yarmouth Water District.

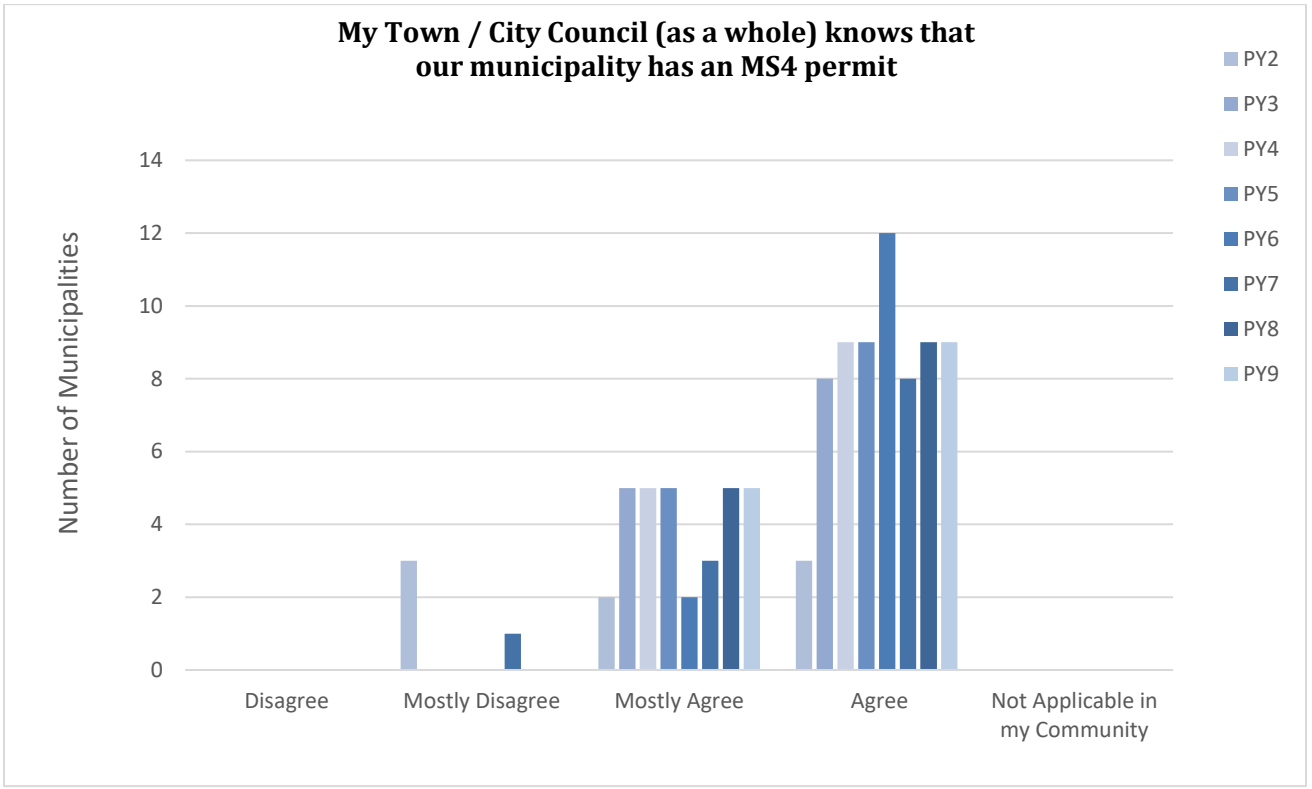
Saco	6	8	Provided virtual racecourse
Scarborough	18	12	Provided virtual racecourse
South Portland	22	2	$500 Splash Sponsorship, Provided virtual & in person racecourse
SMCC	n/a	3	Provided virtual & in person racecourse
USM	n/a	2	
Westbrook	14	2	Provided virtual racecourse
Windham	20	2	Provided virtual racecourse
Yarmouth	3	2	Provided virtual racecourse

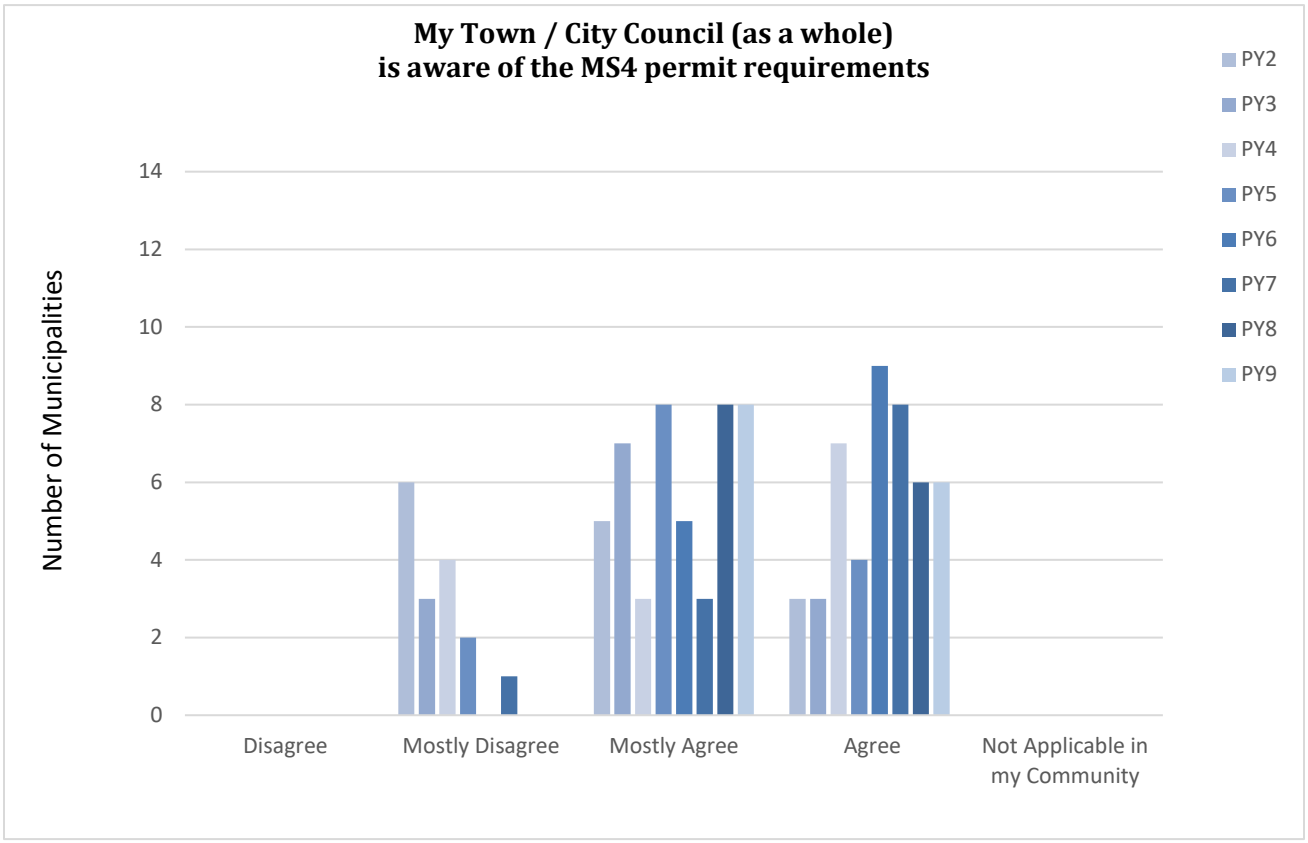
PY9 Summary Municipal Survey Responses

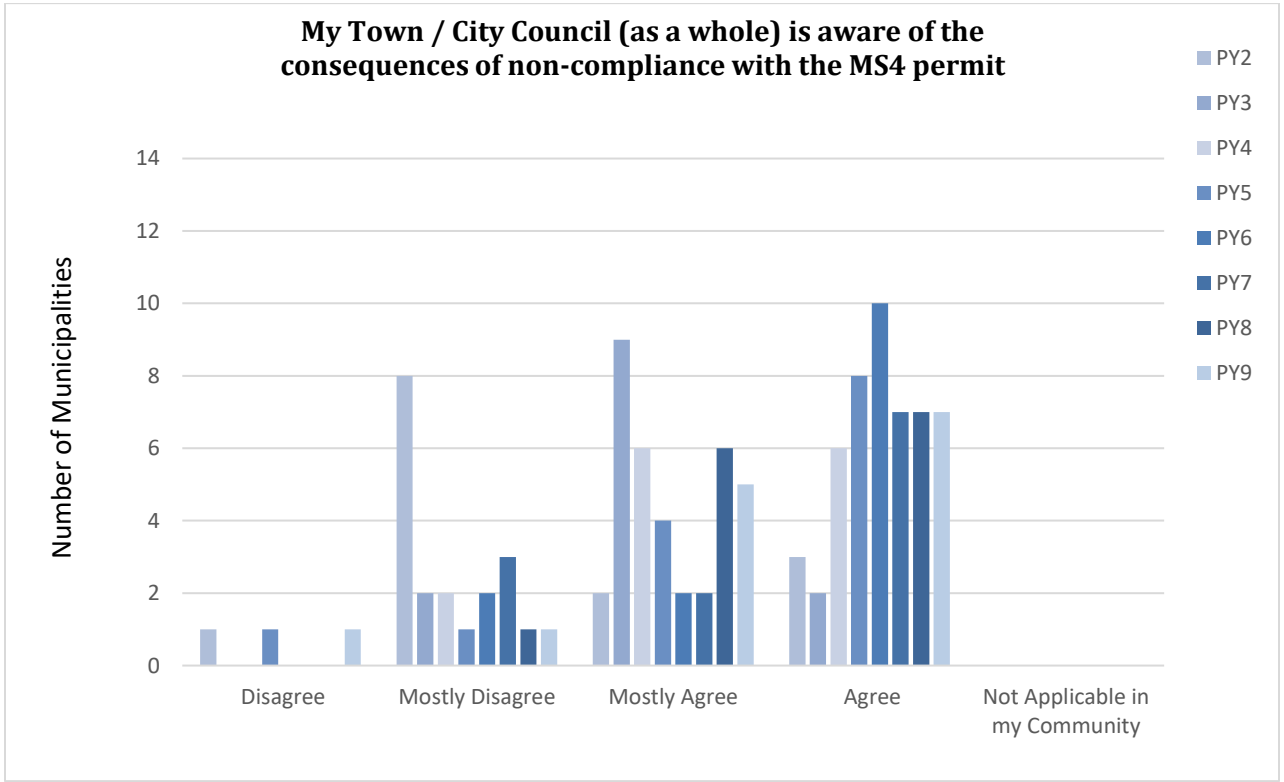
The following graphs summarize the responses to the annual municipal survey conducted in the fourth quarter of PY9. This survey is used to gauge municipal councilors' awareness of their municipal stormwater program. One survey is submitted per ISWG municipality.

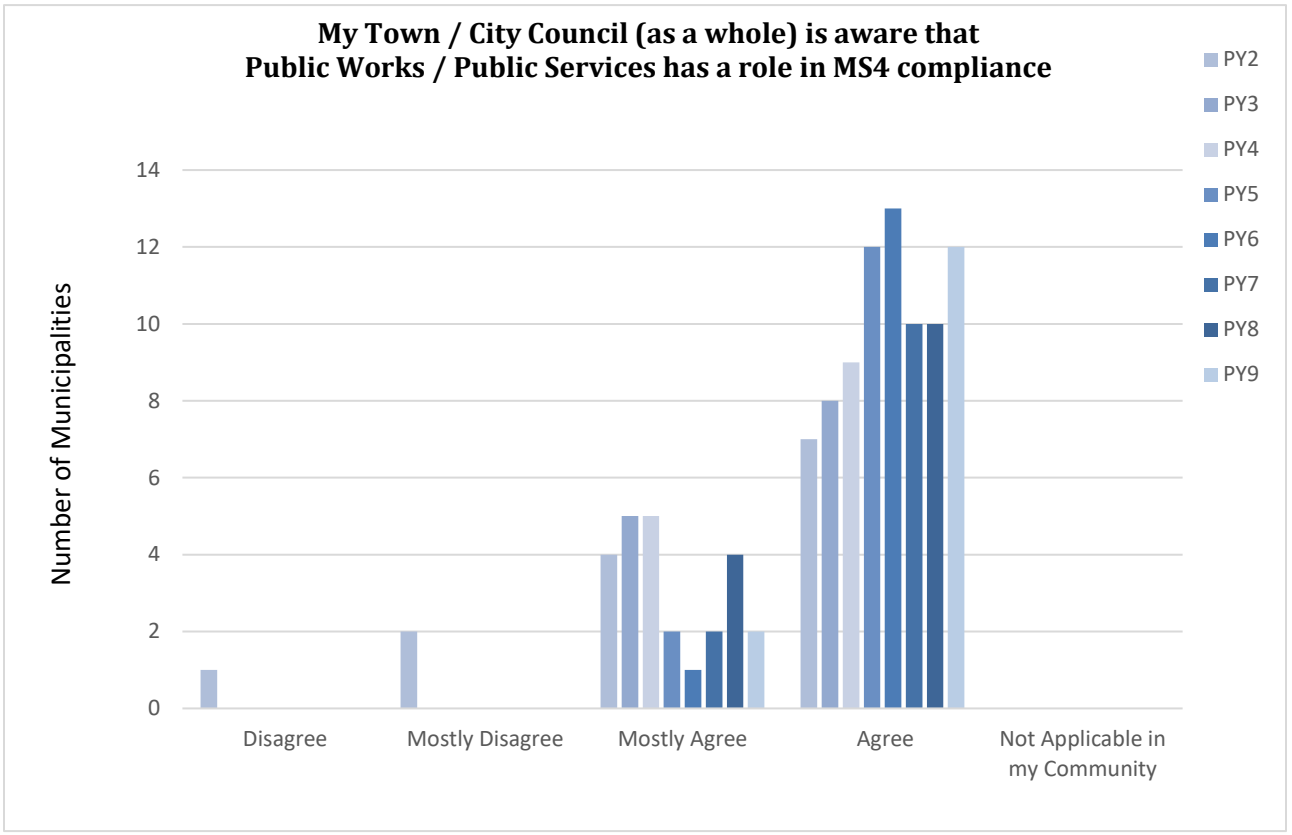


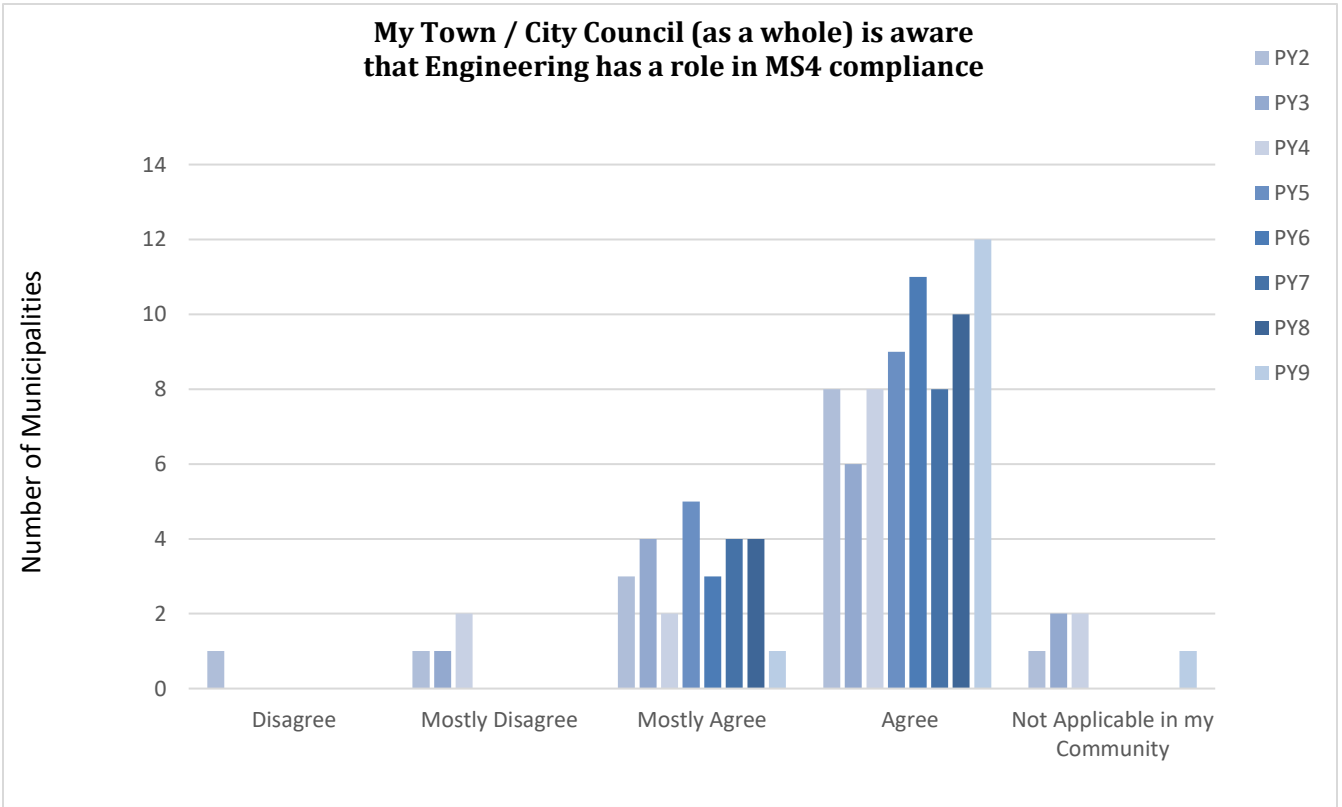

Number of Councilors Aware of MS4 Permit
Number of Municipalities
16
14
12
10
8
6
4
2
0
One
Two
Three
Four
Five
Six
Seven
Number of Councilors
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

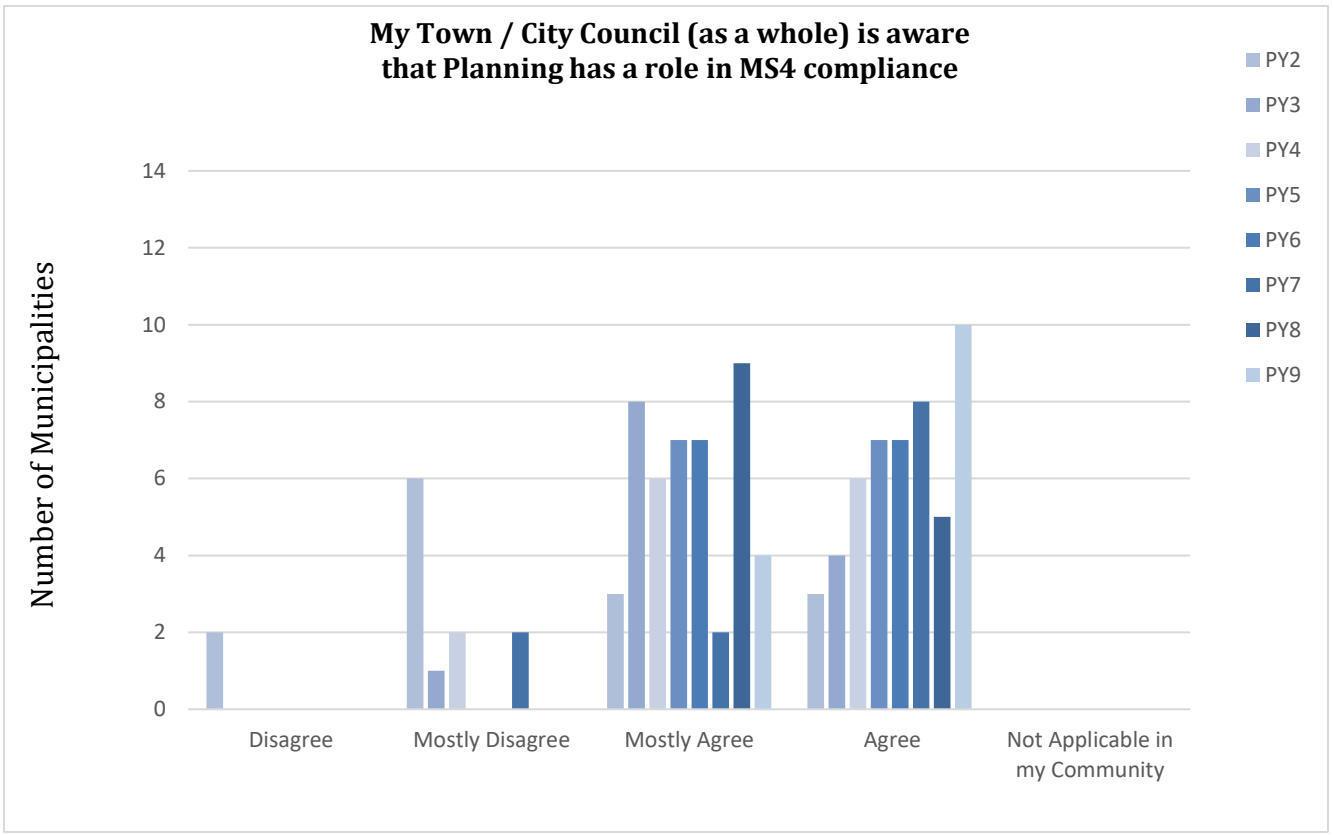

My Town / City Council (as a whole) knows that our municipality has an MS4 permit
Number of Municipalities
14
12
10
8
6
4
2
0
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

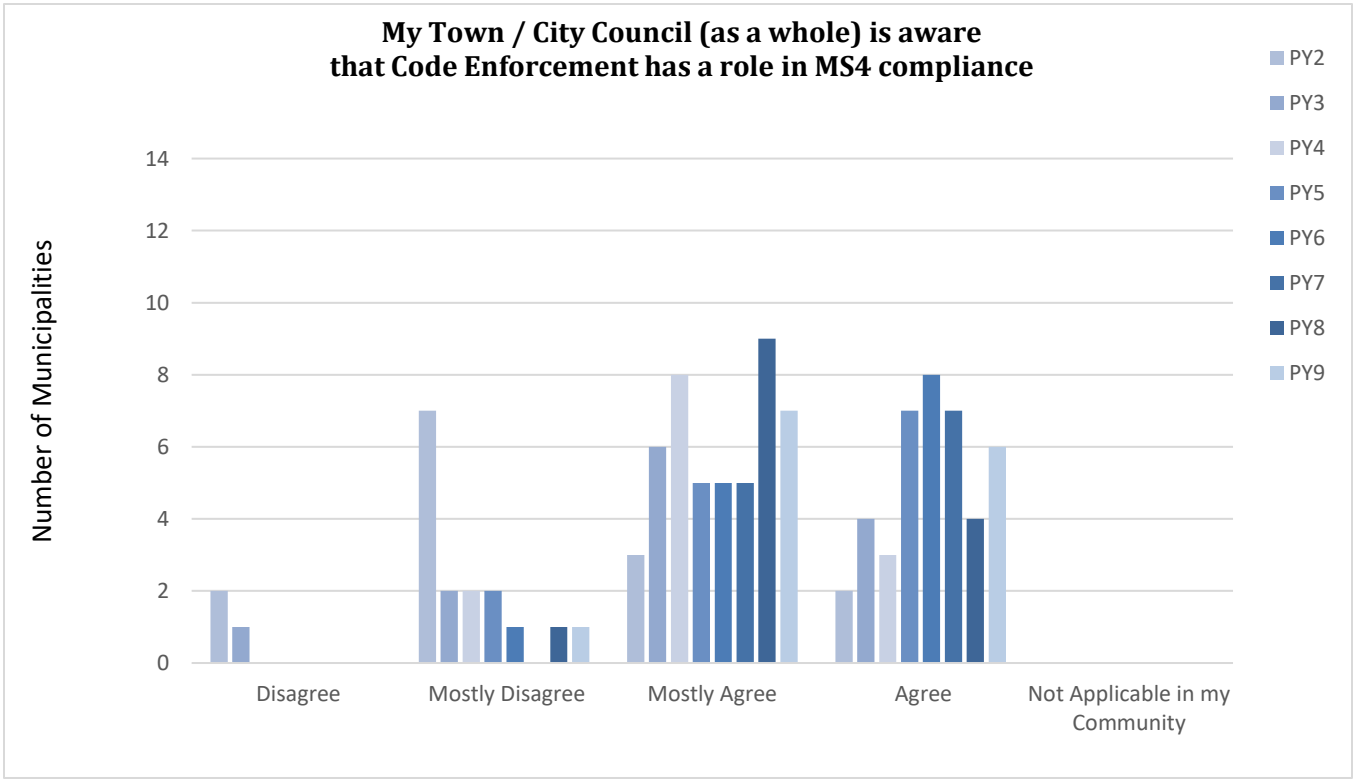

My Town / City Council (as a whole)
is aware of the MS4 permit requirements
Number of Municipalities
14
12
10
8
6
4
2
0
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

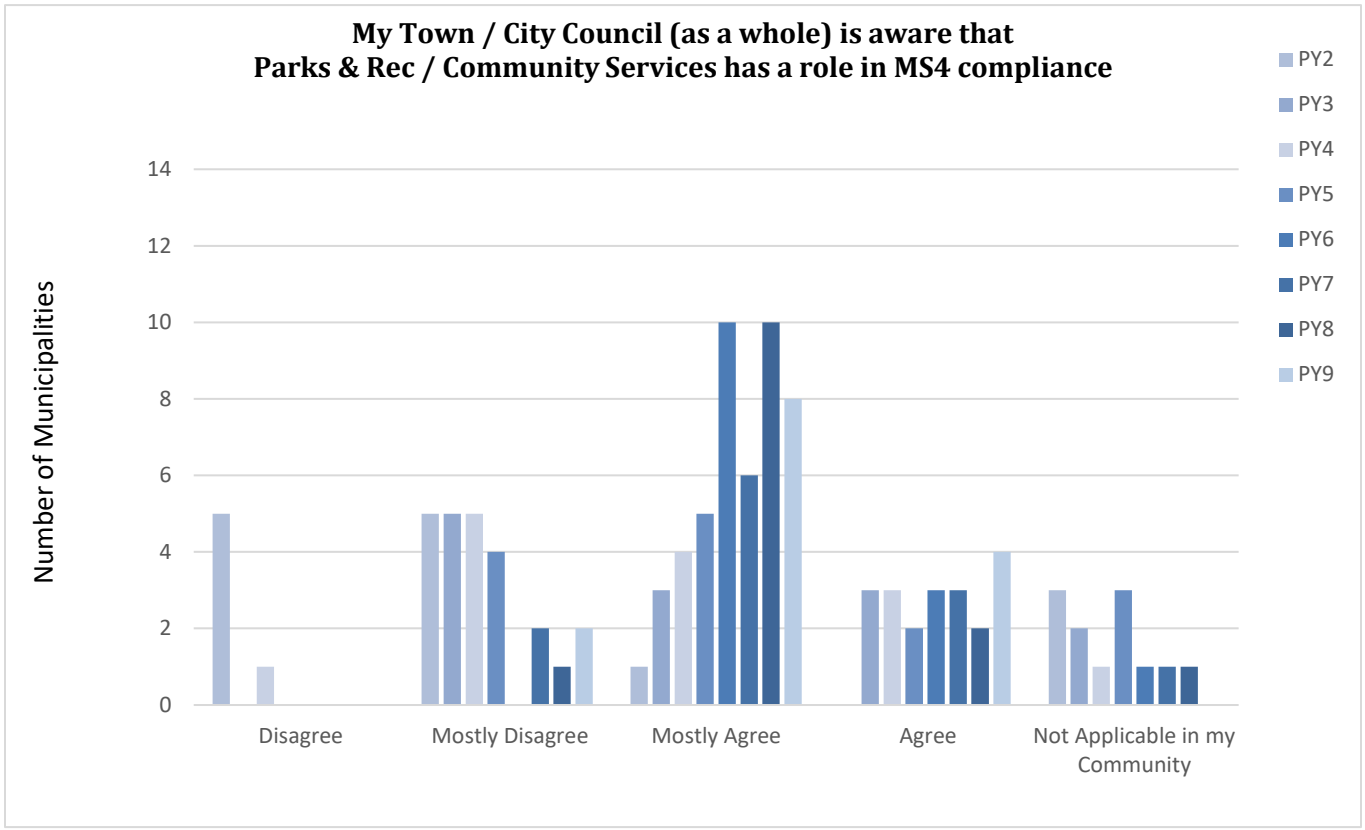

My Town / City Council (as a whole) is aware of the consequences of non-compliance with the MS4 permit
Number of Municipalities
14
12
10
8
6
4
2
0
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

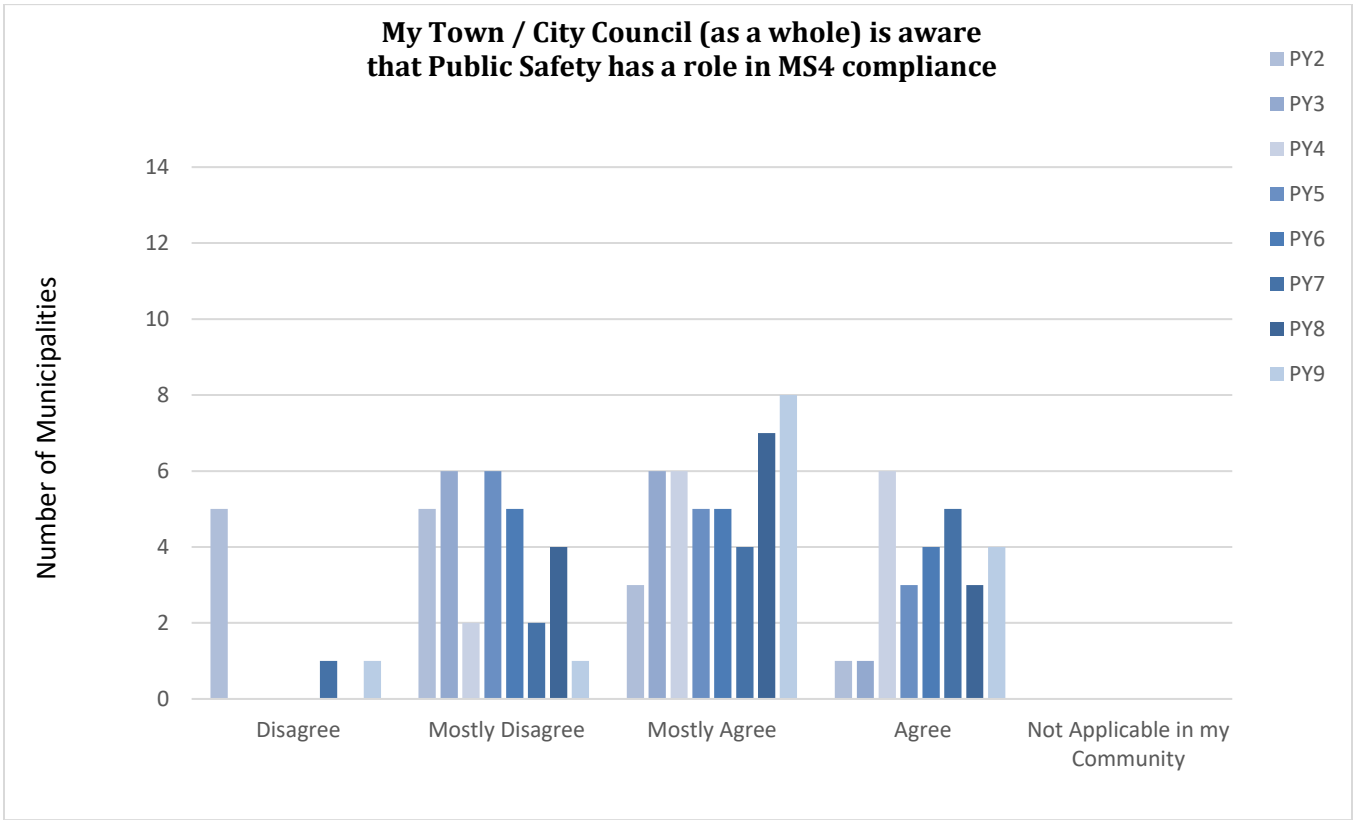

My Town / City Council (as a whole) is aware that Public Works / Public Services has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9


My Town / City Council (as a whole) is aware that Engineering has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9


My Town / City Council (as a whole) is aware that Planning has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

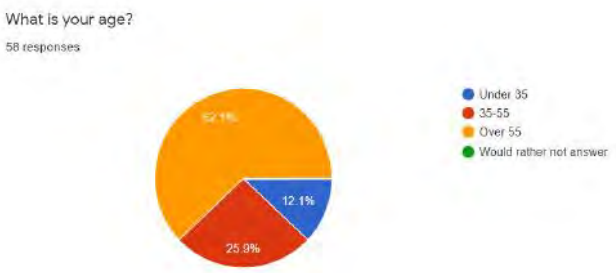

My Town / City Council (as a whole) is aware that Code Enforcement has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

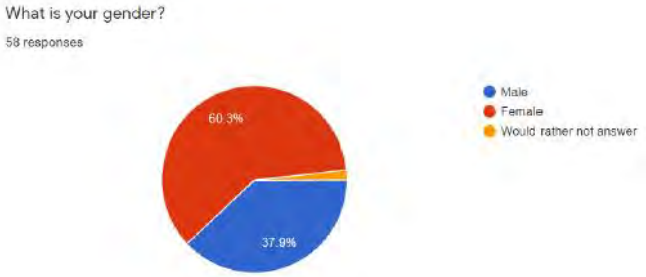

My Town / City Council (as a whole) is aware that
Parks & Rec / Community Services has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

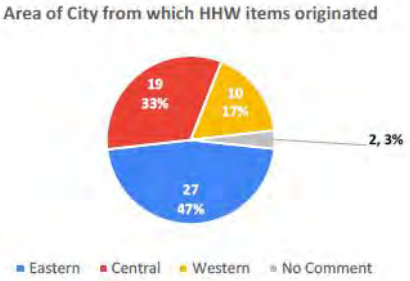

My Town / City Council (as a whole) is aware
that Public Safety has a role in MS4 compliance
Number of Municipalities
0
2
4
6
8
10
12
14
Disagree
Mostly Disagree
Mostly Agree
Agree
Not Applicable in my Community
PY2
PY3
PY4
PY5
PY6
PY7
PY8
PY9

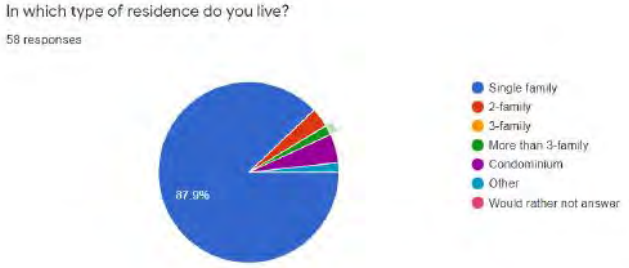
Appendix 2: Household Hazardous Waste Event Questionnaire Responses

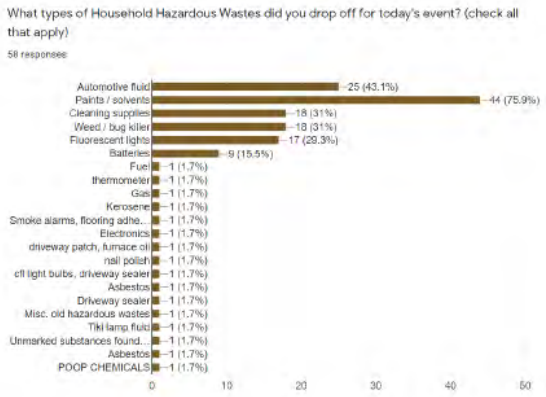
10/16/21 – 58 respondents for 225 attendees

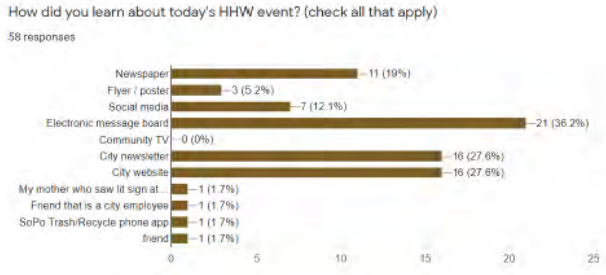


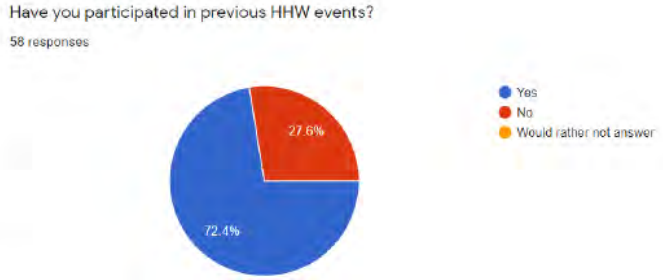


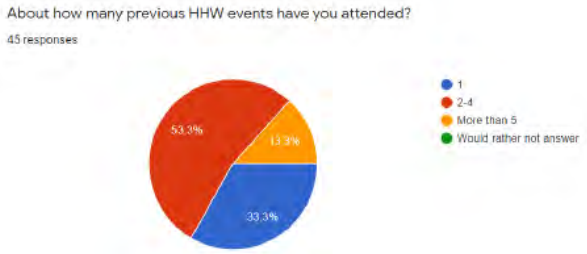


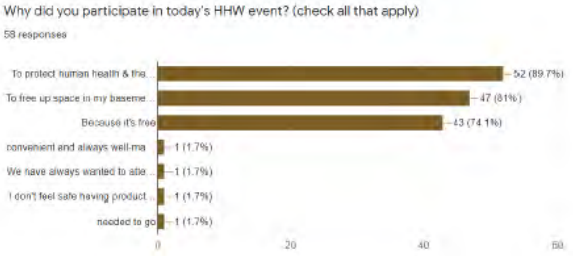


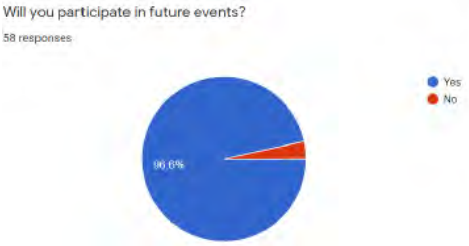












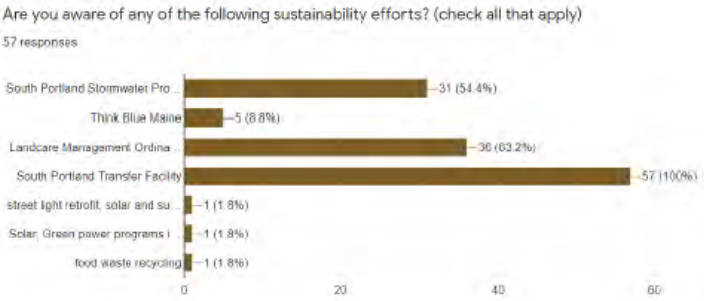
If no, why not?

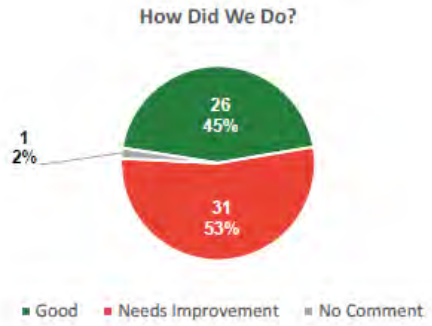
3 responses

The wait was very long

The wait in line wasn't worth it

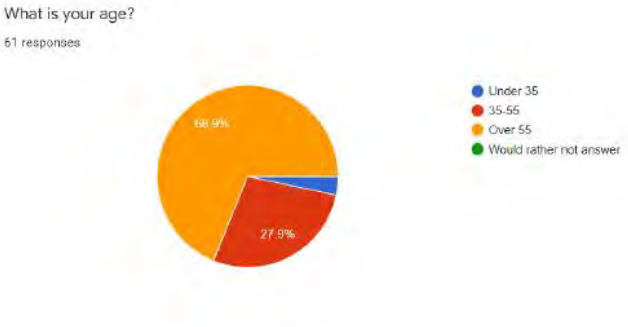
I will, but wasn't happy to wait in line for an hour to drop off one bottle of pesticide. I think a lot of people just won't participate and will improperly dispose of items if they have to wait so long.

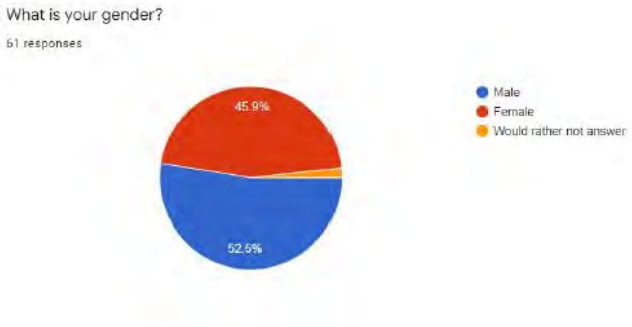


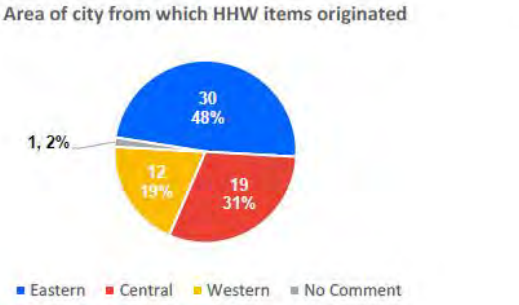


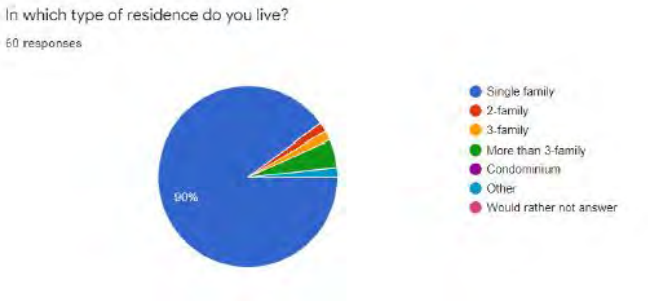
SUGGESTIONS FOR IMPROVEMENTS
Accept items year-round at transfer station
Accept more types of waste items
Combine e-waste and hazardous materials in same event
Hold more events each year
Increase hours open
List eligible items on website
Post the event on the homepage of the website
Provide an exit lane so people can get out of line if the wait is too long.
Provide annual curbside collection
Provide more electronic signage in more than one location

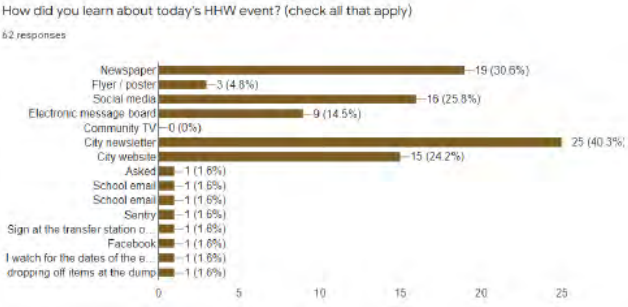
4/9/22 – 62 respondents for 125 attendees

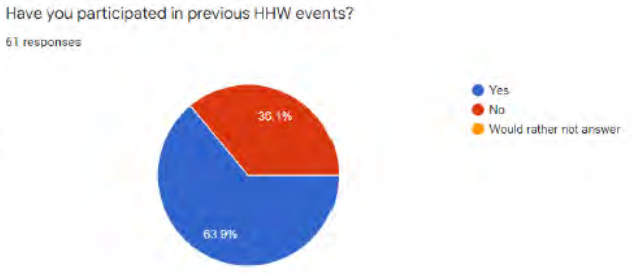


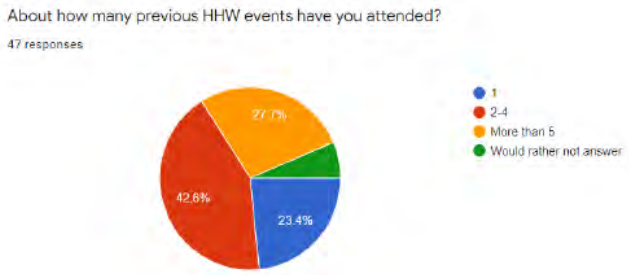


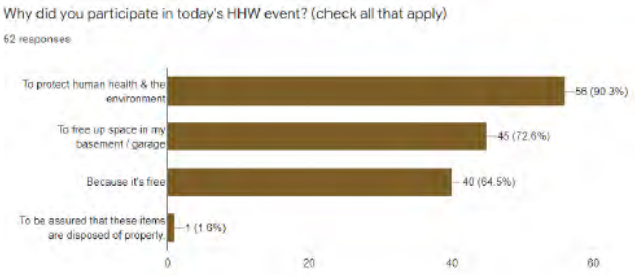


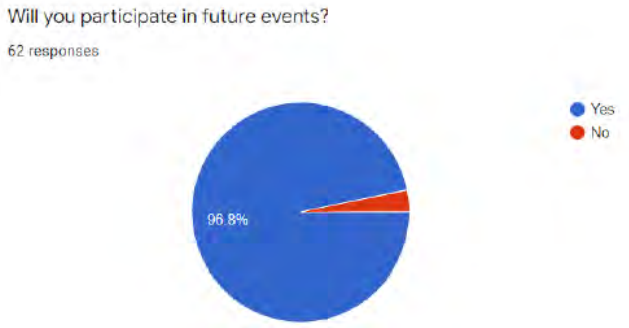


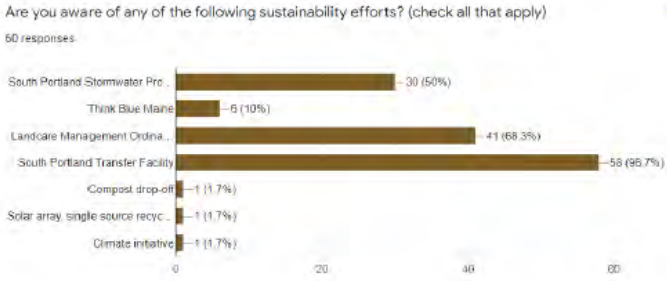


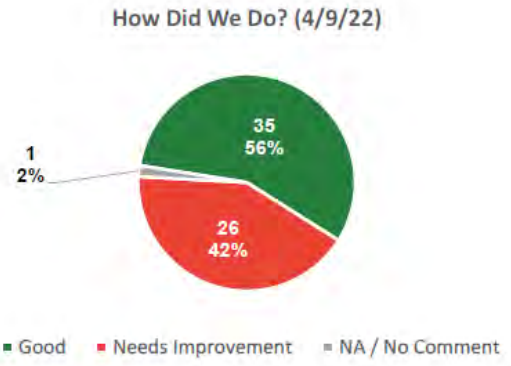












SUGGESTIONS FOR IMPROVEMENTS
Accept more types of waste items
Hold more events each year
Shorter wait times
Provide live webcam of main driveway, so we can see how crowded
Longer hours on the event days
More signage at transfer facility - traffic routing behind building not obvious
Provide E-waste event

Appendix 3: Portland Water District Memo on BMPs for MS4 Requirements

Portland Water District
FROM SEBAGO LAKE TO CASCO BAY

To: Frederick Dillion, Stormwater Program Coordinator
From: James Wallace – Director of Water Services *J. Wallace*
Date: 8/5/2022
Re: Summary of Portland Water District BMP for Addressing MS4 Requirements

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Introduction

It is our understanding that a requirement of your MS4 permit is to provide a summary of Best Management Practices (BMPs) to address chlorinated water discharges from hydrant flushing. This memo will summarize the BMPs currently used by the District as part of our Unidirectional Flushing Program.

The District has a water main flushing program to remove sediment from the main. Due to the size of the distribution system, our goal is to flush one-third of the system every year.

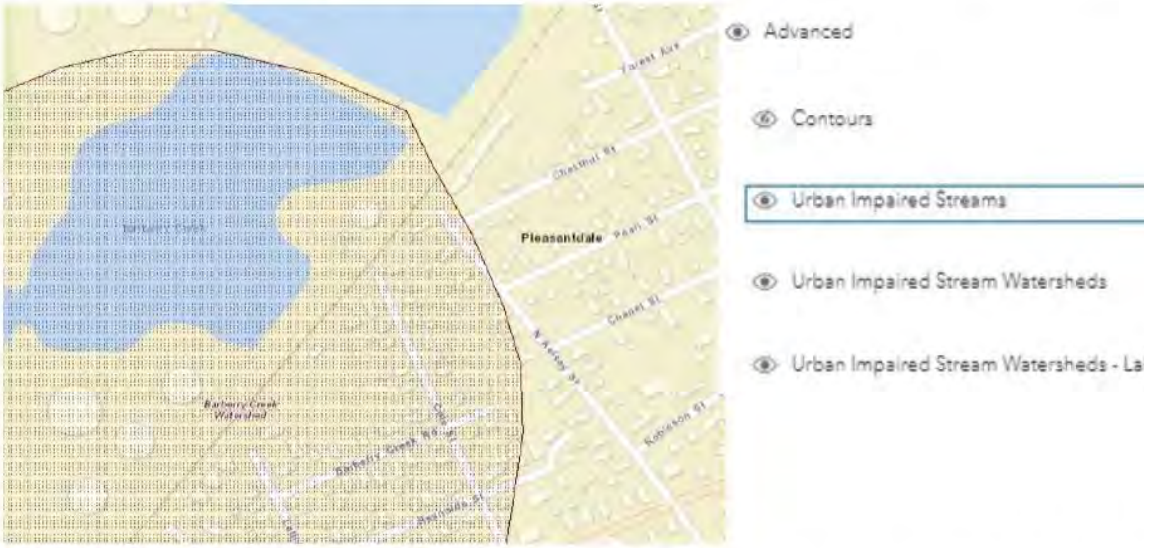
During the months of July through November of 2021, the District performed hydrant flushing in South Portland, Portland, and Scarborough. In addition, during the months of March through June of 2022, the District performed hydrant flushing in Raymond, Standish, Gorham, and Cumberland.

Dechlorination

The District's primary BMP for hydrant discharges is dechlorination. Currently the District has four types of dechlorination devices. The District is using ascorbic acid, in both granular and tablet forms, as the de-chlorinating agent for the devices. These devices and this product are achieving total residual chlorine concentrations that are consistently below the detection limit of our field chlorine analyzers, currently the Hach Colorimeter II.

Identifying Points of Concern

In 2021, PWD staff updated the GIS mapping system that incorporates hydrant locations with watershed boundaries and stream locations. This mapping continues to provide our staff an understanding of how these watersheds surround our water system.



Land Application

In instances where the discharge is a significant distance from any stream or water body, District crews may choose to discharge water directly to the ground, if they are certain the residual will degrade before mixing with a water body. The District has not had to use this application recently.

Dilution

In one instance during 2015, our engineering staff determined that a river flow was sufficient to dilute the total chlorine residual below the acute toxicity level of 0.019 mg/L. The discharge flow rate into the river included a significant safety factor. To date, the District has not used this option a second time. The final DEP MS4 drinking water system discharge issue profile of 11/18/16 does include a formula for calculating dilution into a stream. If the District considers this option again, qualified staff will determine the streamflow and discharge rates to ensure final dilution includes a significant safety factor.

Statewide BMP's

In 2017, Maine Rural Water Association and Maine Water Utilities Association received a grant to create statewide BMP's for de-chlorination, and then provided training to water operators across the state. The District was involved in the review of DEP's hydrant flushing profile and had input in the creation of BMP's. The BMP Manual of Public Water System Discharges to Water Resources was published in January 2018, and District is working to incorporate these into our processes.

Staff Training

District's staff attended training on the Best Management Practices Manual for Dechlorination of Public Water System Discharges in 2018, along with a session on de-chlorination for MS4 communities at the 2020 MWUA Annual Conference.

Appendix 4: Dry Weather Outfall Inspection Summaries

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Material	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Condition	Structure Condition	Trash / Litter	Yard Waste	Comments	Follow-Up Needed
Barberry Creek	BC_1	1/14/2022, 8:31 AM	Randy Rafuse	No	25	No	Steel		No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_10	1/14/2022, 9:38 AM	Randy Rafuse	No	28	No	PVC	15	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_11	1/14/2022, 9:55 AM	Randy Rafuse	No	32	No	Other	15	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_12	1/14/2022, 1:05 PM	Randy Rafuse	No	32	No	RCP		No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_13	1/14/2022, 9:59 AM	-	-	-	No			No	No	No	No	No			None	None	No Flow	Open		No	No		No
Barberry Creek	BC_14	1/14/2022, 8:43 AM	Randy Rafuse	null		No	HDPE	12	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_15	1/14/2022, 12:20 PM	Randy Rafuse	No	34	No	RCP	24	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_16	1/14/2022, 10:08 AM	Randy Rafuse	No	34	No	PVC	15	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_2	1/14/2022, 8:29 AM	Randy Rafuse	No	25	No	Steel	12	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_3	1/14/2022, 8:25 AM	Randy Rafuse	No	25	No	Steel		No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_4	1/26/2022, 9:27 AM	Randy Keenan	No	13	Fully			No	No	No	No	No			None	None	No Flow	Open		No	No		Yes
Barberry Creek	BC_5	1/14/2022, 8:55 AM	Randy Rafuse	No	25	No			No	No	No	No	No			None	None	No Flow	Open		No	No		No
Barberry Creek	BC_6	1/14/2022, 12:52 PM	Randy Rafuse	null	32	No	RCP	30	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_8	1/14/2022, 12:28 PM	Randy Rafuse	null	35	No	RCP	24	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Barberry Creek	BC_9	1/14/2022, 9:40 AM	Randy Rafuse	No	28	No	PVC	24	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
																							Follow up needed = yes:	1
																							Follow up needed = no:	14
Long Creek	LC_1	1/12/2022, 1:53 PM	Mike Lorello	Yes	20	Partially	RCP	24	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_10	12/15/2021, 1:40 PM	Randy Keenan	No	37	No	RCP	48	No	No	No	No	No			None	None	No Flow	Open		No	No		Yes
Long Creek	LC_100	1/26/2022, 8:26 AM	Randy Keenan	No	13	No	HDPE		No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_101	1/12/2022, 10:26 AM	Randy Rafuse	No	33	No	Other	10	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_102	1/26/2022, 8:25 AM	Randy Keenan	No	13	No	HDPE		No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_103	1/12/2022, 12:59 PM	Randy Rafuse	No	35	No	Other		No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_104	1/12/2022, 8:43 AM	Mike Lorello	Yes	9	No	HDPE	18	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_105	1/26/2022, 8:27 AM	Randy Keenan	No	13	No	HDPE		No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_106	11/9/2021, 1:07 PM	Randy Rafuse	No	55	Partially	PVC	8	No	No	No	Yes	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_107	11/9/2021, 1:13 PM	Randy Rafuse	No	55	No	HDPE	12	No	No	No	Yes	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_109	11/9/2021, 1:32 PM	Randy Rafuse	No	55	No	HDPE	12	No	No	No	Yes	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_11	12/15/2021, 2:00 PM	Randy Keenan	No	36	No	RCP	60	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_111	11/9/2021, 1:53 PM	Randy Rafuse	No	57	No	HDPE	12	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_112	1/13/2022, 10:14 AM	Mike Lorello	No	30	No	PVC	6	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_113	1/12/2022, 11:08 AM	Mike Lorello	Yes	15	No	HDPE	12	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_114	1/12/2022, 2:02 PM	Randy Rafuse	No	35	No	CMP	12	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_115	1/26/2022, 8:53 AM	Randy Keenan	No	13	Fully			No	No	No	No	No			None	None	No Flow	Open		No	No	Buried	Yes

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Material	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Condition	Structure Condition	Trash / Litter	Yard Waste	Comments	Follow-Up Needed
Long Creek	LC_116	1/12/2022, 12:56 PM	Randy Rafuse	No	35	No	Other		No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_117	1/12/2022, 1:05 PM	Mike Lorello	Yes	20	No	HDPE	12	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_118	1/12/2022, 12:56 PM	Mike Lorello	Yes	20	No	PVC	4	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_119	1/12/2022, 12:52 PM	Mike Lorello	Yes	20	No	CMP	10	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Poor	No	No		Yes
Long Creek	LC_12	1/13/2022, 11:08 AM	Mike Lorello	No	30	No	HDPE	18	No	No	No	No	No			None	None	No Flow	Open	Fair	Yes	No		No
Long Creek	LC_120	12/15/2021, 1:50 PM	Randy Keenan	No	36	No	RCP	12	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_121	1/26/2022, 8:38 AM	Randy Keenan	No	13	No	RCP	12	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_13	1/12/2022, 10:38 AM	Randy Rafuse	No	34	No			No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_14	1/12/2022, 10:49 AM	Randy Rafuse	No	34	No	RCP	12	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_15	1/12/2022, 11:07 AM	Randy Rafuse	null		No	RCP	12	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_16	1/12/2022, 12:51 PM	Randy Rafuse	No	35	No	PVC	12	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_17	1/12/2022, 12:58 PM	Mike Lorello	Yes	20	No	CMP	12	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_18	1/12/2022, 12:50 PM	Mike Lorello	Yes	20	No	CMP	12	No	No	No	No	No	None	Clear	Trickle	None	Clear	Open	Fair	No	No		No
Long Creek	LC_19	1/12/2022, 12:23 PM	Randy Rafuse	No	35	No	RCP	10	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_2	12/15/2021, 10:30 AM	Randy Rafuse	No	36	No	Other	14	Yes	No	No	Yes	No	None		None	None	No Flow	Open		No	No	Pipe buried in leaves and debris	Yes
Long Creek	LC_20	1/12/2022, 1:44 PM	Randy Rafuse	No	35	No	CMP	12	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_21	1/12/2022, 1:49 PM	Randy Rafuse	No	35	No	CMP	12	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_22	1/12/2022, 1:19 PM	Randy Rafuse	No	35	No	RCP	30	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_23	1/12/2022, 12:31 PM	Randy Rafuse	No	35	No	RCP	24	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_24	12/15/2021, 10:27 AM	Randy Rafuse	No		No	Other	18	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_25	12/15/2021, 10:11 AM	Randy Rafuse	No	35	No	Other	18	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_26	12/15/2021, 10:17 AM	Randy Rafuse	No	35	No	HDPE	18	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_27	12/15/2021, 10:20 AM	Randy Rafuse	No		No	Other		No	No	No	No	No	None		None	None	No Flow	Open		No	No	Pipe is bricked up closed off (may need to locate new outfall)	Yes
Long Creek	LC_28	12/15/2021, 9:04 AM	Randy Rafuse	No	32	No	Other		No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_29	1/12/2022, 10:44 AM	Mike Lorello	Yes	9	No	Steel	15	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_3	12/15/2021, 1:16 PM	Randy Keenan	No	37	No	PVC		No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_30	12/15/2021, 2:23 PM	Randy Rafuse	No	37	No	Other		No	No	No	No	No	None		None	None	No Flow	Open		No	No	Buried	Yes
Long Creek	LC_31	12/15/2021, 2:08 PM	Randy Rafuse	No	38	Partially	Steel	10	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_32	11/9/2021, 12:16 PM	Randy Rafuse	No	55	Partially	RCP	48	Yes	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_33	11/9/2021, 12:21 PM	Randy Rafuse	No	55	Partially	RCP	36	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_34	1/12/2022, 1:40 PM	Randy Rafuse	No	35	No			No	No	No	No	No			None	None	No Flow	Open		No	No	Covered	Yes
Long Creek	LC_35	1/14/2022, 7:52 AM	Mike Lorello	No	25	No	RCP	12	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_36	1/12/2022, 8:58 AM	Randy Rafuse	No	32	No	Other		No	No	No	No	No	None		None	None	No Flow	Open		No	No		No

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Material	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Condition	Structure Condition	Trash / Litter	Yard Waste	Comments	Follow-Up Needed
Long Creek	LC_37	1/12/2022, 10:04 AM	Mike Lorello	Yes	9	Partially	HDPE	18	No	No	No	No	No			None	None	No Flow	3/4 Full		No	No		No
Long Creek	LC_38	1/12/2022, 12:33 PM	Mike Lorello	Yes	20	No	Steel	60	No	No	No	No	No		Clear	Trickle	None	No Flow	Open		No	No		No
Long Creek	LC_39	1/12/2022, 8:24 AM	Mike Lorello	Yes	9	No	RCP	24	No	No	No	No	No	None		None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_4	1/12/2022, 11:19 AM	Randy Rafuse	No	32	No	RCP	12	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_41	1/12/2022, 9:42 AM	Mike Lorello	Yes	9	No	RCP	12	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_42	1/12/2022, 9:37 AM	Mike Lorello	Yes	9	No	HDPE	6	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_43	1/12/2022, 2:43 PM	Mike Lorello	Yes	20	No	HDPE	36	No	No	No	No	No	None	Clear	Steady	None	Clear	Open	Good	No	No		No
Long Creek	LC_44	1/12/2022, 8:59 AM	Mike Lorello	Yes	9	No	HDPE	15	No	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Good	No	No		No
Long Creek	LC_45	1/12/2022, 8:57 AM	Mike Lorello	Yes	9	No	HDPE	30	No	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Good	No	No		No
Long Creek	LC_46	1/12/2022, 9:52 AM	Mike Lorello	Yes	9	No	RCP	36	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_49	1/12/2022, 9:50 AM	Mike Lorello	Yes	9	No	RCP	60	No	No	No	No	No			Steady	None	No Flow	Open	Good	No	No		No
Long Creek	LC_5	1/12/2022, 8:23 AM	Randy Rafuse	No	31	No	PVC	18	No	No	No	No	No	None		None	None	No Flow	Open		No	No	Needs rip rap	Yes
Long Creek	LC_51	1/12/2022, 10:07 AM	Randy Rafuse	No	32	No	Other	15	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_54	12/15/2021, 1:26 PM	Randy Keenan	No	37	No	Steel	15	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_55	12/15/2021, 1:18 PM	Randy Rafuse	No	37	No	PVC	10	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_56	1/14/2022, 7:54 AM	Mike Lorello	No	25	No	Steel	36	No	No	No	Yes	No	None	Cloudy	Steady	None	No Flow	Open	Poor	No	No	Pipe rotted (MTA/MDOT?)	Yes
Long Creek	LC_57	1/12/2022, 2:26 PM	Randy Rafuse	No	36	No	CMP		No	No	No	Yes	No	Musty	Opaque	None	None	No Flow	Open		No	No	Rusty colored water	No
Long Creek	LC_58	1/12/2022, 2:31 PM	Randy Rafuse	No	36	No	CMP	24	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_59	1/13/2022, 9:26 AM	Mike Lorello	No	30	No	HDPE	12	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_6	1/12/2022, 8:30 AM	Randy Rafuse	No	31	No	HDPE	18	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_60	11/9/2021, 10:05 AM	Randy Rafuse	No	50	Partially	PVC	18	No	Yes	No	Yes	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_61	11/9/2021, 10:29 AM	Randy Rafuse	No	50	No	Other	15	No	No	No	No	No	None	Clear	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_62	11/9/2021, 10:38 AM	Randy Rafuse	No	50	No	PVC	12	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_63	1/12/2022, 8:40 AM	Mike Lorello	Yes	9	No	PVC	18	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_64	1/12/2022, 8:47 AM	Randy Rafuse	No	32	No	Other		No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_65	1/12/2022, 9:42 AM	Randy Rafuse	No	33	No	RCP	10	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_66	1/12/2022, 2:09 PM	Mike Lorello	Yes	20	No	Other	15	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_67	11/9/2021, 12:56 PM	Randy Rafuse	No	55	Partially	RCP	36	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_68	1/13/2022, 10:44 AM	Mike Lorello	No	30	No	HDPE	12	No	No	No	No	No	None	Clear	None	Trickle	Clear	Open	Good	No	No		No
Long Creek	LC_69	1/13/2022, 10:11 AM	Mike Lorello	No	30	No	HDPE	12	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_7	1/12/2022, 9:58 AM	Randy Rafuse	No	33	No	RCP	15	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_70	1/12/2022, 2:21 PM	Mike Lorello	Yes	20	Partially	RCP	15	No	No	No	No	No			None	None	No Flow	Open		No	No		No
Long Creek	LC_71	1/13/2022, 12:38 PM	Mike Lorello	No	30	No	RCP	24	Yes	No	No	No	No		Cloudy	Trickle	None	Orange	Open		No	No		No
Long Creek	LC_72	1/12/2022, 10:27 AM	Mike Lorello	Yes	9	Partially	Steel	24	No	No	No	No	No			None	None	No Flow	Open	Poor	No	No		Yes

Watershed	Feature ID	Inspection Date	Inspector	Precip. Past 3 Days	Approx. Temp (F)	Pipe Sub-merged	Pipe Material	Pipe Size (in)	Foam	Green Scum	Oil / Film	Veg. Mat	Sewage	Odor	Water Clarity	Pipe Flow	Seepage Flow	Flow Color	Sediment Condition	Structure Condition	Trash / Litter	Yard Waste	Comments	Follow-Up Needed
Long Creek	LC_73	1/13/2022, 11:15 AM	Mike Lorello	No	30	No	RCP	18	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Long Creek	LC_74	1/12/2022, 10:34 AM	Mike Lorello	Yes	9	No	CMP	12	No	No	No	No	No			None	None	No Flow	Open	Poor	No	No		No
Long Creek	LC_8	1/12/2022, 10:00 AM	Randy Rafuse	No	32	No	PVC	15	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_83	12/15/2021, 10:13 AM	Randy Rafuse	No	35	No	Other	18	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_84	12/15/2021, 10:04 AM	Randy Rafuse	No	35	No	Other	18	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek Lower	LC_85	12/15/2021, 9:58 AM	Randy Rafuse	No	35	No	Other	18	No	No	No	No	No	None	Clear	None	None	No Flow	Open		No	No		No
Long Creek	LC_86	12/15/2021, 2:17 PM	Randy Rafuse	No		No	Steel	10	No	No	No	No	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_87	1/13/2022, 11:02 AM	Mike Lorello	No	30	No	PVC	18	No	No	No	No	No	None	Clear	Trickle	None	No Flow	Open	Good	No	No		No
Long Creek	LC_88	1/12/2022, 8:55 AM	Randy Rafuse	No	32	No	Other		No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_89	1/12/2022, 2:44 PM	Mike Lorello	Yes	20	No	HDPE	24	No	No	No	No	No			None	None	No Flow	Open	Good	No	No		No
Long Creek	LC_9	12/15/2021, 1:42 PM	Randy Keenan	No	36	No	RCP	48	No	No	No	No	No			None	None	No Flow	Open		No	No		Yes
Long Creek	LC_90	11/9/2021, 11:08 AM	Randy Rafuse	No	50	No	Steel	18	No	Yes	No	Yes	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_90	11/9/2021, 10:16 AM	Randy Rafuse	No	50	Partially	Steel	20	No	No	No	Yes	No	None	Cloudy	None	None	No Flow	Open		No	No		No
Long Creek	LC_91A	1/13/2022, 9:41 AM	Mike Lorello	No	30	No	RCP	36	No	No	No	No	No	None	Clear	Steady	None	Clear	Open	Good	No	No		No
Long Creek	LC_92	1/12/2022, 12:14 PM	Randy Rafuse	No	35	No		18	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No
Long Creek	LC_98	12/15/2021, 10:46 AM	Randy Rafuse	No	37	No	PVC	15	No	No	No	No	No	None		None	None	No Flow	Open		No	No		No

Follow up needed = yes: 11
Follow up needed = no: 89

Trout Brook	KB_1	1/14/2022, 9:39 AM	Mike Lorello	No	35	No	RCP	36	No	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Good	No	No		No
Trout Brook	TB_1	1/14/2022, 9:51 AM	Mike Lorello	No	35	No	RCP	36	No	No	No	No	No	None	Clear	Steady	None	No Flow	Open	Fair	No	No		No
Trout Brook	TB_2	1/13/2022, 2:02 PM	Mike Lorello	No	35	No	PVC	8	No	No	No	Yes	No	None	Clear	Steady	None	No Flow	Open	Fair	No	No		No
Trout Brook	TB_3	1/13/2022, 2:12 PM	Mike Lorello	No	35	No	Steel	24	No	No	No	No	No			None	None	No Flow	Open	Needs Attention	No	No	Pipe is falling apart	Yes
Trout Brook	TB_4	1/14/2022, 12:44 PM	Mike Lorello	No	35	Partially		36	No	No	No	No	No			None	None	No Flow	Open	Fair	No	No		No
Trout Brook	TB_5	1/14/2022, 10:07 AM	Mike Lorello	No	35	Partially	RCP	12	No	No	No	No	No			None	None	No Flow	Open	Poor	No	No		No
Trout Brook	TB_6	1/13/2022, 2:27 PM	Mike Lorello	No	35	Fully			No	No	No	No	No			None	None	No Flow	Open	Needs Attention	No	No		Yes
Trout Brook	TB_7	1/13/2022, 1:56 PM	Mike Lorello	No	35	No	CMP	10	No	No	No	No	No			None	None	No Flow	Open	Poor	No	No		No
Trout Brook	TB_8	1/13/2022, 2:22 PM	Mike Lorello	No	35	No	HDPE	12	No	No	No	No	No			None	None	No Flow	Open		No	No		No

Follow up needed = yes: 2
Follow up needed = no: 7

Appendix 5: Dry Weather Ditch Inspection Summary

Ditch ID	Date	Inspector	Wind Present	Temp (F)	Precip past 2 days	Yard Waste	Litter Present	Pollution Types	Odor	Standing Water	Water Clarity	Water Color	Inlet	Outlet	Sediment Depth	Structural Condition	Veg. Coverage	Veg. Height	Veg. Type	Erosion / Scouring	Comments	Follow Up Needed
BCD-1	7/13/22	F. Dillon & S. Taylor	Yes	69	Yes	No	No	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Natural	3-6"	Natural	No	Some taller vegetation closer to outlet but not obstructing flow	No
BCD-10	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	No	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Natural	<3"	Natural	No		No
BCD-11	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Obstructed	>2"	Riprap Displaced	Grass	3-6"	Normal Grass	Yes	Erosion more outlet end but inlet as well. Blocking outlet N end quite a bit and landscaping fabric can be seen nearby.	Yes
BCD-12	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	<2"	Stable	Natural	<3"	Normal Grass	Yes	Light erosion near outlet	No
BCD-13	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	<2"	Stable	Natural	6-12"	Natural	No	Not much sediment, very little riprap growth	No
BCD-15	7/7/22	F. Dillon & S. Taylor	Yes	73	Yes	No	Yes	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	<2"	Stable	Grass	Too tall	Normal Grass	Yes	Light erosion and sediment buildup near outlet; needs mowing	Yes
BCD-16	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Stable	<2"	Stable	Grass	3-6"	Normal Grass	Yes	The outlets have some vegetative coverage. Sediment near northern outlet accruing inside pipe. Rock looks to have fallen on pipe and took a small chunk out of it. Also, some erosion near N outlet.	No
BCD-17	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	<2"	Riprap Displaced	Grass	6-12"	Normal Grass	Yes	May require maintenance soon, vegetation removal. Landscape fabric exposed. Slight erosion on west corner.	No
BCD-18	7/7/22	F. Dillon & S. Taylor	Yes	73	Yes	No	Yes	None	None	Yes	Clear	Clear	null	null	Natural	Stable	Natural	6-12"	Natural	Yes	No inlet or outlet seen. A lot of landscaping fabric bare and some vegetation near northern end	No
BCD-2	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Stable	Stable	Natural	Stable	Natural	6-12"	Invasive	Yes	A variety of weeds and invasives. Bindweed, near outlet. Trash near inlet. Some erosion near outlet and rocks displaced	Yes
BCD-3	7/7/22	F. Dillon & S. Taylor	Yes	73	Yes	Yes	Yes	None	None	No	NA	NA	Unobstructed	Obstructed	<2"	Stable	Natural	<3"	Natural	Yes	A lot of erosion near inlet and a Christmas tree has been dumped. A plant and debris blocking outlet	Yes
BCD-4	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	<2"	Stable	Natural	3-6"	Natural	No	Outlet has sediment accumulation	No
BCD-5	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Natural	3-6"	Natural	No	Invasive climbing up pole. Bittersweet near most inlets and outlets needs removal.	Yes
BCD-6	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Natural	<3"	Natural	No		No
BCD-8	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	<2"	Stable	Natural	3-6"	Natural	Yes	Although inlet and outlet not obstructed, trash and vegetation are surrounding the area. Some erosion near the inlet.	No
BCD-9	7/7/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	Musty	Yes	Cloudy	Brown	Unobstructed	Unobstructed	Natural	Stable	Natural	6-12"	Natural	No	Plants growing in at both inlet and outlet but not enough to block. Discolored muddy water present and some vegetated growth present.	No
																					Follow up = Yes:	**5**
																					Follow up = No:	**11**
LCD-01	7/20/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Stable	<2"	Stable	Natural	<3"	Natural	No		No
LCD-02	7/20/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Stable	Unobstructed	>2"	Stable	Grass Greater Than 90%	3-6"	Normal Grass	No	Inlet potentially needs clearing	Yes
LCD-03	7/20/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Natural	Too tall	Invasive	No	Could not see much due to tall vegetation; remove knotweed	Yes

Ditch ID	Date	Inspector	Wind Present	Temp (F)	Precip past 2 days	Yard Waste	Litter Present	Pollution Types	Odor	Standing Water	Water Clarity	Water Color	Inlet	Outlet	Sediment Depth	Structural Condition	Veg. Coverage	Veg. Height	Veg. Type	Erosion / Scouring	Comments	Follow Up Needed
LCD-04	7/20/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	null	Obstructed	>2"	Stable	Natural	Too tall	Natural	No	Vegetation high outlet needs clearing.	Yes
LCD-05	7/20/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Stable	<2"	Stable	Natural	Too tall	Natural	No	Vegetation tall	Yes
LCD-06	7/20/22	F. Dillon & S. Taylor	Yes	74	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Natural	Too tall	Natural	No	Vegetation tall in parts may need maintenance	No
LCD-07	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	No	None	None	No	NA	NA	Unstable	Obstructed	Natural	Stable	Grass Greater Than 90%	<3"	Normal Grass	Yes	Inlet/outlet need clearing	Yes
LCD-08	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Stable	Stable	Natural	Stable	Natural	Too tall	Natural	No	Vegetative overgrowth	Yes
LCD-09	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	No	None	None	No	NA	NA	Unobstructed	Unobstructed	<2"	Stable	Grass Greater Than 90%	<3"	Normal Grass	No		No
LCD-10	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	No	None	None	No	NA	NA	Stable	Stable	Natural	Stable	Grass Greater Than 90%	<3"	Normal Grass	No	Couldn't assess pipe but looked ok, just surrounded by vegetation; outlet surrounded by woody plants.	Yes
LCD-11	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	No	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Grass Greater Than 90%	<3"	Normal Grass	No		No
LCD-13	7/13/22	F. Dillon & S. Taylor	Yes	71	Yes	No	No	None	None	Yes	Clear	Clear	Unobstructed	Stable	<2"	Stable	Natural	Too tall	Natural	No	Vegetation too tall, outlet clearing	Yes
LCD-14	7/13/22	F. Dillon & S. Taylor	Yes	71	Yes	No	No	None	None	Yes	Clear	Clear	Unobstructed	Obstructed	>2"	Stable	Natural	Too tall	Natural	No	Vegetation too tall blocking outlet	Yes
LCD-15	7/13/22	F. Dillon & S. Taylor	Yes	71	Yes	No	No	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	>2"	Riprap Displaced	Natural	<3"	Natural	No	Sediment accumulation in ditch not in outlet/inlets. A lot of displaced rip rap and pool of standing water near one of the outfalls.	No
LCD-16	7/13/22	F. Dillon & S. Taylor	Yes	71	Yes	No	No	None	None	No	NA	NA	Stable	Unobstructed	Natural	Stable	Natural	Too tall	Natural	Yes	Tall vegetation near inlet and throughout	Yes
LCD-17	7/13/22	F. Dillon & S. Taylor	Yes	71	Yes	No	No	None	None	No	NA	NA	Unobstructed	Obstructed	Natural	Stable	Natural	Too tall	Woody	Yes	Outlet rip rap displaced, woody plant removal	Yes
LCD-18	7/13/22	F. Dillon & S. Taylor	Yes	71	Yes	No	No	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	Natural	Stable	Grass Greater Than 90%	<3"	Normal Grass	No	Some riprap in front of and inside of outlet but not looking obstructive	No
LCD-19	7/13/22	F. Dillon & S. Taylor	Yes	75	Yes	No	Yes	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	Natural	Stable	Natural	Too tall	Natural	No	Vegetation tall, sediment outside outlet high	Yes
LCD-20	7/13/22	F. Dillon & S. Taylor	Yes	75	Yes	No	No	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	Natural	Stable	Grass Greater Than 90%	<3"	Normal Grass	Yes	Scouring multiple locations	No
LCD-21	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	No	None	None	Yes	Clear	Clear	Unobstructed	Unobstructed	Natural	Stable	Natural	<3"	Natural	No		No
LCD-22	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	Green Scum	None	Yes	Clear	Clear	Unobstructed	Unobstructed	Natural	Stable	Natural	Too tall	Natural	Yes	Remove vegetation; very light erosion with landscape fabric visible	Yes
LCD-23	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Grass Greater Than 90%	3-6"	Normal Grass	No	Quite a bit of trash and leaf litter	No
LCD-24	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Grass	<3"	Normal Grass	No	Potential caving of inlet, looks stable	No
LCD-25	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	No	None	None	No	NA	NA	Stable	Obstructed	>2"	Stable	Natural	<3"	Natural	Yes	Outlet and inlet need clearing	Yes

Ditch ID	Date	Inspector	Wind Present	Temp (F)	Precip past 2 days	Yard Waste	Litter Present	Pollution Types	Odor	Standing Water	Water Clarity	Water Color	Inlet	Outlet	Sediment Depth	Structural Condition	Veg. Coverage	Veg. Height	Veg. Type	Erosion / Scouring	Comments	Follow Up Needed
LCD-26	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	No	None	None	No	NA	NA	Unobstructed	Unobstructed	Natural	Stable	Grass Greater Than 90%	<3"	Normal Grass	No		No
LCD-27	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	Yes	Yes	Floating Green Scum	None	Yes	Cloudy	Green	Unstable	Unobstructed	Natural	Stable	Grass Greater Than 90%	Too tall	Natural	No	Outlet plant growth inside, excessive plant	Yes
LCD-28	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Obstructed	Natural	Unstable	Grass Greater Than 90%	Too tall	Natural	Yes	Erosion on parking lot side. Side outlet coming from parking lot looks clogged. Green damp sediment.	Yes
LCD-29	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	Yes	Yes	None	None	Yes	Clear	Clear	Unobstructed	Stable	>2"	Stable	Grass Greater Than 90%	Too tall	Natural	No	Inlet potentially clogged or water level is pretty high	Yes
LCD-30	7/20/22	F. Dillon & S. Taylor	No	83	Yes	Yes	No	None	None	No	NA	NA	Stable	Stable	Natural	Stable	Natural	Too tall	Invasive	No	Couldn't assess much, too much vegetation; remove knotweed	Yes
LCD-31	7/8/22	F. Dillon & S. Taylor	Yes	76	Yes	No	Yes	None	None	No	NA	NA	Unobstructed	Unobstructed	<2"	Stable	Grass	<3"	Normal Grass	No		No

Follow up = Yes: 18
Follow up = No: 12