

# Stormwater Program

## Annual Report

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**Permit Cycle III: Permit Year 3**

**July 1, 2015 to June 30, 2016**

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for

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### Appendices

PDF File Sent as a Separate Document

# Regulated MS4 Information

## *Section 1.1      Location Maps*

The location map for the City of Westbrook is included in Appendix A.

## *Section 1.2      Urbanized Area Map*

The urbanized area map was developed from the U.S. Census Bureau Census 2010 Urbanized Area and Urban Cluster Data, and is included in Appendix A.

## *Section 1.3      Priority Watersheds*

The City of Westbrook's two highest priority watersheds are Mill Brook and Long Creek.

## *Section 1.4      Watershed Maps*

The watershed maps identify the two highest priority watersheds and are included in Appendix A.

## Minimum Control Measures

### ***MCM 1 - Public Education and Outreach***

The City of Westbrook will fulfill the requirements for Public Education and Outreach through participation in the Interlocal Stormwater Working Group (ISWG) and the City of Westbrook's provision of funding to the ISWG for Public Education and Outreach services, as described in this section of the plan.

#### MCM Goals

1. To raise awareness that polluted stormwater runoff is the most significant source of water quality problems for Maine's waters;
2. To motivate people to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; 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 the previous MS4 permit cycle***

***Party Responsible for Completion:*** City Engineer

***Party Responsible for Development:*** ISWG Education Coordinator

**Measurable Goal 1.1.1** – In Permit Year 3, the ISWG and the City of Westbrook will continue to implement awareness activities outlined in the revised Statewide Awareness Plan. Activities include:

- Maintain a link to [www.thinkbluemaine.org](http://www.thinkbluemaine.org) on municipal website;
- Participate in a statewide media campaign to include 12 months of television advertisements and 12 months of online advertisements that direct to [www.thinkbluemaine.org](http://www.thinkbluemaine.org); and
- Promote their approved public event

**Measurable Goal 1.1.2** – In Permit Year 3, the ISWG and the City of Westbrook will conduct and provide documentation of an evaluation and assessment on both the progress of implementing the plan as well as the impact the efforts are having on the target audience.

**Activities Completed During Permit Year 3:** The activities implemented as part of the revised Statewide Awareness Plan are included in Appendix B. The City also continued to provide Think Blue Maine links on its website and in municipal buildings.

#### ***BMP 1.2 – Update and Implement a Public Stormwater Awareness Plan***

***Party Responsible for Completion:*** City Engineer

***Party Responsible for Development:*** ISWG Education Coordinator

**Measurable Goal 1.2.1** – In Permit Year 3, the ISWG and the City of Westbrook will continue to implement a Stormwater Awareness Plan to raise awareness of stormwater issues such as the path stormwater runoff takes, sources of stormwater pollution and the impact that polluted stormwater runoff has in the community(ies). The plan will identify:

- a) Target audience
- b) Outreach tool(s) to be used
- c) Message
- d) Distribution system
- e) Time line and implementation schedule
- f) Person(s) responsible for implementation
- g) Impact evaluation protocol
- h) Plan modification protocol (this must include DEP approval of significant plan modifications)
- i) Goals (e.g., the targeted level of change sought as a result of the education and outreach effort; specific measurable goals for plan implementation)

**Measurable Goal 1.2.2** – In Permit Year 3, the ISWG and the City of Westbrook will conduct and provide documentation of an evaluation and assessment on both the progress of implementing the Stormwater Awareness Plan as well as the impact the efforts are having on the target audience.

**Activities Completed During Permit Year 3:** The activities implemented as part of the revised Statewide Awareness Plan are included in Appendix B. The City also continued to provide Think Blue Maine links on its website and in municipal buildings. Additionally, the City regularly included stormwater related information on its Sustainable Westbrook Facebook page which currently has 257 “Likes”.

Additionally, staff participated in the following educational activities:

**May 13, 2016 – Presumpscot River Field Trip for Westbrook High School Seniors**

A City staff member participated in one day of a two day field trip for Westbrook High School seniors. Students were transported to Standish to conduct an array of water quality tests including pH, conductivity, BOD and a macro invertebrate study on Presumpscot River water as it leaves Sebago Lake. Those same students then repeated the tests on the river as it flows behind Riverbank Park in downtown Westbrook. Students compared the results and discussed what their findings represented in terms of water quality along the river.

**February 2016 – Present – Weekly Environmental Education at the My Place Teen Center**

A City staff member has been conducting weekly 1 hour environmental education activities at the My Place Teen Center. The original intent of the project was to focus on the issue of cigarette butt litter in the downtown area and its impact on water quality. Due to the nature of participation at the Teen Center (inconsistent attendance by individuals and the unexpectedly young age of participants) the activities have shifted to largely single day activities rather than a long range project. Activities have included, water quality testing on the Presumpscot River, cigarette butt

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litter mapping, watershed modeling, environmentally focused games, a nonpoint source pollution scavenger hunt, etc. The City plans to continue this partnership as it provides education and connection to a population that is difficult to reach through other methods of outreach.

### **BMP 1.3 – Develop and Implement Permit Awareness Plan**

***Party Responsible for Completion:*** City Engineer

***Party Responsible for Development:*** ISWG Education Coordinator

**Measurable Goal 1.3.1** – In Permit Year 3, the ISWG and the City of Westbrook will continue to implement Permit Awareness Plan to raise awareness of stormwater issues including MS4 permit requirements from municipal employees, elected officials and volunteers within municipal government. The plan will identify:

- a) Target audience
- b) Outreach tool(s) to be used
- c) Message
- d) Distribution system
- e) Time line and implementation schedule
- f) Person(s) responsible for implementation
- g) Impact evaluation protocol
- h) Plan modification protocol (this must include DEP approval of significant plan modifications)
- i) Goals (e.g., the targeted level of change sought as a result of the education and outreach effort; specific measurable goals for plan implementation)

**Measurable Goal 1.3.2** – As of March 1, 2014 the Permit Awareness Plan is considered approved and implementation of the Permit Awareness Plan will begin within one week of approval unless the DEP responds in writing or verbally otherwise. The schedule for raising awareness of the permit will be included as part of the Permit Awareness Plan.

**Activities Completed During Permit Year 3:** The activities implemented as part of the revised Statewide Awareness Plan are included in Appendix B.

### **BMP 1.4 - Continue Targeted BMP Adoption Efforts from Previous MS4 Permit Cycle**

***Party Responsible for Completion:*** City Engineer

***Party Responsible for Development:*** ISWG Education Coordinator

**Measurable Goal 1.4.1** – In Permit Year 3, the ISWG and the City of Westbrook will continue BMP adoption activities carried out in Permit Year 5 of the previous BMP Adoption Plan.

**Measurable Goal 1.4.2** – By November 1, 2013, submit a plan to encourage targeted audience to adopt or

practice specific BMPs that will reduce stormwater pollution. The Plan will include:

- a) BMP
- b) Target audience
- c) Outreach tool(s) to be used
- d) Message
- e) Distribution system
- f) Time line
- g) Person(s) responsible for implementation
- h) Impact evaluation protocol
- i) Plan modification protocol
- j) Targeted level of change as a result of the outreach effort (specific measurable goals for plan implementation)

**Measurable Goal 1.4.3** – In Permit Year 3, the ISWG and the City of Westbrook will conduct and provide documentation of an evaluation and assessment on both the progress of implementing the Stormwater Awareness Plan as well as the impact the efforts are having on the target audience.

A complete summary of the activities implemented as part of the BMP Adoption Plan are included in Appendix B.

### **BMP 1.5 – Enhance Education & Outreach Effort**

***Party Responsible for Completion:*** City Engineer

***Party Responsible for Development:*** ISWG Education Coordinator

**Measurable Goal 1.5.1** – By November 1, 2013, submit a plan to encourage targeted audience to adopt or practice specific BMPs that will reduce stormwater pollution. The Plan will include:

- a) Specific stormwater activity or pollutant to be addressed
- b) Target audience
- c) Outreach tool(s) to be used
- d) Message and the BMPs to be encouraged
- e) Time line and implementation schedule
- f) Person(s) responsible for implementation
- g) Goal of the outreach effort
- h) Impact evaluation protocol

**Measurable Goal 1.5.2** – As of January 15, 2014 the BMP Adoption Plan is considered approved and implementation of the Plan will begin unless DEP responds in writing or verbally otherwise. An overall schedule for BMP adoption will be included in the BMP Adoption Plan.

**Measurable Goal 1.4.3** – In Permit Year 3, the ISWG and the City of Westbrook will conduct and provide documentation of an evaluation and assessment on both the progress of implementing the Enhanced Education & Outreach Effort as well as the impact the efforts are having on the target audience.

**Activities Completed During Permit Year 3:** During Permit Year 3, Westbrook participated in the following general outreach activities:

- Attendance of the Winter Maintenance Roundtable by the Director of Engineering and Public Services and a Public Services Supervisor
- Attendance and hosting of the 5/30/16 Cumberland County Municipal Managers' Meeting
- Attendance of the 5/26/16 Cumberland County Clean Water Council by the MS4 Coordinator
- Attendance of the Main Stormwater Conference by Director of Engineering and Public Services, MS4 Coordinator

The activities completed to implement the Education & Outreach Plan in collaboration with the ISWG are included in Appendix B.

## ***MCM 2 - Public Involvement and Participation***

Westbrook will fulfill the requirements for Public Involvement and Participation through participation in the Interlocal Stormwater Working Group (ISWG) and the City's provision of funding to the ISWG for Public Involvement and Participation services, or through directly fulfilling the requirements, as described in this section of the plan. For specific permit requirements, refer to Part IV(H)(2) of the General Permit.

### **MCM Goal**

To involve the public in both the planning and implementation process of improving stormwater quality and reducing quantity via the stormwater program.

### ***BMP 2.1 – Public Notice Requirement***

***Party Responsible for Completion:*** City Engineer

***Party Responsible for Development:*** ISWG Stormwater Program Coordinator

**Measurable Goal 2.1.1** – ISWG and the City of Westbrook will follow state and local Public Notice requirements for both ISWG and individual Stormwater Management Plans. Copies of the plan will be made available on the [Maine DEP](#) and [City of Westbrook](#) websites.

**Measurable Goal 2.1.2** – ISWG and the City of Westbrook will follow state and local requirements when involving stakeholders in the implementation of Small MS4 General Permit.

**Activities Completed During Permit Year 3:** Public notice requirements including documentation of meetings and attendance, where applicable, are included in Appendix B.

### ***BMP 2.2 – Host Public Events***

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**Party Responsible for Completion:** City Engineer

**Party Responsible for Development:** ISWG Stormwater Program Coordinator

Measurable Goal 2.2.1 – ISWG and/or City of Westbrook will annually host/conduct or participate in at least one public event such as storm drain stenciling, stream clean-up, household hazardous waste collection day, volunteer monitoring, neighborhood education events, conservation commission outreach program, Urban Impaired Stream outreach education or an Adopt-A-Storm-Drain or Adopt-A-Stream program. The target audience will be the adult residents living in the Urbanized Area of the City of Westbrook. The ISWG and/or City of Westbrook will consult with DEP to ensure the event will satisfy requirements. In particular, the City of Westbrook will continue hosting an annual household hazardous waste day to minimize the potential for illegal dumping in Mill Brook.

**Activities Completed During Permit Year 3:** – A description of the events is included below. A more complete analysis of the Urban Runoff and Green Neighbor Family Fest, including estimated attendance/participation and an impact evaluation to assess effectiveness of the methods used to plan and host the event, is included in Appendix B.

#### September 25, 2015 – Household Hazardous Waste Day

The City continued to hold an annual Household Hazardous Waste Day for Westbrook residents. The event was held at the Pine Tree Waste facility at 594 County Road in Westbrook allowing residents to become familiar with the relatively waste disposal new facility and the services it provides in addition to the primary goal of collecting household hazardous and electronic waste. Materials collected included but were not limited to oil based paints and stains, petroleum

products including fuels, fluorescent tubes, batteries and pesticides. Detailed records of participants and collected materials are available upon request.



City of Westbrook 2016 Urban Runoff Team

#### April 23, 2016 – Urban Runoff and Green Neighbor Family Fest

The City continued to support the ISWG in the annual Urban Runoff & Green Neighbor Family Fest. One staff member

volunteered at the event assisting with race and festival coordination as well as event clean up. Free entry to the race was offered to all City staff and family members and the City of Westbrook produced the second largest municipal team with 19 City employees/family members participating in the run.

#### May 7, 2016 – Community Cleanup Day

The City hosted an annual Community Cleanup Day in partnership with Westbrook's [Frenchtown Community Policing Office](#). This partnership allowed the event to significantly expand to the north side of the Presumpscot River with the addition of a second information and supply hub in addition to traditional hub in Riverbank Park. Adding this second hub increased participation by residents who live on the north side of the river and allowed us to focus clean up in an area that is both in close proximity to the Presumpscot River and historically a hot spot for litter and dumping. Informational materials on stormwater pollution and water quality were provided to participants.

#### ***MCM 3 - Illicit Discharge Detection and Elimination***

The City of Westbrook will continue developing, implementing and enforcing a program to detect and eliminate illicit discharges and non-stormwater discharges within the MS4 area as defined in 06-096 CMR 521(9)(b)(2) except or excluding allowable non-stormwater discharges listed in Part IV(H)(3)(c) of the MS4 General Permit.

#### MCM Goals

1. Continue developing and maintaining current watershed-based storm sewer system infrastructure
2. Implement and enforce a non-stormwater discharge ordinance that includes coordination with the Portland Water District (PWD) to determine if water line and hydrant flushing are significant contributors of pollutants to the City's MS4 system
3. Develop and implement a prioritized dry weather outfall inspection plan
4. Develop and implement a prioritized dry weather ditch system inspection plan
5. Develop a list of septic systems that are 20 years old or older and may discharge to the City's MS4 system and implement a strategy to detect illicit discharges from any of these systems that may be failing.

For specific permit requirements and suggestions, refer to DEP's General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems Part IV(H)(3).

## BMP 3.1 – Continue to develop and maintain an Updated Watershed Based Storm Sewer System Infrastructure Map

### **Responsible Party – City Engineer**

**Measurable Goal 3.1.1** – During Permit Years 1 – 5, update and maintain the storm sewer system map by collecting and/or updating data as additional or new information is available. Updates are made to the Westbrook map on a quarterly basis.

**Activities Completed During Permit Year 3:** – In Permit Year 3, Westbrook experienced significant growth which is reflected in the aggregate number of stormwater structures:

Public System	Permit Year 2	Permit Year 3	Change
Catch Basin	2,166	2,204	+38
Drain Manholes	640	640	0
Outlet Controls	5	5	0
Private System	Permit Year 2	Permit Year 3	Change
Catch Basin	1,179	1,275	+96
Drain Manholes	223	233	+10
Outlet Controls	28	29	+1
Total	Permit Year 2	Permit Year 3	
Catch Basin	3,345	3,479	
Drain Manholes	863	873	
Outlet Controls	33	34	

In Permit Year 3, the city's GIS Consultant, GIS Mapping & Analysis reviewed 24 surveys submitted to the city in 2015 as a result of the Site Plan Review process. As you can see in the above chart, nearly three times as many structures were added in private development as in the public sphere. The consultant is currently reviewing the site plans submitted in 2016 but has yet to add those data into the totals. He is also working methodically backwards from the 2014 site plans to 2010. That will include 72 site plans. Once that is complete, all site plans submitted to the city in digital form will have been incorporated in the city's stormwater system since 2004. (All site plans from 2004 to 2010 have been integrated into the stormwater geodatabase).

At this point in the stormwater geodatabase development, no distinction is made with regard to the length of stormwater pipe. Below is the status of all stormwater pipes as of the end of Permit Year 3:

Pipe Type	Segments	Length (Ft)	Length (Miles)
CSO	13	1,246	0.24
Culvert	758	39,498	7.47
Force Main	1	234	0.04

Gravity	4,786	399,819	75.57
Roof Drain	127	5,135	0.97
Underdrain	252	14,133	2.67
<b>Totals</b>	<b>5,937</b>	<b>460,064</b>	<b>86.95</b>

### **BMP 3.2 – Continue to Enforce the Non-Stormwater Discharge Ordinance**

***Responsible Parties – City Engineer/Code Enforcement Officer***

**Measurable Goal 3.2.1** – During Permit year 1 – 5, continue to implement, to the extent allowable under State or local law, the Illicit Discharge Ordinance, adopted July 6, 2009.

**Activities Completed During Permit Year 3:** The City continued to enforce the Non-Stormwater Discharge Ordinance adopted July 6, 2009. Considerable effort has been focused on improving the consistency of the reporting and documentation of illicit discharges after this was determined to be a deficiency in the City stormwater program during the April 8, 2015 DEP audit. Multiple trainings have focused on this aspect of the stormwater program. Those trainings are described in MCM 6. We have records of responding to 7 incidents in Permit Year 3. A table of these events is included in Appendix C. Additionally, Westbrook sent a letter to all interconnected MS4s informing the representatives how to respond to an illicit discharge that threatens the Westbrook MS4 system.

### **BMP 3.3 – Continue Dry Weather Outfall Inspection Program**

***Responsible Party – City Engineer***

**Measurable Goal 3.3.1** – During the previous permit cycle, Westbrook designated Nason’s Brook as our priority watershed however we have reevaluated and reassigned that designation to Mill Brook. In Permit Years 1 – 5, dry weather outfall inspection of the priority watershed will be conducted.

**Measurable Goal 3.3.2** – In Permit Year 1, the City will review the standard operating procedure (SOP) for the dry weather outfall inspection program and revise it as necessary. The City will have the reviewed SOP available no later than September 19, 2014.

**Activities Completed During Permit Year 3:** During Permit Year 3, dry weather outfall inspections were conducted in the Mill Brook and Long Creek watershed. Inspections were conducted in June 2016. The City has transferred the responsibility for conducting dry weather outfall inspections from a GIS consultant to the City Sustainability Coordinator and inspection results are recorded Westbrook Stormwater Program Annual Report: Permit Year 3

using a handheld Juno device. This program allows staff to designate outfalls needing follow up. That designation is easily sorted from the remaining data by exporting a CSV file.

During Permit year 4, the City intends to transfer the recording of dry weather outfall inspections to the same cloud based program currently used to record catch basin cleaning and begin photographing outfalls during the inspection process. Outfall inspection records are currently unavailable due to technical difficulties with the Juno device, however, a replacement part has been ordered and records will be available and submitted to the DEP within 2 weeks of the submission of this report.

The dry weather outfall inspection SOP is included in Appendix D.

#### BMP 3.4 – Continue Open Ditch Illicit Discharge Program

##### ***Responsible Party – City Engineer***

**Measurable goal 3.4.1** – In Permit Year 1, the City will finalize the standard operating procedure (SOP) for detecting illicit discharges within the ditch system of the highest priority watershed - Mill Brook. The City will have the SOP available no later than September 19, 2014.

**Measurable goal 3.4.2** – In Permit Years 2 – 5, the City will continue implementing the standard operating procedure for the inspection program to detect and illicit discharges in the open ditch system of the highest priority watershed - Mill Brook.

**Activities Completed During Permit Year 3:** In Permit Year 3, 124 ditches were mapped in the Mill Brook watershed, the city's priority watershed. Of these, all but 10 were inspected this permit year. In addition,

A	B	C	D	E	F	G	H	I	J	K	L
DitchID	Inspected	Watershed C	WatershedNa	Watershed Type	Receiving Wa	Geometry	Depth	Profile	Lining	Check Dams	Man M
MB1_3	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Moderately Flat	Other	No	Yes
MB1_6	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Steep	Vegetated	No	Yes
MB1_7	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Steep	Riprap	No	Yes
MB1_8	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Less Than 24"	Steep	Natural	No	No
MB1_9	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Steep	Natural	No	No
MB1_10	Yes	MB1	MillBrook	MS4Priority	MillBrook	Trapezoidal	Greater Than 24"	Moderately Flat	Riprap	No	Yes
MB1_11	Yes	MB1	MillBrook	MS4Priority	MillBrook	Trapezoidal	Greater Than 24"	Steep	Riprap	No	Yes
MB1_12	Yes	MB1	MillBrook	MS4Priority	MillBrook	Trapezoidal	Greater Than 24"	Moderately Flat	Riprap	No	Yes
MB1_13	Yes	MB1	MillBrook	MS4Priority	MillBrook	Trapezoidal	Greater Than 24"	Moderately Flat	Riprap	No	Yes
MB1_14	Yes	MB1	MillBrook	MS4Priority	MillBrook	Trapezoidal	Greater Than 24"	Moderately Flat	Riprap	No	Yes
MB1_15	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Moderately Flat	Vegetated	No	No
MB1_16	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Steep	Vegetated	No	Yes
MB1_17	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Less Than 24"	Moderately Flat	Vegetated	No	No
MB1_18	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Less Than 24"	Moderately Flat	Grass	No	Yes
MB1_20	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Moderately Flat	Other	No	Yes
MB1_21	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Less Than 24"	Moderately Flat	Grass	No	No
MB1_22	Yes	MB1	MillBrook	MS4Priority	MillBrook	Parabolic	Greater Than 24"	Moderately Flat	Other	No	Yes

34 Ditch Outfalls were mapped. A portion of the associated database is shown in Table 2. A complete inspection report for the ditches in the Mill Brook is included in Appendix E.

**Table 2: Ditch Inspections Sample Data**

#### BMP 3.5 – Septic System Evaluation

***Responsible Party – City Engineer***

**Measurable Goal 3.5.1** – By the end of Permit Year 3, June 30, 2016, the City will develop a list of septic systems in their highest priority watershed (Mill Brook) that are  $\geq$  20 years old and which may discharge into the MS4 if the system fails.

**Measurable Goal 3.5.2** – By the end of Permit Year 4, June 30, 2017, the City will implement a drive by evaluation and documentation program of the aging septic systems identified in Measurable Goal 3.5.1. The program will include mechanisms to address any discharges from failed septic systems.

**Activities Completed During Permit Year 3:** A significant effort was made in Permit Year 3 to identify parcels in Westbrook which are on septic. Of the 6,203 parcels of land in Westbrook, 5,503 have dwellings. Of that 5,503, 1,092 are on septic. In other words, 71% of the city's dwellings are on city sewer, 17% are on septic and 12% is undeveloped land. The city's planning department has just begun to filter the list of 1,092 to arrive at parcels with systems older than 20 years. GIS will be used owing to the fact that all site plans since 2004 are digital. However, site plans do not capture the grandfathered lot splits and other types of land division. Code Permits and Occupancy permits will have to be consulted which are mostly in paper form.

A D-Size map (24ix36i) showing the designated parcels is available upon request but is too large to attach.

***BMP 3.6 – Coordinate with the Portland Water District to Determine if Water Line or Hydrant Practices Are a Significant Contributor of Pollutants to the MS4***

***Responsible Party – City Engineer***

**Measurable Goal 3.6.1** – In Permit Year 1, coordinate with the Portland Water District to evaluate whether or not water line or hydrant flushing from potable water sources is a significant contributor of pollutants to the MS4. Evaluation will include the following action:

- Provide the Portland Water District with a location map showing the extent of the municipal urbanized area, and the highest priority watershed(s).
- Gather information from the Portland Water District, 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.

Measurable Goal 3.6.2 – 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 Westbrook will work with the water utility 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 Westbrook 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 Portland Water District’s testing results of the total residual chlorine for any such discharges.

Measurable Goal 3.6.3 – Permit Years 3 – 5, the municipality 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 Portland Water District’s testing results of the total residual chlorine for any such discharges.

Measurable Goal 3.6.4 – If it is determined by the end of Permit Year 3, June 31, 2016, that water line or hydrant flushing is a significant contributor of pollutants to the MS4, and the Portland Water District has demonstrated that it will not voluntarily implement BMPs in order to reach ambient water quality criteria for chlorine, the Westbrook 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.

**Activities Completed During Permit Year 3:** A location map showing the Urbanized Area and highest priority watersheds has been provided to the Portland Water District and representatives of the Westbrook Stormwater Program have participated in meetings with the Water District and other MS4 communities to develop an SOP for hydrant flushing to minimize the impact to water quality. A memo describing the BMPs the Portland Water District has implemented to meet MS4 requirements is included in Appendix F.

#### ***MCM 4 - Construction Site Stormwater Runoff Control***

##### **MCM Goal**

Continue to implement and enforce a program to reduce pollutants in any stormwater runoff to the regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.

The City will rely on the Maine Construction General Permit (MCGP) or Chapter 500 to meet the requirements of the General Permit. For specific permit requirements and suggestions, refer to

MDEP's General Permit for Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems Part IV(H)(4).

**BMP 4.1 – Continue notification to construction site developers and operators of the requirements for registration under the Maine Construction General Permit of Chapter 500, Stormwater Management for the discharge of stormwater associated with construction activities.**

***Responsible Party – City Engineer***

**Measurable goal 4.1.1** – Continue notifying developers and contractors through the modified building permit and Planning Board review process, and through meetings with Code Enforcement and Planning staff. The documents provide notification to applicants of the requirements for registration under the Maine Construction General Permit or Chapter 500 Stormwater Management for the Discharge of Stormwater Associated with Construction Activities.

**Activities Completed During Permit Year 3:** The City Planning Board Application includes a box to be checked by the permittee if the proposed project will have 1 acre or more of site disturbance, require a Maine Construction General Permit and fall under Chapter 500 Stormwater Regulations. A copy of the application is included in Appendix G.

**BMP 4.2 – Continue documenting every construction activity that disturbs one or more acres within the Urbanized Area.**

***Responsible Parties – City Engineer/City Planner***

**Measurable Goal 4.2.1** – During the previous permit cycle, the public works director developed a spreadsheet to document the construction activities that disturb more than one acre of land in the Urbanized Area. By June 30 each year the spreadsheet will be updated to include the construction projects in the Urbanized Area that disturbed more than one acres of land.

**Activities Completed During Permit Year 3:** A copy of the spreadsheet tracking activities that disturb greater than one acre of land is included in Appendix H.

**BMP 4.3 – Continue implementing the construction site inspection program.**

***Responsible Party – City Engineer***

**Measurable Goal 4.3.1** – During the previous permit cycle, the City developed a procedure for construction site inspections by either a municipal official or a contracted third party to meet the terms and conditions of the MS4 General Permit. The program includes three construction inspections for sediment and erosion control issues in those sites that are in the highest priority watershed (Mill Brook) and two inspections in all other portions of the Urbanized Area. One of the inspections occurs at the end of construction to document that final stabilization of the site has been completed. The City will continue to implement this program and by June 30 each year will document this information in the Construction Inspection Tracking spreadsheet that is also used to document BMP 4.2.

**Activities Completed During Permit Year 3:** The City has established a spreadsheet tracking activities that disturb greater than one acre of land is included in Appendix H. The dates of inspections during Permit Year 3 are included in this spreadsheet. Additionally, the City filled a new Code Enforcement Officer position in Permit Year 2. This additional resource and CEO stormwater training, described within MCM 6, has enabled the City to perform more opportunistic inspections of both greater and less than 1 acre projects. Third party inspection reports are submitted to the City Planner, forwarded to the Stormwater Coordinator and stored in binders. Due to the large amount of documentation these reports are not included but are available upon request.

#### **BMP 4.4 – Enhanced Certification in Mill Brook**

##### ***Responsible Party – City Engineer***

**Measurable Goal 4.4.1** – Whenever the City hires a contractor to do work in Mill Brook, they will hire a contractor certified by the State in sediment and erosion control.

**Activities Completed During Permit Year 3:** The City hired no contractors to do work in Mill Brook during Permit Year 3.

#### ***MCM 5 - Post-Construction Stormwater Management***

##### **MCM Goal**

- 1) Continue to implement to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the City's MS4
- 2) Continue to implement an ordinance or similar measure to ensure adequate long-term operation and maintenance of post construction BMPs

- 3) Ensure post construction BMPs are functioning as intended
- 4) Document and report annually to the MDEP all applicable post-construction information

For specific permit requirements and suggestions, refer to Part IV(H)(5) of the General Permit

#### **BMP 5.1 – Continue to Enforce the Post-Construction Stormwater Management Ordinance**

*Responsible Parties – City Engineer/Code Enforcement Officer*

**Measurable Goal 5.1.1** – In Permit Years 1 – 5, continue to implement the Post Construction Discharge Ordinance (effective April 5, 2010) which requires that any site which disturbs more than one acre certify to the City annually, by March 1, that they have inspected and maintained their stormwater BMPs. This ordinance is Article III of Chapter 37 Post-Construction Stormwater Management. The City will continue to enforce this ordinance.

**Activities Completed During Permit Year 3:** The City continues to implement the Post-Construction Stormwater Management ordinance (Chapter 37-1 through 37-29) in an effort to ensure that all post-construction stormwater BMPs are being installed and maintained.

#### **BMP 5.2 – Track Post Construction Sites to Ensure Proper Reporting and Compliance with the Ordinance.**

*Responsible Parties – City Engineer/Code Enforcement Officer*

**Measurable Goal 5.2.1** – In Permit Years 1 – 5, continue to track sites that trigger the Post Construction Ordinance and to document the following elements which are required to be reported to the Maine DEP:

- The cumulative number of sites that have post construction BMPs discharging into the City of Westbrook's MS4
- A summary of the number of sites that have post construction BMPs discharging into the City of Westbrook's MS4 that were reported to the municipality
- The number of sites with documented functioning post construction BMPs
- The number of sites that required routine maintenance or remedial action to ensure that the post construction BMP is functioning as intended

The City will complete the spreadsheet by June 30 each year.

**Activities Completed During Permit Year 3:** The Westbrook Post Construction Ordinance requires property owners of sites that disturb more than one acre of land to submit annual reports prepared by a qualified post-construction stormwater inspector to the City Engineer ensuring that all stormwater BMPs have been properly inspected and maintained and noting any deficiencies. Activity at these sites, including report submission and inspections, is tracked in the spreadsheet included in Appendix H.

**BMP 5.3 – Develop and implement a procedure for notifying site developers to consider incorporating low impact development (LID) techniques.**

*Responsible Parties – City Engineer/City Planner*

**Measurable Goal 5.3.1** – By the end of Permit Year 1, the City will establish a standard operating procedure (SOP) for notifying developers to consider LID techniques. The City will have the SOP available no later than September 19, 2014.

**Measurable Goal 5.3.2** – During Permit Years 2 – 5, implement the SOP for notifying developers to consider LID techniques.

**Measurable Goal 5.3.3** – During Permit Years 2 – 5, evaluate the methods used to encourage developers to use LID techniques.

**Activities Completed During Permit Year 3:** The City does not have a written SOP for notification of developers to consider LID techniques. Instead, the City has taken a more proactive approach by having the implementation of LID techniques a key part of an ongoing conversation with the City Engineer and Planner during the project review process. An SOP describing this approach can be developed upon request; however, the City plans to continue with this method of encouraging LID techniques.

***MCM 6 - Pollution Prevention/Good Housekeeping for Municipal Operations***

This program has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

**MCM Goals**

- Maintain an updated inventory of all municipal operations conducted in, on, or associated with facilities, buildings, cemeteries, parks and open space owned or operated by regulated MS4s that have the potential to cause or contribute to stormwater or surface water pollution.
- Continue to implement written operation and maintenance procedures for the facilities in the inventory to ensure long term operation of structural and non-structural controls that reduce stormwater pollution of the maximum extent practicable.
- Train employees on ways to prevent and reduce stormwater pollution from municipal operations and facilities.
- Continue to implement a program to sweep all publically accepted

For specific permit requirements and suggestions, refer to Part IV(h)(6) of the General Permit.

### ***BMP 6.1 – Operations at Municipally Owned Grounds and Facilities***

*Responsible Parties – City Engineer/Public Services Director*

**Measurable Goal 6.1.1** – During Permit Year 1, review the inventory the City created of all municipal operations conducted in, on, or associated with facilities, buildings, cemeteries, parks and open space that have the potential to cause or contribute to stormwater or surface water pollution.

**Measurable Goal 6.1.2** – During Permit Year 3, compare the inventory of City operations to the existing standard operating procedures (SOPs) to ensure that all municipal operations have an appropriate SOP in place. Develop any additional SOPs necessary to encompass municipal operations.

**Measurable Goal 6.1.3** – During Permit Years 1 -5, continue to implement the Standard Operating Procedures (SOPs) listed at <http://www.thinkbluemaine.org/docs/municipal/sopv2.pdf>. The City will continue to implement these SOPs at the inventoried facilities in City. Where the Public Services Director is not responsible for implementing the SOPs (I.E., at the police and fire departments), those facilities will maintain copies of their SOPs onsite.

**Activities Completed During Permit Year 3:** The City previously developed an inventory of procedures that have the potential to cause or contribute to stormwater or surface water pollution and has implemented the appropriate Think Blue Maine SOPs to reduce the potential for stormwater and surface water pollution. The inventory is reviewed approximately every 6 months as the City shifts from summer to winter operations and vice versa. During Permit Year 3, the

inventory of City operations was reviewed to ensure that it encompasses all municipal activities. This inventory was compared to the current City SOPs ensuring that all activities are managed by an appropriate SOP.

## **BMP 6.2 – Municipal Employee Training**

*Responsible Parties – City Engineer/Public Services Director*

**Measurable Goal 6.2.1** – By the end of Permit Year 3, identify the training needs and materials.

**Measurable Goal 6.2.2** – In Permit Years 3-5, implement a municipal employee training program to reduce stormwater pollution potential from municipal operations. For suggesting topics to be covered by the training program, refer to Part IV(H)(6.a.ii) of the General Permit.

**Activities Completed During Permit Year 3:** Staff training has been a particular focus during Permit Year 3 and Westbrook benefitted by being designated as one of the communities to receive enhanced and targeted outreach from the CCSWCD. This outreach included the following meetings/trainings:

### **10/7/15: Initial Planning/Consultation Meeting**

**Attendants:** Director of Engineering and Public Services and MS4 Coordinator and CCSWCD staff

**Goals:** Establish a plan to meet MS4 training needs focusing on interdepartmental awareness and Code Enforcement Officer responsibilities within the MS4 program.

**Outcome:** A plan was established for the CCSWCD to facilitate the necessary trainings in Permit year 3.

### **3/11/16: Interdepartmental Meeting**

**Attendants:** City Manager, Director of Engineering and Public Services, Public services Director of Operations, MS4 Coordinator, School Transportation Coordinator, Westbrook School Department Director of Operations, Chief of Police, Fire Chief, Deputy Fire Chief, Code Enforcement Officers, City Planner and CCSWCD staff

**Goal:** To expand knowledge of the requirements of the MS4 permit to various City departments and to improve the cooperation and communication between departments.

**Outcome:** City staff previously unfamiliar with the requirements of the MS4 program or unaware of their role in meeting these requirements received a description of the program and their responsibilities within the program in a facilitated conversation tailored to meeting Westbrook's needs.

### **5/5/16 & 5/24-25/16: Police Department Training**

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Attendants: 25 of the Westbrook police department attended this training over the course of three days. An additional officer was provided the Powerpoint slides of the training to review on her own and she was encouraged to submit any questions.

Goal: To expand knowledge of the requirements of the MS4 permit and to highlight the responsibilities that fall upon the police department.

Outcome: Police department staff developed a clearer understanding of the impact of the MS4 permit on their department.

### **6/16/16: Code Enforcement Stormwater Training**

Attendants: Code Enforcement Officers, City Planner, Assistant City Planner, Director of Engineering and Public Services, MS4 Coordinator, Windham Code Enforcement Director, CCSWCD staff.

Goal: To familiarize Code Enforcement Officers with their role in the MS4 program, to empower them to interact with both developers/contractors and residents on behalf of the program and to improve communication between the Planning and Code Enforcement departments and the Engineering/Public Services Department and MS4 coordinator.

Outcome: Code Enforcement Officers became more familiar with the MS4 program and communication between the CEOs and MS4 Coordinator notably improved resulting in several shared inspections and potential stormwater issues viewed by the CEOs being relayed to the MS4 Coordinator.

### **6/24/16: Annual Good Housekeeping/Pollution Prevention Training**

Attendants: 12 members of the Public Services staff. In Permit Year 3, the Public Services department established a 2-year rotation for staff member attendance of this training.

Goal: To review the role of the Public Services staff in meeting the requirements of the MS4 program.

Outcome: For the majority of staff members this was the second attendance of this training. We have found that it serves as an excellent refresher for the staff and typically leads to an increase of reporting of illicit discharges to the Stormwater Coordinator.

Additionally, all new Public Service employees receive a Good Housekeeping/Pollution Prevention training as part of their orientation process and the entire department receives an annual Westbrook specific Good Housekeeping/Pollution Prevention training.

### **BMP 6.3 – Street Sweeping**

***Responsible Party – Public Works Director***

Measurable Goal 6.3.1 – In Permit Years 1 – 5, continue to sweep all publicly accepted paved streets and publicly owned paved parking lots at least once as soon as possible after snowmelt. Additional street sweeping will be conducted in the Long Creek.

**Activities Completed During Permit Year 3:** The City continues its ongoing and aggressive sweeping program for municipally owned or operated streets, parking areas and sidewalks. In addition to sweeping in the fall to remove leaves from streets, the City sweeps routinely during the winter to prevent sand accumulation on roads as well as in the spring after snow melt and as needed during the summer. In Permit Year 3, the Westbrook sweeping program collected 721.1 tons of material. Due to year round sweeping activities, sweeping dates are not included in this report but are available upon request. All sweepings are disposed of at CPRC.

***BMP 6.4 – Cleaning of stormwater structures including catch basins***

***Responsible Party – Public Works Director***

Measurable Goal 6.4.1 – In Permit years 1 – 5, the City will continue to inspect all catch basins and clean catch basins and other stormwater structures that accumulate more than 3 inches of sediment and dispose of the removed sediment according to state law. The City will clean catch basins more frequently if inspections indicate excessive accumulation of sediment. Excessive accumulation is greater than or equal to 50 percent filled.

**Activities Completed During Permit Year 3:** The City continued its catch basin program established in previous permit cycles and increased the rate of catch basins cleaned per year to meet the 2 year cleaning cycle requirement. Record keeping was accomplished using an iPad and cloud based ArcGIS program. Information collected includes structure size and condition, debris found and accessibility. In Permit Year 3, staff collected a total of 457.9 tons of material from 1301 catch basins. Due to the amount of data, the csv file showing all catch basin cleanings is not included in this report, however, a map showing the locations of the cleaned basins is included in Appendix I.

***BMP 6.5 – Maintenance and upgrading of stormwater conveyances and outfalls***

***Responsible Party – Public Works Director***

Measurable Goal 6.5.1 – During Permit Years 1 – 5, the City will continue to maintain and upgrade the stormwater conveyance systems based on the results of catch basin, outfall and ditch inspections in accordance with the urgency of the repair.

**Activities Completed During Permit Year 3:** Catch basins are inspected as part of the City catch basin cleaning program and notes are made regarding maintenance and upgrades that need to be conducted. When the data from the catch basin cleaning form was input into the GIS program, a staff member was able to mark any catch basins requiring follow up. Outfalls are typically inspected as part of the annual program conducted in Mill Brook and Long Creek. The City began conducting ditch inspections in the spring of 2015. All tracking programs for these activities allow the inspector to mark the structure as requiring follow up which included maintenance and upgrading.

#### **BMP 6.6 – Stormwater Pollution Prevention Plans (SWPPPs)**

*Responsible Parties – City Engineer/Public Works Director*

**Measurable Goal 6.6.1** – During Permit Year 1, the City will review and update the SWPPP for the Public Services Facility to conform to the conditions and requirements of the Maine Multi-Sector General Permit for Stormwater Discharge Associated with Industrial Activity published April 26, 2011. During subsequent permit years, the City will implement the SWPPP, including conducting quarterly visual monitoring and quarterly housekeeping inspections.

**Measurable Goal 6.6.2** – Although the Public Services garage does not exceed the 1,320 gallon threshold requiring an Oil Spill Prevention Control and Countermeasure Plan, the garage holds a Site Location of Development requiring a Spill Plan. The City will update the Spill Plan during Permit Year 1.

**Activities Completed During Permit Year 3:** As part of an April 8, 2015 DEP audit of the City stormwater program, the City conducted a thorough review and update of municipal SOPs, SWPPPs, SPCC plans and O&M documents. The DEP was able to offer guidance on changes and improvements for these documents. In Permit Year 3, the Public Services and School Transportation facility SWPPPs, SPCC Plans, and O&M documents underwent a major revision as construction on new facilities progressed. Additional adjustments are anticipated as construction finishes. Public Services, Sewer department and Public Safety fleet maintenance staff receive SWPPP training twice per year and SWPPP training is included in the introductory training for new employees. Due to the number and size of these documents, individual SWPPPs, SPCC plans and O&M plans are not attached but are available upon request.

## Section 3: General Requirements

### *3.1 Certification*

The General Permit requires that this report be certified by either a principal executive officer or ranking elected official. This section provides the necessary certification.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

Signature: 

Date: 9-15-16

Jerre Bryant  
City Administrator