MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

ANNUAL CSO PROGRESS REPORT FOR 2015

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Permittee:	**City of Portland**	Contact Person:	**Bradley A. Roland, P.E.**
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	Portland, Maine 04101	MEPDES Permit No.	**ME0101435**
		Maine License No.	**W 008010-5T-E-M**

Indicates Cell Value Calculated By Spreadsheet

Indicates Cell With A Dropdown List

1. Information on Combined Sewer System

A.	Current sewered population		**66,317**
B.	Current number of residential users (connections to sewer)		**14,987**
C.	Current number of commercial/industrial users (connections to sewer)		**1,491**
D.	Current average residential user charge, ($/year)	$	**465.63**
E.	Median Household Income (MHI), ($/year)	$	**45,865**
F.	Current residential user charge expressed as percent of MHI, (%)	%	**1.02**
G.	Original number of CSO locations at beginning of abatement program		**39**
H.	Current number of CSO locations		**31**
I.	Percent reduction of CSO points to date, (%)	%	**21**

J. List any CSOs removed in reporting year, (list individually)

	CSO #	Name
1.		
2.		
3.		
4.		

K.	Total sewer footage, (feet)		**1,251,620**
L.	Original percent of combined sewer to total sewer, (%)	%	**85.0**
M.	Current percent of combined sewer to total sewer, (%)	%	**61.0**
N.	Percent reduction of combined sewer, (%)	%	**28.2**

ANNUAL CSO PROGRESS REPORT FOR 2015

2. CSO Progress

A. Are you on schedule with your approved CSO Abatement Plan? (Yes, No) **No**

B. If existing schedule is behind the approved schedule, list the reasons why and how the permittee proposes to catch up in order to comply with the approved schedule.

In addition to the projects identified in the November 25, 2015 letter to MeDEP CSO compliance officer, the City is currently approximately 12 months behind on the State street and

C. List major accomplishments last year to reduce or abate CSOs, (list individually)

	Project	Estimate of flow reductions
1.	**Morse Street Sewer Separation**	**60 Acres**
2.	**Deering Street - Mellen to State**	**7.3 Acres**
3.	**Fox Street**	**4.3 Acres**

D. Costs:

1)	Total original cost estimate for complete program from initial CSO Master Plan	$	**52,000,000**
2)	Revised total cost estimate for complete program from Updated CSO Master Plan (includes all prior costs and update costs)	$	**232,870,354**
3)	Total cost of CSO abatement to date	$	**109,174,830**
4)	Percent complete by cost (3÷2 or 3÷1 above), (%)	%	**47**
5)	Total SRF loans to date	$	**58,399,500**
6)	Total cost of CSO projects in reporting year	$	**4,103,259**
7)	Anticipated budget for CSO projects next year	$	**49,420,000**
8)	Sewer O&M budget in reporting year	$	**9,637,832**
9)	Anticipated sewer O&M budget for next year	$	**10,329,001**
10)	Estimated CSO needs for next five years (include cost in no.7)	$	**153,535,000**

E. Private inflow sources:

1)	Has a house to house survey been done?	(Yes, No)	**Yes**
2)	If yes, when?		**2014**
3)	If no, is one planned?	(Yes, No)	
4)	If no, when?		
5)	Number of roof leaders removed to date		**141**
6)	Number of roof leaders removed in reporting year		**0**
7)	Number of known roof leaders remaining in system		**0**
8)	Number of basement sump pumps removed to date		**9**
9)	Number of basement sump pumps removed in reporting year		**0**
10)	Number of known sump pumps remaining in system		**0**
11)	Number of known foundation drains to system		**0**
12)	Do you charge a surcharge for private sources?	(Yes, No)	**Yes**
13)	If yes, how much and what unit?	$ **10**	**Per 100 c.f.**
			(Each, Per 100 c.f.)

ANNUAL CSO PROGRESS REPORT FOR 2015

F. Other inflow sources

1)	Number of catch basins removed this year		**50**
2)	Number of catch basins remaining in system		**6,273**
3)	Are there any wetlands/bogs draining to sewer?	(Yes, No)	**Yes**
4)	Are there any streams intercepted by sewer?	(Yes, No)	**No**
5)	If yes to 3 or 4, what plans are there to deal with them?		

Continued implementation of the CSO Master Plan and CMOM programs will result in the reduction and/or removal of direct wetland connections into sewer.

G. Results of any specific flow monitoring to determine effectiveness of previous CSO abatement projects. Compare actual CSO abatement with projections made during the CSO Master Plan.

A table of CSO Monitoring is available upon request. Monitoring by the PWD in 2015 continues to be evaluated against the SWMM for calibration of the model and population of the attached annual discharge table. Additional monitoring was conducted within the Bayside and Baxter Boulevard watershed for calibration of the model associated with the Back Cove South Storage Conduit and

H. Yearly precipitation, CSO events, volumes, or block test data.
(Enter data on Excel spreadsheet CSOFLOWS.xls)

I. Work done on the Nine Minimum Controls during the year.

1) Results of operation and maintenance (O&M) program for the sewer system and combined sewer system overflows during the year.

a. Who is responsible for combined sewer system O&M?

Name	**Bob Leeman**	Tel. No.	**207-874-8801**
Title	**Interim Director of Public Works**		
Dept.	**Public Works**		
Size Staff			

b. Inspection schedules

Number of CSO regulators	**40**	Inspection interval	**As Needed**
Number of tide gates	**9**	Inspection interval	**Quarterly**
Number of pump stations	**20**	Inspection interval	**Daily**
Number of CSO outfalls	**31**	Inspection interval	**Annually**

c.

Document the following activities that were performed and include the tons or cubic yards of debris removed last year from catch basins and sewers.

Catch Basin Cleaning

Total # of Basins Last Year	# of Basins Cleaned Last Year	Debris Removed
6323	**1452**	**543** **Tons**

(Please attach cleaning schedule if available) (Tons, Cu. Yds.)

Sewer Cleaning

Total Combined Sewer		Footage Cleaned Last Year		Debris Removed
1,251,620	lin. ft.	**65,265**	lin. ft.	**105** **Tons**

(Please attach cleaning schedule if available) (Tons, Cu. Yds.)

Pump Station Cleaning

Cleaning Frequency	Inspection Frequency
Quarterly	**Daily**

TV Work

Sewer & Storm Footage Televised		TV Frequency
73,869	lin. ft.	**Daily**

Smoke Testing

Sewer & Storm Footage Tested		Dates of Smoke Testing	
	lin. ft.		(mm/dd/yy)

Infiltration/Inflow Study

I/I Study Was Performed On

	Linear Feet Of Sewer

ANNUAL CSO PROGRESS REPORT FOR 2015

2) Maximum Use of the Collection System for Storage

Maximum use of the collection system for storage means making relatively simple modifications to the combined sewer system to enable the system itself to store wet weather flows until downstream sewers and treatment facilities can handle them. The municipality should evaluate more complex modifications as part of the long-term control plan.

a. List any regulators or weirs that were adjusted last year to optimize settings for maximum storage. (list individually)

1.	
2.	
3.	
4.	

b. Document attempts last year to retard inflows to the system by use of special gratings or flow control type devices.

Number of Special Storm Drain Gratings Installed **2**

Comments:

The City continues to utilize innovative green infrastructure methods to retard inflows such as underdrained soil filters, rain gardens and filterra units on sewer separation projects.

Number of Flow Control Type Devices Installed **0**

Comments:

The City continues to utilize innovative green infrastructure methods to retard inflows such as underdrained soil filters, rain gardens and filterra units on sewer separation projects.

c. Describe any tide gate maintenance and repair to eliminate tidal intrusions. (list individually)

	Tide Gate	Maintenance/Repair
1.	**Long Wharf CSO 25**	**Gate replaced in January 2015**
2.	**Preble St CSO 17**	**New Gaskets**
3.	**Franklin St CSO 18**	**New Gaskets**

Attach a schedule for implementation of any minor construction associated with maximizing the collection system for storage.

3) Review any Modification of the Industrial Pretreatment Program to Assure that CSO Impacts Are Minimized

The municipality should determine whether nondomestic sources are contributing to CSO impact and, if so, investigate ways to control them. The objective of this control is to minimize the impacts of discharges into combined sewer systems from significant nondomestic sources (i.e., industrial and commercial sources during wet weather events, and to minimize CSO occurrences by modifying inspection, reporting, and oversight procedures within the approved pretreatment program.

Fill in this section only if you have nondomestic source of wastewater.

Do you have an industry that significantly impacts a CSO? (Yes, No) **No**

What measures or modifications were taken last year to insure that nondomestic sources are not contributing to CSO impacts. (Examples of measures: Inventory of nondomestic discharges to the combined sewer, assessment of nondomestic discharges on CSOs, evaluation of feasible modifications)

The City of Portland Industrial Pretreatment Program continues to work with significant Industrial/Commercial dischargers to focus their efforts in reducing their water use and to recover POTW plant capacity during storm events.

4) Maximization of Flow to the POTW for Treatment

Maximizing flow to the POTW entails simple modifications to the combined sewer system and treatment plant to enable as much wet weather flow as possible to reach the treatment plant. The objective of this minimum control is to reduce the magnitude, frequency, and duration of CSOs that flow untreated into receiving waters.

a. List any change completed or planned last year to maximize flow to the POTW. (list individually)

PLANNED PHYSICAL CHANGE	ESTIMATED COST ($)	ESTIMATED COMPLETION DATE (MM/DD/YY)	ESTIMATED YEARLY DECREASE IN EVENTS	ESTIMATED YEARLY DECREASE IN VOLUME (MGD)

ANNUAL CSO PROGRESS REPORT FOR 2015

5) Prohibition of CSO Discharges During Dry Weather

This control includes all measures taken to ensure that the combined sewer system does not overflow during dry weather flow conditions. Dry weather overflow control measures include improved O&M as well as physical changes to regulator and overflow devices.

a. Did you have a dry weather overflow during the last year? (Yes, No) **Yes**
If yes, explain. (list individually)

1.	**Discharge Incident Report 2015-03-20 Woodfords Street**
2.	**Discharge Incident Report 2015-04-21 Maple at Commercial**
3.	**Discharge Incident Report 2015-05-06 PWD Emery Street POC-CSR00280**
4.	**Discharge Incident Report 2015-05-28 York High York at Park Maple at Commercial**
5.	**The City had a total of 7 dry weather overflows in 2015 - available upon request.**

6) Control of Solid and Floatable Material in CSO Discharges

The intent of this control is to document that low cost control measures have been implemented which reduce solids and floatables discharged from CSOs to the maximum extent practicable.

a. List any of the following control measures that were implemented last year to reduce solids and floatables discharged from CSOs. If control measures were implemented, list their Success.

Baffles in Regulators or Overflow Structures:
Number of Baffles Installed: _____ Success: _____ (Good, Fair, Poor)

Trash Racks in CSO Discharge Structures:
Number of Trash Racks Installed: _____ Success: _____ (Good, Fair, Poor)

Catch Basin Modifications:
Number of Modifications: _____ Success: _____ (Good, Fair, Poor)

End of Pipe Nets:
Number of Nets Installed: _____ Success: _____ (Good, Fair, Poor)

Litter Controls:
Litter Control: (Yes, No) _____ _____ (Good, Fair, Poor)

Other Controls:
Type of Control _____ Success: _____ (Good, Fair, Poor)

b. The estimated amount of solids and floatables removed last year by implementing the above control measures.

_____ _____ (Tons, Cu. Yds.)

(Attach any schedules and associated costs for implementation of this control.)

7) Pollution Prevention Programs That Focus on Contaminant Reduction Activities

The seventh minimum control, pollution prevention, is intended to keep contaminants from entering the combined sewer system and thus receiving water via CSOs.

a. Document any of the following efforts last year to implement this control.

Public education or increased awareness programs that encourage water conservation and could decrease dry weather sanitary flow to the POTW and increase the volume of wet weather flows that can be treated at the POTW.

Public informational meetings to discuss CSO projects and their impacts on the environment. Portland Water District continues education through our website and environmental coordinators. The Portland Water District has distributed several pamphlets describing items which should not be flushed down the sewer and the affects they can have on the treatment plant and the environment.

The placement of garbage receptacles, more efficient garbage collection, or through public education you have implemented.

The City of Portland is using a single source collection of recyclables to allow for quicker and more efficient collection. The Public Works Department, thru the waste management division, manages this program, tied to improvements to the ecomaine MRF.

Street sweeping efforts with estimate of material removed.

Sweeping activities collected 2318 Tons in 2015 (including 362 Ton from within the Capisic Brook Watershed). Public Works is moving towards a reduction in use of sand to treat roads in the winter, and more salt. We anticipate less volume of sand/ debris to pickup in the future.

Anti-litter campaigns; campaigns through public outreach and public service announcements employed to educate the public about effects of littering, over fertilizing, pouring used motor oil down catch basins, etc.

Public outreach continues with the e-card system at the Riverside Recycling Center. This better tracks individual household waste production and allows for universal waste recycling. Publi Works has a household hazardous waste drop-off program at the Riverside Recycling Center.

Efforts to eliminate illegal dumping. Programs such as law enforcement and public education aimed at controlling illegal dumping of litter, tires, and other materials into water bodies or onto the ground.

The City continues to distribute public letters to inform and curtail dumping of yard waste within Capisic Brook and Fall Brook watersheds.

b. Does the community have a hazardous waste collection program? (Yes, No) **Yes**

If yes, how often is it collected? **Monthly**

If yes, how much hazardous waste is collected? **10,680 gallons**

c. List and describe any measures planned or implemented for the installation of best management practices (BMP) to reduce pollutants in stormwater runoff.

The City is utilizing baffle boxes, vortex concentrating manholes, Filtera boxes and rain gardens on storm drain systems to reduce sediment and pollutants load entering the receiving waters. The City utilizes hoods in the catch basin sumps to reduce floatables from entering system. The City requires a 3 foot sump on all catch basins to collect sediment and they are cleaned annually. The Planning Department provides several other alternatives for BMP within their site plan review and has adopted the Maine Chapter 500 requirements which

d. List and describe other pollution prevention measures planned for implementation and the names of individuals or departments responsible. Attach any schedules and cost estimates associated with this control.

8) Public Notification to Ensure That the Public Receives Adequate Notification of CSO Occurrences and CSO Impacts

The objective of this control is to ensure that the public receives adequate notification of CSO impacts on pertinent water use areas. Of particular concern are beach and recreational areas that are affected by pollutants discharged in CSOs.

a. Locations where signs are posted.

Are all CSO outfalls locations marked with a sign in accordance with your permit?

(Yes, No) **Yes**

List any other locations where CSO signs are posted.

b. List dates of CSO informational public hearings or meetings last year. (list individually)

1.	**2015-03-30 Morse**	2.	**2015-10-02 Morse**
3.	**2015-08-18 Anderson**	4.	

c. List any other measures to inform the public that occurred last year.

Project informational letters during construction. Monthly project updates to Council.

ANNUAL CSO PROGRESS REPORT FOR 2015

9) Monitoring to Effectively Characterize CSO Impacts and the Effectiveness of CSO Controls

The ninth minimum control involves visual inspection and other simple methods to determine the occurrence and apparent impacts of CSOs. This minimum control is an initial characterization of the combined sewer system to collect and document information on overflow occurrences and known water quality problems and incidents, such as beach or shellfish bed closures, that reflect use impairments caused by CSOs. Changes in the occurrences of such incidents can provide a preliminary indication of the effectiveness of the Nine Minimum Controls.

a. Check off and fill in information on the following monitoring methods used in overflow structures: (list individually)

Flow Meters

	Locations	Frequency Data Collected
1.	**Remote Daily Reading at 28 CSO**	**Daily**
2.		
3.		
4.		

Blocks

Locations	Inspection Frequency
Visual as needed at 3 locations	**As Needed**

Chalklines

Locations	Inspection Frequency

Other monitoring methods?

A listing of CSO monitoring methods is available upon request.

ANNUAL CSO PROGRESS REPORT FOR 2015

b. Was a SWMM model developed? (Yes, No) **Yes**
Is the model used to report occurrences? (Yes, No) **Yes**
Has it been updated to reflect changes: (Yes, No) **Yes**
If so, when was the model last updated? (mm/dd/yy) **02/25/16**

c. CSO impacts to swimming beaches and shellfishing areas.

List any swimming beaches that may be impacted by your CSOs. (list individually)

1.	**East End Beach**
2.	

Does your community or other entity test the water quality at beaches or near your CSOs?
(Yes, No) **Yes**
Frequency? **3/week**

If yes, list dates of test and results

Dates		Results
3/ Week	(mm/dd/yy)	**As posted on web Maine Healthy Beaches/**
	(mm/dd/yy)	**Status and Data/ East End Beach (Portland)**
	(mm/dd/yy)	

Any beach closing last year? (Yes, No) **Yes**
Were they caused, in whole or in part by CSOs? (Yes, No) **Yes**

What are the procedures for notifying the public of beach closures?

Public posting at entrance to beach and flying a colored flag. Public posting of the information is also available on the Maine Healthy Beaches website located at http://www.mainehealthybeaches.org/

List any shellfishing areas that may be impacted by your CSOs. (list individually)

	Open	Conditionally Opened	Closed
1.			**Portland Area 13-A**
2.			
3.			
4.			

Any shellfish areas closed last year? (Yes, No)

If yes, list dates indivdually:

	Permanently Closed
(mm/dd/yy)	
(mm/dd/yy)	
(mm/dd/yy)	
(mm/dd/yy)	
(mm/dd/yy)	
(mm/dd/yy)	
(mm/dd/yy)	

If yes, were the closures caused, in whole or in part by CSOs? (Yes, No) **Yes**

Please provide a map showing any swimming beaches or shellfish area that may be impacted by your CSOs.

Please provide results of any receiving water quality tests or CSO sampling tests done last year.

J. List any sewer extensions and new commercial or industrial flows added during the year, along with any mitigating measures implemented to prevent these flows from contributing to CSO flows.

A table presenting new residential, commercial or industrial developments that were issued sewer capacity letters allowing connection to the sewer system is available upon request. An expected daily flow and project status has been included with the table.

K. To assist the DEP in making this form easier to use in future years, please list your computer capabilities:

Processor capability:	**6600 @ 2.40 GHz**
Operating system (Windows version):	**Microsoft Windows 7**
Word processing program and version:	**Microsoft Office Word 2010**
Spreadsheet program and version:	**Microsoft Office Excel 2010**
Database program and version:	
E-mail capability and address:	**brad@portlandmaine.gov**

Do you plan to upgrade hardware or software next year, and if so with what?

(Note: DEP uses Windows XP 2002 and MS Office 2010 with Word, Excel and Access)

ANNUAL CSO PROGRESS REPORT FOR 2015

Please add any other information on CSOs that you feel is important, but the form did not allow for.

In 2015, an estimated 420,043,330 gallons of wet weather flow was conveyed and treated at the East End WWTF. This volume represented 39.4% of the total wet weather flow generated by the City's collection system. This flow received primary treatment followed by disinfection. Additional Information to Report including: Haz Waste, Recycling, Development, Sewer Usage, and CSO Flow Monitoring is available upon request.