

# MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION



## ANNUAL CSO PROGRESS REPORT FOR 2011

Doc Num: DEPLW0059-M2011 Rev Date: 12/6/2011

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	<b>Portland, Maine 04101</b>	MEPDES Permit No.	<b>ME0101435</b>
		Maine License No.	<b>W 008010-5T-D-R</b>

**Indicates Cell Value Calculated By Spreadsheet**

**Indicates Cell With A Dropdown List**

1. Information on Combined Sewer System

A. Current sewered population		<b>66,194</b>
B. Current number of residential users (connections to sewer)		<b>14,907</b>
C. Current number of commercial/industrial users (connections to sewer)		<b>1,492</b>
D. Current average residential user charge, (\$/year)	\$	<b>438.17</b>
E. Median Household Income (MHI), (\$/year)	\$	<b>44,422</b>
F. Current residential user charge expressed as percent of MHI, (%)	%	<b>0.99</b>
G. Original number of CSO locations at beginning of abatement program		<b>39</b>
H. Current number of CSO locations		<b>32</b>
I. Percent reduction of CSO points to date, (%)	%	<b>18</b>
J. List any CSOs removed in reporting year, (list individually)		

	<u>CSO #</u>	<u>Name</u>
1.	<b>42</b>	<b>Warren Ave - 60 Inch - Weir wall relocated and raised - November 14, 2011</b>
2.	<b>43</b>	<b>Warren Ave - 24 Inch - Weir wall raised - April 15, 2011</b>
3.		
4.		

K. Total sewer footage, (feet)		<b>1,117,116</b>
L. Original percent of combined sewer to total sewer, (%)	%	<b>85.0</b>
M. Current percent of combined sewer to total sewer, (%)	%	<b>67.0</b>
N. Percent reduction of combined sewer, (%)	%	<b>21.2</b>

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## 2. CSO Progress

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

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.

The City is currently in compliance with it's approved schedule.

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

	<u>Project</u>	<u>Estimate of flow reductions</u>
1.	<b>Carlyle - Canco - Walton &amp; Read - Forest - Bell</b>	<b>30 Acres Removed</b>
2.	<b>Warren and Bishop</b>	<b>12 Acres Removed</b>
3.	<b>Capisic Brook Disconnect from Combined Sewee at Mt Sinai</b>	

D. Costs:

1) Total original cost estimate for complete program from initial CSO Master Plan	\$	<b>52,000,000</b>
2) Revised total cost estimate for complete program from Updated CSO Master Plan (includes all prior costs and update costs)	\$	<b>232,870,000</b>
3) Total cost of CSO abatement to date	\$	<b>76,373,000</b>
4) Percent complete by cost (3÷2 or 3÷1 above), (%)	%	<b>33</b>
5) Total SRF loans to date	\$	<b>39,212,500</b>
6) Total cost of CSO projects in reporting year	\$	<b>5,565,212</b>
7) Anticipated budget for CSO projects next year	\$	<b>7,419,584</b>
8) Sewer O&M budget in reporting year	\$	<b>30,637,979</b>
9) Anticipated sewer O&M budget for next year	\$	<b>32,191,545</b>
10) Estimated CSO needs for next five years (include cost in no.7)	\$	<b>42,269,584</b>

E. Private inflow sources:

1) Has a house to house survey been done?		(Yes, No) <span style="border: 1px solid red; padding: 2px;"><b>Yes</b></span>
2) If yes, when?		<b>2011</b>
3) If no, is one planned?		(Yes, No) <span style="border: 1px solid red; padding: 2px;"></span>
4) If no, when?		
5) Number of roof leaders removed to date		<b>136</b>
6) Number of roof leaders removed in reporting year		<b>0</b>
7) Number of known roof leaders remaining in system		
8) Number of basement sump pumps removed to date		<b>7</b>
9) Number of basement sump pumps removed in reporting year		<b>0</b>
10) Number of known sump pumps remaining in system		
11) Number of known foundation drains to system		
12) Do you charge a surcharge for private sources?		(Yes, No) <span style="border: 1px solid red; padding: 2px;"><b>Yes</b></span>
13) If yes, how much and what unit?	\$ <span style="border: 1px solid black; padding: 2px;"><b>8</b></span>	<b>Per 100 c.f.</b>
		(Each, Per 100 c.f.)

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F. Other inflow sources

- |  |                      |
|--|----------------------|
| 1) Number of catch basins removed this year                  | 34                   |
| 2) Number of catch basins remaining in system                | 5,600                |
| 3) Are there any wetlands/bogs draining to sewer?            | (Yes, No) <b>Yes</b> |
| 4) Are there any streams intercepted by sewer?               | (Yes, No) <b>No</b>  |
| 5) If yes to 3 or 4, what plans are there to deal with them? |                      |

**Capisic Brook was removed from the combined sewer behind Mount Sinai Cemetery on February 11, 2011.**

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 has been included in this worksheet. Monitoring by the PWD in 2011 continues to be evaluated against the SWMM for calibration of the model and population of the attached annual discharge table.**

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	<b>Mike Bobinsky</b>	Tel. No.	<b>207-874-8801</b>
Title	<b>Director of Public Services</b>		
Dept.	<b>Department of Public Services</b>		
Size Staff	<b>204</b>		

b. Inspection schedules

Number of CSO regulators	<b>23 PWD/ 17 City</b>	Inspection interval	<b>As Needed</b>
Number of tide gates	<b>6 PWD/3 City</b>	Inspection interval	<b>Monthly</b>
Number of pump stations	<b>10 PWD/16 City</b>	Inspection interval	<b>Daily</b>
Number of CSO outfalls	<b>32</b>	Inspection interval	<b>Quarterly</b>

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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
<b>6326</b>	<b>1287</b>	<b>3478</b> <b>Cu. Yds.</b>
(Please attach cleaning schedule if available)		(Tons, Cu. Yds.)

Sewer Cleaning

Total Combined Sewer	Footage Cleaned Last Year	Debris Removed
<b>1,117,116</b> lin. ft.	<b>44,933</b> lin. ft.	<b>202</b> <b>Cu. Yds.</b>
(Please attach cleaning schedule if available)		(Tons, Cu. Yds.)

Pump Station Cleaning

Cleaning Frequency	Inspection Frequency
<b>Monthly</b>	<b>Daily</b>

TV Work

Sewer & Storm Footage Televised	TV Frequency
<b>114,597</b> lin. ft.	<b>3/week</b>

Smoke Testing

Sewer & Storm Footage Tested	Dates of Smoke Testing
<b>10,000</b> lin. ft.	<b>06/24/11</b> (mm/dd/yy)

Infiltration/Inflow Study

I/I Study Was Performed On  
**0** Linear Feet Of Sewer

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### 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.	<b>CSO 42 Warren Ave - 60 Inch - Weir wall relocated and raised - November 14, 2011</b>
2.	<b>CSO 43 Warren Avenue - 24 Inch - Weir wall raised - April 15, 2011</b>
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 **0**  
 Comments:

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

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

	<u>Tide Gate</u>	<u>Maintenance/Repair</u>
1.	<b>3 City/ 6 PWD</b>	<b>Greasing and Adjusting</b>
2.	<b>Randall CSO 5</b>	<b>Installation of Tideflex - June 2011</b>
3.	<b>Dartmouth CSO 15</b>	<b>Installation of Tideflex - June 2011</b>

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

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- 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)

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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.	<b>2011.07.11 Vannah CSO 012 - Pump Failure at Baxter Pump Station</b>
2.	<b>2011.12.18 Randall CSO 005 and Northeast CSO 020 - PLC Failure at Northeast Pump</b>
3.	<b>2011.04.17 291 Woodford St. - Sewer Backup</b>
4.	<b>2011.06.13 282 Veranda St - Sewer Backup</b>
5.	<b>See additional information for other DWO occurrences</b>

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)

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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. PWD continues education through our website and environmental coordinators. The PWD 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 recycables to allow for quicker and more efficient collection. The Dept of Public Services, thru the waste management division, manages this program, tied to improvements to the Ecomaine MRF.**

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Street sweeping efforts with estimate of material removed.

**Sweeping activities collected 836 CY in 2011 (including 380 CY from within the Capisic Brook Watershed). The DPS 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 spring.**

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. The DPS has initiated a household hazardous waste dropoff 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 enform 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?

**Saturdays**

If yes, how much hazardous waste is collected?

**10,666 Gallons**

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- 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 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 systemm. The City requires a 3 foot sump on all catchbasins 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 applies to all by single**

- 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. **03/01/2011 Brewer St**  
3. **07/13/2011 Alpine Neighborhood**

2. **05/19/2011 Dorothy-Dibiase**  
4. **07/13/2011 Bartley**

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

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

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## 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.	See CSO Flow Monitoring Tab S
2.	
3.	
4.	

After Rain Event

Blocks

Locations

Inspection Frequency

See CSO Flow Monitoring Tab

After Rain Event

Chalklines

Locations

Inspection Frequency



Other monitoring methods?

**A listing of CSO monitoring method has been included as an addition to this worksheet.**

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- 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) 02/23/12

- 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
<b>3/Week</b> ( mm/dd/yy)	<b>As posted on web Maine Healthy Beaches/ Status and Data/ East End Beach (Portland)</b>
( mm/dd/yy)	
( 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)

	<u>Open</u>	<u>Conditionally Opened</u>	<u>Closed</u>
1.			<b>Portland Area 13-A</b>
2.			
3.			
4.			

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Any shellfish areas closed last year?

(Yes, No) Yes

If yes, list dates individually:

(mm/dd/yy)	<b>Permanently Closed</b>
(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.

**See attached table presenting new residential, commercial or industrial developments that were issued sewer capacity letters in 2011 allowing connection to the sewer system. 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:	<b>6600 @ 2.40 GHz</b>
Operating system (Windows version):	<b>Microsoft Windows XP Professional Service Pack 2</b>
Word processing program and version:	<b>Microsoft Office Word 2007</b>
Spreadsheet program and version:	<b>Microsoft Office Excel 2007</b>
Database program and version:	
E-mail capability and address:	<a href="mailto:brad@portlandmaine.gov">brad@portlandmaine.gov</a>

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

(Note: DEP uses Windows 2000 and MS Office 2003 with Word, Excel and Access)

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

**Please see the Additional Information to Report including: Haz Waste, Recycling, Development, Sewer Usage, and CSO Flow Monitoring tabs within this same excel file.**