Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

FINAL DETERMINATION TO ADOPT A VARIANCE FOR COMBINED SEWER OVERFLOW DISCHARGES TO CHARLES RIVER BASIN

The Massachusetts Department of Environmental Protection ("MassDEP") hereby adopts a Variance for Combined Sewer Overflow ("CSO") Discharges to the Charles River Basin (the "Variance"), originally issued on October 1, 1998, from September 1, 2019 to August 31, 2024. This discharger-specific variance, if finalized, would authorize limited CSO discharges from the Massachusetts Water Resources Authority ("MWRA") and the City of Cambridge which are subject to NPDES permit Nos. MA0103284 and MA0101974, respectively. During wet weather events where the limited CSO discharges are authorized, Class B requirements at 314 CMR 4.05(3)(b) for bacteria, solids, color and turbidity, and taste and odor may not be met. The Variance is a water quality standards revision subject to EPA review and approval under EPA's regulations at 40 CFR Part 131. It is adopted pursuant to the Massachusetts Surface Water Quality Standards ("SWQS") at 314 CMR 4.00 and the federal Water Quality Standards regulations at 40 CFR Part 131, and subject to the specific conditions which follow. This Variance is intended to establish requirements to (1) achieve the highest attainable water quality conditions in the receiving water; (2) provide for an assessment of the level of CSO control achieved, and the associated water quality impacts of CSO and non-CSO sources; (3) establish requirements for public notification of CSO events and their impacts; and (4) continue to assess the costs and feasibility of achieving higher levels of CSO control beyond the requirements of this variance. MWRA currently remains subject to the orders of the United States District Court for the District of Massachusetts, Civil Action Nos. 85-0489-MA and 83-1614-MA, including amended Schedule Seven, dated October 19, 2011 (the "Federal Court Order") regarding its implementation of the revised Long-Term CSO Control Plan ("LTCP").

MassDEP adopts this Variance based on its determination described in the accompanying fact sheet that implementation of more stringent CSO controls to meet the underlying designated use and criteria at this time would result in substantial and widespread social and economic impact as specified in 314 CMR 4.03(4)(f) and 40 CFR 131.10(g)(6). Further, implementation of the requirements that follow represent the highest attainable interim effluent conditions during the term of the variance until such time as information to support further regulatory determinations is available. Information gathered during the term of the CSO Variance is intended to be used to make a subsequent determination on the appropriate water quality standard for the Charles River

segments that are currently affected by CSO discharges. Issuance of this Variance for CSO discharges to the Charles River Basin is consistent with EPA's regulations at 40 CFR 131.14 and with the U.S. Environmental Protection Agency's Guidance (*Coordinating CSO Long-Term Planning with Water Quality Standard Reviews, July 31, 2001*), which states that longer term variances and renewal of variances are warranted given the extended duration necessary for implementation of long-term control plans.

MWRA and the City of Cambridge, as of December 2015, have completed all construction work in MWRA's LTCP, consistent with the requirements of the Federal Court Order. MWRA is now in the midst of a CSO Performance Assessment, also a requirement of the Federal Court Order, which is intended to document the level of CSO control achieved. This Variance affirms that, as an element of this Assessment work, MWRA undertake a CSO/water quality assessment, through development and use of a receiving water model, to determine the impacts of CSO and non-CSO sources in the Charles River, pursuant to EPA's 1994 *Combined Sewer Overflow (CSO) Control Policy* ("EPA CSO Policy").

Once approved by EPA under CWA section 303(c), this Variance and its conditions will be incorporated into NPDES permits for the MWRA and the City of Cambridge at the time of reissuance of those permits, consistent with 40 CFR 131.14(c). Failure by the MWRA and/or the City of Cambridge to comply with the conditions of this Variance following its effective date and as implemented in their NPDES permits will constitute a violation of the permit, as well as the Massachusetts SWQS (314 CMR 4.00) and the Surface Water Discharge Permit Program regulations (314 CMR 3.00).

The Variance is a short-term modification of the Massachusetts SWQS, issued by MassDEP and subject to EPA approval. The Variance allows limited CSO discharges from the outfalls along the Charles River Basin permitted to MWRA and the City of Cambridge, subject to specific conditions. Other standards and criteria of the receiving water's Class B designation are unaffected and remain in force.

VARIANCE CONDITIONS

The Variance is conditioned upon MWRA and the City of Cambridge complying with their individual and joint requirements, as identified below:

A. Level of Required CSO Control During Variance

Per the requirements included in the "Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control" ("Second Stipulation"), filed March 15, 2006, as amended in the aforementioned actions, CSO discharges shall be limited to those set forth in attached Exhibit B, with allowance for any conditions that exceed Typical Year[1] conditions.

[1] "Typical Year" rainfall has been the basis for development, recommendation and approval of MWRA's LTCP, the establishment of the federal court mandated levels of control, and the assessment of system performance toward attainment of the LTCP levels of control. The Typical Year was developed from 40 years of rainfall records (1949-1987, plus 1992), and it includes 93 storms with a total precipitation of 46.8 inches.

Consistent with 40 CFR 131.14(b)(1)(ii)(A)(3), this is the effluent condition that reflects the greatest pollutant reduction achievable within the five-year term of this variance with the pollutant control technologies installed at the time the state is adopting this variance.

B. Receiving Water Quality Monitoring

MWRA shall continue and expand the water quality monitoring program in the Charles River to demonstrate the effectiveness of CSO controls implemented in the watershed. The work shall be adequate to assess the water quality impacts of remaining CSO pollutant sources and loads over a range of storm events, and the associated level of attainment of water quality standards in the Charles River.

On or before July 15 each year, for the duration of this Variance, MWRA shall submit to MassDEP and EPA a report on the previous year's sampling program. The report shall include a summary of the receiving water sampling data collected over the past calendar year, including sampling locations and parameters, and comparisons between results during wet and dry weather, a characterization of rainfall events for which wet weather sampling was done, and an assessment of the water quality impacts of CSO and non-CSO sources.

C. CSO Performance Assessment

1. CSO Activations and Volumes

By December 31, 2021, MWRA shall submit the results of the CSO Performance Assessment to EPA and MassDEP, documenting the level of CSO control achieved through implementation of the LTCP throughout the CSO planning area, in regard to CSO activations and volumes in the Typical Year, relative to the Second Stipulation levels of control (Exhibit B), and shall also post the Assessment Report on its website. During the course of completing this work, MWRA shall also undertake the following actions:

a) Progress Reports: MWRA shall submit progress reports to MassDEP and to EPA, and shall post the reports to the MWRA website in accordance with the following schedule:
   i. Progress Reports #1, 2, and 3 shall be submitted and posted on or before October 31, 2019, and together shall be inclusive of all work done for the CSO Performance Assessment through June 30, 2019;
   ii. Progress Report #4 shall be submitted and posted on or before April 30, 2020, and shall be inclusive of all work done for the CSO Performance Assessment through December 31, 2019;
   iii. Progress Report #5 shall be submitted and posted on or before October 31, 2020, and shall be inclusive of all work done for the CSO Performance Assessment through June 30, 2020;
   iv. Progress Report #6 shall be submitted and posted on or before April 30, 2021, and shall be inclusive of all work done for the CSO Performance Assessment through December 31, 2020; and

v. Progress Report #7 shall be submitted and posted on or before October 31, 2021, and shall be inclusive of all work done for the CSO Performance Assessment through June 30, 2021.

Progress Reports shall include a summary of work completed, metering data collected, integration with MWRA's sewer system model, estimated CSO discharges from metering data (or model simulations when approved by MassDEP), a discussion of any locations where metered, or when approved by MassDEP, modeled CSO discharges appear to exceed Second Stipulation levels of CSO control, and any measures taken to optimize the Nine Minimum Control actions to further control CSO discharges.

b) Public Meetings:
   i. MWRA shall arrange for public meetings in May 2020 and May 2021, to present information on the progress of the work and findings to date, and allow for public input;
   ii. MWRA shall arrange for a public meeting in February 2022 to present the findings of the CSO Performance Assessment, and to allow public comment on the Assessment and its findings; and
   iii. Notice for the date, time, and location of each public meeting shall be provided in the Environmental Monitor at least thirty days in advance of each public meeting.

2. Assessment of CSO Water Quality Impacts

MWRA shall implement the Receiving Water Model Workplan, dated May 24, 2019 and revised July 18, 2019, along with the Receiving Water Modeling of Upper Mystic River/Alewife Brook and Charles River Basin: Work Plan for Stormwater and Combined Sewer Overflow Monitoring, 2019-2020, dated June 6, 2019 and revised August 27, 2019, and develop and calibrate a receiving water quality model, and use such model to present information on the water quality impacts of CSO and non-CSO discharges in the Charles River Basin watershed.

The Final CSO Water Quality Impact Report shall be submitted to MassDEP and EPA on or before December 31, 2021, and shall include a description of the data collected and used for developing and calibrating the model; information on CSO and non-CSO water quality impacts for a range of design storms and the Typical Year; and a sensitivity analysis showing the water quality benefits of further pollutant reductions in upstream sources, stormwater, and CSO discharges.

D. Notification to the Public of CSO Discharges and Impacts

1. MWRA and the City of Cambridge shall maintain outfall signs that are visible both from the shore and from in stream locations for their permitted CSO discharges. Pursuant to their NPDES Permits, the following language, at a minimum, shall be included:

WARNING:
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

2. MWRA and the City of Cambridge shall issue a joint press release by April 15 of each year to watershed advocacy groups, local health agents, and newspapers of local circulation in the Charles River watershed, which shall include general information on CSOs, the location of outfalls in the Charles River watershed, and potential health risks posed by exposure to CSO events.

3. MWRA and the City of Cambridge shall, by December 31, 2020, develop and implement a CSO Subscriber-Based Notification System to provide CSO Alert Notifications to any interested parties. MWRA and the City of Cambridge may choose to develop the Notification System collaboratively. The Notification System shall include the following components:

   a. A CSO Alert Notification shall be issued no later than 4 hours after becoming aware of a CSO event from one or more of the permittee's CSO outfalls, but in no event later than 12 hours after onset of the CSO discharge, which shall be issued to: MassDEP, EPA, Cambridge Public Health Department, City of Boston Public Health Commission, Boston Water and Sewer Commission, the Charles River Watershed Association, and any person subscribed to receive such Alert Notifications.

      The CSO Alert Notification shall provide, at a minimum, the following information:

      i. Outfall location(s);
      ii. Approximate time and date of onset of the discharge;
      iii. Whether, at the time of notification, the discharge has ceased, and if so, the approximate time that the discharge ended;
      iv. Waters and land areas potentially affected by such discharge;
      v. Precautionary measures for the public to avoid health risks from contact with effluent; and
      vi. Link to the permittee's website for additional information on CSOs and its CSO abatement program.

      Until such time as the Subscriber-based system is in place, the MWRA shall continue its current practice of providing a CSO Alert email notification to MassDEP, EPA, the Community Sailing Program, health departments, and boathouses in the areas affected by CSO discharges, within 12 hours of a CSO discharge event at the MWRA Cottage Farm CSO Treatment Facility.

   b. MWRA, and the City of Cambridge shall each establish and maintain a public website, which shall include, at a minimum, the information listed below, for their

permitted CSO outfalls in the Charles River Basin. If agreed upon by MWRA and the City of Cambridge, this requirement may be met by one entity compiling and posting the data on their website, and the second entity providing a link on their own website to the data.

i. A map showing the locations of the CSO outfalls, correlating to the CSO outfall numbers included in their respective NPDES Permits;
ii. On or before December 31, 2020, instructions on how an interested person can self-register for the CSO Subscriber-Based Notification System;
iii. Within 5 business days of any CSO Alert Notification issued, updated information on the estimated duration and volume of the CSO discharge and event rainfall data; and
iv. Annual lists of the permittees' CSO outfalls within the variance waters with information compiled on duration and volume of discharges from each outfall, as well as cumulative discharge volume from all CSOs. Each annual calendar year summary shall be updated and posted on the website no later than April 30th of each year.

E. Other Actions to Minimize CSO Discharges

1. MWRA and the City of Cambridge shall continue to implement the Nine Minimum Controls (NMC), as set forth in their respective NPDES Permits and the Variance conditions, which must include the following components:

    a. Proper operation and regular maintenance programs for the sewer system and the CSOs.
    b. Maximum use of the collection system for storage.
    c. Review and modification of the pretreatment program to assure CSO impacts are minimized.
    d. Maximization of flow to the POTW for treatment.
    e. Prohibition of dry weather overflows from CSOs.
    f. Control of solid and floatable materials in CSOs.
    g. Pollution prevention programs that focus on contaminant reduction activities.
    h. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
    i. Monitoring to effectively characterize CSO and the efficacy of CSO controls.

    Any enhancements to the MWRA and community NMC programs identified by MassDEP or the permittees during the CSO Performance Assessment can and shall be implemented after obtaining all necessary approvals, providing the enhancements do not conflict with the overall goals and requirements of the LTCP, as measures to further reduce CSO discharges so that highest attainable interim effluent conditions can be achieved and maintained during the Variance period.

2. Variance Pollutant Minimization Program as required by 40 CFR 131.14(b)(1)(ii)(A)(3):

MWRA, with assistance/support from the City of Cambridge, shall implement the Additional System Optimization measures as set forth in the scope and schedule of actions in attached Exhibit A. MWRA shall coordinate with the City of Cambridge to evaluate the impact of any Additional System Optimization measures on both systems' performance. Beginning in 2021 and on or before January 31 of each year until the end of this Variance, MWRA shall submit to MassDEP and EPA, and shall post on its website, progress reports on the implementation of the Additional System Optimization measures. Exhibit A represents the pollutant minimization activities that MWRA will implement in this variance term.

3. MWRA shall continue to provide technical assistance related to the identification and removal of Infiltration/Inflow (I/I) to member communities. Where requested by any member community, or by MassDEP or EPA, MWRA shall provide information from MWRA metering data, including but not limited to:

    a. A system map showing locations of MWRA metering points;
    b. MWRA metering data by each MWRA member sewer community, broken down into estimates of average monthly sanitary flow, average monthly infiltration and average monthly inflow; and
    c. MWRA metering data by meter subarea correlating to a specific storm event.

4. The City of Cambridge shall consider use of Green Infrastructure technologies where feasible to increase stormwater infiltration.

F. Updated CSO Control Planning

On or before April 1, 2022, MWRA and the City of Cambridge shall each submit for MassDEP and EPA review and approval, a scope and schedule for an updated CSO Control Plan for the CSO outfalls that each permittee owns and operates that discharge to the Charles River Basin. The updated CSO Control Plan shall conform to the EPA CSO Policy and MassDEP's 1997 *Guidance for Abatement of Pollution from CSO Discharges*, and shall specifically include the following elements:

1. A description of the existing level of CSO control;
2. An evaluation of the costs and performance (i.e., effectiveness in reducing CSO discharge frequency and/or volume) and water quality improvements achieved by additional CSO control alternatives, up to and including, elimination of CSO discharges. For the City of Cambridge, use of Green Infrastructure technologies shall be considered. The evaluation of costs and water quality benefits may include the impacts of stormwater discharges;
3. A public participation plan sufficient to provide for ample opportunities for the public to be informed about the development of the Plans at critical junctures, and to have opportunities to provide informed comments on the CSO abatement alternatives and recommendations. The scope of the plan, as an element of full scope of work, shall be subject to MassDEP review and approval. This plan shall include submittals to comply with the Massachusetts Environmental Policy Act, 301 CMR 11.00;

4. An affordability analysis consistent with EPA's November 24, 2014 *Memorandum on Financial Capability Assessment Framework for Municipal Clean Water Act Requirements*, along with any other relevant information to assess financial capacity;
5. A Draft Recommended Plan, to be submitted to MassDEP and EPA by June 30, 2023, which achieves compliance with the federal Clean Water Act, the federal Water Quality Standards regulations (40 CFR Part 131) and the Massachusetts Surface Water Quality Standards regulations (314 CMR 4.00), supporting as needed any recommendations for changing the classification of any CSO-impacted receiving waters and Use Attainability Analyses.
6. A Final Recommended Plan, to be submitted to MassDEP and EPA for review and approval by December 31, 2023, which responds to comments received on the Draft Recommended Plan.

Subject to the conditions included in this Variance, MWRA and the City of Cambridge shall be authorized to discharge limited CSOs during wet weather events to the Charles River Basin.

8-30-2019
Date Issued

Kathleen M. Baskin
Kathleen M. Baskin
Assistant Commissioner
Bureau of Water Resources

8-31-2019
Effective Date

Exhibit A
MWRA CSO Variance
Additional System Optimization Measures

Below is a summary of the specific additional system optimization measures that MWRA will undertake during a 5-year variance period beginning September 1, 2019. These activities are intended to further MWRA's goals of improving water quality in the Lower Charles River, Upper Mystic River, and Alewife Brook. These measures are consistent with the requirements of 40 CFR 131.14, and allow for progress to be made towards attaining designated use(s) and water quality criteria. Collectively with the other elements of the CSO Variance requirements, these efforts comprise the Pollutant Minimization Program to be implemented during the course of the CSO Variance. Additional CSO system optimization efforts and on-going implementation of the "CSO Nine Minimum Controls" will be informed by MWRA's hydraulic model, which is in the process of being calibrated with extensive flow and overflow meter data being gathered, which commenced in 2018. MWRA expects the calibration to be complete by the fall of 2019. These efforts will also be informed by MWRA's updated receiving water quality models, which will be produced and available in the early years of the variance period.

Mystic River Watershed Project

1. Evaluate alternatives to reduce CSO activation frequency and volume at the Somerville Marginal CSO Treatment Facility, and associated CSO outfalls SOM007A/MWR205A, and MWR205, while avoiding any increase in the frequency and volume of CSO discharges at MWRA's Prison Point CSO Treatment Facility (MWR203), and CSO outfalls CAM017 and BOS017. Alternatives to be evaluated, at a minimum, will include:

    - Construction of dry weather connection relief/control from the City of Somerville's CSO regulator RE071A to MWRA's Somerville-Medford Branch Sewer; and
    - Relocation of MassDOT I-93 drainage from upstream to downstream of the Somerville-Marginal facility to reduce the frequency and volume of facility activations.

    The work will need to address heavy traffic and underground utilities in the project area, and will also require close coordination with MassDOT. MWRA will develop a Somerville Marginal CSO Reduction Plan, which will include the outcome of the feasibility study; preliminary design plans for projects recommended to further reduce CSO discharges at this facility, and a schedule for final design and construction of recommended facilities. Construction will proceed unless the feasibility evaluation clearly demonstrates that construction is technically infeasible, that the project will not provide water quality benefits through the reduction of CSO volume or frequency, or that the costs, alone or in conjunction with other activities specified in Exhibit A, would cause widespread social and economic impact.

    MWR205 & SOM007/MWR205A Somerville Marginal CSO Reduction Project, Study and Preliminary Design

Notice to Proceed – **December 2020**
Study Report/Preliminary Design Submittal to MassDEP for review and approval – **December 2021**

Alewife Brook Project

2. MWRA proposes to evaluate maximizing beneficial use of enhanced pumping capacity at the recently rehabilitated Alewife Brook Pump station to lower wastewater elevations in the upstream collection system and potentially reduce CSO activations and volumes at upstream CSO outfalls CAM001, CAM002, MWR003, and SOM001A. During the Variance period, MWRA will assess alternative pumping strategies and expected upstream benefits using the MWRA's calibrated hydraulic model. Alternatives determined to provide potential benefits will be tested for a range of storm events. MWRA will develop an Alewife Brook Pump Station Optimization Report with findings and recommendations, including modeled control alternatives and testing, and an implementation plan to establish a schedule for any required programming of automated facility control changes and operator training, which shall become the standard operating procedure to minimize CSO discharges. Implementation will proceed unless the feasibility evaluation clearly demonstrates that construction is technically infeasible, that the project will not provide water quality benefits through the reduction of CSO volume or frequency, or that the costs, alone or in conjunction with other activities specified in Exhibit A, would cause widespread social and economic impact.

Alewife Brook Pump Station Optimization Evaluation Project

Notice to Proceed – **April 2020**
Alewife Brook Pump Station Optimization Report submittal to MassDEP for review and approval – **April 2021**

Alewife Brook and Charles River Watershed

3. Using the calibrated hydraulic model and coordinating technical evaluations with the Cities of Cambridge and Somerville and the Boston Water and Sewer Commission, MWRA will conduct system optimization evaluations at the remaining active regulators tributary to CSO outfalls discharging to the Alewife Brook and Charles River watersheds. The MWRA will then implement recommended modifications to those regulators owned by MWRA and will provide technical support to member communities in their efforts to implement recommended modifications to community owned CSO regulators. The MWRA anticipates evaluating and implementing optimization measures such as regulator closing, overflow weir modification or raising, dry weather connection relief and flow reallocation opportunities.

   System optimization on a regulator by regulator basis is an important component of the Nine Minimum Control measures. The improved hydraulic model now being calibrated with extensive metering data will facilitate MWRA's ability to further refine the components of individual regulators. These refinements are expected to help reduce frequency and volume of CSO discharges while also protecting against adverse impacts, such as upstream system

flooding, especially in larger storms, or higher CSO discharges at other hydraulically related outfalls. A preliminary list of tasks is provided below to support the 2-year study and preliminary design schedule:

- Meeting and coordinating with CSO communities to determine what modifications/studies they have already performed, areas of concern for flooding (historic record research), planned community improvements in upstream systems, recommendations communities may have to modify regulator structures/shift flows, etc.
- Extending MWRA's hydraulic model into upstream pipe networks if needed to better assess proposed modification impacts on systems tributary to each regulator.
- Studying the hydraulics of the existing system for various storm events to look for opportunities to maximize flows to the wastewater conveyance system throughout various types of storm events (high intensity short duration, long duration low intensity, etc.), while maintaining protective relief in larger storms.
- Developing proposed modifications to regulators (weir height adjustment). additional relief opportunities during large events (e.g., bending weirs), dry weather connection modifications (increase size, one-way valve control, etc.) to take advantage of any available hydraulic capacity in the downstream interceptors.
- Performing model simulations of typical storm events as well as large events (10 – 25 year recurrence interval) to evaluate proposed modification benefits and potential adverse impacts.
- Developing and garnering consensus on sewer operation modifications.
- Developing preliminary design of recommended/approved sewer operation modifications for those which require excavation/significant construction for modification to the regulators.

Implementation will proceed unless the feasibility evaluation clearly demonstrates that construction is technically infeasible, that the project will not provide water quality benefits through the reduction of CSO volume or frequency, or that the costs, alone or in conjunction with other activities specified in Exhibit A, would cause widespread social and economic impact.

CSO System Optimization for Alewife Brook and Lower Charles River Basins Project, Study and Preliminary Design

Notice to Proceed – **December 2020**
System Optimization Report submittal to MassDEP for review and approval – **December 2022**

EXHIBIT B
LTCP Levels of Control from Second Stipulation

CSO OUTFALL	LONG TERM CONTROL PLAN	
	TYPICAL YEAR	
	Activation Frequency	Volume (MG)
ALEWIFE BROOK		
CAM001	5	0.19
CAM002	4	0.69
MWR003	5	0.98
CAM004	To be closed	N/A
CAM400	To be closed	N/A
CAM401A	5	1.61
CAM401B	7	2.15
SOM001A	3	1.67
SOM001	Closed	N/A
SOM002A	Closed	N/A
SOM003	Closed	N/A
SOM004	Closed	N/A
TOTAL		**7.29**
UPPER MYSTIC RIVER		
SOM007A/MWR205A (Somerville Marginal)	3	3.48
SOM007	Closed	N/A
TOTAL		**3.48**
MYSTIC / CHELSEA CONFLUENCE		
MWR205 (Somerville Marginal)	39	60.58
BOS013	4	0.54
BOS014	0	0.00
BOS015	Closed	N/A
BOS017	1	0.02
CHE002	4	0.22
CHE003	3	0.04
CHE004	3	0.32
CHE008	0	0.00
TOTAL		**61.72**
UPPER INNER HARBOR		
BOS009	5	0.59
BOS010	4	0.72
BOS012	5	0.72
BOS019	2	0.58
BOS050	Closed	N/A
BOS052	Closed	N/A
BOS057	1	0.43
BOS058	Closed	N/A
BOS060	0	0.00
MWR203 (Prison Point)	17	243.00
TOTAL		**246.04**

CSO OUTFALL	LONG TERM CONTROL PLAN	
	TYPICAL YEAR	
	Activation Frequency	Volume (MG)
LOWER INNER HARBOR		
BOS003	4	2.87
BOS004	5	1.84
BOS005	1	0.01
BOS006	4	0.24
BOS007	6	1.05
TOTAL		6.01
CONSTITUTION BEACH		
MWR207	Closed	N/A
TOTAL		0.00
FORT POINT CHANNEL		
BOS062	1	0.01
BOS064	0	0.00
BOS065	1	0.06
BOS068	0	0.00
BOS070		
BOS070/DBC	3	2.19
UPPS	17	71.37
BOS070/RCC	2	0.26
BOS072	0	0.00
BOS073	0	0.00
TOTAL		73.89
RESERVED CHANNEL		
BOS076	3	0.91
BOS078	3	0.28
BOS079	1	0.04
BOS080	3	0.25
TOTAL		1.48
NORTHERN DORCHESTER BAY		
BOS081	0 / 25 year	N/A
BOS082	0 / 25 year	N/A
BOS083	0 / 25 year	N/A
BOS084	0 / 25 year	N/A
BOS085	0 / 25 year	N/A
BOS086	0 / 25 year	N/A
BOS087	0 / 25 year	N/A
TOTAL		0.00
SOUTHERN DORCHESTER BAY		
BOS088	To be closed	N/A
BOS089 (Fox Point)	To be closed	N/A
BOS090 (Commercial Point)	To be closed	N/A
TOTAL		0.00

CSO OUTFALL	LONG TERM CONTROL PLAN	
	TYPICAL YEAR	
	Activation Frequency	Volume (MG)
UPPER CHARLES		
BOS032	Closed	N/A
BOS033	Closed	N/A
CAM005	3	0.84
CAM007	1	0.03
CAM009	2	0.01
CAM011	0	0.00
TOTAL		**0.88**
LOWER CHARLES		
BOS028	Closed	N/A
BOS042	Closed	N/A
BOS049	To be closed	N/A
CAM017	1	0.45
MWR010	0	0.00
MWR018	0	0.00
MWR019	0	0.00
MWR020	0	0.00
MWR021	Closed	N/A
MWR022	Closed	N/A
MWR201 (Cottage Farm)	2	6.30
MWR023	2	0.13
SOM010	Closed	N/A
TOTAL		**6.88**
NEPONSET RIVER		
BOS093	Closed	N/A
BOS095	Closed	N/A
TOTAL		**0.00**
BACK BAY FENS		
BOS046	2	5.38
TOTAL		**5.38**