AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, 33 U.S.C. §§1251 et seq., and the Massachusetts Clean Waters Act, as amended, Massachusetts General Laws Chapter 21, §§26-53, the

City of Somerville
Department on Public Works
1 Franey Road
Somerville, MA 02145

is authorized to discharge from:

2 Combined Sewer Overflows (CSOs) listed in Attachment A

to the receiving waters named **Alewife Brook and Mystic River**, both Class B waters with CSO variances, in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month following sixty (60) days after the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on September 23, 2005.

This permit consists of **9** pages, **Attachments A, B, and C** in Part I, and 25 pages in Part II, the Standard Conditions.

Signed this 11th day of June, 2012

/S/ SIGNATURE ON FILE

Stephen S. Perkins, Director	David Ferris, Director
Office of Ecosystem Protection	Massachusetts Wastewater Management Program
Environmental Protection Agency	Department of Environmental Protection
Region I	Commonwealth of Massachusetts
Boston, MA	Boston, MA

Part I. EFFLUENT LIMITATIONS AND OTHER PERMIT CONDITIONS

A. Effluent Limitations

1. During wet weather, the permittee is authorized to discharge combined storm water and sanitary wastewater from combined sewer outfalls listed in **Attachment A**, subject to the following effluent limitations and requirements:

   a. The permittee must continue to implement the Nine Minimum Controls (NMC) specified below and detailed further in Parts I.B. and I.C. of this permit by the effective date of the permit.

      (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows.

      (2) Maximum use of the collection system for storage.

      (3) Review and modification of the pretreatment program to assure CSO impacts are minimized.

      (4) Maximization of flow to the POTW for treatment.

      (5) Prohibition of dry weather overflows from CSOs.

      (6) Control of solid and floatable materials in CSOs.

      (7) Pollution prevention programs that focus on contaminant reduction activities.

      (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.

      (9) Monitoring to effectively characterize CSO and the efficacy of CSO controls.

   b. The authorized typical year discharge (activation) frequencies and volumes for the CSO discharges are limited as shown in **Attachment A.** Discharge frequencies and volumes are expected to vary from year to year as a function of rainfall. CSOs discharging to Alewife Brook and the Upper Mystic River have been granted a variance under the Massachusetts Surface Water Quality Standards (WQS) through September 1, 2013. A copy of the determination letter for this variance extension is included as **Attachment B** and the Massachusetts Department of Environmental Protection's (MassDEP) fact sheet accompanying this variance extension is included in this permit's fact sheet as **Attachment A**. The conditions of this variance extension are incorporated into and are enforceable elements of this permit.

c. The permitee's discharges must meet Federal and State WQS and be consistent with any water quality standards variances or variance extensions issued by MassDEP and approved by the EPA. The variance for the Alewife Brook/Upper Mystic River Basin was approved by EPA on August 18, 2011. Following the expiration of this EPA-approved variance, EPA may re-open the permit and establish, through a permit modification, limitations and conditions consistent with the WQS established by MassDEP and approved by EPA at that time.

B. Nine Minimum Controls (NMC) Implementation

Until the review and update of the NMC program described in Part I.D.5 is completed, the permittee shall continue to implement the nine minimum controls in accordance with the documentation submitted by the City on December 31, 1996 and its response to EPA comments dated May 1, 1997, except where the minimum implementation levels described in Part I.C are more stringent.

Pursuant to the requirements of Part I.D.5., the permittee must review and update its NMC program no later than April 30th following the first full calendar year of this permit. The nine minimum controls shall then be implemented in accordance with this documentation, except as updated pursuant to the annual reporting requirements in Part I.D.5.

C. Minimum Implementation Levels

1. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that it is in good working condition and adjusted to minimize combined sewer discharges and tidal surcharging (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of the inspection, the general condition of the CSO structure, and whether the structure is operating satisfactorily. If maintenance is necessary, the permittee shall record, at a minimum: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall forward to the Massachusetts Department of Conservation and Recreation ("DCR") its description of any conditions within DCR's control that impair the operation or maintenance of any of its CSO structures. The permittee shall maintain all records of inspections for at least eight (8) years.

2. Discharges to the combined system of septage, holding tank wastes or other material which may cause a visible oil sheen or containing floatable materials are prohibited during wet weather when CSO discharges may be active. (NMC# 3, 6, and 7)

3. Dry weather overflows (DWOs) are prohibited (NMC# 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and MassDEP within 24 hours in accordance with the reporting requirements for plant bypass. See Part I.E. (Unauthorized Discharges) and Part II.D.1.e. of this permit.

4. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC# 9). For discharges from Outfall SOM001A, quantification must be through direct measurement using metering equipment. The permittee shall undertake all actions necessary to ensure that the metering equipment is properly maintained and operated in order to provide accurate measurements of CSO flows. For Outfall SOM007A, quantification may be through direct measurement or estimation. When estimating, the permittee shall make reasonable efforts (i.e. gauging, measurements, calibration) to verify the validity of the estimation technique. The following information must be recorded for each CSO and for each discharge event:

    - Estimated duration (hours) of discharge;
    - Estimated volume (gallons) of discharge;
    - National Weather Service precipitation data from the nearest gauge where precipitation is available at daily (24-hour) intervals and the nearest gauge where precipitation data at minimum of one-hour intervals is available to the permittee. Cumulative precipitation per discharge event shall be provided; and
    - A description of whether the discharge activation and volume for each CSO are in accordance with the Massachusetts Water Resources Authority (MWRA) Final CSO Facilities Plan or the "Notice of Project Change" document, or updates to these documents.

    Each of the five (5) CSO regulators to the Tannery Brook drain shall be provided with a continuous flow measuring device beginning on January 1, 2013 and lasting through at least December 31, 2013. If it is not feasible to begin on January 1, 2013, the permittee shall begin as soon as possible in the 2013 calendar year, but no later than July 1, 2013, and shall continue such monitoring for a minimum of a consecutive twelve month period. The permittee shall notify EPA and MassDEP when it begins this monitoring. The results of this monitoring shall be included with the Annual Report that is due following the completion of the monitoring period. (NMC# 9)

    The permittee shall maintain all records of discharges for at least eight (8) years after the expiration date of this permit.

5. The permittee shall maintain identification signs for all combined sewer outfall structures (NMC# 8). The signs shall be located at or near the combined sewer outfall structures and be readable by the public both from the shore and from instream locations. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following language, at a minimum:

WARNING:*
CITY OF SOMERVILLE
DEPARTMENT OF PUBLIC WORKS
WET WEATHER SEWAGE DISCHARGE OUTFALL (discharge serial number)

***** For existing signs which otherwise meet all of the requirements of this section, the word "Warning" need not be added.

Where easements over property not owned by the permittee must be obtained to meet this requirement, the permittee shall identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

The permittee, to the extent practicable, shall add a universal symbol to its warning signs reflecting a CSO discharge, or place additional signs in languages other than English based on notification from the EPA and the MassDEP or on the permittee's own determination that the primary language of a substantial percentage of the residents in the vicinity of a given outfall structure is not English.

Within thirty (30) days of the effective date of the permit, the permittee is required to submit photographic documentation of the CSO signage at Outfall SOM001A. Such documentation shall be submitted to EPA and MassDEP at the addresses in Part I.H. of this permit.

6. The permittee, with the collaboration of the MWRA and the City of Cambridge, shall maintain informational signs at John Wald Park and other public access locations identified by the MassDEP, to advise the public of CSO discharges and their potential public health impacts and to provide contact information and website links regarding CSOs. The text of the notice shall be subject to prior approval by the MassDEP. (NMC# 8)

7. The permittee, with the collaboration of the MWRA and the City of Cambridge, shall issue a joint press release by April 15 of each year, which shall include (a) general information on CSOs, (b) their locations in the Alewife Brook/Upper Mystic River watershed, (c) potential health risks posed by exposure to CSO discharges, and (d) a link to the City's website which describes the progress on abatement projects (see Part I.C.9 below). This press release shall be distributed to the following, at a minimum: (NMC# 8)

   - watershed advocacy groups
   - local health agents
   - property owners subject to flooding in the Alewife Brook watershed {as defined by the MassDEP in consultation with the U. S. Federal Emergency Management Agency (FEMA) and the Massachusetts Department of Conservation and Recreation (DCR)}
   - newspapers of local circulation in the Alewife Brook/Upper Mystic River watershed

8. The permittee shall collaborate with MWRA and the City of Cambridge in fulfilling the City of Cambridge's requirement to provide email notification to EPA, MassDEP, local health agents, and the Mystic River Watershed Association of CSO discharge events in the Alewife Brook watershed within 24 hours of the onset of such discharges. (NMC# 8)

9. The permittee shall update its website to include general information regarding CSOs, including their potential health impacts, locations of its CSO discharges in the Upper Mystic River and Alewife Brook, the overall status of all CSO abatement programs, web links to CSO communities and watershed advocacy groups, and the most recent information on all CSO activations and volumes in both watersheds. (NMC# 8)

D. Annual Report

By April 30th of each year the permittee shall submit a report which includes the following information:

1. Activation frequencies and discharge volumes for each CSO listed on **Attachment A** during the previous calendar year. In the first annual report submitted in accordance with this permit, the permittee will include a CSO monitoring plan that describes the methods it will use to quantify CSO activations and volumes. Activation frequencies and discharge volumes shall thereafter be reported in accordance with the methods identified in the CSO monitoring plan.

2. Precipitation during the previous year for each day, including total rainfall, peak intensity, and average intensity.

3. Status of the implementation of CSO abatement work for which the permittee is directly responsible in accordance with the MWRA Final CSO Facilities Plan, the Federal court order [US v. MDC., et al., No. 85-0489 (D. Mass)], as amended by the Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control (as incorporated into the Federal Court Order on April 27, 2006), and any related, subsequent documents. The "Second Stipulation" document is included as **Attachment C**.

4. For the outfalls listed in **Attachment A,** provide the following information in the Annual Report for years 3 and 5 of this permit, using the updated MWRA model (or equivalent) for comparison:

   a. A comparison between the precipitation for the previous year and the precipitation in the typical year under future planned conditions used in the MWRA Final CSO Facilities Plan or "Notice of Project Change" document, or subsequent document, whichever is appropriate. This comparison shall include the number of discharge events and size (volume) of such events (including recurrence interval).

b. For each CSO, a comparison between the activation volume and frequency for the previous year and the volume and frequency expected during a typical year under future planned conditions.

c. An evaluation of whether the CSO activation volumes and frequencies for the previous year are in accordance with the estimates in the MWRA Final CSO Facilities Plan or the report entitled "Notice of Project Change for the Long Term CSO Control Plan for Alewife Brook" (April 30, 2001, MWRA), given the precipitation which occurred during the year, and the CSO abatement activities which have been implemented. Where CSO discharges are determined to be greater than the activation frequency or volume in either document above, the permittee shall include their assessment of such result, a discussion of remaining CSO abatement activities and an assessment of the impact of those projects on attaining the level of CSO control identified in the relevant document, or any amendments thereto.

5. A summary of modifications to the approved NMC program which have been evaluated and a description of those which will be implemented during the upcoming year. In the first annual report based on a full calendar year and submitted in accordance with this permit (due by **April 30, 2014**), the permittee shall submit an updated nine minimum control plan that reviews the current controls and updates them to enhance their effectiveness. The updated NMC plan shall include or exceed all of the minimum implementation levels described in Part I.C.

6. A certification stating that the previous calendar year's monthly inspections were conducted, their results recorded, and records maintained.

7. Within ninety (90) days of the effective date of the permit, the permittee shall submit all the information relative to the Annual Reporting requirement that it can retrieve and recreate from existing information, for the period of 2006 through 2011.

E. Unauthorized Discharges

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit from those outfalls listed in **Attachment A** of this permit. Discharges of wastewater from CSOs during dry weather or from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported to EPA and MassDEP in accordance with Part II. D.1.e. (1) of this permit (Twenty-four hour reporting). An SSO Reporting Form which includes MassDEP Regional Office telephone numbers is available on-line at: http://www.mass.gov/dep/water/approvals/surffms.htm#sso.

F. Notice of Elimination

The permittee shall give notice of elimination or change in status of any outfall listed in **Attachment A** as soon as possible and in writing to the Director of the Office of Ecosystem Protection at EPA and to the Director of the Wastewater Management Program at MassDEP.

G. Certification and Signature of Reports

All reports required by the permit and other information requested by the EPA shall be signed and certified in accordance with Part II.D.2. of this permit.

H. Report Submission

Signed and dated originals of all notifications and reports required herein, shall be submitted to the EPA and the State at the following addresses:

U.S. Environmental Protection Agency
Water Technical Unit (OES04-SMR)
5 Post Office Square - Suite 100
Boston, MA 02109-3912

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887
Attention: Kevin Brander

Duplicate signed copies of all reports or notifications required above shall be submitted to the State at the following addresses:

Massachusetts Department of Environmental Protection
1 Winter Street
Boston, MA 02108
Attention: David Ferris

and

Massachusetts Department of Environmental Protection
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

Any verbal reports, if required in Parts I and/or II of this permit, shall be made to both EPA and to MassDEP.

I. Retention of Records

The permittee shall retain all records of all monitoring information, copies of all reports required by this permit and records of all other data required by or used to demonstrate compliance with this permit, for at least eight (8) years. This period may be modified by alternative provisions of this permit or extended by request of the Director of EPA's Office of Ecosystem Protection at any time.

J. State Permit Conditions

This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and 314 C.M.R. 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

This authorization also incorporates the state water quality certification issued by MassDEP under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.

Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

Attachment A

Summary of 2010 and Typical Year Model Simulation Results

Somerville CSO Discharges: Class B - Variance

	2010 Rainfall Under 2010 System Conditions [1]			Typical Year Rainfall Under 2010 System Conditions[2]		Typical Year Rainfall With Long Term CSO Control Plan[3]	
Outfall	**Activation Frequency[4]**	**Duration (hours)**	**Volume (MG)[5]**	**Activation Frequency**	**Volume (MG)**	**Activation Frequency**	**Volume (MG)**
SOM001A Alewife Brook	11	24.95	14.22	9	8.16	3	1.67
SOM007A[6] Upper Mystic River	10	28.91	22.34	3	1.51	3	3.48

1. These values are modeled estimates made by the MWRA and are based on actual 2010 rainfall data from CSO treatment facilities. From May 11, 2011 letter of M. Hornbrook (MWRA) to T. Borci (EPA) and K. Brander (MassDEP).

2. These values are based on MWRA modeled estimates and historical storm data with the current CSO configuration.

3. These values represent modeled estimates based on CSO configuration representing LTCP implementation as described in "Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston," August 2, 2005; MWRA Revised Recommended CSO Control Plan for the Charles River, Typical Year CSO Discharge Activations and Volumes. November 15, 2005; and MWRA Long-Term CSO Control Plan Response to Additional EPA Questions Regarding Prison Point Discharges, January 9, 2005.

4. Activations per year

5. MG = Million Gallons

6. Activation frequency and volume for 2010 rainfall are from MWRA depth sensor measurement and MWRA model results, respectively.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

FINAL DETERMINATION TO EXTEND VARIANCE FOR COMBINED SEWER OVERFLOW DISCHARGES TO ALEWIFE BROOK/UPPER MYSTIC RIVER

The Department of Environmental Protection (the "Department") hereby extends the Variance for CSO Discharges to the Alewife Brook/Upper Mystic River from September 1, 2010 for a period of three years (to September 1, 2013). This action, which authorizes limited CSO discharges, is taken in connection with NPDES permit Nos. MA0103284, MA0101974, and MA0101982, issued to the Massachusetts Water Resources Authority (MWRA), the City of Somerville, and the City of Cambridge, respectively. The Variance extension is issued pursuant to the Massachusetts Surface Water Quality Standards at 314 CMR 4.00, and subject to the specific conditions which follow. The Variance is intended to provide a timeframe to implement the revised recommended CSO control plan for the Alewife Brook/Upper Mystic River watersheds.

The Department grants this Variance based on the technical and cost information in the 1997 MWRA CSO Facilities Plan, the July 1, 2003 MWRA Final Variance Report, and affordability analyses demonstrating that implementation of more stringent CSO controls at this time would result in substantial and widespread social and economic impact as specified in 314 CMR 4.03(4). Issuance of this Variance for CSO discharges to the Alewife Brook/Upper Mystic River is consistent with EPA 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 Plan(s).

MWRA and the Cities of Cambridge and Somerville shall implement the revised recommended plan included in the July 1, 2003 MWRA Final Variance Report for the Alewife Brook/Upper Mystic River. The implementation schedule will be as set forth in modifications to the Federal Court Order.

It is anticipated that this Variance will be incorporated into NPDES permits for the MWRA and the Cities of Cambridge and Somerville. Failure by the MWRA and/or the Cities of Cambridge or Somerville to comply with the conditions of this Variance following its effective date and prior to and following permit modification or reissuance will constitute a violation of

the permit as in effect on the date of such violation, as well as the Massachusetts Surface Water Quality Standards and Permit Regulations, 314 CMR 3.00.

VARIANCE CONDITIONS

The CSO Variance is conditioned upon MWRA and the Cities of Cambridge and Somerville complying with the following requirements:

A. Implementation of the Revised Recommended Plan

MWRA and the Cities of Cambridge and Somerville shall implement the $117 million Revised Recommended Plan in the Alewife Brook/Upper Mystic River watershed to abate CSO discharges. The implementation schedule shall conform to the requirements of the federal court order, as modified. CSO discharges shall be limited in accordance with the performance of the Revised Recommended Plan, as characterized in the July 1, 2003 MWRA Final Variance Report after implementation of the Revised Recommended Plan and upon completion of subsequent monitoring to verify that the Long-Term CSO control goals are achieved.

B. Other Actions to Minimize CSO/Sanitary Discharges

i. MWRA and the Cities of Cambridge and Somerville shall continue to implement the Nine Minimum Controls (NMC), and monitor CSO activations and volumes. Cambridge and Somerville each shall submit a report to the Department on an annual basis that contains estimates of CSO activations and volumes in the Alewife Brook/Upper Mystic River. The first report shall be submitted by April 30, 2011 for the preceding calendar year. On or before April 30 of each year, MWRA shall submit to the Department the estimated CSO activations and volumes for all CSO outfalls for the previous calendar year in the Alewife Brook/Upper Mystic River using the MWRA sewer system model.

ii. MWRA shall continue to provide technical assistance related to the identification and removal of I/I to member communities.

iii. The Cities of Cambridge and Somerville shall respond to any DEP comments on the Infrastructure Studies submitted pursuant to the 2004 Variance Extension, or any other DEP information requests to clarify the conditions of the combined sewer system, including the frequency and volume of CSO discharges, within 90 days of receiving such comments.

C. Notification to the Public of CSO Discharges and Impacts:

i. MWRA and the cities of Cambridge and Somerville shall maintain outfall signs which are visible both from the shore and from in stream locations for their permitted

CSO discharges. Pursuant to the NPDES permit, the following language, at a minimum, shall be included:

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

ii. MWRA and the Cities of Cambridge and Somerville shall maintain informational signs at John Waldo Park and other public access locations identified by the Department to advise the public of CSO discharges and potential public health impacts and to provide contact information and website links. The text of the notice shall be subject to prior approval by the Department.

iii. MWRA and the Cities of Cambridge and Somerville shall issue a joint press release by April 15 of each year to watershed advocacy groups, local health agents, property owners subject to flooding in the Alewife Brook watershed (as defined by the Department in consultation with FEMA and DCR), and newspapers of local circulation in the Alewife Brook/Upper Mystic River watershed, which shall include general information on CSOs, their locations in the Alewife Brook/Upper Mystic River watershed, and potential health risks posed by exposure to CSO events.

iv. The City of Cambridge, in collaboration with MWRA and Somerville, shall provide email notice to EPA, the Department, local health agents, and the Mystic River Watershed Association of CSO discharge events in the Alewife Brook watershed within 24 hours of the onset of the discharge.

v. MWRA and Cities of Cambridge and Somerville shall update and maintain their respective websites to include general information regarding CSOs, potential health impacts, locations of CSO discharges, the status of the CSO abatement program, web links to CSO communities and watershed advocacy groups, and information from the most recent information on CSO activations and volumes in the Alewife Brook/Upper Mystic River watershed.

D. Receiving Water Monitoring

The MWRA shall continue to perform water quality monitoring in the Alewife Brook/Upper Mystic River to assess the impacts of CSO discharges.

Each year, on or before July 15 for the duration of this Variance, MWRA shall submit to the Department and EPA a report on the previous year's sampling program. The report shall include:

i. 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.

ii. MWRA has a sampling plan for the Alewife Brook/Upper Mystic River on its website at http://www.mwra.state.ma.us/harbor/enquad/pdf/2005-12.pdf . Changes in schedule, sampling sites, and/or parameters will be provided to the Department for review and approval in advance of implementation of the sampling plan, for each year of this variance.

Subject to the conditions included in this Variance, MWRA, and the Cities of Cambridge and Somerville shall be authorized to have CSO discharges during wet weather events to the Alewife Brook/Upper Mystic River, CSO discharges shall be consistent with the performance of the Revised Recommended Plan, as characterized in the July 1, 2003 MWRA Final Variance Report, upon implementation of the Revised Recommended Plan and after completion of subsequent monitoring to verify that the Long-Term CSO control goals are achieved.

___08/26/2010_____
Date Issued

Glenn S. Haas
Assistant Commissioner
Bureau of Resource Protection

___09/01/2010_____
Effective Date

ATTACHMENT C

UNITED STATES DISTRICT COURT
for the
DISTRICT OF MASSACHUSETTS

UNITED STATES OF AMERICA, Plaintiff, v. METROPOLITAN DISTRICT COMMISSION, et al., Defendants.	CIVIL ACTION No. 85-0489-RGS
CONSERVATION LAW FOUNDATION OF NEW ENGLAND, INC., Plaintiff, v. METROPOLITAN DISTRICT COMMISSION, Defendants.	CIVIL ACTION No. 83-1614-RGS

SECOND STIPULATION OF THE UNITED STATES
AND THE MASSACHUSETTS WATER RESOURCES AUTHORITY
ON RESPONSIBILITY AND LEGAL LIABILITY FOR
COMBINED SEWER OVERFLOW CONTROL

The Massachusetts Water Resources Authority ("Authority") and the United States, on behalf of the Environmental Protection Agency ("EPA"), hereby agree and stipulate as follows:

1. The purpose of this Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control ("Second Stipulation") is to terminate the February 27, 1987, Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflows (the "1987 Stipulation") and replace it with this Second Stipulation that reflects developments and progress in the control of combined sewer overflow ("CSO") discharges to Boston Harbor and its tributaries that have taken place since 1987. The 1987 Stipulation shall remain in effect until this Second Stipulation goes into effect. This Second Stipulation shall take effect, and the 1987 Stipulation shall terminate, upon approval by the Court in the above-captioned action of the Joint Motion of the United States and the Massachusetts Water Resources Authority To Amend Schedule Six with Respect to The Charles River, Alewife Brook and East Boston.

2. The Authority's Long-Term Combined Sewer Overflow ("CSO") Control Plan ("LTCP") presently consists of the Authority's July 31, 1997, Final Combined Sewer Overflow Facilities Plan and Environmental Impact Report (the "1997 Facilities Plan"), as modified by the planning documents identified in the attached Exhibit "A," entitled, MWRA Long-Term CSO Control Plan Facilities Planning Documentation.

3. The CSO outfalls that are the subject of the Authority's LTCP include the outfalls listed in Exhibit "B" hereto, entitled, "Summary of Typical

Year CSO Activation Frequency and Volume." The CSO outfalls identified with the prefix "MWR" are owned or operated by the Authority. The CSO outfalls identified with a prefix "BOS," "CAM," "CHE," or "SOM," are owned and operated by member municipalities (Boston, Cambridge, Chelsea, or Somerville, respectively), except that the Union Park Pump Station ("UPPS") is jointly operated by the Authority and the City of Boston.

4. With respect to all of the CSO outfalls within or hydraulically connected to the Authority's sewer system, including the outfalls identified in Exhibit "B" hereto, the Authority accepts legal liability to undertake such corrective action as may be necessary to implement the CSO control requirements set forth in Schedule Six and related orders of the Court in the above-captioned action, and to meet the levels of CSO control (including as to frequency of CSO activation and as to volume of CSO discharge) described in the Authority's Long-Term CSO Control Plan. Whether the Authority has met the levels of CSO control in its Long-Term CSO Control Plan shall be determined by the EPA and the Massachusetts Department of Environmental Protection. With respect to all CSO outfalls owned or operated by the Authority, including the CSO outfalls identified in Exhibit "B" identified with the prefix "MWR," and including the Union Park Pump Station, the Authority also accepts legal liability to undertake such future corrective action as may be necessary to meet the CSO control requirements of the Clean Water Act, 33 U.S.C. § 1251 et seq. The Authority does not accept liability for alleged past

violations of the CSO provisions of NPDES Permit No. MA0102351 (issued in 1976 and transferred to the Authority in 1985) prior to February 27, 1987.

5. This stipulation is not intended to and does not limit the Court's power to find, or any party's right to seek, liability for past or continuing violations of federal law or to enforce compliance with that law.

Massachusetts Water Resources Authority

By its attorneys,

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Of Counsel:

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U.S. Environmental Protection Agency
Boston, MA 02203
(617) 918-1735

Dated: March 15, 2006

B3131253.1

Exhibit A
to
Second Stipulation

MWRA Long-Term CSO Control Plan - Facilities Planning Documentation

Planning Document	Project	Receiving Water
Final Combined Sewer Overflow Facilities Plan and Environmental Impact Report, July 31, 1997	Hydraulic Relief for CAM005	Upper and Lower Charles River Basin
	Stony Brook Sewer Separation	
	Floatables Control at CAM007, CAM009, CAM011 and CAM017	
	Baffle Manhole Separation at SOM 001 and SOM 006-007	Alewife Brook/Upper Mystic River
	Hydraulic Relief for BOS 017[1]	Mystic/Chelsea Confluence
	Chelsea Branch Relief Sewer	
Minor modifications were addressed in Notice of Project Change, March 1999	Trunk Sewer Relief for CHE 002-004	
	Outfall Repairs and Floatables Control at CHE 008	
	Storage Conduit for BOS 019	Upper Inner Harbor
	Detention/Treatment Facility at Union Park Pump Station	Fort Point Channel
	South Dorchester Bay Sewer Separation	South Dorchester Bay
	Constitution Beach Sewer Separation	Constitution Beach
	Neponset River Sewer Separation	Neponset River
The following reports <u>supplement</u> information in the Final CSO Facilities Plan and Environmental Impact Report, July 31, 1997		
Upgrades to Existing CSO Facilities, Supplemental Environmental Impact Report, September 30, 1998	Cottage Farm Facility Upgrade	Upper Charles River Basin
	Prison Point Facility Upgrade[2]	Upper Inner Harbor
	Somerville Marginal Facility Upgrade	Upper Mystic River; Mystic/Chelsea Confluence
	Commercial Point Facility Upgrade	South Dorchester Bay
Upgrades to the Fox Point CSO Treatment Facility, Supplemental Environmental Impact Report, December 31, 1998	Fox Point Facility Upgrade	South Dorchester Bay
Fort Point Channel CSO Storage Conduit Notice of Project Change, June 2003, and MWRA Long Term CSO Control Plan, Fort Point Channel Sewer Separation and System Optimization Project, Level of Control at CSO Outfalls BOS072 and BOS073, letter dated June 7, 2004.	Sewer Separation for BOS072 and BOS073	Fort Point Channel

Exhibit A
to
Second Stipulation

MWRA Long-Term CSO Control Plan - Facilities Planning Documentation

Planning Document	Project	Receiving Water
Re-Assessing Long Term Floatables Control for Outfalls MWR018, 019 and 020, February 2001 Report on Re-Assessment of CSO Activation Frequency and Volume for Outfall MWR010, April 2001, and supplemental letter report (Metcalf & Eddy, Inc.), May 31, 2001	Regionwide Floatables Controls and Outfall Closing Projects	Regionwide
Final Variance Report for Alewife Brook and the Upper Mystic River, July 2003, and supplemental letter report (Metcalf & Eddy, Inc.), July 8, 2003	Sewer Separation at CAM004 and CAM400	Alewife Brook
	Interceptor Connection Relief and Floatables Control at CAM002, CAM401B and SOM01A, and Floatables Control at CAM001 and CAM401A	
	Control Gate/Floatables Control at Outfall MWR003 and MWRA Rindge Avenue Siphon Relief	
East Boston Branch Sewer Relief Project Reevaluation Report, February 2004 Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston, August 2, 2005	Interceptor Relief For BOS003-014	Mystic/Chelsea Confluence; Upper and Lower Inner Harbor
Supplemental Facilities Plan and Environmental Impact Report on the Long-term CSO Control Plan for North Dorchester Bay and Reserved Channel, April 27, 2004	North Dorchester Bay Storage Tunnel and Related Facilities	North Dorchester Bay
	Pleasure Bay Storm Drain Improvements	
	Morrissey Boulevard Storm Drain	
	Reserved Channel Sewer Separation	Reserved Channel
Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston, August 2, 2005, and MWRA Revised Recommended CSO Control Plan for the Charles River, Typical Year CSO Discharge Activations and Volumes, November 15, 2005.	Brookline Connection, Cottage Farm Overflow Chamber Interconnection and Cottage Farm Gate Control	Upper and Lower Charles River Basin
	Brookline Sewer Separation	
	Bulfinch Triangle Sewer Separation	
	Charles River Valley/South Charles Relief Sewer Gate Controls	
	Evaluation of Additional Charles River Interceptor Interconnection Alternatives	

(1) Also "MWRA Long-Term CSO Control Plan Target CSO Activation Frequency and Volume by Outfall," letter dated December 9, 2005; "MWRA Long-Term CSO Control Plan Response to Additional EPA Questions Regarding Prison Point Discharges," letter dated January 9, 2005 (2006).

(2) Also "MWRA Long-Term CSO Control Plan Target CSO Activation Frequency and Volume by Outfall," letter dated December 9, 2005.

Exhibit B
to
Second Stipulation

SUMMARY OF TYPICAL YEAR CSO ACTIVATION FREQUENCY AND VOLUME

OUTFALL	TYPICAL YEAR		REFERENCE (*)
	LONG TERM CONTROL PLAN 2005 (*)		
	Activation Frequency	Volume (MG)	
ALEWIFE BROOK[1]			
CAM001	5	0.19	5
CAM002	4	0.69	5
MWR003	5	0.98	5
CAM004	To be closed	N/A	5
CAM400	To be closed	N/A	5
CAM401A	5	1.61	5
CAM401B	7	2.15	5
SOM001A	3	1.67	5
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	6
BOS014	0	0.00	6
BOS015	Closed	N/A	6
BOS017	1	0.02	9
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	6
BOS010	4	0.72	6
BOS012	5	0.72	6
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)	30	335.00	1, 9
TOTAL		**338.04**	
LOWER INNER HARBOR			
BOS003	4	2.87	6
BOS004	5	1.84	6
BOS005	1	0.01	6
BOS006	4	0.24	6
BOS007	6	1.05	6
TOTAL		**6.01**	

Exhibit B
to
Second Stipulation

SUMMARY OF TYPICAL YEAR CSO ACTIVATION FREQUENCY AND VOLUME

OUTFALL	TYPICAL YEAR		REFERENCE (*)
	LONG TERM CONTROL PLAN 2005 (*)		
	Activation Frequency	Volume (MG)	
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	3
UPPS	17	71.37	
BOS070/RCC	2	0.26	
BOS072	0	0.00	4
BOS073	0	0.00	4
TOTAL		**73.89**	
RESERVED CHANNEL			
BOS076	3	0.91	7
BOS078	3	0.28	7
BOS079	1	0.04	7
BOS080	3	0.25	7
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**	
UPPER CHARLES			
BOS032	Closed	N/A	
BOS033	Closed	N/A	
CAM005	3	0.84	8
CAM007	1	0.03	8
CAM009	2	0.01	8
CAM011	0	0.00	8
TOTAL		**0.88**	

Exhibit B
to
Second Stipulation

SUMMARY OF TYPICAL YEAR CSO ACTIVATION FREQUENCY AND VOLUME

OUTFALL	TYPICAL YEAR		REFERENCE (*)
	LONG TERM CONTROL PLAN 2005 (*)		
	Activation Frequency	Volume (MG)	
LOWER CHARLES			
BOS028	Closed	N/A	
BOS042	Closed	N/A	
BOS049	To be closed	N/A	
CAM017	1	0.45	8
MWR010	0	0.00	2
MWR018	0	0.00	1
MWR019	0	0.00	1
MWR020	0	0.00	1
MWR021	Closed	N/A	
MWR022	Closed	N/A	
MWR201 (Cottage Farm)	2	6.30	8
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**	

(*) Long-term Control Plan activation frequency and volumes were established in the 1997 CSO Facilities Plan and Enviromental Impact Report or as noted in the "Reference" column.

1- Re-assessing Long Term Floatables Control for Outfalls MWR018, 019 and 020, February 2001.

2- Report on Re-Assessment of CSO Activation Frequency and Volume for Outfall MWR010, April 2001, and supplemental letter report (Metcalf & Eddy, Inc.), May 31, 2001.

3- Report on Re-Assessment of CSO Activation Frequency and Volume to Dorchester Brook Conduit and Outfall BOS086, January 2001 and supplemental letter report (Metcalf & Eddy, Inc.), June 28, 2001.

4- MWRA Long Term CSO Control Plan, Fort Point Channel Sewer Separation and System Optimization Project, Level of Control at CSO Outfalls BOS072 and BOS073, June 7, 2004.

5- Final Variance Report for Alewife Brook and the Upper Mystic River, July 2003, and supplemental letter report (Metcalf &Eddy, Inc.), July 8, 2003.

6- East Boston Branch Sewer Relief Project Reevaluation Report, February 2004.

7- Supplemental Facilities Plan and Environmental Impact Report on the Long-term CSO Control Plan for North Dorchester Bay and Reserved Channel, April 27, 2004.

8- Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston, August 2, 2005; MWRA Revised Recommended CSO Control Plan for the Charles River, Typical Year CSO Discharge Activations and Volumes, November 15, 2005; MWRA Long-Term CSO Control Plan, Response to Additional EPA Questions Reagarding Prison Point Discharges, January 9, 2005 (2006).

9- MWRA Long Term CSO Control Plan Target CSO Activation Frequency and Volume by Outfall, December 9, 2005.

NPDES PART II STANDARD CONDITIONS
(January, 2007)

TABLE OF CONTENTS

PART II. A. GENERAL REQUIREMENTS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

a. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.

b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

Note: See 40 CFR §122.41(a)(2) for complete “Duty to Comply” regulations.

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or notifications of planned changes or anticipated noncompliance does not stay any permit condition.

3. Duty to Provide Information

The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

4. Reopener Clause

The Regional Administrator reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA in order to bring all discharges into compliance with the CWA.

For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Regional Administrator or Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405 (d) of the CWA. The Regional Administrator or Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or contains a pollutant or practice not limited in the permit.

Federal regulations pertaining to permit modification, revocation and reissuance, and termination are found at 40 CFR §122.62, 122.63, 122.64, and 124.5.

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

6. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges.

7. Confidentiality of Information

a. In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

b. Claims of confidentiality for the following information will be denied:

(1) The name and address of any permit applicant or permittee;
(2) Permit applications, permits, and effluent data as defined in 40 CFR §2.302(a)(2).

c. Information required by NPDES application forms provided by the Regional Administrator under 40 CFR §122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

8. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Regional Administrator. (The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

9. State Authorities

Nothing in Part 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

10. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, or local laws and regulations.

PART II. B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions

(1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can be reasonably expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Paragraphs B.4.c. and 4.d. of this section.

c. Notice

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (Twenty-four hour reporting).

d. Prohibition of bypass

Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
(3) i) The permittee submitted notices as required under Paragraph 4.c. of this section.
ii) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in paragraph 4.d. of this section.

5. Upset

a. Definition. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B.5.c. of this section are met. No determination made during

administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (Twenty-four hour notice); and
(4) The permittee complied with any remedial measures required under B.3. above.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

PART II. C. MONITORING REQUIREMENTS

1. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. Except for records for monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and
(6) The results of such analyses.

d. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in the permit.

e. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by

imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The permittee shall allow the Regional Administrator or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

PART II. D. REPORTING REQUIREMENTS

1. Reporting Requirements

a. Planned Changes. The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR§122.29(b); or
(2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).
(3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. Anticipated noncompliance. The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and

incorporate such other requirements as may be necessary under the CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Twenty-four hour reporting.

(1) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
(b) Any upset which exceeds any effluent limitation in the permit.
(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Administrator in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).)

(3) The Regional Administrator may waive the written report on a case-by-case basis for reports under Paragraph D.1.e. if the oral report has been received within 24 hours.

f. Compliance Schedules. Reports of compliance or noncompliance with, any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs D.1.d., D.1.e., and D.1.f. of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D.1.e. of this section.

h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.

2. Signatory Requirement

a. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified. (See 40 CFR §122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 2 years per violation, or by both.

3. Availability of Reports.

Except for data determined to be confidential under Paragraph A.8. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

PART II. E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including Storm Water Requirements

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all, State, interstate, and Federal standards and limitations to which a “discharge”, a “sewage sludge use or disposal practice”, or a related activity is subject to, including “effluent limitations”, water quality standards, standards of performance, toxic effluent standards or prohibitions, “best management practices”, pretreatment standards, and “standards for sewage sludge use and disposal” under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of the CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in "approved States", including any approved modifications or revisions.

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For total and/or fecal coliforms and Escherichia coli, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" measured during the calendar week divided by the number of "daily discharges" measured during the week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgment (BPJ) means a case-by-case determination of Best Practicable Treatment (BPT), Best Available Treatment (BAT), or other appropriate technology-based standard based on an evaluation of the available technology to achieve a particular pollutant reduction and other factors set forth in 40 CFR §125.3 (d).

Coal Pile Runoff means the rainfall runoff from or through any coal storage pile.

Composite Sample means a sample consisting of a minimum of eight grab samples of equal volume collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample consisting of the same number of grab samples, or greater, collected proportionally to flow over that same time period.

Construction Activities - The following definitions apply to construction activities:

(a) Commencement of Construction is the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.

(b) Dedicated portable asphalt plant is a portable asphalt plant located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to. The term dedicated portable asphalt plant does not include facilities that are subject to the asphalt emulsion effluent limitation guideline at 40 CFR Part 443.

(c) Dedicated portable concrete plant is a portable concrete plant located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.

(d) Final Stabilization means that all soil disturbing activities at the site have been complete, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

(e) Runoff coefficient means the fraction of total rainfall that will appear at the conveyance as runoff.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117; 33 USC §§1251 et seq.

Daily Discharge means the discharge of a pollutant measured during the calendar day or any other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Director normally means the person authorized to sign NPDES permits by EPA or the State or an authorized representative. Conversely, it also could mean the Regional Administrator or the State Director as the context requires.

Discharge Monitoring Report Form (DMR) means the EPA standard national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Discharge of a pollutant means:

(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source", or

(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation (See "Point Source" definition).

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead

to a treatment works; and discharges through pipes, sewers, or other conveyances leading into privately owned treatment works.

This term does not include an addition of pollutants by any "indirect discharger."

Effluent limitation means any restriction imposed by the Regional Administrator on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States", the waters of the "contiguous zone", or the ocean.

Effluent limitation guidelines means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise "effluent limitations".

EPA means the United States "Environmental Protection Agency".

Flow-weighted composite sample means a composite sample consisting of a mixture of aliquots where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab Sample – An individual sample collected in a period of less than 15 minutes.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the CWA.

Indirect Discharger means a non-domestic discharger introducing pollutants to a publicly owned treatment works.

Interference means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(b) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act (CWA), the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SDWA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection Research and Sanctuaries Act.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

Large and Medium municipal separate storm sewer system means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and 40 CFR Part 122); or (ii) located in the counties with unincorporated urbanized

populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships, or towns within such counties (these counties are listed in Appendices H and I of 40 CFR 122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.

Maximum daily discharge limitation means the highest allowable "daily discharge" concentration that occurs only during a normal day (24-hour duration).

Maximum daily discharge limitation (as defined for the Steam Electric Power Plants only) when applied to Total Residual Chlorine (TRC) or Total Residual Oxidant (TRO) is defined as "maximum concentration" or "Instantaneous Maximum Concentration" during the two hours of a chlorination cycle (or fraction thereof) prescribed in the Steam Electric Guidelines, 40 CFR Part 423. These three synonymous terms all mean "a value that shall not be exceeded" during the two-hour chlorination cycle. This interpretation differs from the specified NPDES Permit requirement, 40 CFR § 122.2, where the two terms of "Maximum Daily Discharge" and "Average Daily Discharge" concentrations are specifically limited to the daily (24-hour duration) values.

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management agency under Section 208 of the CWA.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an "approved program".

New Discharger means any building, structure, facility, or installation:

(a) From which there is or may be a "discharge of pollutants";

(b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;

(c) Which is not a "new source"; and

(d) Which has never received a finally effective NPDES permit for discharges at that "site".

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore rig or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in 40 CFR §§125.122 (a) (1) through (10).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants", the construction of which commenced:

(a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or

(b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System".

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES programs.

Pass through means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved" State.

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to any pipe ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 CFR §122.2).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Primary industry category means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D. D.C. 1979)); also listed in Appendix A of 40 CFR Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operation is not the operator of the treatment works or (b) not a "POTW".

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly Owned Treatment Works (POTW) means any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality".

This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary Industry Category means any industry which is not a "primary industry category".

Section 313 water priority chemical means a chemical or chemical category which:

(1) is listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);

(2) is present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and

(3) satisfies at least one of the following criteria:

(i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances);
(ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or
(iii) are pollutants for which EPA has published acute or chronic water quality criteria.

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, Type III Marine Sanitation Device pumpings (33 CFR Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets, raw materials used in food processing or production, hazardous substance designated under section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 CFR §110.10 and §117.21) or Section 102 of CERCLA (see 40 CFR § 302.4).

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to Section 405(d) of the CWA, and is required to obtain a permit under 40 CFR §122.1(b)(3).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm water discharge associated with industrial activity means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. (See 40 CFR §122.26 (b)(14) for specifics of this definition.

Time-weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

Toxic pollutants means any pollutant listed as toxic under Section 307 (a)(1) or, in the case of "sludge use or disposal practices" any pollutant identified in regulations implementing Section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, "domestic sewage" includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR Part 503 as a "treatment works treating domestic sewage", where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR Part 503.

Waste Pile means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Waters of the United States means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;

(b) All interstate waters, including interstate "wetlands";

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in Paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in Paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole Effluent Toxicity (WET) means the aggregate toxic effect of an effluent measured directly by a toxicity test. (See Abbreviations Section, following, for additional information.)

2. Definitions for NPDES Permit Sludge Use and Disposal Requirements.

Active sewage sludge unit is a sewage sludge unit that has not closed.

Aerobic Digestion is the biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air.

Agricultural Land is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.

Agronomic rate is the whole sludge application rate (dry weight basis) designed:

(1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and

(2) To minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

Air pollution control device is one or more processes used to treat the exit gas from a sewage sludge incinerator stack.

Anaerobic digestion is the biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air.

Annual pollutant loading rate is the maximum amount of a pollutant that can be applied to a unit area of land during a 365 day period.

Annual whole sludge application rate is the maximum amount of sewage sludge (dry weight basis) that can be applied to a unit area of land during a 365 day period.

Apply sewage sludge or sewage sludge applied to the land means land application of sewage sludge.

Aquifer is a geologic formation, group of geologic formations, or a portion of a geologic formation capable of yielding ground water to wells or springs.

Auxiliary fuel is fuel used to augment the fuel value of sewage sludge. This includes, but is not limited to, natural gas, fuel oil, coal, gas generated during anaerobic digestion of sewage sludge, and municipal solid waste (not to exceed 30 percent of the dry weight of the sewage sludge and auxiliary fuel together). Hazardous wastes are not auxiliary fuel.

Base flood is a flood that has a one percent chance of occurring in any given year (i.e. a flood with a magnitude equaled once in 100 years).

Bulk sewage sludge is sewage sludge that is not sold or given away in a bag or other container for application to the land.

Contaminate an aquifer means to introduce a substance that causes the maximum contaminant level for nitrate in 40 CFR §141.11 to be exceeded in ground water or that causes the existing concentration of nitrate in the ground water to increase when the existing concentration of nitrate in the ground water exceeds the maximum contaminant level for nitrate in 40 CFR §141.11.

Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 CFR §501.2, required to have an approved pretreatment program under 40 CFR §403.8 (a) (including any POTW located in a state that has elected to assume local program responsibilities pursuant to 40 CFR §403.10 (e) and any treatment works treating domestic sewage, as defined in 40 CFR § 122.2,

classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved state programs, the Regional Administrator in conjunction with the State Director, because of the potential for sewage sludge use or disposal practice to affect public health and the environment adversely.

Control efficiency is the mass of a pollutant in the sewage sludge fed to an incinerator minus the mass of that pollutant in the exit gas from the incinerator stack divided by the mass of the pollutant in the sewage sludge fed to the incinerator.

Cover is soil or other material used to cover sewage sludge placed on an active sewage sludge unit.

Cover crop is a small grain crop, such as oats, wheat, or barley, not grown for harvest.

Cumulative pollutant loading rate is the maximum amount of inorganic pollutant that can be applied to an area of land.

Density of microorganisms is the number of microorganisms per unit mass of total solids (dry weight) in the sewage sludge.

Dispersion factor is the ratio of the increase in the ground level ambient air concentration for a pollutant at or beyond the property line of the site where the sewage sludge incinerator is located to the mass emission rate for the pollutant from the incinerator stack.

Displacement is the relative movement of any two sides of a fault measured in any direction.

Domestic septage is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

Domestic sewage is waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

Dry weight basis means calculated on the basis of having been dried at 105 degrees Celsius (°C) until reaching a constant mass (i.e. essentially 100 percent solids content).

Fault is a fracture or zone of fractures in any materials along which strata on one side are displaced with respect to the strata on the other side.

Feed crops are crops produced primarily for consumption by animals.

Fiber crops are crops such as flax and cotton.

Final cover is the last layer of soil or other material placed on a sewage sludge unit at closure.

Fluidized bed incinerator is an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

Food crops are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.

Forest is a tract of land thick with trees and underbrush.

Ground water is water below the land surface in the saturated zone.

Holocene time is the most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch to the present.

Hourly average is the arithmetic mean of all the measurements taken during an hour. At least two measurements must be taken during the hour.

Incineration is the combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device.

Industrial wastewater is wastewater generated in a commercial or industrial process.

Land application is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

Land with a high potential for public exposure is land that the public uses frequently. This includes, but is not limited to, a public contact site and reclamation site located in a populated area (e.g., a construction site located in a city).

Land with low potential for public exposure is land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest and a reclamation site located in an unpopulated area (e.g., a strip mine located in a rural area).

Leachate collection system is a system or device installed immediately above a liner that is designed, constructed, maintained, and operated to collect and remove leachate from a sewage sludge unit.

Liner is soil or synthetic material that has a hydraulic conductivity of 1×10^{-7} centimeters per second or less.

Lower explosive limit for methane gas is the lowest percentage of methane gas in air, by volume, that propagates a flame at 25 degrees Celsius and atmospheric pressure.

Monthly average (Incineration) is the arithmetic mean of the hourly averages for the hours a sewage sludge incinerator operates during the month.

Monthly average (Land Application) is the arithmetic mean of all measurements taken during the month.

Municipality means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management agency under section 208 of the CWA, as amended. The definition includes a special district created under state law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

Other container is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

Pasture is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.

Pathogenic organisms are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

Permitting authority is either EPA or a State with an EPA-approved sludge management program.

Person is an individual, association, partnership, corporation, municipality, State or Federal Agency, or an agent or employee thereof.

Person who prepares sewage sludge is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

pH means the logarithm of the reciprocal of the hydrogen ion concentration; a measure of the acidity or alkalinity of a liquid or solid material.

Place sewage sludge or sewage sludge placed means disposal of sewage sludge on a surface disposal site.

Pollutant (as defined in sludge disposal requirements) is an organic substance, an inorganic substance, a combination or organic and inorganic substances, or pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could on the basis on information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction) or physical deformations in either organisms or offspring of the organisms.

Pollutant limit (for sludge disposal requirements) is a numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the amount of pollutant that can be applied to a unit of land (e.g., kilograms per hectare); or the volume of the material that can be applied to the land (e.g., gallons per acre).

Public contact site is a land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

Qualified ground water scientist is an individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground water hydrology and related fields, as may be demonstrated by State registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground water monitoring, pollutant fate and transport, and corrective action.

Range land is open land with indigenous vegetation.

Reclamation site is drastically disturbed land that is reclaimed using sewage sludge. This includes, but is not limited to, strip mines and construction sites.

Risk specific concentration is the allowable increase in the average daily ground level ambient air concentration for a pollutant from the incineration of sewage sludge at or beyond the property line of a site where the sewage sludge incinerator is located.

Runoff is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off the land surface.

Seismic impact zone is an area that has 10 percent or greater probability that the horizontal ground level acceleration to the rock in the area exceeds 0.10 gravity once in 250 years.

Sewage sludge is a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to:, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in treatment works.

Sewage sludge feed rate is either the average daily amount of sewage sludge fired in all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located for the number of days in a 365 day period that each sewage sludge incinerator operates, or the average daily design capacity for all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located.

Sewage sludge incinerator is an enclosed device in which only sewage sludge and auxiliary fuel are fired.

Sewage sludge unit is land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 CFR §122.2.

Sewage sludge unit boundary is the outermost perimeter of an active sewage sludge unit.

Specific oxygen uptake rate (SOUR) is the mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in sewage sludge.

Stack height is the difference between the elevation of the top of a sewage sludge incinerator stack and the elevation of the ground at the base of the stack when the difference is equal to or less than 65 meters. When the difference is greater than 65 meters, stack height is the creditable stack height determined in accordance with 40 CFR §51.100 (ii).

State is one of the United States of America, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, and an Indian tribe eligible for treatment as a State pursuant to regulations promulgated under the authority of section 518(e) of the CWA.

Store or storage of sewage sludge is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

Surface disposal site is an area of land that contains one or more active sewage sludge units.

Total hydrocarbons means the organic compounds in the exit gas from a sewage sludge incinerator stack measured using a flame ionization detection instrument referenced to propane.

Total solids are the materials in sewage sludge that remain as residue when the sewage sludge is dried at 103 to 105 degrees Celsius.

Treat or treatment of sewage sludge is the preparation of sewage sludge for final use or disposal. This includes, but is not limited to, thickening, stabilization, and dewatering of sewage sludge. This does not include storage of sewage sludge.

Treatment works is either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature.

Unstable area is land subject to natural or human-induced forces that may damage the structural components of an active sewage sludge unit. This includes, but is not limited to, land on which the soils are subject to mass movement.

Unstabilized solids are organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Vector attraction is the characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

Volatile solids is the amount of the total solids in sewage sludge lost when the sewage sludge is combusted at 550 degrees Celsius in the presence of excess air.

Wet electrostatic precipitator is an air pollution control device that uses both electrical forces and water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

Wet scrubber is an air pollution control device that uses water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

3. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl_2	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)

TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont. (Continuous)	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M^3/day	Cubic meters per day
DO	Dissolved oxygen
kg/day	Kilograms per day
lbs/day	Pounds per day
mg/l	Milligram(s) per liter
ml/l	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-NO_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
pH	A measure of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or material
Surfactant	Surface-active agent

Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
ug/l	Microgram(s) per liter
WET	"Whole effluent toxicity" is the total effect of an effluent measured directly with a toxicity test.
C-NOEC	"Chronic (Long-term Exposure Test) – No Observed Effect Concentration". The highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.
A-NOEC	"Acute (Short-term Exposure Test) – No Observed Effect Concentration" (see C-NOEC definition).
LC_{50}	LC_{50} is the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC_{50} = 100% is defined as a sample of undiluted effluent.
ZID	Zone of Initial Dilution means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: MA0101982

PUBLIC NOTICE START AND END DATES:

NAME AND MAILING ADDRESS OF APPLICANT:

City of Somerville
Department of Public Works
1 Franey Road
Somerville, Massachusetts 02145

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

2 Combined Sewer Overflows (See Figures 1 and 2)

RECEIVING WATER(S): Mystic River and Alewife Brook
USGS Hydrologic Code #01090001, Mystic River Watershed

RECEIVING WATER CLASSIFICATION(S): Class B, both
Warm water fishery, CSO Variance

Contents

I. Proposed Action, Type of Facility, and Discharge Locations

The above named applicant has applied to the U.S. Environmental Protection Agency ("EPA") for the reissuance of its NPDES permit to discharge from two combined sewer overflows (CSOs) into the designated receiving waters. These CSO discharge locations are shown on **Figures 1 and 2.**

The City's current permit was issued on September 23, 2005, and expired on November 23, 2010, five years from the effective date. EPA received a completed permit renewal application from the applicant dated November 16, 2010. Since the permit renewal application was deemed timely and complete by EPA, the permit has been administratively continued pursuant to 40 CFR § 122.6.

II. Description of Discharges

The City of Somerville owns and operates a combined sewer system that serves a portion of the City. There are two (2) combined sewer overflows that discharge from the combined sewer system under certain wet weather conditions. The wastewater collected in this system is transported to the Massachusetts Water Resources Authority's (MWRA) Deer Island Wastewater Treatment Plant.

Outfall SOM001A is located near the Cambridge city line and is an outlet of the Tannery Brook drain to Alewife Brook. The Tannery Brook drain is a city storm drain that conveys storm drainage for a large portion of western and central Somerville, dry weather sanitary sewage from this same area, and combined sewage (CSO) from Somerville's existing combined sewer system. The majority of these flows discharge to MWRA's Alewife Brook Sewer in Cambridge. During certain rainfall events, flow from the Tannery Brook drain can also overflow directly to Alewife Brook, at Outfall SOM001A.

Outfall SOM007A is located near the Medford city line and discharges to the Mystic River upstream of the Amelia Earhart Dam. This outfall is also designated as MWR205A (in MWRA's permit #MA0103284) and is composed of treated CSO discharges from MWRA's Somerville Marginal Treatment Facility (MTF). This facility can accommodate flows of up to 245 million gallons per day (MGD) and provides screening, disinfection and dechlorination of combined sewerage flows prior to discharge. Typically, these treated CSOs discharge to MWR205A, but also discharge to SOM007A at certain high tide conditions.

A combined sewer system is a wastewater collection system owned by a State or municipality [as defined by Section 502(4) of the Clean Water Act (CWA)] that conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a publicly owned treatment works (POTW) treatment plant (as defined in 40 CFR 403.3(p)).

A combined sewer overflow (CSO) is the discharge from a combined sewer system at a point prior to the POTW treatment plant. CSOs are point sources subject to NPDES permit requirements including both technology-based and water quality-based requirements of the

CWA. CSOs occur during wet weather[1] when the flow in the combined sewer system exceeds the system's capacity. CSOs are distinguished from bypasses which are "intentional diversions of waste streams from any portion of a treatment facility" (40 CFR §122.41(m)).

The City began separating its combined collection system (building separate sanitary sewage and storm water systems) in the early 1970s. Work to further abate CSOs has continued according to a schedule in a federal court order [U.S. v. M.D.C., et al., No. 85-0489 (D. Mass)], and includes further sewer separation, hydraulic relief projects, and floatables control structures. The frequency and volume of CSO discharges have been reduced as CSO abatement projects have been completed. However, as will be discussed further in Section IV, the required projects are not expected to eliminate CSO discharges entirely.

Modeled estimates of the number of CSO activations and volumes currently discharged in a typical year and in those actually discharged in 2009 based on actual rainfall data are shown in **Permit Attachment A.** The actual monitoring reports submitted by the City for these outfalls, which include a daily summary of precipitation and estimated or measured flows at each CSO may be found in the permit file.

III. Receiving Water Description

A. Upper Mystic River and Alewife Brook

The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, designate the Mystic River (Segment MA71-02), and Alewife Brook (Segment MA71-04), as Class B warm water fisheries, with variances for CSO discharges. A more detailed discussion of the CSO variances may be found in Section IV below. Outfall SOM007A discharges to the Upper Mystic River and Outfall SOM001A discharges to Alewife Brook.

Class B waters are described in the SWQS (314 CMR 4.05(3)(b)) as "designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. Where designated in 314 CMR 4.06(1)(d)(4), they shall be suitable as a source of public water supply with appropriate treatment ("Treated Water Supply") and suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value." A warm water fishery is defined in the MA SWQS as "waters in which the maximum mean monthly temperature generally exceeds 68° F (20° C) during the summer months and are not capable of sustaining a year-round population of cold water stenothermal

[1] Flows in combined sewers can be classified into two categories: dry weather flow and wet weather flow. Dryweather flow is the flow that results from domestic sewage, groundwater infiltration, commercial and industrial wastewaters, and any other non-precipitation related flows (e.g. tidal infiltration). Wet weather flow includes all of the dry weather flow components plus storm water flow, including snow melt runoff (see 40 CFR 122.26(b)(13). The draft permit prohibits dry weather discharges from the City's CSOs.

aquatic life" (314 CMR §4.02) . These segments do not always meet the state water quality standards prescribed for Class B waters, especially after wet weather.

Sections 305(b) and 303(d) of the CWA require that States complete a water quality inventory and develop a list of impaired waters. Specifically, Section 303(d) of the CWA requires States to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls, and as such, require the development of a Total Maximum Daily Load (TMDL) for each pollutant that is prohibiting a designated use(s) from being attained. In Massachusetts, these two evaluations have been combined into an Integrated List of Waters. The integrated list format provides the status of all assessed waters in a single, multi-part list.

The Mystic River and Alewife Brook are listed on the *Final Massachusetts Year 2008 Integrated List of Waters*[2] and on the *Proposed Massachusetts Year 2010 Integrated List of Waters*[3] as Category 5 waterbodies: "Waters requiring a TMDL." The pollutants and conditions contributing to this impairment are as follows:

The Mystic River is impaired for priority organics, metals, unionized ammonia, other inorganics, organic enrichment/low dissolved oxygen, pathogens, oil and grease, taste, odor and color.

Alewife Brook is impaired for metals, nutrients, organic enrichment/low dissolved oxygen, pathogens, oil and grease, taste, odor and color, and objectionable deposits.

The MassDEP is required under the CWA to develop a TMDL for a waterbody once it is identified as impaired. A TMDL is essentially a pollution budget designed to restore the health of a waterbody. A TMDL first identifies the source(s) of the pollutant from direct and indirect discharges in order to next determine the maximum amount of pollutant (including a margin of safety) that can be discharged to a specific water body while maintaining water quality standards for designated uses. It then outlines a plan to meet the goal. No TMDLs have been drafted or finalized for either waterbody.

IV. Permit Basis - Statutory and Regulatory Authority

A. Regulatory Background

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. In this permit EPA considered (a) technology-

[2] http://www.mass.gov/dep/water/resources/08list2.pdf
[3] http://www.mass.gov/dep/water/resources/10list3.pdf

based requirements, (b) water quality-based requirements, and (c) all limitations and requirements in the current/existing permit, when developing the permit limits.

CSOs are point source discharges subject to NPDES permit requirements, including technology-based and water quality-based requirements of the CWA. Pursuant to a federal court decision, (Montgomery Environmental Coalition vs. Costle (646F.2d 568 (D.C. Cir 1980)) CSOs are not subject to secondary treatment standards found in Section 301(b)(1)(B) of the CWA. Rather, CSO are subject to technology- based requirements applicable to discharges other than publicly owned treatment works, found in Sections 301(b)(1)(B), 301(b)(2)(A) and 301(b)(2)(D). Pursuant to Section 301(b)(1)(C) of the CWA, CSOs are also subject to effluent limitations based on water quality standards.

On April 19, 1994 EPA published the National CSO Control Policy (59 FR 18688). The purpose of the National CSO Control Policy (the CSO Policy) was to establish a consistent national approach for controlling discharges from CSOs to the Nation's waters. The CSO Policy reiterates the goals of the 1989 National Combined Sewer Overflow (CSO) Control Strategy, which were:

- To ensure that if the CSO discharges occur, they are only as a result of wet weather;
- To bring all wet weather CSO discharge points into compliance with the technology based requirements of the CWA and applicable federal and state water quality standards; and
- To minimize water quality, aquatic biota, and human health impacts from wet weather flows.

To achieve these goals, the CSO Control Policy recommended technology–based limits developed using best professional judgment[4] (BPJ) and also recommended that each combined sewer system develop and implement a long-term CSO control plan (LTCP) that will ultimately result in compliance with the requirements of the CWA.

In 2001, Congress added Section 402(q) to the CWA to specifically address CSOs by stating that "Each permit, order, or decree issued pursuant to this Act after the date of enactment of this subsection for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994."

The CSO conditions in the draft permit are consistent with the National CSO Control Policy.

B. Technology-based requirements

As discussed above, EPA's CSO Policy recommended technology-based effluent limitations for CSOs using best professional judgment. The policy establishes the minimum technology-based requirement as the implementation of the nine minimum controls (NMCs). The NMCs are:

[4] Section 402(a)(1)(B) of the CWA provides the authority to establish case-by case technology –based limitations. 40 CFR 125.3 establishes requirements and factors to be considered in establishing case-by case technology–based limits using best professional judgment (BPJ). See specifically 125.3 (c)(2) and 125.3(d).

1. Proper operation and regular maintenance programs for the sewer system and the CSOs;
2. Maximize use of the collection system for storage;
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized;
4. Maximization of the flow to the POTW for treatment;
5. Prohibition of CSOs during dry weather;
6. Control of solid and floatable material in CSOs;
7. Pollution prevention;
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

The CSO Policy required CSO communities to submit documentation of their implementation of the NMCs by January 1, 1997. The City of Somerville submitted its documentation on December 31, 1996 and its response to EPA comments regarding this documentation on May 1, 1997. The draft permit requires continued implementation of the NMC program, but also requires that the City review and update its program no later than April 30th following the first full year of the permit. The permit also authorizes modifications to the NMC program during the term of the permit to enhance its effectiveness, while requiring that certain minimum controls be maintained in any modification to the NMCs (see the minimum implementation levels in Part I.C. of the permit).

C. Water Quality Based Requirements

Water quality-based limitations are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water quality standards (WQS). See Section 301(b)(1)(C) of the CWA.

Receiving water requirements are established according to numerical and narrative standards adopted under state law for each water quality classification. When using chemical-specific numeric criteria to develop permit limits, both the acute and chronic aquatic-life criteria, expressed in terms of maximum allowable in-stream pollutant concentration, are used. Acute aquatic-life criteria are considered applicable to daily time periods (maximum daily limit) and chronic aquatic-life criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific limits are allowed under 40 CFR § 122.44(d)(1) and are implemented under 40 CFR § 122.45(d).

Narrative criteria from the State's WQS are often used to limit toxicity in discharges where (a) a specific pollutant can be identified as causing or contributing to the toxicity but the state has no numeric standard; or (b) toxicity cannot be traced to a specific pollutant.

EPA regulations require NPDES permits to contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal WQS. The permit must address any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that is or may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water quality criterion. See 40 CFR Section 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion. In determining reasonable potential, EPA considers (a) existing controls on point and non-point sources of pollution; (b) pollutant concentration and variability in the effluent and receiving water as determined from the permit application, Monthly Discharge Monitoring Reports (DMRs), and State and Federal Water Quality Reports; (c) sensitivity of the species to toxicity testing; (d) known water quality impacts of processes on wastewater; and, where appropriate, (e) dilution of the effluent in the receiving water.

WQS consist of three parts: (a) beneficial designated uses for a water body or a segment of a water body; (b) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (c) antidegradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards (MA SWQS), found at 314 CMR 4.00, include these elements. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless a site-specific criterion is established. The conditions of the permit reflect the goal of the CWA and EPA to achieve and then to maintain WQS.

The WQS may also assign restrictions to receiving waters, which establish a subcategory of use assigned to a receiving water segment. One of the subcategories which may be established is for CSO-impacted segments. The permitting authority may allow overflow events to waters identified as impacted by CSOs provided that:

(1) an approved Final CSO Facilities Plan under 310 CMR 41.00 provides justification for the overflows (note – in this case the CSO Facilities Plan as defined by MassDEP and an LTCP, as defined by EPA, are the same document) ;

(2) the MassDEP finds through a use attainability analysis (UAA), and EPA concurs, that achieving a greater level of CSO control is not feasible for one of the reasons specified at 314 CMR 4.03(4);

(3) existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected; and

(4) public notice is provided through procedures for permit reissuance or facility planning under M.G.L.c.21 §§ 26 through 53 and regulations promulgated pursuant to M.G.L.c. 30A.

Conversely, if a Final CSO Facilities Plan shows that elimination of CSO discharges is feasible, through relocation or sewer separation, no CSO discharges are authorized into that receiving water and the CSO- impacted subcategory is removed.

The State may also, with EPA concurrence, establish a water quality standards variance. A variance is a short-term modification of the standards, designed to obtain the information necessary to determine the appropriate water quality standard and level of CSO control for the segment. Variances are discharger and pollutant specific, are time-limited, and do not forego the currently designed use. At the end of the variance, a final Administrative Determination is made regarding the appropriate level of CSO control and final water quality determinations, in accordance with National and State CSO Policy.

D. Antibacksliding

A permit may not be renewed, reissued or modified with less stringent limitations or conditions than those contained in the previous permit unless in compliance with the anti-backsliding requirements of the CWA [see Sections 402(o) and 303(d)(4) of the CWA and 40 CFR §122.44(l)(1 and 2)]. EPA's antibacksliding provisions prohibit the relaxation of permit limits, standards, and conditions except under certain circumstances. Effluent limits based on BPJ, water quality, and state certification requirements must also meet the antibacksliding provisions found at Section 402(o) and 303(d)(4) of the CWA.

E. Antidegradation

Federal regulations found at 40 CFR Section 131.12 require states to develop and adopt a statewide antidegradation policy which maintains and protects existing instream water uses and the level of water quality necessary to protect the existing uses, and maintains the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water. The Massachusetts Antidegradation Regulations are found at 314 CMR 4.04. There are no new or increased discharges being proposed with this reissuance.

F. State Certification

Under Section 401 of the CWA, EPA is required to obtain certification from the state in which the discharge is located that all water quality standards or other applicable requirements of state law, in accordance with Section 301(b)(1)(C) of the CWA, are satisfied. EPA permits are to include any conditions required in the state's certification as being necessary to ensure compliance with state water quality standards or other applicable requirements of state law. See CWA Section 401(a) and 40 CFR §124.53(e). Regulations governing state certification are set out at 40 CFR §124.53 and §124.55. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

V. Explanation of Permit's Effluent Limitations

A. MWRA CSO Facilities Plan/Water Quality Standards

The CSO Policy recommended that each combined sewer system prepare and implement a Long Term Control Plan (LTCP) that would result in attainment of CWA requirements. In 1987, MWRA stipulated to responsibility and legal liability for all combined sewer overflows hydraulically connected to its collection system[5], which in addition to discharges owned and operated by MWRA includes CSOs owned and operated by the communities of Boston, Cambridge, Chelsea, and Somerville. The CSO planning conducted by MWRA subsequent to 1987 addressed all of these CSOs, in accordance with the stipulation, and MWRA has funded the planning, design, and construction of the recommended CSO control facilities.

In 1994, MWRA completed a Conceptual CSO Control Plan that formed the basis of its final Combined Sewer Overflow Plan and Environmental Impact Report ("Facilities Plan"), completed in July 1997. The recommended CSO control projects included sewer separation, hydraulic relief and floatables control projects. The MWRA also estimated the activation frequency and volume for the remaining CSOs under baseline (1992) conditions and after completion of the projects recommended by the Facilities Plan.

For those CSOs that MWRA believed could not be eliminated, the plan included information to support a UAA pursuant to 40 CFR Section 131.10 (g). A UAA is an evaluation conducted by the state which supports removal of a National Goal Use based on criteria such as costs and impacts associated with attaining that use. The state submitted its final administrative determinations, including a UAA, to EPA for approval on December 31, 1997. On February 27, 1998, EPA approved the state's changes to water quality standards, which included removal of CSO-impacted designations for the Neponset River, North Dorchester Bay, South Dorchester Bay, and Constitution Beach; a SB-CSO designation for Boston Inner Harbor; a B-CSO designation for the Muddy River; and a tentative determination for the issuance of WQS variances for the Lower Charles River, the Alewife Brook, and the Upper Mystic River due to CSO discharges. Variance conditions for CSOs discharging to the Lower Charles River were issued on September 2, 1998 and variance conditions for CSOs discharging to the Alewife/Upper Mystic sub-basin were issued on March 5, 1999.

In accordance with the requirements of the variances, MWRA collected information that lead to several changes in the recommended CSO plan and the associated level of CSO control for the Cambridge and Somerville CSOs. These changes are discussed in detail in the attached Variance fact sheet (**Attachment A**). The major change was in the Alewife/Mystic basin, which resulted from a variance-required reassessment that is documented in the April 30, 2001 MWRA report titled "Notice of Project Change for the Long Term CSO Control Plan for Alewife Brook". The project change resulted from extensive field investigations in 1997 through 1999 by the City of Cambridge that revealed that in certain areas the combined sewer systems in Cambridge were

[5] Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflows

very different than the record plans used to develop the 1997 Plan, including the discovery of a previously unknown CSO discharge (CAM401B). When the sewer system model was updated to reflect the new system information it estimated baseline CSO discharges much higher than those previously estimated in the 1997 CSO Plan.

The field work done by Cambridge also indicated that previous work had underestimated the hydraulic capacity required in the Cambridge storm drain system to provide an appropriate level of storm drainage service. This discovery significantly raised the estimated cost of combined sewer separation. As a result of the project change, the costs for the construction of CSO controls on discharges to the Alewife Brook rose from $12.1 million to $ 74 million, primarily associated with the CSO infrastructure in Cambridge. The revised CSO Control Plan, and the estimated performance is documented in the MWRA report "Final Variance Report for Alewife Brook and the Upper Mystic River", July, 2003 and in a supplemental letter report by Metcalf & Eddy, Inc., dated July 8, 2003.

The City of Somerville has employed a boom for floatables control at Outfall SOM001A. In April 2012, the MWRA, in coordination with the City of Somerville, will begin the "Control Gate and Floatables Control at Outfall MWR003 and MWRA Rindge Avenue Siphon Relief Project", which will provide hydraulic relief of Outfall SOM 001A. This project will reduce the quantity of sanitary/CSO flow to Outfall SOM001A by enlarging the connection between the Tannery Brook drain and MWRA's Alewife Brook Interceptor, a component of MWRA's LTCP that is expected to achieve the goals of the LTCP.

In the "Sewer Assessment Report" for the City of Somerville (Camp, Dresser & McKee, February 2009), separation of the "Marginal Area" (area discharging to Outfall SOM007A) was evaluated including the extension of the sanitary sewer system, conversion of the existing combined system into a separate storm drain system, increasing the capacity of sewers and drains in certain locations, and other projects. At that time, the cost of separation was estimated at $74 million and this separation was not considered cost effective given the high cost of the work, disruption to the residents and businesses, and the fact that existing overflow from this area currently receives treatment at the Somerville MTF. The Somerville MTF was upgraded in 2001 at a cost of $4 million as a part of the LTCP. There are no further scheduled projects for this portion of Somerville. The table below indicates that under current conditions, the goal of the LTCP for discharges from Outfall SOM007A may have been met with projects completed to date, based upon MWRA modeling.

Estimates of "Typical Year" discharge frequency and volume for outfalls SOM001A and SOM007A are presented below. The information shows that reductions in frequency and volume have been made from the baseline conditions, but that further reductions are necessary at SOM001A to achieve the goals of the Long Term CSO Control Plan (LTCP):

Outfall	Baseline (1)		Current Conditions (2)		Future Conditions (3)	
	Activation Frequency	Volume (MG)	Activation Frequency	Volume (MG)	Activation Frequency	Volume (MG)
SOM001A	10	9.89	9	8.16	3	1.67
SOM007A	11	6.72	3	1.51	3	3.48

(1) Typical year, prior to LTCP implementation, from April 2001 Notice of Project Change
(2) Typical year based on 2010 system conditions, from MWRA modeling
(3) Typical year based on complete LTCP implementation, from Exhibit B of the "Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control" (2006)

See Fact Sheet Attachment A for a more complete listing of completed and scheduled CSO projects. The "Future Conditions" column of the table above reflects the conditions after December 2015, when all CSO projects are scheduled to be completed for Boston Harbor and its tributaries. The completion of these projects will be followed by a period of monitoring in accordance with Schedule Seven of the federal court order [U.S. v. M.D.C., et al., No. 85-0489 (D. Mass)] to assess whether the goals of the LTCP have been met.

Variance conditions for the Alewife/Upper Mystic sub-basin have been in effect continuously since they were first issued on March 5**,** 1999. This variance was most recently extended by letter of August 26, 2010, was approved by EPA on August 18, 2011, and is effective through September 1, 2013.

A copy of the variance conditions for the Alewife/Upper Mystic basin may be found in **Permit Attachment B**. The Fact Sheet accompanying this variance is included in this fact sheet as **Attachment A**.

B. Water Quality-Based Effluent Limitations

The discharges from the Somerville CSOs into Alewife Brook and the Upper Mystic River have been limited in accordance with the conditions of the current water quality variance. As required by the variance, the typical year activation frequency and volume for each discharge shall be in accordance with the performance of the Revised Recommended Plan as characterized in the July, 1, 2003 MWRA Final Variance Report (these are the same activation frequency and discharge volume estimates that are presented in Exhibit B of the Second CSO Stipulation incorporated into the Federal Court Order on April 27, 2006.) These limits can be seen in **Attachment C** of the draft permit.

The variance includes other conditions, all of which have been incorporated into this permit. Variance conditions B.i. (implementation of the nine minimum controls) and C.i. (public notification) have been incorporated into Part I.C. of this permit because they require specific practices to meet technology-based nine minimum control requirements, and implementation of the nine minimum controls is a standard requirement for all NPDES permits authorizing

discharges from CSOs. The other requirements of the variance not specifically incorporated into the permit are incorporated by reference, and are equally enforceable conditions of this permit.

The current variance extends to September 1, 2013. At the end of the variance term, it may be extended, or MassDEP may make a final determination regarding water quality standards. If MassDEP should modify the variance or make a final determination regarding water quality standards during the term of this permit, this would be considered new information pursuant to 40 CFR part 122.62(a)(2) and would be cause for modification of this permit.

VI. Essential Fish Habitat Determination (EFH)

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, may adversely impact any essential fish habitat such as: waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 U.S.C. § 1802 (10)). Adversely impact means any impact which reduces the quality and/or quantity of EFH (50 C.F.R. § 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. The following is a list of the EFH species and applicable lifestage(s) for the area that includes Massachusetts Bay, to which the Alewife Brook and the Upper Mystic River discharge:

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod (*Gadus morhua*)	X	X	X	X
haddock (*Melanogrammus aeglefinus*)	X	X		
pollock (*Pollachius virens*)	X	X	X	X
whiting (*Merluccius bilinearis*)	X	X	X	X
red hake (*Urophycis chuss*)	X	X	X	X
white hake (*Urophycis tenuis*)	X	X	X	X
winter flounder (*Pseudopleuronectes americanus*)	X	X	X	X
yellowtail flounder (*Pleuronectes ferruginea*)	X	X	X	X
windowpane flounder (*Scopthalmus aquosus*)	X	X	X	X

American plaice (*Hippoglossoides platessoides*)	X	X	X	X
ocean pout (*Macrozoarces americanus*)	X	X	X	X
Atlantic halibut (*Hippoglossus hippoglossus*)	X	X	X	X
Atlantic sea scallop (*Placopecten magellanicus*)	X	X	X	X
Atlantic sea herring (*Clupea harengus*)		X	X	X
long finned squid (*Loligo pealei*)	n/a	n/a	X	X
short finned squid (*Illex illecebrosus*)	n/a	n/a	X	X
Atlantic butterfish (*Peprilus triacanthus*)	X	X	X	X
Atlantic mackerel (*Scomber scombrus*)	X	X	X	X
summer flounder (*Paralicthys dentatus*)				X
scup (*Stenotomus chrysops*)	n/a	n/a	X	X
black sea bass (*Centropristus striata*)	n/a		X	X
surf clam (*Spisula solidissima*)	n/a	n/a	X	X
bluefin tuna (*Thunnus thynnus*)			X	X

A review of the relevant essential fish habitat information provided by NMFS indicates that EFH has been designated for 23 managed species within the NMFS boundaries encompassing Massachusetts Bay. It is possible that a number of these species utilize these receiving waters for spawning, while others are present seasonally.

Based on the available information, EPA has determined that these CSO discharges, as restricted by the draft permit conditions, will not directly or indirectly cause adverse effects to EFH species or their habitat, because the draft permit contains conditions (NMCs) that are protective of the aquatic species in both receiving waters.

VII. Endangered Species Act (ESA)

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) typically administer Section 7

consultations for bird, terrestrial, and freshwater aquatic species. The NMFS typically administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants to see if any such listed species might potentially be impacted by the reissuance of this NPDES permit and has not found any such listed species. EPA has determined that there are no species of concern present in the vicinity of Somerville's CSO discharges. Therefore, EPA does not need to formally consult with NMFS or USFWS in regard to the provisions of the ESA.

EPA has structured the proposed limits to be sufficiently stringent to assure that Water Quality Standards will be met. The effluent limits established in this permit ensure the protection of aquatic life and maintenance of the receiving water as an aquatic habitat. During the public comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to both NMFS and USFWS.

Other Conditions

The remaining conditions of the permit are based on the NPDES regulations, 40 CFR Parts 122 though 125, and consist primarily of management requirements common to all permits.

VIII. State Certification Requirements

EPA may not issue a permit unless the MassDEP certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of the MassDEP have reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State pursuant to 40 CFR 124.53 and expects that the draft permit will be certified.

IX. Public Comment Period, Public Hearing, and Procedures for Final Decision

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to George Papadopoulos, U.S. EPA, Office of Ecosystem Protection**,** Industrial Permits Branch, Mailcode OEP 06-1, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing for a public hearing to consider the Draft Permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a Final Permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the Final Permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124.19.

X. EPA and MassDEP Contacts

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

George Papadopoulos, Industrial Permits Branch
5 Post Office Square - Suite 100 - Mailcode OEP 06-1
Boston, MA 02109-3912
Papadopoulos.george@epa.gov
Telephone: (617) 918-1579 FAX: (617) 918-1505

Catherine Vakalopoulos, Massachusetts Department of Environmental Protection
Division of Watershed Management, Surface Water Discharge Permit Program
1 Winter Street
Boston, Massachusetts 02108
catherine.vakalopoulos@state.ma.us
Telephone: (617) 348-4026; FAX: (617) 292-5696

October 19, 2011
Date

Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

Figure 1 – Outfall SOM001A

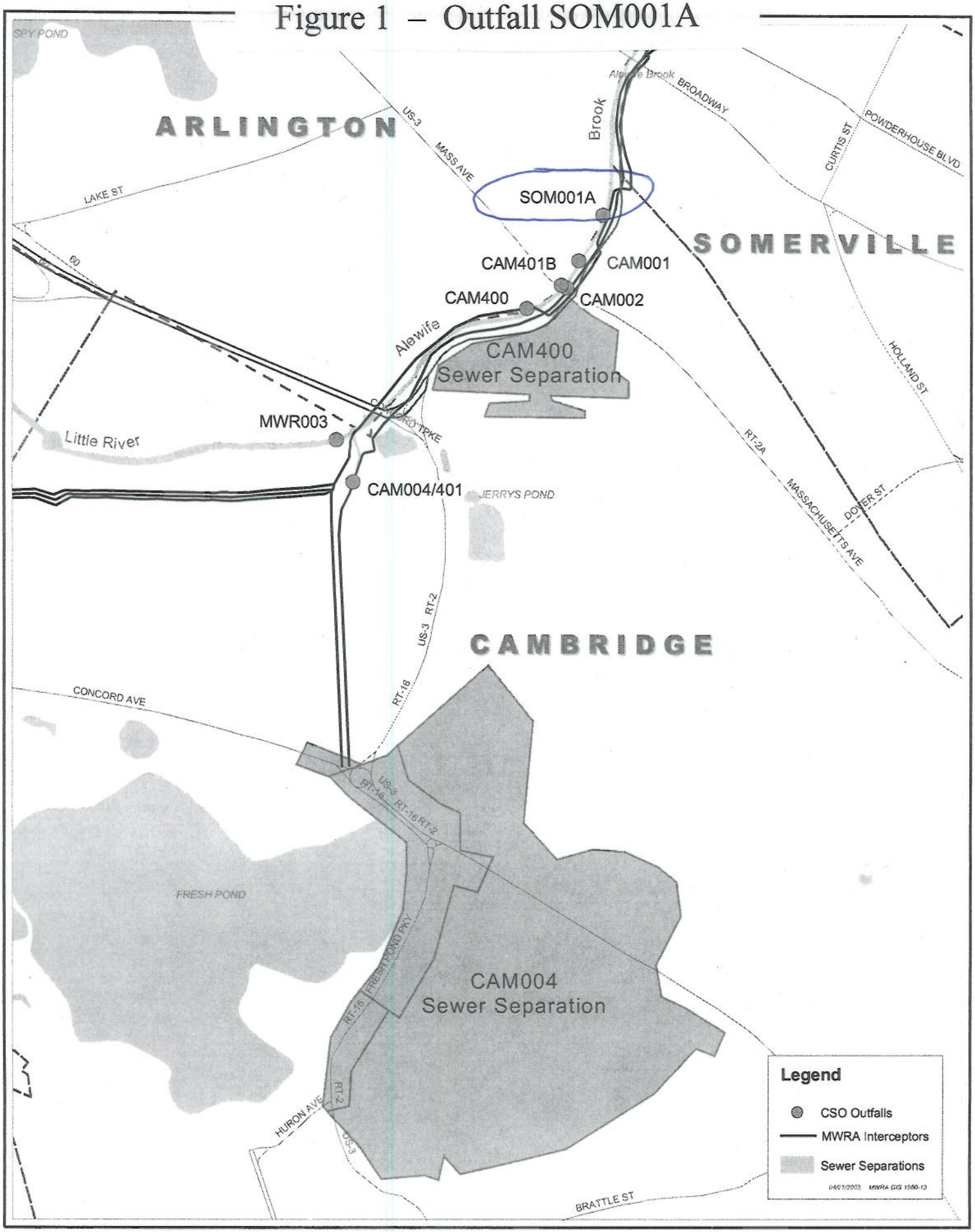
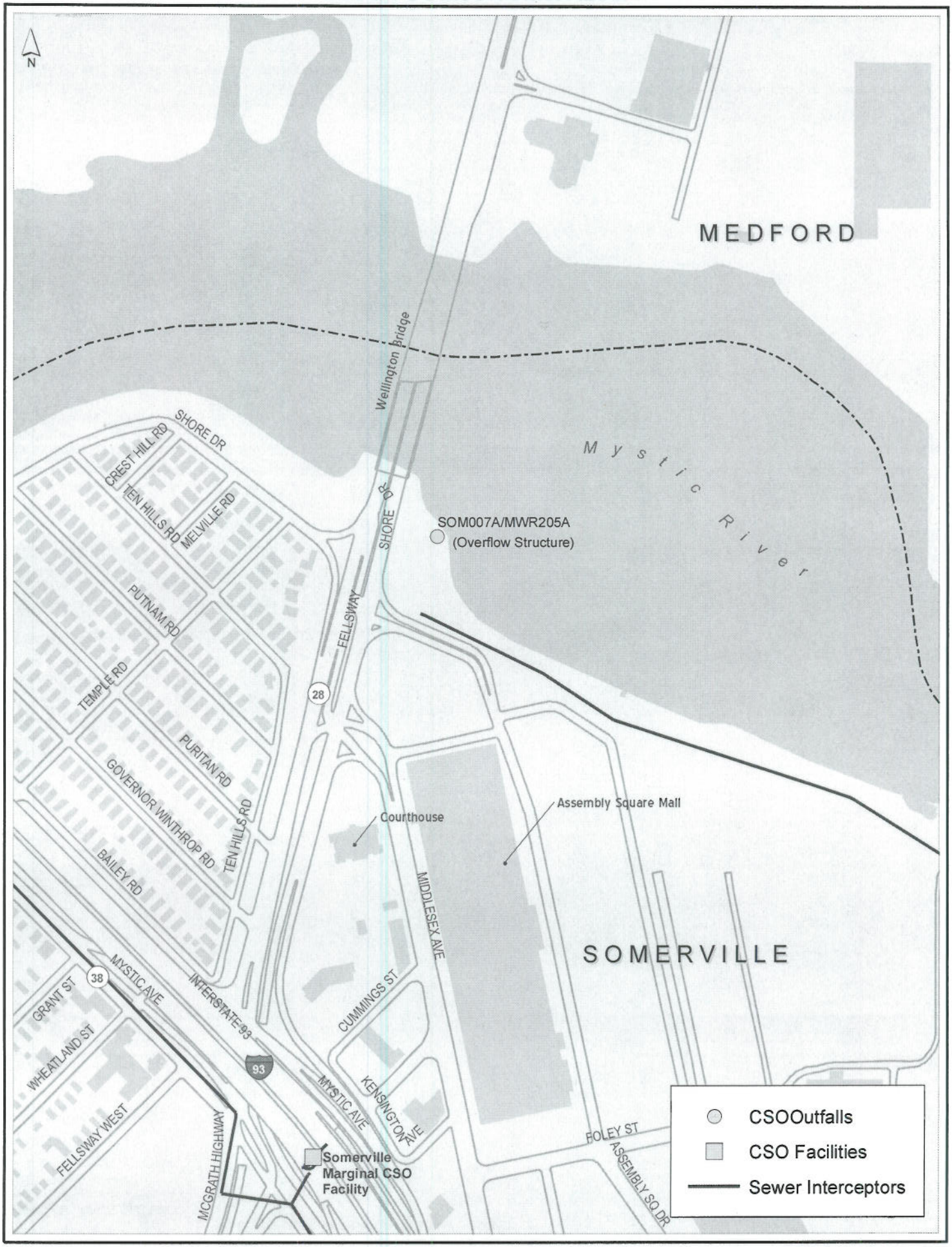


Figure 2
Outfall SOM007A/MWR205A



OCTOBER 5, 2011 MWRAGIS 1050-23

TENTATIVE DETERMINATION TO EXTEND VARIANCE
FOR COMBINED SEWER OVERFLOW DISCHARGES
TO
ALEWIFE BROOK/UPPER MYSTIC RIVER BASIN

FACT SHEET

This document is intended to provide a summary of the activities that have taken place since the Massachusetts Department of Environmental Protection's ("DEP") issuance of the Combined Sewer Overflow ("CSO") Variance for the Alewife Brook/Upper Mystic River Basin on March 5, 1999, and to provide a frame of reference for DEP's decision to extend the Variance for a period not to exceed three years, to September 1, 2013.

I. Background on CSO Control and Variance

Boston Harbor Case

As part of the Boston Harbor Case (D. Mass. C.A. No. 85-0489-RGS), the Massachusetts Water Resources Authority ("MWRA") is required to undertake corrective actions in its approved Long Term CSO Control Plan ("LTCP") to reduce or eliminate CSO discharges to Alewife Brook/Upper Mystic River. The LTCP is comprised of 35 wastewater system improvement projects that will reduce or eliminate CSO discharges at 84 outfalls in the metropolitan Boston area at an MWRA cost of $884.1 million. The original long-term control plan for Alewife Brook/Upper Mystic River had an estimated cost of $13.8 million in 1997. Currently, the cost to provide CSO control to Alewife Brook/Upper Mystic River is estimated at $117 million, including MWRA and City of Cambridge cost shares.

MWRA has completed 24 of the 35 projects in the LTCP. Eight of the projects are currently in construction, including two of the five projects in the Alewife Brook CSO control plan. Two other projects, including an Alewife Brook project, are in design, and MWRA is scheduled to commence design of the last Alewife Brook project in April 2012. During 2010, MWRA expects that it will complete the East Boston Branch Sewer Relief project (Interceptor Relief for BOS003-014), that BWSC will complete the Bulfinch Triangle sewer separation project, and that the City of Cambridge will complete the Alewife Brook related project for interceptor connection relief and floatables control at CAM002 and CAM401B and floatables control at CAM001. Completion of these three projects in 2010 will bring the number of completed projects to 27 of the 35 projects in the LTCP. In addition, the City of Cambridge plans to commence construction of the CAM004 stormwater outfall and wetland basin (Contract 12) in 2010.

In July 1998, MWRA and the City of Cambridge began sewer separation for Alewife Brook CSO control in accordance with the recommended plan in the 1997 Facilities Plan/EIR and in compliance with the original set of milestones for this project in the Federal District Court schedule. The City of Cambridge completed four initial construction contracts in 1997-2002. The completed work significantly reduced CSO discharges to Alewife Brook. Hydraulic model simulations show that CSO discharges were reduced from 63 activations and 50 million gallons

annual volume in a typical year to 25 activations and 33 million gallons annual volume. MWRA, in cooperation with the City of Somerville, also completed the LTCP projects in the Upper Mystic River Basin in the period 1996 through 2001. The projects involved Somerville Marginal CSO Facility upgrades, completed in 2001, and elimination of CSO discharges at outfalls SOM006 and SOM007 by separating manholes common to the local storm drain and sewer systems, completed in 1996. CSO discharges to the Upper Mystic River Basin, not including Alewife Brook, are now limited to infrequent, treated discharges from the Somerville Marginal facility through the high tide outfall (SOM007A/MWR205A) upstream of the Amelia Earhart Dam.

CSO Control Plan Reassessment

In 2000, MWRA and the City of Cambridge suspended further design work and construction contract awards related to the 1997 Alewife Brook CSO plan because new information to support design showed that conditions in the Cambridge combined sewer system were markedly different from conditions assumed in 1997. MWRA and Cambridge determined that considerably more work, as well as an increased scope of work, would be necessary to meet the 1997 CSO control goals for Alewife Brook.

During early design efforts to implement the 1997 CSO control program, the City of Cambridge and MWRA collected new information that showed that the extent of Cambridge's combined sewer system in the Alewife Brook watershed exceeded what was documented in the 1997 FEIR. A previously unknown CSO outfall, CAM401B, was also discovered. MWRA subsequently determined that the CSO activations and volumes in this basin greatly exceeded the estimates in the 1997 FEIR, and that the 1997 recommended plan, at an estimated total cost of about $13.8 million, could not achieve the recommended level of control.

To address this new information, MWRA and Cambridge completed a reevaluation of the original CSO control plan for Alewife Brook and on April 30, 2001, filed a Notice of Project Change ("NPC") under the Massachusetts Environmental Policy Act ("MEPA"). While the level of CSO control for the revised plan is comparable to the original 1997 plan and remains essentially one of targeted sewer separation, certain elements of the original plan, including areas slated for separation, were substantially modified, resulting in a change in expected impacts and mitigation measures, including measures to mitigate the effects of higher stormwater discharges on flooding of Alewife Brook. The projected cost of the project also increased significantly, from $13.8 million in the 1997 plan to approximately $117 million, based on most recent estimates. Notably, sewer separation associated with the CAM004 outfall requires construction of a new stormwater outfall to convey flows to a new wetland detention basin proposed within the Massachusetts Department of Conservation and Recreation ("DCR") Alewife Reservation.

In the September 15, 2001 Certification on the NPC, MEPA required that MWRA and Cambridge prepare and file with MEPA a comprehensive Response to Comments document (the "RTC"). On May 30, 2003 MWRA and Cambridge filed the RTC. The recommended plan now includes a larger stormwater detention basin in the Alewife Reservation (including on-site wetland replication and Compensatory Flood Storage) that has additional benefits related to habitat, public access, recreation, and public education. The work in the Alewife Reservation has been coordinated with staff from DCR.

The reassessment of predicted peak separate stormwater flows from the separation project indicates that there will be a "slight decrease to the flows to Alewife Brook after project implementation." DEP concurred with the revised CSO abatement plan as a suitable substitute for the original plan, given the changed conditions. DEP reserved judgment on the final level of CSO control and water quality standard until sufficient information was compiled during the course of the CSO Variance.

Final Variance Report (CSO Reassessment)

On July 1, 2003, in accordance with Section C. (1) of Alewife/Upper Mystic CSO Variance, MWRA submitted to DEP and EPA the Final Variance Report for the Alewife Brook and Upper Mystic River. This report provided detailed technical and financial information to support the long-term CSO abatement plan in the Alewife/Upper Mystic watershed. In the Final Variance Report, MWRA reported that additional CSO controls beyond those included in their revised CSO plan would not be cost-effective and would not provide meaningful water quality improvement, primarily due to the predominance of non-CSO pollution sources. Based on the technical and financial analyses included in the Final Variance Report, MWRA contended that the criteria needed to support a $B_{(cso)}$ classification were met, and MWRA requested that DEP take such administrative action.

During public review of the Final Variance Report, several advocacy groups and other stakeholders requested that DEP allow additional time for review and comment on this critical document. It also became apparent that there would be insufficient time to provide for this extended public review, to resolve outstanding technical issues relating to public and agency review, and to make administrative water quality standard determinations in this watershed within the time frame required under the first Variance extension. Due to these factors, and with public support, DEP again formally extended the CSO Variance, from October 1, 2003 to September 1, 2004. EPA issued written comments indicating that it was not in opposition to the second Variance extension.

This second Variance extension maintained most of the conditions included in the previous CSO Variance, and MWRA, Cambridge, and Somerville remained responsible for implementing the Nine Minimum Controls, monitoring CSO discharges, implementing the cost-effective CSO measures included in the recommended plan from the NPC, and implementing a receiving water monitoring program.

After the Final Variance Report was issued MWRA presented additional information on its financial capability analysis, incorporating into the analysis the costs of housing in the Boston metropolitan area.

Regulatory and Court Approval of a Revised LTCP

In August 2005, MWRA recommended a revised region-wide LTCP that included a schedule for implementing the revised plan for Alewife Brook. In March 2006, MWRA reached agreement with EPA, DEP and the U.S. Department of Justice ("DOJ") on the plan and a new schedule. The agreement was filed with the Federal District Court as part of a joint motion to

amend the court schedule in the Boston Harbor Case (D. Mass. C.A. No. 85-0489). At that time, DEP and EPA determined that MWRA's LTCP satisfied the requirements for a variance from water quality standards for CSO discharges to the Alewife Brook/Upper Mystic River Basin through 2020, when the LTCP would be fully implemented and verification of attainment of the long-term levels of CSO control would be made. As part of this determination, DEP and EPA agreed that DEP would issue and EPA would approve five consecutive extensions on no more than a three-year duration each through 2020, which would be consistent with and limited to the requirements in MWRA's LTCP.

In April 2006, the Court allowed the joint motion and issued an Order with a new schedule. Under the Order, MWRA has until the year 2020 to complete the remaining CSO work and subsequent monitoring to verify that the long-term CSO control goals are achieved. In addition, the United States and MWRA agreed to withdraw the February 27, 1987 Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflows and replace it with a Second Stipulation that requires MWRA to implement the CSO requirements set forth in the court schedule and to meet the levels of control described in MWRA's LTCP. In July 2006, the Court accepted revisions to Schedule Six incorporating a new Schedule Seven. The revisions include modified or additional milestones for projects in the Alewife Brook, Charles River and East Boston CSO plans.

As noted above, MWRA and the City of Cambridge are currently in the process of designing and constructing several CSO projects that, when completed, will further reduce CSO discharges to the Alewife Brook.

CSO Variance

A three-year Variance for CSO discharges to the Alewife Brook/Upper Mystic River Basin was issued by DEP on March 5, 1999. The Variance is a short-term modification of the Water Quality Standards issued by DEP subject to approval by the United States Environmental Protection Agency ("EPA"). The Variance allows limited CSO discharges from the outfalls along the Alewife Brook/Upper Mystic River permitted to MWRA and the cities of Cambridge and Somerville, subject to specific conditions. Other standards and criteria of the receiving waters' Class B designation are unaffected and remain in force.

The CSO Variance was issued in 1999 to allow time for DEP to obtain the information necessary to determine the appropriate long-term water quality standard and level of CSO control for the Basin, while ensuring that recommended CSO controls approved by DEP would be implemented. The Variance required the implementation of the cost-effective CSO control actions included in MWRA's Final CSO Facilities Plan and Environmental Impact Report, July 31, 1997 (the "FEIR") and also required other actions necessary to properly assess pollutant loads in the Basin and minimize the impact of CSO discharges.

The March 5, 1999 Alewife Brook/Upper Mystic River Basin Variance included specific conditions on activities of MWRA and the cities of Cambridge and Somerville including the submittal of a Reassessment Report by MWRA summarizing information gathered during the Variance process and reevaluating the costs and benefits of additional CSO controls in the

Alewife Brook/Upper Mystic River Basin, up to and including elimination of CSOs. The Reassessment Report was intended to provide the basis for a final determination on the appropriate long-term level of CSO control.

With the variance, DEP approved MWRA's LTCP for the Alewife Brook/Upper Mystic River Basin and required MWRA to implement the LTCP, evaluate the potential for infiltration/inflow (I/I) removal to increase CSO control and benefits, and conduct additional water quality investigations to assess pollutant loadings to these waters. With the new information collected during the variance period, MWRA was required to report on whether additional CSO control measures beyond the LTCP recommendations might be cost effective.

On December 14, 2001, MWRA submitted a request to DEP to extend the Alewife Brook/Upper Mystic River Basin Variance for 18 months and defer the requirement for the CSO Reassessment Report until July 1, 2003. After review of public comments on the MWRA request, DEP agreed that an extension was reasonable and necessary to complete the data collection and technical reports required under the Variance, and on May 5, 2002, DEP extended the Variance to September 5, 2003.

In July 2003, MWRA submitted a final variance reassessment report to DEP and MEPA, which evaluated alternative levels of CSO control and affirmed the recommended alternative and level of control that are now a part of an approved LTCP. DEP extended the variance again in 2003 for nine months and in both 2004 and 2007 for three years, respectively. Water quality data collection and water quality characterization by MWRA and other parties, including the Mystic River Watershed Association, have continued through these extension periods. The current variance extension expires August 31, 2010.

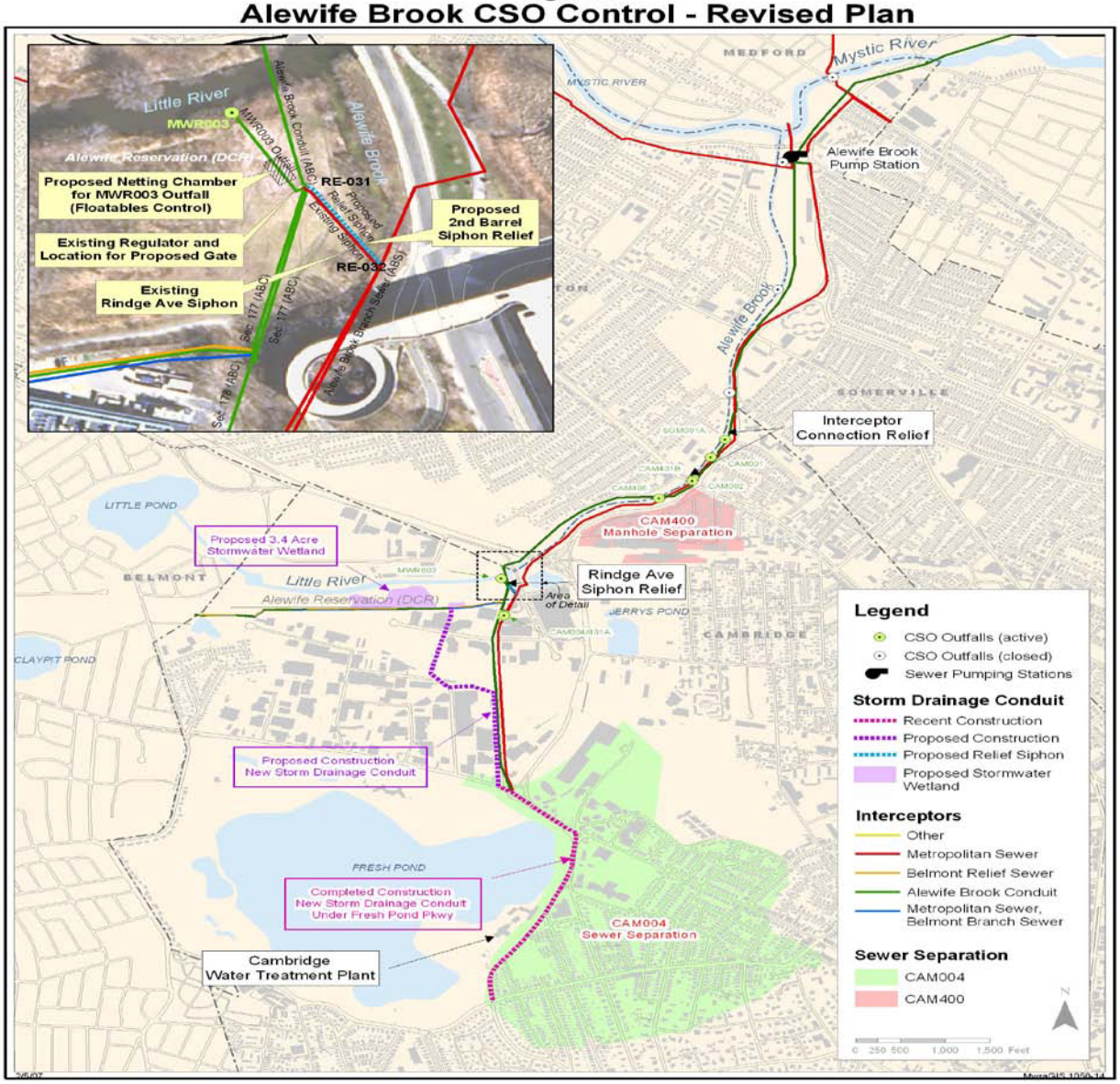
II. Level of CSO Control

Revised CSO Control Plan

The revised plan for CSO control along Alewife Brook comprises five component projects that were incorporated into Schedule Seven by the Federal District Court in the Boston Harbor Case (D. Mass. C.A. No. 85-0489) in April 2006. The projects include CAM004 Stormwater Outfall and Detention Basin (Cambridge Contract 12); CAM004 Sewer Separation (Cambridge Contracts 8, 8A and 9); CAM400 Manhole Separation and Interceptor Connection Relief and Floatables Control at CAM002, CAM401B, and SOM001A, and Floatables Control at CAM001 (Cambridge Contract 4/13); and Control Gate/Floatables Control at Outfall MWR003, MWRA Rindge Avenue Siphon Relief and Interceptor Connection Relief and Floatables Control for Outfall SOM001A (all included in a planned MWRA contract). In addition, the long-term performance of the MWRA Alewife Brook interceptors and the long-term levels of CSO control at the Alewife outfalls assume completion of pumping improvements at the Alewife Brook Pumping Station that are intended to restore the pumping capacity to its original design level.

Together, these projects are intended to further reduce CSO discharges to the Alewife Brook from the original 63 activations and 50 million gallons annual volume in a typical year to 7 activations and 7.3 million gallons annual volume. The total cost of the CSO control plan for Alewife Brook/Upper Mystic River Basin has increased from $13.8 million in 1997 to approximately $117 million today, a cost that is shared by MWRA and the City of Cambridge.

Figure 1
Alewife Brook CSO Control - Revised Plan



Implementation of these projects was delayed due to a wetlands permit appeal in 2005. After several years of delay due to the appeal, the City of Cambridge was able to make substantial progress with design of three of the five Alewife Brook projects in 2009 and to award a contract for two of the projects in January 2010.

The revised Alewife Brook CSO control plan is predicted to have the following benefits:

- 85 percent reduction in annual CSO volume discharged in a typical year;
- compliance with Class B water quality standards 98.5% of the time;
- improved stormwater quality resulting in a reduction in stormwater pollutant loads; and creation of additional wetlands and enhancement of walking trails in the Alewife Reservation.

Figure 2
Alewife Brook/Upper Mystic River Basin
CSO Locations and Projects

Completed Improvements (Alewife Brook and Upper Mystic River)

- Completion of early construction contracts for CAM004 Sewer Separation, by Cambridge in the period 1997-2002;
- Interim improvements to MWRA's Alewife Brook Pumping Station, by MWRA in 2009;
- Upgrades to the Somerville Marginal CSO Treatment Facility (affecting the infrequent discharges at outfall SOM007A/MWR205A), which MWRA completed in 2001 at a cost of $4.0 million;
- Somerville manhole separation and closing of outfalls SOM001, SOM002A, SOM003, SOM004, SOM006 and SOM007, which City of Somerville completed in 1997 at a cost of $500,000 funded by MWRA.

Scheduled Improvements (Alewife Brook)

- Separation of common manholes in the CAM400 tributary area and elimination of CSO discharges at this outfall;
- Relief of interceptor connections at regulators associated with outfalls CAM002 and CAM401B, and floatables control at these outfalls, and Floatables control at outfalls CAM001 and CAM401A;
- Construction of a new stormwater outfall and vegetated stormwater wetland to ensure that the separated stormwater flows from the CAM004 area will not worsen flooding along Alewife Brook and that the new stormwater flows receive a level of treatment;
- Sewer separation in the CAM004 area and elimination of CSO discharges to this outfall. Initial phases of this work have been completed by the City of Cambridge with MWRA funding and have significantly lowered CSO discharges to Alewife Brook In addition, MWRA has completed interim improvements at its Alewife Brook Pumping Station that have also reduced CSO discharges to Alewife Brook;
- Construction of an overflow control gate and floatables control at outfall MWR003, relief of MWRA's Rindge Avenue Siphon, and interceptor connection relief and floatables control at outfall SOM01A; and
- Long-term improvements to MWRA's Alewife Brook Pumping Station.

Actual and Anticipated CSO Reductions

MWRA, with the cooperation of the cities of Cambridge and Somerville, has reduced CSO discharges and impacts to the Alewife Brook and Upper Mystic River through initial implementation of the long-term CSO control plan. These completed efforts include upgrade of MWRA's Somerville-Marginal CSO treatment facility; separation of common sewer and storm drain manholes to eliminate CSOs at several outfalls permitted to the City of Somerville; construction of storm drain and sewer trunk lines downstream of the CAM004 sewer separation areas, along Fresh Pond Parkway, and interim improvements to MWRA's Alewife Brook Pumping Station.

Somerville's work to separate common manholes has resulted in the elimination of untreated discharges at outfalls along the Upper Mystic River and the closing of several CSO outfalls along the Alewife Brook. The only remaining CSO outfall along the Upper Mystic

River is outfall MWR205A/SOM007A, which discharges CSO flows treated at the Somerville Marginal Facility at a point upstream of Amelia Earhart Dam during high tide. At lower tides, the treated flows are discharged to tidal waters below the dam, at outfall MWR205.

Construction completed to date, including early Cambridge construction contracts for CAM004 Sewer Separation and MWRA interim improvements to the Alewife Brook Pumping Station, has already reduced CSO activations and discharges along the Alewife Brook. Activation frequency has decreased from 63 to 22 in a typical rain year and discharge volume has decreased from 50 million to 27 million gallons.

Long-term Performance

MWRA's recommended plan is predicted to reduce annual CSO volume to Alewife Brook/Upper Mystic River by 85% in a typical year, from 50 million gallons to 7.3 million gallons. CSO activations in a typical year will be reduced from 63 to 7. At the recommended control levels, water quality will comply with Class B water quality criteria 98.5 percent of the time. Levels of CSO control at outfalls on the Alewife Brook for baseline (1997), current (2009) and revised recommend plan conditions are shown in Table 1.

Table 1: CSO Discharges at Alewife Brook Outfalls in a Typical Year

Outfall	Baseline Condition[1]		Current Conditions[2]		Long-term CSO Control Plan[3]	
	Activations	Volume (MG)	Activations	Volume (MG)	Activations	Volume (MG)
CAM001	1	0.01	0	0.00	5	0.19
CAM002	7	1.57	8	1.81	4	0.69
MWR003	1	0.06	1	0.07	5	0.98
CAM004	63	24.10	10	5.89	Closed	-
CAM400	10	0.80	8	0.63	Closed	-
CAM401A	7	2.74	5	1.46	5	1.61
CAM401B	25	10.50	22	8.47	7	2.15
SOM001A	10	9.89	9	8.21	3	1.67
SOM001	Closed		Closed		Closed	
SOM002A	Closed		Closed		Closed	
SOM003	Closed		Closed		Closed	
SOM004	Closed		Closed		Closed	
Total Alewife	63	49.70	22	26.53	7	7.29
SOM007A/ MWR205A	11	6.72	9	2.05	3	3.48
SOM007	2	0.04	Closed		Closed	
Total Upper Mystic	11	6.76	9	2.05	3	3.48

[1] Updated estimates from the April 2001 Notice of Project Change (NPC).

(2) From MWRA modeling of 2009 system conditions.

(3) From model predictions in Final Variance Report (Alewife) and 1997 FEIR (Upper Mystic). Construction of the long-term CSO control plan for Boston Harbor and its tributaries is scheduled to be complete by December 2015. The construction will be followed by a period of monitoring in accordance with Schedule Seven of the Boston Harbor Case.

Cost of the Long-term CSO Control Plan

The cost of the Alewife Brook/Mystic River CSO control plan has grown from $13.8 million in 1997 to approximately $117 million for the current recommended plan, a cost that is shared by Cambridge and MWRA. The large increase in cost is due to engineering investigation of the Cambridge sewer system revealing the extent of required sewer separation was substantially greater than originally assumed, higher unit costs for installation of new storm drain and other elements of the work, and the need for a new outfall and stormwater detention basin required to manage the increase in separate stormwater volumes that were not included in the original plan.

Implementation Schedule

Construction of all five projects is scheduled to be completed by December 2015. Cambridge combined two of the Alewife Brook CSO projects into one construction contract, Contract 4/13, which Cambridge commenced in January 2010. The work of this contract will separate common storm drain and sewer manholes in the neighborhoods near Massachusetts Avenue and Alewife Brook Parkway and will also upgrade city sewer system connections to MWRA's interceptor sewer, and provide floatables control at CSO outfalls along Alewife Brook near Massachusetts Avenue. The contractor plans to complete this work by the end of 2010.

Cambridge is also nearing the completion of final design for the stormwater outfall and wetland basin in the DCR Alewife Reservation. The wetland basin will accommodate stormwater flows that will be removed from the sewer system in future contracts and will attenuate the stormwater flows to avoid contributing to Alewife Brook flood levels. Cambridge plans to commence these construction contracts in the summer of 2010, and the work of these contracts is scheduled to be complete by the summer of 2012. Cambridge and MWRA have worked closely with DCR during development and environmental review of the Alewife Brook CSO control plan to ensure that the new facilities are compatible with DCR's Master Plan for the Alewife Reservation.

In addition, Cambridge plans to commence design of a fourth project, involving sewer separation in the area east of Fresh Pond Reservation, in the summer of 2010 and MWRA plans to commence design of the fifth and last Alewife project in 2012. The latter project involves improvements related to MWRA's CSO outfall to Alewife Brook (Outfall MWR003), located behind the Alewife Station, as well as improvements to the City of Somerville's Tannery Brook Conduit connection to MWRA's system and Somerville's related CSO outfall (Outfall SOM001A).

MWRA completed interim improvements to the Alewife Brook Pumping Station in 2009. In April 2010, MWRA issued the Notice to Proceed with the design contract for long-term improvements to the station. The project schedule calls for construction of the long-term improvements to be completed by March 2013.

Other Priorities to Ensure Continued Progress

Further water quality improvements in the Alewife Brook/Upper Mystic River watershed will rely largely on municipal efforts to address illegal discharges to storm drains, storm water Best Management Practices and other storm water impacts as they contribute to wet weather issues affecting these watersheds. DEP recognizes that progress is continuing to be made in these areas.

DEP also acknowledges the importance of proper operation, maintenance, and rehabilitation of MWRA and community sewer and storm water systems to assure optimized conditions for conveying wastewater flows through the system for treatment and discharge at Deer Island and improving storm water quality. Sewer system repairs and cleaning have resulted in improved conveyance capacities in a number of locations and have also contributed to mitigating CSO discharges by addressing localized system flow constraints.

III. Proposed Variance Extension and Next Steps

As part of the agreement on the LTCP reached in March 2006 among EPA, DEP, DOJ and MWRA, MWRA requested that the Variance for the Alewife Brook/Upper Mystic River Basin be reissued through 2020 when MWRA must complete the region-wide LTCP and subsequent monitoring to verify that the long-term CSO control goals are achieved. At that time, DEP and EPA determined that MWRA's LTCP satisfied the requirements for a variance from water quality standards for CSO discharges to the Alewife Brook/Upper Mystic River Basin through 2020. As part of this determination, DEP and EPA agreed that DEP would issue and EPA would approve five consecutive extensions on no more than a three-year duration each through 2020, which would be consistent with and limited to the requirements in MWRA's LTCP. MWRA bases this request on the work completed to date to achieve a high level of CSO control at certain outfalls, the expectation for significant CSO control and water quality improvement with the remaining CSO projects in the Alewife Brook CSO control plan, and the desire to provide a level of financial certainty and stability for its ratepayers.

Substantial and Widespread Social and Economic Impact

DEP has emphasized cost-effectiveness for CSO long-term control plans, to ensure that financial resources for pollution abatement actually provide improvements in water quality. The principles of cost-effectiveness and water quality benefits have been a major factor used by MWRA in the development of its present $884.1 million CSO abatement plan. MWRA will spend more than $173 million on CSO projects over the five-year period July 2010 through June 2015 (FY11-FY15), which is 15 percent of all planned capital spending and 26 percent of wastewater capital spending in the same period. MWRA sewer rates are among the highest in the nation and are projected to increase significantly over the next five years.

Implementation of the revised recommended plan will reduce CSO discharges to the Alewife Brook to a level that will allow attainment of Class B water quality standards 98.5 percent of the time. In accordance with DEP's CSO Guidance, cost-effectiveness, protection of sensitive uses, and the financial capability of CSO permittees are all important factors in making determinations on the appropriate level of CSO control.

MWRA submitted data related to DEP's finding of "substantial and widespread economic and social impact," the basis for its issuance of a Variance in 1997 (See 314 CMR 4.03(4)(f)). DEP documented for the current Variance ending August 31, 2010, its review of a report by Robert N. Stavins, Assessment of the Economic Impact of Additional Combined Sewer Overflow Controls on Households and Communities in the Massachusetts Water Resources Service Area, dated March 17, 2004. DEP also reviewed the Affordability Analysis Worksheets included in Appendix H of the Cottage Farm Report dated January 2004, which are based on EPA's Interim Economic Guidance for Water Quality Standards.

DEP's conclusions from its review of the documents submitted by MWRA and determination in support of the Variance Extension request have not changed. DEP, upon issuance of the 2007 Variance Extension, indicated that it would evaluate the information required by the Variance to determine whether there are additional cost-effective CSO controls. DEP has reviewed the new information regarding revisions to the Alewife Brook/Upper Mystic River CSO plan, as well as other revisions and cost changes in MWRA's LTCP, and has determined that additional controls beyond those recommended in the MWRA CSO Plan would not be cost-effective or affordable.

Based on these important considerations, DEP has determined that proceeding at this time with controls beyond those included in the MWRA Long-Term CSO Control Plan would result in substantial and widespread social and economic impact as specified in 314 CMR 4.03(4), and that an extension to the CSO Variance is appropriate at this time. Issuing of the CSO Variance Extension in the Alewife Brook/Upper Mystic River watershed is consistent with EPA Guidance: *Coordinating CSO Long-Term Planning with Water Quality Standard Reviews (July 31, 2001)*, which asserts that longer term variances and renewal of variances are warranted given the extended duration necessary for implementation of LTCPs.

Determination to Extend Variance

DEP makes the following determinations:

- The MWRA CSO control plan for the Alewife Brook/Upper Mystic River, which includes projects to optimize sewer system performance and remove stormwater inflow through sewer separation, is responsive to the conditions and intent of the Variance and will achieve substantial CSO control benefits.

- MWRA has completed numerous analyses since the late 1980s evaluating alternatives for eliminating CSOs from the collection system tributary to the Deer Island Wastewater Treatment Plant. Among these are the 1997 FEIR, the April 30, 2001

Alewife Brook Notice of Project Change, and the July 2003 Alewife Brook and Upper Mystic River Final Variance Report. MWRA's revised LTCP incorporates all cost-effective and feasible CSO abatement projects for this watershed. At this point in time, it does not appear technically feasible to eliminate all CSO outfalls to this watershed given the engineering and infrastructure constraints in the MWRA interceptor system, headworks, conveyance tunnels, the Deer Island wastewater treatment plant, and the ocean outfall.

- Progress to date in implementing the LTCP for Alewife Brook and Upper Mystic River has greatly reduced CSO discharges to Alewife Brook, eliminated CSO discharges at several outfalls along Alewife Brook and Upper Mystic River, and improved treatment at MWRA's Somerville Marginal CSO Facility.

- Proceeding at this time with controls beyond those presently included in the revised LTCP would result in substantial and widespread social and economic impact as specified in 314 CMR 4.03(4). The cost of MWRA's CSO control program is substantial, at present included in MWRA's capital budget at $884.1 million. MWRA's detailed financial impact assessment considered the effect of expected sewer rate increases, and, appropriately, median household income as adjusted by the relatively high cost of housing in the Boston area. The MWRA adequately demonstrated that proceeding at this time with CSO controls necessary for full attainment of Class B water quality standards in the Alewife Brook/Upper Mystic River watershed would result in substantial and widespread economic and social impact.

DEP concludes that extension to the CSO Variance for the Alewife Brook/Upper Mystic River watershed is appropriate at this time, and extends the CSO Variance for MWRA, and the cities of Cambridge and Somerville to September 1, 2013. A determination on the highest feasible level of CSO control and associated water quality standard is deferred until the LTCP is implemented and the associated benefits are verified in 2020, in compliance with Schedule Seven.

Future Actions

(1) The Variance for CSO discharges to the Alewife Brook/Upper Mystic River Basin will be extended by a period not to exceed 3 years (September 1, 2013).

(2) MWRA and the City of Cambridge shall implement all elements of the LTCP as defined in the Second CSO Stipulation and in accordance with Schedule Seven.

(3) MWRA, the City of Cambridge, and the City of Somerville shall continue to implement the Nine Minimum Controls and report on CSO activations and volumes.

(4) MWRA shall continue to implement its receiving water monitoring in the Alewife Brook/Upper Mystic River Basin watershed and submit an annual summary report on or before July 15 of each year.

City of Somerville Combined Sewer Overflows (CSO) MA0101982

Response to Public Comments

From November 4, 2011 to December 18, 2011, the United States Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("MassDEP") (together, the "Agencies") solicited public comments on a draft NPDES permit, No. MA0101982, developed pursuant to a permit application from the City of Somerville for the reissuance of a National Pollutant Discharge Elimination System ("NPDES") permit to discharge combined storm water and sanitary wastewater, also referred to as combined sewer overflow (CSO), from outfall number SOM001A to the Alewife Brook and Outfall SOM007A to the Mystic River, both in Somerville, Massachusetts. This time period included a two (2) week extension beyond the original public notice closing date of December 4, 2011, due to an extension request made by the Mystic River Watershed Association.

After a review of the comments received, EPA and MassDEP have made a final decision to issue this permit authorizing these discharges. In accordance with the provisions of 40 C.F.R. §124.17, this document presents EPA's responses to the comments received on this draft NPDES Permit. The responses explain and support the EPA determinations that form the basis of the final permit.

The final permit is substantially identical to the draft permit that was available for public comment. Although EPA's decision-making process has benefitted from the various comments and additional information submitted, the information and arguments presented did not raise any substantial new questions concerning the permit. EPA did, however, make certain clarifications and minor changes in response to the comments received. The analyses underlying these changes are explained in the responses to individual comments that follow and are reflected in the final permit. A summary of the changes made in the final permit are listed below. Where applicable, relevant sections of the response document where these changes have been discussed have been included in parentheses at the end of each change.

Copies of the Final Permit may be obtained by writing or calling EPA's NPDES Industrial Permits Branch (OEP 06-1), Office of Ecosystem Protection, 5 Post Office Square, Suite 100, Boston, MA 02109-3912; Telephone: (617) 918-1579. The final permit may also be found on EPA's web site at http://www.epa.gov/region1/npdes/mass.html

1. Revisions have been made to the final permit to clarify the permittee's responsibilities (**A2, A3, and A4**).

2. The permittee must submit all relevant Annual Report information from 2006 through 2011 no later than ninety (90) days after the effective date of the permit. (**B3**)

3. Within 30 days of the effective date of the permit, the permittee is required to submit photo documentation of CSO signage at Outfall SOM001A. (**B4**)

4. Part I.C.1 of the permit has been revised to require the permittee to notify the Massachusetts Department of Conservation and Recreation ("DCR") of any conditions in the vicinity of any of its CSO structures that could impair the operation or maintenance of such structures. (**D4**)

5. The date shown in Part I.D.5 of the draft permit, April 30, 2012, citing the due date for the first Annual Report for this permit, has been changed to April 30, 2013, since the effective date of the final permit is later than April, 30, 2012.

6. Part I.C.4 of the final permit has been revised to require short term metering of the CSO regulators discharging to the Tannery Brook drain. (**C1**)

7. The words "based on a full calendar year " have been added to Part I.D.5 of the final permit to conform with the Nine Minimum Control reporting requirement in Part B of the final permit.

Comments submitted by David Kubiak of the Massachusetts Water Resources Authority (MWRA): (Note: The commenter submitted three additional comments after the close of the public comment period, which are addressed at the end of this document)
Comment A1:

Suggested edit to the Fact Sheet - Page 3, third paragraph under "Description of Discharges":

"Typically, these treated CSOs discharge to MWR205A, but also discharge to SOM007A at certain high tide conditions" should be changed to "These treated CSOs discharge to tidal waters at MWRA outfall MWR205 under most tidal conditions, but can discharge to SOM007A/ MWR205A at certain high tide conditions."

Response to Comment A1:

EPA acknowledges and agrees with your suggested edit to the fact sheet, which is now part of the administrative record for the permit. However, because the fact sheet only serves to support the draft permit, and is not required as a part of the final permit decision, an updated fact sheet has not been prepared.

Comments submitted by EkOngKar Singh Khalsa, Executive Director
Mystic River Watershed Association (MyRWA)

General comments:

Our organization is concerned about the adverse impacts these discharges will have upon the receiving waters, aquatic habitat, and public health. First we would like to note that adequate review of permit execution is essential to its success and will help protect the affected natural resources and preserve the public trust. We offer several comments below to support successful review of the permit execution and public engagement with this matter.

We are also concerned about the substantial negative economic consequences that result from these discharges. Continued impairment of the receiving water bodies as a result of the proposed CSO activations has direct impact upon property values and public health in the neighborhoods adjacent to the receiving waters.

The discharges proposed mitigate against receipt of the full benefit of considerable ongoing capital expenditure along Alewife Brook, the Mystic River and in surrounding communities by the Commonwealth and private landowners.

Comment B1:

In general, in our opinion, efforts to improve and enhance conditions along the brooks and rivers of the Mystic River Watershed will be better supported by an expanded effort to improve water quality through the elimination of these types of discharges.

With this in mind, we recommend, in order to more accurately characterize the benefit of improved water quality in the receiving waters, that the technical and cost information in the 1997 MWRA CSO Facilities Plan, the July 1, 2003 MWRA Final Variance Report, and in affordability analyses to which this draft permit refers, be revised to examine whether implementation of more stringent CSO controls than are contemplated in the current CSO control plan would in fact "result in substantial and widespread social and economic impact". Indeed, there is much evidence that a revised CSO control plan that reduces impact to and impairment of the receiving waters may produce *substantial and widespread social and economic benefit*.

Response to Comment B1:

EPA and MassDEP originally made a determination that the 1997 MWRA CSO Abatement Plan and the associated financial impacts met the criteria for substantial and widespread economic impact. MassDEP, with subsequent approval by EPA, has affirmed that the criteria have been met in issuing the succession of CSO variances in the Mystic River Watershed. Based on a review of the information available, EPA issued a letter on March 14, 2006 approving the CSO variances through 2020 determining that it is not feasible to fully attain Class B water quality standards in this timeframe. No information has been made available to alter this determination.

Given that the court-ordered schedule for CSO abatement work in the Mystic River/Alewife Brook watershed continues through 2015, it is not fully clear what level of CSO control will be achieved by the work. Until completion of the court-ordered work, and the required assessment period of the overall CSO control program that will be conducted during the period of 2018 – 2020, the capacity to assess the feasibility and cost-effectiveness of further CSO controls will be limited. EPA and MassDEP will continue to review the information being gathered under the

NPDES permit, the CSO Variance, and any infrastructure studies completed by the City in determining the potential for additional CSO controls.

Comment B2:

In preparation for these comments, staff professionals from the MyRWA office have reviewed documents available in the EPA file and spoken with Rob King, Somerville Engineer. We have requested copies of the reports associated with study of the Tannery Brook System. Despite repeated requests, we have not been provided copies of these documents. Rather, we have been offered the opportunity to review documents in the Somerville DPW office. MyRWA representatives were allowed opportunity to review the documents in the office and were provided a photocopy of a single chapter. More information and access is needed.

Response to Comment B2:

All documents in EPA's possession concerning the authorized discharges and the affected receiving waters are public records and may be reviewed by the public during normal business hours. These include the following:

Tannery Brook Drain Separation Preliminary Design- Interim Draft Report, March 2005

Tannery Brook Drain Evaluation Phase 2 Report, December 2006

Sewer Assessment Report (Somerville, MA) - Draft Report, February 2009

Quarterly CSO reports submitted by the City of Somerville through April of 2008 (See response to Comment B3 regarding submittal of past overdue Annual Reports)

Comment B3:

MyRWA has requested that digital copies of the quarterly and annual reports submitted to EPA during the past year be emailed to our office so that a more thorough review of these documents could be undertaken. Unfortunately, these reports have not yet been made available to us. The importance of the sort of review outlined above and why access to these reports is critically important can be illustrated by the following example. We know that operation and maintenance is essential to a properly functioning CSO. Without the reports we seek however, MyRWA has not been able to ascertain performance under the present permit. Without careful review of the requisite documents, such an assessment is in fact impossible.

Response to Comment B3:

EPA and MassDEP have quarterly CSO reports that have been submitted by the City of Somerville though April 2008 and they are available for review. The City has not submitted any annual reports to EPA or MassDEP that were required by the permit that was issued in 2005. EPA has included a provision in Part I.D.7 of the final permit requiring the City to provide EPA and MassDEP with all of the information relative to the Annual Reporting requirement that it can retrieve and recreate from existing information, for the period of 2006 through 2011. This submittal is required within ninety (90) days of the effective date of this permit. All information relative to this submission will be made available for viewing during normal business hours.

Comment B4:

MyRWA is therefore concerned about compliance with existing permit conditions and whether the City of Somerville's is meeting the requirements all of the Nine Minimal Controls. In particular we are concerned about the following controls.

A. Minimum control # (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows: Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that it is in good working condition and adjusted to minimize combined sewer discharges and tidal surcharging. Without the ability to read the quarterly and annual reports submitted by City of Somerville, it is not possible to verify that a regular schedule of maintenance and inspection is occurring. We request that these documents be posted on the Somerville website.

B. Minimum control # (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts:
    a. Current reporting is inadequate to inform the public (especially the casual user of the Alewife corridor) of public health risks associated with discharges. Real time monitoring could easily be installed with automatic e-mails/light at site. Current language requires 24 hour notice by email in collaboration with EPA, DEP, MWRA and Cambridge. In Cambridge this need is being met by e-mail. These e-mail notices should be brief and to the point. Additionally, the public is largely unaware of the outfalls due to the poor signage. Proper and clear signage has been a basic long time condition and remains an unmet need.

C. Minimum condition # (9) Monitoring to effectively characterize CSO and the efficacy of CSO controls…: "The permittee shall quantify and record all discharges from combined sewer outfalls (NMC# 9)."
    a. There is no evidence that the City of Somerville has made any effort to quantify and record discharges from the combined sewer outfalls. We believe the

framework of this work includes monitoring the flows from the outfall for bacteria , phosphorus, ammonia and total suspended solids (TSS) concentrations. It is recommended that permittee should collect effluent data on bacteria, TSS, Nitrate, Ammonia, and Phosphorus for three separate outfall dates. On a single larger storm, the permittee shall collect water quality samples that are representative of the first 1 hour of storm, hour 3-6, hour 12-24 hours. More detailed information is important for all stakeholders to use in developing more nuanced options with regard to these two CSOs.

Response to Comment B4:

Regarding Item A, as was mentioned in the response to Comment B3, the City of Somerville has not submitted any of the Annual Reports required by the 2005 permit. The City did submit quarterly reports until April 2008. Such reports were not a requirement of the 2005 permit or the Variance, but appear to have been submitted on this schedule in accordance with a previous requirement.

The MWRA continues to report the CSO activation frequency, duration, and volume for all of the CSOs in its collection system to EPA and the MassDEP on an annual basis. For the two Somerville CSOs, that data for 2010 are shown in Permit Attachment A. These data are a portion of what was required by the Annual Report requirement of the 2005 permit. The commenter is correct that the City's overall compliance with NMC #1 cannot be evaluated without the rest of the required information, including all the information that would have been available in the Annual Reports. Therefore, as previously noted, EPA has required that the Annual Reports required by the 2005 permit be submitted within 90 days of the effective date of the permit. We also note that the annual report requirement has continued in this final permit.

Although we agree that it would be useful for the City to post its CSO operations and maintenance records on its website as an enhancement of its public notification program, this is typically not an NPDES requirement. The public can make an appointment to view records during normal business hours at the MassDEP Northeast Regional Office, 205B Lowell St., Wilmington, MA 01887. Phone number: (978) 694-3499.

Regarding Item B, EPA believes that the permittee is in compliance with the CSO signage requirement in the final permit. In order to confirm this, Part I.C.5 of the final permit requires the City of Somerville to submit photographic documentation to EPA and MassDEP at the addresses in Part I.H. of the permit within thirty (30) days of the effective date of the permit. This submittal shall document that the signage requirement has been met for Outfall SOM001A, the outfall in question.

EPA believes that the requirement in Part I.C.8 of the permit regarding e-mail notification to EPA, MassDEP, local health agents, and the MyRWA within 24 hours of the onset of CSO discharges is sufficient notification to advise users that there has been a CSO discharge to

Alewife Brook. Coupled with the notification requirement in the Cambridge CSO permit (permit # MA0101974) of its CSO discharges to the Alewife Brook, public notice will be provided for all instances when there is a wet weather CSO discharge to Alewife Brook.

Although lights or some other additional notification of CSO activation could be useful and the EPA encourages the City to consider additional options to alert the public to CSO discharges, EPA believes that the requirements in the final permit, which are consistent with the variance extension, are adequate and appropriate at this time.

Regarding Item C, this permit includes a requirement for direct measurement of flows discharged through SOM001A using metering equipment, which should provide accurate data on activations and volumes to compare to modeling of discharges by MWRA. EPA does not typically require testing for pollutants in CSO discharges since the general characteristics of these discharges are well established and further information does generally not inform management decisions.

The MWRA conducts pollutant monitoring as well as flow measurement at the Somerville Marginal CSO Facility as part of its NPDES permit requirements during certain storm events. The MWRA also conducts sampling for bacteria, ammonia, salinity, pH, and temperature in the Alewife Brook and Mystic River at several locations, including above and below the Amelia Earhart Dam, in the vicinity of Outfall SOM007A and upstream and downstream of SOM 001A in the Alewife Brook. For the most recent monitoring report, go to: http:// www.mwra.state.ma.us/harbor/enquad/pdf/2011-11.pdf .

Comment B5:

In order to allow appropriate review of ongoing operations, under the new permit, MyRWA recommends that the City of Somerville be required to develop for each CSO, a comparison between the activation volume and frequency for all the data available. (For instance, in Year Two, compare current operations to both previous years; in year four, compare all four years.)

Response to Comment B5:

Since rainfall events over the course of a year vary considerably as to depth, duration, and intensity, it is important to do a comparative analysis of the CSO activations and volumes in consideration of the rainfall which has occurred. Therefore, a comparison of year to year data would not be useful without also assessing the rainfall data for each year. A main objective of this requirement is to understand progress toward the level of control predicted in the approved MWRA CSO Control Plan, which is based on a year with “typical” rainfall. The reporting by the City (and by MWRA) should help the agencies and the public determine the level of control when the system performance is normalized to a typical year. The Agencies expect the permittee to analyze rainfall events in previous years pursuant to Part I.D.4 of the final permit.

Comment B6:

In order to allow appropriate review of ongoing operations, under the new permit, MyRWA recommends that the City of Somerville be required to post electronic versions of studies on Tannery Brook to Somerville website. These documents are required for public involvement and to allow for the review of feasibility of the different options under consideration. These documents are not readily available to the public, MassDEP, and EPA.

Response to Comment B6:

EPA would encourage the City to consider making these reports more easily available as part of an enhanced public notification program. However, EPA does not believe that it should be made a permit requirement, since these documents will also be available for review at the EPA and MassDEP offices. As noted in the response to Comment B2, several of these studies are available for viewing at EPA's Boston office.

Comment B7:

In order to allow appropriate review of ongoing operations, under the new permit, MyRWA recommends that the City of Somerville be required to sample at the seven contributing catchment areas of the Tannery Brook CSO to determine if any one of them plays a greater role in diminishing water quality and identify opportunities for the best investment of resources to reduce the CSO impact.

Response to Comment B7:

The December 2006 *Tannery Brook Drain Evaluation Phase 2* report characterizes the tributary area and connections to the Tannery Brook drain. This report indicates that the drain has nine direct connections from sanitary sewer areas, five connections from CSO regulators, and numerous storm drain connections. The report generally offers a satisfactory characterization of the sewer system and documents the modeled discharges for each of the regulators discharging to the drain during a typical year. The potential and costs for sewer separation are also evaluated in the report. Although EPA and MassDEP do not believe that further collection system sampling is necessary, the final permit requires some short term CSO regulator flow measurement - see the response to Comment C1.

EPA and MassDEP suggest MyRWA submit comments to the Agencies on the Tannery Brook Reports and their findings, which were developed and submitted as a requirement of CSO Variances. EPA and MassDEP will consider any such comments during development of any future variance extension and incorporate conditions as necessary to address such comments.

Comments submitted by Roger Frymire - Comment C1:

A 1974 CDM study was very clear that the combined sewer system in Somerville is undersized and the only way to stop streets flooding with combined sewage multiple times each year was to build more pipes. I agree that just building more sewer pipes is not the answer since a larger storm will always come along, especially with climate change. But this study specifically called for the restoration of two historic Brook drainage corridors - Tannery Brook and Millers River - as separate storm drains to Alewife Brook and the Charles River, respectively.

While I will not call for the immediate closure of the Tannery Brook CSO, I do request that further study be required to fully examine the range of full and partial separation options available here. Specifically, I request that the five known CSO overflow points into Tannery Brook each be metered for a minimum of two overflow events (one of at least 6-month recurrence size). This will build on the metering done for the 2006 report, and allow more precise modeling of the sewershed runoff characteristics. Also, I request that sampling be done to characterize the overflow from each of these five overflow weirs for at least two storms each.

Response to Comment C1:

EPA agrees that metering of the CSO regulators discharging to the Tannery Brook drain would help verify the modeled estimates and thus the estimates of frequency and activation reduction associated with the various alternatives. Therefore, Part I.C.4 of the final permit requires that each of the five (5) CSO regulators to the Tannery Brook drain be provided with a continuous flow measuring device beginning on January 1, 2013 and lasting through at least December 31, 2013, or beginning as soon as possible in calendar year 2013 if January 1, 2013 is not feasible, but no later than July 1, 2013. The permittee is required to monitor for a minimum of a consecutive twelve (12) month period and to notify EPA and MassDEP when it begins this monitoring. The results of this monitoring shall be included with the Annual Report that is due following the completion of the monitoring period. Also, see the response to comment B7. EPA and MassDEP will consider comments on the Tannery Brook studies in the context of CSO Variance requirements.

Comment C2:

Attachment 2 is a summary of modeling from the Tannery Brook Phase II report of overflows to and from Tannery Brook for the range of separation options studied. While I disagree with some of the assumptions made limiting the range of options studied and especially choosing the most expensive method for separation, the numbers here are enlightening. At the lowest separation percentage of 85% studied, overflows at the five upstream weirs drops to one small event at only one weir in the 'typical' year! If the 9 minimal direct sewer connections to Tannery Brook were removed, this could allow the connection to the MWRA sewer to be permanently closed, and the remaining CSO flows to Alewife Brook would be less than 0.1 MGY. I believe that better

modeling thru the metering I am requesting would allow a small amount of targeted additional separation to get to Zero activations a year.

Response to Comment C2:

It is questionable whether the report evaluated the most expensive separation methods. It would seem that the most expensive (and most effective) method would be construction of new sanitary sewers, which would necessitate the construction of new service connections to the new sewers, as well as cleaning of the former combined sewer before its use as a storm drain. It is also open to question whether the Tannery Brook connection to the MWRA sewer could be eliminated if regulator overflows were eliminated during a typical year, since regulator overflows would occur during larger storms, and some of this flow would be captured by the MWRA sewer if the Tannery brook connection remained open, whereas none of it would be captured if the connection were closed. Also see the response to Comment C1.

EPA and MassDEP have not rendered a determination regarding whether additional CSO controls will be required of the City in the Tannery Brook Drainage system. Information gathered through the metering program will be important in validating the predictions of the MWRA CSO model, and on the effectiveness of related CSO abatement work in the Alewife Brook watershed, which is proceeding under the federal court order. Until such information is available, it is difficult to fully document the cost-effectiveness of the identified alternatives for higher levels of control. However, as noted in the response to Comment B7, EPA and MassDEP encourage parties to comment on the technical information presented in the *Tannery Brook Drain Evaluation Phase 2* Report or other related reports. EPA and MassDEP can and will take actions during the term of the CSO Variance to gather additional information so that a determination on the requirement for higher levels of control is fully supported under the regulations, which necessitates a clear understanding of the range of alternatives, as well as the associated technical and financial constraints.

Comment C3:

We are at a confluence of three ideas which all agree that Tannery (Brook) needs to be separated and restored as a sewer-free waterway - even if totally underground:

1) residents of the watershed area strongly oppose the downgrading of water quality required if CSOs remain on Alewife Brook, and the 'E' of NPDES requires elimination to be high on the list of options. The DCR has recently rebuilt parkland and pathways along Alewife, and removed chain link to allow more access to the water.

2) Somerville's sewer overflows flooding streets and basements with sewage multiple times yearly cries out for more separate storm drainage to relieve stress on the undersized sewer system.

3) SSOs occurring in the MWRA system downstream of Tannery Brook could be noticeably relieved by removing a 30" connection flowing full of rainwater from the sewer in every storm over the 3-month recurrence.

While the building of a Millers River Drain to the Charles could similarly benefit Somerville residents and MWRA capacity issues, as well as alleviating CSO flows from CSO facilities and backups exiting thru CAM017, I see nothing in this permit to request for now. However, I reiterate that stormwater cannot be separated from CSO issues, and urge a holistic view of permitting MS4 issues in CSO communities.

Response to Comment C3:

EPA and MassDEP agree that the only way to completely eliminate CSOs to the Brook under all weather conditions is by separating sufficient storm water and extraneous flows from the combined sewers to ensure that flows in the sewers do not exceed capacity under any weather condition, and that such separation would virtually eliminate basement flooding. We also agree that reductions in flow to the MWRA Alewife Brook Sewer achieved by removing the connection from the Tannery Brook Drain would reduce the possibility of overflows from the MWRA sewer. We would note however, that separation underway in Cambridge will serve to reduce flows from Cambridge into the MWRA sewer, thereby freeing capacity for increased discharges from the Tannery Brook Drain. We would further note that sewer separation in the combined sewer areas tributary to Tannery Brook would significantly increase stormwater discharges during wet weather and may exacerbate flooding in the Brook.

We also agree that water quality standards can only be met in the Mystic River/Alewife Brook watershed by addressing both CSO and stormwater pollutant issues. The federal court order in place currently requires addressing CSOs from Tannery Brook by increasing the connection to the MWRA interceptor, which was shown to be both cost-effective and feasible. EPA and MassDEP will continue to evaluate the potential for higher levels of CSO control during the period of the CSO Variance. Costs and feasibility of eliminating the Tannery Brook CSO will also be considered under the regulatory framework of the Clean Water Act and state water quality standards.

Comments submitted by David Stoff:

Comment D1:

The public notification conditions in the Draft Permit are inadequate. Enhanced public notification measures are needed for CSO outfalls scheduled to remain open after the MWRA CSO control plan is implemented.

NMC # 8 requires "adequate notification of CSO impacts and occurrences." Warning signs have been required at CSO outfalls for almost twenty years. Arguably the signage requirement is the simplest permit requirement to meet. The inability of the permittee to comply with this simple but necessary requirement is appalling.

SOM001A discharges into a waterbody that is surrounded by public parkland. It is twenty-five feet from the Massachusetts Department of Conservation and Recreation's new Alewife Brook Greenway. It is about eighty feet from a hotel and in close proximity to a pediatrician's office, an Orthodox church, and a private elementary school. Students from nearby Matignon High School routinely transit the outfall area. CSO discharges at SOM001A will continue well beyond the term of this permit. Given the conditions shown here, a casual user of the Alewife Brook area, such as individuals using the Alewife Brook Greenway, would be unaware of the CSO outfall; hence the public notification requirements of NMC No. 8 are not met.

Response to Comment D1:

This photo of signage clearly does not meet the complete signage requirement in the permit and the variance. See the response to Comment B4, which refers to a revision in the final permit requiring the City of Somerville to document that it is meeting the signage requirement of the final permit.

Comment D2:

Press releases and delayed e-mail notice of discharges (conditions of the Draft Permit and water quality variance) are directed primarily to homeowners. The purpose of press releases is to inform people living in the floodplain about the impacts of CSO discharges. The purpose of e-mail notice is to provide local public health officials with warning of CSO occurrences so that they can provide residents with information about sanitary conditions and appropriate mitigation measures. While laudable, these permit conditions fail to provide warning within a timeframe that is useful to casual users of the Alewife Brook and Greenway.

Developing a real-time public notice system that meets NMC #8's requirement for notice of CSO "occurrences" would be a more effective strategy to reach casual users. Enhanced signage in conjunction with a system of warning lights is certainly feasible. The draft permit requires direct metering of discharges from SOM001A; perhaps the meter could be configured to trip a warning light. Enhanced public notification is particularly desirable at CSO outfalls, like SOM001A, that

will remain open after implementation of CSO controls in the MWRA plan because these outfalls are long-term hazards.

Response to Comment D2:

See the response to Comment B4.

Comment D3:

Some remedial public notice measures are required along the Alewife Brook. Current conditions at SOM001A violate ***existing*** permit and variance conditions. The Draft Permit is an opportunity to address public notification measures over the long-term. Given the permittees lack of compliance, the lack [of] permit conditions addressing enhanced public notification measures creates the impression that EPA is comfortable with the current conditions.

Response to Comment D3:

EPA believes that the current signage and notification conditions, which are mainly derived from the variance, are adequate and effective. Although there is a question about the current signage at Outfall SOM001A, the permittee is required to document that this signage is consistent with the permit condition within 30 days after the effective date of the permit. Although extensive CSO remediation work over the past 10 years has separated a majority of the combined sewerage in the City, there are still ongoing and planned CSO remediation projects that will continue to result in improvements to the sewer system. Two of these projects are noted in the Fact Sheet [(1) Control Gate and Floatables Control at Outfall MWR003 and (2) MWRA Rindge Avenue Siphon Relief Project]. Keep in mind that these projects are expensive and will take many years to complete. As mentioned earlier, we would encourage the City to enhance its notification procedures in any way that it finds feasible and effective.

As described previously, the submittal of Annual Reports will continue to be required. The City has not been submitting these reports and the Agencies have required that that all relevant Annual Report data for the period of 2006 through 2011 be compiled and submitted within 90 days of the effective date of this permit.

Comment D4:

The Draft Permit should be modified to require basic channel maintenance at CSO outfalls.

Channel obstructions and inadequate floatables controls at CSO outfalls discharging to the Alewife Brook, where SOM001A is located, continue to be a problem. Basic sanitary conditions

remain unmet. As an example, this picture shows current conditions at Alewife Brook CSO outfall CAM001, just upstream from SOM001A.

The Draft Permit should be modified to conform with requirements found in other Alewife Brook CSO permits, such as the NPDES permit issued for the City of Cambridge. That permit requires that the "permittee shall forward to the Massachusetts Department of Conservation and Recreation ("DCR") its description of any conditions within DCR's control that impair the operation of a CSO control structure." (Part I. C. 1. of NPDES Permit MA 0101974). It is true that none of the Alewife Brook CSO permittees can force DCR to take action, but the effort involved in reporting obstructions is minimal.

It can be argued that an obstruction like the one depicted above violates the basic maintenance requirements of NMC #1 (proper operation and regular maintenance programs...[of] combined sewer overflows) regardless of which entity has jurisdiction over debris in the channel of the Alewife Brook; hence it is a violation of Part I. A.1.a.(1) of the Cambridge permit. It certainly traps floatable materials and creates the appearance of a public nuisance at the outfall.

Response to Comment D4:

To the extent that situations such as the one depicted in the enclosed photograph adversely impact the ability of the Town of Somerville to implement any of the NMCs required by this permit, EPA agrees that such conditions should be remedied by the City of Somerville as soon as possible. Part I.C.1 of the permit has been revised to include language similar to that of the Cambridge CSO permit that requires the permittee to notify the MADCR of any conditions in the vicinity of the CSO structure that could impair its operation or maintenance.

Comment D5:

The description of Tannery Brook in the Fact Sheet is inaccurate

The description of Tannery Brook as a city storm drain is misleading. Tannery Brook is a natural waterbody, a water of the Commonwealth as that term is used in G.L. c.21 sec. 42. Although Tannery Brook is now culverted, flow from Tannery Brook is historically part of the stream flow of the Alewife Brook and is necessary to maintain the health of that waterbody. The fact that Somerville has identified connections between its combined sewer system and a culverted stream cannot convert a natural waterbody into a combined sewer. The description of Tannery Brook as a *convey*[ance] that drains to the MWRA system (Fact Sheet, Part II.) justifies a permanent degradation of the Alewife Brook by depriving it of waterflow from a tributary, while simultaneously exacerbating Sanitary Sewer Overflows (SSOs) at the Alewife Brook Pump Station during wet weather.

The *Final Variance Report for Alewife Brook and the Upper Mystic River,* July, 2003, states that Somerville "is currently looking into the feasibility of controlling miscellaneous dry weather sanitary discharges to the Tannery Brook Drain, and tentatively plans to access the feasibility of separating upstream regulators, closing off the drop connections to the [Alewife Brook Conduit] and turning the Tannery Brook Drain into a separate storm drain." Neither the Fact Sheet nor previous DEP responses to Variance comments discusses the feasibility of such an effort, though this issue has been raised. EPA should acknowledge in its response to comments that the MWRA 's CSO control plan for SOM001A is an interim solution and that this complex drainage system warrants further investigation [prior to a change in the water quality standard].

Response to Comment D5:

The Tannery Brook drain is not a water of the United States as that term is defined in 40 CFR 122.2, but is rather a point source discharge as defined in the same regulation. Therefore, the discharge is appropriately regulated by the permit. Notwithstanding our disagreement regarding the drain's characterization we agree that the discharge of clean water from the Tannery Brook Drain would provide benefits to the Alewife Brook. Obviously, flow quantities that would cause flooding or other problems in the Brook are not desirable.

The City has assessed the Tannery Brook Drain in two separate technical reports, which are available for public review, and include a characterization of the Tannery Brook Drain system. Also see responses to Comments B2, B7, and C3.

Comments submitted by Michael P. Ripple:

Comment E1:

It distresses me that it (The Mystic River) is being treated so poorly and against society's intentions. It is unfortunate that this urban gem is basically unfit for people to use on a more fully recreational basis. I would not eat a fish from this river, nor would I let a dog swim in it. The documents [draft permit and accompanying attachments] are written to give the appearance that the river is being protected – if only through careful measurement. However, raw sewage will continue to be sent to the river. It will all be measured according to the government's specifications and records will be kept and the regulated damage will be properly documented. It will all be done within a law that grants variances from the law's original intention. At the end of the day, the river will continue to be abused and the contamination will not be stopped. Please join me in bemoaning the degradation of the incredibly beautiful Mystic River and the loss of its potential for thousands of area residents. This document provides me with little hope that help is on the way.

Response to Comment E1:

Obviously there are great challenges in restoring water quality in urban streams. The issues in the Alewife Brook are especially difficult given that the receiving water has little capacity for accepting increased flows. Separation of combined sewers is the only alternative that can completely eliminate combined sewer overflows, and this alternative will necessarily increase stormwater discharges to the Brook, which may exacerbate flooding. Implementation of sewer separation in the Cambridge combined sewers was determined to increase storm water flows to the extent that the construction of an attenuation basin was necessary.

As mentioned earlier, the CSO abatement work is a multi-year process that has already resulted in numerous CSO outfall closures in Somerville and other communities as well as continued work to separate sewerage from storm water and other related projects. The MWRA Long Term Control Plan (LTCP) recommended a total of $870 million dollars in CSO abatement projects developed for the entire MWRA sewer system, including that of the City of Somerville, and was a painstakingly negotiated process that involved extensive modeling and planning work from MWRA, the communities, along with EPA and MassDEP. EPA and MassDEP continue to monitor the progress towards meeting the goals of the LTCP and continue to require annual reporting and requirements for MWRA, the City of Somerville and the other CSO communities.

Comment E2:

There is the letter of the law and the spirit of the law. The required variances seem to be designed to avoid fulfilling the letter of base laws, while posing as if government is trying. This is not good-spirited. I do understand you want to avoid "substantial and widespread economic impact." I see that $117 million is to be spent to abate CSO discharges. I do not see any budget or work plans which limit what is supposed to happen.

Response to Comment E2:

As described in previous responses, and more specifically discussed in the response to Comment E4, a substantial amount of money is being spent for CSO abatement in the Alewife/Mystic areas, and further expenditures at this time were determined to exceed the "substantial and widespread social and economic" threshold. Hence, a variance to water quality standards was proposed by MassDEP and approved by EPA. Schedules for completing the required projects are required by a federal court order. A water quality variance is not a permanent downgrade of water quality standards and must be re-visited periodically. For additional information regarding this issue, the commenter may access the MWRA's CSO page at: http://www.mwra.com/03sewer/html/sewcso.htm.

Comment E3:

The permit states that a Total Maximum Daily Load (TMDL) is to be developed but that no TMDLs have been drafted.

Response to Comment E3:

Page 5 of the fact sheet states that the MassDEP, and not the City of Somerville, is required by the Clean Water Act (CWA) to develop TMDLs for waterbodies that are identified as impaired. The MassDEP is not currently working on TMDLs for the receiving waters listed in this permit. For more information, go to: http://www.mass.gov/dep/water/resources/tmdls.htm.

Comment E4:

I also see something about a plan for an "85% reduction in annual CSO volume discharged in a typical year" and "Class B water quality standards (will be met) 98.5% of the time". That is certainly the proper spirit, but I do not see any letters that give this spirit some force.

Response to Comment E4:

After completion of the MWRA CSO abatement work, including the $117 million being committed to the Mystic River/Alewife Brook watershed, a three year assessment period will follow, as mandated by the court, to establish the level of control achieved by this work. The assessment work is intended to ensure that the level of CSO control predicted for the work is actually achieved. The CSO variance process will also be critical towards determining if additional controls are both cost-effective and feasible.

Comment E5:

The government has offered a thorough and conscientious document that, while appearing to be well-meaning – is fundamentally a nod to the necessities of polluting this river with a virtually guaranteed periodic renewal. I see no pressure being placed on the systems that help create the pollution of the river to be accountable. Not the purpose … but where does this happen?
I think that if the residents of Cambridge knew what they were sending to Somerville, where the problem is compounded and then sent on through Medford and on to Boston, all four cities would be alarmed. Society cannot set goals if they are not fully informed about what government is deciding for them. A widely publicized public hearing would be a step in the right direction.

Response to Comment E5:

See the responses to Comments E2 and E4. Regarding the request for a public hearing, it is not clear from the comment that this is a direct public hearing request on this specific draft permit. In addition, since there were no other public hearing requests submitted during the comment period, EPA has determined that there is not a significant public interest in scheduling a hearing on this draft permit. Therefore, EPA will not be doing so at this time.

Comments Received after the Close of the Comment Period

The following comments were submitted by the MWRA shortly after the close of the comment period. Although EPA is not obligated to consider these comments, it has chosen to address them in the following responses.

Comment A2:

In addition to the Fact Sheet edit noted in my December 1, 2011 e-mail, MWRA has the following comments on the draft permit itself:

On Page 3 of 9, Part I.A.1.c. "The permit's discharges must meet...." should be changed to read "The permittee's discharges must meet..."

Response to Comment A2:

EPA agrees with this comment and the change has been made to the final permit.

Comment A3:

Page 5 of 9 - Part I.C.6.

> The requirement to post CSO notices at "Community Sailing and local boathouses" appears to be taken directly from the City of Cambridge's permit where it applies to Charles River discharges. The phrase in quotes above seems not to apply to either the Alewife Brook or the Mystic River and should be deleted.

Response to Comment A3:

EPA agrees with the commenter and the language of this Part that reads “Community Sailing and local boathouses” has been removed as it does not pertain to waters affected by the CSO discharges authorized by this permit.

Comment A4:

Page 5 of 9 – Part I.C.8 "The permittee, in collaboration with MWRA and the City of Cambridge, shall provide email notification…."

> The CSO Variance specifies that Cambridge will do the notification and that Somerville and MWRA will collaborate. The wording in the draft permit adds confusion, and instead should specify that Cambridge will do the notification (as it has been doing for years), and the permittee (Somerville) should coordinate with Cambridge and MWRA - not that the permittee (Somerville) will do the notification.

Response to Comment A4:

EPA agrees that this notification requirement is an obligation of the City of Cambridge stemming from the latest variance extension for the Alewife Brook the Upper Mystic River Basin. Therefore, this Part of the final permit has been revised to make it clear that this notification is required of the City of Cambridge and that the City of Somerville, as well as the MWRA, shall collaborate with Cambridge in fulfilling this requirement.

June 6, 2012