

Massachusetts Water Resources Authority



Combined Sewer Overflow  
Control Plan

Quarterly Progress Report  
September 15, 2003

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**Table 1. CSO Project Progress**

| Contract  | CSO Projects                         | Current Status |                 |          |
|---|--------------------------------------|----------------|-----------------|----------|
|   |                                      | IN DESIGN      | IN CONSTRUCTION | COMPLETE |
| North Dorchester Bay and Reserved Channel           | North Dorchester Bay Conduit         | *              |                 |          |
|   | Reserved Channel Conduit             | *              |                 |          |
|   | Reserved Channel CSO Facility        | *              |                 |          |
| Hydraulic Relief Projects                           | CAM005 Relief                        |                |                 | ✓        |
|   | BOS017 Relief                        |                |                 | ✓        |
| East Boston Branch Sewer Relief                     |                                      | ✓              | ✓               |          |
| Fort Pt. Channel and BOS019 Storage                 | Fort Point Channel Storage           | ✓              |                 |          |
|   | BOS019 Storage Conduit               | ✓              |                 |          |
| Chelsea Relief Sewers                               | Chelsea Trunk Sewer Relief           |                |                 | ✓        |
|   | Chelsea Branch Sewer Relief          |                |                 | ✓        |
|   | CHE008 Outfall Repairs               |                |                 | ✓        |
| Union Park Detention/Treatment Facility             |                                      |                | ✓               |          |
| CSO Facility Upgrades and MWRA Floatables           | Cottage Farm Upgrade                 |                |                 | ✓        |
|   | Prison Point Upgrade                 |                |                 | ✓        |
|   | Commercial Point Upgrade             |                |                 | ✓        |
|   | Fox Point Upgrade                    |                |                 | ✓        |
|   | Somerville-Marginal Upgrade          |                |                 | ✓        |
|   | MWRA Floatables and Outfall Closings |                |                 | ✓        |
| South Dorchester Bay Sewer Separation               |                                      | ✓              | ✓               |          |
| Stony Brook Sewer Separation                        |                                      | ✓              | ✓               |          |
| Neponset River Sewer Separation                     |                                      |                |                 | ✓        |
| Constitution Beach Sewer Separation                 |                                      |                |                 | ✓        |
| Somerville Baffle Manhole Separation                |                                      |                |                 | ✓        |
| Cambridge Sewer Separation                          |                                      | ✓              | ✓               |          |
| Region-wide Floatables Control and Outfall Closings |                                      | ✓              | ✓               |          |

\* Design suspended; project reassessment underway.

## 1. Quarterly Progress Overview

This quarterly progress report has been prepared to comply with reporting requirements in the Federal District Court's Orders in the Boston Harbor Case (D. Mass. C.A. No. 85-0489). For the combined sewer overflow (CSO) projects referenced in the Court's Order and its schedule of milestones, Schedule Six, the report summarizes progress made during the period from June 17, 2003 to September 15, 2003, and identifies current project schedules relative to corresponding Court milestones, as well as issues that have affected or may affect compliance with Schedule Six. This report also identifies the status of certain planning and regulatory efforts that relate to continuing state and federal reviews of MWRA's CSO plan, toward full regulatory approval.

Detailed descriptions of the CSO projects and identification of corresponding Court milestones for design and construction are not presented in this report, but can be found in MWRA's *CSO Annual Progress Report 2002*, dated March 2003. The Annual Report can be accessed at MWRA's website; [www.mwra.com](http://www.mwra.com).

No additional projects were scheduled to be completed in the third quarter of 2003. To date, MWRA has completed 14 of the 25 projects in its long-term CSO control plan, as shown in Table 1. Six projects are in construction. On one of the projects, East Boston Branch Sewer Relief, construction has begun on one portion of the work while the rest of the scope is being reassessed by MWRA at this time. The Cambridge/Alewife Sewer Separation project, is also moving forward again, with recent completion of MEPA review. The remaining five projects, which include the three North Dorchester Bay/Reserved Channel projects, the Fort Point Channel Storage project (recently changed to sewer separation) and the BOS019 Storage project are in design or project reassessment.

MWRA expects to propose changes to the Court milestone included in Schedule Six for the Fort Point Channel Storage project.

The following are highlights of the CSO-related progress in the third quarter of 2003. More information is provided in later sections of this report.

- MWRA continued construction activities that had commenced in March 2003 for the Union Park Detention/Treatment Facility and the first contract for the East Boston Branch Sewer Relief project.
- At the end of June, MWRA commenced the reassessment of the East Boston Branch Sewer Relief project to determine a cost effective plan for completing the project and meeting related CSO control goals. The reassessment is expected to be complete by December 31, 2003.
- In June, MWRA filed a Notice of Project Change ("NPC") for the Fort Point Channel Storage project to the Massachusetts Environmental Protection Act (MEPA) Unit, EPA and DEP. The Notice of Project Change recommended that CSO control goals at outfalls BOS072 and BOS073 be

achieved with sewer separation and system optimization without any long-term siting impacts associated with the storage conduit that had been recommended in the 1997 Final CSO Facilities Plan and Environmental Impact Report ("1997 Final FP/EIR"). On August 14, the Secretary of Environmental Affairs issued a certificate accepting the NPC as completing MEPA review requirements. MWRA commenced preliminary design of the new recommended plan for the Fort Point Channel project in September 2003.

- MWRA continued detailed layout and evaluation of CSO control alternatives under Phase II of the comprehensive reassessment of the South Boston CSO control plan (North Dorchester Bay and Reserved Channel projects). The work continues to focus on alternatives that offer staged, or phased, implementation of incrementally higher levels of control, to better understand the relationship between CSO control and water quality improvement and ensure benefit commensurate with cost. Complete CSO elimination remains MWRA's goal for the beach area.
- Boston and Water and Sewer Commission ("BWSC") and the City of Cambridge continued to make design and construction progress on community-implemented sewer separation and floatables control projects, as described in the corresponding project sections below.
- MWRA and the City of Cambridge are working cooperatively to develop final work plans, schedules and updated cost estimates for proceeding with permit applications, design and construction for the Cambridge/Alewife Brook sewer separation project. This progress is possible following completion of the MEPA review process marked by MWRA and Cambridge's submission of the Response to Comments document this past spring. Cambridge is now updating its Preliminary Design Report to incorporate project changes that have been made in response to MEPA review over the last few years.
- BWSC completed construction work to implement the MWRA-recommended system optimization plans (SOPs) to lower CSO discharges to the Dorchester Brook Conduit and Fort Point Channel (outfall BOS070). These measures were recommended in lieu of the former Dorchester Brook Conduit In-line Storage project. The SOPs included raising an overflow weir and installing a new tidegate.

## **2. Charles River and Alewife Brook/Upper Mystic River Variances**

MWRA continued to comply with the conditions of the regulatory variances for CSO discharges to the Charles River and Alewife Brook/Upper Mystic River and continued to coordinate related watershed planning activities with others. MWRA submitted the Final Variance Report for the Alewife Brook/Upper Mystic River on July 1, as required by a condition in the Variance. MWRA's submission of a required report reevaluating the cost and benefit of additional storage at the Cottage Farm CSO facility continues to be delayed due to lack of sufficient sustained wet weather-related activations that allow water quality sampling and analysis. For its own regulatory process and schedule reasons, DEP recently issued tentative determinations to extend the Charles and Alewife/Mystic variances by several more months, to June 2004.

### **3. Project Implementation**

#### **3.1 MWRA-Managed Projects**

##### **North Dorchester Bay and Reserved Channel**

The project team continued Phase II work of the reassessment. MWRA focused on developing modular implementation approaches that follow-up on CSO control options from Phase I. A modular approach would achieve a high level of CSO control in the near-term with ongoing water quality monitoring, while preserving the option of future CSO elimination.

In addition to developing modular implementation approaches, MWRA continued to evaluate system optimization measures and system-wide improvements to ensure that a full range of alternatives have been considered and can be presented in the supplemental EIR. MWRA also continued discussions with EPA, DEP, elected officials, members of the community, Save the Harbor/Save the Bay, Conservation Law Foundation, and the Boston Harbor Associates, and held a public meeting on June 26 to present and discuss the phasing concepts.

##### **East Boston Branch Sewer Relief (BOS003-014)**

MWRA is nearing completion of work under the first construction contract for this project. This first contract primarily involved relining the main trunk sections of MWRA's East Boston Branch Sewer to improve hydraulic conditions and provide long-term structural integrity. In addition, certain structural restrictions in the interceptor will be removed, providing some hydraulic relief and possibly lowering CSO discharges upstream.

Final design work associated with the remaining two construction contracts for this project was suspended last year due to the discovery of an engineering error made in the planning phase that resulted in an over estimate of the benefits of the recommended CSO control plan at the same time under-estimating its cost. Therefore, MWRA began a

reevaluation of CSO control alternatives to determine the costs and benefits of various CSO control options for completing the project. MWRA commenced the reevaluation work at the end of June, with initial efforts focusing on updating baseline system and system flow conditions, including obtaining information from BWSC on its plans for sewer separation and information from private development plans in the area. Once baseline conditions are defined, MWRA's consultant will proceed to evaluate the cost and CSO benefit of various CSO control alternatives, primarily involving combinations of hydraulic relief, sewer separation and flow diversion. The reassessment schedule calls for MWRA to complete the reassessment and file a Notice of Project Change, if appropriate, by December 31, 2003.

#### **Fort Point Channel (BOS072-073) and BOS019 Storage Conduits**

On August 14, 2003, MWRA received a Certificate from the Secretary of Environmental Affairs accepting the Notice of Project Change MWRA filed in June and allowing MWRA to proceed into design and permitting. The NPC recommended that the storage and consolidation conduit project be replaced with a plan for localized sewer separation and system optimization, with less community impact, while meeting or exceeding CSO control goals.

MWRA commenced preliminary design activities for the revised recommended plan in September. Preliminary design is expected to take several months. MWRA also commenced discussions with BWSC regarding the possible transfer of final design work and construction to BWSC management, with MWRA funding, similar to other sewer separation projects on MWRA's CSO plan.

In addition, MWRA continued to make progress in its preliminary design of the BOS019 Storage project in Charlestown. A draft Preliminary Design Report is scheduled to be submitted for MWRA review by the end of this month.

On a matter related to BOS019, a Central Artery/Tunnel ("CA/T") contractor has commenced the work to remove the soldier pile inadvertently driven through the Charlestown Branch Sewer during highway ramp construction, which caused the interceptor to be partially collapsed and seriously blocked. Removal of the obstruction and repairs to the interceptor are scheduled to be completed by the end of this month. MWRA plans to reinstall flow meters this fall, to verify the hydraulic performance of the Charlestown Branch Sewer and the overflows at BOS019 with the obstruction removed.

#### **Union Park Detention/Treatment Facility**

As previously reported, MWRA issued a Notice to Proceed with construction of the Union Park Detention and Treatment Facility on March 31, 2003.

The contractor has mobilized on site, and the groundwater treatment system is installed and operational. Precharacterization of soil is complete. Unanticipated soil contamination, consisting of mercury levels above reportable concentrations and soil containing demolition debris and asbestos containing materials, were discovered during precharacterization. A hazardous liquid pool was also discovered contained within the foundation walls of the abandoned Union Park Pump Station built in 1914. The abandoned pump station is filled with demolition debris saturated with oily waste. DEP was notified and site remediation is ongoing (under a RAM Plan modification). The foundation walls of the abandoned pump station were also encountered six feet east of the anticipated location, extending beyond the property limits, and in direct conflict with the east wall of the basin earth retention system. The conflict required redesign of the earth retention system and MWRA is now in the process of obtaining the necessary approvals from the City of Boston to install the earth retention system on City of Boston property. Sheet piling installation was suspended. MWRA is currently assessing the impacts of this delay, along with the delay of the award of the electrical filed sub-bid, to the schedule for completion of construction.

The contractor installed the earth retention system for the new inlet conduit and box chamber and commenced excavation activities. Ongoing work activities include continued site remediation at the pump station, final redesign of the earth retention system for the basins and commencement of sheet piling installation for the detention basins.

### **Upgrades to MWRA CSO Facilities**

Status of the upgrades is unchanged from the previous quarter. MWRA has completed the start-up and optimization periods referenced in Footnote 35 of Schedule Six at the upgraded Fox Point and Somerville Marginal CSO facilities, but remains in the start-up and optimization period at the upgraded Commercial Point CSO facility. MWRA previously reported that it had completed the start-up and optimization periods at the upgraded Cottage Farm and Prison Point facilities.

## **3.2 Community-Managed Projects**

### **South Dorchester Bay Sewer Separation**

South Dorchester Bay Sewer Separation is intended to eliminate CSO flows to the Commercial Point and Fox Point CSO treatment facilities by the Court ordered milestone of November 2008, allowing MWRA to decommission these facilities. BWSC commenced construction in April 1999. To date BWSC has completed construction of three contracts, totaling over 24,000 linear feet of new storm drains. BWSC has four ongoing construction contracts, representing an additional 72,000 linear feet of storm drains, which are at various stages of completion ranging from 20% to 88%. The progress on these four contracts results in an additional 37,000 linear



feet of storm drain installed to date. Final paving work is conducted under separate contracts. The first paving contract is substantially complete. A second paving contract has been awarded and is approximately 20% complete. In addition, the contract for sediment removal from the existing CSO outfall pipes, which will serve as storm drains after completion of the separation work is approximately 60% complete. Overall, this project is approximately 43% complete, consistent with the required level of progress referenced in Schedule Six.

#### **Stony Brook Sewer Separation**

BWSC completed construction of one contract totaling 1,288 linear feet of storm drain. Two additional construction contracts, representing an additional 60,000 linear feet of storm drain are currently 92% and 9% complete. Total amount of storm drain installed to date is approximately 34,000 linear feet. In addition BWSC has awarded the final paving and downspout disconnect contracts. This project is approximately 43% complete. BWSC recently commenced Contract 2 and will soon commence Contract 3 which together involve 57% of the Stony Brook project work.

#### **Cambridge/Alewife Brook Sewer Separation (CAM002 and CAM004)**

Cambridge is preparing a scope of services and budget estimates for final design of the remaining work as revised in the Response to Comments document including CAM400 common manhole separation, Contract 12 (new storm drain and stormwater wetland), Contracts 8 and 9 (CAM004 area). Cambridge expects to begin design in 2003 and complete construction by 2012.

### **3.3 Region-wide Floatables Control and Outfall Closing Projects**

#### **BWSC Floatables Control**

BWSC completed the floatables control work at all ten locations by March 2002.

#### **Cambridge Floatables Control**

Floatables control is planned for four Cambridge outfalls (one less than previous reports; CAM400 outfall to be closed), one Somerville outfall and one MWRA outfall along Alewife Brook, all part of the Cambridge/Alewife Brook sewer separation project. These controls were included in the various regulatory filings that have recently been made relative to the sewer separation project and Alewife Brook/Upper Mystic River Variance. Design of these floatables controls is scheduled to begin shortly. Construction is continuing on the floatables control at CAM401A, which was incorporated into a drainage improvement contract, and is expected to be complete by the end of the 2003. Floatables controls are also proposed for four Cambridge outfalls along the Charles River.

Cambridge expects to begin design in 2003 and complete construction by 2005.

**Floatables Control at MWR018, 019 and 020 and MWR010 Outfall Closing**

MWRA continued to conduct inspections of the Boston Marginal Conduit to evaluate the extent of any sedimentation since the conduit was cleaned in early 2002. MWRA also inspected the City of Brookline's connection to MWRA's Charles River Valley Sewer near outfall MWR010 since it was cleaned and brought back to service.