

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

MWRA QUARTERLY COMPLIANCE AND  
PROGRESS REPORT AS OF June 15, 2010

The Massachusetts Water Resources Authority (the "Authority") submits the following quarterly compliance report for the period from March 16, 2010 to June 15, 2010 and supplementary compliance information in accordance with the Court's order of December 23, 1985 and subsequent orders of the Court.

I. Schedule Seven

A status report for the scheduled activities for the month of March 2010 on the Court's Schedule Seven, certified by Frederick A. Laskey, Executive Director of the Authority, is attached hereto as Exhibit "A."

A. Activities Completed.

1. Combined Sewer Overflow Annual Report.

On March 15, 2010, the Authority submitted its Combined Sewer Overflow ("CSO") Annual Progress Report in compliance with Schedule Seven.

B. Progress Report.

1. Combined Sewer Overflow Program.

a. Interceptor Relief for BOS003-014.

The Authority is continuing to make progress on, and nearing completion of, the complex and difficult East Boston Branch Sewer Relief project (Interceptor Relief for BOS003-014) with the expectation of meeting the substantial completion dates in the second and third construction contracts in July 2010. This project was one of the most difficult CSO control projects to implement due to conflicts with other utilities and the construction activities in the area by other parties. In order to address these challenges, the Authority and the contractor implemented different means to compress the construction schedule, including changing the layout for the relief sewer, working in winter months and adding a third tunneling shift

The Authority completed the \$5.2 million first construction contract in 2004, which involved rehabilitating the main trunk line along Bremen and Chelsea streets. The \$62.2 million second construction contract (Contract 6257), involves the installation of 2.5 miles of new sewer interceptor along Border, Condor, East Eagle and Chelsea streets and replacement sewers along Marginal, Orleans and Bremen streets, primarily using microtunneling methods. The \$8.5 million third contract includes replacement and upgrade of approximately one mile of interceptor sewers in the upstream reaches of the Authority's East Boston sewer system, along Marginal, New, Maverick, Border and Jefferies streets, primarily using the pipebursting method.

Since the Authority last reported, the microtunneling contractor completed construction of a special junction chamber on Chelsea Street where flows from the rehabilitated trunk line in the first construction contract and the new relief sewer from the second contract combine and flow into the new 66-inch diameter relief sewer. The contractor also completed construction of the connection of the new 66-inch relief sewer to the Authority's Caruso Pump Station. With the completion of this work, the Authority was able to bring 8,000 feet of the new sewer along Border, Condor, East Eagle and Chelsea streets (all of the Phase I microtunnel drives) into dedicated service and to begin to realize the expected CSO control benefits. The contractor also completed the last three microtunnel drives in Phases II and III, with 2,256 linear feet of 48-inch pipe installation along Orleans and Border streets. The contractor completed slip-lining the 48-inch diameter concrete pipe with a 36-

inch diameter PVC liner on Orleans Street and is now slip-lining the two 48-inch pipe sections on Border Street with 36-inch diameter PVC liner.

The pipebursting contractor also made significant progress over the past quarter, successfully completing four pipebursting drives along Maverick Street that replaced 1,735 linear feet of 15-inch diameter clay pipe with 20-inch diameter high density polyethylene (HDPE) pipe and a pipebursting drive along Jeffries Street that replaced 447 linear feet of 12-inch diameter clay pipe with 16-inch diameter HDPE pipe. At the shaft locations involved in these drives, the contractor also completed manhole installations, backfilling and surface restoration. Most of the completed pipe sections have been brought into dedicated service, providing some of the CSO control benefits as the project nears completion. The contractor has also commenced work at CSO regulator chamber RE 003-02 at the intersection of Maverick and Cottage Streets to install floatables controls.

At the final pipebursting drive of this contract, to replace a 48-foot section of 12-inch clay sewer at the intersection of Maverick and Jeffries streets, the contractor encountered a differing site condition where the clay pipe was found to be encased in concrete. The contractor removed some of the encased pipe and then attempted to drive the pipebursting operation, but was able to advance only 20 more feet before hitting refusal. After making adjustments, the contractor again attempted to drive the pipebursting operation and again hit refusal. A portion of the remaining 28 feet is directly below a large buried electrical chamber. The contractor is backfilling the two

shafts to restore traffic, will set up a new work zone to recover the bursting head and then potentially complete the pipe replacement work by open-cut excavation. However, in addition to the electrical chamber, there are numerous utilities across this intersection, and utility coordination and relocation will be difficult and time consuming.

In addition to resolving this problem and completing pipe replacement at Maverick and Jeffries streets, over the next few weeks the contractor plans to complete the floatables control work at CSO regulator chamber RE 003-02 and also install floatables control at regulator chamber RE 004-06. If the contractor is able to complete installation of the remaining 28 feet of pipe referenced above within the next few weeks, the Authority anticipates that both contracts will be substantially completed in July 2010, one month later than the June 2010 milestone for completion.

b. North Dorchester Bay Storage Tunnel and Related Facilities.

The contractor for the \$26.0 million tunnel dewatering pumping station at Massachusetts Port Authority's Conley Terminal and associated force main completed foundation work for the pumping station and has poured the substructure concrete walls for the wetwell and station up to grade. The contractor also completed installation of the pipe connection from the main tunnel shaft to the pumping station wet well.

The contractor expects to resume installation of the 3,200-foot long, 24-inch diameter force main and complete the remaining 900 feet soon, once a school along the alignment closes for the summer. The contractor has

commenced installation of a 30-inch PVC pipe to upsize a Boston Water and Sewer Commission ("BWSC") gravity sewer on N Street so that it can accommodate the tunnel dewatering flows along with neighborhood sanitary flows. This sewer conveys flows to BWSC's South Boston Interceptor South Branch, which in turn delivers flows to the Authority's Columbus Park Headworks for transport to the Deer Island Treatment Plant.

In the meantime, the contractor for the \$5.2 million construction contract for the tunnel ventilation building that is being constructed at the upstream end of the tunnel completed excavation for the building, driving 32 support piles, placing the concrete mat, and installing a water line tie-in. The contractor also commenced the construction of a fire alarm and telephone duct bank and the excavation of a permanent trench on Day Boulevard. During the next quarter, the Authority anticipates that the contractor will complete construction of the duct bank and permanent trench on Day Boulevard, place the concrete base slab, and commence the construction of the concrete walls.

The Authority plans to complete all work by May 2011, in compliance with Schedule Seven.

- c. Charles River Valley Sewer/ South Charles River Relief Sewer Gate Controls.

As reported last quarter, the Authority was planning to seek the Court's approval to delete the January 2010 and January 2011 implementation milestones for Charles River Valley Sewer/South Charles River Relief Sewer Gate Controls from Schedule Seven once it had finalized discussions with the United States Environmental Protection Agency ("EPA") and the Massachusetts

Department of Environmental Protection ("DEP").<sup>1</sup> The Authority is providing more information on the previous technical evaluations that it conducted to EPA and DEP in response to EPA's comments on its previous evaluations. The additional information supports the Authority's previous conclusion that there are no interceptor optimization improvements that will decrease CSO discharges to the Charles River without increasing the risk of system flooding. Therefore, the Authority continues to recommend that milestones for Charles River Valley Sewer/South Charles River Relief Sewer Gate Controls be deleted from Schedule Seven. If EPA and DEP are satisfied with the Authority's responses to EPA's comments and concur with its assessment, the Authority will seek the Court's approval to delete the January 2010 and January 2011 implementation milestones for Charles River Valley Sewer/South Charles River Relief Sewer Gate Controls from Schedule Seven during the next quarter.

d. Cambridge Sewer Separation.

Since the last quarterly report, the City of Cambridge completed the design of the CAM004 wetland basin and stormwater outfall (Contract 12), one of the five projects that compromise the Alewife Brook CSO control plan. Cambridge advertised Contract 12 for bid on May 20, 2010 and expects to award the contract by July 31, 2010. Cambridge also commenced construction of the single construction contract for the CAM400 Manhole Separation project

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<sup>1</sup> See Compliance and Progress Reports dated March 15, 2010, pp. 2-3; December 15, 2009, pp. 4-6; September 15, 2009, pp. 7-9; June 15, 2009, pp. 10-11; and March 16, 2009, pp. 2-3 for previous reports on Charles River CSO interceptor optimization evaluations.

and the Interceptor Relief and Floatables Controls at CAM002 and CAM401B and Floatables Control at CAM001 project.

Currently, Cambridge is working to obtain construction and long-term maintenance easements from private and public land owners prior to awarding Contract 12. In particular, Cambridge is negotiating with the MBTA for an easement for a proposed crossing of the new storm drain outfall beneath railroad tracks, and it just received an appraisal value from the MBTA that was higher than anticipated. Cambridge is also seeking to obtain Article 97 legislation for its work within the Department of Conservation and Recreation's Alewife Brook Reservation, which it expects to file by the end of this month. In addition, Cambridge is performing common manhole separation in the Whittamore Avenue area as part of manhole separation project and expects to commence construction on the interceptor connection relief and floatables control portion of the contract in July 2010.

As indicated in its last report, the Authority was planning to seek the Court's approval to replace the existing Alewife Brook CSO control plan project milestones in Schedule Seven with new milestones based on Cambridge's current project schedules once it finalized discussions with the United States and DEP on the deletion of the implementation milestones for the Charles River Valley Sewer/South Charles River Relief Sewer Gate Controls which is referenced in paragraph c. of this report. The Authority plans to seek the Court's approval to amend Schedule Seven for both projects at the same time. Although Cambridge's proposed schedule has yet to be adopted by the Court,



Cambridge remains on schedule to meet the remaining milestones. The Authority plans to circulate a motion seeking to amend Schedule Seven to the Court parties once negotiations with the United States and DEP are finalized, and to file the motion with the Court thereafter.

e. Quarterly CSO Progress Report.

In accordance with Schedule Seven, the Authority submits as Exhibit "B" its Quarterly CSO Progress Report (the "quarterly report"). The quarterly report summarizes progress made in design and construction on the CSO projects during the past quarter and identifies issues that affect or may affect compliance with Schedule Seven.

By its attorneys,

/s/ John M. Stevens

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CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of this document, which was filed via the Court's ECF system, will be sent electronically by the ECF system to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non-registered participants on June 15, 2010:

/s/ John M. Stevens  
John M. Stevens (BBO No. 480140)  
jstevens@foleyhoag.com

Dated: June 15, 2010

**EXHIBIT A**

SCHEDULE SEVEN

MWRA MONTHLY COMPLIANCE REPORT  
March, 2010

EXHIBIT "A"

NEW BOSTON HARBOR  
SECONDARY  
TREATMENT PLANT

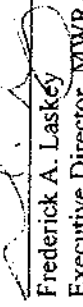
LONG-TERM  
SLUDGE MANAGEMENT

MONTH/YEAR      CSO CONTROL

March 2010      MWRA to submit annual report which describes progress in planning, design, and construction of each CSO project, and identifies any issues which may interfere with timely completion of any project.<sup>31</sup>

(Completed March 15, 2010)

Certification of Completed Activities

By:   
Frederick A. Laskey  
Executive Director, MWRA

Date: June 15, 2010

**EXHIBIT B**

**Massachusetts Water Resources Authority**



**Combined Sewer Overflow  
Control Plan**

**Quarterly Progress Report**  
**June 15, 2010**

Massachusetts Water Resources Authority  
Combined Sewer Overflow Control Plan  
Quarterly Progress Report - June 2010

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**Table 1**  
**Status of CSO Project Implementation**  
**June 15, 2010**

MWRA Contract	CSO Projects in Schedule Seven	IN DESIGN	IN CONSTRUCTION	COMPLETE
<b>MWRA Managed Projects</b>				
N. Dorchester Bay Tunnel	N. Dorchester Bay CSO Storage Tunnel and Related Facilities		X	
N. Dorchester Bay Facilities				
Pleasure Bay Storm Drain Improvements				
Hydraulic Relief Projects	CAM005 Relief			X
	BOS017 Relief			X
East Boston Branch Sewer Relief				
BOS019 CSO Storage Conduit				
Chelsea Relief Sewers	Chelsea Trunk Sewer Relief		X	
	Chelsea Branch Sewer Relief			X
	CHE008 Outfall Repairs			X
Union Park Detention/Treatment Facility				
CSO Facility Upgrades and MWRA Floatables	Cottage Farm Upgrade			X
	Prison Point Upgrade			X
	Commercial Point Upgrade			X
	Fox Point Upgrade			X
	Somerville-Marginal Upgrade			X
	MWRA Floatables and Outfall Closings			X
Brookline Connection and Cottage Farm Overflow Interconnection and Gate				
Charles River Interceptor Gate Controls and Additional Interceptor Connections				
Optimization Study of Prison Point CSO Facility		X		X
<b>Community Managed Projects</b>				
South Dorchester Bay Sewer Separation				
Stony Brook Sewer Separation				
Neponset River Sewer Separation				
Constitution Beach Sewer Separation				
Fort Point Channel Sewer Separation and System Optimization				
Morrissey Boulevard Storm Drain				
Reserved Channel Sewer Separation				
Bulfinch Triangle Sewer Separation				
Brookline Sewer Separation				
Somerville Baffle Manhole Separation				
Cambridge/Alewife Brook Sewer Separation	CAM004 Outfall and Basin	X		
	CAM004 Sewer Separation	X <sup>(1)</sup>	X <sup>(1)</sup>	
	CAM400 Manhole Separation		X	
	Interceptor Connection Relief/Floatables		X	
	MWR003 Gate and Rindge Ave. Siphon	Start 4/12		
<b>Region-wide Floatables Control and Outfall Closings</b>				
				X

<sup>(1)</sup> In 1997-2002, the City of Cambridge completed design and construction of four initial contracts to separate the CAM004 tributary area.



Massachusetts Water Resources Authority  
Combined Sewer Overflow Control Plan  
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1. Quarterly Progress Overview

This quarterly progress report is presented to comply with reporting requirements in the Federal District Court's Order in the Boston Harbor Case. For the remaining combined sewer overflow ("CSO") projects referenced in the Court's Order and its schedule of milestones (Schedule Seven), the report summarizes progress made during the period from March 16, 2010, to June 15, 2010, identifies project schedules relative to corresponding Court milestones, and describes issues that have affected or may affect compliance with Schedule Seven.

Detailed descriptions of the CSO projects and identification of all corresponding Court milestones for design and construction are not presented in this report but can be found in MWRA's *CSO Annual Progress Report 2009*, dated March 2010 (the "Annual Report"). The Annual Report is available for public viewing on MWRA's website, at [www.mwra.com](http://www.mwra.com).

Table 1 shows the status of implementation for each of the 35 projects in MWRA's long-term CSO control plan referenced in Schedule Seven. As shown in Table 1 and as reported last quarter, MWRA and its CSO communities have completed 24 of the 35 projects. No project was scheduled to be completed in the past quarter.

Eight of the remaining eleven projects are in the construction phase. Construction is well underway for North Dorchester Bay CSO Facilities (by MWRA), Reserved Channel Sewer Separation (by Boston Water and Sewer Commission ("BWSC")), and two of the five projects in the Alewife Brook CSO control plan (CAM400 Manhole Separation and Interconnection Relief and Floatables Control, both by City of Cambridge). MWRA and Boston Water and Sewer Commission ("BWSC") are also nearing completion of construction of the East Boston Branch Sewer Relief (Interceptor Relief for Outfalls BOS003-014) and Bulfinch Triangle Sewer Separation projects, respectively. The Town of Brookline has completed the first of two construction contracts for the Brookline Sewer Separation project and expects to advertise the second, much larger, contract for construction bids soon. The eighth project that Table 1 shows as "in construction" (as well as "in design") is CAM004 Sewer Separation, for which the City of Cambridge completed early construction contracts several years ago, as previously reported.

The three projects not yet in construction are all associated with the Alewife Brook CSO control plan. The City of Cambridge is presently designing two of these projects, and MWRA plans to commence design of the remaining project by April 2012.

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2. Quarterly Progress Highlights

- MWRA made substantial progress with the last two construction contracts for the \$269 million North Dorchester Bay CSO storage tunnel and related facilities. The \$26.0 million contract for the tunnel dewatering pumping station at Massport's Conley Terminal and associated force main and the \$5.2 million contract for the tunnel ventilation building are on schedule for substantial completion in May 2011, in compliance with Schedule Seven.
- As previously reported, MWRA expects to attain substantial completion in July 2010 on the remaining two construction contracts for the East Boston Branch Sewer Relief project (Interceptor Relief for BOS003-014): the \$62.2 million microtunneling contract and the \$8.5 million pipebursting contract. MWRA completed the \$5.2 million first construction contract, involving trunk sewer rehab, in 2004.
- MWRA recently submitted additional information to EPA and DEP regarding MWRA's engineering study of the Charles River Valley/South Charles Relief Sewer Gate Controls and Additional Interceptor Connections in response to a remaining EPA comment. MWRA continues to conclude that no interceptor optimization alternative can appreciably reduce CSO discharges at the Cottage Farm CSO Facility or at other hydraulically related CSO outfalls to the Charles River beyond the levels of control in MWRA's approved long-term control plan.
- BWSC continues to make progress with the first of nine planned construction contracts for the \$73.7 million Reserved Channel Sewer Separation project. On June 2, 2010, BWSC advertised the second construction contract, which involves rehabilitation of the CSO outfalls, and the third construction contract, which involves roadway resurfacing. BWSC also continues to make progress with final design of the other six contracts.
- BWSC is nearing completion of construction of the \$10.0 million Bulfinch Triangle Sewer Separation project. The sole construction contract is on schedule for substantial completion in July 2010, well ahead of the July 2013 milestone in Schedule Seven.
- As previously reported, the Town of Brookline completed the installation of new storm drains in the first of two construction contracts for the \$26.6 million Brookline Sewer Separation project. Recently, Brookline resolved issues related to conflicts with existing water lines and structural details at connections to the MWRA sewer system, which extended the work and time to complete the construction bid documents. Brookline expects to advertise the 24-

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month contract this summer and complete all work ahead of the July 2013 milestone in Schedule Seven. Also in the past quarter, MWRA completed internal inspections of CSO Outfall MWR010 to support cleaning and rehabilitation of this outfall, which will convey the separated Brookline stormwater to the Charles River.

- Cambridge continues to make construction progress with the \$3.9 million contract that includes two of the five projects that make up the \$117 million plan for Alewife Brook CSO control: CAM400 Manhole Separation and Interconnection Relief and Floatables Control (Cambridge Contract 4/13). In addition, on May 2, 2010, Cambridge advertised the \$24.3 million construction contract for the CAM004 Stormwater Outfall and Wetland Basin (Contract 12). Cambridge plans to award Contract 12 and issue the Notice to Proceed by July 31, 2010.
- As reported last quarter, BWSC advertised the construction contract for relocation of CSO regulator RE-070/11-2 and sewer separation in a portion of the South Bay area associated with BWSC's Lower Dorchester Brook Sewer. The work is funded in part by MWRA and is intended to lower CSO discharges to BWSC's Dorchester Brook Conduit and help attain the level of CSO control in MWRA's long-term control plan for Fort Point Channel. BWSC received construction bids on March 4, 2010, and recently recommended award of the contract to the lowest responsive bidder. BWSC expects to award the contract and issue Notice to Proceed later this month.
- As previously reported, BWSC completed the South Dorchester Bay Sewer Separation project and closed all CSO regulators tributary to South Dorchester Bay in 2007. BWSC continues to pursue additional stormwater inflow removal (i.e. downspout disconnections) from the sanitary sewer system, in order to mitigate the remaining risks of sewer system flooding in large storms. BWSC advertised a Request for Proposals for associated design services on April 21, 2010, and received proposals on May 20, 2010. BWSC plans to award the design contract later in August.

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3. Project Implementation Progress

3.1 MWRA-Managed Projects

North Dorchester Bay Tunnel and Related Facilities

MWRA continues to make progress with the remaining two of five construction contracts that comprise the \$269 million North Dorchester Bay CSO Control Plan. The completed contracts include Pleasure Bay Storm Drain Improvements, which MWRA completed in March 2006, the Morrissey Boulevard Storm Drain, which BWSC completed in July 2009, and the North Dorchester Bay CSO Storage Tunnel, which MWRA completed in November 2009. The two ongoing contracts include the \$25.9 million tunnel dewatering pump station at Massport's Conley Terminal and related force main and the \$5.2 million ventilation building at the upstream end of the tunnel behind the State Police Building on Day Boulevard. MWRA plans to complete these contracts and bring the CSO storage tunnel into service by May 2011, in compliance with Schedule Seven.

The contractor for the \$26.0 million tunnel dewatering pumping station at Massport's Conley Terminal and associated force main completed foundation work for the pumping station and has poured the substructure concrete walls for the wetwell and station up to grade. The contractor also completed installation of the pipe connection from the main tunnel shaft to the pumping station wet well.

The contractor expects to resume installation of the 3,200-foot long, 24-inch diameter force main and complete the remaining 900 feet soon, once a school along the alignment closes for the summer. The contractor has commenced installation of a 30-inch PVC pipe to upsize a BWSC gravity sewer on N Street so that it can accommodate the tunnel dewatering flows along with neighborhood sanitary flows. This sewer conveys flows to BWSC's South Boston Interceptor South Branch, which in turn delivers flows to MWRA's Columbus Park Headworks for transport to the Deer Island Treatment Plant.

Over the next quarter, the contractor plans to complete the concrete work and backfilling at the pumping station, perform testing of the wetwell, and complete the installations of the 24-inch force main and the 30-inch PVC sewer in N Street.

The contractor for the \$5.2 million tunnel ventilation building behind the State Police Barracks on Day Boulevard has completed the installation and testing of foundation piles and placement of the subgrade and is proceeding with construction of the foundation slab. The contractor also continues to install various utility services to

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the facility. Over the next quarter, the contractor plans to complete the base slab and commence the construction of concrete walls.

On April 14, 2010, at about 1:30 PM, the pile driving crane rolled over on its side. No one was injured as a result of this accident. OSHA was onsite on July 14 and July 15 to conduct an investigation. The cause of the accident has not yet been determined.

East Boston Branch Sewer Relief (BOS003-014)

MWRA is nearing completion of the East Boston Branch Sewer Relief project (Interceptor Relief for BOS003-014) with the expectation of meeting the substantial completion dates in the second and third construction contracts in July 2010. MWRA completed the \$5.2 million first construction contract in 2004, which involved rehabilitating the main trunk line along Bremen and Chelsea streets. The \$62.2 million second construction contract (Contract 6257), involves the installation of 2.5 miles of new sewer interceptor along Border, Condor, East Eagle and Chelsea streets and replacement sewers along Marginal, Orleans and Bremen streets, primarily using microtunneling methods. The \$8.5 million third contract includes replacement and upgrade of approximately one mile of interceptor sewers in the upstream reaches of MWRA's East Boston sewer system, along Marginal, New, Maverick, Border and Jefferies streets, primarily using the pipebursting method.

Since last reporting, the microtunneling contractor completed construction of a special junction chamber on Chelsea Street and installation of a short section of 66-inch diameter pipe to join and connect the downstream end of the new relief sewer and the downstream end of the rehabilitated trunk line from the first construction contract to MWRA's Caruso Pump Station. With the completion of this work, MWRA was able to bring 8,000 feet of the new sewer along Border, Condor, East Eagle and Chelsea streets (all of the Phase I microtunnel drives) into dedicated service and begin to realize the expected CSO control benefits.

The contractor also completed the last three microtunnel drives in Phases II and III, with 2,256 linear feet of 48-inch pipe installation along Orleans and Border streets. The contractor also completed slip-lining this new 48-inch diameter concrete pipe with a 36-inch diameter PVC liner.

Over the next month, the contractor plans to install a remaining section of 24-inch diameter PVC pipe on Marginal Street by open-cut method and complete the modifications to CSO regulators RE 012-02, RE 010-02, RE 003-12 and RE 003-07 to install long-term floatables

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controls. The contractor expects to meet substantial completion of Contract 6257 by July 30, 2010, as required by the contract.

The pipebursting contractor also made significant progress over the past quarter, successfully completing four pipebursting drives along Maverick Street that replaced 1,735 linear feet of 15-inch diameter clay pipe with 20-inch diameter high density polyethylene (HDPE) pipe and a pipebursting drive along Jeffries Street that replaced 447 linear feet of 12-inch diameter clay pipe with 16-inch diameter HDPE pipe. At the shaft locations involved in these drives, the contractor also completed manhole installations, backfilling and surface restoration.

Most of the completed pipe sections have been brought into dedicated service, providing CSO control benefits as the project nears completion. The contractor has also commenced work at CSO regulator chamber RE 003-02 at the intersection of Maverick and Cottage Streets to install floatables controls.

At the final pipebursting drive of this contract, to replace a 48-foot section of 12-inch clay sewer at the intersection of Maverick and Jeffries streets, the contractor encountered a differing site condition where the clay pipe was found to be encased in concrete. The contractor removed some of the encased pipe and then attempted to drive the pipebursting operation, but was able to advance only 20 more feet before hitting refusal. A portion of the remaining 28-foot section is directly below a large buried electrical chamber. After making some adjustments, the contractor again attempted to drive the pipebursting operation, and again hit refusal. The contractor is backfilling the two shafts to restore traffic, and a new work zone will be set up to recover the bursting head, then potentially complete the pipe replacement work by open-cut excavation. However, in addition to the electrical chamber, there are numerous utilities in this intersection, and utility coordination and relocation will be difficult and time-consuming.

In addition to resolving the problem and completing the pipe replacement at Maverick and Jeffries streets, over the next month the contractor plans to complete the floatables control work at CSO regulator chamber RE 003-02 and also install floatables control at regulator chamber RE 004-06. If the contractor is able to complete installation of the remaining 28 feet of pipe referenced above within the next few weeks, the Authority anticipates that both contracts will be substantially completed in July 2010, one month later than the June 2010 milestone for completion.

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**Charles River Interceptor Gate Controls  
and Additional Interceptor Connections**

MWRA recently submitted additional information to EPA and DEP regarding MWRA's engineering study of the Charles River Valley/South Charles Relief Sewer Gate Controls and Additional Interceptor Connections, in response to remaining EPA comment. The additional information addresses the feasibility of implementing an optimization measure or approach that might result in further lowering CSO discharges to the Charles River, and especially treated discharges at MWRA's Cottage Farm CSO Facility, while providing necessary hydraulic relief in large storms to avoid system flooding. MWRA continues to conclude that no interceptor optimization alternative can appreciably reduce CSO discharges at the Cottage Farm CSO Facility or hydraulically related CSO outfalls to the Charles River beyond the levels of control in MWRA's approved long-term control plan without increasing the risk of system flooding in large storms. In addition to this risk, MWRA's study also determined that any hydraulic control alternatives would be difficult to construct and not easy to maintain because they would need to be located within high-traffic roads or railroad yards, and would be expensive.

**3.2 Community-Managed Projects**

**Reserved Channel Sewer Separation**

The \$73.7 million Reserved Channel Sewer Separation project is intended to minimize CSO discharges to the Reserved Channel by separating combined sewer systems in a 365-acre area of South Boston tributary to CSO Outfalls BOS076, BOS078, BOS079 and BOS080. Implementation of the sewer separation plan will reduce the number of CSO activations to the Reserved Channel from 37 to three events in a typical year.

The work includes the installation of approximately 35,000 feet of new storm drains. Connecting catch basins to the new storm drains will require an additional 6,500 feet of minor drain work. To remove enough stormwater inflow from the sewer system to attain the long-term level of CSO control, many building downspout connections and parking lot drains will also be disconnected from the sewer and tied into the new storm drains. The project also includes rehabilitating and/or upgrading the four CSO outfalls to ensure they have the capacity to deliver the separated stormwater flows, as well as remaining CSO flows, to the Reserved Channel for the long term.

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BWSC has made substantial progress with design of the project since issuing the Preliminary Design Report in early 2008. BWSC proposes nine, phased construction contracts for this project, including four sewer separation contracts, an outfalls rehabilitation contract, a sewer rehabilitation contract, a downspout disconnection contract, and two final paving contracts.

BWSC issued the Notice to Proceed with the first construction contract on May 26, 2009, in compliance with Schedule Seven. This contract involves the installation of storm drains and removal of stormwater flows from the combined sewer system tributary to Outfall BOS080, one of four CSO outfalls that discharge to the Reserved Channel. Over the past quarter, the contractor's work has continued to focus on installation of drain pipes in the area bounded by East First, East Third, O and P Streets. The contractor has installed approximately 65% of the storm drains included in this contract. The contract calls for completion of work by March 2011.

On June 2, 2010, BWSC advertised the second construction contract, which involves rehabilitation of the CSO outfalls, as well as the third construction contract, which involves roadway resurfacing. Bids on both contracts are due June 29, 2010, and BWSC expects to award the contracts in July. In addition, BWSC plans to award the fourth and fifth construction contracts, which involve the installation of storm drains and removal of stormwater flows from the combined sewer system tributary to Outfalls BOS076 and BOS078/BOS079, respectively, in the summer of 2010.

BWSC also continues to make scheduled progress with final design of the remaining contracts, which BWSC plans to award sequentially from the summer of 2010 through April 2013. The project schedule calls for all work to be completed by December 2015, in compliance with Schedule Seven.

#### **Bulfinch Triangle Sewer Separation**

The goal of the Bulfinch Triangle sewer separation project is to minimize CSO discharges to the Charles River by separating combined sewer systems in the area of Boston roughly bounded by North Station, Haymarket Station, North Washington Street, and Cambridge Street. This project will also allow stormwater collected in separate storm drains in an adjacent area of Government Center to be removed from the combined sewer system by providing conveyance to the Charles River.

As previously reported, BWSC completed the installation of storm drains several months ago. BWSC continues to perform TV inspections and cleaning of sanitary sewers and is rehabilitating sewer system



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structures. The new storm drain system remains hydraulically connected to MWRA's combined sewer system at CSO Outfall BOS049. Over the next few weeks, the contractor will modify and close a gate at Outfall BOS049, which will isolate the new BWSC storm drain system from the MWRA combined sewer system and eliminate CSO discharges at Outfall BOS049, which will then function as a stormwater outfall to the Charles River. The contract completion date is July 8, 2010, well ahead of the July 2013 milestone in Schedule Seven.

#### Brookline Sewer Separation

This project involves sewer separation in several areas of Brookline, totaling 72 acres, where there are remaining combined sewers tributary to MWRA's Charles River Valley Sewer. The project is intended to reduce discharges to the Charles River at the Cottage Farm facility.

The project includes two construction contracts. The \$1.4 million first contract involved the installation of storm drains in Town streets north and south of Beacon Street. As previously reported, the storm drain installation is complete. The contractor has also completed final paving. The contractor has also completed punch list items.

Brookline is also continuing with final design of the second and much larger separation contract, which has an estimated value of \$22 million. The second contract involves microtunneling along Beacon Street to install new sewers at significant depths, as well as the construction of several special structures that will connect the new sewers with the existing laterals. Main trunk combined sewers will be converted to storm drains. Brookline has addressed conflicts with existing water lines and modified structural details at connections to the MWRA system. It expects to advertise the bid documents this summer and complete construction ahead of the July 2013 milestone in Schedule Seven.

Also in the past quarter, MWRA completed internal inspections of CSO Outfall MWR010 to support cleaning and rehabilitation of this outfall, which will convey the separated Brookline stormwater to the Charles River. A contract diver was able to inspect the entire outfall, through its outlet in the Charles River. MWRA plans to clean and rehabilitate the outfall by the time Brookline completes the sewer separation project and diverts the separated stormwater from the combined sewer system to this outfall.

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**Cambridge/Alewife Brook Sewer Separation**

The Alewife Brook CSO control plan is intended to minimize CSO discharges to Alewife Brook primarily by separating combined sewer systems in parts of Cambridge, but also by upgrading hydraulic capacities at local connections to MWRA interceptors. A new stormwater outfall and wetland basin will be constructed to accommodate the separated stormwater flows, prevent any increase in flooding along Alewife Brook, and provide a level of stormwater treatment.

The City of Cambridge continues to make progress with the construction contract that includes two of the five projects that comprise the Alewife Brook CSO Control Plan: CAM400 Manhole Separation and Interceptor Connection Relief and Floatables Control (Cambridge Contract 4/13). During the past quarter, the contractor has been performing common manhole separation in the Whittemore Ave area. Construction of the interceptor connection relief and floatables control work in the contract is expected to commence in July. The contract has two scheduled construction milestones: completion of Alewife Brook Floatables Control by October 31, 2010 and completion of CAM400 Sewer Separation subsurface work by March 31, 2011.

Cambridge also completed final design of the CAM004 Stormwater Basin and Outfall and advertised the construction contract on May 20, 2010. Bids are due June 24, 2010, and Cambridge expects to award the contract by July 31, 2010. In the meantime, Cambridge continues to pursue the numerous construction and long-term maintenance easements from private and public land owners necessary prior to awarding Contract 12.

Cambridge is working to obtain permits from MBTA and other railroad operators for a railroad crossing and is coordinating its proposed CSO work with planned track improvements currently under design by MBTA. Cambridge recently received land appraisals from MBTA for temporary and permanent easements Cambridge needs to secure across several parallel tracks. Cambridge and MWRA have reviewed the MBTA appraisals, and Cambridge has decided to commission its own independent appraisal.

The City of Cambridge and the state's Department of Conservation and Recreation are cooperatively pursuing Article 97 legislation to formally acknowledge long-term use of a portion of DCR's Alewife Brook Reservation for the Contract 12 drainage and stormwater wetland. Cambridge and DCR plan to file the legislation later this month.