

UNITED STATES DISTRICT COURT  
for the  
DISTRICT OF MASSACHUSETTS

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UNITED STATES OF AMERICA,

Plaintiff,

v.

METROPOLITAN DISTRICT COMMISSION,  
et al.,

Defendants.

.....

CONSERVATION LAW FOUNDATION OF  
NEW ENGLAND, INC.,

Plaintiff,

v.

METROPOLITAN DISTRICT COMMISSION,

Defendants.

.....

CIVIL ACTION  
No. 85-0489-RGS

CIVIL ACTION  
No. 83-1614-RGS

MWRA BIANNUAL COMPLIANCE AND  
PROGRESS REPORT AS OF JUNE 15, 2017

The Massachusetts Water Resources Authority (the "Authority") submits the following biannual compliance report for the period from December 16, 2016 to June 15, 2017 and supplementary compliance information in accordance with the Court's order of December 23, 1985 and subsequent orders of the Court.

I. Schedule Seven.

There were no scheduled activities for the past six-month period on the Court's Schedule Seven.

A. Progress Report.

1. Combined Sewer Overflow Program.

a. CSO Post-Construction Monitoring.

The Authority continues to conduct activities in support of the three-year combined sewer overflow (CSO) post-construction monitoring program and performance assessment to confirm that the typical year discharge volume and activations for each CSO outfall in its long-term CSO control plan (LTCP) are consistent with the LTCP goals. The Authority plans to commence the post-construction monitoring program and performance assessment in January 2018 and complete it with the submittal of a report to the U.S. Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (DEP) in December 2020 in compliance with Schedule Seven.

On May 1, 2017, in compliance with a condition in the CSO variances for the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River, the Authority submitted to DEP the Scope of Work that describes how it proposes to conduct the post-construction monitoring program and performance assessment and verify compliance with the LTCP levels of CSO control (see <http://www.mass.gov/eea/docs/dep/water/wastewater/a-thru-n/mwracsoscope.pdf>). DEP noticed the Authority's Scope of Work in the

Massachusetts Environmental Monitor on May 24 (see <http://170.63.40.34/EEA/emepa/mepadocs/2017/052417em/pn/Notice%20of%20Assessment%20of%20Scope%20of%20Work.,%20Cambridge%20and%20Somerville.pdf>), commencing a 30-day public comment period that ends on June 22.

DEP noted that it is soliciting public comments and will consider the comments received in its own review of the Scope of Work “and related actions.”<sup>1</sup>

The Authority has requested that DEP submit its comments on the Scope of Work prior to the Authority issuing its Request for Qualifications/Proposals (RFQ/P) so as not to compromise the Authority’s ability to meet the Court Schedule.

The Authority proposes to collect CSO wet weather data from an extensive program of meters at most of the CSO outfall regulators, using existing Authority and community meters and temporary meters the Authority will install in the spring of 2018 and maintain during most of the three-year post-construction monitoring period. The Authority will use the meter data to estimate “measured” CSO discharge durations and volumes and to verify or improve upon the calibration of the Authority’s collection system model.

The Authority will use its collection system model to demonstrate that it has

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<sup>1</sup> In the Environmental Monitor notice, DEP also referenced its September 1, 2016 extensions to the CSO variances to water quality standards for the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River, stating that it had “determined that it was still not feasible for the MWRA and communities to fully attain the Class B water quality criteria for bacteria (314 CMR 4.05(3)(b)(4)) for these water bodies as implementation of more stringent controls at this time beyond those included in the MWRA CSO LTCP would result in substantial and widespread economic and social impact. The two variance extensions are in effect until August 31, 2019.”

achieved compliance with the levels of control specified in its LTCP (including as to frequency of CSO activation and volume of discharge in the “Typical Year”).

The Authority has prepared a draft RFQ/P and draft scope of services for the consultant contract. The Authority plans to advertise the RFQ/P on July 1, 2017 and award the consultant contract this fall so that it can commence the post-construction monitoring program and performance assessment by January 2018, in compliance with Schedule Seven.

b. Annual CSO Discharge Report.

On April 30, 2017, the Authority submitted to EPA and DEP its annual report estimating CSO discharge frequencies, durations and volumes in 2016. The Authority has for more than a decade conducted annual CSO performance assessments and CSO discharge tracking. They include the annual collection and review of facility operation records, meter data and other system performance indicators, updates to the Authority’s collection system hydraulic model with new information about system conditions, and the estimation, using model predictions and facility records, of CSO activations and discharge volume at all active outfalls during the previous calendar year, as well as an updated simulation of CSO discharges from Typical Year rainfall.

The report satisfies annual tracking and reporting requirements in the Authority’s and CSO communities’ NPDES permits and in the CSO variances for the Lower Charles River/Charles Basin and Alewife Brook/Upper Mystic River. These annual updates and assessments also provided a measurement

and tracking of system performance as the Authority continued to implement the Long-Term Control Plan.

The recent report for 2016, like the earlier reports, included descriptions of system changes or new system information that had the potential for affecting CSO discharges. The report presented estimates of the number of activations and the total discharge duration and volume at each CSO outfall during the year. The Authority modeled each of the approximately 100 rainfall events in 2016, as recorded at area rainfall gauges. The CSO discharge estimates in the report are from model predictions, except at CSO treatment facilities where the Authority measures discharges.

In addition to modeling all of the actual rainfall events in 2016, the Authority modeled the "Typical Year" rainfall with updated end-of-year 2016 system conditions and compared the results to the LTCP discharge levels. To be able to understand and explain the estimated discharges for each calendar year, which can vary greatly from Typical Year predictions, the Authority performs a detailed review and comparison of the characteristics of the year's actual storms to the characteristics of the storms in the Typical Year.

Drought conditions prevailed last year. While there were more storms (approximately 99) in 2016 than in the Typical Year (93), amounts of rain and rainfall intensities were low for most storms, contributing to a total rainfall volume of 32-37 inches across the region compared to 46 inches in the Typical Year, and resulting in significantly lower CSO discharge frequencies and volumes.

c. CSO Related Work in Cambridge.

As previously reported, the City of Cambridge completed the federal court mandated CSO control work of the CAM004 sewer separation project in December 2015, in compliance with Schedule Seven. At that time, Cambridge redirected the separated stormwater from the sewer system to the Alewife Brook Wetland and closed Outfall CAM004. Since then, Cambridge has continued to perform road, sidewalk and other surface restoration work in the CAM004 project area, including Huron and Concord avenues and intersecting streets.

The CAM004 project includes restoration of 7.8 miles of roadway, 15 miles of sidewalk and 150 pedestrian ramps disturbed by the CSO work or other utility improvements that Cambridge included in its CSO construction contracts. Work performed in the last six months in Cambridge's Contract 8B (Huron Avenue East) and Contract 9 (Concord Lane) areas included street restorations and final paving (including porous pavement), curb and sidewalk installations and replacement of traffic signals. Cambridge is also installing other types of Green Infrastructure, including bioswales that can help reduce stormwater peak flow rates and pollution loadings.

A substantial portion of the CAM004 project's restoration work is funded by the Authority pursuant to its CSO Memorandum of Understanding and Financial Assistance Agreement with Cambridge (the "Cambridge MOU/FAA"). Since the completion of CSO control work in December 2015, the Authority has provided \$10.2 million to Cambridge for restoration work, and plans to provide

an additional \$1.4 million as Cambridge proceeds toward completing the remaining work by December 2017. The Cambridge MOU/FAA, originally executed in 1996, is scheduled to end in June 2018 following final certification of all eligible costs and funding for the CSO projects that were implemented by Cambridge. The estimated total past and future Authority funding to the City of Cambridge for CSO projects is \$100.2 million.

d. CSO Related Work in Boston.

As previously reported, Boston Water and Sewer Commission (BWSC) completed the federal court mandated CSO control work of the South Dorchester Bay sewer separation project in December 2006, in compliance with Schedule Seven. BWSC had removed most of the sources of stormwater inflow from the sewer system and closed the CSO regulators upstream of the Authority's Commercial Point and Fox Point CSO treatment facilities, ending CSO discharges to South Dorchester Bay and allowing the Authority to decommission the two facilities.

Years earlier, when BWSC was developing its preliminary design plans for the sewer separation project, it recognized that the project would not fully relieve the wet weather burdens on its main-line Dorchester Interceptor. Additional hydraulic relief of the interceptor would be necessary to avoid a risk of flooding in tributary neighborhoods in large storms with CSO relief no longer available. Accordingly, the CSO Memorandum of Understanding and Financial Assistance Agreement between the Authority and BWSC (the "BWSC MOU/FAA"), executed in 1996, included \$5.4 million for the additional relief

work. BWSC originally proposed to construct off-line storage to relieve the Dorchester Interceptor of excess wet weather flow. Following completion of the sewer separation project, BWSC investigated and modeled post-construction hydraulic conditions and determined that significant quantities of stormwater inflow remain in the Dorchester sewer system and should be removed.

To date, BWSC has spent, and the Authority has funded, \$1.6 million of the \$5.4 million award amount for the Dorchester Interceptor relief work, including field investigations of remaining inflow sources, hydraulic evaluations of system performance for various relief alternatives, and a construction contract that removed initially identified inflow sources. BWSC is currently performing flow metering and will soon commence a Sewer System Evaluation Survey (SSES). BWSC will use the results of these efforts to further identify priority inflow sources for removal in Dorchester.

While the Authority has agreed to continue to fund the inflow removal work up to the \$3.8 million remaining in the BWSC MOU/FAA award amount, both the Authority and BWSC intend to bring the BWSC MOU/FAA to a close on June 30, 2017, 21 years after its original execution. The Authority and BWSC instead will soon execute a Dorchester Interceptor Inflow Removal Agreement (the "Agreement") by which the Authority will make funds available to BWSC for reimbursement of eligible construction costs associated with removal of inflow sources in Dorchester towards the attainment of hydraulic performance objectives for the Dorchester Interceptor. The proposed Agreement, authorized by the Authority's Board of Directors on May 17, 2017,



includes a total award amount of \$3.8 million with a term of 48 months (July 1, 2017 through June 30, 2021).

e. Save the Harbor/Save the Bay Beach Report Card

On Friday, May 26, 2017, the environmental advocacy organization Save the Harbor/Save the Bay (SH/SB) released its annual Beach Water Quality Report Card on the Metropolitan Region's public beaches for the 2016 beach season. The report card is based on water quality data collected daily at some sampling locations, weekly at others, during the 2016 beach season at 15 public beaches in 10 communities, including Lynn, Swampscott, Nahant, Revere, Winthrop, East Boston, South Boston, Dorchester, Quincy and Hull. While 2016 was a relatively dry year, the 2016 results combined with results over the past several years show excellent or improving water quality.

The 2016 report card shows that 98% of the samples met the bacteria swimming standard at Pleasure Bay, South Boston, and 100% of the samples met the standard at the other South Boston beaches and at Savin Hill Beach in Dorchester. Compliance with the standard was also high at other beaches where the Authority's CSO control plan eliminated CSO discharges, including Malibu Beach (97%) and Tenean Beach (92%) in Dorchester and Constitution Beach (96%) in East Boston. As reported in the *Boston Globe* article (5/30/17) about the report card, Bruce Berman of SH/SB "credited the strong results to the cleanup of Boston Harbor."

Respectfully submitted,

/s/ Jonathan M. Ettinger  
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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, 2017.

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Dated: June 15, 2017