

information in accordance with the Court's order of December 23, 1985, and subsequent orders of the Court, including the Order dated January 3, 2021.

Introduction

At the April 2, 2021, status conference the Authority provided the Court with an overview of the many accomplishments to date and resulting improvements in water quality, the CSO outfall locations that are predicted to meet, and are not predicted to meet, Long-Term Combined Sewer Overflow (“CSO”) Control Plan (the “LTCP”) goals, where work and investigations are ongoing, and the status of the ongoing water quality evaluation, including preliminary results of the receiving water quality modeling. The Authority also advised the Court on the issues and questions that remain with respect to the 16 outfalls that are not forecasted to meet LTCP goals by the December 2021 final report submission and next steps, which included discussions with the parties and relevant stakeholders.

In follow-up to the status conference, the Authority met separately with the Massachusetts Department of Environmental Protection (“DEP”), the United States Environmental Protection Agency (“EPA”), and the Conservation Law Foundation (“CLF”). The Authority provided a briefing to the parties, which included a summary of the outfalls currently not forecasted to attain LTCP goals and of community projects and potential action plans with respect to those outfalls. The Authority discussed with the parties whether the current milestone of December 2021 should be extended, and if so, to what extent; that is, for all outfalls or some subset with the remainder of the outfalls being determined as

having achieved their LTCP goals. One option being considered for CSO outfalls not meeting the LTCP goals is an extension through August 31, 2024, the expiration date of the current CSO variances. If this route is ultimately determined to be appropriate, during this extended period the Authority, with the assistance of its CSO communities, would implement the additional control measures recommended for the six outfalls it now forecasts can attain the LTCP goals after December 2021. The Authority also would utilize the framework of the “Updated CSO Control Planning” requirements of the CSO variances for the 10 locations not currently forecast to meet their LTCP goals. This work would complement the efforts the Authority, Cambridge, and Somerville will undertake to satisfy the Updated CSO Control Planning requirements for the variance waters.

There is still much to discuss, including whether and to what extent additional control measures are appropriate. The Authority will continue the discussions with EPA, DEP and CLF, and intends to commence discussions with the watershed associations. The Authority is hopeful that an agreement can be reached so that by September 2021 the parties might be in a position to advise the court of a framework to bring the case to successful completion.

I. Schedule Seven

While there were no scheduled activities for the past six-month period on the Court’s Schedule Seven, as detailed below and further shown in Semiannual Report No. 6, the Authority has been hard at work in its efforts toward achieving LTCP goals.

A. Progress Report

1. Combined Sewer Overflow Program

a. Performance Assessment of Long-Term
CSO Control Plan

On April 30, 2021, the Authority submitted to EPA and DEP the sixth of a series of planned semiannual progress reports (“Semiannual Report No. 6”) on the performance assessment of its \$912 million approved LTCP. A copy of the report is attached as Exhibit A. The Authority also provided the report to the Boston Water and Sewer Commission (“BWSC”) and the cities of Cambridge, Chelsea and Somerville (together, the “CSO communities”), the Charles River Watershed Association, and the Mystic River Watershed Association, and posted it to the Authority’s website. The Authority also presented a summary of the information in Semiannual Report No. 6 in an annual CSO assessment public briefing it conducted by virtual conferencing on May 21, 2021.

Semiannual Report No. 6 describes the progress of CSO post-construction monitoring and updates and highlights the forecast for each CSO discharge location to achieve or not achieve the respective LTCP activation and volume goals. Further, the report presents the results of initial receiving water quality model simulations and associated preliminary water quality assessments for the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River, including bacterial water quality conditions and the relative impacts of CSO and non-CSO pollution sources. The report presents, for the six-month period July 1, 2020 through December 31, 2020, continuing rainfall and overflow data

collection and analyses, as well as modeled and metered CSO discharge estimates. The report also describes both the progress of site-specific investigations intended to identify whether there are measures that could be taken to further reduce CSO at locations where the Authority has determined that the LTCP activation and/or volume goals have not been attained and key remaining work. At some locations identified as having CSO activations or discharge volumes higher than the LTCP goals, the investigations have identified CSO reduction measures that the Authority and the CSO communities are now planning to implement.

Since completing the recalibration of its hydraulic model in early 2020, the Authority has evaluated system performance and CSO activity as compared with the baseline (1992) system conditions and the LTCP goals. The recalibrated model has improved the accuracy of this evaluation, and the Authority regularly updates the model to incorporate completed CSO reduction measures and other system modifications. Updated Typical Year model results presented in Semiannual Report No. 6 reflect system conditions as of the end of the first quarter of 2021 (the “Q1-2021 Model”). In addition, at some locations not yet meeting the LTCP goals, the Authority’s investigations have identified system improvements that the Authority predicts can further reduce CSO discharges.

With the Q1-2021 Model results and the predicted benefits of certain additional control measures, the Authority has updated its forecast of what is reasonable to expect for outfall performance at the conclusion of the performance assessment in December 2021. In Semiannual Report No. 6, the Authority has

grouped the 86 former or remaining CSO locations listed in the LTCP into three categories, as presented in Exhibit B (Table 1-5 in Semiannual Report No. 6). The first category includes 70 outfalls where LTCP activation and volume goals have been achieved or it is reasonable to expect will be achieved with completion of planned system improvement by December 2021. (Locations in this first category are shaded in dark blue in Table 1-5.)¹ Included in this category are 35 outfalls that were closed to CSO discharges and the 5 remaining outfalls along the South Boston beaches where the performance of the Authority's CSO storage tunnel since start-up in May 2011 demonstrates that the LTCP goal of preventing CSO discharges up to the 25-year storm ("effective elimination") is achieved.

Also included in this category are the following CSO locations where hydraulic model results show that system improvements recently completed, or scheduled to be completed in 2021, further reduce discharges: (i) BOS012 and BOS013 (Mystic/Chelsea Confluence), which model results show achieved the LTCP goals following BWSC's completion of East Boston Sewer Separation

¹ Included in this category are seven outfalls (BOS013, BOS057, BOS060, BOS064, CAM007, MWR023 and MWR203 (Prison Point CSO treatment facility)), where CSO activity has decreased to levels that the Authority believes achieve anticipated water quality improvement. These include two more outfalls than the Authority previously identified. At BOS013, the Authority updated its hydraulic model to incorporate new East Boston system condition information provided by BWSC, and updated model results show that CSO volume at BOS013 is half the LTCP volume goal, although total activations are twice the LTCP goal. The Authority also updated the model to incorporate information from recent inspections of systems upstream of the Prison Point Facility. While previous model results showed attainment of LTCP goals at Prison Point, the updated model results continue to show attainment of the activation goal while also showing a slight increase in annual treated CSO volume, from 243 million galls (MG) to 254 MG. The Authority has included these seven outfalls within the category of *achieve* LTCP goals, and will request a determination that any inability to meet the LTCP numerical values at these locations is immaterial.

Contract 1 in April 2020; (ii) BOS010, which the model predicts will meet the LTCP goals following BWSC's scheduled completion of East Boston Sewer Separation Contract 2 in October 2021 (together with BWSC's raising of the overflow weir at BOS010, which it completed in February 2021); (iii) CAM401A (Alewife Brook), which achieved the LTCP goals following the City of Cambridge's completion of a sediment cleaning contract in March 2021; and (iv) CHE004 (Mystic/Chelsea Confluence), which achieved the LTCP goals following the City of Chelsea's raising of the overflow weir by 18 inches in December 2020.

The second forecast category includes six outfalls (shaded light blue in Table 1-5) where the Authority and the CSO communities are pursuing the implementation of system improvement measures that are likely to bring discharges into attainment with the LTCP goals within 3 years after December 2021. Two such locations are MWR205 (Mystic/Chelsea Confluence) and SOM007A/MWR205A (Upper Mystic River), where hydraulic model results predict that adding a second interceptor connection between the City of Somerville's combined sewers that overflow to the Somerville Marginal CSO treatment facility and the Authority's Somerville-Medford Branch Sewer can bring treated discharges at both of these facility outfalls into attainment with the LTCP activation and volume goals. The Authority's ongoing evaluations include determining the right combination of the connection size to attain the LTCP goals and the hydraulic control (currently proposed as an automated gate) that is necessary to avoid MWRA interceptor system impacts in larger storms. Construction requirements and cost will also be determined.

MWRA has made significant investments, totaling over \$85 million to improve the sewer system in East Boston, resulting in elimination of combined sewage discharge at Constitution Beach and a reduction in CSO discharges along the East Boston shoreline of 84%. The commitment to meet the LTCP goals in East Boston does not end there. The MWRA Board of Directors at its April 14, 2021 meeting approved a Financial Assistance Agreement providing BWSC up to \$2,181,667 in funding toward additional East Boston sewer separation and other CSO improvements. BWSC's sewer separation Contract 3, scheduled for completion in summer 2023, includes upgrading or otherwise modifying interceptor connections at the three regulators associated with Outfall BOS003 (Lower Inner Harbor). BWSC is also moving forward with design for replacement and upgrade of the interceptor connection at Outfall BOS014 (Chelsea Creek) and plans to include this work either in Contract 3 or in a separate construction contract. Hydraulic model results show that completion of Contract 3 sewer separation and the other CSO improvements will likely result in attainment of LTCP goals at BOS003, BOS009 and BOS014. This work, together with contracts 1 and 2 mentioned above, will likely result in complete attainment at all of the East Boston outfalls.

With respect to the final outfall in this category, CHE008, the Authority trimmed the inlet of the interceptor connection that was protruding into the City of Chelsea's CHE008 regulator in October 2020. This adjustment reduced entry head loss and lowered CSO discharges at CHE008, though not sufficiently to meet LTCP goals. The Authority is proceeding with final design of a new

connection, which will replace the existing 30-inch connection with a 48-inch pipe that will likely result in attainment of the LTCP goals for this outfall. The Authority plans to commence construction early next year and complete the new connection by August 2022.

The third category includes 10 outfalls (CSO locations not shaded in Table 1-5) where, based on current conditions and the results to date of site-specific investigations, the Authority at this time cannot forecast that the LTCP activation and volume goals will be achieved. These outfalls include MWR201 (Cottage Farm Facility), MWR018, 019 and 020, and CAM005 in the Charles River, SOM001A in the Alewife Brook, BOS017 in Charlestown in the Mystic/Chelsea Confluence, and Fort Point Channel outfalls BOS062, BOS065 and BOS070 (regulator RE070/7-2, only).

As previously reported, in August 2020, the City of Cambridge completed its partial sewer separation improvements in Cambridgeport, which reduced separate stormwater inflows to the MWRA system. Updated hydraulic modeling shows these improvements reduced Typical Year treated CSO discharge activations at the Cottage Farm facility (MWR201) from four per year to the LTCP goal of two, though treated discharge volume, while reduced from 12.4 million gallons (MG) to 8.9 MG, continues to exceed the LTCP goal of 6.3 MG.

For these 10 outfalls, the Authority, in coordination with the CSO communities, continues to evaluate hydraulic conditions contributing to the higher CSO discharges, and identify and model CSO reduction alternatives. Based on the results to date, the Authority is currently focusing its evaluations

on the types of measures identified for each outfall in Exhibit C (Table 1-6 in Semiannual Report No. 6). The Authority will present its further progress with these evaluations in Semiannual Progress Report No. 7, due October 31, 2021.

Important Community Projects

As the Authority reported in its last update to the Court, all of the CSO communities continue to pursue capital improvements, including sewer separation projects, for their own system and CSO control benefits. The Authority has evaluated some of these projects and determined they will produce CSO benefits as they are implemented. In addition to BWSC's East Boston sewer separation contracts 1, 2 and 3 described above, BWSC has commenced construction of the first of five planned sewer separation projects in South Boston and plans to commence the second contract later this year and complete both contracts by 2023. The Authority has modeled the effect of these two contracts and determined that eight of the nine CSO regulators that contribute overflows to BOS070/DBC and the Fort Point Channel will be well within BOS070/DBC's LTCP goals. At the remaining regulator (RE070/7-2), located outside of the planned sewer separation area, the Authority continues to investigate and evaluate potential CSO reduction measures.

In Somerville, the City's ongoing construction of a major new storm drain through Union Square will provide for the removal of large volumes of stormwater from the sewer system, potentially reducing CSO discharges at the Prison Point CSO Facility and other hydraulically related outfalls. In Cambridge, the City is pursuing or proposing sewer separation in various parts of the city, including

areas that currently contribute stormwater flows to sewer systems that overflow at Charles River outfalls CAM005, CAM007, and the Cottage Farm CSO facility. In Chelsea, the City has commenced the initial phase of its Citywide Sewer Separation Master Plan by which it intends to reduce or eliminate CSO discharges at its three outfalls (CHE003, CHE004 and CHE008).

As the Authority continues to evaluate the merits of additional system adjustments and projects, it will also consider whether further investments in CSO mitigation will result in meaningful water quality improvement. The Authority's understanding of the performance of all of the outfall locations and the likelihood of whether each location will meet the LTCP goals as to activations and/or volume in the Typical Year has evolved greatly with its investigations, hydraulic analyses and mitigation evaluations, in coordination with and with assistance from the CSO communities.

Water Quality Assessments

The Authority is providing the same level of effort and rigor in its assessment of compliance with Massachusetts Surface Water Quality Standards. For the waters designated Class B (CSO Variance), including the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River, limited CSO discharges are authorized for the period that CSO variances to Water Quality Standards are in effect (currently through August 31, 2024). For these variance waters, the Authority reached agreement with EPA and DEP in 2019 to add receiving water quality modeling and supporting water quality sampling to its

CSO performance assessment.² Chapter 2 of Semiannual Report No. 6 describes the Authority's progress with development and calibration of the receiving water quality models and use of the calibrated models to perform water quality assessments. Looking ahead, receiving water model simulations will be critical for demonstrating whether the water quality objectives of the LTCP have been satisfied for the CSO variance waters. The Authority expects that the results of the water quality assessment will demonstrate that the relative impacts of the remaining CSO discharges are small. The specific water quality issues to be addressed by the models include: 1) assessing the relative impact of CSO (compared to non-CSO sources) on water quality in the Charles River and Alewife Brook/Upper Mystic River; 2) providing information about impacts of stormwater and boundary conditions; and 3) predicting resulting *Enterococcus* and *E. coli* counts during the 3-month and 1-year storms as well as the Typical Year.

As previously reported, the Authority submitted the *Draft Receiving Water Quality Model Development and Calibration Report* to DEP and EPA on September 8, 2020, for their review and comment, and issued the *Final Receiving Water Quality Model Development and Calibration Report* in November 2020. Since then, the Authority has been using the calibrated receiving water models

² In its January 3, 2021, Compliance Order the Court noted that one of the principal terms of the agreement was the recalibration of the *hydraulic assessment model* used to test the performance of the LTCP. The Authority respectfully notes that, in fact, the agreement included a principal term of MWRA conducting *receiving water quality modeling* that distinguishes the impacts of CSO sources from non-CSO sources (i.e., stormwater) and assessing water quality impacts of remaining CSOs in the variance waterbodies. To accomplish these tasks, MWRA's consultant would update and utilize the original receiving water quality models that were used in the development of the LTCP.

for the Lower Charles River and Alewife Brook/Upper Mystic River to assess the water quality impacts of CSOs and other discharges to these water bodies.

The Authority ran the Charles River and Alewife Brook/Upper Mystic River models for the entire Typical Year. The Typical Year rainfall series includes storms representative of 1-year and 3-month, 24-hour recurrence interval storms (“design storms”) that had been used in the LTCP and other previous planning documents for assessing pollutant loadings and attainment of water quality criteria. Bacterial loadings were input to the model from treated and untreated CSOs, stormwater, and upstream boundaries; that is, from CSO and non-CSO sources.³ The model’s algorithms allow the impacts from these different sources to be assessed together or separately, the latter by assigning zero bacterial counts to the flows from the other sources.

To assess Typical Year compliance with the current water quality standards for bacteria, the Authority used the receiving water quality models to compute the storm-by-storm duration that the bacteria count was predicted to exceed the single-sample maximum criteria for *E. coli* or *Enterococcus* at any point (model cell) within the receiving water, and sum these durations for all storms in the Typical Year.

³ To date, CSO inputs to the receiving water quality models are from the Authority’s 2019 system conditions model, which at some locations predicted higher CSO activation levels than currently predicted (i.e., the Q1-2021 system conditions hydraulic model) given recent system improvements.

The model results show that loadings due to stormwater and upstream boundaries (upstream flows entering the variance waters) are the two largest sources of *E. coli* and *Enterococcus* in both the 1-year and 3-month design storms and for the Typical Year. CSOs contribute loadings only during the larger storms in the Typical Year, 8 storms for the Charles and 10 storms for the Alewife/Upper Mystic, whereas stormwater discharges occur in every storm, and flows and pollutant loadings from the upstream boundary/incoming flows occur in dry and wet weather.

For receiving water quality model runs that incorporate all sources of flow (CSO and non-CSO), the model results showed that in the Typical Year, the Charles River met the compliance criteria 48% of the time, the Alewife Brook 39% of the time, and the Upper Mystic River 45% of the time. In comparison, for model runs of “CSO only” (bacteria counts for stormwater and boundary condition set to zero), the model results showed that in the Typical Year, the Charles River met the compliance criteria 99.6% of the time, the Alewife Brook 98.6% of the time, and the Upper Mystic River 95.8% of the time. The results noted above represent the percent of time in the Typical Year when there is no exceedance of the bacteria criteria at any point along the entire waterbody. At any single location in these waterbodies, compliance with the criterion would be significantly greater.

The Authority also ran the receiving water quality models to determine how sensitive the results were to stormwater and CSO bacterial counts used in the model, which had been based on recent stormwater and wastewater sampling

programs. Decreasing modeled stormwater bacteria counts provides an estimate of the relative impact if stormwater is (or becomes) cleaner than we measured; the “Stormwater-only” modeled compliance improved in these scenarios, but remained less than 90%, and stormwater continued to be a significant contributor of elevated bacteria after storms. Sensitivity to CSO bacteria loadings was also evaluated by doubling the values used to calibrate the model. This only marginally decreased compliance with the standards for the “CSO-only” condition (less than 0.4% reduction in compliance).

The Authority submitted these initial model results and assessments in a Draft Water Quality Assessment Report to DEP and EPA, Mystic River Watershed Association, Charles River Watershed Association, and the CSO communities in April for review and comment, and met with EPA and DEP on May 5, 2021, to present the model results and draft report findings. The Authority is compiling and reviewing comments received and plans to finalize the Water Quality Assessment Report by September 2021. In the meantime, the Authority plans to commence receiving water quality model simulations this summer involving a selection of CSO and non-CSO flow or bacteria concentration reductions to improve our understanding of water quality impacts of additional CSO control measures and other potential future conditions.

As reported in Semiannual Report No. 6, the Authority has continued to collect and analyze rainfall and CSO data and quantify CSO activations and discharge volumes from meter data (Authority metered locations, only) and from hydraulic model simulations.

Semiannual Report No. 6, like previous semiannual reports, presents a comparison of measured CSO activations and/or volumes with the predictions of the Authority's hydraulic model, for all storms in the period July 1, 2020 through December 31, 2020. Semiannual Report No. 6 also presents, as shown in Table 1-5, updated outfall-by-outfall Typical Year CSO activations and volumes. The current (Q1-2021) hydraulic model predicts system-wide total CSO discharge volume of 421 MG, an 87% reduction from the estimated volume of 3.3 billion gallons in 1988, compared with the LTCP's 404 MG total discharge volume (88% reduction) goal.

CSO Water Quality Standards Variances

As previously reported, DEP issued CSO variances to Massachusetts Surface Water Quality Standards for the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River on August 30, 2019. Both variances have a term of five years to August 31, 2024.⁴ US EPA Region 1 approved these variances on May 29, 2020. The Authority continues to meet the conditions in the variances, including collection system maintenance, water quality sampling, and reporting requirements carried over from earlier variances and newly added conditions requiring receiving water quality modeling, public notification of CSO discharges, performance assessment reporting, and the evaluation of specific CSO mitigation projects. In addition to what is described above regarding the

⁴ DEP issued the Charles River variance to the Authority and the City of Cambridge and issued the Alewife Brook/Upper Mystic River variance to the Authority and the cities of Cambridge and Somerville.

receiving water quality models, the following summarizes the Authority's recent efforts to comply with variance condition milestones.

The variances require the Authority to implement, by December 31, 2020, a subscriber and web-based system to alert the public of CSO discharges from its permitted outfalls. As previously reported, the Authority launched the public notification system in July 2020, and has since been issuing and posting notices of CSO activations for its outfalls. The subscriber notices include links to the website (https://www.mwra.com/harbor/html/cso_reporting.htm), which the Authority has updated to include detailed information on discharge locations, affected water body segments, and recent CSO activation history. The Authority also developed procedures for estimating and reporting discharge volume within 5 days of an activation, as required, and implemented volume reporting by the end of December.

The Alewife Brook/Upper Mystic River Variance requires the Authority and the cities of Cambridge and Somerville to maintain informational signs at public access locations to advise the public of CSO discharges and potential public health impacts and to provide contact information and website links. Working with the cities of Cambridge and Somerville, and with input from the City of Medford, the Department of Conservation and Recreation, and the Mystic River Watershed Association, and with DEP's concurrence, the Authority has installed the signs at four of five planned locations and will install the fifth sign, at Blessing of the Bay Park on the Upper Mystic, pending additional coordination with the City of Somerville.

The variances also require the Authority to evaluate four specific “Additional System Optimization Measures”: Alewife Brook Pump Station Optimization Evaluation; MWR205 & SOM007A/MWR205A Somerville Marginal CSO Reduction Study and Preliminary Design; CSO System Optimization for Alewife Brook Study and Preliminary Design; and CSO System Optimization for Lower Charles River Study and Preliminary Design. The variances require the Authority to submit an annual report to EPA and DEP by January 31 (beginning in 2021) on the progress of these evaluations. On January 29, 2021, the Authority submitted its first progress report.

In April 2020, the Authority commenced evaluations of the feasibility of further optimizing the operation of its Alewife Brook Pump Station and the potential for reducing upstream CSO discharges to Alewife Brook. With the results of these evaluations and tests, the Authority selected a set of modified pump control settings intended to keep the pump station wet well at a lower elevation during storms. Although the Authority has concluded from hydraulic model simulations that the modified pumping strategy and lower wet well elevation provide only a small upstream CSO benefit, it has placed the modified pumping strategy into its regular operation. The new operating strategy may provide additional benefit as part of the Alewife Brook CSO optimization evaluations discussed below. The Authority submitted a report on its Alewife Pump Station optimization evaluations, results and recommendations to EPA and DEP on April 27, 2021, in compliance with the schedule milestone in the variances.

In June 2020, the Authority commenced evaluations of the two Somerville Marginal Facility CSO reduction strategies specified in the variances: hydraulic relief of the existing 18-inch connection from the City of Somerville's sewer system to the Authority's Somerville-Medford Branch Sewer, and removal of Massachusetts Department of Transportation (MassDOT) I-93 drainage that connects to the City's sewer system upstream of the CSO facility. The variances require the Authority to complete the evaluations and submit a report to EPA and DEP by December 2021.

Preliminary MWRA hydraulic model results show that increasing the size of the existing 18-inch connection or supplementing the 18-inch connection capacity with an additional connection can lower Typical Year activations and treated discharge volumes at both outfalls downstream of the Somerville Marginal CSO Facility to their LTCP goals. As noted earlier in this report, additional investigations and model runs are underway to determine an effective connection upgrade approach and size, along with necessary hydraulic control to avoid downstream impacts in larger storms. In parallel, and with interest in advancing improvements at Somerville Marginal as soon as possible, the Authority is currently moving into design of a supplemental relief connection, given the predicted benefits of this work including the potential to attain the LTCP goals.

Through coordinated investigations, the Authority and the City of Somerville determined that the 72-inch MassDOT drain that collects stormwater from portions of I-93 also conveys flows from combined sewers serving upstream

areas in Somerville. The Authority and the City then turned their focus to investigating upstream storm drain segments that convey separate stormwater only: a city storm drain that serves a portion of Somerville's Ten Hills neighborhood and a 30-inch MassDOT storm drain that serves portions of I-93 and Mystic Avenue. Following extensive investigations, preliminary modeling conducted by the Authority shows that removing these stormwater flows would provide only a small reduction in discharge volume at the Somerville Marginal CSO Facility.

In August 2020, the Authority commenced the evaluation of system optimization measures that may reduce CSO discharges to the Alewife Brook. These efforts are intended to identify regulator modifications or upstream flow controls that may further reduce CSO activations and/or volume. The Authority is initially focusing its efforts on Outfall SOM001A, the sole Alewife Brook outfall the Authority forecasts as likely not attaining the LTCP goals by December 2021. The Authority has performed preliminary hydraulic modeling of a set of regulator modifications, including raising the weir and relieving the existing connection to the MWRA interceptor, along with the modified pumping strategy at Alewife Brook Pump Station mentioned above. Ongoing work also includes the identification of flow controls in the Tannery Brook Conduit system upstream of SOM001A.

With the assistance of Cambridge and Somerville, the Authority will also conduct optimization evaluations at the other Alewife Brook outfalls notwithstanding that they currently attain the activation and volume goals in

the LTCP. The variances require the Authority to submit a report on these evaluations and preliminary design of any recommended improvements to EPA and DEP by December 2022.

In August 2020, the Authority also commenced CSO optimization evaluations for Charles River CSO outfalls. The Authority is initially focusing efforts on outfalls that it forecasts will not attain the LTCP activation and volume goals by December 2021: MWR018, MWR019, MWR020, CAM005, and the Cottage Farm Facility (MWR201). Ongoing evaluations are considering the feasibility and potential benefit of raising overflow weirs and removing/redirecting stormwater flows that enter upstream systems. Future evaluations will consider optimization alternatives at the other outfalls that discharge CSO to the Charles River, including MWR023, CAM007 and CAM017. The variances require the Authority to submit a report on these evaluations and preliminary design of any recommended improvements to EPA and DEP by December 2022.

In the remaining six months of work prior to the submission of a final CSO performance assessment report in December 2021, the Authority will continue its site-specific investigations at the 10 discharge locations for which the Authority cannot at this time forecast that the LTCP activation and volume goals will be achieved. The Authority also will continue to coordinate with the CSO communities to refine and/or pursue implementation of CSO reduction measures at the six locations where the Authority forecasts the LTCP goals can be attained after 2021. The Authority will utilize the receiving water quality

models of the Lower Charles River and the Alewife Brook/Upper Mystic River to produce final assessments of Water Quality Standards compliance, remaining impacts of CSO and non-CSO bacteria pollution, and the potential benefits of CSO and non-CSO bacterial load reduction scenarios.

Conclusion

As detailed in this report and Semiannual Report No. 6, the Authority has not let up on its efforts to achieve LTCP goals. With the support of the CSO communities, the Authority's continued site-specific investigations have led to the implementation of additional CSO control measures to bring several additional discharge locations into LTCP compliance, and more are being pursued. If given additional time, the Authority is committed to continuing its work on the remaining outfalls to develop a framework and path to bring this case to a successful conclusion. The Authority looks forward to productive discussions in the coming months with EPA, DEP, CLF and other stakeholders and intends to advise the Court of its progress by September 15, 2021.

Respectfully submitted,

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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 electronic copies will be sent to those indicated as non-registered participants (excluding Christopher Little of Pierce Atwood, who has retired from the practice of law, and Lawrence Liebesman and Joseph McGovern, who no longer work at the U.S. Department of Justice) on June 25, 2021.

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Dated: June 25, 2021