



July 26, 2019

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RE: Tentative Determination to Adopt a Variance for Combined Sewer Overflow Discharges to Alewife Brook/Upper Mystic River Basin

The Mystic River Watershed Association (MyRWA) is a non-profit organization dedicated to the preservation and enhancement of the Mystic River Watershed. The mission of MyRWA is to protect and restore the Mystic River, its tributaries, and watershed lands for the benefit of present and future generations and to celebrate the value, importance, and great beauty of these natural resources. This includes working to improve the water quality in the Mystic River and all of its tributaries.

Our organization has followed with great interest the mitigation measures applied to combined sewer overflows (CSOs) in the Mystic River watershed for several decades. In this time, we have worked with nearly every major public and private stakeholder concerned about this issue to advocate for the most effective and efficient possible mitigation measures and to monitor progress towards improved water quality in the rivers of the watershed. MyRWA has also worked with these parties to directly address the effects of pollution on the Mystic and its tributaries, marshalling thousands of citizen volunteers to clean up the banks of the river and remove invasive species from its waters. Our goal is to completely end the discharge of sewage into the watershed as soon as possible and, until that time, to minimize the effects of sewage discharge on water quality, human health, and public benefit from our surface waters.

MyRWA approaches this Tentative Determination with decidedly mixed feelings. It is disappointing in the sense that this proposed variance is a formal acknowledgment that we are not going to achieve Class B water quality standards in the Alewife and Upper Mystic for another five years despite much hard work and expense by the Massachusetts Water Resources Authority (MWRA), and the cities of Cambridge and Somerville and their ratepayers. At the same time, MyRWA offers its caveated support for the Tentative Determination because we believe the proposed variance conditions provide the opportunity to bring a fresher perspective to future decisions about CSO control in the Mystic River watershed.

At the outset, MyRWA expresses its dismay at the lack of collaboration with watershed stakeholders and lack of transparency in the development of the Tentative Determination and in the public comment process. While it should have come as no surprise to MassDEP or MWRA

that MyRWA would have a keen interest in a new variance, there was no prior consultation by MassDEP nor MWRA, at either the policy or scientific/technical level, with MyRWA in developing the Tentative Determination. Adding insult to injury, three important documents referenced in the Tentative Determination (described below) were not made available to the public at the time of public notice in the Environmental Monitor. The public should have been advised that supporting documents were available either physically at MassDEP or on a MassDEP website. Instead, MyRWA had to request them. While MyRWA appreciates that after being asked, MassDEP extended the comment period by one week, a tight schedule to issue a new variance before the current one expires is no excuse for making it harder to offer informed public comment.

The remainder of this letter provides MyRWA's comments on the elements of the Tentative Determination in the order in which they appear. While MyRWA's comments here focus on the Tentative Determination for the Alewife Brook/Upper Mystic River Basin, we note that many of them are equally applicable to the Tentative Determination for the Lower Charles River/Charles Basin.

Basis for Variance

The Massachusetts Department of Environmental Protection (MassDEP) proposes to grant this Variance based on its determination that implementation of more stringent CSO controls to meet the underlying designated use and criteria at this time would result in substantial and widespread social and economic impact as specified in 314 CMR 4.03(4)(f) and 40 CFR 131.10(g)(6). This determination is poorly supported by the available record. It rests on a May 24, 2019 letter from MWRA that offers little more than an inflation adjustment to a 14-year-old analysis. We note also that MWRA's May 24 letter was one of the documents not readily available to the public. The underlying analysis does not consider whether CSO controls short of "system-wide elimination" would achieve water quality standards in any of the variance waters and what the cost of this level of control would be. More troubling, the accompanying Fact Sheet provides no sense of whether DEP conducted an independent review of the MWRA's analysis.

MyRWA considers this analysis to be deficient. However, if the proposed variance condition at F.4 (p. 7 in the Tentative Determination) for an affordability analysis consistent with EPA's guidance along with any other relevant information to assess financial capacity, comprises a brand new analysis that considers a range of alternatives, not merely another update to the limited analysis of the May 24 letter, then MyRWA can consider this deficiency resolved. (More comments on the analysis are provided below.)

MassDEP notes that, once approved, the Variance and its conditions will be incorporated into the NPDES permits for the MWRA and the Cities of Cambridge and Somerville. As such, it is important that the variance conditions are written with an eye to enforceability. MyRWA notes that several of the proposed variance conditions are deficient in this regard. Below, we will cite particular conditions that need to be improved.

Comments on Variance Conditions

A. Level of Required CSO Control During Variance

MyRWA supports the explicit limitation on CSO discharges to those set forth in Exhibit B. However, the enforceability of this condition is seriously compromised by the “...allowance for any conditions that exceed Typical Year conditions.” How will MassDEP determine whether or when the Typical Year has been exceeded? Would it be rainfall in excess of an annual total of 46.8 inches? Or by more than 93 storms? MassDEP needs to clarify how this allowance will be determined in the Final Determination.

B. Receiving Water Quality Monitoring

This condition says “MWRA shall continue and expand [emphasis added] the water quality monitoring program in the Alewife Brook/Upper Mystic River...” but provides no details or requirements regarding the expansion of the program. This renders the required expansion unenforceable. MyRWA asks that the final condition either include specific details of the expansion or refer to another enforceable condition containing the requirements. MyRWA also notes that this lack of detail has made it impossible for the public to review and comment on the adequacy of the expanded program.

C. CSO Performance Assessment

C.1 CSO Activations and Volumes

MyRWA applauds the inclusion of public meeting requirements to keep the public informed about the progress of work and findings during and at the conclusion of the Performance Assessment. MyRWA found that the May 2019 meeting provided a very useful opportunity to better understand the progress and findings of the Performance Assessment to date.

Building on the metering and telemetry in place for the Performance Assessment, MyRWA recommends that either this or another condition include requirements for flow measurement with telemetry at all active overflows throughout the variance period, and that the flow data be uploaded in real or near real time to a website with public access. Further, MyRWA recommends that MWRA, Cambridge and Somerville be required to provide a narrative description of each overflow event, including such things as particular features of the rainfall event and any hydraulic system problems of note, within 30 days or some other reasonable period that allows for contemporary analysis of the event. These narratives should be posted to the websites required in condition D.4.b. This has the potential to provide useful data to the sewer system operators, the public, regulators, and river samplers.

C.2 Assessment of CSO Water Quality Impacts

MyRWA is most concerned about the absence of any consultation with watershed groups and other interested stakeholders in developing work plans for the Receiving Water Modeling and Water Quality Sampling Programs. These work plans include critical scientific and technical decisions and were also not readily available to the public. In fact, the Receiving Water Modeling work plan was revised for a second time on July 18, a month after the opening of the comment period and with just over a week until the end of the comment period.

Receiving Water Modeling is a highly specialized craft and we encourage MassDEP, perhaps in partnership with EPA, to engage an independent third party expert who can provide the agencies with an unbiased review of the work and help improve public confidence in the model and its use. MyRWA is not suggesting this be included in a variance condition, but rather that MassDEP make a commitment to do this in its Final Determination or response to comments.

To further improve public confidence in the use of the model, MyRWA requests that MassDEP add a condition to require MWRA to host a public workshop when it comes time to determine the alternatives that will be evaluated with the model. As we understand the schedule in the modeling work plan, the workshop should be conducted sometime in 2021. Alternatively, or in addition, MassDEP could require MWRA to convene an advisory committee to provide input throughout the modeling effort.

In regards to sampling of Combined Sewer Overflow discharges, MyRWA is concerned that the number and frequency of sampling events is insufficient to provide a robust data set for model calibration and future testing of alternatives. While stormwater discharges can be informed by the literature, this is not the case for the CSO discharges. The drainage and infrastructure associated with each CSO is unique. These unique characteristics yield a unique timing and mix of stormwater and sewage that changes across and during storm and discharge events. MyRWA requests that the MWRA base the sampling frequency on the scientific literature. MyRWA is unaware of the scientific basis for characterizing discharges based on just 2 rounds of samples. Without having sampled numerous rounds throughout various storms, on what basis does MWRA determine the timing of a single sample that represents average discharge concentrations?

We would also request the inclusion of phosphorus sampling concurrent to the bacteria sampling. The draft Mystic River Alternative TMDL identifies that 11% of Total Phosphorus Loading is from CSO and SSO discharges. While it is fair to say 89% comes from other sources that should be addressed – it is also appropriate to examine the opportunity to reduce this source of phosphorus. Reducing phosphorus is expensive everywhere – consider that treatment of one acre of impervious surface for high density residential yields 2.32 lb/ac/year and costs as much as \$75,000/acre (cost of \$32,000 per lb of TP removed). Consider that based on an estimated TP concentration of 3.1 mg/l (Breault et al. 2012) – removing 39,000 gallons of CSO/discharge per year yields a 1 lb reduction. This calculation documents that CSO reductions yield significant co-benefits for addressing the cultural eutrophication issues at the Mystic River and Alewife Brook.

We are also concerned that the majority of sampled stormwater outfalls are known to be influenced by illicit connections. There seems to be a pervasive assumption made by MWRA that cleaning up CSOs will not make the river healthier or safer for recreation because of the overriding effect of contamination from other sources, specifically non-CSO stormwater outfalls. Without a robust understanding of the relative contributions of the sampled outfalls to overall bacterial loading from all sources, it will be difficult to draw conclusions about what conditions would be if CSOs were eliminated. In addition, relying on data from outfalls with known illicit connections assumes a static environment where Belmont, Cambridge and Somerville are not investing in and improving their systems as well. We need to better understand the impact of

these CSOs if they were discharging into a clean Alewife Brook. After all, sewage discharges from stormwater systems are in violation of the law and require the continued enforcement efforts of MassDEP and EPA until they are no longer part of the background. In that context, we need to understand the impact of CSOs to Alewife Brook and the Mystic River with much reduced illicit conditions. Therefore, MyRWA recommends that a greater effort be placed on sampling outfalls without major illicit connections. We want a measure of system performance in a world where the municipalities are in compliance with their MS4 obligations – that is, when they comply with all the requirements of the Clean Water Act.

D. Notification to the Public of CSO Discharges and Impacts

D.2 The requirement should be for signage at Waldo (not Wald) Park in Arlington.

D.4 MyRWA applauds inclusion of a requirement for MWRA, Cambridge and Somerville to develop a CSO Subscriber-Based Notification System. However, given all the metering and telemetry already in place for the Performance Assessment at the CSOs that are still discharging to the Alewife Brook/Upper Mystic, MyRWA believes it should not take 16 months to implement these systems. We agree with the Charles River Watershed Association (CRWA) that this notification system should be in place by June 2020. This notification system should be fully consistent with proposed CSO notification legislation reported out from the Joint Committee on Environmental, Natural Resources, and Agriculture (H.3976, July 18, 2019) that requires notification of the public within 2 hours of a CSO event. Timely notification advances the protection of public health for the hundreds of youth rowers on the Mystic River every day and others that come in contact with these water bodies.

In the interim, MWRA, Cambridge and Somerville should be required to provide email notification to MassDEP, EPA, local Boards of Health and MyRWA within 24 hours of a CSO event. Somerville, Cambridge and MWRA should make a commitment to providing better notification. MyRWA is on the Cambridge subscriber list and in 2018 received only two notifications that year for CSOs for Alewife Brook. Yet the data indicate there are more than a dozen discharges a year at sites that don't have the telemetry on them. The current practice is no longer functioning to alert and protect the public.

MyRWA is pleased to see the expanded requirement that each entity establish and maintain a public website with information about their permitted CSO outfalls. These sites would be an ideal place to post the metering information and narrative we recommended in comments on condition C.1 above. To make this condition enforceable, MassDEP need should specify the date by which websites containing all the required information must be established.

E. Other Actions to Minimize CSO Discharges

E.2 MyRWA is pleased to see the details of the System Optimization projects that MWRA will undertake to satisfy the Variance Pollutant Minimization Program requirement during the variance as detailed in Exhibit A. However, to make this requirement enforceable, the last sentence in E.2. should say "... MWRA shall..." rather than "MWRA can."

On the other hand, while Cambridge and Somerville are also granted variances, the Tentative Determination provides no details of work that they will undertake during the variance to satisfy the requirement for a pollutant minimization program. MWRA's May 14, 2019 letter requesting the variance details significant work to be performed by Somerville (see pages 5-6 of MWRA's letter). Surely, Cambridge has relevant work planned as well. MyRWA recommends that key projects and decisions affecting the Alewife Brook and Upper Mystic for each city be itemized in separate exhibits to satisfy the requirement for pollutant minimization and provide for the same level of enforceability that MWRA is subject to.

E.3 MyRWA appreciates the continued inclusion of the I/I condition. However, we urge MassDEP to not make provision of the metering data contingent on requests by MassDEP, EPA or MWRA member communities. We urge MassDEP to require that MRWA provide this information to MassDEP, EPA and the public for all storms that trigger CSO discharges. Our comments on condition C.1 regarding metering and posting of data and narratives would likely satisfy the concerns expressed here. We hope that MassDEP would then use this information to require communities to address I/I where it is found to be essentially contributing to CSOs by straining the hydraulic capacity of the sewer system.

F. Updated CSO Control Planning

MyRWA is greatly encouraged by the inclusion of this requirement in the variance conditions. We hope that this requirement marks a turning point, where we can all shift from a retrospective review of compliance with the old Long Term Control Plan, to a forward-looking view of when we can expect to achieve Class B standards in the Alewife Brook and Upper Mystic. This critical shift to a prospective view must include different thinking about control alternatives, affordability and the effects of our changing climate.

MyRWA recommends that the scope and schedule required by April 1, 2022 be submitted for review and approval to EPA as well as MassDEP.

F.2. MyRWA strongly supports evaluation of "...further CSO control alternatives *up to and including* elimination of discharges." [emphasis added] This evaluation scheme should not presuppose a binary choice between total elimination or the end result of compliance with the limited mitigation goals of the old Long Term Control Plan.

Green Infrastructure is being applied as a solution in all of the major CSO cities in the United States right now - whether in DC, New York or Philadelphia. MyRWA encourages MassDEP to specify that the alternatives must include both green and gray infrastructure (i.e., "...further CSO control alternatives, including green and gray infrastructure, up to and including elimination of CSO discharges;").

Updated CSO control evaluation must also address the reality that our current climate is different from the one we were experiencing when the "Typical Year" was identified for the old Long Term Control Plan. It is evident from the 2018 data MWRA has presented in the Post Construction Assessment project updates, that shorter but higher intensity rainfall events (e.g., rainfall rates of 0.4 inches/hour or greater) are perhaps just as or more important as storm duration or total rainfall in triggering sewage overflows in the Alewife and Upper Mystic.

Prospective planning must be based on an updated view of typical precipitation events. MyRWA strongly encourages MassDEP to include a specific requirement to update the “typical year” as part of this condition.

F.3. MyRWA supports a robust public participation process. We expect that including this provision in both the Alewife/Upper Mystic and Lower Charles variances means there will be at least one public meeting and a public hearing in each watershed. Attempting to cover both watersheds in a single meeting or hearing would blur the focus and compromise available time for dialogue and comments. MassDEP should consider the potential benefits of convening an advisory committee that would include communities, watershed groups and other key stakeholders to assist the department in ensuring active and thoughtful public involvement throughout the planning process.

F.4. While MyRWA recognizes that an affordability analysis consistent with EPA’s 1997 guidance is a necessary condition, we do not feel it is a sufficient condition. Thus, we strongly support MassDEP’s inclusion of “other relevant information to assess financial capacity” as part of this variance condition.

EPA’s financial capacity guidance is now 22 years old and in the intervening years there has been some excellent analysis right here in the Commonwealth about differing ways to approach infrastructure cost. The Water Infrastructure Finance Commission was established by the legislature in 2009 to analyze Massachusetts’s water infrastructure funding needs and develop recommendations for financing these needs going forward. The Commission’s report *Massachusetts’s Water Infrastructure: Towards Financial Sustainability* (February, 2012), provides recommendations in a host of areas, including affordability. The Commission’s report should be closely studied for alternative ways to define and address affordability for both municipalities and individual ratepayers. New thinking, such as using a progressive rate schedule to set the MWRA’s Community Assessment fees, should be given serious consideration.

In closing, we reiterate our confidence that Class B water quality standards will one day be attained throughout the Mystic River watershed. We are hopeful that the proposed variance and its conditions represent the opportunity to set new goals for CSO control that get us significantly closer to that vision.

We thank MassDEP for the opportunity to comment on this issue which is of paramount importance to our membership.

On behalf of the Mystic River Watershed Association,



Patrick Herron, Executive Director