



City of Cambridge
Department of Public Works

Owen O'Riordan, Commissioner

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June 13, 2022

Mr. Todd Borci
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US EPA Region 1
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Sent Via Email

Re: Response to Comments on Cambridge Updated CSO Control Plan Scope of Works and Schedule

Dear Mr. Borci,

The Cambridge Department of Public Works (City) has received and reviewed your comments on our Draft "City of Cambridge Updated CSO Control Plan Scope of Work". Thank you for your comments. In response to your comments dated May 11, 2022 the City provides the following:

1. EPA Comment No. 1

Section 4.2.1 and Section 4.3

EPA expects the City to incorporate future climate change impacts into the development of a revised "Typical Year". EPA notes the City has invested extensive resources into the evaluation of future precipitation events through the City's "Resilient Cambridge" and "Climate Change Preparedness and Resilience" efforts. Continuing collaboration between the City of Cambridge, the City of Somerville, and the Massachusetts Water Resources Authority ("MWRA") in developing a revised typical year that incorporates future predicted precipitation events with respect to both overall storm size and storm intensity is warranted. As noted by recent National Oceanic and Atmospheric Association ("NOAA") guidance and peer-reviewed studies, precipitation events have increased in both event intensity and overall total precipitation, and acutely so here in the Northeast. These increased precipitation events, in both frequency and intensity, have already had a significant impact on area infrastructure and therefore must be incorporated into a revised typical year. EPA also expects the City's proposal to look at select precipitation events that coincide with high tide and how such events will be influenced by current climate change projections for sea level rise. EPA notes that such events have occurred several times over the past few years, and each has had an acute impact on respective CSO and SSO discharge events. EPA notes that such events have been considered in detail by the City in its related climate change preparedness efforts referenced above. EPA encourages the City to collaborate with Somerville and MWRA to propose an appropriate "typical year" design scheme for further discussion with EPA and MassDEP. We know that our wastewater infrastructure will need to evolve over time as the climate continues to change; decisions about CSO control alternatives need to take this into account.

City Response

The City is collaborating with Somerville and MWRA in the development of a revised Typical Year that is based on recent rainfall data. The City has also engaged Dr. Degaetano from

Cornell to consult with us as we develop a new Typical Year and to better understand the work that is being done through Cornell and NOAA. While the City has invested in evaluating the impacts of larger, more intense design storms on City infrastructure and flooding, we are unaware of any examples of incorporating “future” rain events or climate change within the regulatory framework of the CWA. The City would like EPA to acknowledge that developing a new approach to the typical year that is scientifically, statistically, and legally defensible would take significant time and effort. Incorporating public, regulatory, and legal review of a new approach adds to the time required.

It is noted that with the exception of outfall MWR205A, none of the outfalls to the Variance waters would be directly influenced by tide elevation. However, the City will coordinate with MWRA as it intends to assess the sensitivity of collection system performance to projections of sea level rise and storm peaks coinciding with high tide.

2. EPA Comment No. 2

Section 4.3

EPA notes the City mentions the incorporation of additional water quality goals such as phosphorous reduction into their evaluation. EPA encourages this approach and suggests the City coordinate with the City of Somerville as they mention the incorporation of phosphorous, TSS, and other pollutants of concern into their baseline pollutant loading evaluation. EPA encourages the City to assess the cost benefits of CSO controls that further reduce these pollutants and meet not only CSO requirements but may assist the City with other Clean Water Act (“CWA”) obligations such as Municipal Separate Storm Sewer System (“MS4”) General Permit requirements.

City Response

The City appreciates EPA's support for including the cost of addressing pollutants of concern into baseline pollutant loading evaluations. It is the City's view that in order to achieve sewer separation, the resulting addition of any new stormwater discharges must be treated to meet the water quality standards under the MS4 permit and CWA obligations. The City may need the support of EPA and MassDEP on innovative approaches to CSO Control, such as partial sewer separation, where implementation of these approaches may face regulatory and permitting hurdles.

3. EPA Comment No. 3

Section 6 – Public Participation and Outreach

EPA appreciates the thought the City has put into how to engage the public during this process. EPA expects the City to hold public meetings designed to solicit feedback from the public on proposals that are still in the draft stage, such that appropriate and meaningful feedback can be incorporated into the proposal prior to finalization. EPA routinely hears from stakeholders that they do not want to attend a public meeting where they are presented with a final plan with no opportunity for feedback. Based on stakeholder feedback to date, it would appear the public would like an opportunity to weigh in on both the updated “typical year” and to have input on the early stages of CSO control alternatives development, before a sub-set is selected for detailed analysis. EPA is willing to discuss with the City, MassDEP, and other interested and related parties how to achieve the appropriate level of meaningful public engagement.

City Response

The City will hold public meetings and engagement activities throughout the planning process to provide input opportunities for the public prior to key junctions and milestones. The City is working closely with Somerville and MWRA on joint meetings to emphasize the importance of this collaborative effort and to facilitate the public's knowledge of how these three plans are linked together.

4. EPA Comment No. 4

Task 4 – CSO Control Alternatives Analysis

EPA expects the City to consider a wide spectrum of potential alternatives during this process, such as continued separation and relining of city piping (including relining of building laterals), storage and pump-back facilities, and extensive green infrastructure in those areas of the City that will continue to contribute to combined sanitary sewer and drain lines. EPA strongly encourages the City, along with the City of Somerville and MWRA, to undertake a holistic evaluation regarding CSO discharges, flooding, and Inflow and Infiltration ("I/I") within not only the Variance communities but also the upstream communities. EPA recognizes the significant levels of I/I in those upstream communities create and compound the ongoing CSO issue in the Alewife/Lower Mystic River and must be addressed. Extensive work within the City combined with a holistic approach would be consistent with Cambridge's and Somerville's extensive climate change efforts to date, as well as provide at large benefit to the MWRA member communities.

The ultimate solution to these issues will involve not only significant investment by Cambridge in separation of combined sanitary sewer systems or off-line storage of CSO volume, but also the removal of significant amounts of stormwater and groundwater that enter the sanitary sewers through direct connections, cracks, and other defects system-wide. Removal of I/I, which makes up a significant source of sanitary flows for many communities, will also result in a significant amount of additional stormwater that will need to be managed to prevent flooding and other issues. The channelized nature of Alewife Brook, as well as the amount of sediment in the Alewife constructed channel that takes up flood storage capacity (this sediment volume was estimated by USGS in 2005 to take up approximately 0.5 million cubic feet), exacerbates the flooding issue. EPA will work with the City, Somerville, and MWRA, as well as all the MWRA member communities upstream of the Alewife/Lower Mystic area to address the collective issues that directly impact CSO volume discharged.

City Response

The City is considering a wide spectrum of potential CSO Control alternatives during this process, including those mentioned above. The City agrees with EPA's understanding of the importance of addressing sources of inflow/infiltration from communities outside of this Variance process and will support MWRA's leadership on addressing those efforts beyond the City's control. The complex nature of regional measures and solutions to address flooding issues associated with historic sedimentation and potential increases to flooding associated with additional stormwater flows to the Alewife/Lower Mystic area will require EPA's leadership.

5. EPA Comment No. 5

Section 8 – Alternative Analysis and Ranking Prioritization and Section 9 - Affordability Analysis

EPA assumes the City's cost/benefit analysis will capture any reductions in loadings of phosphorous and

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any other pollutants of concern that will be evaluated during this process, as those reductions will reduce the cost of compliance with the Charles River TMDL and the Mystic River Alternative TMDL, as well as any potential future additional permitting costs.

EPA expects the City to explore a comprehensive financial capability analysis in accordance with existing EPA guidance and policies. EPA encourages the City to consider alternative or tiered rate structures to avoid adverse impacts on lower income residents.

City Response

The City's cost/benefit analysis will evaluate any reduction in Phosphorous loading and any other pollutants of concern during this process.

The City's Affordability Analysis will explore a comprehensive financial capability analysis in accordance with existing EPA guidance and policies. The City has a tiered rate structure for both water and sewer, but will evaluate the rate structures to mitigate impacts on lower income residents. The City would like to note that we cannot bill water and sewer based on income levels of users. In addition, there are federal and state laws that further limit the ability of the MWRA and cities to address affordability through rate structures. The City requests that EPA and MassDEP work to help secure federal and state funding (grants) to support CSO projects that have benefits beyond the downstream CSO communities.

Thank you for your acknowledgement that this work, the City's development of an Updated CSO Control Plan, is "separate but related" to the work that must also be performed by the City of Somerville and the MWRA. Your comment letter points out several of the areas where coordination is key and recognizes that the interdependence of our systems requires a significant amount of cooperation amongst all parties (including EPA, MassDEP and the public). At a minimum coordination is required for the development of the Typical Year, model consolidation, evaluation of alternatives and the development of Recommended Plans and Schedules. This cooperation and coordination is fundamental to the successful development and ultimate implementation of updated CSO Control Plans. The City agrees with the need for this fully coordinated approach but is concerned that the time provided for the analysis and development of the Updated CSO Control Plans is extremely tight and aggressive and may not result in a successfully coordinated outcome and will constrain outreach efforts. The City is committed to this process and will comply with the requirements of the Variance for Combined Sewer Overflow Discharges to Alewife Brook/Upper Mystic River Basin and the Variance for Combined Sewer Overflow Discharges to the Charles River Basin, but is looking to EPA and MassDEP to consider extending the schedule by up to eighteen (18) months based on the coordination, public participation, and deliverables expected by EPA and DEP.

In addition, the Variances require that individual updated CSO Control Plans be developed by the City, Somerville and the MWRA. Along those lines of interdependence among our systems the City would further request EPA and MassDEP reconsider the deliverable of three separate Draft and Final Recommended Plans, rather we request your support in the submittal of a common Update CSO Control Plan. No one plan can stand alone or be phased independently without the potential to have significant, adverse impacts on each of our wastewater (and drainage) systems.

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Thank you for consideration of these requests. If you have any questions, please contact me at 617.349.4818.

Respectfully,



Catherine Daly Woodbury
Senior Project Manager

cc: Kathy Watkins, City of Cambridge (via e-mail)
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