RESPONSE TO COMMENTS
NPDES PERMIT NO. MA0100501
SOUTH ESSEX SEWERAGE DISTRICT
SALEM, MASSACHUSETTS

The U.S. Environmental Protection Agency's New England Region (EPA) is issuing a Final National Pollutant Discharge Elimination System (NPDES) Permit for the South Essex Sewerage District located in Salem, Massachusetts. This permit is being issued under the Federal Clean Water Act (CWA), 33 U.S.C., §§ 1251 *et seq.*

In accordance with the provisions of 40 Code of Federal Regulations (CFR) §124.17, this document presents EPA's responses to comments received on the Draft NPDES Permit # MA0100501 ("Draft Permit"). The Response to Comments explains and supports EPA's determinations that form the basis of the Final Permit. From January 23, 2025 through February 24, 2025, and extended to April 10, 2025, EPA solicited public comments on the Draft Permit.

EPA received comments from:

- South Essex Sewerage District (SESD), dated April 10, 2025
- Commonwealth of Massachusetts, Executive Office of Energy and Environmental Affairs, Office of Coastal Zone Management, dated March 10, 2025.
- Salem Sound Coastwatch (SSCW), dated April 10, 2025
- Massachusetts Water Resources Authority (MWRA), dated April 10, 2025
- Massachusetts Coalition for Water Resources Stewardship (MCWRS), dated April 10, 2025

Although EPA's knowledge of the facility has benefited from the various comments and additional information submitted, the information and arguments presented did not raise any substantial new questions concerning the permit that warranted a reopening of the public comment period. EPA does, however, make certain clarifications and changes in response to comments. These are explained in this document and reflected in the Final Permit. Below EPA provides a summary of the changes made in the Final Permit. The analyses underlying these changes are contained in the responses to individual comments that follow.

A copy of the Final Permit and this response to comments document will be posted on the EPA Region 1 web site: at https://www.epa.gov/npdes-permits/massachusetts-final-individual-npdes-permits.

A copy of the Final Permit may be also obtained by contacting Michele Barden at barden.michele@epa.gov or (617) 918-1539.

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I. Summary of Changes to the Final Permit

1. EPA has changed the fecal coliform limit (and footnote 7) in the Final Permit to account for the percent of samples exceeding the standard. See Response 3.
2. EPA updated Footnote 11 to reference the updated method 1633A. See Response 5.
3. The Adaptation Planning requirements have been removed from the Final Permit. See Response 7.
4. EPA has revised the deadline for completing revisions to local limits, should they be necessary, to 18 months. See Response 12.
5. EPA has reduced the number of sampling rounds required by the Ambient Monitoring Plan to 6, concentrated during the growing season. See Response 13.
6. EPA has updated Footnote 13 by removing the reference to C-NOEC and has corrected the second species for the acute toxicity test to mysid shrimp. See Response 20.
7. EPA has deleted the reference to Attachment B in Footnote 14. See Response 21.
8. EPA has corrected Part I.E.3.b to reference Attachment B. See Response 22.
9. EPA has corrected Part I.E.5 to reference Attachment C. See Response 23.
10. EPA has removed the phrase “hard copy” from Part I.E.5. See Response 26.
11. EPA has revised the requirement at I.E.4.a. See Response 40.

II. Responses to Comments

Comments are reproduced below as received; they have not been edited.

A. Comments from David Michelsen, P.E., Executive Director, South Essex Sewerage District.

Comment 1

The South Essex Sewerage District (SESD or District) respectfully submits the enclosed comments on the draft National Pollutant Discharge Elimination System (NPDES) permit (Draft Permit) issued by the United States Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (MassDEP), received on January 23, 2025, for the South Essex Wastewater Treatment Facility (WWTF). Due to the significant impact the Permit will have on future compliance strategies, capital investment, and overall affordability, the District developed the detailed comments below in order to provide its full perspective for the permit finalization process. In submitting the enclosed comments, the District does not agree that the revisions in the 2016 permit adequately address its comments on the 2013 Draft Permit and the District reserves all rights with respect to its comments on the 2013 Draft Permit. The District welcomes and appreciates any opportunity to work with EPA and MassDEP to resolve the questions and issues identified in these comments prior to the issuance of the final permit.

Response 1

EPA acknowledges receipt of the comments on the 2025 Draft NPDES Permit No. MA0100501 comments and has responded to these issues raised in more detail below. EPA's response will be limited to the 2025 Draft NPDES Permit work and not any comments submitted on the development of the prior 2016 Permit, which are outside the scope of this permitting action.

Comment 2

EXECUTIVE SUMMARY

SESD has submitted detailed comments on the draft NPDES permit (MA0100501) issued by the EPA and the draft Surface Water Discharge Permit and draft Section 401 Water Quality Certification issued by MassDEP for the South Essex WWTF. Two of the most concerning issues are the inconsistent bacteria limits and ambient monitoring requirements:

- SESD identifies discrepancies in the bacteria limits compared to the 2016 permit and advocates for the application of a mixing zone and seasonal limits to better reflect actual conditions and reduce unnecessary operational and cost burdens.

- SESD objects to the new ambient monitoring requirement, citing significant administrative and financial burdens, lack of scientific justification, and regulatory overreach.

SESD's response also highlights several key concerns, including objections to increased

nitrogen sampling frequency, the inclusion of PFAS and Adsorbable Organic Fluorine (AOF) testing due to the high costs and unpromulgated testing methods, end-result requirements, and requirements for flow reduction planning including Infiltration and Inflow assessment based on an 80% factor of an unfounded flow limit. Additionally, SESD challenges the requirement for adaptation planning and specific industrial discharge monitoring, citing regulatory overreach and financial burdens. SESD requests revisions to the draft permit to align with practical operational capabilities and existing regulatory frameworks, emphasizing the need for scientifically justified and economically feasible permit conditions.

BACKGROUND

The District owns and operates the South Essex Wastewater Treatment Facility which serves residents in the Cities of Salem, Peabody, and Beverly and the Towns of Danvers and Marblehead. The District owns and maintains approximately 29 miles of large diameter interceptor piping and forcemains, which convey wastewater from local communities to a District treatment facility in Salem. Currently, the WWTF is regulated by NPDES permit No. MA0100501 (issued May 5, 2016). When finalized, the new NPDES permit (MA0100501) will supersede the WWTF NPDES permit currently in effect.

COMMENTS

The District offers the following comments and proposed resolutions on the draft NPDES permit renewal MA0100501 (Draft Permit).

Response 2

EPA acknowledges receipt of these comments and has responded to these issues raised in more detail below. As noted in Response 1, EPA's response will be limited to the 2025 Draft NPDES Permit No. MA0100501 published for public comment by the EPA.

Comment 3

Bacteria Limits. The Draft Permit includes limits on fecal coliform of 88 cfu/100mL as a monthly geometric mean and a new reportable maximum daily value of 260 cfu/100mL (page 3 of 31). In the Fact Sheet (page 30 of 63) EPA states that in the 2016 Permit "a monthly geometric mean of 88 colony forming units (cfu) and a maximum daily limit of 260 cfu/100ml were established" and that "[t]he Draft Permit proposes maintaining the effluent limits for bacteria from the 2016 Permit." This is misleading as the 2016 Permit required reporting only of "the percent of samples exceeding 260 cfu per 100 ml on its discharge monitoring report." The full text of the maximum daily reporting requirement for fecal coliform is included in Part 1A, Footnote No. 6 (page 3 of 15) of the 2016 Permit:

> Fecal coliform discharges shall not exceed a monthly geometric mean of 88 colony forming units (cfu) per 100 ml, and no more than 10 percent of the fecal coliform samples in any calendar month shall exceed 260 cfu per 100 ml. The permittee shall report the percent of samples exceeding 260 cfu per 100 ml on its discharge monitoring

report and submit the sample results with the discharge monitoring report.

The EPA states in the Draft Permit Fact Sheet (page 30 of 63) that of the fecal coliform results "[t]he DMR data during the review period shows that there have been…six exceedances of the maximum daily limit," which is not a true statement: while there were six months that included a maximum day value of greater than 260 cfu per 100 ml, there were not six exceedances of more than 10 percent of the fecal coliform samples having maximum daily values greater than 260 cfu per 100 ml.

The 260 organisms per 100 mL maximum daily limit for fecal coliform as presented in the Draft Permit does not match the stated intention that the "limits and sampling frequency are the same as in the 2016 Permit" (Fact Sheet page 30 of 63). Additionally, the District notes that the maximum daily limits for fecal coliform as presented in the Draft Permit is inappropriate because it sets a maximum daily limit that is not included in the Massachusetts Water Quality Standards (MA WQS) for Class SB Waters. According to the MA WQS, at 314 CMR 4.05 (4)(b)4.a:

> **Bacteria.**
> a. Waters designated for shell fishing shall not exceed a fecal coliform median or geometric mean MPN of 88 organisms per 100 mL, **nor shall more than 10% of the samples exceed an MPN of 260 per 100 mL** or other values of equivalent protection based on sampling and analytical methods used by the Massachusetts Division of Marine Fisheries and approved by the National Shellfish Sanitation Program in the latest revision of the Guide For The Control of Molluscan Shellfish (more stringent regulations may apply, see 314 CMR 4.06(1)(d)5.) [bold added for emphasis].

While the 2016 Permit requirement matches the MA WQS, the Draft Permit does not and is inconsistent with Massachusetts Water Quality Standards (MA WQS) for Class SB Waters. The maximum daily limit for fecal coliform bacteria in the Draft Permit without the inclusion of the "more than 10% of samples exceeding" qualifier is a change from the 2016 NPDES Permit for the WWTF which we believe is an error in the Draft Permit that does not match the stated intention of EPA.

Mixing Zone: EPA has previously acknowledged that "certain water quality-based effluent limits (i.e., – total residual chlorine) in the 2016 Permit were established with the use of a mixing zone" and that Massachusetts water quality regulations allow for such zones when specific conditions are met (314 CMR 4.03(2)). The SESD WWTF discharge location is approximately 2.3 miles offshore at a depth of 42 feet with a multiport diffuser system that meets the criteria for rapid initial dilution. The discharge outfall consists of a 54-inch diameter, 660-foot-long, multiport diffuser with 66 five-inch ports spaced ten feet apart, designed to ensure thorough dispersion of effluent into the receiving waters. Given that the mixing zone has been used for certain pollutants in past permits (i.e., total residual chlorine), it is inconsistent to not apply a mixing zone for bacteria when a

scientifically justified dilution model can demonstrate compliance with water quality standards at an appropriate boundary.

Furthermore, EPA has explicitly recognized the role of dilution and dispersion in regulating bacteria levels for offshore wastewater discharges, as reflected in the agency's analysis of the Deer Island WWTP outfall. According to the 2023 MWRA Deer Island WWTP Permit Fact Sheet, the permit limits for bacteria in the MWRA draft permit incorporate a 70:1 dilution factor (page 53 of 195, attached).

Moreover, the end-of-pipe discharge standard is not applicable for the District's outfall, as the diffuser system is functioning effectively to disperse effluent and facilitate bacterial decay. This is demonstrated in the Vella and Callaghan study from 2020, referenced on page 35 of 63 in the Fact Sheet, where the average TN concentration at the outfall was found to be 15.7 µM (0.22 mg/L), much lower than any nitrogen concentration at an end of pipe WWTP discharge. The current design of the existing outfall ensures that effluent is rapidly mixed, minimizing localized impacts and preventing any exceedance of water quality standards beyond the immediate discharge point. EPA has acknowledged the fact that the District's outfall diffuser is properly functioning in the 2025 Permit Fact Sheet (page 35 of 63), where it is stated that "**The SESD outfall seems to be doing a good job at dispersing the effluent**, although more data are needed to provide a clearer picture" [bold emphasis added].

Additionally, a fecal coliform indicator bacteria limit is applicable for SB Waters (Approved for shellfishing with depuration) as per the Final TMDL for the North Coast (Final Pathogen TMDL for the North Coastal, page 84 of 148). According to the Water Quality Standards, at 314 CMR 4.05 (4)(b):

> (b) Class SB. Those Coastal and Marine Waters so designated pursuant to 314 CMR 4.06; including, without limitation, 314 CMR 4.06(2) and certain surface waters designated in 314 CMR 4.06(6)(b). These waters are designated as a habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. In certain waters, habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. Where designated for shell fishing in 314 CMR 4.06(6)(b), these waters shall be suitable for shellfish harvesting with depuration (Restricted and Conditionally Restricted Shellfish Areas). These waters shall have consistently good aesthetic value.

As per this definition, the Shellfishing designation is applicable solely to areas classified as Restricted and Conditionally Restricted for shellfish harvesting. **The waters receiving discharge from the SESD WWTF are NOT classified as Restricted or Conditionally Restricted under the Massachusetts Shellfish Sanitation program; instead, they are designated as Prohibited.** Consequently, the fecal coliform limits outlined in the Water Quality Standards are not applicable, as these waters do not fall under the Restricted or Conditionally Restricted categories specified in the standards.

Given the demonstrated effectiveness of the diffuser and its functional equivalence to the Deer Island WWTP system, as well as the classification of the receiving water, bacterial limits should be measured at the boundary of the initial dilution zone (rather than the outfall itself), with scientifically validated dilution factors applied to reflect end of pipe dispersion. As EPA used an acute dilution factor of 18.6 in the 2016 permit, in this 2025 Draft Permit the average daily limit for fecal coliform should be 1,637 cfu/100 mL with a maximum of no more than 4,836 organisms/ 100 mL 10% of samples. The average daily limit for Enterococci should be 651 colonies/100mL and the maximum daily limit for Enterococci should be 5,134 colonies/100mL.

Seasonal Limit: The Draft Permit includes year-round limits for both Enterococci and Fecal coliform. The primary reason for imposing Enterococci limits is to protect public health by ensuring safe water quality for recreational activities. However, during winter, when recreational use is minimal, the risk to public health is substantially lower. Therefore, maintaining stringent limits year-round may not be necessary to achieve the intended public health protection. Imposing year-round limits is inconsistent with EPA's recent issuance of seasonal bacteria limits for Publicly Owned Treatment Works (POTWs) that discharge to Class SB water. For example, certain POTWs in Massachusetts and New Hampshire have been granted seasonal discharge limits under the National Pollutant Discharge Elimination System (NPDES) permits. This precedent demonstrates that regulatory agencies recognize the validity of adjusting limits based on seasonal variations in environmental conditions and usage patterns. The MWRA 2023 Fact Sheet serves as a precedent, allowing seasonal Enterococcus limits for the Deer Island Treatment Plant based on recreational exposure risk and hydrodynamic conditions. Given that the District's outfall discharges into a marine environment characterized by offshore discharge, strong tidal flushing and limited winter recreation, a seasonal bacteria limit is equally appropriate. Therefore, implementing seasonal fecal coliform and Enterococci limits for the SESD WWTF would align with practices already in place for other POTWs in the region. This consistency can help streamline regulatory processes and ensure that all facilities are held to similar standards based on actual risk and usage patterns.

The SESD WWTF is facing increased operational challenges and costs to meet stringent effluent limits. By adjusting the Enterococci and fecal coliform limits to be applied seasonally, the SESD WWTF could optimize its operations and reduce costs during the winter months when the public health risk is lower. While maintaining water quality is crucial, the environmental impact of WWTF operations should also be considered. Seasonal limits could help balance the need for environmental protection with the practicalities of WWTF operations, potentially reducing the environmental footprint of the treatment process during periods of low recreational use. This has been acknowledged by EPA's statement on minimizing chemical usage as in footnote #7 (Part 1.A, page 7 of 31) that the "Permittee shall minimize the use of chlorine while maintaining adequate bacterial control." The best way to minimize chlorine use, while also providing resources for other operations and maintenance costs, is to align the disinfection season with actual recreational exposure risks and implement a seasonal bacteria limit (April 1 – October 31) instead of a year-round disinfection requirement.

A seasonal standard would strike a balance, effectively protecting public health while reducing the environmental and economic burden of chemical use during colder months when bacterial viability and recreational exposure are significantly reduced. By reducing unnecessary chemical disinfection during winter months, the introduction of excess sodium hypochlorite and sodium bisulfite into the marine environment would be minimized, which would reduce potential ecological impacts and operational costs while maintaining water quality compliance.

Request: The District requests that the fecal coliform maximum daily limit be modified to reflect the requirement of the Massachusetts Water Quality Standards for Class SB Waters, and the stated EPA intention, by updating the 260 organisms per 100 ml fecal coliform maximum daily limit in the Draft Permit to match the limit in the 2016 Permit, which specifies "**no more than 10 percent of the fecal coliform samples in any calendar month shall exceed**" 260 organisms per 100 ml.

The District also requests that EPA correct the Fact Sheet (page 30 of 63) statement that there have been "six exceedances of the maximum daily limit," which is incorrect, for the reasons stated above.

Further, the District requests that the same standard be applied to the District's outfall as that of MWRA by adding a dilution factor to the bacteria limits. Applying the acute dilution factor of 18.6 results in an average daily limit for fecal coliform of 1,637 cfu/100 mL with a maximum of no more than 4,836 organisms/ 100 mL 10% of samples as well as an average daily limit for Enterococci of 651 colonies/100mL and a maximum daily limit for Enterococci of 5,134 colonies/100mL.

Lastly, to enhance the protection of the environment, the District requests that the change to the year-round bacterial limit apply only during the recreational season of April through October, thereby reducing the use and discharge of chemicals into the environment.

Response 3

Bacteria Limits

This portion of the comment identifies a mischaracterization in the Fact Sheet regarding the description of the fecal coliform bacteria limits in the 2016 SESD permit and compliance. Additionally, the commenter requests that EPA reconsider the proposed bacteria limits in the Draft Permit.

The commenter correctly recognizes that the 2016 Permit includes an average monthly limit of 88 cfu/100 ml and a maximum daily reporting requirement for fecal coliform bacteria. The 2016 permit footnote related to fecal coliform bacteria limit also requires, "and no more than 10 percent of the fecal coliform samples in any calendar month shall exceed 260 cfu per 100 ml. The permittee shall report the percent of maximum daily values exceeding 260 cfu per 100 ml on its discharge monitoring report and submit the sample results as an attachment with the discharge monitoring report."

The commenter is also correct that there have been no violations of the maximum daily bacteria limit as it is only a reporting requirement in the 2016 Permit. EPA agrees that the maximum daily reported value is not a violation; rather, the limit was based on underlying percent of samples exceeding 260 cfu per 100 ml. EPA will work with Region 1 's Enforcement and Compliance Assurance Division (ECAD) to address the error in ICIS to ensure that the maximum daily value is not flagged as a violation but the limit continues to be based on the underlying percentage.

The Massachusetts WQS for Class SB waters at 314 CMR 4.05(b)(4) require:

> a. Waters designated for shellfishing shall not exceed a fecal coliform median or geometric mean MPN of 88 organisms per 100 mL, nor shall more than 10% of the samples exceed an MPN of 260 per 100 mL or other values of equivalent protection based on sampling and analytical methods used by the Massachusetts Division of Marine Fisheries and approved by the National Shellfish Sanitation Program in the latest revision of the Guide For The Control of Molluscan Shellfish (more stringent regulations may apply, see 314 CMR 4.06(1)(d)5.); and
> b. For protection of primary contact recreation, surface waters shall meet the minimum criteria for bacteria set forth in 314 CMR 4.05(5)(f)2. and 3.

Based on this standard and as requested by the commenter, EPA has revised the maximum daily effluent limit for fecal coliform bacteria in the Final Permit. The maximum daily limit has been changed to a report only requirement (as in the 2016 Permit) and EPA has added a new Footnote 7 (the footnotes from the Draft Permit have been subsequently re-numbered in the Final Permit) which requires the Permittee to continue to report the percent of maximum daily values exceeding 260 cfu per 100 ml for the month on its discharge monitoring report and submit the sample results as an attachment with the monthly discharge monitoring report (DMR). Therefore, the permit limit in the Final Permit will require that no more than 10% of the samples each month may exceed 260 cfu per 100 ml.

Mixing Zone

The commenter requests that given the effectiveness of the diffuser and the functional equivalence of its facility to the Deer Island WWTP system, and the classification of the receiving waters that EPA should set bacteria limits with an allowance for a mixing zone.

First, the commenter states that EPA has previously acknowledged that "certain water quality-based effluent limits (i.e., – total residual chlorine) in the 2016 Permit were established with the use of a mixing zone" and that Massachusetts water quality regulations allow for such zones when specific conditions are met (314 CMR 4.03(2)).

Although the commenter is correct that the Massachusetts WQS allow for the implementation of a mixing zone for water quality based effluent limits, it has been EPA's policy, as expressed in the Water Quality Standard Handbook,[1] that mixing zones

[1] EPA-820-B-14-004, 2014, available at: https://www.epa.gov/sites/default/files/2014-09/documents/handbook-chapter5.pdf

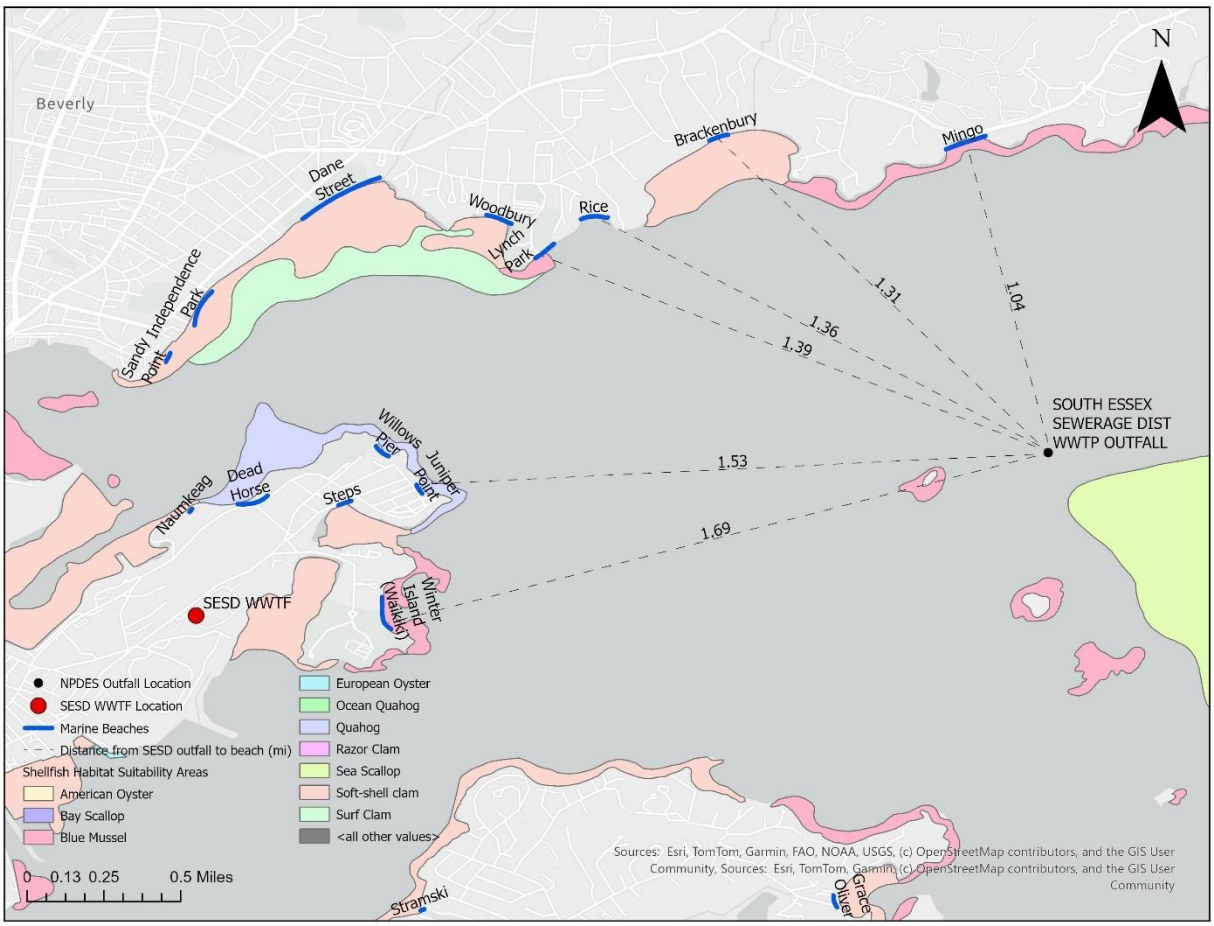
may not be appropriate in circumstances where they may cause significant human health risks (considering all likely pathways of exposure) or where they may endanger critical areas (e.g., shellfish beds, recreational areas). One such situation could be where mixing zones allow for elevated levels of pathogens or pathogen indicators in receiving waters designated for shellfishing and/or primary contact recreation.

Epidemiological studies have demonstrated that illness rates are higher when the criteria are exceeded compared to when those criteria area not exceeded. Therefore, people recreating in or through a bacteria mixing zone (where bacterial levels may be elevated above the criteria levels) may be exposed to greater risk of gastrointestinal illness than would otherwise be allowed by the state or tribal criteria from the protection of the recreational use. Given this presumption, EPA cautions careful evaluation whether to authorize a mixing zone that results in elevated levels of bacteria in a receiving water designated for primary contact recreation that will adversely affect the designated use. If so, then the mixing zone should not be authorized because it could result in significant human health risk. The same can be true for the designated use of shellfishing.

Second, the commenter's premise that the SESD WWTF system is functionally equivalent to the Massachusetts Water Resources Authority (MWRA) Deer Island WWTP system is incorrect. As of the date of SESD's Final Permit, EPA Region 1 has public noticed, but not yet issued, a NPDES Permit for the MWRA Deer Island Treatment Plant (DITP) with the use of a multiplying factor in setting bacteria limits. However, as detailed in the Fact Sheet for the MWRA DITP, the DITP outfall is unique in several ways: 1) the discharge, at a minimum, is approximately 5.6 miles from the nearest shoreline; 2) it is at a depth of 110 feet; 3) a portion of the 9.5-mile long outfall tunnel is used as part of the chlorine contact chamber and dechlorination occurs in the outfall tunnel; and 4) the Permittee has a long-term ambient monitoring program which documents that WQS for bacteria are met in the immediate vicinity of the outfall and the monitoring program is continued as a permit requirement in the MWRA Draft Permit.

In describing the SESD outfall, the commenter states that the SESD discharge location is approximately 2.3 miles offshore; however, that is not accurate. The outfall pipe from the SESD WWTF to the discharge location is approximately 2.3 miles long; however, the outfall diffuser is approximately 1 mile from the nearest shoreline and a public swimming beach. See Figure 1.

Figure 1: **Location of the SESD Outfall relative to areas suitable for shellfish and distances to select local public swimming beaches.**



The outfall diffuser is located in Salem Sound, a heavily used water body for fishing and primary and secondary recreation. Additionally, the outfall is surrounded by areas that have been identified as suitable habitat for shellfish by Massachusetts Division of Marine Fisheries.[2] Although the area is currently administratively classified as prohibited for shellfishing, EPA has an obligation to protect water quality standards that apply to the designated uses of the receiving water including shellfishing. The fecal coliform bacteria criteria are established to protect the designated use of shellfishing. The closest area suitable for shellfish habitat is approximately 660 feet from the diffuser.

In general, bacteria limits in NPDES permits are established as end-of-pipe limits. As previously stated, mixing zones that allow for elevated levels of bacteria in a receiving water, which is designated for shellfishing, are inconsistent with the designated use and should not be permitted.

[2] MassGIS Data: Shellfish Suitability Areas, May 2011. Available at: https://www.mass.gov/info-details/massgis-data-shellfish-suitability-areas

As defined in the Technical Support Document for Water Quality-based Toxics Control (USEPA, 1991), the "TSD", a mixing zone is "an area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient waterbody. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented." The TSD recommends that allowable mixing zone characteristics should be established to ensure that: mixing zones do not impair the integrity of the waterbody as a whole; are not lethal to organisms passing through the mixing zone; and there are no significant health risks, considering likely pathways of exposure.[3]

Effluent limitations established based on a mixing zone will increase the mass loading of the pollutant to the water body and decrease treatment requirements compared to limitations not based on mixing zones. Because of these and other factors, mixing zones must be applied carefully, so as not to impede progress toward the Clean Water Act goals of maintaining and improving water quality. See Water Quality Standards Handbook: Second Edition at 5-2; Technical Support Document for Water Quality-based Toxics Control (USEPA, 1991a) at 69-72.

In contrast to SESD, MWRA has collected a long-term record (since 1999) of ambient bacteria monitoring data at 11 stations in Massachusetts Bay. MWRA has been conducting monthly and adverse condition monitoring for both fecal coliform and *Enterococcus* bacteria since 1999.[4] The MWRA draft permit requires MWRA to continue to conduct ambient monitoring for bacteria to assure that water quality standards are being met in the receiving waters.

Finally, EPA consulted with MassDEP on the issue of a mixing zone and MassDEP found that "the use of a mixing zone is inappropriate." MassDEP recognizes the SESD is attempting to save chemical costs but finds that is it not appropriate at the expense of public and environmental safety.[5]

Seasonal Limit

The 2016 Permit included year-round limits for fecal coliform bacteria and enterococci. The Permittee has requested a seasonal limit for enterococci since it is expected that recreational use is minimal.

EPA consulted with MassDEP on this issue and MassDEP determined that a seasonal limit for enterococci would be backsliding from the 2016 Permit.[6] The enterococci limit remains year-round.

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[3] US EPA. March 1991. "Technical Support Document for Water Quality-based Toxics Control," EPA/505/2-90-001, Chapter 5, p. 3.

[4] MWRA DITP Fact Sheet, 2023, p. 47-54. Available at: https://www3.epa.gov/region1/npdes/mwra/pdf/2023/mwra-2023-fact-sheet.pdf

[5] Email. Claire Golden, MassDEP to Michele Barden, EPA. June 10, 2025. RE: SESD seasonal limit for enterococci.

[6] Email. Claire Golden, MassDEP to Michele Barden, EPA. June 10, 2025. RE: SESD seasonal limit for enterococci.

In conclusion, this comment has resulted in a change to the fecal coliform bacteria limit in the Final Permit. The maximum daily limit is a reporting requirement and footnote 7 applies and states, "The Permittee shall report the percent of maximum daily values that exceeded an MPN of 260 organisms per 100 ml and submit the sample results as an attachment with the discharge monitoring report. No more than 10% of the samples shall exceed 260 organisms/100 ml."

Comment 4

Sampling Frequency for Nitrogen Species: The Draft Permit includes increased sampling and reporting of total Kjeldahl Nitrogen (TKN) and nitrite + nitrate. The District currently reports monthly nitrogen data and objects to the additional sampling for nitrogen species which are not a required permit limit. In the Fact Sheet (page 35 of 63) EPA states that "The SESD outfall seems to be doing a good job at dispersing the effluent, although more data are needed to provide a clear picture" [emphasis added]. And on page 36 of 63, that "EPA finds that there is not enough technical support to justify the establishment [sic] an effluent limitation for total nitrogen." Data from the referenced 2020 Vella and Callaghan study showed that the nitrogen levels near the SESD outfall (0.22 mg/L) are "below the range of 0.33 to 0.55 mg/L which the report indicates may be detrimental to eelgrass" (page 35 of 63). EPA acknowledges on page 36 of the Fact Sheet that "Although the Sound shows some signs of nutrient-induced effects, it is not clear that the SESD discharge is causing or contributing to those effects given the dispersion of the effluent and the low levels of nitrogen found in the Sound and even in the immediate vicinity of the outfall." While EPA claims to be continuing the effluent monitoring for total nitrogen in the Draft Permit, (Fact Sheet page 36 of 63), there is no reasoning or statement of acknowledgement justifying increased frequency of effluent total nitrogen monitoring. The costs of additional testing increases the cost burden to the District and the ratepayers for no apparent benefit.

The District takes great exception to the increased monitoring for the following reasons:

Existing levels of nitrogen from the SESD facility do not show cause or reasonable potential to exceed the water quality criteria in the Salem Sound.

First, the District notes that in accordance with Table 11 in the Fact Sheet (page 24 of 63), the MassDEP's 2022 Integrated List of Waters does not name nitrogen as a cause of impairment. Therefore, any reasonable conclusion would be that further evaluation and possible limitations for nitrogen are not indicated in accordance with EPA permitting procedures.

MassDEP provides narrative criteria for nutrients at 314 CMR 4.05 (5)(c) which states in part:

Unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses and shall not exceed the site-specific criteria developed in a TMDL or as otherwise established by the Department pursuant to 314 CMR 4.00…

Any existing point source discharge containing nutrients in concentrations that would cause or contribute to cultural eutrophication, including the excessive growth of aquatic plants or algae, in any surface water shall be provided with the most appropriate treatment as determined by the Department, including, where necessary, highest and best practical treatment (HBPT) for POTWs and BAT for non POTWs, to remove such nutrients to ensure protection of existing and designated uses…

As EPA has failed to identify nitrogen as a nutrient that would cause or contribute to an impairment, the District does not understand how further expenditures and additional study of nitrogen is warranted.

Existing effluent data from the SESD WWTF is far and above more than is necessary for EPA to understand the impacts of nitrogen on the receiving water – particularly one in which EPA states that nitrogen is not impacting the designated uses and that "*Although the Sound shows some signs of nutrient-induced effect, it is not clear that the SESD discharge is causing or contributing to those effects given the dispersion of the effluent and the low levels of nitrogen found in the Sound and even in the immediate vicinity of the outfall.*"

There is already adequate effluent data to determine if nitrogen from the WWTF is causing or contributing to a water quality impairment – and there is no evidence that it is doing so; MassDEP does not have numeric criteria for nitrogen, and MassDEP has already concluded that a TMDL is not required for nitrogen in the Salem Sound and does not cause or contribute to an impairment of the water body.

The MassDEP narrative criteria, if indeed was being violated by the discharge from the WWTF (which it is not) requires that: "Any existing point source discharge containing nutrients in concentrations that would cause or contribute to cultural eutrophication, including the excessive growth of aquatic plants or algae, in any surface water shall be provided with the most appropriate treatment as determined by the Department, including, where necessary, highest and best practical treatment (HBPT) for POTWs… "

Therefore, prior to the imposition of any numeric limitations, EPA would first need to prove that the WWTF nitrogen effluent causes or contributes to cultural eutrophication, then EPA would need to determine HBPT for this facility. Finally, if HBPT is not sufficient, EPA can adopt a TMDL for nitrogen, which would assign numeric effluent limitation necessary to meet water quality – although again, since nitrogen has not been shown to be a cause of cultural eutrophication, is unclear what, if any, numeric limitations would be indicated.

> **Request:** Remove the increased frequency of sampling and reporting nitrogen sampling.

Response 4

This comment requests that the frequency for monitoring and reporting nitrogen species in the effluent not be increased.

In general, EPA has broad authority under the CWA and NPDES regulations to prescribe the collection of data and reporting requirements in NPDES Permits. *See* CWA § 308(a)(A), 33 U.S.C. § 1318(a)(A) (specifying that permittees must provide records, reports, and other information EPA reasonably requires); CWA § 402(a)(2), 33 U.S.C. § 1342(a)(2) (requiring permittees to provide data and other information EPA deems appropriate); 40 C.F.R. § 122.41(h) (permittees shall furnish "any information" needed to determine permit compliance); 40 C.F.R. § 122.44(i) (permittees must supply monitoring data and other measurements as appropriate); see also, e.g., *In re City of Moscow*, 10 E.A.D. 135, 170-71 (EAB 2001) (holding that EPA has "broad authority" to impose information-gathering requirements on permittees); *In re Town of Ashland Wastewater Treatment Facility*, 9 E.A.D. 661, 671-72 (EAB 2001) (holding that CWA confers "broad authority" on permit issuers to require monitoring and information from permittees); *In re Avon Custom Mixing Services, Inc.*, 10 E.A.D. 700, 708 (EAB 2002) ("The Board has emphasized that monitoring data play a crucial role in fulfilling the objectives of the CWA and its implementing regulations."); *Id.* at 709 ("where the monitoring relates to maintaining State water quality standards… nothing in the CWA or the implementing regulations constrain the Region's authority to include monitoring provisions.").

Since the last permit re-issuance in 2016, a new impairment was added to Segment MA93-56 (Salem Sound) in the Massachusetts Integrated List of Waters.[7] Salem Sound is listed as impaired for "estuarine bioassessments" which is an impairment of the aquatic life use due to a substantial decline in eelgrass bed areal extent.[8] As noted in the Fact Sheet (p. 32), this decline could be impacted by a number of pollutants, including nitrogen. The Massachusetts Estuaries Project[9] states that "[l]osses of [eelgrass] bed area and/or thinning of beds (decreases in density) are generally both linked to nutrient enrichment." The Project also found that as nitrogen levels rose above 0.40 mg/L eelgrass beds began declining.[10] The 2016 Permit includes 1/Month monitoring year-round and the Draft Permit proposed increasing monitoring to 1/Week during the growing season and maintaining 1/Month monitoring frequency during the colder months. Given the potential variability of nitrogen throughout the month, EPA finds that more frequent monitoring of effluent nitrogen during the growing season is necessary to determine if the SESD's discharge may cause or contribute to the eelgrass loss in Salem Sound.

[7] https://www.epa.gov/system/files/documents/2023-10/2022-ma-303d-list-report.pdf
[8] MassDEP. 2018. Massachusetts Consolidated Assessment and Listing Methodology (CALM) Guidance Manual for the 2018 Reporting Cycle, p. H2. Available at: https://www.mass.gov/files/documents/2018/05/07/2018calm.pdf
[9] https://www.mass.gov/doc/massachusetts-estuaries-project-interim-report-on-site-specific-nitrogen-thresholds-for/download
[10] Ibid, p. 21

The commenter states that "MassDEP has already concluded that a TMDL is not required for nitrogen in Salem Sound and [sic] does not cause or contribute to an impairment of the water body." EPA presumes this statement intended to indicate that "*SESD* does not cause or contribute to an impairment of the water body." In any case, EPA is unclear of the source of this statement as no reference is provided to demonstrate that MassDEP has made such a determination. On the contrary, as previously stated above and in the Fact Sheet, Salem Sound is listed as impaired for "estuarine bioassessments" and that impairment does require a TMDL as indicated in the Massachusetts 2022 Impaired Waters List where Salem Sound is listed in a table entitled, "Category 5 waters listed alphabetically by major watershed, The 303(d) List – 'Waters requiring a TMDL'."[11]

Although Salem Sound is currently showing signs of nutrient-induced effects, the influence of the SESD discharge is unclear and more data are needed to provide a clearer picture. The Permit requires effluent monitoring for total nitrogen (i.e., nitrate + nitrite and total Kjeldhal nitrogen) but does not establish an effluent limitation at this time. The increased frequency of TKN, nitrate + nitrite and total nitrogen monitoring during the growing season will provide additional data that can be used by EPA to assess reasonable potential for the SESD WWTF to cause or contribute to the violations of WQS during the next permit reissuance.

Finally, EPA notes that in addition to the Model or Dye Study requirement in the Final Permit, Part I.G.4., EPA will consider conducting a separate dye study, in partnership with the Massachusetts Division of Marine Fisheries (Marine Fisheries), to evaluate the far-field influence of the SESD discharge on eelgrass beds throughout Salem Sound. Simultaneously, EPA would consider conducting updated nutrient monitoring in the vicinity of the eelgrass beds. This work, along with more frequent growing season effluent nitrogen monitoring and the ambient monitoring requirements (required in the permit), will provide the data necessary for EPA to evaluate the reasonable potential for SESD WWTF to cause or contribute to violations of the WQS.

This comment has not resulted in any changes to the Final Permit.

Comment 5

PFAS Testing of Influent, Effluent, Sludge: The addition of PFAS monitoring in the 2025 Draft Permit imposes a significant cost burden on the District and its ratepayers. Each sample analyzed for PFAS costs $350 and with trip blanks and other quality control samples the financial impact quickly multiplies. Also, MassDEP has initiated a statewide study and will be collecting this information from facilities throughout the state; MassDEP is the appropriate entity to do the research on fate and transport of PFAS pollutants as opposed to wastewater treatment facility operators and administrators."

[11] https://www.epa.gov/system/files/documents/2023-10/2022-ma-303d-list-report.pdf, p. 196

The District also takes issue with the proposed testing method. Test Method 1633 referenced in the Footnote 10 on page 7 of the Draft Permit, has still not been promulgated and is not published in the Federal Register. Further, Test Method 1633A, a revised version of Method 1633, was recently in the public comment period of review, and has not been promulgated. Thus, it is still subject to change, and in fact, changes have been proposed since the release for public comment. The District asserts that EPA should properly promulgate the method for PFAS testing prior to requiring it in NPDES permits as it is inappropriate, premature, and regulatory overreach for the EPA to include a testing method in NPDES Permits before the method is promulgated.

In addition, PFAS monitoring is an "end-result" requirement which assigns responsibility to the District for the quality of water in an area that could be impacted by pollution from other sources. In a recent U.S. Supreme Court case, the Court struck down end-result requirements and agreed with the permittee that the EPA is not authorized to impose "NPDES requirements that condition permitholders' compliance on whether receiving waters meet applicable water quality standards". See City and County of San Francisco, California v. Environmental Protection Agency, Docket No. 23-753, pages 9-10 of Slip Opinion (March 4, 2025). End-result requirements, such as the PFAS monitoring requirements, cannot stand after this important U.S. Supreme Court ruling.

> **Request:** The District requests that EPA and MassDEP remove PFAS monitoring of the WWTF influent, effluent, and sludge from the Permits.
>
> If PFAS sampling is maintained in the Final Permit, the District requests that the sampling and analysis not be required until a test method for PFAS in wastewater is promulgated and in effect.
>
> If PFAS sampling is maintained in the Final Permit, the District requests that the sampling be limited to twice annually for the initial two (2) years with results allowing less frequent (annual) analysis thereafter.
>
> In addition, the District requests that if any form of PFAS reporting requirements remains in the new Permit and the Permit is administratively continued after the five-year term expires, that the PFAS monitoring and reporting requirement be discontinued as EPA will have collected sufficient data for any future permitting requirements.

Response 5

> First, the commenter expresses concerns regarding the cost burden to conduct the PFAS sampling and analysis. EPA acknowledges that there are costs and other resources that Permittees must allocate to comply with permit requirements. As with all water quality monitoring, EPA must balance the need for additional data with the associated cost and has decided that this monitoring is necessary to properly inform future permitting decisions that will be necessary to ensure the continued protection of water quality standards.

Secondly, this comment suggests that a sampling program from MassDEP is duplicative with the PFAS monitoring in this permit. MassDEP and other entities may pursue ongoing PFAS sampling efforts to better understand PFAS discharges. EPA contacted MassDEP regarding the scope of the sampling program described in this comment and determined that the program is designed to sample all 114 NPDES POTWs throughout Massachusetts "at least once, and twice for as many POTWs as possible." In comparison, this Final Permit requires quarterly sampling throughout the life of the permit to provide a robust dataset to characterize the influent, effluent and sludge from the POTW as well as to track long-term trends. EPA appreciates the efforts of MassDEP to conduct a broad sampling effort which will capture at least some data from all POTWs but does not agree that this program will provide EPA with the same level of robust, site-specific information needed to ensure the continued protection of water quality standards in the next permit reissuance. However, EPA notes that the results of this study may be used to satisfy the PFAS monitoring requirement in the permit for the calendar quarter they are taken if they comply with the relevant permit requirements.

Thirdly, this comment takes issue with the proposed testing method. There is a distinction between the development of an analytical method and the promulgation of that method in 40 C.F.R. Part 136. As stated in 40 CFR § 122.44(i)(v)(B): "In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136…, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters…." *See also* 40 C.F.R. § 122.21(e)(3)(ii) (in an application for discharge, "[if] no analytical method… has been approved under 40 C.F.R. part 136… the applicant may use any suitable method…."). If Part 136 included analytical methods for these PFAS and AOF pollutants, the permit would automatically require the use of those methods. However, given that there are not any relevant methods in Part 136, the permit must clearly specify which analytical method to use. EPA also notes that Methods 1633 and 1621 are both final methods and already went through a rigorous multi-lab validation process of development, including multiple rounds of review and comment, and have well-documented accuracy and precision. Therefore, EPA confirms that although Methods 1633 and 1621 have not yet been promulgated in 40 C.F.R. Part 136,[12] both methods are suitable for use in NPDES permits so long as they are clearly specified in the permit.

Regarding Method 1633A, EPA released the final version of Method 1633 and the last volumes of the multi-laboratory study report on the Clean Water Act (CWA) Methods website[13] on Wednesday, January 31, 2024. In response to comments from laboratories and others, the EPA developed Method 1633A. The changes between 1633 and 1633A are minor (mostly clarifications) and can be reviewed in the "Version History" section of

[12] On January 21, 2025, EPA proposed "Clean Water Act Methods Update Rule 22 for the Analysis of Contaminants in Effluent," which proposes to add Methods 1633A (40 PFAS compounds), 1621 (adsorbable organic fluorine), and 1628 (PCB cogeners) to the 40 C.F.R. Part 136 list of approved methods. *See* 90 Fed. Reg. 6967. As of the date of this permit issuance, EPA has not taken final action on this proposal.

[13] https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas

the Method 1633A on Page ii. In any case, based on this comment the Final Permit has been updated to reference Method 1633A since it is now the most updated version of the method.

EPA disagrees with the commenter's characterization of the permit's PFAS monitoring provision as a prohibited "end result" permit condition. Monitor-only requirements are just that: an obligation to report on a discharge of pollutants, not a requirement that the discharge of a pollutant meet a certain numeric or narrative effluent limitation. EPA, as the permitting authority, has authority to impose monitoring requirements "regardless of whether pollutant discharges are restricted by an effluent limit." *E.g. In re Town of Concord*, 16 E.A.D. 514, 541-542 (EAB 2014). Data collected from a permit's monitoring requirements is critical in future permit cycles in determining the need for effluent limitations and, if appropriate, calculating effluent limitations. It is reasonable to require monitoring when there is "little data" otherwise available. *In re Avon Custom Mixing Services*, 10 E.A.D. 700, 709 (EAB 2002).

In *City and County of San Francisco v. EPA*, the Supreme Court addressed *effluent limits*, explicitly noting that it was not addressing monitoring requirements. 604 U.S. 334, 338 ("It is also common for permits to set out other steps that a discharger must take. These may include testing, record-keeping, and reporting requirements as well as requirements obligating a permittee to follow specified practices designed to reduce pollution. None of these so-called narrative requirements are at issue here."). The Court emphasized that EPA should utilize its information gathering tools to determine what is necessary to protect water quality, rather than include "end-result" requirements. *Id.* at 339 ("The EPA may itself determine what a facility should do to protect water quality, and the Agency has ample tools to obtain whatever information it needs to make that determination."). These monitoring requirements fit squarely within the framework articulated by the Court.

Finally, the comment requests a reduction in monitoring after 2 years or after 5 years. EPA considers that the quarterly monitoring is necessary throughout the life of the permit and will ensure that a robust, up-to-date PFAS dataset is available when this permit is next being reissued. Such a dataset will allow EPA to make informed permit decisions regarding PFAS discharges (in the effluent and/or sludge).

Comment 6

Adsorbable Organic Fluorine: The Draft Permit also includes sampling and measurement of influent and effluent for Adsorbable Organic Fluorine (AOF) using Method 1621, concurrent with the PFAS sampling. While the multi-laboratory validation study has been completed on this method, the January 2024 Method 1621 states that "This Method is not approved for Clean Water Act compliance monitoring until it has been proposed and promulgated through rulemaking." Method 1621 has not been promulgated. Thus, it is still subject to change. The District asserts that EPA should properly promulgate Method 1621 prior to requiring it in NPDES permits as it is inappropriate, premature, and regulatory overreach for the EPA to include Method 1621 in NPDES Permits at this time.

This requirement is also inconsistent with the purposes of the Paperwork Reduction Act. The testing creates an administrative burden on the District and forces the local entity to do the collection work which should be done by the federal government. Additionally, EPA is currently engaged in a national Information Collection Rule (ICR) study that will collect AOF data, which should provide the data that the EPA is seeking under this permit.

Additionally, the District notes that AOF is not a pollutant and has never been identified as a cause of water quality violations in any surface water. While AOF may prove useful as a better way to measure PFAS, the administrative and cost burden of the research to prove its utility as a surrogate in wastewater should not fall upon the District or other NPDES permittees; EPA should do its own research on the effectiveness of AOF as a surrogate parameter for PFAS.

Lastly, EPA's requirement for AOF monitoring imposes significant additional costs on the District without corresponding federal funding. This is an unfunded mandate, and the additional costs the District would incur places an undue financial burden on the District and local ratepayers. Thus, the requirement should be removed.

> **Request:** The District requests that EPA remove Adsorbable Organic Fluorine monitoring of influent and effluent from the Permit.
>
> If AOF sampling is maintained in the Final Permit, the District requests that the sampling and analysis not be required until a test method for AOF is promulgated and in effect.
>
> If AOF monitoring is maintained in the Final Permit, the District requests that the sampling be limited to twice annually for the initial two (2) years with results allowing less frequent (annual) analysis thereafter
>
> In addition, the City requests that if any form of AOF reporting requirements remains in the new Permit and the Permit is administratively continued after the five-year term expires, that the monitoring and reporting requirement be discontinued as EPA will have collected sufficient data for any future permitting requirements.

Response 6

> The comment suggests that the Adsorbable Organic Fluorine (AOF) Method 1621 has not been approved for use in CWA compliance monitoring. EPA notes that Method 1621 was completed in January 2024 and may be used in NPDES permits after the multi-lab validation process was completed.[14] Also see Response 5 on the distinction between the development of an analytical method and the promulgation of that method in 40 C.F.R. Part 136.

[14] Available at: https://www.epa.gov/system/files/documents/2024-01/method-1621-mlvs-report-with-appendix-1-30-24.pdf

The commenter states that AOF is not a pollutant and has never been identified as a cause of water quality violation in any surface water. EPA recognizes that Method 1621 for AOF is a screening method for wastewater and that there are not currently any water quality standards for AOF. However, EPA highlights that PFAS are emerging contaminants and the future water quality standards to protect human health and aquatic life from this type of pollutants is uncertain. Given the future regulatory uncertainty and that AOF monitoring will screen for a broader range of organofluorines, such as PFAS and other emerging contaminants, EPA considers it appropriate to monitor for AOF as well as PFAS to ensure the discharge is fully characterized with respect to these pollutants in the next permit reissuance.

EPA, as the permitting authority, has authority to impose monitoring requirements "regardless of whether pollutant discharges are restricted by an effluent limit." *E.g. In re Town of Concord*, 16 E.A.D. 514, 541-542 (EAB 2014). Data collected from a permit's monitoring requirements is critical in future permit cycles in determining the need for effluent limitations and, if appropriate, calculating effluent limitations. It is reasonable to require monitoring when there is "little data" otherwise available. *In re Avon Custom Mixing Services*, 10 E.A.D. 700, 709 (EAB 2002).

The Paperwork Reduction Act (PRA), 44 U.S.C. 35, governs how the federal government collects information. The PRA provides methods for federal agencies to obtain approval from the Office of Management and Budget (OMB) before collecting certain information from members of the public. *See generally* Office of Management and Budget, pra.digital.gov.

The comment avers that requiring the permittee to monitor and report on its AOF discharges violates the PRA by allegedly duplicating another EPA AOF information collection effort, and the comment suggests that EPA should use that AOF information, when available, instead of requiring the permittee to monitor and report on AOF as a condition of this permit. The commenter may be referring to the "Publicly Owned Treatment Works (POTW) Influent Per- and Polyfluoroalkyl Substances (PFAS) Study and National Sewage Sludge Survey," which OMB is currently reviewing as of the date of this Final Permit. *See* Office of Information and Regulatory Affairs (OIRA) Information Collections Under Review, ICR Reference No. 202410-2040-006, available at reginfo.gov. That ICR is unrelated and inapplicable to this draft permit's AOF monitoring and reporting requirements.

Even if this is not the proposed ICR to which the commenter refers, NPDES permit monitoring and reporting requirements are authorized by the Office of Management and Budget-approved National Pollutant Discharge Elimination System (NPDES) Program Information Collection Request, ICR Reference No. 22201-2040-004. The NPDES Program ICR calculates the burden and costs that all NPDES permit applicants and permittees nationwide may bear while providing NPDES permitting authorities with wide-ranging information necessary for the NPDES permitting authority to develop,

issue, and enforce NPDES permits. The NPDES Program ICR specifically accounts for permittees' monitoring, reporting, and recordkeeping requirements.

Regarding cost, see the first paragraph of Response 5. EPA disagrees that the AOF monitoring requirement is an unfunded mandate. EPA interprets the reference to "unfunded mandate" as a reference to the requirements of the Unfunded Mandate Reform Act of 1995 (UMRA), which is inapplicable to this permitting action. The UMRA applies to rulemaking, and not individual NPDES permit decisions. 2 U.S.C. § 1555 ("… for purposes of this subchapter the term 'Federal mandate' means any provision in **statute or regulation or any Federal court ruling** that imposes an enforceable duty upon State, local, or tribal governments…" (emphasis added); 2 U.S.C. § 1501(7) (the purpose of the UMRA is, *inter alia,* "to assist Federal agencies in their consideration of proposed **regulations** affecting State, local, and tribal governments…") (emphasis added)[15]; *see also* H.R. Rep. No. 10476, at 39 (1995), reprinted in 1995 U.S.C.C.A.N. 64 (Congress contemplated that rules subject to UMRA would "follow the requirements of section 553 of title 5, United States Code [Administrative Procedure Act] * * * ", and NPDES permit proceedings are not subject to the requirements of that section); *In re City of Blackfoot Wastewater Treatment Facility*, NPDES Appeal No. 00-32, at *18-19 (EAB September 17, 2001) (Order Denying Petition for Review)[16] (denying in part because "The Unfunded Mandate Reform Act of 1995 is Inapplicable to NPDES Permit Decisions," finding that "Facility-specific NPDES permits… are not regulations, but rather are licenses.").

This comment has not resulted in any changes to the Final Permit.

Comment 7

Adaptation Plan (Part 1.C.1): The District agrees with the importance of planning for future capital needs with an awareness and consideration of future conditions. The District is currently completing a Wastewater Management Facilities Plan, and a Collection System Capital Improvement Plan. These documents include assessments of the potential impacts of sea level rise and storm surge events. Capital Improvements to address these at the treatment plant and at the pump stations have been identified and are included in the capital plans. The District is currently developing an implementation plan and schedule to complete this work. The District is also aggressively searching for funding and relief from Massachusetts law, including M.G.L. c. 59, s. 20B, the so-called "Proposition 2 ½" which tightly constrains the District's budgetary flexibility and is critical for implementation of future capital improvements.

[15] *See also* 2 U.S.C. § 1532 ("… before promulgating any **general notice of proposed rulemaking** that is likely to result in promulgation of any rule that includes any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100,000,000 or more… in any 1 year, and before promulgating **any final rule for which a general notice of proposed rulemaking was published**, the agency shall…") (emphases added).

[16] Order available online at: https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Published%20and%20Unpublished%20Decisions/FDA156ABE18B7BD385257069005F7D3B/$File/blackfoot.pdf

In addition, the District is supporting efforts of its co-permittees in their resiliency work associated with pump stations, sewer pipe relocations, and sea wall improvements. The District has also completed an update to its Emergency Response Plan which included response actions for hurricanes and floods and other natural disasters. This includes steps to protect vulnerable assets from anticipated storm surge events.

The proposed Adaptation Planning studies will place an additional burden on the District and its co-permittees, leading to the expenditures of precious funds on regulatory required studies instead of on progressing identified capital improvements.

In addition, the District asserts that inclusion of Adaptation Planning in a NPDES permit is not appropriate and an overreach of the EPA's regulatory authority for several reasons. While the Clean Water Act (CWA) grants the EPA authority to ensure compliance with water quality standards, the specific mandate for Adaptation Plans goes beyond the traditional scope of operation and maintenance (O&M) requirements. The CWA's primary goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. However, the specific requirement for Adaptation Plans extends beyond the traditional regulatory framework for NPDES Permits, which focuses on effluent limitations and water quality standards. The EPA's interpretation that adaptation planning is inherently part of proper O&M is not explicitly supported by the CWA. In the Fact Sheet (page 42 of 63) the EPA states that "EPA has determined that these additional requirements are necessary to ensure the proper operation and maintenance of the WWTS and/or sewer system and has included a schedule in the Draft Permit for completing these requirements." The EPA's logic that adaptation planning is a necessary component of O&M requirements for Publicly Owned Treatment Works (POTWs) is flawed. Proper O&M practices are designed to ensure the effective operation of treatment facilities under normal conditions. While resilience planning is important, it should not be conflated with standard O&M requirements. The adaptation planning requirements represent a new and separate set of obligations that does not fall under the category of Operations and Maintenance, rather it falls within the category of Capital Planning, which the District is currently engaged in; climate change planning is more appropriate when communities are undertaking significant planning efforts or when planning for major renovations to wastewater facilities. By imposing Adaptation Planning requirements, the EPA is attempting to regulate future potential conditions that may or may not materialize. These conditions are necessarily based on assumption or speculation. The CWA gives the EPA the authority to maintain the chemical, physical, and biological integrity of the nation's waters and ensure compliance with permit conditions, but it does not give the EPA the authority to regulate a hypothetical future circumstance and impose conditions related to the same presumed future condition. In addition, the timeline for implementing any changes that come from the Adaptation Planning requirements will likely exceed the life of the permit, particularly if funds are not available to assist with such implementation measures. While the free planning tools offered by the EPA may be useful, planning is not very useful or helpful if it is cost prohibitive to implement the real solutions. Additionally, the District notes that engineering design standards for major facility upgrades and renovations include updated provisions for flood damage prevention (NEIWPCC TR-16).

To the extent that the EPA is relying on the authority granted in Executive Order 140008 issued by then President Biden in 2021 to incorporate Adaptation Planning requirements into permits, this Executive Order has since been rescinded by Executive Order 14148 issued by President Trump on January 20, 2025. Not only does the rescission have an impact on the EPA's authority to incorporate Adaptation Planning requirements, but it may also have an impact on the availability of funding to assist the permittee in complying with the requirements. The District knows of no Federal funding source to assist in Adaptation Planning efforts. The Adaptation Planning requirements are an unfunded mandate which imposes significant additional costs on the District without corresponding federal funding. This places an undue financial burden on the District and local ratepayers. It is a waste of resources to require adaptation planning if it is not feasible to fund the work that is planned.

Lastly, given that the storm events and other matters of concern cited by the EPA are regional issues, Adaptation Planning should be handled and studied by MassDEP and EPA as a regional issue, not as a cost burden for each local entity to take on individually. Adaptation planning may be advantageous to the District for many reasons, but it should not be required by the NPDES Permit, and the EPA does not have the legal authority to make it a requirement.

> **Request:** The District requests removal of the adaptation planning requirement in the final permit.

Response 7

> The proposed Adaptation Planning requirements have been removed from the Final Permit. In response to the concerns of comments throughout this document, EPA considered whether the aims of the proposed requirements could be satisfied without imposing new requirements in the permit and determined, as described below, that existing, non-permit programs will provide permittees opportunity to conduct a comparable assessment of their flood risks. To that end, EPA notes that the permittee remains responsible for complying with all effluent limitations expressed in Part I.A.1 of the Permit, even in the event of a major storm or flood.
>
> The commenter described that permittees already engage in flood prevention planning through various other mechanisms and argue therefore that the Adaptation provisions are duplicative. On the federal level, for example, municipalities must engage in flood risk assessment when utilizing the Clean Water Act State Revolving Fund,[17] and the Federal Emergency Management Agency (FEMA) requires a hazard mitigation plan when municipalities apply for certain types of non-emergency disaster assistance.[18] At the state level, the Commonwealth of Massachusetts has developed the Massachusetts Municipal Vulnerability Preparedness Program, which awards communities with funding to complete vulnerability assessments and develop action-oriented resiliency plans.[19] Additionally, many municipalities and regional organizations have developed their own

[17] *https://www.epa.gov/system/files/documents/2022-09/Federal%20Flood%20Risk%20Managment%20Standard%20.pdf*.
[18] https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning/requirements
[19] https://www.mass.gov/municipal-vulnerability-preparedness-mvp-program

local flood risk tools and requirements.[20] As described in the Fact Sheet, the goal of the Draft Permit requirements was to reduce and/or eliminate noncompliant discharges that result from impacts of major storm and flood events through advanced planning and flood risk mitigation measures. EPA is persuaded that non-permit requirements, such as those described above, will provide permittees with a comparable assessment of their flood risks as the Draft Permit intended to generate and accordingly will accomplish the Draft Permit's objective of ensuring that effluent limitations are achieved even during major storm and flood events. EPA has thus decided to remove the Adaptation Planning requirements from the Final Permit to improve efficiency and reduce redundancy.

EPA's decision is consistent with the aims of Executive Order 14239, Achieving Efficiency Through State and Local Preparedness (March 18, 2025) ("Federal policy must rightly recognize that preparedness is most effectively owned and managed at the State, local, and even individual levels, supported by a competent, accessible, and efficient Federal Government"; "it is the policy of the United States that my Administration streamline its preparedness operations; update relevant Government policies to reduce complexity and better protect and serve Americans; and enable State and local governments to better understand, plan for, and ultimately address the needs of their citizens.").
As stated above, removal of these provisions does not alter the requirement for the Permittee to ensure compliance with the permit limits.[21] As detailed in the Fact Sheet, flood risk is a significant issue for POTWs in New England and the impacts in recent years are well-documented. It is EPA's expectation that municipalities will avail themselves of the various tools described above as well as available federal guidance[22] to ensure risks to their POTWs are mitigated to allow for permit compliance. Additionally, should circumstances change such that flood planning requirements outside the scope of the permit are insufficient to protect Water Quality Standards, EPA may propose additional operation and maintenance flood planning requirements in subsequent permits.

Comment 8

Plans for Further Potential Flow Increases (Part 1.C.3.f):
In Part 1.A.1, the Draft Permit maintains a monthly rolling average flow limit of 29.7 MGD that was added to the 2016 Permit. The requirement in Part 1.C.2.c. of the Draft Permit is that the Permittees control infiltration and inflow (I/I) into the sewer collection system "to prevent high flow related unauthorized discharges from their collection systems and high flow related violations of the wastewater treatment plant's effluent limitations" and that they have an I/I

[20] *See*, *e.g.,* Charles River Watershed Association *Charles River Flood Model*¸ https://www.crwa.org/watershed-model; Franklin Regional Council of Governments South River Risk Assessment, https://frcog.org/redefining-our-river-corridors/.
[21] EPA notes that an "upset" "constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations [under certain circumstances]," but it does not apply to *water-quality* based permit effluent limitations. 40 C.F.R. § 122.41(n).
[22] For example: https://www.epa.gov/waterutilityresponse/flood-resilience-basic-guide-water-and-wastewater-utilities.

program and sewer system O&M plan as laid out in Part 1.C.2.e. The sewer system O&M plan is to include "Plans for further potential flow increases describing how the Permittee will maintain compliance with the flow limit and all other effluent limitations and conditions" if the average annual flow in a previous year exceeded 80 percent of the 29.7 MGD design flow. The District objects to the inclusion of additional plans for further potential flow increases and the trigger of this planning if flow exceeds 80% of the 29.7 MGD design flow as it is not applicable to the SESD WWTF. The plant was designed, approved, and permitted while treating a flow of 28.8 MGD, which is 97% of the design flow. The approved planning documents from the 1990's only predicted a small increase in flow over the life of the facilities, and the District has been steadily addressing I/I to maintain flows received at the WWTF.

When the WWTF was expanded to secondary treatment, the WWTF flow was already in excess of 80% of the proposed average day dry weather flow design capacity of 27.98 MGD as provided in the Final approved Facilities Plan. In addition, the approved Facilities Plan included increased capacity over time up to an ultimate average daily flow of 31.95 MGD and an average daily design flow of 29.7 MGD, with I/I reduction being conducted to reduce the I/I and allow peak flows to come down. The average daily plant flow rate in the 1990s when the plant upgrades were being designed was 28.8 MGD. Thus, EPA and MassDEP approved construction of a plant at an average daily flow greater than 80% of its design capacity, and the District has been reducing peak flows to the plant through I/I reduction, as originally intended; the District should not have to conduct studies now on how to reduce flows further beyond what they are already doing as part of the I/I removal program. This planning and reporting is an additional administrative and cost burden on the District.

The District is already engaged in a robust CMOM program and steadily reducing infiltration and inflow within the collection system, as well as conducting facility planning at the WWTF. Over the past four (4) years the District has invested more than $10M in I/I removal projects within the collection system:

2024

- Completed CIPP Lining of four (4) precast concrete cylinder pipe in the WWTF.
- Prepared final report and prioritization of the Danvers/Beverly Force Main and Bass River Siphons Condition Assessment.
- Continued rehabilitation of pumps and mechanical equipment at pump stations.
- Ongoing assessment and upgrades of controls at pump stations.
- Completed engineering study and preliminary design to reduce I/I for Peabody Phase III I/I Project.
- Completed an investigation and condition assessment of the 84-inch Peabody/Salem Intercepting Sewer.
- Developed a draft of the 20-year Collection System Capital Improvement Plan.
- Continued the SSO Notification communications and procedures for the 314 CMR 16 regulation.

2023

- Initiated emergency CIPP Lining of Four (4) precast concrete cylinder pipes at

the WWTF.

- Completed field investigation and asset condition assessment for the Danvers/Beverly Force Mains and Bass River Siphons.
- Continued rehabilitation of pumps and mechanical equipment at pump stations.
- Ongoing assessment and upgrades of controls at pump stations.
- Began an engineering study to assess and reduce infiltration/inflow for Peabody Phase III Infiltration/Inflow Reduction.
- Preparation of a scope and grant application for the condition assessment of the 84-inch Peabody/Salem Intercepting Sewer.
- Preparation of a scope and fee proposal with a consultant for a 20-year Collection System Capital Improvement Plan.
- Continuation of monitoring and reporting for Sanitary Sewer Overflows (SSO's) to meet the requirements of the 314 CMR 16 regulation.

2022

- Completion of the Danvers Siphon Rehabilitation Construction Project, Contract 20-1.
- Developed an engineering study and asset condition assessment for the Danvers/Beverly Force Mains and Bass River Siphons.
- Continuation of Rehabilitation of Pumps and Mechanical Equipment at Pump Stations.
- Ongoing Assessment and Upgrades of Controls at Pump Stations.
- Began planning for an engineering study to assess and reduce I/I for Peabody Phase III I/I Reduction.
- Completed and submitted an SSO Notification Plan to MassDEP to meet the requirements of the new 314 CMR 16 regulation.

2021

- Completed Beverly Pump Station Bar Rack Replacement Project Contract 16-2.
- Continued rehabilitation of pumps and mechanical equipment at pump stations.
- Ongoing assessment and upgrades of controls at pump stations.
- Continued Danvers Siphon Rehabilitation Construction Phase, Contract 20-1.
- Completed a project to reduce I/I for Peabody Phase II I/I Reduction, Contract CP-19-2.
- Continued implementing a GIS-Based Collection System Asset Management Sustainability Program.

In addition to the efforts that the District is undertaking, each of the co-permittees has its own I/I removal and collection system upgrade program. All five of the co-permittees have an established multi-year I/I removal program and each invest approximately $500,000 to $1,000,000 per year on these activities, including flow monitoring, pipeline assessment, pipeline rehabilitation, and sump pump removal.

Additional planning requirements to remove more flow are likely to lead down a road of increased capital expenditures for little additional benefit beyond removing flow. The cost of additional I/I work would also require relief from Proposition 2 ½, meaning that funding of this work would require extraordinary effort and is not guaranteed.

Additionally, flow is not a 'pollutant' and it is therefore not permissible to regulate flow as pollutants are regulated, regardless of whether pollutant levels are present. The District disagrees with EPA's assertion that the flow of water is considered a pollutant per 33 U.S.C. §1362(6), which defines 'pollutant' as:

> dredged spoil [sic], solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water…

Although the District agrees that municipal waste such as that discharged by the District qualifies as a pollutant, flow is not a pollutant. Nor does EPA's identification of 'non-conventional pollutants' as defined at 40 CFR § 439.1(n) identify flow as a parameter. The Clean Water Act allows the EPA to "prohibit the discharge of toxic pollutants in toxic amounts" (33 U.S.C. 1251), not to prohibit the flow of water. At least one federal court has rejected the argument that the EPA may regulate flow within a facility under an NPDES Permit. See e.g. Iowa League of Cities v. EPA, 711 F.3d 844 (8th Cir. 2013). Further, the attempt by the EPA to regulate flow is an end-result provision, similar to the San Francisco, California v. Environmental Protection Agency, Docket No. 23-753 (March 4, 2025).

Even if the District were to accept the assertion that flow is a pollutant, then the procedure for limiting the flow from a WWTP is to establish a pollutant TMDL from which a waste load would be allocated to the point source of the SESD WWTF. As pollutant loading is normally calculated as the permit concentration limit x flow, the institution of a flow limit in the Draft Permit is effectively applying a waste load allocation for all parameters discharged by the SESD WWTF with no TMDLs and no scientific basis. Even with TMDLs, the facility could still meet the waste load allocations by lowering the effluent concentrations with increased effluent flow. This would not be possible with a permitted flow limit.

> **Request:** The District requests that the annual average flow limit (in Part 1A) and the requirement for additional planning based on flow (Part 1.C.3.f) be deleted, including any and all references to the 80 percent of the District facility's design flow value of 23.76 MGD, recognizing that the original approach to the sizing and permitting the facility did not include a flow limitation. Additionally, EPA should recognize that flow is not a regulated parameter because it is not a 'pollutant' and should not be included in the permit. The flow limitation in the permit (monthly rolling average limit of 29.7 MGD) should be removed or designated as a "report only" requirement.

Response 8

The comment raises several concerns about the effluent flow limit and the planning requirements when flows exceed 80% of the design flow. The comment also requests that the annual average flow limits and the requirement for addition planning based on flow be removed from the permit.

Regarding the planning requirement in Part I.C.3.f of the Draft Permit based on flows exceeding 80% of the design flow, EPA notes that the 2016 Permit required the Permittee to submit an annual summary report of activities related to the implementation of its Collection System O&M Plan during the previous year including a requirement that "If treatment plant flow has reached 80% of the design flow [23.77 mgd] or there have been capacity related overflows, submit a calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year." In the 2025 Draft Permit, this requirement is carried forward in Part I.C.3.f and slightly expanded to also include the following: "Plans for further potential flow increases describing how the Permittee will maintain compliance with the flow limit and all other effluent limitations and conditions."

The comment seems to misconstrue this provision as a requirement to invest resources into plans to expand the facility, claiming that this requirement would be inappropriate and a waste of resources for SESD. EPA clarifies that this provision is simply intended to ensure that the Permittee is planning for long-term permit compliance given that a potential facility expansion can take many years and should be considered well before being in violation of the permit (*i.e.*, after exceeding 80% of the design flow). However, EPA recognizes that simply exceeding 80% of the design flow does not necessarily mean that the facility must expand in order to continue to comply with the permit. For example, the Permittee may pursue I/I removal efforts to ensure flows do not exceed the existing design flow. To account for this possibility, the permit provision includes the word "potential" flow increase. In the case of SESD, if the Permittee can demonstrate the ability to maintain compliance with the flow limit (and all other effluent limitations and conditions) through its I/I removal program (as suggested in the comment), EPA agrees that the annual report could simply describe those efforts along with an explanation of how those efforts will maintain permit compliance without a flow limit increase. In other words, the Permittee is not required to conduct a planning effort to expand the facility if they are able to demonstrate ongoing permit compliance without expanding the facility.

In any case, EPA commends the Permittee and the Co-permittees on the CMOM work already completed to reduce I/I throughout the SESD service area as summarized in the comment. However, EPA remains concerned about sanitary sewer overflows (SSOs), especially those occurring due to system surcharging under high flow conditions. EPA reviewed SSO notification forms that have been submitted to MassDEP from SESD and the co-permittees over the last 5 years to get an understanding about overflows caused by high flow conditions. EPA finds that the summary below highlights the need for additional work to be done to mitigate ongoing SSOs.

Table 1: Capacity-related Sanitary Sewer Overflows reported to MassDEP, May 2020-May 2025.

Date	**Event Type**	**Permittee**	**Water Body**	**Volume of Event** (Gallons, except where other units are specified. Most are an estimated calculation based on gallons per minute and the duration of the event)
01/10/2024	SSO – System Surcharging Under High Flow Conditions	SESD	Cat Cove / Salem Harbor	2,350
01/10/2024*	SSO – System Surcharging Under High Flow Conditions	SESD	Massachusetts Bay	326,400
01/10/2024*	Pump Station	Marblehead	Massachusetts Bay	350 GPM
12/11/2023	SSO – System Surcharging Under High Flow Conditions	SESD	Catch Basin To Hawthorne Pond, Marblehead	4,800
12/11/2023	SSO – System Surcharging Under High Flow Conditions	SESD	Catch Basin to Marblehead Harbor	(volume not reported)
09/28/2023	Partially Treated – Other	SESD	Salem Sound	72,000
7/25/2023	Pump Station	Marblehead		(volume not reported)
7/28/2022	Force Main	Marblehead	Marblehead Harbor	400
1/17/2022	Pump Station	Marblehead	Salem Harbor	1,500
10/17/2021	Pump Station	Marblehead	Salem Harbor	18,000
9/2/2021	Pump Station	Marblehead	Atlantic Ocean (Crown Way outfall)	476,000
9/2/2021	Pump Station	Marblehead	Atlantic Ocean (Sargent Road)	1,833,380
7/9/2021	Pump Station	Marblehead	Atlantic Ocean (Crown Way outfall)	585,000
7/9/2021	Pump Station	Marblehead	Atlantic Ocean (Sargent Road)	4,452,500
7/9/2021	Pump Station	Marblehead	Salem Harbor (Shorewood Road)	240,000
5/13/2021	Pump Station	Marblehead		500

* This maybe a single event reported by two parties.

Regarding the commenter's challenge to the flow limit itself, EPA provides several justifications below and notes that many of these were also included in Section 2.3 of the Fact Sheet and were not directly addressed in the comment.

EPA Region 1 has included limits on the wastewater effluent flow from POTWs, based on the design capacity of the facility, throughout Massachusetts (including the 2016 NPDES Permit issued to SESD) and New Hampshire. Moreover, States and other EPA Regions have issued over 3,750 NPDES permits to POTWs with similar limits in other parts of the country.

The inclusion of a wastewater effluent flow limit in the South Essex Sewerage District WWTF permit is authorized by the CWA § 402(a)(2), which provides that "[t]he Administrator shall prescribe conditions for such permits to assure compliance with the requirements of" CWA § 402(a)(1) – including, by reference, CWA § 301 – "and such other requirements as [she] deems appropriate." As discussed below, the South Essex Sewerage District wastewater effluent flow limit is an appropriate "operation and maintenance" requirement that assures compliance with the technology and water quality-based effluent limitations required by CWA § 301 and is "appropriate" pursuant to CWA § 402(a)(2).

40 C.F.R. §§ 122.41(d) and (e) require the permittee to (1) "take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment," and (2) "at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The design capacity-based wastewater effluent flow limit is authorized by section 402(a)(2) and appropriate in order to assure that SESD operates its facility to comply with its permit's technology- and water quality-based effluent limitations.

As stated in the Fact Sheet, using a facility's design flow in the derivation of pollutant effluent limitations, including conditions to limit wastewater effluent flow, is fully consistent with and anticipated by NPDES permit regulations. 40 C.F.R. § 122.45(b)(1) provides, "permit effluent limitations…shall be calculated based on design flow." POTW permit applications are required to include the design flow of the treatment facility. Id. § 122.21(j)(1)(vi).

The District incorrectly contends that EPA sought to limit wastewater effluent flow from the facility on the basis that flow, or quantity of water, was a "pollutant" whose discharge could be regulated under the Act. This is not the case. Establishing water quality-based effluent limitations that are sufficiently protective to meet in-stream water quality criteria requires EPA to account for both wastewater effluent and receiving water flows, as EPA explained in the Fact Sheet. Conditions imposed by EPA to limit wastewater effluent flows from the facility for the permit term are designed to assure that the facility's pollutant discharges do not result in excursions above in-stream

water quality criteria, in accordance with section 301(b)(1)(C) of the Act and implementing regulations. 40 C.F.R. §§ 122.4(d), 122.44(d)(1), 122.44(d)(1)(vii)(A), 122.44(d)(5). Most saliently, 40 C.F.R. § 122.4(d) prohibits issuance of an NPDES permit "[w]hen the imposition of conditions cannot **ensure** [emphasis added] compliance with the applicable water quality requirements of all affected States." Section 122.44(d)(1) is similarly broad in scope and obligates the Region to include in NPDES permits "any requirements…necessary to: (1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality." "Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits" in order to achieve the statutory mandates of Section 301 and 402. Arkansas v. Oklahoma, 503 U.S. 91, 105 (1992). Under CWA section 402, EPA may issue NPDES permits "for the discharge of any pollutant, or combination of pollutants" if the permit conditions assure that the discharge complies with certain requirements, including those of section 301 of the CWA. The Act defines "pollutant" to mean, inter alia, "municipal . . . waste[]" and "sewage…discharged into water." CWA § 502(6). EPA has implemented Sections 301(b)(1)(C) and 402 of the Act through numerous regulations, which specify when the Region must include specific permit conditions, water quality-based effluent limitations or other requirements in NPDES permits. The wastewater effluent flow limit is a condition designed to ensure that WQS will be met. More specifically, EPA based both its reasonable potential calculations and its permit effluent limitations for individual pollutants on a presumed maximum wastewater effluent discharge from the facility. EPA's reasonable potential regulations require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," 40 C.F.R. § 122.44(d)(1)(ii), which is a function of both the wastewater effluent flow and receiving water flow. EPA guidance directs that this reasonable potential analysis be based on critical conditions. EPA, accordingly, is authorized to carry out its reasonable potential analysis by presuming that a plant is operating at its design flow during critical instream conditions (i.e., 7Q10) when assessing reasonable potential.[23]

With regard to *City and County of San Francisco v. EPA*, EPA disagrees that the flow limit is an "end result" provision. The Supreme Court defined "end result" requirements as "provisions that do not spell out what a permittee must do or refrain from doing; rather, they make a permittee responsible for the quality of the water in the body of water into which the permittee discharges pollutants." 604 U.S. at 338. The flow limit operates much differently; it clearly defines what the permittee must do and compliance is not based on post-discharge quality of the receiving water.

This comment does not result in any change to the Final Permit.

[23] USEPA, 2010, National Pollutant Discharge Elimination System (NPDES) Permit Writers' Manual, EPA-833-K10-001, p. 6-17

Comment 9

Alternate Power Source (Part 1.D): The District notes the clarification in the Draft Permit that an alternate power source sufficient to operate the facility is required. The facility has full power redundancy at the facility through two independent feeds from the substation.

Response 9

There is a difference between redundancy and an alternate power source. An example of an alternate power source would be a generator(s) that are either powered by diesel, propane or natural gas and would provide power to a facility if an electrical substation failed. The Permittee should discuss this issue with EPA Region 1's Enforcement and Compliance Division (ECAD) to determine if they are in compliance with this requirement.

The comment may infer a misreading of the permit requirement at Part I.D. Part I.D. Alternate Power Source states the following:

> In order to maintain compliance with the terms and conditions of this permit, the Permittee and Co-permittee(s) shall provide an alternative power source(s) sufficient to operate the portion of the publicly owned treatment works it owns and operates, as defined in Part II.E.1 of this permit.

Part II.E.1 of the Permit defines Publicly owned treatment works (POTW) as follows:

> …a treatment works as defined by Section 212 of the Act, which is owned by a State or municipality (as defined by Section 504(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in Section 502(4) of the Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

The alternate power source requirement is applicable to the entire publicly owned treatment works which includes the South Essex Sewerage District Wastewater Treatment Facility and the sewers, pipe and other conveyances conveying wastewater to the SESD WWTF. For Co-permittees, this requirement only requires back-up power for conveying flows (*e.g.*, pumping stations) from the collection system owned and operated by the co-permittee.

A similar requirement was included in the 2016 Permit at Part C.7.

This comment has resulted in no changes to the Final Permit.

Comment 10

PFAS Testing for Industrial Discharges

8A. PFAS Testing for Industrial Discharges in Federal NPDES Permit (Part 1.E.6):

The Draft EPA Permit requires that the District collect or require collection of discharges into the WWTF for PFAS measurements from various industrial discharges on an annual basis. The industrial facilities include commercial car washes, platers/ metal finishers, etc., airports, and "Any Other Known or Expected Sources of PFAS." This is a large category that sets an inappropriate standard for the Pretreatment Program, requiring District staff to become PFAS experts and research assistants for EPA. While the District issues permits to many of the industrial facility types listed and can modify those permits, there are industrial users that are not issued permits due to the nature of the flow but that are included in the PFAS sampling program. Increasing the scope of the Pretreatment Program, to include facilities that are not currently permitted dischargers (such as airports, etc.) would require administrative and operational support at a cost to the District and the rate payers. Where adding facilities to the Pretreatment Program does not make sense, the District would have to collect and pay for sampling, an added burden and expense that would not improve treatment quality and would siphon limited funds from plant operations, maintenance and capital improvements to this unfunded mandate without providing any benefit to the environment or public health.

8B. PFAS Testing for Industrial Discharges in MassDEP Permit (Paragraphs 7 and 8):

The MassDEP Permit further requires that the District "shall commence annual monitoring of all Significant Industrial Users…discharging into the Permittee's Publicly Owned Treatment Works (POTW) using Method 1633," clarifying that "all Significant Industrial Users (SIUs) and not just those within the sectors identified by EPA in the NPDES permit" (DEP Permit, Condition 7, Footnote 5) are to be monitored, and defining SIUs as "[a]ll industrial users subject to Categorical Pretreatment Standards and any other industrial user that: discharges an average of 25,000 GPD or more of process wastewater to the POTW, contributes a process wastestream that makes up 5% or more of the average dry weather hydraulic organic capacity of the POTW, or designated as such by the POTW on the basis that the industrial users have a reasonable potential for adversely affecting the POTW's operation…". This is a large category that sets an inappropriate standard for the Pretreatment Program. Without knowing that PFAS through a WWTF is a problem MassDEP is requiring the District to monitor every SIU that discharges to the system, which is a large number of users. This is a general research requirement for which the burden to investigate and report on the presence of PFAS in SIU discharges should be that of MassDEP, not the District. The District should not be responsible for the development, funding, and administration of a research program that MassDEP wants to conduct. While the District issues permits to industrial facilities and can modify those permits, there are industrial users that are not currently issued permits due to the nature of the flow but that are included in the PFAS sampling program, which would require the District to increase the scope of the Pretreatment Program to include facilities that are not currently permitted dischargers at an administrative and operational support cost to the District and the rate payers, another example of a unfunded mandate. Where adding facilities to the Pretreatment Program does not make sense, the District would have to collect and pay for sampling, an added burden and expense that would not improve treatment quality and would siphon limited funds from plant

operations, maintenance and capital improvements to this unfunded mandate without providing any benefit to the environment or public health.

Additionally, some SIUs may already be required to sample for PFAS under the Massachusetts Contingency Plan, M.G.L. c. 21E, 310 CMR 40, meaning that the District's reports would likely be duplicative. Therefore, PFAS testing of industrial users beyond the categorical users included in the existing industrial pretreatment program should be removed from the MassDEP Permit.

Furthermore, since the PFAS testing methods have not been promulgated and published in the Federal Register, including test methods 1633 and 1633A, it is inappropriate, premature, and regulatory overreach to include a PFAS testing requirement for industrial users at this time. (See also comments in Section 3). Given that the testing methods have not been promulgated, if the EPA and MassDEP do not have the authority to cause compliance with testing, it follows that the District likewise does not have authority to force industrial users to comply with the testing requirements under the Industrial Pretreatment Program.

In addition to the issue of authority, the attempt to regulate the quality of water within the District's system and facilities, not the quality of water at the point of discharge, is an overreach beyond the authority conferred under the Clean Water Act. The D.C. Circuit Court endorsed this concept in Am. Iron & Steel Inst. v. EPA, 115 F.3d 979, 996 (D.C. Cir. 1997) ("The statute is clear: The EPA may regulate the pollutant levels in a waste stream that is discharged directly into the navigable waters of the United States through a 'point source'; it is not authorized to regulate the pollutant levels in a facility's internal waste stream."). The 8th Circuit Court endorsed the concept and cited this language in Iowa League of Cities v. EPA, 711 F.3d 844 (8th Cir. 2013) in deciding that the blending rule at issue in the case imposes secondary treatment regulations on flows within facilities, which exceeds the EPA's statutory authority.

Setting aside the regulatory overreach of both the EPA and the MassDEP Draft Permits, given the size of the area that discharges to the WWTF and the number of facilities that would have to be sampled, the six-month timeline for initiation of sampling does not provide enough time for the District to evaluate the list of users that must be sampled, plan for how the sampling will occur, and coordinate with the necessary parties. The District would need more time to coordinate this significant expansion of the Pretreatment Program and would need to fit the program into the existing budget at the time that the permit becomes effective: 6-months is not an adequate amount of time for such a large expansion of the program that would require additional District planning, resources and approval by the Board- a one (1) year compliance schedule would be more manageable.

> **Request:** The District requests that EPA remove the annual sampling requirements for known or suspected sources of PFAS and that MassDEP remove the EPA requirement along with the annual sampling from all SIUs for PFAS. If these requirements remain in the permits the request is that the sampling requirement be removed for sites that are proven not to have PFAS after the first or second round of sampling.

If PFAS sampling is maintained in the Final Federal NPDES and MassDEP Permits, the District requests that the sampling and analysis not be required until a test method for PFAS in wastewater is promulgated and in effect.

In addition, the District requests that if any form of PFAS reporting requirements remains in the new Permit and the Permit is administratively continued after the five-year term expires, that the PFAS reporting requirement be discontinued as EPA and MassDEP will have collected sufficient data for any future permitting requirements.

The District also requests that if this expansion of the Industrial Pretreatment Program is expanded to include PFAS testing that a 1-year timeframe be provided instead of 6-months to allow the District the time to coordinate and obtain funding for the expanded program.

Response 10

The commenter raises several concerns addressed individually below:

Regarding all IUs, EPA notes that permittees have regulatory avenues to require that monitoring be conducted by SIUs and the annual monitoring requirement may be implemented through one of those regulatory avenues. Discharges to the wastewater collection system are controlled through local limits, pretreatment programs, industrial discharge permits, and sewer use ordinances. Therefore, the District may require that individual IUs conduct PFAS monitoring and provide the results to the District at the IUs' expense. Thus, the District may transfer all or part of the PFAS-associated monitoring cost to the industrial user, as it deems appropriate. This monitoring requirement does not require an expansion of the Pretreatment Program.

Regarding the MassDEP permit, the commenter objects to the requirement that all SIUs conduct PFAS testing compared to certain types of industrial users listed by EPA in Part I.E.6 of the Draft Permit. EPA notes this requirement is a water quality certification condition (under CWA 401) of the permit. MassDEP solicited comments on the draft certification through a separate public notice process from this Draft Permit published by EPA and EPA is not able to respond to this aspect of this comment in this Response to Comments document. Related to this comment, EPA clarifies that the category in the Draft Permit for "any other known or expected sources of PFAS" is intentionally vague to allow the Permittee to exercise its discretion in including any other IUs that may not be captured by the other categories, but the Permittee considers to be likely sources of PFAS. Alternately, the Permittee may, at its discretion, determine that no IUs fall into this category. EPA is not asking the permittees to become a "PFAS experts or research assistants."

Regarding the comment that some IUs may already be required to conduct monitoring under the Massachusetts Contingency Plan, EPA notes that the results of any such monitoring may also be submitted to satisfy the permit requirement as long as it meets the necessary permit conditions (using Method 1633, etc.).

Regarding Method 1633, see Response 5.

Regarding EPA's authority to include monitoring conditions, see Response 4.

The comment also suggests that EPA is attempting to regulate the quality of the water within the District's system and facility, not the quality of the water at the point of discharge. This is contrary to the explanation in the Fact Sheet (p. 39), "[t]he purpose of this monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits on a facility specific basis." EPA highlights that the monitoring of PFAS in effluent from industrial users is simply a monitoring requirement and is not regulating the water quality from those industrial users in any way. Rather, EPA finds that this monitoring will provide information that is likely to be useful in the future to properly regulate the water quality at the point of discharge from the POTW (*e.g.*, by understanding which industrial users have the potential for significant source control).

Finally, the Permittee requests one year to initiate sampling given the size of the district's service area and the number of facilities that need to be sampled. EPA notes that the requirement indicates that annual monitoring must begin in "the first full calendar quarter following 6 months after the effective date of the permit." Based on the date of issuance, the Permittee has until the fourth calendar quarter of 2026 to initiate this monitoring. Given that this time is approximately one year from the date of issuance, EPA considers it unnecessary to make any change to the Final Permit based on this comment.

Comment 11

Industrial Users and Compliance (Part 1.E.4.e, page 21 of 31): In Part 1.E.4.e., the District is required to notify Industrial Users of their obligations to comply with federal laws, including the Resource Conservation and Recovery Act ("RCRA") and EPA Regional Waste Management Division Director in writing of any discharge into the POTW of a substance that would otherwise be classified as a hazardous waste. The District's authority to issue permits to Industrial Users as part of the Industrial Pretreatment Program does not authorize the District to direct or remind Industrial Users of their obligations to comply with various federal laws.

Request: Remove these notice requirements, as they are outside the scope of the District's industrial pretreatment program and the Clean Water Act, and the District does not have the authority to direct the Industrial Users to comply with laws outside of the Industrial Pretreatment Program.

Response 11

The requirement for an industrial user to notify the POTW of a potential discharge of hazardous waste is a direct industrial pretreatment program requirement found at 40 CFR 403.12(p)(1). Specifically, it states "The Industrial User shall notify the POTW, the

EPA Regional Waste Management Division Director, and State hazardous waste authorities in writing of any discharge into the POTW of a substance, which, if otherwise disposed of, would be a hazardous waste under 40 CFR part 261."

The responsibility to inform the industrial user of this pretreatment requirement is a function of the POTW. Given that, the language will remain in place.

This comment has resulted in no changes to the Final Permit.

Comment 12

Local Limits (Part 1.E.3.b, page 19 of 31): The Draft Permit includes a requirement for reevaluation of the local limits, due within 90 days of the effective date of the permit, and states that if "the evaluation reveals the need to revise local limits, the Permittee shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval." This is an insufficient amount of time for the District to evaluate and revise the local limits, if needed. The District's procurement process includes board approval for funding, preparation of request for proposal to select a consulting firm, and negotiation of contract with selected firm to start the work. This process typically takes 18-24 months. Further, the Commonwealth of Massachusetts procedures for bidding and procurement are extensive and require adequate time for each phase of the request for proposal, award, and implementation process. These procedures include but are not limited to budgeting and obtaining funding, procurement of engineering services to determine the needs for revision and the extent of revision required, initial proposal of local limits, stakeholder coordination meetings, public comments on the local limits, and finalizing of local limits – all of which must occur prior to completion of the revision.

There is no possibility the reevaluation can occur in 90 days and the local limits revised within a period of 120 days.

Request: The District requests a compliance deadline of 6 months for the reevaluation and 24 months for the District to revise local limits, if needed.

Response 12

The comment requests a change in the compliance deadlines related to the local limits requirements.

The permit only requires a reevaluation of the local limits and completion of an Attachment. There is no sampling involved with the reevaluation and the District may choose to begin that reevaluation immediately if it so chooses. EPA will therefore retain the 90-day deadline.

The revision of local limits is not mandatory and may possibly be a moot point with respect to timeframes. Regardless, EPA does understand the timeframe involved with a potential revision of local limits. Given that, should the District need to revise its local limits, EPA has extended the time allowed to 18 months in the Final Permit.

Comment 13

Ambient Monitoring: The Draft Permit includes a new Ambient Monitoring Special Condition (Part 1.G.1) that requires the District to conduct water quality monitoring in Salem Sound, adjacent to Massachusetts Bay. The sampling is to be conducted annually, nine (9) times per year for over 21 parameters, including in the winter months of February and March, and work is to include preparation of a QAPP, and preparation of a full annual report, including cover letter, introduction, methods, discussion, and conclusion. The District has sought quotations from environmental sampling companies to understand the cost implications of the work. The response from companies has been that this sampling program will require a large vessel to safely complete the work, especially in the winter months, and that there are a limited number of companies with an appropriate vessel, captain, equipment, and expertise that are capable of completing this work.

In the Fact Sheet (page 46 of 63) EPA asserts that it is authorized to include the Ambient Monitoring "[d]ue to the impairment of the aquatic life use in Salem Sound and concerns that nutrients could cause excessive algal blooms leading to high turbidity." However, EPA rightly did not establish an effluent limitation for nitrogen (Fact Sheet page 36 of 63) based on the Vella and Callaghan (2020) results where it was found that

> …station SS-GH01 (located above the SESD outfall near the center of Salem Sound) indicates an average the nitrogen TN concentration of 15.7 µM (which converts to 0.22 mg/L). The highest TN level among the next four closest stations which may also be impacted by the SESD discharge (i.e., SS-MG-1, SS-MI1, SS-BG1 in Salem Sound and SH-A at the border of Salem Harbor and Salem Sound) is station SH-A with a concentration of 21.6 µM (which converts to 0.30 mg/L). EPA highlights that these levels are below the range of 0.33 to 0.55 mg/L which the report indicates may be detrimental to eelgrass. **The only stations with TN levels in this range are much farther inland and not clearly impacted by the SESD discharge.** [bold emphasis added]

EPA's assessment is also consistent with recent studies of Massachusetts estuaries of TN end point for aquatic health as summarized in Long Island Sound Nitrogen study[1] that shows a median TN end point value of 0.40 mg/L:

Summary of Endpoint Values for Total Nitrogen in Massachusetts Estuaries

TN (mg/L)		Assessment Endpoint	Location	Citation
0.49		Seagrass transplant survival > 50%	SE Massachusetts Estuaries	Benson et al. 2013[a]
0.39		Seagrass transplant survival > 75%		
0.42		Healthy seagrass		
0.34		Seagrass survival		
0.31		Restoration of eelgrass	Massachusetts Estuaries	MEP 2017[b,d]
0.49		Restoration of eelgrass		
0.30		Eelgrass present	SE Massachusetts Embayments	Howes et al. 2003[c]
0.39		Eelgrass present		
Median	0.39	Summary for Seagrass Protection Endpoints (Used for Literature Line of Evidence for Embayments, N=8)		
Min	0.30			
Max	0.49			
0.40		Infaunal habitat protection	Massachusetts Estuaries	MEP 2017[d]
0.60		Infaunal habitat protection		
0.41		Benthic habitat protection		
0.91		Benthic habitat protection		
0.50		Upper end of good/fair conditions and lower end of moderate impairment	SE Massachusetts Embayments	Howes et al. 2003[c]
0.80		Severe ecological degradation begins		
0.30		No macroalgae		
0.50		Macroalgae might occur in some regions		
0.39		DO generally >5 mg/L		
0.50		DO generally >5 mg/L		

Median	0.41	Summary for All Endpoints
Min	0.30	(Values at or above the severe degradation endpoint of 0.80 were excluded, leaving a maximum of 0.6 – see narrative above; N=16) (Used for Literature Line of Evidence for Open Waters)
Max	0.60	

[a] Long term tidally averaged value; [b] Long term average; [c] Long-term, ebb tide average

The nitrogen concentration near the SESD outfall is significantly lower than the nitrogen thresholds identified in recent studies of Massachusetts estuaries. This strongly indicates that the aquatic life impairment in Salem Sound is unlikely to be caused by the SESD discharge. Instead, other sources, such as stormwater runoff, may be contributing to the observed issues, rather than the point source from the SESD wastewater treatment facility. Therefore, it is unreasonable that EPA imposes onerous ambient monitoring requirement when there is no reasonable potential for impairment from the SESD discharge.

Additionally, the design flow of 29.7 MGD represents just 5.8% of the total wastewater flow from POTWs into the Massachusetts Bay, with 436 MGD of the 509 MGD of permitted flow coming from the Deer Island WWTF. Indeed, the EPA acknowledges in the Fact Sheet (page 45 of 63) that "multiple permitted wastewater discharges to the Merrimack River also contribute a significant loading of nutrients at the northern end of the Bay system, and non-point source discharges contribute significant loading along the southern boundary of the Bay system". Further, EPA states (Fact Sheet page 36 of 63) that "Although the Sound shows some signs of nutrient-induced effects, it is not clear that the SESD discharge is causing or contributing to those effects given the dispersion of the effluent and the low levels of nitrogen found in the

Sound and even in the immediate vicinity of the outfall." Yet, EPA has added this Ambient Monitoring requirement to the Draft Permit because "additional ambient monitoring is necessary to obtain a clearer picture of the impact of the discharge in Salem Sound and any cumulative impacts beyond the Sound" (Fact Sheet page 36 of 63). Especially provided the evidence presented by EPA in the Fact Sheet and EPA's own assertions that the SESD WWTF is not contributing significant nitrogen to the Salem Sound, there is no scientific or regulatory reason to include this requirement in the Permit, and it is an overreach of EPA's authority to require the District to conduct an environmental research program. This requirement is an unfunded mandate and imposes a requirement on the District to collect data that should be the subject of a larger regional or national program, consistent with the purposes of the Paperwork Reduction Act.

From the Fact Sheet (page 47 of 63), the specific sampling location for the "[a]mbient sampling shall be conducted at a farfield site outside the immediate influence of the SESD discharge" (see Figure 1). This new requirement to conduct an ambient water quality monitoring program, outside of the WWTF's discharge zone of influence, imposes significant administrative burdens and costs that are beyond the scope of the District's purview: the District's purpose and charge is to provide municipal wastewater services including treating wastewater, not conducting general environmental research for EPA.

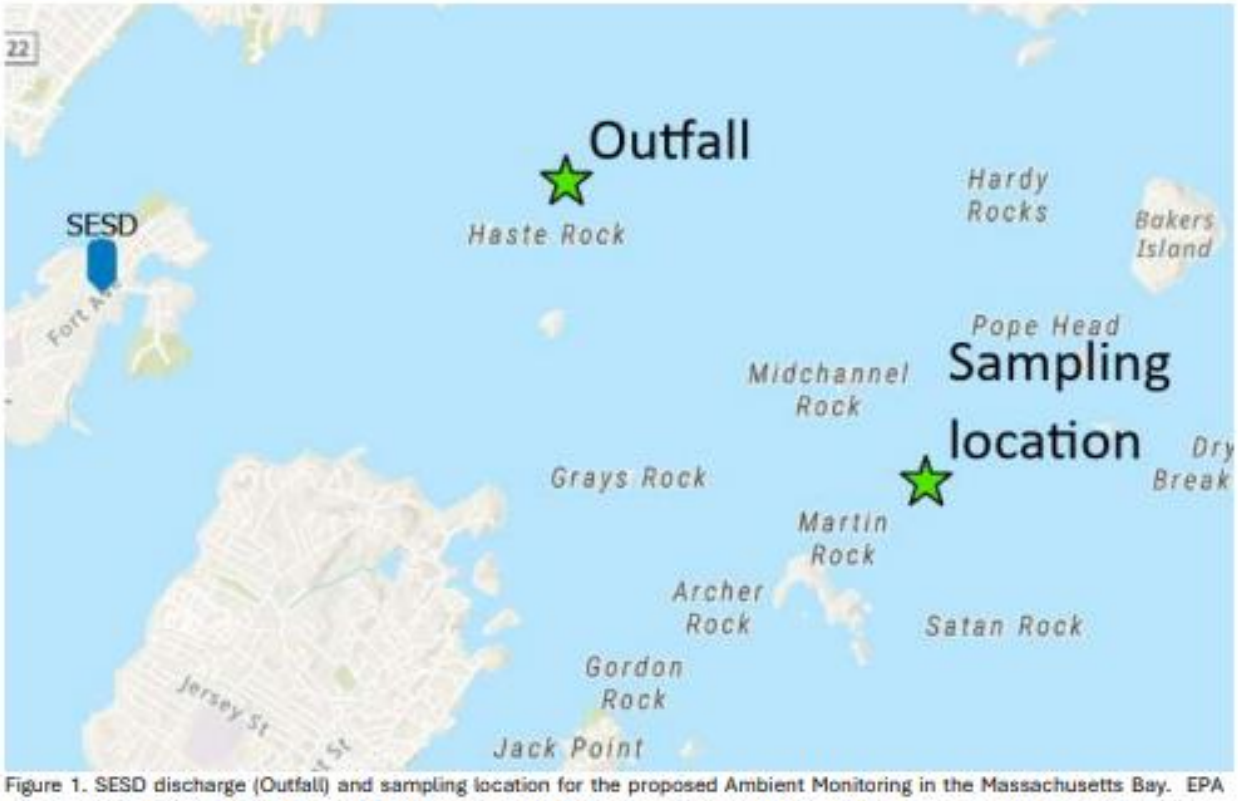

Figure 1. SESD discharge (Outfall) and sampling location for the proposed Ambient Monitoring in the Massachusetts Bay. EPA selected station SSBG1 (latitude 42.51919° N, 70.8065° W) from the 2020 study of Salem Sound (Fact Sheet, page 47 of 63).

The EPA's authority under the Clean Water Act (CWA) to require the District (or any POTW) to collect ambient water quality data outside of the discharge zone is not clearly supported by the statutory language of the Clean Water Act (CWA) (33 U.S.C. §§ 1251–1387), which is primarily

focused on regulating point source discharges into navigable waters through National Pollutant Discharge Elimination System (NPDES) permits. The primary purpose of these permits is to ensure that discharges meet specific effluent limitations and water quality standards. Requiring POTWs to collect ambient water quality data outside their discharge zones goes beyond the intended scope of NPDES permits, which is to control and monitor the quality of the effluent being discharged, not to conduct extensive environmental studies.

While the EPA has broad authority to ensure compliance with water quality standards, it does not have unlimited authority to impose requirements that extend beyond the direct impact of the discharge. The EPA's authority under the CWA does not explicitly extend to mandating ambient water quality monitoring outside the zone of influence of a POTW's discharge.

It is clear that this is another “end-result” provision which assigns responsibility to the District for the quality of water in an area that could be impacted by pollution from other sources. The circumstances are similar to those described in the recent U.S. Supreme Court case, City and County of San Francisco, California v. Environmental Protection Agency, in which the Court struck down an end-result requirement that receiving waters meet applicable water quality standards. See City and County of San Francisco, California v. Environmental Protection Agency, Docket No. 23-753, (March 4, 2025). The ambient water quality monitoring requirement must be stricken, following this U.S. Supreme Court decision.

Administrative Burden and Costs: Requiring the District to conduct ambient water quality monitoring outside their discharge zone of influence also imposes significant administrative burdens and costs (estimated to be approximately $200,000/year). The CWA does not provide clear statutory authority for the EPA to impose such extensive monitoring requirements, especially when they are primarily for the EPA's own rulemaking purposes rather than directly related to discharge compliance.

The EPA's requirement for Ambient Monitoring imposes significant additional costs on SESD without corresponding federal funding, which places an undue financial burden on the District and local ratepayers and is contrary to the spirit of the Unfunded Mandates Reform Act.

EPA should consider alternative approaches to gather the necessary data without imposing an undue and excessive cost burden on the District and the ratepayers. The EPA can utilize other mechanisms to gather ambient water quality data, such as collaborating with state environmental agencies, academic institutions, or other federal programs specifically designed for environmental monitoring and research. This approach would be more consistent with the cooperative federalism framework of the CWA, where states play a significant role in water quality management.

Request: Remove the Ambient Monitoring Special Condition in the Permit.

[1]Tetra Tech, Inc. (2018). Establishing Nitrogen Endpoints for Three Long Island Sound Watershed Groupings: Embayments, Large Riverine Systems, and Western Long Island Sound Open Water. Subtasks F/G. U.S. Environmental Protection Agency Region 1 and Long Island Sound Office. Available at:

https://longislandsoundstudy.net/wp-content/uploads/2020/10/Subtask-F-G-Empirical-Modeling-and-N-Target-Concentrations_combined.pdf.

Benson, J.L., D. Schlezinger, and B.L. Howes. 2013. Relationship between nitrogen concentration, light, and Zostera marina habitat quality and survival in southeastern Massachusetts estuaries. Journal of Environmental Management 131:129–137.

MEP. 2017. The Massachusetts Estuaries Project: Reports Available to Download. Downloadable individual reports for the 33 embayment systems. Massachusetts Estuary Program. Accessed February 2017. http://www.oceanscience.net/estuaries/reports.htm.

Howes, B.L., R. Samimy, and B. Dudley. 2003. Site-Specific Nitrogen Thresholds for Southeastern Massachusetts Embayments: Critical Indicators Interim Report. Prepared by Massachusetts Estuaries Project for the Massachusetts Department of Environmental Protection. Accessed February 2017. http://yosemite.epa.gov/OA/EAB_WEB_Docket.nsf/Verity%20View/DE93FF445FFADF1285257527005AD4A9/$File/Memorandum%20in%20Opposition%20...89.pdf.

Response 13

The commenter requests that the ambient monitoring requirement be removed because of the administrative burden and cost.

The Fact Sheet (p. 43) explains that Massachusetts Bay, of which Salem Sound is a part, is experiencing a shift in biological and oceanographic regimes.[24] Those changes have been documented by long-term ambient data (1992 to present) collected by the Massachusetts Water Resources Authority (MWRA) throughout Massachusetts Bay. The new biological regime is characterized by increased frequency and intensity of nuisance and harmful algal blooms (HABs), shifts in the seasonal and spatial distribution of harmful algae, and the emerging trophic and water quality impacts related to HABs. This regime shift increases the scientific uncertainty regarding the role of WWTF discharges in supporting nuisance algal blooms and HABs throughout Massachusetts Bay.

Additionally, as discussed previously and in the Fact Sheet (p. 24), Salem Sound is listed in the 2022 Massachusetts Integrated List of Waters[25] as impaired for "estuarine bioassessments." The Massachusetts CALM[26] identifies "estuarine bioassessments" as a cause of impairment when eelgrass bed mapping data documents a substantial decline (more than 10% of the bed size or total loss of beds no matter their size). Aerial surveys conducted by MassDEP (1995-2012) and acoustic mapping conducted by Massachusetts DMF (2016) showed mixed observations of eelgrass condition across the Sound. Although some beds were found to be healthy and thriving (including one of the largest in Massachusetts, stretching along the coast from Beverly to Manchester), some areas suffered substantial losses, *e.g.*, Salem Harbor (81% loss from 1995-2012).[27]

[24] Hagy, J., T. Gleason, A. Oczkowski, A. Tatters, and Y. Wan. 2022. Technical Memorandum: Recommendations to adapt Ambient Monitoring and Contingency Thresholds to monitor potential ecological risks to Massachusetts Bay resulting from the Deer Island Discharge. US Environmental Protection Agency, Office of Research and Development, Narragansett, RI. EPA/600/R-22/064. 6 pp.
[25] https://www.epa.gov/system/files/documents/2023-10/2022-ma-303d-list-report.pdf
[26] https://www.mass.gov/files/documents/2018/05/07/2018calm.pdf
[27] Vella and Callaghan.

Total nitrogen has been identified as a pollutant threatening eelgrass bed condition. Vella and Callaghan[28] report that total nitrogen (TN) concentrations higher than 0.33-0.55 mg/L are detrimental to eelgrass. A study of southeastern Massachusetts estuaries found that an average TN concentration of 0.39 mg/L is a threshold concentration at which eelgrass thrives.[29]

In the Fact Sheet, EPA reviewed seasonal averages of TN as presented in Vella and Callaghan shown in Figure 2 of the Fact Sheet. The seasonal averages for TN were less than the threshold values. Data provided by MassBays, finds a maximum TN concentration of 0.57 mg/L directly over the SESD outfall on August 13, 2019, which is just above the threshold range suggested in Vella and Callaghan and it is also above the threshold of 0.39 mg/L recommended in the southeastern Massachusetts estuaries study.

The commenter states that the "EPA asserts that it is authorized to include the Ambient Monitoring "[d]ue to the impairment of the aquatic life use in Salem Sound and nutrients could cause excessive algal blooms leading to high turbidity." EPA did not state that it is authorized to include ambient monitoring for that reason. EPA is simply stating that the impairment status is one of the reasons for the ambient monitoring requirement and the focus on nutrients. Another reason is to better understand the issue of eutrophication in Massachusetts Bay. EPA's authority for including ambient monitoring can be found in Response 4.

EPA has an obligation to establish effluent limitations that will ensure the discharge does not violate WQS. Although SESD represents only 5.8% of the total wastewater to Massachusetts Bay, it is the second largest discharger to the Bay. EPA's statements in the Fact Sheet (and cited in the comment above) make clear that EPA does not have the data necessary to determine if the SESD discharge is causing or contributing to the nutrient-induced effects including the impairment due to estuarine bioassessments in Salem Sound. The ambient monitoring requirement is not, as the commenter suggests, "for separate rulemaking purposes" or for a "research study," but to provide additional data to support a more robust and accurate reasonable potential analysis for future iterations of this individual NPDES permit.

To have sufficient data for the next permit reissuance, EPA chose the site in Children's Island Channel as the ambient monitoring location for SESD as it was the background site for the 2019 MassBays study and the 2020 Vella and Callaghan study. Continued monitoring at this site will continue the record of background data for this site and provide the data necessary to evaluate the reasonable potential for nutrients to cause or contribute to violations of WQS in the next reissuance of the SESD permit. Although the comment suggests that this site is inappropriate because it is not in the immediate vicinity of the SESD discharge, EPA was specifically looking for a background site outside

[28] Ibid,
[29] https://www.sciencedirect.com/science/article/pii/S0301479713006336?via%3Dihub

of the direct influence of the SESD outfall, the Manchester-by-the-Sea outfall, and the contributing rivers. The data from this site will be used to represent ambient conditions when evaluating reasonable potential during the next permit reissuance.

EPA recognizes the Permittee's concerns about the scope of the ambient monitoring plan and has decided to reduce the number of annual sampling dates to six. This revision removes the sampling rounds from the winter months and late October and focuses on the growing season period. The six remaining dates are shown below.

When	Target Week	Purpose
Early April	15	Later winter/spring bloom nutrients
Mid-May	20	Nutrient/water column conditions at the end of winter/spring
Mid-June	25	Early summer stratification and nutrients
Mid-July	30	Mid-summer stratification and nutrients
Mid-August	34	Mid-summer stratification and nutrients
September	38	Nutrients, etc. prior to overturn

With regard to the monitoring parameters, EPA reconsidered whether any of the 21 sampling parameters are unnecessary and could be eliminated. Among the parameters under "Hydro profile," EPA notes that at least six are *in situ* parameters that can be measured with a single appropriately configured probe. The water chemistry parameters were selected to focus on eutrophication concerns and get an understanding of the ratios of nutrients in the background environment of Salem Sound outside of the influence of the SESD and Manchester outfalls and the tributary rivers and streams. The enumeration and identification of phytoplankton and zooplankton is necessary to evaluate the potential changes in the biological regime of Salem Sound. The suite of parameters required by the ambient monitoring plan is necessary and will provide EPA with the data required to evaluate if nutrients from the SESD discharge are causing or contributing to violations of WQS and impairments in Salem Sound.

ANALYTE	DEPTH	PARAMETER
Hydro profile	Downcast data continuous, with upcast data at any sampled depth	Temperature pH Salinity Dissolved Oxygen Chlorophyll fluorescence Turbidity (or Transmissometry) PAR/Irradiance Depth of sensors
Water Chemistry	Three depths. Surface chlorophyll maximum and bottom.	Ammonium Nitrate Nitrite

ANALYTE	DEPTH	PARAMETER
		Total dissolved nitrogen Particulate nitrogen Phosphate Total dissolved phosphorus Particulate phosphorus Silicate Particulate organic carbon Chlorophyll-a
Phytoplankton	Near surface and chlorophyll maximum	Identification Enumeration
Zooplankton	Net Tow	Identification Enumeration

EPA disagrees with the commenter's characterization of ambient monitoring as a prohibited "end result" permit condition. Monitor-only requirements are just that: an obligation to report on a discharge of pollutants, not a requirement that the discharge of a pollutant meet a certain numeric or narrative effluent limitation. EPA, as the permitting authority, has authority to impose monitoring requirements "regardless of whether pollutant discharges are restricted by an effluent limit." *E.g. In re Town of Concord*, 16 E.A.D. 514, 541-542 (EAB 2014). Data collected from a permit's monitoring requirements is critical in future permit cycles in determining the need for effluent limitations and, if appropriate, calculating effluent limitations. It is reasonable to require monitoring when there is "little data" otherwise available. *In re Avon Custom Mixing Services*, 10 E.A.D. 700, 709 (EAB 2002).

For EPA's response to comments regarding *City and County of San Francisco* as applied to monitoring requirements, see Response 5.
For EPA's response to comments regarding unfunded mandates and the Paperwork Reduction Act, see Response 6.

Comment 14

Best Management Practices for Outfall: The Draft Permit includes a new Special Condition that the District conduct outfall inspections and reporting within sixty (60) days of inspections. The District already inspects and maintains the outfall on a regular basis. The last inspection and cleaning of the diffusers was in 2021, and another inspection is planned for 2026. There is not an issue with the outfall, which is being regularly inspected and maintained; inclusion of this special provision is not needed in the NPDES Permit.

Additionally, the District believes inclusion of this requirement in the NPDES Permit is an overreach of the EPA's Statutory Authority. The Clean Water Act (CWA) (33 U.S.C. §§ 1251–1387) primarily focuses on regulating point source discharges into navigable waters through National Pollutant Discharge Elimination System (NPDES) permits. The language in the CWA

emphasizes the control of pollutants at the source and does not grant the EPA authority under the CWA to mandate the timing and reporting of specific maintenance activities.

Request: The District requests that EPA remove the outfall inspection BMPs from the Permit.

Response 14

The "Best Management Practice for Outfalls" is a permit requirement applicable to outfalls and/or diffusers in marine waters. It was added to address the concerns that the design conditions that are considered when developing marine dilution factors continue to be accurate. The dilution factor underlays the reasonable potential analysis and is dependent on the outfall diffuser functioning as designed. In other words, if the diffuser is not functioning properly, the discharge would not receive as much dilution and the water quality-based effluent limitations would not be sufficiently protective of water quality standards.

The comment notes that "[t]he District already inspects and maintains the outfall on a regular basis" and has conducted inspection and maintenance in 2021 and has another inspection planned for 2026. Therefore, EPA finds that the requirements for the "Best Management Practices for Outfalls" does not pose a significant burden on the District and will allow EPA to ensure the water quality assumptions of the permit remain accurate throughout the permit term.

This comment has resulted in no change to the Final Permit.

Comment 15

Notification of Massachusetts Division of Marine Fisheries: At the request of the Massachusetts Division of Marine Fisheries (DMF) in comments on the 2008 Draft permit (see page 5 of 122 in the Final 2016 permit Response to Comments) the 2016 permit included a 24-hour notification requirement to the DMF within 24 hours of becoming aware of excursions for fecal coliform or if a plant failure occurs (Part 1.F.7). The Draft Permit changed the notification requirement such that the District must notify DMF of any emergency condition, bypass, SSO discharges or other failure that has the potential to violate bacteria limits within four (4) hours, and within twenty-four (24) hours of becoming aware of a permit excursion or plant failure. The addition of a four (4) hour notification requirement under emergency conditions is a burden to the District that could be difficult to administer. When there are emergency conditions, bypasses, SSO discharges or other failure occurrences that would trigger this notification, plant staff are in full response mode to fix the problem that caused the emergency condition, failure, bypass or SSO. These conditions can happen at any time and the 4-hour notification window could be in the middle of an emergency response with all staff working to address the issue, causing an undue burden on the responding staff, and possibly removing staff members from their work on the emergency response, with no clear benefit to the environment. Calls would be required to DMF at any time of day or night, and these calls may be made to an empty office. It is not clear from the Draft Permit and Fact Sheet what problem is attempted to be fixed with the significantly shortened notification window.

Request: Change all DMF notifications from the new four (4) hour notification requirement back to a twenty-four (24) hour requirement.

Response 15

The revised notification period was made at the request of Massachusetts Division of Marine Fisheries (DMF) who has a responsibility to assure that public health is protected from any emergency condition. Notification should be sent by telephone and email. With current technology, EPA expects that the Permittee should be able to quickly notify DMF to assure protection of the public within the 4-hour window.

This comment has resulted in no changes to the Final Permit.

Comment 16

Model or Dye Study: The Draft Permit includes a Specifical [sic] Condition to conduct a model or dye study to determine a new dilution factor for the facility. Nothing significant has changed in the District's receiving water classification or outfall that would trigger this study. This requirement is not necessary and adds more administrative and cost burden to the District and the ratepayers.

Request: Remove the requirement that the District conduct a model or dye study to determine a new dilution factor for the discharge.

Response 16

The dilution factor in the current permit is based on modeling that was conducted by EPA in 2016 using characteristic data from a 2001 study[30] that used ambient conditions from July-September 1985. EPA considers that there may have been significant changes in the 40+ years since 1985 that may be identified through an updated model or dye study. Given that the dilution factor underlays the reasonable potential analysis, EPA considers it appropriate to ensure the dilution factor in the next permit reissuance is based on current conditions.

This comment has resulted in no change to the Final Permit.

Comment 17

Water Quality Standards in MassDEP Surface Water Discharge Permit (Paragraph 9) and Section 401 Water Quality Certification:

The water quality standards set forth in Paragraph 9.a. through 9.g. and repeated in the Section 401 Water Quality Certification are vague "end-result" requirements which assign responsibility to the District for the quality of water in an area that could be impacted by pollution from other sources. In City and County of San Francisco, California v. Environmental Protection Agency, the

[30] Kim, Hyun-Sook and Swanson, J. Craig, Applied Science Associates, for Christian Krahforst, Massachusetts Coastal Zone Management, December 2001. Fate and Transport Modeling of Contaminants in Salem Sound. Report to the Marine Monitoring and Research Technical Series, MMRTS-01-01.

U.S. Supreme Court struck down end-result requirements and agreed with the permittee that the EPA is not authorized to impose "NPDES requirements that condition permitholders' compliance on whether receiving waters meet applicable water quality standards". See City and County of San Francisco, California v. Environmental Protection Agency, Docket No. 23-753, pages 910 of Slip Opinion (March 4, 2025). It follows that MassDEP should eliminate end-result requirements and instead include requirements that are sufficiently specific to enable the District to comply with the terms of the permit. For example, as written, it is impossible for the District to determine whether discharge is "aesthetically objectionable". The vague language leaves the District in a position similar to that of San Francisco in the Supreme Court case in that the standard for compliance is unclear and may be outside of the District's control.

> **Request:** Remove the requirements in Paragraphs 9.a. through 9.g from the MassDEP Surface Water Discharge Permit and Section 401 Water Quality Certification.

Response 17

> This comment is specific to the MassDEP State Permit and 401 Water Quality Certification, and is not related to EPA's Draft Permit. EPA is required to incorporate the requirements specified in a 401 certification in the Final Permit. 40 CFR 124.55(a); 40 CFR 122.44(d)(3); 40 CFR 121.3(b). Finally, "[r]eview and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the procedures in this part." 40 CFR 124.55(d).

Comment 18

State 401 Certification Conditions (Draft Permit, Section I):

The Draft Permit contains language in Section I, State 401 Certification Conditions, regarding the State-issued water quality certification. The language in the Draft Permit states that the EPA will incorporate all State water quality certification requirements (if any) into the Final Permit. This language is different from other recent draft permits, which stated that the EPA will incorporate "appropriate State water quality certification requirements (if any) into the Final Permit." The nuanced language is significant, implying that SESD's permit will include all State water quality certification requirements, instead of only those that are appropriate.

> **Request:** Remove the sentence, "EPA will incorporate all State water quality certification requirements (if any) into the Final Permit." and replace with, "EPA will incorporate appropriate State water quality certification requirements (if any) into the Final Permit."

Response 18

> EPA has removed the above sentence entirely from the Final Permit and has included the water quality certification conditions from MassDEP in the Final Permit.

Pursuant to 40 CFR 121.3, which delineates the scope of 401 water quality certification conditions:

> (a) When a certifying authority reviews a request for certification, the certifying authority shall evaluate whether the activity will comply with applicable water quality requirements. The certifying authority's evaluation is limited to the water quality-related impacts from the activity subject to the Federal license or permit, including the activity's construction and operation.
> (b) Consistent with the scope of review identified in paragraph (a) of this section, a certifying authority *shall include* any conditions in a grant of certification necessary to assure that the activity will comply with applicable water quality requirements. (emphasis added)

EPA notes that this regulation limits the scope of what a certifying authority, such as MassDEP, may include as appropriate water quality certification conditions. If a certification condition is within this scope, EPA must include it in the Final Permit. Also see Response 19.

Comment 19

Potential Alternative Permit Conditions (Fact Sheet, Section 5.8):

The Potential Alternative Permit Conditions set forth in Section 5.8 of the Fact Sheet repeat the water quality standards found in the MassDEP Surface Water Discharge Permit and Section 401 Water Quality Certification. These requirements are vague "end-result" requirements which assign responsibility to the District for the quality of water in an area that could be impacted by pollution from other sources. In City and County of San Francisco, California v. Environmental Protection Agency, the U.S. Supreme Court struck down end-result requirements and agreed with the permittee that the EPA is not authorized to impose "NPDES requirements that condition permitholders' compliance on whether receiving waters meet applicable water quality standards". See City and County of San Francisco, California v. Environmental Protection Agency, Docket No. 23-753, pages 9-10 of Slip Opinion (March 4, 2025). The standard for compliance with these Potential Alternative Permit Conditions is unclear and may be out of the District's control. Following the ruling in City and County of San Francisco, California v. Environmental Protection Agency, EPA must eliminate these water quality standards contained within the Potential Alternative Permit Conditions from the District's NPDES Permit.

Section 5.8 of the Fact Sheet also contains additional alternative permit conditions and monitoring requirements that EPA states will be included in the Final Permit, if not incorporated into the final state Section 401 Water Quality Certification. These additional alternative permit conditions include Reasonable Potential Analyses, Toxicity, Annual Chemical Monitoring, Visual Inspection of the Receiving Water, and Benthic Survey. Based on the language in the Fact Sheet, it is unclear to the District which conditions will appear in the Final Permit.

Furthermore, the Potential Alternative Permit Conditions are hidden in the middle of the Fact Sheet. Permit conditions should be clearly included in the body of the Draft Permit so that they are clear and visible to all readers, including the permittee. EPA and MassDEP should discuss which conditions will be incorporated into the Draft Permit in advance and issue their respective draft permits accordingly so that the District is not forced to guess which conditions will be included in the Final Permit.

Request: Remove the Potential Alternative Permit Conditions from the Fact Sheet.

Response 19

Upon consideration of the comments received, EPA is not including the potential alternative permit conditions discussed in Section 5.7 of the Fact Sheet in the Final Permit. EPA clarifies that these potential alternative permit conditions were monitoring conditions, not water quality-based effluent limitations (WQBELs), and are not necessary to protect water quality standards regardless of the content of MassDEP's 401 certification of the Draft Permit. In the development of the Draft Permit, EPA conducted a thorough reasonable potential analysis on all pollutants of concern (*i.e.*, all pollutants identified in the past five years of monthly Discharge Monitoring Reports [DMRs] and in the most recent permit application) using all available information to ensure that all pollutants of concern were either already consistently below levels that may violate applicable water quality standards (WQS) or received a protective WQBEL in the permit if the data demonstrated the reasonable potential to cause or contribute to an excursion of WQS. Some of EPA's pollutant-specific reasonable potential calculations for specific pollutants of concern are shown in Appendix B of the Fact Sheet, though a reasonable potential analysis was conducted for all pollutants identified in the DMRs and/or permit application. Additionally, the Whole Effluent Toxicity (WET) testing limitations in the permit operate as a surrogate for other potential sources of toxicity and the recent DMR data show consistent compliance with these WET limits.

Based on this information, EPA has determined that the Final Permit is fully protective of all applicable water quality standards based on all currently available information, and that the additional monitoring requirements discussed in Section 5.7 of the Fact Sheet are not necessary at this time. Similarly, the narrative water quality-based requirements that were included in previous iterations of this permit (*e.g.*, "The discharge shall not cause a violation of the water quality standards of the receiving waters") are also not necessary given EPA's determination that the limits in this Final Permit are sufficient to meet WQS, and thus are not included in this Final Permit as requirements based on CWA Section 301(b)(1)(C).

EPA additionally clarifies that the water-quality based effluent limits included in the Final Permit satisfy EPA's independent obligation under Section 301(b)(1)(C) of the CWA. EPA has also included the provisions in the State's 401 certification in the Final Permit as required by Section 401 of the Act. EPA recognizes that the Supreme Court in *San Francisco v. EPA* held that "end-result requirements" are not authorized under Section 301(b)(1)(C) of the Act, and that the commenter asserts that the State's section

401 certification includes conditions that amount to an "end result" requirements. EPA confirms that it is not relying on the 401 certification provisions to satisfy its Section 301(b)(1)(C) obligations. EPA includes section 401 conditions in NPDES permits pursuant to section 401(d), which requires that any condition of a section 401 certification "shall become a condition on any Federal license or permit." EPA's inclusion of section 401 conditions in NPDES permits does not imply EPA endorsement or approval. Indeed, Federal agencies cannot approve or disapprove the substance of a State's section 401 certification conditions. See 40 CFR 121.8; 88 FR 66618. Any challenge to certification conditions related to an EPA-issued NPDES permit must be made through applicable state procedures, and not through the EPA's Environmental Appeals Board (EAB). 40 CFR 124.55(d).

Comment 20

ERRORS & INCONSISTENCIES:

WET Testing: In Part 1A, Footnote #12 it is noted that acute toxicity tests are required, however, chronic testing is not mentioned, other than a reference to C-NOEC in the first sentence. On page 38 of the Fact Sheet it is stated that "Based on the chronic dilution factor being above 20, chronic (C-NOEC) toxicity testing is not required in the Draft Permit." In Footnote #12 it is also stated that testing is to be conducted with sea urchin (Arbacia) and inland silverside (Menidia beryllina). The sea urchin (Arbacia) is used in chronic testing, not acute testing. This is supported by Attachment A – Marine Acute Toxicity Test Procedure and Protocol, which specifies the use of inland silverside (Menidia beryllina) and mysid shrimp (Americamysis bahia), not Arbacia, for acute testing. We believe that the species to be used in the acute WET tests should be Menidia beryllina and Americamysis bahia.

Request: In Footnote #12 remove the reference to C-NOEC and correct the species to be tested in the acute test from sea urchin (Arbacia) to mysid shrimp (Americamysis bahia) in accordance with Attachment A.

Response 20

Footnote 12 in the Draft Permit is now Footnote 13 in the Final Permit. EPA has removed the reference to C-NOEC and has corrected the second species for the acute toxicity test to mysid shrimp (*Americamysis bahia*).

Comment 21

In Part 1A, Footnote #13, there is a reference in the last sentence to "Attachment A and B, Part VI. Chemical Analysis." Attachment B in the Permit is the Reassessment of Technology Based Industrial Discharge Limits and should not be referenced in this footnote.

Request: Remove reference to Attachment B in Footnote #13.

Response 21

EPA has deleted the reference to Attachment B in Footnote 14 (previously Footnote 13 in the Draft Permit) of the Final Permit.

Comment 22

In Part 1.E.3.b the Reassessment of Technology Based Industrial Discharge Limits form is referenced as Attachment C. It is actually Attachment B.

Request: Correct the referenced Attachment from C to B.

Response 22

EPA has corrected the reference to Attachment B.

Comment 23

In Part 1.E.5, second paragraph, the reference to the NPDES Permit Requirement for Industrial Pretreatment Annual Report as Attachment D is incorrect, it is actually Attachment C.

Request: Correct the referenced Attachment from D to C.

Response 23

EPA has corrected the reference to Attachment C.

Comment 24

Fact Sheet, page 15 of 63, second paragraph, first sentence – reference to "seven" copermittees, when five are listed.

Request: Correct the reference to five co-permittees.

Response 24

Given that the Fact Sheet supports the Draft Permit, EPA cannot make edits to the Fact Sheet at this time. EPA agrees with the Permittee that there are only five co-permittees. This Response to Comments document serves as documentation of this correction.

Comment 25

Fact Sheet, page 40 of 63, first full paragraph (not lettered), second sentence – incorrect Attachment referenced for list of PFAS parameters. ("B" listed, should be "D").

Request: Correct the referenced Attachment from B to D.

Response 25

Given that the Fact Sheet supports the Draft Permit, EPA cannot make edits to the Fact Sheet at this time. EPA agrees with the Permittee that the attachment listing the 40 PFAS parameters should be referenced as Attachment D. This Response to Comments document serves as documentation of this correction.

Comment 26

In Part I.E.5., the permittee is required to provide the EPA with a hard copy of the annual report, but later in the paragraph, it is stated that beginning on March 1, 2025 all annual reports must be submitted electronically.

Request: Please confirm that hard copies of reports will not be required and revise the paragraph accordingly.

Response 26

EPA agrees that these reports should now be submitted electronically and has updated Part I.E.5 accordingly.

Comment 27

Fact Sheet, page 21 of 63 - At the end of the first paragraph below Table 9, there is a statement that previous overflows range from thousands of gallons to millions of gallons of untreated wastewater. This is a gross exaggeration of the magnitude of overflows. Some releases have involved partially treated wastewater.

Request: Edit the sentence to refer to thousands of gallons of untreated or partially treated wastewater so that it is accurate.

Response 27

Given that the Fact Sheet supports the Draft Permit, EPA cannot make edits to the Fact Sheet at this time. However, EPA disagrees with the commenter that the statement below Table 9 is "a gross exaggeration of the magnitude of overflows." The statement says the following: "Larger overflows to receiving waters were reported by SESD or the Town of Marblehead during high flow conditions. These overflows range from thousands of gallons to millions of gallons of untreated wastewater."

EPA compiled Sanitary Sewer Overflow (SSO)/Bypass Notification Forms directly from MassDEP, and also through the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) Data Portal.[31] (See Attachment A of this Response to Comments document).

Many of the reported incidents are small and are the result of standard operations and maintenance issues (i.e., blockages, pipe breaks). Many of these smaller incidents do not result in discharges to receiving waters, but some result in backups of sewage into properties. On the other hand, there some significant events typically associated with high flow conditions in the Town of Marblehead that are discharged to receiving waters and, in some cases, also backup into properties.

The SSO reports for discharges in the Town of Marblehead are for untreated wastewater and many incidents range between hundreds of thousands of gallons to one incident

[31] Available at: https://eeaonline.eea.state.ma.us/portal/dep/cso-data-portal/

discharging over 4.4 million gallons. As discussed in the Fact Sheet, the Town of Marblehead previously held NPDES Permit MA0100374 was terminated on June 15, 2020. The Town of Marblehead is currently under an administrative order with EPA. Under the Marblehead High Flow Management Plan, SESD notifies the Town of Marblehead that it has reached a total flow of 5.5 MGD which begins a process of monitoring flows within Marblehead. When the system is at a capacity and causing adverse public impacts, the Town of Marblehead starts the pump to send untreated wastewater via the Sargent Road Pump Station outfall offshore near Tinker's Island. Untreated flows at high volumes have been discharged at Crown Way.

In contrast, EPA only found a single report of a partially treated discharge to Salem Sound on September 28, 2023 which was caused by an issue at the WWTF. The incident resulted in 72,000 gallons of partially treated wastewater to be discharged to Salem Sound.

This clarification is noted here for the record.

Comment 28

Appendix D, Exhibit B, Part I. (page 23) has a typo in the permittee's name. The name of the permittee is "South Essex Sewerage District".

Request: Correct the typo so that the name reads "South Essex Sewerage District".

Response 28

EPA acknowledges this correction for the record.

Comment 29

The District reserves all rights including, but not limited to, the right to supplement its comments and to provide further information in support of the issues raised herein, the right to respond to issues raised by others, and all rights of appeal. The District respectfully requests that EPA and MassDEP revise the 2025 draft Permits as proposed herein, and looks forward to working with EPA and MassDEP to resolve the above issues and develop Final Permits that are protective of the environment and sustainable for the District and the ratepayers.

Response 29

EPA acknowledges this comment.

B. Comments from Alison Brizius, CZM Director, Commonwealth of Massachusetts, Executive Office of Energy and Environmental Affairs, Office of Coastal Zone Management

Comment 30

The Massachusetts Office of Coastal Zone Management (CZM) is the lead policy, planning, and technical assistance agency on coastal and ocean issues within the Executive Office of Energy and Environmental Affairs (EEA) and implements the state's coastal program under the federal

Coastal Zone Management Act. Through the implementation of its coastal program policies, CZM seeks to balance the wise use and development of the coastal zone with the protection of its resources. Through its water quality and habitat programs, CZM provides technical assistance and leverages the work of various partners to ensure that point sources of pollution such as the South Essex Sewerage District's (SESD) treated wastewater effluent do not lead to water quality impairments, loss of keystone species such as eelgrass, and loss of state-designated uses in coastal waters. CZM offers the following comments on the U.S. Environmental Protection Agency's (USEPA) draft National Pollutant Discharge Elimination System (NPDES) permit for SESD.

Response 30

EPA acknowledges receipt of these comments.

Comment 31

Work done since 2001 by the Massachusetts Department of Environmental Protection (MassDEP), its partners, and its contractors on nitrogen loading to estuaries in southern Massachusetts (the "Estuaries Project"[1]) has demonstrated that for most estuaries summer season total nitrogen (TN) concentrations of 0.40 milligrams per liter (mg/L) or less are protective of water quality and eelgrass. In 2019, CZM assisted the MassBays National Estuary Partnership (MassBays), Salem State University, and Salem Sound Coastwatch in updating an earlier Massachusetts Division of Marine Fisheries (DMF) assessment of water quality in Salem Sound.[2] The group assessed water quality at 15 survey stations throughout the Danvers River, Salem Harbor, and Salem Sound from July to September 2019 and observed season-averaged TN concentrations between 0.17 mg/L and 0.39 mg/L for these stations. While these station averages remained below 0.40 mg/L, the TN directly over the SESD outfall on 8/13/19 was 0.57 mg/L and at times concentrations elsewhere ranged as high as 0.64 mg/L (e.g., the western end of Salem Harbor). MassBays has shared these data with USEPA and they were reviewed during the drafting of this NPDES permit.

That the season-averaged TN at several stations approached 0.40 mg/L (Station 1 SESD outfall = 0.34 mg/L; Station E western Salem Harbor = 0.37 mg/L; Station 4 Danvers/Porter Rivers = 0.39 mg/L) speaks to the need to continue to monitor ambient water quality; to continue to monitor nitrogen loads from SESD, the Manchester-By-The-Sea wastewater treatment facility, and other sources; and to continue to track dissolved oxygen, plankton levels, and the health of the eelgrass beds across Salem Sound. Maintaining water quality and eelgrass to provide "habitat for fish, other aquatic life, and wildlife" is a designated use of class SB waters such as Salem Sound under the Massachusetts water quality standards at 314 CMR 4.05(4)(b)3 and is a key reason why the SESD NPDES permit is critical for the adequate protection of water quality in Salem Sound.

CZM supports the ambient monitoring required in section G Special Conditions in the 2025 Draft NPDES permit for SESD. Since the proposed monitoring spans several seasons (e.g., spring phytoplankton bloom, summer stratification of the water column, fall phytoplankton bloom) it can be used to determine if nutrients are enhancing phytoplankton growth and decreasing dissolved oxygen. Existing eelgrass monitoring efforts by DMF and MassDEP will augment these

studies. While CZM is supportive of the monitoring location at the mouth of Salem Sound to record background conditions, it is also important to have monitoring stations within the Sound, especially near or within the eelgrass beds in Salem and Beverly, to record nutrient concentrations most likely to reflect conditions affecting these important habitat formers. As the 2019 MassBays data show, concentrations can vary widely within the Sound, and having only one monitoring site at the seaward edge of the Sound might not adequately capture the water quality conditions that may put eelgrass health, or other designated uses, at risk.

Many Massachusetts estuaries are experiencing eutrophication, declining water quality, and impaired uses due to anthropogenic nitrogen loading to coastal waters. USEPA and MassDEP, the communities surrounding Salem Sound, and their partners should continue to monitor the conditions in the Sound and take appropriate and timely action to prevent losses of the healthy eelgrass beds in Beverly and Manchester-By-The-Sea and help preserve the remaining eelgrass in Salem Harbor. CZM looks forward to working with USEPA, MassDEP, SESD, and others in assessing water quality and habitat in Salem Sound and discussing the management options necessary to ensure that the Sound continues to meet state water quality standards.

[1] The Massachusetts Estuaries Project and Reports | Mass.gov
[2] Chase, B.C., J. H. Plouff, and W. M. Castonguay. 2002. The marine resources of Salem Sound, 1997

Response 31

The commenter provides ambient data from recent studies in Salem Sound that suggests total nitrogen levels at several locations are close to the growing season average of 0.40 mg/L which is considered a threshold for protection of eelgrass. The commenter is supportive of EPA's approach to include the Ambient Monitoring requirement in the permit and requests additional ambient monitoring stations in the Sound, especially near or within the eelgrass beds. The comment also notes that ambient TN levels were above 0.40 mg/L in the vicinity of the SESD outfall, but EPA highlights that there are no historic eelgrass beds in this vicinity of Salem Sound to these localized levels are not expected to impact eelgrass.

As discussed in Response 13, the Permittee has expressed concerns about the scope of the Ambient Monitoring requirement. EPA has reduced the number of annual sampling dates from nine to six, which removes the winter months and late October sampling rounds and focuses on the growing season.

EPA also recognizes CZM's interest additional ambient monitoring stations within Salem Sound to assess the impact of the SESD discharge. Based on the data from the 2019 and 2020 studies, EPA does not find that additional monitoring near the outfall is reasonable at this time.

As noted in Response 4, EPA will consider conducting a separate dye study, in partnership with the Massachusetts Division of Marine Fisheries (Marine Fisheries), to evaluate the far-field influence of the SESD discharge. Simultaneously, EPA would conduct nutrient monitoring in the eelgrass beds. This work, along with more frequent growing season effluent nitrogen monitoring and the ambient monitoring requirements,

will provide the data necessary for EPA to evaluate the reasonable potential for SESD WWTF to cause or contribute to violations of the WQS.

C. Comments from Barbara Warren, Salem Sound Coastwatch and Lower North Shore MassBays Regional Coordinator, dated April 10, 2025.

Comment 32

Salem Sound Coastwatch (SSCW) was founded 35 years ago as Salem Sound 2000 Inc. with the mission to protect and improve the environmental quality of Salem Sound. Actions taken to reduce point and non-point sources of pollution have improved the embayment's water quality and maintained marine biodiversity. The water quality of the Salem Sound has greatly improved with the critical work of municipalities and South Essex Sewerage District (SESD). The SESD NPDES permit is necessary for continued improvements and protection of water quality in Salem Sound.

Response 32

EPA acknowledges receipt of these comments.

Comment 33

To assure SESD is operating as designed, SSCW supports the inclusion in the permit of monitoring requirements: videoing the outfall every five years, a dye study in the 5th year, and ambient water monitoring nine times a year with a yearly report. However, we question the sampling. Salem Sound with its harbors, rivers, and two wastewater treatment facilities (WWTF) is a complex coastal environment. Salem Sound is a vertically mixed drowned river estuary with semi-diurnal tides (2.75 m range), approximately 36.6 km2 in area and relatively shallow, with a mean depth of 9.15 m. The Massachusetts Department of Marine Fisheries marine resources report determined the freshwater inflow averaged 1.10m3/s from the local wastewater treatment facility and 0.99 m3/s from rivers (Chase et al., 2002). As a result of the large tidal range and small fluvial input, approximately 70% of the water in Salem Sound is exchanged over the course of a tidal cycle (Jerome et al., 1967), which indicates a relatively rapid flushing rate - on the order of approximately two days (Chase et al., 2002).

SSCW working with Massachusetts Office of Coastal Zone Management (CZM), Salem State University (SSU), and MassBays National Estuary Partnership (MassBays) have been studying Salem Sound water quality since 2010. The proposed sampling site 42°31'09.1" N, 70°48'23.4" W in these studies was considered the background monitoring location since it is on the outer (seaward) boundary of the Sound. A location that is more representative of the influence SESD outfall effluent may be having on Salem Sound waters would be better. In addition, to sample nutrient conditions and phytoplankton blooms, the sampling site should be within Salem Sound, not at the border.

Response 33

EPA selected the monitoring location at the Children's Island Channel as a background site removed from the influence of SESD discharge, the Manchester-by-the-Sea WWTF discharge and the rivers. The data from this site will be used to represent ambient

conditions when evaluating reasonable potential during the next permit reissuance. The Final Permit also requires the Permittee to monitor and report effluent nitrite + nitrate and total Kjeldahl nitrogen (TKN), and to calculate total nitrogen.

Finally, as EPA notes in Response 4, EPA will consider conducting a separate dye study, in partnership with the Massachusetts Division of Marine Fisheries (Marine Fisheries), to evaluate the far-field influence of the SESD discharge. Simultaneously, EPA would conduct nutrient monitoring in the eelgrass beds. This work, along with more frequent growing season effluent nitrogen monitoring and the ambient monitoring requirements, will provide the data necessary for EPA to evaluate the reasonable potential for SESD WWTF to cause or contribute to violations of the WQS.

EPA will use the effluent and ambient background data to evaluate reasonable potential for total nitrogen at the time of the next permit reissuance. Also see Responses 13 and 31.

Comment 34

Concerned with declining eelgrass in Salem Harbor and seeking to protect the eelgrass meadows off the Beverly-Manchester coast, SSU and SSCW with funding from three MassBays Healthy Estuaries grants were able to constrain the high levels of TSS and turbidity to phytoplankton (Hubeny et al., 2017). Further research, Phytoplankton and Turbidity: Toward an Environmental Solution for Salem Harbor Water Quality, demonstrated that Salem Harbor is Phosphorus-limited. Lower N:P correlates to higher dinoflagellate biomass and is likely due to higher TP or phosphate inputs. Dinoflagellates, more specifically Heterocapsa spp., are found in nitrogen-limited or phosphorus-rich environments. Data and analyses seem to reiterate the significance of and linkages between phosphorus nutrient concentrations and red-tide-forming Heterocapsa blooms in the high turbidity events in Salem Harbor. Identification of these possible drivers of negative effects on the water clarity will allow for specific remediation strategies to improve Salem Sound's water quality (Veresh et al., Final Report 2022).

Hubeny JB, Kenney M, Warren B, Louisos J. Multi-faceted monitoring of estuarine turbidity and particulate matter provenance: Case study from Salem Harbor, USA. Science of the Total Environment 2017; 574: 629-641.

Chase BC, Plouff JH, Castonguay WM The Marine Resources of Salem Sound, 1997 Technical Report TR-6.

Veresh R, Hubeny B, Warren B, Borkman D, Costa A. Phytoplankton and Turbidity: Toward an Environmental Solution for Salem Harbor Water Quality. Final Report 1 March 2022

Response 34

In response to this comment and the recent research that demonstrates that Salem Sound may be phosphorus-limited, EPA has added effluent monitoring and reporting of total phosphorus from SESD. Sampling should be concurrent with the nitrite + nitrate and total Kjeldahl nitrogen monitoring. EPA is particularly concerned with HABs, such as Heterocapsa, in Salem Sound and the potential impacts on designated uses.

EPA notes that the Ambient Monitoring requirement in the Final Permit already requires the Permittee to monitor both nitrogen and phosphorous species, as well as to identify and enumerate phytoplankton and zooplankton in the ambient waters.

D. Comments from David Coppes, Chief Operating Officer, Massachusetts Water Resources Authority (MWRA), data April 10, 2025.

Comment 35

The Massachusetts Water Resources Authority ("MWRA") appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA) draft National Pollutant Discharge Elimination System ("NPDES") permit number MA0100501 ("Draft Permit") for the South Essex Sewerage District (the "District") and the accompanying Fact Sheet, which were noticed on January 23, 2025. MWRA is providing the following comments in accordance with 40 C.F.R. §124.13.

Response 35

EPA acknowledges receipt of these comments.

Comment 36

Comments on inclusion of Co-permittees in the draft NPDES permit

MWRA appreciates that EPA has included language that provides clarity about responsibilities among the Co-permittees. However, MWRA continues to have reservations about the inclusion of municipal entities that are not directly discharging to a water of the Commonwealth or the United States. MWRA remains concerned that the Co-permittee model is inconsistent with the intent of the Clean Water Act, 33 U.S.C. § 1251 et seq. ("CWA") does not provide statutory authorization for EPA to take such actions in the Draft Permit. Moreover, even if it can be argued that the CWA provides discretionary authority for EPA to regulate the identified Co-permittees in a single NPDES permit, EPA's actions nevertheless constitute an abuse of that discretion.

Response 36

EPA incorporates by reference Appendix D of the 2025 Draft Permit, which outlines EPA's Clean Water Act authority for regulating co-permittees in one NPDES permit.

The question of whether municipal satellite collection systems are subject to the NPDES program because they fall within the definition of POTW and discharge pollutants to U.S. waters has been litigated before the Environmental Appeals Board and EPA's interpretation of the Act and implementing regulations has been upheld. *See* Charles River Pollution Control District, 16 E.A.D. 623 (EAB 2015) and In re Springfield Water & Sewer Comm'n, 18 E.A.D. 430 (E.P.A. May 27, 2021).[32] These decisions were not based

[32] "Even if this issue were properly before the Board in this matter, we would reaffirm our legal conclusion in *Charles River* that neither the CWA nor the NPDES regulations prohibit the Region from regulating the satellite

on Region 1 guidance or EPA's discretion, but instead on the plain meaning of the Act and implementing regulations. Twice, the Board found the Region's permitting approach to be consistent with both the Act and regulations. EPA reaffirms the reasoning in those decisions here, and incorporates by reference the positions set forth in its principal briefs in those cases.

There can be no serious dispute that the satellite sewage collection systems owned by the District's towns fall within the language of the CWA section 212 definition of "treatment works." Under the NPDES permit regulations at 40 CFR § 122.2, a "POTW is defined at § 403.3 of this chapter." 40 CFR § 122.2. Section 403.3(q) in turn provides: "The term Publicly Owned Treatment Works or POTW means a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). This definition of [POTW] includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant." Id. § 403.3(q). CWA section 212 states that the term "treatment works" includes "sewage collection systems, pumping, power and other equipment, and their appurtenances" and "sanitary sewer systems." CWA § 212(2)(A)-(B), 33 U.S.C. § 1292(2)(A)-(B). Nor is there is any question whether the pipes and other conveyances that comprise the municipal satellite collection systems fall within the definition of point sources whose wastewater flows reach waters of the U.S.

Each of the District's towns owns and operates a satellite sewer collection system that contributes wastewater effluent to the SESD facility, where it is treated and discharged through SESD's permitted outfall. The CWA requires permits even for point source pollutants that "do not emit 'directly into' covered waters, but pass 'through conveyances' in between."). *Rapanos v. United States*, 126 S.Ct. 2208 (2006); *see also County of Maui v. Hawaii Wildlife Fund,* 590 US 165, 182 (2020) (CWA Section 402 "does not say 'directly' from or 'immediately' from …its scope is not so limited.").

The Permittee and Co-permittees each are liable for complying with their respective obligations in the Final Permit, which are expressly delineated and set forth on the face of the permit. The language of the permit is clear on its face that the co-permittee towns are subject only to parts I.B, I.C., and I.D, and only then, to the portions of the collection system that each town owns. "The Permittee and each Co-permittee are severally liable under Part I.B, Part I.C and Part I.D for their own activities and required reporting with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part I.B, Part I.C and Part I.D committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other Permittees under Part I.B, Part I.C and Part I.D." *See* Permit page 1.

communities under a single NPDES permit with a regionally integrated plant. The record in this case supports applying the legal reasoning in Charles River to the Region's permit decision here." In re Springfield Water & Sewer Comm'n, 18 E.A.D. 430, 515 (E.P.A. May 27, 2021).

EPA is retaining the co-permittee approach in the Final Permit.

Comment 37

Comments on Part I.A.1 Footnote 11 (Adsorbable Organic Fluorine)

MWRA is concerned that monitoring of Adsorbable Organic Fluorine ("AOF") is untested and the data may be impossible to interpret. MWRA recognizes the value of a measurement that would cover all of the thousands of possible PFAS compounds as a class, however, the method is not ready for use in NPDES monitoring. The justification in the Fact Sheet does not address several issues with Method 1621.

Method 1621 (dated January 2024) explicitly states that "[t]his document represents the AOF method developed by the EPA Office of Water, Engineering and Analysis Division (EAD). *This method is not approved for Clean Water Act compliance monitoring until it has been proposed and promulgated through rulemaking.*" (emphasis supplied)

Conversely, EPA issued a memo (dated December 5, 2022) allowing permit writers to include then Draft Method 1633 in permits, even though it had not been finalized and promulgated. This memo indicated that "*The draft Adsorbable Organic Fluorine CWA wastewater method 1621 can be used in conjunction with draft method 1633, if appropriate.*" (emphasis supplied) MWRA believes that this is not appropriate at this time for a number of reasons.

AOF in aqueous matrices by combustion ion chromatography is a "method-defined parameter" defined solely by the method used to determine the analyte. Any changes to the method necessitated by the results of the multi-laboratory validation study or public comments on the method could invalidate any prior data collected using the procedure before promulgation.

EPA completed the multi-laboratory validation study in 2023 and published results in a report issued in January 2024. Upon review, MWRA found the inter-laboratory variability was very high across all types of samples and many results were reported as not detected. This further supports the concern that Method 1621 is simply not sensitive enough to produce usable data on wastewater samples.

By requiring measurement of AOF using Method 1621 in the Draft Permit, EPA is side-stepping the requirements of the Paperwork Reduction Act, instead of following the information collection procedures required by that Act. EPA is currently engaged in planning a national Information Collection Rule ("ICR") study to collect the information that adding it to NPDES permits would accomplish. EPA should complete that process, and properly promulgate Method 1621 prior to requiring it in NPDES permits.

The current detection limits are on the order of 5,000 ng/L as F. In addressing concerns about the presence of PFAS at ng/L levels, the analysis may not produce useful results, even aside from questions about precision, accuracy, comparability, or repeatability noted above. EPA should complete the ICR study described above, and demonstrate what benefits AOF

measurements could contribute to NPDES PFAS monitoring programs before making it a permit requirement.

MWRA estimates a cost for this analysis of about $300 - $400 per sample. Other wastewater treatment plants have been quoted prices as high as $1,200 per sample. The pricing situation may improve once EPA has fully promulgated Method 1621, but is not likely to improve before the method has been promulgated.

Permittees may not be able to find laboratories to do this analysis as, based on inquiries MWRA has made, there is currently a shortage of labs able to perform this test. At a minimum, there would be additional cost related to sample handling and shipping. This cost is an unreasonable burden to put on Permittees, especially because the data generated prior to Method 1621 being approved are likely to be unusable for decision-making.

Accordingly, MWRA recommends that the requirement to monitor and report on AOF be removed from the Draft Permit. At a minimum, it should be deferred until an available approved method is promulgated and EPA should modify Footnote 15 in the Draft Permit, as follows:

> Report in nanograms per liter (ng/L) for effluent and influent samples. Until there is an analytical method approved in 40 CFR Part 136 for Adsorbable Organic Fluorine, monitoring shall be conducted using Method 1621. This reporting requirement takes effect the first full calendar quarter following six months after ~~the effective date of the authorization~~ EPA notifies the Permittee that Method 1621 has been promulgated.

Response 37

> Regarding comments on the Paperwork Reduction Act, see Response 6.
>
> Regarding Method 1621, EPA recognizes that this method is a screening method for wastewater as noted on page 40 of the Fact Sheet. Given the future regulatory uncertainty and that this AOF monitoring will screen for a broader range of organofluorines, such as PFAS and other emerging contaminants, EPA considers it appropriate to monitoring for AOF as well as PFAS to ensure the discharge is fully characterized with respect to these pollutants in the next permit reissuance. Therefore, this monitoring requirement will remain in the Final Permit. However, based on the comment about the detection limits of Method 1621, EPA considers it more appropriate to specify units of µg/L, so EPA has updated the Final General to include these units rather than ng/L.

Comment 38

Comments on Part I.C.1 (Adaptation Planning)

MWRA recommends that the five-year limit on the applicability of prior assessments be dropped. Placing the arbitrary condition of not applying prior assessments completed more than five years before the effective date of the Final Permit disregards critical work. Permittees

should not be penalized for completing assessments more than five years before a Final Permit is issued.

For example, between 2013-2016, MWRA assessed each of its coastal and near-coastal facilities to determine if the facility would be flooded in a 100-year storm (based on FEMA maps) with 2.5 feet of sea level rise, corresponding to roughly a 2050 to 2060 sea level rise benchmark. The result was a ranking of 16 facilities that could be impaired, most of which are part of the wastewater system. MWRA has installed flood protection measures at most facilities and is completing work at the remaining facilities – including walls around critical equipment, stop logs at windows and doors, and elevating critical equipment in facilities undergoing substantial rehabilitation projects. The assumed risk of 2.5 feet of sea level rise used in MWRA's 2013-2016 facility assessment is still in line with the latest projections in Massachusetts' Coastal Flood Risk Model and the Greater Boston Research Advisory Group Report[1] through the middle of the century – significantly mitigating the near- and mid-term risk to MWRA's infrastructure. Permittees should be able to use any assessments, which still align with the latest projections, in order to comply with the relevant requirements of the Adaptation Plan.

[1] Douglas E. and Kirshen, P. 2022. Climate Change Impacts and Projections for the Greater Boston Area: Findings of the Greater Boston Research Advisory Group Report. Boston: University of Massachusetts, Boston, June 2022.

Response 38

See Response 7.

Comment 39

Comments on Part I.E.2.i (Pretreatment Enforcement)

Part I.E.2.i of the Draft Permit sets certain pretreatment enforcement obligations for the Permittees, including the requirement to "…enforce all applicable Pretreatment Standards and requirements and obtain remedies for noncompliance by any industrial user." To ensure consistency with the terms of the existing NPDES permits, MWRA recommends that the word "appropriate" be added to the referenced clause in Part II.F.2.i, as follows:

> "…enforce all applicable Pretreatment Standards and requirements and obtain appropriate remedies for noncompliance by any industrial user."

Response 39

See Response 18.

Comment 40

Comments on Part I.E.4 (Notification Requirements)

Part I.E.4 of the Draft Permit is unclear. For example, Part I.E.4.a requires Permittees to notify EPA within 60 days of the introduction of new pollutants from any industrial user. If the issuance of a permit to a new industrial user is considered the introduction of new pollutants, reporting will be extremely frequent and perhaps not in accordance with EPA's intent. For reference, in FY 2023, MWRA issued over 175 new permits, most of which were for "Category

10s" (low flow and low pollutant) and "Category D1s" (dental discharges), as defined in 360 CMR 10.101(2)(g). This would not include the number of permitted industries that change the processes to include a new pollutant. Accordingly, MWRA recommends that the language in Part I.E.4.a be limited to Significant Industrial Users ("SIUs") and the Draft Permit language should be revised, as follows:

> The Permittee shall notify EPA within 60 days of the introduction of new pollutants from any new SIUs, new connections at a permitted SIU, or any amendment to an existing SIU permit. All other new permits will be reported in the annual pretreatment report.

Response 40

EPA agrees with this proposed change and has updated the Final Permit accordingly.

Comment 41

Comments on Part I.G.1 (Ambient Monitoring)

Part I.G.1 of the Draft Permit introduces an ambient monitoring plan for the District's discharge that appears to be modeled on MWRA's ambient monitoring plan that has been in place since 2000. In 2000, when the MWRA's Massachusetts Bay outfall was new, there were legitimate questions about the ecological impact of the outfall which justified the inclusion of a very extensive ambient monitoring plan.

The 1990 National Research Council report Managing Troubled Waters recommended that goals and objectives of a monitoring program be clearly articulated using questions that are meaningful to the public.[2] MWRA's monitoring program followed this guidance and was designed around a number of questions. The ambient monitoring plan in the Draft Permit does not address the creation of monitoring questions to guide the design of the monitoring program.

Nonetheless, in the Draft Permit, the District is being asked to conduct a comprehensive water column monitoring that is functionally identical to MWRA's program, down to the parameters to be sampled and the sampling schedule (Part I.G.1.a, sections (2) and (3)). The closest EPA comes to postulating a monitoring question is in the Fact Sheet (Sections 5.1.9.1 and 5.6), where EPA lays out the primary ecological issue in Salem Sound as eutrophication, and its attendant effects on eelgrass beds. However, Figure 2 of Section 5.1.9.1 shows that total nitrogen (TN) measurements near the District's outfall are actually amongst the lowest in the study area as well as below the levels that EPA considers might impact eelgrass. The Fact Sheet also says, "The only stations with TN levels in this range are much farther inland and not clearly impacted by the SESD discharge." ("Range" in the previous quote being the range of TN levels that would negatively impact eelgrass.) This implies that the nutrient loadings and potential impacts on eelgrass beds are likely from sources other than the District's discharge.

Therefore, MWRA believes that the proposed ambient monitoring plan is far too comprehensive. EPA and the District should work together cooperatively to create monitoring

questions and then an appropriate monitoring plan. The Draft Permit has instead seemingly imposed MWRA's monitoring program on the District.

MWRA can attest to the value of the monitoring data that MWRA and its consultants have collected over the past 30 plus years. MWRA can also attest to the cost of the program (approximately $1 million/year), which is in addition to the approximately 3.5 full-time equivalents that work on the MWRA program performing contract and project management; data review, management and analysis; and technical review of deliverables. However, this cost and staff time has been in support of a monitoring program with clearly defined questions, and therefore clear objectives. MWRA does not believe a one-size-fits-all paradigm for monitoring programs is appropriate, especially since public utilities are frequently resource limited.

[2] National Research Council. 1990. Managing Troubled Waters: The Role of Marine Monitoring. Washington, DC: National Academy Press. 125 pp

Response 41

EPA agrees that the ambient monitoring requirement for SESD is similar to the water column monitoring requirements of the MWRA Deer Island monitoring plan but only requires monitoring at one background station. EPA has found that water column data collected by MWRA is useful to EPA when conducting reasonable potential analysis for MWRA and other dischargers. Given the complex and localized issues affecting the attainment of designated uses in Salem Sound, EPA finds that the collection of local ambient data is necessary. The synchronization of the sampling dates allows EPA to frame the data collected by SESD into the broader context of the MWRA Massachusetts and Cape Cod Bays datasets.

The purpose of the ambient monitoring in the SESD permit is to collect data to use in the reasonable potential analysis at the time of the next SESD permit reissuance.

Also see Responses 13 and 31.

Comment 42

Comments on Part I.I (State Section 401 Certification Conditions)

MWRA has concerns with EPA's use of the state Section 401 water quality certification process, as a vehicle to include any vague, "end-result," and generic prohibitions into the permit, in light of the U.S. Supreme Court holding in City & Cnty. of San Francisco, California v. Env't Prot. Agency, 604 U. S. ____, 145 S. Ct. 704 (2025).
MWRA recommends that EPA return to previous language used in the State Section 401 Certification conditions of the permit and modify Part I.I as follows:

This permit is in the process of receiving state water quality certification issued by the State under § 401(a) of the CWA and 40 CFR § 124.53. EPA will incorporate ~~all~~ appropriate State water quality certification requirements (if any) into the Final Permit.

~~[NOTE: See Section 2.2.5 and 5.8 of the 2025 Fact Sheet for more details regarding the~~

~~State certification requirements.]~~

Response 42

See Responses 18 and 19. To be clear, EPA is not "using" the state 401 certification process to include these requirements. Rather, MassDEP has found these requirements necessary to ensure protection of state water quality standards and EPA is simply including them in the permit as state 401 certification conditions.

Comments on the Fact Sheet

Comment 43

Section 5.8 (Potential Alternative Permit Conditions)

In Section 5.8 of the Fact Sheet, EPA notes that the applicable alternative permit conditions and monitoring requirements will only be included in the Final Permit if some or all of the Massachusetts Department of Environmental Protection's ("MassDEP") proposed narrative conditions are not included in the final state 401 certification. However, EPA does not specify which narrative condition applies to which individual potential alternative permit condition. The Permittee is left to guess which alternative permit condition(s) will be included in the Final Permit.

Further, permit conditions do not belong in a Fact Sheet. If EPA intends to include additional permit conditions, EPA must coordinate with MassDEP and issue a revised Draft Permit. The revised Draft Permit must clearly state all of the conditions and not include potential alternative permit conditions in the Fact Sheet. A Permittee cannot adequately prepare for a Final Permit without clear conditions in a Draft Permit.

Reasonable Potential Analysis

The provision EPA intends to insert into Part I.B.1 of this Draft Permit to address the reasonable potential of the discharge to cause a violation of the water quality standards of the receiving water is confusing and contradicts the Effluent Limitations and Monitoring Requirements of Part I.A.1. The referenced provision is as follows:

> For any pollutant without an effluent limitation in this permit, any pollutant loading greater than the proposed discharge (the "proposed discharge" is based on the chemical specific data and the facility's design flow as described in the permit application, or any other information provided to EPA during the permitting process) is not authorized by this permit.

This subsection of the Fact Sheet provides additional explanation, stating:

> If the permitting authority determines that the discharge of a pollutant will not cause, have the reasonable potential to cause, or contribute to an excursion above WQSs, the permit does not need to contain WQBELs for that pollutant. However, the permitting

> authority must ensure that the discharge of that pollutant does not increase during the permit term to the point that would violate water quality standards. Therefore, Part I.B.1 (Unauthorized Discharges) of the permit may include the following provision…

MWRA believes that adding specificity to the Fact Sheet clarifies EPA's intent. Using copper as an example, MWRA has done so as follows:

> If [EPA] determines that the discharge of [copper] will not cause, have the reasonable potential to cause, or contribute to an excursion above WQSs, the permit does not need to contain WQBELs for [copper]. However, EPA must ensure that the discharge of [copper] does not increase during the permit term to the point that would ~~violate~~ cause a violation of water quality standards. Therefore, Part I.B.1 (Unauthorized Discharges) of the permit may include the following provision…
>
> … any [copper] loading greater than the proposed discharge (the "proposed discharge" is based on the chemical specific data and the facility's design flow as described in the permit application, or any other information provided to EPA during the permitting process) is not authorized by this permit.

MWRA interprets this provision to mean that EPA is assigning unspecified effluent limits, in contradiction of Part I.A.1 of the Draft Permit, to unnamed parameters that it has already determined do not require effluent limits. Further, if the Permittee exceeds these unspecified effluent limits, they are in violation of their permit.

EPA's explanation of a "proposed discharge" is also confusing. EPA does not explicitly state what a proposed discharge is, but rather, upon what it is based. MWRA believes the "proposed discharge" is the downstream concentration of a pollutant as calculated in EPA's reasonable potential analysis. But again, EPA does not include these proposed discharge loadings as effluent limits in Part I.A.1. Separately, MWRA is unclear if EPA uses the term "loading" in the referenced provision specifically as a pounds per day discharge limit or more generically.

Permittees must have clear and unequivocal notice of their compliance obligations. As such, MWRA recommends that EPA does not insert the referenced provision into Part I.B.1.

Response 43

> See Response 19.
>
> EPA appreciates the comment above regarding the potential alternative permit requirements described in the Fact Sheet and will consider this comment in drafting future permits, but notes that this comment is not related to any provision in this permit and does not warrant a response at this time. Neither the Fact Sheet for the SESD draft permit nor any other NPDES Fact Sheets contain enforceable permit conditions.

Comment 44

Toxicity

The toxicity subsection of Section 5.8 directs the Permittee to conduct at least two accelerated WET re-tests within 14 days and 28 days of:

- Any WET test result in violation of any WET limit and the test acceptability criteria were met; or
- The Permittee identifies or is provided notice of a sudden and significant death of large numbers of fish and/or shellfish in the vicinity of the discharge.

MWRA notes that this requirement departs from the current established WET testing frequencies specified in Region 1 NPDES permits. WET tests are expensive, ranging in the thousands of dollars per test. Further, EPA has not provided scientific and technical evidence supporting accelerated re-testing as more representative of the distribution of pollutants and concentrations of toxicity compared to monthly or quarterly WET testing frequencies.

The scenarios that would require a Permittee to begin accelerated WET re-tests are not clearly indicative of an effluent toxicity violation. Often, other factors are in play, including:

- A WET test failure caused by several confounding factors including additive, synergistic, or antagonistic effects of contaminants in effluent and receiving water, poor test organism health, or even inadequate laboratory practices, and
- Large-scale fish die-offs that are the result of low levels of dissolved oxygen in the receiving water caused by other stressors.

If one of the two of a Permittee's accelerated re-tests fails, Section 5.8 further instructs the Permittee to automatically begin a Toxicity Identification Evaluation and Toxicity Reduction Evaluation ("TIE/TRE"). The requirement to initiate a TIE/TRE after two WET test failures is overly punitive. TIE/TRE call for trained and experienced professionals that are scarce nationally. TIE/TREs can be long lasting, high in cost, and unsuccessful in identifying a definitive pollutant(s) or source(s) of toxicity. Including this requirement in the Final Permit would likely add significant cost burden without any corresponding increase in beneficial use protection.

Investigations of large-scale receiving water fish die-offs should be left to local/state fish and wildlife officials or environmental emergency responders rather than Permittees. In fact, EPA includes this approach in Part 9.1.1.d of the draft 2026 Pesticide General Permit.

Therefore, MWRA does not agree with requiring accelerated re-testing for the two outlined scenarios, as written. MWRA instead recommends that EPA continue the WET testing frequencies that were used in previously issued Region 1 NPDES permits. Additionally, the need and frequency of re-testing and additional investigations like a TIE/TRE should be determined by a toxicity and aesthetics response plan developed by the Permittee. Accordingly, MWRA recommends that EPA remove the toxicity subsection from Section 5.8. If EPA intends to include additional toxicity requirements, a revised Draft Permit should be issued that allows the Permittee to develop a toxicity and aesthetics response plan outlining actions the Permittee will take when WET test results are in violation of permit limits.

Response 44

See Responses 19 and 43.

Comment 45

Annual Chemical Monitoring

MWRA does not object to the requirement that the Permittee must conduct an annual pollutant scan of both the effluent and the receiving water, though the requirement should be included in the Draft Permit and not the Fact Sheet. However, EPA should allow the Permittee to conduct their annual pollutant scans in accordance with the requirements of NPDES Application Form 2A for New and Existing Publicly Owned Treatment Works ("Form 2A").

As noted in this subsection, the parameters required in the annual pollutant scan are based on Form 2A Tables B and C. The Permittee is already required to submit a reapplication package that includes Form 2A to EPA at least 180 days before their NPDES permit expires. According to the Form 2A instructions, effluent data must be based on at least three samples that are representative of the seasonal variation in the discharge and taken within 4.5 years prior to the date of the permit application. The annual pollutant scan requires the Permittee to collect the Form 2A samples in the third calendar quarter every year. It is unnecessarily burdensome for the Permittee to conduct two additional effluent pollutant scans during the permit term to capture low flow conditions and seasonality in the same year. Conducting pollutant scans in accordance with the requirements of Form 2A will reduce unnecessary duplication of effort, make efficient use of available resources, and minimize costs.

Response 45

See Response 19 and 43.

Comment 46

Visual Inspection of the Receiving Water

The presence of an oily sheen on the surface of the water in the vicinity of the outfall during the monthly visual inspection is not clearly indicative of an effluent toxicity violation and should not initiate accelerated WET testing. As mentioned in MWRA's toxicity subsection comments, often other factors are in play. For example, oil sheens in receiving waters might be the result of petroleum discharged from upstream stormwater outfalls or an oil spill, especially in navigable waters.

As such, MWRA reiterates its toxicity subsection comments here and recommends that EPA remove the toxicity retest requirements from this subsection.

Response 46

See Responses 19 and 43.

Comment 47

Benthic Survey

The requirements included in this section apply to freshwater discharges and are irrelevant for assessing the impacts of a seafloor discharge in a highly flushed area.

MWRA supports the position outlined by New Hampshire's Department of Environmental Services in their draft water quality certification for the draft New Hampshire Medium Wastewater Treatment Facility Permit that requiring a benthic survey should be contingent upon clear evidence or strong suspicion that a discharge's benthic deposits harm downstream benthic communities, and that more in-depth data are needed to decide whether additional safeguards are required.

Benthic surveys come at a significant cost, ranging in the tens of thousands of dollars. MWRA believes that before adding the extra logistical and financial burden of organizing and conducting a once per permit term survey, EPA should provide evidence that the Permittee's discharge has a negative effect on the downstream benthic environment.

Response 47

See Responses 19 and 43.

Comment 48

In summary, given MWRA's interest in NPDES permit requirements established by EPA, we appreciate the opportunity to comment on the Draft Permit for the District. Please do not hesitate to contact David Wu with any questions.

Response 48

EPA acknowledges receipt of these comments.

E. Comments from Philip D. Guerin, Executive Director, Massachusetts Coalition for Water Resources Stewardship, dated April 10, 2025

Comment 49

The Massachusetts Coalition for Water Resources Stewardship (MCWRS) is a non-profit organization representing the interests of municipalities, districts and commissions in the world of wastewater, stormwater and drinking water. Members include municipal, district and commission wastewater, stormwater and drinking water utilities, engineering consultants, legal firms and stormwater coalitions.

MCWRS appreciates the opportunity to comment on the draft NPDES permit for the South Essex Sewerage District (SESD) Wastewater Treatment Facility. MCWRS offers the following for your consideration:

Response 49

EPA acknowledges receipt of these comments.

Comment 50

Adaptation Planning: As stated in comments submitted on numerous recent draft NPDES permits for wastewater treatment facilities, MCWRS believes that adaptation planning requirements are not appropriate for inclusion in a NPDES permit. Adaptation planning does not fall under the category of Operations and Maintenance, has no place in a five-year permit, is not related to a discharge, cannot be applied solely to Massachusetts and New Hampshire permittees and would be better received if it were offered through a funded federal program as directed by Congress.

Climate change planning is more appropriate when communities are undertaking significant planning efforts or when planning for major renovations to wastewater facilities. When designing renovations and major upgrades to wastewater facilities, engineers already follow protocols established by NEIWPCC that include updated provisions for flood damage prevention. The requirement for adaptation planning should be stricken from this permit.

Response 50

See Response 7.

Comment 51

PFAS: PFAS monitoring as required in the draft permit imposes a significant cost burden on SESD and its ratepayers. Each sample analyzed for PFAS costs $350-$500, and with trip blanks and other quality control samples, the financial impact quickly multiplies. PFAS sampling should be limited to twice annually for the initial two (2) years with results allowing less frequent (annual) analysis thereafter.

The draft permit also proposes that SESD take quarterly grab samples of influent and effluent and test for Adsorbable Organic Fluorine (AOF), using Method 1621, at the same time as samples are grabbed for PFAS Analytes. Method 1621 is a draft test method that has yet to be approved and promulgated for Clean Water Act compliance and is designed to capture all organic fluorine compounds in wastewater. AOF is not a pollutant and has never been identified as a cause of water quality violations in any surface water. Rather, AOF is a surrogate measure for PFAS. While it may prove useful as a better way to measure PFAS, the burden of proving its utility in this regard should not fall upon NPDES permittees. EPA should do its own research on the effectiveness of AOF as a surrogate parameter for PFAS and spare permittees the costs and responsibility for performing this testing. This proposed requirement should be removed from the permit.

Response 51

See Responses 5 and 6.

Comment 52

Potential Alternative Permit Conditions: The Potential Alternative Permit Conditions described in the Fact Sheet at 5.8 (beginning on page 47) are bewildering and undo decades of standard language and approaches used in past permits to demonstrate how the permit achieved compliance with narrative state water quality standards. To the best of our knowledge, past

permits were certified by the State of Massachusetts through the 401 Water Quality Certification process. This would indicate that the State, which establishes water quality standards, agreed that the previous and long-held language regarding narrative water quality standards was sufficient to comply with the narrative standards.

So, what has happened to cause this dramatic change in language? Did MassDEP suggest that the new language would be necessary now in order to receive Water Quality Certification going forward? The Fact Sheet provides no insight into why these dramatic changes are being suggested but only that they will be added to the final permit should Massachusetts not include the revised language in its Water Quality Certification. Has EPA notified all state agencies that NPDES permits must include the new language and requirements regarding narrative water quality standards as permits are renewed? Or is this yet another example of Region 1 "experimenting" with permits in New Hampshire and Massachusetts to determine what they might implement in terms of over the top, onerous, novel requirements? Is this the federal government once again targeting two states with costly requirements that will not be applied elsewhere?

The potential new narrative language and monitoring requirements are such a change to decades-long NPDES permitting practices that they warrant a rule making on their own rather than being made part of a NPDES permit. They certainly should not be hidden deep within a Fact Sheet (page 47) with the message that they will be added to the final permit if the State fails to include the language in the Water Quality Certification. If EPA opts to include the language and monitoring requirements in a permit that should be a revised draft permit subject to scrutiny and public comment. Fact Sheets are intended to explain the reasoning and basis for conditions and requirements that are in a NPDES permit; they are not the place to include potential final permit conditions. This approach is contrary to government transparency and is improper and rather underhanded. Significant changes to a draft NPDES permit as a result of public comment or other factors demands a new, revised draft permit for public comment.

Among the more disturbing new requirements that are included in the Potential Alternative Permit Conditions for SESD (and other permittees) are:

- **Benthic Macroinvertebrate surveys:** Once during the permit term SESD will have to evaluate benthic invertebrates upstream and downstream of its discharge by collecting 3 samples in duplicate across 2 transects of the receiving water. Under the Clean Water Act, the assessment of water quality and aquatic health is a state function that should not fall on a permittee. The level of effort and cost involved in doing such surveys will be significant. Only certified freshwater macroinvertebrate taxonomists are allowed to perform the analysis. How many such individuals are there in the region that could do this work, especially if this requirement is applied to all other permittees in New Hampshire and Massachusetts? The financial resources necessary to conduct such surveys are better spent on infrastructure improvements. If EPA and/or MassDEP want to assess benthic invertebrates in rivers, streams and bays across the Commonwealth they are free to do so. It is also puzzling how this monitoring would apply to a marine

discharge such as SESD's wastewater treatment facility. What constitutes upstream and downstream in a tidally influenced receiving water? Why must the analysis be performed by a certified freshwater macroinvertebrate taxonomist when the receiving water is a marine environment, not freshwater? The SESD outfall is in 42 feet of water over 2 miles offshore. Performing a benthic survey around such a location is a significant and costly undertaking and is not the permittee's responsibility.

- **Pollutant Scans on Ambient waters and Effluent:** Once per year, SESD must conduct a pollutant scan on ambient waters upstream of its outfall and its effluent. The pollutant scan is a multi-method analysis that essentially tests for everything that can be tested. The Fact Sheet offers that this is necessary, in addition to the long-standing toxicity testing requirement, because not all toxins may be "discovered" through toxicity testing. Once again, this is a drastic change from past permits and adds more new costs for compliance. Furthermore, permittees are responsible for the quality of their discharges (treated effluent) and not for broader monitoring of ambient water quality in rivers, lakes and bays. Ambient monitoring to assess conditions in surface waters is a state function.

- **Toxicity Testing Follow-up:** Following any failure of a standard toxicity test, SESD would have to conduct 2 accelerated retests within 14 and 28 days. The same would be required if there was a reported fish kill in the "vicinity" of the outfall. The term "vicinity" does not appear to be defined. If a fish kill were to occur it is expected that the MA Division of Marine Fisheries would investigate and, if they had probable cause to suspect the SESD Wastewater Treatment Facility as a source that would be the starting point for further investigation including possible additional testing at the outfall. Any fish kill somewhere near the outfall should not be justification for SESD to be assumed guilty and have to spend limited resources trying to prove otherwise.

- **Visual Inspection of Receiving Waters:** In order to demonstrate its compliance with various aesthetic state narrative water quality standards, SESD would have to perform monthly visual inspections of Salem Sound in the "vicinity" of its outfall. As previously noted, the outfall is 2 miles offshore and under 42 feet of water. It also utilizes a diffuser, so it is not a single point of discharge at the end of a pipe. This simple visual assessment thus becomes much more involved as it requires a boat, including during winter months, adding significant costs and efforts that do not appear to be justified by meaningful benefits. During much of the year, Salem Sound is heavily used by boaters. Any change in surface water aesthetics would be noted by those on the water and reported to local, state or federal authorities. Observing aesthetic changes and identifying why they occur and what party is responsible is an entirely different matter. Discolored water or an oily slick in the vicinity of an outfall does not implicate the wastewater treatment facility as there are a host of causes for such conditions. With the amount of infacility monitoring at the SESD plant, any variation in influent/effluent quality that could ultimately lead to aesthetic issues in Salem Sound would be noticed and corrected (and reported if necessary). The entirety of the visual inspection of

receiving waters and associated reporting is a costly waste of resources that produces no meaningful benefits and should not be considered further.

All of these changes in narrative criteria compliance would be a major shift from decades-long practices and NPDES permit language. These matters are far too drastic to first appear in a Fact Sheet for a draft permit. If EPA intends to make such sweeping changes to the NPDES program, that would require a national discussion including EPA, the States and the community of wastewater infrastructure managers, operators and advocates. The Potential Alternative Permit Conditions should not be included in the final permit. If EPA desires to move these changes forward in future permits it should start with an open conversation among all the key parties.

Response 52

See Responses 19 and 43.

Comment 53

Ambient Monitoring: The draft permit (1.G.1) requires SESD to conduct ambient monitoring of Salem Sound at a pre-selected location outside of the outfall's area of influence for nine (9) months of the year. This would be a costly and challenging endeavor for SESD with compliance costs estimated to exceed $200,000 annually. While ambient monitoring may provide valuable data to better understand the dynamics of Salem Sound, assessing the water quality conditions in a receiving water is not a task that falls upon permittees under the Clean Water Act (CWA). Implementation of the CWA since its inception has followed a fairly straightforward approach:

- States establish water quality standards following EPA guidance
- States assess surface waters and identify those that do not meet water quality standards (impaired) and list them in reports to EPA
- Permitting authorities (EPA Region 1 in MA and NH) write NPDES permits that require permittees to reduce pollutants in their discharges so that receiving waters will achieve water quality standards and meet their assigned classifications.

With this draft permit and others, EPA Region 1 is making the permittee responsible for what is clearly a state task: assessing surface waters. The Fact Sheet at 2.4.1, Monitoring Requirements, states, "The monitoring requirements included in this permit have been established to yield data representative of the Facility's discharge in accordance with …". Ambient monitoring of Salem Sound does not yield data representative of the facility's discharge. On Fact Sheet page 36, it states, "Ambient monitoring is necessary to obtain a clearer picture of the impact of the discharge on Salem Sound." It is not the permittee's responsibility to determine the impact of its discharge on the receiving water; that burden falls upon the states and NPDES permitting authority. In the recent ruling on San Francisco v. EPA, the SJC made abundantly clear that permittees are responsible for their discharge, and it is up to the states and permitting authorities to determine what must be controlled in a discharge in order for a receiving water to meet state water quality standards. Permittees have no responsibility for conducting surface water assessments or determining conditions within a receiving water.

The recent history of studies of Salem Sound cited in the draft permit and Fact Sheet (Setting the Baseline for Water Quality and Benthic Conditions in Salem Sound 2020; North Shore Coastal Watersheds 2002 Water Quality Assessment Report; Fate and Transport Modelling of Contaminants in Salem Sound) further support that it is a state responsibility to assess surface water conditions. The Massachusetts Office of Coastal Zone Management (CZM) and MassDEP were the lead agencies that pursued these studies. SESD may be willing to help fund such studies but that would be a choice they make, not a federal or state mandate. Permittees already have too much to do to comply with NPDES permits and should not be tasked with duties that clearly belong elsewhere. Ambient monitoring should be stricken from the permit.

Response 53

The Draft Permit proposes to require the Permittee to conduct ambient monitoring at one station at the boundary of Salem Sound away from the influences of the SESD discharge, the Manchester-by the Sea discharge and the contributing rivers. The sampling site was chosen to represent background conditions. It is no different than a Permittee discharging to a river being required to sample at an upstream location. The parameters that the Permittee is required to monitor are directly tied to evaluating the effect of nutrients and the relationship to the aquatic use impairment in the segment. Furthermore, a single ambient monitoring station would not be sufficient to assess Salem Sound.

EPA is not making it the Permittee's burden to determine the impact of the discharge on Salem Sound. EPA fulfills that role during every permit reissuance when it conducts its reasonable potential analysis and establishes effluent limitations, if necessary. EPA is also not obligating SESD to determine the impairment status of Salem Sound. Rather, MassDEP will continue to fulfill that role and may use the results of the Ambient Monitoring requirement supplemented by other monitoring efforts to perform updated assessments.

Also see Responses 13 and 41.

Comment 54

Local Limits Evaluation and Revisions: The timeframes to evaluate and revise local limits as described on page 19 of the draft permit are impractical. SESD should be given six (6) months from the permit effective date to complete an evaluation and 24 months from EPA notification to revise local limits as needed.

Response 54

See Response 12.

Comment 55

Bacterial Limits: The draft permit establishes year-round bacterial limits for Fecal Coliform and Enterococci in order to protect the health of those recreating in the waters of Salem Sound. Yet, during the winter months of November through March, direct contact with the waters of the Sound is rare. As has been applied to other coastal NPDES permits, a seasonal bacteria limit

would make sense. The proposed limits would apply from April through October and lesser limits could be considered for November through March. This approach would also assist SESD in meeting the intent of Footnote #7 on page 7 of the draft permit which directs the permittee to minimize the use of chlorine.

Response 55

See Response 3.

Attachment A
Sanitary Sewer Overflow/Bypass/Backup Notification Summary
South Essex Sewerage District and Co-permittees

ReportNumber	IncidentDate	IncidentTime	AmPm	ReportClass	EventType	PermitteeClass	PermitteeName	PermitteeId	OutfallId	Municipality	ReportingType	Location	WaterBody	WaterBodyDescription	VolumnOfEvent	RainfallData	Hours	Minutes	SubmittedDate
	6/2/2025	1:30	PM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers			Crane River		600		2		6/3/2025
	4/22/2025	1:59	PM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead					45			13	
	4/22/2025	11:25	AM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead					30			13	
	3/6/2025	6:45	AM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers					500		1		3/7/2025
	3/4/2025	10:30	AM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers					30			45	3/5/20025
	2/28/2025	2:30	PM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers			Frost Fish Brook		50			45	3/3/2025
	2/13/2025	8:30	AM	SSO Notification Form	Backup into Property	Non-CSO	Town of Danvers	MA0100501		Danvers					500		4		2/14/2025
	5/24/2024	11:30	AM	Email	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead					<100				5/24/2024
	3/10/2024	5:30		Email	Sanitary Sewer Manhole	Non-CSO	City of Beverly	MA0100501		Beverly		Other					2	30	3/10/2024
	3/10/2024	6:44		Email	Sanitary Sewer Manhole	Non-CSO	City of Beverly	MA0100501		Beverly					600				
	3/10/2024	6:46		Email	Sanitary Sewer Manhole	Non-CSO	City of Beverly	MA0100501		Beverly					24000				
24007457-1	01/10/2024	06:39		Verified Data Report	SSO – System Surcharging Under High Flow Conditions	Non-CSO	SOUTH ESSEX SEWERAGE DISTRICT	MA0100501		SALEM		Other	Other	Cat Cove / Salem Harbor	2350	3.60	15	20	01/11/2024
24008057	01/10/2024	06:47		Verified Data Report	SSO – System Surcharging Under High Flow Conditions	Non-CSO	SOUTH ESSEX SEWERAGE DISTRICT	MA0100501		MARBLEHEAD		Other	Other	Massachusetts Bay	326400	2.64	6	58	02/14/2024
	1/10/2024	6:47	AM	Email	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other	Massachusetts B	Sargent Road Pump Station Mitigation Plan	350gpm				1/10/2024
23006995-1	12/11/2023	07:28		Verified Data Report	SSO – System Surcharging Under High Flow Conditions	Non-CSO	SOUTH ESSEX SEWERAGE DISTRICT	MA0100501		MARBLEHEAD		Other	Other	catch basin to Hawthorne Pond, Marblehead	4800	2.16	0	32	12/14/2023
23006300-1	09/28/2023	14:00		Verified Data Report	Partially Treated – Other	Non-CSO	SOUTH ESSEX SEWERAGE DISTRICT	MA0100501	001	SALEM		Other	SALEM SOUND		72000	0.00	24	30	10/04/2023
23006300-1	09/28/2023	14:00		Verified Data Report	Partially Treated – Other	Non-CSO	SOUTH ESSEX SEWERAGE DISTRICT	MA0100501	001	SALEM		Other	SALEM SOUND		72000	0.00	24	30	10/04/2023
	8/21/2023	9:00		SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	City of Beverly	MA0100501		Beverly		Other	Other	Unnamed Brook	1500		2	30	
	7/25/2023	8:40	AM	Email	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead								20	7/25/2023
	7/3/2023	10:15	PM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers		Other	Other	Backup to belowgrade bathtub, no operational service check valve present	20			45	7/3/2023
	5/16/2023	1:50	PM	Email	Sewer System Blockage	Non-CSO	Town of Danvers	MA0100501		Danvers		Other	Other	Backup to basement, 4' depth, grease blockage					5/16/2023
	1/26/2023	8:16	AM	Email	Sewer System Blockage	Non-CSO	Town of Danvers	MA0100501		Danvers		Other	Other						1/26/2023
	12/30/2022	11:45	AM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers		Other			115		1	40	12/30/2022
	10/12/2022	8:45	AM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers		Other			10		1	15	10/13/2022
	9/21/2022	9:00	AM	SSO Notification Form	Pump Station	Non-CSO	Town of Danvers	MA0100501		Danvers		Other	Other	Storm drain to receiving water	20				9/21/2022
	8/22/2022	6:45	PM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead					100			15	
	7/28/2022	7:00	AM	SSO Notification Form	Force Main	Non-CSO	Town of Marblehead	MA0100501		Marblehead			Marblehead Harbor		400		1	15	7/28/2022
	7/3/2022	12:30	PM	Email	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers		Other			150			30	7/3/2022
	6/14/2022	7:45	AM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers		Other	Other		50		1	15	6/14/2022
	5/14/2022	3:15	PM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other		Grease Blockage	140			45	5/14/2022
	4/24/2022	6:18	PM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers		Other			100			28	4/26/2022
	4/24/2022	9:45	AM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other	Other	Sewer system blockage	100			15	4/24/2022
	3/9/2022	6:50	AM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other	Flag Pond	Contractor caused bypass	750			3	3/9/2022
	3/9/2022	7:33	PM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other	Other	Sewer system blockage	128			22	3/10/2022
	1/17/2022	6:30	PM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other	Salem Harbor	Pump Station Failure	1500			30	1/18/2022
	10/23/2021	10:00	AM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					2'		1		10/25/2021
	10/17/2021	10:55	PM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead			Salem Harbor	Pump Station Failure	18,000			20	10/18/2021
	10/17/2021	8:35	PM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead			Other	Backup into property basement	280		1	5	10/18/2021
	9/2/2021	5:30	AM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead			Atlantic Ocean	Crown Way outfall	476,000	5.17	8	10	9/2/2021
	9/2/2021	4:57	AM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead			Atlantic Ocean	Sargent Road Pump Station Mitigation Plan	1,833,380	5.17	14	43	9/2/2021
	8/25/2021	8:45	AM	SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	Town of Danvers	MA0100501		Danvers		Other	Other	Held in Sump, Frost Fish Brook Tribitary	40			45	7/26/2021
	8/10/2021	12:15	PM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead					30			30	8/10/2021
	7/12/2021	8:00	AM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					2				7/12/2021
	7/9/2021	12:50	PM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other			450				7/9/2021
	7/9/2021	1:25	PM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other			250			5	7/9/2021
	7/9/2021	1:15	PM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other	Atlantic Ocean	Crown Way outfall	585,000		1	20	7/9/2021
	7/9/2021	12:49	PM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead			Atlantic Ocean	Sargent Road	4,452,500		9	47	7/9/2021
	7/9/2021	1:30	PM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead			Salem Harbor	Shorewood Road Pump Station/40 Shorewood Road	240,000		3	45	7/9/2021
	7/9/2021	6:00	PM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					1'		1		7/10/2021
	5/13/2021	9:50	AM	SSO Notification Form	Pump Station	Non-CSO	Town of Marblehead	MA0100501		Marblehead		Other			500			20	5/13/2021
	3/27/2021	1:30	PM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					1'		1		3/28/2021
	3/9/2021	7:30	PM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					1'				3/10/2021
	2/28/2021			Letter	Break in Force Main	Non-CSO	Town of Danvers	MA0100501		Danvers		Other		Valley Road and Locust Street					4-Mar-21
	2/14/2021	1:30	PM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					2-3'		1		2/15/2024
	9/2/2020	10:00	AM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					20		1	30	9/2/2020
	4/20/2020	7:30	PM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					10		1		4/21/2020
	3/23/2020	11:55	AM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					5			35	3/24/2020
	3/2/2020	10:40	AM	SSO Notification Form	Backup into Property	Non-CSO	Town of Marblehead	MA0100501		Marblehead				Backup into property basement	75			15	3/2/2020
	2/8/2020	11:00	AM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					15		1	30	2/9/2020
	2/6/2020	6:00	PM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					25		2		2/7/2020
	2/6/2020	11:30	AM	SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody					20			30	2/6/2020
	11/28/2018	2:00		SSO Notification Form	Sewer System Blockage	Non-CSO	City of Salem	MA0100501		Salem		Other							
	11/21/2018	8:40		SSO Notification Form	Backup into Property	Non-CSO	City of Peabody	MA0100501		Peabody		Other			15			35	11/21/2018
	11/14/2018	1:00		SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	City of Peabody	MA0100501		Peabody		Other			10		2		11/15/2018
	10/25/2018	6:30		SSO Notification Form	Pump Station	Non-CSO	City of Peabody	MA0100501		Peabody		Other					1	30	10/25/2018
	10/24/2018	10:00		SSO Notification Form	Cracked Sewer Force Main	Non-CSO	City of Salem	MA0100501		Salem		Other			1500		1		10/25/2018
	10/20/2018	10:00		SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	City of Peabody	MA0100501		Peabody		Other			200		4		10/23/2018
	8/16/2018	11:45		SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	City of Peabody	MA0100501		Peabody		Other			50		2	15	8/16/2018
	8/8/2018	10:00		SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	City of Peabody	MA0100501		Peabody		Other			60		1	45	8/8/2018
	8/6/2018	4:30		SSO Notification Form	Sewer System Blockage	Non-CSO	City of Peabody	MA0100501		Peabody		Other			75		3		8/6/2018
	7/27/2018	3:30		SSO Notification Form		Non-CSO	City of Peabody	MA0100501		Peabody		Other			40		3		7/28/2018
	7/9/2018	5:30		SSO Notification Form	SSO-Failure of Pump Station	Non-CSO	City of Peabody	MA0100501		Peabody		Other			300		1		7/10/2018
	6/16/2018	11:00		SSO Notification Form	Sanitary Sewer Manhole	Non-CSO	City of Salem	MA0100501		Salem		Other			50		5		6/18/2018