SESD
Wastewater Treatment
For a Cleaner Environment

April 10, 2025

VIA EMAIL (barden.michele@epa.gov)

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VIA EMAIL (massdep.publiccommentnpdes@mass.gov)

MassDEP NPDES Program
c/o Claire Golden
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Woburn, MA 01801

Re: Draft Permit Comments
South Essex Sewerage District
South Essex Wastewater Treatment Facility
NPDES Permit No. MA0100501
Draft Section 401 Water Quality Certification
Draft Surface Water Discharge Permit

Dear Ms. Barden and Ms. Golden:

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

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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.

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).

1. **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 per100 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.

2. **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.

3. **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."

   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.

4. **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.

5. **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.

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.

6. **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 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 NPDES Permit provision that the U.S. Supreme Court struck down in *City and County of*

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.

7. **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.

8. **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.

9. **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.

10. **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.

11. **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		

[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.

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)
Max	0.60	(Used for Literature Line of Evidence for Open Waters)
[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.

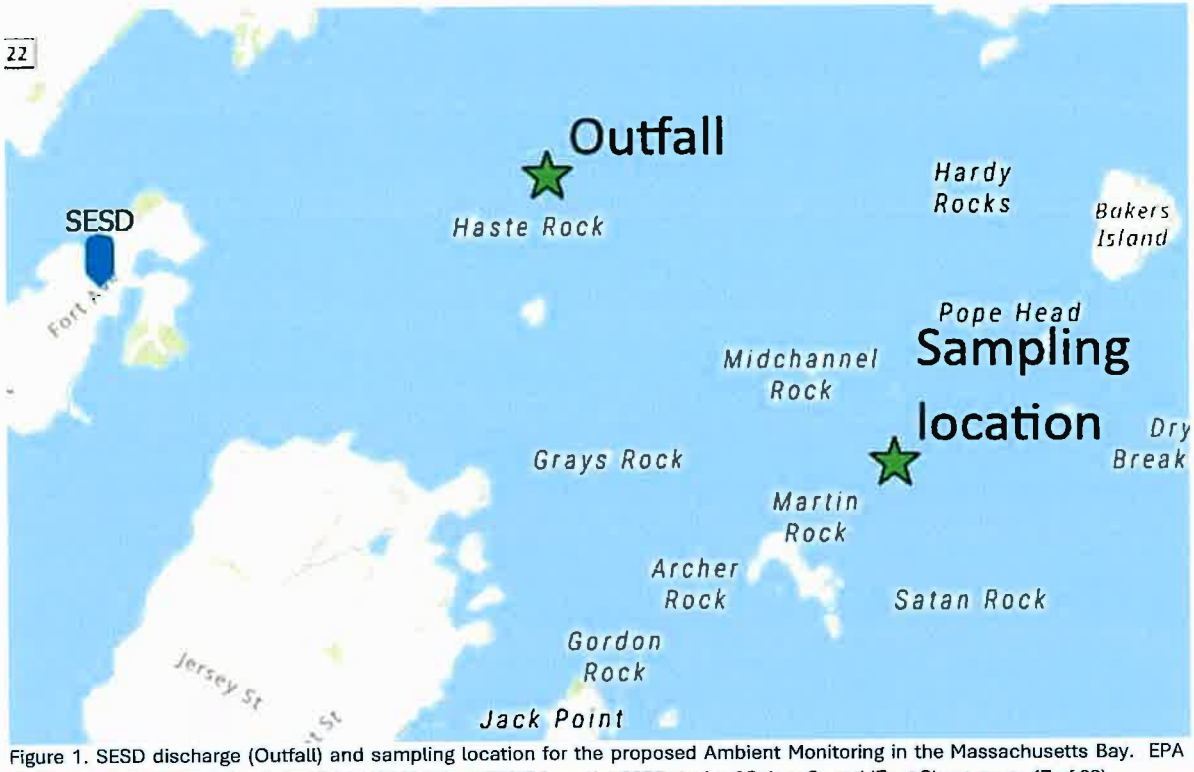

Figure 1. SESD discharge (Outfall) and sampling location for the proposed Ambient Monitoring in the Massachusetts Bay. EPA selected station SSBG1 (latitude 42.51919° N, 70.8065° W) from the 2020 study of Salem Sound (Fact Sheet, page 47 of 63).

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 rule-making 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.

12. **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.

13. **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.

14. **Model or Dye Study**: The Draft Permit includes a Specifical 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.

15. 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 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). 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.

16. 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."

17. 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.

ERRORS & INCONSISTENCIES:

18. 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.

19. 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.

20. 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.

21. 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.

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

Request: Correct the reference to five co-permittees.

23. 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.

24. 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.

25. 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.

26. 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".

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.

Sincerely,

David Michelsen, P.E.,
Executive Director

Attachment

Cc: Lynne Jennings, Chief, Water Permits Branch US EPA
Ellen Weitzler, Chief, Municipal Permits Section US EPA
Ken Moraff, Director, US EPA Region 1
Andrew Sawyers, US EPA, Director, Office of Wastewater Management
Chris Kloss, US EPA Director, OWM Water Permits Division
Lealdon Langley, Director, Division of Watershed Management MassDEP
David Boyer, MassDEP
Michael Cobb, Office of Ecosystem Protection US EPA Region 1
Sean Duffey, MCZM

Michael R. Parsons, P.E., Chairman, South Essex Sewerage Board
Michael P. Collins, P.E., Director of Engineering, Beverly
Stephen M. King, Jr., P.E., Town Engineer, Danvers
Amy S. McHugh, Superintendent, Water and Sewer Dept., Marblehead
Robert J. Langley, P.E., Director of Engineering, Peabody
Deborah L. Duhamel, P.E., City Engineer, Salem

results at the other sampling locations shall be submitted as an attachment to the monthly DMR. If an adverse-conditions monitoring event occurs, MWRA shall provide a letter summarizing the event and the sampling data collected as an attachment to the monthly DMR. Any updates or changes in the Ambient Bacteria Monitoring Plan shall be submitted to MA Marine Fisheries and the FDA for review. The signed MOU and plan shall be submitted to EPA in the monthly DMR following signing by Marine Fisheries and the FDA.

The MWRA reports and ambient data support the conclusion that water quality even in the immediate vicinity of the outfall exhibits bacteria levels that meet WQSs for existing and designated uses.

As calculated below, the proposed effluent limitations for fecal coliform are a monthly geometric mean, Most Probable Number (MPN) of 980 organisms/100 mL and a maximum daily limit of 1960 organisms/100 mL. This is more stringent than the fecal coliform bacteria limits in the 2000 Permit. The proposed effluent limitations for *Enterococcus* are a monthly geometric mean of 2450 cfu/100 mL and a maximum daily limit of 9100 cfu/100 mL and applicable on a seasonal basis, April 1 through October 31. The sampling frequency for fecal coliform and *Enterococcus* is three (3) times per day, which is the same as the 2000 Permit.

Fecal Coliform Bacteria:

14 organisms/100 mL * 70 (multiplying factor) = 980 organisms/100 mL
28 organisms/100 mL * 70 (multiplying factor) = 1960 organisms/100 mL

Enterococcus:

35 cfu/100 mL * 70 (multiplying factor) = 2450 cfu/100 mL
130 cfu/100 mL * 70 (multiplying factor) = 9100 cfu/100 mL

Effluent bacteria samples shall be collected at the end of the disinfection basin at the DITP. The holding time shall be calculated using MWRA's current procedure using PI Process Book or an accepted manual method. The holding time and supporting calculations shall be submitted as an attachment to the monthly DMRs (See Footnote 8 of the Draft Permit).

The Draft Permit also maintains the requirement that if the Massachusetts Division of Marine Fisheries and/or the U.S. Food and Drug Administration determine in writing that the fecal coliform bacteria limits are inadequate to ensure protection of shellfish resources, and EPA concurs in writing, then the Permittee shall meet the applicable Water Quality Standards at end-of-pipe (See Footnote 11 of the Draft Permit):