AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, 33 U.S.C. §§ 1251 et seq. (the "CWA"),

Massachusetts Water Resource Authority (MWRA)

is authorized to discharge from the facility located at

MWRA Deer Island Treatment Plant (DITP)
190 Tafts Avenue
Winthrop, MA 02152

to the receiving water named

Receiving Water	Segment	Outfall
Massachusetts Bay	Undefined, 314 CMR 4.06. Table 23	T01

and
Four (4) Combined Sewer Overflow (CSO) Treatment Facilities with 5 outfalls
to the receiving waters named

Receiving Water	Segment	CSO Treatment Facility Name	Outfalls
Boston Inner Harbor	MA70-02	Prison Point	MWR203
Boston Inner Harbor	MA70-02	Union Park	MWR215
Mystic River	MA71-03	Somerville Marginal	MWR205
Upper Mystic River	MA71-02	Somerville Marginal	MWR205A
Charles River	MA72-38	Cottage Farm	MWR201

and
Six (6) additional Combined Sewer Overflow (CSO) Outfalls (See Attachment A)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

NOTE: The former near shore DITP outfalls: 001, 002, 003, 004 and 005, are not authorized under the Permit. The Permit no longer requires the Permittee to maintain these nearshore Deer Island outfalls as a contingency option.

The Massachusetts municipalities listed below are identified as CSO-responsible Co-permittees responsible for Part B., Combined Sewer Overflows, Part C., Unauthorized Discharges, Part D., Notice of Elimination, Part E., Operation and Maintenance, which includes conditions regarding the operation and maintenance of the collection systems owned and operated by the municipalities; Part F., Alternate Power Source, and Part J., Reporting Requirements. The list of CSO outfalls, the CSO-responsible party, receiving waters and locations are found in **Attachment A**.

MAC053284	MAC093284	MAC113284	MAC293284
City of Boston Boston Water and Sewer Commission 980 Harrison Avenue Boston, MA 02119	City of Cambridge Department of Public Works 147 Hampshire Street Cambridge, MA 02139	City of Chelsea Department of Public Works 380 Beacham Street Chelsea, MA 02150	City of Somerville Department of Public Works 1 Franey Road Somerville, MA 02144

The Massachusetts municipalities in **Attachment B** are identified as Co-permittees related to operation and maintenance of the sewer systems in compliance with the Standard Conditions of Part II and the terms and conditions of Part C., Unauthorized Discharges, Part E., Operation and Maintenance, which includes conditions regarding the operation and maintenance of the collection systems owned and operated by the municipality, Part F., Alternate Power Source, and Part J. Reporting Requirements.

The Permittee, CSO-responsible Co-permittees and each Co-permittee are severally liable for their own activities under the Standard Conditions of Part II, Parts C, E, F, and required reporting under Part J with respect to the portions of the sewer system that they own or operate. They are not liable for violations of the Standard Conditions of Part II, Parts C, E, F and Part J 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 the Standard Conditions of Part II, Part C, Part E, Part F, and Part J. The responsible municipal departments are found in **Attachment B**.

This Permit shall become effective on the first day of the calendar month immediately following 60 days after signature. [1]

This Permit expires at midnight, five years from the last day of the month preceding the effective date.

This Permit supersedes the NPDES Permit No. MA0103284 issued on May 20, 1999, and subsequently modified on July 10, 2000; NPDES Permit No. MA0101192 issued on March 28, 2003 and subsequently modified on April 10, 2007; NPDES Permit No. MA0101974 issued on September 30, 2009; NPDES Permit No. MA0101877 issued on November 26, 2013; and NPDES Permit No. MA0101982 issued on June 11, 2012.

This Permit consists of Part I including the cover page(s), **Attachment A** (Authorized CSO Outfalls and Responsible Parties), **Attachment B** (MWRA Member Communities named as Co-permittees), **Attachment C** (Marine Acute Toxicity Test Procedure and Protocol, July 2012), **Attachment D** (Marine Chronic Toxicity Test Procedure and Protocol, November 2013), **Attachment E** (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011), **Attachment F** (Reassessment of Technically Based Industrial Discharge Limits), **Attachment G** (Industrial Pretreatment Annual Report), **Attachment H** (PFAS Analyte List), **Attachment I** (Authorized Typical Year CSO

[1] Pursuant to 40 Code of Federal Regulations (CFR) § 124.15(b)(3), if no comments requesting a change to the Draft Permit are received, the permit will become effective upon the date of signature. Procedures for appealing EPA's Final Permit decision may be found at 40 CFR § 124.19.

Discharge Activations and Volumes), **Attachment J** (Charles River Basin CSO Variance Determination), **Attachment K** (Alewife and Upper Mystic River Basin CSO Variance Determination) and Part II (NPDES Part II Standard Conditions, April 2018).

Signed this day of

_____
Ken Moraff, Director
Water Division
Environmental Protection Agency
Region 1
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS FOR OUTFALL T01

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee, MWRA, is authorized to discharge treated effluent through Outfall Serial Number T01 to Massachusetts Bay. The discharge shall be limited and monitored as specified below; the receiving water and the influent shall be monitored as specified below.

Effluent Characteristic	Effluent Limitation			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
Rolling Average Effluent Flow[5,6]	361 MGD[5]	---	---	Continuous	Recorder
Effluent Flow[5,6]	Report MGD	---	Report MGD	Continuous	Recorder
$CBOD_5$	25 mg/L	40 mg/L	Report mg/L	1/Day	Composite
$CBOD_5$ Removal[7]	≥ 85 %	---	---	1/Month	Calculation
TSS	30 mg/L	45 mg/L	Report mg/L	1/Day	Composite
TSS Removal[7]	≥ 85 %	---	---	1/Month	Calculation
pH Range[8]	6.0 - 8.5 S.U.			1/Day	Grab
Total Residual Chlorine[9,10]	456 µg/L	---	631 µg/L	3/Day	Grab
Fecal Coliform [9,10,11,12]	980 organisms /100 mL	---	1,960 organisms/100 mL	3/Day	Grab
Enterococci [9,10,12] (April 1 through October 31)	2,450 cfu/100 mL	---	9,100 cfu/100 mL	3/Day	Grab
Oil and Grease[13]	Non-detect mg/L	---	---	1/Day	Grab
Ammonia Nitrogen[14]	Report mg/L	---	Report mg/L	1/Month	Composite
Total Kjeldahl Nitrogen[14] (April 1 through October 31) (November 1 through March 31)	Report mg/L	---	Report mg/L	1/Week 1/Month	Composite
Nitrate + Nitrite[14] (April 1 through October 31) (November 1 through March 31)	Report mg/L	---	Report mg/L	1/Week 1/Month	Composite
Total Nitrogen[14] (April 1 through October 31)	Report mg/L	---	Report mg/L	1/Week	Calculation

Effluent Characteristic	Effluent Limitation			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
(November 1 through March 31)				1/Month	
PFAS Analytes[15]	---	---	Report ng/L	1/Quarter	Grab
Adsorbable Organic Fluorine[16]	---	---	Report ng/L	1/Quarter	Grab

Effluent Characteristic	Effluent Limitation			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
Whole Effluent Toxicity (WET) Testing[17,18]					
LC_{50}	---	---	≥ 100 %	1/Quarter	Composite
C-NOEC	---	---	≥ 1.5 %	1/Quarter	Composite
Salinity	---	---	Report ppt	1/Quarter	Composite
Ammonia Nitrogen	---	---	Report mg/L	1/Quarter	Composite
Total Cadmium	---	---	Report mg/L	1/Quarter	Composite
Total Copper	---	---	Report mg/L	1/Quarter	Composite
Total Nickel	---	---	Report mg/L	1/Quarter	Composite
Total Lead	---	---	Report mg/L	1/Quarter	Composite
Total Zinc	---	---	Report mg/L	1/Quarter	Composite
Total Organic Carbon	---	---	Report mg/L	1/Quarter	Composite

Ambient Characteristic[19]	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
Fecal Coliform[11,12] – Surface	---	---	Report organisms/100 mL	1/Month	Grab
Fecal Coliform[11,12] – Below pycnocline	---	---	Report organisms/100 mL	1/Month	Grab
Enterococci[11,12] - Surface (April 1 through October 31)	---	---	Report cfu/100 mL	1/Month	Grab
Enterococci[11,12] - Below pycnocline (April 1 through October 31)	---	---	Report cfu/100 mL	1/Month	Grab
Salinity	---	---	Report ppt	1/Quarter	Grab
Ammonia Nitrogen	---	---	Report mg/L	1/Quarter	Grab
Total Cadmium	---	---	Report mg/L	1/Quarter	Grab
Total Copper	---	---	Report mg/L	1/Quarter	Grab
Total Nickel	---	---	Report mg/L	1/Quarter	Grab
Total Lead	---	---	Report mg/L	1/Quarter	Grab
Total Zinc	---	---	Report mg/L	1/Quarter	Grab
Total Organic Carbon	---	---	Report mg/L	1/Quarter	Grab
Dissolved Organic Carbon[20]	---	---	Report mg/L	1/Quarter	Grab
pH[21]	---	---	Report S.U.	1/Quarter	Grab
Temperature[21]	---	---	Report °C	1/Quarter	Grab

Influent Characteristic	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
$CBOD_5$[7]	Report mg/L	---	---	2/Month	Composite
TSS[7]	Report mg/L	---	---	2/Month	Composite
PFAS Analytes[15]	---	---	Report ng/L	1/Quarter	Grab
Adsorbable Organic Fluorine[16]	---	---	Report ng/L	1/Quarter	Grab

Sludge Characteristic	Reporting Requirements			Monitoring Requirements[1,2,3]	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type[4]
PFAS Analytes[15]	---	---	Report ng/g	1/Quarter	Grab[21]

Footnotes:

1. All samples shall be collected in a manner to yield representative data. A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented as an electronic attachment to the applicable discharge monitoring report. The Permittee shall report the results to the Environmental Protection Agency Region 1 (EPA) and the MassDEP of any additional testing above that required herein, if testing is in accordance with 40 CFR Part 136.

2. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers either to the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in the following ways: they may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

3. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 50 µg/L, if the ML for a parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of "0" to all non-detects for that reporting period and report the average of all the results.

4. A "grab" sample is an individual sample collected in a period of less than 15 minutes. A "composite" sample is a composite of at least twenty-four (24) grab samples taken during one consecutive 24-hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportional to flow.

5. The 365-calendar day running average dry day flow shall not exceed 361 MGD. For this purpose, a "dry day" is defined as a day with 0.09 inches of precipitation or less and no snow melt, provided that the precipitation on the previous day is less than 0.3 inch, and the precipitation on the day two days prior to the day in question is less than 1.0 inch, and the precipitation on the day three days prior to the day in question is less than 2.0 inches. A day with snow melt is defined as a day when there is snow on the ground and the air

temperature rises above 32 degrees Fahrenheit. Flow from the CSO storage facilities is not included in the dry day calculation.

Compliance with this flow limit will be determined each month by calculating the average dry day flow over the previous 365 calendar days. The once-a-month calculation shall include all dry day flow that occurred during the reporting month [Total dry day flow/total number of dry days].

6. Within 24 hours after the commencement of any diversions of wastewater around secondary treatment facilities at the DITP, the Permittee shall notify EPA by telephone or email of the commencement of the diversion of wastewater around secondary treatment facilities.

   Within 5 days of the commencement of any diversion of wastewater around secondary treatment facilities at DITP, the Permittee shall provide EPA and MassDEP a written submission containing a description of the diversion, its cause and the period of the diversion, including its exact dates and times. If the diversion has not stopped by when the written submission is due, the written submission shall also include a statement as to the anticipated time it is expected to continue, and any steps taken or planned to reduce or eliminate the diversion.

   A bypass of secondary treatment is subject to the requirements of Part II.B.4.and Part II.D.1.e. of this Permit.

   Flows shall be measured using a meter. The requirement to measure flows which bypass secondary treatment using a meter shall take effect 6 months following the effective date of the Permit.

   The Permittee shall not add septage to the waste stream at the treatment plant during activation of the secondary treatment bypass.

7. For the purposes of calculating $CBOD_5$ and TSS percent removal, the Permittee shall only use the data from dry days. The influent samples shall be taken on dry days.

   A “dry day” is defined as a day with 0.09 inches of precipitation or less and no snow melt, provided that the precipitation on the previous day is less than 0.3 inch, and the precipitation on the day two days prior to the day in question is less than 1.0 inch, and the precipitation on the day three days prior to the day in question is less than 2.0 inches. A day with snow melt is defined as a day when there is snow on the ground and the air temperature rises above 32 degrees Fahrenheit. Flow from the CSO storage facilities is not included in the dry day calculation.

8. The pH shall be within the specified range at all times. The minimum and maximum pH sample measurement values for the month shall be reported in standard units (S.U.). See Section I.K.2. of this Permit for additional State requirements.

9. The Permittee shall minimize the use of chlorine while maintaining adequate bacterial control. Monitoring for total residual chlorine (TRC) is only required for discharges which have been previously chlorinated, or which contain residual chlorine.

   The Permittee may simulate the chlorine contact time in the outfall pipe prior to dechlorination by holding the sample in conditions similar to those that would be present at the outfall pipe, T01, before measuring the TRC, *Enterococcus* and fecal coliform.

   The holding time shall be calculated based on the effluent flow at the time of sample collection and time for disinfection. The holding time and supporting calculation shall be submitted as an attachment to the monthly DMRs. The Permittee may either use process software or manual means for calculation.

   Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection, or interruptions or malfunctions of the dechlorination system that may have resulted in excessive levels of chlorine in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.

10. The monthly average limits for fecal coliform and *Enterococcus* are expressed as a geometric mean. Fecal coliform and *Enterococcus* monitoring shall be conducted concurrently with TRC monitoring.

11. In addition to the effluent limits for bacteria, MWRA is required to update the existing Memorandum of Understanding (MOU) between the MWRA, the Massachusetts Division of Marine Fisheries (MA Marine Fisheries) and the US Food and Drug Administration (FDA) and implementation of the MOU and the attached monitoring plan is required by the Draft Permit (See Footnote 11). The updated Plan shall follow the same procedures and locations as documented in Attachments A & B of the MOU with the addition of station N21, located over the mid-point of the diffuser. The updated MOU and monitoring plan shall be submitted to the MA Marine Fisheries and the FDA for review and signature. The signed MOU and attached monitoring plan shall be submitted to EPA and MassDEP within 12 months of the effective permit. Enterococcus should also continue to be monitored seasonally (April 1 through October 31) along with fecal coliform to ensure that MA WQS for bacteria are met.

The Permittee shall report the results of the monthly ambient fecal coliform and *Enterococcus* monitoring on their monthly DMRs for station N21. If the Bay is stratified at the time of sampling, the Permittee shall sample at the surface and below the pycnocline. If the Bay is not stratified, the Permittee should enter a NODI code = 9 for the below pycnocline DMR line. The ambient fecal coliform bacteria and *Enterococcus* monitoring 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.

12. If the MA DMF and/or the FDA determines in writing that the fecal coliform bacteria limit is inadequate to ensure protection of shellfish resources, and EPA concurs in writing, then the Permittee shall meet the following limits:

	Effluent Limitation			**Monitoring Requirements**	
Effluent Characteristic	**Average monthly**	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
Fecal Coliform Bacteria, (organisms/100 mL)	14	---	28	3/Day	Grab

13. Oil and grease shall be tested using EPA Method 1664-n-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry Revision A or Method 1664 Revision B.

    The Permittee shall have no detectable discharge of oil and grease. Compliance shall be measured at the minimum level (ML) of detection for the EPA approved test methods. The oil and grease ML is 5 mg/L using EPA Method 1664 (Revisions A and B), where the ML is the lowest point on the curve used to calibrate the test equipment for the pollutant of concern. If EPA approves a method under 40 CFR Part 136 for either, oil and grease that has a ML lower than 5 mg/L, the Permittee shall be required to use the improved method.

14. Ammonia Nitrogen, Total Kjeldahl nitrogen and nitrate + nitrite samples shall be collected concurrently. The results of these analyses shall be used to calculate both the concentration and mass loadings of total nitrogen, as follows.

    Total Nitrogen (mg/L) = Total Kjeldahl Nitrogen (mg/L) + Nitrate + Nitrite (mg/L)

    Total Nitrogen (lb/day) = [(average monthly Total Nitrogen (mg/L) * total monthly effluent flow (Millions of Gallons (MG)) / # of days in the month] * 8.34

15. Report in nanograms per liter (ng/L) for effluent and influent samples; report nanograms per gram (ng/g) for sludge samples. Until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Method 1633. Report in NetDMR the results of all PFAS analytes required to be tested in Method 1633, as shown in Attachment H. This reporting requirement for the listed PFAS parameters takes effect the first full calendar quarter following six months after the effective date of the Permit.

16. Report in nanograms per liter (ng/L) for effluent and influent samples; report nanograms per gram (ng/g) for sludge 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 Permit.

17. The Permittee shall conduct acute toxicity tests (LC50) and chronic toxicity tests (C-NOEC) in accordance with test procedures and protocols specified in **Attachment C and D** of this Permit. LC50 and C-NOEC are defined in Part II.E. of this Permit. The Permittee shall perform an acute toxicity test using the Inland Silverside (*Menidia beryllina*) and Mysid Shrimp (*Mysidopsis bahia*). The Permittee shall perform a chronic toxicity test using the 1-hour fertilization test with the Sea Urchin (*Arbacia punctulata*) in accordance with the test procedures and protocols specified in **Attachment D**. Toxicity test samples shall be collected during the same weeks each time of calendar quarters ending March 31st, June 30th, September 30th, and December 31st. The complete report for each toxicity test shall be submitted as an attachment to the DMR submittal which includes the results for that toxicity test.

18. For Part I.A.1., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment C and D**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment C and D**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment C and D**, Part VI. CHEMICAL ANALYSIS.

19. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment C and D**, Part VI. CHEMICAL ANALYSIS for the receiving water sample collected as part of the WET testing requirements. Such samples shall be taken from the receiving water at a point immediately outside of the permitted discharge's zone of influence at a reasonably accessible location, as specified in **Attachment C and D**. Minimum levels and test methods are specified in **Attachment C and D**, Part VI. CHEMICAL ANALYSIS.

20. Monitoring and reporting for dissolved organic carbon (DOC) are not requirements of the Whole Effluent Toxicity (WET) tests but are additional requirements. The Permittee may analyze the WET samples for DOC or may collect separate samples for DOC concurrently with WET sampling.

21. A pH and temperature measurement shall be taken of each receiving water sample at the time of collection and the results reported on the appropriate DMR. These pH and temperature measurements are independent from any pH and temperature measurements required by the WET testing protocols.

22. Sludge sampling shall be as representative as possible based on guidance found at https://www.epa.gov/sites/production/files/2018-11/documents/potw-sludge-sampling-guidance-document.pdf.

Part I.A., continued.

2. The discharge shall not cause a violation of the water quality standards of the receiving water.

3. The discharge shall be free from pollutants in concentrations or combinations that, in the receiving water, settle to form objectionable deposits; float as debris, scum or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; or produce undesirable or nuisance species of aquatic life.

4. The discharge shall be free from pollutants in concentrations or combinations that adversely affect the physical, chemical, or biological nature of the bottom.

5. The discharge shall not result in pollutants in concentrations or combinations in the receiving water that are toxic to humans, aquatic life, or wildlife.

6. The discharge shall be free from floating, suspended and settleable solids in concentrations or combinations that would impair any use assigned to the receiving water.

7. The discharge shall be free from oil and grease and petrochemicals.

8. The Permittee must provide adequate notice to EPA and MassDEP of the following:

    a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Part 301 or Part 306 of the Clean Water Act if it were directly discharging those pollutants or in a primary industry category (*See* 40 CFR Part 122 Appendix A as amended) discharging process water; and

    b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the Permit.

    c. For purposes of this paragraph, adequate notice shall include information on:

        (1) The quantity and quality of effluent introduced into the POTW; and

        (2) Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

9. Pollutants introduced into the POTW by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the POTW.

10. In accordance with 40 CFR § 122.44(j)(1) the Permittee must identify, in terms of character and volume, any Significant Industrial Users (SIUs) discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR Part 403. SIUs information shall be updated at a minimum of once per year or at that frequency necessary to

ensure that all SIUs are properly permitted and/or controlled. The records shall be maintained and updated as necessary.

B. COMBINED SEWER OVERFLOWS (CSOs)

1. Beginning on the effective date, the Permittee, MWRA, and the CSO-responsible Co-permittees: Boston Water and Sewer Commission (BWSC), City of Cambridge, City of Chelsea, and City of Somerville, are authorized to discharge stormwater/wastewater from the combined sewer overflow (CSO) outfalls listed in **Attachment A** into the designated receiving waters. These discharges are authorized only during "wet weather' defined as any period in which there is greater than 0.1 inches of rain and /or snow melt.

2. The effluent discharged from these CSO outfalls is subject to the following limitations:

    a. The discharges shall not cause or contribute to violations of federal or state Water Quality Standards.

    b. The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgment (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control includes the implementation of Nine Minimum Controls (NMC) specified below. These Nine Minimum Controls and the Nine Minimum Controls Implementation Levels which are detailed further in Part I.B.2. are requirements of this Permit and include:

        (1) Proper operation, and regular maintenance programs for the sewer system, and the CSOs.

        (2) Maximum use of the collection system for storage of combined wastewater and stormwater in order to minimize CSO discharges.

        (3) Review and, as appropriate, modify the pretreatment program to minimize the adverse effects of CSO outfall discharges.

        (4) Maximization the proportion of the system's wastewater, and combined wastewater/stormwater, flow that is conveyed to the POTW for treatment.

        (5) Dry weather overflows from CSO outfalls are prohibited and must be eliminated.

        (6) Minimize the discharge of solid and floatable materials in CSO outfall discharges.

(7) Implement pollution prevention programs that focus on contaminant reduction activities.

(8) Provide adequate notice to the public of CSO outfall occurrences and CSO outfall impacts.

(9) Monitor to effectively characterize CSO outfall impacts and the efficacy of CSO controls.

c. The authorized typical year discharge activations and volumes for the Boston Inner Harbor CSO outfalls are limited as shown in **Attachment I**. Discharge frequencies and volumes are expected to vary from year to year as a function of rainfall.

d. The authorized typical year discharge activations and volumes for the Charles River CSO outfalls are limited as shown in **Attachment I**. Discharge frequencies and volumes are expected to vary from year to year as a function of rainfall. CSO outfalls discharging to the Charles River Basin have been granted a variance under the Massachusetts Water Quality Standards (WQS) through August 31, 2024. A copy of this determination letter for the variance extension is included as **Attachment J**. The conditions of this variance are incorporated into and are enforceable elements of this permit.

e. The authorized typical year discharge activations and volumes for the Alewife Brook and Upper Mystic River CSO outfalls are limited as shown in **Attachment I**. Discharge frequencies and volumes are expected to vary from year to year as a function of rainfall. CSO outfalls discharging to the Alewife Brook/Upper Mystic River Basin have been granted a variance under the Massachusetts Water WQS through August 31, 2024. A copy of this determination letter for the variance extension is included as **Attachment K**. The conditions of this variance are incorporated into and are enforceable elements of this Permit.

f. The Permit's discharges must meet federal and state WQS subject to and consistent with any water quality standards variances or variance extensions issued by MassDEP and approved by EPA.

3. Nine Minimum Controls Implementation Levels

The Permittee, MWRA, and CSO-responsible Co-permittees: BWSC, City of Cambridge, City of Chelsea and City of Somerville, shall continue to implement the Nine Minimum Control Program (NMC) in accordance with the documentation provided to EPA and MassDEP or as subsequently modified to enhance the effectiveness of controls. This implementation must include the controls identified in Part I.B.2.b.1-9 of this Permit plus other controls the Permittee and CSO-responsible Co-permittees can reasonably undertake as set forth in the documentation. Within 1 year of the effective date of the

permit, the Permittee and CSO-responsible Co-permittees shall submit to EPA and MassDEP through NetDMR an updated NMC program.

a. Each CSO structure/regulator, pumping station and/or tide gate shall be routinely inspected to ensure that they are in good working condition and adjusted to minimize combined sewer discharges and tidal surcharging. Such inspections shall occur monthly unless EPA approves a site-specific inspection program which has been determined by EPA to provide an equal level of effectiveness (NMC #1, 2 and 4).

b. The following inspection results shall be recorded: the date and time of the inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the Permittee or CSO-responsible Co-permittees shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The Permittee or CSO-responsible Co-permittee shall maintain all records of inspections for at least three (3) years.

c. **Annually, no later than March 31st**, the Permittee and CSO-responsible Co-permittees shall submit a certification to MassDEP and EPA which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained.

d. MassDEP and EPA have the right to inspect any CSO-related structure or outfall at any time without prior notification to the Permittee and CSO-responsible Co-Permittees.

e. Discharges to the combined system of septage, holding tank wastes, or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO outfalls may be active (NMC # 3, 6, and 7).

f. Dry weather overflows (DWOs) are prohibited (NMC #5). All dry weather sanitary and/or industrial discharges from CSO outfalls must be reported to EPA and MassDEP within 24 hours in accordance with the reporting requirements for plant bypass (Paragraph D.1.e of Part II of this Permit).

g. The Permittee and CSO-responsible Co-permittees shall quantify and record all discharges from combined sewer outfalls (NMC #9). Quantification shall be through direct measurement or estimation. When estimating, the Permittee and CSO-responsible Co-permittees shall make reasonable efforts, (i.e., gaging, measurements) to verify the validity of the estimation technique. The following information must be recorded for each combined sewer outfall for each discharge event:

(1) Duration (hours) of discharge;

(2) Volume (gallons) of discharge; and

(3) National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation data at minimum of one-hour intervals is available to the Permittee or CSO-responsible Co-permittees.

(4) A description of whether the discharge activation and volume are in accordance with the MWRA Final CSO Facilities Plan or as amended.

h. Cumulative precipitation per discharge event shall be calculated.

i. The Permittee and CSO-responsible Co-permittees shall maintain all records of discharges for at least six (6) years after the effective date of this Permit, as it is collected, on an ongoing basis.

j. The Permittee and CSO-responsible Co-permittees shall install and maintain identification signs for all combined sewer outfall structures (NMC # 8). The signs must be located at or near the combined sewer outfall structures and be easily readable by the public from the land and water. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following information:

(1) For CSO outfalls where MWRA is the responsible Permittee:

WARNING:*
MASSACHUSETTS WATER RESOURCES AUTHORITY
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

(2) For CSO outfalls where BWSC is the CSO-responsible Co-permittee:

WARNING:*
BOSTON WATER AND SEWER COMMISSION
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

(3) For CSO outfalls where the City of Cambridge is the CSO-responsible Co-permittee:

WARNING:*
CITY OF CAMBRIDGE
DEPARTMENT OF PUBLIC WORKS
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

(4) For CSO outfalls where the City of Chelsea is the CSO-responsible Co-permittee:

WARNING:*
CITY OF CHELSEA
DEPARTMENT OF PUBLIC WORKS
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

(5) For CSO outfalls where the City of Somerville is the CSO-responsible Co-permittee:

WARNING:*
CITY OF SOMERVILLE
DEPARTMENT OF PUBLIC WORKS
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

*For existing signs which otherwise meet the requirements of this section, the word "Warning" need not be added.

Where easements over property not owned by the Permittee or CSO-responsible Co-permittees must be obtained to meet this requirement, the Permittee or CSO-responsible Co-permittees will use its best efforts to identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

The Permittee and CSO-responsible Co-permittees, to the extent feasible, shall add a universal wet weather sewage symbol to each existing sign, or will place a sign with a universal wet weather sewage symbol that is visible from the land and water, unless there is already a warning sign written in a non-English language, or will place additional signs in languages other than English based on notification from the EPA. See Part I.K.3.

k. In accordance with 314 CMR 16.05(3), each Permittee and CSO-responsible Co-permittee shall install and maintain signage at public access points to waters

affected by a potential discharge from the Permittee's or CSO-responsible Co-permittee's outfall by the date established in their approved CSO Public Notification Plan. The locations for the signage shall be established in the Permittee's or CSO-responsible Co-permittee's approved CSO Public Notification Plan based on consultation with boards of health or health departments in the municipalities directly impacted by the discharge. Each sign shall identify:

(1) The existence of the outfall;

(2) The permittee;

(3) Information about weather events that may cause a discharge;

(4) A warning of the potential threat to public health by recreating in, or using waters and shores affected by a discharge; and

(5) Information for the public to subscribe to notifications about discharges in local area waters.

Signage shall be developed using a template provided by MassDEP and be able to provide timely information about ongoing discharges to allow municipal boards of health and health departments to meet the requirements of 314 CMR 16.09(5). For discharges directly affecting neighborhoods identified as environmental justice populations due to lacking English language proficiency, signage shall provide access to translations in the language(s) most appropriate for those neighborhoods and shall utilize universal symbols.

l. The City of Cambridge may use the activation of Outfall CAM401B as a general indicator of the onset of CSO outfall discharges which would trigger the notice in accordance with 314 CMR 16.00, Notification Requirements to Promote Public Awareness of Sewage Pollution, unless there is evidence that a different CSO outfall activated before CAM401B. (NMC #8).

m. Public Notification Plan

The Permittee and CSO-responsible Co-permittees must implement their preliminary and final CSO Public Notification Plans as approved by MassDEP and shall meet all other applicable requirements of 314 CMR 16.00. https://www.mass.gov/doc/314-cmr-1600-notification-requirements-to-promote-public-awareness-of-sewage-pollution-1/download

4. The Permittee and each CSO-responsible Co-permittee may consolidate CSO reports which are on similar reporting schedules.

5. Nine Minimum Controls Reporting Requirement

a. **Annually, no later than April 30th**, the Permittee and each CSO-responsible Co-permittees shall submit a report into NetDMR which includes the following information:

b. Activation frequency and discharge volumes for each CSO outfall listed on **Attachment A** during the previous calendar year. For each day of an MWRA CSO discharge event, the MWRA Report shall include the daily flow at DITP and note whether there was a bypass of secondary treatment, and the volume bypassed.

c. For any Permittee or CSO-responsible Co-permittees with CSO treatment facilities, a compilation of the data for CSO events for which sampling was conducted pursuant to section I.B.6 of this Permit.

d. Precipitation during the previous year for each day, including total rainfall, peak intensity, and average intensity.

e. Status of the implementation of CSO outfall abatement work for which the Permittee or CSO-responsible Co-permittees is directly responsible in accordance with the MWRA Final CSO Facilities Plan, the Federal Court Order, as amended and any related subsequent documents and the requirements of a CSO Variance. The authorized typical year CSO discharge activations and volumes can be found in **Attachment I**.

f. For the outfalls listed in **Attachment A**, provide the following information in the Annual Report for year 3 and every two years thereafter using the updated MWRA model (or equivalent) for comparison:

(1) A comparison between the precipitation for the previous year and the precipitation in the typical year under future planned conditions used in the MWRA Final CSO Facilities Plan or "Notice of Project Change" document, or subsequent document, whichever is appropriate. This comparison shall include the number of events and size of events (including recurrence interval).

i. For each CSO outfall, a comparison between the activation volume and frequency for the previous year and the volume and frequency expected during a typical year under future planned conditions.

ii. For each CSO event, an estimate of the recurrence interval of the storm event, using the rainfall data collected and the information included in the NOAA Atlas 14, or other technical reference for defining storm event recurrence.

iii. An evaluation of whether the CSO outfall activation volumes and frequencies for the previous year are in accordance with the estimates in the MWRA Final CSO Facilities Plan or as amended by the Court, given the precipitation which occurred during the year, and the CSO outfall abatement activities which have been implemented. Where CSO outfall discharges are determined to be greater than the activation frequency or volume in either document above, the Permittee or CSO-responsible Co-permittees shall include their assessment of such result, a discussion of remaining CSO outfall abatement activities and an assessment of the impact of those projects on attaining the level of CSO outfall control identified in the relevant document, or any amendments thereto.

6. Combined Sewer Overflow Outfall Monitoring

For each combined sewer overflow outfall listed in **Attachment A** of this Permit, the Permittee or CSO-responsible Co-permittees must monitor the following for their outfalls:

Parameters	**Reporting Requirements**	**Monitoring Requirements**	
	Total Monthly	**Measurement Frequency**	**Sample Type**
Total Flow	Report Gallons	Daily, when discharging	Continuous
Total Flow Duration (Duration of flow through CSO discharge)	Report Hours	Daily, when discharging	Continuous
Number of CSO Discharge Events	Report Monthly Count	Daily, when discharging	Count

a. For Total Flow, measure the total flow discharged from each CSO outfall during the month. For Total Flow Duration, report the total duration (hours) of discharges for each CSO outfall during the month.

b. For those months when a CSO discharge does not occur, the Permittee and responsible Co-permittees must indicate "no discharge" for the outfall for which data was not collected.

c. This information shall be submitted with the annual report required by Part I.B.5 of this Permit.

7. Combined Sewer Overflow Outfalls Limitations and Monitoring for the MWRA CSO Treatment Facilities (Outfalls MWR201, MWR203, MWR205, MWR205A and MWR215)

a. In addition to the requirements for all CSO outfalls listed above, during the period beginning on the effective date, the Permittee is authorized to discharge treated effluent through Outfalls MWR201, MWR203, MWR205, MWR205A and MWR215. Outfalls MWR201 and MWR205A discharge to Class B waters with CSO variances. Outfalls MWR203, MWR205 and MWR215 discharge into Class SB(CSO) waters. These discharges are authorized only during wet weather (i.e., any period in which there is greater than 0.1 inches of rain and/or snow melt). The discharge shall be limited and monitored as specified below; the receiving water and the influent shall be monitored as specified below.

b. CSO Effluent Limits

Effluent Characteristic	**Effluent Limitation**		**Monitoring Requirements[22,23,24]**	
	Average Monthly	**Maximum Daily**	**Measurement Frequency**	**Sample Type[25]**
Flow[26]	Report	Report	Per Discharge Event	Recorder
Rainfall/Precipitation[27]	Report	Report	Per Discharge Event	Total
BOD_5 Outfalls MWR201, MWR205A, MWR203, MWR205, MWR215	Report mg/L and lb/day	Report mg/L and lb/day	4/Year[28]	Event Composite
TSS Outfalls MWR201, MWR205A, MWR203, MWR205, MWR215	Report mg/L and lb/day	Report mg/L and lb/day	4/Year[28]	Event Composite
pH Range[29] Outfalls MWR201, MWR205A Outfalls MWR203, MWR205, MWR215	6.5 - 8.3 S.U. 6.5 - 8.5 S.U.		4/Year[28]	Grab
Total Residual Chlorine[30] Outfall MWR201 Outfall MWR203 Outfall MWR205 Outfall MWR205A Outfall MWR215	 0.055 mg/L 0.045 mg/L 0.075 mg/L 0.01 mg/L 0.015 mg/L	 0.1 mg/L 0.078 mg/L 0.13 mg/L 0.02 mg/L 0.026 mg/L	4/Year[28]	Grab
E. coli[30] Outfalls MWR201, MWR205A	126 cfu/100 mL	410 cfu/100 mL	4/Year[28]	Grab

Effluent Characteristic	Effluent Limitation		Monitoring Requirements[22,23,24]	
	Average Monthly	**Maximum Daily**	**Measurement Frequency**	**Sample Type[25]**
Enterococcus[30] Outfalls MWR203, MWR205 and MWR215	35 cfu/100 mL	130 cfu/100 mL	4/Year[28]	Grab

Whole Effluent Toxicity (WET) Testing				
LC_{50} Outfalls MWR201, MWR205A[31,32] Outfalls MWR203, MWR205, MWR215[33,34]	 Report Report	 Report Report	2/Year	Event Composite
Salinity Outfalls MWR203, MWR205, MWR215	---	Report ppt	2/Year	Event Composite
Ammonia Nitrogen	---	Report mg/L	2/Year	Event Composite
Total Cadmium	---	Report mg/L	2/Year	Event Composite
Total Copper	---	Report mg/L	2/Year	Event Composite
Total Nickel	---	Report mg/L	2/Year	Event Composite
Total Lead	---	Report mg/L	2/Year	Event Composite
Total Zinc	---	Report mg/L	2/Year	Event Composite
Total Organic Carbon	---	Report mg/L	2/Year	Event Composite

Footnotes:

22. All samples shall be collected in a manner to yield representative data. A routine sampling program shall be developed in which samples are taken at the same location, and same time frame. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented as an electronic attachment to the applicable discharge monitoring report. The Permittee shall report the results to the EPA and MassDEP of any additional testing above that required herein, if testing is in accordance with 40 CFR Part 136.

23. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

24. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 50 µg/L, if the ML for a parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of "0" to all non-detects for that reporting period and report the average of all the results.

25. A "grab" sample, for the purposes of this section, is an individual sample collected in a period of less than 15 minutes. A grab sample will be taken within the first two hours of the start of a discharge, and every hour thereafter for the duration of the discharge.

    A "composite" sample, for the purposes for this section, is a time-weighted composite sample. Sampling will begin within the first two hours of the start of a discharge and aliquots taken no more than one hour apart for the duration of the discharge, not to exceed twenty-four (24) hours. The aliquots will be of equal

volume, comprising a time-weighted composite as defined in Part II Standard Conditions.

26. Report the peak flow rate, duration and volume for each discharge event.

27. Report the National Weather Service data for Boston per discharge event. Report intensity, duration and volume of each rain event.

28. Sampling shall be concentrated during the "critical" use periods. The Permittee shall sample one Spring event (March 1st – April 30th), two Summer events (May 1st – August 31st) and one Fall event (September 1st – October 31st). At least one of the sampled events shall include a period of discharge from MWR205A. The Permittee shall report "9" on its DMR during months when sampling is not conducted.

29. The pH shall be within the specified range at all times. The minimum and maximum pH sample measurement values for the month shall be reported in standard units (S.U.).

30. The Permittee shall minimize the use of chlorine while maintaining adequate bacterial control. Monitoring for total residual chlorine (TRC) is only required for discharges which have been previously chlorinated, or which contain residual chlorine.

    TRC samples must be collected concurrently with the *E.coli* and/or *Enterococcus* samples.

    Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection, or interruptions or malfunctions of the dechlorination system that may have resulted in excessive levels of chlorine in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.

    Process Control TRC: For each discharge event, the Permittee must maintain a record of process control TRC before dechlorination, using the TRC analyzer (measured continuously) or with hourly grab samples).

    The discharge event maximum is the hourly maximum during the discharge event.

31. The Permittee shall conduct acute toxicity tests (LC50) two times per year, once in Quarter 2 (April 1 - June 30), and once in Quarter 3 (July 1 - Sep 30). The LC50 is defined in Part II.E. of this Permit. The Permittee shall perform an acute toxicity test using the daphnid (*Ceriodaphnia dubia*) and the fathead minnow (*Pimephales promelas*). Toxicity test samples shall be collected during the first flush or as a composite over the duration of the overflow, not to exceed 24 hours. The tests must be performed in accordance with test procedures and protocols specified in **Attachment E** of this Permit.

    If the discharge fails an LC50 = 100% toxicity test, the Permittee will perform a second acute toxicity test within 30 days, or if weather does not permit, as soon as possible. If the discharge fails the second LC50 = 100% toxicity test, the Permittee will submit a report to EPA discussing the results of the first two toxicity tests and the concomitant priority pollutant testing.

    The complete report for each toxicity test shall be submitted as an attachment to the DMR submittal which includes the results for that toxicity test.

32. For Part I.B.6., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment E**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment E**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment E**, Part VI. CHEMICAL ANALYSIS.

33. The Permittee shall conduct acute toxicity tests (LC50) two times per year, once in Quarter 2 (April 1 - June 30), and once in Quarter 3 (July 1 - Sep 30). The LC50 is defined in Part II.E. of this Permit. The Permittee shall perform an acute toxicity test using the Inland Silverside (*Menidia beryllina*) and Mysid Shrimp (*Mysidopsis bahia*) in accordance with test procedures and protocols specified in **Attachment C** of this Permit. The Permittee shall perform a chronic toxicity test using the 1-hour fertilization test with the Sea Urchin (*Arbacia punctulata*) in accordance with test procedures and protocols specified in **Attachment D** of this Permit. . Toxicity test samples shall be collected during the first flush or as a composite over the duration of the overflow, not to exceed 24 hours.

34. The complete report for each toxicity test shall be submitted as an attachment to the DMR submittal which includes the results for that toxicity test. For Part I.B.6., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachments C and D**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures

outlined in **Attachments C and D**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment C and D**, Part VI. CHEMICAL ANALYSIS.

C. UNAUTHORIZED DISCHARGES

1. This Permit authorizes discharges only from the outfalls listed in Part I.A.1, **Attachment A** and Part I.B.1 in accordance with the terms and conditions of this Permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs), are not authorized by this Permit. The Permittee, CSO-responsible Co-permittees and Co-permittees must provide verbal notification to EPA and MassDEP within 24 hours of becoming aware of any unauthorized discharge and a written report within 5 days, in accordance with Part II.D.1.e (24-hour reporting). Providing that it contains the information required in Part II.D.1.e, submission of the MassDEP SSO Reporting Form (described in I.C.3 below) may satisfy the requirement for a written report. See Part I.J below for reporting requirements.

2. The Permittee, CSO-responsible Co-permittees and Co-permittees must provide notification to the public within 24 hours of becoming aware of any unauthorized discharge, except SSOs that do not impact a surface water or the public, on a publicly-available website, and it shall remain on the website for a minimum of 12 months. Such notification shall include the location (including latitude and longitude) and description of the discharge; estimated volume; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue.

3. Written notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes MassDEP Regional Office telephone numbers). The reporting form and instruction for its completion may be found on-line at https://www.mass.gov/how-to/sanitary-sewer-overflowbypassbackup-notification. For SSOs and discharges of partially treated wastewater that are defined in 314 CMR 16.03, the Permittee, CSO-responsible Co-permittees, and Co-permittees must meet all requirements of 314 CMR 16.00, including, but not limited to, public notification within two hours of discovery of the discharge, reporting into MassDEP's electronic reporting system, and posting on the Permittee's, CSO-responsible Co-permittee's, or Co-permittee's website.

4. Bypassing of wastewater flows is not authorized. Bypass is subject to enforcement discretion in situations where determined necessary to prevent loss of life or damage to the plant. The Clean Water Act ("CWA") and EPA's 1994 CSO Control Policy state that the intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is a bypass. EPA regulations at 40 CFR 122.41 (m) further detail the conditions under which EPA will not initiate an enforcement action for bypasses, including: (1) that the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and (2) there were no feasible alternatives to the bypass. Reporting of secondary bypass events shall be carried out as set forth in provisions of Section I.A.1, Footnote 6 of this permit.

D. NOTICE OF ELIMINATION

The Permittee and CSO-responsible Co-permittees shall give notice of elimination or change in status of any CSO outfall listed in **Attachment A** as soon as possible in writing to EPA and MassDEP.

E. OPERATION AND MAINTENANCE

1. Wastewater Treatment Facility[2]

Operation and maintenance (O&M) of the wastewater treatment facility owned and/or operated by the Permittee shall be in compliance with 40 CFR § 122.41 (d) and (e) and the terms and conditions of the Part II. Standard Conditions, B. Operation and Maintenance of Pollution Controls which is attached to this Permit.

a. *WWTF Major Storm and Flood Events Plan.* Within 12 months of the effective date of this Permit, the Permittee shall develop and submit a *WWTF Major Storm and Flood Events Plan* and begin to implement mitigation measures consistent with the schedule contained in this paragraph. The Plan shall contain three components: (1) an asset vulnerability evaluation, (2) a systemic vulnerability evaluation[3] of the assets, and (3) a mitigation measures alternatives analysis. The Plan shall include resiliency and implementation planning informed by an evaluation of all WWTF vulnerabilities to major storm and flood events.[4] The planning process shall be iterative, and re-evaluations shall be conducted: (1) if on- or off-site structures are added, removed or significantly changed in any way that will impact the vulnerability of the WWTF; and (2) as data sources used for such evaluations are revised, or generated. At a minimum, the Plan must take future conditions into consideration, specifically the midterm (i.e.,

[2] Wastewater Treatment Facility means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It does not include sewers, pipes and other conveyances to the wastewater treatment facility.

[3] To determine the vulnerabilities to the facilities from major storm and flood events, you must conduct the evaluation using, at a minimum, the worst-case data relating to changes in precipitation, sea level rise, extreme weather events, coastal flooding, inland flooding, sewer flow and inflow and infiltration and relevant to the facilities from: 1) the data generated by the 13 federal agencies that conduct or use research on global change that contributed to the latest National Climate Assessment produced by the U.S. Global Change Research Program (USGCRP); 2) climate data generated by the Commonwealth of Massachusetts; and 3) resiliency planning completed by the municipality in which a given facility is located (i.e., City of Boston) and incorporate the results of the evaluation in a manner that demonstrates that the control measures taken are precautionary and sufficiently protective. Evaluation must be completed by a qualified person on a five-year basis considering: 1) historical observations from all years the Permittee has operated the facility prior to this permit's term; 2) set midterm (i.e., 20-30 years) and long-term (i.e., 80-100 years) ranges.

[4] "Major storm and flood events" refer to instances resulting from major storms such as hurricanes, extreme/heavy precipitation events, and pluvial, fluvial, and flash flood events such as high-water events, storm surge, and high-tide flooding. "Extreme/heavy precipitation" refers to instances during which the amount of rain or snow experienced in a location substantially exceeds what is normal. What constitutes a period of heavy precipitation varies according to location and season. "Extreme/heavy precipitation" does not necessarily mean the total amount of precipitation at a location has increased, but just that precipitation is occurring in more intense or more frequent events.

20-30 years) and long-term (i.e., 80-100 years) and, in the case of sea level change, the plan must consider extreme sea level change. The Plan shall be updated at least every five (5) years from the effective date of this Permit and must take future conditions into consideration.[5]

(1) *Component 1: Asset Vulnerability Evaluation*. This first component of the *WWTF Major Storm and Flood Events Plan* must assess the vulnerability of individual WWTF-related assets. The Permittee may find EPA's guide: Flood Resilience: A Basic Guide for Water and Wastewater Utilities[6] and EPA's website[7] Creating Resilient Water Utilities (CRWU) helpful for completing this component.

The *Asset Vulnerability Evaluation* shall include, at a minimum, the following:

i. Description of planning priorities related to major storm and flood event vulnerabilities presented by the location of the WWTF (e.g., proximity to waterbodies which may cause flooding).

ii. Identification of all assets related to the WWTF (e.g., buildings, laboratories and offices, WWTF, septage collection facilities, etc.), the elevation of each asset, and if the asset falls into the 100-year flood map or the 500-year flood map;[8]

iii. Description of structural improvements, either completed or planned, and/or other mitigation measures[9] designed to minimize[10] the impacts of major storm and flood events to each specific asset identified above.

The Permittee shall consider, at a minimum, the following measures:

---

[5] It will be advantageous to the Permittee to consider low, medium, high and extreme levels of sea level change to determine priority assets and plan for increasingly protective mitigation measures.
[6] https://www.epa.gov/sites/default/files/2015-08/documents/flood_resilience_guide.pdf
[7] https://www.epa.gov/crwu
[8] See https://www.epa.gov/sites/default/files/2015-08/documents/flood_resilience_guide.pdf for a basic guide to flood resiliency for water and wastewater utilities.
[9] Mitigation measure can be, for example, an emergency planning activity, equipment modification/upgrade or new capital investment/construction project.
[10] For the purposes of this provision, the term "minimize" means to reduce and/or eliminate to the extent achievable the impacts to the facilities.

(a) Construction of flood barriers to protect infrastructure or reinforce existing structures to withstand flooding and additional exertion of force;
(b) Establish remote locations for operations, equipment, records and data backups;
(c) Plan and establish alternative or on-site power supply;[11]
(d) Relocate facilities and/or infrastructure to higher elevations;
(e) Catalog emergency resources used during a major storm or flood event;
(f) Develop emergency response plans;
(g) Establish contracts for backup supplies of critical chemicals;
(h) Establish mutual aid agreements with neighboring utilities;
(i) Integrate long-term risks into capital improvement plans;
(j) Participate in community planning and regional collaborations;
(k) Conduct staff training for implementing your emergency procedures at regular intervals;
(l) When designing new or replacement facilities, strive to locate facilities above the relative base flood elevation[12] for both the 1% (100-year) and 0.2 % (500-year) chance storm events.

iv. Identify the source of data used to assess vulnerabilities to major storm and flood events.

v. Identify potential funding sources[13] for resilience planning and implementation. (e.g., EPA, FEMA, MassDEP, capital planning, etc.).

(2) *Component 2: Systemic Vulnerability Evaluation*. Upon completing assessment of the vulnerabilities of individual assets, the Permittee shall evaluate the vulnerability of its WWTF system as a whole. This second component of the evaluation shall include, at a minimum, a systematic

[11] The Permittee shall clearly document measures taken specifically to manage energy system disruptions, such as a general power outage, as well as document whether and, if so, to what extent, power supply adequate to ensure safe and reliable operations of the facility is threatened during a major storm or flood. They shall clearly document measures that have been taken to address any risks the facility faces of losing power during a major storm or flood in a manner that could result in environmental or public health impacts.
[12] For activities proposed for MA facilities within Areas Subject to Protection under M.G.L. c. 131, § 40 or the 100-foot buffer zone, the Base Flood Elevation is defined at 310 CMR 10.04, Definitions of Special Flood Hazard Area, Velocity Zone, and Coastal High Hazard Area, Land Subject to Coastal Storm Flowage at 310 CMR 10.36 and Bordering Land Subject to Flooding, and Isolated Land Subject to Flooding at 310 CMR 10.57. Also refer to the Massachusetts State Building Code for any other required standards related to Base Flood Elevation.
[13] See https://www.epa.gov/fedfunds

vulnerability evaluation for each asset identified in Part I.E.1.a.(1), including the following:

i. Define the criticality of the asset to overall treatment facility operations.[14]

ii. Identify the highest[15] priority assets for the facility/system and the measures taken (or planned) to reduce facility vulnerability to risks that could degrade overall system operations in a manner that would result in environmental or public health impacts.

(3) *Component 3: Mitigation Measures Alternatives Evaluation.* Upon completing assessment of the vulnerabilities of the WWTF system as a whole, the Permittee shall provide an assessment of asset-specific mitigation measures, and/or, if appropriate, combinations of mitigation measures to minimize the impact of major storm and flood events. The Permittee shall then select the most effective mitigation measure(s) and include a schedule for implementation. This third component shall include, at a minimum, the following:

i. An evaluation of mitigation measure alternatives including a cost-effectiveness analysis and a review of technical, environmental, and institutional factors.

ii. For each mitigation measure, quantitatively document (including assumptions and methodologies) the residual risk today, in the midterm (i.e., 20-30 years) and the long-term (i.e., 80-100 years). The evaluation should include estimates of which customers and geographic areas bear the residual risk after implementation of the mitigation measures. Residual risk is a term that refers to the risk remaining for an asset or system, after mitigation measures are taken.

iii. Selection of mitigation measures to be undertaken, including:

[14] For example, an asset like a pumping station or headworks is often scored "high" for criticality, as the safe and reliable operation of many assets during a major storm or flood depend upon the continued operation of that particular asset. If a pump station is degraded or fails, many other assets operations can degrade or fail, resulting in environmental or public health impacts.

[15] Based on the combined assessment of asset-level vulnerability today and in the midterm (i.e., 20-30 years) and long-term (i.e., 80-100 years), the criticality of that asset's performance to the operations of the system today and in the midterm (i.e., 20-30 years) and long-term (i.e., 80-100 years).

(a) a schedule[16] of implementation for each selected mitigation measure;[17] and

(b) a map showing the location of planned mitigation measure.

(4) *Annual Report*. The Permittee shall submit an Annual Operation and Maintenance Report on the *WWTF Major Storm and Flood Events Plan* implementation and results for the prior calendar year including documenting any changes to the WWTF or other assets that may impact the current vulnerability evaluation. The first annual report is due the first March 31 following submittal of the *Wastewater Treatment Facility Major Storm and Flood Events Plan* and shall be included with the annual report required in Part I.E.3. below.

2. Sewer System

Operation and maintenance (O&M) of the sewer system owned and operated, respectively, by the Permittee, CSO-responsible Co-permittees: Boston Water and Sewer Commission (BWSC), City of Cambridge, City of Chelsea and City of Somerville; and each of the Co-permittee municipalities listed in **Attachment B** shall be in compliance with the terms and conditions of Part C, Part D, Part E, Part F and Part J of this Permit and the General Requirements of Part II, of this Permit for only its own infrastructure, activities and required reporting with respect to the portions of the collection system that it owns or operates.

No Permittee shall be responsible for violations of Part C, Part D, Part E, Part F and Part J of this Permit and/or the General Requirements of Part II committed by another Permittee relative to the portions of the collection system owned and operated by such other Permittee. In the event of any conflict between the above provisions and any other term or provision of this Permit, the above provisions shall control. The Permittee and Co-permittees are required to complete the following activities for the respective portions of the collection system which they operate:

[16] In describing the schedule to implement mitigation measures, the Permittee shall clearly document which mitigation measures identified in the Plan have or have not been integrated into that system's capital planning process. A mitigation measure is integrated when a budget line item in that system's current and adopted capital plan clearly identifies the year of completion and expenditure that has been budgeted and approved to complete that mitigation measure.

[17] For all measures considered, the Permittee must document in the Plan the factual basis (i.e., the maps, data sets and calculations for the analysis), for either implementing or not implementing the measure. The factual basis and analysis must be presented in sufficient detail to allow EPA, the public, or an independent qualified person to evaluate the reasonableness of the decision. For measures already in place, including requirements from state, local or federal agencies, a description of the measures and how they meet the requirement(s) of this Permit must be documented in the Plan.

a. Maintenance Staff

The Permittee, the CSO-responsible Co-permittees and Co-permittees shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this Permit that apply to the Permittee, CSO-responsible Co-permittees, or Co-permittees. Provisions to meet this requirement shall be described in the Sewer System O&M Plan required pursuant to Part I.E.2.e below.

b. Preventive Maintenance Program

The Permittee, CSO-responsible Co-permittees and Co-permittees shall maintain an ongoing preventive maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure that each owns and operates. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges. Plans and programs to meet this requirement shall be described in the Sewer System O&M Plan required pursuant to Part I.E.2.e. below.

c. Infiltration/Inflow

(1) The Permittee, CSO-responsible Co-permittees and Co-permittees shall control infiltration and inflow (I/I) into the sewer system as necessary to prevent high flow related unauthorized discharges from their collection systems and high flow related violations of the wastewater treatment plant's effluent limitations. Plans and programs to control I/I shall be described in the Sewer System O&M Plan required pursuant to Part I.E.2.e. below.

(2) The Permittee, MWRA, shall update its existing I/I Reduction Plan. As part of the update, the Permittee must identify the goals and strategies of the 2002 Regional I/I Reduction Plan that have been completed and justify the goal or strategy be removed from the updated Plan. Additionally, the Permittee shall also consider new steps, strategies, and technologies to be implemented in addressing I/I. Finally, the Permittee shall include a discussion of historical SSO locations and upstream levels of I/I, with a specific proposal including the use of new strategies and technologies to reduce I/I in these contributing areas.

Specifically, for the portion of the regional sewer system operated by MWRA, the MWRA shall update their existing Sanitary Sewer Overflow Plan, now renamed Sanitary Sewer Overflow Mitigation Plan, and submit to EPA and MassDEP within 1 year of the effective date of this Permit, and begin implementing an effective and updated plan consisting of the following:

i. Identification of all SSO locations;
ii. A program for periodic inspection and monitoring of overflows which occur during wet weather;
iii. Identification of all SSOs that occur as a result of operational and maintenance deficiencies (e.g., sewer backups, pump failures) and a plan for improved operation and maintenance to prevent recurrences;
iv. Updated procedures for notification of potentially affected entities (e.g., drinking water suppliers) and the public of overflows that may endanger human health.
v. As part of the sewer system operation and maintenance plan required in I.E.2.e for the portion of the regional sewer system operated by the MWRA, which shall establish staffing and operations procedures at MWRA pump stations, headworks facilities, and at any critical conveyance structures (siphons, CSO regulators/facilities), which shall encompass the following goals:

(a) Maximizing conveyance of wastewater flows to Deer Island for treatment and discharge;
(b) Optimizing use of MWRA collection and transport facilities to manage any capacity restrictions and minimize risk of SSO impacts to public drinking water supplies, primary contact resource areas, or other areas where surcharging and/or overflow conditions will result in serious public health impacts; and
(c) At locations where SSO risk is significant, provisions for preemptive and response actions to mitigate the potential impacts of the discharge.

(3) The Draft Permit maintains the requirement for the Permittee, MWRA, to submit an annual summary report ("Annual Infiltration and Inflow (I/I) Reduction Report") of all actions taken to reduce I/I during the MWRA's past fiscal year by September 1st of each year. The Report shall continue to contain both estimated and actual Community Wastewater Flow Components Estimates for each of the MWRA member communities which shall be placed on the MWRA web page for public informational purposes. The Community Wastewater Flow Components Estimates table should differentiate between CSO and non-CSO communities.

(4) The Draft Permit also requires the Co-permittees to prepare and submit I/I Reduction Plans. Massachusetts regulations at 314 CMR 12.04 (2) required municipalities to submit I/I Analysis Reports to MassDEP.

Municipalities were then required to conduct Sewer System Evaluation Surveys in accordance with their I/I Analysis Report. EPA notes that these reports can be the basis for I/I Plans to be developed and submitted by the Co-permittees to remove excessive I/I from the collection system that it owns and/or operates as required in I.E.2.e below.

d. Sewer System Mapping

Within 30 months of the effective date of this Permit, the Permittee, CSO-responsible Co-permittees and Co-permittees shall prepare a map of the sewer collection system it owns and operates. The map shall be on a street map of the community, with sufficient detail and at a scale to allow easy interpretation. The sewer system information shown on the map shall be based on current conditions and shall be kept up-to-date and available for review by federal, state, or local agencies upon request. Such map(s) shall include, but not be limited to the following:

1. All sanitary sewer lines and related manholes;
2. All combined sewer lines, related manholes, and catch basins;
3. All combined sewer regulators and any known or suspected connections between the sanitary sewer and storm drain systems (e.g., combination manholes);
4. All connection points where Co-permittee collection systems connect to the Permittee-owned collection system or the collection system of another community.
5. All outfalls, including the treatment plant outfall(s), CSOs, and any known or suspected SSOs, including stormwater outfalls that are connected to combination manholes;
6. All pump stations and force mains;
7. The wastewater treatment facility(ies);
8. All surface waters (labeled);
9. Other major appurtenances such as inverted siphons and air release valves;
10. A numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;
11. The scale and a north arrow; and
12. The pipe diameter, date of installation, type of material, distance between manholes, and the direction of flow.

e. Sewer System O&M Plan

The Permittee, CSO-responsible Co-permittees and Co-permittees shall develop and implement a Sewer System O&M Plan for the portion of the system it owns and operates.

(1) Within six (6) months of the effective date of the Permit, the Permittee, CSO-responsible Co-permittees, and Co-permittees shall submit to EPA and the State:

i. A description of the collection system management goals, staffing, information management, and legal authorities;

ii. A description of the collection system and the overall condition of the collection system including a list of all pump stations and a description of recent studies and construction activities; and

iii. A schedule for the development and implementation of the full Sewer System Operation and Maintenance Plan including the elements in Parts I.E.2.e.(3)(i) through (3)(ix) below.

(2) Within 12 months of the effective date of the Permit, the Permittee, CSO-responsible Co-Permittees and Co-permittees shall develop and implement a *Sewer System Flood Events Plan* as an element of the *Sewer System Operations and Maintenance Plan.* The Plan shall contain three components: (1) an asset vulnerability evaluation, (2) a systemic vulnerability evaluation of the system and (3) an alternatives analysis. The Plan shall include resiliency planning and implementation informed by an evaluation[18] of all sewer system vulnerabilities to major storm and flood events[19]. The planning process shall be iterative, and re-evaluations shall be conducted; (1) if on- or off-site structures are added, removed or significantly changed in any way that will impact the vulnerability of the sewer system and (2) as data sources used for such evaluations are revised or generated. At a minimum, the Plan must take future conditions into consideration, specifically midterm (i.e., 20-30 years) and long-term (i.e., 80-100 years) and, in the case of sea level change, the plan must consider extreme sea level change. The Plan shall be updated every five (5) years from the effective date of this Permit.

[18] To determine the vulnerabilities to the facilities from major storm and flood events, you must conduct the evaluation using, at a minimum, the worst-case data relating to changes in precipitation, sea level rise, extreme weather events, coastal flooding, inland flooding, sewer flow and inflow and infiltration and relevant to the facilities from: 1) the data generated by the 13 federal agencies that conduct or use research on global change that contributed to the latest National Climate Assessment produced by the U.S. Global Change Research Program (USGCRP); 2) climate data generated by the Commonwealth of Massachusetts; and 3) resiliency planning completed by the municipality in which a given facility is located (i.e., City of Boston) and incorporate the results of the evaluation in a manner that demonstrates that the control measures taken are precautionary and sufficiently protective. Evaluation must be completed by a qualified person on a five-year basis considering: 1) historical observations from all years the Permittee has operated the facility prior to this Permit's term; 2) set midterm (i.e., 20-30 years) and long-term (i.e., 80-100 years) ranges.

[19] "Major storm and flood events" refer to instances resulting from major storms such as hurricanes, extreme/heavy precipitation events, and pluvial, fluvial, and flash flood events such as high-water events, storm surge, and high-tide flooding. "Extreme/heavy precipitation" refers to instances during which the amount of rain or snow experienced in a location substantially exceeds what is normal. What constitutes a period of heavy precipitation varies according to location and season. "Extreme/heavy precipitation" does not necessarily mean the total amount of precipitation at a location has increased-just that precipitation is occurring in more intense or more frequent events.

i. *Component 1: Asset Vulnerability Evaluation*. The first component of the *Sewer System Operation and Maintenance Plan* must assess the vulnerability of individual sewer system-related assets. The Permittee and Co-permittee may find EPA's guide: Flood Resilience: A Basic Guide for Water and Wastewater Utilities[20] and EPA's website[21] Creating Resilient Water Utilities (CRWU) helpful for completing this component.

The Asset Vulnerability Evaluation shall include, at a minimum, the following:

(a) Description of planning priorities related to the location of the sewer system;

(b) Identification of all assets (e.g., pump stations, pipes, etc.), the elevation of the asset, and if the asset falls into the 100-year flood map or the 500-year flood map,[22]

(c) Description of structural improvements, and/or other mitigation measures[23] to minimize[24] the impacts of major storm and flood events to each specific asset identified in Part I.E.2.e.(2).i.(b) above.

The Permittee, CSO-responsible Co-Permittees, and Co-permittees shall consider, at a minimum, the following measures:

(i) Construction of flood barriers to protect structure or reinforce existing structures to withstand flooding and additional exertion of force;
(ii) Establish remote locations for operations, equipment, records and data backups;
(iii) Plan and establish alternative or on-site power supply;[25]

[20] https://www.epa.gov/sites/default/files/2015-08/documents/flood_resilience_guide.pdf
[21] https://www.epa.gov/crwu
[22] See https://www.epa.gov/sites/default/files/2015-08/documents/flood_resilience_guide.pdf for a basic guide to flood resiliency for water and wastewater utilities.
[23] Mitigation measure can be an emergency planning activity, equipment modification/upgrade or new capital investment/construction project.
[24] For the purposes of this provision, the term "minimize" means to reduce and/or eliminate to the extent achievable the impacts to the facilities.
[25] The Permittee shall clearly document measures taken specifically to manage energy system disruptions, such as a general power outage, well as document whether and, if so, to what extent, power supply adequate to ensure safe and reliable operations of the facility is threatened during a major storm or flood. They shall clearly document measures that have been taken to address any risks the facility faces of losing power during a major storm or flood in a manner that could result in environmental or public health impacts.

(iv) Relocate facilities and/or infrastructure to higher elevations;
(v) Catalog emergency resources used during a major storm or flood event;
(vi) Develop emergency response plans;
(vii) Establish mutual aid agreements with neighboring utilities;
(viii) Integrate long-term risks into capital improvement plans;
(ix) Participate in community planning and regional collaborations;
(x) Conduct staff training for implementing your emergency procedures at regular intervals;
(xi) When designing new or replacement facilities, strive to locate facilities above the base flood elevation;[26]
(xii) Identify the source of data used to assess vulnerabilities to major storm and flood events; and
(xiii) Identify the potential funding sources[27] for resilience planning and implementation (e.g., EPA, FEMA, MassDEP, capital planning, etc.).

ii. *Component 2: Systemic Vulnerability Evaluation.* Upon completing assessment of the vulnerabilities of individual assets, the Permittee and Co-permittee shall evaluate the vulnerability of its sewer system as a whole. This second component of the plan shall include, at a minimum. a systematic vulnerability evaluation for each asset identified in Part I.E.2.e.(2).i.(b), including the following:

(a) Define the criticality of each asset to the overall sewer system operations; and

(b) Identify the highest priority assets for the sewer system and measures[28] taken to reduce system vulnerability to risks that could degrade the overall system operations in a manner that would result in environmental or public health impacts.

[26] For MA facilities, for activities proposed within Areas Subject to Protection under M.G.L. c. 131, § 40 or the 100-foot buffer zone, the Base Flood Elevation is defined at 310 CMR 10.04, Definitions of Special Flood Hazard Area, Velocity Zone, and Coastal High Hazard Area, Land Subject to Coastal Storm Flowage at 310 CMR 10.36 and Bordering Land Subject to Flooding, and Isolated Land Subject to Flooding at 310 CMR 10.57. Also refer to the Massachusetts State Building Code for any other required standards related to Base Flood Elevation.
[27] See https://www.epa.gov/fedfunds
[28] For example, an asset like a pumping station or headworks is often ranked "high" for criticality, as the safe and reliable operation of many assets during a major storm or flood depend upon the continued operation of that particular asset. If a pump station is degraded or fails, the operations of many other assets can degrade or fail, resulting in environmental or public health impacts.

iii. *Component 3: Alternatives Evaluation*. Upon completing assessment of the vulnerabilities of the sewer system as a whole, the Permittee, CSO-responsible Co-Permittees, and Co-permittees shall provide an assessment of individual asset-specific, and/or, if appropriate, combinations of mitigation measures must be presented in order to determine the most effective mitigation measures to minimize the impact of major storm and flood events.

This third component shall include, at a minimum, the following with regard to alternative evaluation, at a minimum:

(a) An evaluation of alternatives including a cost-effectiveness analysis and a review of technical, environmental, and institutional factors. The alternatives analysis should conclude with the development of a recommended plan.

(b) For each alternative, quantitatively document (including assumptions and methodologies) the residual risk today and for the midterm (i.e., 20-30 years) and long-term (i.e., 80-100 years). The evaluation should include estimates of which customers and geographic areas bear the residual risk from the approach to resiliency planning in that system. Residual risk is a term that refers to the risk remaining for an asset or system, after mitigation measures are taken.

(c) For each asset, document the total projected alternatives for implementing all planned mitigation measures identified in the *Sewer System Major Storm and Flood Events Plan.*

(d) Selection of mitigation measures to be undertaken, including:

(i) a schedule to implement each selected mitigation measure; and
(ii) a map showing the location of planned mitigation measures.

iv. *Annual Report.* The Permittee and Co-permittee shall submit an Annual Operation and Maintenance Report on the *Sewer System Major Storm and Flood Events Plan* implementation and results for the prior calendar year including documenting any changes to the sewer system or other assets that may impact the current vulnerability evaluation. The first annual report is due the first March 31 following submittal of the *Sewer System Major Storm and Flood Events Plan* and shall be included with the annual report required in Part I.E.3 below.

(3) The full Sewer System O&M Plan shall be completed, implemented, and submitted to EPA and to MassDEP within twenty-four (24) months from the effective date of this Permit. The Plan shall include:

i. The required submittal from paragraph I.E.2.e.(1) above, updated to reflect current information;

ii. A preventive maintenance and monitoring program for the collection system; including resiliency evaluation and planning that the Permittee, CSO-responsible Co-permittees and Co-permittees owns and operates;

iii. Description of sufficient staffing necessary to properly operate and maintain the sanitary sewer collection system that the Permittee, CSO-responsible Co-permittees, and Co-permittees owns and operates and how the operation and maintenance program is staffed;

iv. Description of funding, the source(s) of funding and provisions for funding sufficient for implementing the plan that the Permittee, CSO-responsible Co-permittees, and Co-permittees owns and operates plan;

v. Identification of known and suspected overflows and back-ups, including manholes. A description of the cause of the identified overflows and back-ups, corrective actions taken, and a plan for addressing the overflows and back-ups consistent with the requirements of this permit that apply to the Permittee, CSO-responsible Co-permittees, and Co-permittees;

vi. A description of the Permittee’s, CSO-responsible Co-permittee’s, or Co-permittee's programs for preventing I/I

related effluent violations and all unauthorized discharges of wastewater, including overflows and by-passes and the ongoing program to identify and remove sources of I/I. The program shall include an inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts;

vii. An educational public outreach program for all aspects of I/I control, particularly private inflow; and

viii. An Overflow Emergency Response Plan to protect public health from overflows and unanticipated bypasses or upsets that exceed any effluent limitation in the Permit.

ix. The resiliency evaluation and planning portion of the Sewer System O&M Plan shall be revised at least every five years. See Part I.E.2.e.(2).

3. Annual Reporting Requirement

The Permittee, CSO-responsible Co-permittees and Co-permittees shall submit a summary report of activities related to the implementation of its O&M Plan during the previous calendar year. The report shall be submitted to EPA and to MassDEP annually by March 31. The first annual report is due on the first March 31 following submittal of the O&M Plan required by Part I.E. of this Permit. The summary report shall, at a minimum, include:

a. A description of the staffing levels maintained during the year;
b. A map and a description of inspection and maintenance activities conducted, and corrective actions taken during the previous year;
c. Expenditures for any collection system maintenance activities and corrective actions taken during the previous year;
d. A map with areas identified for investigation/action in the coming year;
e. A summary of unauthorized discharges during the past year and their causes and a report of any corrective actions taken as a result of the unauthorized discharges reported pursuant to the Unauthorized Discharges section of this Permit; and
f. If the average annual flow in the previous calendar year exceeded 80 percent of the facility's 361 MGD design flow (288.8 MGD), or there have been capacity related overflows, the report shall include:

(4) Plans for further potential flow increases describing how the Permittee will maintain compliance with the flow limit and all other effluent limitations and conditions; and

(5) A calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year.

g. The Annual Operation and Maintenance Report on the implementation and results of the *WWTF Major Storm and Flood Events Plan* (beginning the first March 31 following submittal of this Plan) for the prior calendar year; and

h. The Annual Operation and Maintenance Report on the implementation and results of the *Sewer System Major Storm and Flood Events Plan* (beginning the first March 31 following submittal of this Plan) for the prior calendar year.

F. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this Permit, the Permittee, CSO-responsible Co-permittees and Co-permittees 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.

G. INDUSTRIAL USERS AND PRETREATMENT PROGRAM

1. The Permittee shall submit to EPA and the State the name of any Industrial User (IU) subject to Categorical Pretreatment Standards under 40 CFR § 403.6 and 40 CFR chapter I, subchapter N (Parts 405-415, 417-430, 432, 447, 449-451, 454, 455, 457-461, 463-469, and 471 as amended) who commences discharge to the facility after the effective date of this permit.

   This reporting requirement also applies to any other IU who is classified as a Significant Industrial User (SIU) which discharges an average of 25,000 gallons per day or more of process wastewater into the facility (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastewater which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the facility; or is designated as such by the Control Authority as defined in 40 CFR § 403.3(f) on the basis that the industrial user has a reasonable potential to adversely affect the wastewater treatment facility's operation, or for violating any pretreatment standard or requirement (in accordance with 40 CFR § 403.8(f)(6)).

2. In the event that the Permittee receives originals of reports (baseline monitoring reports, 90-day compliance reports, periodic reports on continued compliance, etc.) from industrial users subject to Categorical Pretreatment Standards under 40 CFR § 403.6 and 40 CFR chapter I, subchapter N (Parts 405-415, 417-430, 432-447, 449-451, 454, 455, 457-461, 463-469, and 471 as amended), or from a Significant Industrial User, the Permittee shall forward the originals of these reports within ninety (90) days of their receipt to EPA, and copy the State.

3. In accordance with 40 CFR § 122.44(j)(1) the Permittee must identify, in terms of character and volume, any SIUs discharging into the POTW or facility subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR Part 403. SIUs information shall be

updated at a minimum of once per year or at that frequency necessary to ensure that all SIUs are properly permitted and/or controlled. The records shall be maintained and updated as necessary.

4. Beginning the first full calendar year after the effective date of the Permit, the Permittee shall commence annual sampling of the following types of industrial discharges into the POTW:

    - Commercial Car Washes
    - Platers/Metal Finishers
    - Paper and Packaging Manufacturers
    - Tanneries and Leather/Fabric/Carpet Treaters
    - Manufacturers of Parts with Polytetrafluoroethylene (PTFE) or teflon type coatings (i.e., bearings)
    - Landfill Leachate
    - Centralized Waste Treaters
    - Known or Suspected PFAS Contaminated Sites
    - Fire Fighting Training Facilities
    - Airports
    - Any Other Known or Expected Sources of PFAS

    Sampling shall be conducted using Method 1633 for the PFAS analytes listed in **Attachment H**. The industrial discharges sampled, and the sampling results shall be summarized and submitted to EPA and copy the State as an electronic attachment to the March discharge monitoring report due April 15 of the calendar year following the testing.

5. Legal Authority

    The Permittee has been delegated primary responsibility for enforcing against discharges prohibited by 40 CFR § 403.5 and applying and enforcing any national Pretreatment Standards established by the United States Environmental Protection Agency in accordance with Section 307 (b) and (c) of The Clean Water Act (Act), as amended by The Water Quality Act (WQA), of 1987.

    The Permittee shall operate an industrial pretreatment program in accordance with the General Pretreatment Regulations found in 40 CFR Part 403 and the approved pretreatment program submitted by the Permittee. The pretreatment program was approved on July 20, 1982 and has subsequently incorporated substantial modifications as approved by EPA. The approved pretreatment program, and any approved modifications thereto, is hereby incorporated by reference and shall be implemented in a manner consistent with the following procedures, as required by 40 CFR Part 403.

    The Permittee must have or develop a legally enforceable municipal code or rules and regulations to authorize or enable the POTW to apply and enforce the requirements of Sections 307(b) and (c) and 402(b)(8) and (9) of the Act and comply with the

requirements of § 403.8(f)(1). At a minimum, this legal authority shall enable the POTW to:

a. Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements or where such contributions would cause the POTW to violate its NPDES Permit;

b. Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users;

c. Control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users this control shall be achieved through permits or equivalent control mechanism identified as significant under 40 CFR § 403.3(v), as required by § 403.8(f)(1)(iii);

d. Require (a) the development of a compliance schedule by each Industrial User for the installation of technology required to meet applicable Pretreatment Standards and Requirements and (b) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure compliance by Industrial Users with Pretreatment Standards and Requirements, including but not limited to the reports required in § 403.12;

e. Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP, but in no case less than once per year, and with adequate maintenance of records, Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a Discharge source or treatment system is located or in which records are required to be kept under § 403.12(o) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under section 308 of the Act;

f. Obtain remedies for noncompliance by any Industrial User with any Pretreatment Standard and Requirement. All POTW's shall be able to seek injunctive relief for noncompliance by Industrial Users with Pretreatment Standards and Requirements. All POTWs shall also have authority to seek or assess civil or criminal penalties in at least the amount of $1,000 a day for each violation by Industrial Users of Pretreatment Standards and Requirements in accordance with § 403.8(f)(1)(vii)(A); and

g. Comply with the confidentiality requirements set forth in § 403.14.

6. Implementation Requirements

The Permittee shall operate a pretreatment program in accordance with the General Pretreatment Regulations found in 40 CFR Part 403 and with the legal authorities, policies, procedures, and financial provisions of the approved Pretreatment program submitted by the Permittee. The approved Pretreatment program, and any approved modifications thereto, is hereby incorporated by reference and shall be implemented in a manner consistent with the following procedures, as required by 40 CFR Part 403:

a. In accordance with 40 CFR § 122.44(j)(1), Identify, in terms of character and volume of pollutants contributed from Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR Part 403.

b. The Permittee must notify these identified Industrial Users of applicable Pretreatment Standards and any applicable requirements in accordance with 40 CFR § 403.8(f)(2)(iii). Pursuant to 40 CFR § 403.8(f)(6), prepare and maintain a list of significant industrial users and identify the criteria in 40 CFR § 403.3(v)(1) applicable to each industrial user.

c. The Permittee must carry out inspection procedures and randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in accordance with 40 CFR § 403.8(f)(2)(v), which will determine independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

d. The Permittee shall receive and analyze self-monitoring reports and other notices submitted by Industrial Users in accordance with the self-monitoring requirements in 40 CFR § 403.12; This must include timely and appropriate reviews of industrial user reports and notifications to identify all violations of the user's permit, the local ordinance, and federal pretreatment standards and requirements.

e. The Permittee shall evaluate whether each SIU needs a plan to control Slug Discharges in accordance with 40 CFR § 403.8(f)(2)(vi). SIUs must be evaluated within 1 year of being designated an SIU. If required, the Permittee shall require the SIU to prepare or update and implement a slug prevention plan that contains at least the minimum required elements in 40 CFR § 403.8(f)(2)(vi)(A-D) and incorporate the slug control requirements into the SIU’s control mechanism.

f. Pursuant to 40 CFR § 403.8(f)(2)(vii), the Permittee shall investigate instances of non-compliance with Pretreatment Standards and requirements indicated in

required reports and notices or indicated by analysis, inspection, and surveillance activities.

g. The Permittee shall publish, at least annually, in a newspaper or newspapers of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW, a list of all non-domestic users which, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR § 403.8 (f)(2)(viii).

h. The Permittee shall provide sufficient resources and qualified personnel to implement its Pretreatment program in accordance with 40 CFR § 403.8(f)(3);

i. The Permittee shall enforce all applicable Pretreatment Standards and requirements and obtain remedies for noncompliance by any industrial user. The Permittee shall develop, implement, and maintain an enforcement response plan in accordance with 40 CFR § 403.8(f)(5).

j. Pursuant to 40 CFR § 403.8(g), the Permittee that chooses to receive electronic documents must satisfy the requirements of 40 CFR Part 3 – (Electronic reporting).

7. Local Limit Development

a. The Permittee shall develop, continually maintain, and enforce, as necessary, local limits to implement the general and specific prohibitions in 40 CFR § 403.5(c)(1) which prohibit the introduction of any pollutant(s) which cause pass through or interference and the introduction of specific pollutants to the waste treatment system from any source of non-domestic discharge.

b. The Permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within 90 days of the effective date of the Permit, the Permittee shall prepare and submit a written technical evaluation to EPA analyzing the need to revise local limits. As part of this evaluation, the Permittee shall assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the Permittee shall complete and submit the attached form (see **Attachment F** (Reassessment of Technically Based Industrial Discharge Limits)) with the technical evaluation to assist in determining whether existing local limits need to

be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal 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. The Permittee shall carry out the local limits revisions in accordance with EPA's Local Limit Development Guidance (July 2004).

8. Notification Requirements

a. The Permittee must notify EPA of any new introductions or any substantial change in pollutants from any Industrial User within sixty (60) days following the introduction or change, as required in 40 § CFR 122.42(b)(1-3). Such notice must identify:

(1) Any new introduction of pollutants from an Industrial User which would be subject to Sections 301, 306, and 307 of the Act if it were directly discharging those pollutants; or

(2) Any substantial change in the volume or character of pollutants being discharged by any Industrial User;

(3) For the purposes of this section, adequate notice shall include information on:

i. The identity of the Industrial User;
ii. The nature and concentration of pollutants in the discharge and the average and maximum flow of the discharge; and
iii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from or biosolids produced at such POTW.

b. The Permittee must notify EPA as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR § 122.29 (b);

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; or

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices.

c. The Permittee must notify EPA if the POTW modifies or intends to modify its

Pretreatment Program.

d. The Permittee must notify EPA of any instance of pass through or interference, known or suspected to be related to a discharge from an Industrial User. The notification shall be attached to the DMR submitted EPA and shall describe the incident, including the date, time, length, cause, and the steps taken by the Permittee and Industrial User to address the incident.

e. The Permittee shall notify all Industrial Users of the users' obligations to comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA) and that Industrial Users shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical as well as their obligation to notify the EPA Regional Waste Management Division Director, 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. Such notification must include:

(1) the name of the hazardous waste as set forth in 40 CFR Part 261;
(2) the EPA hazardous waste number; and
(3) the type of discharge (continuous, batch, or other).

9. Annual Report Requirements

The Permittee shall provide EPA with a hard copy annual report that briefly describes the POTW's program activities, including activities of all participating agencies, if more than one jurisdiction is involved in the local program. The report required by this section shall be submitted no later than one year after approval of the POTW's Pretreatment Program, and at least annually thereafter. The report must include, at a minimum, the applicable required data in Appendix A to 40 CFR Part 127, a summary of changes to the POTW's pretreatment program that have not been previously reported to EPA, and any other relevant information requested by EPA. Beginning on December 21, 2025, all annual reports submitted in compliance with this section must be submitted electronically by the POTW Pretreatment Program to EPA or initial recipient, as defined in 40 CFR § 127.2(b). Electronic submittals shall be in compliance with this section and 40 CFR Part 3 (including, in all cases, subpart D to Part 3), 40 CFR § 122.22(e), and 40 CFR Part 127 (Part 127 is not intended to undo existing requirements for electronic reporting). Prior to this date, and independent of 40 CFR Part 127, EPA may also require POTW Pretreatment Programs to electronically submit annual reports under this section if specified by a particular permit or if required to do so by state law.

The Permittee shall provide EPA with an annual report describing the Permittee's pretreatment program activities for the twelve (12) month period ending 60 days prior to the

due date in accordance with 40 CFR § 403.12(i). The annual report shall be consistent with the format described in **Attachment G** (NPDES Permit Requirement for Industrial Pretreatment Annual Report) of this Permit and shall be submitted by **March 31st** of each year.

10. Beginning the first full calendar year after the effective date of the Permit, the Permittee shall commence annual sampling of the following types of industrial discharges into the POTW:

    - Commercial Car Washes
    - Platers/Metal Finishers
    - Paper and Packaging Manufacturers
    - Tanneries and Leather/Fabric/Carpet Treaters
    - Manufacturers of Parts with Polytetrafluoroethylene (PTFE) or teflon type coatings (*e.g.*, bearings)
    - Landfill Leachate
    - Centralized Waste Treaters
    - Known or Suspected PFAS Contaminated Sites
    - Fire Fighting Training Facilities
    - Airports
    - Any Other Known or Expected Sources of PFAS

    Sampling shall be conducted using Method 1633 for the PFAS analytes listed in Attachment H. The industrial discharges sampled, and the sampling results shall be summarized and included in the annual report (see Part I.G.9).

H. SLUDGE CONDITIONS

1. The Permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including EPA regulations promulgated at 40 CFR § 503, which prescribe "Standards for the Use or Disposal of Sewage Sludge" pursuant to § 405(d) of the CWA, 33 U.S.C. § 1345(d).

2. If both state and federal requirements apply to the Permittee's sludge use and/or disposal practices, the Permittee shall comply with the more stringent of the applicable requirements.

3. The requirements and technical standards of 40 CFR Part 503 apply to the following sludge use or disposal practices:

    a. Land application - the use of sewage sludge to condition or fertilize the soil;
    b. Surface disposal – the placement of sewage sludge in a sludge only landfill; and
    c. Sewage sludge incineration in a sludge only incinerator.

4. The requirements of 40 CFR Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR § 503.4. These requirements also do not apply to

facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g., lagoons, reed beds), or are otherwise excluded under 40 CFR § 503.6.

5. The 40 CFR Part 503 requirements include the following elements:

    a. General requirements
    b. Pollutant limitations
    c. Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
    d. Management practices
    e. Record keeping
    f. Monitoring
    g. Reporting

    Which of the 40 CFR Part 503 requirements apply to the Permittee will depend upon the use or disposal practice followed and upon the quality of material produced by a facility. The EPA Region 1 guidance document, "EPA Region 1 - NPDES Permit Sludge Compliance Guidance" (November 4, 1999), may be used by the Permittee to assist it in determining the applicable requirements.

6. The sludge shall be monitored for pollutant concentrations (all Part 503 methods) and pathogen reduction and vector attraction reduction (land application and surface disposal) at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year, as follows:

less than 290	1/ year
290 to less than 1,500	1 /quarter
1,500 to less than 15,000	6 /year
15,000 +	1 /month

    Sampling of the sewage sludge shall use the procedures detailed in 40 CFR § 503.8.

7. Under 40 CFR § 503.9(r), the Permittee is a "person who prepares sewage sludge" because it "is … the person who generates sewage sludge during the treatment of domestic sewage in a treatment works …." If the Permittee contracts with another "person who prepares sewage sludge" under 40 CFR § 503.9(r) – i.e., with "a person who derives a material from sewage sludge" – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of the contractor engaged for that purpose. If the Permittee does not engage a "person who prepares sewage sludge," as defined in 40 CFR § 503.9(r), for use or disposal, then the Permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR § 503.7. If the ultimate use or disposal method is land application, the Permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR § 503 Subpart B.

8. The Permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or

§ 503.48 (incineration)) by February 19 (see also "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). Reports shall be submitted electronically using EPA's Electronic Reporting tool ("NeT") (see "Reporting Requirements" section below).

I. SPECIAL CONDITIONS

1. Best Management Practices (BMP) Plan

   The Permittee, MWRA, shall continue to implement the BMP Plan that was developed as a requirement of the 2000 Permit and approved by EPA and MassDEP. The Plan shall continue to reflect activities at Deer Island, all headworks facilities, all CSO Treatment Facilities, and the sludge pelletizing plant at Fore River. The Permittee shall maintain a copy of the current Plan at DITP.

   Any change in the facility which materially increases the potential for the ancillary activities to result in a release of hazardous or toxic pollutants, the Permittee shall update the BMP Plan. Changes to the BMP Plan shall be submitted to EPA.

2. Pollution Prevention Plan

   a. The Permittee, MWRA, shall update and continue to make available their Household Hazardous Waste booklet in both hard copy and on-line formats. The updates should include information on the sources and proper disposal of Pharmaceuticals and Personal Care Products (PPCPs), PFAS, and microplastics. MWRA shall make this information available on their website and in hard copy, upon request, to all the sewer member communities.

   b. The Permittee, MWRA, shall continue to administer the school curriculum that covers the wastewater treatment process and the importance of individuals keeping the harbor clean by not polluting. The curriculum should be updated to include contaminants of emerging concern (CEC) including PFASs, PPCPs and microplastics.

   c. The Permittee, MWRA, shall continue to provide outreach to schools and community groups concerning the Boston Harbor Cleanup and how they can practice pollution prevention at home through reducing their use of hazardous household products and the proper disposal of HHW and CEC.

3. Best Management Practices for Outfall

The Permittee, MWRA, shall operate Outfall T01 according to the best management practices below:

   a. The outfall shall be maintained to ensure proper operation. Proper operation means that the outfall pipe be intact, operating as designed, and have unobstructed flow.

Maintenance may include dredging in the vicinity of the outfall, removal of solids/debris in the outfall header pipe, and repair/replacement.

b. To determine if maintenance will be required, the Permittee, MWRA, shall inspect and videotape the operation of the outfall either remotely or using a qualified diver or marine contractor. At a minimum, the inspections and videotaping shall be performed once every five years with the first inspection occurring within twelve (12) months of the effective date of the permit. EPA and MassDEP shall be contacted at least seven days prior to a dive inspection.

c. Any necessary maintenance dredging must be performed only during the marine construction season authorized by the Massachusetts Department of Marine Fisheries and only after receiving all necessary permits from the Massachusetts Department of Environmental Protection, U.S. Coast Guard, U.S. Army Corps of Engineers, and other appropriate agencies.

d. Copies of reports summarizing the results of each outfall inspection shall be submit to EPA and MassDEP within 60 days of each inspection. Where it is determined that maintenance will be necessary, the Permittee shall provide the proposed schedule for the maintenance.

e. Attached to its monthly DMR report, the Permittee shall submit a monthly report to EPA that includes (1) ongoing performance of the diffusers as determined by the flow versus hydraulic head relationship, (2) number of risers and ports opened and closed, and (3) information available from any video inspections collected that month.

4. The Permittee, CSO-responsible Co-permittees and Co-permittees shall notify the Massachusetts Division of Marine Fisheries within 4 hours of becoming aware of any emergency condition, plant upset, bypass, SSO discharges or other system failure of the portion of the POTW that they own and operate which has the potential to violate bacteria permit limits and within 24 hours of becoming aware of a permit excursion or plant failure. The notification shall be sent to the following address and telephone number:

Division of Marine Fisheries
Shellfish Management Program
30 Emerson Avenue
Gloucester, MA 01930
(978) 282-0308

5. Pursuant to 40 § CFR 125.123(d)(4), this Permit shall be modified or revoked at any time if, on the basis of any new data, the Director determines that continued discharges may cause unreasonable degradation of the marine environment.

6. Ambient Monitoring Plan

Within 30 days of the effective date of the Permit, the Permittee shall submit a revised Ambient Monitoring Plan to EPA and MassDEP. The Permittee will continue to monitor as required in the 2021 Ambient Monitoring Plan, Revision 2.1[29] until the revised Ambient Monitoring Plan is approved. The plan must comply with applicable local, state and federal regulations and shall consist of the following elements, at a minimum:

a. The Permittee may use elements of Ambient Monitoring Plan, Revision 2.1 as the basis for the revised Plan but focused on Water Column Monitoring requirements outlined below.

b. The Permittee shall also prepare a Quality Assurance Project Plan for the approved Ambient Monitoring Plan for State review and approval.

c. Survey Dates

Unless otherwise specified, surveys shall be conducted 9 times per year according to the following table:

Table 1: Water Column Survey Schedule *from Ambient Monitoring Plan, Revision 2.1.*

When	Target Week	Original Survey Number	Purpose
Early February	6	1	Nutrient conditions near the start of the spring bloom
March	12	3	Spring bloom
Early April	15	4	Capture *Phaeocystis* bloom. Later winter/spring bloom nutrients
Mid-May	20	6	Nutrient/water column conditions at the end of winter/spring, *Alexandrium*
Mid-June	25	7	Early summer stratification and nutrients. Mid-late *Alexandrium* season
Mid-July	30	9	Mid-summer stratification and nutrients
Mid-August	34	11	Mid-summer stratification and nutrients
September	36	12	Nutrients, etc. prior to overturn.
Late October	43	14	Mid-fall bloom nutrients, DO minima, etc.

d. Monitoring Stations

[29]https://www3.epa.gov/region1/npdes/mwra/omsap/pdfs/mwra-amp-rev-2-1-report-2021-08.pdf

The Plan shall include the existing eleven (11) monitoring stations in Massachusetts Bay: F22, N04, N01, N21, N18, N07, F23, F15, F13, F10, and F06 and the existing three (3) monitoring stations in Cape Cod Bay: F29, F02 and F01. (See Ambient Monitoring Plan, Revision 2.1, Tables 3-2 and 3-3.)

e. Monitoring Parameters

The plan shall include the parameters shown below in Tables 2 & 3 (new requirements are in bold). Additional information can be found in MWRA's Quality Assurance Project Plan (QAPP) for Water Column Monitoring 2020-2022, Tasks 4, 5, 6, 7 10.[30]

Table 2: Water Column Parameters in Massachusetts Bay

ANALYTE	DEPTH	PARAMETER
Hydro profile	Downcast data continuous, with upcast data at any sampled depth	Temperature **pH** Salinity Dissolved Oxygen Chlorophyll fluorescence **Turbidity** Transmissometry **PAR**/Irradiance Depth of sensors
Water Chemistry	Five depths. Surface, bottom, and three intermediate depths which includes the chlorophyll maximum	Ammonium Nitrate Nitrite Total dissolved nitrogen Particulate nitrogen Phosphate Total dissolved phosphorus Particulate phosphorus Silicate Particulate carbon
Alexandrium catenella	Two depths	Gene probe
Phytoplankton Zooplankton	Near surface Net Tow for Zooplankton Plankton will not be measured at station N21 because nearfield plankton is adequately characterized by data collected at the	Identification Enumeration

[30] Libby PS, Whiffen-Mansfield AD, Nichols KB, Lescarbeau GR, Borkman DG, Turner JT, 2021, Quality Assurance Project Plan (QAPP) for water column monitoring 2020-2022: Tasks 4-7 and 10, Revision 1. Boston, Massachusetts Water Resources Authority. Report 2021-01. 66p. https://www.mwra.com/harbor/enquad/pdf/2021-01.pdf

ANALYTE	DEPTH	PARAMETER
	other four nearfield stations	

*Table 3:*Water Column Parameters in Cape Cod Bay and Stellwagen NMS

ANALYTE	DEPTH	PARAMETER
Hydro profile	Downcast data continuous, with upcast data at any sampled depth	Temperature **pH** Salinity Dissolved Oxygen Chlorophyll fluorescence Transmissometry PAR/**Irradiance** Depth of sensors
Water Chemistry	Two depths Near surface and near bottom	Ammonium Nitrate + nitrite Phosphate Total Nitrogen Total Phosphorus Extracted chlorophyll
Alexandrium catenella	Two depths	Gene probe
Phytoplankton Zooplankton	Near surface Net tow	Identification Enumeration

f. Harmful algal blooms and nuisance algae

Identify and enumerate the following algal taxa: Alexandrium catenella, Pseudo-nitzschia spp., Dinophysis spp., Phaeocystis pouchetii, Karenia mikimotoi, and Margalefidinium polykrikoides as required in above in Tables 2 and 3.

(1) Alexandrium catenella

Alexandrium catenella shall continue to be enumerated using the gene probe method identified in the AMP, Revision 2.1., page 42 and the QAPP, Table B-4. MWRA shall conduct *Alexandrium* Rapid Response Study (ARRS) following the current *Alexandrium* Rapid Response Study Survey Plan, Revision 1[31] and based on the following one or more of the following scenarios occurring:

[31] Libby PS, Rex AC, Keay KE, Mickelson MJ. 2013. Alexandrium Rapid Response Study Survey Plan. Revision 1. Boston: Massachusetts Water Resources Authority. Report 2013-06. 13 p. https://www.mwra.com/harbor/enquad/pdf/2013-06.pdf

i. MWRA shall begin weekly surveys for *Alexandrium* when information suggests that:

(a) A bloom is present in Massachusetts Bay or imminent.

(b) If *Alexandrium* values exceed 100 cells/L.

(c) If high levels of paralytic shellfish poisoning (PSP) toxicity in blue mussels are reported as defined below:

a. If PSP toxicity in blue mussels at Cohasset, Scituate or Marshfield (MA DMF stations) exceeds 40 µg toxin per 100 g shellfish meat, MWRA will conduct a weekly ARRS survey.

Or

If PSP toxicity in blue mussels exceeds 40 µg at stations between Gloucester, MA and Cape Elizabeth, ME, assume that there is a bloom in the Gulf of Maine. MWRA will evaluate the likelihood that wind and currents will bring the bloom into Massachusetts Bay and staff will use professional judgement to decide whether to begin the weekly ARRS surveys.

(d) MWRA shall monitor data on PSP toxicity results from the following sources:

Maine Department of Marine Resources (ME-DMR)
https://www.maine.gov/dmr/fisheries/shellfish/closures

New Hampshire Fish and Game
https://www.wildlife.state.nh.us/marine/redtide.html

Massachusetts Division of Marine Fisheries (MA-DMF)
https://www.mass.gov/lists/biotoxin-notices#2023-notices-

Northeast PSP Listserver
http://mailman.whoi.edu/mailman/listinfo/northeastpsp

(e) Once MWRA begins an ARRS survey, it will continue weekly sampling for *Alexandrium* until the measured *Alexandrium* abundance decreases below 100 cell/L and the

toxicity data are no longer above closure levels (80 µg STX equiv./100 g).

(f) If an ARRS is commenced, the Permittee shall submit a written report with the monthly DMR occuring 60 days following the completion of the survey.

(2) *Pseudo-nitzschia* spp.

Pseudo-nitzschia shall continue to be identified and enumerated using the screened, rapid-analysis method detailed in the 2021 QAPP[32].

Pseudo-nitzschia abundance shall be reported as all *Pseudo-nitzschia* cells at the genus level regardless of assumed species or cell size, not just *Pseudo-nitzschia pungens* or *Pseudo-nitzschia multiseries* type cells. When comparing *Pseudo-nitzschia* abundance across years, past abundances should be updated to reflect all *Pseudo-nitzschia* spp. cells when the historical monitoring dataset allows.

i. A plankton sample to measure the toxin domoic acid that some species of *Pseudo-nitzschia* produce shall be collected during the routine water column sampling at each monitoring station. This sample shall be collected by passing at least 20 L of surface seawater through a 20 µm plankton net (equipped with a flow meter) or mesh screen (estimated by bucket or carboy volumes) and storing the concentrated sample chilled at 4 °C in the dark (fridge).

These samples shall be tested for the presence or absence of domoic acid using a Scotia Rapid Test, similar method to the Scotia Rapid Test, or liquid chromatography – tandem mass spectrometry, if one of the following are true:

(a) *Pseudo-nitzschia* spp. cell counts at the corresponding station exceed 15,000 *Pseudo-nitzschia* cells/L.

(b) *Pseudo-nitzschia australis* is possibly present in the corresponding station sample at elevated abundance deduced

[32] Libby PS, Whiffen-Mansfield AD, Nichols KB, Lescarbeau GR, Borkman DG, Turner JT, 2021, Quality Assurance Project Plan (QAPP) for water column monitoring 2020-2022: Tasks 4-7 and 10, Revision 1. Boston, Massachusetts Water Resources Authority. Report 2021-01. 66p. https://www.mwra.com/harbor/enquad/pdf/2021-01.pdf

from the presence of over 2,000 cells/L of large *Pseudo-nitzschia* cells equal to or greater than 3 µm in width.

(c) There is a co-occurring shellfish harvest closure due to domoic acid or elevated *Pseudo-nitzschia* cell abundance in Massachusetts Bay.

ii. MWRA shall conduct *Pseudo-nitzschia* Rapid Response Study based on the following one or more of the following scenarios occuring:

(a) MWRA shall begin weekly surveys for *Pseudo-nitzschia* when the information suggests:

(i) If a bloom of *Pseudo-nitzschia* is present in Massachusetts Bay or possibly imminent from observations in waters north of Massachusetts Bay.

(ii) If *Pseudo-nitzschia* spp. cell counts exceed 15,000 cells/L and/or *P. australis* is likely present in samples and domoic acid is present in the 20 µm concentrated sample.

(iii) If domoic acid in blue mussels is over 1 mg toxin per 100 g shellfish meat in Cohasset, Scituate, or Marshfield MA DMF stations.

(iv) If domoic acid in blue mussels is equal to or exceeds 2 mg toxin per 100 g shellfish meat in any MA DMF stations.

(b) MWRA shall assess the availability of a species-specific DNA probe to confirm the presence of the highly toxic and problematic species *Pseudo-nitzschia australis* and, if available, MWRA shall implement this probe into routine water column sampling and *Pseudo-nitzschia* Rapid Response Sampling.

iii. Once a *Pseudo-nitzschia* Rapid Response Study is initiated, it will continue weekly samples until all stations are below 15,000 cells/L and no domoic acid is present through the Rapid Scotia Test or equivalent method.

iv. If a *Pseudo-nitzschia* Rapid Response Study is commenced, the Permittee shall submit a written report with the monthly DMR occurring 60 days following the completion of the survey.

(3) Dinophysis spp.

Dinophysis shall continue to be enumerated as previously described with the routine water column monitoring.

Dinophysis spp. shall be added to list of harmful or nuisance alga of interest reported from the screened, rapid-analysis samples on page 43 of the MWRA QAPP Water Column Monitoring 2020 – 2022.

If cell counts of *Dinophysis* exceeds 100,000 cells/L, then this shall be reported by the Permittee within 45 days with the next monthly DMR.

(4) Phaeocystis pouchetii

Phaeocystis pouchetii shall continue to be enumerated as previously described with the routine water column monitoring.

Phaeocystis pouchetii shall continue to be reported as part of the list of harmful or nuisance alga of interest from the screened, rapid-analysis samples on page 43 of the MWRA QAPP Water Column Monitoring 2020 – 2022.

i. If *Phaeocystis pouchetii* cell counts exceed 6 x 106 cells/L, then this shall be reported by the Permittee within 45 days with the next monthly DMR. If *Phaeocystis pouchetii* cell counts exceed this threshold and there is a subsequent decrease in dissolved oxygen concentrations or nearby foam observed on beaches or other suspected environmental impacts from a *Phaeocystis pouchetii* bloom, then MWRA shall investigate the probable *Phaeocystis pouchetii* bloom further by collecting additional water samples.

(5) Karenia mikimotoi

Karenia mikimotoi shall continue to be enumerated as previously described with the routine water column monitoring.

Karenia mikimotoi shall be added to list of harmful or nuisance alga of interest reported from the screened, rapid-analysis samples on page 43 of the MWRA QAPP Water Column Monitoring 2020 – 2022.

i. If *Karenia mikimotoi* cell counts exceed 10,000 cells/L, then this shall be reported by the Permittee within 45 days with the next monthly DMR. If *Karenia mikimotoi* cell counts exceed this threshold and there is a subsequent decrease in dissolved oxygen concentrations, then MWRA shall investigate the probably *Karenia mikimotoi* bloom further by collecting water samples throughout the water column, including the subsurface chlorophyll maximum and bottom, in order to enumerate the presence of *Karenia mikimotoi* which is able to vertically migrate through the water column.

(6) *Margalefidinium polykrikoides* (formerly known as *Cochlodinium polykrikoides*)

Margalefidinium polykrikoides shall continue to be enumerated as previously described with the routine water column monitoring.

Margalefidinium polykrikoides shall be added to list of harmful or nuisance alga of interest reported from the screened, rapid-analysis samples on page 43 of the MWRA QAPP Water Column Monitoring 2020 – 2022.

i. If *Margalefidinium polykrikoides* cell counts exceed 1,000 cells/L, then this shall be reported by the Permittee within 45 days with the next monthly DMR. If *Margalefidinium polykrikoides* cell counts exceed this threshold and there is a subsequent decrease in dissolved oxygen concentrations, then MWRA shall investigate the probable *Margalefidium polykrikoides* bloom further by collecting water samples throughout the water column, including the subsurface chlorophyll maximum and bottom, in order to enumerate the presence of *Margalefidinium polykrikoides* which is able to vertically migrate through the water column

g. Continuous measurement of biological parameters

MWRA shall track data from the Northeastern Regional Association of Coastal Ocean Observing System (NERACOOS) monitoring buoy off Cape Ann, NERACOOS A01, and the NOAA weather buoy, 44013, just south of the outfall site.

h. Remote sensing

Monitor sea surface temperature and chlorophyll through remote sensing via satellite imagery. Imagery can be used in the synthesis of water column monitoring and interpreting unusual events.

i. Floatables observations

The MWRA should continue floatables observations to ensure that the discharge continues to meet water quality standards for aesthetics.

j. Data Evaluation

Emphasize, identify and quantify trends and emerging issues or threats, trend analyses to receive additional focus including sophisticated analytical methods (e.g., general additive models).

k. Modifications to Ambient Monitoring Plan

By November 15 of each year, the Permittee or any member of the public shall submit a list of any proposed modifications to the ambient monitoring plan to EPA and MassDEP. These modifications shall become effective upon written approval by EPA and the MassDEP.

(1) The Permittee or any member of the public may also propose modifications at any time. Such modifications will become effective thirty (30) days after the Permittee provides written notice to EPA and MassDEP, unless there is written objection from EPA or MassDEP. Such approvals will be effective until EPA and MassDEP take action on the Permittee's or the public's next annual request.

l. Annual Report

The results of all monitoring required by the Ambient Monitoring Plan shall be reported to EPA and MassDEP on an annual basis. Reporting on HABs and nuisance algae shall be reported as an attachment to the monthly DMR 60 days after the survey is concluded. Raw data shall be made available upon request by EPA, MassDEP, NMFS or any member of the public.

m. Special Studies

EPA and/or MassDEP may propose special studies in response to the Water Column Monitoring Results or other concerns in Massachusetts Bay. The special studies shall be specific to the MWRA discharge.

7. Dye studies for CSO Treatment Facilities discharge locations

The Permittee shall conduct a dye study at each of the CSO Treatment Facility discharge locations once during the 5-year permit term to determine the dilution at the point of

discharge during the applicable hydraulic condition in the WQS at 314 CMR 4.03(3). The Permittee should consult with MassDEP as to the applicable hydraulic condition for each discharge location. The completed dye studies must be submitted by MWRA six months before the end of the permit term (concurrent with NPDES application).

J. REPORTING REQUIREMENTS

Unless otherwise specified in this Permit, the Permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

1. Submittal of DMRs Using NetDMR

   The Permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the State electronically using NetDMR no later than the 15th day of the month. When the Permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or the State. NetDMR is accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

2. Submittal of Reports as NetDMR Attachments

   Unless otherwise specified in this Permit, the Permittee and Co-permittees shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. See Part I.J.8. for more information on State reporting. Because the due dates for reports described in this Permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the report due date specified in this Permit.

3. Submittal of Industrial User and Pretreatment Related Reports

   a. Prior to 21 December 2025, all reports and information required of the Permittee in the Industrial Users and Pretreatment Program section of this Permit shall be submitted to the Pretreatment Coordinator in EPA Region 1 Water Division (WD). Starting on 21 December 2025, these submittals must be done electronically as NetDMR attachments and/or using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which will be accessible through EPA's Central Data Exchange at https://cdx.epa.gov/. These requests, reports and notices include:

      (1) Annual Pretreatment Reports,
      (2) Pretreatment Reports Reassessment of Technically Based Industrial Discharge Limits Form,
      (3) Revisions to Industrial Discharge Limits,
      (4) Report describing Pretreatment Program activities, and
      (5) Proposed changes to a Pretreatment Program.

b. This information shall be submitted to EPA WD as a hard copy at the following address:

U.S. Environmental Protection Agency
Water Division
Regional Pretreatment Coordinator
5 Post Office Square - Suite 100 (06-03)
Boston, MA 02109-3912

4. Submittal of Biosolids/Sewage Sludge Reports

By February 19 of each year, the Permittee must electronically report their annual Biosolids/Sewage Sludge Report for the previous calendar year using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which is accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

5. Submittal of Requests and Reports to EPA Water Division (WD)

a. The following requests, reports, and information described in this permit shall be submitted to the NPDES Applications Coordinator in EPA Water Division (WD):

(1) Transfer of permit notice;
(2) Request for changes in sampling location;
(3) Request for reduction in testing frequency;
(4) Report on unacceptable dilution water / request for alternative dilution water for WET testing;
(5) Report of new industrial user commencing discharge; and
(6) Report received from existing industrial user.

b. These reports, information, and requests shall be submitted to EPA WD electronically at R1NPDESReporting@epa.gov.

6. Submittal of Sewer Overflow and Bypass Reports and Notifications

c. The Permittee shall submit required reports and notifications under Part II.B.4.c, for bypasses, and Part II.D.1.e, for sanitary sewer overflows (SSOs) electronically using EPA's NPDES Electronic Reporting Tool ("NeT"), which will be accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

7. State Reporting

Duplicate signed copies of all WET test reports shall be submitted to the Massachusetts Department of Environmental Protection, Division of Watershed Management, at the following address:

Massachusetts Department of Environmental Protection
Bureau of Water Resources
Division of Watershed Management
8 New Bond Street
Worcester, Massachusetts 01606

8. Verbal Reports and Verbal Notifications

   a. Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA and to the State. This includes verbal reports and notifications which require reporting within 24 hours (e.g., Part II.B.4.c.(2), Part II.B.5.c.(3), and Part II.D.1.e).

   b. Verbal reports and verbal notifications shall be made to:

EPA ECAD at 617-918-1510
and
MassDEP Emergency Response at 888-304-1133

K. STATE 401 CERTIFICATION CONDITIONS

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

2. MassDEP has approved a pH Adjustment Demonstration Project. The pH limits in the Permit are 6.0 to 8.5 S.U. and the following requirements must be met based on MassDEP's approval letter:

   - MWRA shall provide ambient pH monitoring both outside the area of discharge influence and within the area of discharge influence to confirm compliance with SWQS.
   - Minimum sampling frequency and duration shall be monthly for a period of six months immediately following the pH limit approval or as otherwise approved by MassDEP.
   - Measurements of pH shall be taken using probes calibrated just prior to each use and at documented and representative locations.
   - Whenever feasible, sampling should be conducted during dry weather conditions (little or no antecedent precipitation). Data shall be submitted to MassDEP's email portal on a monthly basis (wqdata.submit@state.ma.us).
   - Any and all exceedances of SWQS for pH shall be immediately reported to MassDEP via that same email portal.
   - Following the six-month period, MassDEP shall evaluate the submitted data to determine the need for additional monitoring and/or follow up.

3. The Permittee and CSO-responsible Co-permittees must implement their preliminary and final CSO Public Notification Plans as approved by MassDEP and shall meet all other applicable requirements of 314 CMR 16.00.