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**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")], and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Springfield Water and Sewer Commission

is authorized to discharge from a facility located at:

**Springfield Regional Waste Water Treatment Facility
Route 5 Bondi Island
Agawam, MA 01001**

And

Combined Sewer Overflow (CSO) discharges at 24 locations

to receiving waters named: **Connecticut River Segment MA 34-05 (Waste Water Treatment Facility Outfall # 001 and CSO outfalls # 007, 008, 010, 011, 012, 013, 014, 015A, 015B, 016, 018, 042 and 049), Chicopee River Segment MA36-25 (CSO outfalls # 034, 035, 036A, and 037) and Mill River Segment MA34-29 (CSO outfalls # 017, 019, 024, 025, 045, 046, and 048)**

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

The Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham are co-permittees for Part C, Unauthorized Discharges; Part D., Operation and Maintenance, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns; and Part E., Alternate Power Source.

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D. and Part E of this permit. The permittee and each co-permittee are severally liable under Part C, Part D and Part E for their own activities and required reporting with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part C, Part D and Part E committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other permittees under Part C, Part D and Part E. The responsible Town departments are:

Town of Agawam Department of Public Works 1000 Suffield St Agawam, MA 01001	Town of East Longmeadow Department of Public Works 60 Center Square, 2nd Floor East Longmeadow, MA 01028	Town of Longmeadow Department of Public Works 31 Pondsides Road Longmeadow, MA 01106
Town of Ludlow Department of Public Works 198 Sportsmans Road Ludlow, MA 01056	Town of West Springfield Department of Public Works 26 Central Street, Suite 17 West Springfield, MA 01089	Town of Wilbraham Department of Public Works 240 Springfield St. Wilbraham, MA 01095

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This permit will become effective on the first day of the calendar month immediately following sixty days after signature.

* This permit and the authorization to discharge will expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit signed on December 8, 2000.

This permit consists of 25 pages in Part I including effluent limitations and monitoring requirements, **Attachment A (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011)**, **Attachment B (Freshwater Chronic Toxicity Test Procedure and Protocol, April 2013)**, **Attachment C (Reassessment of Technically Based Industrial Discharge Limits)**, **Attachment D (NPDES Permit Requirement for Industrial Pretreatment Annual Report)**, **Attachment E (Allowable Total Nitrogen Load Increases)**, and **Part II** (21 pages including NPDES Part II Standard Conditions).

Signed this day of

Ken Moraff, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Lealdon Langley, Director
Massachusetts Wetlands and Wastewater Programs
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

* Pursuant to 40 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.

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PART I

A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number **001** to the Connecticut River. Such discharges shall be limited and monitored by the permittee as specified below. A bypass of secondary treatment is allowed when wet weather influent flow exceeds the wet weather capacity of the secondary treatment.

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement ^{*4}	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Effluent Flow ^{*2, *3}	MGD	67	—	Report	Continuous	Recorder
BOD ₅ ^{*5}	mg/l lbs/day	30 16,763	45 25,145	Report Report	1/Day 1/Day	24-Hour Composite ^{*6} 24-Hour Composite ^{*6}
TSS ^{*5}	mg/l lbs/day	30 16,763	45 25,145	Report Report	1/Day 1/Day	24-Hour Composite ^{*6} 24-Hour Composite ^{*6}
pH Range ^{*1}	Standard Units	6.5 – 8.3 (See Permit Part I.A.1.b.)			1/Day	Grab
<i>Escherichia coli</i> ^{*1, *7} (April 1 - October 31)	cfu/100 ml	126	—	409	5/Week	Grab
Total Residual Chlorine ^{*1, *8}	mg/l	0.26	—	0.46	5/Week	Grab

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Part I.A.1. (Continued)

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement ⁴	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Ammonia Nitrogen, Total	mg/l lbs/day	Report Report	— —	Report Report	1/Week 1/Week	24-Hour Composite ^{*6} 24-Hour Composite ^{*6}
Nitrogen, Total ^{*9}	mg/l lbs/day	Report 2,534	— —	Report —	1/Week 1/Week	24-Hour Composite ^{*6} 24-Hour Composite ^{*6}
Nitrite+Nitrate, Total	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite ^{*6} 24-Hour Composite ^{*6}
Kjeldahl Nitrogen, Total	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite ^{*6} 24-Hour Composite ^{*6}
Whole Effluent Toxicity ^{*10, *11, *12, *13}	%	Acute	LC ₅₀	≥ 100%	4/Year	24-Hour Composite ^{*6}
Hardness ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}
Ammonia Nitrogen as N ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}
Total Recoverable Aluminum ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}
Total Recoverable Cadmium ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}
Total Recoverable Copper ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}
Total Recoverable Nickel ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}
Total Recoverable Lead ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}
Total Recoverable Zinc ^{*13}	mg/l	Report			4/Year	24-Hour Composite ^{*6}

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Footnotes:

- *1. Required for State Certification.
- *2. Report annual average, monthly average, and the maximum daily flow. The limit is an annual average, which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.
- *3. The following information shall be reported and submitted as an attachment to the monthly DMRs for each day there was a bypass of secondary treatment: date and time of initiation, total influent flow at time of initiation, date and time of termination, total influent flow at time of termination, total duration of flow, and total volume of flow. A bypass of secondary treatment also is subject to the requirements of Part II.B.4.c. and Part II.D.1.e. of this permit.

Flows shall be measured using a meter.

The permittee shall not accept septage during any calendar day in which a bypass of secondary treatment is anticipated.

Monitoring Location	Date and Time of Initiation of Flow	Influent Flow at Time of Initiation (MGD)	Date and Time of Termination of Flow	Influent Flow at Time of Termination (MGD)	Total Duration of Flow (Hours)	Total Volume of Flow (MGD)
Secondary Bypass ^a						

^aFlows shall be measured using a meter.

- *4. All required effluent samples shall be collected at a representative point following treatment and the comingling of secondary effluent with flows which bypass secondary treatment. Bacteria and TRC samples shall be collected after exiting the chlorine contact chamber.

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 in correspondence appended to the applicable discharge monitoring report. Any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP.

All samples shall be tested using the analytical methods found in 40 CFR § 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR § 136.

- *5. Sampling is required for influent and effluent.

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- *6. A 24-hour composite sample will consist 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 proportionally to flow.
- *7. The monthly average limit for *Escherichia coli* (*E. coli*) is expressed as a geometric mean. *E. coli* monitoring shall be conducted concurrently with a total residual chlorine sample.
- *8. Total residual chlorine monitoring is required whenever chlorine is added to the treatment process (i.e. TRC sampling is not required if chlorine is not added for disinfection or other purpose). The limitations are in effect year-round. For months when chlorine is not added to the treatment system a no data indicator (NODI) of C shall be reported on the monthly discharge monitoring report.

The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 20 ug/l, the compliance level will be the ML. Sampling results less than the detection limit shall be reported as “≤ [detection limit]” on the Discharge Monitoring Report.

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.

- *9. **Report monthly average and maximum daily total nitrogen concentration in mg/L and the annual average and monthly average total nitrogen mass loading in lbs/day. The limit is an annual average mass loading limit (lbs/day), which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average total nitrogen for the reporting month and the monthly average total nitrogen of the previous eleven months.**

Upon the completion and documentation of each currently planned combined sewer overflow project, the permittee may request an incremental increase in the total nitrogen mass loading limit. The maximum allowable net increase for each project is listed in Attachment E. The request must be made in writing to EPA and MassDEP and shall include certification by a licensed civil engineer that the project has been completed as described in the Springfield Water and Sewer Commission’s (“SWSC”) 2014 Integrated Wastewater Plan (which incorporates the Long Term Control Plan) and is fully operational. Any variations in the project from that described in the SWSC’s 2014 Integrated Wastewater Plan shall be identified and described in sufficient detail for EPA to determine the effect on the total nitrogen mass loading limit.

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See Part 1.H. SPECIAL CONDITIONS for requirements regarding optimization for nitrogen removal.

- *10. The permittee shall conduct acute toxicity tests four times per year. The permittee shall test the daphnid, *Ceriodaphnia dubia*, only. Toxicity test samples shall be collected during the same week each time during the months of March, June, September and December. The test results shall be submitted by the last day of the month following the completion of the test. The results are due April 30th, July 31st, October 31st, and January 31st, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachments A and B** of this permit.

Test Dates during the month of:	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
March June September December	April 30 July 31 October 31 January 31	<i>Ceriodaphnia dubia</i> (Daphnid)	≥ 100%	Report

- *11. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
- *12. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachments A and B, Section IV., DILUTION WATER**, in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachments A and B**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. This guidance is found in Attachment G of the NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs) which is sent to all permittees with their annual set of DMRs and may also be found on the EPA, Region I web site at <https://netdmr.zendesk.com/hc/en-us/articles/209616266-EPA-Region-1-NetDMR-Information>. If this guidance is revoked, the permittee shall revert to obtaining individual approval as outlined in **Attachments A and B**. Any modification or revocation to this guidance shall be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachments A and B**. If the permittee uses an alternative dilution water, the ambient water will still need to be tested.
- *13. For each whole effluent toxicity test the permittee shall report on the appropriate discharge monitoring report, (DMR), the concentrations of the hardness, ammonia nitrogen as nitrogen, total recoverable aluminum, cadmium, copper, lead, nickel, and zinc found in the 100 percent effluent sample. All these

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aforementioned chemical parameters shall be determined to at least the minimum quantification level shown in **Attachments A and B**. Also, the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

Part I.A.1. (Continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 Standard Units (S.U.) at any time.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.
- e. The permittee's treatment facility will maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and no snow melt. The percent removal shall be calculated as a monthly average using the influent and effluent BOD₅ and TSS values collected during dry weather days.
- f. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
- g. The results of sampling for any parameter analyzed in accordance with EPA approved methods above its required frequency must also be reported.
- h. If the average annual flow in any calendar year exceeds 80 percent of the facility's design flow [80% x 67 MGD= 54 MGD], the permittee shall submit a report to MassDEP by **April 30** of the following calendar year describing its plans for further flow increases and describing how it will maintain compliance with the effluent flow limit and all other effluent limitations and conditions.

2. All POTWs must provide adequate notice to the Director of the following:

- a. Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; 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 will include information on:
 - (1) the quantity and quality of effluent introduced into the POTW; and

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

3. Prohibitions Concerning Interference and Pass Through:

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

4. Toxics Control

- a. The permittee will not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent will not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

5. Numerical Effluent Limitations for Toxicants

- a. EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. COMBINED SEWER OVERFLOWS (CSOs)

1. Effluent Limitations

During wet weather, the permittee is authorized to discharge storm water/wastewater from the CSO outfalls listed below:

Outfall No.	Location	Latitude	Longitude
To Connecticut River			
007	Rowland St.	42° 12'N	72° 62'W
008	Washburn St. 4	42° 11'N	72° 62'W
010	Clinton St.	42° 10'N	72° 60'W
011	Liberty St.	42° 10'N	72° 59'W
012	Worthington St.	42° 10'N	72° 59'W
013	Bridge St.	42° 10'N	72° 59'W
014	Elm St.	42° 10'N	72° 59'W
015A	Union St.	42° 10'N	72° 59'W
015B	Union St.	42° 10'N	72° 59'W
016	York St.	42° 09'N	72° 59'W

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018	Longhill St.	42° 06'N	72° 58'W
049	Springfield St.	42° 10'N	72° 62'W
042	Bondi Island		

To Chicopee River

034	Main St.	42° 16'N	72° 51'W
035	Front & Oak Sts.	42° 16'N	72° 50'W
036A	Pinevale & Water Sts.	42° 16'N	72° 50'W
037	Cedar St. 4	42° 16'N	72° 50'W

To Mill River

017	Fort Pleasant (Blake Hill)	42° 09'N	72° 58'W
019	Mill, Orange, & Locust Sts.	42° 09'N	72° 57'W
024	Rifle & Central Sts.	42° 10'N	72° 56'W
025	Allen & Oakland Sts.	42° 10'N	72° 56'W
045	Fort Pleasant Ave.	42° 06'N	72° 58'W
046	Belmont St.	42° 06'N	72° 58'W
048	Allen & Rifle Sts.	42° 10'N	72° 56'W

2. The effluent discharged from these CSOs is subject to the following limitations:
- a. 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 Minimum Implementation Levels which are detailed further in Part I.B.3. are requirements of this permit.
- (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows;
 - (2) Maximum use of the collection system for storage;
 - (3) Review and modification of the pretreatment program to assure CSO impacts are minimized;
 - (4) Maximization of flow to the POTW for treatment;
 - (5) Prohibition of dry weather overflows from CSOs;
 - (6) Control of solid and floatable materials in CSOs;

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- (7) Pollution prevention programs that focus on contaminant reduction activities;
- (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts;
- (9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

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

3. Nine Minimum Controls Minimum Implementation Levels

- a. The permittee must implement the nine minimum controls in accordance with the documentation provided to EPA and MassDEP or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the following controls plus other controls the permittee can reasonably undertake as set forth in the documentation.
- b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that they are in good working condition and adjusted to minimize combined sewer discharges (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain all records of inspections for at least three years.

Annually, no later than April 30th, the permittee 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.

MassDEP and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the permittee.

- c. 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 discharges may be active (NMC # 3, 6, and 7).
- c. Dry weather overflows (DWOs) are prohibited (NMC # 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and MassDEP orally within 24 hours of the time the permittee becomes aware of the circumstances and a written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. See also Paragraph D.1.e of Part II of this permit.
- d. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC # 9).

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Quantification shall be through direct measurement. The following information must be recorded for each combined sewer outfall for each discharge event, as set forth in Part I.B.4.:

- Duration (hours) of discharge;
- Volume (gallons) of discharge;
- National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

- f. The permittee 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 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:

SPRINGFIELD WATER AND SEWER COMMISSION
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

Where easements over property not owned by the permittee must be obtained to meet this requirement, the permittee shall identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

The permittee, to the extent feasible, shall place additional signs in Spanish or add a universal wet weather sewage discharge symbol to existing signs.

g. Public Notification Plan

- 1. Within 180 days of the effective date of the permit, the permittee shall submit to EPA and MassDEP a Public Notification Plan describing the measures that will be taken to meet NMC#8 in Part I.B.2. of this permit (NMC #8). The public notification plan shall include the means for disseminating information to the public, including communicating the initial and supplemental notifications required in Part I.B.3.g.2. and 3 of this permit, as well as procedures for communicating with public health departments and any other potentially affected entities, including downstream communities, whose waters may be affected by discharges from the Permittee's CSOs.**
- 2. Initial notification of a probable CSO activation shall be provided to the public and any other potentially affected party as soon as practicable, but no later than, two (2) hours after becoming aware by monitoring, modeling or other means that a CSO**

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discharge has occurred. Notification may be made through electronic means, including posting to the Permittee's website. The initial notification shall include the following information:

**Date and time of probable CSO discharge
CSO number and location**

- 3. Supplemental notification shall be provided to the public and any other potentially affected party as soon as practicable, but no later than, twenty-four (24) hours after becoming aware of the termination of any CSO discharge(s). Notification may be made through electronic means, including posting to the Permittee's website. The supplemental notification shall include the following information:**

**CSO number and location
Confirmation of CSO discharge
Total volume discharged from the CSO
Date, start time and stop time of the CSO discharge**

- 4. Annual notification - Annually, by April 30th, the permittee shall post information on the locations of CSOs, a summary of CSO activations and volumes, status and progress of CSO abatement work, and contacts for additional information on CSOs and water quality on a website. This information shall be disseminated through the means identified in the Public Notification Plan that is submitted in accordance with Part I.B.3.g.1. of this permit.**

The Public Notification Plan shall be implemented no later than 180 days following the effective date of the permit. The initial, supplemental, and annual public notification requirements shall become effective 180 days following the effective date of the permit.

4. Nine Minimum Controls Reporting Requirement

Annually, no later than April 30th, the permittee shall submit a report summarizing activities during the previous calendar year relating to compliance with the nine minimum controls including the required information on the number of activations for each CSO as well as the volume of each discharge from each CSO.

5. Combined Sewer Outfalls

For each combined sewer outfall (CSO outfalls #007, 008, 010, 011, 012, 013, 014, 015A, 015B, 016, 018, 042, 049, 034, 035, 036A, 037 017, 019, 024, 025, 045, 046, and 048), the permittee must monitor and report the following information in each monthly DMR.

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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)	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 provide 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 must still complete the monthly DMR with the appropriate no discharge (NODI) code for each outfall.

C. UNAUTHORIZED DISCHARGES

The permittee and co-permittees are authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in Part I.A.1. and Part I.B.1 of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Part II.D.1.e. (1) of the General Requirements of this permit (Twenty-four-hour reporting).

Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes MassDEP Regional Office telephone numbers). The reporting form and instructions for its completion may be found online at <http://www.mass.gov/eea/agencies/massdep/service/approvals/sanitary-sewer-overflow-bypass-backup-notification.html>.

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the collection system owned and operated respectively by the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D and Part E of this permit. Each of the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall only be responsible under Part II, Part C, Part D and Part E of this permit for only its own

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infrastructure, activities and required reporting with respect to the portions of the collection system that each owns or operates.

Operation and maintenance of that portion of the collection system and the entirety of the treatment system owned and operated by the Springfield Water and Sewer Commission shall be in compliance with the terms and conditions of Part C, Part D and Part E of this permit and the General Requirements of Part II. The Springfield Water and Sewer Commission shall only be responsible under Part C, Part D and Part E of this permit and the General Requirements of Part II for its own infrastructure, activities and required reporting with respect to the portion of the collection and treatment system that it owns or operates. No Permittee shall be responsible for violations of Part C, Part D and Part E 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 each co-permittee are required to complete the following activities for the respective portions of the collection system which they operate:

1. Maintenance Staff

The permittee and co-permittees shall each 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. Provisions to meet this requirement will be described in the Collection System O & M Plan required pursuant to Section D.5. below.

2. Preventative Maintenance Program

The permittee and co-permittees shall each will maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program will include an inspection program designed to identify all potential and actual unauthorized discharges. Plans and programs to meet this requirement will be described in the Collection System O & M Plan required pursuant to Section D.5. below.

3. Infiltration/Inflow:

The permittee and co-permittees shall each 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 Collection System O & M Plan required pursuant to Section D.5. below.

4. Collection System Mapping

Within 30 months of the effective date of this permit, the permittee and co-permittees shall each prepare a map of each sewer collection system it owns (see page 1 of this permit for the effective date). The map shall be on a street map of the community, with sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current

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conditions and shall be kept up to date and available for review by federal, state, or local agencies. Such map(s) shall include, but not be limited to the following:

- a. All sanitary sewer lines and related manholes;
- b. All combined sewer lines, related manholes, and catch basins;
- c. All combined sewer regulators and any known or suspected connections between the sanitary sewer and storm drain systems (e.g. combination manholes);
- d. All outfalls, including the treatment plant outfall(s), CSOs, and any known or suspected SSOs, including stormwater outfalls that are connected to combination manholes;
- e. All pump stations and force mains;
- f. The wastewater treatment facility(ies);
- g. All surface waters (labeled);
- h. Other major appurtenances such as inverted siphons and air release valves;
- i. A numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;
- j. The scale and a north arrow; and
- k. The pipe diameter, date of installation, type of material, distance between manholes, interconnections with collection systems owns by other entities, and the direction of flow.

5. Collection System Operation and Maintenance Plan

The permittee and co-permittees shall each develop and implement a Collection System Operation and Maintenance Plan.

- a. **Within six (6) months of the effective date of the permit**, the permittee and co-permittees shall each submit to EPA and MassDEP:
 - (1) A description of the collection system management goal, staffing, information management, and legal authorities;
 - (2) 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 all recent studies and construction activities; and
 - (3) A schedule for the development and implementation of the full Collection System O & M Plan including the elements in paragraphs b.1. through b.8. below.
- b. The full Collection System O & M Plan shall be completed, implemented, and submitted to EPA and MassDEP **within twenty-four (24) months from the effective date of the permit**. The Plan shall include:
 - (1) The required submittal from paragraph 5.a. above, update to reflect current information;
 - (2) A preventative maintenance and monitoring program for the collection system;

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- (3) Description of sufficient staffing necessary to properly operate and maintain the sanitary sewer collection system and how the operation and maintenance program is staffed;
- (4) Description of funding, the source(s) of funding and provisions for funding sufficient for implementing the plan;
- (5) 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;
- (6) A description of the 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;
- (7) An educational public outreach program for all aspects of I/I control, particularly private inflow; and
- (8) An Overflow Emergency Response Plan to protect public health from overflows and unanticipated bypasses or upsets that exceed any effluent limitation in the permit.

6. Annual Reporting Requirement

The permittee and co-permittees shall each submit a summary report of activities related to the implementation of its Collection System O & M Plan during the previous calendar year. The report shall be submitted to EPA and MassDEP **annually by April 30**. 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. If treatment plant flow has reached 80% of its design flow [53.6 mgd] based on the annual average flow during the reporting year, or there have been capacity related overflows, submit a calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year; and
- f. 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

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Unauthorized Discharges section of this permit.

E. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee and co-permittees shall provide an alternate power source with which to sufficiently operate the wastewater facility, as defined at 40 CFR § 122.2, which references the definition at 40 CFR § 403.3(q).

F. 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 Part 503, which prescribe “Standards for the Use or Disposal of Sewage Sludge” pursuant to Section 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
 - c. Sewage sludge incineration - the placement of sewage sludge 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 including the following elements:
 - General requirements
 - Pollutant limitations
 - Operational Standards (pathogen reduction and vector attraction reduction requirements)
 - Management practices
 - Record keeping
 - Monitoring
 - 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

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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.¹

6. The sludge shall be monitored for pollutant concentrations (all Part 503 methods) and pathogen 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.

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	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 Part 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 19th** (*see also* “EPA Region 1 - NPDES Permit Sludge Compliance Guidance”). 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* “Monitoring and Reporting” section below). If the permittee engages a contractor or contractors for sludge preparation and ultimate use or disposal, the annual report need contain only the following information:
- Name and address of contractor(s) responsible for sludge preparation, use or disposal
 - Quantity of sludge (in dry metric tons) from the POTW that is transferred to the sludge contractor(s), and the method(s) by which the contractor will prepare and use or dispose of the sewage sludge.

¹ This guidance document is available upon request from EPA Region 1 and may also be found at: <http://www.epa.gov/region1/npdes/permits/generic/sludgeguidance.pdf>

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G. INDUSTRIAL USERS AND PRETREATMENT PROGRAM

1. 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 120 days of the effective date of this permit, the permittee shall prepare and submit a written technical evaluation to the 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 C – 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).
2. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 CFR Part 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):
 - a. Carry out inspection, surveillance, and monitoring procedures 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.
 - b. Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.
 - c. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.
 - d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
3. The permittee shall provide the EPA and MassDEP 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 403.12(i). The annual report shall be consistent with the format described in **Attachment**

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D (NPDES Permit Requirement for Industrial Pretreatment Annual Report) of this permit and shall be submitted no later than **March 31st** of each year.

4. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR § 403.18(c).
5. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 CFR Part 405 et. seq.
6. The permittee must modify its pretreatment program, if necessary, to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the industrial pretreatment program. The permittee must provide EPA, in writing, within 180 days of this permit's effective date proposed changes, if applicable, to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending EPA Region I's approval under 40 CFR § 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.E.1.

H. SPECIAL CONDITIONS

1. Nitrogen
 - a. **The Permittee shall continue to optimize the treatment facility operations relative to total nitrogen (“TN”) removal through continued ammonia removal, maximization of solids retention time while maintaining compliance with BOD5 and TSS limits, and/or other operational changes designed to enhance the removal of nitrogen.**
 - b. **The permittee shall submit an annual report to EPA and the MassDEP by February 1st of each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous calendar year. The report shall also include all supporting data.**
 - c. **Annually, no later than April 30th**, the permittee shall submit a report evaluating the impact of CSO abatement projects on nitrogen loads discharged from the WWTF. The report shall include a comparison of 2012-2016 conditions with conditions as of the date of the report with respect to the volume of sanitary sewage and of stormwater discharged through CSOs and through the WWTF. The report shall also include the expected change in volume and nitrogen load from the WWTF from sanitary sewage and stormwater flows in connection with CSO mitigation projects not included in the analysis of conditions as of the report date, but expected to be completed within the following five years.

I. MONITORING AND REPORTING

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The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 CFR Part 136 are required unless other procedures are explicitly required in the permit. The Permittee is obligated to monitor and report sampling results to EPA and the MassDEP within the time specified within the permit.

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

The permittee may consolidate reporting information which are on similar reporting schedules, in order to reduce or eliminate redundancy.

1. Submittal of DMRs Using NetDMR

The permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and MassDEP no later than the 15th day of the month electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or MassDEP.

2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. Permittees shall continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. (See Part I.E.5. 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.

3. Submittal of Pre-treatment Related Reports

All reports and information required of the permittee in the Industrial Users and Pretreatment Program section of this permit shall be submitted to the Office of Ecosystem Protection's Pretreatment Coordinator in Region 1 EPA's Office of Ecosystem Protection (OEP). These requests, reports and notices include:

- A. Annual Pretreatment Reports,
- B. Pretreatment Reports Reassessment of Technically Based Industrial Discharge Limits Form,
- C. Revisions to Industrial Discharge Limits,
- D. Report describing Pretreatment Program activities, and
- E. Proposed changes to a Pretreatment Program

This information shall be submitted to EPA/OEP as a hard copy at the following address:

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**U.S. Environmental Protection Agency
Office of Ecosystem Protection
Regional Pretreatment Coordinator
5 Post Office Square - Suite 100 (OEP06-03)
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 found on the internet at <https://www.epa.gov/compliance/npdes-ereporting>.

5. Submittal of Requests and Reports to EPA/OEP

The following requests, reports, and information described in this permit shall be submitted to the EPA/OEP NPDES Applications Coordinator in the EPA Office Ecosystem Protection (OEP).

- A. Transfer of Permit notice
- B. Request for changes in sampling location
- C. Request for reduction in testing frequency
- D. Request for reduction in WET testing requirement
- E. Report on unacceptable WET dilution water / request for alternative dilution water.

These reports, information, and requests shall be submitted to EPA/OEP electronically at R1NPDESNotices.OEP@epa.gov or by hard copy mail to the following address:

**U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP NPDES Applications Coordinator
5 Post Office Square – Suite 100 (OEP06-03)
Boston, MA 02109-3912**

6. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to EPA.

- A. Written notifications required under Part II
- B. Notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting
- C. CSO Public Notification Plan
- D. Collection System Operation and Maintenance Plan
- E. Report on annual activities related to O&M Plan

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This information shall be submitted to EPA/OES at the following address:

**U.S. Environmental Protection Agency
Office of Environmental Stewardship (OES)
Water Technical Unit
5 Post Office Square, Suite 100 (OES04-SMR)
Boston, MA 02109-3912**

7. State Reporting

Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.F.3., I.F.4. and I.F.5. also shall be submitted to the State at the following addresses:

**MassDEP – Western Region
Bureau of Water Resources
436 Dwight Street, Suite 402
Springfield, MA 01103**

Copies of toxicity tests and nitrogen optimization reports only shall be submitted to:

**Massachusetts Department of Environmental Protection
Watershed Planning Program
8 New Bond Street
Worcester, MA 01606**

6. Verbal Reports and Verbal Notifications

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 MassDEP. This includes verbal reports and notifications which require reporting within 24 hours. (As examples, see Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.) Verbal reports and verbal notifications shall be made:

EPA's Office of Environmental Stewardship: 617-918-1510

and to

MassDEP's Emergency Response: 888-304-1133.

J. STATE PERMIT CONDITIONS

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are: (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33

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U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§26-53, and 314 CMR 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

2. This authorization also incorporates the state water quality certification issued by MassDEP under §401(a) of the Federal Clean Water Act, 40 CFR 124.53, M.G.L.c.21, §27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.
3. Each Agency will have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit will be effective only with respect to the Agency taking such action, and will not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit will remain in full force and effect under Federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit will remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

Attachment A

USEPA Region I Freshwater Acute Toxicity Test Procedure and Protocol

Attachment A

USEPA - Clean Environment Action Plan for the Pacific and Caribbean

USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

The permittee shall conduct acceptable acute toxicity tests in accordance with the appropriate test protocols described below:

- **Daphnid (Ceriodaphnia dubia) definitive 48 hour test.**
- **Fathead Minnow (Pimephales promelas) definitive 48 hour test.**

Acute toxicity test data shall be reported as outlined in Section VIII.

II. METHODS

The permittee shall use 40 CFR Part 136 methods. Methods and guidance may be found at:

http://water.epa.gov/scitech/methods/cwa/wet/disk2_index.cfm

The permittee shall also meet the sampling, analysis and reporting requirements included in this protocol. This protocol defines more specific requirements while still being consistent with the Part 136 methods. If, due to modifications of Part 136, there are conflicting requirements between the Part 136 method and this protocol, the permittee shall comply with the requirements of the Part 136 method.

III. SAMPLE COLLECTION

A discharge sample shall be collected. Aliquots shall be split from the sample, containerized and preserved (as per 40 CFR Part 136) for chemical and physical analyses required. The remaining sample shall be measured for total residual chlorine and dechlorinated (if detected) in the laboratory using sodium thiosulfate for subsequent toxicity testing. (Note that EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection.) Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

Standard Methods for the Examination of Water and Wastewater describes dechlorination of samples (APHA, 1992). Dechlorination can be achieved using a ratio of 6.7 mg/L anhydrous sodium thiosulfate to reduce 1.0 mg/L chlorine. If dechlorination is necessary, a thiosulfate control (maximum amount of thiosulfate in lab control or receiving water) must also be run in the WET test.

All samples held overnight shall be refrigerated at 1- 6°C.

IV. DILUTION WATER

A grab sample of dilution water used for acute toxicity testing shall be collected from the receiving water at a point immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. In the case where an alternate dilution water has been agreed upon an additional receiving water control (0% effluent) must also be tested.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate standard dilution water of known quality with a hardness, pH, conductivity, alkalinity, organic carbon, and total suspended solids similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. Written requests for use of an alternate dilution water should be mailed with supporting documentation to the following address:

Director
Office of Ecosystem Protection (CAA)
U.S. Environmental Protection Agency-New England
5 Post Office Sq., Suite 100 (OEP06-5)
Boston, MA 02109-3912

and

Manager
Water Technical Unit (SEW)
U.S. Environmental Protection Agency
5 Post Office Sq., Suite 100 (OES04-4)
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

See the most current annual DMR instructions which can be found on the EPA Region 1 website at <http://www.epa.gov/region1/enforcement/water/dmr.html> for further important details on alternate dilution water substitution requests.

It may prove beneficial to have the proposed dilution water source screened for suitability prior to toxicity testing. EPA strongly urges that screening be done prior to set up of a full definitive toxicity test any time there is question about the dilution water's ability to support acceptable performance as outlined in the 'test acceptability' section of the protocol.

V. TEST CONDITIONS

The following tables summarize the accepted daphnid and fathead minnow toxicity test conditions and test acceptability criteria:

**EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE
DAPHNID, CERIODAPHNIA DUBIA 48 HOUR ACUTE TESTS¹**

1.	Test type	Static, non-renewal
2.	Temperature (°C)	20 ± 1°C or 25 ± 1°C
3.	Light quality	Ambient laboratory illumination
4.	Photoperiod	16 hour light, 8 hour dark
5.	Test chamber size	Minimum 30 ml
6.	Test solution volume	Minimum 15 ml
7.	Age of test organisms	1-24 hours (neonates)
8.	No. of daphnids per test chamber	5
9.	No. of replicate test chambers per treatment	4
10.	Total no. daphnids per test concentration	20
11.	Feeding regime	As per manual, lightly feed YCT and <u>Selenastrum</u> to newly released organisms while holding prior to initiating test
12.	Aeration	None
13.	Dilution water ²	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q ^R or equivalent deionized water and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14.	Dilution series	≥ 0.5, must bracket the permitted RWC
15.	Number of dilutions	5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution

	series.
16. Effect measured	Mortality-no movement of body or appendages on gentle prodding
17. Test acceptability	90% or greater survival of test organisms in dilution water control solution
18. Sampling requirements	For on-site tests, samples must be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must first be used within 36 hours of collection.
19. Sample volume required	Minimum 1 liter

Footnotes:

1. Adapted from EPA-821-R-02-012.
2. Standard prepared dilution water must have hardness requirements to generally reflect the characteristics of the receiving water.

**EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW
(PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST¹**

1. Test Type	Static, non-renewal
2. Temperature (°C)	20 ± 1 ° C or 25 ± 1°C
3. Light quality	Ambient laboratory illumination
4. Photoperiod	16 hr light, 8 hr dark
5. Size of test vessels	250 mL minimum
6. Volume of test solution	Minimum 200 mL/replicate
7. Age of fish	1-14 days old and age within 24 hrs of each other
8. No. of fish per chamber	10
9. No. of replicate test vessels per treatment	4
10. Total no. organisms per concentration	40
11. Feeding regime	As per manual, lightly feed test age larvae using concentrated brine shrimp nauplii while holding prior to initiating test
12. Aeration	None, unless dissolved oxygen (D.O.) concentration falls below 4.0 mg/L, at which time gentle single bubble aeration should be started at a rate of less than 100 bubbles/min. (Routine D.O. check is recommended.)
13. dilution water ²	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q ^R or equivalent deionized and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14. Dilution series	≥ 0.5, must bracket the permitted RWC

- | | |
|----------------------------|--|
| 15. Number of dilutions | 5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series. |
| 16. Effect measured | Mortality-no movement on gentle prodding
90% or greater survival of test organisms in dilution water control solution |
| 17. Test acceptability | |
| 18. Sampling requirements | For on-site tests, samples must be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples are used within 36 hours of collection. |
| 19. Sample volume required | Minimum 2 liters |

Footnotes:

1. Adapted from EPA-821-R-02-012
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.

VI. CHEMICAL ANALYSIS

At the beginning of a static acute toxicity test, pH, conductivity, total residual chlorine, oxygen, hardness, alkalinity and temperature must be measured in the highest effluent concentration and the dilution water. Dissolved oxygen, pH and temperature are also measured at 24 and 48 hour intervals in all dilutions. The following chemical analyses shall be performed on the 100 percent effluent sample and the upstream water sample for each sampling event.

<u>Parameter</u>	Effluent	Receiving Water	ML (mg/l)
Hardness ¹	x	x	0.5
Total Residual Chlorine (TRC) ^{2, 3}	x		0.02
Alkalinity	x	x	2.0
pH	x	x	--
Specific Conductance	x	x	--
Total Solids	x		--
Total Dissolved Solids	x		--
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
Total Metals			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

Notes:

- Hardness may be determined by:
 - APHA Standard Methods for the Examination of Water and Wastewater, 21st Edition
 - Method 2340B (hardness by calculation)
 - Method 2340C (titration)
- Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.
 - APHA Standard Methods for the Examination of Water and Wastewater, 21st Edition
 - Method 4500-CL E Low Level Amperometric Titration
 - Method 4500-CL G DPD Colorimetric Method
- Required to be performed on the sample used for WET testing prior to its use for toxicity testing.

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Karber
- Trimmed Spearman-Karber
- Graphical

See the flow chart in Figure 6 on p. 73 of EPA-821-R-02-012 for appropriate method to use on a given data set.

No Observed Acute Effect Level (NOAEL)

See the flow chart in Figure 13 on p. 87 of EPA-821-R-02-012.

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

- Description of sample collection procedures, site description
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis on chain-of-custody
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended. Reference toxicant test data should be included.
- All chemical/physical data generated. (Include minimum detection levels and minimum quantification levels.)
- Raw data and bench sheets.
- Provide a description of dechlorination procedures (as applicable).
- Any other observations or test conditions affecting test outcome.

Attachment B

Freshwater Chronic Toxicity Test Procedure and Protocol

EXHIBIT T

EXHIBIT T

**FRESHWATER CHRONIC
TOXICITY TEST PROCEDURE AND PROTOCOL
USEPA Region 1**

I. GENERAL REQUIREMENTS

The permittee shall be responsible for the conduct of acceptable chronic toxicity tests using three fresh samples collected during each test period. The following tests shall be performed as prescribed in Part 1 of the NPDES discharge permit in accordance with the appropriate test protocols described below. (Note: the permittee and testing laboratory should review the applicable permit to determine whether testing of one or both species is required).

- **Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test.**
- **Fathead Minnow (Pimephales promelas) Larval Growth and Survival Test.**

Chronic toxicity data shall be reported as outlined in Section VIII.

II. METHODS

Methods to follow are those recommended by EPA in: Short Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002. United States Environmental Protection Agency, Office of Water, Washington, D.C., EPA 821-R-02-013. The methods are available on-line at <http://www.epa.gov/waterscience/WET/>. Exceptions and clarification are stated herein.

III. SAMPLE COLLECTION AND USE

A total of three fresh samples of effluent and receiving water are required for initiation and subsequent renewals of a freshwater, chronic, toxicity test. The receiving water control sample must be collected immediately upstream of the permitted discharge's zone of influence. Fresh samples are recommended for use on test days 1, 3, and 5. However, provided a total of three samples are used for testing over the test period, an alternate sampling schedule is acceptable. The acceptable holding times until initial use of a sample are 24 and 36 hours for on-site and off-site testing, respectively. A written waiver is required from the regulating authority for any hold time extension. All test samples collected may be used for 24, 48 and 72 hour renewals after initial use. All samples held for use beyond the day of sampling shall be refrigerated and maintained at a temperature range of 0-6° C.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol.

Sampling guidance dictates that, where appropriate, aliquots for the analysis required in this protocol shall be split from the samples, containerized and immediately preserved, or analyzed as per 40 CFR Part 136. EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection. Testing for the presence of total residual chlorine (TRC) must be analyzed immediately or as soon as possible, for all effluent samples, prior to WET testing. TRC analysis may be performed on-site or by the toxicity testing laboratory and the samples must be dechlorinated, as necessary, using sodium thiosulfate prior to sample use for toxicity testing.

If any of the renewal samples are of sufficient potency to cause lethality to 50 percent or more of the test organisms in any of the test treatments for either species or, if the test fails to meet its permit limits, then chemical analysis for total metals (originally required for the initial sample only in Section VI) will be required on the renewal sample(s) as well.

IV. DILUTION WATER

Samples of receiving water must be collected from a location in the receiving water body immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. EPA strongly urges that screening for toxicity be performed prior to the set up of a full, definitive toxicity test any time there is a question about the test dilution water's ability to achieve test acceptability criteria (TAC) as indicated in Section V of this protocol. The test dilution water control response will be used in the statistical analysis of the toxicity test data. All other control(s) required to be run in the test will be reported as specified in the Discharge Monitoring Report (DMR) Instructions, Attachment F, page 2, Test Results & Permit Limits.

The test dilution water must be used to determine whether the test met the applicable TAC. When receiving water is used for test dilution, an additional control made up of standard laboratory water (0% effluent) is required. This control will be used to verify the health of the test organisms and evaluate to what extent, if any, the receiving water itself is responsible for any toxic response observed.

If dechlorination of a sample by the toxicity testing laboratory is necessary a "sodium thiosulfate" control, representing the concentration of sodium thiosulfate used to adequately dechlorinate the sample prior to toxicity testing, must be included in the test.

If the use of an alternate dilution water (ADW) is authorized, in addition to the ADW test control, the testing laboratory must, for the purpose of monitoring the receiving water, also run a receiving water control.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable an ADW of known quality with hardness similar to that of the receiving water may be substituted. Substitution is species specific meaning that the decision to use ADW is made for each species and is based on the toxic response of that particular species. Substitution to an ADW is authorized in two cases. The first is the case where repeating a test due to toxicity in the site dilution water requires an **immediate decision** for ADW use be made by the permittee and toxicity testing laboratory. The second is in the case where two of the most recent documented incidents of unacceptable site dilution water toxicity requires ADW use in future WET testing.

For the second case, written notification from the permittee requesting ADW use and written authorization from the permit issuing agency(s) is required prior to switching to a long-term use of ADW for the duration of the permit.

Written requests for use of ADW must be mailed with supporting documentation to the following addresses:

Director
Office of Ecosystem Protection (CAA)
U.S. Environmental Protection Agency, Region 1
Five Post Office Square, Suite 100
Mail Code OEP06-5
Boston, MA 02109-3912

and

Manager
Water Technical Unit (SEW)
U.S. Environmental Protection Agency
Five Post Office Square, Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

See the most current annual DMR instructions which can be found on the EPA Region 1 website at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> for further important details on alternate dilution water substitution requests.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

Method specific test conditions and TAC are to be followed and adhered to as specified in the method guidance document, EPA 821-R-02-013. If a test does not meet TAC the test must be repeated with fresh samples within 30 days of the initial test completion date.

V.1. Use of Reference Toxicity Testing

Reference toxicity test results and applicable control charts must be included in the toxicity testing report.

If reference toxicity test results fall outside the control limits established by the laboratory for a specific test endpoint, a reason or reasons for this excursion must be evaluated, correction made and reference toxicity tests rerun as necessary.

If a test endpoint value exceeds the control limits at a frequency of more than one out of twenty then causes for the reference toxicity test failure must be examined and if problems are identified corrective action taken. The reference toxicity test must be repeated during the same month in which the exceedance occurred.

If two consecutive reference toxicity tests fall outside control limits, the possible cause(s) for the exceedance must be examined, corrective actions taken and a repeat of the reference toxicity test must take place immediately. Actions taken to resolve the problem must be reported.

V.1.a. Use of Concurrent Reference Toxicity Testing

In the case where concurrent reference toxicity testing is required due to a low frequency of testing with a particular method, if the reference toxicity test results fall slightly outside of laboratory established control limits, but the primary test met the TAC, the results of the primary test will be considered acceptable. However, if the results of the concurrent test fall well outside the established **upper** control limits i.e. ≥ 3 standard deviations for IC25 values and \geq two concentration intervals for NOECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

V.2. For the *C. dubia* test, the determination of TAC and formal statistical analyses must be performed using only the first three broods produced.

V.3. Test treatments must include 5 effluent concentrations and a dilution water control. An additional test treatment, at the permitted effluent concentration (% effluent), is required if it is not included in the dilution series.

VI. CHEMICAL ANALYSIS

As part of each toxicity test's daily renewal procedure, pH, specific conductance, dissolved oxygen (DO) and temperature must be measured at the beginning and end of each 24-hour period in each test treatment and the control(s).

The additional analysis that must be performed under this protocol is as specified and noted in the table below.

Parameter	Effluent	Receiving Water	ML (mg/l)
Hardness ^{1,4}	x	x	0.5
Total Residual Chlorine (TRC) ^{2, 3, 4}	x		0.02
Alkalinity ⁴	x	x	2.0
pH ⁴	x	x	--
Specific Conductance ⁴	x	x	--
Total Solids ⁶	x		--
Total Dissolved Solids ⁶	x		--
Ammonia ⁴	x	x	0.1
Total Organic Carbon ⁶	x	x	0.5
Total Metals ⁵			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

Notes:

1. Hardness may be determined by:

- APHA Standard Methods for the Examination of Water and Wastewater, 21st Edition
 - Method 2340B (hardness by calculation)
 - Method 2340C (titration)
2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.
 - APHA Standard Methods for the Examination of Water and Wastewater, 21st Edition
 - Method 4500-CL E Low Level Amperometric Titration
 - Method 4500-CL G DPD Colorimetric Method
 - USEPA 1983. Manual of Methods Analysis of Water and Wastes
 - Method 330.5
 3. Required to be performed on the sample used for WET testing prior to its use for toxicity testing
 4. Analysis is to be performed on samples and/or receiving water, as designated in the table above, from all three sampling events.
 5. Analysis is to be performed on the initial sample(s) only unless the situation arises as stated in Section III, paragraph 4
 6. Analysis to be performed on initial samples only

VII. TOXICITY TEST DATA ANALYSIS AND REVIEW

A. Test Review

1. Concentration / Response Relationship

A concentration/response relationship evaluation is required for test endpoint determinations from both Hypothesis Testing and Point Estimate techniques. The test report is to include documentation of this evaluation in support of the endpoint values reported. The dose-response review must be performed as required in Section 10.2.6 of EPA-821-R-02-013. Guidance for this review can be found at <http://water.epa.gov/scitech/methods/cwa/>. In most cases, the review will result in one of the following three conclusions: (1) Results are reliable and reportable; (2) Results are anomalous and require explanation; or (3) Results are inconclusive and a retest with fresh samples is required.

2. Test Variability (Test Sensitivity)

This review step is separate from the determination of whether a test meets or does not meet TAC. Within test variability is to be examined for the purpose of evaluating test sensitivity. This evaluation is to be performed for the sub-lethal hypothesis testing endpoints reproduction and growth as required by the permit. The test report is to include documentation of this evaluation to support that the endpoint values reported resulted from a toxicity test of adequate sensitivity. This evaluation must be performed as required in Section 10.2.8 of EPA-821-R-02-013.

To determine the adequacy of test sensitivity, USEPA requires the calculation of test percent minimum significant difference (PMSD) values. In cases where NOEC determinations are made based on a non-parametric technique, calculation of a test PMSD value, for the sole purpose of assessing test sensitivity, shall be calculated using a comparable parametric statistical analysis technique. The calculated test PMSD is then compared to the upper and lower PMSD bounds shown for freshwater tests in Section 10.2.8.3, p. 52, Table 6 of EPA-821-R-02-013. The comparison will yield one of the following determinations.

- The test PMSD exceeds the PMSD upper bound test variability criterion in Table 6, the test results are considered highly variable and the test may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC). If the test results indicate that the discharge is not toxic at the PLC, then the test is considered insufficiently sensitive and must be repeated within 30 days of the initial test completion using fresh samples. If the test results indicate that the discharge is toxic at the PLC, the test is considered acceptable and does not have to be repeated.
- The test PMSD falls below the PMSD lower bound test variability criterion in Table 6, the test is determined to be very sensitive. In order to determine which treatment(s) are statistically significant and which are not, for the purpose of reporting a NOEC, the relative percent difference (RPD) between the control and each treatment must be calculated and compared to the lower PMSD boundary. See *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program*, EPA 833-R-00-003, June 2002, Section 6.4.2. The following link: [Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program](#) can be used to locate the USEPA website containing this document. If the RPD for a treatment falls below the PMSD lower bound, the difference is considered statistically insignificant. If the RPD for a treatment is greater than the PMSD lower bound, then the treatment is considered statistically significant.
- The test PMSD falls within the PMSD upper and lower bounds in Table 6, the sub-lethal test endpoint values shall be reported as is.

B. Statistical Analysis

1. General - Recommended Statistical Analysis Method

Refer to general data analysis flowchart, EPA 821-R-02-013, page 43

For discussion on Hypothesis Testing, refer to EPA 821-R-02-013, Section 9.6

For discussion on Point Estimation Techniques, refer to EPA 821-R-02-013, Section 9.7

2. *Pimephales promelas*

Refer to survival hypothesis testing analysis flowchart, EPA 821-R-02-013, page 79

Refer to survival point estimate techniques flowchart, EPA 821-R-02-013, page 80

Refer to growth data statistical analysis flowchart, EPA 821-R-02-013, page 92

3. *Ceriodaphnia dubia*

Refer to survival data testing flowchart, EPA 821-R-02-013, page 168

Refer to reproduction data testing flowchart, EPA 821-R-02-013, page 173

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Test summary sheets (2007 DMR Attachment F) which includes:
 - Facility name
 - NPDES permit number
 - Outfall number
 - Sample type
 - Sampling method
 - Effluent TRC concentration
 - Dilution water used
 - Receiving water name and sampling location
 - Test type and species
 - Test start date
 - Effluent concentrations tested (%) and permit limit concentration
 - Applicable reference toxicity test date and whether acceptable or not
 - Age, age range and source of test organisms used for testing
 - Results of TAC review for all applicable controls
 - Test sensitivity evaluation results (test PMSD for growth and reproduction)
 - Permit limit and toxicity test results
 - Summary of test sensitivity and concentration response evaluation

In addition to the summary sheets the report must include:

- A brief description of sample collection procedures
- Chain of custody documentation including names of individuals collecting samples, times and dates of sample collection, sample locations, requested analysis and lab receipt with time and date received, lab receipt personnel and condition of samples upon receipt at the lab(s)
- Reference toxicity test control charts
- All sample chemical/physical data generated, including minimum limits (MLs) and analytical methods used
- All toxicity test raw data including daily ambient test conditions, toxicity test chemistry, sample dechlorination details as necessary, bench sheets and statistical analysis
- A discussion of any deviations from test conditions
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review per species per endpoint

WILL TOXICITY TEST REPORTING

A report of results must include the following:

- 1. Test summary sheet (TSS) with appropriate E-test results
- 2. Laboratory name
- 3. Date of test
- 4. Tested material
- 5. Sample type
- 6. Sampling method
- 7. Location (for environmental)
- 8. Identification code
- 9. Name and address and sampling location
- 10. Test type and specific
- 11. Test run date
- 12. Effluent concentrations tested (if) and parent toxic concentration
- 13. Significant results (toxic) test date and whether significant to the
- 14. Test type (toxic) or test organization for testing
- 15. Name of TSS form for the appropriate test
- 16. Test results (toxic) or test results (if) for parent and significant
- 17. Name of test and test results
- 18. Summary of test results and concentration of parent toxicant

19. Name of the laboratory and its accreditation

20. Name of the person in charge of the test procedure

21. Name of the person who prepared the report

22. Name of the person who reviewed the report

23. Name of the person who approved the report

24. Name of the person who signed the report

25. Name of the person who prepared the report

26. Name of the person who reviewed the report

27. Name of the person who approved the report

28. Name of the person who signed the report

Attachment C

Reassessment of Technically Based Industrial Pretreatment Discharge Limits

Attachment 1

Department of Technically Based Industrial Production Districts Unit

EPA - New England

Reassessment of Technically Based Industrial Discharge Limits

Under 40 CFR §122.21(j)(4), all Publicly Owned Treatment Works (POTWs) with approved Industrial Pretreatment Programs (IPPs) shall provide the following information to the Director: a written evaluation of the need to revise local industrial discharge limits under 40 CFR §403.5(c)(1).

Below is a form designed by the U.S. Environmental Protection Agency (EPA - New England) to assist POTWs with approved IPPs in evaluating whether their existing Technically Based Local Limits (TBLLs) need to be recalculated. The form allows the permittee and EPA to evaluate and compare pertinent information used in previous TBLLs calculations against present conditions at the POTW.

Please read direction below before filling out form.

ITEM I.

- * In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.
- * In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.
- * In Column (1), list what dilution ratio and/or 7Q10 value was used in your old/expired NPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your new/reissued NPDES permit.

The 7Q10 value is the lowest seven day average flow rate, in the river, over a ten year period. The 7Q10 value and/or dilution ratio used by EPA in your new NPDES permit can be found in your NPDES permit "Fact Sheet."

- * In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.
- * In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

- * List what your existing TBLLs are - as they appear in your current Sewer Use Ordinance (SUO).

ITEM III.

- * Identify how your existing TBLLs are allocated out to your industrial community. Some pollutants may be allocated differently than others, if so please explain.

ITEM IV.

- * Since your existing TBLLs were calculated, identify the following in detail:
 - (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.
 - (2) if your POTW is presently violating any of its current NPDES permit limitations - include toxicity.

ITEM V.

- * Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in pounds per day) received in the POTW's influent. Current sampling data is defined as data obtained over the last 24 month period.

All influent data collected and analyzed must be in accordance with 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

- * Based on your existing TBLLs, as presented in Item II., list in Column (2), for each pollutant the Maximum Allowable Headwork Loading (MAHL) values derived from an applicable environmental criteria or standard, e.g. water quality, sludge, NPDES, inhibition, etc. For more information, please see EPA's Local Limit Guidance Document (July 2004).

Item VI.

- * Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in micrograms per liter) present your POTW's effluent. Current sampling data is defined as data obtained during the last 24 month period.

(Item VI. continued)

All effluent data collected and analyzed must be in accordance with 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

- * List in Column (2A) what the Water Quality Standards (WQS) were (in micrograms per liter) when your TBLs were calculated, please note what hardness value was used at that time. Hardness should be expressed in milligram per liter of Calcium Carbonate.

List in Column (2B) the current WQSs or "Chronic Gold Book" values for each pollutant multiplied by the dilution ratio used in your new/reissued NPDES permit. For example, with a dilution ratio of 25:1 at a hardness of 25 mg/l - Calcium Carbonate (copper's chronic WQS equals 6.54 ug/l) the chronic NPDES permit limit for copper would equal 156.25 ug/l.

ITEM VII.

- * In Column (1), list all pollutants (in micrograms per liter) limited in your new/reissued NPDES permit. In Column (2), list all pollutants limited in your old/expired NPDES permit.

ITEM VIII.

- * Using current sampling data, list in Column (1) the average and maximum amount of pollutants in your POTW's biosolids. Current data is defined as data obtained during the last 24 month period. Results are to be expressed as total dry weight.

All biosolids data collected and analyzed must be in accordance with 40 CFR §136.

In Column (2A), list current State and/or Federal sludge standards that your facility's biosolids must comply with. Also note how your POTW currently manages the disposal of its biosolids. If your POTW is planning on managing its biosolids differently, list in Column (2B) what your new biosolids criteria will be and method of disposal.

In general, please be sure the units reported are correct and all pertinent information is included in your evaluation. If you have any questions, please contact your pretreatment representative at EPA - New England.

**REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS
(TBLs)**

POTW Name & Address : _____

NPDES PERMIT # _____ :

Date EPA approved current TBLs : _____

Date EPA approved current Sewer Use Ordinance _____ :

ITEM I.

In Column (1) list the conditions that existed when your current TBLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.

	Column (1) EXISTING TBLs	Column (2) PRESENT CONDITIONS
POTW Flow (MGD)		
Dilution Ratio or 7Q10 (from NPDES Permit)		
SIU Flow (MGD)		
Safety Factor		N/A
Biosolids Disposal Method(s)		

ITEM II.

EXISTING TBLs			
POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)	POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)

ITEM III.

Note how your existing TBLs, listed in Item II., are allocated to your Significant Industrial Users (SIUs), i.e. uniform concentration, contributory flow, mass proportioning, other. Please specify by circling.

ITEM IV.

Has your POTW experienced any upsets, inhibition, interference or pass-through from industrial sources since your existing TBLs were calculated?
If yes, explain.

Has your POTW violated any of its NPDES permit limits and/or toxicity test requirements?
If _____ yes, _____ explain.

ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Headwork Loading (MAHL) values used to derive your TBLLs listed in Item II. In addition, please note the Environmental Criteria for which each MAHL value was established, i.e. water quality, sludge, NPDES etc.

Pollutant	Column (1) Influent Data Analyses		Column (2) MAHL Values (lb/day)	Criteria
	Maximum (lb/day)	Average (lb/day)		
Arsenic				
Cadmium				
Chromium				
Copper				
Cyanide				
Lead				
Mercury				
Nickel				
Silver				
Zinc				
Other (List)				

ITEM VI.

Using current POTW effluent sampling data, fill in Column (1). In Column (2A) list what the Water Quality Standards (Gold Book Criteria) were at the time your existing TBLLs were developed. List in Column (2B) current Gold Book values multiplied by the dilution ratio used in your new/reissued NPDES permit.

Pollutant	Column (1)		Columns (2A) (2B)	
	Effluent Data Analyses		Water Quality Criteria (Gold Book)	
	Maximum (ug/l)	Average (ug/l)	From TBLLs Today (ug/l)	(ug/l)
Arsenic				
*Cadmium				
*Chromium				
*Copper				
Cyanide				
*Lead				
Mercury				
*Nickel				
Silver				
*Zinc				
Other (List)				

*Hardness Dependent (mg/l - CaCO3)

ITEM VIII.

Using current POTW biosolids data, fill in Column (1). In Column (2A), list the biosolids criteria that was used at the time your existing TBLLs were calculated. If your POTW is planing on managing its biosolids differently, list in Column (2B) what your new biosolids criteria would be and method of disposal.

Pollutant	Column (1)	Biosolids	Columns	
	Data Analyses		(2A)	(2B)
	Average		Biosolids Criteria	From TBLLs
	(mg/kg)		New	New
			(mg/kg)	(mg/kg)
Arsenic				
Cadmium				
Chromium				
Copper				
Cyanide				
Lead				
Mercury				
Nickel				
Silver				
Zinc				
Molybdenum				
Selenium				
Other (List)				

TABLE 1

Table 1: Summary of the results of the analysis. The table is organized into columns for 'Year', 'Number of cases', 'Percentage of cases', and 'Total number of cases'. The rows represent different years from 2000 to 2010. The 'Total number of cases' row is highlighted in blue.

Year	Number of cases	Percentage of cases	Total number of cases
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010			
Total			

Attachment D

NPDES Permit Requirement for Industrial Pretreatment Annual Report

CONFIDENTIAL

EXHIBIT T - CONFIDENTIAL - NOT FOR DISTRIBUTION OUTSIDE OF THE COMPANY

NPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

The information described below shall be included in the pretreatment program annual reports:

1. An updated list of all industrial users by category, as set forth in 40 C.F.R. 403.8(f)(2)(i), indicating compliance or noncompliance with the following:
 - baseline monitoring reporting requirements for newly promulgated industries
 - compliance status reporting requirements for newly promulgated industries
 - periodic (semi-annual) monitoring reporting requirements,
 - categorical standards, and
 - local limits;
2. A summary of compliance and enforcement activities during the preceding year, including the number of:
 - significant industrial users inspected by POTW (include inspection dates for each industrial user),
 - significant industrial users sampled by POTW (include sampling dates for each industrial user),
 - compliance schedules issued (include list of subject users),
 - written notices of violations issued (include list of subject users),
 - administrative orders issued (include list of subject users),
 - criminal or civil suits filed (include list of subject users) and,
 - penalties obtained (include list of subject users and penalty amounts);
3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 C.F.R. 403.8(f)(2)(vii);
4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;
5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the Wastewater Treatment System and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.

At a minimum, annual sampling and analysis of the influent and effluent of the Wastewater Treatment Plant shall be conducted for the following pollutants:

- | | |
|--------------------|-------------------|
| a.) Total Cadmium | f.) Total Nickel |
| b.) Total Chromium | g.) Total Silver |
| c.) Total Copper | h.) Total Zinc |
| d.) Total Lead | i.) Total Cyanide |
| e.) Total Mercury | j.) Total Arsenic |

The sampling program shall consist of one 24-hour flow-proportioned composite and at least one grab sample that is representative of the flows received by the POTW. The composite shall consist of hourly flow-proportioned grab samples taken over a 24-hour period if the sample is collected manually or shall consist of a minimum of 48 samples collected at 30 minute intervals if an automated sampler is used. Cyanide shall be taken as a grab sample during the same period as the composite sample. Sampling and preservation shall be consistent with 40 CFR Part 136.

6. A detailed description of all interference and pass-through that occurred during the past year;
7. A thorough description of all investigations into interference and pass-through during the past year;
8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;
9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,
10. The date of the latest adoption of local limits and an indication as to whether or not the permittee is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

ATTACHMENT E**Allowable TN Load Increases**

Upon the completion and documentation of the following planned combined sewer overflow project, the permittee may request an incremental increase in the total nitrogen mass loading limit. The request must be made in writing to EPA and shall include certification by a licensed civil engineer that the project achieves the flow reductions anticipated in SWSC's 2014 Integrated Wastewater Plan and is fully operational.

Project	Allowable Incremental TN Load Increase Per Project (lbs/day)
Phase 1 - Washburn CSO Control	5.8
Phase 1.5 - CSO 012/013/018 Modifications	0.0
Phase 2 - York Street Pump Station and River Crossing	25.6
Phase 3 - Locust Transfer Structure/Conduit and Flow Optimization in Mill System	26.0

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¹Updated July 17, 2018 to fix typographical errors.

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A. GENERAL REQUIREMENTS

1. Duty to Comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA or Act) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
- b. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (83 Fed. Reg. 1190-1194 (January 10, 2018) and the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note. See Pub. L. 114-74, Section 701 (Nov. 2, 2015)). These requirements help ensure that EPA penalties keep pace with inflation. Under the above-cited 2015 amendments to inflationary adjustment law, EPA must review its statutory civil penalties each year and adjust them as necessary.

(1) Criminal Penalties

- (a) *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than \$2,500 nor more than \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation or by imprisonment of not more than 2 years, or both.
- (b) *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.
- (c) *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than \$250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing

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endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- (d) *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (2) *Civil Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).
- (3) *Administrative Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty as follows:
- (a) *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).
- (b) *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit

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condition.

3. Duty to Provide Information

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from responsibilities, liabilities or penalties to which the Permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

5. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

6. Confidentiality of Information

- a. In accordance with 40 C.F.R. Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 C.F.R. Part 2 (Public Information).
- b. Claims of confidentiality for the following information will be denied:
 - (1) The name and address of any permit applicant or Permittee;
 - (2) Permit applications, permits, and effluent data.
- c. Information required by NPDES application forms provided by the Director under 40 C.F.R. § 122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

7. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

8. State Authorities

Nothing in Parts 122, 123, or 124 precludes more stringent State regulation of any activity

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covered by the regulations in 40 C.F.R. Parts 122, 123, and 124, whether or not under an approved State program.

9. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions

- (1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.
- (2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

- b. *Bypass not exceeding limitations.* The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this Section.

c. Notice

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- (1) *Anticipated bypass.* If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass. As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.
- (2) *Unanticipated bypass.* The Permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (24-hour notice). As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or required to do so by law.

d. *Prohibition of bypass.*

- (1) Bypass is prohibited, and the Director may take enforcement action against a Permittee for bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The Permittee submitted notices as required under paragraph 4.c of this Section.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 4.d of this Section.

5. Upset

- a. *Definition.* *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or

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improper operation.

- b. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph B.5.c. of this Section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. *Conditions necessary for a demonstration of upset.* A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated; and
 - (3) The Permittee submitted notice of the upset as required in paragraph D.1.e.2.b. (24-hour notice).
 - (4) The Permittee complied with any remedial measures required under B.3. above.
- d. *Burden of proof.* In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING REQUIREMENTS

1. Monitoring and Records

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by 40 C.F.R. § 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- c. Records of monitoring information shall include:
 - (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The date(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
- d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. Subchapters N or O.
- e. The Clean Water Act provides that any person who falsifies, tampers with, or

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knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

D. REPORTING REQUIREMENTS

1. Reporting Requirements

- a. *Planned Changes*. The Permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only 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 in 40 C.F.R. § 122.29(b); or
 - (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements at 40 C.F.R. § 122.42(a)(1).
 - (3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. *Anticipated noncompliance*. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

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- c. *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Clean Water Act. *See* 40 C.F.R. § 122.61; in some cases, modification or revocation and reissuance is mandatory.
- d. *Monitoring reports.* Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by State law.
 - (2) If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 C.F.R. § 136, or another method required for an industry-specific waste stream under 40 C.F.R. Subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
 - (3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
- e. *Twenty-four hour reporting.*
- (1) The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written report shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written report shall contain a description of the noncompliance and its cause; 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; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all

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reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

- (2) The following shall be included as information which must be reported within 24 hours under this paragraph.
 - (a) Any unanticipated bypass which exceeds any effluent limitation in the permit. *See* 40 C.F.R. § 122.41(g).
 - (b) Any upset which exceeds any effluent limitation in the permit.
 - (c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. *See* 40 C.F.R. § 122.44(g).
 - (3) The Director may waive the written report on a case-by-case basis for reports under paragraph D.1.e. of this Section if the oral report has been received within 24 hours.
- f. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- g. *Other noncompliance.* The Permittee shall report all instances of noncompliance not reported under paragraphs D.1.d., D.1.e., and D.1.f. of this Section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph D.1.e. of this Section. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph D.1.e. and the applicable required data in Appendix A to 40 C.F.R. Part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), §122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this Section.
- h. *Other information.* Where the Permittee becomes aware that it failed to submit any

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relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

- i. *Identification of the initial recipient for NPDES electronic reporting data.* The owner, operator, or the duly authorized representative of an NPDES-regulated entity is required to electronically submit the required NPDES information (as specified in Appendix A to 40 C.F.R. Part 127) to the appropriate initial recipient, as determined by EPA, and as defined in 40 C.F.R. § 127.2(b). EPA will identify and publish the list of initial recipients on its Web site and in the FEDERAL REGISTER, by state and by NPDES data group (see 40 C.F.R. § 127.2(c) of this Chapter). EPA will update and maintain this listing.
2. Signatory Requirement
 - a. All applications, reports, or information submitted to the Director shall be signed and certified. *See* 40 C.F.R. §122.22.
 - b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
 3. Availability of Reports.

Except for data determined to be confidential under paragraph A.6. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Director. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

E. DEFINITIONS AND ABBREVIATIONS

1. General Definitions

For more definitions related to sludge use and disposal requirements, see EPA Region 1's NPDES Permit Sludge Compliance Guidance document (4 November 1999, modified to add regulatory definitions, April 2018).

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all, State, interstate, and federal standards and limitations to which a "discharge," a "sewage sludge use or disposal practice," or a related activity is subject under the CWA, including "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," pretreatment standards, and "standards for sewage sludge use or disposal" under Sections 301, 302, 303, 304, 306, 307, 308, 403 and 405 of the CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in

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“approved States,” including any approved modifications or revisions.

Approved program or *approved State* means a State or interstate program which has been approved or authorized by EPA under Part 123.

Average monthly discharge limitation means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.

Average weekly discharge limitation means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.

Best Management Practices (“BMPs”) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bypass see B.4.a.1 above.

C-NOEC or “*Chronic (Long-term Exposure Test) – No Observed Effect Concentration*” means the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.

Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 C.F.R. § 501.2, required to have an approved pretreatment program under 40 C.F.R. § 403.8 (a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 C.F.R. § 403.10 (e)) and any treatment works treating domestic sewage, as defined in 40 C.F.R. § 122.2, classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sewage sludge use or disposal practice to affect public health and the environment adversely.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a “discharge” which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483 and Public Law 97-117, 33 U.S.C. 1251 *et seq.*

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Daily Discharge means the “discharge of a pollutant” measured during a calendar day or any

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other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

Direct Discharge means the “discharge of a pollutant.”

Director means the Regional Administrator or an authorized representative. In the case of a permit also issued under Massachusetts’ authority, it also refers to the Director of the Division of Watershed Management, Department of Environmental Protection, Commonwealth of Massachusetts.

Discharge

- (a) When used without qualification, *discharge* means the “discharge of a pollutant.”
- (b) As used in the definitions for “interference” and “pass through,” *discharge* means the introduction of pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act.

Discharge Monitoring Report (“DMR”) means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by Permittees. DMRs must be used by “approved States” as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA’s.

Discharge of a pollutant means:

- (a) Any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or
- (b) Any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any “indirect discharger.”

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of “pollutants” which are “discharged” from “point sources” into “waters of the United States,” the waters of the “contiguous zone,” or the ocean.

Effluent limitation guidelines means a regulation published by the Administrator under section 304(b) of CWA to adopt or revise “effluent limitations.”

Environmental Protection Agency (“EPA”) means the United States Environmental Protection

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Agency.

Grab Sample means an individual sample collected in a period of less than 15 minutes.

Hazardous substance means any substance designated under 40 C.F.R. Part 116 pursuant to Section 311 of CWA.

Incineration is the combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device.

Indirect discharger means a nondomestic discharger introducing “pollutants” to a “publicly owned treatment works.”

Interference means a discharge (see definition above) which, alone or in conjunction with a discharge or discharges from other sources, both:

- (a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (b) Therefore is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SDWA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

Land application is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal.

LC₅₀ means the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC₅₀ = 100% is defined as a sample of undiluted effluent.

Maximum daily discharge limitation means the highest allowable “daily discharge.”

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 C.F.R. § 257.2. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste and industrial solid waste. Such a landfill may be

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publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

Municipality

- (a) When used without qualification *municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of CWA.
- (b) As related to sludge use and disposal, *municipality* means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management Agency under Section 208 of the CWA, as amended. The definition includes a special district created under State law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in Section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an “approved program.”

New Discharger means any building, structure, facility, or installation:

- (a) From which there is or may be a “discharge of pollutants;”
- (b) That did not commence the “discharge of pollutants” at a particular “site” prior to August 13, 1979;
- (c) Which is not a “new source;” and
- (d) Which has never received a finally effective NPDES permit for discharges at that “site.”

This definition includes an “indirect discharger” which commences discharging into “waters of the United States” after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a “site” for which it does not have a permit; and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a “site” under EPA’s permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Director in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Director shall consider the factors specified in 40 C.F.R. §§ 125.122 (a) (1) through (10).

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An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a “new discharger” only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- (a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

NPDES means “National Pollutant Discharge Elimination System.”

Owner or operator means the owner or operator of any “facility or activity” subject to regulation under the NPDES programs.

Pass through means a Discharge (see definition above) which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation).

Pathogenic organisms are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

Permit means an authorization, license, or equivalent control document issued by EPA or an “approved State” to implement the requirements of Parts 122, 123, and 124. “Permit” includes an NPDES “general permit” (40 C.F.R § 122.28). “Permit” does not include any permit which has not yet been the subject of final agency action, such as a “draft permit” or “proposed permit.”

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Person who prepares sewage sludge is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

pH means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25° Centigrade or measured at another temperature and then converted to an equivalent value at 25° Centigrade.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 C.F.R. § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials

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(except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

- (a) Sewage from vessels; or
- (b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Primary industry category means any industry category listed in the NRDC settlement agreement (*Natural Resources Defense Council et al. v. Train*, 8 E.R.C. 2120 (D.D.C. 1976), *modified* 12 E.R.C. 1833 (D.D.C. 1979)); also listed in Appendix A of 40 C.F.R. Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) not a “POTW.”

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

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

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary industry category means any industry which is not a “primary industry category.”

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced waste water treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 C.F.R. Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge incinerator is an enclosed device in which only sewage sludge and auxiliary fuel are fired.

Sewage sludge unit is land on which only sewage sludge is placed for final disposal. This does

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not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 C.F.R. § 122.2.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substance designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 C.F.R. §§ 110.10 and 117.21) or Section 102 of CERCLA (see 40 C.F.R. § 302.4).

Sludge-only facility means any “treatment works treating domestic sewage” whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA, and is required to obtain a permit under 40 C.F.R. § 122.1(b)(2).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in the regulations which meets the requirements of 40 C.F.R. § 123.31.

Store or storage of sewage sludge is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.

Surface disposal site is an area of land that contains one or more active sewage sludge units.

Toxic pollutant means any pollutant listed as toxic under Section 307(a)(1) or, in the case of “sludge use or disposal practices,” any pollutant identified in regulations implementing Section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or waste water treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, “domestic sewage” includes waste and waste water from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Director may designate any person subject to the standards for sewage sludge use and

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disposal in 40 C.F.R. Part 503 as a “treatment works treating domestic sewage,” where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 C.F.R. Part 503.

Upset see B.5.a. above.

Vector attraction is the characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

Waste pile or pile means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Waters of the United States or waters of the U.S. means:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (b) All interstate waters, including interstate “wetlands;”
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands”, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland.

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Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole Effluent Toxicity (WET) means the aggregate toxic effect of an effluent measured directly by a toxicity test.

Zone of Initial Dilution (ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, provided that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards.

2. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl ₂	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)
TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont.	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M ³ /day	Cubic meters per day
DO	Dissolved oxygen

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kg/day	Kilograms per day
lbs/day	Pounds per day
mg/L	Milligram(s) per liter
mL/L	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH ₃ -N	Ammonia nitrogen as nitrogen
NO ₃ -N	Nitrate as nitrogen
NO ₂ -N	Nitrite as nitrogen
NO ₃ -NO ₂	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
Surfactant	Surface-active agent
Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
µg/L	Microgram(s) per liter
WET	“Whole effluent toxicity”
ZID	Zone of Initial Dilution

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912**

FACT SHEET SUPPLEMENT

(Supplementing the November 15, 2017 Fact Sheet provided with the November 15, 2017 draft permit)

REVISED DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: MA0101613

PUBLIC NOTICE START AND END DATES: August 17, 2018 – September 15, 2018

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

The Massachusetts municipalities of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield, and Wilbraham are co-permittees for specific activities required by the revised draft permit, as described in Sections I.C. and I.D. of the revised draft permit. The responsible municipal departments are:

Town of Agawam Department of Public Works 1000 Suffield St Agawam, MA 01001	Town of East Longmeadow Department of Public Works 60 Center Square, 2nd Floor East Longmeadow, MA 01028	Town of Longmeadow Department of Public Works 31 Pondsides Road Longmeadow, MA 01106
Town of Ludlow Department of Public Works 198 Sportsmans Road Ludlow, MA 01056	Town of West Springfield Department of Public Works 26 Central Street, Suite 17 West Springfield, MA 01089	Town of Wilbraham Department of Public Works 240 Springfield St. Wilbraham, MA 01095

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility (“SRWWTF” or the “Facility” or “Bondi Island”)
Route 5 Bondi Island
Agawam, MA 01001

and 24 Combined Sewer Overflows located in Springfield and Agawam, MA

FACT SHEET SUPPLEMENT**1. Introduction**

The Region 1 Office of the United States Environmental Protection Agency (“EPA” or the “Agency”) and the Massachusetts Department of Environmental Protection (“MassDEP”) are exercising their discretion, based on public comments, to provide additional opportunity for comment on certain revisions to the draft permit to further inform the permit proceedings and improve the agencies’ decision making regarding the draft National Pollutant Discharge Elimination System (“NDPES”) permit for the Springfield Water and Sewer Commission Regional Waste Water Treatment Facility (referred to herein as the “facility”) in Agawam, MA. EPA is in the process of reissuing the NPDES permit under Section 402 of the Clean Water Act (CWA). 33 U.S.C. § 1342. As provided in 40 CFR § 124.14(c), any comment filed during this public comment period shall be limited to the following proposed conditions in the Draft Permit:

- 1) Revised total nitrogen requirements in Parts I.A.1 and I.H and
- 2) Revised combined sewer overflow (CSO) requirements in Part I.B.

These issues and questions are discussed in this Fact Sheet Supplement.

2. Background

EPA last issued a new Final NPDES Permit to the Springfield Water and Sewer Commission (“SWSC” or the “Commission”) on December 8, 2000. The permit expired in February 2006, but was administratively continued in 2006 as a result of SWSC’s timely application for permit renewal pursuant to 40 C.F.R. § 122.6.

EPA published a new Draft Permit for public notice and comment on November 15, 2017 (the “2017 Draft Permit”). Upon request from the permittee, EPA extended the initial 30-day public notice and comment period to February 12, 2018. Following requests from the Connecticut Department of Energy and Environmental Protection (“CTDEEP”) and others for a public hearing, EPA reopened the public notice and comment period from March 14, 2018 through April 27, 2018 to facilitate an April 24, 2018 public hearing.

During the public notice and comment periods on the 2017 Draft Permit, EPA received comment letters from nine parties including the SWSC; the Towns of Agawam, East Longmeadow, Longmeadow, West Springfield and Wilbraham; CTDEEP; the Connecticut Fund for the Environment; the Connecticut River Conservancy; and the Massachusetts Water Resource Authority. In addition, representatives from the SWSC, CTDEEP, the Connecticut Fund for the Environment and the Connecticut River Conservancy provided oral testimony at the public hearing.

Since the closure of the public notice and comment periods for the 2017 Draft Permit, EPA has been considering all of the public comments received on the 2017 Draft Permit and developing

the new Final Permit. After consideration of all the comments, EPA and MassDEP agree that nitrogen and CSO notification requirements that differ from those which were proposed in the Draft Permit will need to be imposed in order to protect water quality in the Connecticut River and Long Island Sound and to protect recreational uses in the Connecticut River as explained in the sections that follow.

3. Total Nitrogen

The 2017 Draft Permit proposed a requirement to monitor and report total nitrogen (“TN”) concentrations and mass loadings while optimizing system operation to meet an annual average mass-based TN optimization benchmark of 2,279 lbs/day. The optimization benchmark was intended to be an indication of successful optimization rather than an enforceable limit. The optimization requirement and associated benchmark proposed in the 2017 Draft Permit is consistent with the approach taken by EPA and MassDEP for smaller Massachusetts facilities with discharges to tributaries of Long Island Sound (“LIS”).

In the 2017 Fact Sheet, EPA and MassDEP offered two other nitrogen control alternatives for public notice and comment. Both of these alternatives were also optimization requirements with variations on the benchmarks, as provided in Table 4 on page 19 the 2017 Fact Sheet. However, as it was pointed out in comments received from CTDEEP and other commenters, an optimization benchmark cannot provide assurance that the cumulative nitrogen load to the LIS will not exceed the out-of-basin (Massachusetts, New Hampshire and Vermont) point source wasteload allocation established by the LIS Total Maximum Daily Load (“TMDL”). In particular, commenters pointed out that TN loads discharged from the facility over the past ten years have not decreased and may be increasing, as shown in the figure in Attachment A to this Fact Sheet Supplement. The Springfield facility is the largest out-of-basin contributor of TN loading in the Connecticut River watershed and is also the closest out-of-basin major point source contributor to Connecticut’s portion of the Connecticut River.

In order to assure that Springfield’s TN load does not increase to a degree that would contribute to an exceedance of the TN out-of-basin wasteload allocation from the 2001 TMDL and in consideration of the facts and arguments presented in the comments and in the testimonies presented at the public hearing, an annual average TN loading limit of 2,534 lbs/day is proposed in the revised Draft Permit rather than an optimization benchmark. This value is the maximum annual average TN load discharged from the facility from 2012-2016 (See Attachment H of the 2017 Fact Sheet). This limit would meet the TMDL target of a 25% reduction in TN loadings from baseline loadings, since the estimated load to the Connecticut River from out-of-basin point sources would be 14,772 lbs/day¹. This is less than the TMDL target of 16,254 lbs/day, allowing for non-POTW point source loadings as well as any possible new point source discharges.

¹An annual average TN load of 2,534 lbs/day is 886 lbs/day greater than the TN load discharged in 2004, which was used in EPA’s 2006 analysis of out-of-basin point sources to the CT River Watershed (see 2017 Fact Sheet Table 3 and Attachments G and H). This increase would bring the total estimated loadings to the CT River from out-of-basin point sources to 14,772 lbs/day, which is below the TMDL target of 16,254 lbs/day.

In recognition of SWSC’s Integrated Wastewater Plan (which incorporates SWSC’s Long Term Control Plan) to reduce CSOs by increasing its storage in the Collection System and its conveyance of flow to the treatment facility, the revised Draft Permit proposes to allow incremental increases in the proposed 2,534 lbs/day annual average load limit upon the completion of planned individual CSO abatement projects, as shown below in Table 1.

Table 1 Projected Connecticut River Interceptor (CRI) Annual CSO Volume Reductions and Allowable Incremental TN Load Increases Following Completion of Planned CSO Mitigation Projects

Project	Baseline Condition (CRI Total) (MG/Year) ¹	Estimated Annual CSO Volume Following Project Completion (MG/year)	Estimated CSO Volume Reduction From Baseline Conditions Following Project Completion(MG/Year) ³	Allowable Incremental TN Load Increase (Lbs/Year) ^{4,5}	Allowable Incremental TN Load Increase (average Lbs/day) ^{5,6}
Phase I - Washburn CSO Control	441	390	51	2127	5.8
Phase I.5 - CSO 012/013/018 Modifications	441	390	0	0	0.0
Phase 2 - York Street Pump Station and River Crossing	441	216.7	224.3	9353	25.6
Phase 3 - Locust Transfer Structure/Conduit and Flow Optimization in Mill System	441	213	228	9508	26.0
Total Load Increase				20987.61	57.5

¹Baseline Condition (model year 1976 – Connecticut River Interceptor (CRI) Totals) – see SWSC 2014 Integrated Wastewater Plan, Table ES.4-1

²Estimated Annual CSO Volume Following Project Completion – see SWSC 2014 Integrated Wastewater Plan, Table ES.6-3.

⁴Estimated CSO Volume Reductions From Baseline Conditions Following Project Completion = (Baseline Condition CSO Volume Following Project Completion (MG/Year)

⁴Allowable Incremental TN Load Increase (lbs/day) = [Estimated CSO Reduction From Baseline Conditions Following Project Completion (MG/Year) * Assumed TN Concentration in combined sewage (5 mg/l) * 8.34]

⁵Estimated TN Concentration in Combined Sewage – See *EPA Report to Congress: Impacts and Control of CSOs and SSOs*, Table 4.6 [EPA 2004 (EPA 833-R-04-001)]: Total Kjeldahl Nitrogen concentration in combined sewage (median of 373 samples)) = 3.6 mg/l. Total Nitrogen concentration in combined sewers estimated to be 5 mg/l to account for NO₂ and NO₃.

⁶Allowable Incremental TN Load Increase (lbs/day) = [(Allowable Incremental TN Load Increase (lbs/year)) * (1 year/365 days)]

As can be seen from Table 1, the net increase in the TN effluent limit would be 58 lbs/day upon completion of all four of the CSO abatement projects, to be completed, resulting in an estimated load to the Connecticut River (accounting for out-of-basin point sources) of 14,830 lbs/day, which is below the TMDL target of 16,254 lbs/day. The allowable incremental TN increases are included in the draft revised permit as Attachment E.

4. CSO Notification Requirements

The 2017 Draft Permit proposed requirements for the development and implementation of a plan for notifying the public of CSO activations (“Public Notification Plan”), including requirements to provide notification of a probable CSO activation within 24 hours of the initiation of any CSO discharge as well as subsequent notification to confirm the occurrence of a discharge and to provide discharge-specific information.

Several commenters, including the downstream State of Connecticut, questioned the adequacy of the notification requirements in the 2017 Draft Permit for protecting recreational uses in the Connecticut River. Specifically, commenters argued that a 24-hour notification requirement would not be protective of recreational uses in the Connecticut River both in the Massachusetts and Connecticut affected reaches. The State of Connecticut, which is immediately downstream of Springfield, currently has a “real-time” notification requirement for anticipated CSOs in statute and has developed a state sponsored website for the public to use to identify likely active CSOs. The estimated travel time from Springfield to the Connecticut border is two hours under average flow conditions. In consideration of the concerns raised during the comment period, EPA is proposing a requirement in the revised Draft Permit for the permittee to provide initial notification to the public of a probable CSO discharge no later than two (2) hours after becoming aware of a likely CSO discharge. This notification may be based on modeling estimates of discharge(s) based on rainfall (or other predictive modeling methodologies) rather than on actual CSO discharge measurements.

The revised Draft Permit requires the initial notification to be followed by supplemental notification within twenty-four hours of the cessation of a discharge event to confirm whether an actual discharge occurred, and if so, to include information specific to each discharge, including the CSO outfall number and location, total volume discharged, the date of the discharge as well as the time the discharge commenced and ceased.

In addition, the revised Draft Permit requires the permittee to provide the public with an annual notification that includes the following information: location of each CSO, a summary of CSO activations and volumes, status and progress of CSO abatement work, and contacts for additional information on CSOs and water quality.

These public notification requirements are reasonable given the uses of the receiving water, the proximity of the discharges to the Connecticut border, and the estimated time of travel from the discharges to the border. Further, these requirements are consistent with Nine Minimum Control #8 (public notification to ensure that the public receives adequate notification of CSO occurrences and impacts), in accordance with the CSO Control Policy.

Attachment A

Springfield Regional Waste Water Treatment Facility – Annual Average Total Nitrogen (2007-2017)

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
1/31/2007	45.7	0.842	3.53	4.372	1,666	4.372	1,666
2/28/2007	47.5	0.606	5.6	6.206	2,459	6.206	2,459
3/31/2007	43.9	0.234	4.41	4.644	1,700	4.644	1,700
4/30/2007	45.2	1.18	1.18	2.36	890	2.36	890
5/31/2007	44.9	0.131	2.94	3.071	1,150	3.071	1,150
6/30/2007	43.7	2.81	2.24	5.05	1,841	5.05	1,841
7/31/2007	42.8	6.75	3.64	10.39	3,709	10.39	3,709
8/31/2007	42.3	3.21	2.35	5.56	1,961	5.56	1,961
9/30/2007	41.9	3.36	1.47	4.83	1,688	4.83	1,688
10/31/2007	41.3	266	0	266	91,622	NA	NA
11/30/2007	40.4	2.1	1.54	3.64	1,226	3.64	1,226
12/31/2007	39.8	2.37	2.16	4.53	1,504	4.53	1,504
1/31/2008	39.5	1.79	1.29	3.08	1,015	3.08	1,015
2/29/2008	41.5	2.64	1.18	3.82	1,322	3.82	1,322
3/31/2008	42.5	1.86	1.18	3.04	1,078	3.04	1,078
4/30/2008	41.8	2.37	1.47	3.84	1,339	3.84	1,339
5/31/2008	41.7	3.08	3.23	6.31	2,194	6.31	2,194
6/30/2008	41.9	3.92	2.16	6.08	2,125	6.08	2,125
7/31/2008	42.6	2.46	1.79	4.25	1,510	4.25	1,510
8/31/2008	43.7	2.81	1.67	4.48	1,633	4.48	1,633
9/30/2008	45	3.34	2.162	5.502	2,065	5.502	2,065
10/31/2008	45.6	3.38	2.35	5.73	2,179	5.73	2,179
11/30/2008	46.1	2.96	1.45	4.41	1,696	4.41	1,696
12/31/2008	47.6	1.73	1.37	3.1	1,231	3.1	1,231
1/31/2009	48.1	3.24	2.07	5.31	2,130	5.31	2,130

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
2/28/2009	46.7	3.19	3.49	6.68	2,602	6.68	2,602
3/31/2009	45.8	3.39	1.6	4.99	1,906	4.99	1,906
4/30/2009	45.1	3.79	2.31	6.1	2,294	6.1	2,294
5/31/2009	44.8	5	2.45	7.45	2,784	7.45	2,784
6/30/2009	44.8	4.89	3.2	8.09	3,023	8.09	3,023
7/31/2009	45.1	3.28	2.5	5.78	2,174	5.78	2,174
8/31/2009	44.9	4.88	1.2	6.08	2,277	6.08	2,277
9/30/2009	44	2.87	0	2.87	1,053	2.87	1,053
10/31/2009	43.7	2.743	2.8	5.543	2,020	5.543	2,020
11/30/2009	43.3	0.78	3.4	4.18	1,509	4.18	1,509
12/31/2009	43.3	0.65	10	10.65	3,846	10.65	3,846
1/31/2010	42	1.3	2.5	3.8	1,331	3.8	1,331
2/28/2010	37.3	1.478	2.1	3.578	1,113	3.578	1,113
3/31/2010	38.1	0.67	6.7	7.37	2,342	7.37	2,342
4/30/2010	42.3	3.356	1.8	5.156	1,819	5.156	1,819
5/31/2010	42.2	1.5	1.5	3	1,056	3	1,056
6/30/2010	41.7	5.82	1.7	7.52	2,615	7.52	2,615
7/31/2010	40.2	2.8	2.5	5.3	1,777	5.3	1,777
8/31/2010	39	2.659	2.8	5.459	1,776	5.459	1,776
9/30/2010	38.5	4.42	2	6.42	2,061	6.42	2,061
10/31/2010	38.3	7.569	1.1	8.669	2,769	8.669	2,769
11/30/2010	38.4	2.467	2.2	4.667	1,495	4.667	1,495
12/31/2010	38.1	2.059	1.5	3.559	1,131	3.559	1,131
1/31/2011	37.5	1.28	2.1	3.38	1,057	3.38	1,057
2/28/2011	37.3	1.478	2.1	3.578	1,113	3.578	1,113
3/31/2011	38.1	0.669	6.7	7.369	2,342	7.369	2,342
4/30/2011	38.4	0.273	7.6	7.873	2,521	7.873	2,521
5/31/2011	39.3	0.158	6.4	6.558	2,149	6.558	2,149
6/30/2011	40.4	0.354	7.1	7.454	2,512	7.454	2,512
7/31/2011	41.1	3.17	2.8	5.97	2,046	5.97	2,046
8/31/2011	42.1	1.986	2.1	4.086	1,435	4.086	1,435
9/30/2011	43.8	0.339	2.8	3.139	1,147	3.139	1,147
10/31/2011	44.9	2.363	1.1	3.463	1,297	3.463	1,297
11/30/2011	46.1	2.31	2.1	4.41	1,696	4.41	1,696

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
12/31/2011	47.4	0.445	2.4	2.845	1,125	2.845	1,125
1/31/2012	48.5	0.016	7.8	7.816	3,161	7.816	3,161
2/29/2012	48.7	0.455	9.6	10.055	4,084	10.055	4,084
3/31/2012	47.2	0.017	5	5.017	1,975	5.017	1,975
4/30/2012	46	0.884	7.2	8.084	3,101	8.084	3,101
5/31/2012	45	1.766	2.5	4.266	1,601	4.266	1,601
6/30/2012	44.1	0.339	3.9	4.239	1,559	4.239	1,559
7/31/2012	43.6	2.173	1.9	4.073	1,481	4.073	1,481
8/31/2012	43	2.266	1.4	3.666	1,315	3.666	1,315
9/30/2012	41.4	2.675	1.6	4.275	1,476	4.275	1,476
10/31/2012	40.2	0.92	8.1	9.02	3,024	9.02	3,024
11/30/2012	38.6	1.437	13	14.437	4,648	14.437	4,648
12/31/2012	37	0.84	8.4	9.24	2,851	9.24	2,851
1/31/2013	36.1	0.602	9.5	10.102	3,041	10.102	3,041
2/28/2013	35.7	0.393	11	11.393	3,392	11.393	3,392
3/31/2013	35.7	2.848	2.1	4.948	1,473	4.948	1,473
4/30/2013	35.6	1.58	2.9	4.48	1,330	4.48	1,330
5/31/2013	35.7	0.433	8	8.433	2,511	8.433	2,511
6/30/2013	37	3.81	2.9	6.71	2,071	6.71	2,071
7/31/2013	37.8	2.31	2.9	5.21	1,642	5.21	1,642
8/31/2013	38	0.545	10	10.545	3,342	10.545	3,342
9/30/2013	38.1	0.23	15	15.23	4,839	NA	4,839
10/31/2013	37.9	2.64	2.2	4.84	1,530	4.84	1,530
11/30/2013	37.9	4.539	2.8	7.339	2,320	7.339	2,320
12/31/2013	37.9	5.444	3.8	9.244	2,922	9.244	2,922
1/31/2014	38.5	0.11	2.4	2.51	806	2.51	806
2/28/2014	38.5	5.29	3.9	9.19	2,951	9.19	2,951
3/31/2014	38.7	3.71	6.1	9.81	3,166	9.81	3,166
4/30/2014	40	2.871	7.2	10.071	3,360	10.071	3,360
5/31/2014	41	2.64	4.5	7.14	2,441	7.14	2,441
6/30/2014	39.9	4.241	2.7	6.941	2,310	6.941	2,310
7/31/2014	39.6	2.669	1.6	4.269	1,410	4.269	1,410
8/31/2014	39.4	3.237	2.1	5.337	1,754	5.337	1,754

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
9/30/2014	39.2	7.363	3.2	10.563	3,453	10.563	3,453
10/31/2014	39.4	3.493	2.4	5.893	1,936	5.893	1,936
11/30/2014	39.5	3.11	2.2	5.31	1,749	5.31	1,749
12/31/2014	40	3.099	4.1	7.199	2,402	7.199	2,402
1/31/2015	39.7	3.484	4.1	7.584	2,511	7.584	2,511
2/28/2015	39.4	2.41	5.3	7.71	2,533	7.71	2,533
3/31/2015	39.3	1.149	5.9	7.049	2,310	7.049	2,310
4/30/2015	38.8	1.446	4.1	5.546	1,795	5.546	1,795
5/31/2015	37.4	2.062	5.6	7.662	2,390	7.662	2,390
6/30/2015	37.4	1.323	5.3	6.623	2,066	6.623	2,066
7/31/2015	37.1	3.08	6.2	9.28	2,871	9.28	2,871
8/31/2015	36.7	5.16	2.8	7.96	2,436	7.96	2,436
9/30/2015	36.6	3.311	4.3	7.611	2,323	7.611	2,323
10/31/2015	36.2	4.686	3.5	8.186	2,471	8.186	2,471
11/30/2015	35.8	5.96	3.2	9.16	2,735	9.16	2,735
12/31/2015	35.2	4.91	2.1	7.01	2,058	7.01	2,058
1/31/2016	35	0.088	3.9	3.988	1,164	3.988	1,164
2/29/2016	35.5	1.51	7.1	8.61	2,549	8.61	2,549
3/31/2016	35.3	2.379	4.5	6.879	2,025	6.879	2,025
4/30/2016	34.5	0.935	3.2	4.135	1,190	4.135	1,190
5/31/2016	34.3	2.043	2.8	4.843	1,385	4.843	1,385
6/30/2016	33.6	0.989	3.5	4.489	1,258	4.489	1,258
7/31/2016	33.1	0.88	5.8	6.68	1,844	6.68	1,844
8/31/2016	33.1	1.431	3.4	4.831	1,334	4.831	1,334
9/30/2016	32.9	4.983	6.5	11.483	3,151	11.483	3,151
10/31/2016	32.9	1.822	4.5	6.322	1,735	6.322	1,735
11/30/2016	32.9	0.455	4.5	4.955	1,360	4.955	1,360
12/31/2016	32.6	0.161	2.8	2.961	805	2.961	805
1/31/2017	32.4	3.5	3.9	7.4	2,000	7.4	2,000
2/28/2017	32	1.609	6.15	7.759	2,071	7.759	2,071
3/31/2017	31.8	2.27	5.8	8.07	2,140	8.07	2,140
4/30/2017	32.3	3.151	2.2	5.351	1,441	5.351	1,441
5/31/2017	32.8	3.363	3.4	6.763	1,850	6.763	1,850
6/30/2017	33.4	3.51	2.9	6.41	1,786	6.41	1,786
7/31/2017	34.1	3.496	2.8	6.296	1,791	6.296	1,791

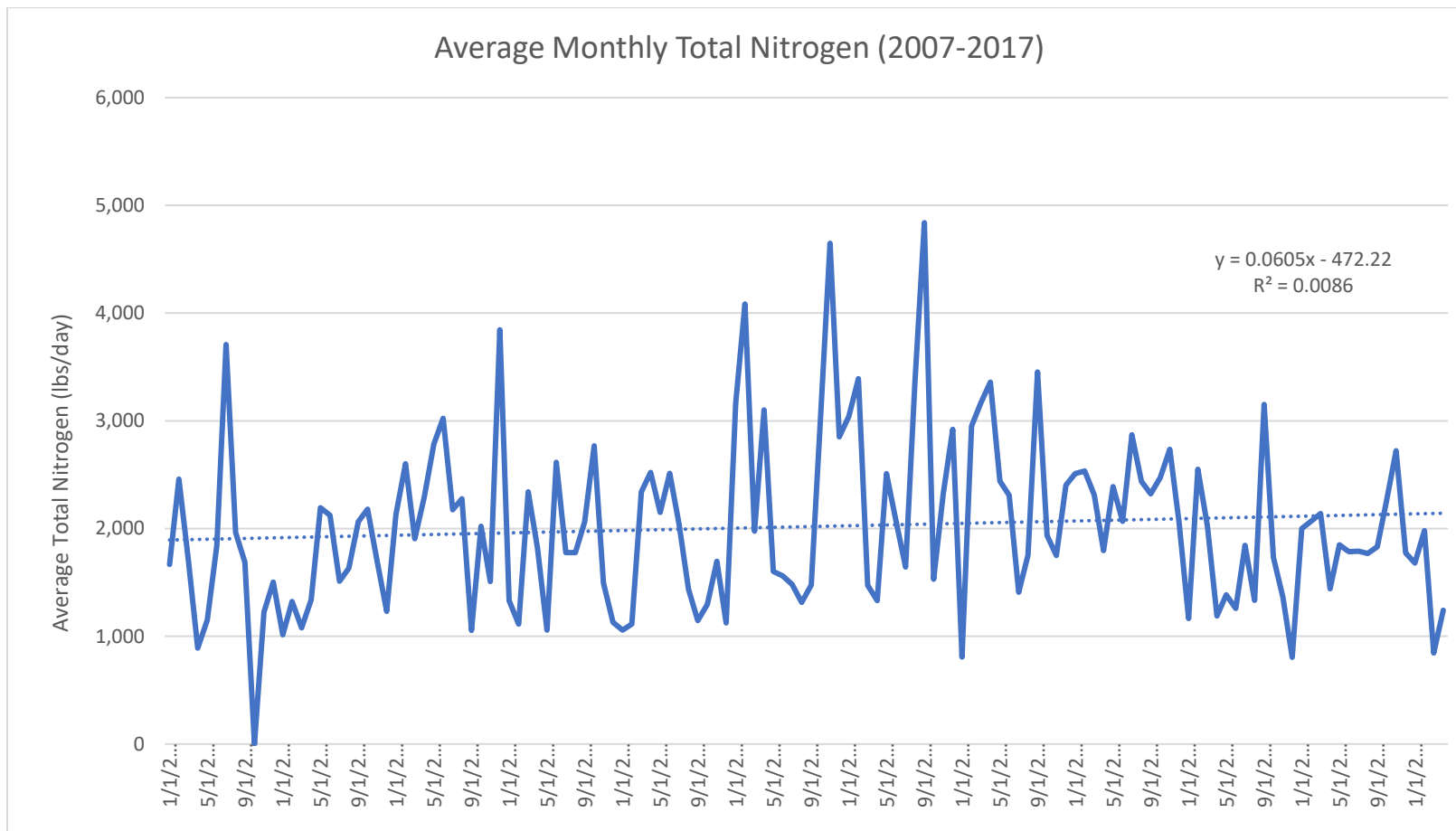
Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
8/31/2017	34.3	2.787	3.4	6.187	1,770	6.187	1,770
9/30/2017	34.4	2.98	3.4	6.38	1,830	6.38	1,830
10/31/2017	34.9	4.359	3.4	7.759	2,258	7.759	2,258
11/30/2017	35.4	3.62	5.6	9.22	2,722	9.22	2,722
12/31/2017	35.4	3.4	2.61	6.01	1,774	6.01	1,774

Outliers omitted

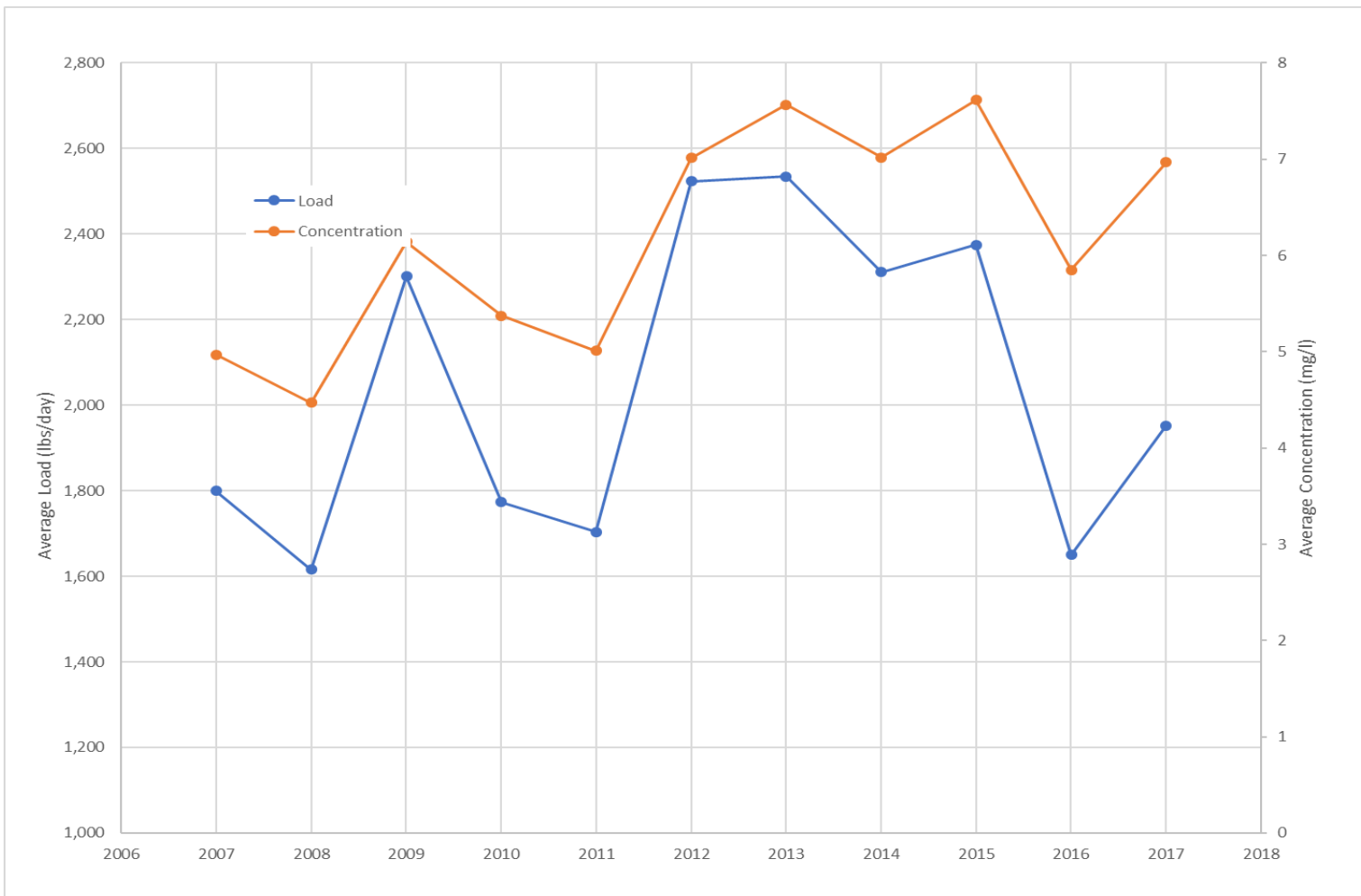
Attachment A

Springfield Regional Waste Water Treatment Facility Total Nitrogen (2007-2017)



Attachment A

Springfield Regional Waste Water Treatment Facility Annual Average Total Nitrogen (2007-2017)



MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION
COMMONWEALTH OF MASSACHUSETTS
1 WINTER STREET
BOSTON, MASSACHUSETTS 02108

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
OFFICE OF ECOSYSTEM PROTECTION
REGION I
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A REVISED DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF THE UNITED STATES UNDER SECTION 301 AND 402 OF THE CLEAN WATER ACT (THE "ACT"), AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER SECTION 401 OF THE ACT.

DATE OF PUBLIC NOTICE PERIOD: August 17, 2018 – September 15, 2018

PERMIT NUMBER: MA0101613

PUBLIC NOTICE NUMBER: MA-015-18

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility and from 24 Combined Sewer Overflow Outfalls (CSOs)
Route 5 Bondi Island
Agawam, MA 01001

RECEIVING WATER: Connecticut River, Chicopee River and Mill River

RECEIVING WATER CLASSIFICATION: Class B – Warm Water Fishery

PREPARATION OF THE REVISED DRAFT PERMIT:

The U.S. Environmental Protection Agency, ("EPA") and the Massachusetts Department of Environmental Protection ("MassDEP") have cooperated in the development of a revised Draft Permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act will be met. EPA has formally requested that the State certify this revised Draft Permit pursuant to Section 401 of the Clean Water Act and expects that the revised Draft Permit will be certified.

INFORMATION ABOUT THE REVISED DRAFT PERMIT:

The Draft Permit for the Springfield Regional Wastewater Treatment Facility was released for public comment on November 15, 2017 ("2017 Draft Permit"). Upon request from the permittee, EPA extended the initial 30-day public notice and comment period to February 12, 2018. Following requests from the

Connecticut Department of Energy and Environmental Protection (“CTDEEP”) and others for a public hearing, EPA reopened the public notice and comment period from March 14, 2018 through April 27, 2018 to facilitate an April 24, 2018 public hearing. The 2017 Draft Permit established technology-based and water quality-based effluent limits on the discharges from the wastewater treatment facility and from 24 Combined Sewer Overflow Outfalls (CSOs).

EPA received numerous comments on the 2017 Draft Permit. After consideration of all the comments and supporting material, EPA and MassDEP have determined that nitrogen and CSO notification requirements that differ from those which were proposed in the 2017 Draft Permit are necessary to protect water quality in the Connecticut River and Long Island Sound and to protect recreational uses in the Connecticut River,

EPA has prepared a Revised Draft Permit and Fact Sheet Supplement that includes certain changes to these provisions from the November 15, 2017 Draft Permit. The Revised Draft Permit and explanatory Fact Sheet may be obtained at no cost at <https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits> or by contacting:

Meridith Timony
US EPA
5 Post Office Square
Suite 100
Boston, MA 02109-3912
Telephone: (617) 918-1533

The administrative record containing all documents relating to this Revised Draft Permit is on file and may be inspected at the EPA Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any of the conditions of this Revised Draft Permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **September 15, 2018**, to the U.S. EPA, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-23912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency for a public hearing to consider this draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. As provided in 40 CFR § 124.14(c), the comments filed during this public comment period shall be limited to the following proposed revisions in the Draft Permit:

- 1) Revised total nitrogen requirements in Parts I.A.1 and I.H and
- 2) Revised combined sewer overflow (CSO) requirements in Part I.B.

In reaching a final decision on this draft permit the Regional Administrator will respond to all significant comments and make the responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision.

LEALDON LANGLEY, DIRECTOR
MASSACHUSETTS WETLANDS
AND WASTEWATER PROGRAMS
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION 1