

**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"),

Town of Hampton, New Hampshire

is authorized to discharge from the facility located at

**Leavitt E. Magrath Wastewater Treatment Plant
1 Hardardt's Way
Hampton, NH 03842**

to receiving water named

**Unnamed Tributary of Tide Mill Creek
Hampton River Watershed**

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

The municipality of Rye, New Hampshire is a co-permittee for Part B, Unauthorized Discharges; Part C, Operation and Maintenance, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns; and Part D, 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 B, Part C and Part D of this permit. The Permittee and the Co-permittee are severally liable under Part B, Part C and Part D for their own activities and required reporting with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part B, Part C and Part D committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other Permittees under Part B, Part C and Part D. The responsible Town department is:

Rye Sewer Commission
Town of Rye
10 Central Road
Rye, NH 03870

This permit shall become effective on the first day of the calendar month immediately following 60 days after signature.

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

This permit supersedes the permit issued on August 28, 2007.

This permit consists of **Part I** including the cover page(s), **Attachment A** (Marine Acute Toxicity Test Procedure and Protocol, July 2012), **Attachment B** (Marine Chronic Toxicity Test Procedure and Protocol, November 2013), and **Part II** (NPDES Part II Standard Conditions, April 2018).

Signed this 17th day of December, 2020

/S/Signature On File

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

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated effluent through Outfall Serial Number 001 to an Unnamed Tributary of Tide Mill Creek. The discharge shall be limited and monitored as specified below; the receiving water and the influent shall be monitored as specified below.

Effluent Characteristic	Effluent Limitation			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Rolling Average Effluent Flow ⁵	4.7 MGD ⁵	---	---	Continuous	Recorder
Effluent Flow ⁵	Report MGD	---	Report MGD	Continuous	Recorder
BOD ₅	30 mg/L 1176 lb/day	45 mg/L 1764 lb/day	50 mg/L 1960 lb/day	2/week	Composite
BOD ₅ Removal	≥ 85 %	---	---	---	Calculate
TSS	30 mg/L 1176 lb/day	45 mg/L 1764 lb/day	50 mg/L 1960 lb/day	2/week	Composite
TSS Removal	≥ 85 %	---	---	---	Calculate
pH Range ⁶	6.5 – 8.0 S.U.			1/day	Grab
Total Residual Chlorine ^{7,8}	7.5 µg/L	---	13 µg/L	2/day	Grab
<i>Enterococci</i> ^{7,8}	35/100 mL	---	104/100 mL	1/day	Grab
Fecal Coliform ^{7,8}	14/100 mL	---		3/week	Grab
Fecal Coliform ^{7,8,9} (% of samples > 43/100mL)	---	---	≤ 10 %	3/week	Grab
Total Copper	3.7 µg/L	---	5.8 µg/L	2/month	Composite
Total Arsenic ¹⁰	Report µg/L	---	Report µg/L	2/month	Composite
Ammonia Nitrogen (May 1 - October 31)	1.1 mg/L Report lb/day	---	7.4 mg/L Report lb/day	2/week	Composite

Effluent Characteristic	Effluent Limitation			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Ammonia Nitrogen (November 1 - April 30)	2.7 mg/L Report lb/day	---	17.9 mg/L Report lb/day	2/week	Composite
Total Kjeldahl Nitrogen ¹¹ (May 1 - October 31)	Report mg/L	---	Report mg/L	1/week	Composite
Nitrate + Nitrite ¹¹ (May 1 - October 31)	Report mg/L	---	Report mg/L	1/week	Composite
Total Nitrogen ¹¹ (May 1 - October 31)	Report mg/L Report lb/day	---	Report mg/L	1/week	Composite
Total Kjeldahl Nitrogen ¹¹ (November 1 - April 30)	Report mg/L	---	Report mg/L	1/month	Composite
Nitrate + Nitrite ¹¹ (November 1 - April 30)	Report mg/L	---	Report mg/L	1/month	Composite
Total Nitrogen ¹¹ (November 1 - April 30)	Report mg/L Report lb/day	---	Report mg/L	1/month	Composite
Whole Effluent Toxicity (WET) Testing^{12,13}					
LC ₅₀	---	---	≥ 100 %	1/quarter	Composite
C-NOEC	---	---	≥ 100 %	1/quarter	Composite
Ammonia Nitrogen	---	---	Report mg/L	1/quarter	Composite
Total Cadmium	---	---	Report mg/L	1/quarter	Composite
Total Copper	---	---	Report mg/L	1/quarter	Composite
Total Nickel	---	---	Report mg/L	1/quarter	Composite
Total Lead	---	---	Report mg/L	1/quarter	Composite
Total Zinc	---	---	Report mg/L	1/quarter	Composite
Total Organic Carbon	---	---	Report mg/L	1/quarter	Composite

Ambient Characteristic ¹⁴	Reporting Requirements			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Ammonia Nitrogen	---	---	Report mg/L	1/quarter	Grab
Total Cadmium	---	---	Report mg/L	1/quarter	Grab
Total Copper	---	---	Report mg/L	1/quarter	Grab
Total Nickel	---	---	Report mg/L	1/quarter	Grab
Total Lead	---	---	Report mg/L	1/quarter	Grab
Total Zinc	---	---	Report mg/L	1/quarter	Grab
Total Organic Carbon	---	---	Report mg/L	1/quarter	Grab
pH ¹⁵	---	---	Report S.U.	1/quarter	Grab
Temperature ¹⁵	---	---	Report °C	1/quarter	Grab

Influent Characteristic	Reporting Requirements			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
BOD ₅	Report mg/L	---	---	2/month	Composite
TSS	Report mg/L	---	---	2/month	Composite

Footnotes:

1. Effluent samples shall yield data representative of the discharge. 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. The Permittee shall report the results to the Environmental Protection Agency Region 1 (EPA) and the State of any additional testing above that required herein, if testing is in accordance with 40 CFR Part 136.
2. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is “sufficiently sensitive” when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term “minimum level” refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.
3. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 50 µg/L, if the ML for a parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of “0” to all non-detects for that reporting period and report the average of all the results.
4. A “grab” sample is an individual sample collected in a period of less than 15 minutes.

A “composite” sample is a composite of at least twenty-four (24) grab samples taken during one consecutive 24-hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportional to flow.

5. The limit is a rolling annual average, reported in million gallons per day (MGD), which 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. Also report monthly average and maximum daily flow in MGD.

6. The pH shall be within the specified range at all times. The minimum and maximum pH sample measurement values for the month shall be reported in standard units (S.U.).
7. The Permittee shall minimize the use of chlorine while maintaining adequate bacterial control. Monitoring for total residual chlorine (TRC) is only required for discharges which have been previously chlorinated or which contain residual chlorine. The compliance level for TRC is 20 µg/L.

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 and in accordance with reporting requirements in Part I.G. Special Conditions and Part II Standard Conditions. 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.

8. The monthly average limit for *enterococci* and Fecal Coliform are expressed as a geometric mean. *Enterococci* and Fecal Coliform monitoring shall be conducted concurrently with TRC monitoring, if TRC monitoring is required.
9. The Average Monthly values for Fecal Coliform shall be determined by calculating the geometric mean using daily sample results. As a Daily Maximum, not more than 10 percent of collected samples (over a monthly period) shall exceed a Most Probable Number (MPN) of 43 per 100 mL for the 5-tube decimal dilution test. Each month the percentage of collected samples that exceeds an MPN of 43 per 100 mL for the 5-tube decimal dilution test shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).
10. See Special Condition in Part I.G.2
11. Total Kjeldahl nitrogen and nitrate + nitrite samples shall be collected concurrently. The results of these analyses shall be used to calculate both the concentration and mass loadings of total nitrogen, as follows.

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

Total Nitrogen (lb/day) = [(average monthly Total Nitrogen (mg/L) * total monthly effluent flow (Millions of Gallons (MG)) / # of days in the month] * 8.345

12. The Permittee shall conduct acute toxicity tests (LC₅₀) and chronic toxicity tests (C-NOEC) in accordance with test procedures and protocols specified in **Attachment A and B** of this permit. LC₅₀ and C-NOEC are defined in Part II.E. of this permit. The Permittee shall test the inland silverside minnow (*Menidia beryllina*), the mysid shrimp (*Mysidopsis bahia*), and the sea urchin (*Arbacia punctulata*). Toxicity test samples shall be collected and tests completed during the same weeks each time of calendar quarters ending March 31st, June 30th, September 30th, and December 31st. The complete report for each toxicity test shall be submitted as an attachment to the DMR submittal which includes the results for that toxicity test.
13. For Part I.A.1., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment A and B**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS.
14. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS for the receiving water sample collected as part of the WET testing requirements. Such samples shall be taken from the receiving water at a point immediately outside of the permitted discharge's zone of influence at a reasonably accessible location, as specified in **Attachment A and B**. Minimum levels and test methods are specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS.
15. A pH and temperature measurement shall be taken of each receiving water sample at the time of collection and the results reported on the appropriate DMR. These pH and temperature measurements are independent from any pH and temperature measurements required by the WET testing protocols.

Part I.A. continued.

2. The discharge shall not cause a violation of the water quality standards of the receiving water.
3. The discharge shall be free from substances in kind or quantity that settle to form harmful benthic deposits; float as foam, debris, scum or other visible substances; produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses; result in the dominance of nuisance species; or interfere with recreational activities.
4. Tainting substances shall not be present in the discharge in concentrations that individually or in combination are detectable by taste and odor tests performed on the edible portions of aquatic organisms.
5. The discharge shall not result in toxic substances or chemical constituents in concentrations or combinations in the receiving water that injure or are inimical to plants, animals, humans or aquatic life; or persist in the environment or accumulate in aquatic organisms to levels that result in harmful concentrations in edible portions of fish, shellfish, other aquatic life, or wildlife that might consume aquatic life.
6. The discharge shall not result in benthic deposits that have a detrimental impact on the benthic community. The discharge shall not result in oil and grease, color, slicks, odors, or surface floating solids that would impair any existing or designated uses in the receiving water.
7. The discharge shall not result in an exceedance of the naturally occurring turbidity in the receiving water by more than 10 NTUs.
8. The Permittee must provide adequate notice to EPA-Region 1 and the State of the following:
 - a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Part 301 or Part 306 of the Clean Water Act if it were directly discharging those pollutants or in a primary industry category (see 40 CFR Part 122 Appendix A as amended) discharging process water; and
 - b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - c. For purposes of this paragraph, adequate notice shall include information on:
 - (1) The quantity and quality of effluent introduced into the POTW; and

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

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

B. UNAUTHORIZED DISCHARGES

This permit authorizes discharges only from the outfall listed in Part I.A.1, in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs), are not authorized by this permit in accordance with Part II.D.1.e.(1) (24-hour reporting). See Part I.H below for reporting requirements.

C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the collection system owned and operated respectively by the Town of Hampton and the Town of Rye (“Co-permittee”) shall be in compliance with the activities and required reporting with respect to the portions of the collection system that each owns or operates. The Permittee and Co-permittee shall only be responsible for violations relative to the portions of the collection system that they own and operate.

1. Maintenance Staff

The Permittee and Co-permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. Provisions to meet this requirement shall be described in the Collection System O&M Plan required pursuant to Section C.5. below.

2. Preventive Maintenance Program

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

3. Infiltration/Inflow

The Permittee and Co-permittee shall control infiltration and inflow (I/I) into the sewer system as necessary to prevent high flow related unauthorized discharges from their collection systems and high flow related violations of the wastewater treatment plant’s effluent limitations. Plans and programs to control I/I shall be described in the Collection System O&M Plan required pursuant to Section C.5. below.

4. Collection System Mapping

The Permittee and Co-permittee shall update the map of the sewer collection system it owns. 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 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, and the direction of flow.

5. Collection System O&M Plan

- a. The Permittee shall continue to update and implement the Collection System O&M Plan it has previously submitted to EPA and the State. The plan shall be available for review by federal, state, and local agencies as requested. The Plan shall include:
 - (1) A description of the collection system management goals, 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 recent studies and construction activities; and
 - (3) A preventive maintenance and monitoring program for the collection system;

- (4) Description of sufficient staffing necessary to properly operate and maintain the sanitary sewer collection system and how the operation and maintenance program is staffed;
- (5) Description of funding, the source(s) of funding and provisions for funding sufficient for implementing the plan;
- (6) 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;
- (7) 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;
- (8) An educational public outreach program for all aspects of I/I control, particularly private inflow; and
- (9) 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-permittee shall 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 the State annually by March 31. The summary report shall, at a minimum, include:

- a. A description of the staffing levels maintained during the year;
- b. A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year;
- c. Expenditures for any collection system maintenance activities and corrective actions taken during the previous year;
- d. A map with areas identified for investigation/action in the coming year;
- e. A summary of unauthorized discharges during the past year and their causes and a report of any corrective actions taken as a result of the unauthorized discharges reported pursuant to the Unauthorized Discharges section of this permit; and

- f. If the monthly average flow exceeded 80 percent of the Facility's 4.7 MGD design flow (3.76 MGD) for three consecutive months in the previous calendar year, or there have been capacity related overflows, the report shall include:
- (1) Plans for further potential flow increases describing how the Permittee will maintain compliance with the flow limit and all other effluent limitations and conditions; and
 - (2) A calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year.

D. ALTERNATE POWER SOURCE

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

E. INDUSTRIAL USERS

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

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

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

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 § 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 in a sludge only incinerator
4. The requirements of 40 CFR Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR § 503.4. These requirements also do not apply to facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g., lagoons, reed beds), or are otherwise excluded under 40 CFR § 503.6.
5. The 40 CFR Part 503 requirements include the following elements:
 - a. General requirements
 - b. Pollutant limitations
 - c. Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
 - d. Management practices
 - e. Record keeping
 - f. Monitoring
 - g. Reporting

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

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>

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

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

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

7. Under 40 CFR § 503.9(r), the Permittee is a “person who prepares sewage sludge” because it “is ... the person who generates sewage sludge during the treatment of domestic sewage in a treatment works” If the Permittee contracts with *another* “person who prepares sewage sludge” under 40 CFR § 503.9(r) – i.e., with “a person who derives a material from sewage sludge” – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of the contractor engaged for that purpose. If the Permittee does not engage a “person who prepares sewage sludge,” as defined in 40 CFR § 503.9(r), for use or disposal, then the Permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR § 503.7. If the ultimate use or disposal method is land application, the Permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR § 503 Subpart B.
8. The Permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19** (*see also* “EPA Region 1 - NPDES Permit Sludge Compliance Guidance”). Reports shall be submitted electronically using EPA’s Electronic Reporting tool (“NeT”) (*see* “Reporting Requirements” section below).
9. Compliance with the requirements of this permit or 40 CFR Part 503 shall not eliminate or modify the need to comply with applicable requirements under RSA 485-A and Env-Wq 800, New Hampshire Sludge Management Rules.

G. SPECIAL CONDITIONS

1. NHDES Shellfish Notification Procedures

The Permittee shall immediately notify the Shellfish Section of NHDES-WD of possible high bacteria/virus loading events from the facility or its sewer collection system. Such events include:

- a. Any lapse or interruption of normal operation of the POTW disinfection system, or other event that results in discharge of sewage from the POTW or sewer infrastructure (pump stations, sewer lines, manholes, etc.) that has not undergone full disinfection as specified in the NPDES permit;

- b. Average daily flows in excess of the POTW's previous flow limit of 4.7 MGD; and
- c. Daily post-disinfection effluent samples of either 28 organisms per 100 mL or greater. Notification shall also be made for instances where NPDES-required bacteria sampling is not completed, or where the results of such sampling are invalid. This is a state certification requirement.

Notification shall be made using the program's cell phone number. If Shellfish Program staff are not available to answer the phone, leave a message describing the issue or situation and provide your contact information, including phone number. Then, call the Shellfish Program's pager and enter a call back number. Upon initial notification of a possible high bacteria/virus loading event, Shellfish Program staff will determine the most suitable interval for continued notification and updates on an event-by-event basis.

NHDES - Shellfish Program
Cell phone: 603-568-6741
Pager: 603-771-9826

H. REPORTING REQUIREMENTS

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

1. Submittal of DMRs Using NetDMR

The Permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the State 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 the State. NetDMR is accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>.

2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the Permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. This includes the NHDES Monthly Operating Reports (MORs). *See* Part I.H.6. for more information on State reporting. Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the report due date specified in this permit.

3. Submittal of Biosolids/Sewage Sludge Reports

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

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

- a. The following requests, reports, and information described in this permit shall be submitted to the NPDES Applications Coordinator in EPA Water Division (WD):
 - (1) Transfer of Public Notice;
 - (2) Request for change in sampling location;
 - (3) Request for reduction in testing frequency;
 - (4) Report on unacceptable dilution water / request for alternative dilution water for WET testing;
 - (5) Report of new industrial user commencing discharge;
 - (6) Report received of existing industrial users.
- b. These reports, information, and requests shall be submitted to EPA WD electronically at R1NPDESReporting@epa.gov.

5. Submittal of Reports to EPA Enforcement and Compliance Assurance Division (ECAD) in Hard Copy Form

- a. The following notifications and reports shall be signed and dated originals, submitted as hard copy, with a cover letter describing the submission:
 - (1) Prior to 21 December 2020, written notifications required under Part II.B.4.c, for bypasses, and Part II.D.1.e, for sanitary sewer overflows (SSOs). Starting on 21 December 2020, such notifications must be done electronically using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which will be accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>.
 - (2) Collection System Operation and Maintenance Plan (from Co-permittee)
 - (3) Report on annual activities related to O&M Plan (from Co-permittee)
- b. This information shall be submitted to EPA ECAD at the following address:

U.S. Environmental Protection Agency

Enforcement and Compliance Assurance Division
Water Compliance Section
5 Post Office Square, Suite 100 (04-SMR)
Boston, MA 02109-3912

6. State Reporting

Unless otherwise specified in this permit or by the State, 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.H.3 through I.H.5 shall also be submitted to the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) electronically to the Permittee's assigned NPDES inspector at NHDES-WD or as a hardcopy to the following addresses:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

7. Verbal Reports and Verbal Notifications

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

EPA ECAD at 617-918-1510
and
NHDES Assigned NPDES Inspector at 603-271-1493

I. STATE PERMIT CONDITIONS

1. The Permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification of, or interfere with the uses assigned to, said water by the New Hampshire Legislature (RSA 485-A:12).
2. This NPDES discharge permit is issued by EPA under federal law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services-Water Division (NHDES-WD) may adopt this permit, including all terms and conditions, as a state permit pursuant to RSA 485-A:13.
3. EPA shall have the right to enforce the terms and conditions of this permit pursuant to federal law and NHDES-WD shall have the right to enforce the permit pursuant to state

law, if the permit is adopted. Any modification, suspension, or revocation of this permit shall be effective only with respect to the agency taking such action and shall not affect the validity or status of the permit as issued by the other agency.

4. The pH range of 6.5 to 8.0 Standard Units (S.U.) must be achieved in the final effluent unless the Permittee can demonstrate to NHDES-WD: 1) that the range should be widened due to naturally occurring conditions in the receiving water; or 2) that the naturally occurring receiving water pH is not significantly altered by the Permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside the range of 6.0 to 9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 CFR § 133.102(c).
5. Pursuant to New Hampshire Code of Administrative Rules, Env-Wq 703.07(a):
 - a. Any person proposing to construct or modify any of the following shall submit an application for a sewer connection permit to the department:
 - (1) Any extension of a collector or interceptor, whether public or private, regardless of flow;
 - (2) Any wastewater connection or other discharge in excess of 5,000 gpd;
 - (3) Any wastewater connection or other discharge to a WWTP operating in excess of 80 percent design flow capacity or design loading capacity based on actual average flow or loading for 3 consecutive months;
 - (4) Any industrial wastewater connection or change in existing discharge of industrial wastewater, regardless of quality or quantity;
 - (5) Any sewage pumping station greater than 50 gpm or serving more than one building; or
 - (6) Any proposed sewer that serves more than one building or that requires a manhole at the connection.
6. For each new or increased discharge of industrial waste to the POTW, the Permittee shall submit, in accordance with Env-Wq 305.10(a) an "Industrial Wastewater Discharge Request."
7. Pursuant to Env-Wq 305.15(d) and 305.16(f), the Permittee shall not allocate or accept for treatment more than 90 percent of the headworks loading limits of the facility.
8. Pursuant to Env-Wq 305.21, at a frequency no less than every five years, the Permittee shall submit to NHDES:

- a. A copy of its current sewer use ordinance if it has been revised without department approval subsequent to any previous submittal to the department or a certification that no changes have been made.
 - b. A current list of all significant indirect dischargers to the POTW. At a minimum, the list shall include for each significant indirect discharger, its name and address, the name and daytime telephone number of a contact person, products manufactured, industrial processes used, existing pretreatment processes, and discharge permit status.
 - c. A list of all permitted indirect dischargers; and
 - d. A certification that the municipality is strictly enforcing its sewer use ordinance and all discharge permits it has issued.
9. When the effluent discharged for a period of three (3) consecutive months exceeds 80 percent of the 4.7 MGD design flow (3.76 MGD) or design loading capacity, the Permittee shall submit to the permitting authorities a projection of flows and loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans. Before the design flow will be reached, or whenever treatment necessary to achieve permit limits cannot be assured, the Permittee may be required to submit plans for facility improvements.
10. Total Arsenic - The Permittee shall prepare and submit an annual report to EPA and NHDES that summarizes activities related to optimizing arsenic discharge minimization, documents the annual arsenic discharge load from the facility, and tracks trends relative to the previous year. The report shall be submitted by **August 31st** each year. At a minimum, the report shall contain an evaluation of all potentially significant sources of arsenic in the collection system and provide alternatives for minimizing these sources. The permittee shall implement these alternatives and summarize the actions taken to do so.
11. Fecal Coliform - Daily post-disinfection effluent grab samples shall be collected and analyzed for fecal coliform using an EPA-approved analytical method (published in 40 CFR Part 136) that meets the timeliness requirements of the NHDES Shellfish Program. Results shall be reported to NHDES each month in accordance with state reporting requirements in Part I.H.6.

ATTACHMENT A
MARINE 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:

- **2007.0 - Mysid Shrimp (Americamysis bahia) definitive 48 hour test.**
- **2006.0 - Inland Silverside (Menidia beryllina) definitive 48 hour test.**

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

II. METHODS

The permittee shall use the most recent 40 CFR Part 136 methods. Whole Effluent Toxicity (WET) Test Methods and guidance may be found at:

<http://water.epa.gov/scitech/methods/cwa/wet/index.cfm#methods>

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 and receiving water sample shall be collected. The receiving water control sample must be collected immediately upstream of the permitted discharge's zone of influence. 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 holding time extension. 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 chlorine¹ (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

¹ For this protocol, total residual chlorine is synonymous with total residual oxidants.
(July 2012)

prior to sample use for toxicity testing. If performed on site the results should be included on the chain of custody (COC) presented to WET laboratory.

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 mg/L chlorine. If dechlorination is necessary, a thiosulfate control consisting of the maximum concentration of thiosulfate used to dechlorinate the sample in the toxicity test control water must also be run in the WET test.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol. Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

All samples held for use beyond the day of sampling shall be refrigerated and maintained at a temperature range of 0-6° C.

IV. DILUTION WATER

Samples of receiving water must be collected from a reasonably accessible location in the receiving water body immediately upstream of the permitted discharge's zone of influence. 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 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 is found to be, or suspected to be toxic or unreliable, 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 case is when repeating a test due to toxicity in the site dilution water requires an **immediate decision** for ADW use by the permittee and toxicity testing laboratory. The second is when two of the most recent documented incidents of unacceptable site dilution water toxicity require 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

EPA Region 1 requires tests be performed using four replicates of each control and effluent concentration because the non-parametric statistical tests cannot be used with data from fewer replicates. The following tables summarize the accepted Americamysis and Menidia toxicity test conditions and test acceptability criteria:

EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE MYSID, AMERICAMYSIS BAHIA 48 HOUR TEST¹

1. Test type	48hr Static, non-renewal
2. Salinity	25ppt \pm 10 percent for all dilutions by adding dry ocean salts
3. Temperature ($^{\circ}$ C)	20 $^{\circ}$ C \pm 1 $^{\circ}$ C or 25 $^{\circ}$ C \pm 1 $^{\circ}$ C, temperature must not deviate by more than 3 $^{\circ}$ C during test
4. Light quality	Ambient laboratory illumination
5. Photoperiod	16 hour light, 8 hour dark
6. Test chamber size	250 ml (minimum)
7. Test solution volume	200 ml/replicate (minimum)
8. Age of test organisms	1-5 days, <u>\leq 24 hours age range</u>
9. No. Mysids per test chamber	10
10. No. of replicate test chambers per treatment	4
11. Total no. Mysids per test concentration	40
12. Feeding regime	Light feeding using concentrated <u>Artemia</u> naupli while holding prior to initiating the test
13. Aeration ²	None
14. Dilution water	5-30 ppt, +/- 10%; Natural seawater, or deionized water mixed with artificial sea salts
15. Dilution factor	\geq 0.5
16. Number of dilutions ³	5 plus a control. An additional dilution at the permitted effluent concentration (%)

effluent) is required if it is not included in the dilution series.

- | | |
|----------------------------|---|
| 17. Effect measured | Mortality - no movement of body appendages on gentle prodding |
| 18. Test acceptability | 90% or greater survival of test organisms in control solution |
| 19. Sampling requirements | For on-site tests, samples are used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must be first used within 36 hours of collection. |
| 20. Sample volume required | Minimum 1 liter for effluents and 2 liters for receiving waters |
-

Footnotes:

- ¹ Adapted from EPA 821-R-02-012.
- ² If dissolved oxygen falls below 4.0 mg/L, aerate at rate of less than 100 bubbles/min. Routine D.O. checks are recommended.
- ³ When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

EPA NEW ENGLAND TOXICITY TEST CONDITIONS FOR THE INLAND SILVERSIDE, MENIDIA BERYLLINA 48 HOUR TEST¹

1. Test Type	48 hr Static, non-renewal
2. Salinity	25 ppt \pm 10 % by adding dry ocean salts
3. Temperature	20°C \pm 1°C or 25°C \pm 1°C, temperature must not deviate by more than 3°C during test
4. Light Quality	Ambient laboratory illumination
5. Photoperiod	16 hr light, 8 hr dark
6. Size of test vessel	250 mL (minimum)
7. Volume of test solution	200 mL/replicate (minimum)
8. Age of fish	9-14 days; 24 hr age range
9. No. fish per chamber	10 (not to exceed loading limits)
10. No. of replicate test vessels per treatment	4
11. Total no. organisms per concentration	40
12. Feeding regime	Light feeding using concentrated <u>Artemia</u> nauplii while holding prior to initiating the test
13. Aeration ²	None
14. Dilution water	5-32 ppt, +/- 10% ; Natural seawater, or deionized water mixed with artificial sea salts.
15. Dilution factor	\geq 0.5
16. Number of dilutions ³	5 plus a control. An additional dilution at the permitted concentration (% effluent) is required if it is not included in the dilution series.
17. Effect measured	Mortality-no movement on gentle prodding.

18. Test acceptability	90% or greater survival of test organisms in control solution.
19. Sampling requirements	For on-site tests, samples must be used within 24 hours of the time they are removed from the sampling device. Off-site test samples must be used within 36 hours of collection.
20. Sample volume required	Minimum 1 liter for effluents and 2 liters for receiving waters.

Footnotes:

- ¹ Adapted from EPA 821-R-02-012.
- ² If dissolved oxygen falls below 4.0 mg/L, aerate at rate of less than 100 bubbles/min. Routine D.O. checks recommended.
- ³ When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

V.1. Test Acceptability Criteria

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.2. Use of Reference Toxicity Testing

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

In general, 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 as prescribed below.

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.2.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 IC25s and LC50 values and \geq two concentration intervals for NOECs or NOAECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

VI. CHEMICAL ANALYSIS

At the beginning of the static acute test, pH, salinity, and temperature must be measured at the beginning and end of each 24 hour period in each dilution and in the controls. The following chemical analyses shall be performed for each sampling event.

<u>Parameter</u>	<u>Effluent</u>	<u>Diluent</u>	<u>Minimum Level for effluent^{*1} (mg/L)</u>
pH	x	x	---
Salinity	x	x	ppt(o/oo)
Total Residual Chlorine ^{*2}	x	x	0.02
Total Solids and Suspended Solids	x	x	---
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
<u>Total Metals</u>			
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

Superscript:

^{*1} These are the minimum levels for effluent (fresh water) samples. Tests on diluents (marine waters) shall be conducted using the Part 136 methods that yield the lowest MLs.

^{*2} Either of the following methods from the 18th Edition of the APHA Standard Methods for the Examination of Water and Wastewater must be used for these analyses:

- Method 4500-Cl E Low Level Amperometric Titration (the preferred method);
- Method 4500-CL G DPD Photometric Method.

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration

An estimate of the concentration of effluent or toxicant that is lethal to 50% of the test organisms during the time prescribed by the test method.

Methods of Estimation:

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

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Toxicity Test summary sheet(s) (Attachment F to the DMR Instructions) 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
 - Permit limit and toxicity test results
 - Summary of any test sensitivity and concentration response evaluation that was conducted

Please note: The NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) are available on EPA's website at

<http://www.epa.gov/NE/enforcementandassistance/dmr.html>

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 levels (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; and
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review per species per endpoint.

ATTACHMENT B
MARINE CHRONIC
TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

The permittee shall be responsible for the conduct of acceptable silverside chronic and sea urchin chronic toxicity tests in accordance with the appropriate test protocols described below:

- Inland Silverside (Menidia beryllina) Larval Growth and Survival Test
- Sea Urchin (Arbacia punctulata) 1 Hour Fertilization Test

Chronic toxicity 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:

<https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods>

The permittee shall also meet the sampling, analysis and reporting requirements included in this protocol. Where 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 AND USE

A total of three fresh samples of effluent and receiving water are required for initiation and subsequent renewals of a marine, 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 fresh 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 fresh 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.

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.

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. For TRC analysis performed on site the results must be included on the chain of custody (COC) presented to WET laboratory. For the purpose of sample preparation, i.e. eliminating chlorine prior to toxicity testing, if called for by the permit, TRC analysis may also be performed by the toxicity testing laboratory and the samples must be dechlorinated, as necessary, using sodium thiosulfate prior to sample use for toxicity testing. According to 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 mg/L chlorine.

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.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol. Grab samples must be used for pH, temperature, and total residual oxidants (as per 40 CFR Part 122.21).

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 test acceptability criteria (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 the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternatedilution water (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
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.

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.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

EPA New England requires that if a reference toxicant test was being performed concurrently with an effluent or receiving water test and fails, both tests must be repeated.

The following tables summarize the accepted Menidia and Arbacia toxicity test conditions and

test acceptability criteria:

EPA NEW ENGLAND RECOMMENDED TEST CONDITIONS FOR THE SEA URCHIN, ARBACIA PUNCTULATA, FERTILIZATION TEST¹

1. Test type	Static, non-renewal
2. Salinity	30 o/oo \pm 2 o/oo by adding dry ocean salts
3. Temperature	20 \pm 1°C temperature must not deviate by more than 3°C during test
4. Light quality	Ambient laboratory illumination
5. Light intensity	10-20 uE/m ² /s, or 50-100 ft-c (Ambient Laboratory Levels)
6. Test vessel size	Disposal (glass) liquid scintillation vials (20 ml capacity), presoaked in control water
7. Test solution volume	5 ml
8. Number of sea urchins	Pooled sperm from four males and pooled eggs from four females are used per test
9. Number of egg and sperm cells	About 2000 eggs per chamber and 5,000,000 sperm cells per vial
10. Number of replicate chambers	4 per treatment
11. Dilution water	Uncontaminated source of natural seawater or deionized water mixed with artificial sea salts
12. Dilution factor	Approximately 0.5, must bracket the permitted RWC
13. Test duration	1 hour and 20 minutes
14. Effects measured	Fertilization of sea urchin eggs
15. Number of treatments per test ²	5 and a control. (receiving water and laboratory water control) An additional dilution at the permitted effluent concentration (% effluent) is required.

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| 16. Acceptability of test | 70% - 90% egg fertilization in all controls. Minimum of 70% fertilization in dilution water control. Effluent concentrations exhibiting greater than 70% fertilization, flagged as statistically significantly different from the controls, will not be considered statistically different from the controls for NOEC reporting. |
| 17. Sampling requirements | For on-site tests, samples are to be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must be first used within 36 hours of collection. |
| 18. Sample volume required | Minimum 1 liter |
-

Footnotes:

¹ Adapted from EPA 821-R-02-014

EPA NEW ENGLAND RECOMMENDED TEST CONDITIONS FOR THE INLAND SILVERSIDE, MENIDIA BERYLLINA, GROWTH AND SURVIVAL TEST¹

1. Test type	Static, renewal
2. Salinity	5 o/oo to 32 o/oo +/- 2 o/oo of the selected salinity by adding artificial sea salts
3. Temperature	25 ± 1°C, temperature must not deviate by more than 3°C during test
4. Light quality	Ambient laboratory light
5. Light intensity	10-20 uE/m ² /s, or 50-100 ft-C (Ambient Laboratory Levels)
6. Photoperiod	16 hr light, 8 hr darkness
7. Test vessel size	600 - 1000 mL beakers or equivalent (glass test chambers should be used)
8. Test solution volume	500-750 mL/replicate loading and DO restrictions must be met)
9. Renewal of test solutions	Daily using most recently collected sample
10. Age of test organisms	Seven to eleven days post hatch; 24 hr range in age
11. Larvae/test chamber	15 (minimum of 10)
12. Number of replicate chambers	4 per treatment
13. Source of food	Newly hatched and rinsed <u>Artemia</u> nauplii less than 24 hr old
14. Feeding regime	Feed once a day 0.10 g wet wt <u>Artemia</u> nauplii per replicate on days 0 – 2 feed 0.15 g wet wt <u>Artemia</u> nauplii per replicate on days 3-6
15. Cleaning	Siphon daily, immediately before test solution renewal and feeding
16. Aeration ²	None
17. Dilution water	Uncontaminated source of natural seawater; or deionized water mixed with artificial sea salts

18. Effluent concentrations	5 and a control (receiving water and laboratory water control) An additional dilution at the permitted effluent concentration (% effluent) is required
19. Dilution factor	≥ 0.5, must bracket the permitted RWC
20. Test duration	7 days
21. Effects measured	Survival and growth (weight)
22. Acceptability of test	The average survival of dilution water control larvae is a minimum of 80%, and the average dry wt of unpreserved control larvae is a minimum of 0.5 mg, or the average dry wt of preserved control larvae is a minimum of 0.43 mg if preserved not more than 7 days in 4% formalin or 70% ethanol
23. Sampling requirements	For on-site tests, samples are collected daily and used within 24 hours of the time they are removed from the sampling device. For off-site tests, samples must be first used within 36 hours of collection.
24. Sample Volume Required	Minimum of 6 liters/day.

Footnotes:

¹ Adapted from EPA 821-R-02-014

² If dissolved oxygen (D.O.) falls below 4.0 mg/L, aerate all chambers at a rate of less than 100 bubbles/min. Routine D.O. checks are recommended.

V.1. Test Acceptability Criteria

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.2. Use of Reference Toxicity Testing

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

In general, 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 as prescribed below.

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.2.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 IC25s 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.

VI. CHEMICAL ANALYSIS

The toxicity test requires measurement of pH, salinity, and temperature at the beginning and end of each 24 hour period in each dilution and controls for both daily test renewal and waste. The following chemical analyses shall be performed for each initial sample as well as any renewal samples, if necessary pursuant to the requirement of Part III above.

<u>Parameter</u>	<u>Effluent</u>	<u>Diluent</u>	<u>Minimum Level for effluent^{*1} (mg/L)</u>
pH	x	x	---
Salinity	x	x	ppt(o/oo)
Total Residual Chlorine ^{*2}	x	x	0.02
Total Solids and Suspended Solids	x	x	---
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
<u>Total Metals</u>			
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

Superscript:

^{*1} These are the minimum levels for effluent (fresh water) samples. Tests on diluents (marine waters) shall be conducted using the Part 136 methods that yield the lowest MLs.

^{*2} Either of the following methods from the 18th Edition of the APHA Standard Methods for the Examination of Water and Wastewater must be used for these analyses:

- Method 4500-Cl E Low Level Amperometric Titration (the preferred method);
- Method 4500-CL G DPD Photometric Method.

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-02-014. Guidance for this review can be found at http://water.epa.gov/scitech/methods/cwa/wet/upload/2007_07_10_methods_wet_disk1_ctm.pdf.

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 endpoint growth for *Menidia beryllina* 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-02-014.

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 marine tests in Section 10.2.8.3, p. 54, Table 6 of EPA-821-R-02-014. 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 document can be located under Guidance Documents

at the following website location

<http://water.epa.gov/scitech/methods/cwa/wet/index.cfm#guidance>. 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-02-014, page 45

For discussion on Hypothesis Testing, refer to EPA 821-R-02-014, Section 9.6

For discussion on Point Estimation Techniques, refer to EPA 821-R-02-014, Section 9.7

2. *Menidia beryllina*

Refer to survival hypothesis testing analysis flowchart, EPA 821-R-02-014, page 181

Refer to survival point estimate techniques flowchart, EPA 821-R-02-013, page 182

Refer to growth data statistical analysis flowchart, EPA 821-R-02-014, page 193

3. *Arbacia punctulata*

Refer to fertilization data testing flowchart, EPA 821-R-02-014, page 312

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Toxicity Test summary sheet(s) (Attachment F to the DMR Instructions) 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)
 - Permit limit and toxicity test results
 - Summary of test sensitivity and concentration response evaluation

Please note: The NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) are available on EPA's website at

<http://www.epa.gov/NE/enforcementandassistance/dmr.html>

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; and
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review.

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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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(April 26, 2018)

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

RESPONSE TO COMMENTS
NPDES PERMIT NO. NH0100625
LEAVITT E. MAGRATH WASTEWATER TREATMENT PLANT
HAMPTON, NEW HAMPSHIRE

The U.S. Environmental Protection Agency's New England Region (EPA) is issuing a Final National Pollutant Discharge Elimination System (NPDES) Permit for the Leavitt E. Magrath Wastewater Treatment Plant (WWTP) located in Hampton, New Hampshire. This permit is being issued under the Federal Clean Water Act (CWA), 33 U.S.C., §§ 1251 et. Seq.

In accordance with the provisions of 40 CFR §124.17, this document presents EPA's responses to comments received on the Draft NPDES Permit # NH0100625 ("Draft Permit"). The Response to Comments explains and supports EPA's determinations that form the basis of the Final Permit. From June 23, 2020 through July 22, 2020 and then extended to August 6, 2020, EPA solicited public comments on the Draft Permit.

EPA received comments from:

- Thomas O'Donovan, P.E., Director, Water Division, NHDES, dated August 5, 2020
- James Sullivan, Town Manager, Town of Hampton, dated August 5, 2020
- Lee Arthur, Sewer Administrator, Town of Rye, date July 21, 2020
- Betsy Reilly, Ph.D., Director, Environmental Quality Department, Massachusetts Water Resources Authority, dated August 4, 2020
- Patsy Root, Regulatory Affairs Manager, IDEXX Water, dated July 20, 2020
- Kirk Cram, Laboratory Director, Enthalpy Analytical, LLC, dated July 22, 2020
- Sean T. Greig, Director of Environmental Services, Town of Newmarket, August 6, 2020
- Christopher M. Perkins, PE, Chair NHWPCA Permit Committee, dated July 21, 2020
- Michael Serard, Lorraine Olashaw, and Jennifer Scott, Eastern Analytical, Inc., dated July 21, 2020
- Peter Hellfach, Chief Operator, Newfields WWTF, Newfields, July 6, 2020

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

A copy of the Final Permit and this response to comments document will be posted on EPA Region 1 web site: http://www.epa.gov/region1/npdes/permits_listing_ma.html.

A copy of the Final Permit may be also obtained by writing or calling Evan Lewis, USEPA, 5 Post Office Square, Suite 100 (Mail Code: 06-4), Boston, MA 02109-3912; Telephone: (617) 918-1543; Email lewis.evan@epa.gov.

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I. Summary of Changes to the Final Permit

1. The fecal coliform sampling frequency required in Part I.A.1 of the permit has been reduced from daily to three times per week. See Response 1.
2. Footnote 9 in Part I.A.1 of the permit has been revised to: “The Average Monthly values for Fecal Coliform shall be determined by calculating the geometric mean

using sample results. As a Daily Maximum, not more than 10 percent of collected samples (over a monthly period) shall exceed a Most Probable Number (MPN) of 43 per 100 mL for the 5-tube decimal dilution test. Each month the percentage of collected samples that exceeds an MPN of 43 per 100 mL for the 5-tube decimal dilution test shall be reported as the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).” See Response 1.

3. A new daily monitoring requirement for fecal coliform using an EPA method that meets the timeliness requirements of the NHDES Shellfish Program has been added to the state 401 certification conditions in Part I.I. See Response 1.
4. The Facility’s address has been changed from 1 Hardarts Way to 1 Hardardt’s Way. See Response 7.
5. The Final Permit’s arsenic monitoring requirement in Part I.A.1 has been changed from inorganic arsenic to total arsenic. See Response 6.
6. Part I.I State Permit Conditions has been revised to require an annual arsenic optimization report for the duration the permit. The report shall be submitted by **August 31st** each year. The report shall contain an evaluation of all potentially significant sources of arsenic in the collection system and provide alternatives for minimizing these sources. The permittee shall implement these alternatives and summarize the actions taken to do so. See Response 6.
7. Part I.G.1.c of the Final Permit has been changed to, “Daily post-disinfection effluent samples of either 28 organisms per 100 mL or greater. Notification shall also be made for instances where NPDES-required bacteria sampling is not completed, or where the results of such sampling are invalid. This is a state certification requirement.” This requirement differs from the Draft Permit insofar as daily post-disinfection effluent samples need to be at least 28 organisms per 100 mL, instead of 31 CFU per 100 mL or greater. See Response 2.

II. Responses to Comments

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

A. Comments from Thomas, O’Donovan, P.E., Director, Water Division, NHDES, dated August 5, 2020

Comment 1

The above referenced draft NPDES permit includes permit limits for fecal coliform that are based on the methods approved by the National Shellfish Sanitation Program (NSSP) Manual of Operation for testing of fecal coliform, to the exclusion of the use of any methods not included in

the NSSP. These limits are based on EPA's interpretation of New Hampshire's water quality standards, and NHDES disagrees with this interpretation.

State law requires NHDES to follow the NSSP in classifying tidal waters used for the growing or taking of shellfish. RSA 485-A:8 and Appendix E of New Hampshire Code of Administrative Rules Env-Wq 1700 state that, "Those tidal waters used for growing or taking of shellfish for human consumption shall, in addition to the foregoing requirements, be in accordance with the criteria recommended under the National Shellfish Program Manual of Operation, United States Department of Food and Drug Administration." In addition, New Hampshire Code of Administrative Rules Env-Wq 1703.06 states, "... the bacteria criteria shall be applied at the end of a wastewater treatment facility's discharge pipe." EPA has incorrectly interpreted these requirements from the New Hampshire water quality standards in combination to require that wastewater treatment facilities in New Hampshire sample their effluent in accordance with NSSP approved methods.

The NSSP Model Ordinance Chapter IV, @.03 Growing Area Classification requires that, "An area classified as prohibited shall be established adjacent to each sewage treatment plant outfall." Per *NSSP Section I, Definitions*, "prohibited" is defined as, "a classification used to identify a growing area where the harvest of shellstock for any purpose, except depletion, gathering of seed or nursery culture for aquaculture, is not permitted."

As the area surrounding a wastewater treatment facility's outfall is prohibited from shellfishing by the NSSP, the water quality criteria in RSA 485-A:8 and New Hampshire Code of Administrative Rules Env-Wq 1700 for "tidal waters used for the growing or taking of shellfish" do not apply to the waters immediately adjacent to the wastewater facility outfall, within the designated Prohibited zone. Rather, the water quality criteria are applicable to the receiving waters outside of the Prohibited zone. And while the monitoring of bacteria in WWTF effluent is not required in order to meet the New Hampshire water quality standards for the growing or taking of shellfish since the NSSP classifies the water adjacent to a wastewater treatment facility outfall as prohibited for shellfishing, it is required in order to determine the Prohibited zone for a wastewater treatment facility per the NSSP. This classification is solely the responsibility of the state.

As explained in *NSSP Model Ordinance Chapter IV, @.03 Growing Area Classification* "The determination of the size of the area to be classified as prohibited adjacent to each outfall shall include...the performance of the wastewater treatment plant and the microbiological quality of the effluent" and "The wastewater's dispersion and dilution, and the time of waste transport to the area where shellstock may be harvested." As such, the prohibited zones surrounding a wastewater treatment facility are designed with sufficient dilution as to negate the effects of wastewater once it reaches the edge of the Prohibited zone if the performance of the wastewater treatment plant results in adequate microbiological quality of the effluent.

NHDES, as well as EPA in 40 CFR 136.1, has determined that it is appropriate to monitor the performance of a wastewater treatment facility and the microbiological quality of the effluent using methods listed in 40 CFR 136.3. The United States Food and Drug Administration (FDA), via a recent Interpretation and email correspondence, agrees with this approach and explicitly

states that NPDES effluent testing, used to evaluate the performance of a wastewater treatment facility, does not need to utilize NSSP approved laboratory methods. Therefore, bacteria testing for wastewater treatment facility effluent should not be limited to NSSP approved methods where it discharges into a Prohibited zone.

NHDES would also like to note that of the four NSSP approved methods that EPA lists in the permit's fact sheet on page 19 as acceptable for use in evaluating fecal coliform in the facility's effluent, only one of the methods, the 5-tube decimal dilution test, is approved for use under 40 CFR 136.3. EPA's interpretation that an NSSP approved method must be used by New Hampshire wastewater treatment facilities to monitor for fecal coliform, and the requirement for facilities to use approved methods under 40 CFR 136.3 for NPDES compliance, appears to limit all facilities to the use of a 5-tube decimal dilution test.

Due to EPA's incorrect interpretation of NH water quality standards, as noted above, the only method available to facilities would be the 5-tube decimal dilution test. Restricting the test methods for fecal coliform to one method, and the 5-tube decimal dilution test in particular, could create issues with ability of facilities to consistently monitor for fecal coliform and provide timely notifications to the NHDES shellfish program if the discharge from a wastewater treatment facility has a bacteria concentration of concern. Currently, only one lab in the state of NH, the NH DHHS lab, is set up to accommodate the 5-tube decimal dilution test. With nearly all of the seacoast facilities performing daily monitoring for fecal coliform, and only one lab currently able to accommodate the EPA's proposed required test method, this has the potential to delay or prohibit testing. In addition, depending on the medium used for the 5-tube decimal dilution test, the incubation period could be multiple days, as opposed to the 18-22-hour incubation period for the Colilert-18 method. Even if more labs are set up to accommodate this method, the level of staff training, equipment needed, and incubation times will limit the number of labs for which this is feasible. Further, limiting the approved test methods to a single method could delay or prevent testing, should any of the equipment or reagents become unavailable.

NH facilities could choose to perform this one test in-house, however history has shown that the majority of the impacted facilities chose to go with the simpler Colilert-18 method many years ago after struggling with having the in-house expertise with the more complex methods, and their own concern with having consistently accurate results. The Colilert-18 method, now included in 40 CFR Part 136.3, has been successfully used by 11 Seacoast facilities for up to eight years for NPDES compliance.

Most important, the NHDES shellfish program relies on timely and consistent information from the seacoast wastewater treatment facilities in order to quickly determine whether further testing of the receiving waters outside of the Prohibited zone is required by NHDES, and shellfish areas need to be closed for harvest. This is important for the health and safety of those who consume shellfish harvested from the NH seacoast. Should this information be delayed or prevented due to unnecessary restrictions on which test methods can be used, it could result in longer identification and correction periods for violations of NH's water quality standards, and create health and safety concerns due to delayed closures of shellfish harvest areas. EPA's incorrect interpretation of New Hampshire rules and statutes could have direct negative consequences on the health of residents and visitors to the state and consumers of shellfish.

Response 1

EPA maintains its interpretation that current NH statutes, regulations and policy documents require effluent limits for facilities that discharge to tidal waters used for the growing or taking of shellfish that ensure compliance with the bacteria criteria recommended in the NSSP.

The NH Statute at Title 50, Chapter 485A, Section 485-A:8.II, states Class B waters “shall be considered as being acceptable for fishing, swimming and other recreational purposes and, after adequate treatment, for use as water supplies.” Additionally, 485-A:8.V requires that “Those tidal waters used for growing or taking of shellfish for human consumption shall, in addition to the foregoing requirements, be in accordance with the criteria recommended under the National Shellfish Program Manual of Operation, United States Department of Food and Drug Administration.”

NH Regulations at Env-Wq 1703.01 - Water Use Classifications; Designated Uses state:

- (a) All surface waters shall be classified as provided in RSA 485-A:8, based on the standards established therein for class A and class B waters. Each classification shall identify the most sensitive use it is intended to protect.
- (b) All surface waters shall be restored to meet the water quality criteria for their designated classification including existing and designated uses, and to maintain the chemical, physical, and biological integrity of surface waters.
- (c) All surface waters shall provide, wherever attainable, for the protection and propagation of fish, shellfish and wildlife, and for recreation in and on the surface waters.
- (d) Unless high or low flows are caused by naturally-occurring conditions, surface water quantity shall be maintained at levels adequate to protect existing and designated uses.

Env-Wq 1703.06 requires

- (a) Uses and criteria associated with bacteria shall be as set forth in RSA 485-A:8, I, II, and V.
- (b) Subject to (c), below, the bacteria criteria shall be applied at the end of a wastewater treatment facility's discharge pipe.
- (c) For any combined sewer overflow that discharges into non-tidal surface waters, a bacteria criteria of 1,000 Escherichia coli per 100 milliliters shall apply at the end of the combined sewer overflow's discharge pipe.

EPA finds that the language in the NH Water Quality Standards (WQS) at Chapter 485A, Section 485-A:8, V is specific that the criteria in the NSSP Manual must meet “in addition to the foregoing requirements” that “tidal waters for swimming purposes shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 35 enterococci per 100 milliliters, or 104 enterococci per 100 milliliters in any one sample, unless naturally occurring.” The effluent limits in the Draft

Permit were established to address these requirements as it had been in the 2007 Permit and is consistent with NHDES policy.¹

EPA recognizes that FDA requires a prohibited zone around NPDES outfalls, which precludes shellfishing. However, regardless of the FDA prohibited zone around the NPDES outfall, the WQS found at 485-A:8 and Env-Wq 1700 apply to waters immediately adjacent to the POTW outfall to protect the designated uses of the receiving water. The WQS specifically require that “bacteria criteria shall be applied at the end of the wastewater treatment facility’s discharge pipe.” However, in the future NHDES may propose to remove or modify the designated use (as long as it is not an existing use), i.e., shellfishing, within the designated prohibited zone, after justifying that change through a Use Attainability Analysis (UAA) process (*See* Env-Wq 1709.01 and 40 CFR 131.10(g)(1)-(6)). Until a UAA is completed and approved by EPA, shellfishing remains a designated use in the receiving water and the WQS apply at the end of the discharge pipe.

The NH WQS include two different bacteria criteria for tidal waters based on designated use: the enterococci criteria protect the swimming use and NSSP bacteria criteria protect the shellfishing use. The criteria for the shellfishing use are included in the NH WQS by reference to the National Shellfish Program Manual of Operation, most recently entitled, “National Shellfish Sanitation Program² (NSSP): Guide for the Control of Molluscan Shellfish, 2017 Version.”

The NSSP requires:

E. Standard for the Approved Classification of Growing Areas Affected By Point Sources.

- (1) Water Quality. The bacteriological quality of every station in the growing area shall meet the fecal coliform standard in Section E. (2).
- (2) Fecal Coliform Standard for Adverse Pollution Conditions. The fecal coliform median or geometric mean MPN or MF (mTEC) of the water sample results shall not exceed fourteen (14) per 100 ml, and not more than ten (10) percent of the samples shall exceed an MPN or MF (mTEC) of:
 - (a) 43 MPN per 100 ml for a five-tube decimal dilution test;
 - (b) 49 MPN per 100 ml for a three-tube decimal dilution test;
 - (c) 28 MPN per 100 ml for a twelve-tube single dilution test; or
 - (d) 31 CFU per 100 ml for a MF (mTEC) test.

Note that while the geometric MPN or MF for each method above is the same, 14, the 10% statistical threshold value which the MPN or MF may not exceed is different depending on the method used.

¹ Stergios K. Spanos, NHDES to George Berlandi, NHDES, October 23, 2001, RE: Wallis Sands State Park Wastewater Treatment Facility NPDES Permit & DES Policy on Bacteria Limitations in NPDES Permits.

² U.S. Food and Drug Administration, 2017, National Shellfish Sanitation Program (NSSP): Guide for the Control of Molluscan Shellfish, 2017 Revision. <https://www.fda.gov/media/117080/download>

EPA agrees that the MF (mTEC) method is not an approved 40 CFR Part 136 method for fecal coliform. EPA had switched to the MF (mTEC) method to avoid the issue with limited laboratories in NH currently providing 5-tube decimal dilution method analysis. However, given the 5-tube decimal dilution method is an approved 40 CFR Part 136 method and EPA is limited to the methods listed above as the criteria is specific to the method, EPA has changed Footnote 9 to reflect the requirement in the 2007 Permit to use the 5-tube decimal dilution method.

EPA recognizes the DES's concern with turn-around time for the 5-tube method, which does not meet the turnaround time necessary for the NHDES shellfish program to make shellfish harvesting decisions. However, the purpose of the NPDES permit is to meet the requirements of the CWA, which requires adherence to NH WQS. EPA finds no sound justification for an effluent limit using methods other than those provided by the NSSP. NSSP criteria provide no median, mean or 10% statistical threshold value for the Colilert-18 method, so there would be no scientific basis for an effluent limit defined by that method. EPA is not aware of any NSSP criteria updates that are in progress or forthcoming that include criteria using the Colilert-18 method.³ EPA also notes that FDA has expressed concerns about the suitability of the Colilert test in this context. See email from Chris Nash, NHDES, to Amy Fitzpatrick, FDA, to Chris Nash, NHDES, dated March 31, 2020 ("The Colilert test is not appropriate for use in the context of NSSP standards as they relate to classification and/or opening an area after a pollution event, as it is not an NSSP approved method. It In the wake of hurricane Katrina in 2005, a state wanted to get their sampling program up and running but their laboratories were out of commission. As their laboratories couldn't accommodate the volume of samples using A-1, they tried Colilert and found that most/all of the samples were positive strongly suggesting it wasn't appropriate for this purpose.").

However, based on the concerns raised in this comment and the state's 401 water quality certification letter,⁴ a new daily fecal coliform monitoring requirement has been added as a New Hampshire 401 certification condition that allows the use of any EPA-approved analytical method, including the Colilert-18 method, that meets the timeliness requirements of the NHDES Shellfish Program. See Part I.I.11 of the Final Permit. In addition, the frequency of fecal coliform compliance monitoring using the 5-tube method in Part I.A.1 of the permit has been reduced from daily to 3 times per week.

B. Comments from James Sullivan, Town Manager, Town of Hampton, dated August 5, 2020

Comment 2

NPDES Permit PART I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS; Footnote 9

³ Email. Joel Hansel, EPA to Dan Arsenaault, EPA, May 27, 2020, RE: Questions about NSSP Testing – Use of Colilert-18 (IDEXX)

⁴ Letter. Thomas O'Donovan, NHDES to Ellen Weitzler, EPA, August 24, 2020, RE: Leavitt E. Magrath Wastewater Treatment Plant, Hampton, NH, Certification of NPDES Permit No. NH0100625.

Current language:

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 Colony Forming Units (CFU) per 100ml for a MF (mTEC) test. Each month the percentage of collected samples that exceeds 31 CFU per 100 ml for the MF (mTEC) test shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Revise language as follows:

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 ~~Colony Forming Units (CFU)~~ **organisms** per 100 mL ~~for a MF (mTEC) test~~. Each month the percentage of collected samples that exceeds 31 **organisms** CFU per 100 ml ~~for the MF (mTEC) test~~ shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Rationale for Change:

a) Removal of CFU as the unit of measure allows the use of methods that report in different units accepted by US EPA for compliance with Clean Water Act testing. Removing CFU and stating 'organisms' will be less confusing to utilities and laboratories as they decide on using either a CFU or MPN reporting test method.

b) Remove mTEC as sole analytical test method. Presumably this requirement is based on the NH RSA 485-A:8. V and National Shellfish Sanitation Program (NSSP) Manual of Operation (2017). EPA appears to have interpreted the NSSP specified testing methods as being exclusive and applicable to discharges to these waters. Based on our assessment, both NH RSA 485 and the NSSP Manual are clear in stating that the standards and guidelines within those documents are developed for application on the **receiving water bodies** (defined as a "tidal waters" and "shellstock growing areas"), and are not specifically specified for testing of discharges to the receiving waters. Therefore, the NSSP bacterial testing methods should not be mandated for testing wastewater effluent. The Colilert-18 (IDEXX) method for fecal coliform testing in wastewater effluent has been approved under 40 CFR Part 136 under the Clean Water Act since 2017 and has been recognized as an equivalent coliform testing method by EPA. The most recent revision of the NSSP in 2017 likely predates the EPA approval of the Colilert-18 (IDEXX), which may explain why this method is not included in the NSSP. The Town respectfully requests that Colilert-18 (IDEXX) method remain an accepted method for testing Fecal coliform bacteria for wastewater effluent. It should also be noted that the Town has made significant investment in the Colilert-18 (IDEXX) testing equipment and employee training, which will now be worthless if this section of the NPDES permit is not revised.

c) It is unnecessary to specify the fecal coliform testing method within the permit because "... NPDES permits require that the approved analytical procedures found in 40 C.F.R Part

136 be used for sampling and analysis unless other procedures are explicitly specified ... " (Fact Sheet .Section 2.4.1. Monitoring Requirements)

Response 2

Please see Response 1.

EPA has revised that language in Footnote 9 in the Final Permit to reflect the language in the 2007 Permit. The mTEC method has been removed and the 5-tube decimal dilution test method has been re-instated with a monitoring frequency of three per week.

EPA recognizes that Colilert-18 is an approved 40 CFR Part 136 method for fecal coliform bacteria testing in wastewater. However, the WQS which are applicable to the Hampton discharge require that the fecal coliform bacteria be in accordance with the criteria recommended under the NSSP. Colilert-18 has not been approved by FDA for use under the NSSP; and therefore, no criteria has been set for Colilert-18 in the NSSP. There have been numerous inquiries into FDA about the use of Colilert-18, but again, there is nothing before the Interstate Shellfish Sanitation Conference, the group authorized to make changes to the NSSP, to change the NSSP Guide at this time.

Contrary to the Town's comment, EPA is required to specify the analytical method in the permit because the criteria in the NSSP are different, depending on the analytical method used. In other words, New Hampshire has opted to formulate its water quality standard for tidal waters used for growing or taking of shellfish for human consumption in a manner that intrinsically links it to the analytical method employed.

However, since the daily fecal coliform monitoring requirement now included in Part I standard conditions allows the use of any EPA approved method, EPA has removed the revised the language in Part I.G.1.c of the Final Permit requiring notification to reflect units of "organisms per 100 mL" rather than "CFU per 100mL."

Comment 3

NPDES Permit PART I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.; Footnote 13

Current language:

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

Revise language as follows:

For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSES for the receiving water sample collected as part of the WET testing requirements. Such samples shall be taken from the

receiving water a point immediately outside of the permitted discharge's zone of influence at a reasonably accessible location or alternative dilution water if approved by EPA as specified in **Attachment A and B**. Minimum levels and test methods are specified in **Attachment A and B**, Part VI.CHEMICAL ANALYSES

Rationale for Change:

The Town of Hampton has been using Alternative Dilution Water (ADW) from the Hampton/Seabrook Estuary since 1981 because the receiving water immediately outside the permitted discharge's zone of influence is not reasonably accessible, is influenced by the effluent discharge due to tidal influence and is also influenced by road drainage. The proposed revised language is necessary to avoid conflict between the NPDES permit and the Town's approved WET test methodology, which is in compliance with the Attachment A and B protocols. WET test methodology, which is in compliance with the Attachment A and B protocols.

Response 3

The Permittee is not precluded from taking ambient samples during high tide, as the Facility's effluent will discharge directly to the receiving water. In any case, the Facility must reapply to use ADW once the Final Permit becomes effective. Also, please note that the WET test methodologies (Attachments A and B to the Final Permit) have been updated since the 2007 Permit was issued.

Comment 4

NPDES Permit PART I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.; Part I.A.4

Part I.A.4

Current language:

Tainting substances shall not be present in the discharge in concentrations that individually or in combination are detectable by taste and odor tests performed on the edible portions of aquatic organisms.

Comment:

The Town is concerned that this requirement is subjective and could open the Town up to unfounded liability. We respectfully request that the EPA provide a metric for which "objectionable taste, odor, or color" as described by Env-Wq 1700 will be defined or tested in the instance that a claim is made.

Response 4

NH WQS at Env-Wq 1703.03(c)(1) prohibit substances that would, "*Produce odor, color, taste or turbidity which is not naturally occurring and would render it unsuitable for its designated uses,*" in all surface waters. Env-Wq 1703.03(c)(3) requires that "*Tainting substances shall not be present in concentrations that individually or in combination are detectable by taste and odor tests performed on the edible portions of aquatic organisms,*" for all surface waters. The narrative permit condition is a close translation of the applicable narrative water quality criteria. Unlike many numeric water

quality criteria, narrative criteria can sometimes contain inherently subjective components that are not well suited to translation into binary tests or strict numeric thresholds, which might facilitate compliance, as the commenter suggests. Where translation of the narrative criteria into a numeric target is infeasible, expressing that narrative criteria as a narrative permit condition is reasonable, if not necessary, in order to implement state water quality standards, as EPA is obligated to do under Section 301 of the Act. Limits like these do not expose permittees to “unfounded liability,” but they do require interpretation, like many enforceable legal requirements. As to the definition of “tainting substances,” EPA construes the term “objectionable” consistent with its common usage, that is, “unpleasant” or “offensive.” “Detectable” in its ordinary usage means “noticeable” or “perceptible.” Together, these terms are sufficiently clear to apprise a person of ordinary intelligence of their obligations under the permit and will not foster arbitrary enforcement. In order to enforce the provision, EPA would need to determine whether a reasonable person would find that tainting substances are present in the discharge, that they are causing noticeable or perceptible tastes or odors that are offensive or unpleasant, and that the permittee caused or contributed to that tainting.

Comment 5

NPDES Permit Part I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS; Footnote 11

This footnote specifies, “...Toxicity test samples shall be collected and test completed during the same weeks each time of the calendar quarter ending...”. It is not clear what this means. Is it the “same week” reference in terms of one quarter to the next, or is it in terms of the same quarter from the previous year? Please clarify the meaning. We also request that this requirement be removed or expand the time period (e.g. same month of the quarter) to allow for potential coordination issues that can occur in the completion of WET testing including staff availability and coordination of the laboratory.

Response 5

In the context of collecting toxicity test samples, “same week” refers to one quarter to the next. For instance, a facility sampling starting the second week of March would need to sample during the second week of June, September, and December. Allowing the Facility to choose which week during the calendar quarter it will sample gives the Facility flexibility concerning staff availability and coordination with laboratories.

Comment 6

NPDES PERMIT PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS; ITEM 1 EFFLUENT Limitations and Monitoring table, Inorganic Arsenic monitoring

Comment:

Monitoring of this parameter is a new requirement. We were not able to determine the EPA approved testing method for inorganic arsenic within 40 CFR Part 136. Please specify which test method should be used and the ML value. One private lab we contacted put forth a proposal for testing EPA method 1632 that would have cost \$400 per sample-this would result in an annual

cost of \$9,600 per year at the proposed monitoring frequency. Depending on the specific testing method prescribed by EPA and its cost, we would respectfully request that the testing frequency be reduced to 1 time per quarter in tandem with our normal WET testing.

Response 6

EPA recognizes that there is not an approved 40 CFR 136 method. Therefore, the Final Permit has a monitoring requirement that has been changed from inorganic arsenic to total arsenic. The monitoring frequency has not been changed, given the deleterious effects of arsenic on human health and the environment. In addition, the Final Permit includes a condition of New Hampshire's August 24, 2020 water quality certification to evaluate sources of arsenic and alternatives for minimizing those sources; to implement those measures and to submit an annual arsenic optimization report. New Hampshire's specific condition related to arsenic is as follows:

The draft permit contains a reporting requirement for inorganic arsenic. However, there are no methods for inorganic arsenic analysis that are approved under 40 CFR 136.3 for wastewater. As the fact sheet states, "The arsenic water quality criteria are for inorganic arsenic. The maximum effluent concentration recorded at the Facility in its application is for total recoverable arsenic and was 3 µg/L. Since the Facility's discharge is not submerged within the Unnamed Tributary of Tide Mill Creek during low tide, there is no available dilution to mitigate arsenic downstream of the discharge." The downstream concentration of total recoverable arsenic exceeds the human health criterion for fish consumption (0.14 µg/L). Because the portion of the total arsenic concentration that is inorganic arsenic is unknown, but there is reasonable potential that the inorganic arsenic concentration could be exceeding the human health criteria, in lieu of requiring an inorganic arsenic limit, NHDES is requiring that total arsenic monitoring be maintained at a frequency of twice per month, and the permit contains a requirement for an annual arsenic optimization report. At a minimum, the report shall contain an evaluation of all potentially significant sources of arsenic in the collection system, and provide alternatives for minimizing these sources. The permittee shall implement these alternatives and summarize the actions taken to do so. Per Env-Wq 1703.21(b), "Unless allowed under Env-Wq 1707 or naturally occurring, concentrations of toxic substances in all surface waters shall not exceed the recommended safe exposure levels of the most sensitive surface water use shown in Table 1703-1...." The monitoring requirement for total arsenic and the requirement for arsenic optimization are a way to allow for compliance with the inorganic arsenic human health criterion in Table 1703-1, without an approved method of sampling for inorganic arsenic.

The monitoring requirements may be found in Part I.A.1 and State Permit Conditions in Part I.I.10.

Comment 7

NPDES Permit Cover Sheet

*Correct spelling of the facility address to 1 **Hardardt's** Way.*

Response 7

EPA has corrected the address in the Final Permit.

Comment 8

Fact Sheet Page 1/34

Change the address of Applicant to “100 Winnacunnet Road, Hampton, NH 03842.”

Response 8

Fact sheets are not modified following the public comment period; however, EPA acknowledges the correction in its administrative record. Such a correction will be reflected on the letter sent to the Facility in conjunction with its Final Permit.

Comment 9

Fact Sheet Page 19/34, Section 5.1.6, Last Paragraph

Revise this paragraph to include reference to “enterococci”

Response 9

Fact sheets are not modified following the public comment period; however, the comment is part of the administrative record and the Final Permit. EPA notes that the last paragraph of section 5.1.7. of the fact sheet is in reference to *Enterococci*.

C. Comments from Lee Arthur, Sewer Administrator, Town of Rye Sewer Commission, July 21, 2020

Comment 10

PART I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.; Footnote 9

Current language:

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 Colony Forming Units (CFU) per 100 mL for a MF (mTEC) test. Each month the percentage of collected samples that exceeds 31 CFU per 100 mL for the MF (mTEC) test shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Revise language as follows:

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 ~~Colony Forming Units (CFU)~~ organisms per 100 mL for a MF (mTEC) test. Each month the percentage of collected samples that exceeds 31 organisms ~~CFU~~ per 100 mL for the MF (mTEC) test shall be reported at the

Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Rationale for Change:

a) Removal of CFU allows the use of methods that report in different units accepted by US EPA for compliance with Clean Water Act testing. Removing CFU and stating ‘organisms’ will be less confusing to utilities and laboratories as they decide on using either a CFU or MPN reporting test method.

b) Remove mTEC as sole analytical test method. Because by allowing other testing methods allows for better accuracy, ease of use, quicker results and ability to act upon those results faster, higher precision adherence with EPA Sufficiently Sensitive Method Rule.

c) EPA Region I and NHDES should leverage their authority and focus on compliance with US EPA regulations at 40 CFR 136, versus FDA regulations, and allow the use of any of the most sensitive and accurate testing methods regardless of the NHDES reference to FDA NSSP Guidance.

Response 10

Please see Responses 1 and 2.

Comment 11

Fact Sheet, Section 2.4.1 Monitoring Requirements (pages 18/19)

Comment:

Authors requested comment on the methods listed as:

- MPN of 43 per 100 milliliters for a 5-tube decimal dilution test; or
- MPN of 49 per 100 mL for a 3-tube decimal dilution test; or
- MPN of 28 per 100 mL for a 12-tube single dilution test; or
- 31 colony forming units (CFU) per 100 mL for a MF (mTEC) test.

EPA Region I should allow the use of any US EPA analytical listed at 40 CFR 136.3, not only mTEC or multiple tube fermentation methods, to best protect environmental and public health.

Rationale:

US EPA requires the use of sufficiently sensitive methods (US EPA (2104) Docket EPA-HQ-OW-2009-1019) for compliance with EPA programs and regulations. Data are the important outcome of testing and should assure the Agency that the waterways and public are protected at the highest level practical. Not allowing improved methods, such as Colilert-18/fecal coliform method as listed at Part 136.3, is counter to that requirement.

It is strongly suggested EPA Region I exert their regulatory authority and allow the use of any sufficiently sensitive EPA-approved method listed at 40 CFR 136.3 for compliance with this permit, regardless of NHDES language referencing FDA regulation. It is the responsibility of Region I to adhere to EPA regulatory requirements and determinations.

Change the bacterial testing target to enterococci to match NH beach testing instead of matching to FDA NSSP Guide.

Summary

Allow the use of any sufficiently sensitive, EPA-approved fecal coliform testing method listed at 40 CFR 136.3 by leveraging EPA Region I authority to do so. Additionally, remove CFU and replace with organisms to avoid confusion on reporting units.

Response 11

Please see Responses 1 and 2.

D. Comments from Betsy Reilly, Ph.D., Director, Environmental Quality Department, MWRA, dated August 4, 2020

Comment 12

Comments on Co-Permittees

MWRA appreciates that the United States Environmental Protection Agency (EPA) has included language that provides clarity about responsibilities among the co-Permittees. However, MWRA continues to have reservations about the inclusion of municipal entities that have not applied for a permit and are not directly discharging to a water of the Commonwealth or the United States. MWRA remains concerned that the co-Permittee model is inconsistent with the intent of the Clean Water Act.

Response 12

EPA acknowledges the comment. For a discussion of the three aspects of EPA's co-permitting approach identified in the comment, please see *In re Charles River Pollution Control Dist.*, 16 EAD 623 (EAB 2015). Those specific rationales, as well as the bases identified by the Board in upholding EPA co-permittee approach, are incorporated here.

Comment 13

Comments on indicator bacteria methods – I.1.a footnote 9

The draft permit includes use of a specific testing method (mTEC) for fecal coliform. MWRA strongly recommends removing mTEC as the only analytical test method and instead allow the use of any sufficiently sensitive EPA-approved method listed at 40 CFR 136.3 for compliance with this permit. As noted in the Fact Sheet, other methods are acceptable. Additionally, MWRA suggests removing 'Colony Forming Units (CFU)' and replacing it with "organisms". This will allow for the use of methods that report in different units accepted by EPA in compliance with 40 CFR 136 and will help to avoid confusion on reporting units.

Response 13

EPA directs MRWA to Responses 1 and 2.

EPA also notes that there is a distinct difference between the New Hampshire WQS and the Massachusetts WQS regarding reference to the NSSP. As discussed above, the NH WQS require that "*tidal waters used for growing or taking of shellfish for human consumption shall, in addition to the foregoing requirements, be in accordance with the*

criteria recommended under the National Shellfish Program Manual of Operation...” This requires effluent limits consistent with the numerical criteria in the NH WQS and the numerical criteria in the NSSP. The MA WQS require, “*Waters designated for shellfishing shall not exceed a fecal coliform median or geometric mean MPN of 88 organisms per 100 ml, nor shall more than 10% of the samples exceed an MPN of 260 per 100 ml or other values of equivalent protection based on sampling and analytical methods used by the Massachusetts Division of Marine Fisheries and approved by the National Shellfish Sanitation Program in the latest revision of the Guide For The Control of Molluscan Shellfish (more stringent regulations may apply, see 314 CMR 4.06(1)(d)(5)).*” Given the “or” in the MA WQS, EPA establishes effluent limits for compliance with the numerical standards in the MA WQS.

Comment 14

Comments on Special Conditions

The draft permit requires immediate notification of the Shellfish Section of NHDES-WD of possible high bacteria/virus loading events. Although disinfection system problems or failure to meet the fecal coliform limit would indicate a risk to shellfish consumers, it is not clear why exceeding a particular flow value would do so. If the disinfection is adequate the bacteria count in the effluent will meet the shellfishing standard for receiving water. Therefore, it would be impossible for the effluent to cause a violation of the shellfishing standard regardless of the volume discharged, provided the numerical effluent concentration limit is met. MWRA recommends the following changes to this condition:

- In section G.1, change “high bacteria/virus loading events” to “potential high bacteria/virus concentration events”
- Delete G.1.b, the requirement to provide notification if flows exceed the rolling average flow limit of 4.7 MGD.

Response 14

These Special Conditions are included at the request of NHDES Shellfishing Program. The language was provided by NHDES.

The NHDES Shellfish Program has traditionally requested that facilities notify program staff when flows exceed the effluent flow used to develop the prohibitive zone. It is not an effluent limit and is used by the Shellfish Program for management purposes. Because of the human health and ecological impacts associated with high bacteria/virus loading events, this reporting requirement is reasonable and rationally related to the purposes of the CWA.

Comment 15

Comments on Nitrogen

The draft permit requires monitoring of total nitrogen in the effluent. Although monitoring of effluent nitrogen is likely not onerous, MWRA cautions that the Fact Sheet does not adequately justify a concern about nitrogen loading to the Tide Mill Creek. Establishing whether the receiving water, or the downstream estuary, is impaired because of nitrogen loading, is not the

responsibility of NPDES permittees. In addition, the appropriate next step for addressing any such impairment would be development of an approved TMDL.

Response 15

EPA often gathers a variety of effluent and ambient data from the permittee and/or other entities during a permit cycle, including to determine the need for future permit limits. Such information gathering is consistent with the Clean Water Act. *See* CWA §308(a). Although EPA agrees that a TMDL addresses an impairment, the commenter's suggestion that wastewater dischargers may not be subject to monitoring or sampling requirements imposed for the purpose of determining the quality of the waters without a TMDL that receive their pollutant discharges, and the need to control those pollutant discharges, is without foundation in the Act. To the contrary, it is expressly contemplated by NPDES regulations and is supported by case law. Further, the Piscataqua Region Estuaries Partnership has noted that the WWTF has the highest loading rate for nitrate nitrogen along the entire NH seacoast; the report also notes that further, continual assessments of effluent levels are needed to address the fate and effects in receiving waters.⁵

EPA frequently includes monitoring requirements in a permit with the objective of using the data to determine the need for a limit in a subsequent permit and is authorized to do so under the Act and implementing regulations. The data collected during this permit cycle in conjunction with other water quality data will be used by EPA in the development of a subsequent permit.

E. Comments from Patsy Root, Regulatory Affairs Manager, IDEXX Water, dated July 20, 2020

Comment 16

PART I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.; Footnote 9

Current language:

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 Colony Forming Units (CFU) per 100 mL for a MF (mTEC) test. Each month the percentage of collected samples that exceeds 31 CFU per 100 mL for the MF (mTEC) test shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Revise language as follows:

⁵ Bolster, C., Bromley, J., Jones, S. (2003, December). *Evaluation of Effects of Wastewater Treatment Discharge on Estuarine Water Quality*. Piscataqua Region Estuaries Partnership.
<https://scholars.unh.edu/cgi/viewcontent.cgi?article=1306&context=prep>

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 ~~Colony Forming Units (CFU)~~ **organisms** per 100 mL for a MF (mTEC) test. Each month the percentage of collected samples that exceeds 31 **organisms** CFU per 100 mL for the MF (mTEC) test shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Rationale for Change:

a. Removal of CFU units

- i. Removal of CFU as the unit of measure allows the use of methods that report in different units, such as either Most Probable Number or Colony Forming Units; both types of method reporting units are accepted by US EPA for compliance with Clean Water Act testing.
- ii. Removing CFU and stating ‘organisms’ will be less confusing to utilities and laboratories as they decide on using either a CFU or MPN reporting test method.

b. Remove mTEC as the sole analytical method for fecal coliform testing.

- i. This permit requires the testing of *wastewater effluent*, not shellfish bed nor receiving water testing. The regulatory methodology employed for wastewater effluent testing should comply with EPA wastewater effluent testing per 40 CFR 136.3 to accomplish the quality goals.
- ii. NH 485-A:8 states that wastewater effluent discharge ‘*be in accordance with the criteria*’ of the FDA NSSP guidance. The goal to meet the *criteria* but does not mandate being commensurate with the testing *methods*. Having wastewater effluent discharge meet or exceed the *criteria* of the receiving water can, and should, be accomplished by testing wastewater effluent with sufficiently sensitive EPA-approved fecal coliform testing method.
- iii. Removing mTEC as the only allowable fecal coliform test method allows utilities and laboratories to choose a sufficiently sensitive method that best supports their data reporting needs and still meets New Hampshire’s Water Quality Standards fecal coliform limits. The limit for fecal coliform can, and should, be *irrespective of the method*, which is consistent with the approach taken by US EPA.
- iv. Only allowing the use of mTEC would be a step back in data quality. Published data indicate the mTEC method can have an undetected target error of 20% and a **selectivity index of only 66%** (J. SANTIAGO-MERCADO and T.C. HAZEN). Allowing utilities and laboratories to choose methods from the CFR provides flexibility to use methods with higher selectivity and specificity to improve data outcomes.
- v. Only allowing a single analytical method is a risk to compliance. If medium or materials to perform this method become unavailable, the discharger cannot test. Historically, EPA encourages multiple testing methodologies to avoid any inability to perform compliance testing.

Response 16

Please see Responses 1 and 2.

Comment 17

Fact Sheet, Section 5.1.6 Monitoring Requirements (pages 18/19)

Comment:

The permit authors requested comment on the methods listed as:

- MPN of 43 per 100 milliliters for a 5-tube decimal dilution test; or
 - MPN of 49 per 100 mL for a 3-tube decimal dilution test; or
 - MPN of 28 per 100 mL for a 12-tube single dilution test; or
 - 31 colony forming units (CFU) per 100 mL for a MF (mTEC) test.
- a. EPA Region I should allow the use of any EPA-approved analytical listed at 40 CFR 136.3 for effluent discharges, not just mTEC, to best protect environmental and public health and meet the criteria objectives of 485-A:8.
 - b. US EPA has historically avoided having a single analytical method for compliance testing in situations where multiple analytical methods have been appropriately validated. This permit should allow any EPA-approved testing method listed in the CFR.

Rationale:

US EPA requires the use of sufficiently sensitive methods for compliance with EPA programs and regulations. Data are the important outcome of testing and should assure the Agency that the waterways and public are protected at the highest level practical. Not allowing methods with demonstrated performance advantages is counter to that requirement.

It is strongly suggested EPA Region I exert their regulatory authority by leveraging the EPA's Sufficiently Sensitive method rule (2014, EPA-HQ-OW-2009-1019) and allow the use of any sufficiently sensitive EPA-approved method listed at 40 CFR 136.3 for compliance with this permit, and to meet the criteria goals stated in NH 485-A:8 referencing FDA guidance.

Response 17

Please see Responses 1 and 2.

Comment 18

General Comment 1: FDA has not updated the NSSP microbial methods since 1990s

- a. US EPA is forward-looking in updating analytical methods to include methods that improving data quality and precision through the Method Update Rule process. This process leads to improved environmental and public health protection by allowing methods that are at least equal to, and often better than, older analytical methods. It appears, at least to this commenter, that FDA has not updated their analytical test methods in nearly 30 years. The mTEC method, specifically, is not widely used in laboratory settings.
- b. The mTEC method has been shown to be less protective of environmental and public health and puts the discharger at risk of not meeting EPA and State quality objectives (J. SANTIAGO-MERCADO and T.C. HAZEN).

Response 18

The mTEC method, as it is not approved in 40 CFR Part 136, has been removed from the Final Permit and replaced with the 5-tube decimal dilution test method. Please see Responses 1 and 2.

Comment 19

General Comment 2: Alternative to only allowing mTEC / fecal coliform testing

- a. Change the discharge bacterial target from fecal coliform to enterococci. This would match the US EPA Water Quality Standard guidance, US EPA BEACH Act bacterial targets, current NH beach regulations and most NH 485-A:8 water quality criteria. Updating this permit to test for enterococci will protect receiving waters and shellfish bed areas.

Response 19

See Responses 1 and 2

Comment 20

Summary

This commenter suggests focusing on the quality and testing of the effluent discharge, which will meet NH water quality criteria objectives. Allow the use of any sufficiently sensitive, EPA-approved fecal coliform testing method listed at 40 CFR 136.3 by leveraging existing EPA Region I authority and EPA Rules to meet effluent discharge requirements. Another alternative would be to use enterococci as the effluent discharge target to better align with federal and state water quality criteria. Lastly, remove CFU and replace with organisms to avoid confusion on reporting units.

Response 20

EPA is not at liberty to require any sufficiently sensitive, EPA-approved fecal coliform testing methods if such a method would contradict state WQS. Please see Responses 1 and 2.

F. Comments from Kirk Cram, Laboratory Director, Enthalpy Analytical, LLC, dated July 22, 2020

Comment 21

PART I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.; Footnote 9

Current language:

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 Colony Forming Units (CFU) per 100 mL for a MF (mTEC) test. Each month the percentage of collected samples that exceeds 31 CFU per 100 mL for the MF (mTEC) test shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Revise language as follows:

The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the

collected samples (over a monthly period) shall exceed a 31 Colony Forming Units (CFU) or Most Probable Number (MPN) per 100 mL. Each month the percentage of collected samples that exceeds 31 CFU or MPN per 100 mL shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).

Rationale for Change:

- a. Addition of MPN units
 - i. Addition of MPN as a unit of measure allows for the use of all methods that are accepted by US EPA for compliance with Clean Water Act testing.
 - ii. CFU and MPN are considered equivalent measurements of bacteria content.

- b. Remove mTEC as the sole analytical method for fecal coliform testing.
 - i. This permit requires the testing of wastewater effluent. The regulatory methodology employed for wastewater effluent testing should comply with EPA wastewater effluent testing per 40 CFR 136.3 to accomplish the quality goals.
 - ii. NH 485-A:8 states that wastewater effluent discharge “*be in accordance with the criteria*” of the FDA NSSP guidance. The goal to meet the criteria does not mandate using the test methods noted in the NSSP, nor is the NSSP intended to specify regulation of wastewater. Having wastewater effluent discharge meet or exceed the criteria of the receiving water can, and should, be accomplished by testing wastewater effluent with sufficiently sensitive EPA-approved fecal coliform testing method.
 - iii. Removing mTEC as the only allowable fecal coliform test method allows utilities and laboratories to choose a sufficiently sensitive method that best supports their data reporting needs and still meets New Hampshire’s Water Quality Standards fecal coliform limits. The limit for fecal coliform can, and should, be irrespective of the method, which is consistent with the approach taken by the US EPA and promulgated in 40 CFR 136.3.
 - iv. Only allowing the use of mTEC would be a step back in data quality. Published data indicate the mTEC method can have an undetected target error of 20% and a selectivity index of only 66% (J. SANTIAGO-MERCADO and T.C. HAZEN). Allowing utilities and laboratories to choose methods from the CFR provides flexibility to use methods with higher selectivity and specificity to improve data outcomes.
 - v. Only allowing a single analytical method is a risk to compliance. If medium or materials to perform this method become unavailable, the discharger cannot test. Historically, EPA encourages multiple testing methodologies to avoid any inability to perform compliance testing.
 - vii. The NSSP was developed to provide guidance related to shellfish and shellfish culturing as it relates to food for human consumption, not wastewater monitoring.

Response 21

Please see Responses 1 and 2.

Comment 22

Fact Sheet, Section 2.4.1 Monitoring Requirements (pages 18/19)

The permit authors requested comment on the methods listed as:

- MPN of 43 per 100 milliliters for a 5-tube decimal dilution test; or
- MPN of 49 per 100 mL for a 3-tube decimal dilution test; or
- MPN of 28 per 100 mL for a 12-tube single dilution test; or
- 31 colony forming units (CFU) per 100 mL for a MF (mTEC) test.

Comment:

- a. US EPA Region I should allow the use of any US EPA-approved analytical methods listed at 40 CFR 136.3 for effluent discharges, not just mTEC, to best protect environmental and public health and meet the criteria objectives of 485-A:8.
- b. US EPA has historically avoided having a single analytical method for compliance testing in situations where multiple analytical methods have been appropriately validated. This permit should allow any US EPA-approved testing method listed in the CFR.

Rationale:

US EPA requires the use of sufficiently sensitive test methods for compliance with US EPA programs and regulations. Data is the important outcome of testing and should assure the Agency that the waterways and public health are protected at the highest level practical. Not allowing methods with demonstrated performance advantages is counter to that requirement.

It is strongly suggested EPA Region I exert their regulatory authority by leveraging the EPA's Sufficiently Sensitive method rule (2014, EPA-HQ-OW-2009-1019) and allow the use of any sufficiently sensitive EPA-approved method listed at 40 CFR 136.3 for compliance with this permit, and to meet the criteria goals stated in NH 485-A:8 referencing FDA guidance.

Response 22

Please see Responses 1 and 2.

Comment 23

FDA has not updated the NSSP microbial methods since 1990s

- a. US EPA is forward-looking in updating analytical methods to include methods that improve data quality and precision through the Method Update Rule process. This process leads to improved environmental and public health protection by allowing methods that are at least equal to, and often better than, older analytical methods. It appears that FDA has not updated their analytical test methods in nearly 30 years. The mTEC method, specifically, is not widely used in laboratory settings.
- b. The mTEC method has been shown to be less protective of environmental and public health and puts the discharger at risk of not meeting EPA and State quality objectives (J. SANTIAGO-MERCADO and T.C. HAZEN).

Response 23

Please see Responses 1 and 2.

Comment 24

Summary

We suggest focusing on the quality and testing of the effluent discharge, which will meet NH and national water quality criteria objectives. Allow the use of any sufficiently sensitive, EPA-approved fecal coliform testing method listed in 40 CFR 136.3 by leveraging existing EPA Region I authority and EPA Rules to meet effluent discharge requirements. Finally, include both CFU and MPN units to facilitate the use of these promulgated methods.

Enthalpy Analytical, LLC encourages EPA Region I and NHDES to collectively consider these comments to continue the improvement and protection of the environment and public health.

Response 24

Please see Responses 1 and 2.

G. Comments from Sean T. Greig, Director of Environmental Services, Town of Newmarket, dated August 6, 2020

Comment 25

1.NPDES Permit PART I A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.; Footnote 9

The draft permit includes use of a specific testing method (mTEC) for fecal coliform. We recommend removing mTEC as the only analytical test method and instead allow the use of any sufficiently sensitive EPA-approved method listed at 40 CFR 136.3 for compliance with the permit. As noted in the Fact Sheet, other methods are acceptable. Additionally, we suggest removing "Colony Forming Units (CFU)" and replacing it with "organisms". This will allow for the use of methods that report in different units accepted by EPA in compliance with 40 CFR 136 and will help to avoid confusion on reporting units.

This issue is particularly important to the Town of Newmarket because we currently use the Colilert-18 (IDEXX) method, which is approved by the EPA. We respectfully request that the Colilert-18 method remain accepted in NPDES permits. The Town of Newmarket has made significant investment in the Colilert-18 testing equipment and training of our staff, which will be worthless if EPA elects to prohibit this method for NPDES compliance testing. This change would be financially onerous to the Town of Newmarket.

Response 25

Please see Responses 1 and 2.

H. Comments from Christopher M. Perkins, PE, Chair NHWPCA Permit Committee, dated July 21, 2020.

Comment 26

With regard to Draft NPDES Permit No. NH0100625 issued to the Town of Hampton, New Hampshire, we formally request that EPA reconsider the methodology required for determining the Average Monthly value for Fecal Coliform. The exclusion of the longstanding Colilert-18

(IDEXX) as an approved method for fecal coliform presents multiple challenges to permittees seeking to demonstrate permit compliance.

The draft permit references both NH RSA 485-A:8.V and the National Shellfish Sanitation Program (NSSP) Manual of Operation (2017) for guidance on bacterial testing requirements for fecal coliforms. However, both NH RSA 485 and the NSSP Manual are clear in stating that the standards and guidelines within those documents are developed for application on the receiving water bodies (defined as a “tidal waters” and “shellstock growing areas”). Therefore, the NSSP bacterial testing methods should not be applied to wastewater effluent given the nature of the discharge. The Colilert-18 (IDEXX) method for fecal coliform testing in wastewater effluent has been approved under 40 C.F.R § 136.3 of the Clean Water Act and has been recognized as an equivalent coliform testing method by EPA.

It is also concerning that there may be only one New Hampshire laboratory FDA-certified to perform the single approved method mandated by the Draft Permit. This would present challenges for permittees seeking to contract out this portion of their sampling program, while the agar and premade plates can become very difficult to acquire.

In addition, there are multiple studies demonstrating the efficacy of the Colilert-18 (IDEXX) method for fecal coliform.

- a) The EPA ATP Validation study publication compared the EPA ‘gold standard’ Standard Methods 9222G to Colilert-18. Briefly, the Colilert-18 (IDEXX)/FC method outperformed SM9222G in all areas, including false positive/ false negative rates, specificity and sensitivity. It is acknowledged that this study was performed against SM9222G with the understanding that EPA considers the SM9222G method the best performer in the group of approved MF methods. The link to this study may be found here:
<https://123.idexx.com/resource-library/water/water-reg-article15B.pdf>
- b) The study linked here <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC106820/> compared membrane filtration and multiple-tube fermentation by the Colilert and Enterolert Methods for Detection of Waterborne Coliform Bacteria. As indicated in the abstract, “The Colilert method was found to be more sensitive than Swedish standard methods for detecting coliform bacteria...”
- c) The study found at the link below indicated that the “(d)ifferences for all of these indicators were small enough that, when assessed categorically, there was more than 90% agreement between CS and either MF or MTF methods as to whether State of California Beach Water Quality Standards were met.” Source:
http://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2001_02AnnualReport/37_ar29-rachel.pdf
- d) Another study further demonstrates that Colilert-18 is an acceptable method. Source:
<http://archive.sccwrp.org/ResearchAreas/BeachWaterQuality/ComparisonAmongIDEXXMembraneFiltrati on.aspx>

For the above reasons, we request that the Colilert-18 (IDEXX) method remain an accepted method for testing fecal coliform bacteria for wastewater effluent. In addition, we proactively request that the Colilert-18 (IDEXX) method remain an accepted method for all coastal permits issued in New Hampshire moving forward.

Response 26

Please see Responses 1 and 2.

I. Comments from Michael Serard Technical Support and Customer Service, Lorraine Olashaw, Laboratory Director and Jennifer Scott, QA/QC Coordinator, Eastern Analytical, Inc., dated July 21, 2020.

Comment 27

Fact Sheet Section 5.1.6 Bacteria The reference to the National Shellfish Sanitation Program (NSSP) 2017; verbiage citing effluent limits were set for fecal coliform bacteria, requiring fecal coliform to not exceed a geometric mean of most probable number (MPN) or membrane filter (MF-mTEC) of 14 per 100mls, and not more than 10% of samples exceed 31 CFU/100mLs for an MF (mTEC) test as the daily maximum limit. EPA incorporated these numeric standards based on the 24-hour method. The other NSSP approved methods (MPN) could take up to 7 days. There is an approved Fecal Coliform MPN method in the 40 CFR Part 136, "IDEXX Colilert-18" that can perform the analysis in 18-22 hours. It is, however, not listed in the NSSP list of approved methods. It is apparent that EPA incorporated the MF-mTEC numeric standards based on a time dynamic, (hours versus days). We would strongly urge the EPA to recommend to the NSSP to incorporate the IDEXX Colilert-18 method to the list of approved methods, or as an Alternate Test Procedure (ATP). Although the State of NH has adopted new criteria for their state water quality regulations and have submitted to EPA for review and approval, it has not yet been approved by the EPA.

Response 27

The fact that NH water quality regulations have not yet been approved by EPA does not have any bearing on NH bacteria criteria. Bacteria criteria are set forth in Env-Wq 1703.06, which incorporates RSA 485-A:8 II by reference. There has been no change in RSA 485-A:8, and the criteria's bacteria language is identical to the current criteria. Therefore, the revised NH water quality regulations submitted to EPA for review and approval will have no effect on bacteria criteria. See Responses 1 and 2 for the response concerning incorporating IDEXX into the NSSP.

Comment 28

Part 1. A. Effluent Limitations and Monitoring Requirements: Footnote 9 The verbiage in Footnote 9 established numeric standards for Fecal Coliform, but is only specific to the MF (mTEC) method. As previously stated in the Fact Sheet Section 5.6 Bacteria, EPA appears to have adopted the numeric standards based on the MF (mTEC) method based on hours and not days for results. At the time of the NSSP Revision 17, the FDA may not have been aware of this MPN testing method and its approval from EPA in the Federal Register. Eastern Analytical, Inc. strongly urges the EPA to recommend inclusion of the IDEXX Colilert-18 methodology to the

NSSP List of Approved Methods as an update, a revision or to be incorporated as an Alternate Test Procedure for Fecal Coliform.

Response 28

Please see Responses 1 and 2.

Comment 29

Part 1. G. Special Conditions Section 1c makes reference to a numeric standard in units CFU/100mL based again on the MF (mTEC) 24 hour test method. Eastern Analytical, Inc. recommends that be rewritten to include 31 CFU/100mLs or “31 MPN”, thus incorporating the IDEXX Colilert-18 approved method that satisfies the 40CFR Part 136 NPDES permitting requirement which and should be included into the NSSP.

In summary, Eastern Analytical, Inc. understands that the NSSP is a model ordinance, and the State of NH wants to incorporate and enforce this guidance ordinance by inclusion into the NPDES permit issued by EPA under Federal Law. Eastern Analytical, Inc., and other private laboratories and many wastewater facilities have made the transition to latest technology for Fecal Coliform Testing, i.e. the IDEXX Colilert-18 Methodology. It would be a step backward for these labs and facilities to gear up to perform the MF (mTEC) methods to satisfy the NSSP Guidance document when throughout the draft permit there are numerous references to the 40CFR Part 136. Please note that even Footnote 1 cites “in accordance with 40CFR part 136”.

Response 29

Please see Responses 1 and 2.

J. Comment from Peter Hellfach, Chief Operator, Newfields WWTF, dated July 6, 2020.

Comment 30

I understand that these seacoast facilities will not be able to use Colilert-18 for their bacteria testing protocol. I am appealing to the EPA to not go backwards on this issue.

I spoke to my lab (Eastern Analytical) and if they cannot use the Colilert-18 it will open up tons of issues. Colilert-18 is cheaper, easier, quicker, and more reliable. I oppose any efforts to go backwards, we should be using the latest and greatest! I am hoping that there is lots of push back about this from the facilities.

Response 30

Please see Responses 1 and 2.

**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"),

Town of Hampton, New Hampshire

is authorized to discharge from the facility located at

**Leavitt E. Magrath Wastewater Treatment Plant
1 Hardarts Way
Hampton, NH 03842**

to receiving water named

**Unnamed Tributary of Tide Mill Creek
Hampton River Watershed**

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

The municipality of Rye, New Hampshire is a co-permittee for Part B, Unauthorized Discharges; Part C, Operation and Maintenance, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns; and Part D, 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 B, Part C and Part D of this permit. The Permittee and the Co-permittee are severally liable under Part B, Part C and Part D for their own activities and required reporting with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part B, Part C and Part D committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other Permittees under Part B, Part C and Part D. The responsible Town department is:

Rye Sewer Commission
Town of Rye
10 Central Road
Rye, NH 03870

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

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

This permit supersedes the permit issued on August 28, 2007.

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

This permit consists of **Part I** including the cover page(s), **Attachment A** (Marine Acute Toxicity Test Procedure and Protocol, July 2012), **Attachment B** (Marine Chronic Toxicity Test Procedure and Protocol, November 2013), and **Part II** (NPDES Part II Standard Conditions, April 2018).

Signed this day of

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

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated effluent through Outfall Serial Number 001 to a Unnamed Tributary of Tide Mill Creek. The discharge shall be limited and monitored as specified below; the receiving water and the influent shall be monitored as specified below.

Effluent Characteristic	Effluent Limitation			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Rolling Average Effluent Flow ⁵	4.7 MGD ⁵	---	---	Continuous	Recorder
Effluent Flow ⁵	Report MGD	---	Report MGD	Continuous	Recorder
BOD ₅	30 mg/L 1176 lb/day	45 mg/L 1764 lb/day	50 mg/L 1960 lb/day	2/week	Composite
BOD ₅ Removal	≥ 85 %	---	---	---	Calculate
TSS	30 mg/L 1176 lb/day	45 mg/L 1764 lb/day	50 mg/L 1960 lb/day	2/week	Composite
TSS Removal	≥ 85 %	---	---	---	Calculate
pH Range ⁶	6.5 – 8.0 S.U.			1/day	Grab
Total Residual Chlorine ^{7,8}	7.5 µg/L	---	13 µg/L	2/day	Grab
<i>Enterococci</i> ^{7,8}	35/100 mL	---	104/100 mL	1/day	Grab
Fecal Coliform ^{7,8}	14/100 mL	---	---	1/day	Grab
Fecal Coliform ^{7,8}	---	---	See footnote 9	1/day	Grab
Total Copper	3.7 µg/L	---	5.8 µg/L	2/month	Composite
Inorganic Arsenic	Report µg/L	---	Report µg/L	2/month	Composite
Ammonia Nitrogen (May 1 - October 31)	1.1 mg/L Report lb/day	---	7.4 mg/L Report lb/day	2/week	Composite

Effluent Characteristic	Effluent Limitation			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Ammonia Nitrogen (November 1 - April 30)	2.7 mg/L Report lb/day	---	17.9 mg/L Report lb/day	2/week	Composite
Total Kjeldahl Nitrogen ¹⁰ (May 1 - October 31)	Report mg/L	---	Report mg/L	1/week	Composite
Nitrate + Nitrite ¹⁰ (May 1 - October 31)	Report mg/L	---	Report mg/L	1/week	Composite
Total Nitrogen ¹⁰ (May 1 - October 31)	Report mg/L Report lb/day	---	Report mg/L	1/week	Composite
Total Kjeldahl Nitrogen ¹⁰ (November 1 - April 30)	Report mg/L	---	Report mg/L	1/month	Composite
Nitrate + Nitrite ¹⁰ (November 1 - April 30)	Report mg/L	---	Report mg/L	1/month	Composite
Total Nitrogen ¹⁰ (November 1 - April 30)	Report mg/L Report lb/day	---	Report mg/L	1/month	Composite
Whole Effluent Toxicity (WET) Testing^{11,12}					
LC ₅₀	---	---	≥ 100 %	1/quarter	Composite
C-NOEC	---	---	≥ 100 %	1/quarter	Composite
Ammonia Nitrogen	---	---	Report mg/L	1/quarter	Composite
Total Cadmium	---	---	Report mg/L	1/quarter	Composite
Total Copper	---	---	Report mg/L	1/quarter	Composite
Total Nickel	---	---	Report mg/L	1/quarter	Composite
Total Lead	---	---	Report mg/L	1/quarter	Composite
Total Zinc	---	---	Report mg/L	1/quarter	Composite
Total Organic Carbon	---	---	Report mg/L	1/quarter	Composite

Ambient Characteristic ¹³	Reporting Requirements			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
Ammonia Nitrogen	---	---	Report mg/L	1/quarter	Grab
Total Cadmium	---	---	Report mg/L	1/quarter	Grab
Total Copper	---	---	Report mg/L	1/quarter	Grab
Total Nickel	---	---	Report mg/L	1/quarter	Grab
Total Lead	---	---	Report mg/L	1/quarter	Grab
Total Zinc	---	---	Report mg/L	1/quarter	Grab
Total Organic Carbon	---	---	Report mg/L	1/quarter	Grab
pH ¹⁴	---	---	Report S.U.	1/quarter	Grab
Temperature ¹⁴	---	---	Report °C	1/quarter	Grab

Influent Characteristic	Reporting Requirements			Monitoring Requirements ^{1,2,3}	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type ⁴
BOD ₅	Report mg/L	---	---	2/month	Composite
TSS	Report mg/L	---	---	2/month	Composite

Footnotes:

1. Effluent samples shall yield data representative of the discharge. 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. The Permittee shall report the results to the Environmental Protection Agency Region 1 (EPA) and the State of any additional testing above that required herein, if testing is in accordance with 40 C.F.R. Part 136.
2. In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is “sufficiently sensitive” when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term “minimum level” refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.
3. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 50 µg/L, if the ML for a parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of “0” to all non-detects for that reporting period and report the average of all the results.
4. A “grab” sample is an individual sample collected in a period of less than 15 minutes.

A “composite” sample is a composite of at least twenty-four (24) grab samples taken during one consecutive 24-hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportional to flow.
5. The limit is a rolling annual average, reported in million gallons per day (MGD), which 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. Also report monthly average and maximum daily flow in MGD.

6. The pH shall be within the specified range at all times. The minimum and maximum pH sample measurement values for the month shall be reported in standard units (S.U.).
7. The Permittee shall minimize the use of chlorine while maintaining adequate bacterial control. Monitoring for total residual chlorine (TRC) is only required for discharges which have been previously chlorinated or which contain residual chlorine. The compliance level for TRC is 20 µg/L.

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 and in accordance with reporting requirements in Part I.G. Special Conditions and Part II Standard Conditions. 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.

8. The monthly average limit for *enterococci* and Fecal Coliform are expressed as a geometric mean. *Enterococci* and Fecal Coliform monitoring shall be conducted concurrently with TRC monitoring, if TRC monitoring is required.
9. The Average Monthly value for Fecal Coliform shall be determined by calculating the geometric mean using the daily sample results. As a Daily Maximum, not more than 10 percent of the collected samples (over a monthly period) shall exceed a 31 Colony Forming Units (CFU) per 100 mL for a MF (mTEC) test. Each month the percentage of collected samples that exceeds 31 CFU per 100 mL for the MF (mTEC) test shall be reported at the Daily Maximum value. Furthermore, all Fecal Coliform data collected must be submitted with the monthly Discharge Monitoring Reports (DMRs).
10. Total Kjeldahl nitrogen and nitrate + nitrite samples shall be collected concurrently. The results of these analyses shall be used to calculate both the concentration and mass loadings of total nitrogen, as follows.

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

Total Nitrogen (lb/day) = [(average monthly Total Nitrogen (mg/L) * total monthly effluent flow (Millions of Gallons (MG)) / # of days in the month] * 8.345

11. The Permittee shall conduct acute toxicity tests (LC₅₀) and chronic toxicity tests (C-NOEC) in accordance with test procedures and protocols specified in **Attachment A and B** of this permit. LC₅₀ and C-NOEC are defined in Part II.E. of this permit. The Permittee shall test the inland silverside minnow (*Menidia beryllina*), the mysid shrimp (*Mysidopsis bahia*), and the sea urchin (*Arbacia punctulata*). Toxicity test samples shall be collected and tests completed during the same weeks each time of calendar quarters ending March 31st, June 30th, September 30th, and December 31st. The complete report for each toxicity test shall be submitted as an attachment to the DMR submittal which includes the results for that toxicity test.
12. For Part I.A.1., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment A and B**, Section IV., DILUTION WATER. Minimum levels and test methods are specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS.
13. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS for the receiving water sample collected as part of the WET testing requirements. Such samples shall be taken from the receiving water at a point immediately outside of the permitted discharge's zone of influence at a reasonably accessible location, as specified in **Attachment A and B**. Minimum levels and test methods are specified in **Attachment A and B**, Part VI. CHEMICAL ANALYSIS.
14. A pH and temperature measurement shall be taken of each receiving water sample at the time of collection and the results reported on the appropriate DMR. These pH and temperature measurements are independent from any pH and temperature measurements required by the WET testing protocols.

Part I.A. continued.

2. The discharge shall not cause a violation of the water quality standards of the receiving water.
3. The discharge shall be free from substances in kind or quantity that settle to form harmful benthic deposits; float as foam, debris, scum or other visible substances; produce odor, color, taste or turbidity that is not naturally occurring and would render the surface water unsuitable for its designated uses; result in the dominance of nuisance species; or interfere with recreational activities.
4. Tainting substances shall not be present in the discharge in concentrations that individually or in combination are detectable by taste and odor tests performed on the edible portions of aquatic organisms.
5. The discharge shall not result in toxic substances or chemical constituents in concentrations or combinations in the receiving water that injure or are inimical to plants, animals, humans or aquatic life; or persist in the environment or accumulate in aquatic organisms to levels that result in harmful concentrations in edible portions of fish, shellfish, other aquatic life, or wildlife that might consume aquatic life.
6. The discharge shall not result in benthic deposits that have a detrimental impact on the benthic community. The discharge shall not result in oil and grease, color, slicks, odors, or surface floating solids that would impair any existing or designated uses in the receiving water.
7. The discharge shall not result in an exceedance of the naturally occurring turbidity in the receiving water by more than 10 NTUs.
8. The Permittee must provide adequate notice to EPA-Region 1 and the State of the following:
 - a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Part 301 or Part 306 of the Clean Water Act if it were directly discharging those pollutants or in a primary industry category (see 40 C.F.R. Part 122 Appendix A as amended) discharging process water; and
 - b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - c. For purposes of this paragraph, adequate notice shall include information on:
 - (1) The quantity and quality of effluent introduced into the POTW; and
 - (2) Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

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

B. UNAUTHORIZED DISCHARGES

This permit authorizes discharges only from the outfall listed in Part I.A.1, in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs), are not authorized by this permit in accordance with Part II.D.1.e.(1) (24-hour reporting). See Part I.H below for reporting requirements.

C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the collection system owned and operated respectively by the Town of Hampton and the Town of Rye (“Co-permittee”) shall be in compliance with the activities and required reporting with respect to the portions of the collection system that each owns or operates. The Permittee and Co-permittee shall only be responsible for violations relative to the portions of the collection system that they own and operate.

1. Maintenance Staff

The Permittee and Co-permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. Provisions to meet this requirement shall be described in the Collection System O&M Plan required pursuant to Section C.5. below.

2. Preventive Maintenance Program

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

3. Infiltration/Inflow

The Permittee and Co-permittee shall control infiltration and inflow (I/I) into the sewer system as necessary to prevent high flow related unauthorized discharges from their collection systems and high flow related violations of the wastewater treatment plant’s effluent limitations. Plans and programs to control I/I shall be described in the Collection System O&M Plan required pursuant to Section C.5. below.

4. Collection System Mapping

The Permittee and Co-permittee shall update the map of the sewer collection system it owns. 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 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, and the direction of flow.

5. Collection System O&M Plan

- a. The Permittee shall continue to update and implement the Collection System O&M Plan it has previously submitted to EPA and the State. The plan shall be available for review by federal, state, and local agencies as requested. The Plan shall include:
 - (1) A description of the collection system management goals, 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 recent studies and construction activities; and
 - (3) A preventive maintenance and monitoring program for the collection system;
 - (4) Description of sufficient staffing necessary to properly operate and maintain the sanitary sewer collection system and how the operation and maintenance program is staffed;

- (5) Description of funding, the source(s) of funding and provisions for funding sufficient for implementing the plan;
- (6) 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;
- (7) 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;
- (8) An educational public outreach program for all aspects of I/I control, particularly private inflow; and
- (9) 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-permittee shall 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 the State annually by March 31. The summary report shall, at a minimum, include:

- a. A description of the staffing levels maintained during the year;
- b. A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year;
- c. Expenditures for any collection system maintenance activities and corrective actions taken during the previous year;
- d. A map with areas identified for investigation/action in the coming year;
- e. A summary of unauthorized discharges during the past year and their causes and a report of any corrective actions taken as a result of the unauthorized discharges reported pursuant to the Unauthorized Discharges section of this permit; and
- f. If the monthly average flow exceeded 80 percent of the Facility's 4.7 MGD design flow (3.76 MGD) for three consecutive months in the previous calendar year, or there have been capacity related overflows, the report shall include:

- (1) Plans for further potential flow increases describing how the Permittee will maintain compliance with the flow limit and all other effluent limitations and conditions; and
- (2) A calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year.

D. ALTERNATE POWER SOURCE

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

E. INDUSTRIAL USERS

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

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

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

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 C.F.R. Part 503, which prescribe "Standards for the Use or Disposal of Sewage Sludge" pursuant to § 405(d) of the CWA, 33 U.S.C. § 1345(d).
2. If both state and federal requirements apply to the Permittee's sludge use and/or disposal practices, the Permittee shall comply with the more stringent of the applicable requirements.

3. The requirements and technical standards of 40 C.F.R. 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 in a sludge only incinerator
4. The requirements of 40 C.F.R. Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 C.F.R. § 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 C.F.R. § 503.6.
5. The 40 C.F.R. Part 503 requirements include the following elements:
 - a. General requirements
 - b. Pollutant limitations
 - c. Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
 - d. Management practices
 - e. Record keeping
 - f. Monitoring
 - g. Reporting

Which of the 40 C.F.R. Part 503 requirements apply to the Permittee will depend upon the use or disposal practice followed and upon the quality of material produced by a facility. The EPA Region 1 Guidance document, "EPA Region 1 - NPDES Permit Sludge Compliance Guidance" (November 4, 1999), may be used by the Permittee to assist it in determining the applicable requirements.²

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

² 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>

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

Sampling of the sewage sludge shall use the procedures detailed in 40 C.F.R. § 503.8.

7. Under 40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 503.9(r), for use or disposal, then the Permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 C.F.R. § 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 C.F.R. § 503 Subpart B.
8. The Permittee shall submit an annual report containing the information specified in the 40 C.F.R. Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19** (*see also* “EPA Region 1 - NPDES Permit Sludge Compliance Guidance”). Reports shall be submitted electronically using EPA’s Electronic Reporting tool (“NeT”) (*see* “Reporting Requirements” section below).
9. Compliance with the requirements of this permit or 40 C.F.R. Part 503 shall not eliminate or modify the need to comply with applicable requirements under RSA 485-A and Env-Wq 800, New Hampshire Sludge Management Rules.

G. SPECIAL CONDITIONS

1. NHDES Shellfish Notification Procedures

The Permittee shall immediately notify the Shellfish Section of NHDES-WD of possible high bacteria/virus loading events from the facility or its sewer collection system. Such events include:

- a. Any lapse or interruption of normal operation of the POTW disinfection system, or other event that results in discharge of sewage from the POTW or sewer infrastructure (pump stations, sewer lines, manholes, etc.) that has not undergone full disinfection as specified in the NPDES permit;
- b. Average daily flows in excess of the POTW's previous flow limit of 4.7 MGD;
and

- c. Daily post-disinfection effluent samples of either 31 CFU per 100 mL or greater. Notification shall also be made for instances where NPDES-required bacteria sampling is not completed, or where the results of such sampling are invalid.

Notification shall be made using the program's cell phone number. If Shellfish Program staff are not available to answer the phone, leave a message describing the issue or situation and provide your contact information, including phone number. Then, call the Shellfish Program's pager and enter a call back number. Upon initial notification of a possible high bacteria/virus loading event, Shellfish Program staff will determine the most suitable interval for continued notification and updates on an event-by-event basis.

NHDES - Shellfish Program
Cell phone: 603-568-6741
Pager: 603-771-9826

H. REPORTING REQUIREMENTS

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

1. Submittal of DMRs Using NetDMR

The Permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and the State 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 the State. NetDMR is accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>.

2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the Permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. This includes the NHDES Monthly Operating Reports (MORs). *See* Part I.H.6. for more information on State reporting. Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the report due date specified in this permit.

3. Submittal of Biosolids/Sewage Sludge Reports

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

4. Submittal of Requests and Reports to EPA Water Division (WD)
 - a. The following requests, reports, and information described in this permit shall be submitted to the NPDES Applications Coordinator in EPA Water Division (WD):
 - (1) Transfer of Public Notice;
 - (2) Request for change in sampling location;
 - (3) Request for reduction in testing frequency;
 - (4) Report on unacceptable dilution water / request for alternative dilution water for WET testing;
 - (5) Report of new industrial user commencing discharge;
 - (6) Report received of existing industrial users.
 - b. These reports, information, and requests shall be submitted to EPA WD electronically at R1NPDESReporting@epa.gov.
5. Submittal of Reports to EPA Enforcement and Compliance Assurance Division (ECAD) in Hard Copy Form
 - a. The following notifications and reports shall be signed and dated originals, submitted as hard copy, with a cover letter describing the submission:
 - (1) Prior to 21 December 2020, written notifications required under Part II.B.4.c, for bypasses, and Part II.D.1.e, for sanitary sewer overflows (SSOs). Starting on 21 December 2020, such notifications must be done electronically using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which will be accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>.
 - (2) Collection System Operation and Maintenance Plan (from Co-permittee)
 - (3) Report on annual activities related to O&M Plan (from Co-permittee)
 - b. This information shall be submitted to EPA ECAD at the following address:

U.S. Environmental Protection Agency
Enforcement and Compliance Assurance Division
Water Compliance Section
5 Post Office Square, Suite 100 (04-SMR)
Boston, MA 02109-3912

6. State Reporting

Unless otherwise specified in this permit or by the State, 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.H.3 through I.H.5 shall also be submitted to the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) electronically to the Permittee's assigned NPDES inspector at NHDES-WD or as a hardcopy to the following addresses:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

7. Verbal Reports and Verbal Notifications

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

EPA ECAD at 617-918-1510
and
NHDES Assigned NPDES Inspector at 603-271-1493

I. STATE PERMIT CONDITIONS

1. The Permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification of, or interfere with the uses assigned to, said water by the New Hampshire Legislature (RSA 485-A:12).
2. This NPDES discharge permit is issued by EPA under federal law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services-Water Division (NHDES-WD) may adopt this permit, including all terms and conditions, as a state permit pursuant to RSA 485-A:13.
3. EPA shall have the right to enforce the terms and conditions of this permit pursuant to federal law and NHDES-WD shall have the right to enforce the permit pursuant to state law, if the permit is adopted. Any modification, suspension, or revocation of this permit shall be effective only with respect to the agency taking such action and shall not affect the validity or status of the permit as issued by the other agency.

4. The pH range of 6.5 to 8.0 Standard Units (S.U.) must be achieved in the final effluent unless the Permittee can demonstrate to NHDES-WD: 1) that the range should be widened due to naturally occurring conditions in the receiving water; or 2) that the naturally occurring receiving water pH is not significantly altered by the Permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside the range of 6.0 to 9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 C.F.R. § 133.102(c).
5. Pursuant to New Hampshire Code of Administrative Rules, Env-Wq 703.07(a):
 - a. Any person proposing to construct or modify any of the following shall submit an application for a sewer connection permit to the department:
 - (1) Any extension of a collector or interceptor, whether public or private, regardless of flow;
 - (2) Any wastewater connection or other discharge in excess of 5,000 gpd;
 - (3) Any wastewater connection or other discharge to a WWTP operating in excess of 80 percent design flow capacity or design loading capacity based on actual average flow or loading for 3 consecutive months;
 - (4) Any industrial wastewater connection or change in existing discharge of industrial wastewater, regardless of quality or quantity;
 - (5) Any sewage pumping station greater than 50 gpm or serving more than one building; or
 - (6) Any proposed sewer that serves more than one building or that requires a manhole at the connection.
6. For each new or increased discharge of industrial waste to the POTW, the Permittee shall submit, in accordance with Env-Wq 305.10(a) an "Industrial Wastewater Discharge Request."
7. Pursuant to Env-Wq 305.15(d) and 305.16(f), the Permittee shall not allocate or accept for treatment more than 90 percent of the headworks loading limits of the facility.
8. Pursuant to Env-Wq 305.21, at a frequency no less than every five years, the Permittee shall submit to NHDES:
 - a. A copy of its current sewer use ordinance if it has been revised without department approval subsequent to any previous submittal to the department or a certification that no changes have been made.
 - b. A current list of all significant indirect dischargers to the POTW. At a minimum, the list shall include for each significant indirect discharger, its name and address,

the name and daytime telephone number of a contact person, products manufactured, industrial processes used, existing pretreatment processes, and discharge permit status.

- c. A list of all permitted indirect dischargers; and
 - d. A certification that the municipality is strictly enforcing its sewer use ordinance and all discharge permits it has issued.
10. When the effluent discharged for a period of three (3) consecutive months exceeds 80 percent of the 4.7 MGD design flow (3.76 MGD) or design loading capacity, the Permittee shall submit to the permitting authorities a projection of flows and loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans. Before the design flow will be reached, or whenever treatment necessary to achieve permit limits cannot be assured, the Permittee may be required to submit plans for facility improvements.

ATTACHMENT A
MARINE 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:

- **2007.0 - Mysid Shrimp (Americamysis bahia) definitive 48 hour test.**
- **2006.0 - Inland Silverside (Menidia beryllina) definitive 48 hour test.**

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

II. METHODS

The permittee shall use the most recent 40 CFR Part 136 methods. Whole Effluent Toxicity (WET) Test Methods and guidance may be found at:

<http://water.epa.gov/scitech/methods/cwa/wet/index.cfm#methods>

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 and receiving water sample shall be collected. The receiving water control sample must be collected immediately upstream of the permitted discharge's zone of influence. 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 holding time extension. 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 chlorine¹ (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

¹ For this protocol, total residual chlorine is synonymous with total residual oxidants.
(July 2012)

prior to sample use for toxicity testing. If performed on site the results should be included on the chain of custody (COC) presented to WET laboratory.

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 mg/L chlorine. If dechlorination is necessary, a thiosulfate control consisting of the maximum concentration of thiosulfate used to dechlorinate the sample in the toxicity test control water must also be run in the WET test.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol. Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

All samples held for use beyond the day of sampling shall be refrigerated and maintained at a temperature range of 0-6° C.

IV. DILUTION WATER

Samples of receiving water must be collected from a reasonably accessible location in the receiving water body immediately upstream of the permitted discharge's zone of influence. 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 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 is found to be, or suspected to be toxic or unreliable, 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 case is when repeating a test due to toxicity in the site dilution water requires an **immediate decision** for ADW use by the permittee and toxicity testing laboratory. The second is when two of the most recent documented incidents of unacceptable site dilution water toxicity require 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

EPA Region 1 requires tests be performed using four replicates of each control and effluent concentration because the non-parametric statistical tests cannot be used with data from fewer replicates. The following tables summarize the accepted Americamysis and Menidia toxicity test conditions and test acceptability criteria:

EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE MYSID, AMERICAMYSIS BAHIA 48 HOUR TEST¹

1. Test type	48hr Static, non-renewal
2. Salinity	25ppt \pm 10 percent for all dilutions by adding dry ocean salts
3. Temperature ($^{\circ}$ C)	20 $^{\circ}$ C \pm 1 $^{\circ}$ C or 25 $^{\circ}$ C \pm 1 $^{\circ}$ C, temperature must not deviate by more than 3 $^{\circ}$ C during test
4. Light quality	Ambient laboratory illumination
5. Photoperiod	16 hour light, 8 hour dark
6. Test chamber size	250 ml (minimum)
7. Test solution volume	200 ml/replicate (minimum)
8. Age of test organisms	1-5 days, <u>\leq 24 hours age range</u>
9. No. Mysids per test chamber	10
10. No. of replicate test chambers per treatment	4
11. Total no. Mysids per test concentration	40
12. Feeding regime	Light feeding using concentrated <u>Artemia</u> naupli while holding prior to initiating the test
13. Aeration ²	None
14. Dilution water	5-30 ppt, +/- 10%; Natural seawater, or deionized water mixed with artificial sea salts
15. Dilution factor	\geq 0.5
16. Number of dilutions ³	5 plus a control. An additional dilution at the permitted effluent concentration (%)

effluent) is required if it is not included in the dilution series.

- | | |
|----------------------------|---|
| 17. Effect measured | Mortality - no movement of body appendages on gentle prodding |
| 18. Test acceptability | 90% or greater survival of test organisms in control solution |
| 19. Sampling requirements | For on-site tests, samples are used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must be first used within 36 hours of collection. |
| 20. Sample volume required | Minimum 1 liter for effluents and 2 liters for receiving waters |
-

Footnotes:

- ¹ Adapted from EPA 821-R-02-012.
- ² If dissolved oxygen falls below 4.0 mg/L, aerate at rate of less than 100 bubbles/min. Routine D.O. checks are recommended.
- ³ When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

EPA NEW ENGLAND TOXICITY TEST CONDITIONS FOR THE INLAND SILVERSIDE, MENIDIA BERYLLINA 48 HOUR TEST¹

1. Test Type	48 hr Static, non-renewal
2. Salinity	25 ppt \pm 10 % by adding dry ocean salts
3. Temperature	20°C \pm 1°C or 25°C \pm 1°C, temperature must not deviate by more than 3°C during test
4. Light Quality	Ambient laboratory illumination
5. Photoperiod	16 hr light, 8 hr dark
6. Size of test vessel	250 mL (minimum)
7. Volume of test solution	200 mL/replicate (minimum)
8. Age of fish	9-14 days; 24 hr age range
9. No. fish per chamber	10 (not to exceed loading limits)
10. No. of replicate test vessels per treatment	4
11. Total no. organisms per concentration	40
12. Feeding regime	Light feeding using concentrated <u>Artemia</u> nauplii while holding prior to initiating the test
13. Aeration ²	None
14. Dilution water	5-32 ppt, +/- 10% ; Natural seawater, or deionized water mixed with artificial sea salts.
15. Dilution factor	\geq 0.5
16. Number of dilutions ³	5 plus a control. An additional dilution at the permitted concentration (% effluent) is required if it is not included in the dilution series.
17. Effect measured	Mortality-no movement on gentle prodding.

18. Test acceptability	90% or greater survival of test organisms in control solution.
19. Sampling requirements	For on-site tests, samples must be used within 24 hours of the time they are removed from the sampling device. Off-site test samples must be used within 36 hours of collection.
20. Sample volume required	Minimum 1 liter for effluents and 2 liters for receiving waters.

Footnotes:

- ¹ Adapted from EPA 821-R-02-012.
- ² If dissolved oxygen falls below 4.0 mg/L, aerate at rate of less than 100 bubbles/min. Routine D.O. checks recommended.
- ³ When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

V.1. Test Acceptability Criteria

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.2. Use of Reference Toxicity Testing

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

In general, 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 as prescribed below.

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.2.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 IC25s and LC50 values and \geq two concentration intervals for NOECs or NOAECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

VI. CHEMICAL ANALYSIS

At the beginning of the static acute test, pH, salinity, and temperature must be measured at the beginning and end of each 24 hour period in each dilution and in the controls. The following chemical analyses shall be performed for each sampling event.

<u>Parameter</u>	<u>Effluent</u>	<u>Diluent</u>	<u>Minimum Level for effluent^{*1} (mg/L)</u>
pH	x	x	---
Salinity	x	x	ppt(o/oo)
Total Residual Chlorine ^{*2}	x	x	0.02
Total Solids and Suspended Solids	x	x	---
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
<u>Total Metals</u>			
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

Superscript:

*1 These are the minimum levels for effluent (fresh water) samples. Tests on diluents (marine waters) shall be conducted using the Part 136 methods that yield the lowest MLs.

*2 Either of the following methods from the 18th Edition of the APHA Standard Methods for the Examination of Water and Wastewater must be used for these analyses:

- Method 4500-Cl E Low Level Amperometric Titration (the preferred method);
- Method 4500-CL G DPD Photometric Method.

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration

An estimate of the concentration of effluent or toxicant that is lethal to 50% of the test organisms during the time prescribed by the test method.

Methods of Estimation:

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

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Toxicity Test summary sheet(s) (Attachment F to the DMR Instructions) 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
 - Permit limit and toxicity test results
 - Summary of any test sensitivity and concentration response evaluation that was conducted

Please note: The NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) are available on EPA's website at

<http://www.epa.gov/NE/enforcementandassistance/dmr.html>

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 levels (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; and
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review per species per endpoint.

ATTACHMENT B
MARINE CHRONIC
TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

The permittee shall be responsible for the conduct of acceptable silverside chronic and sea urchin chronic toxicity tests in accordance with the appropriate test protocols described below:

- Inland Silverside (Menidia beryllina) Larval Growth and Survival Test
- Sea Urchin (Arbacia punctulata) 1 Hour Fertilization Test

Chronic toxicity 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:

<https://www.epa.gov/cwa-methods/whole-effluent-toxicity-methods>

The permittee shall also meet the sampling, analysis and reporting requirements included in this protocol. Where 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 AND USE

A total of three fresh samples of effluent and receiving water are required for initiation and subsequent renewals of a marine, 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 fresh 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 fresh 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.

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.

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. For TRC analysis performed on site the results must be included on the chain of custody (COC) presented to WET laboratory. For the purpose of sample preparation, i.e. eliminating chlorine prior to toxicity testing, if called for by the permit, TRC analysis may also be performed by the toxicity testing laboratory and the samples must be dechlorinated, as necessary, using sodium thiosulfate prior to sample use for toxicity testing. According to 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 mg/L chlorine.

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.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol. Grab samples must be used for pH, temperature, and total residual oxidants (as per 40 CFR Part 122.21).

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 test acceptability criteria (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 the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternatedilution water (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
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.

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.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

EPA New England requires that if a reference toxicant test was being performed concurrently with an effluent or receiving water test and fails, both tests must be repeated.

The following tables summarize the accepted Menidia and Arbacia toxicity test conditions and

test acceptability criteria:

EPA NEW ENGLAND RECOMMENDED TEST CONDITIONS FOR THE SEA URCHIN, ARBACIA PUNCTULATA, FERTILIZATION TEST¹

1. Test type	Static, non-renewal
2. Salinity	30 o/oo \pm 2 o/oo by adding dry ocean salts
3. Temperature	20 \pm 1°C temperature must not deviate by more than 3°C during test
4. Light quality	Ambient laboratory illumination
5. Light intensity	10-20 uE/m ² /s, or 50-100 ft-c (Ambient Laboratory Levels)
6. Test vessel size	Disposal (glass) liquid scintillation vials (20 ml capacity), presoaked in control water
7. Test solution volume	5 ml
8. Number of sea urchins	Pooled sperm from four males and pooled eggs from four females are used per test
9. Number of egg and sperm cells	About 2000 eggs per chamber and 5,000,000 sperm cells per vial
10. Number of replicate chambers	4 per treatment
11. Dilution water	Uncontaminated source of natural seawater or deionized water mixed with artificial sea salts
12. Dilution factor	Approximately 0.5, must bracket the permitted RWC
13. Test duration	1 hour and 20 minutes
14. Effects measured	Fertilization of sea urchin eggs
15. Number of treatments per test ²	5 and a control. (receiving water and laboratory water control) An additional dilution at the permitted effluent concentration (% effluent) is required.

- | | |
|----------------------------|--|
| 16. Acceptability of test | 70% - 90% egg fertilization in all controls. Minimum of 70% fertilization in dilution water control. Effluent concentrations exhibiting greater than 70% fertilization, flagged as statistically significantly different from the controls, will not be considered statistically different from the controls for NOEC reporting. |
| 17. Sampling requirements | For on-site tests, samples are to be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must be first used within 36 hours of collection. |
| 18. Sample volume required | Minimum 1 liter |
-

Footnotes:

¹ Adapted from EPA 821-R-02-014

EPA NEW ENGLAND RECOMMENDED TEST CONDITIONS FOR THE INLAND SILVERSIDE, MENIDIA BERYLLINA, GROWTH AND SURVIVAL TEST¹

1. Test type	Static, renewal
2. Salinity	5 o/oo to 32 o/oo +/- 2 o/oo of the selected salinity by adding artificial sea salts
3. Temperature	25 ± 1°C, temperature must not deviate by more than 3°C during test
4. Light quality	Ambient laboratory light
5. Light intensity	10-20 uE/m ² /s, or 50-100 ft-C (Ambient Laboratory Levels)
6. Photoperiod	16 hr light, 8 hr darkness
7. Test vessel size	600 - 1000 mL beakers or equivalent (glass test chambers should be used)
8. Test solution volume	500-750 mL/replicate loading and DO restrictions must be met)
9. Renewal of test solutions	Daily using most recently collected sample
10. Age of test organisms	Seven to eleven days post hatch; 24 hr range in age
11. Larvae/test chamber	15 (minimum of 10)
12. Number of replicate chambers	4 per treatment
13. Source of food	Newly hatched and rinsed <u>Artemia</u> nauplii less than 24 hr old
14. Feeding regime	Feed once a day 0.10 g wet wt <u>Artemia</u> nauplii per replicate on days 0 – 2 feed 0.15 g wet wt <u>Artemia</u> nauplii per replicate on days 3-6
15. Cleaning	Siphon daily, immediately before test solution renewal and feeding
16. Aeration ²	None
17. Dilution water	Uncontaminated source of natural seawater; or deionized water mixed with artificial sea salts

18. Effluent concentrations	5 and a control (receiving water and laboratory water control) An additional dilution at the permitted effluent concentration (% effluent) is required
19. Dilution factor	≥ 0.5, must bracket the permitted RWC
20. Test duration	7 days
21. Effects measured	Survival and growth (weight)
22. Acceptability of test	The average survival of dilution water control larvae is a minimum of 80%, and the average dry wt of unpreserved control larvae is a minimum of 0.5 mg, or the average dry wt of preserved control larvae is a minimum of 0.43 mg if preserved not more than 7 days in 4% formalin or 70% ethanol
23. Sampling requirements	For on-site tests, samples are collected daily and used within 24 hours of the time they are removed from the sampling device. For off-site tests, samples must be first used within 36 hours of collection.
24. Sample Volume Required	Minimum of 6 liters/day.

Footnotes:

¹ Adapted from EPA 821-R-02-014

² If dissolved oxygen (D.O.) falls below 4.0 mg/L, aerate all chambers at a rate of less than 100 bubbles/min. Routine D.O. checks are recommended.

V.1. Test Acceptability Criteria

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.2. Use of Reference Toxicity Testing

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

In general, 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 as prescribed below.

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.2.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 IC25s 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.

VI. CHEMICAL ANALYSIS

The toxicity test requires measurement of pH, salinity, and temperature at the beginning and end of each 24 hour period in each dilution and controls for both daily test renewal and waste. The following chemical analyses shall be performed for each initial sample as well as any renewal samples, if necessary pursuant to the requirement of Part III above.

<u>Parameter</u>	<u>Effluent</u>	<u>Diluent</u>	<u>Minimum Level for effluent^{*1} (mg/L)</u>
pH	x	x	---
Salinity	x	x	ppt(o/oo)
Total Residual Chlorine ^{*2}	x	x	0.02
Total Solids and Suspended Solids	x	x	---
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
<u>Total Metals</u>			
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

Superscript:

^{*1} These are the minimum levels for effluent (fresh water) samples. Tests on diluents (marine waters) shall be conducted using the Part 136 methods that yield the lowest MLs.

^{*2} Either of the following methods from the 18th Edition of the APHA Standard Methods for the Examination of Water and Wastewater must be used for these analyses:

- Method 4500-Cl E Low Level Amperometric Titration (the preferred method);
- Method 4500-CL G DPD Photometric Method.

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-02-014. Guidance for this review can be found at http://water.epa.gov/scitech/methods/cwa/wet/upload/2007_07_10_methods_wet_disk1_ctm.pdf.

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 endpoint growth for *Menidia beryllina* 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-02-014.

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 marine tests in Section 10.2.8.3, p. 54, Table 6 of EPA-821-R-02-014. 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 document can be located under Guidance Documents

at the following website location

<http://water.epa.gov/scitech/methods/cwa/wet/index.cfm#guidance>. 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-02-014, page 45

For discussion on Hypothesis Testing, refer to EPA 821-R-02-014, Section 9.6

For discussion on Point Estimation Techniques, refer to EPA 821-R-02-014, Section 9.7

2. *Menidia beryllina*

Refer to survival hypothesis testing analysis flowchart, EPA 821-R-02-014, page 181

Refer to survival point estimate techniques flowchart, EPA 821-R-02-013, page 182

Refer to growth data statistical analysis flowchart, EPA 821-R-02-014, page 193

3. *Arbacia punctulata*

Refer to fertilization data testing flowchart, EPA 821-R-02-014, page 312

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Toxicity Test summary sheet(s) (Attachment F to the DMR Instructions) 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)
 - Permit limit and toxicity test results
 - Summary of test sensitivity and concentration response evaluation

Please note: The NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) are available on EPA's website at

<http://www.epa.gov/NE/enforcementandassistance/dmr.html>

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; and
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review.

NPDES PART II STANDARD CONDITIONS
(April 26, 2018)¹

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¹Updated July 17, 2018 to fix typographical errors.

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(April 26, 2018)

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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(April 26, 2018)

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 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912**

FACT SHEET

**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: NH0100625

PUBLIC NOTICE START AND END DATES: June 23, 2020 – July 22, 2020

NAME AND MAILING ADDRESS OF APPLICANT:

Town of Hampton
1 Hardarts Way
Hampton, NH 03842

The municipality of Rye, New Hampshire is a Co-permittee for specific activities required in Sections I.B., I.C., and I.D. of the Draft Permit and described in Section 5.5 of this Fact Sheet. The responsible municipal department is:

Rye Sewer Commission
Town of Rye
10 Central Road
Rye, NH 03870

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Leavitt E. Magrath Wastewater Treatment Plant
1 Hardarts Way
Hampton, NH 03842

RECEIVING WATER AND CLASSIFICATION:

Unnamed Tributary of Tide Mill Creek
Hydrologic Code 01060003
Class B

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Appendices

Appendix A – Monitoring Data Summary

Appendix B – Reasonable Potential and Limits Calculations

Appendix C – EPA Region 1 NPDES Permitting Approach for Publicly Owned Treatment Works that Include Municipal Satellite Sewage Collection Systems

1.0 Proposed Action

The above-named applicant (the “Permittee”) has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge from the Leavitt E. Magrath Wastewater Treatment Plant (the “Facility”) into the designated receiving water.

The permit currently in effect was issued on April 28, 2007 with an effective date of April 28, 2007 and expired on April 28, 2012 (the “2007 Permit”). The Permittee filed an application for permit reissuance with EPA dated February 27, 2012, as required by 40 Code of Federal Regulations (C.F.R.) § 122.6. Since the permit application was deemed timely and complete by EPA on July 12, 2013, the Facility’s 2007 Permit has been administratively continued pursuant to 40 C.F.R. § 122.6 and § 122.21(d). EPA and the State conducted a conference call in lieu of a site visit on March 25, 2020.

The NPDES Permit is issued by EPA under federal law, New Hampshire construes Title L, Water Management and Protection, Chapters 485-A, Water Pollution and Waste Disposal, to authorize the New Hampshire Department of Environmental Services (NHDES) to “consider” a federal NPDES permit to be a State surface water discharge permit. As such, all the terms and conditions of the permit may, therefore, be incorporated into and constitute a discharge permit issued by NHDES.

2.0 Statutory and Regulatory Authority

Congress enacted the Federal Water Pollution Control Act, codified at 33 U.S.C. § 1251-1387 and commonly known as the Clean Water Act (CWA), “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specific permitting sections of the CWA, one of which is § 402. *See* CWA §§ 301(a), 402(a). Section 402(a) established one of the CWA’s principal permitting programs, the NPDES Permit Program. Under this section, EPA may “issue a permit for the discharge of any pollutant or combination of pollutants” in accordance with certain conditions. CWA § 402(a). NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. *See* CWA § 402(a)(1) and (2). The regulations governing EPA’s NPDES permit program are generally found in 40 C.F.R. §§ 122, 124, 125, and 136.

“Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits” in order to achieve the statutory mandates of Section 301 and 402. *Arkansas v. Oklahoma*, 503 U.S. 91, 105 (1992). *See also* 40 C.F.R. §§ 122.4(d), 122.44(d)(1), 122.44(d)(5). CWA §§ 301 and 306 provide for two types of effluent limitations to be included in NPDES permits: “technology-based” effluent limitations (TBELs) and “water quality-based” effluent limitations (WQBELs). *See* CWA §§ 301, 304(d); 40 C.F.R. Parts 122, 125, 131.

2.1 Technology-Based Requirements

Technology-based limitations, generally developed on an industry-by-industry basis, reflect a specified level of pollutant reducing technology available and economically achievable for the type of facility being permitted. *See* CWA § 301(b). As a class, publicly owned treatment works (POTWs) must meet performance-based requirements based on available wastewater treatment technology. *See* CWA § 301(b)(1)(B). The performance level for POTWs is referred to as “secondary treatment.” Secondary treatment is comprised of technology-based requirements expressed in terms of BOD₅, TSS and pH. *See* 40 C.F.R. Part 133.

Under CWA § 301(b)(1), POTWs must have achieved effluent limits based upon secondary treatment technology by July 1, 1977. Since all statutory deadlines for meeting various treatment technology-based effluent limitations established pursuant to the CWA have expired, when technology-based effluent limits are included in a permit, compliance with those limitations is from the date the issued permit becomes effective. *See* 40 C.F.R. § 125.3(a)(1).

2.2 Water Quality Based Requirements

The CWA and federal regulations also require that permit effluent limits based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when less stringent TBELs would interfere with the attainment or maintenance of water quality criteria in the receiving water. *See* CWA § 301(b)(1)(C) and 40 C.F.R. §§ 122.44(d)(1), 122.44(d)(5).

2.2.1 Water Quality Standards

The CWA requires that each state develop water quality standards (WQSs) for all water bodies within the State. *See* CWA § 303 and 40 C.F.R. § 131.10-12. Generally, WQSs consist of three parts: 1) the designated use or uses assigned for a water body or a segment of a water body; 2) numeric or narrative water quality criteria sufficient to protect the assigned designated use(s); and 3) antidegradation requirements to ensure that once a use is attained it will not be degraded and to protect high quality and National resource waters. *See* CWA § 303(c)(2)(A) and 40 C.F.R. § 131.12. The applicable State WQSs can be found the New Hampshire Code of Administrative Rules, Surface Water Quality Regulations, Chapter Env-Wq 1700, *et seq.* *See also generally*, N.H. Rev. Stat. Title L, Water Management and Protection, Chapters 485-A, Water Pollution and Waste Disposal.

As a matter of state law, state WQSs specify different water body classifications, each of which is associated with certain designated uses and numeric and narrative water quality criteria. When using chemical-specific numeric criteria to develop permit limitations, acute and chronic aquatic life criteria and human health criteria are used and expressed in terms of maximum allowable in-stream pollutant concentrations. In general, aquatic-life acute criteria are considered applicable to daily time periods (maximum daily limit) and aquatic-life chronic criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific human health

criteria are typically based on lifetime chronic exposure and, therefore, are typically applicable to monthly average limits.

When permit effluent limitation(s) are necessary to ensure that the receiving water meets narrative water quality criteria, the permitting authority must establish effluent limits in one of the following three ways: 1) based on a “calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use,” 2) based on a “case-by-case basis” using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, 3) in certain circumstances, based on use of an indicator parameter. *See* 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

2.2.2 Antidegradation

Federal regulations found at 40 C.F.R. § 131.12 require states to develop and adopt a statewide antidegradation policy that maintains and protects existing in-stream water uses and the level of water quality necessary to protect these existing uses. In addition, the antidegradation policy ensures maintenance of high quality waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water, unless the State finds that allowing degradation is necessary to accommodate important economic or social development in the area in which the waters are located.

The New Hampshire Antidegradation Policy, found at Env-Wq 1708, applies to any new or increased activity that would lower water quality or affect existing or designated uses, including increased loadings to a water body from an existing activity. The antidegradation regulations focus on protecting high quality waters and maintaining water quality necessary to protect existing uses. Discharges that cause “significant degradation” are defined in NH WQS (Env-Wq 1708.09(a)) as those that use 20% or more of the remaining assimilative capacity for a water quality parameter in terms of either concentration or mass of pollutants or flow rate for water quantity. When NHDES determines that a proposed increase would cause a significant impact to existing water quality, the applicant must provide documentation to demonstrate that the lowering of water quality is necessary, that it will provide net economic or social benefit in the area in which the water body is located, and that the benefits of the activity outweigh the environmental impact caused by the reduction in water quality. *See* Env-Wq 1708.10(b).

This permit is being reissued with effluent limitations sufficiently stringent to satisfy the State’s antidegradation requirements, including the protection of the existing uses of the receiving water.

2.2.3 Assessment and Listing of Waters and Total Maximum Daily Loads.

The objective of the CWA is to restore and maintain the chemical, physical and biological integrity of the Nation’s waters. To meet this goal, the CWA requires states to develop information on the quality of their water resources and report this information to EPA, the U.S. Congress, and the public. To this end, EPA released guidance on November 19, 2001, for the preparation of an integrated “List of Waters” that could combine reporting elements of both § 305(b) and § 303(d) of the CWA. The integrated list format allows states to provide the status

of all their assessed waters in one list. States choosing this option must list each water body or segment in one of the following five categories: 1) unimpaired and not threatened for all designated uses; 2) unimpaired waters for some uses and not assessed for others; 3) insufficient information to make assessments for any uses; 4) impaired or threatened for one or more uses but not requiring the calculation of a Total Maximum Daily Load (TMDL); and 5) impaired or threatened for one or more uses and requiring a TMDL.

A TMDL is a planning tool and potential starting point for restoration activities with the ultimate goal of attaining water quality standards. A TMDL essentially provides a pollution budget designed to restore the health of an impaired water body. A TMDL typically identifies the source(s) of the pollutant from point sources and non-point sources, determines the maximum load of the pollutant that the water body can tolerate while still attaining WQSs for the designated uses, and allocates that load among to the various sources, including point source discharges, subject to NPDES permits. *See* 40 C.F.R. § 130.7.

For impaired waters where a TMDL has been developed for a particular pollutant and the TMDL includes a waste load allocation (WLA) for a NPDES permitted discharge, the effluent limitation in the permit must be “consistent with the assumptions and requirements of any available WLA”. 40 C.F.R. § 122.44(d)(1)(vii)(B).

2.2.4 Reasonable Potential

Pursuant to CWA § 301(b)(1)(C) and 40 C.F.R. § 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs that are necessary to achieve water quality standards established under § 303 of the CWA. *See also* 33 U.S.C. § 1311(b)(1)(C). In addition, limitations “must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including State narrative criteria for water quality.” 40 C.F.R. § 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent by the receiving water. *See* 40 C.F.R. § 122.44(d)(1)(ii).

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain WQBELs for that pollutant. *See* 40 C.F.R. § 122.44(d)(1)(i).

2.2.5 State Certification

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate the State WQSs, the State waives (or is deemed to have waived), its right to certify. *See* 33 U.S.C.

§ 1341(a)(1). Regulations governing state certification are set forth in 40 C.F.R. §§ 124.53 and 124.55. EPA has requested permit certification by the State pursuant to 40 C.F.R. § 124.53 and expects that the Draft Permit will be certified.

If the State believes that conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either CWA §§ 208(e), 301, 302, 303, 306 and 307 or the applicable requirements of State law, the State should include such conditions in its certification and, in each case, cite the CWA or State law provisions upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition. EPA includes properly supported State certification conditions in the NPDES permit. The only exception to this is that the permit conditions/requirements regulating sewage sludge management and implementing CWA § 405(d) are not subject to the State certification requirements. Reviews and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the EPA permit appeal procedures of 40 C.F.R. Part 124.

In addition, the State should provide a statement of the extent to which any condition of the Draft Permit can be made less stringent without violating the requirements of State law. Since the State's certification is provided prior to final permit issuance, any failure by the State to provide this statement waives the State's right to certify or object to any less stringent condition.

It should be noted that under CWA § 401, EPA's duty to defer to considerations of state law is intended to prevent EPA from relaxing any requirements, limitations or conditions imposed by state law. Therefore, "[a] State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition." 40 C.F.R. § 124.55(c). In such an instance, the regulation provides that, "The Regional Administrator shall disregard any such certification conditions or denials as waivers of certification." *Id.* EPA regulations pertaining to permit limitations based upon WQS and State requirements are contained in 40 C.F.R. §§ 122.4 (d) and 122.44(d).

2.3 Effluent Flow Requirements

Sewage treatment plant discharge is encompassed within the definition of "pollutant" and is subject to regulation under the CWA. The CWA defines "pollutant" to mean, *inter alia*, "municipal...waste" and "sewage...discharged into water." 33 U.S.C. § 1362(6).

Generally, EPA uses effluent flow both to determine whether an NPDES permit needs certain effluent limitations and to calculate the limitations themselves. EPA practice is to use effluent flow as a reasonable and important worst-case condition in EPA's reasonable potential and WQBEL calculations to ensure compliance with WQSs under § 301(b)(1)(C). Should the effluent flow exceed the flow assumed in these calculations, the in-stream dilution would be reduced, and the calculated effluent limitations may not be sufficiently protective (i.e. might not meet WQSs). Further, pollutants that do not have the reasonable potential to exceed WQSs at the lower discharge flow may have reasonable potential at a higher flow due to the decreased dilution. In order to ensure that the assumptions underlying the EPA's reasonable potential analyses and permit effluent limitation derivations remain sound for the duration of the permit,

EPA may ensure the validity of its “worst-case” wastewater effluent flow assumptions through imposition of permit conditions for effluent flow.¹ In this regard, the effluent flow limitation is a component of WQBELs because the WQBELs are premised on a maximum level flow. The effluent flow limit is also necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQSs.

The limitation on wastewater effluent flow is within EPA’s authority to condition a permit to carry out the objectives of the Act. *See* CWA §§ 402(a)(2) and 301(b)(1)(C); 40 C.F.R. §§ 122.4(a) and (d); 122.43 and 122.44(d). A condition on the discharge designed to ensure the WQBEL and reasonable potential calculations account for “worst case” conditions is encompassed by the references to “condition” and “limitations” in CWA §§ 402 and 301 and implementing regulations, as they are designed to assure compliance with applicable water quality regulations, including antidegradation. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of wastewater effluent is consistent with the overall structure and purposes of the CWA.

In addition, as provided in Part II.B.1 of this permit and 40 C.F.R. § 122.41(e), the permittee is required to properly operate and maintain all facilities and systems of treatment and control. Operating the facilities wastewater treatment systems as designed includes operating within the facility’s design wastewater effluent flow.

EPA has also included the effluent flow limit in the permit to minimize or prevent infiltration and inflow (I/I) that may result in unauthorized discharges and compromise proper operation and maintenance of the facility. Improper operation and maintenance may result in non-compliance with permit effluent limitations. Infiltration is groundwater that enters the collection system through physical defects such as cracked pipes or deteriorated joints. Inflow is extraneous flow added to the collection system that enters the collection system through point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems. Significant I/I in a collection system may displace sanitary flow, reducing the capacity available for treatment and the operating efficiency of the treatment works and to properly operate and maintain the treatment works.

Furthermore, the extraneous flow due to significant I/I greatly increases the potential for sanitary sewer overflows (SSOs) in separate systems. Consequently, the effluent flow limit is a permit condition that relates to the permittee’s duty to mitigate (*i.e.*, minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment) and to properly operate and maintain the treatment works. *See* 40 C.F.R. §§ 122.41(d), (e).

¹ EPA’s regulations regarding “reasonable potential” require EPA to consider “where appropriate, the dilution of the effluent in the receiving water,” *id* 40 C.F.R. §122.44(d)(1)(ii). *Both* the effluent flow and receiving water flow may be considered when assessing reasonable potential. *In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 599 (EAB 2010). EPA guidance directs that this “reasonable potential: analysis be based on “worst-case” conditions. *See In re Washington Aquaduct Water Supply Sys.* 11 E.A.D. 565, 584 (EAB 2004)

2.4 Monitoring and Reporting Requirements

2.4.1 Monitoring Requirements

Sections 308(a) and 402(a)(2) of the CWA and the implementing regulations at 40 C.F.R. Parts 122, 124, 125, and 136 authorize EPA to include monitoring and reporting requirements in NPDES permits.

The monitoring requirements included in this permit have been established to yield data representative of the Facility's discharges in accordance with CWA §§ 308(a) and 402(a)(2), and consistent with 40 C.F.R. §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The Draft Permit specifies routine sampling and analysis requirements to provide ongoing, representative information on the levels of regulated constituents in the wastewater discharges. The monitoring program is needed to enable EPA and the State to assess the characteristics of the Facility's effluent, whether Facility discharges are complying with permit limits, and whether different permit conditions may be necessary in the future to ensure compliance with technology-based and water quality-based standards under the CWA. EPA and/or the State may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to CWA § 304(a)(1), 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 C.F.R. Part 122.

NPDES permits require that the approved analytical procedures found in 40 C.F.R. Part 136 be used for sampling and analysis unless other procedures are explicitly specified. Permits also include requirements necessary to comply with the *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*.² This Rule requires that where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 C.F.R. § 122.21(e)(3) (completeness), 40 C.F.R. § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 C.F.R. § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level³ (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or
- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high

² Fed. Reg. 49,001 (Aug 19, 2014).

³ The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). Minimum levels may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor. EPA is considering the following terms related to analytical method sensitivity to be synonymous: "quantitation limit," "reporting limit," "level of quantitation," and "minimum level." See Fed. Reg. 49,001 (Aug. 19, 2014).

enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or

- The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 126 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

2.4.2 Reporting Requirements

The Draft Permit requires the Permittee to report monitoring results obtained during each calendar month to EPA and the State electronically using NetDMR. The Permittee must submit a Discharge Monitoring Report (DMR) for each calendar month no later than the 15th day of the month following the completed reporting period.

NetDMR is a national web-based tool enabling regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has eliminated the need for participants to mail in paper forms to EPA under 40 C.F.R. §§ 122.41 and 403.12. NetDMR is accessible through EPA's Central Data Exchange at <https://cdx.epa.gov/>. Further information about NetDMR can be found on the EPA NetDMR support portal webpage.⁴

With the use of NetDMR, the Permittee is no longer required to submit hard copies of DMRs and reports to EPA and the State unless otherwise specified in the Draft Permit. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the permit, such as for providing written notifications required under the Part II Standard Conditions.

2.5 Standard Conditions

The standard conditions, included as Part II of the Draft Permit, are based on applicable regulations found in the Code of Federal Regulations. *See generally* 40 C.F.R. Part 122.

2.6 Anti-backsliding

The CWA's anti-backsliding requirements prohibit a permit from being renewed, reissued or modified to include with less stringent limitations or conditions than those contained in a previous permit except in compliance with one of the specified exceptions to those requirements. *See* CWA §§ 402(o) and 303(d)(4) and 40 C.F.R. § 122.44(l). Anti-backsliding provisions apply to effluent limits based on technology, water quality and/or state certification requirements.

All proposed limitations in the Draft Permit are at least as stringent as limitations included in the 2007 Permit unless specific conditions exist to justify relaxation in accordance with CWA § 402(o) or § 303(d)(4). Discussion of any less stringent limitations and corresponding exceptions to anti-backsliding provisions is provided in the sections that follow.

⁴ <https://netdmr.zendesk.com/hc/en-us/articles/209616266-EPA-Region-1-NetDMR-Information>

3.0 Description of Facility and Discharge

3.1 Location and Type of Facility

The location of the treatment plant and Outfall 001 to an Unnamed Tributary of Tide Mill Creek are shown in Figure 1. The longitude and latitude of the outfall are 42° 55' 32.093" N, 70° 49' 3.123" W.

The Leavitt E. Magrath Wastewater Treatment Plant is an advanced wastewater treatment facility that is engaged in the collection and treatment of municipal wastewater. The Facility serves approximately 25,172 residents in the Town of Hampton (100% of the town's population) and 1,000 residents in the Town of Rye, NH.

The Facility has a design flow of 4.7 MGD, the annual average daily flow reported in the 2011 application was 2.63 MGD. The system is a separate system with no combined sewers. Wastewater is comprised of mostly domestic sewage with some commercial sewage and some septage.

The Permittee has three major industries contributing industrial wastewater to the Facility: Foss Performance Materials, Brazonics Inc., and Finest Kind Brewing, all located within Hampton, NH.

A quantitative description of the discharge in terms of effluent parameters, based on monitoring data submitted by the permittee from October 2014 through September 2019 is provided in Appendix A of this Fact Sheet.

Additionally, EPA is including one co-permittee in the Draft Permit. The Town of Rye, New Hampshire owns and operates the sanitary wastewater collection system and the discharge flows to the Facility. This municipality is a co-permittee for certain activities pertaining to proper operation and maintenance of their respective collection systems (*See* Parts I.B, I.C. and I.D of the Draft Permit). Including the Town of Rye in the Draft Permit ensures that it complies with requirements to operate and maintain the collection system to avoid unauthorized discharges of sewage from the collection system. This co-permittee did not apply for permit coverage; with a letter sent August 5, 2015, EPA waived application requirements for this co-permittee. The legal basis for including municipal satellite collection systems as co-permittees is described in *In re Charles River Pollution Control District*, 16 E.A.D. 623 (EAB 2015).⁵

3.1.1 Treatment Process Description

The Leavitt E. Magrath Wastewater Treatment Plant is an activated sludge treatment plant. Influent enters the Facility and flows through a mechanical screen. The flow is then pumped to

⁵ The decision is available at:

[https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Published%20and%20Unpublished%20Decisions/F89699D1A0710BCF85257DE200717A93/\\$File/Charles%20River%20Decision%20Vol%2016.pdf](https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Published%20and%20Unpublished%20Decisions/F89699D1A0710BCF85257DE200717A93/$File/Charles%20River%20Decision%20Vol%2016.pdf)

two primary clarifiers and flows by gravity to the aeration tanks. The aeration tanks are operated in series and contain fine bubble diffused air. Flow then passes through three secondary clarifiers followed by flow measurement and disinfection.

Primary sludge at the Facility is wasted continuously through valves to a mixed sludge well. The primary sludge is then pumped to the gravity thickeners via 700 gpm mixed sludge pumps. Primary sludge is thickened in gravity thickeners. Waste activated sludge is stored in a holding tank, thickened in a rotary drum thickener, returned to a thickened sludge holding tank and then combined with primary sludge in the pipe feeding the dewatering process – rotary press. Cationic polymer is used to facilitate the coagulation process. Hose-type pumps are used to transfer waste activated sludge. The dried sludge is transported to Turnkey Landfill of Rochester for disposal. The average mass of sludge shipped for incineration in 2011 was 748 dry metric tons.

A flow diagram of the Facility is shown in Figure 2.

3.1.2 Collection System Description

The Leavitt E. Magrath Wastewater Treatment Plant is served by a separate sewer system. A separate sanitary sewer conveys domestic, industrial and commercial sewage, but not stormwater. It is part of a “two pipe system” consisting of separate sanitary sewers and storm sewers. The two systems have no interconnections; the sanitary sewer leads to the wastewater treatment plant and the storm sewers discharge to a local water body.

The Facility is in the process of replacing some of the clay pipes in its collection system with polyvinyl chloride (PVC) pipes. Additionally, it has encouraged owners of private collection systems (who discharge to the Facility) to mitigate inflow and infiltration by performing maintenance on their collection systems.

4.0 Description of Receiving Water and Dilution

4.1 Receiving Water

The Facility discharges through Outfall 001 into an unnamed tributary of Tide Mill Creek, which discharges to Hampton Harbor, within Segment NHEST600031004-03-03. This segment is 0.121 square miles. Hampton Harbor ultimately joins the Gulf of Maine, Atlantic Ocean.

Tide Mill Creek is classified as a Class B by the State of New Hampshire. According to New Hampshire’s WQS (RSA 485-A:8), *“Class B waters shall be of the second highest quality and shall have no objectionable physical characteristics, shall contain a dissolved oxygen content of at least 75 percent of saturation, and shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 126 Escherichia coli per 100 milliliters, or greater than 406 Escherichia coli per 100 milliliters in any one sample; and for designated beach areas shall contain not more than a geometric mean based on at least 3 samples obtained over a 60-day period of 47 Escherichia coli per 100 milliliters, or 88 Escherichia coli per 100 milliliters in any one sample; unless naturally occurring. There shall be no disposal of sewage or waste into said waters except those which have received adequate treatment to prevent the*

lowering of the biological, physical, chemical or bacteriological characteristics below those given above, nor shall such disposal of sewage or waste be inimical to aquatic life or to the maintenance of aquatic life in said receiving waters. The pH range for said waters shall be 6.5 to 8.0 except when due to natural causes. Any stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions, or releases shall not be such as to appreciably interfere with the uses assigned to this class. The waters of this classification shall be considered as being acceptable for fishing, swimming and other recreational purposes and, after adequate treatment, for use as water supplies. Where is demonstrated to the satisfaction of the department that the class B criteria cannot reasonably be met in certain surface waters at all times as a result of combined sewer overflow events, temporary partial use areas shall be established by rules adopted under RSA 485-A:6, XI-c, which meet, as a minimum, the standards specified in paragraph III.

Tidal waters utilized for swimming purposes shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 35 enterococci per 100 ml, or 104 enterococci per 100 milliliters in any one sample, unless naturally occurring. Those tidal waters used for growing or taking of shellfish for human consumption shall, in addition to the foregoing requirements, be in accordance with the criteria recommended under the National Shellfish Program Manual of Operation, United States Department of Food and Drug Administration.

The Tide Mill Creek, segment NHEST600031004-03-03 is listed in the New Hampshire 2018 303(d) List of Impaired Waters (“303(d) List”) as a Category 5 “Waters Requiring a TMDL.”⁶ The pollutants requiring a TMDL are Polychlorinated biphenyls and Dioxin (including 2,3,7,8-TCDD). To date no TMDL has been developed for this segment for any of the listed impairments and the TMDL priority is classified as low. The status of each designated use is presented in Table 1.

EPA notes that the State of New Hampshire adopted new criteria into their state water quality standard regulations in December 2016 and submitted them to EPA for review and approval. Although the new criteria have not yet been approved by EPA, the Draft Permit is being proposed with effluent limits derived to meet the new criteria in anticipation of a state certification to do so.

⁶ State of New Hampshire 2018 Section 303(d) Surface Water Quality List, New Hampshire Department of Environmental Services, August 8, 2019.

Table 1: Summary of Designated Uses and Listing Status⁷

Designated Use	Status
Aquatic Life	Not Supporting, Marginal
Drinking Water After Adequate Treatment	Supports Parameter well above criteria
Primary Contact Recreation/Swimming	Insufficient Information/Potentially Not Attaining Standard
Secondary Contact Recreation/Boating	Insufficient Information/Potentially Attaining Standard
Fish Consumption	Marginal Impairment
Shellfishing	Marginal Impairment
Wildlife	Insufficient Information/No Data

According to the 303(d) List, this assessment unit is attaining uses designated for drinking water after adequate treatment. It is impaired for fish consumption and shellfishing, and not supporting for aquatic life use. There is insufficient data to assess primary contact recreation, but it is potentially not attaining the standard and secondary contact recreation use also has insufficient information but potentially attaining the standard. There is insufficient information/no data to assess wildlife use. The fish consumption use is impaired by mercury and polychlorinated biphenyls and the TMDL priority is listed as low. The shellfishing use is impaired by dioxin (including 2, 3, 7, 8-TCDD), mercury and polychlorinated biphenyls. This is a regional advisory to all tidal waters in New Hampshire, not specific to the Hampton discharge. Fecal coliform is also included in the parameter list but categorized as “insufficient data/potentially not attaining the standard.” The TMDL priority for the shellfishing use is also listed as low.

4.2 Ambient Data

Due to a lack of ambient data and the nature of the discharge with no available dilution, ambient concentrations of pollutants were assumed to be zero for reasonable potential analyses.

4.3 Available Dilution

To ensure that discharges do not cause or contribute to violations of WQS under all expected conditions, WQBELs are derived assuming critical conditions for the receiving water.⁸ The critical flow in rivers and streams is some measure of the low flow of that river or stream. For New Hampshire, see Env-Wq 1705.2: (a) The flow used to calculate permit limits shall be specified in (b) through (d), below. (b) For tidal waters, the flow condition shall be equivalent to the conditions that result in a dilution that is exceeded 99% of the time. (c) For non-tidal rivers and streams, permit limits for all human health criteria for carcinogens shall be developed based on the long-term harmonic mean flow, which is the number of daily flow measurements divided by the sum of the reciprocals of the daily flows. (d) For non-tidal rivers and streams, permit limits for all aquatic life criteria and human health criteria for non-carcinogens shall be based on the 7Q10 flow.

⁷ NHDES 2018 Watershed 305(b)/303(d), Assessment Unit ID NHEST600031004-03-03, Tide Mill Creek, Hampton, NH

⁸ EPA Permit Writer’s Manual, Section 6.2.4

The outfall pipe is exposed during low tide; i.e., the effluent discharges directly on to tidal mud flats at low tide; EPA has determined that a dilution factor of 1 is appropriate. This is consistent with the approach in the 2007 Permit.

5.0 Proposed Effluent Limitations and Conditions

The proposed effluent limitations and conditions derived under the CWA and State WQSs are described below. These proposed effluent limitations and conditions, the basis of which are discussed throughout this Fact Sheet, may be found in Part I of the Draft Permit.

5.1 Effluent Limitations and Monitoring Requirements

In addition to the State and Federal regulations described in Section 2, data submitted by the Permittee in its permit application, in monthly discharge monitoring reports (DMRs) and in WET test reports from October 2014 to September 2019 (the “review period”) were used to identify the pollutants of concern and to evaluate the discharge during the effluent limitations development process (*See Appendix A*). Reasonable Potential Analysis is included in Appendix B and results are discussed in the sections below.

5.1.1 Effluent Flow

The effluent flow limit in the 2007 Permit is 3.9 MGD, as a rolling annual average flow, based on the Facility’s operational flow, as described below. The DMR data during the review period shows that there have been no violations of the flow limit.

The Draft Permit increases the 3.9 MGD flow limit from the 2007 Permit to 4.7 MGD. The Facility sent EPA a letter dated February 25, 2020 requesting to reimplement its 4.7 MGD flow limit, in accordance with its design flow. The Facility was constructed with a design flow of 4.7 MGD. The Facility, however, modified its operations by adding an anoxic zone to its treatment process, reducing the operational flow of the Facility to 3.9 MGD. The Facility has determined that operating the anoxic zone is not always necessary and is, therefore, reverting to its original design flow of 4.7 MGD to have the flexibility to accommodate higher flows. The Facility has changed its operations insofar as reverting to the original design flow is appropriate. Because the Facility is reverting to its original design flow, an anti-degradation review is not warranted. As a result, EPA has incorporated this flow limit into the Draft Permit.

The Draft Permit requires that flow be measured continuously and that the rolling annual average flow, as well as the average monthly and maximum daily flow for each month be reported. The rolling annual average flow is calculated as the average of the flow for the reporting month and 11 previous months.

5.1.2 Biochemical Oxygen Demand (BOD₅)

5.1.2.1 BOD₅ Concentration Limits

The BOD₅ limits in the 2007 Permit were based on the secondary treatment standards in 40 C.F.R. § 133.102 and included an average monthly limit of 30 mg/L, and an average weekly

limit of 45 mg/L. The daily maximum limit of 50 mg/L was based on best professional judgment. The DMR data during the review period shows that there have been no violations of the BOD₅ concentration limits.

The Draft Permit proposes the same BOD₅ concentration limits as in the 2007 Permit as no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains twice per week.

5.1.2.2 BOD₅ Mass Limits

The mass-based BOD₅ limits in the 2007 Permit of 1176 lb/day (average monthly) and 1764 lb/day (average weekly) were based on EPA's secondary treatment standards and the design flow of the Facility. The 2007 Permit also included a daily maximum mass-based limit of 1960 lb/day, based on the concentration-based limit of 50 mg/L and the design flow of the Facility.

The DMR data from the review period shows that there have been no violations of BOD₅ mass limits.

The Draft Permit proposes the same BOD₅ mass limits as in the 2007 Permit as no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains twice per week.

5.1.3 Total Suspended Solids (TSS)

Solids could include inorganic (e.g. silt, sand, clay and insoluble hydrated metal oxides) and organic matter (e.g. flocculated colloids and compounds that contribute to color). Solids can clog fish gills, resulting in an increase in susceptibility to infection and asphyxiation. Suspended solids can increase turbidity in receiving waters and reduce light penetration through the water column or settle to form bottom deposits in the receiving water. Suspended solids also provide a medium for the transport of other adsorbed pollutants, such as metals, which may accumulate in settled deposits that can have a long-term impact on the water column through cycles of re-suspension.

5.1.3.1 TSS Concentration Limits

The TSS limits in the 2007 Permit were based on the secondary treatment standards in 40 C.F.R. § 133.102 and included an average monthly limit of 30 mg/L, an average weekly limit of 45 mg/L, and a daily maximum limit of 50 mg/L. The daily maximum limit was based on best professional judgment. The DMR data during the review period shows that there have been no violations of TSS concentration limits.

The Draft Permit proposes the same TSS concentration limits as in the 2007 Permit as no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains twice per week.

5.1.3.2 TSS Mass Limits

The mass-based TSS limits in the 2007 Permit of 1176 lb/day (average monthly) and 1764 lb/day (average weekly) were based on EPA's secondary treatment standards and the design flow of the Facility. The 2007 Permit also included a daily maximum mass-based limit of 1960 lb/day, based on the concentration-based limit of 50 mg/L and the design flow of the Facility.

The DMR data during the review period shows that there have been no violations of TSS mass limits.

The Draft Permit proposes the same TSS mass limits as in the 2007 Permit as no new WLAs have been established and there have been no changes to the secondary treatment standards. The monitoring frequency remains twice per week.

5.1.4 Eighty-Five Percent (85%) BOD₅ and TSS Removal Requirement

In accordance with the provisions of 40 C.F.R. § 133.102(a)(3), and (b)(3), the 2007 Permit requires that the 30-day average percent removal for BOD₅ and TSS be not less than 85%. There were no violations of the 85% removal requirement for BOD₅ or TSS during that period.

The requirement to achieve 85% BOD₅ and TSS removal has been carried forward in the Draft Permit.

5.1.5 pH

The hydrogen ion concentration in an aqueous solution is represented by the pH using a logarithmic scale of 0 to 14 standard units (S.U.). Solutions with pH 7.0 S.U. are neutral, while those with pH less than 7.0 S.U. are acidic and those with pH greater than 7.0 S.U. are basic. Discharges with pH values markedly different from the receiving water pH can have a detrimental effect on the environment. Sudden pH changes can kill aquatic life. pH can also have an indirect effect on the toxicity of other pollutants in the water.

Consistent with the requirements of New Hampshire's WQS at RSA 485-A:8 II, "The pH for said (Class B) waters shall be 6.5 to 8.0 except when due to natural causes." The monitoring frequency is once per day. The DMR data during the review period show that there have been three violations of the minimum pH limitation and no violations of the maximum pH limitation.

The pH requirements in the 2007 Permit are carried forward into the Draft Permit as there has been no change in the WQSs with regards to pH. The limitations are based on CWA 301(b)(1)(C) and 40 C.F.R. § 122.44(d).

5.1.6 Bacteria

The 2007 Permit includes a monthly geometric mean effluent limit of 14 colonies per 100 mL for bacteria using fecal coliform bacteria as an indicator to protect shellfishing uses. The permit also includes reporting requirements for fecal coliform as a daily maximum value and for *Enterococci* as both monthly geometric mean and daily maximum values.

The DMR data during the review period shows no violations for the fecal coliform monthly geometric mean limit. The daily maximum values for fecal coliform reported during the review period range from 2 to 200.5 colonies per 100 mL.

The Shellfish Program Manual referenced in NH RSA 485-A:8.V includes recommended criteria for either total coliform bacteria or fecal coliform bacteria. Effluent limits were set for fecal coliform bacteria. The Shellfish Program Manual (now known as the National Shellfish Sanitation Program, Guide for the Control of Molluscan Shellfish, 2017 Revision⁹) requires that fecal coliform not exceed a geometric mean of most probable number (MPN) or membrane filter (MF) (membrane Thermotolerant *Escherichia Coli* [mTEC]) of 14 per 100 milliliters and not more than 10 percent of the samples exceed:

- MPN of 43 per 100 milliliters for a 5-tube decimal dilution test; or
- MPN of 49 per 100 mL for a 3-tube decimal dilution test; or
- MPN of 28 per 100 mL for a 12-tube single dilution test; or
- 31 colony forming units (CFU) per 100 mL for a MF (mTEC) test.

EPA has included the geometric mean fecal coliform MF (mTEC) of 14 per 100 milliliters as an average monthly geometric mean limit and the requirement that not more than 10 percent of samples (over a monthly period) shall exceed 31 CFU per 100 mL for a MF (mTEC) test as the daily maximum limit. The MF (mTEC) test is applied because it is a 24-hour method versus the other three methods which can take up to 7 days. EPA is soliciting comments during the Public Notice period regarding whether one of the other three options listed above would be preferable. The sampling frequency is once per day.

Additionally, NH WQS at Env-Wq 1700, Appendix E require a monthly geometric mean of 35/100 mL and a maximum daily limit of 104/100 mL for tidal waters. EPA has proposed these effluent limits in the Draft Permit. The sampling frequency is once per day.

5.1.7 Total Residual Chlorine

The Permittee uses sodium hypochlorite for disinfection of the effluent. The 2007 Permit includes effluent limitations for total residual chlorine (TRC) of 7.5 µg/L (monthly average) and 13 µg/L (maximum daily). The DMR data during the review period shows that there have been 3 violations of the monthly average limit and 3 violations of the daily maximum limit.

The TRC permit limits are based on the instream chlorine criteria defined in *National Recommended Water Quality Criteria: 2002*, EPA 822R-02-047 (November 2002), as adopted by the New Hampshire Code of Administrative Rules, Env-Wq 1703.21 and Table 1703.1. These marine instream criteria for chlorine are 7.5 µg/L (chronic) and 13 µg/L (acute). Because the upstream chlorine is assumed to be zero in this case, the water quality-based chlorine limits are calculated as the criteria times the dilution factor, as follows:

⁹ U.S. FDA, *National Shellfish Sanitation Program, Guide for the Control of Molluscan Shellfish, 2017 Revision*, <https://www.fda.gov/media/117080/download>

Chronic criteria * dilution factor = Chronic limit
 $7.5 \mu\text{g/L} * 1.0 = 7.5 \mu\text{g/L}$ (average monthly)

Acute criteria * dilution factor = Acute limit
 $13 \mu\text{g/L} * 1.0 = 13 \mu\text{g/L}$ (maximum daily)

These limits are included in the Draft Permit and are the same as the limits in the 2007 Permit and the sampling frequency remains twice per day. Because these limits are below the minimum level for the analytical methods included in 40 C.F.R. Part 136 to monitor for TRC, the compliance level for these limits is set at $20 \mu\text{g/L}$ (i.e., the lowest minimum level) in the Draft Permit.

5.1.8 Ammonia

Nitrogen in the form of ammonia can reduce the receiving waters dissolved oxygen concentration through nitrification and can be toxic to aquatic life, particularly at elevated temperatures. The toxicity level of ammonia in marine waters depends on the temperature, pH and salinity of the receiving water.¹⁰ The applicable ammonia water quality criteria are pH, temperature and salinity dependent and can be located at NH WQS (*See Env-Wq 1703.27 and 1703.30*).

The 2007 Permit includes ammonia limits. The limits for the warm weather period (May 1 through October 31) are an average monthly limit of 1.1 mg/L and a maximum daily limit of 7.4 mg/L . The effluent limits during the cold weather period (November 1 through April 30) are an average monthly limit of 2.7 mg/L and a maximum daily limit of 17.9 mg/L .

In determining whether the discharge has the reasonable potential to cause or contribute to excursions above the instream water quality criteria for ammonia, EPA used the mass balance equation presented in Appendix B for both warm and cold weather conditions to project the ammonia concentration downstream of the discharge. If there is reasonable potential, this mass balance equation is also used to determine the limit that is required in the permit.

EPA notes that since the 2007 Permit already contained limits for ammonia, a reasonable potential determination is not applicable, so the table in Appendix B indicates "N/A" for reasonable potential. In such cases, the same mass balance equation is used to determine if a more stringent limit would be required to meet WQS under current conditions. The limit is determined to be the more stringent of either (1) the existing limit or (2) the calculated effluent concentration (C_d) allowable to meet WQS based on current conditions. However, if the mass balance indicates that a less stringent effluent concentration (C_d) would meet WQS under current conditions, a case-by-case analysis must be done to determine if backsliding is allowable based on the exceptions found at 40 CFR § 122.44(l)(2)(i).

To determine the applicable ammonia criteria, EPA assumes an ambient pH of 7.5 S.U., ambient salinity of 13 ppt¹¹ and ambient temperatures of 25°C for the warm weather period and 15°C

¹⁰ Environmental Protection Agency (EPA), "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989", pages 3-4.

¹¹ <http://nhdesonestop.sr.unh.edu/html5viewer/>

for the cold weather period. Based on these assumptions, the applicable ammonia criteria were determined from the tables in the WQS, interpolating between values as necessary, and are presented in Appendix B.

Based on the information and assumptions described above, Appendix B presents the applicable ammonia criteria, the details of the mass balance equation, and the limits required in the Draft Permit. As shown in Appendix B, the limits in the 2007 Permit continue to meet water quality standards and are, therefore, carried forward in the Draft Permit.

5.1.9 Nutrients

Nutrients are compounds containing nitrogen and phosphorus. Although nitrogen and phosphorus are essential for plant growth, high concentrations of these nutrients can cause eutrophication, a condition in which aquatic plant and algal growth is excessive. Plant and algae respiration and decomposition reduces dissolved oxygen in the water, creating poor habitat for fish and other aquatic animals. Recent studies provide evidence that both phosphorus and nitrogen can play a role in the eutrophication of certain ecosystems. However, typically phosphorus is the limiting nutrient triggering eutrophication in freshwater ecosystems and nitrogen in marine or estuarine ecosystems. Thus, for this receiving water and this permit, nitrogen is the nutrient of concern evaluated for effluent limitations in the discussion below.

5.1.9.1 Total Nitrogen

The 2007 Permit did not require monitoring for total nitrogen. However, data is necessary to determine whether there is reasonable potential for nitrogen discharges from the Facility to cause or contribute to a violation of the New Hampshire narrative nutrient criteria in the receiving water. Specifically, data that characterizes aquatic life designated uses so that the narrative criteria can be interpreted numerically. EPA finds that quantifying the load of total nitrogen from this Facility is an important first step in understanding the loading of nitrogen and the potential impact to Tide Mill Creek.

The Draft Permit includes weekly monitoring and reporting requirements for total nitrate plus total nitrite, TKN and total nitrogen from May through October and monthly monitoring and reporting from November through April.

Although the Draft Permit does not include a permit limit for total nitrogen, EPA recommends the Town consider treatment methods to reduce nitrogen in the effluent if upgrades at the treatment plant are planned in the future, as nitrogen limits may be included in subsequent permits.

5.1.10 Metals

Dissolved fractions of certain metals in water can be toxic to aquatic life. Therefore, there is a need to limit toxic metal concentrations in the effluent where aquatic life may be impacted. For the development of the Draft Permit, analyses were completed to evaluate whether there is reasonable potential for effluent discharges to cause or contribute to exceedances of the water quality criteria for cadmium, copper, lead, nickel and zinc and/or to evaluate whether any

existing limits in the 2007 Permit for these metals continue to be protective. The 2007 Permit included effluent limits for copper and a summary of recent metals monitoring results from the Facility's DMR data and the Whole Effluent Toxicity tests is provided in Appendix A.

5.1.10.1 Applicable Metals Criteria

State water quality criteria for cadmium, copper, lead, nickel and zinc are established in terms of dissolved metals. However, many inorganic components of domestic wastewater, including metals, are in particulate form, and differences in the chemical composition between the effluent and the receiving water affects the partitioning of metals between the particulate and dissolved fractions as the effluent mixes with the receiving water, often resulting in a transition from the particulate to dissolved form (*The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion* (USEPA 1996 [EPA-823-B96-007])). Consequently, quantifying only the dissolved fraction of metals in the effluent prior to discharge may not accurately reflect the biologically-available portion of metals in the receiving water. Regulations at 40 C.F.R. § 122.45(c) require, with limited exceptions, that effluent limits for metals in NPDES permits be expressed as total recoverable metals.

The criteria for cadmium, copper, lead, nickel and zinc are presented in Appendix B, based on EPA's National Recommended Water Quality Criteria: 2002, as adopted by the New Hampshire Code of Administrative Rules, Env-Wq 1703.21 and Table 1703.1.

5.1.10.2 Reasonable Potential Analysis and Limit Derivation

To determine whether the effluent has the reasonable potential to cause or contribute to an exceedance above the in-stream water quality criteria for each metal, EPA uses the mass balance equation presented in Appendix B to project the concentration downstream of the discharge and, if applicable, to determine the limit required in the permit. There were several pollutants where upstream ambient data were unavailable to use in the mass balance equation therefore, EPA assumes the ambient concentration is zero.

For any metal with an existing limit in the 2007 Permit, a reasonable potential determination is not applicable, so the table indicates "N/A" for reasonable potential. In such cases, the same mass balance equation is used to determine if a more stringent limit would be required to meet WQS under current conditions. The limit is determined to be the more stringent of either (1) the existing limit or (2) the calculated effluent concentration (C_d) allowable to meet WQS based on current conditions. However, if the mass balance indicates that a less stringent effluent concentration (C_d) would meet WQS under current conditions, a case-by-case analysis must be done to determine if backsliding is allowable based on the exceptions found at 40 CFR § 122.44(l)(2)(i).

The results of the analysis for each metal presented in Appendix B, show that there is no reasonable potential for cadmium, lead, nickel and zinc, and the Draft Permit does not require permit limits for these metals. Effluent and ambient monitoring data will be required as part of the WET tests, as described below.

5.1.10.3 Copper

The 2007 Permit includes a monthly average and maximum daily copper limit of 0.0037 mg/L and 0.0058 mg/L, respectively. The copper limits are based on the instream copper criteria defined in *National Recommended Water Quality Criteria: 2002*, EPA 822R-02-047 (November 2002), as adopted by the New Hampshire Code of Administrative Rules, Env-Wq 1703.21 and Table 1703.1.

The Facility is unable to achieve the effluent limits and has been operating under an interim monthly average limit of 20 µg/L set forth in an EPA compliance order. The DMR data shows the interim limit has been achieved for the period of review. The median of the monthly average copper concentration for the period of review is 8.55 µg/L. The copper limits in the Draft Permit are the same as in the 2007 Permit. See Appendix B.

5.1.10.4 Arsenic

Arsenic is a naturally occurring element that is found in combination with either inorganic or organic substances to form many different compounds. Inorganic arsenic compounds are found in soils, sediments, and groundwater. These compounds occur either naturally or as a result of mining, ore smelting, and industrial use of arsenic. Organic arsenic compounds are found mainly in fish and shellfish. In the past, inorganic forms of arsenic were used in pesticides and paint pigment. They were also used as wood preservatives and as a treatment for a variety of ailments.¹²

There can be no violation of arsenic concentrations in the receiving water relative to the human health criterion for fish consumption, pursuant to Env-Wq 1703.21(b). The arsenic water quality criteria are for inorganic arsenic. The maximum effluent concentration recorded at the Facility in its application is for total recoverable arsenic and was 3 µg/L. Since the Facility's discharge is not submerged within the Unnamed Tributary of Tide Mill Creek during low tide, there is no available dilution to mitigate arsenic downstream of the discharge. Because the downstream concentration of total recoverable arsenic exceeds the human health criterion for fish consumption (0.14 µg/L), a monitoring requirement for inorganic arsenic has been included in the Draft Permit. The monitoring requirement will allow EPA to ascertain what concentration of inorganic arsenic is present in the Facility's effluent, which will allow for future reasonable potential analyses to be conducted with respect to inorganic arsenic. The monitoring frequency is twice per month.

5.1.11 Whole Effluent Toxicity

CWA §§ 402(a)(2) and 308(a) provide EPA and States with the authority to require toxicity testing. Section 308 specifically describes biological monitoring methods as techniques that may be used to carry out objectives of the CWA. WET testing is conducted to ensure that the additivity, antagonism, synergism and persistence of the pollutants in the discharge do not cause toxicity, even when the pollutants are present at low concentrations in the effluent. The inclusion of WET requirements in the Draft Permit will assure that the Facility does not discharge

¹² Department of Health and Human Services. (November 2009). *Fact Sheet on Arsenic*. Retrieved from https://www.epa.gov/sites/production/files/2014-03/documents/arsenic_factsheet_cdc_2013.pdf

combinations of pollutants into the receiving water in amounts that would be toxic to aquatic life or human health.

In addition, under CWA § 301(b)(1)(C), discharges are subject to effluent limitations based on WQSs. Under CWA §§ 301, 303 and 402, EPA and the States may establish toxicity-based limitations to implement the narrative water quality criteria calling for “no toxics in toxic amounts”. *See also* 40 C.F.R. § 122.44(d)(1). New Hampshire statute and regulations state that, “all surface waters shall be free from toxic substances or chemical constituents in concentrations or combination that injure or are inimical to plants, animals, humans, or aquatic life....” (N.H. RSA 485-A:8, VI and the N.H. Code of Administrative Rules, PART Env-Wq 1703.21(a)(1)). National studies conducted by the EPA have demonstrated that domestic sources, as well as industrial sources, contribute toxic constituents to POTWs. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others. Some of these constituents may cause synergistic effects, even if they are present in low concentrations. Because of the source variability and contribution of toxic constituents in domestic and industrial sources, reasonable potential may exist for this discharge to cause or contribute to an exceedance of the “no toxics in toxic amounts” narrative water quality standard.

In accordance with current EPA guidance, whole effluent chronic effects are regulated by limiting the highest measured continuous concentration of an effluent that causes no observed chronic effect on a representative standard test organism, known as the chronic No Observed Effect Concentration (C-NOEC) and whole effluent acute effects are regulated by limiting the concentration that is lethal to 50% of the test organisms, known as the LC₅₀. EPA recommends that permits with a discharge having a dilution factor less than 10 require acute and chronic toxicity testing four times per year for three species with the C-NOEC effluent limit of greater than or equal to the receiving water concentration and the LC₅₀ limit of greater than or equal to 100%. The C-NOEC is calculated by dividing one by the dilution factor and multiplying by 100%. Accordingly, the C-NOEC in the Draft Permit is 100% effluent.

The acute and chronic WET limits in the 2007 Permit are LC₅₀ greater than or equal to 100%, using the inland silverside minnow (*Menidia beryllina*) and the mysid shrimp (*Mysidopsis bahia*) as test species, and C-NOEC greater than or equal to 100% using the inland silverside minnow (*Menidia beryllina*) and the sea urchin (*Arbacia punctulata*) as test species. The acute WET limit of 100% has been consistently achieved for the review period. There have been 3 violations of the C-NOEC limit over the review period. Appendix A shows the chronic WET test results for the *Menidia beryllina* were reported as 50% for the C-NOEC in September 2016 and September 2017 and the chronic WET test results for the *Arbacia punctulata* was reported as 50% in December 2014.

Note Appendix A incorrectly shows the March 2015 chronic WET test result as 12.5% for the WET test using the *Menidia beryllina*; however, the WET test report indicates the C-NOEC achieves the permit limit of 100%.

Based on the potential for toxicity from domestic contributions, the state narrative water quality criterion, the dilution factor of 1.0, and in accordance with EPA national and regional policy and 40 C.F.R. § 122.44(d), the Draft Permit continues the WET effluent limits and requirements

from the 2007 Permit, including the use of the same species and quarterly test frequency. Toxicity testing must be performed in accordance with the updated EPA Region 1 WET test procedures and protocols specified in Attachment A, *Marine Acute Toxicity Test Procedure and Protocol* (July 2012) and Attachment B, *Marine Chronic Toxicity Test Procedure and Protocol* (November 2013), of the Draft Permit.

5.2 Sludge Conditions

Section 405(d) of the Clean Water Act requires that EPA develop technical standards regarding the use and disposal of sewage sludge. On February 19, 1993, EPA promulgated technical standards. These standards are required to be implemented through permits. The conditions in the permit satisfy this requirement.

5.3 Infiltration/Inflow (I/I)

Infiltration is groundwater that enters the collection system through physical defects such as cracked pipes, or deteriorated joints. Inflow is extraneous flow entering the collection system through point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems. Significant I/I in a collection system may displace sanitary flow, reducing the capacity and the efficiency of the treatment works and may cause bypasses to secondary treatment. It greatly increases the potential for sanitary sewer overflows (SSOs) in separate systems, and combined sewer overflows (CSOs) in combined systems.

The Draft Permit includes a requirement for the permittee and co-permittee to control infiltration and inflow (I/I) within the sewer collections system it owns and operates. The permittee shall develop an I/I removal program commensurate with the severity of I/I in the collection system. This program may be scaled down in sections of the collection system that have minimal I/I.

5.4 Operation and Maintenance of the Sewer System

The standard permit conditions for ‘Proper Operation and Maintenance’, found at 40 C.F.R. § 122.41(e), require the proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. The requirements at 40 C.F.R. § 122.41(d) impose a ‘duty to mitigate,’ which requires the permittee to “take all reasonable steps to minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment. EPA maintains that an I/I removal program is an integral component of ensuring permit compliance with the requirements of the permit under the provisions at 40 C.F.R. § 122.41(d) and (e).

General requirements for proper operation and maintenance, and mitigation have been included in Part II of the permit. Specific permit conditions have also been included in Part I.C. and I.D. of the Draft Permit. These requirements include mapping of the wastewater collection system, preparing and implementing a collection system operation and maintenance plan, reporting of unauthorized discharges including SSOs, maintaining an adequate maintenance staff, performing preventative maintenance, controlling inflow and infiltration to separate sewer collection systems

(combined systems are not subject to I/I requirements) to the extent necessary to prevent SSOs and I/I related effluent violations at the Wastewater Treatment Facility, and maintaining alternate power where necessary. These requirements are included to minimize the occurrence of permit violations that have a reasonable likelihood of adversely affecting human health or the environment.

Several of the requirements in the Draft Permit are not included in the 2007 Permit, including collection system mapping, and preparation of a collection system operation and maintenance plan. EPA has determined that these additional requirements are necessary to ensure the proper operation and maintenance of the collection system and has included schedules in the Draft Permit for completing these requirements.

Because the municipality of Rye, NH owns and operates a collection system that discharges to the Facility, it has been included as a co-permittee for the specific permit requirements discussed in the paragraph above. The historical background and legal framework underlying this co-permittee approach is set forth in Appendix C to this Fact Sheet, EPA Region 1 NPDES Permitting Approach for Publicly Owned Treatment Works that Include Municipal Satellite Sewage Collection Systems.

5.5 Standard Conditions

The standard conditions of the permit are based on 40 C.F.R. §122, Subparts A, C, and D and 40 C.F.R. § 124, Subparts A, D, E, and F and are consistent with management requirements common to other permits.

6.0 Federal Permitting Requirements

6.1 Endangered Species Act

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA), grants authority and imposes requirements on Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and any habitat of such species that has been designated as critical under the ESA (a “critical habitat”).

Section 7(a)(2) of the ESA requires every federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Oceanic and Atmospheric Administration (NOAA Fisheries) administers Section 7 consultations for marine and anadromous species.

The Federal action being considered in this case is EPA’s proposed NPDES permit for the Facility, which discharges through Outfall 001 into an unnamed tributary of Tide Mill Creek at latitude 42° 55’ 32.093” N, longitude 70° 49’ 3.123” W. The discharge travels through the Tidal

Mill Creek system until it reaches Hampton Harbor, within Segment NHEST600031004-03-03. At this point, the tidal waters of Hampton Harbor flow to the Gulf of Maine.

As the federal agency charged with authorizing the discharge from this Facility, EPA determines potential impacts to federally listed species, and initiates consultation, when required under § 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, and plants in the expected action area of the outfall to determine if EPA's proposed NPDES permit could potentially impact any such listed species.

For protected species under jurisdiction of the USFWS, one threatened mammal, the northern long-eared bat (*Myotis septentrionalis*) and two listed shore bird species have been documented in the general area of the discharge around Hampton Harbor. The birds are the piping plover (*Charadrius melodus*) and the rufa red knot (*Calidris canutus rufa*), both listed as threatened.

According to the USFWS, the northern long-eared bat is found in “winter – mines and caves, summer – wide variety of forested habitats.” This species is not aquatic and is not a coastal species. Therefore, the proposed permit action will have no direct or indirect effect on this listed species.¹³

The piping plover is found along coastal sand and gravel beaches in the northeast from March to August. They eat mainly insects, marine worms, and crustaceans. The population is threatened from habitat loss and degradation due to coastal development and stabilization, as well as predation and human disturbance.

The rufus red knot can be seen along the coast of New Hampshire in the spring and fall, as it migrates from summer breeding grounds on the tundra of the Canadian arctic to wintering sites in South America and the southern US. This bird is one of the longest-distance migrants in the animal kingdom. It feed on invertebrates, especially small clams, mussels, and snails, but also crustaceans, marine worms, and horseshoe crab. Pressures on the species include coastal development and overharvest of the horseshoe crab.

The outfall point from the Leavitt E. Magrath WWTP is located at the unnamed tributary of Tide Mill Creek. The discharge travels approximately 1.5 miles through the Tidal Mill Creek system until it reaches Hampton Harbor. At this point, the tidal waters of Hampton Harbor flow another 1.4 miles before meeting the Gulf of Maine. The outfall pipe does not disturb the shoreline habitat of these birds. In addition, the marsh discharge does not come in contact with the sandy shore intertidal fish, worms and crustaceans that these birds feed on. Based on this assessment, EPA has determined that these USFWS federally protected shorebird species, as well as their prey, are not present in the action area. Therefore, consultation with USFWS under Section 7 of the ESA is not required.

¹³ See USFWS Information for Planning and Construction Database for more information: <https://ecos.fws.gov/ipac/location/index>

Regarding protected species under the jurisdiction of NOAA Fisheries, a number of anadromous and marine species and life stages are present in coastal New Hampshire and Massachusetts waters. Various life stages of the following fish, sea turtles and whales have been documented in these near shore waters: Atlantic sturgeon (*Acipenser oxyrinchus*) adult and subadult life stages, shortnose sturgeon (*Acipenser brevirostrom*) adults, protected sea turtles such as adult and juvenile life stages of leatherback sea turtles (*Dermochelys coriacea*), loggerhead sea turtles (*Caretta caretta*), Kemp's ridley sea turtles (*Lepidochelys kempii*) and green sea turtles (*Chelonia mydas*), along with adult and juvenile life stages of North Atlantic right whales (*Eubalaena glacialis*) and fin whales (*Balaenoptera physalus*). In addition, this coastal area has been designated as critical habitat for North Atlantic right whale feeding.¹⁴

The protected species life stages, as well as the listed North Atlantic right whale critical habitat, are all found in New Hampshire coastal waters. Further analysis was done with regard to the presence or absence of these protected species and critical habitat areas in the Tidal Mill Creek system and Hampton Harbor. EPA has determined that the influence of the Facility outfall, even when discharging at its maximum limit of 4.7 million gallons per day, contributes less than 1% to the overall tidal volume of Hampton Harbor at low tide. Since the action area of the discharge is not projected to travel past the 2.9 mile distance of the creek and harbor to the coastal waters, this discharge is not expected to overlap with the coastal protected species and critical habitat. Based on the normal distribution of these species, it is unlikely that any of the coastal NOAA Fisheries listed species identified in New Hampshire coastal waters would be expected to be present in the vicinity of the action area. In addition, EPA has made the determination that the proposed action does not overlap with the designated North Atlantic right whale critical habitat. Therefore, consultation under ESA Section 7 is not required.

At the beginning of the public comment period, EPA notified NOAA Fisheries Protected Resources Division that the Draft Permit and Fact Sheet were available for review and provided a link to the EPA NPDES Permit website to allow direct access to the documents.

Initiation of consultation is required and shall be requested by the EPA or by NOAA Fisheries where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the analysis; (b) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this analysis; or (c) if a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, initiation of consultation would be required.

6.2 Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (*see* 16 U.S.C. § 1801 *et seq.*, 1998), EPA is required to consult with NOAA

¹⁴ See NOAA: ESA Section 7 Mapper for more information:
<https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=1bc332edc5204e03b250ac11f9914a27>

Fisheries if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b).

The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." 16 U.S.C. § 1802(10). "Adverse impact" means any impact that reduces the quality and/or quantity of EFH 50 C.F.R. § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), or site specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for fish species for which federal Fisheries Management Plans exist. *See* 16 U.S.C. § 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

A review of the relevant essential fish habitat information provided by NOAA Fisheries indicates that the outfall exists within designated EFH for 23 federally managed species and one Habitat Area of Particular Concern. The EFH species and life stages are listed in Table 2.¹⁵

¹⁵ See NOAA: Essential Fish Habitat Mapper for more information:
<https://www.habitat.noaa.gov/application/efhmapper/index.html>

Table 2: EFH Species and life stages in the vicinity of the Leavitt E Magrath WWTP

Species/Management Unit	Lifestage(s) Found at Location
Atlantic Wolffish	ALL
Haddock	Juvenile
Winter Flounder	Eggs, Juvenile, Larvae/Adult
Little Skate	Juvenile, Adult
Ocean Pout	Adult, Eggs, Juvenile
Atlantic Herring	Juvenile, Adult, Larvae
Atlantic Cod	Larvae, Adult, Juvenile, Eggs
Pollock	Juvenile, Eggs, Larvae
Red Hake	Adult, Eggs/Larvae/Juvenile
Silver Hake	Eggs/Larvae, Adult
Yellowtail Flounder	Adult, Juvenile
Monkfish	Adult, Eggs/Larvae, Juvenile
White Hake	Larvae, Adult, Eggs, Juvenile
Windowpane Flounder	Adult, Larvae, Eggs, Juvenile
Winter Skate	Adult, Juvenile
American Plaice	Adult, Juvenile
Northern Shortfin Squid	Adult
Longfin Inshore Squid	Juvenile, Adult
Atlantic Mackerel	Eggs, Larvae, Juvenile
Bluefish	Adult, Juvenile
Atlantic Butterfish	Adult, Juvenile
Spiny Dogfish	Sub-Adult Female, Adult Male, Adult Female
Atlantic Surfclam	Juvenile, Adult
Habitat Area of Particular Concern	
Inshore 20m Juvenile Cod	

6.2.1 EPA’s Finding of all Potential Impacts to EFH Species

- This Draft Permit action does not constitute a new source of pollutants. It is the reissuance of an existing NPDES permit;
- The Facility withdraws no water from the unnamed tributary of Tide Mill Creek or Hampton Harbor; so no life stages of EFH species are vulnerable to impingement or entrainment;
- Acute toxicity tests will be conducted four times a year to ensure that the discharge does not present toxicity problems;
- Total suspended solids, biochemical oxygen demand, total residual chlorine, fecal

coliform, Enterococci, pH, total copper, and ammonia nitrogen are regulated by the Draft Permit to meet water quality standards;

- The Draft Permit prohibits the discharge of pollutants or combination of pollutants in toxic amounts;
- The effluent limitations and conditions in the Draft Permit were developed to be protective of all aquatic life; and
- The Draft Permit prohibits violations of the state water quality standards.

EPA believes that the conditions and limitations contained within the Facility's Draft Permit adequately protects all aquatic life, including those species with designated EFH in the receiving water, as well as the Habitat Area of Particular Concern. Further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NOAA Fisheries will be contacted and an EFH consultation will be re-initiated.

At the beginning of the public comment period, EPA notified NOAA Fisheries Habitat Division that the Draft Permit and Fact Sheet were available for review and provided a link to the EPA NPDES Permit website to allow direct access to the documents.

In addition to this Fact Sheet and the Draft Permit, information to support EPA's finding was included in a letter under separate cover that will be sent to the NOAA Fisheries Habitat Division during the public comment period.

6.3 Coastal Zone Management (CZM) Consistency Review

The regulation at 40 C.F.R. § 122.49(d) states "The Coastal Zone Management Act, 16 U.S.C. 1451 et seq. section 307(c) of the Act and implementing regulations (15 C.F.R. part 930) prohibit EPA from issuing a permit for an activity affecting land or water in the coastal zone until the applicant certifies that the proposed activity complies with the State Coastal Zone Management program, and the State or its designated agency concurs with the certification (or the Secretary of Commerce) overrides the State's nonconcurrence.

The discharge is within the defined CZM boundaries. The Permittee has submitted a letter dated April 6, 2020 to the New Hampshire Coastal Program stating their intention to abide by the CZM water quality and habitat policies. EPA expects that CZM will find the discharge consistent with its policies.

7.0 Public Comments, Hearing Requests and Permit Appeals

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to:

Evan Lewis
EPA Region 1
5 Post Office Square, Suite 100 (06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1543
Email: lewis.evan@epa.gov

Prior to the close of the public comment period, any person, may submit a written request to EPA and the State Agency for a public hearing to consider the Draft Permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments in a Response to Comments document attached to the Final Permit and make these responses available to the public at EPA's Boston office and on EPA's website.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a Final Permit decision, forward a copy of the final decision to the applicant, and provide a copy or notice of availability of the final decision to each person who submitted written comments or requested notice. Within 30 days after EPA serves notice of the issuance of the Final Permit decision, an appeal of the federal NPDES permit may be commenced by filing a petition for review of the permit with the Clerk of EPA's Environmental Appeals Board in accordance with the procedures at 40 C.F.R. § 124.19.

8.0 Administrative Record

The administrative record on which this Draft Permit is based may be accessed at EPA's Boston office by appointment, Monday through Friday, excluding holidays from Evan Lewis, EPA Region1, 5 Post Office Square, Suite-100 (06-4), Boston, MA 02109-3912 or via email to lewis.evan@epa.gov.

June 2020

Date

Ken Moraff, Director
Water Division
U.S. Environmental Protection Agency

Figure 1: Location of Leavitt E. Magrath Wastewater Treatment Plant

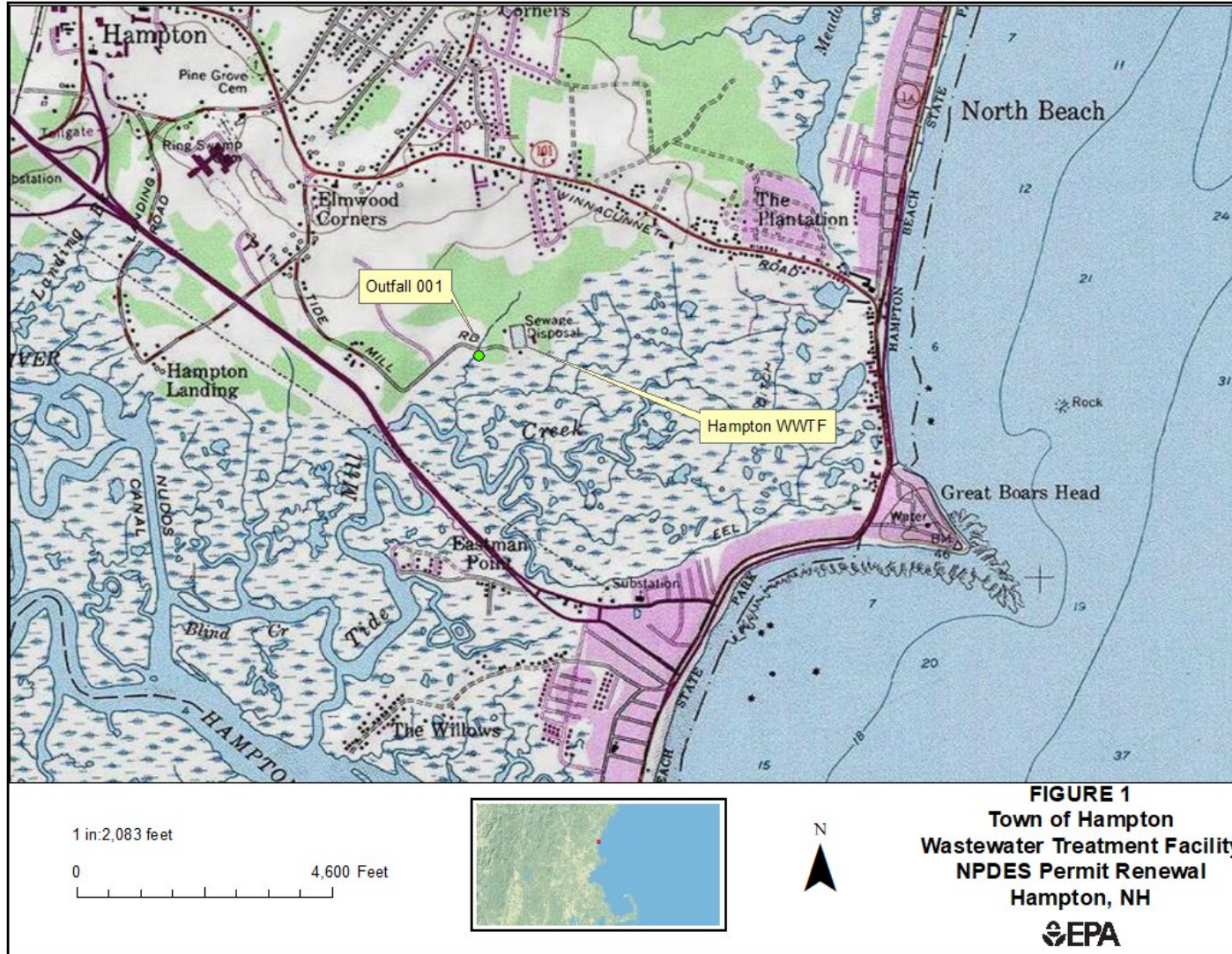
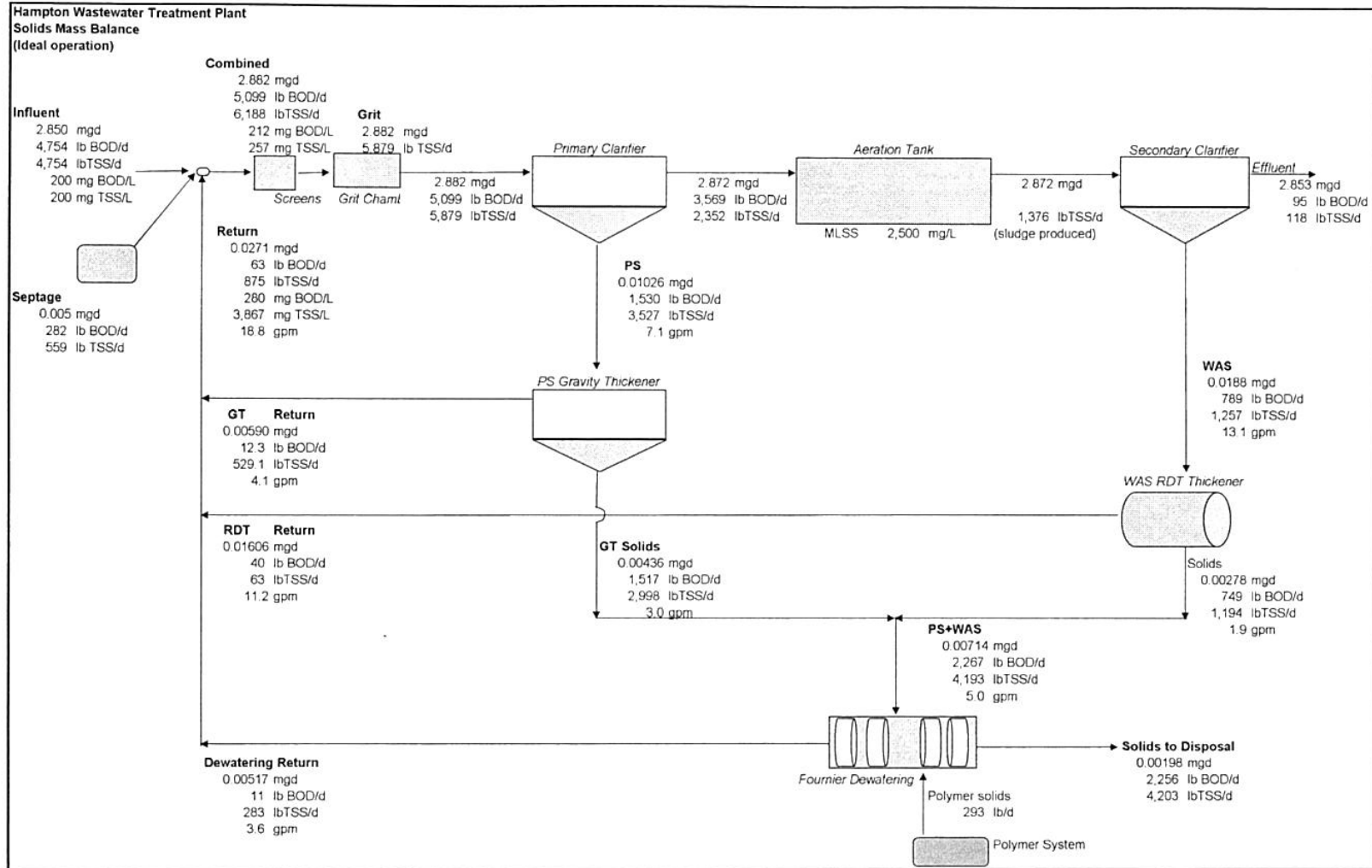


Figure 2: Leavitt E. Magrath Wastewater Treatment Plant Flow Diagram



Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	Flow	Flow	BOD5	BOD5	BOD5	BOD5	BOD5	BOD5
	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave	Daily Max	Daily Max
Units	MGD	MGD	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L
Effluent Limit	3.9	Report	1176	30	1764	45	1960	50
Minimum	1.72	1.87	0	0	0	0	0	0
Maximum	3.53	7.73	229	7	468	10	516	10
Median	2.52	3.085	31	2	46.5	2	51	3
No. of Violations	0	N/A	0	0	0	0	0	0
10/31/2014	2.28	3.16	61	3	89	5	100	5
11/30/2014	2.25	2.5	129	7	154	8	165	8
12/31/2014	3.53	7.73	229	6	468	9	516	9
1/31/2015	2.52	3.38	106	5	134	7	134	7
2/28/2015	2.1	2.4	63	4	75	5	83	5
3/31/2015	2.49	3.59	55	3	68	3	68	3
4/30/2015	3.36	4.56	97	3	152	4	152	4
5/31/2015	2.63	2.87	71	4	87	5	97	5
6/30/2015	2.98	4.28	55	2	96	4	96	4
7/31/2015	2.78	3.32	47	2	62	3	79	3
8/31/2015	2.45	2.67	31	2	44	2	45	2
9/30/2015	2	2.8	9	0	0	0	47	2
10/31/2015	1.88	2.48	0	0	39	2	0	0
11/30/2015	1.72	1.87	23	2	42	2	42	3
12/31/2015	1.86	2.36	18	1	44	3	47	3
1/31/2016	2.11	2.79	42	2	69	4	81	4
2/29/2016	2.48	3.05	59	3	78	4	90	4
3/31/2016	2.65	3.27	18	1	42	2	52	2
4/30/2016	2.46	3.35	15	0	39	2	39	2
5/31/2016	2.38	2.97	54	3	94	5	94	5
6/30/2016	2.47	2.95	39	2	39	2	40	2
7/31/2016	2.59	2.9	42	2	44	2	44	2
8/31/2016	2.44	2.69	62	3	102	5	102	5
9/30/2016	1.89	2.22	15	0	35	2	30	2
10/31/2016	2.07	2.83	42	3	64	4	64	4
11/30/2016	2.08	2.76	36	2	46	2	46	2
12/31/2016	2.18	2.62	27	2	37	2	37	2
1/31/2017	2.43	3.1	42	2	51	2	51	2

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	Flow	Flow	BOD5	BOD5	BOD5	BOD5	BOD5	BOD5
	Monthly Ave	Daily Max	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave	Daily Max	Daily Max
Units	MGD	MGD	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L
Effluent Limit	3.9	Report	1176	30	1764	45	1960	50
2/28/2017	2.4	3.16	31	0	38	2	116	5
3/31/2017	2.38	3.11	32	2	76	4	76	4
4/30/2017	3.39	5.33	72	3	265	10	265	10
5/31/2017	3.25	4.66	52	2	88	4	117	5
6/30/2017	2.89	3.7	51	2	83	4	83	4
7/31/2017	2.71	3.09	22	0	48	2	44	2
8/31/2017	2.52	2.72	37	2	44	2	45	2
9/30/2017	2.31	2.77	28	2	40	2	43	2
10/31/2017	2.03	2.5	39	2	47	3	63	3
11/30/2017	2.08	2.29	36	2	50	3	51	3
12/31/2017	2.03	2.19	41	2	49	3	66	4
1/31/2018	2.44	3.79	53	3	70	4	70	4
2/28/2018	2.6	3.27	26	0	60	3	60	3
3/31/2018	3.36	5.96	50	2	97	3	101	3
4/30/2018	2.95	4.23	0	0	0	0	0	0
5/31/2018	2.69	3.08	0	0	0	0	0	0
6/30/2018	2.6	3.04	15	0	41	2	42	2
7/31/2018	2.71	3.02	0	0	0	0	0	0
8/31/2018	2.75	3.23	13	0	0	0	103	5
9/30/2018	2.61	4.16	9	0	52	3	37	2
10/31/2018	2.51	2.95	0	0	0	0	0	0
11/30/2018	3.49	5.06	0	0	0	0	0	0
12/31/2018	2.75	3.92	0	0	0	0	0	0
1/31/2019	2.53	3.35	26	0	91	5	181	9
2/28/2019	2.57	3.17	0	0	0	0	0	0
3/31/2019	2.62	3.16	0	0	0	0	0	0
4/30/2019	2.62	3.72	0	0	0	0	0	0
5/31/2019	2.72	2.91	0	0	0	0	0	0
6/30/2019	2.86	3.19	0	0	0	0	0	0
7/31/2019	2.87	3.27	12	0	97	4	97	4
8/31/2019	2.66	2.99	0	0	0	0	0	0
9/30/2019	2.12	2.73	0	0	0	0	0	0

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	BOD5	TSS	TSS	TSS	TSS	TSS	TSS	TSS
	Monthly Ave Min	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave	Daily Max	Daily Max	Monthly Ave Min
Units	%	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	%
Effluent Limit	85	1176	30	1764	45	1960	50	85
Minimum	96	0	0	0	0	0	1	96
Maximum	100	399	11	1076	23	1443	31	100
Median	99	41.5	2	63	3	73	3.5	99
No. of Violations	0	0	0	0	0	0	0	0
10/31/2014	99	59	3	62	4	141	7	99
11/30/2014	96	97	5	135	7	151	8	99
12/31/2014	98	399	10	1076	21	1443	31	96
1/31/2015	99	220	11	460	23	467	25	97
2/28/2015	99	86	5	159	9	169	9	99
3/31/2015	99	67	3	100	5	110	5	99
4/30/2015	99	93	3	125	4	152	4	98
5/31/2015	99	93	4	132	6	134	6	99
6/30/2015	99	87	3	134	4	179	5	99
7/31/2015	99	45	2	57	2	79	3	99
8/31/2015	99	32	2	55	3	67	3	99
9/30/2015	100	16	1	32	2	47	2	100
10/31/2015	100	0	0	24	0	0	1	100
11/30/2015	99	8	1	31	2	31	2	100
12/31/2015	100	4	0	0	0	37	2	100
1/31/2016	99	41	2	73	4	85	4	99
2/29/2016	99	60	3	126	6	136	6	99
3/31/2016	100	9	0	21	1	42	2	100
4/30/2016	100	26	0	44	2	45	2	100
5/31/2016	99	42	2	52	3	63	3	99
6/30/2016	99	40	2	82	4	94	4	99
7/31/2016	99	24	0	43	2	43	2	100
8/31/2016	99	46	2	70	4	80	4	99
9/30/2016	100	13	0	18	0	59	4	100
10/31/2016	99	36	2	96	6	104	6	99
11/30/2016	99	28	2	53	3	69	3	99
12/31/2016	99	28	2	44	3	52	3	99
1/31/2017	99	29	0	52	2	59	3	100

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	BOD5	TSS	TSS	TSS	TSS	TSS	TSS	TSS
	Monthly Ave Min	Monthly Ave	Monthly Ave	Weekly Ave	Weekly Ave	Daily Max	Daily Max	Monthly Ave Min
Units	%	lb/d	mg/L	lb/d	mg/L	lb/d	mg/L	%
Effluent Limit	85	1176	30	1764	45	1960	50	85
2/28/2017	100	14	0	21	0	41	2	99
3/31/2017	99	16	0	74	4	91	4	99
4/30/2017	98	54	2	72	2	116	4	98
5/31/2017	99	47	2	69	3	84	3	99
6/30/2017	99	34	0	84	3	72	3	100
7/31/2017	100	20	0	48	2	64	3	100
8/31/2017	99	31	2	55	3	68	3	99
9/30/2017	99	4	0	19	0	35	2	100
10/31/2017	99	40	2	55	4	63	4	99
11/30/2017	99	40	2	59	3	55	3	99
12/31/2017	99	43	3	53	3	55	3	99
1/31/2018	99	45	2	59	3	100	5	99
2/28/2018	99	42	2	84	4	66	3	99
3/31/2018	99	111	4	242	8	249	8	98
4/30/2018	100	68	2	261	8	459	13	99
5/31/2018	100	71	3	75	4	85	4	99
6/30/2018	100	44	2	74	4	80	4	99
7/31/2018	100	42	2	54	3	74	3	99
8/31/2018	100	64	3	71	3	124	6	99
9/30/2018	100	92	5	165	9	200	11	98
10/31/2018	100	54	3	53	3	93	4	99
11/30/2018	100	62	2	90	4	211	5	98
12/31/2018	100	12	0	162	4	43	2	100
1/31/2019	100	34	2	64	4	69	4	99
2/28/2019	100	32	2	41	2	49	2	99
3/31/2019	100	18	0	45	2	57	3	100
4/30/2019	100	31	0	66	3	66	3	100
5/31/2019	100	44	2	54	3	65	3	99
6/30/2019	100	43	2	60	3	72	3	99
7/31/2019	100	60	2	117	5	136	5	99
8/31/2019	100	35	2	68	3	90	4	100
9/30/2019	NODI: Q	38	2	49	3	59	3	99

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	pH	pH	Enterococci ¹	Enterococci ¹	Fecal Coliform	Fecal Coliform	Coliform, fecal - % sample exceeds limit	TRC
	Minimum	Maximum	Monthly Geometric Mean	Daily Max	Daily Max	MO GEOMN	MO MAX	Monthly Ave
Units	SU	SU	CFU/100mL	CFU/100mL	#/100mL	#/100mL	%	mg/L
Effluent Limit	6.5	8	Report	Report	Report	14	10	0.0075
Minimum	6.3	6.8	1	2	2	1	0	0
Maximum	6.8	7.3	21.2	307.6	200.5	6.6	13	0.034
Median	6.6	7	1.5	7.5	14.1	1.7	0	0
No. of Violations	3	0	N/A	N/A	N/A	0	1	3
10/31/2014	6.7	7	2.4	13.7	56	4.1	3.2	0
11/30/2014	6.7	6.9	8.3	47.8	12.4	1.5	0	0
12/31/2014	6.3	6.8	21.2	65.9	11.1	1.4	0	0
1/31/2015	6.6	6.9	7.3	47.8	6.4	1.2	0	0
2/28/2015	6.5	6.9	1.8	7.5	200.5	1.8	3.6	0
3/31/2015	6.5	6.9	2.6	8.7	6.4	1.5	0	0
4/30/2015	6.6	7	5	16.4	65.9	2.7	3.3	0
5/31/2015	6.7	6.9	2.1	7.5	8.7	1.3	0	0
6/30/2015	6.6	7.3	1.7	94.5	118.4	2.9	3.3	0
7/31/2015	6.6	6.9	1.7	13.7	27.1	1.7	0	0
8/31/2015	6.7	7	2	15	17.8	1.4	0	0
9/30/2015	6.8	7.1	1.1	2	6.4	1.3	0	0
10/31/2015	6.8	7.1	1.7	9.9	8.7	1.4	0	0
11/30/2015	6.8	7	1.5	7.5	47.8	4.1	3.3	0
12/31/2015	6.4	7	1.2	20.7	2	1	0	0
1/31/2016	6.7	6.9	1	2	8.7	1.3	0	0.0247
2/29/2016	6.6	7	1.1	5.3	8.7	2	0	0
3/31/2016	6.6	6.8	1.1	3.1	5.3	1.3	0	0
4/30/2016	6.5	6.8	1.2	5.3	5.3	1.2	0	0
5/31/2016	6.7	6.9	1.5	5.3	8.7	1.7	0	0
6/30/2016	6.7	6.9	1.4	5.3	8.7	2.2	0	0
7/31/2016	6.7	7	1.7	7.5	22.2	2.7	1	0
8/31/2016	6.8	7	2.1	6.4	94.5	2.8	0	0
9/30/2016	6.7	7	1.5	5.3	22.2	2.1	0	0
10/31/2016	6.5	7.1	1.4	6.4	25.4	4.7	0	0
11/30/2016	6.7	7.1	1.2	4.2	5.3	1.7	0	0
12/31/2016	6.7	6.9	1.4	6.4	12.4	1.8	0	0
1/31/2017	6.6	6.8	1.3	7.5	19.2	2	0	0

¹ Discharge Monitoring Reports were incorrectly coded as E. coli but the permittee submitted the results of enterococci testing as required by the permit.

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	pH	pH	E. coli ¹	E. coli ¹	Fecal Coliform	Fecal Coliform	Coliform, fecal - % sample exceeds limit	TRC
	Minimum	Maximum	Monthly Geometric Mean	Daily Max	Daily Max	MO GEOMN	MO MAX	Monthly Ave
Units	SU	SU	CFU/100mL	CFU/100mL	#/100mL	#/100mL	%	mg/L
Effluent Limit	6.5	8	Report	Report	Report	14	10	0.0075
2/28/2017	6.6	6.9	1.4	4.2	16.4	2	0	0
3/31/2017	6.5	6.9	1.1	5.3	6.4	1.3	0	0
4/30/2017	6.4	7	1.3	5.3	19.2	2.6	0	0
5/31/2017	6.6	6.9	1.7	7.5	11.1	2	0	0
6/30/2017	6.6	6.8	1.8	4.2	11.1	1.9	0	0
7/31/2017	6.6	7	1.2	3.1	32.4	1.4	0	0
8/31/2017	6.7	7	1.5	12.4	34.4	1.6	0	0
9/30/2017	6.8	7.1	1.2	3.1	17.8	1.7	0	0
10/31/2017	6.8	7.1	2.2	144.5	200.5	6.6	6.5	0
11/30/2017	6.7	7.2	1.6	5.3	7.4	1.5	0	0.022
12/31/2017	6.8	7.1	1.6	11.1	6.3	1.1	0	0
1/31/2018	6.6	7	3.1	307.6	23.1	1.3	0	0.034
2/28/2018	6.6	6.9	1.1	6.3	10.9	1.3	0	0
3/31/2018	6.6	6.8	2.1	240	77	3	13	0
4/30/2018	6.5	6.9	1	4.1	6.3	1.2	0	0
5/31/2018	6.6	6.8	1.2	4.1	5.2	1.5	0	0
6/30/2018	6.6	7	2.1	108.6	62.4	1.5	3	0
7/31/2018	6.7	6.9	2.7	19.7	7.5	1.4	0	0
8/31/2018	6.7	7	1.7	13.1	24.6	2.4	0	0
9/30/2018	6.7	7	2	101.7	115.3	4	6.7	0
10/31/2018	6.7	7	1.5	71.2	28.8	2.4	0	0
11/30/2018	6.5	6.9	1.5	29.9	129.1	2.3	1	0
12/31/2018	6.6	7	1.7	21.8	4.1	1.3	0	0
1/31/2019	6.5	7	1.2	6.3	6.3	1.5	0	0
2/28/2019	6.5	7	1.1	7.5	17.3	2.1	0	0
3/31/2019	6.5	6.9	1.2	11	15.8	2	0	0
4/30/2019	6.6	6.8	1.2	4	9.8	1.3	0	0
5/31/2019	6.6	6.9	1.7	59.8	4.1	1.2	0	0
6/30/2019	6.7	7	1.4	4.1	20.3	1.5	0	0
7/31/2019	6.7	7	1.5	13.2	19.9	1.9	0	0
8/31/2019	6.8	7.1	1.2	10.8	30.9	2.4	0	0
9/30/2019	6.7	7.1	1.3	11.9	5.2	1.5	0	0

¹ Discharge Monitoring Reports were incorrectly coded as E. coli but the permittee submitted the results of enterococci testing as required by the permit.

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	TRC	Ammonia	Ammonia	Ammonia	Ammonia	Copper
	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Daily Max	Monthly Ave
Units	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L
Effluent Limit	0.013	1.1	2.7	17.9	7.4	20
Minimum	0	0	0	0	0	5.6
Maximum	1.05	0.76	2.01	5.9	4.9	19.5
Median	0	0	0.005	0.125	0	8.55
No. of Violations	3	0	0	0	0	0
10/31/2014	0	0			0.17	6.8
11/30/2014	0		1.16	3.1		11.3
12/31/2014	0		1.83	4.4		12.8
1/31/2015	0		2.01	5.9		15
2/28/2015	0		0.1	0.2		13
3/31/2015	0		0.1	0.2		10.3
4/30/2015	0		0	0.12		9.2
5/31/2015	0	0			0.1	11.5
6/30/2015	0	0			0	8.2
7/31/2015	0	0			0	10
8/31/2015	0	0			0	12
9/30/2015	0	0			0.11	12.8
10/31/2015	0	0			0	12.8
11/30/2015	0		0	0		8.8
12/31/2015	0		0	0		9.8
1/31/2016	0.767		0	0		11.5
2/29/2016	0		0.01	0.11		9.8
3/31/2016	0		0	0		7.8
4/30/2016	0		0	0		7.8
5/31/2016	0	0			0	10
6/30/2016	0	0			0	7.8
7/31/2016	0	0			0	7.5
8/31/2016	0	0			0.1	6.2
9/30/2016	0	0			0	6.5
10/31/2016	0	0			0	5.6
11/30/2016	0		0	0		6.9
12/31/2016	0		0	0		7.1
1/31/2017	0		0.16	0.98		7.1

Outfall - Monitoring Location - Limit Set: 001 - 1 - A

Parameter	TRC	Ammonia	Ammonia	Ammonia	Ammonia	Copper
	Daily Max	Monthly Ave	Monthly Ave	Daily Max	Daily Max	Monthly Ave
Units	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L
Effluent Limit	0.013	1.1	2.7	17.9	7.4	20
2/28/2017	0		0	0		8.1
3/31/2017	0		0.32	1.9		7.4
4/30/2017	0		0.01	0.13		7.9
5/31/2017	0	0			0	8.6
6/30/2017	0	0			0.1	8.6
7/31/2017	0	0			0	7
8/31/2017	0	0			0	10.7
9/30/2017	0	0			0.11	19.5
10/31/2017	0	0			0.36	9.2
11/30/2017	0.667		0	0.1		7.9
12/31/2017	0		0.71	3.4		8.6
1/31/2018	1.05		0.5	2.9		8.4
2/28/2018	0		0.1	0.5		7.8
3/31/2018	0		0	0		9.3
4/30/2018	0		0	0		7.5
5/31/2018	0	0			0	8.4
6/30/2018	0	0.76			4.9	7.9
7/31/2018	0	0.26			1.6	5.6
8/31/2018	0	0.02			0.17	7.3
9/30/2018	0	0			0	6.4
10/31/2018	0	0			0	5.7
11/30/2018	0		0.26	0.78		8.2
12/31/2018	0		0.5	1.8		9.8
1/31/2019	0		0	0		10.9
2/28/2019	0		0	0.41		10
3/31/2019	0		0	0		9.6
4/30/2019	0		0.1	1		9.8
5/31/2019	0	0.06			0.17	7.9
6/30/2019	0	0			0	12.3
7/31/2019	0	0			0.2	8.5
8/31/2019	0	0			0	6
9/30/2019	0	0			0	10

Outfall - Monitoring Location - Limit Set: 001 - 1 - B

Parameter	LC50 Acute Menidia	C-NOEC Chronic Menidia	LC50 Static 48Hr Acute Mysid. Bahia	Noel Statre 7Day Chronic Arbacia	Ammonia	Aluminum	Cadmium	Copper
	Daily Min	Daily Min	Daily Min	Daily Min	Daily Max	Daily Max	Daily Max	Daily Max
Units	%	%	%	%	mg/L	mg/L	mg/L	mg/L
Effluent Limit	100	100	100	100	Report	Report	Report	Report
Minimum	100	12.5	100	50	0	0	0	0.0036
Maximum	100	100	100	100	4.4	0.022	0	14
Median	100	100	100	100	0	0	0	0.00705
No. of Violations	0	3	0	1	N/A	N/A	N/A	N/A
12/31/2014	100	100	100	50	0	0	0	0.006
3/31/2015	100	² 12.5	100	100	4.4	0.022	0	0.009
6/30/2015	100	100	100	100	0	0	0	0.007
9/30/2015	100	100	100	100	0	0.022	0	0.008
12/31/2015	100	100	100	100	0	0	0	14
3/31/2016	100	100	100	100	0	0	0	0.012
6/30/2016	100	100	100	100	0	0	0	0.005
9/30/2016	100	50	100	100	0	0	0	0.009
12/31/2016	100	100	100	100	0	0	0	0.0036
3/31/2017	100	100	100	100	0.98	0	0	0.0063
6/30/2017	100	100	100	100	0	0	0	0.0079
9/30/2017	100	50	100	100	0	0	0	0.0066
12/31/2017	100	100	100	100	0	0	0	0.0071
3/31/2018	100	100	100	100	0.48	0	0	0.0089
6/30/2018	100	100	100	100	0	0	0	0.0069
9/30/2018	100	100	100	100	1.6	0.021	0	0.0056
12/31/2018	100	100	100	100	0	0	0	0.0036
3/31/2019	100	100	100	100	0	0	0	0.012
6/30/2019	100	100	100	100	1	0	0	0.0067
9/30/2019	100	100	100	100	0	0	0	0.0086

² The Permittee recorded the March 2015 chronic WET test result as 12.5% for the WET test using the *Menidia beryllina*; however, the actual WET test report indicates the C-NOEC achieves the permit limit of 100%.

Outfall - Monitoring Location - Limit Set: 001 - 1 - B

Parameter	Lead	Nickel	Zinc	Chromium, total recoverable
	Daily Max	Daily Max	Daily Max	Daily Max
Units	mg/L	mg/L	mg/L	mg/L
Effluent Limit	Report	Report	Report	Report
Minimum	0	0	0.027	0
Maximum	0	0.0034	0.065	0
Median	0	0.00235	0.037	0
No. of Violations	N/A	N/A	N/A	N/A
12/31/2014	0	0.002	0.031	0
3/31/2015	0	0	0.03	0
6/30/2015	0	0	0.031	0
9/30/2015	0	0	0.044	0
12/31/2015	0	0.002	0.044	0
3/31/2016	0	0	0.033	0
6/30/2016	0	0.002	0.033	0
9/30/2016	0	0.003	0.065	0
12/31/2016	0	0.0025	0.044	0
3/31/2017	0	0.002	0.033	0
6/30/2017	0	0.0028	0.039	0
9/30/2017	0	0.0033	0.049	0
12/31/2017	0	0.0032	0.044	0
3/31/2018	0	0.0034	0.038	0
6/30/2018	0	0.0034	0.027	0
9/30/2018	0	0.0003	0.052	0
12/31/2018	0	0.0024	0.036	0
3/31/2019	0	0.0023	0.033	0
6/30/2019	0	0.0028	0.035	0
9/30/2019	0	0.0026	0.057	0

A reasonable potential analysis is completed using a single set of critical conditions for flow and pollutant concentration that will ensure the protection of water quality standards. To determine the critical condition of the effluent, EPA projects an upper bound of the effluent concentration based on the observed monitoring data and a selected probability basis. EPA generally applies the quantitative approach found in Appendix E of EPA’s *Technical Support Document for Water Quality-based Toxics Control (TSD)*¹ to determine the upper bound of the effluent data. This methodology accounts for effluent variability based on the size of the dataset and the occurrence of non-detects (i.e., samples results in which a parameter is not detected above laboratory detection limits). For datasets of 10 or more samples, EPA uses the upper bound effluent concentration at the 95th percentile of the dataset. For datasets of less than 10 samples, EPA uses the maximum value of the dataset.

EPA uses the calculated upper bound of the effluent data, along with a concentration representative of the parameter in the receiving water, the critical effluent flow, and the critical upstream flow to project the downstream concentration after complete mixing using the following simple mass-balance equation:-

$$C_s Q_s + C_e Q_e = C_d Q_d$$

Where:

- C_s = upstream concentration (median value of available ambient data)
- Q_s = upstream flow (7Q10 flow upstream of the outfall)
- C_e = effluent concentration (95th percentile or maximum of effluent concentration)
- Q_e = effluent flow of the facility (design flow)
- C_d = downstream concentration
- Q_d = downstream flow (Q_s + Q_e)

Solving for the downstream concentration results in:

$$C_d = \frac{C_s Q_s + C_e Q_e}{Q_d}$$

When both the downstream concentration (C_d) and the effluent concentration (C_e) exceed the applicable criterion, there is reasonable potential for the discharge to cause, or contribute to an excursion above the water quality standard. *See* 40 C.F.R. § 122.44(d). When EPA determines that a discharge causes, has the reasonable potential to cause, or contribute to such an excursion, the permit must

Appendix B – Reasonable Potential and Limits Calculations

NPDES Permit No. MA0100625

contain WQBELs for the parameter. *See* 40 C.F.R. § 122.44(d)(1)(iii). Limits are calculated by using the criterion as the downstream concentration (C_d) and rearranging the mass balance equation to solve for the effluent concentration (C_e). The table below presents the reasonable potential calculations and, if applicable, the calculation of the limits required in the permit. Refer to the pollutant-specific section of the Fact Sheet for a detailed discussion of these calculations, any assumptions that were made and the resulting permit requirements.

Pollutant	DF	C_s ¹	C_e ²		C_d		Criteria * 0.9		Reasonable Potential		Limits	
	--	mg/L	Acute (mg/L)	Chronic (mg/L)	Acute (mg/L)	Chronic (mg/L)	Acute (mg/L)	Chronic (mg/L)	C_d & C_r > Acute Criteria	C_d & C_r > Chronic Criteria	Acute (mg/L)	Chronic (mg/L)
Ammonia (Warm)	1.0	0.0	7.4	1.1	7.4	1.1	21.6	3.2	N/A	N/A	7.4	1.1
Ammonia (Cold)		0.0	17.9	2.7	17.9	2.7	62.6	9.5	N/A	N/A	17.9	2.7
		$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$			$\mu\text{g/L}$	$\mu\text{g/L}$
Cadmium		0.0	0.0	0.0	0.0	0.0	36.2	8.0	N	N	N/A	N/A
Copper		0.0	5.8	3.7	5.8	3.7	5.2	3.4	N/A	N/A	5.8	3.7
Lead		0.0	0.0	0.0	0.0	0.0	198.7	7.7	N	N	N/A	N/A
Nickel		0.0	5.5	5.5	5.5	5.5	67.3	7.5	N	N	N/A	N/A
Zinc		0.0	57.0	57.0	57.0	57.0	85.6	77.1	N	N	N/A	N/A

¹Median concentration for the receiving water upstream of the zone of influence of the facility's discharge taken from the WET testing data during the review period (see Appendix A).

²Values represent the 95th percentile (for $n \geq 10$) or maximum (for $n < 10$) concentrations from the DMR data and/or WET testing data during the review period (see Appendix A). If the metal already has a limit (for either acute or chronic conditions), the value represents the existing limit.

Appendix C

EPA REGION 1 NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS

This regional interpretative statement provides notice to the public of EPA Region 1's interpretation of the Clean Water Act ("CWA" or "Act") and implementing regulations, and advises the public of relevant policy considerations, regarding the applicability of the National Pollutant Discharge Elimination System ("NPDES") program to publicly owned treatment works ("POTWs") that include municipal satellite sewage collection systems ("regionally integrated POTWs"). When issuing NPDES permits to these types of sanitary sewer systems, it is EPA Region 1's practice to include and regulate the owners/operators of the municipal satellite collection systems through a co-permitting structure. This interpretative statement is intended to explain, generally, the basis for this practice. EPA Region 1's decision in any particular case will be made by applying the law and regulations on the basis of specific facts when permits are issued.

EPA has set out a national policy goal for the nation's sanitary sewer systems to adhere to strict design and operational standards:

"Proper [operation and maintenance] of the nation's sewers is integral to ensuring that wastewater is collected, transported, and treated at POTWs; and to reducing the volume and frequency of ...[sanitary sewer overflow] discharges. Municipal owners and operators of sewer systems and wastewater treatment facilities need to manage their assets effectively and implement new controls, where necessary, as this infrastructure continues to age. Innovative responses from all levels of government and consumers are needed to close the gap."¹

Because ownership/operation of a regionally integrated POTW is divided among multiple parties, the owner/operator of the treatment plant many times lacks the means to implement comprehensive, system-wide operation and maintenance ("O & M") procedures. Failure to properly implement O & M measures in a POTW can cause, among other things, excessive extraneous flow (*i.e.*, inflow and infiltration) to enter, strain and occasionally overload treatment system capacity. This failure not only impedes EPA's national policy goal concerning preservation of the nation's wastewater infrastructure assets, but also frustrates achievement of the water quality- and technology-based requirements of CWA § 301 to the extent it results in sanitary sewer overflows and degraded treatment plant performance, with adverse impacts on human health and the environment.

In light of these policy objectives and legal requirements, it is EPA Region 1's permitting practice to subject all portions of the POTW to NPDES requirements in order to ensure that the treatment system as a whole is properly operated and maintained and that human health and water quality impacts resulting from excessive extraneous flow are minimized. The approach of addressing O&M concerns in a regionally integrated treatment works by adding municipal

¹ See *Report to Congress: Impacts and Control of CSOs and SSOs* (EPA 833-R-04-001) (2004), at p. 10-2. See also "1989 National CSO Control Strategy," 54 Fed. Reg. 37371 (September 8, 1989).

satellite collection systems as co-permittees is consistent with the definition of “publicly owned treatment works,” which by definition includes sewage collection systems. Under this approach, the POTW in its entirety is subject to NPDES regulation as a point source discharger under the Act. This entails imposition of permitting requirements applicable to the POTW treatment plant along with a more limited set of conditions applicable to the connected municipal satellite collection systems.

The factual and legal basis for the Region’s position is set forth in greater detail in *Attachment A*.

Attachment A

ANALYSIS SUPPORTING EPA REGION 1 NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS

- Exhibit A* List of regional centralized POTW treatment plants and municipal satellite collection systems subject to the co-permittee policy
- Exhibit B* Analysis of extraneous flow trends for representative systems
- Exhibit C* List of municipal satellite collection systems that have had SSOs
- Exhibit D* Form of Regional Administrator's waiver of permit application requirements for municipal satellite collection systems

Introduction

On May 28, 2010, the U.S. EPA Environmental Appeals Board ("Board") issued a decision remanding to the Region certain NPDES permit provisions that included and regulated satellite collection systems as co-permittees. *See In re Upper Blackstone Water Pollution Abatement District*, NPDES Appeal Nos. 08-11 to 08-18 & 09-06, 14 E.A.D. __ (Order Denying Review in Part and Remanding in Part, EAB, May 28, 2010).² While the Board "did not pass judgment" on the Region's position that its NPDES jurisdiction encompassed the entire POTW and not only the treatment plant, it held that "where the Region has abandoned its historical practice of limiting the permit only to the legal entity owning and operating the wastewater treatment plant, the Region had not sufficiently articulated in the record of this proceeding the statutory, regulatory, and factual bases for expanding the scope of NPDES authority beyond the treatment plant owner/operator to separately owned/operated collection systems that do not discharge directly to waters of the United States, but instead that discharge to the treatment plant." *Id.*, slip op. at 2, 18. In the event the Region decided to include and regulate municipal satellite collection systems as co-permittees in a future permit, the Board posed several questions for the Region to address in the analysis supporting its decision:

- (1) Is the scope of NPDES authority limited to owners/operators of the treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that comprise the wider POTW?

² The decision is available on the Board's website via the following link:
http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/30b93f139d3788908525706c005185b4/34e841c87f346d94852577360068976f!OpenDocument.

- (2) If the latter, how far up the collection system does NPDES jurisdiction reach, *i.e.*, where does the “collection system” end and the “user” begin?
- (3) Do municipal satellite collection systems “discharge [] a pollutant” within the meaning of the statute and regulations?
- (4) Are municipal satellite collection systems “indirect dischargers” and thus excluded from NPDES permitting requirements?
- (5) Is the Region’s rationale for regulating municipal satellite collection systems as co-permittees consistent with the references to “municipality” in the regulatory definition of POTW, and the definition’s statement that “[t]he term also means the municipality...which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works”?
- (6) Is the Region’s rationale consistent with the permit application and signatory requirements under NPDES regulations?

See *Blackstone, slip op.* at 18, 20, n. 17.

This regional interpretative statement is, in part, a response to the Board’s decision. It details the legal and policy bases for regulating as co-permittees publicly owned treatment works (“POTWs”) that include municipal satellite collection systems. Region 1’s analysis is divided into five sections. First, the Region provides context for the co-permitting approach by briefly describing the health and environmental impacts associated with poorly maintained sanitary sewer systems. Second, the Region outlines its evolving permitting practice regarding regionally integrated POTWs, particularly its attempts to ensure that such entity’s municipal satellite collection systems are properly maintained and operated. Third, the Region explains the legal authority to include municipal satellite collection systems as co-permittees when permitting regionally integrated POTWs. In this section, the Region answers the questions posed by the Board in the order presented above. Fourth, the Region sets forth the basis for the specific conditions to which the municipal satellite collection systems are subject as co-permittees. Finally, the Region discusses other considerations informing its decision to employ a co-permittee structure when permitting regionally integrated POTWs.

I. Background

A sanitary sewer system (SSS) is a wastewater collection system owned by a state or municipality that is designed to collect and convey only sanitary wastewater (domestic sewage from homes as well as industrial and commercial wastewater).³ The purpose of these systems is

³ A combined sewer, on the other hand, is a type of sewer system that collects and conveys sanitary sewage and stormwater runoff in a single-pipe system to a POTW treatment plant. *See generally* Report to Congress: Impacts and Control of CSOs and SSOs (EPA 833-R-04-001) (2004), from which EPA Region 1 has drawn this background material.

to transport wastewater uninterrupted from its source to a treatment facility. Developed areas that are served by sanitary sewers often also have a separate storm sewer system (*e.g.*, storm drains) that collects and conveys runoff, street wash waters and drainage and discharges them directly to a receiving water (*i.e.*, without treatment at a POTW). While sanitary sewers are not designed to collect large amounts of runoff from precipitation events or provide widespread drainage, they typically are built with some allowance for higher flows that occur during periods of high groundwater and storm events. They are thus able to handle minor and controllable amounts of extraneous flow (*i.e.*, inflow and infiltration, or I/I) that enter the system. Inflow generally refers to water other than wastewater—typically precipitation like rain or snowmelt—that enters a sewer system through a direct connection to the sewer. Infiltration generally refers to other water that enters a sewer system from the ground, for example through defects in the sewer.

Municipal sanitary sewer collection systems can consist of a widespread network of pipes and associated components (*e.g.*, pump stations). These systems provide wastewater collection service to the community in which they are located. In some situations, the municipality that owns the collector sewers may not provide treatment of wastewater, but only conveys its wastewater to a collection system that is owned and operated by a different municipal entity (such as a regional sewer district). This is known as a satellite community. A “satellite” community is a sewage collection system owner/operator that does not have ownership of the treatment facility and a specific or identified point of discharge but rather the responsibility to collect and convey the community’s wastewater to a POTW treatment plant for treatment. *See* 75 Fed. Reg. 30395, 30400 (June 1, 2010).

Municipal sanitary sewer collection systems play a critical role in protecting human health and the environment. Proper operation and maintenance of sanitary sewer collection systems is integral to ensuring that wastewater is collected, transported, and treated at POTW treatment plants. Through effective operation and maintenance, collection system operators can maintain the capacity of the collection system; reduce the occurrence of temporary problem situations such as blockages; protect the structural integrity and capacity of the system; anticipate potential problems and take preventive measures; and indirectly improve treatment plant performance by minimizing deterioration due to I/I-related hydraulic overloading.

Despite their critical role in the nation’s infrastructure, many collection systems exhibit poor performance and are subjected to flows that exceed system capacity. Untreated or partially treated overflows from a sanitary sewer system are termed “sanitary sewer overflows” (SSOs). SSOs include releases from sanitary sewers that reach waters of the United States as well as those that back up into buildings and flow out of manholes into city streets.

There are many underlying reasons for the poor performance of collection systems. Much of the nation’s sanitary sewer infrastructure is old, and aging infrastructure has deteriorated with time. Communities also sometimes fail to provide capacity to accommodate increased sewage delivery and treatment demand from increasing populations. Furthermore, institutional arrangements relating to the operation of sewers can pose barriers to coordinated action, because many

municipal sanitary sewer collection systems are not entirely owned or operated by a single municipal entity.

The performance and efficiency of municipal collection systems influence the performance of sewage treatment plants. When the structural integrity of a sanitary sewer collection system deteriorates, large quantities of infiltration (including rainfall-induced infiltration) and inflow can enter the collection system, causing it to overflow. These extraneous flows are among the most serious and widespread operational challenges confronting treatment works.⁴

Infiltration can be long-term seepage of water into a sewer system from the water table. In some systems, however, the flow characteristics of infiltration can resemble those of inflow, *i.e.*, there is a rapid increase in flow during and immediately after a rainfall event, due, for example, to rapidly rising groundwater. This phenomenon is sometimes referred to as rainfall-induced infiltration.

Sanitary sewer systems can also overflow during periods of normal dry weather flows. Many sewer system failures are attributable to natural aging processes or poor operation and maintenance. Examples include years of wear and tear on system equipment such as pumps, lift stations, check valves, and other moveable parts that can lead to mechanical or electrical failure; freeze/thaw cycles, groundwater flow, and subsurface seismic activity that can result in pipe movement, warping, brittleness, misalignment, and breakage; and deterioration of pipes and joints due to root intrusion or other blockages.

Inflow and infiltration impacts are often regional in nature. Satellite collection systems in the communities farthest from the POTW treatment plant can cause sanitary sewer overflows (“SSOs”) in communities between them and the treatment plant by using up capacity in the interceptors. This can cause SSOs in the interceptors themselves or in the municipal sanitary sewers that lead to them. The implication of this is that corrective solutions often must also be regional in scope to be effective.

The health and environmental risks attributed to SSOs vary depending on a number of factors including location and season (potential for public exposure), frequency, volume, the amount and type of pollutants present in the discharge, and the uses, conditions, and characteristics of the receiving waters. The most immediate health risks associated with SSOs to waters and other areas with a potential for human contact are associated with exposure to bacteria, viruses, and other pathogens.

Human health impacts occur when people become ill due to contact with water or ingestion of water or shellfish that have been contaminated by SSO discharges. In addition, sanitary sewer systems can back up into buildings, including private residences. These discharges provide a

⁴ In a 1989 Water Pollution Control Federation survey, 1,003 POTWs identified facility performance problems. Infiltration and inflow was the most frequently cited problem, with 85 percent of the facilities reporting I/I as a problem. I/I was cited as a major problem by 41 percent of the facilities (32 percent as a periodic problem). [BP: Is there anything more recent?]

direct pathway for human contact with untreated wastewater. Exposure to land-based SSOs typically occurs through the skin via direct contact. The resulting diseases are often similar to those associated with exposure through drinking water and swimming (*e.g.*, gastroenteritis), but may also include illness caused by inhaling microbial pathogens. In addition to pathogens, raw sewage may contain metals, synthetic chemicals, nutrients, pesticides, and oils, which also can be detrimental to the health of humans and wildlife.

II. EPA Region 1 Past Practice of Permitting POTWs that Include Municipal Satellite Collection Systems

EPA Region 1's practice in permitting regionally integrated POTWs has developed in tandem with its increasing focus on addressing I/I in sewer collection systems, in response to the concerns outlined above. Up to the early 1990s, POTW permits issued by Region 1 generally did not include specific requirements for collection systems. When I/I and the related issue of SSOs became a focus of concern both nationally and within the region in the mid-1990s, Region 1 began adding general requirements to POTW permits that required the permittees to "eliminate excessive infiltration and inflow" and provide an annual "summary report" of activities to reduce I/I. As the Region gathered more information and gained more experience in assessing these reports and activities, it began to include more detailed requirements and reporting provisions in these permits.

MassDEP also engaged in a parallel effort to address I/I, culminating in 2001 with the issuance of MassDEP Policy No. BRP01-1, "Interim Infiltration and Inflow Policy." Among other provisions, this policy established a set of standard NPDES permit conditions for POTWs that included development of an I/I control plan (including funding sources, identification and prioritization of problem areas, and public education programs) and detailed annual reporting requirements (including mapping, reporting of expenditures and I/I flow calculations). Since September 2001, these requirements have been the basis for the standard operation and maintenance conditions related to I/I.

Regional treatment plants presented special issues as I/I requirements became more specific, as it is generally the member communities, rather than the regional sewer district, that own the collection systems that are the primary source of I/I. Before the focus on I/I, POTW permits did not contain specific requirements related to the collection system component of POTWs. Therefore, when issuing NPDES permits to authorize discharges from regionally integrated treatment POTWs, EPA Region 1 had generally only included the legal entity owning and/or operating the regionally centralized wastewater treatment plant. As the permit conditions were focused on the treatment plant itself, this was sufficient to ensure that EPA had authority to enforce the permit requirements.

In implementing the I/I conditions, Region 1 initially sought to maintain the same structure, placing the responsibility on the regional sewer district to require I/I activities by the contributing systems and to collect the necessary information from those systems for submittal to EPA. MassDEP's 2001 Interim I/I Policy reflected this approach, containing a condition for regional systems:

((FOR REGIONAL FACILITIES ONLY)) The permittee shall require, through appropriate agreements, that all member communities develop and implement infiltration and inflow control plans sufficient to ensure that high flows do not cause or contribute to a violation of the permittees effluent limitations, or cause overflows from the permittees collection system.

As existing NPDES permittees, the POTW treatment plants were an obvious locus of regulation. The Region assumed the plants would be in a position to leverage preexisting legal and/or contractual relationships with the satellite collection systems they serve to perform a coordinating function, and that utilizing this existing structure would be more efficient than establishing a new system of direct reporting to EPA by the collection system owners. The Region also believed that the owner/operator of the POTW treatment plant would have an incentive to reduce flow from contributing satellite systems because doing so would improve treatment plant performance and reduce operation costs. While relying on this cooperative approach, however, EPA Region 1 also asserted that it had the authority to require that POTW collection systems be included as NPDES permittees and that it would do so if it proved necessary. Indeed, in 2001 Region 1 acceded to Massachusetts Water Resources Authority's ("MWRA") request that the contributing systems to the MWRA Clinton wastewater treatment plant ("WWTP") be included as co-permittees, based on evidence provided by MWRA that its specific relationship with those communities would not permit it to run an effective I/I reduction program for these collection systems. EPA Region 1 also put satellite collection systems on notice that they would be directly regulated through legally enforceable permit requirements if I/I reductions were not pursued or achieved.

In time, the Region realized that its failure to assert direct jurisdiction over municipal satellite dischargers was becoming untenable in the face of mounting evidence that cooperative (or in some cases non-existent) efforts on the part of the POTW treatment plant and associated satellites were failing to comprehensively address the problem of extraneous flow entering the POTW. The ability and/or willingness of regional sewer districts to attain meaningful I/I efforts in their member communities varied widely. The indirect structure of the requirements also tended to make it difficult for EPA to enforce the implementation of meaningful I/I reduction programs.

It became evident to EPA Region 1 that a POTW's ability to comply with CWA requirements depended on successful operation and maintenance of not only the treatment plant but also the collection system. For example, the absence of effective I/I reduction and operation/maintenance programs was impeding the Region's ability to prevent or mitigate the human health and water quality impacts associated with SSOs. *See Exhibit B* (Municipal satellite collection systems with SSOs). Additionally, these excess flows stressed POTW treatment plants from a hydraulic capacity and performance standpoint, adversely impacting effluent quality. *See Exhibit C* (Analysis of extraneous flow trends for representative systems). Addressing these issues in regional systems was essential, as these include most of the largest systems in terms of flow, population served and area covered, and serve the largest population centers.

The Region's practice of imposing NPDES permit conditions on the municipal collection systems in addition to the treatment plant owner/operator represents a necessary and logical progression in its continuing effort to effectively address the serious problem of I/I in sewer collection systems.⁵ In light of its past permitting experience and the need to effectively address the problem of extraneous flow on a system-wide basis, Region 1 decided that it was necessary to refashion permits issued to regionally integrated POTWs to encompass all owners/operators of the treatment works (*i.e.*, the regional centralized POTW treatment plant and the municipal satellite collection systems).⁶ Specifically, Region 1 determined that the satellite systems should be subject as co-permittees to a limited set of O&M-related conditions on permits issued for discharges from regionally integrated treatment works. These conditions pertain only to the portions of the POTW collection system that the satellites own. This ensures maintenance and pollution control programs are implemented with respect to all portions of the POTW. Accordingly, since 2005, Region 1 has generally included municipal satellite collection systems as co-permittees for limited purposes, in addition to the owner/operator of the treatment plant as the main permittee subject to the full array of NPDES requirements, including secondary treatment and water-quality based effluent limitations. The Region has identified 25 permits issued by the Region to POTWs in New Hampshire and Massachusetts that include municipal satellite collection systems as co-permittees. *See Exhibit A.* The 25 permits include a total of 55 satellite collection systems as co-permittees.

III. Legal Authority

The Region's prior and now superseded practice of limiting the permit only to the legal entity owning and/or operating the wastewater treatment plant had never been announced as a regional policy or interpretation. Similarly, the Region's practice of imposing NPDES permit conditions on the municipal collection systems in addition to the treatment plant owner/operator has also never been expressly announced as a uniform, region-wide policy or interpretation. Upon consideration of the Board's decision, described above, EPA Region 1 has decided to supply a clearer, more detailed explanation regarding its use of a co-permittee structure when issuing NPDES permits to regionally integrated POTWs. In this section, the Region addresses the questions posed by the Board in the *Upper Blackstone* decision referenced above.

⁵ Although EPA Region 1 has in the past issued NPDES permits only to the legal entities owning and operating the wastewater treatment plant (*i.e.*, only a portion of the "treatment works"), the Region's reframing of permits to include municipal satellite collection systems does not represent a break or reversal from its historical legal position. EPA Region 1 has never taken the legal position that the satellite collection systems are beyond the reach of the CWA and the NPDES permitting program. Rather, the Region as a matter of discretion had merely never determined it necessary to exercise its statutory authority to directly reach these facilities in order to carry out its NPDES permitting obligations under the Act.

⁶ EPA has "considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges." *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369, 1380 (D.C.Cir.1977). ("[T]his ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.")

(1) Is the scope of NPDES authority limited to owners/operators of the treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that comprise the wider POTW?

The scope of NPDES authority extends beyond the owners/operators of the treatment plant to include to owners/operators of portions of the wider POTW, for the reasons discussed below.

The CWA prohibits the “discharge of any pollutant by any person” from any point source to waters of the United States, except, *inter alia*, in compliance with an NPDES permit issued by EPA or an authorized state pursuant to Section 402 of the CWA. CWA § 301, 402(a)(1); 40 C.F.R. § 122.1(b). Where there is a discharge of pollutants, NPDES regulations require the “operator” of the discharging “facility or activity” to obtain a permit in circumstances where the operator is different from the owner. *Id.* § 122.21(b). “Owner or operator” is defined as “the owner or operator of any ‘facility or activity’ subject to regulation under the NPDES program,” and a “facility or activity” is “any NPDES ‘point source’ or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.” *Id.* § 122.2.

“Publicly owned treatment works” are facilities subject to the NPDES program. Statutorily, POTWs as a class must meet performance-based requirements based on available wastewater treatment technology. *See* CWA § 402(a)(1) (“[t]he Administrator may...issue a permit for the discharge of any pollutant...upon condition that such discharge will meet (A) all applicable requirements under [section 301]..”); § 301(b)(1)(B) (“In order to carry out the objective of this chapter there shall be achieved...for publicly owned treatment works in existence on July 1, 1977...effluent limitations based upon secondary treatment[.]”); *see also* 40 C.F.R. pt 133. In addition to secondary treatment requirements, POTWs are also subject to water quality-based effluent limits if necessary to achieve applicable state water quality standards. *See* CWA § 301(b)(1)(C). *See also* 40 C.F.R. § 122.44(a)(1) (“...each NPDES permit shall include...[t]echnology-based effluent limitations based on: effluent limitations and standards published under section 301 of the Act”) and (d)(1) (same for water quality standards and state requirements). NPDES regulations similarly identify the “POTW” as the entity subject to regulation. *See* 40 C.F.R. § 122.21(a), (requiring “new and existing POTWs” to submit information required in 122.21(j),” which in turn requires “all POTWs,” among others, to provide permit application information).

A municipal satellite collection system is part of a POTW under applicable law. The CWA and its implementing regulations broadly define “POTW” to include not only wastewater treatment plants but also the sewer systems and associated equipment that collect wastewater and convey it to the plants. Under NPDES regulations at 40 C.F.R. §§ 122.2 and 403.3(q), the term “Publicly Owned Treatment Works” or “POTW” means “a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act).” Under section 212 of the Act,

“(2)(A) The term ‘treatment works’ means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid

nature to implement section 1281 of this title, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, outfall sewers, *sewage collection systems* [emphasis added], pumping, power, and other equipment, and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process (including land used for the storage of treated wastewater in land treatment systems prior to land application) or is used for ultimate disposal of residues resulting from such treatment.

(B) In addition to the definition contained in subparagraph (A) of this paragraph, ‘treatment works’ means any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and *sanitary sewer systems* [emphasis added]. Any application for construction grants which includes wholly or in part such methods or systems shall, in accordance with guidelines published by the Administrator pursuant to subparagraph (C) of this paragraph, contain adequate data and analysis demonstrating such proposal to be, over the life of such works, the most cost efficient alternative to comply with sections 1311 or 1312 of this title, or the requirements of section 1281 of this title.”

Under the NPDES program regulations, this definition has been interpreted as follows:

“The term *Publicly Owned Treatment Works* or *POTW* [emphasis in original]...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.”

See 40 C.F.R. § 122.2, cross-referencing 403.3(q).

The statutory and regulatory definitions plainly encompass both the POTW treatment plant and municipal satellite collection systems. Municipal satellite collection systems are part of a POTW by definition (*i.e.*, they are “sewage collection systems” under section 212(A) and “sanitary sewer systems” under section 212(B)). They are also conveyances that send wastewater to a POTW treatment plant for treatment under 40 C.F.R. 403.3(q)). The preamble to the rule that created the regulatory definition of POTW supports the reading that the treatment plant comprises only a portion of the POTW. See 44 Fed. Reg. 62260, 62261 (Oct. 29, 1979).⁷

⁷ “A new provision...defining the term ‘POTW Treatment Plant’ has been added to avoid an ambiguity that now exists whenever a reference is made to a POTW (publicly owned treatment works). ...[T]he existing regulation defines a POTW to include both the treatment plant and the sewer pipes and other conveyances leading to it. As a result, it is unclear whether a particular reference is to the pipes, the treatment plant, or both. The term “POTW

Consistent with EPA Region 1's interpretation, courts have similarly taken a broad reading of the terms treatment works and POTW.⁸

(2) *If the latter, how far up the collection system does NPDES jurisdiction reach, i.e., where does the "collection system" end and the "user" begin?*

NPDES jurisdiction extends beyond the treatment plant to the outer boundary of the municipally-owned sewage collection systems, which are defined as sewers whose purpose is to be a common carrier of wastewater for others to a POTW treatment plant for treatment, as explained below.

As discussed in response to Question 1 above, the term "treatment works" is defined to include "sewage collection systems." CWA § 212. In order to define the extent of the sewage collection system for purposes of co-permittee regulation—*i.e.*, to identify the boundary between the portions of the collection system that are subject to NPDES requirements and those that are not—Region 1 is relying on EPA's regulatory interpretation of the term "sewage collection system." In relevant part, EPA regulations define "sewage collection system" at 40 C.F.R. § 35.905 as:

"... each, and all, of the common lateral sewers, within a publicly owned treatment system, which are primarily installed to receive waste waters directly from facilities which convey waste water from individual structures or from private property and which include service connection "Y" fittings designed for connection with those facilities. The facilities which convey waste water from individual structures, from private property to the public lateral sewer, or its equivalent, are specifically excluded from the definition...."

Put otherwise, a municipal satellite collection system is subject to NPDES jurisdiction under the Region's approach insofar as its purpose is to be a common carrier of wastewater for others to a POTW treatment plant for treatment. The use of this primary purpose test (*i.e.*, common sewer installed as a recipient and carrier waste water from others) allows Region 1 to draw a principled, predictable and readily ascertainable boundary between the POTW's collection system and user. This test would exclude, for example, branch drainpipes that collect and transport wastewater from fixtures in a commercial building or public school to the common lateral sewer. This type

treatment plant" will be used to designate that portion of the municipal system which is actually designed to provide treatment to the wastes received by the municipal system."

⁸ See, e.g., *United States v. Borowski*, 977 F.2d 27, 30 n.5 (1st Cir. 1992) ("We read this language [POTW definition] to refer to such sewers, pipes and other conveyances that are publicly owned. Here, for example, the City of Burlington's sewer is included in the definition because it conveys waste water to the Massachusetts Water Resource Authority's treatment works."); *Shanty Town Assoc. v. Envtl. Prot. Agency*, 843 F.2d 782, 785 (4th Cir. 1988) ("As defined in the statute, a 'treatment work' need not be a building or facility, but can be any device, system, or other method for treating, recycling, reclaiming, preventing, or reducing liquid municipal sewage and industrial waste, including storm water runoff.") (citation omitted); *Comm. for Consideration Jones Fall Sewage System v. Train*, 375 F. Supp. 1148, 1150-51 (D. Md. 1974) (holding that NPDES wastewater discharge permit coverage for a wastewater treatment plant also encompasses the associated sanitary sewer system and pump stations under § 1292 definition of "treatment work").

of infrastructure would not be considered part of the collection system, because it is not designed to be a common recipient and carrier of wastewaters from other users. Rather, it is designed to transport its users' wastewater to such a common collection system at a point further down the sanitary sewer system.

EPA's reliance on the definition of "sewage collection system" from outside the NPDES regulations for interpretative guidance is reasonable as the construction grants regulations at 40 C.F.R. Part 35, subpart E pertain to grants for POTWs, the entity that is the subject of this NPDES policy. Additionally, the term "sewage collection systems" expressly appears in the definition of treatment works under section 212 of the Act as noted above. Finally, this approach is also consistent with EPA's interpretation in other contexts, such as the SSO listening session notice, published in the Federal Register on June 1, 2010, which describes wastewater collection systems as those that "collect domestic sewage and other wastewater from homes and other buildings and convey it to wastewater sewage treatment plants for proper treatment and disposal." See "Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, Sanitary Sewer Overflows, and Peak Wet Weather Discharges From Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems," 75 Fed. Reg. 30395.⁹

(3) Do municipal satellite collection systems "discharge [] a pollutant" within the meaning of the statute and regulations?

Yes, because they are a part of the POTW, municipal satellite collection systems discharge pollutants to waters of the United States through one or more outfalls (point sources).

The "discharge of a pollutant," triggers the need for a facility to obtain an NPDES permit. A POTW "discharges [] pollutant[s]" if it adds pollutants from a point source to waters of the U.S. (See 40 C.F.R. § 122.2, section (a) of the definition of "discharge of a pollutant.") As explained above, municipal satellite collection systems are part of the POTW. The entire POTW is the entity that discharges pollutants to waters of the U.S. through point source outfalls typically located at the treatment plant but also occasionally through other outfalls within the overall system. The fact that a collection system may be located in the upstream portions of the POTW and not necessarily near the ultimate discharge point at the treatment plant is not material to the question of whether it "discharges" a pollutant and consequently may be subject to conditions of an NPDES permit issued for discharges from the POTW.¹⁰

⁹ That EPA has in the past looked for guidance from Part 35 when construing the NPDES permitting program, for instance, in the context of storm water permitting, provides further support to the Region that its practice in this regard is sound. See, e.g., "National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges," 55 Fed. Reg. 47990, 47955 (looking to the definition of "storm sewer" at 40 C.F.R. § 35.2005(b)(47) when defining "storm water" under the NDPEs program).

¹⁰ This position differs from that taken by the Region in the *Upper Blackstone* litigation. There, the Region argued that the treatment plant was the sole discharging entity for regulatory purposes. The Region has revised this view upon further consideration of the statute, regulations and case law and determined that the POTW as a whole is the discharging entity.

“Discharge of a pollutant” at 40 C.F.R. § 122.2 is also defined to include “... discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person *which do not lead to a treatment works.*”(emphasis added). Some municipal collection systems have argued that this sentence means that only municipal discharges that do not lead to a “treatment plant” fall within the scope of “discharge of a pollutant.” They further argue that because discharges through satellite collection systems do lead to a treatment plant, such systems do not “discharge [] pollutant[s]” and therefore are not subject to the NPDES permit requirements. This argument is flawed in that it incorrectly equates “treatment works,” the term used in the definition above, with “treatment plant.” To interpret “treatment works” as it appears in the regulatory definition of “discharge of a pollutant” as consisting of only the POTW treatment plant would be inconsistent with the definition of “treatment works” at 40 C.F.R. § 403.3(q), which expressly includes the collection system. *See also* § 403.3(r) (defining “POTW Treatment Plant” as “*that portion* [emphasis added] of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste”).

(4) Are municipal satellite collection systems “indirect dischargers” and thus excluded from NPDES permitting requirements?

No, municipal satellite collection systems are part of the POTW, not “indirect dischargers” to the POTW.

Section 307(b) of the Act requires EPA to establish regulatory pretreatment requirements to prevent the “introduction of pollutants into treatment works” that interfere, pass through or are otherwise incompatible with such works. Section 307 is implemented through the General Pretreatment Regulations for Existing and New Sources of Pollution (40 C.F.R. Part 403) and categorical pretreatment standards (40 C.F.R. Parts 405-471). Section 403.3(i) defines “indirect discharger” as “any non-domestic” source that introduces pollutants into a POTW and is regulated under pretreatment standards pursuant to CWA § 307(b)-(d). The source of an indirect discharge is termed an “industrial user.” *Id.* at § 403.3(j). Under regulations governing the NPDES permitting program, the term “indirect discharger” is defined as “a non-domestic discharger introducing ‘pollutants’ to a ‘publicly owned treatment works.’” 40 C.F.R. § 122.2. Indirect dischargers are excluded from NPDES permit requirements by the indirect discharger rule at 40 C.F.R. § 122.3(c), which provides, “The following discharges do not require an NPDES permit: . . . The introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works by indirect dischargers.”

Municipal satellite collection satellite systems are not indirect dischargers as that term is defined under part 122 or 403 regulations. Unlike indirect dischargers, municipal satellite collection systems are not “introducing pollutants” to POTWs under 40 C.F.R. § 122.2; they are, instead, part of the POTW by definition. Similarly, they are not a non-domestic *source* that introduces pollutants into a POTW within the meaning of § 403.3(j), but as part of the POTW collect and convey municipal sewage from industrial, commercial and domestic users of the POTW.

The Region’s determination that municipal satellite collection systems are not indirect dischargers is, additionally, consistent with the regulatory history of the term indirect discharger.

The 1979 revision of the part 122 regulations defined “indirect discharger” as “a non-municipal, non-domestic discharger introducing pollutants to a publicly owned treatment works, which introduction does not constitute a ‘discharge of pollutants’...” See National Pollutant Discharge Elimination System, 44 Fed. Reg. 32854, 32901 (June 7, 1979). The term “non-municipal” was removed in the Consolidated Permit Regulations, 45 Fed. Reg. 33290, 33421 (May 19, 1980) (defining “indirect discharger” as “a nondomestic discharger...”). Although the change was not explained in detail, the substantive intent behind this provision remained the same. EPA characterized the revision as “minor wording changes.” 45 Fed. Reg. at 33346 (Table VII: “Relationship of June 7[, 1979] Part 122 to Today’s Regulations”). The central point again is that under any past or present regulatory incarnation, municipal satellite collection systems, as POTWs, are not within the definition of “indirect discharger,” which is limited to dischargers that introduce pollutants to POTWs.

The position that municipal satellite collection systems are part of, rather than discharge to, the POTW also is consistent with EPA guidance. EPA’s 1994 Multijurisdictional Pretreatment Programs Guidance Manual, (EPA 833-B94-005) (June 1994), at p. 19, asserts that EPA has the authority to require municipal satellite collection systems to develop pretreatment programs by virtue of their being part of the POTW.

(5) How is the Region’s rationale consistent with the references to “municipality” in the regulatory definition of POTW found at 40 C.F.R. § 403.3(q), and the definition’s statement that “[t]he term also means the municipality....which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works?”

There is no inconsistency between the Region’s view that municipally-owned satellite collection systems are part of a POTW, and the references to municipality in 40 C.F.R. § 403.3(q), including the final sentence of the regulatory definition of POTW in the pretreatment regulations.

The Region’s co-permitting rationale is consistent with the first part of the pretreatment program’s regulatory definition of POTW, because the Region is only asserting NPDES jurisdiction over satellite collection systems that are owned by a “State or municipality (as defined by section 502(4) of the Act).” The term “municipality” as defined in CWA § 502(4) “means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes...” Thus, in order to qualify under this definition, a wastewater collection system need only be “owned by a State or municipality.” There is no requirement that the constituent components of a regionally integrated POTW, *i.e.*, the collection system and regional centralized POTW treatment plant, be owned by the same State or municipal entity.

Furthermore, there is no inconsistency between the Region’s view that a satellite collection system is part of a POTW, and the final sentence of the regulatory definition of POTW in the pretreatment regulations. As noted above, the sentence provides that “POTW” may “also” mean a municipality which has jurisdiction over indirect discharges to and discharges from the treatment works. This is not a limitation because of the use of the word “also” (contrast this with the “only if” language in the preceding sentence of the regulatory definition).

(6) *How does the Region's rationale comport with the permit application and signatory requirements under NPDES regulations?*

EPA's authority to require municipal satellite collection systems to separately comply with the permit application requirements, or to provide waivers from these requirements where appropriate, is consistent with NPDES regulations, which provide that all POTWs must submit permit application information set forth in 40 C.F.R. § 122.21(j) unless otherwise directed, and municipal satellite collection systems are part of the POTW.

EPA has the authority to require municipal satellite collection systems to submit permit applications. These entities are operators of parts of the POTW. NPDES regulations characterize the operator "of the POTW" (which by definition includes the sewage collection system) as opposed to the operator "of the POTW treatment plant" as an appropriate applicant. *Id.* § 122.21(a), (requiring applicants for "new and existing POTWs" to submit information required in 122.21(j)," which in turn requires "all POTWs," among others, to provide permit application information). This reading of the regulation is in keeping with the statutory text, which subjects the POTW writ large to the secondary treatment and water quality-based requirements. *See* CWA § 301(b)(1)(B), (C). In fact, the NPDES permit application for POTWs solicits information concerning portions of the POTW beyond the treatment plant itself, including the collection system used by the treatment works. *See* 40 C.F.R. 122.21(j)(1).

Notwithstanding that EPA could require applications for all the municipal satellite collection systems, requiring such applications may result in duplicative or immaterial information. The Regional Administrator ("RA") may waive any requirement of this paragraph if he or she has access to substantially identical information. 40 C.F.R. § 122.21(j). *See generally*, 64 Fed. Reg. 42440 (August 4, 1999). The RA may also waive any application requirement that is not of material concern for a specific permit. Region 1 believes that it will typically receive information sufficient for NPDES permitting purposes from the POTW treatment plant operator's application.

In most cases, EPA Region 1 believes that having a single permit application from the POTW treatment plant operator will be more efficient in carrying out the regulation's intent than multiple applications from the satellite systems. (The treatment plant operator would of course be required to coordinate as necessary with the constituent components of the POTW to ensure that the information provided to EPA is accurate and complete). EPA Region 1 therefore intends to issue waivers to exempt municipal satellite collection systems from permit application and signatory requirements in accordance with 40 C.F.R. § 122.21(j). To the extent the Region requires additional information, it intends to use its information collection authority under CWA § 308.

IV. Basis for the Specific Conditions to which the Municipal Satellite Collection Systems are Subject as Co-permittees

The legal authority for extending NPDES conditions to all portions of the municipally-owned treatment works to ensure proper operation and maintenance and to reduce the quantity of extraneous flow into the POTW is Section 402(a) of the CWA. This section of the Act authorizes EPA to issue a permit for the “discharge of pollutants” and to prescribe permit conditions as necessary to carry out the provisions of the CWA, including Section 301 of the Act. Among other things, Section 301 requires POTWs to meet performance-based requirements based on secondary treatment technology, as well as any more stringent requirements of State law or regulation, including water quality standards. *See* CWA § 301(b)(1)(B),(C).

The co-permittee requirements are required to assure continued achievement of secondary treatment requirements and water quality standards in accordance with sections 301 and 402 of the Act and to prevent unauthorized discharges of sewage from collection systems. With respect to secondary treatment, the inclusion of the satellite systems as co-permittees is necessary because high levels of I/I dilute the strength of influent wastewater and increase the hydraulic load on treatment plants, which can reduce treatment efficiency (*e.g.*, result in violations of technology-based percent removal limitations for BOD and TSS due to less concentrated influent, or violation of other technology effluent limitations due to reduction in treatment efficiency), lead to bypassing a portion of the treatment process, or in extreme situations make biological treatment facilities inoperable (*e.g.*, wash out the biological organisms that treat the waste).

As to water quality standards, the addition of the satellite systems as co-permittees is necessary to ensure collection system operation and maintenance, which will reduce extraneous flow entering the system and free up available capacity. This will facilitate compliance with water quality-based effluent limitations—made more difficult by reductions in treatment efficiency and also reduce water quality standard violations that result from the occurrence of SSOs. *See Exhibits B* (Municipal satellite collection systems with SSOs) and *C* (Analysis of extraneous flow trends for representative systems). SSOs that reach waters of the U.S. are discharges in violation of section 301(a) of the CWA to the extent not authorized by an NPDES permit.

Subjecting portions of an NPDES-regulated entity upstream of the ultimate discharge point is consistent with EPA’s interpretation of the CWA in other contexts. For example, it is well established that EPA has the ability to apply discharge limitations and monitoring requirements to internal process discharges, rather than to outfalls, on the grounds that compliance with permit limitations “may well involve controls applied at points other than the ultimate point of discharge.” *See Decision of the General Counsel No. 27 (In re Inland Steel Company)*, August 4, 1975 (“Limitations upon internal process discharges are proper, if such discharges would ultimately be discharged into waters of the United States, and if such limitations are necessary to carry out the principal regulatory provisions of the Act.”). In the case of regionally integrated POTWs, placing conditions on satellite collection systems—though located farther up the system than the point of discharge—is a logical implication of the regulations and serves to effectuate the statute.

Without imposing conditions on the satellite communities, standard permit conditions applicable to all NPDES permits by regulation cannot be given full effect. To illustrate, there is no dispute

that the operator of the POTW treatment plant and outfall is discharging pollutants within the meaning of the CWA and, accordingly, is subject to the NPDES permit program. NPDES permitting regulations require standard conditions that “apply to all NPDES permits,” pursuant to 40 C.F.R. § 122.41, including a duty to mitigate and to properly operate and maintain “all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit.” *Id.* at § 122.41(d), (e). EPA regulations also require additional conditions applicable to specified categories of NPDES permit, including “Publicly owned treatment works.” *See id.* at § 122.42(b). A municipal satellite collection system, as demonstrated above, falls within the regulatory definition of a POTW. In light of EPA’s authority to require appropriate operation and maintenance of collection systems necessary to achieve compliance with an NPDES permit, and because the operator of the POTW treatment plant may not own or operate a significant portion of the wider treatment works (*i.e.*, the collection systems that send flow to the POTW treatment plant), it is appropriate, and in some cases necessary, to extend pertinent, mandated standard conditions to all portions of the POTW, which is subject to regulation in its entirety. The alternative of allowing state and local jurisdictional boundaries to place significant portions of the POTW beyond the reach of the NPDES permitting program would not only be inconsistent with the broad statutory and regulatory definition of the term POTW but would impede Region 1 from carrying out the objectives of the CWA. It would also, illogically, preclude the Region from imposing on POTWs standard conditions EPA has by regulation mandated for those entities.

Other Considerations Informing EPA Region 1’s Decision to Use a Co-permittee Permitting Structure for Regionally Integrated POTWs

In addition to consulting the relevant statutes, regulations, and preambles, Region 1 also considered other EPA guidance in coming to its determination to employ a co-permittee structure for regionally integrated POTWs. EPA’s 1994 Multijurisdictional Pretreatment Programs Guidance Manual, p. 19, asserts that EPA has the authority to include municipal satellite collection systems as co-permittees by virtue of their being part of the POTW:

If the contributing jurisdiction owns or operates the collection system within its boundaries, then it is a co-owner or operator of the POTW. As such, it can be included on the POTW’s NPDES permit and be required to develop a pretreatment program. Contributing jurisdictions should be made co-permittees where circumstances or experience indicate that it is necessary to ensure adequate pretreatment program implementation.

The same logic that led EPA to conclude it had authority to require municipal satellite collection systems to develop a pretreatment program pursuant to an NPDES permit supports EPA Region 1’s decision to impose permit conditions on such facilities to undertake proper O & M and to reduce inflow and infiltration.

EPA Region 1 also took notice of federal listening session materials on the June 2010 proposed SSO rule and associated model permits and fact sheet. The position articulated by EPA in these

model documents—specifically the application of standard NPDES conditions to municipal satellite collection systems—generally conform to Region 1’s co-permitting approach.

Finally, in addition to federal requirements, EPA Region 1 considered the co-permittee approach in light of state regulations and policy pertaining to wastewater treatment works. The Region found its approach to be consistent with such requirements. Under Massachusetts law, “Any person operating treatment works shall maintain the facilities in a manner that will ensure proper operation of the facilities or any part thereof,” where “treatment works” is defined as “any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage or disposal, or industrial wastewater holding tanks regulated under 314 CMR 18.00” *See* 314 CMR 12.00 (“Operation and Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers”). MassDEP has also prioritized this area, issuing detailed operation and maintenance guidelines entitled “Optimizing Operation, Maintenance and Rehabilitation of Sanitary Sewer Collection Systems.”

Exhibit A

Name	Issue Date
Massachusetts Water Resources Authority – Clinton (NPDES Permit No. MA0100404)	September 27, 2000
City of Brockton (NPDES Permit No. MA0101010)	May 11, 2005
City of Marlborough (NPDES Permit No. MA0100480)	May 26, 2005
Westborough Wastewater Treatment Plant (NPDES Permit No. MA0100412)	May 20, 2005
Lowell Regional Wastewater Utilities (NPDES Permit No. MA0100633)	September 1, 2005
Town of Webster Sewer Department (NPDES Permit No. MA0100439)	March 24, 2006
Town of South Hadley, Board of Selectmen (NPDES Permit No. MA0100455)	June 12, 2006
City of Leominster (NPDES Permit No. MA0100617)	September 28, 2006
Hoosac Water Quality District (NPDES Permit No. MA0100510)	September 28, 2006
Board of Public Works, North Attleborough (NPDES Permit No. MA0101036)	January 4, 2007
Town of Sunapee (NPDES Permit No. 0100544)	February 21, 2007
Lynn Water and Sewer Commission (NPDES Permit No. MA0100552)	March 3, 2007
City of Concord (NPDES Permit No. NH0100331)	June 29, 2007
City of Keene (NPDES Permit No. NH0100790)	August 24, 2007
Town of Hampton (NPDES No. NH0100625)	August 28, 2007
Town of Merrimack, NH (NPDES No. NH0100161)	September 25, 2007
City of Haverhill (NPDES Permit No. MA0101621)	December 5, 2007
Greater Lawrence Sanitary District (NPDES Permit No. MA0100447)	August 11, 2005

City of Pittsfield, Department of Public Works (NPDES No. MA0101681)	August 22, 2008
City of Manchester (NPDES No. NH0100447)	September 25, 2008
City of New Bedford (NPDES Permit No. MA0100781)	September 28, 2008
Winnepesaukee River Basin Program Wastewater Treatment Plant (NPDES Permit No. NH0100960)	June 19, 2009
City of Westfield (NPDES Permit No. MA0101800)	September 30, 2009
Hull Permanent Sewer Commission (NPDES Permit No. MA0101231)	September 1, 2009
Gardner Department of Public Works (NPDES Permit No. MA0100994)	September 30, 2009

Exhibit B

I/I Flow Analysis for Sample Regional Publicly Owned Treatment Works

I. Representative POTWS

The **South Essex Sewer District (SESD)** is a regional POTW with a treatment plant in Salem, Massachusetts. The SESD serves a total population of 174,931 in six communities: Beverly, Danvers, Marblehead, Middleton, Peabody and Salem. The **Charles River Pollution Control District (CRPCD)** is a regional POTW with a treatment plant in Medway, Massachusetts. The CRPCD serves a total population of approximately 28,000 in four communities: Bellingham, Franklin, Medway and Millis. Both of these facilities have been operating since 2001 under permits that place requirements on the treatment plant to implement I/I reduction programs with the satellite collection systems, in contrast to Region 1's current practice of including the satellite collection systems as co-permittees.

II. Comparison of flows to standards for nonexcessive infiltration and I/I

Flow data from the facilities' discharge monitoring reports (DMRs) are shown in comparison to the EPA standard for nonexcessive infiltration/inflow (I/I) of 275 gpcd wet weather flow and the EPA standard for nonexcessive infiltration of 120 gallons per capita per day (gpcd) dry weather flow; the standards are multiplied by population served for comparison with total flow from the facility. See *I/I Analysis and Project Certification*, EPA Ecol. Pub. 97-03 (1985); 40 CFR 35.2005(b)(28) and (29).

Figures 1 and 2 show the Daily Maximum Flows (the highest flow recorded in a particular month) for the CRPCD and SESD, respectively, along with monthly precipitation data from nearby weather stations. Both facilities experience wet weather flows far exceeding the standard for nonexcessive I/I, particularly in wet months, indicating that these facilities are receiving high levels of inflow and wet weather infiltration.

Figure 1. CRPCD Daily Maximum Flow Compared to Nonexcessive I/I Standard

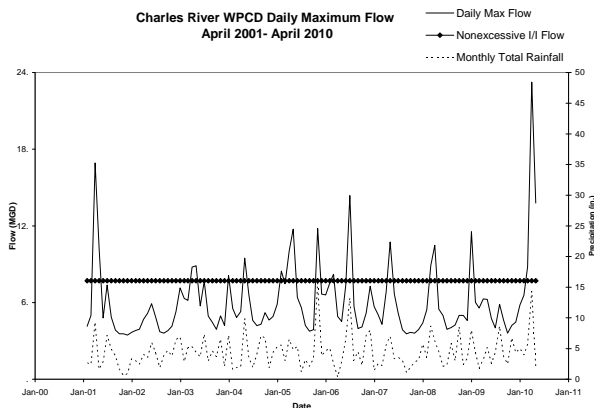
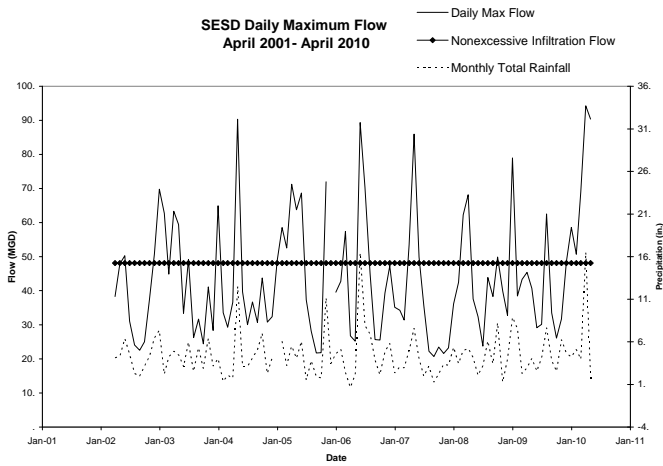


Figure 2. SESD Daily Maximum Flow Compared to Nonexcessive I/I Standard



Figures 3 and 4 shows the Average Monthly Flows for the CRPCD and SESD, which exceed the nonexcessive infiltration standard for all but the driest months. This indicates that these systems experience high levels of groundwater infiltration into the system even during dry weather.

Figure 3. CRPCD Monthly Average Flow Compared to Nonexcessive Infiltration Standard

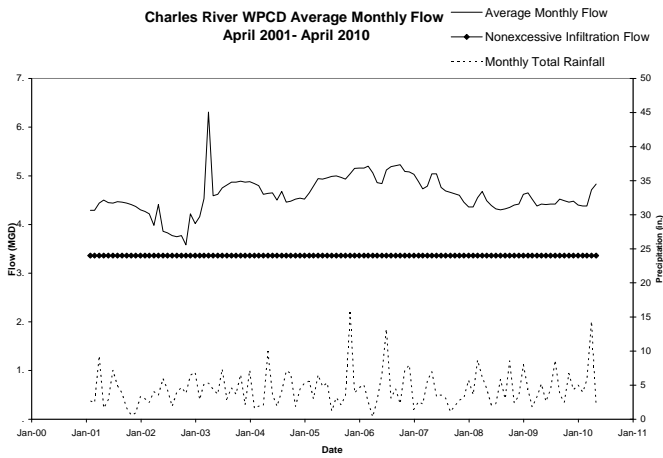
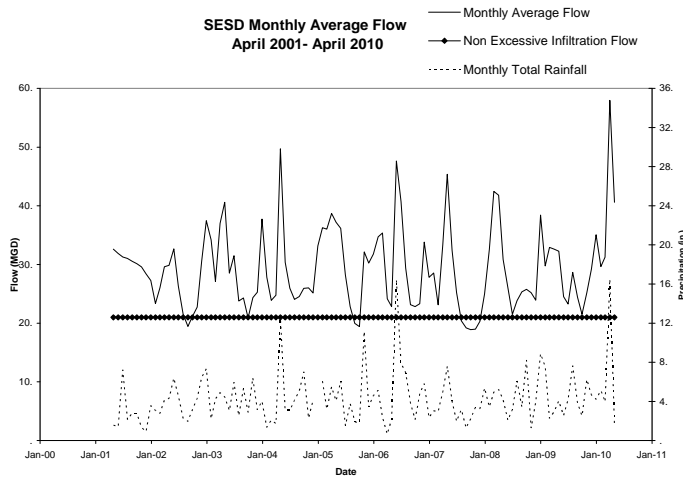


Figure 4. SESD Monthly Average Flow Compared to Nonexcessive Infiltration Standard



II. Flow Trends

Figures 5 and 6 show the trend in Maximum Daily Flows over the period during which these regional facilities have been responsible for implementing cooperative I/I reduction programs with the satellite collection systems. The Maximum Daily Flow reflects the highest wet weather flow for each month. The trend over this time period has been of increasing Maximum Daily Flow, indicating that I/I has not been reduced in either system despite the permit requirements.

Figure 5. CRPCD Daily Maximum Flow Trend

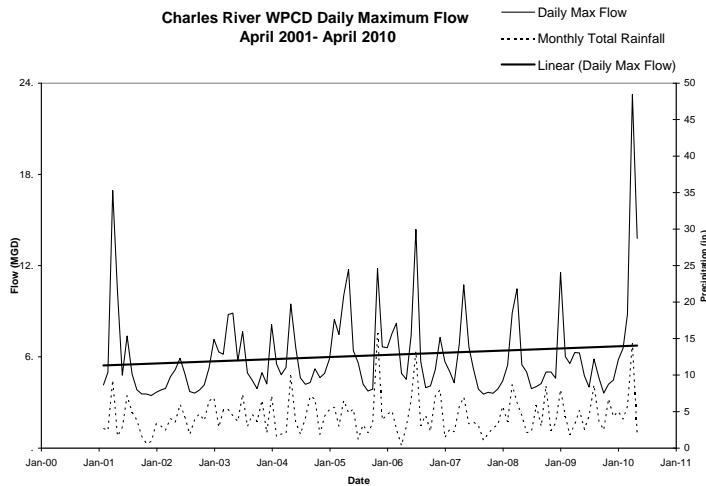
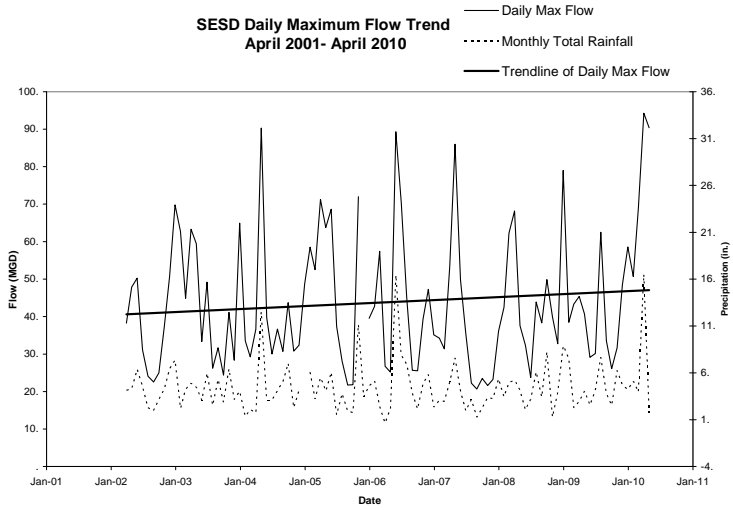


Figure 6. SESD Daily Maximum Flow Trend



III. Violations Associated with Wet Weather Flows

Both the CRPCD and SESD have experienced permit violations that appear to be related to I/I, based on their occurrence during wet weather months when excessive I/I standards are exceeded. Figure 7 shows violations of CRPCD’s effluent limits for CBOD (concentration) and TSS (concentration and percent removal). Twelve of the sixteen violations occurred during months when daily maximum flows exceeded the EPA standard.

Figure 7. CRPCD CBOD and TSS Effluent Limit Violations

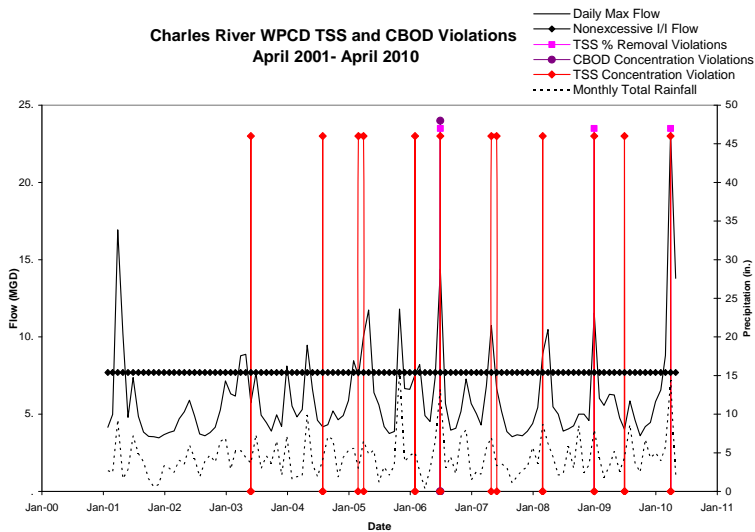
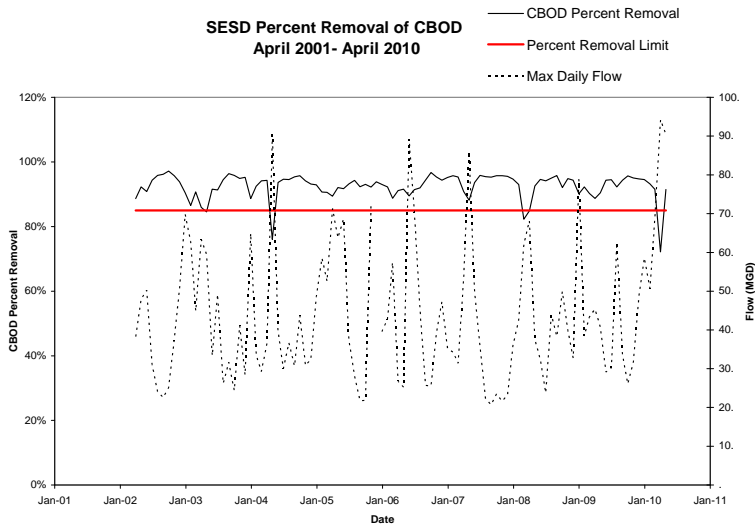


Figure 8 shows SESD's results for removal of CBOD, in percentage, as compared to maximum daily flow. SESD had three permit violations where CBOD removal fell below 85%, all during months with high Maximum Daily Flows.

Figure 8. SESD CBOD Percent Removal



In addition, both of these regional POTWs have experienced SSOs within the municipal satellite collection systems. In the SESD system, Beverly, Danvers, Marblehead and Peabody have reported SSOs between 2006 and 2008, based on data provided by MassDEP. In the CRPCD system, both Franklin and Bellingham have reported SSOs between 2006 and 2009.

Exhibit C

List of municipal satellite collection systems that have had SSOs

Exhibit D

Form of Regional Administrator's waiver of permit application requirements for
municipal satellite collection systems



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

Re: Waiver of Permit Application and Signatory Requirements for [Municipal Satellite Sewage Collection System]

Dear _____:

Under NPDES regulations, all POTWs must submit permit application information set forth in 40 C.F.R. § 122.21(j) unless otherwise directed. Where the Region has “access to substantially identical information,” the Regional Administrator may waive permit application requirements for new and existing POTWs. *Id.* Pursuant to my authority under this regulation, I am waiving NPDES permit application and signatory requirements applicable to the above-named municipal satellite collection systems.

Although EPA has the authority to require municipal satellite collection systems to submit individual permit applications, in this case I find that requiring a single permit application executed by the regional POTW treatment plant owner/operator will deliver “substantially identical information,” and will be more efficient, than requiring separate applications from each municipal satellite collection system owner/operator. Municipal satellite collection system owners/operators are expected to consult and coordinate with the regional POTW treatment plant operators to ensure that any information provided to EPA about their respective entities is accurate and complete. In the event that EPA requires additional information, it may use its information collection authority under CWA § 308. 33 U.S.C. § 1318.

This notice reflects my determination based on the specific facts and circumstances in this case. It is not intended to bind the agency in future determinations where a separate permit for municipal satellites would not be duplicative or immaterial.

If you have any questions or would like to discuss this decision, please contact [EPA Contact] at [Contact Info].

Sincerely,

Regional Administrator

NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES
WATER DIVISION
P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03302-0095

U.S. ENVIRONMENTAL PROTECTION
AGENCY-REGION 1
WATER DIVISION
5 POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO WATERS OF THE
UNITED STATES UNDER SECTION 402 OF THE CLEAN WATER ACT ("CWA" or THE
"ACT"), AS AMENDED, AND STATE CERTIFICATION UNDER SECTION 401 OF THE
ACT, AND ISSUANCE OF A STATE SURFACE WATER PERMIT UNDER NH RSA 485-
A:13, I(a).

PUBLIC NOTICE PERIOD: June 23, 2020 – July 22, 2020

PERMIT NUMBER: **NH0100625**

PUBLIC NOTICE NUMBER: NH-017-20

NAME AND MAILING ADDRESS OF APPLICANT:

Town of Hampton
c/o Frederick Welch, Town Manager
100 Winnacunnet Rd.
Hampton, New Hampshire 03842

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Leavitt E. Magrath Wastewater Treatment Plant
1 Hardarts Way
Hampton, New Hampshire 03842

RECEIVING WATER AND CLASSIFICATION:

Tide Mill Creek (Class B)

PREPARATION OF THE DRAFT PERMIT AND CWA § 401 CERTIFICATION:

The U.S. Environmental Protection Agency (EPA) and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) have cooperated in the development of a draft permit for the Leavitt E. Magrath Wastewater Treatment Plant, which discharges treated domestic and industrial wastewater. Sludge from this facility is shipped to the Turnkey Landfill of Rochester for disposal. The effluent limits and permit conditions imposed have been drafted to assure compliance with the CWA and State water quality standards in Chapter 485-A of the New Hampshire Statutes: Water Pollution and Waste Disposal, and the New Hampshire Surface Water Quality Regulations, Env-Wq 1700 et seq. In addition, EPA has requested that the State

certify the draft permit pursuant to Section 401 of the CWA and NHDES has determined that the draft permit, with any additional state conditions included in the state certification, assures compliance with Sections 208(e), 301, 302, 303, 306 and 307 of the CWA and with State water quality requirements.

INFORMATION ABOUT THE DRAFT PERMIT:

The draft permit and explanatory fact sheet may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_nh.html or by contacting:

Evan Lewis
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1543
lewis.evan@epa.gov

The administrative record containing all documents relating to this draft permit including all data submitted by the applicant may be inspected at the EPA Boston office by appointment, Monday through Friday, except holidays and during facility closures due to COVID-19. All data submitted by the applicant are available as part of the administrative record.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of the draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **July 22, 2020**, to the EPA contact and address or email address listed above. Any person, prior to such date, may submit a request in writing to EPA and NHDES for a public hearing to consider this draft permit and CWA § 401 certification. 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 if the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

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.

THOMAS E. O'DONOVAN, DIRECTOR
WATER DIVISION
NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES

KEN MORAFF, DIRECTOR
WATER DIVISION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION I

NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES
WATER DIVISION
P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03302-0095

U.S. ENVIRONMENTAL PROTECTION
AGENCY-REGION 1
WATER DIVISION
5 POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

JOINT EXTENSION OF PUBLIC COMMENT PERIOD OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF THE UNITED STATES UNDER SECTIONS 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 ORIGINAL PUBLIC NOTICE PERIOD: **June 23, 2020 – July 22, 2020**

PUBLIC NOTICE EXTENDED TO: **August 6, 2020**

PERMIT NUMBER: **NH0100625**

PUBLIC NOTICE NUMBER: **NH-020-20**

NAME AND MAILING ADDRESS OF APPLICANT:

**Town of Hampton
c/o Frederick Welch, Town Manager
100 Winnacunnet Rd.
Hampton, New Hampshire 03842**

NAMES AND MAILING ADDRESSES OF CO-PERMITTEES

**Rye Sewer Commission
c/o Lee Arthur, Administrator
10 Central Road
Rye, NH 03870**

NAME AND LOCATION OF FACILITY WHERE DISCHARGE OCCURS:

**Leavitt E. Magrath Wastewater Treatment Plant
1 Hardarts Way
Hampton, New Hampshire 03842**

RECEIVING WATER: **Tide Mill Creek (Class B)**

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA) and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) have cooperated in the development of a draft permit for the Leavitt E. Magrath Wastewater Treatment Plant, which discharges treated domestic and industrial wastewater. Sludge from this facility is shipped to the Turnkey Landfill of Rochester for disposal. The effluent limits and permit conditions imposed have been drafted to assure compliance with the CWA and State water quality standards in Chapter 485-A of the

New Hampshire Statutes: Water Pollution and Waste Disposal, and the New Hampshire Surface Water Quality Regulations, Env-Wq 1700 et seq. In addition, EPA has requested that the State certify the draft permit pursuant to Section 401 of the CWA and NHDES has determined that the draft permit, with any additional state conditions included in the state certification, assures compliance with Sections 208(e), 301, 302, 303, 306 and 307 of the CWA and with State water quality requirements.

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EXTENSION OF PUBLIC COMMENT PERIOD:

All persons, including applicants, who believe any condition of the draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by midnight **August 6, 2020**, to the address or email address listed above. Any person, prior to such date, may submit a request in writing to EPA and NHDES 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. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

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AGENCY - REGION I