**DRAFT MODIFICATION TO AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**

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

**The City of Nashua, New Hampshire**

Is authorized to discharge from the wastewater treatment facilities located at,

**Sawmill Road**
**Nashua, New Hampshire 03060**

and from **9 Combined Sewer Overflows (CSOs)** (discharge serial numbers: 002-009 and 014); see **Attachment A** of this permit.

To the receiving waters named: **Merrimack River** (Wastewater Treatment Facility [outfall 001] and CSOs [outfalls #002-005 and 014]) and **Nashua River** (CSOs [outfalls # 006-009])

In accordance with effluent limitations monitoring requirements and other conditions set forth in the permit issued on March 6, 2015, as modified by the conditions set forth herein in redline/strikeout and summarized as follows:

***Page 5 – Removal of the limitations for total recoverable lead and total recoverable copper.***

***Page 5 - Inclusion of monitoring requirements for total recoverable copper.***

***Page 5 – Removal of the 0.8 mg/l average monthly total phosphorus limit and inclusion of an average monthly total phosphorus limit of 227 lbs/day.***

***Page 5 – modification of the total phosphorus monitoring frequency from twice per week to once per week.***

***Page 6 – Footnote 3 –Requirement to concurrently sample the effluent discharged from outfall 001 with the combined secondary and bypass effluents at a location prior to those flows combining with the effluent discharged from the Wet Weather Flow Treatment Facility.***

***Page 5 – Part I.A.1., and Page 7 - footnotes 14 and 15 – Requirement to report rainfall precipitation data whenever there is flow into the Wet Weather Flow Treatment Facility***

***Page 7 – Part I.A.1. – footnote 11 – Modification of the schedule for the completion of WET tests from the calendar quarter ending March 30$^{th}$ to the calendar quarter ending June 30$^{th}$.***

***Page 8 – Part I.A.4. – Modification of the definition of "dry weather".***

***Page 12 – Part I.B.2.d. – Modification of the definition of "dry weather".***

***Page 14 – Part I.B.3.e. – Renumbered measures 6 and 7 as 5 and 6, respectively.***

***Page 14 – Part I.B.4. – Removed references to Wet Weather Flow Treatment Facility.***

***Pages 15-16 – Part I.B.5.a. – Removed monitoring requirements for internal outfall 001W (Wet Weather Flow Treatment Facility).***

***Pages 17 – 20 - Part I.B.5.b. – Screening and Disinfection Facility – removal of the influent flow, $BOD_5$ and TSS monitoring requirements; modification of the requirement to monitor flow drained back to the collection system and addition of footnote 7.***

***Page 20- Part I.C.2.a. - Special Conditions -Establishment of a compliance schedule for achieving the seasonal total phosphorus limitation of 227 lbs/day and inclusion of interim monitoring requirements.***

***Page 21 – Part I.C.2.b. - Special Conditions – Inclusion of ambient monitoring requirements.***

***Page 23 – Part I.E.5.b. – Modification of the schedule for submitting the full Collection System and Operation and Maintenance Plan from 24 months to 36 months.***

***Page 23 - Part I.E.6. – Modification of the due date for submitting the first Collection System O & M Report from 36 to 48 months following the effective date of the permit.***

***Additional changes have been made to adjust the permit's numbering of pages, footnotes and sections to accommodate these modifications.***

If there are no comments received on the draft modified permit, this modified permit will become effective on the date of signature. If comments are received, this modified permit shall become effective on the first day of the calendar month following 30 days after signature.

This permit modification and the authorization to discharge expire at midnight, May 31, 2020.

This modified permit is issued pursuant to 40 C.F.R. § 124.5, and revises and supersedes the permit that was issued on March 6, 2015 and appealed on April 13, 2015.

This draft permit modification consists of **Part I** (including effluent limitations, monitoring requirements, and related conditions) and **Attachment F** (NPDES Compliance Schedule – Phosphorus Removal)[1].

[1] **Attachment A** (Combined Sewer Overflows), **Attachment B** (Freshwater Acute Whole Effluent Toxicity Test Procedure and Protocol (February 28, 2011)), **Attachment C** (Reassessment of Technically Based Local Limits), **Attachment D** (Industrial Pretreatment Annual Report), **Attachment E** (Summary of Required Reports), and **Part II** (Standard Conditions) to the Final Permit that was issued in March 2015 are not included as attachments to the Draft Permit Modification as they are not being modified.

Signed this day of

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Ken Moraff, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Region I
Boston, Massachusetts

## Part I Effluent Limitations and Monitoring Requirements

### A. Wastewater Treatment Facility - Outfall 001

**1.** During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall Serial Number 001 treated domestic, commercial and industrial wastewater effluent and stormwater to the Merrimack River. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be representative of the discharge and shall be taken at end of all processes, including disinfection, unless otherwise noted below or at an alternative representative location approved by the EPA and NHDES.

| Effluent Characteristic | Units | Effluent Limitation | | | Monitoring Requirement | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Measurement Frequency | Sample Type |
| Flow[1] | MGD | Report | — | Report | Continuous | Recorder |
| $BOD_5$[2,3]<br>$BOD_5$[2,3] | mg/l<br>lbs/day | 30<br>4006 | 45<br>6008 | 50<br>6676 | 5/Week<br>5/Week | 24-Hour Composite<br>24-Hour Composite |
| TSS[2,3]<br>TSS[2,3] | mg/l<br>lbs/day | 30<br>4006 | 45<br>6008 | 50<br>6676 | 5/Week<br>5/Week | 24-Hour Composite<br>24-Hour Composite |
| pH (Range)[3,4] | Standard Units | 6.5 – 8.0 Standard Units | | | 1/Day | Grab |
| *Escherichia coli*[5,6] | Colonies/100 ml | 126 | — | 406 | 1/Day | Grab |
| Total Residual Chlorine[5,7] | mg/l | 0.31 | — | 0.54 | 1/Day | Grab |

See Pages ~~4~~ 5 and ~~5~~ 6 for Footnotes

**Part I.**

**A.1. (Continued)**

| Effluent Characteristic | Units | Effluent Limitation | | | Monitoring Requirement | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Measurement Frequency | Sample Type |
| Total Phosphorus<br>(April 1st – Oct. 31st) | ~~mg/l~~<br>lbs/day<br>mg/l | 227 ~~0.8 mg/l~~<br>Report | —<br>— | Report<br>Report | ~~2~~1/Week<br>~~2~~1/Week | 24-Hour Composite<br>24-Hour Composite |
| Total Recoverable Copper[8] | µg/l | Report ~~20.0~~ | — | Report | 2/Month | 24-Hour Composite |
| ~~Total Recoverable Lead[8]~~ | ~~ug/l~~ | ~~Report 0.540~~ | ~~—~~ | ~~Report~~ | ~~2/Month~~ | ~~24-Hour Composite~~ |
| Whole Effluent Toxicity | | | | | | |
| $LC_{50}$[9,10,11,12,13] | Percent | — | — | 100 | 2/Year | 24-Hour Composite |
| Ammonia Nitrogen, as Nitrogen[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Hardness[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Alkalinity[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Total Recoverable Aluminum[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Total Recoverable Cadmium[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Total Recoverable Copper[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Total Recoverable Lead[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Total Recoverable Nickel[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Total Recoverable Zinc[13] | mg/l | — | — | Report | 2/Year | 24-Hour Composite |
| Rainfall Precipitation[15] | See Footnote[15] | | | | Per Event[14] | Recorder |

See Pages ~~4~~5 and ~~5~~6 for Footnotes

**Footnotes to Part I.A.1.**

1. The effluent and influent flows shall be continuously measured and recorded using a flow meter and totalizer.

2. To monitor for 85 percent removal of $BOD_5$ and TSS during dry weather periods, as required in Part I.A.4. of this permit, the influent concentrations of both $BOD_5$ and TSS shall be monitored twice per month using a 24-hour composite sample and the results reported as average monthly values. The influent concentrations shall be used to calculate the percent reduction in $BOD_5$ and TSS.

3. During periods when the Wet Weather Flow Treatment Facility (WWFTF) is discharging, samples of the secondary effluent combined with bypassed flows shall be collected at a location prior to the flows comingling with the effluent from the WWFTF, for determining compliance with the technology-based effluent limitations for $BOD_5$, TSS, and pH.~~During periods when the Wet Weather Flow Treatment Facility (WWFTF) is discharging, samples collected for determining compliance with the technology-based effluent limitations for $BOD_5$, TSS, and pH shall be taken at a location prior to the flow combining with the effluent from the Wet Weather Flow Treatment Facility.~~

4. State certification requirement.

5. Samples collected for the analysis of *Escherichia coli (E. coli)* and total residual chlorine (TRC), as described in footnotes 6-7 below, shall be collected concurrently.

6. The average monthly value for *E. coli* shall be determined by calculating the geometric mean. *E. coli* shall be tested using an approved method as specified in 40 Code of Federal Regulations (C.F.R.) Part 136, List of Approved Biological Methods for Wastewater and Sewage Sludge.

7. Total residual chlorine shall be measured using any one of the following three methods listed in 40 C.F.R. Part 136:

   a. Amperometric direct.
   b. DPD-FAS.
   c. Spectrophotometric, DPD.

8. The results of the total recoverable copper ~~and lead~~ analyses performed in conjunction with whole effluent toxicity (WET) tests (see footnote 13) may be used to satisfy one of the monitoring requirements for ~~these metals for~~ the particular month<u>s</u> in which the sample ~~s~~ <u>was</u>~~were~~ collected.

9. The $LC_{50}$ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate in that sample.

10. The permittee shall conduct 48-hour freshwater acute (static) toxicity tests on effluent samples using the daphnid, *Ceriodaphnia dubi*a (*C. dubia*), and the fathead minnow, *Pimephales promelas* (*P. promelas*), as test species. The tests shall be conducted in accordance with the procedures and protocols specified in **Attachment B** (*Freshwater Acute Toxicity Test Procedure and Protocol*, USEPA Region 1 (February 2011)).

11. Samples collected for use in whole effluent toxicity (WET) tests shall be collected and tests completed two times per year during the calendar quarters ending September 30th and ~~March 31st~~ June 30th. Toxicity test results are to be postmarked by the 15th day of the month following the end of the calendar quarter sampled.

12. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall either follow procedures outlined in **Attachment B,** Section IV., Dilution Water, in order to obtain an individual written approval for the use of an alternate dilution water for future tests, or the permittee shall follow the self-implementing Alternative Dilution Water Guidance which may be used to obtain automatic approval for the use of an alternate dilution water for a retest and to request written approval for the use of an alternate dilution water for future tests, including the appropriate species for use with that water. This guidance is found in Attachment G of the NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs), which may be found on the EPA Region I web site at http://www.epa.gov/Region1/enforcementandassistance/dmr.html. If this guidance is revoked, the permittee shall obtain an individual approval as outlined in **Attachment B.** Any modification or revocation to this guidance will be transmitted to the permittees. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment B**.

13. For each WET test performed, the permittee shall report on the appropriate Discharge Monitoring Report (DMR) the concentrations of ammonia nitrogen as nitrogen, hardness, alkalinity; and total recoverable aluminum, cadmium, copper, lead, nickel and zinc detected in the 100 % effluent sample. These results shall also be included in the WET test report for the calendar quarter in which the test was conducted.

    All of the aforementioned chemical parameters shall be determined to at least the Minimum Quantification Level as stated in **Attachment B**, Section VI, Chemical Analysis.

14. An “event” is defined as anytime there is flow into the WWFTF.

15. Report precipitation data for the Nashua area per activation event. Report the intensity (inches/hour) and duration (total hours/event) of each rain event whenever there is flow into the WWFTF. Precipitation data that is collected in accordance with the LTCP may be used to satisfy this reporting requirements, provided that the intensity and duration of each rain event is included.

## A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

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

3. The discharge shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. It shall be adequately treated to ensure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.

4. The permittee's treatment facility shall maintain a minimum of 85 removal of both total suspended solids and biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rainfall, no snow melt (which occurs on a day in which the temperature is greater than 32$^{o}$ F), and 24 hours after a ~~storm event~~ distinct rainfall event (defined as a rainfall event having at least a 10-hour window with no precipitation of > 0.01" to allow the storm-related flow to pass through the collection system and treatment facilities (as recorded by a hydrograph). The percent removal shall be calculated as a monthly average using the influent and effluent $BOD_5$ and TSS values collected during dry weather days.

5. When the effluent discharged for a period of 3 consecutive months exceeds 80 percent of the facility's 16 million gallons per day (MGD) design flow (i.e., exceeds 12.8 MGD), the permittee shall submit to the permitting authorities a projection of 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.

6. All POTWs must provide adequate notice to both EPA Region I and the New Hampshire Department of Environmental Services, Water Division (NHDES) of the following:

   a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category (see 40 C.F.R. §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.

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

   a. The quantity and quality of effluent introduced into the facility; and

b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the facility.

7. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

## B. COMBINED SEWER OVERFLOWs (CSOs)

### 1. Combined Sewer Overflow Outfalls # 002 – 009 and 014

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge stormwater and wastewater from combined sewer overflow (CSO) outfalls numbered 002 - 005 and 014 into the Merrimack River and from CSO outfalls numbered 006-009 into the Nashua River (see **Attachment A**). These discharges are authorized only during wet weather (i.e., any period in which there is greater than 0.1 inches of rain and/or snow melt). Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the requirements specified below shall be collected at a location that provides a representative analysis of the effluent.

| **Effluent Characteristic** | **Units** | **Effluent Limitation** | **Monitoring Requirement** | |
|---|---|---|---|---|
| **Parameter** | | **Wet Weather Event Maximum** | **Measurement Frequency** | **Sample Type** |
| *Escherichia coli*[1,2,3] | Colonies/100 ml | 1000 | 1/Year | Grab |

See Page 9~~8~~ for Footnotes

**Footnotes to Part I.B.1.**

1. Each of the CSO outfalls identified in **Attachment A** of this permit shall be sampled, at a minimum, once per year. The sampling shall occur during a wet weather discharge event. One grab sample shall be collected within one-half hour after the outfall begins discharging and the results shall be reported. The sampling may be conducted during the POTW's normal business hours; however, sampling may be conducted outside of those hours at the discretion of the permittee. If more than one sample is collected per outfall per wet weather discharge event, all of the sampling results shall be used to calculate the geometric mean, which shall be recorded on the DMRs as the "event maximum".

2. Results from each year's sampling shall be reported with each December's discharge monitoring report (DMR) which shall be postmarked by January 15th. If an individual CSO does not discharge or does not discharge sufficiently to collect a sample during the calendar year, report a "C" for that outfall on the December DMR.

3. *E. coli* shall be analyzed using an approved method as specified in 40 C.F.R. Part 136, List of Approved Biological Methods for Wastewater and Sewage Sludge.

**Part I.B.1. (Continued)**

During wet weather, the permittee is authorized to discharge storm water/wastewater from the combined sewer outfalls listed in **Attachment A**, subject to the following conditions.

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

(1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflow outfalls.
(2) Maximum use of the collection system for storage.
(3) Review and modification of pretreatment requirements to assure CSO impacts are minimized.
(4) Maximization of flow to the POTW for treatment.
(5) Elimination of dry weather overflows from CSOs.
(6) Control of solid and floatable materials in CSOs.
(7) Pollution prevention programs that focus on contaminant reduction activities.
(8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.

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

b. Implementation of these controls is required by the effective date of the permit. Until the review and update of the program for implementing the NMCs, as required in Part I.B.1.c of this draft permit, has been completed, the permittee shall continue to implement the NMCs in accordance with the documentation submitted by the City on April 30, 2010, titled "High Flow Management Plan", except where the minimum implementation levels described in Part I.B.2. are more stringent. Upon completion of the review, the nine minimum controls shall then be implemented in accordance with the updated documentation, except as updated pursuant to the annual reporting requirements in Part I.B.4.

c. **Within twelve months of the effective date of the permit**, the permittee shall review and update (as necessary) its program for implementing the Nine Minimum Controls, and shall submit to EPA and NHDES updated documentation of this program, which shall include a certification that this review has been performed and a description of any resultant revisions made to the program. EPA and NHDES consider that approvable documentation must include the minimum requirements set forth in Part I.B.2. of this permit and additional activities the permittee can reasonably undertake.

d. The discharges shall not cause or contribute to violations of state water quality standards in the receiving waters.

2. Nine Minimum Controls Minimum Implementation Levels

a. The permittee shall implement the nine minimum controls in accordance with the documentation provided to EPA and NHDES under Part I.B.1. of this permit, or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the items listed below (Part I.B.2.) plus any other controls the permittee can feasibly implement as set forth in the documentation.

b. Each CSO structure/regulator, and/or pumping station shall be routinely inspected at a minimum of once per month to insure that they are in good working condition and adjusted to minimize combined sewer discharges (NMCs #1, 2, and 4). The following inspection results shall be recorded: date and time of the inspection, the general condition of the facility, and whether the facility is operating satisfactorily. The following information shall be recorded if maintenance is necessary: a description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain records of all inspections for a minimum of three years.

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

d. Dry weather overflows (DWOs) are prohibited (NMC # 5). Dry weather is defined as any calendar day on which there is less than 0.1 inch of rainfall, no snow melt (which occurs on a day in which the temperature is greater than 32° F), and 24 hours after a ~~storm event~~ distinct rainfall event (defined as a rainfall event having at least a 10-hour window with no precipitation of > 0.01") to allow the storm-related flow to pass through the collection system and treatment facilities (as recorded by a hydrograph). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and NHDES within 24 hours and a written report provided within five days of the overflow in accordance with the reporting requirements for plant bypass (Paragraph D.1.e. of Part II of this permit and 40 C.F.R. § 122.41(l)(6).

e. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC # 9). Quantification shall be through direct measurement. The following information shall be recorded for each combined sewer outfall for each discharge event:

- Duration (hours) of discharge;
- Volume (gallons) of discharge; and
- Precipitation data collected by the City of Nashua's rain gages at daily (24-hour) intervals and one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

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

f. The permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC #8). The signs must be located at or near the combined sewer outfall structures and be easily readable by the public. These signs shall be a minimum of 12 x 18 inches in size, with white lettering on both sides against a green background, and shall contain the following information:

**CITY OF NASHUA**
**WET WEATHER**
**SEWAGE DISCHARGE**
**OUTFALL (discharge serial number)**

The permittee, to the extent practicable, shall add a universal symbol to its warning signs reflecting a CSO discharge, or place additional signs in languages other than English based on notification from the EPA and NHDES or on the permittee's own determination that the primary language of a substantial percentage of the residents in the vicinity of a given outfall structure is not English.

g. The permittee shall issue an annual notification to the public which shall include (a) general information on CSOs, (b) their locations in Merrimack River Watershed, (c) potential health risks posed by exposure to CSO discharges, and (d) a status update of measures taken during the previous calendar year to reduce occurrences of CSO discharges.

3. Nine Minimum Controls Annual Reporting Requirement

Annually, no later than **March 1st** of each year, the permittee shall submit a report to EPA and NHDES summarizing activities undertaken during the previous calendar year relating to compliance with the nine minimum controls. This report shall include, but not be limited to, the following:

a. A certification which states that the once-per-month inspections required in Part I.B.2.b. of the permit were conducted, results recorded, and records maintained.

b. A certification which states that all discharges from CSOs were recorded and records maintained for the previous calendar year. In addition, a summary of the previous year's discharge monitoring information required by Part I.B.2.e. of this draft permit, including activation frequencies and discharge volumes, for all of the authorized combined sewer overflow outfalls identified in **Attachment A** of this permit, shall be submitted as an attachment to this certification.

c. Precipitation data for each day of the previous calendar year, including total rainfall, peak intensity, and average intensity.

d. A summary of modifications to the NMC program which have been evaluated, and a description of those which will be implemented during the upcoming year.

e. In the first annual report submitted in accordance with this permit, the permittee shall update the public notification plan describing the measures actively being taken to meet NMC #8 (see Part I.B.1.) and an evaluation of further measures to enhance the public notification program, including the following:

(1) Outfall signs visible from both water and land.

(2) Signs/notices at areas where people may be using CSO-impacted waters for recreation such as swimming, boating, fishing, and places where the public may gain access to the water (e.g. boat put-in areas). The notice would include information on the health risks posed by CSOs and sources for additional information on CSOs and water quality.

(3) Analysis of precipitation data collected by the City of Nashua's rain gages located throughout the collection system and CSO discharge data to estimate the threshold rain events which normally cause overflows. This evaluation shall be conducted on data collected beginning the effective date of the permit.

(4) Annually, **by April 15th**, the permittee shall provide the public with an update on the progress made in reducing CSO discharge events during the previous calendar year and shall also include a reference to contacts for additional information on CSOs and their impact on water quality.

(~~6~~5) **Within six months of the effective date of the permit**, and annually thereafter, the permittee shall update its website to include (a) general information on CSOs, (b) their locations in Merrimack River Watershed, (c) potential health risks posed by exposure to CSO discharges, and (d) a link to the City's website which describes the progress on abatement projects and the most current information on CSO activations including the frequency, duration, and volume of each discharge.

(6~~7~~) Notification to downstream public or privately owned water supply systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge, within 24 hours of discharge from a CSO. When the City of Nashua WWTF's staff is unavailable to confirm an actual discharge from a CSO during a significant precipitation event, the permittee shall report the probable occurrence of a CSO discharge in the same manner. Subsequently, the occurrence of the CSO discharge event shall be confirmed or dispelled as information becomes available. The planned notice contact list shall be provided to EPA and NHDES **within 1 month of the effective date of the** permit.

The public notification plan shall include a schedule for implementation of enhanced public notice measures.

4. ~~Wet Weather Flow Treatment Facility and~~ Screening and Disinfection Facility

In addition to the requirements described above, the ~~Wet Weather Flow Treatment Facility (WWFTF) and~~ Screening and Disinfection Facility (SDF) ~~are~~is subject to additional monitoring requirements as enhanced minimum controls, as set forth in Table I.B.5.~~a. and Table I.B.5.b.~~

Discharges from th~~ese~~is facilit~~ies~~y shall not cause or contribute to violations of the water quality standards in the receiving water.

**Part I.B.5.**

**a. Wet Weather Flow Treatment Facility - internal outfall (001W) to the chlorine contact chamber - Effluent Limitations and Monitoring Requirements**

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall Serial Number 001W (internal outfall to chlorine contact chamber) domestic, commercial and industrial wastewater and stormwater to the chlorine contact chamber before final discharge to the Merrimack River. Such discharges shall be limited and monitored by the permittee as specified below.

| Effluent Characteristic | Effluent Limitation | | | | Monitoring Requirement[1] | |
|---|---|---|---|---|---|---|
| Parameter | Average Monthly | | Maximum Daily | | Measurement Frequency | Sample Type |
| $BOD_5$[2] | Report (mg/l and lbs/day) | | Report (mg/l and lbs/day) | | 1/Month | Event Composite[3,4] |
| TSS[2] | Report mg/l and lbs/day) | | Report (mg/l and lbs/day) | | 1/Month | Event Composite[3,4] |
| Parameter | Total Monthly | Maximum Hourly | Duration | Frequency | Measurement Frequency | Sample Type |
| Flow into the WWFTF[58] | Report (MG) | Report (MGD) | Report (Total Hours) | Report (# of Events) | Per Event[4] | Recorder |
| Flow discharged from the WWFTF to the chlorine contact tank[6] | Report (MG) | Report (MGD) | Report (Total # of Hours) | Report (# of Events) | Per Event[4] | Recorder |
| Flow drained back to the POTW[7] | Report (MG) | Report (MGD) | Report (Total of Hours) | Report (#of Events) | Per Event[4] | Recorder |
| Rainfall Precipitation[9] | See Footnote | | | | Per Event[4] | Recorder |

See Page 14 for Footnotes

**Footnotes to Part I.B.5.a.**

1. The secondary effluent shall be sampled in accordance with Footnote 3 to Part I.A.1. whenever there is flow discharged from Outfall 001WSamples taken in compliance with the monitoring requirements specified in table B.5.a. shall be collected at a point before the chlorine contact chamber, or at an alternative representative location approved by the EPA and NHDES, and shall be representative of the discharge.

2. The influent and effluent concentrations of $BOD_5$ and TSS shall be monitored at a frequency of once per month when there is flow through the facility. The influent concentrations shall be used to calculate the percent reduction in $BOD_5$ and TSS.

   An event composite must represent an event when there is flow discharged from the facility for a duration of at least four hours. An event composite is considered to represent an event duration of at least four hours where (i) the composite represents at least four consecutive hours of flow through the facility; or (ii) the composite represents at least four hours of flow through the facility during a 24-hour period starting at approximately 8:00 AM each day (+/- 2 hours) coinciding with the permittee's composite sampling schedule, if flows through the facility are discontinuous.

3. An "event" is defined as anytime there is flow into the WWFTF.

4. Report total flow (million gallons (MG)), peak flow rate (MGD) and duration (total hours), each time there is flow into the facility.

5. Report total flow (MG), peak flow rate (MGD) and duration (total hours), each time there is flow discharged from the facility toward the chlorine contact tank.

6. Report total flow (MG), peak flow rate (MGD) and duration (total hours), each time there is flow drained back to the POTW for secondary treatment.

7. Report precipitation data for the Nashua area per activation event. Report the intensity (inches/hour) and duration (total hours/event) of each rain event whenever there is flow into the WWFTF. Precipitation data that is collected in accordance with the LTCP may be used to satisfy this reporting requirements, provided that the intensity and duration of each rain event is included.

**Part I.B.5.**

**~~b.~~ Screening and Disinfection Facility (SDF) (Outfall No. 014) - Effluent Limitations and Monitoring Requirements**

During the period beginning on the effective date[1] and lasting through the expiration date, the permittee is authorized to discharge from Outfall Serial Number 014 to the Merrimack River combined wastewater and stormwater.

| Effluent Characteristic | Effluent Limitation~~1~~ | | Monitoring Requirement~~1~~2 | |
|---|---|---|---|---|
| Parameter | Average Monthly | Maximum Daily | Measurement Frequency | Sample Type |
| ~~$BOD_5$,2~~ | ~~Report (mg/l and lbs/day)~~ | ~~Report (mg/l and lbs/day)~~ | ~~1/Month~~ | ~~Event Composite3,4~~ |
| ~~TSS,2~~ | ~~Report (mg/l and lbs/day)~~ | ~~Report (mg/l and lbs/day)~~ | ~~1/Month~~ | ~~Event Composite3,4~~ |
| Total Residual Chlorine3,5~~7~~ | 63.2 µg/l | 109 µg/l | 1 Event/Month3~~2~~ | Grab |
| | **Wet Weather Event Maximum** | | | |
| *Escherichia coli*,~~5,6~~3,4 | 1,000 colonies/100 mL | | 1 Event/Month3~~2~~ | Grab |

See Page 1~~8~~7 for Footnotes

**Part I.B.5. ~~b.~~Screening and Disinfection Facility (Continued)**

| Effluent Characteristic | Effluent Limitation[1] | | | | Monitoring Requirement[21] | |
|---|---|---|---|---|---|---|
| **Parameter** | **Total Monthly** | **Maximum Hourly** | **Duration** | **Frequency** | **Measurement Frequency** | **Sample Type** |
| ~~Flow into the SDF[9]~~ | ~~Report (MG)~~ | ~~Report (MGD)~~ | ~~Report (Total of Hours)~~ | ~~Report (# of Events)~~ | ~~Per Event[5]~~ | ~~Recorder~~ |
| Flow discharged from the SDF to the Merrimack River [106] | Report (MG) | Report (MGD) | Report (Total of Hours) | Report (# of Events) | Per Event[52] | Recorder |
| Volume drained back to the collection system[117] | Report (MG) | --- | Report (Total # of Hours) | Report (#of Events)[8] | Per Event[52] | Recorder |
| Rainfall Precipitation[128] | See Footnote 128 | | | | Per Event[52] | Recorder |

See Page 187 for Footnotes

**Footnotes to Part I.B.5.~~b.~~**

1. Samples taken in compliance with the monitoring requirements specified in Part I.B.5.b. shall be taken at a location that provides a representative sample of the discharge or at an alternative location approved by the EPA and NHDES.

~~2. The influent and effluent concentrations of $BOD_5$ and TSS shall be monitored at a frequency of once per month when there is flow through the facility. The influent concentrations shall be used to calculate the percent reduction in $BOD_5$ and TSS.~~

~~3.~~2. An "event" is defined as anytime there is flow into the SDF.

~~An event composite must represent an event when there is flow discharged from the facility for a duration of at least four hours. An event composite is considered to represent an event duration of at least four hours where (i) the composite represents at least four consecutive hours of flow through the facility; or (ii) the composite represents at least four hours of flow through the facility during a 24 hour period starting at approximately 8:00 AM each day (+/- 2 hours) coinciding with the permittee's composite sampling schedule, if flows through the facility are discontinuous~~.

~~4.~~3. Samples collected for the analysis of *Escherichia coli (E. coli)* and total residual chlorine (TRC), as described in footnotes ~~4-5~~6~~-7~~ below, shall be collected concurrently.

~~5.~~4. The average monthly value for *E. coli* shall be determined by calculating the geometric mean. *E. coli* shall be tested using an approved method as specified in 40 Code of Federal Regulations (C.F.R.) Part 136, List of Approved Biological Methods for Wastewater and Sewage Sludge.

~~6.~~5. Total residual chlorine shall be measured using any one of the following three methods listed in 40 C.F.R. Part 136:

a. Amperometric direct.
b. DPD-FAS.
c. Spectrophotometric, DPD.

~~Report total flow (million gallons (MG), peak flow rate (MGD) and duration (total hours), each time there is flow into the facility~~.

~~7.~~6. Report total flow (MG), peak flow rate (MGD) and duration (total hours), each time there is flow discharged from the facility to the Merrimack River.

~~8.~~7. Report total volume (MG) and duration (total hours), each time there is flow drained back to the collection system. In instances when there is flow into the SDF but no discharge to the Merrimack River, the volume of water will be calculated

using the depth and velocity measurements at the influent weir wall (area x velocity) to determine influent flow. Total volume will be calculated by multiplying the influent flow rate by the duration of the event. If the peak level measured in the SDF is greater than the elevation of the SDF effluent weir to the Merrimack River, then the volume of water discharged back into the sewer system during the given storm event is the total storage volume of the SDF storage tank. Flow duration will be determined by the elapsed time from when flow ceases to enter the storage tank to when the storage tank starts its automated flushing sequence to clean the tank.

~~9.~~8. Report precipitation data for the Nashua area, per activation event. Report the intensity (inches/hour) and duration (total hours/event) of each rain event whenever there is flow into the SDF. Precipitation data that is collected in accordance with the LTCP may be used to satisfy this reporting requirements, provided that the intensity and duration of each rain event is included.

## C. SPECIAL CONDITIONS

1. During periods of wet weather, the wastewater treatment facility and the wet weather flow treatment facility shall be operated in a manner that is consistent with the City of Nashua's High Flow Management Plan (HFMP), dated 2010, or the most current EPA-approved High Flow Management Plan.

2. Phosphorus

a) Schedule of Compliance

The permittee shall complete necessary design and construction of any facilities necessary to achieve the final phosphorus effluent limitation by May 2020, at which time the effluent limit will become effective.

From the effective date of the permit modification until the date the permittee is required to achieve compliance with the final phosphorus effluent limitation, the permittee shall, (1) optimize the following existing treatment processes in order to improve phosphorus removal capacity and efficiency:

- Primary Settling Tank optimization
- WAS Gravity Belt Thickener optimization

and (2) Report the concentration and mass of Total Phosphorus discharged from the facility. Samples shall be collected once per week, from April 1st through October 31st.

Until the final phosphorus effluent limitation is achieved, the permittee shall submit annual reports to EPA and NHDES at 12 months, 24 months, 36 months, and 48 months from the effective date of the permit modification. These reports shall include a short written description of the specific optimization measures that have been taken to comply with the optimization requirement during the preceding year. Additional interim milestones for planning, design and

construction are set forth in the Gantt chart entitled "NPDES Compliance Schedule – Phosphorus Removal" and included as Attachment F.

~~a)~~b) Ambient Monitoring

Beginning the effective date of the permit modification the permittee shall monitor the receiving water for Total Phosphorus and Chlorophyll a during the months of July, August and September, in accordance with the following schedule.

| Year Permit is in effect | Sampling Frequency |
|---|---|
| Years 1 and 2 | Once per month |
| Year 3 | Twice per month |
| Years 4 and 5 | Weekly |
| Years 6+ | Once per month |

Samples shall be collected upstream from the discharge, at station 02M-MER, approximately 100 feet upstream from the discharge. The permittee shall also report the receiving water flow on the dates of sample collection as recorded by the nearest USGS gaging station.

## D. UNAUTHORIZED DISCHARGES

The permit only authorizes discharges in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) and unauthorized CSOs, are not authorized by this permit and shall be reported in accordance with Part II, Section D.1.e.(1) of the General Requirements of this permit (Twenty-four hour reporting).

## E. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions. The permittee is required to complete the following activities for the collection system (both the combined and sanitary collection systems) which it owns:

1. Maintenance Staff

   The 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. This requirement shall be described in the Collection System O & M Plan required pursuant to Section E.5. below.

2. Preventative Maintenance Program

The permittee shall maintain an ongoing preventative 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. This requirement shall be described in the Collection System O & M Plan required pursuant to Section D.5. below.

3. Infiltration/Inflow

The permittee shall control infiltration and inflow (I/I) into the separate 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 E.5. below.

4. Collection System Mapping

**Within 30 months of the effective date of this permit**, the permittee shall prepare a map of the sewer collection system it owns (see page 1 of this permit for the effective date). The map shall be on a street map of the community, with sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current 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., combined manholes);
d. All outfalls, including the treatment plant outfall(s), CSOs, combined manholes, and any known or suspected SSOs;
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.

Any mapping of the collection system that has already been performed may be used to satisfy this requirement, as long as all of the components identified above in (a) through (k) are included.

5. Collection System Operation and Maintenance Plan

The permittee shall develop and implement a Collection System Operation and Maintenance Plan.

a. **Within six (6) months of the effective date of the permit**, the permittee shall submit to EPA and NHDES:

(1) A description of the collection system management goals, staffing, information management, and legal authorities;
(2) A description of the overall condition of the collection system including a list of recent studies and construction activities; and
(3) A schedule for the development and implementation of the full Collection System O & M Plan including the elements in paragraphs b.1. through b.7. below.

b. The full Collection System O & M Plan shall be submitted to EPA and NHDES and implemented **within thirty-six (36) months from the effective date of this permit**. The Plan shall include:

(1) The required submittal from paragraph 5.a. above, updated to reflect current information;
(2) A preventative maintenance and monitoring program for the collection system;
(3) Sufficient staffing to properly operate and maintain the sanitary sewer collection system;
(4) Sufficient funding and the source(s) of funding for implementing the plan;
(5) Identification of known and suspected overflows and back-ups, including combined manholes, a description of the cause of the identified overflows and back-ups, and a plan for addressing the overflows and back-ups consistent with the requirements of this permit;
(6) A description of the permittee's program 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 disconnections and redirection of illegal sump pumps and roof down spouts; and
(7) An educational public outreach program for all aspects of I/I control, particularly private inflow.

6. Annual Reporting Requirement

The 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 NHDES **annually by March 31**. The first annual report is due 48 months following the effective date of the permit. The summary report shall, at a minimum, include:

a. A description of the staffing levels maintained during the year;
b. A map and a description of inspection and maintenance activities conducted and
c. corrective actions taken during the previous year;
d. Expenditures for any collection system maintenance activities and corrective actions taken during the previous year;
e. A map with areas identified for investigation/action in the coming year;
f. If treatment plant flow has reached 80% of the 16 MGD design flow (12.8 MGD) or there have been capacity related overflows, submit a calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year; and
g. 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.

## F. ALTERNATIVE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee shall provide an alternate power source with which to sufficiently operate the wastewater facility, as defined at 40 C.F.R. § 122.2, which references the definition at 40 C.F.R. § 403.3(o). Wastewater facility is defined by RSA 485A:2.XIX as the structures, equipment, and processes required to collect, convey, and treat domestic and industrial wastes, and dispose of the effluent and sludge.

## G. INDUSTRIAL PRETREATMENT PROGRAM CONDITIONS

1. Limitations for Industrial Users:

a. A user may not introduce into a POTW any pollutant(s) which cause pass through or interference with the operation or performance of the treatment works. The terms “user”, “pass through” and “interference” are defined in 40 C.F.R. § 403.3.

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

**Reassessment of Technically Based Industrial Discharge Limits**) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. The permittee shall carry out the local limits revisions in accordance with EPA's Local Limit Development Guidance (July 2004).

2. Industrial Pretreatment Program

a. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program and the General Pretreatment Regulations, 40 C.F.R. §403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

(1) Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP, but in no case less than once per year, and maintain adequate records.

(2) Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

(3) Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.

(4) Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

(5) The permittee shall provide the EPA and the NHDES with an annual report describing the permittee's pretreatment program activities for the twelve month period ending 60 days prior to the due date in accordance with 40 C.F.R. §403.12(i). The annual report shall be consistent with the format described in **Attachment D** (NPDES Permit Requirement for Industrial Pretreatment Annual Report) and shall be submitted no later than **March 1st** of each year.

(6) The permittee must obtain approval from EPA prior to making any significant changes the industrial pretreatment program in accordance with 40 C.F.R.. §403.18(c).

(7) The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 C.F.R. §405 et. seq.

(8) The permittee must modify its pretreatment program to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the Industrial Pretreatment Program. The permittee must provide EPA, in writing, **within 180 days of the effective date of this permit**, proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission the following areas: (1) enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending EPA's approval under 40 C.F.R. §403.18.

## H. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal & state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.

2. The permittee shall comply with the more stringent of either the state (Env-Wq 800) or federal (40 C.F.R. Part 503) requirements.

3. The requirements and technical standards of 40 C.F.R. Part 503 apply to facilities which perform one or more of the following 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 40 C.F.R. Part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions do not apply to facilities which do not dispose of sewage sludge during the life of the permit, but rather treat the sludge (lagoons, reed beds), or are otherwise excluded under 40 C.F.R. Section 503.6.

5. The permittee shall use and comply with the *NPDES Permit Sludge Compliance Guidance* (USEPA November 4, 1999), to determine appropriate conditions. 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. Appropriate conditions contain the following elements:

   General requirements
   Pollutant limitations

Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
Management practices
Record keeping
Monitoring
Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction for the permittee's chosen sewage sludge use or disposal practices at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year.

| | |
|---|---|
| less than 290 | 1/Year |
| 290 to less than 1,500 | 1/Quarter |
| 1,500 to less than 15,000 | 6/Year |
| 15,000 plus | 1/Month |

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 C.F.R. Section 503.8.

8. The permittee shall submit an annual report containing the information specified in the *NPDES Permit Sludge Compliance Guidance*. Reports are **due annually by February 19th.** Reports shall be submitted to both addresses (EPA-Region I and NHDES) contained in the reporting section of the permit.

## I. MONITORING AND REPORTING

1. **For a period of one year from the effective date of the permit,** the permittee may either submit monitoring data and other reports to EPA in hard copy form or report electronically using NetDMR, a web-based tool that allows permittees to electronically submit Discharge Monitoring Reports (DMRs) and other required reports via a secure internet connection. **Beginning no later than one year after the effective date of the permit,** the permittee shall begin reporting using NetDMR, unless the facility is able to demonstrate a reasonable basis that precludes the use of NetDMR for submitting DMRs and reports. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

   a. Submittal of Reports Using NetDMR

      NetDMR is accessed from: http://www.epa.gov/netdmr. **Within one year of the effective date of this permit**, the permittee shall begin submitting DMRs and reports required under this permit electronically to EPA using NetDMR,

unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt-out request").

DMRs shall be submitted electronically to EPA no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA, including the NHDES Monthly Operating Reports (MORs), as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA or to NHDES.

b. Submittal of NetDMR Opt-out Requests

Opt-out requests must be submitted in writing to EPA for written approval at least sixty (60) days prior to the date a facility would be required under this permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of EPA approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to EPA unless the permittee submits a renewed opt-out request and such request is approved by EPA. All opt-out requests should be sent to the following addresses:

**Attn: NetDMR Coordinator**
**U.S. Environmental Protection Agency, Water Technical Unit**
**5 Post Office Square, Suite 100 (OES04-4)**
**Boston, MA 02109-3912**

And

**Attn: Compliance Supervisor**
**New Hampshire Department of Environmental Services (NHDES)**
**Water Division**
**Wastewater Engineering Bureau**
**P.O. Box 95**
**Concord, New Hampshire 03302-0095**

c. Submittal of Reports in Hard Copy Form

Monitoring results shall be summarized for each calendar month and reported on separate hard copy DMRs postmarked no later than the 15th day of the month following the completed reporting period. All reports required under the permit, including NHDES MORs, shall be submitted as an attachment to the DMRs. Signed and dated original DMRs and all other reports (with the exception of pretreatment reports) or notifications required herein or in Part II shall be submitted to the Director at the following address:

**U.S. Environmental Protection Agency**

**Water Technical Unit (OES04-SMR)**
**5 Post Office Square - Suite 100**
**Boston, MA 02109-3912**

All pretreatment reports shall be submitted to:

**U.S. Environmental Protection Agency**
**Attn: Justin Pimpare**
**Regional Pretreatment Coordinator**
**5 Post Office Square - Suite 100**
**OEP06-03**
**Boston, MA 02109-3912**

Duplicate signed copies of all reports or notifications required above shall be submitted to the State at the following address:

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

Any verbal reports, if required in **Parts I** and/or **II** of this permit, shall be made to both EPA-New England and to NHDES.

## J. 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 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 and state law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services-Water Division (NHDES) 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 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. Pursuant to New Hampshire Statute RSA 485-A:13, I(c), any person responsible for a bypass or upset at a *wastewater facility* shall give immediate notice of a bypass or

upset to all public or privately owned water systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge regardless of whether or not it is on the same receiving water or on another surface water to which the receiving water is tributary. Wastewater facility is defined at RSA 485-A:2XIX as the structures, equipment, and processes required to collect, convey, and treat domestic and industrial wastes, and dispose of the effluent and sludge. The permittee shall maintain a list of persons, and their telephone numbers, who are to be notified immediately by telephone. In addition, written notification, which shall be postmarked within 3 days of the bypass or upset, shall be sent to such persons.

5. The pH range of 6.5 to 8.0 Standard Units (S.U.) must be achieved in the final effluent.

6. 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 wastewater treatment plant operating in excess of 80 percent design flow capacity based on actual average flow for 3 consecutive months;
      (4) Any industrial wastewater connection or change in existing discharge of industrial wastewater, regardless of quality or quantity; and
      (5) Any sewage pumping station greater than 50 gallons per minute (gpm) or serving more than one building.

7. For each new or increased discharge of industrial waste to the POTW, the permittee shall submit, in accordance with Env-Wq 904.14(e) an "Industrial Wastewater Discharge Request Application" approved by the permittee in accordance with 904.13(a). The "Industrial Wastewater Discharge Request Application" shall be prepared in accordance with Env-Wq 904.10.

8. Pursuant to Env-Wq 904.17, at a frequency of no less than every five years, the permittee shall submit to NHDES:

   a. A copy of its current sewer use ordinance. The sewer use ordinance shall include local limits pursuant to Env-Wq 904.04(a).

   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. In addition to submitting DMRs, monitoring results shall also be summarized for each calendar month and reported on separate Monthly Operations Report Form(s) (MORs) postmarked or submitted electronically using NetDMR no later than the 15th day of the month following the completed reporting period. Signed and dated MORs, which are not submitted electronically using NetDMR shall be submitted to:

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

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 1**
**5 POST OFFICE SQUARE, SUITE 100**
**BOSTON, MASSACHUSETTS 02109-3912**

**STATEMENT OF BASIS FOR:**

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT MODIFICATION TO DISCHARGE TO WATERS OF THE UNITED STATES

NPDES PERMIT NO.: **NH0100170**

PUBLIC NOTICE START AND END DATES: March 23rd – April 21, 2016

NAME AND ADDRESS OF APPLICANT:

**City of Nashua**
**Sawmill Road**
**Nashua, New Hampshire 03060**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS

**City of Nashua Wastewater Treatment Facility**
**Sawmill Road**
**Nashua, New Hampshire 03060**

RECEIVING WATERS: **Merrimack River (**Wastewater Treatment Facility (outfall # 001), CSOs # 002-005 and Screening and Disinfection Facility outfall #014

**Nashua River** (CSOs # 006-009)

CLASSIFICATION: **B**

# I. PROPOSED ACTION

## A. Background and Procedural History

On March 6, 2015, Region 1 of the U.S. Environmental Protection Agency ("Region") issued an NPDES permit ("Final Permit") to the City of Nashua, New Hampshire ("City") for discharges from the Nashua Wastewater Treatment Facility ("WWTF" or "POTW Treatment Plant") and nine combined sewer overflow discharge outfalls ("CSOs") to the Merrimack and Nashua Rivers. The Final Permit superseded the prior permit issued on May 31, 2000.

On April 13, 2015, the City filed a Petition for Review ("Petition") with the Environmental Appeals Board ("Board") requesting review of certain conditions of the Final Permit. The City contested the: (1) phosphorus effluent limit for Outfall 001 (Part I.A.1); (2) lead effluent limit for Outfall 001 (Part I.A.1); (3) copper effluent limit for Outfall 001 (Part I.A.1); (4) total residual chlorine limits for Outfalls 001 and 014 (Parts I.A.1 and I.B.5.b); (5) sample collection location requirements for compliance with the POTW Treatment Plant effluent limits for $BOD_5$, TSS, and pH (Part I.A.1 footnote 3); (6) monitoring requirements for $BOD_5$, TSS, and flow at internal Outfall 001W (Part I.B.5.a); (7) monitoring requirements for $BOD_5$, TSS, and flow at the Screening and Disinfection Facility (Part I.B.5.b); (8) definition of dry weather (Parts I.A.4 and I.B.2.d); (9) condition prohibiting the discharges from causing a violation of water quality standards of the receiving water (Part I.B.1.d); and (10) four requirements regarding Nine Minimum Controls Annual Reporting Requirements related to CSOs (Part I.B.3.e(3), (4), (6), and (7)). These conditions are collectively referred to as the "Contested Conditions."

On May 13, 2015, the Region filed its Response to the Petition for Review. Concurrently, the Region filed a Notice of Uncontested and Severable Conditions.[1] EPA notified the City that the Contested Conditions would be stayed pending final agency action. *See* 40 C.F.R. §§ 124.16(a)(1) and 124.19(l). EPA determined that all other conditions of the Final Permit were uncontested and severable, and accordingly would become fully effective and enforceable thirty (30) days from receipt of the Notice.

Under the regulations governing the EAB appeals process, the Regional Administrator may, at any time prior to 30 days after filing the response to the petition and upon notification to the Board, unilaterally withdraw portions of the permit and prepare a new draft permit under 40 C.F.R. § 124.6 addressing the portions so withdrawn. 40 C.F.R. § 124.19(j); *see also* 78 Fed. Reg. 5281, 5282 (Jan. 25, 2013). In an effort to narrow the issues on appeal, the Region on June 12, 2015, issued notice to interested parties pursuant to 40 C.F.R. § 124.19(j) that it would be

[1] When a permit appeal is filed, EPA must issue a notification identifying which permit conditions are stayed as a result of the appeal and which permit conditions will go into effect. *See* 40 C.F.R. §§ 124.16(a)(2)(i) and (ii). While a permit appeal is pending, the contested permit conditions are stayed. *See* 40 C.F.R. § 124.16(a)(1). Uncontested permit conditions that are "inseverable" from contested conditions are also considered to be contested and are stayed. *See* 40 C.F.R. §§ 124.60(b)(4), 124.16(a)(2)(i). Uncontested permit conditions that are severable from contested conditions are not stayed and become enforceable conditions of the permit. *See* 40 C.F.R. §§ 124.16(a)(2)(i) and (ii).

commencing permit modification proceedings to resolve two issues raised in the City's Petition. First, with respect to Part I.E.5 of the Final Permit (Compliance Schedule for the Collection System and Operation and Maintenance Plan), the Region agreed to modify the Final Permit to extend the schedule to complete the plan from 24 months, as set forth in the Final Permit, to 36 months. *See* Letter dated June 12, 2015 from H. Curtis Spalding, Regional Administrator, EPA Region 1, to Lisa Fateaux, City of Nashua, and Eurika Durr, Clerk, Environmental Appeals Board, re Notice of Partial Withdrawal Pursuant to 40 C.F.R. § 124.19(j). Second, the Region assented to adding a compliance schedule to comply with the Total Phosphorus limitation. *Id.* Subsequently, the Region determined that it would be appropriate to withdraw the Final Permit's effluent limitation for Total Recoverable Lead. *See* Final Permit, Part I.A.1. Upon motion by the Region, the Board dismissed these portions of the Petition as moot. *See* Order Addressing Partial Withdrawal of Permit Conditions and Dismissing Related Permit Challenges as Moot (July 16, 2015).

The Region and City initiated settlement discussions in an attempt to negotiate a resolution to the remaining issues in the Petition. The Board, upon joint motion by the parties, stayed the proceedings to facilitate these negotiations, which occurred over a period of approximately five months. On October 9, 2015, the parties informed the Board that they had agreed on the terms of a settlement that would resolve the Petition in its entirety and that the settlement would be implemented through a permit modification. *See* Status Report and Fourth Joint Motion to Stay the Proceedings. On February 17, 2016, the parties filed a joint motion requesting that the Board grant leave to withdraw the petition and dismiss the petition in its entirety. On February 18, 2016, the Board grants the City's motion to withdraw its petition, and dismissed NPDES Appeal No. 15-06 with prejudice.

This Statement of Basis Sheet sets forth the record basis for revisions to the: phosphorus limit, including the addition of a compliance schedule, reduction in effluent monitoring and inclusion of ambient monitoring program; removal of the lead and copper limits; schedule for the completion of WET tests, extended schedule for submitting the full Collection System Operation and Maintenance Plan and the first Collection System Operation and Maintenance Plan Annual Report; addition of definition of "dry weather"; and revisions to the CSOs facilities monitoring requirements. Comments outside the scope of the aforementioned revisions shall not be considered. *See* 40 C.F.R. § 124.5(c).

## II. BASIS OF PERMIT MODIFICATION

### A. Phosphorus

The Final Permit established a phosphorus concentration-based effluent limitation of 0.8 mg/l, applicable from April 1st through October 31st. *See* Part I.A.1. The Final Permit required the City to sample twice per week using a 24-hour composite.

*Recalculation of TP Limit Using Expanded Data Set*

The Region has recalculated the phosphorus limit, omitting one data point that was used to develop the limit in the Final Permit[2], and incorporating an additional data point from sampling that was conducted in May 2012. This re-evaluation of the total phosphorus data results in a median upstream total phosphorus concentration of 0.036 mg/l and yields a total phosphorus limit of 1.7 mg/l. A comparison of the upstream data that were used in calculating the total phosphorus limits for the Final Permit and the Draft Permit Modification are shown in Table 1.

**Table 1 Instream Total Phosphorus Data Used to Establish the Total Phosphorus Limits in the Final Permit and Draft Permit Modification**

Upstream data used to establish the total phosphorus limit in the Final Permit

| Station[1] | Date | Total Phosphorus (µg/l) |
|---|---|---|
| Upstream of Nashua WWTF | | |
| 03-MER | 10/5/2007 | 110 |
| 02M-MER | 7/27/2010 | 36 |
| 02M-MER | 9/21/2010 | 67 |
| Min. | | 36 |
| Max. | | 110 |
| Avg. | | 71 |
| Median | | 67.0 |

[1]Station 02M-MER is located approximately 100 feet upstream of Nashua WWTF;

[2] With respect to the dataset used to calculate the limit, the Region removed from consideration a data point from 2007 that it had used to calculate the TP limit in the Final Permit on the condition that the City carry out an ambient sampling program to enhance the overall dataset in order to inform future permitting; this program is described below.

Upstream data used to establish the total phosphorus limit in the Draft Permit Modification

| Station[1] | Date | Total Phosphorus (µg/l) |
|---|---|---|
| Upstream of Nashua WWTF | | |
| 02M-MER | 7/27/2010 | 36 |
| 02M-MER | 9/21/2010 | 67 |
| 02M-MER[2] | 5/17/2012 | 27 |
| Min. | | 27 |
| Max. | | 67 |
| Avg. | | 43 |
| Median | | 36 |

[1]Station 02M-MER is located approximately 100 feet upstream of Nashua WWTF;
[2]Two samples were collected on 5/17/2012. The average of the two results (30 ug/l and 24 ug/l) was used in this analysis because one of the samples was a field duplicate.

Following the approach described in the Fact Sheet to determine whether or not reasonable potential exists for the discharge from the Nashua WWTF to cause or contribute to violations of water quality standards, the median of the upstream data (0.036 mg/l) and the maximum concentration of total phosphorus that was detected in samples of the effluent[3] (2.16 mg/l) were applied to a mass balance equation to project a downstream phosphorus concentration of 0.1 mg/l, as shown below.

$$Q_d C_d + Q_s C_s = Q_r C_r$$

Where:

$C_r$ = resultant downstream phosphorus concentration (mg/l)
$Q_d$ = effluent flow (design flow = 16 MGD = 24.75 cfs)
$C_d$= maximum effluent phosphorus concentration (2.16 mg/l)
$Q_s$ = upstream 7Q10 flow (759.4 cfs)
$C_s$ = median instream phosphorus concentration, upstream from the discharge (0.036 mg/l)
$Q_r$ = 7Q10 flow just downstream from the discharge (784.1 cfs)

$$C_r = (Q_s C_s + Q_d C_d) / Q_r$$

$$C_r = [(759.4 \text{ cfs} * 0.036 \text{ mg/l}) + (24.75 \text{ cfs} * 2.16 \text{ mg/l})] / 784.1 \text{cfs} = 0.1 \text{ mg/l}$$

The projected downstream concentration of 0.1 mg/l is greater than the instream target of 0.090 mg/l (the Gold Book Criterion of 0.100 mg/l multiplied by a factor of 0.9 to reserve 10% of the assimilative capacity of the receiving water in accordance with the New Hampshire Water

[3] The maximum concentration of total phosphorus detected in samples of the effluent that were analyzed in conjunction with the *Upper Merrimack and Pemigewasset River Study*, U.S. Army Corps of Engineers, January 2011.

Quality Standards, *see* Env-Wq 1705.02) determined by EPA to represent a protective instream target based on EPA guidance and other relevant information in the administrative record, indicating that reasonable potential exists for the discharge of phosphorus from the Nashua WWTF to cause or contribute to violations of water quality standards in the downstream receiving water. Rearranging the mass balance equation shown above and solving for Cd results in an effluent total phosphorus concentration of 1.7 mg/l, which is the maximum concentration of total phosphorus that can be discharged without resulting in excursions above the criterion downstream.

*Conversion of TP Limit from Concentration-based to Mass-based*

EPA has the discretion to establish effluent limitations in terms of mass, concentration or both. 40 C.F.R. § 122.45(f). At the request of the City, the Region has determined to express the permit's phosphorus effluent limit in terms of mass rather than concentration. This approach is consistent with phosphorus effluent limitations established for other municipal dischargers on the Merrimack River. The Region will utilize the lowest monthly average summer flow during the review period (8.1 MGD (August 2010)) for that purpose, following the approach currently used to establish load-based phosphorus limits in NH. This approach yields a mass limit of 227 lbs/day, which was derived from the mass balance and concentration to mass conversion equations shown below. This is a seasonal limit, which is in effect from April 1st – October 31st.

$$Q_dC_d + Q_sC_s = Q_rC_r(0.9) \text{ and } M_d = Q_dC_d*8.345$$

rewritten as:

$$M_d = Q_dC_d * 8.345 = (Q_rC_r(0.9) – Q_sC_s) * 8.345$$
$$M_d = ((490.6+8.1)(.1)(.9) – (490.6)(0.036)) * 8.345$$
$$M_d = 227 \text{ lbs/day}$$

where:

$M_d$ = mass-based phosphorus limit
$Q_d$ = effluent flow in MGD (lowest effluent monthly average flow = 8.1 MGD)
$C_d$ = effluent phosphorus concentration in mg/L
$Q_S$ = receiving water flow upstream (7Q10 upstream = 759.4 cfs * 0.646 = 490.6 MGD))
$C_S$ = background in-stream phosphorus concentration in mg/l (0.036 mg/l)
$Q_r$ = resultant in-stream flow, after discharge in MGD ($Q_S + Q_d$ = 498.6 MGD)
$C_r$ = resultant in-stream pollutant concentration in mg/L (Gold Book target: 0.100 mg/l)
*0.90* = Factor to reserve 10 % assimilative capacity
*8.345* = Factor to convert from MGD * mg/l to lbs/day

*Compliance Schedule*

The Final Permit requires compliance with the seasonal total phosphorus limitation upon the effective date. In its Petition, the City requested a schedule for achieving compliance with this

limitation. The Region's authority to delay compliance with state water quality standards through a compliance schedule made part of an EPA-issued NPDES permit is limited to those circumstances in which the applicable state's water quality standards or its implementing regulations "can be fairly construed as authorizing a schedule of compliance." *In re Star-Kist Caribe, Inc*., 3 E.A.D. 172, 175 (Adm'r 1990), modification denied, 4 E.A.D. 33, 34 (EAB 1992). Absent authority for delay granted by the applicable state water quality standard, the NPDES permit must require compliance with state water quality standards immediately upon issuance. *In re J & L Specialty Prods. Corp*., 5 E.A.D. 333, 344 (EAB 1994).

After the public comment period, but shortly before final permit issuance, the Region approved amendments to New Hampshire's Water Quality Standards ("WQS") that authorize the use of compliance schedules in NPDES permits under specified circumstances, including those that are applicable to these proceedings. See Env-Wq 1701.03. The Region has proposed to require compliance with the phosphorus effluent limitation by May of 2020. The Region is also proposing to require phosphorus optimization in the interim through the following narrative provision:

> "From the effective date of the permit modification until the date the permittee is required to achieve compliance with the final phosphorus effluent limitation, the permittee shall optimize the following existing treatment processes in order to improve phosphorus removal capacity and efficiency: primary settling tank optimization and WAS gravity belt thickener optimization."

This provision represents a minimum requirement; the City is obviously not precluded from taking additional steps that it sees fit to optimize phosphorus removal. Under NPDES regulations, "if a permit establishes a schedule of compliance that exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement[,] and "[t]he time between interim dates shall not exceed 1 year." 40 C.F.R. § 122.47(a)(3). To satisfy this requirement, the Region is proposing to require a concise annual progress report, which must include a short written description of the specific optimization measures that have been taken to comply with the narrative limit in the preceding year. Interim milestones related to planning, design and construction are set forth in the Gantt chart entitled "NPDES Compliance Schedule – Phosphorus Removal" and included as Attachment F to the Draft Permit Modification.

*Reduction in Effluent Monitoring Frequency*

The Region has reduced the monitoring frequency for total phosphorus from two per week to once per week. Historical effluent data from the facility does not indicate significant variability in phosphorus effluent concentrations. The Region has concluded therefore that once per week sampling will continue to provide a sufficiently representative data set.

*Addition of Ambient Monitoring Requirement*

The Region proposes to add an ambient water quality monitoring for total phosphorus and chlorophyll 'a' over the term of the permit. This instream monitoring program will help ensure

that any future phosphorus limits reflect prevailing water quality conditions to the extent possible at the time of permit issuance. The Region proposes that the City perform upstream ambient monitoring of the Merrimack River. Sampling will be conducted at the 02M-MER location on the Merrimack River, 100 feet upstream from the WWTF. The flow of the Merrimack River, as reported at the nearest USGS gaging station, shall be reported for the days that samples are taken.

This monitoring will occur in July, August and September of each year according to the following schedule:

| Permit Year | Sampling Frequency |
|---|---|
| 1-2 | 1/mo |
| 3 | 2/mo |
| 4-5 | Weekly |
| 6+ | 1/mo |

**B. Total Recoverable Lead and Total Recoverable Copper**

The Final Permit included an average monthly effluent limitations for total recoverable lead and total recoverable copper of 0.54 µg/l and 20.0 µg/, respectively, which were established based on a determination that there was reasonable potential for the discharge to cause or contribute to excursions above the applicable water quality criteria in the receiving water. *See* Part I.A.1. This determination was based on an evaluation of the results of lead and copper analyses that were conducted on samples of the effluent and upstream receiving water in conjunction with whole effluent toxicity (WET) tests from March 2007- March 2012 as well as the results of bimonthly effluent copper monitoring, as reported in monthly DMRs submitted by the City.

The City requested that EPA reevaluate its analysis to include effluent and upstream receiving water results of lead and copper from WET tests performed from April 2012 – October 2014 (see Attachment A). Subsequently, upon review of the administrative record, including the effluent data presented in the Petition, and following discussion with the City, the Region has determined that there is no reasonable potential for Total Recoverable Lead, and accordingly has removed the effluent limitation for that pollutant from the permit. The Region, in addition, has concluded that the sampling data used to determine reasonable potential for copper may have been biased due to the sampling methodology employed by the City. During the settlement negotiations, the City collected additional copper samples using clean sampling techniques. Utilizing both existing data and the newly collected data, the Region determined that no reasonable potential exists to violate either the acute or chronic instream criteria for copper. EPA proposes to modify the permit to remove the copper limitation while retaining a monitoring-only requirement. The revised lead and copper reasonable potential analyses are presented in Table 2.

## Table 2 Mass Balance Equations for Determining Reasonable Potential for Copper and Lead[4]

| Metal | Qd | Cd[1] (95th Percentile) | Qs | Cs[2] (Median) | Qr = Qs + Qd | Cr[3] = (QdCd+QsCs)/Qr | Criteria * 0.9 | | Reasonable Potential | Limit[4] = (QrCr*0.9-QsCs)/Qd | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | cfs | ug/l | cfs | ug/l | cfs | ug/l | Acute (ug/l) | Chronic (ug/l) | Cr > Criteria | Acute (ug/l) | Chronic (ug/l) |
| Copper | 24.75 | 38.7 | 759.4 | 0.9 | 784.1 | 2.04 | 3.41 | 2.57 | N | N/A | NA |
| Lead | | 3.5 | | 0 | | 0.11 | 12.58 | 0.490 | N | N/A | NA |

[1]Values calculated from the results of metals analyses conducted on samples of the effluent in conjunction with whole effluent toxicity tests from 2007-2014 as well as the results of bi-monthly copper monitoring (see Attachment A).
[2]Median upstream data from analyses conducted on samples of the Merrimack River collected just upstream from the discharge for use as dilution water in Whole Effluent Toxicity (WET) tests from 2007-2014 as well as copper samples which were collected in August 2015 using clean sampling techniques (see Attachment A).
[3]Cr = instream metals concentration, downstream from the discharge
[4]Cr = Criteria * 0.9

[4] In performing its reasonable potential analysis, EPA followed the approach that was described in the Fact Sheet which accompanied the Draft Permit that was released for public comment in November 2013, whereby the median upstream concentration and 95$^{th}$ percentile values of the distribution of effluent concentrations of total recoverable lead and copper were applied to a mass balance equation to project the downstream concentration that can be expected to occur under critical flow conditions.

**C. Whole Effluent Toxicity (WET) Test Schedule**

Part I.A.1. of the Final Permit required the collection of samples for use in whole effluent toxicity (WET) tests and the completion of WET tests during the calendar quarters ending September 30th and March 31st. In response to information submitted by the City, which suggests a lack of an appropriate sampling location during the first calendar quarter, the schedule for the collection of samples and completion of WET tests has been changed in the Draft Permit Modification to the calendar quarters ending June 30th and September 30th.

**D. Operation and Maintenance of the Sewer System – Collection System Operation and Maintenance Plan**

Part I.E.5.b. of the Final Permit required the submittal and implementation of the Collection System Operation and Maintenance (O&M) Plan to the Region and NHDES within twenty four (24) months from the effective date of the permit.

In its Petition, the City proposed a 36 month schedule to, *inter alia*, accommodate a new Enterprise Asset Management/Work Order System that is being adopted by the City and that will be the platform upon which the Plan will be developed. Petition at 26. EPA agrees that this is a reasonable request, and has included a requirement in Part I.E.5.b. of the proposed permit modification for the submittal and implementation of the Collection System O&M Plan within 36 months of the effective date of the permit.

The due date for submitting the first annual report required by Part I.E.6. of the Draft Permit Modification has been changed from 36 months to 48 months to account for the extension granted for the submittal and implementation of the Collection System O&M Plan.

**E. Dry Weather Definition**

The Final Permit contains a definition of Dry Weather in connection with $BOD_5$ and TSS removal and CSO requirements. *See* Part 1.A.4 and part I.B.2.d. In order to clarify when dry weather is occurring, the Region has incorporated a definition of "distinct rainfall event," specifically: "Distinct rainfall events shall be defined as having at least a 10-hour window with precipitation of > 0.01 inch."

**F. CSO Facilities Monitoring**

The Region proposes to modify the Final Permit monitoring scheme as it relates to the Wet Weather Flow Treatment Facility (WWFTF) and the Screening and Disinfection Facility (SDF).

Nashua owns and operates a wastewater collection system comprised of 75 percent sanitary sewers, which carry domestic, industrial, and commercial wastewater; and 25 percent combined sewers, which carry domestic, industrial, and commercial wastewater plus stormwater runoff. Under dry weather flow conditions, wastewater is conveyed through three interceptor sewers to

the POTW Treatment Plant, which collects and treats wastewater generated by users in Nashua and the Town of Hudson, New Hampshire.

The POTW Treatment Plant uses an activated sludge process to provide secondary treatment to wastewater flows up to its 16 million gallons per day (MGD) annual average design flow capacity and up to its peak flow capacity of 32 MGD. Once the flow exceeds 32.0 MGD, up to 18.0 MGD of additional flow is subjected to primary treatment only. This primary treated flow is blended with effluent from the secondary treatment process prior to disinfection. The final effluent is discharged from the POTW Treatment Plant through outfall 001 to the Merrimack River.

Nashua discharges combined sanitary wastewater and stormwater to the Merrimack and Nashua Rivers when the hydraulic capacity of Nashua's POTW Treatment Plant and/or collection system becomes overloaded during storm events. In 2005, the City entered into a Consent Decree with EPA and NHDES to address sanitary sewer overflows (SSOs) and CSOs.[5] In accordance with the CSO Policy, the Decree was intended to bring all wet weather discharges from CSOs into compliance with the requirements of the Act, including applicable state WQS. The main elements of the Decree include milestones for achieving levels of CSO control that are expected to result in no discharges of untreated CSOs during a typical year[6] and the development and implementation of a High Flow Management Plan ("HFMP"), for optimizing the treatment of wet-weather flows. In accordance with the Decree, the City undertook various projects to reduce untreated CSOs, including partial separation of the combined system and construction of the WWFTF and SDF, which were designed to treat some CSO discharges and thereby reduce the frequency and amount of untreated CSOs that would otherwise occur from outfalls operated by the City. Under the Decree, the conditions governing the WWFTF's operation are prescribed in the City's HFMP, dated 2010. Pursuant to the Decree, and consistent with the CSO Policy, the diversion of some combined sewer system (CSS) flows away from the POTW Treatment Plant during wet weather events is considered an interim measure to control discharges of untreated wastewater through CSOs.

The Final Permit authorizes CSOs for combined flows that exceed the collection system's capacity. The Final Permit, pursuant to CWA § 402(q) and the CSO Policy, recognizes that CSS flows may be diverted away from the headworks of the POTW Treatment Plant to the CSO Treatment Facilities under the conditions set forth in the HFMP. Other flows in the collection system must be managed in accordance with the Final Permit's operation and management conditions.

Under the Permit and City's HFMP, flows approaching the POTW encounter a flow diversion structure prior to the Treatment Plant's headworks. That diversion structure allows flows up to 50 MGD to travel to the headworks and diverts greater than 50 MGD to the WWFTF, which can treat up to 60 MGD. CSO discharges from the WWFTF are subsequently combined with primary and secondary effluent in the POTW Treatment Plant's chlorine contact chamber for disinfection prior to being discharged to the Merrimack River through Outfall 001. Flow in

[5] The CD was amended in 2009, adjusting the dates by which to comply with certain milestones.
[6] The specific levels of CSO control for each outfall are described in the Long Term Control Plan (LTCP) submitted by the City in 2003, as amended in 2004.

excess of the combined 110 MGD capacity of the POTW Treatment Plant and the WWFTF either overflow from the collection system as CSOs or SSOs or are stored for treatment at the POTW Treatment Plant or the WWFTF when capacity is available.

The City also operates the SDF, a second CSO treatment facility that provides screening and disinfection to combined flows for certain CSO outfalls. The SDF serves as both a CSO treatment facility (*i.e.*, providing screening and disinfection to combined flows, which are then discharged to the Merrimack River through a dedicated outfall) and as a combined flow storage facility. During certain wet weather events, when appropriate to do so, flows can be stored in the SDF and, therefore, there would be flow into the facility, but no discharge to the Merrimack River. These flows are then bled back to the collection system during or after wet weather events if the flows/wet weather events subside enough to accommodate additional flows through the POTW Treatment Plant or the WWFTF.

The Final Permit included a monitoring scheme to assess compliance consistent with the particular regulatory schemes that the Region concluded apply to the Treatment Plant effluent (*i.e.*, WQS and secondary treatment) and to CSOs discharged from the WWFTF or SDF (*i.e.*, WQS, technology-based limits, and CSO Policy). The monitoring regime was designed to assist the Region in drawing conclusions regarding CSO discharges, and the operation of the POTW Treatment Plant and WWFTF during wet weather events, including whether the WWFTF was being operated consistent with the technology-based Nine Minimum Controls. Therefore, in order to gain a better understanding of how the POTW and WWFTF are being operated during wet weather events, the Final Permit included several monitoring requirements that apply to the POTW Treatment Plant effluent, and to the effluent discharged from the WWFTF, prior to their commingling. In the Region's view, only by monitoring the flows before they are joined in the disinfection unit could an assessment be made as to whether the individual flows from each of the facilities are complying with their respective technology-based limits. And by monitoring the flows after they are joined in the disinfection unit, the Region would be able to assess whether the combined flow complies with the Permit's WQBELs.

Regarding the SDF, EPA is proposing to remove the inflow monitoring requirement, as well as the $BOD_5$ and TSS monitoring requirements. With respect to the WWFTF, the Region is proposing to modify the permit to require sampling of the secondary effluent combined with bypass flows for $BOD_5$, TSS, and pH during periods when there is flow discharged from the facility. Samples shall be collected at a location prior to the flows combining with the flow discharged from the WWFTF (prior to the chlorine contact chamber), and shall be conducted concurrently with $BOD_5$, TSS and pH sampling of outfall 001.

In both cases, the Region concluded that this level of monitoring will provide sufficiently representative data to assess compliance with permit conditions and to inform future permitting. The Region has also determined that the information required to be submitted to it pursuant to the Consent Decree relative to SDF and WWFTF can be utilized to fill any gaps in the information that would have been provided under the Final Permit monitoring regime.

## III. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, may adversely impact any essential fish habitat (16 U.S.C. § 802(10)).

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 which reduces the quality and/or quantity of EFH (50 CFR § 600.910(a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences or actions.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b)(a)(A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

Atlantic salmon (*Salmo salar*) is the only species for which EFH has been designated in the Merrimack River. According to the New Hampshire Fish and Game Department (NHF&G), no salmon fry are stocked in the Nashua River. In addition, NHF&G has reported that Atlantic salmon are not stocked in the Merrimack River in the area influenced by the discharge from the WWTF. This species is stocked further upstream in the Merrimack River watershed. The stretch of the river in the vicinity of the WWTF is used by salmon smolts in spring months for downstream passage to the sea. Adult Atlantic salmon returning to the river from the ocean do not travel upstream as far as the WWTF discharge area. They are collected at a dam in Lawrence, Massachusetts, primarily for use as broodstock.

Based on the available information, EPA has concluded that the limits and conditions contained in the Draft Permit Modification will minimize adverse effects to EFH species. These conditions are discussed in detail above.

EPA has determined that the Draft Permit Modification has been conditioned in such a way so as to minimize any adverse impacts to EFH for the following reasons (also see Part XII of the Fact Sheet that accompanied the Final Permit that was issued in 2015 for a discussion of the unmodified conditions of the Final Permit that will minimize any adverse impacts to EFH):

- This permit action is a modification of an existing NPDES permit;
- The WWTF has a dilution factor of 28.5;
- The WWTF withdraws no water from the Merrimack River; therefore, no life stages of EFH species are vulnerable to impingement or entrainment from this WWTF;
- The Draft Permit Modification prohibits the WWTF discharge from causing a violation of State water quality standards;
- The Draft Permit Modification contains water quality-based limits for total residual chlorine;
- The Draft Permit Modification prohibits the discharge of pollutants or combinations of pollutants in toxic amounts;

## IV. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended (the "Act"), grants authority to and imposes requirements upon federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and the habitats of such species that have been designated as critical ("critical habitat").

Section 7(a)(2) of the Act requires every federal agency, in consultation with and with the assistance of the Secretary of the 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 National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species.

EPA has reviewed the federal endangered or threatened species of fish and wildlife to determine if any such listed species might potentially be impacted by the Issuance of this NPDES Permit Modification. Shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser oxyrinchus*) are the only two federally-protected fish species that have been documented in the Merrimack River. However, the upstream movement of these two species is restricted by the Essex Dam, in Lawrence, Massachusetts. This dam is approximately 13 river miles downstream of the influence of the Nashua WWTF discharge. Based on the normal distribution of these species, it is highly unlikely that they would be present in the vicinity of this discharge. Therefore, no Section 7 consultation with NMFS is required.

## V. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving waters 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 State Water Quality Standards. The staff of the New Hampshire Department of Environmental Services has reviewed the draft permit modifications and Fact Sheet and advised EPA that the proposed limitations are adequate to protect water quality. EPA has requested permit certification by the State pursuant to 40 CFR 124.53 and expects that the draft permit modifications will be certified.

## VI. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

All persons, including applicants, who believe any condition of the Draft Permit Modification 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 Meridith Timony, U.S. EPA, Office of Ecosystem Protection**,** Municipal Permits Section, 5 Post Office Square, Suite 100 (OEP06-1), Boston, Massachusetts 02109-3912; or to Timony.Meridith@epa.gov.

Any person, prior to such date, may submit a request in writing for a public hearing to consider the Draft Permit Modification to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a decision on the final permit, EPA will respond to all significant comments and make these responses available to the public on EPA's website and at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a decision regarding the proposed permit modification and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the Final Permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124. 19.

## VII. EPA – REGION 1 CONTACT

Additional information concerning the draft permit may be obtained between the hours of 9:00 A.M. and 5:00 P.M. (8:00 A.M. and 4:00 P.M. for the state), Monday through Friday, excluding holidays from:

**Meridith Timony**
**U.S. Environmental Protection Agency**
**Office of Ecosystem Protection**
**5 Post Office Square**
**Suite 100, Mail Code: OEP06-1**
**Boston, Massachusetts 02109-3912**
**Telephone No.: (617) 918-1533**
**FAX No.: (617) 918-0533**

3/8/2016

_____

Date

Kenneth Moraff, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

## Attachment A

## Effluent and Upstream Receiving Water Copper and Lead Data (2007 – 2014)

Effluent (Outfall 001)

| Monitoring Period End Date | Effluent Cu | Effluent Pb |
|---|---|---|
| | DAILY MX | DAILY MX |
| | mg/L | mg/L |
| **Effluent Metals Data From Quarterly WET Test Reports** | | |
| **03/31/2007** | 0.027 | 0.005 |
| **06/30/2007** | 0.017 | 0.005 |
| **09/30/2007** | 0.007 | 0.005 |
| **12/31/2007** | 0.015 | 0.005 |
| **03/31/2008** | 0.021 | 0.0005 |
| **06/30/2008** | 0.017 | 0.00082 |
| **09/30/2008** | 0.012 | 0.001 |
| **12/31/2008** | 0.011 | 0.0005 |
| **03/31/2009** | 0.011 | 0.001 |
| **06/30/2009** | 0.009 | 0.002 |
| **09/30/2009** | 0.01 | 0.001 |
| **12/31/2009** | 0.019 | 0.0012 |
| **03/31/2010** | 0.013 | 0.001 |
| **06/30/2010** | 0.029 | 0.002 |
| **09/30/2010** | 0.019 | 0.001 |
| **12/31/2010** | 0.024 | 0.001 |
| **03/31/2011** | 0.019 | 0.002 |
| **06/30/2011** | 0.01 | 0.001 |
| **09/30/2011** | 0.025 | 0.001 |
| **12/31/2011** | 0.011 | 0.0006 |
| **03/31/2012** | 0.018 | 0.0009 |
| **06/30/2012** | 0.017 | 0.001 |
| **09/30/2012** | 0.019 | 0.0005 |
| **12/31/2012** | 0.021 | 0.0006 |
| **03/31/2013** | 0.034 | 0.0005 |
| **06/30/2013** | 0.027 | 0.015 |
| **09/30/2013** | 0.034 | 0.0006 |
| **12/31/2013** | 0.014 | 0.0006 |
| **03/31/2014** | 0.059 | 0.001 |
| **06/30/2014** | 0.014 | 0.0005 |
| **09/30/2014** | 0.007 | 0.0005 |

## Attachment A (Continued)

| Monthly Effluent Monitoring | | |
|---|---|---|
| Monitoring Period End Date | Cu | Pb |
| | DAILY MX | DAILY MX |
| | mg/L | mg/L |
| **03/31/2007** | 0.03 | NA |
| **04/30/2007** | 0.02 | NA |
| **05/31/2007** | 0.02 | NA |
| **06/30/2007** | 0.01 | NA |
| **07/31/2007** | 0.01 | NA |
| **08/31/2007** | 0.01 | NA |
| **09/30/2007** | 0.01 | NA |
| **10/31/2007** | 0.02 | NA |
| **11/30/2007** | 0.02 | NA |
| **12/31/2007** | 0.02 | NA |
| **01/31/2008** | 0.01 | NA |
| **02/29/2008** | 0.01 | NA |
| **03/31/2008** | 0.01 | NA |
| **04/30/2008** | 0.01 | NA |
| **05/31/2008** | 0.01 | NA |
| **06/30/2008** | 0.01 | NA |
| **07/31/2008** | 0.03 | NA |
| **08/31/2008** | 0.01 | NA |
| **09/30/2008** | 0.012 | NA |
| **10/31/2008** | 0.01 | NA |
| **11/30/2008** | 0.02 | NA |
| **12/31/2008** | 0.01 | NA |
| **01/31/2009** | 0.006 | NA |
| **02/28/2009** | 0.013 | NA |
| **03/31/2009** | 0.01 | NA |
| **04/30/2009** | 0.01 | NA |
| **05/31/2009** | 0.01 | NA |
| **06/30/2009** | 0.01 | NA |
| **07/31/2009** | 0.01 | NA |
| **08/31/2009** | 0.01 | NA |
| **09/30/2009** | 0.01 | NA |
| **10/31/2009** | 0.019 | NA |
| **11/30/2009** | 0.01 | NA |
| **12/31/2009** | 0.1 | NA |
| **01/31/2010** | 0.013 | NA |
| **02/28/2010** | 0.007 | NA |
| **03/31/2010** | 0.01 | NA |
| **04/30/2010** | 0.02 | NA |
| **05/31/2010** | 0.029 | NA |

## Attachment A (Continued)

| Monthly Effluent Monitoring | | |
|---|---|---|
| Monitoring Period End Date | Cu | Pb |
| | DAILY MX | DAILY MX |
| | mg/L | mg/L |
| **06/30/2010** | 0.02 | NA |
| **07/31/2010** | 0.03 | NA |
| **08/31/2010** | 0.02 | NA |
| **09/30/2010** | 0.019 | NA |
| **10/31/2010** | 0.03 | NA |
| **11/30/2010** | 0.02 | NA |
| **12/31/2010** | 0.04 | NA |
| **01/31/2011** | 0.02 | NA |
| **02/28/2011** | 0.03 | NA |
| **03/31/2011** | 0.02 | NA |
| **04/30/2011** | 0.02 | NA |
| **05/31/2011** | 0.02 | NA |
| **06/30/2011** | 0.02 | NA |
| **07/31/2011** | 0.02 | NA |
| **08/31/2011** | 0.025 | NA |
| **09/30/2011** | 0.01 | NA |
| **10/31/2011** | 0.02 | NA |
| **11/30/2011** | 0.011 | NA |
| **12/31/2011** | 0.01 | NA |
| **01/31/2012** | 0.02 | NA |
| **02/29/2012** | 0.02 | NA |
| **03/31/2012** | 0.01 | NA |
| **04/30/2012** | 0.02 | NA |
| **05/31/2012** | 0.02 | NA |
| **06/30/2012** | 0.03 | NA |
| **07/31/2012** | 0.015 | NA |
| **08/31/2012** | 0.02 | NA |
| **09/30/2012** | 0.04 | NA |
| **10/31/2012** | 0.01 | NA |
| **11/30/2012** | 0.02 | NA |
| **12/31/2012** | 0.05 | NA |
| **01/31/2013** | 0.03 | NA |
| **02/28/2013** | 0.02 | NA |
| **03/31/2013** | 0.034 | NA |
| **04/30/2013** | 0.027 | NA |
| **05/31/2013** | 0.02 | NA |
| **06/30/2013** | 0.01 | NA |
| **07/31/2013** | 0.02 | NA |
| **08/31/2013** | 0.02 | NA |

## Attachment A (Continued)

| Monthly Effluent Monitoring | | |
|---|---|---|
| **Monitoring Period End Date** | **Cu** | **Pb** |
| | **DAILY MX** | **DAILY MX** |
| | **mg/L** | **mg/L** |
| **09/30/2013** | 0.034 | NA |
| **10/31/2013** | 0.01 | NA |
| **11/30/2013** | 0.02 | NA |
| **12/31/2013** | 0.02 | NA |
| **01/31/2014** | 0.02 | NA |
| **02/28/2014** | 0.023 | NA |
| **03/31/2014** | 0.059 | NA |
| **04/30/2014** | 0.02 | NA |
| **05/31/2014** | 0.01 | NA |
| **06/30/2014** | 0.014 | NA |
| **07/31/2014** | 0.03 | NA |
| **08/31/2014** | 0.008 | NA |
| **09/30/2014** | 0.026 | NA |
| | **Cu (mg/l)** | **Pb (mg/l)** |
| **Min** | 0.006 | 0.0005 |
| **Max** | 0.100 | 0.015 |
| **Average** | 0.019 | 0.001 |
| **95th Percentile** | 0.0387 | 0.0035 |

[1]Values in red were reported as "Not Detected" and were assigned a value of 0

**Merrimack River – Upstream of Nashua WWTF[1,2]**

| Monitoring Period End Date | Upstream Cu | Upstream Pb |
|---|---|---|
| | **DAILY MX** | **DAILY MX** |
| | **mg/L** | **mg/L** |
| **3/30/2007** | 0.002 | 0 |
| **6/30/2007** | | |
| **9/30/2007** | 0 | 0 |
| **12/31/2007** | 0 | 0 |
| **3/31/2008** | 0 | 0 |
| **6/30/2008** | 0 | 0 |
| **9/30/2008** | 0 | 0.001 |
| **12/31/2008** | 0.002 | 0 |
| **3/31/2009** | 0.003 | 0.0007 |
| **6/30/2009** | 0.002 | 0.0006 |
| **9/30/2009** | 0.003 | 0 |
| **12/31/2009** | 0.006 | 0.0008 |

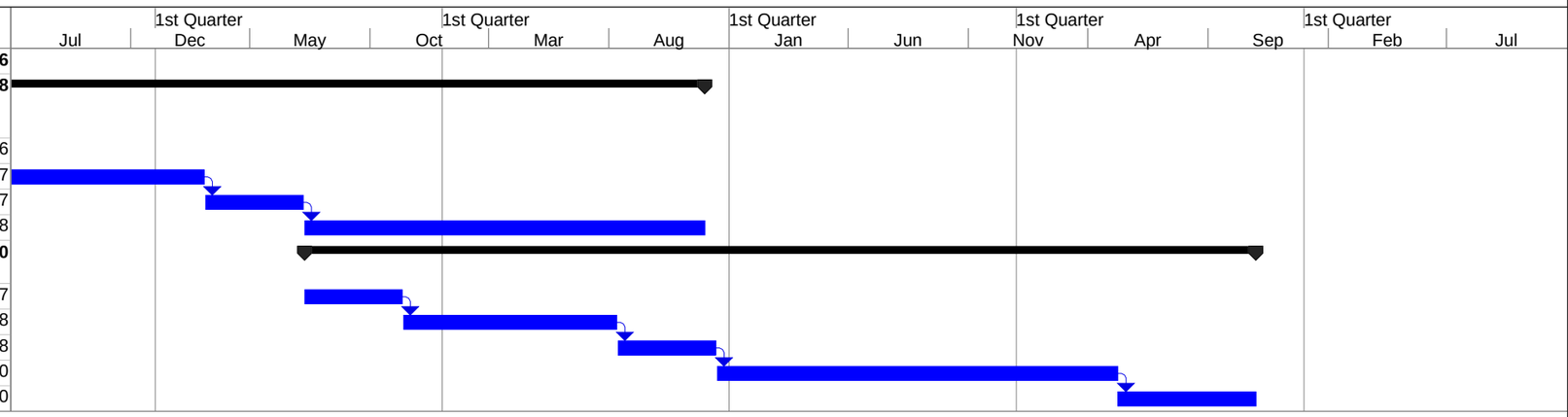
## Attachment A (Continued)

| Monitoring Period End Date | Upstream Cu | Upstream Pb |
|---|---|---|
| | DAILY MX | DAILY MX |
| | mg/L | mg/L |
| **3/31/2010** | 0.006 | 0.0005 |
| **6/30/2010** | 0.011 | 0.0007 |
| **9/30/2010** | 0.003 | 0.0005 |
| **12/31/2010** | 0.004 | 0.001 |
| **3/31/2011** | 0 | 0 |
| **06/30/2011** | 0 | 0.0008 |
| **09/30/2011** | | |
| **12/31/2011** | 0 | 0 |
| **03/31/2012** | 0 | 0.0005 |
| **06/30/2012** | 0.005 | 0 |
| **09/30/2012** | 0 | 0 |
| **12/31/2012** | 0.005 | 0 |
| **03/31/2013** | 0.013 | 0.0007 |
| **06/30/2013** | 0.015 | 0.0007 |
| **09/30/2013** | 0.002 | 0.0008 |
| **12/31/2013** | 0 | 0 |
| **03/31/2014** | 0 | 0 |
| **06/30/2014** | 0.003 | 0 |
| **09/30/2014** | 0 | 0 |
| **08/10/2015** | 0.0008 | NA |
| **08/11/2015** | 0.0008 | NA |
| **08/12/2015** | 0.0008 | NA |
| **08/13/2015** | 0.0009 | NA |
| **min** | 0.000 | 0.000 |
| **max** | 0.015 | 0.001 |
| **median** | 0.00090 | 0.000 |

[1]Values in red were reported as “Not Detected” and were assigned a value of 0
[2]August 2015 copper samples collected using clean sampling techniques

# NPDES COMPLIANCE SCHEDULE - PHOSPHORUS REMOVAL

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Presentation and Acceptance of Rate Study** | **20 days** | **Mon 1/4/16** | **Fri 1/29/16** |
| 2 | **Phase I: Construct new facility to supplement existing gravity thickeners with three (3) new mechanical thickeners (e.g., Rotary Drum Thickeners (RTDs))** | **740 days** | **Mon 2/1/16** | **Fri 11/30/18** |
| 3 | RFP (FY 2017) | 90 days | Mon 2/1/16 | Fri 6/3/16 |
| 4 | Design (FY 2017-2018) | 195 days | Mon 6/6/16 | Fri 3/3/17 |
| 5 | Bidding (FY 2018) | 90 days | Mon 3/6/17 | Fri 7/7/17 |
| 6 | Construction and Startup (FY2018-2019) | 365 days | Mon 7/10/17 | Fri 11/30/18 |
| 7 | **Phase II: Construct new phosphorus removal chemical addition and storage facility** | **866 days** | **Mon 7/10/17** | **Sat 10/31/20** |
| 8 | RFP (FY 2018) | 90 days | Mon 7/10/17 | Fri 11/10/17 |
| 9 | Design (FY 2018-2019) | 195 days | Mon 11/13/17 | Fri 8/10/18 |
| 10 | Bidding (FY 2019) | 90 days | Mon 8/13/18 | Fri 12/14/18 |
| 11 | Construction and Startup (FY2019-2021) | 365 days | Mon 12/17/18 | Fri 5/8/20 |
| 12 | **Start Phosphorous Removal Compliance** | 126 days | Sat 5/9/20 | Sat 10/31/20 |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Task | Project Summary | Inactive Summary | Manual Summary | External Milestone |
| Split | External Tasks | Manual Task | Start-only | Progress |
| Milestone | External Milestone | Duration-only | Finish-only | Deadline |
| Summary | Inactive Milestone | Manual Summary Rollup | External Tasks | |

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER DIVISION
P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03302-0095

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ECOSYSTEM PROTECTION
REGION I
BOSTON, MASSACHUSETTS 022030001

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT MODIFICATION 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, AND ISSUANCE OF A STATE SURFACE WATER PERMIT MODIFICATION UNDER NH RSA 485-A:13, I(a).

DATE OF NOTICE: March 23, 2016

PERMIT NUMBER: **NH0100170**

PUBLIC NOTICE NUMBER: NH-003-16

NAME AND MAILING ADDRESS OF APPLICANT:

City of Nashua
Sawmill Road
Nashua, New Hampshire 03060

NAME AND LOCATION OF FACILITY WHERE DISCHARGE OCCURS:

Nashua Wastewater Treatment Facility
Sawmill Road
Nashua, New Hampshire 03060

RECEIVING WATER(S): Merrimack River and Nashua River

RECEIVING WATER(S) CLASSIFICATION(S): Class B

PREPARATION OF THE DRAFT PERMIT MODIFICATION:

The U.S. Environmental Protection Agency (EPA) and the New Hampshire Department of Environmental Services, Water Division have cooperated in the development of a draft permit modification for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act will be met. EPA has formally requested that the State certify the draft permit modification pursuant to Section 401 of the Clean Water Act and expects that the draft permit modification will be certified. However, sludge conditions in the draft permit modification are not subject to State certification requirements.

INFORMATION ABOUT THE DRAFT PERMIT MODIFICATION:

A Statement of Basis (providing a brief summary of the basis for the draft permit modification conditions and significant factual, legal and policy questions considered in preparing this draft permit modification) and the draft permit modification may be obtained at no cost at http://www.epa.gov/region1/npdes/draft_permits_listing_nh.html or by writing or calling EPA's contact person named below:

Meridith Timony
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1533

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

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of the draft permit modification is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **April 21, 2016,** to the U.S. EPA, 5 Post Office Square, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency for a public hearing to consider the draft permit modification . 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 modification, 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.

EUGENE J. FORBES, P.E., DIRECTOR
WATER DIVISION
NEW HAMPSHIRE DEPARTMENT OF
ENVIRONMENTAL SERVICES

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
U.S. ENVIRONMENTAL PROTECTION
AGENCY - REGION I