



# PUBLIC WORKS DEPARTMENT

CITY OF PORTSMOUTH

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September 27, 2018

Mark Pollins  
Director of Water Enforcement  
USEPA  
OECA  
1200 Pennsylvania Ave NW  
MAIL CODE 2246A  
Washington, DC 20460

Re: Consent Decree 09-cv-283-PB  
Monthly Report on Compliance for August 2018  
City of Portsmouth, New Hampshire

Dear Mr. Pollins:

In accordance with Consent Decree 09-cv-283-PB, Section V, item paragraph 20, dated August 12, 2009 and as amended by Consent Decree Modification filed July 2, 2012 and approved by the Court on February 15, 2013 and as amended by Consent Decree Second Modification, Section III, item paragraph 6, filed on April 1, 2016 and approved by the Court on September 28, 2016, the City of Portsmouth is submitting this monthly report on compliance.

The Consent Decree Second Modification requires the filing of monthly reports as follows: Within 30 days after the end of each month, the City shall submit a written report to EPA, the State, and CLF for the preceding month that shall include a description or reporting of the following: i) status of required construction, including major work items completed in the preceding month; ii) projected work items to be undertaken in the next month; iii) project percent complete based on payments to Contractor for work completed; iv) project percent complete based on time elapsed; v) status of all required permit applications; vi) status of Consent Decree milestones including identifying any problems encountered or anticipated, together with the proposed or implemented solutions; and vii) the monthly average discharge concentrations of total nitrogen for the preceding month, as required in Paragraph 8.b.ii of the Second Modification.

The Consent Decree, First Modification and Second Modification along with such Monthly Reports on Compliance shall be posted on the City's internet site, and maintained accessible to the public online until termination of the Consent Decree. In addition to the submission of Reports on Compliance, the Parties will participate in quarterly meetings or conference calls, if scheduled by EPA, to review the City's compliance with the terms of the Consent Decree.

**i. Status of required construction including major work items completed in the preceding month**

Work completed by the Contractor in the month of August 2018 is as follows:

- Complete masonry walls at stairs in Grit Building Lower Level
- Completed installation of slide gates at Secondary Influent Pump Station Wet Wells
- Completed installation of precast planks on roof of BAF Stair No. 1 and Electrical Room
- Completed installation of grit screw in Aerated Grit Chamber No. 1

**ii. Projected work items to be undertaken in the next month**

Ongoing work by the Contractor through the month of September 2018 includes the following:

- Continue electrical, HVAC, and plumbing punch list work at the Headworks Building
- Continue selective demolition and modifications (structural, mechanical process, HVAC, plumbing, roofing, and electrical) in the Grit Building
- Continue installation of grit chamber blowers and pumps in the Grit Building
- Continue installation and wiring of the Motor Control Center (MCC) in the Grit Building
- Continue installation of process equipment in Aerated Grit Chamber No.1
- Continue placing formwork, reinforcing steel, and concrete for the BAF Building elevated slabs, walls, and columns
- Continue installation of process piping in the Stage 1 BAF cells in the BAF Building
- Continue installation of process piping in the BAF Building Gallery
- Continue backfilling around the BAF Building
- Continue masonry work on the BAF Building
- Begin roofing installation on BAF Building Electrical Room and Stair No. 1
- Continue to export excavated materials and demolition materials off site
- Continue installation of underground electrical and communications ductbanks
- Continue formwork, reinforcing steel and concrete for the Solids Building columns, walls, beams, and elevated slabs
- Continue process piping and equipment installation in Solids Building lower level
- Continue excavation and installation of underground utilities between the Grit Building, and Solids Building, and BAF Building

Projected work to be completed by the Contractor in the month of September 2018 includes the following:

- Complete installation and start-up of Grit Chamber Air Blowers No. 2 and 3
- Complete facing brick installation on BAF Stair No.1
- Complete roofing on BAF Building Electrical Room and Stair No. 1
- Complete placement of Solids Building roof beams

**iii. Project percent complete based on payments to Contractor for work completed**

The following table provides a summary of the Contractor's requests for payment, and the resulting percent complete:

Original Contract Value	\$72,785,545.00
Change Order 1 – January 2017	\$ 367,290.42
Change Order 2 – May 2017	\$ 546,722.46
Change Order 3 – August 2017	\$ 93,838.31
Change Order 4 – December 2017	\$ 162,869.20
Change Order 5 – May 2018	\$ 249,828.16
<b>Contract Value Total</b>	<b>\$74,206,093.55</b>

Payment Application No.	Work Conducted Through	Amount	Cumulative Amount	Percent Complete Based on Contract Value Total
1	09/30/2016	\$1,393,500.00		
2	10/31/2016	\$2,855,100.00		
3	11/30/2016	\$1,717,330.09		
4	12/31/2016	\$1,374,011.19		
5	01/31/2017	\$1,524,496.35		
6	02/28/2017	\$1,327,078.04		
7	03/31/2017	\$2,767,152.62		
8	04/30/2017	\$2,449,209.70		
9	05/31/2017	\$1,876,920.03		
10	06/30/2017	\$2,345,659.10		
11	07/31/2017	\$2,242,655.50		
12	08/31/2017	\$4,028,468.63		
13	09/30/2017	\$2,757,371.30		
14	10/31/2017	\$2,306,338.15		
15	11/30/2017	\$1,884,478.12		
16	12/31/2017	\$2,151,295.60		
17	01/31/2018	\$1,621,113.58		
18	02/28/2018	\$1,218,795.24		
19	03/31/2018	\$1,737,412.52		
20	04/30/2018	\$1,546,079.40		
21	05/30/2018	\$1,428,583.12		
22	06/30/2018	\$2,638,097.36		
23	07/31/2018	\$1,250,957.12		
24	08/31/2018	\$2,351,471.12	\$48,793,573.88	65.75%

**Project percent complete based on time elapsed**

The contract time to the EPA required milestone for the BAF treatment system completion is 1186 calendar days. The total value of the contract (item iii) is based on the City’s contractual milestone for project substantial completion is 1368 calendar days.

The project is 61.6% complete based on the BAF treatment system completion as of August 31, 2018 and 53.4% complete based on project substantial completion.

**iv. Status of all required permit applications**

There are no pending permit applications.

**v. Status of Consent Decree milestones including identifying any problems encountered or anticipated, together with the proposed or implemented solutions**

The construction contract with Methuen Construction Company, Inc. was executed on August 25, 2016. A summary of all milestones required by the Consent Decree Second Modification is provided below.

<b>Milestone</b>	<b>Date</b>	<b>Status</b>
Execute Contract to Construct Upgrades	July 1, 2016 September 1, 2016*	August 25, 2016
Submit Two Additional Milestones for EPA Review and Approval	December 1, 2016	November 29, 2016
Additional Milestone 1: Transfer of the existing SCADA system to the new Headworks Building	November 21, 2017	October 18, 2017
Additional Milestone 2: Startup and testing of the Secondary Influent Pump Station in the new Solids Building	May 9, 2019	On Schedule
BAF Substantial Completion	December 1, 2019	On Schedule
Achieve Compliance with NPDES Permit Limits	April 1, 2020	On Schedule

\*At the request of the City of Portsmouth, all parties agreed that the Contract Execution Date could be revised to September 1, 2016 to allow more time for bidding and to accommodate the Portsmouth City Council’s review of bargaining alternatives prior to contract execution. The Contractor’s schedule for completion was reduced to accommodate the modified contract execution delay.

**vi. The monthly average discharge concentrations of total nitrogen for the preceding month, as required in Paragraph 8.b.ii of the Second Modification.**

The average concentration of effluent total nitrogen in the month of August 2018 was 26.0 mg/L TN. See attached report on page 11, which was submitted with the City’s August 2018 Discharge Monitoring Report (DMR) for NPDES Permit NH0100234.

As requested by the EPA, Consent Decree Mitigations, as required in Section IV, Paragraph 8, of the Consent Decree Second Modification, will be outlined in this monthly report.

ATTACHMENT A: A summary of the City's mitigation initiatives is provided detailing the status of each initiative.

ATTACHMENT A1: A summary of the City's commitments to date as required in Paragraph 8.e., Water Quality and Ecosystem Health Project, of the Consent Decree Second Modification.

ATTACHMENT A2: Supplemental Compliance Plan Sewer Separation Projects per Consent Decree, Section IV, Paragraph 12.c. On January 24, 2018, EPA, with NHDES concurrence, approved the updated CSO Supplemental Compliance Plan and implementation schedule as contained in the plan.

These monthly construction reports are posted on the City's wastewater website at <https://www.cityofportsmouth.com/publicworks/wastewater/resources>.

As required by the Consent Decree:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Please contact me at (603) 766-1416 if you have any questions or require additional information.

Sincerely,



Peter H. Rice, P.E.  
Director of Public Works

Enclosures

ec: Joy Hilton, USEPA Region 1  
Tracy L. Wood, NHDES Wastewater Engineering Bureau Administrator  
Allen Brooks, Esq., Department of Justice, Environmental Protection Bureau Chief  
Tonia Bandrowicz, Senior Enforcement Counsel, USEPA Region 1  
David Gordon, Esq., U.S. Department of Justice  
Tom Irwin, Esq., Conservation Law Foundation  
John P. Bohenko, City Manager, City of Portsmouth  
Suzanne Woodland, Deputy City Attorney  
Nancy Colbert Puff, Deputy City Manager  
Brian Goetz, Deputy Director of Public Works  
Terry Desmarais, City Engineer

## ATTACHMENT A: MITIGATION

This document summarizes the City’s mitigation initiatives as required in Section IV, Paragraph 8, of the Consent Decree Second Modification.

- a) Interim Enhanced Primary Treatment: Perform full scale piloting of alternative coagulant chemicals to see if settling performance can be improved.

<i>Current Status:</i>	<i>Completed:</i>
COMPLETED	JANUARY 9, 2018
<i>Comments:</i>	
EPA issued letter of approval to the City on January 9, 2018. Documents are available on the City’s Wastewater and Sewer webpage: <a href="https://www.cityofportsmouth.com/publicworks/wastewater/resources">https://www.cityofportsmouth.com/publicworks/wastewater/resources</a>	

- b) Nitrogen Removal: For a five year period, commencing June 1, 2020, achieve specific seasonal average total nitrogen effluent concentrations and monthly average total nitrogen effluent concentrations for the Peirce Island WWTF with the upgrade.

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
TREATMENT FACILITY UNDER CONSTRUCTION	NOTED ABOVE
<i>Comments:</i>	
A summary for this item is not necessary until the new Biological Aerated Filter (BAF) system construction is completed and fully operational. This is not required until April 1, 2020.	

- c) Stormwater Project: The City will implement a green infrastructure project(s) using innovative low-impact development approaches to significantly reduce stormwater pollution from one or more existing sites. Cost of project will be \$500,000.

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ONGOING	TBD
<i>Comments:</i>	
The City is proposing improvements at the recently purchased property behind the Department of Public Works. The City’s contract with engineering consultant, CMA, has been executed and a number of preliminary meetings have been conducted. The Conservation Law Foundation has been part of the early meetings to help scope the project and provide input to the conceptualized approach.	
The conceptual design will be developed and used to determine an implementation schedule. Work in this area will help to improve runoff water quality, which travels to Sagamore Creek.	

- d) Sagamore Avenue Sewer Extension Project: Implement a sewer extension project to provide public sewer service to approximately 83 existing parcels adjacent to or near Sagamore Avenue.

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ENGINEERING PRELIMINARY DESIGN PHASE 1	SUBSTANTIAL COMPLETION BY JUNE 30, 2022
<i>Comments:</i>	
The engineering consultant is analyzing the capacity of the existing sewer lines downstream of the proposed sewer extensions. Consultant prepared a draft evaluation report and it is under current review by City Staff.	

- e) Water Quality and Ecosystem Health Project:

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ONGOING	N/A
<i>Comments:</i>	
The City of Portsmouth met with members of Great Bay 2020 and CLF on March 15 <sup>th</sup> and April 12 <sup>th</sup> to discuss additional funding commitments. The parties have discussed multiyear planning for these expenditures and the current list of commitments is provided on Attachment A1.  <b>ATTACHMENT A1</b> details financial commitments.	

## ATTACHMENT A1: WATER QUALITY AND ECOSYSTEM HEALTH PROJECTS

This document summarizes payments made for the City's obligations under the Consent Decree Second Modified (No. 09-cv-283-PB), Paragraph 8.e. This item requires a contribution of \$500,000 over a period of five years to support water quality and ecosystem health efforts related to the Great Bay Estuary.

<b>Projects</b>	<b>Vendor/Agent</b>	<b>Status</b>	<b>Payment Date</b>	<b>Payment Total</b>
Great Bay Monitoring Collaborative	UNH	Paid	08/17/2016	5,000.00
Sagamore Creek Water quality monitoring project	FB Environmental Assoc.	Executed 08/21/2017	Monthly Invoicing	47,798.00
Sagamore Creek VRAP Water quality samples	CLF / VRAP / Eastern Analytical Laboratory	Ongoing: invoices paid by City	Intermittent Invoicing	261.00
Teachers on the Estuary	Great Bay Stewards	Paid	09/15/2017	7,000.00
Public outreach/education work	The Nature Conservancy	Paid	09/15/2017	14,000.00
Oyster Shell Recycling	CCA NH	Paid	10/20/2017	4,000.00
Great Bay Estuary Monitoring Support	UNH Sponsored Programs Administration	Paid	09/15/2017	6,000.00
Oyster Larval Study: larval supply natural spat recruitment	CLF / UNH	Paid	05/24/2018	8,000.00
Sagamore Creek 2018 water quality monitoring sampling	FB Environmental Assoc. & Laboratories	Executed 06/19/2018	Intermittent Invoicing	64,713.00
Data Sonde Purchase for Piscataqua Region Monitoring Collaborative	UNH	Paid	06/27/2018	20,000.00
Teachers on the Estuary	Great Bay Stewards	Paid	07/26/2018	7,500.00
Connect The Coast	The Nature Conservancy	Paid	08/23/2018	11,000.00
Great Bay Estuary clean-up events facilitated by Waterkeeper	Great Bay Stewards	Paid	08/30/2018	4,500.00
Soak Up the Rain initiative (DES, Waterkeeper, Great Bay Stewards)	Great Bay Stewards	Paid	08/30/2018	6,000.00
			<b>TOTAL</b>	<b>\$205,772.00</b>



## ATTACHMENT A2: SEWER SEPARATION PROJECTS

This document identifies and summarizes six sewer separation projects and one infiltration and inflow project (Contract #1) approved by the EPA in a letter to the City dated January 24, 2018. EPA, with NHDES concurrence, approved the updated CSO Supplemental Compliance Plan and implementation schedule as contained in the plan. The City shall:

- complete the six sewer separation projects and the Contract #1 wastewater collection system rehabilitation projects by no later than October 2023;
- complete the LTCP update by no later than October 2025; and
- provide project status on all seven projects as part of the monthly reports on compliance it will be submitting pursuant to Paragraph 6.a. of the Consent Decree Second Modification.

### 1. FLEET STREET: COURT ST TO HANOVER ST & PORTIONS OF ADJACENT STREETS

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
FLEET ST	ENGINEERING RFP IN DRAFT	TBD
<i>Comments:</i>		

### 2. PLEASANT STREET: AT THE INTERSECTION WITH COURT ST

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
PLEASANT ST	CONSTRUCTION	2019
<i>Comments:</i>		
Contractor completed installing water service connections to the new 12" water main and has removed the temporary water main. Completed installation of new sewer main and service connections. Beginning installation of drain main, approximately 50% complete. Scheduled to complete drain installation and reconstruct roadway in October.		

### 3. MCDONOUGH PHASE 3B: MCDONOUGH STREET FROM CORNWALL ST TO BREWSTER ST & LANGDON ST

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
MCDONOUGH PH 3B	CONSTRUCTION	SEPTEMBER 2018
<i>Comments:</i>		
Drainage and sewer construction is complete along the following streets: McDonough St west from Cornwall St to Langdon St, McDonough St east from Langdon St to Brewster St, Brewster St, and Langdon St.		
Certificate of Substantial Completion issued on December 8, 2017.		
Final Completion of the project, punch list and warranty items are ongoing.		
Anticipated project Final Completion is September 2018.		

4. ISLINGTON STREET PHASE 1: COLUMBIA ST TO ROUTE 1 BYPASS OVERPASS

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
ISLINGTON ST PH 1	FINAL DESIGN	2020
<i>Comments:</i>		
Project final design is 100% complete. Anticipate advertising for bids in the fall of 2018.		

5. MAPLEWOOD AVENUE: AT FAIRVIEW DR

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
MAPLEWOOD AVE	CONSTRUCTION	2019
<i>Comments:</i>		
Construction began the week of July 9, 2018. Construction activity included: installation and connections to the temporary water distribution system, installation of drainage pipe and structures, and installation of water main piping. Work on/at Fairview Drive is anticipated in late summer/fall 2018.		

6. UNION STREET: MIDDLE ST TO STATE ST & SECTIONS OF COFFINS CT & AUSTIN ST

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
UNION ST	ENGINEERING RFP IN DRAFT	TBD
<i>Comments:</i>		

7. SEWER REHABILITATION PROJECT

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
CONTRACT 1	PROGRAM IN DEVELOPMENT	TBD
<i>Comments:</i>		
<p>The City's goal is to increase capacity in the sewer collection system by reducing infiltration and inflow. A Sewer System Evaluation Survey (SSES) Infiltration Study was completed in December 2017. The study identified the highest priority areas of the wastewater collection system. They include: Gosling Road Basin: GR1 and the Lafayette Road Basins: LR3, LR4 &amp; LR6, and are proposed for rehabilitation as Contract No. 1 of the Study. An RFP for engineering design services will be developed. In addition, the City is moving forward with smoke testing in order to identify inflow sources. The results will be incorporated into any rehabilitation work.</p> <p>Smoke testing will begin the week of September 4, 2018 and continue for approximately six weeks. A web page has been created for public outreach and notification:  <a href="https://www.cityofportsmouth.com/publicworks/wastewater/sewer-smoke-testing">https://www.cityofportsmouth.com/publicworks/wastewater/sewer-smoke-testing</a></p> <p>The Study and Appendices are posted on the City's Wastewater and Sewer webpage:  <a href="https://www.cityofportsmouth.com/publicworks/wastewater/resources">https://www.cityofportsmouth.com/publicworks/wastewater/resources</a></p>		

# Peirce Island Effluent Nitrogen

August 2018

Date	1003 Inf Flow MGD	99959 Effluent Ammonia as N mg/l	99960 Effluent Nitrite/Nitrate-N mg/l	99961 Effluent TKN mg/l	99962 Total Nitrogen mg/l
8/1/2018	3.268	24	<1.0	34	35
8/2/2018	3.236	18	<1.0	24	25
8/3/2018	5.513				
8/4/2018	5.568				
8/5/2018	4.290				
8/6/2018	3.959				
8/7/2018	4.259	15	<1.0	22	23
8/8/2018	3.973	17	<1.0	24	25
8/9/2018	3.791				
8/10/2018	3.594				
8/11/2018	3.731				
8/12/2018	4.030				
8/13/2018	3.762				
8/14/2018	4.878	15	<1.0	25	26
8/15/2018	4.087	18	<1.0	21	22
8/16/2018	3.738				
8/17/2018	3.709				
8/18/2018	3.851				
8/19/2018	3.448				
8/20/2018	3.339				
8/21/2018	3.221	20	<1.0	24	25
8/22/2018	5.305	17	<1.0	17	18
8/23/2018	3.874				
8/24/2018	3.587				
8/25/2018	3.347				
8/26/2018	3.164				
8/27/2018	3.195				
8/28/2018	3.055	25	<1.0	32	33
8/29/2018	3.051	23	<1.0	27	28
8/30/2018	3.007				
8/31/2018	2.938				
Minimum	2.938	15	<1.0	17	18
Maximum	5.568	25	<1.0	34	35
Average	3.799	19	<1.0	25	26