



PUBLIC WORKS DEPARTMENT

CITY OF PORTSMOUTH

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October 24, 2017

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 September 2017
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 September 2017 is as follows:

- Completed installation of underground propane tanks and backfilled the excavation
- Completed installation of concrete pad for Headworks Building Odor Control System
- Completed installation of exterior windows, personnel doors, and canopies in the Headworks Building
- Completed installation of storm water quality structure and drainage bypass structure
- Completed installation of the precast Electrical Building

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

Ongoing work by the Contractor through the month of October 2017 includes the following:

- Ledge removal for the Biological Aerated Filter (BAF) Building
- Placing formwork, reinforcing steel, and concrete for the BAF structure base slab, elevated slabs, walls, and columns
- Installation of interior mechanical, electrical, HVAC, and plumbing work at the Headworks Building
- Continue to export excavated materials and demolition materials off site
- Switchgear installation in the Electrical Building
- Installation of odor control ductwork and equipment at the Headworks Building
- Installation of underground electrical and communications ductbanks
- Installation of miscellaneous site piping (drains, plant drains, city water)
- Continue fit-out of temporary trailers for City personnel
- City personnel relocation from the existing Administration Building to the temporary trailers
- Continue construction of the temporary primary sludge pumping structure inside Gravity Thickener No. 2
- Continue operation of the temporary bypass pumping system for primary sludge pumps
- Installation of temporary SCADA system components at the temporary trailers
- Relocation of the SCADA system from the Administration Building to the Headworks Building
- Begin demolition of the existing Administration Building

Projected work to be completed by the Contractor in the month of October 2017 includes the following:

- Completion of fit-out of temporary trailers for City Personnel
- Relocation of City Personnel from the Administration Building to the temporary trailers

- Relocation of the WWTF SCADA System from the existing Administration Building to the Headworks Building with remote operations in the temporary trailers
- Completion of Consent Decree Additional Milestone No. 1: Transfer of the Existing SCADA System to the New Headworks Building
- Relocation of the existing Primary Sludge Pumps to the temporary primary sludge pumping structure inside Gravity Thickener No. 2

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
Contract Value Total	\$ 73,793,396.19

Payment Application No.	Work Conducted Through	Amount	Cumulative Amount	Percent Complete Based on Contract Value Total
1	09/30/2016	\$1,393,500.00	\$ 1,393,500.00	
2	10/31/2016	\$2,855,100.00	\$ 4,248,600.00	
3	11/30/2016	\$1,717,330.09	\$ 5,965,930.09	
4	12/31/2016	\$1,374,011.19	\$ 7,339,941.28	
5	01/31/2017	\$1,434,502.03	\$ 8,864,437.63	
6	02/28/2017	\$1,136,436.97	\$10,191,515.67	
7	03/31/2017	\$2,697,828.60	\$12,958,668.29	
8	04/30/2017	\$2,431,878.69	\$15,407,877.99	
9	05/31/2017	\$1,876,920.03	\$17,284,798.02	
10	06/30/2017	\$2,345,659.10	\$19,630,457.12	
11	07/31/2017	\$2,242,655.50	\$21,873,112.62	
12	08/31/2017	\$4,068,458.93	\$25,941,571.55	
13	09/30/2017	\$2,757,371.30	\$28,698,942.85	38.89%

iv. 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 33.3% complete based on the BAF treatment system completion as of September 30, 2017 and 28.9% complete based on project substantial completion.

v. Status of all required permit applications

An application for the Installation of an Aboveground Storage Tank was submitted to NHDES on April 14, 2017. The tank is associated with a new standby generator at 200 Peirce Island Road, Portsmouth, NH. The application is still under review by NHDES as of September 30, 2017.

vi. 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.

Milestone	Date	Status
Execute Contract to Construct Upgrades	July 1, 2016 September 1, 2016*	Complete
Submit Two Additional Milestones for EPA Review and Approval	December 1, 2016	Complete
Additional Milestone 1: Transfer of the existing SCADA system to the new Headworks Building	November 21, 2017	On Schedule
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 barging alternatives prior to contract execution. The Contractor's schedule for completion was reduced to accommodate the modified contract execution delay.

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 average concentration of effluent total nitrogen in the month of September 2017 was 41.0 mg/L TN. See attached report, which was submitted with the City's September 2017 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. and letter from EPA dated July 10, 2017. Construction project status on all seven separation projects will be provided as part of the monthly report on compliance pursuant to Paragraph III.6.a. of the Consent Decree Second Modification.

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>Anticipated Completion Date:</i>
ONGOING	OCTOBER 2017
<i>Comments:</i>	
The Chemically Enhanced Primary Treatment (CEPT) Optimization Study Work Plan began in February 2017. The City has forwarded meeting notes regarding progress to the EPA via Joy Hilton. The field data collection work continued this month with the Aeries 252 product. The City anticipates discussing the field data with EPA in the next 30 days. The City will provide the Infiltration and Inflow (I/I) report to EPA on October 31, 2017.	

- 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 specific improvements are still in development and will be detailed in later reports. The City has conducted interviews of qualified engineers to assist with this project and anticipates planning and design will commence within the next 90 days. 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 City is working with an engineering consultant to do the preliminary pipe sizing for the low pressure sewer system for this project. The preliminary design work will begin in the fall of 2017.	

- e) Water Quality and Ecosystem Health Project:

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ONGOING	N/A
<i>Comments:</i>	
See Attachment A1	

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.

Projects	Vendor/Agent	Status	Payment Date	Payment Value
Great Bay Monitoring Collaborative		Paid	08/2016	5,000.00
Sagamore Creek water quality monitoring project	FB Environmental Associates	Contract Executed 08/21/2017	Monthly Invoicing	47,798.00
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	<i>Pending</i>	<i>Pending</i>	4,000.00
Great Bay Estuary Monitoring Support	UNH Sponsored Programs Administration	Paid	09/15/2017	6,000.00
TOTAL				\$83,798.00
REMAINING COMMITMENT				\$416,202.00

ATTACHMENT A2: SEWER SEPARATION PROJECTS

This document summarizes the project construction status on the seven sewer separation projects in the CSO Supplemental Compliance Plan dated June 18, 2017 and noted in the EPA letter to the City dated July 10, 2017. A final Supplemental Compliance Plan will be submitted to the EPA.

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	IN DESIGN	SPRING 2019
<i>Comments:</i>		
Project design phase is 75% complete.		

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	MAY 2018
<i>Comments:</i>		
Construction of drainage and sewer are as follows:		
<ul style="list-style-type: none"> • McDonough St west from Cornwall St to Langdon St is 100% complete. • McDonough St east from Langdon St to Brewster St is 75% complete. • Brewster St is 80% complete. • Langdon St is 100% complete. 		

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	TBD
<i>Comments:</i>		
City will finalize design plans in early 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	IN DESIGN	SPRING 2019
<i>Comments:</i>		
In fall 2017, final design will be completed.		

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>
TBD	TBD	TBD
<i>Comments:</i>		
In fall 2017, the City will receive the completed Infiltration and Inflow (I/I) study with recommendations for sewer rehabilitation. A copy of the document will be submitted to the EPA on October 31, 2017. This information will be used to define the limits of the sewer rehabilitation project.		

Peirce Island Effluent Nitrogen

September 2017

	1003 Inf Flow	99959 Effluent Ammonia as N	99960 Effluent Nitrite/Nitrate-N	99961 Effluent TKN	99962 Total Nitrogen
	MGD	mg/l	mg/l	mg/l	mg/l
Date					
9/1/2017	2.300				
9/2/2017	2.268				
9/3/2017	3.938				
9/4/2017	2.679				
9/5/2017	2.659	28	2.7	44	47
9/6/2017	4.391	14	<1.0	25	26
9/7/2017	5.216				
9/8/2017	3.369				
9/9/2017	3.098				
9/10/2017	2.912				
9/11/2017	2.894				
9/12/2017	2.794	22	2.7	43	46
9/13/2017	2.796	25	<1.0	47	48
9/14/2017	2.752				
9/15/2017	2.835				
9/16/2017	2.660				
9/17/2017	2.591				
9/18/2017	2.486				
9/19/2017	2.763	33	1.0	45	46
9/20/2017	2.689	29	<1.0	29	30
9/21/2017	2.820				
9/22/2017	2.696				
9/23/2017	2.544				
9/24/2017	2.494				
9/25/2017	2.535				
9/26/2017	2.563				
9/27/2017	2.585	25	1.1	38	39
9/28/2017	2.327	29	<1.0	42	43
9/29/2017	2.323				
9/30/2017	2.494				
Minimum	2.268	14	<1.0	25	26
Maximum	5.216	33	2.7	47	48
Average	2.849	26	<1.4	39	41