

## Meeting Notes

Subject	Peirce Island WWTF Upgrade – Monthly Public Construction Meeting
Date	October 21, 2020
Time	11:00 AM
Location	Portsmouth, NH

Due to the Coronavirus (COVID-19) State of Emergency, the October 21, 2020 public meeting was held live at 11:00 AM over a Zoom video call. A record of the discussion follows:

Terry Desmarais, City Engineer, gave an introduction to the meeting and outlined the topics of discussion, including work completed since the last meeting, work to be completed in the coming month, work anticipated in the next six months, construction cost to date, project schedule, and events and recreation.

The members of the Project Team in attendance introduced themselves, and included:

- Peter Rice, Director of Public Works
- Terry Desmarais, City Engineer
- Jon Pearson, AECOM Project Manager
- Andy Brodeur, Methuen Construction, Project Executive

Terry noted that to obtain additional information regarding the project, there is a project website that can be accessed through [www.cityofportsmouth.com/publicworks/wastewater/peirce-island-wastewater-facility/peirce-island-wastewater-facility-upgrade-project](http://www.cityofportsmouth.com/publicworks/wastewater/peirce-island-wastewater-facility/peirce-island-wastewater-facility-upgrade-project). The website is updated weekly with news and recreational information and contains a link to a reporting form that can be used to provide feedback or notify the City of any issues associated with the project. Terry Desmarais, City Engineer, is the point of contact for the City.

Jon discussed work that has been completed this month. He noted areas where work is ongoing at the site, including:

- Site Work
- Existing Sludge Processing / New Operations/Lab Building
- Chlorine Contact Tanks

Jon reviewed photos of construction progress, including:

- Site Overview – Existing conditions of the Peirce Island Wastewater Treatment Facility in November 2016. Prior to construction, the treatment process consisted of the Aerated Grit Chambers, followed by the Primary Clarifiers and Chlorine Contact Tanks.
- Site Work – Work to restore and bring the site to final grade is continuing. This includes seeding and landscaping. Installation of the remainder of the paving, granite curbing, and mowing strips. In addition, the permanent fence has been installed and electric operated gate has been installed, and the electric operator will be started up. This past month, the flagpole was also installed.

- Existing Sludge Processing Building/New Operations/Lab Building – The last major building at the site that is under construction is the conversion of the existing Sludge Processing Building to the new Operations/Lab Building. Work to complete the building envelope and install the metal panel façade for the Upper Level is continuing. On the roof of the building, work to install the HVAC equipment is continuing. On the Upper Level, door frames have been installed and painting of the drywall is continuing. In the Upper Level Bathrooms, installation of lockers has been completed and installation of tiling is continuing. The Lower Level is a process space and work to insulate and paint mechanical process piping is underway. The sodium hypochlorite and sodium bisulfite chemical metering pumps, and dedicated carrier water systems, have been installed and recently put into service. Installation of the HVAC system dedicated to the lower level is continuing. In the Electrical Room, electricians are continuing to pull wires to the Motor Control Center which distributes power for the various pieces of equipment. Permanent lighting has also started to be installed throughout the lower level.
- At the Chlorine Contact Tanks, stairs are continuing to be installed at the Final Effluent Distribution Box and on the east side of the tanks. In the existing chemical shed on the Chlorine Contact Tanks, the chlorine residual analyzers, which monitor residual chlorine levels in the final effluent of the Chlorine Contact Tanks, have been installed. Small diameter sampling lines which convey treated wastewater to the residual analyzers are being installed as well.

Andy discussed work anticipated for the coming month, including:

- Continue minor finish work at the Headworks Building, Grit Building, Solids Building, and BAF Building.
- Continue optimization of the BAF Building process.
- Continue integration of the BAF control system with the plant's SCADA system.
- Continue installation of the new Operations/Lab Building upper level metal wall façade.
- Continue installation of the restroom tile and rooftop equipment at the new Operations/Lab Building.
- Begin installation of laboratory casework, laboratory flooring, and acoustic ceiling tiles at the new Operations/Lab Building.
- Begin plumbing finish work in the upper level of the new Operations/Lab Building.
- Continue mechanical process work at the new Operations/Lab Building.
- Continue HVAC, electrical, plumbing and fire protection rough in work at the new Operations/Lab Building.
- Continue installation of chain link gates.
- Continue site restoration and paving.

Andy then discussed the work anticipated through October and through April 2021 includes:

- Headworks Building – Complete minor punch-list items.
- Grit Building – Complete minor punch-list items.
- BAF Building – Complete minor punch-list items.
- Solids Building – Complete punch-list items. Complete landscaping on the west side of the building.
- Existing Sludge / New Operations/Lab Building – Complete interior painting, installation of laboratory casework. Complete installation of all mechanical, electrical, plumbing, fire protection, mechanical process and chemical systems. Continue installation of flooring and ceiling systems as well. Complete installation of all doors, including overhead doors on the Lower Level. Complete installation of all stairs and railings, including those at the Chlorine Contact Tanks. Once the building is complete, relocate City operations staff from the temporary trailers into the new Operations/Lab Building.

- Primary Clarifiers – Complete installation of grating at the Primary Clarifier Effluent Distribution box.
- Site Work – Install remainder of the roadway paving and complete line striping of the roadway. Complete installation of the permanent WWTF perimeter fence and gates.

Jon provided an update on the project construction cost:

- Original Contract: \$72.786 million
- Change Order No. 1: \$0.367 million
- Change Order No. 2: \$0.547 million
- Change Order No. 3: \$0.093 million
- Change Order No. 4: \$0.163 million
- Change Order No. 5: \$0.250 million
- Change Order No. 6: \$0.292 million
- Change Order No. 7: \$0.169 million
- Change Order No. 8: \$0.113 million
- Change Order No. 9: \$0.242 million
- Change Order No. 10: \$0.123 million
- Total Contract: \$75.145 million

Jon provided a summary of the project milestones set by the Consent Decree and project schedule:

- Execute Contract for Construction Upgrades - Date: 9/1/2016 - Status: Complete
- Submit Two Additional Milestones for EPA Review and Approval - Date: 12/1/2016 - Status: Complete
- Additional Milestone 1: Transfer of the Existing SCADA system to the New Headworks Building - Date: 11/21/2017 - Status: Complete
- Additional Milestone 2: Startup and Testing of the Secondary Influent Pump Station in the New Solids Building - Date: 5/9/2019 - Status: Complete
- BAF Substantial Completion - Date: ~~12/1/2019~~ 12/31/2019 - Status: Complete
- Achieve Compliance with NPDES Permit Limits - Date: 4/1/2020 - Status: Complete
- Achieve Compliance with Consent Decree Total Nitrogen Limits\* - Date: June 1, 2020 – Status: Complete
- Project Substantial Completion – Date: ~~6/29/2020~~ Tentative 2/13/2021 - Status: In progress
- Project Final Completion – Date: ~~9/29/2020~~ Tentative 5/22/2021 - Status: In progress

\*Seasonal Limit: May through October

Jon noted that all of the Consent Decree milestones were met, however, due to a number of factors the project completion schedule has been extended from the original schedule.

Jon provided a description of the NPDES permit limits and Consent Decree total nitrogen limits. Effluent limits for total suspended solids (TSS) and biological oxygen demand (BOD) are regulated by the NPDES permit. The monthly average limit for both constituents in the plant effluent is 30 mg/L. These limits took effect April 1<sup>st</sup>. The monthly average of effluent BOD and TSS for February –September were presented and the effluent concentrations of the two constituents were well below the limit. See the table below for a summary.

**Peirce Island TSS and BOD Effluent Results**

	<b>TSS</b>	<b>BOD</b>
<b>2007 NPDES Permit Monthly Average Effluent Limit After April 1, 2020 (mg/L)</b>	30	30
<b>Recorded Monthly Average, February (mg/L)</b>	13.3	12.8
<b>Recorded Monthly Average, March (mg/L)</b>	17.3	9.8
<b>Recorded Monthly Average, April (mg/L)</b>	11	5.7
<b>Recorded Monthly Average, May (mg/L)</b>	13.6	6.4
<b>Recorded Monthly Average, June (mg/L)</b>	28.3	10.2
<b>Recorded Monthly Average, July (mg/L)</b>	27.4	9.8
<b>Recorded Monthly Average, August (mg/L)</b>	12.7	8.8
<b>Recorded Monthly Average, September (mg/L)</b>	8.0	8.3

As a requirement of the NPDES permit, samples of the WWTF effluent are taken 2-3 times a week and the BOD and TSS concentrations documented. The average concentration of all the samples taken per month is the monthly average that is reported to the NHDES and USEPA. The City is required to submit reports on the Peirce Island WWTF monthly averages on the 15<sup>th</sup> the following month. Thus, reporting for the month of October will not be issued until November 15<sup>th</sup>.

Jon proceeded to present the effluent results for total nitrogen (TN) over the months of February – September. The Consent Decree states that the seasonal monthly average (May thru October) for total nitrogen in the effluent be 8.0 mg/L or less. The data from the past several months shows that the TN concentration is decreasing which indicates that biomass necessary to accomplish nitrogen removal within the BAF is growing. The data for the month of September has been collected and it can be seen that the TN effluent concentration was below the permit limit by the Consent Decree schedule. See the table below for a summary of TN Effluent data.

**Peirce Island TN Effluent Results**

	<b>TN</b>
<b>Consent Decree Seasonal Monthly Average Effluent Limit (mg/L)</b>	8
<b>Recorded Monthly Average, February (mg/L)</b>	17.9
<b>Recorded Monthly Average, March (mg/L)</b>	16.1
<b>Recorded Monthly Average, April (mg/L)</b>	11.6
<b>Recorded Monthly Average, May (mg/L)</b>	9.5
<b>Recorded Monthly Average, June (mg/L)</b>	6.6
<b>Recorded Monthly Average, July (mg/L)</b>	4.9
<b>Recorded Monthly Average, August (mg/L)</b>	6.1
<b>Recorded Monthly Average, September (mg/L)</b>	4.0

The project team is continuing to coordinate construction with community events, however due to the Coronavirus (COVID-19) State of Emergency, there are no community events scheduled at this time.

Terry provided a description of the ongoing work for the Mechanic Street Wastewater Pump Station force mains. It was previously identified that the force mains that convey wastewater from the Mechanic Street Pump Station to the Peirce Island WWTF require repair work. This work is not a part of the ongoing construction contract work at the WWTF. In May of 2020, the 24" force main that runs under the Peirce Island Road Bridge was discovered to be in need of repair. That work has been scheduled and is anticipated to be completed in November of 2020. The buried portion of the 24" force main that runs from the Peirce Island Road Bridge to the WWTF has recently been found to be in need of replacement due to its condition. In addition, the parallel 18" force main that runs underground is planned to be replaced due to its age. In order to maintain flow conveyance until the 24" and 18" force mains can be replaced under a separate construction contract, a temporary force main will be installed above ground along Peirce Island Road, beginning after the bridge and continuing to the WWTF. This work is anticipated to cost \$0.35M. It is anticipated that access to the boat launch will be impacted for approximately 6-9 months. The work to install the temporary force main is underway. Funding alternatives for the force main replacement is currently under review and the anticipated cost is \$3.6M.

The meeting was opened to public input and comments, however, there were no additional attendees to the live video conference. Terry noted if there are questions, they can be submitted to him via email and responses will be provided.

The next public construction meeting will be November 18, 2020 at 11:00 AM. Whether the Public Meeting is held in person or via a video conference is to be determined prior to the next meeting.

These notes present a summary of the discussion that was held.