



Peirce Island WWTF Upgrade Construction
Public Information Meeting
December 16, 2020

Topics of Discussion

- Introductions
- Work Completed Since Last Meeting
- Work to be Completed in Coming Month
- Work Anticipated in Next 6 Months
- Project Construction Costs
- Project Schedule
- Effluent Results
- Events & Recreation
- Force Main Update
- Public Input/Comments/Concerns
- Next Meeting



Introductions

- City Staff:

- Terry Desmarais, City Engineer, 603-766-1421
tldesmarais@cityofportsmouth.com

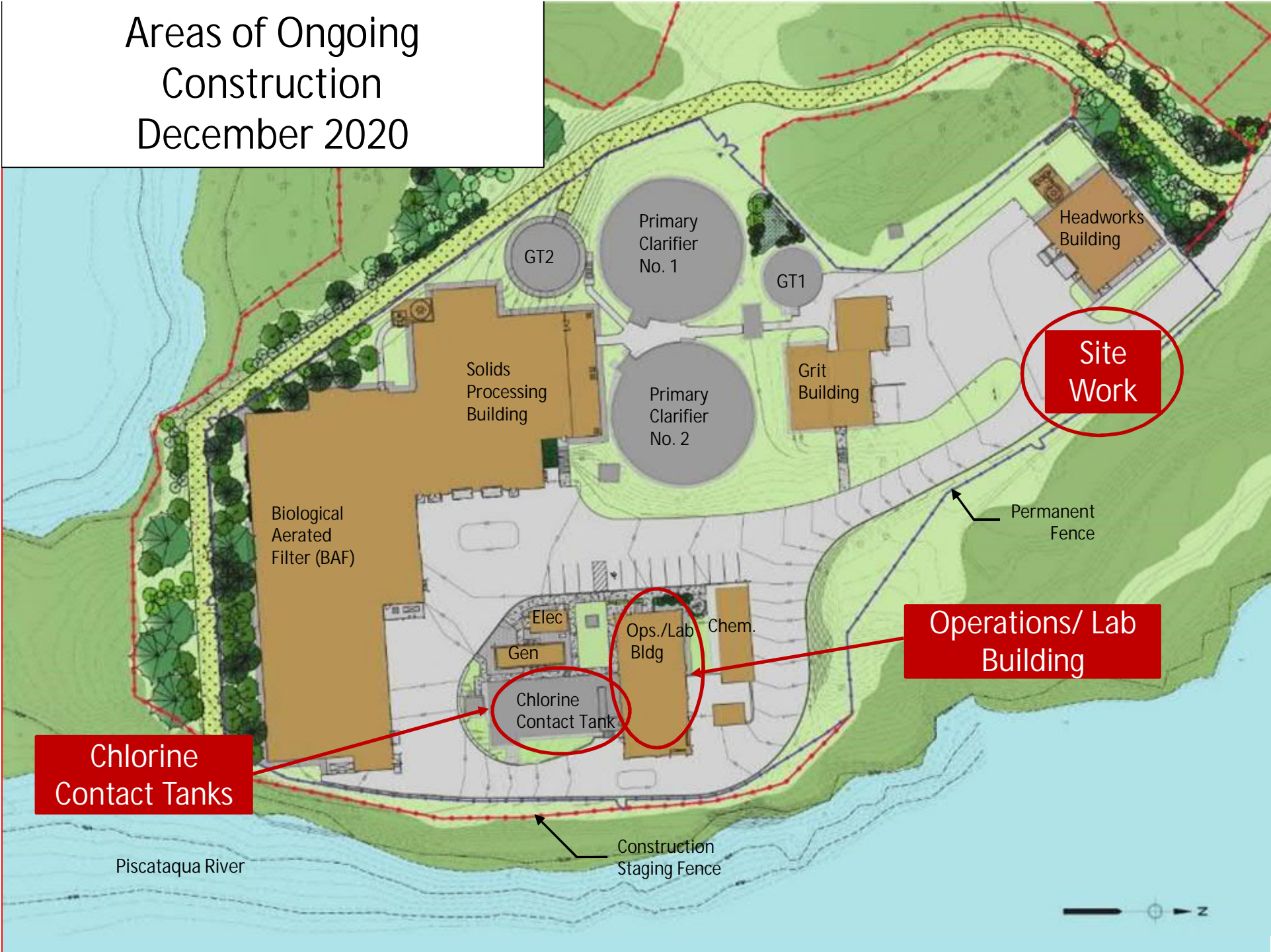
- Website:

<https://www.cityofportsmouth.com/publicworks/wastewater/peirce-island-wastewater-facility/peirce-island-wastewater-facility-upgrade-project>

- News and Updates
- Recreational Info
- Project Info
- Report Form
- Etc.



Areas of Ongoing Construction December 2020



Site Work

Operations/ Lab Building

Chlorine Contact Tanks

Piscataqua River

Construction Staging Fence

Permanent Fence

GT2

Primary Clarifier No. 1

GT1

Headworks Building

Grit Building

Solids Processing Building

Primary Clarifier No. 2

Biological Aerated Filter (BAF)

Elec

Gen

Ops./Lab Bldg

Chem.

Chlorine Contact Tank



Site Overview November 2016



December 16, 2020



Peirce Island WWTF Upgrade Construction

Work Completed Since Last Meeting



Chlorine Contact Tanks

Site Work

Operations/Lab Building



Work Completed Since Last Meeting



Site Work



Work Completed Since Last Meeting



Ops/Lab Building



Work Completed Since Last Meeting



Ops/Lab Building

December 16, 2020



Peirce Island WWTF Upgrade Construction

Work Completed Since Last Meeting



Ops/Lab Building



Work Completed Since Last Meeting



Ops/Lab Building



Work Completed Since Last Meeting



Ops/Lab Building

December 16, 2020



Peirce Island WWTF Upgrade Construction

12

Work Completed Since Last Meeting



Ops/Lab Building



Work to be Completed in Coming Month

- Continue minor finish work at the 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
- Complete installation of laboratory casework, and acoustic ceiling tiles at the Operations/Lab Building

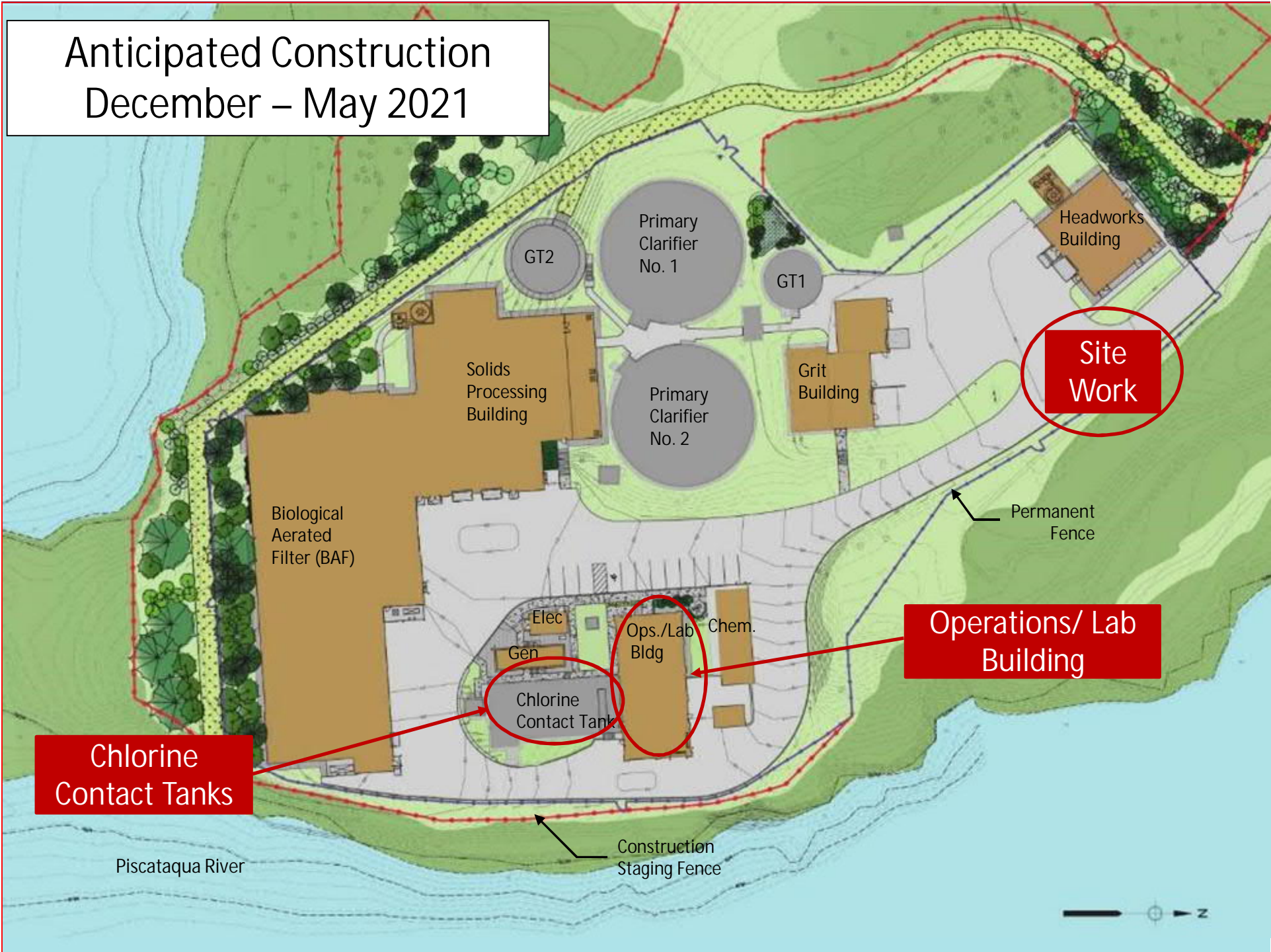


Work to be Completed in Coming Month

- Continue HVAC, plumbing, fire protection and electrical finish work in the Operations/Lab Building
- Continue chlorine analyzer work at the Chlorine Contact Tanks
- Continue site restoration



Anticipated Construction
December – May 2021



Site Work

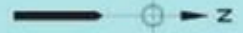
Operations/ Lab Building

Chlorine Contact Tanks

Piscataqua River

Construction Staging Fence

Permanent Fence



Project Construction Costs

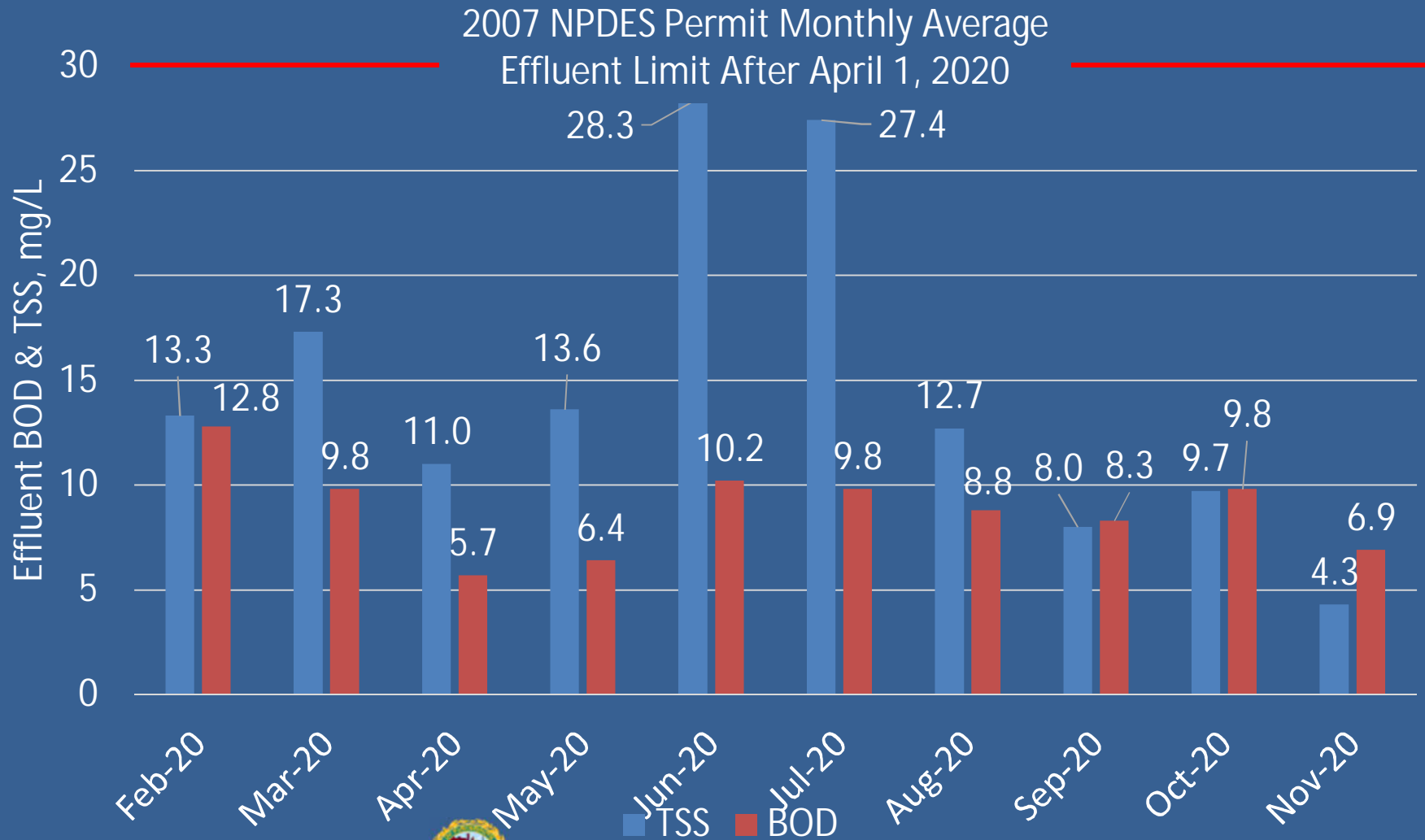
- Original Contract: \$72.786 million
 - Change Order No. 1: \$0.367 million
 - Change Order No. 2: \$0.547 million
 - Change Order No. 3: \$0.093 million
 - Change Order No. 4: \$0.163 million
 - Change Order No. 5: \$0.250 million
 - Change Order No. 6: \$0.292 million
 - Change Order No. 7: \$0.169 million
 - Change Order No. 8: \$0.113 million
 - Change Order No. 9: \$0.242 million
 - Change Order No. 10: \$0.123 million
 - Change Order No. 11: \$0.139 million
- Total Contract: \$75.284 million



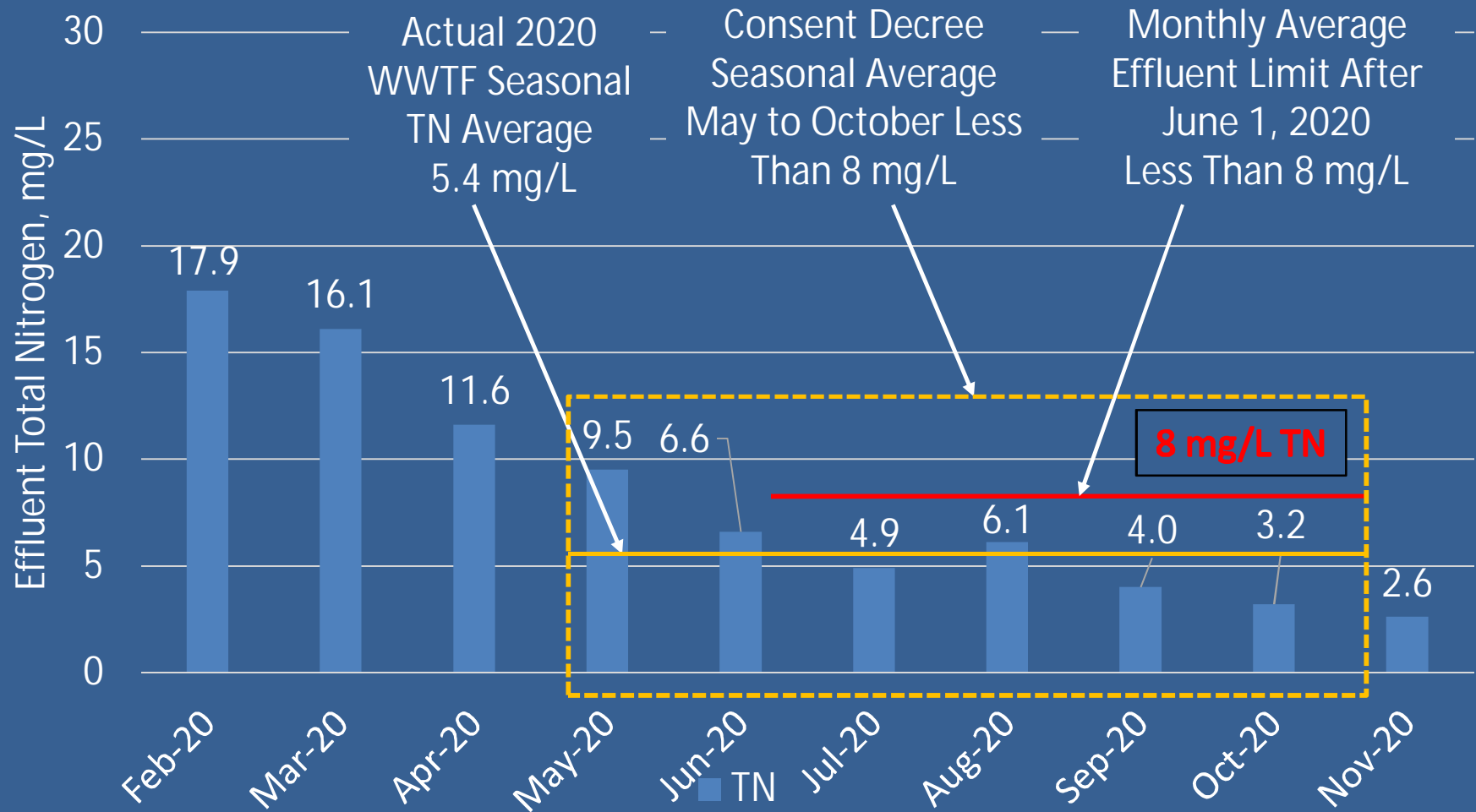
Project Schedule

Milestone	Date	Status
Execute Contract to Construct Upgrades	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	Complete
Additional Milestone 2: Startup and testing of the Secondary Influent Pump Station in the new Solids Building	May 9, 2019	Complete
BAF Substantial Completion	December 1, 2019 December 31, 2019	Complete
Achieve Compliance with 2007 NPDES Permit Limits	April 1, 2020	Complete
Achieve Compliance with Consent Decree Total Nitrogen Limits	June 1, 2020	Complete
Project Substantial Completion	June 29, 2020 Tentatively Feb 13, 2021	In Progress
Project Final Completion	September 29, 2020 Tentatively May 22, 2021	In Progress

Effluent Results



Effluent Results

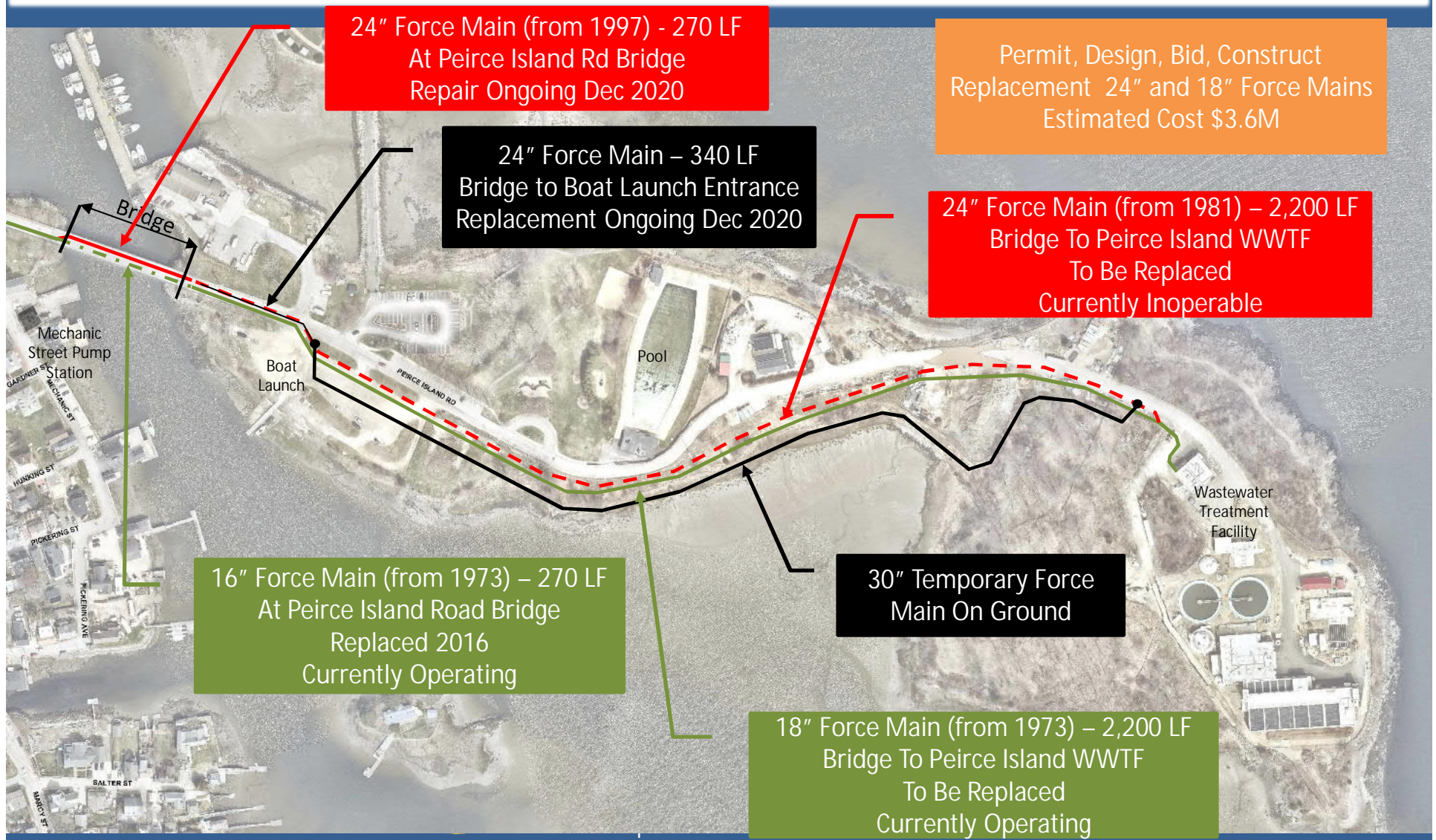


Events and Recreation

- Upcoming
 - No events scheduled.



\$3.6M Bond for Force Mains From Mechanic Street Wastewater Pump Station to Peirce Island WWTF





Public Input / Comments / Concerns

Next Meeting

- Public Construction Meeting
 - Next Meeting: January 20, 2021 11:00 AM



Meeting Notes

Subject	Peirce Island WWTF Upgrade – Monthly Public Construction Meeting
Date	December 16, 2020
Time	11:00 AM
Location	Portsmouth, NH

Due to the Coronavirus (COVID-19) State of Emergency, the December 16, 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, effluent results, events and recreation, and force main update.

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. 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 the site and staging areas is continuing. Demobilization is continuing.
- 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. The exterior sign has been added to the main entrance of the building. On the Upper Level, installation of the flooring is continuing. In the Laboratory, the new cabinetry has been placed and installation is underway, this includes plumbing and countertops. The suspended ceiling grid has been installed throughout the Upper Level. Work to install the plumbing fixtures is underway. In the Lower Level, permanent lighting is being installed, and painting of the fire protection lines is underway.

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.
- Complete installation of laboratory casework and acoustic ceiling tiles at the Operations/Lab Building.
- Continue HVAC, electrical, plumbing and fire protection finish work in the new Operations/Lab Building.
- Continue chlorine analyzer work at the Chlorine Contact Tanks.
- Continue site restoration.

Andy then discussed the work anticipated through December and through May 2021 includes:

- Grit Building – Complete minor punch-list items.
- BAF Building – Complete minor punch-list items.
- Solids Building – Complete punch-list items.
- Existing Sludge / New Operations/Lab Building – Complete installation of all mechanical, electrical, plumbing, fire protection, mechanical process and chemical systems. 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 and complete punch-list items.
- Chlorine Contact Tanks – Complete installation of the sampling pumps, analyzers and HVAC equipment.
- Primary Clarifiers – Complete installation of grating at the Primary Clarifier Effluent Distribution box.
- Site Work – Complete spring maintenance of plants and seeded areas and complete site restoration.

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
- Change Order No. 11: \$0.139 million

- Total Contract: \$75.284 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 Consent Decree milestones were met. The Project Substantial and Final Competition milestones are not a part of the Consent Decree.

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 1st. The monthly average of effluent BOD and TSS for February – November 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		
	TSS	BOD
2007 NPDES Permit Monthly Average Effluent Limit After April 1, 2020 (mg/L)	30	30
Recorded Monthly Average, February (mg/L)	13.3	12.8
Recorded Monthly Average, March (mg/L)	17.3	9.8
Recorded Monthly Average, April (mg/L)	11	5.7
Recorded Monthly Average, May (mg/L)	13.6	6.4
Recorded Monthly Average, June (mg/L)	28.3	10.2
Recorded Monthly Average, July (mg/L)	27.4	9.8
Recorded Monthly Average, August (mg/L)	12.7	8.8
Recorded Monthly Average, September (mg/L)	8.0	8.3
Recorded Monthly Average, October (mg/L)	9.7	9.8
Recorded Monthly Average, November (mg/L)	4.3	6.9

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 15th the following month. Thus, reporting for the month of December will not be issued until November 15th.

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 has developed. The data for the month of November has been collected and the TN effluent concentration was below the permit limit set by the Consent Decree. Data for the 2020 season has been collected and the actual WWTF seasonal TN effluent average was 5.4 mg/L, below the Consent Decree permit limit. See the table below for a summary of TN Effluent data.

Peirce Island TN Effluent Results	
	TN
Consent Decree Seasonal Monthly Average Effluent Limit (mg/L)	8
Recorded Monthly Average, February (mg/L)	17.9
Recorded Monthly Average, March (mg/L)	16.1
Recorded Monthly Average, April (mg/L)	11.6
Recorded Monthly Average, May (mg/L)	9.5
Recorded Monthly Average, June (mg/L)	6.6
Recorded Monthly Average, July (mg/L)	4.9
Recorded Monthly Average, August (mg/L)	6.1
Recorded Monthly Average, September (mg/L)	4.0
Recorded Monthly Average, October (mg/L)	3.2
Recorded Monthly Average, November (mg/L)	2.6
Actual 2020 WWTF Seasonal TN Effluent Average (May – Oct)	5.4

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 and replacement. 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 repair work is underway and is anticipated to be completed in December of 2020, and includes the replacement of a section of the buried 24” force main that extends from the Peirce Island Bridge to the Boat Launch. The buried portion of the 24” force main that runs from the Peirce Island Road Bridge to the WWTF is currently inoperable and is in need of replacement due to its condition and age. In addition, the parallel 18” force main that runs underground is planned to be replaced due to its age, however, it is still in operation. In order to maintain flow conveyance capacity until the 24” and 18” force mains can be replaced under a separate construction contract, a 30” temporary force main has been installed above ground along Peirce Island Road, beginning at the Boat Launch parking area and continuing to the WWTF. It is anticipated that access to the boat launch will be impacted for approximately 6-9 months. The work to install the 30” temporary force main is ongoing. The City Council has authorized a \$3.6M bond for the replacement of the 24” and 18” force mains that run underground from the Boat Launch to the WWTF. The design and permitting process for this replacement is being expedited.

The meeting was opened to public input and comments.

There was one participant during the live meeting, Andrew Bagley, who asked the following:

Q: When will the off-leash dog park be open?

A: Terry responded that the substantial completion date for the WWTF Upgrade is scheduled for February 2021. The City Council has decided to hold a combined work session with the Peirce Island Committee and DPW staff to discuss when the off-leash dog area and other public areas on Peirce Island will be re-opened. There will be some coordination challenges in opening selected areas due to the temporary force main installed aboveground along Peirce Island Road but the City would like to develop a plan to allow public access to the trail around the WWTF in a safe manner. The area that was once the off-leash dog area has recently been seeded so the area needs some time to allow for the grass to grow before allowing public access. Because of the recent seeding, it is likely that some areas will be off limits to the public for a longer period of time than the areas that did not require seeding.

Peter noted that although this area allows for dogs to be off leash, it is not a dog park. The off the off leash dog area is a multiuse recreation space at the entrance to several trails and adjacent to the river where the public is also permitted to walk through.

The next public construction meeting will be January 20, 2021 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.