



Peirce Island WWTF Upgrade Construction

Public Information Meeting

March 17, 2021

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

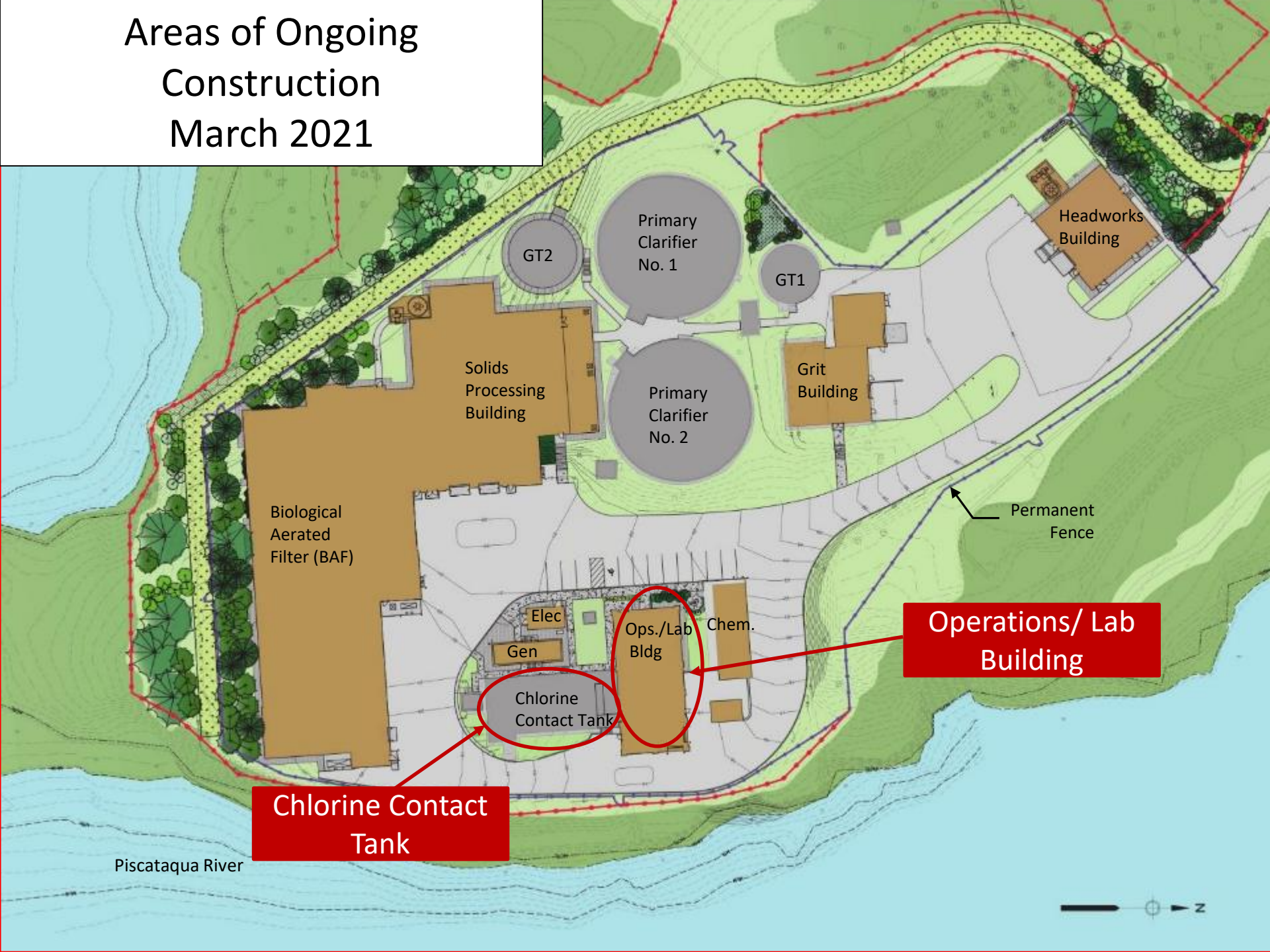


Introductions

- City Staff:
 - Terry Desmarais, City Engineer, 603-766-1421
 - Submit written comments/questions to: 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 March 2021



Chlorine Contact Tank

Operations/ Lab Building

Piscataqua River



Site Overview November 2016



Work Completed Since Last Meeting



**Chlorine Contact
Tank**

**Operations/Lab
Building**



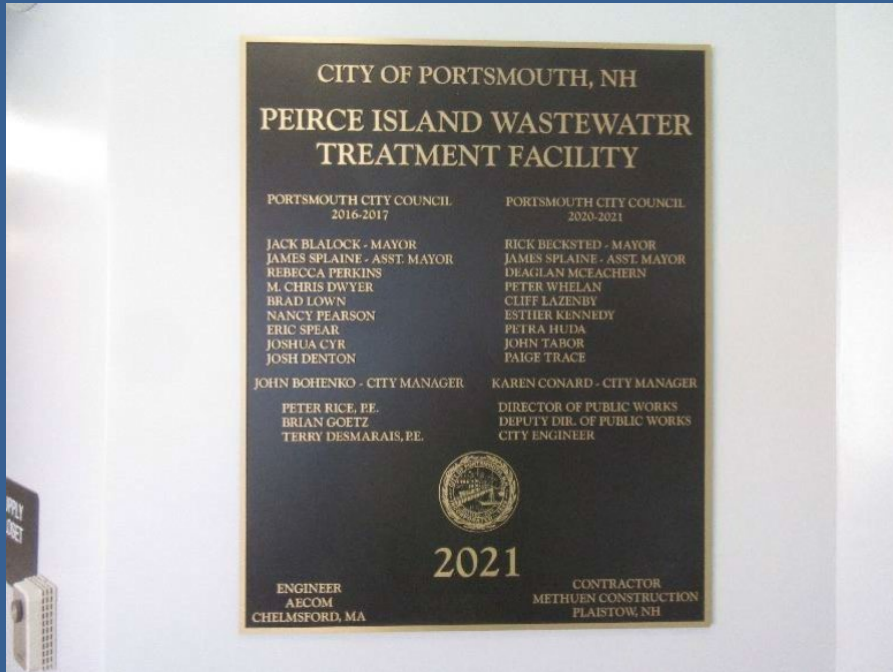
Work Completed Since Last Meeting



Ops/Lab Building



Work Completed Since Last Meeting



Ops/Lab Building



Work Completed Since Last Meeting



Ops/Lab Building



Work Completed Since Last Meeting



Work Completed Since Last Meeting



Ops/Lab Building



Work Completed Since Last Meeting



Chlorine Contact Tanks



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 architectural finishes, laboratory equipment, laboratory wiremold, and acoustic ceiling tiles at the Operations/Lab Building

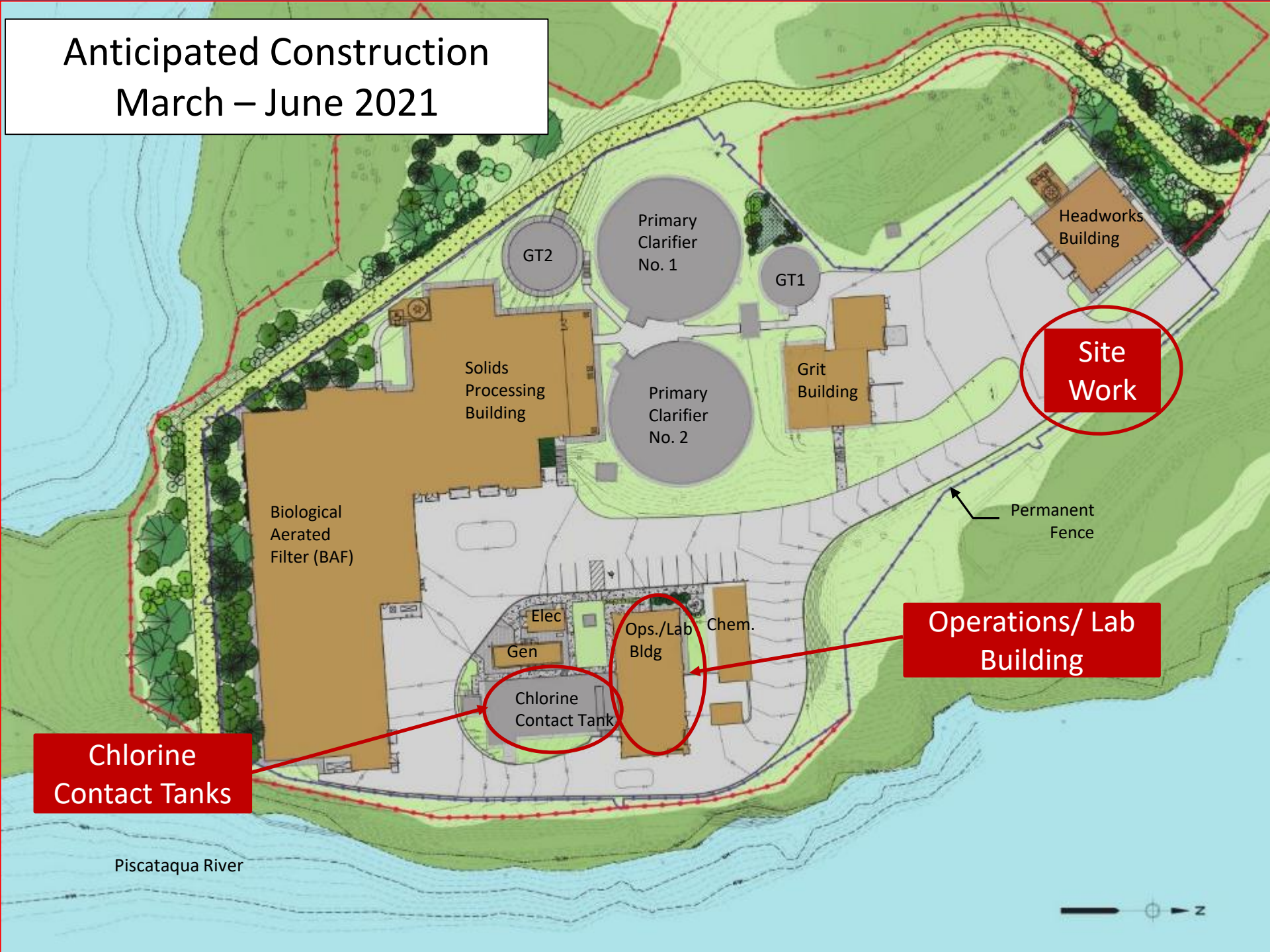


Work to be Completed in Coming Month

- 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 cleanup, removal of materials and equipment, and demobilization
- Begin move of the WWTF Staff into New Operations/Lab Building



Anticipated Construction March – June 2021



Site Work

Operations/ Lab Building

Chlorine Contact Tanks

Piscataqua River



Project Construction Costs

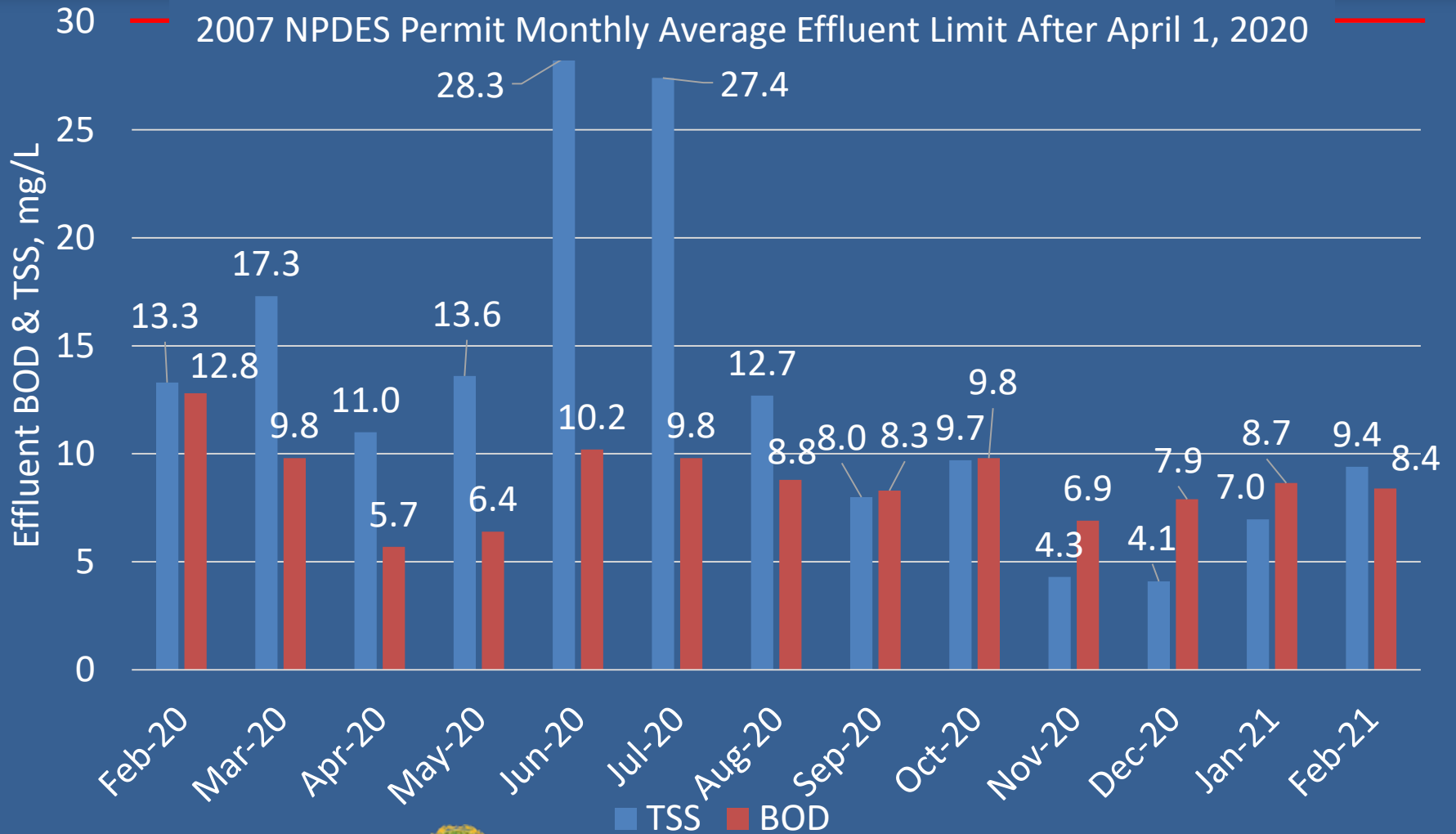
- Original Contract: \$72.786 million
 - Change Order No. 1: \$0.367 million
 - Change Order No. 2: \$0.547 million
 - Change Order No. 3: \$0.093 million
 - Change Order No. 4: \$0.163 million
 - Change Order No. 5: \$0.250 million
 - Change Order No. 6: \$0.292 million
 - Change Order No. 7: \$0.169 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



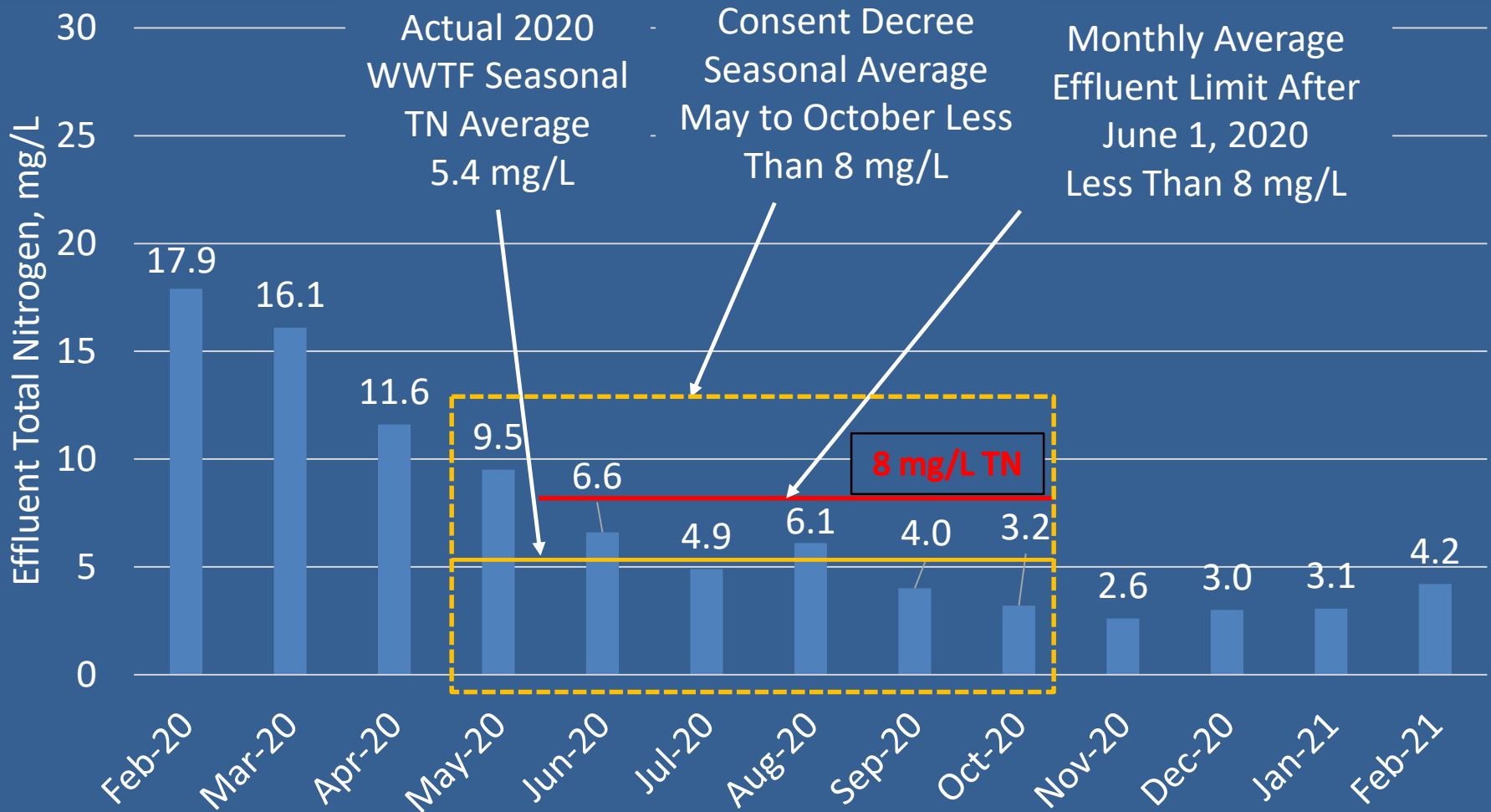
Project Schedule

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 March 30, 2021	In Progress
Project Final Completion	September 29, 2020 Tentatively June 3, 2021	In Progress

Effluent Results



Effluent Results

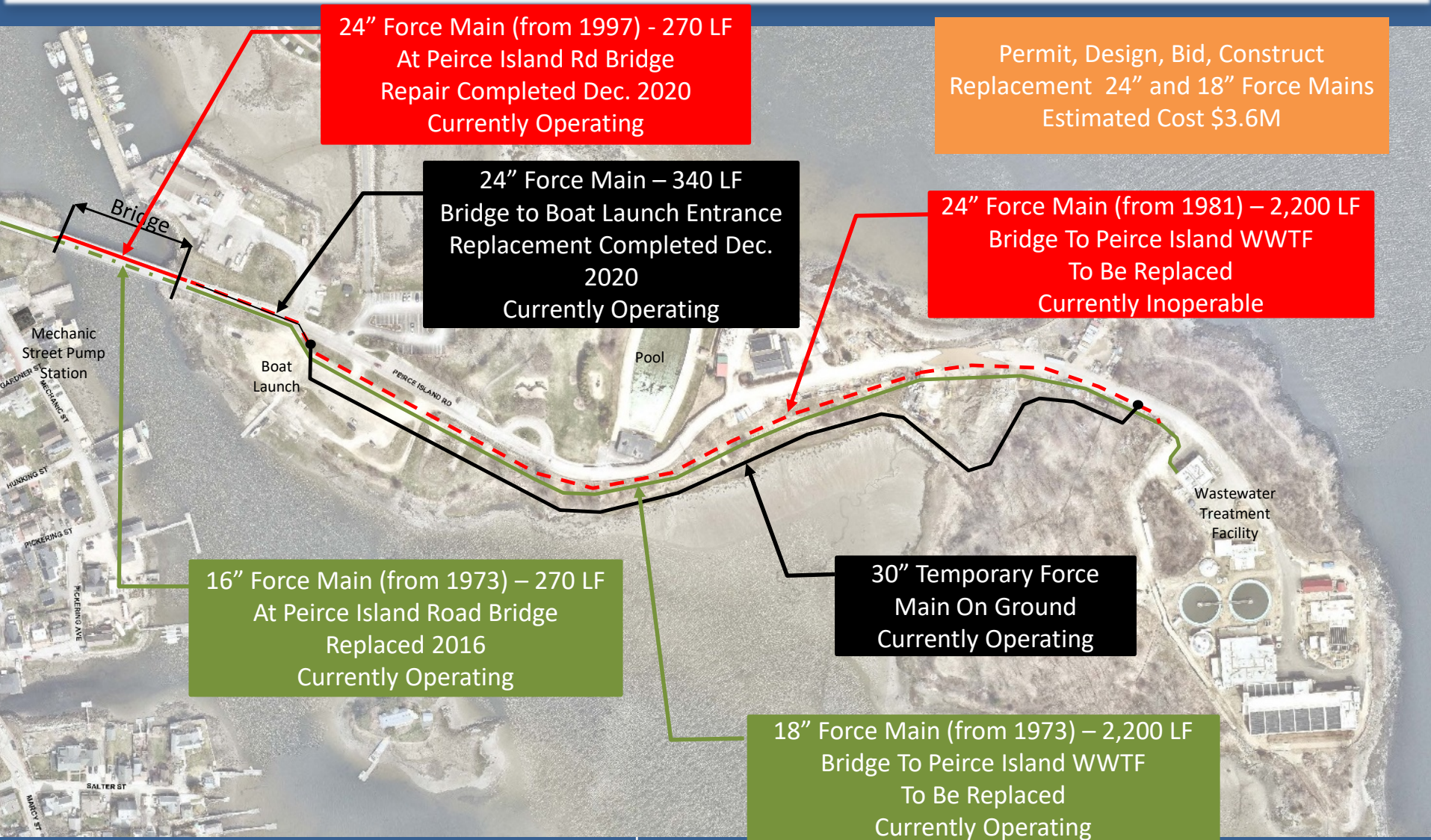


Events and Recreation

- 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: April 21, 2021 11:00 AM



Meeting Notes

Subject	Peirce Island WWTF Upgrade – Monthly Public Construction Meeting
Date	March 17, 2021
Time	11:00 AM
Location	Portsmouth, NH

Due to the Coronavirus (COVID-19) State of Emergency, the March 17, 2021 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

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:

- 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.
- 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. On the roof, the roof drain overflow scuppers have been installed. On the Upper Level, installation of architectural finishes such as touch up painting, window blinds,

and signage have been continuing, this included installation of the project's dedication plaque. As the building houses a laboratory, the plumbing system has been installed with neutralization tanks to neutralize any acids. On the Lower Level, completion of finish work is continuing, this includes floor sealants.

- Chlorine Contact Tanks – Work to wire and finish installation of chlorination and dechlorination analyzers and monitoring equipment is ongoing.

Andy discussed work anticipated for the coming month, including:

- 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 architectural finishes, laboratory equipment, 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 cleanup, removal of materials and equipment, and demobilization.
- Begin move of the WWTF Staff into New Operations/Lab Building.

Andy then discussed the work anticipated through June 2021 includes:

- Grit Building – Complete minor punch-list items.
- BAF Building – Complete minor punch-list items.
- Solids Building – Complete minor punch-list items.
- Existing Sludge / New Operations/Lab Building – Complete repair of the Maintenance Garage floor. Complete punch-list items and relocate City operations staff from the temporary trailers into the new Operations/Lab Building.
- Chlorine Contact Tanks – Complete installation of the sample pumps and analyzers. Complete work associated with CMR 229 and RFI 528.
- Site Work – Complete spring maintenance of plants and seeded areas, remove temporary trailers, 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
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- Change Order No. 9: \$0.242 million
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- 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 3/30/2021 - Status: In progress
- Project Final Completion – Date: ~~9/29/2020~~ Tentative 6/3/2021 - Status: In progress

*Seasonal Limit: May through October

Jon noted that all Consent Decree milestones were met. The Project Substantial and Final Completion 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 permitted monthly average limit for both constituents in the plant effluent is 30 mg/L. These limits took effect April 1, 2020. The monthly average of effluent BOD and TSS for February 2020 – February 2021 were presented and the effluent concentrations of the two constituents were well below the permit 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 2020 (mg/L)	13.3	12.8
Recorded Monthly Average, March 2020 (mg/L)	17.3	9.8
Recorded Monthly Average, April 2020 (mg/L)	11	5.7
Recorded Monthly Average, May 2020 (mg/L)	13.6	6.4
Recorded Monthly Average, June 2020 (mg/L)	28.3	10.2
Recorded Monthly Average, July 2020 (mg/L)	27.4	9.8
Recorded Monthly Average, August 2020 (mg/L)	12.7	8.8
Recorded Monthly Average, September 2020 (mg/L)	8.0	8.3
Recorded Monthly Average, October 2020 (mg/L)	9.7	9.8
Recorded Monthly Average, November 2020 (mg/L)	4.3	6.9
Recorded Monthly Average, December 2020 (mg/L)	4.1	7.9
Recorded Monthly Average, January 2021 (mg/L)	7.0	8.7
Recorded Monthly Average, February 2021 (mg/L)	9.4	8.4

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 March 2021 will not be issued until April 15th 2021.

Jon proceeded to present the effluent results for total nitrogen (TN) over the months of February 2020 – February 2021. 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 for the month of February 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. Jon discussed that the Biological Aerated Filter (BAF) treatment process continues to be fine tuned, and noted that even with the current cold air and wastewater temperatures, effluent total nitrogen continues to be approximately 3 mg/L.

Peirce Island TN Effluent Results

	TN
Consent Decree Seasonal Monthly Average Effluent Limit (mg/L)	8
Recorded Monthly Average, February 2020 (mg/L)	17.9
Recorded Monthly Average, March 2020 (mg/L)	16.1
Recorded Monthly Average, April 2020 (mg/L)	11.6
Recorded Monthly Average, May 2020 (mg/L)	9.5
Recorded Monthly Average, June 2020 (mg/L)	6.6
Recorded Monthly Average, July 2020 (mg/L)	4.9
Recorded Monthly Average, August 2020 (mg/L)	6.1
Recorded Monthly Average, September 2020 (mg/L)	4.0
Recorded Monthly Average, October 2020 (mg/L)	3.2
Recorded Monthly Average, November 2020 (mg/L)	2.6
Recorded Monthly Average, December 2020 (mg/L)	3.0
Recorded Monthly Average, January 2021 (mg/L)	3.1
Recorded Monthly Average, February 2021 (mg/L)	4.2
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 was completed in December 2020 and included 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 Boat Launch 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 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 and should not overlap with ongoing work at the WWTF. Terry noted that the City is looking into alternatives to open up Peirce Island for recreational purposes.

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 April 21, 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. It was noted that the April 21st meeting will likely be the last Public Meeting held and will include a video tour of the facility.

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