STATUS REPORT

Progress and Improvements

DPW BUREAU/OFFICE Patapsco Wastewater Treatment Plant (Patapsco) Date 8/29/22

Parameter	Week ending 8/19/22	Week ending 8/26/22	Weekly Permit Limit	Monthly Permit Limits	Weekly Limits Met?	Monthly Limits Met?
Total Suspended Solids (TSS)	6 mg/L	8 mg/L	45 mg/L	30 mg/L	Yes	Yes
Biochemical Oxygen Demand (BOD)	8 mg/L	8 mg/L	45	30	Yes	Yes
Total Phosphorus (TP)	0.6 mg/L	.6 mg/L	3.0	2.0	Yes	Yes
Ammonia (NH_3)	7.7 mg/L	7.1 mg/L	N/A	6.3	N/A	No**
Enterococci	7 MPN/100 mls	6 MPN/100 mls	N/A	35 MPN/100 mls	N/A	Yes

N/A= Not Applicable MPN= Most Probable Number

****Repairs to the liquid oxygen (LOX) plant were completed on August 9, 2022. Patapsco is beginning to see improvements in Ammonia levels, which will positively impact our Total Nitrogen loading.

Training and Education Updates

Maryland Center for Environmental Training's (MCET) recertification training has been approved, and dates for on-the-job professional development are set for this week. These sessions will allow staff to continue education and maintain qualifications to comply with the 5A license.

Additionally, the city has partnered with NTT Training, a Subsidiary of ECPI University. ECPI provides online and in-person training for mechanical and electrical trades to benefit ongoing professional development for electrical and maintenance craft technicians. The next class is slated for mid-September and will center on medium-voltage electricity work.

Maintenance Updates

Repairs to the Liquid Oxygen Plant (LOX) main compressor and motor were completed in early August, and ammonia levels dropped dramatically. The backup compressor and motor repairs are nearing completion, along with the main compressor. The system will have full redundancy once completed and installed in late September, which will further improve the removal of Ammonia in the effluent and get us within permit limits. This will allow us to have a backup system that can provide full service without any impact on the treatment process. Should the primary fail, the backup is used to continue full operations while the primary is repaired.

Gravity Sludge Thickener (GST) #4 repairs are underway. Completion of this work is scheduled for January 2023. The remaining two GSTs are in service and will have their skimmer blades replaced upon receipt from the manufacturer. The current lead time on the blades is 4-6 weeks; each blade replacement will take 1-2 days. Skimmer blades attach to the arm of the clarifier and skim the top of the water within the tank. The purpose is to remove scum and floatables on top of the water from the process

The Enhanced Nutrient Removal facilities are all fully in service for Nitrogen removal. These newly constructed facilities are to address the strict permit limits for nutrients in the effluent discharged to the Patapsco River, ultimately for the protection of Chesapeake Bay.

The scum collection system at the Primary Settling Tanks (PSTs) is under repair. The current operation is manual rotation and operation in conjunction with manual skimming. The repairs will replace all the actuators allowing for automatic control based on water levels. Additionally, weir walls are being added behind the scum troughs for PSTs #1-3 to prevent Fats, Oils, and Grease (FOG) and scum from making its way past the scum troughs and into the PST effluent. Materials have been ordered for this work, which is currently slated for completion in February 2023. The repair of the scum collection system indicates progress towards minimizing FOG in downstream systems from the PSTs.

Summary

The return of the LOX plant immediately impacted Ammonia levels at the plant, and meeting permit levels are imminent. The continued growth of the Biological process will further reduce ammonia levels and aid in nitrification. Improved nitrification will help to lower the total Nitrogen in the effluent. As we continue, we are confident in a clear path forward to compliance at the Patapsco Wastewater Treatment Plant.