Chemical Phosphorus Removal, OWRP

Project Number 20-087-3P

Service Area North

Location O'Brien WRP

Engineering Consultant In-house design

Engineering Contractor To be determined

Estimated Construction Cost $16,788,456

Contract Award Date February 2025

Substantial Completion Date March 2027

Project Description This project will provide a chemical phosphorus removal system at the O'Brien WRP. Aluminum sulfate (alum) is the chemical that will be used to remove phosphorus from the treatment process. It will be dosed at the effluent channel of aeration tanks in Batteries A, B, C, and D. Once Battery E is constructed, alum will also be dosed to its final tanks. The project will include chemical storage tanks and alum feed pumps as well as piping, instruments, and electrical work. Chemical phosphorus removal will be used as a back-up for the future enhanced biological phosphorus removal process in Batteries A, B, C, D and E.

Project Justification This project addresses the District's National Pollutant Discharge Elimination System (NPDES) permit, which will require a 1.0 mg/L effluent limit for phosphorus by 2027. The chemical removal system will allow the O'Brien WRP to achieve compliance with the NPDES permit phosphorus effluent limit during any upsets with the future enhanced biological phosphorus removal process in Batteries A, B, C, D and in the future Battery E. The process has proven to be effective in achieving the 2030 phosphorus effluent requirement of 0.5 mg/L. This new facility will allow chemical polishing to ensure that the effluent phosphorus limitations in the NPDES permit are consistently met.

Project Status Design