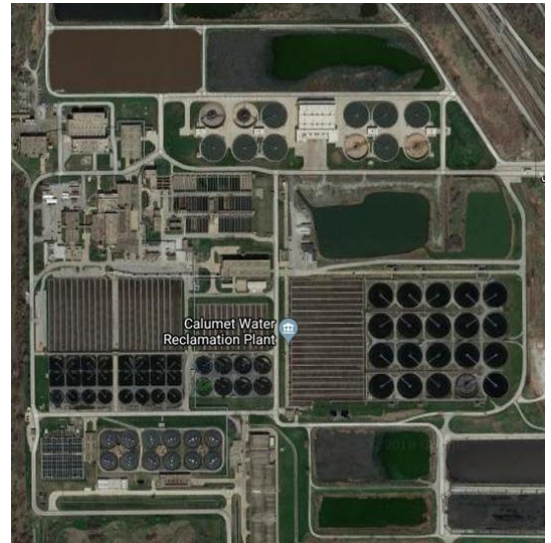


S2EBPR Pilot Study, CWRP

Project Number	18-248-3P
Service Area	Calumet
Location	Calumet WRP
Engineering Consultant	In House Design
Engineering Contractor	To be determined
Estimated Construction Cost	\$1,330,000.00 to \$1,610,000.00
Contract Award Date	December 2019
Substantial Completion Date	August 2020



Project Description

The Calumet WRP has attempted to remove phosphorus through enhanced biological phosphorus removal (EBPR). Due to the influent sewage characteristics, this has proven to be impossible without the addition of carbon to assist the process or major infrastructure changes. Before initiating major infrastructure changes at a plant of Calumet WRP's size, the Phosphorus Task Force would like to attempt Sidestream EBPR (S2EBPR), which uses Return Activated Sludge (RAS) fermentation, to assist with EBPR at a pilot scale level. This project will entail isolating two tanks in Battery A, redirecting roughly 20 percent of RAS from Battery A into these two channels, allowing this RAS to ferment, and then reintroducing the fermented RAS to the mixed liquor flow. Pumps and mixers will be installed for the pilot test, which is expected to last for approximately one year.

Project Justification

Per District's 2019 update to the 2015-2020 Strategic Business Plan: Goal 2 - Excellence, the District will potentially identify an approach to reduce the amount of external carbon needed for EBPR, if the S2EBPR pilot is successful. In addition, if the pilot is successful, the EBPR approach could be used, rather than chemical phosphorus removal to meet the current National Pollutant Discharge Elimination System permit. Chemical phosphorus removal would require the addition of ferric or alum to remove phosphorus, increasing operating costs by added chemical and from sludge processing.

By removing phosphorus from the Calumet WRP's effluent, the District will reduce phosphorus discharged to the receiving stream and mitigate eutrophication in the Gulf of Mexico, thus improving the environment.

Project Status Design