Digester Rehabilitation and Gas Piping Replacement Phase II, SWRP

Project Number:	18-148-3P
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Location: Stickney WRP

Engineering Consultant: In House Design

Engineering Contractor: To be determined

Estimated Construction Cost: \$35,954,000.00

11/23

Contract Award Date:

Substantial Completion Date: 11/29







Project Description

Project

Justification

The work will remove all heavy solids in Digesters 1 through 10, which have accumulated and are not removable through the sludge draw-off system. The work will include replacement of internal gas piping, draw off piping, sediment tanks, and appurtenances with stainless steel, and restoring the mixing system components to a working condition. In addition, the removal of the abandoned 20" gas main from Contract 17-140-3P, separating areas in the West Digester Control Building into NFPA-classified and unclassified areas, installation of new MCCs and controls in unclassified areas and removal of existing non-NFPA compliant electrical gear from classified areas. Access to facilities will be modified to accommodate newly designated areas. Condensate piping will be relocated as necessary and new electrical conduits will be run in the location currently occupied by the abandoned gas main.

Anaerobic digesters accumulate dense solid deposits through the years of operation, which reduces the usable volume of the digester and requires periodic draining and cleaning. Recent work by the M&O Department uncovered extensive fouling of the existing digester gas piping and iron sulfide build up. Replacement of gas piping is required to ensure safety of operations and adequate capacity to convey the additional digester gas expended from the replacement of the Imhoff Tanks to primary settling tanks. Revisions to NFPA classification requirements have resulted in much of the electrical gear in the digester clusters being non-compliant with current codes, including MCCs, conduits, controls, and other equipment. Separation of areas into classified and unclassified areas allows the installation of new equipment in unclassified areas, increasing safety for personnel and the physical plant. Removal of the abandoned 20" gas main provides a large area through which new electrical conduits may be run.