



CASE STUDY:

CHELAN COUNTY PUBLIC UTILITY DISTRICT NO. 1

*25,000 GPD CEMPAC Sludge Thickening System
Peshastin, WA*



DESIGN PARAMETERS

MODEL SUPPLIED: CEMPAC

INFLUENT PARAMETERS

AVERAGE DAILY FLOW 25,000 GPD

INFLUENT TYPE FILTER BACKWASH/WAS

AVERAGE TOTAL SUSPENDED SOLIDS (TSS)

WASTE ACTIVATED SLUDGE (WAS)

DESIGN WEEKLY FEED VOLUME 49,000 GALLONS

AVERAGE INLET CONCENTRATION 1,500 MG/L

AVERAGE TEMPERATURE 68°F

AVERAGE pH 7.5

BACKWASH FROM EFFLUENT FILTER USED FOR PHOSPHORUS REMOVAL WITH $FeCl_3$

SINGLE FILTER PEAK
BACKWASH DAILY FEED 13,000 GALLONS

DUAL FILTER PEAK
BACKWASH DAILY FEED 26,000 GALLONS

THICKENED SLUDGE CHARACTERISTICS:

TSS 4-5%

PROJECT TEAM

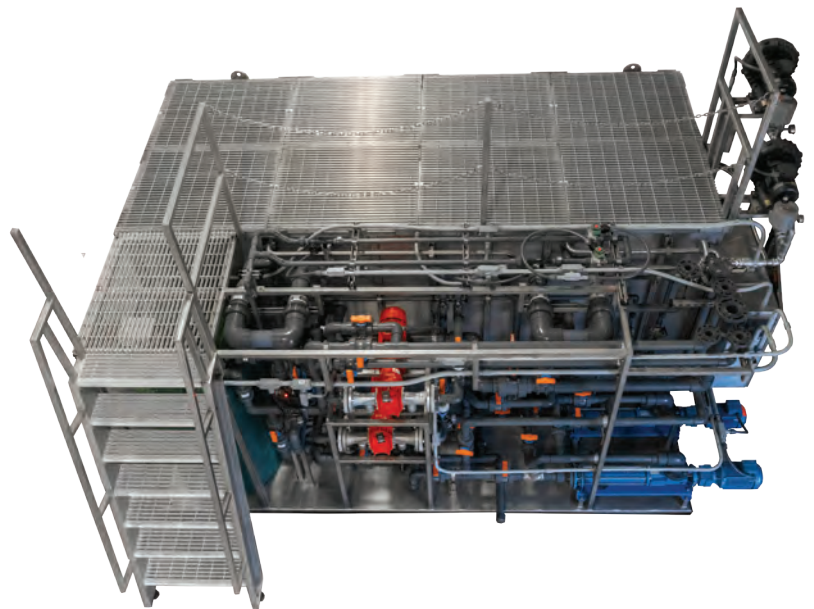
CHELAN COUNTY PUD

WWW.CHELANPUD.ORG

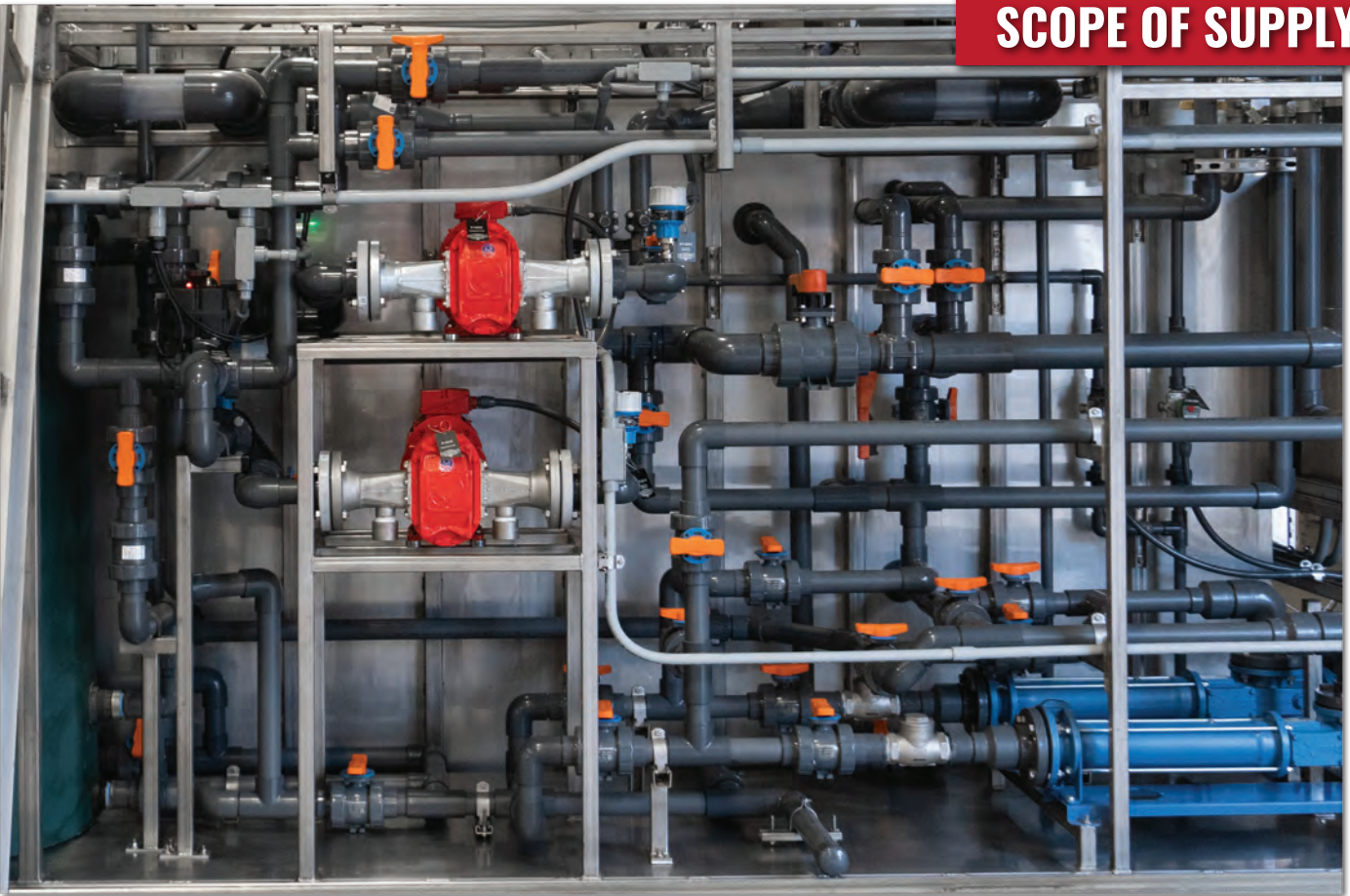


OVERVIEW

Cloacina designed and built a CEMPAC Sludge Thickening System utilizing SiC Flat Sheet Membranes for the Chelan County Public Utility District No. 1 which was partially funded by the Washington Department of Ecology. The system was a dual-train thickener, with each train consisting of four membrane cassettes. Each train was designed to be individually configurable for the specific feed source, which consists of filter backwash and Waste Activated Sludge (WAS). This system was designed and is currently operating without any polymer injection to achieve the desired results.



For project videos, additional photos and more information, visit cloacina.com/chelancountypud



CLOACINA SUPPLIED THE FOLLOWING FOR THIS PROJECT:

MODEL OVERVIEW: Cloacina provided a duplex CEMPAC Sludge Thickening System capable of processing more than 50,000 gallons per day of WAS and/or filter backwash. The unit was specifically designed to fit into a narrow installation footprint in the newly-upgraded wastewater treatment plant building. Each train is capable of automated sludge thickening, complete with automated feed and thickened sludge removal systems. SiC membranes came complete with automated Clean-In-Place (CIP) functionality.

EQUIPMENT: Cloacina CEMPAC Sludge Thickening System with SiC Flat Sheet Membranes

INTEGRATION: The CEMPAC controls system was built and programmed using the Allen Bradley platform, allowing for integration into the wastewater treatment plant's SCADA system

CLARIFICATION: 8 Cloacina CLFSM550 4 cassettes with .2 micron pore size

CONTROLS: Allen Bradley