

MARQUETTE WASTEWATER TREATMENT PLANT SOLIDS HANDLING

STATE PROGRAM: Michigan Department of Environment, Great Lakes, and Energy

ASSISTANCE RECIPIENT: City of Marquette

ASSISTANCE AMOUNT: \$12.5M



PROJECT DESCRIPTION

The City of Marquette struggled with the management of residual solids from its wastewater treatment plant (WWTP). The City's plant also struggled to comply with dissolved oxygen levels in its effluent when Lake Superior has high water levels. In response to these challenges, the City of Marquette is constructing a new dewatering facility that will thicken and dewater residual solids. Anaerobic digestion will produce biogas to help power and heat the WWTP. The City's goal is to process 100,000 gallons of sewage monthly, which would result in an estimated 34% increase in biogas production and energy, offsetting the facility's reliance on natural gas. The WWTP will also transition from primarily liquid to dewatered biosolids. Liquid biosolids disposal volume is estimated to be reduced by 700,000-gallons per year, or approximately 120 6,000-gallon trucks. The upgraded plant will also feature an energy efficient fine bubble diffuser, which will increase dissolved oxygen concentrations in the plant's effluent and help to protect the water quality and freshwater ecosystem of Lake Superior. The project received \$12.5 million in CWSRF assistance, including \$5.9 million in principal forgiveness .

To read more about this case study, please visit <https://www.epa.gov/system/files/documents/2024-04/cwsrf-pisces-2023-recognition-program.pdf>.