Clean Water
State Revolving Fund

HAVRE WASTEWATER SYSTEM IMPROVEMENTS

STATE PROGRAM: Montana Department of Environmental Quality

ASSISTANCE RECIPIENT: City of Havre

ASSISTANCE AMOUNT: $10.4M

PROJECT DESCRIPTION

The Montana Water Pollution Control SRF provided over $10 million in assistance to the City of Havre to fund necessary improvements to their activated sludge treatment plant. This nearly 40-year-old WWTP needed upgrades to help meet their final ammonia and residual chlorine limits. The existing treatment system was converted to a 1.8 MGD biological nutrient removal system and existing aerobic basins were rehabilitated. Additional basins were constructed to create anaerobic, anoxic, and aerobic environments needed for treatment. These basin configurations promote nitrification and denitrification for nitrogen removal, as well as enhanced biological phosphorus removal. The existing chlorination system was replaced with an ultraviolet disinfection system. To further enhance the biological phosphorus removal process, 10 gallons of waste barley mash from a local brewery gets added daily as an external source of carbon and volatile fatty acid supplement. These improvements have allowed the facility to continuously meet all permit effluent limits and has significantly improved the operability, reliability, and treatment capability of the facility. These upgrades have greatly improved the quality of wastewater effluent discharged to the Milk River, particularly with respect to nutrient levels and ammonia toxicity.

To read more about this case study, please visit https://www.epa.gov/sites/default/files/2019-11/documents/pisces_2019_compendium.pdf.