Clean Water
State Revolving Fund

PHOSPHORUS RECOVERY SYSTEM

STATE PROGRAM: Illinois Environmental Protection Agency

ASSISTANCE RECIPIENT: MWRD of Greater Chicago

ASSISTANCE AMOUNT: $36.8M

PROJECT DESCRIPTION

When the Metropolitan Water Reclamation District of Greater Chicago used CWSRF financing for improvements at their water reclamation plant in Cicero, IL, they not only saved money, they made wastewater treatment history. The project introduced the largest phosphorus recovery system in the world. This new technology harvests phosphorus from wastewater and transforms it into eco-friendly fertilizer, which will divert 1,100 tons of phosphorus each year from the treated discharged to the Mississippi River Basin. The phosphorus recovery facility is a pre-engineered metal building housing fluidized bed reactors, chemical storage, and chemical feed facilities for magnesium and sodium hydroxide. Removing the nutrient and converting it to fertilizer provides cost savings compared with traditional phosphorus removal in terms of lower costs for chemicals, waste disposal, maintenance, and electricity.

To read more about this case study, please visit epa.gov/sites/default/files/2017-11/documents/pisces_compendium_final2.pdf.