

Evaluation of a Hybrid Sequencing Batch Membrane Bioreactor

Funding Agency:

- Aqua-Aerobic Systems Inc.

Principal Investigators:

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Students Participating:

- David Vuono

Start date: 01/01/008

End Date: Ongoing



Project Objectives

- **Primary Objective:** Assess the performance of an on-site, full-scale, Membrane Bioreactor (MBR) and Sequencing Batch Reactor (SBR) hybrid system treating domestic wastewater.
 - Biological Nutrient Removal (BNR) process optimization
 - Membrane operation optimization for constant and diurnal flow patterns
 - System challenging under a variety of weather and operating conditions
- **Secondary and Future Objectives:**
 - Evaluation and optimization of biological phosphorus removal and chemical phosphorus removal
 - Evaluation of effluent reuse potential



Methodology

- Influent/effluent quality analyzed and compared to operational settings/parameters and challenge conditions to evaluate process performance
- Microbial kinetics and stoichiometry measured through inline sensors and batch tests combined with bioprocess modeling efforts to enhance predictive operation
- Processes performance as an advanced pretreatment for water reuse evaluated through field trials

