

Case Study

USCAWW-679.000

IXOM
WATERCARE

Air-Powered Wastewater Mixing & Energy Savings

Big aeration horsepower saved and improved processing in an activated sludge system.

Topics: activated sludge, energy savings, odor control, increases suspended solids, AP Series



Ixom Watercare's AP Series Air-Powered Wastewater Mixers deployed in an activated sludge

Location & Contact Information:

Further information may be available upon request. Please contact Ixom Watercare by phone at 866-437-8076 or by e-mail, watercare@ixom.com

System Overview: This deployment focused on the following areas of an Activated Sludge System:

- Filtrate Equalization Tank (FET)
- Biological Augmentation Re-Aeration Tank (BAR)
- Four Activated Sludge Aeration Tanks (Aeration Basins)

Pre-Deployment Conditions:

FET: Floating sludge and associated odors.

BAR: Poor solids suspension & mixing of Return Activated Sludge with new raw sewage influent.

Aeration Basins: High nitrates to secondary clarifier and high aeration mixing energy costs.

Project Objectives: Reduce nitrate (denitrification to nitrogen gas), air CFM, and associated energy costs. Use enhanced mixing to eliminate floating sludge, minimize odors, and increase suspended solids.

Solution: A total of ten (10) AP Series Air-Powered Wastewater Mixers were installed. See the following results for specific deployment information.

Results:

FET: One (1) AP8000 installed. 6-inch floating sludge blanket eliminated in only two days. Odor risk minimized.

BAR: One (1) AP8000 installed. Significantly increased mixing and suspended solids while lowering energy requirements. Dissolved oxygen to the anoxic zone was decreased.

Aeration Basins: Eight (8) total AP8000 units installed, two in the back half of each aeration basin. Decreased dissolved oxygen to create anoxic zones in the back half for increased denitrification. Nitrates to secondary clarifier dropped from nearly 10 to 6 mg/L. Aeration CFM cut in half.

The total horsepower needed in all three areas fell from 500HP before installation to only 275HP after.

45% in energy savings!

View the video case study online at:
www.ixomwatercare.com/VideoCaseStudy202