



Saluda Lake Aeration Easley Combined Utilities

Saluda Lake between Easley and Greenville, South Carolina is the raw water source for the City of Easley and surrounding communities. Like many surface water utility providers, Easley Combined Utilities experienced high levels of iron and manganese in the raw water source which is particularly exacerbated by thermal stratification in the lake at certain times of the year.

Contract Value: \$332,228

The Diffused Aeration / Destratification System is designed to vertically mix the lake to promote oxygenation of the full water column and minimize any possibility of thermal stratification. The system uses two 25-hp air compressors and six groups of pipes suspended 9 inches above the lake bottom. Each group contained an air diffuser line and a buoyancy line. The diffuser line has strategically spaced orifices to release the air and the buoyancy line is used to sink and raise the group of pipes.

The scope included: improving the raw water quality of the lake regarding its Don L. Moore WTP, reducing the formation of manganese and iron caused by lake stratification and reducing or eliminating the use of chemicals especially Potassium Permanganate used to reduce manganese concentrations.

Part of the design process was to visit previous installations of the aeration technology that is proprietary to General Environmental Systems, Inc. and evaluate the suitability of that technology to Saluda Lake.

Also included in the project was a sodium permanganate feed system for additional chemical treatment.



WATER RESOURCES



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