



Water Works Systems

Wells No. 3 and 4 Radium Removal Project
St. Charles, Illinois



Completed Water Treatment Plant



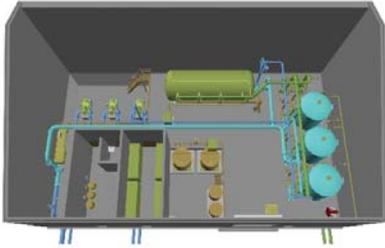
Exterior 3-D Rendering

Construction Cost

- \$5,700,000

Project Features

- 2,000 GPM Capacity Water Treatment Plant
- Hydrous Manganese Oxide (HMO) Pressure Filter Treatment System
- Cation Exchange Treatment System
- Radium, Barium and Hardness Removal
- High Service Pumps for Multiple Pressure Zones
- 2,000 Linear Feet of Water Main
- Grouted Tie-Back Soldier Pile Wall
- Funded by FY10 IEPA Low Interest Loan Program



Interior 3-D Rendering

In 2009, the City of St. Charles partnered with EEL to advance a planned Water Treatment Plant (WTP) through design and construction. The new WTP was targeted to maximize the production potential from existing potable water Wells No. 3 and 4 by installing treatment components to provide regulatory compliant water to the Inner Service Area, which was previously receiving treated water via blending with water from the Outer Service Area.



HMO Chemical Feed System

The facility includes a Hydrous Manganese Oxide (HMO) pressure filter treatment system in parallel with a cation exchange treatment system. The flow is appropriately split to treat for radium, barium and hardness removal and meet the regulatory and City water quality goals. High service pumps were incorporated into the design to meet the demand of multiple pressure zones in the distribution system.



Original Site

The location of the site in the Historical District near the Fox River and the steep grade differential across the small parcel created significant engineering challenges. The final building consisted of a grouted tie-back soldier pile retaining wall to allow the building to be built into the hillside. Additional site challenges included shallow bedrock depths and a wide variety of utility conflicts.



Grouted Tie-Back Wall Under Construction

The construction was funded through the FY10 IEPA Low Interest Loan Program. The WTP represents the product of combining a unique blend of effective community leadership with ingenuity, know-how and elbow grease that characterize EEL's hallmark approach to developing original project solutions that result in successful project outcomes.