



Location: Silt, CO

Year: 2006

Construction Dollar Value: \$2.2M

Owner: Town of Silt

Contact: Gerry Pace, Public Works Director, 970-876-2353

Key SGM Staff: Louis Meyer, PE; Warren Swanson, PE; William Swigert, PE, SE; Terry Bendetti

Subconsultants and their project roles: Grand Valley Engineering Solutions (Electrical Engineer); Ralston Mechanical Consulting (Mechanical Engineer); HP Geotech (Geotech Engineer); Western Ecological Resource (Wetlands)

Client Benefits

- Cost control kept project financially within reach while achieving technical and operational goals
- Compact layout allowed facility siting on a parcel adjacent to the Town's WWTP, reducing land-use impacts and facilitating efficient joint operations
- Client gained ability to meet demands and simplify operations by replacement of aging, under-sized existing facility

Challenges

- Tight client construction budget
- 18-month design and construction schedule
- Multiple source water quality challenges
- Relocation of major equipment from existing WTP
- Wetlands and poor soils required compact layout

SGM planned, designed, and oversaw construction of the new Town of Silt Water Treatment Plant. SGM helped to deliver the \$2.5M 1-MGD (expandable to 2.5-MGD) treatment facility project within budget and on-schedule. The plant handles challenging Colorado River water using one of the first Memcor submerged membrane filtration systems installed in the United States. The project was designed to meet a tight budget for a small, rapidly growing town with a limited sales tax base. To reduce costs and accommodate the state-of-the-art filtration system, SGM creatively incorporated equipment from the existing plant into the new plant design. This required tight scheduling and careful coordination to keep the Town's old plant running during final construction stages. By integrating an existing pre-treatment unit into the new facility along with coagulant storage, feed and mixing systems, SGM provided the Town with cost-effective tools to maintain high production levels during peak raw water turbidity events and to comply with DBP regulations.

Facility Features

- New 2.5-mgd intake and pump station on the Colorado River
- New 14"-diameter, 600-LF raw water line
- Relocated inclined plate gravity pre-settling unit
- New treatment building with:
 - Submerged microfiltration units
 - Coagulant storage, feed, and mixing system
 - Membrane CIP and neutralization chemical storage and feed systems
 - Operator's lab
 - Hypochlorination system and baffled contact basin
 - VFD-driven finished water pump station
 - SCADA system and process instrumentation