



“...we found SGM’s team to be extremely thorough as well as displaying a high level of ingenuity in examining our complex operation and making key recommendations that we feel pave the way for our future as a water provider.”

Todd Fessenden, Water Division Manager

Client Benefits

- Infrastructure plan to meet future demands and maximize system performance, service reliability, fire protection and delivered water quality
- Executive summaries six metro district system members
- Operational recommendations to manage water storage in all seasons
- Inventory of all pump and motor information for 30+ pump stations
- Fully updated and calibrated hydraulic models

Location: Eagle County, CO

Year: 2008 to 2009

Owner: Upper Eagle River Water Authority

Contact: Todd Fessenden, Water Division Manager, 970-477-5471

Key SGM Staff: Warren Swanson, PE; Shannon Ullmann

The Upper Eagle Regional Water Authority (UERWA) water system has been evolving from a collection of somewhat independently planned and developed smaller systems to an integrated, centrally-planned, managed, and operated community water system. SGM’s master plan established a road map to deeper, more meaningful integration – no small task for arguably the most complex water system in Colorado. The UERWA service area contains roughly 30 storage tanks, 30 pump stations, 50 PRVs, two surface water treatment plants and 10 wells.

SGM updated, calibrated, and utilized three separate hydraulic models to analyze system hydraulics. SGM utilized extended period simulations to predict water age, identify tank turnover frequencies, and perform advanced fire flow modeling. SGM’s approach identified efficient solutions to balance fire storage and flow needs with water age/water quality goals. This was critical for the geographically sprawling system with DBP compliance challenges. SGM’s plan also included optimized pump on/off settings for all pump stations. The operational guidelines help staff to maximizing tank mixing and turnover, while keeping sufficient water in storage.

Challenges

- Vigorously competing water age minimization and fire storage goals
- High level of system complexity
- Varying seasonal water production strategies/constraints
- High growth potential
- Multiple organizations making development projections