METRO WASTEWATER RECLAMATION DISTRICT, DENVER, COLORADO

Riverdale and Thornton-North Washington Force Main Expansion Study

The Metro Wastewater Reclamation District (MWRD) retained Carollo to perform the Riverdale and Thornton-North Washington Force Main Expansion Study and subsequent Brantner Gulch Lift Station Expansion Design. The project included field testing for a pump station capacity analysis, projecting existing and future flows, analyzing alternative pump selections, and the testing of three alternative polymers for a potential force main capacity increase. Field testing of three different polymers provided data showing that polymer use in high-flow situations can increase the overall capacity of the pump station force mains.

Carollo replaced two existing 4-mgd pumps with new 8-mgd pumps including variable frequency drives (VFDs) and a polymer feed system. The polymer system allows MWRD to increase the pump station peak flow capacity and delay the large capital expenditure required to construct a new force mains and pump station.

HIGHLIGHTS

- Pump station and force main capacity analysis.
- Polymer pilot testing for capacity increase.
- Replacement of two existing 4-mgd pumps with new 8-mgd pumps, including VFDs.

Carollo's work for Metro Wastewater Reclamation District includes a force main and pump station capacity analysis and design of required pumping improvements.