

SOUTHERN DELIVERY SYSTEM

ANNUAL CONSTRUCTION REPORT



The Southern Delivery System (SDS) is a regional project that conveys Arkansas River water stored in Pueblo Reservoir to Colorado Springs, the City of Fountain, Security Water District, and Pueblo West Metropolitan District. Phase 1 of this multi-phase project began commercial operation in April 2016 and includes all of the components necessary to deliver water to the four partner communities. This report summarizes accomplishments from the start of construction in 2010 through December 2016 and key performance details for Phase 1.

SDS On Time, \$160 Million Under Budget

At a time when many large public projects are hampered with major cost overruns and schedule delays, SDS was completed on-time and \$160 million under budget. One of the largest water projects in recent memory, SDS went online April 28, 2016, as scheduled. A combination of rigorous program management, and a dedicated team of Colorado Springs Utilities (Utilities), MWH, and project partner staff, contributed to the success. From value engineering to strategic procurement, concurrent permitting to proactive stakeholder engagement, the SDS team was innovative and decisive in advancing the project to on-time completion. The SDS can provide up to 50 million gallons



Edward W. Bailey Water Treatment Plant

of treated water per day (MGD) delivered from Pueblo Reservoir, located approximately 50 miles away. Phase 2, planned for construction based on water supply demand, will include building two reservoirs and expanding the raw water pump stations and treatment plant. Of the nearly 80 combined staff working on the project, about 20 remain to successfully integrate SDS and its components into Utilities' water operations. A small number will continue through December 2017 to monitor warranty items and close out remaining contracts. Work is underway on three additional SDS projects that will better position future construction of Phase 2 (see below).

Additional SDS Projects Underway

Fountain Creek Diversion

The Fountain Creek Diversion Project, now under construction, is designed to reduce erosion and sedimentation in a section of Fountain Creek downstream of city-owned Clear Spring Ranch. It will help mitigate potential impacts from operation of a reservoir planned for SDS Phase 2. The project includes a new grade control drop structure, an irrigation diversion structure, and a fish passage to benefit the Arkansas Darter and Flat Head Chub. Tezak Heavy Equipment Co. Inc. is the contractor under direction of SDS staff. Construction is expected to be complete by mid-2017.

Pinello Ranch Wetlands Mitigation

Work is ongoing at Pinello Ranch, a city-owned property near the intersection of Highway 85/87 and South Academy Blvd., to mitigate wetland impacts associated with construction of SDS Phase 2. The Pinello Ranch project will create about 10 acres of wetlands and enhance wildlife habitat. Utilities is working with the Audubon Society and other groups that use and support the area. Medvolt LLC is the contractor for this \$2.1 million project under direction of SDS staff. Construction began in early November and is expected to be complete late-2017.

Upper Williams Creek Reservoir

The planned Upper Williams Creek Reservoir project is currently at 30 percent design, and 2,500 acres of land have already been acquired. These acquisitions are part of SDS Phase 1; however, the construction timing will be determined at a later date as part of Phase 2. Purchase of the remaining 300 acres is anticipated to be complete by mid-2017. To meet regulatory requirements, SDS staff are reviewing plant and animal life in the area. See page 2 of this report for more information about this project.

Projected Savings Through Optimization



Pumps in the raw water pump station building

Now that SDS is in commercial operation, the focus of SDS staff is on optimization of the system. This includes determining the most efficient way of extending equipment life, decreasing man-hours, and balancing long-term expenditures. For example, the SDS team resolved that by operating the raw water pump stations only during off-peak hours, \$65,000 could be saved in power usage over a year. Also, by optimizing pump maintenance, \$72,000 in annual savings was achieved and 720 labor hours saved. Additional savings were achieved by reducing the budget for chemicals at the treatment plant from \$250 to \$150 per million gallons of water. This results in an annual savings of approximately \$182,000. For 2016, the total annual savings due to optimization activities is more than \$390,000.

Planning for Upper Williams Creek Reservoir

Although the planned Upper Williams Creek Reservoir is part of SDS Phase 2, and timing of construction is influenced by water supply demand, the SDS team is preparing now for future construction. Utilities has retained Western Cultural Resource Management, Inc. to determine whether historical features exist at the site. Several additional surveys are underway, including examination of existing plant and animal life on the property to ensure the habitats are properly managed. Completion of these environmental clearances now will help to ensure that construction of the reservoir can be expedited when ready.

Second Payment Issued to Fountain Creek District

Colorado Springs Utilities is committed to supporting water quality and flood control improvements on Fountain Creek. As part of that commitment, Utilities made its second approximately \$10 million payment to the Fountain Creek Watershed Flood Control and Greenway District (District) in January 2017 for construction of one or more projects in Fountain Creek to “create a significant and not merely incidental benefit to Fountain Creek in Pueblo County.” Three more \$10 million payments will follow each January through 2020.

The \$50 million contribution is being paid to the District pursuant a Pueblo County permit condition associated with construction of SDS. Utilities’ obligation is to provide funding to the District, which uses the funds “only for one or more new projects” to accomplish three specific benefits in Pueblo County: “for improvement of water quality, for flood control, or for prevention of erosion and sedimentation.” Utilities is committed to collaborating with the District and Pueblo County as they choose District projects that meet the County permit requirements.

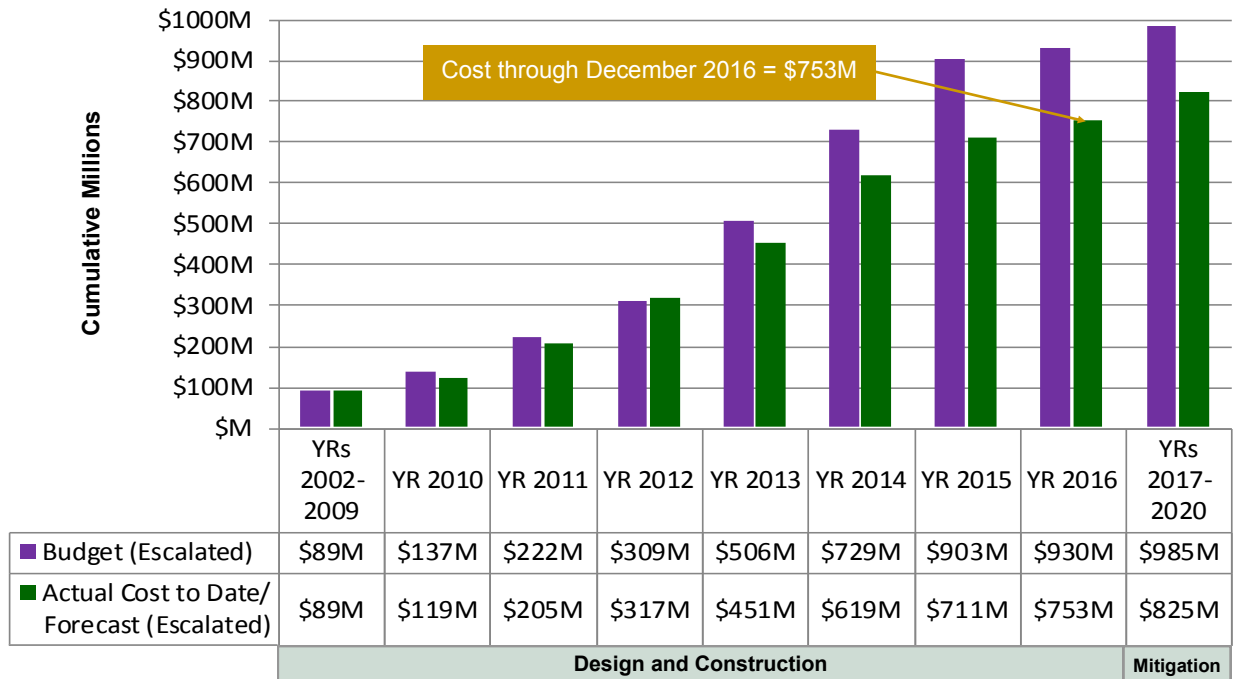


Improved grade control work along Fountain Creek

Cost Summary

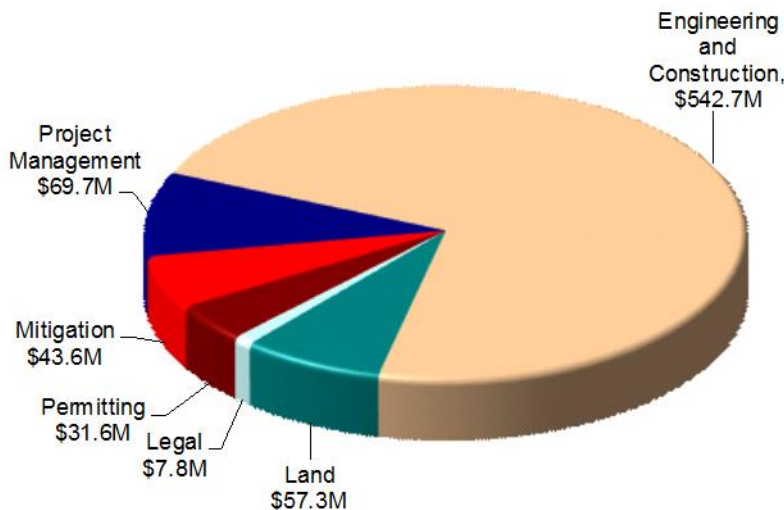
Figure 1 shows the budget for Phase 1, actual costs through December 2016, and forecasted costs for Phase 1. **Figure 2** shows the distribution of the actual costs. Key financial details are summarized below. The budget used to measure progress was established by the Colorado Springs Utilities Board in July 2009 and is \$880 million in April 2009 dollars. Accounting for actual and currently projected escalation in the cost of labor, materials, and equipment, the same 2009 budget equates to \$985 million after all direct project costs (including mitigation) are paid through 2020.

Figure 1 – Phase 1 Budget Progress – Actual Costs through December 2016



Design and construction \$ values include actual and projected cost escalation as measured by Engineering News-Record's national Construction Cost Index. Monetary mitigation payment \$ values (2017 through 2020) include cost escalation as measured by the U.S. Bureau of Labor Statistics Producer Price Index for finished goods. Periodic index forecasts by IHS Global Insight applied.

Figure 2 – Distribution of Phase 1 Direct Costs through December 2016 (\$753M Total)



Key Financial Details

- The budget for Phase 1 is \$985 million, including actual and projected escalation. The project is currently forecasting completion approximately \$160 million below budget, or at \$825 million. These anticipated savings are reflected in lower-than-expected water rate increases and bond sales.
- Cumulative actual costs to date are \$753 million, with a majority expended on engineering and construction, permitting, land, and management activities.
- Forecasted costs for 2017-2020 are \$72 million with a total expenditure of \$825 million by the end of Program.

SDS Success Stories

Utilities hosts WaterFest to celebrate SDS achievements



Dewey the Water Drop at WaterFest

A free, family-friendly event to celebrate completion of the new Edward W. Bailey Water Treatment Plant was held on July 23 by Utilities. Tours of the plant were arranged for guests to get a close-up look at how water from the Arkansas River, stored in Pueblo Reservoir, is transformed into high-quality drinking water for the community.

The lobby of the plant was open as a visitor center with displays about the project's history and people responsible for planning and building SDS. Guests were invited to experience fun and educational activities, including touching a cloud, making snow, and discharging water from a Wildland Fire truck hose. Participants earned prizes by playing a water passport game and were able to take pictures with Dewey the Water Drop. Attendees were asked to participate in this milestone event by bringing an item to add to the SDS time capsule, which was dedicated and buried at the celebration and will be preserved for 50 years for future generations.



Colorado Springs Utilities' Wildland Fire team

SDS awarded first place in Water/Environment by ENR Mountain States

The SDS project was recognized as the 2016 Project of the Year in the Water/Environment category by Engineering News-Record (ENR) Mountain States division. The Mountain States region includes Utah, Idaho, Montana, Colorado, Wyoming, Kansas, Nebraska, North Dakota, and South Dakota. Industry leaders in design and construction from each of ENR's 10 regional editions judged the projects based on five criteria, including safety, innovation, and teamwork. This is the third award SDS has received from ENR Mountain States since 2011.



SDS team accepts ENR Mountain States Best Project Award

SDS Leadership Changes

With successful completion of the SDS, Program Director John Fredell retired from Utilities at the end of December 2016. "I am honored to have been part of the SDS project that will provide needed water to each of the partner communities – for generations," said Fredell. "It was the drive and persistence of each member of our incredible team that made this project such a success. It's been a long road, but one that I cherish."

For more than a decade, Fredell was closely involved with development of the SDS, serving as Program Director since September 2007 responsible for planning, permitting, and construction. Prior to his selection as SDS Program Director, Fredell held other legal positions with Utilities, including Deputy City Attorney. In that role, he served on the Chief Executive Officer's leadership team. After 24 years with Utilities, staff wished him well on his new ventures. "John Fredell accomplished a remarkable feat for our organization," said Utilities' CEO Jerry Forte. "I don't know of any other billion-dollar construction projects in the country that have come in on time and \$160 million under budget. I am grateful for his dedicated leadership on this project."



Colorado Springs Utilities CEO Jerry Forte and SDS Program Director John Fredell

To ensure the program's successful integration into Utilities, SDS Program Manager Jeff Daniel (719-668-8771) and SDS Principal Project Manager Joseph Rasmussen (719-668-4173) will lead efforts going forward. Both are available for questions or updates on the project. The SDS Information Line (855-737-4968) will remain in place through June 2017, or visit www.sdswater.org.