

# SOUTHERN DELIVERY SYSTEM

## MONTHLY REPORT



The Southern Delivery System (SDS) is a regional project to bring water from the Arkansas River to Colorado Springs, the City of Fountain, the Security Water District, and the Pueblo West Metropolitan District. Phase 1 of this multi-phase project includes all of the components necessary to begin delivering water to the partner communities by 2016. This report summarizes accomplishments from the start of construction to September 2014, plans for October 2014, and key performance details for Phase 1.

### Water Treatment Plant & Finished Water Pump Station

**Accomplishments:** Completed pouring concrete for the remaining six pie-shaped pieces for the raw water storage tank dome, achieved open cut pipeline crossing at U.S. Highway 94 and Space Village Ave., continued mechanical work at the finished water pump station and electrical work at the main process building, and progressed installation of the 84-inch raw water pipeline starting at the raw water storage tank. **Upcoming:** Remove dome shoring (construction support) from inside the raw water storage tank as concrete sets, begin installing structural steel at several buildings including the finished water pump station, and complete installation of the finished water pumps.



Open cut pipeline crossing at U.S. Highway 94 and Space Village Ave.



Placement of concrete at the raw water storage tank

### Raw Water Pump Stations



Setting surge tank at Bradley Pump Station

**Accomplishments:** Began pouring concrete for the pump station building foundation and walls and started installation of the 72-inch-diameter pipe at the flow meter vault (measures flow rate of water) at Juniper Pump Station. Completed shotcrete (spray-on concrete) and wrapping tensioning wire (additional support) at the forebay tank and poured half of the pump station building's floor slabs at Williams Creek Pump Station. Received and set surge tank and began forming and reinforcing the pump station foundation at Bradley Pump Station. **Upcoming:** Continue pouring concrete for the pump station building and begin rock excavation for the stormwater pond at Juniper Pump Station; complete installation of appurtenances (accessories) at the forebay tank (regulates fluctuation of water) and continue pouring concrete for pump station building at Williams Creek Pump Station; and install 66-inch-diameter discharge pipe, 78-inch-diameter yard pipe, and complete backfill around the flow meter vault.

### North Pipeline 2B & Finished Water Pipeline 3

**North Pipeline 2B Central Accomplishments:** Completed 30 percent of total pipe installation, welding and placing CLSM (controlled low-strength material used for backfill), and continued excavation of tunnel launch shaft. **Upcoming:** Anticipate completing more than 70 percent of total pipe installation through October, finalizing excavation of tunnel launch shaft, and preparing for U.S. Highway 94 tunnel crossing. **Finished Water Pipeline 3 Accomplishments:** Installed 30-inch valves at Constitution Ave. west of Powers Blvd., began hydrostatic testing, and completed stormwater inlet and culvert modifications. **Upcoming:** Complete hydrostatic pressure test, finish mill, overlay, and paving operations, and prepare for final cleanup of worksite.



Installation of valves for Finished Water Pipeline 3



Installed pipe along U.S. Highway 94 on North Pipeline 2B

## SPOTLIGHT

### SDS Fountain Creek Improvements Project Celebration

The SDS Team is celebrating the successful completion of the Fountain Creek Improvements Project. The project, part of the larger SDS Program, restored the creek banks to a more natural pattern, helping slow water flow through this stretch during storms and reducing erosion and sediment being carried downstream. It was recently completed on a 28-acre site at Clear Spring Ranch, located south of the City of Fountain.

Over the years, multiple factors have contributed to instability in the creek’s natural flow pattern, causing bank erosion and sedimentation — not only in this location, but also throughout the watershed. By returning the creek to a more natural flow pattern, crews reshaped the way in which water entered a bend in the creek to help reduce the speed and force of the water. In addition to creek bank improvement, six new acres of wetlands were created to provide a habitat for abundant area wildlife. A regional trail also is under construction adjacent to the project.

Contractors who assisted with the project included Matrix Design and local businesses Wildcat Construction Company, Inc. and Seedmasters, Inc. To revegetate the area and start the wetland’s growth, Seedmasters installed 53,000 plugs of wetland plants and grasses, 144,000 small willows, and a combination of 5,000 small cottonwood and ash trees, all installed by hand. Many of the young trees were started from mature trees on the Clear Spring Ranch property.

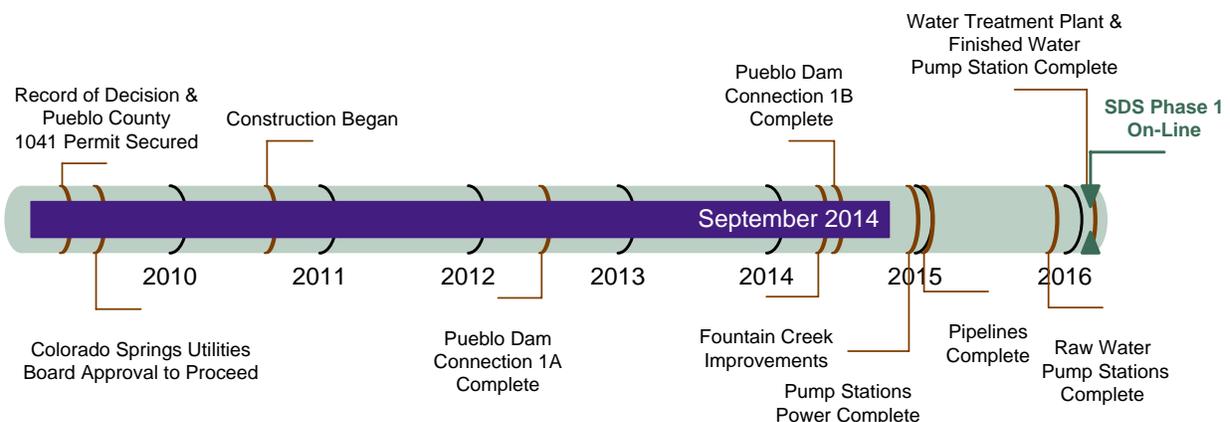
[View video](#) to see how the Fountain Creek Improvements Project works.



### Schedule Summary

The timeline below summarizes the schedule for completing Phase 1 of the SDS. Colorado Springs Utilities anticipates completing Phase 1 as planned, with full operation beginning by 2016.

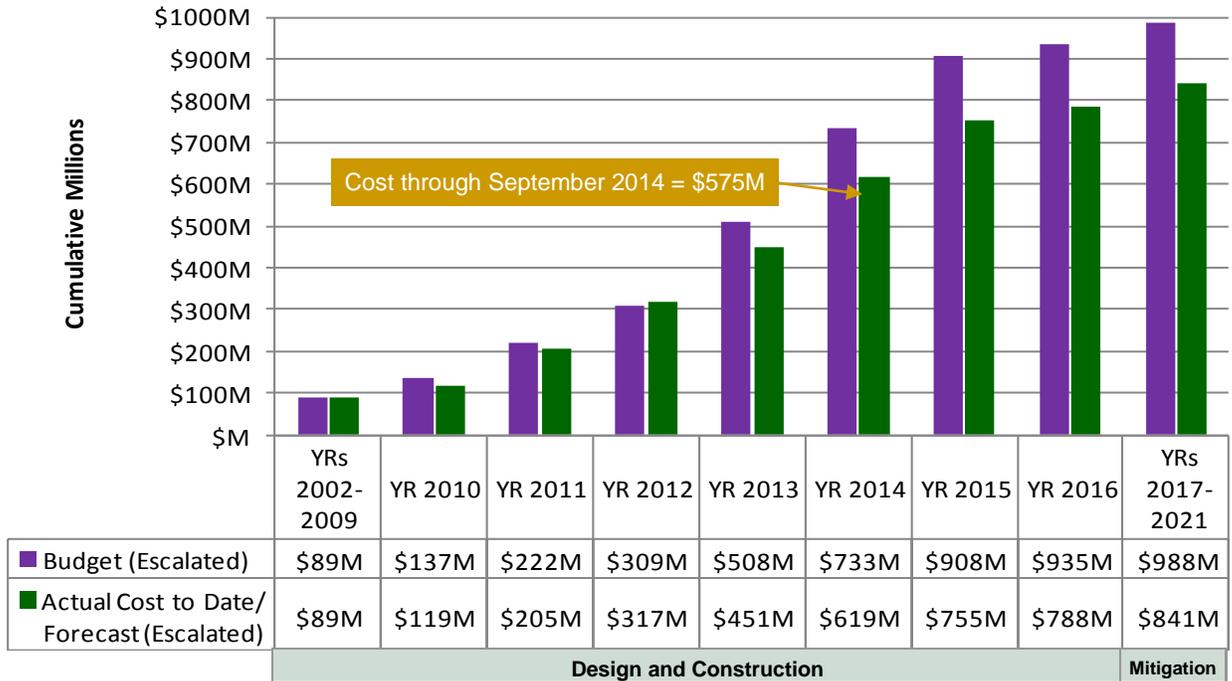
**Figure 1 – Schedule Progress for Major SDS Phase 1 Projects**



## Cost Summary

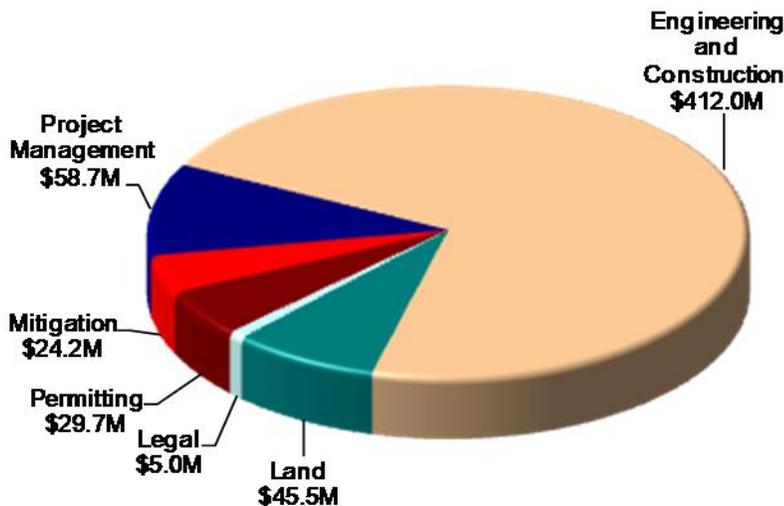
**Figure 2** shows the budget for Phase 1, actual costs through September 2014, and forecasted costs for Phase 1. **Figure 3** shows the distribution of the actual costs. Key financial details are summarized below. The budget used to measure progress was established by the Colorado Springs Utilities 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 \$988 million after all direct project costs (including mitigation) are paid through 2021.

**Figure 2 – Phase 1 Budget Progress – Actual Costs through September 2014**



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 2021) 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.

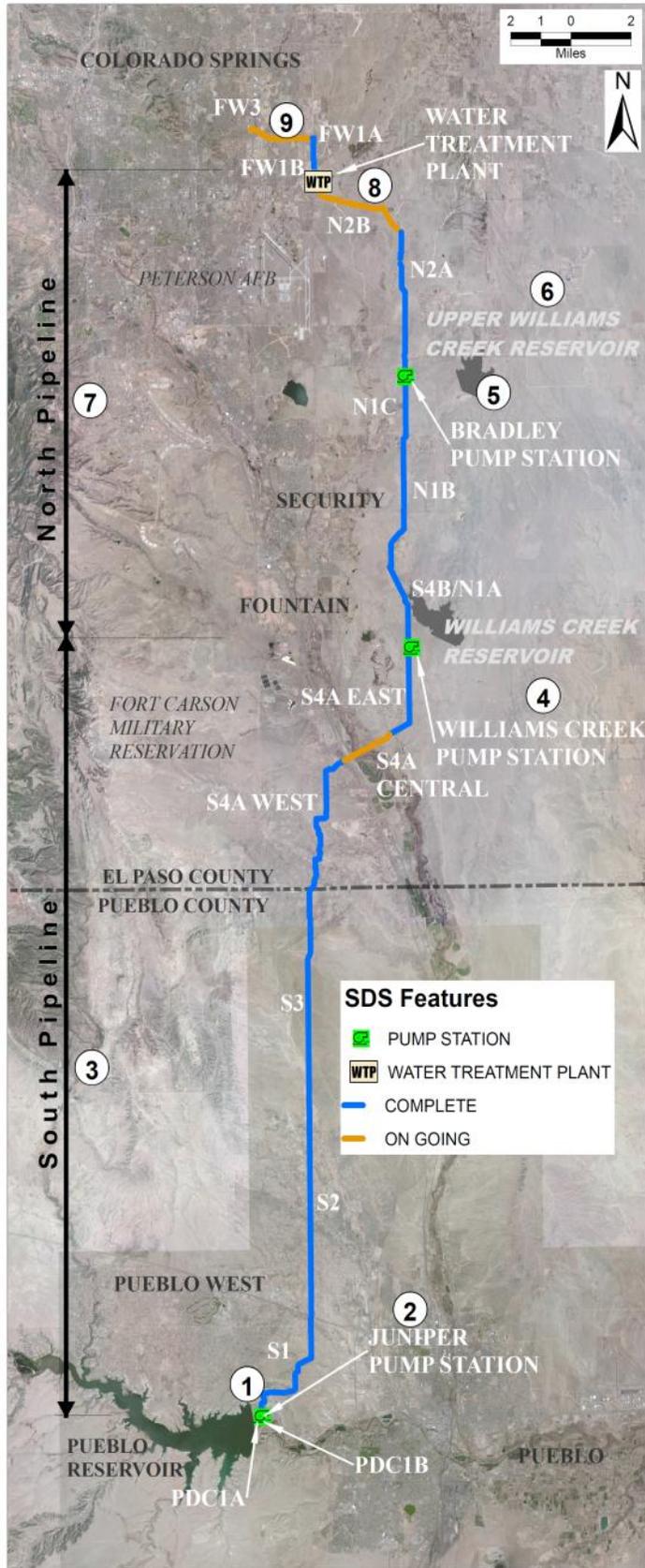
**Figure 3 – Distribution of Phase 1 Direct Costs through September 2014 (\$575M Total)**



### Key Financial Details

- The budget for Phase 1 is \$988 million, including actual and projected escalation, while the current cost forecast is \$841 million. The project is currently forecasting completion approximately \$147 million below budget. These anticipated savings are accounted for in current water rates and plans for bond issuance.
- Cumulative actual costs to date are \$575 million, with a majority expended on engineering and construction, permitting, land, and management activities.
- Forecasted costs for 2014 are \$168 million with a cumulative expenditure of \$619 million by the end of 2014.

Figure 4 – Phase 1 Projects Status Map



Visit [www.SDSwater.org](http://www.SDSwater.org) for additional information.

**9 Finished Water Pipeline (FW)**

**Complete:** FW1A, FW1B (Garney Construction)

**Ongoing:** Garney Construction is constructing FW3 – a 2.2-mile pipeline from FW1A into the existing Colorado Springs Utilities water distribution system near Constitution Ave. and Powers Blvd.

**Focus:** Installing valves, starting hydrostatic test, and continuing paving operations

**8 SDS Water Treatment Plant (WTP) and Finished Water Pump Station (FWPS)**

**Ongoing:** McCarthy Building Companies, Inc. is constructing the WTP and FWPS located at Marksheffel Rd. and U.S. Highway 24.

**Focus:** Completing raw water tank dome and continuing concrete pours, mechanical and electrical work, and masonry

**7 North Pipeline (N)**

**Complete:** S4B/N1A/N1B (HCP Constructors), N1C/N2A (Layne Heavy Civil, Inc.)

**Ongoing:** Garney Construction is constructing N2B – a 3.2-mile pipeline connecting N2A to the WTP.

**Focus:** Installing pipe and preparing for tunneling beneath Hwy. 94

**6 Upper Williams Creek Reservoir (UWCR)**

**Ongoing:** UWCR is a 30,500 acre-foot raw water storage reservoir that will be developed as part of a future SDS phase and will be located near Bradley Pump Station.

**Focus:** Procuring engineer for preliminary design services

**5 Bradley Pump Station (BPS)**

**Ongoing:** Archer Western Construction, LLC is constructing BPS located in the city of Colorado Springs approximately ¼ mile south of Bradley Rd. and 1.5 miles east of Marksheffel Rd.

**Focus:** Completing placement of forebay tank dome and setting surge tank

**4 Williams Creek Pump Station (WCPS)**

**Ongoing:** Archer Western Construction, LLC is constructing WCPS located in El Paso County 6 miles south of Squirrel Creek Rd. and 5 miles east of Interstate 25.

**Focus:** Pouring pump station building floor slabs, backfilling surge tank, and completing wire wrap and shotcrete application

**3 South Pipeline (S)**

**Complete:** S1 (HCP Constructors), S2 (Garney Construction), S3 (Layne Heavy Civil, Inc.), S4A East/West (Garney Construction)

**Ongoing:** Garney Construction is constructing S4A Central – a 1.4-mile pipeline that tunnels under Interstate 25, two railroads, and Fountain Creek and extends from west of Interstate 25 to east Hanover Rd.

**Focus:** Progressing tunnel operations and preparing for hydrostatic testing of pipe east of the tunneling retrieval shaft

**2 Juniper Pump Station (JPS)**

**Ongoing:** Archer Western Construction, LLC is constructing JPS located in Lake Pueblo State Park near the base of Pueblo Dam.

**Focus:** Continuing installation of underground electrical conduit and plumbing and pouring concrete at pump station building

**1 Pueblo Dam Connection (PDC)**

**Complete:** PDC1A (ASI Constructors)

**Ongoing:** Garney Construction is constructing PDC1B – a 0.3-mile pipeline that will connect the new outlet works (PDC1A) at Pueblo Dam to JPS and the Pueblo West Pump Station.

**Focus:** Completing construction and site restoration