

## Buckman Direct Diversion Project, Santa Fe, New Mexico

- \$180.9-million design-build project to divert, treat, and distribute water from the Rio Grande river to the City of Santa Fe and Santa Fe County
- Scope includes 11 miles of raw water pipeline, a new 15-million-gallon-per-day (mgd) water treatment plant, and 15 miles of finished water pipelines
- Treatment process includes combination of membrane filtration, ozone disinfection, and granular activated carbon contactors

The City of Santa Fe and Santa Fe County have traditionally relied on underground aquifers to supply the vast majority of water for their respective communities. Recent studies have shown that those sources were not being replenished at rates proportional to their draw down rates. To reduce reliance on over-taxed groundwater resources and meet future drinking water needs the CH2M HILL/Western Summit Constructors Joint Venture design-build team was selected by the Buckman Direct Diversion (BDD) Board to complete the design and construction of the \$180.9-million BDD Project.

The BDD Project will divert as much as 8,730 acre-feet of water annually from the Rio Grande via a newly constructed river intake structure and sediment removal facility, which will return sand to the river. A raw water lift station and two booster pumping stations will convey the water 11 miles to a new 15-mgd water treatment plant. The treatment process for the new 15-mgd features multi-barrier protection to account for variations in raw water turbidity due to storm events. Following treatment, two additional booster stations will deliver the treated water to City of Santa Fe and Santa Fe County customers through 15 miles of new “finished” water pipelines.

Protecting the environment and resolving permitting challenges were key concerns due to the sensitive location of the river intake and crossing of multiple jurisdictions for the pipeline alignments. Returning



sediment to the river required a National Pollutant Discharge Elimination System (NPDES) permit, while pipeline routes required right of ways through Bureau of Land Management property.

As of June 2010, the BDD reported the following milestones:

- All 27 miles of pipeline, including 13 miles of 12-30 inch diameter raw water pipeline and 14 miles of 16-30 inch diameter finished water pipeline were completed ahead of schedule.
- Transplanting of native Piñon and other trees that were relocated to a “tree nursery” during construction is complete, with about 200 trees transplanted.
- The 15-million-gallon-per-day Water Treatment Plant is 80 percent complete.
- Crews removed six roadside memorials and temporarily relocated them a safe distance from the construction zone.
- We successfully preserved endangered species by re-routing a pipeline to avoid a nesting site for burrowing owls and halting construction near the Rio Grande during the mating/migration season of the Southwestern Willow Flycatcher.
- The process to LEED (Leadership in Energy and Environment Design) certify the Water Treatment Plant Operations Building is underway. The facility has received 16 anticipated points so far from the U.S. Green Building Council for design point submittals, with 13 additional points to be evaluated following construction. Certification requires 26 points.

Construction on the BDD began in September 2008 and is expected to be completed, with the project operational and turned over to City of Santa Fe staff in May 2011. Ongoing project updates and a comprehensive history of the project are available at [www.bddproject.org](http://www.bddproject.org).