

Pinal Valley Recharge Project

Coolidge, Arizona

CLIENT

Arizona Water Company

HIGHLIGHTS

- ASCE Phoenix Branch Project of the Year
- CAP surface water allotment recharge and recovery
- Performed comprehensive site characterization
- Developed and implemented pilot-scale testing to determine recharge feasibility
- Completed hydrologic study and groundwater modeling for USF and WS permits

The American Society of Civil Engineers (ASCE) Phoenix Branch 2019 Project of the Year, consisted of the pilot testing, design, and construction of the first of five basins that will comprise a new recharge facility in Pinal Valley for Arizona Water Company (AWC). Pinal Valley relies exclusively on groundwater as a water supply source, which has been over-drafted since 1982. In response, the Pinal active management area (AMA) set a goal to decrease the amount of groundwater pumped by 80,000 acre-feet between 2015 to 2025. AWC's original plan to serve this area was to construct a 10 million-gallon-per-day surface water treatment plant. However, after preliminary design and cost estimates, the plant was deemed not cost-effective to build. As an alternative, AWC retained a team including Clear Creek to evaluate alternatives for recharging and recovering its annual Central Arizona Project (CAP) surface water allotment.



Enhancement techniques provided a solution to challenging lithologic conditions, allowing for increased infiltration rates

Clear Creek completed comprehensive site characterization and developed and implemented pilot-scale testing to determine the feasibility of recharge at the facility. Based on the initial results, Clear Creek developed innovative enhancement techniques to improve infiltration rates, which were implemented in the full-scale design and construction of the recharge basin. The enhancement techniques provided a solution to challenging lithologic conditions, allowing for increased infiltration rates without having to dig deeper recharge basins. Clear Creek also completed a hydrologic study and associated groundwater modeling in support of the Underground Storage Facility (USF) and Water Storage (WS) Permits for the facility.