

172nd Street 2 MG Reservoir and Booster Pump Station

Gilbert, Arizona

As part of the 2 Million Gallon Reservoir and Dual Zone Booster Pump Station project, an existing irrigation well at Baseline Road and 172nd Street was analyzed for water quality and capacity. A cost benefit analysis was performed to determine the practicality of rehabilitating the existing well versus constructing a new well. As a result of this analysis, the structurally degrading existing well was abandoned and a new well was drilled onsite to provide a quality water source. The 2-million gallon, cast-in-place, "hopper bottom" reservoir receives water either from the new well or directly from the Town's water system. System fill can be programmed to occur at night during low demand periods and pumped back into the system during demand peaks. The booster station has a firm pumping capacity of 4,000 gpm, divided between two pressure zones. It includes five vertical turbine pumps - three with variable frequency drives, surge protection, and a tablet chlorination disinfection system. A diesel generator provides emergency power in the event of power loss.

The facility was designed for minimal visual and noise impacts to the surrounding neighborhood. The reservoir was constructed below grade, and no equipment structures are higher than the surrounding site walls. The booster pumps are screened behind a sound attenuation wall, and all of the walls are colored to match the surrounding development.

The Design/Build team designed and constructed the facility in 12 months. Close coordination between the Town of Gilbert, the contractor, and Dibble was critical to meet both the Town's schedule and budget goals. This project is an excellent example of a design-build project success: it met the Town's fast track schedule and aggressive budget goals through active stakeholder communication and a team-oriented approach.



Client:
Town of Gilbert