



## NORTH DAVIS SEWER DISTRICT, UTAH PROGRESSIVE DESIGN-BUILD MWH CONSTRUCTORS, INC.

The North Davis Sewer District (NDSD) serves seven communities just south of Ogden, Utah, and a number of industrial wastewater users, including Hill Air Force Base. Over the last 20 years, the service area experienced significant growth, leaving the existing process near capacity. The NDSD wanted a facility capable of supporting continued growth over the next two decades. The \$91 million expansion needed to be constructed at an operating facility, which required a construction sequencing plan that would allow for the execution of critical activities while minimizing operational interruptions.

MWH was contracted on a sole-source basis. MWH began working on the North Davis Wastewater Treatment Plant project under a traditional design-bid-build model, but MWH realized that a progressive design-build model would better suit the district's needs of remaining on budget, keeping the existing plant operational, and wanting to be involved in decisions, such as equipment selection and sequencing of construction.

Upgrades and retrofits increased the wastewater treatment capacity from 25 to 34 MGD. MWH was solely responsible for quality, budget, schedule, safety, and overall execution of the North Davis Wastewater Treatment Plant Upgrade and Expansion Project, including guaranteeing the performance of the facilities. MWH sequenced 10 task orders with guaranteed maximum prices to be constructed over five years. The phased approach distributed

the district's capital expenditures over 60 months while considering the plant's operational requirements. MWH's use of precast panels represented a unique solution to time and schedule constraints. Rather than building two new towers entirely of cast-in-place concrete, MWH used pre-cast concrete panels to maintain the architectural consistency with the other structures of the plant, saving the district \$300,000 and the three months it would have taken to use poured-in-place concrete.

MWH completed this project two years ahead of the proposed seven-year schedule. Pollutants released into the environment have been reduced by approximately two tons per day over the previous treatment process. The project kept more than 100 construction personnel employed during the planning and construction phases, and resulted in approximately five permanent positions.

