



SYKESVILLE, MARYLAND PROGRESSIVE DESIGN-BUILD AECOM

The Carroll County Bureau of Utilities needed a 4 MGD expansion to their existing 3 MGD water treatment plant to adequately serve their 31,000 residents. Associated with this was the need to design and construct a new 24-inch water transmission main and ancillary equipment, structures, and facilities. These activities needed to be undertaken on an accelerated schedule while maintaining operation of the existing water treatment facility and modifying the existing solids handling operations. The County chose to employ progressive design-build project delivery to meet these objectives.

AECOM was chosen through a competitively bid procurement which required them to provide a fixed price for engineering and a “not-to-exceed” cost for construction. The design was advanced to 60 percent, upon which a guaranteed maximum price was established for the construction portion of the project. The County asked AECOM to implement an alternative facility layout to reduce construction time and to save significant capital and operational costs. The alternate design, developed by AECOM during the procurement process, consolidated the facility’s primary components into one compact structure. Design and construction cost totaled \$27.5 million.

Innovative planning and partnering with the County and its consultant was paramount given the tight site constraints and accelerated schedule.



The AECOM team developed an environmentally friendly, multi-level compact footprint, housing all treatment features, administrative spaces, chemical areas, and clearwell under one roof. AECOM’s design reduced construction time by three months and saved the owner approximately \$3 million. The new facility also employed a state-of-the-art, highly automated computer system that aids operations staff in the day-to-day management of the new plant, including chemical addition, dissolved air flotation, and membrane filtration.

The expanded plant will be large enough to meet the drinking water supply needs of Carroll County, MD for years to come.

