



Blendville Water Treatment Plant

**PROJECT PROFILE
CONSTRUCTION**

CLIENT
Missouri American
Water Company, Inc.

PUMP STATION: COMPLETE PROCESS UPGRADE

Joplin, MO

SITUATION:

A complete process upgrade was required to meet future water demand and production cost goals. The existing site and plant restricted the ability to develop a complete new parallel train. An accelerated schedule and a very involved owner drove the project to utilize alternate contract delivery methods.

SOLUTION:

Layne constructed the Shoal Creek Raw Water Intake and Pump Station under a Construction Manager At Risk, (CMAR) contract, to accelerate the schedule and beat the river flood season. Responding to the needs of Missouri American Water Company, this fast-track, 22 MGD intake and pump station was designed and constructed in just ten months. The concrete intake structure was constructed just prior to the flooding season. Then, a custom built, prefabricated pump station was placed on the concrete pedestal. With the help of team members Black & Veatch and EFI, Layne streamlined the submittal reviews and equipment lead times. The Blendville Water Treatment Plant required extensive design and coordination to fit the new process around the existing buildings and structures. Design-Build was used as the contract delivery method. The total value of both contracts was over \$36 million. Extensive study was required to allow for temporary piping, tie-ins and phasing of the various construction items. This project also was the first WTP project permitted in Missouri utilizing on-site Hypochlorite generation and UV disinfection. Significant features included a new Process Building, Chemical and Administration Building including on-site hypochlorite generation, new Clearwell No 2, new UV Disinfection/Filter Effluent Transfer Pumping Facility, Wastewater Surge Basin & Pump Station, new lagoon, existing Control Building modifications, and High Service Pump replacements and modifications.

Layne utilized facilitated partnering to promote a strong relationship between the owner's operation personnel, the contractor staff and the design staff. Numerous educational sessions were held with permitting agencies to smooth the way for first of a kind permit approvals on the UV and Hypo generation equipment. Extensive value engineering and constructability input was given during the entire design cycle. The engineer also planned for a quick response team for design related issues encountered during construction.

SERVICES EMPLOYED:

- + Water Treatment Plant Construction
- + Intake Construction
- + Pump Station Construction
- + Pipeline Construction

