

McGoodwin, Williams & Yates (MWY) is a full-service consulting engineering firm specializing in municipal water and wastewater engineering. MWY has been providing planning, design, construction engineering, bid preparation, bid letting, and construction management service to municipalities in Arkansas and surrounding states for over sixty years.

We believe MWY's experience in the field of lift station design is proven by the facilities we have planned, designed and provided construction management services for over the decades. In fact, the design of the Benton Farm Lift Station, completed for the city of Springdale, Arkansas in 2007, was honored by the American Council of Engineering Companies of Arkansas.

The following are examples of recently completed lift stations completed on time and on budget. Detailed descriptions of these projects are included on the following pages of this section.

Lift Station: *Benton Farm Lift Station
(2007 ACEC Honor Award Recipient)*
Capacity: 10,000-GPM
Costs: \$2.2 Million (Original Budget Estimate)
\$2.0 Million (Actual Construction Cost)
Contact: Rene Langston
Springdale Water Utilities
P. O. Box 769
Springdale, Arkansas 72765



Lift Station: *Har-Ber Lift Station*
Capacity: 5-MGD
Costs: \$861,000
Contact: Rene Langston
Springdale Water Utilities
P. O. Box 769
Springdale, Arkansas 72765
PH: 479-751-5751



Lift Station: *Johnson and Robinson Lane Lift Stations (Original)
Robinson Lane LS Upgrade*
Capacity: See descriptions next section
Costs: See descriptions next section
Contact: Rene Langston
Springdale Water Utilities
P. O. Box 769
Springdale, Arkansas 72765



SPRINGDALE, ARKANSAS

Benton Farm Lift Station – In 2004, the Springdale Water Utilities selected MWY to perform a detailed design of the lift station described in the North Side Sewer Facilities Improvements Preliminary Engineering Report, prepared by MWY in 2003. The Benton Farm Lift Station was designed to serve the northwest side of Springdale, including an undeveloped area west of I-540. Due to the large tributary area but low level of development at the time of design, the station had to be designed for a wide range of flows. Multiple 160-HP submersible pumps with variable frequency drives, as well as provisions for parallel force mains, were utilized to achieve the required range of flows. The station was designed for an ultimate capacity of approximately 10,000-GPM, with a minimum initial pumping capacity of approximately 2,400-GPM. The use of multiple pumps with VFDs would contribute to lower operational costs during periods of low flows.

The lift station site was a farm bordered by agricultural land. In order for the station to blend in to its surroundings and have a positive aesthetic impact on the neighbors, the station was designed to resemble a dairy barn.

The above-ground portion of the station houses a control room, stand-by generator, and odor control equipment. Below ground is a pipe gallery and wetwell. The wetwell, which is approximately 38-feet deep, is divided to allow maintenance during continued operation. The

project was completed in November 2005 for an approximate construction cost of \$2.0 million. The original budget was approximately \$2.2 million.



MWY was honored by the American Council of Engineering Companies of Arkansas for the firm's design of the Benton Farm Lift Station. The firm received an Engineering Excellence Honor Award, an annual award recognizing the "Fostering of Excellence in Engineering Design in Arkansas."

Har-Ber Meadows Lift Station

In coordination with a major upscale residential development on the western edge of the city, the Springdale Water Utility constructed a major sewage lift station with associated force main and gravity sewers to provide service to a non-sewered drainage basin. MWY, working with both the developer and the utility, provided design and construction management services for this project. Within the development, over 50,000 feet of residential sewer lines and major interceptors were constructed. Approximately 10,000 feet of 10-inch and 18-inch force mains and 10,000 feet of 8-inch through 18-inch gravity lines were constructed in association with the lift stations. The station was constructed on a residential lot within the subdivision. The superstructure for this station was therefore designed to have the appearance of a house. The station, which was designed to provide an ultimate capacity of 5-MGD, currently contains three pumps with a capacity of 1-MGD. The station is also equipped with a standby generator and space for future odor control facilities if needed.



The station was completed in 1996 for an approximate cost of \$860,000.

Johnson and Robinson Lane Lift Stations

In 1986, MWY provided engineering design and construction management services in connection with a major upgrade of Springdale's collection system. This included the construction of two lift stations and one million gallons of in-system flow equalization. The cost of the original facilities, including both stations, was approximately \$1.3 million.

In 2001, MWY performed a facility upgrade study for the existing Robinson Lane Lift Station, located on Robinson Lane in southwest Springdale. The purpose of the study was to compare options for expanding the capacity of the facility while maintaining operation of the existing station, and MWY later provided detailed plans and specifications for construction of the recommended improvements. Based on recommendations from the study, the lift station was upgraded from an existing capacity of 3,600-GPM to an immediate capacity of 6,500-GPM. The new station can also be easily expanded to capacity of 8,300-GPM in the future. The facility improvements included the construction of an underground pipe gallery and a new wetwell with spaces for a total of five 185-HP submersible pumps (three immediate and two future pumps). The new station also utilizes variable frequency drives that lower pumping rates during periods of low flow, which contributes to lower operating costs. The improvements were completed in 2002 at an approximate cost of \$1 million.



JOHNSON LIFT STATION & EQUALIZATION



ROBINSON LANE LIFT STATION

ROGERS, ARKANSAS

30-MGD Main Lift Station at Roger Pollution Control Facility – MWY provided design and construction management services for a \$21 million wastewater improvements project which included nearly 12 miles of 8-inch through 42-inch gravity sewer lines and a new inlet pumping facility. The pump station contains six submersible pumps which have a maximum capacity of 30-MGD. Flow from this station can be pumped to the treatment plant headworks, or to one of three flow equalization basins with a combined capacity of over 14-million gallons.

BENTONVILLE, ARKANSAS

7-MGD McKisic Creek Lift Station and Flow Equalization Facilities – MWY provided design and construction management services for this \$8.8 million wastewater improvements project. Approximately one half of the project cost was for gravity sewer line replacement and extensions. The sewer lines ranged in size from 12-inch to 24-inch. Another significant portion of the project was the construction of a major sewage pumping station and flow equalization basins. The pump station, referred to as the McKisic Creek Lift Station, contains seven submersible pumps with a total station capacity of 7-MGD. Adjacent to the station are two circular reinforced concrete flow equalization basins, each with two-million-gallon capacity. The basins are equipped with aeration equipment to maintain a dissolved oxygen level in the sewage during periods of storage.

LIFT STATION ODOR CONTROL FACILITIES

MWY has designed many of its lift stations and force mains with the idea that preventing odors at the immediate facilities is far more efficient than treating odors after they have formed.

MWY has designed lift station odor mitigation facilities in Fayetteville, Springdale and Bentonville, Arkansas; and in 2003 designed odor mitigation facilities for the “Golf and Athletic Club” lift station, and the “Indian Spring” lift station in Broken Arrow, Oklahoma.

