

CASE STUDY

High-Stakes Project Delivers Big Return

With the opportunity to attract jobs and generate revenue through a new casino and hotel complex, leaders in Mulvane, Kansas knew they had to update the city's wastewater treatment plant to accommodate the increased loading that would result from the new development. These improvements would be completed as part of a broader infrastructure improvement process. Burns & McDonnell and CAS LLC were hired to design and build needed treatment system expansion and improvements. The project was completed nearly two months ahead of schedule on an already-aggressive timeline.



Challenge

A new casino — complete with restaurants, a 300-room hotel, 24-acre event and equestrian center, and gaming hall with more than 1,850 slot machines and table games — planned to open its doors soon. The city urgently needed to design and construct a wastewater treatment expansion project to support the opening of the new facilities.

Solution

With just eight months remaining before the casino planned to open its doors, the City of Mulvane hired Burns & McDonnell and CAS LLC to design and construct the wastewater improvements to accommodate the new development under a fast-track, design-build contract.

While the team faced a tight timeline, it was not the first time they'd worked together to solve a need for the city. Five years earlier, the same team had designed and constructed the city's new wastewater treatment plant. This collaborative endeavor gave the team the experience and understanding necessary to take on the new project with a high level of confidence and commitment.

Project Stats

Client

City of Mulvane

Location

Mulvane, Kansas

Project Cost

\$12.4 million

The team faced tighter time constraints for this project, but the design-build nature of the project created a series of efficiencies that helped the city meet its goal. We worked with the city's staff and plant operators starting early in the process. This gave the city staff a better understanding of the plant layout, equipment and operations as the design and construction decisions were being made. That paved the way for a smooth startup with no disruptions to existing customers.

The project team also was able to incorporate sustainable strategies into the wastewater treatment expansion by reusing existing infrastructure, incorporating natural lighting into the facility, selecting sustainable materials, and achieving energy savings through dissolved oxygen control and anoxic treatment methods. An on-site irrigation system was incorporated to apply liquid biosolids to nearby crops as fertilizer thus lowering the overall cost of operation.

Results

The team left the risky bets to the casino's patrons and delivered the design-build expansion nearly two months early, allowing the casino to open its doors on schedule and according to plan.

The newly expanded and improved facility was designed to accommodate and effectively treat the high-strength wastewater, leaving nothing to chance and paving the way for a successful grand opening for the new development.

By working together as a team, Burns & McDonnell, CAS LLC and the City of Mulvane were able to find a solution that could be implemented quickly and resulting in an efficient startup.

About Burns & McDonnell



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