

CASE STUDY / **BIG BULL CREEK WASTEWATER TREATMENT FACILITY**

BETTER TOGETHER: ONE INNOVATIVE SOLUTION FOR TWO PROBLEMS

Two neighboring cities were searching for a solution to their wastewater needs, especially with the imminent opening of a major regional industrial complex. We provided an answer that met the increasing demands of both: the Big Bull Creek Wastewater Treatment Facility. By using energy-efficient technology and creative problem solving, Burns & McDonnell was able to provide one innovative answer that provided expanded wastewater treatment capabilities for two separate communities.



REVISED SCOPE CHANGES A SHORT-TERM ANSWER INTO AN ENDURING SOLUTION

New 500,000-gallon-per-day treatment facility addresses increasing demand for two cities.

PROJECT STATS

CLIENT

City of Edgerton
and City of Gardner

LOCATION

Johnson County, Kansas

CONSTRUCTION COST

\$19 million

500K

GALLONS PER DAY CAPACITY

8,500

FEET OF FORCE MAINS

20

MONTHS FOR FULL SCOPE
OF SERVICES COMPLETED

5,800

FEET OF GRAVITY
INTERCEPTORS

CHALLENGE

The City of Edgerton, Kansas, was planning to temporarily expand its sewage treatment system with a force main and new pump station in order to satisfy an agreement to provide sewer service to the new Burlington Northern Santa Fe (BNSF) Intermodal Facility and adjacent Logistics Park Kansas City (LPKC), a combined 1,000-acre industrial complex.

Edgerton wasn't the only city facing wastewater treatment concerns. Its neighbor, the City of Gardner, Kansas, also needed improved sewer reliability for its residents and businesses and was considering a costly expansion to its treatment facility.

SOLUTION

Our team had initially been hired to complete the City of Edgerton's short-term expansion, but after an analysis of the project, the team wasn't convinced that approach

was the best way to meet the city's growing needs. We proposed a longer-term solution: A new plant and associated pump stations, force mains and pipelines that would pave the way for additional commercial, institutional and residential growth. However, the economic success of the project was dependent on the industrial complex developing per the owner's projections, which in the short term put more financial risk on the city.

By partnering, the cities of Edgerton and Gardner would be able to meet their wastewater needs in a faster and more cost-effective manner. They signed a unique intermunicipal agreement that led to the creation of the \$19 million Big Bull Creek Wastewater Treatment Facility.

But the collaboration didn't end there. Burns & McDonnell partnered with CAS Constructors LLC to provide design-build services on the project.





Throughout the project, the team was readily available to answer client questions. The team's open-book policy further fostered the collaborative relationship and made sure that value and service were being delivered to both cities. The careful approach to construction, unique understanding of how individual items can affect a budget, and continual commitment to find the right solution helped create an environment where the clients understood their voices were not only heard, but an essential component of the project's success.

RESULTS

With the completion of the Big Bull Creek Wastewater Treatment Facility, the City of Edgerton was able to honor its commitment to the BNSF Intermodal Facility and LPKC. The project was completed in time for the railway to open successfully, and the city was able to demonstrate

its value as a municipal partner to commercial development.

The final product is a 500,000-gallon-per-day treatment plant that uses energy-efficient technology to meet the most stringent water quality standards in Kansas. At the plant, wastewater goes through several treatment processes, including the use of screens for large debris, biological processes for nutrients, filters for phosphorus and ultraviolet for disinfection. The collection system includes three lift stations, two force mains, two gravity interceptors and a 42-inch pipe that crosses underneath a major interstate.

The reimagined project created an efficient solution that addressed two problems, resulting in expanded wastewater treatment capabilities for both cities.

SPECIALIZED SERVICES

- Siting study
- Project development
- Economic analysis
- Comprehensive design
- Design-build project delivery
- Startup
- Public involvement
- Land and right-of-way management
- Cultural resources
- Mitigation, restoration and management





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