

DECATUR COUNTY HOSPITAL, KANSAS

Central Plant and HVAC Systems Upgrade
LED Lighting Upgrade

Project Value:

\$1,658,972

Annual Energy Savings:

\$108,198

Annual Operational Savings:

\$12,300

GOALS AND CHALLENGES

The majority of the hospital was constructed 45 years before the project began and had little ongoing investment. As a result, it was in need of a customized plan and targeted upgrades in order to ensure its ongoing viability to serve Oberlin residents and the full Decatur County community.

The hospital leadership sought the assistance of Willdan to develop and implement improvements to solve fundamental challenges in the building's mechanical, electrical, and plumbing systems.

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IMPROVEMENT DETAILS

- Eliminated 45-year-old steam boiler
- Converted hospital to high-efficiency hot water system
- Installed high efficiency boiler plant, including two dual fuel condensing boilers
- Replaced two major AHUs that served the majority of hospital spaces
- Modified chilled water system to eliminate the need for glycol use
- Replaced additional outdated heating and cooling units
- Retrofitted outdated T12 and T8 lighting to high-efficiency LED fixtures
- Installed LED fixtures for all exterior building lighting
- Implemented building automation control system to improve comfort and reduce energy expenditures
- Refinanced USDA loan to a lower rate with financing arrangement

SOLUTIONS AND OUTCOME

Willdan redesigned the heating system serving the majority of the hospital, converting it from the ineffective and inefficient steam system to a customized hot-water boiler plant, utilizing a combination of boilers that led to peak efficiency and comfort for building occupants.



Other upgrades addressed additional components of the heating and cooling system, such as the chiller, air handling units, and building automation controls. A facility-wide conversion to LED lighting fixtures improved the indoor environment while generating a tremendous financial payback for the hospital. The hospital was able to finance the projects over a long-term lease to maximize the value of its CAH status.