

Washington County USD 108

The Opportunity

Washington School District is a rural district located in north central Kansas. The district has one large building that houses most of the high school, middle school, and elementary school classrooms and several other buildings for the district office, vocational trades, and extra classroom space.

Most of the heating and cooling equipment in the district was over 15 years old and past its useful life. The high school had original heating and cooling systems that was more than 40 years old. Maintaining this equipment had become an issue, because the replacement parts had become expensive and hard to find.

The high school portion of the building was originally design without air conditioning, but over time unitary equipment has been added to each space to provide cooling.

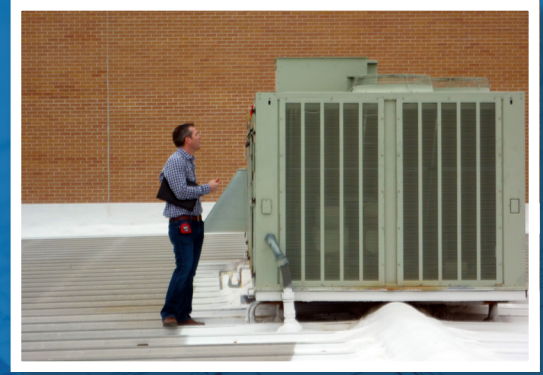


4 Buildings; 124,317 sq.ft.
Contract Amount: \$2,053,624



The Technical Solution

Navitas performed an investment grade audit to identify the critical facility issues and developed plan to address them. We investigated several heating and cooling options based on the constraints of the old building design. It was determined that the system with the best life cycle cost and one that would take advantage of existing duct layout, would be PMZs (penthouse multi-zone units). The remainder of the heating and cooling equipment throughout the district was also replaced as part of the project. The project also included replacing old steam traps, upgrading the lighting, and installing new windows in the original high school portion of the building.



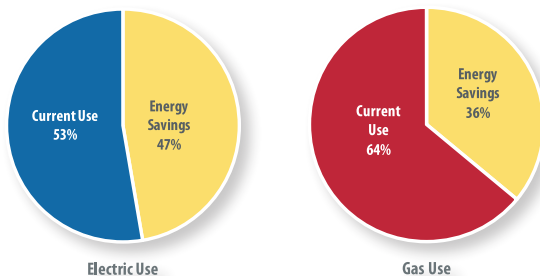
The Financial Solution

Through the development of the project, Navitas identified potential energy conservation measures as well as helped to assess the capital and deferred maintenance needs in the buildings. The district chose to address many of their capital needs as well as implement energy conservation measures within the project. They sought a loan to cover the cost of the project from multiple sources, and ultimately awarded funding to a local bank on a 15 year term. The combined energy, operational, and capital cost savings cover the cost of the loan.

Improvement measures implemented:

- Lighting Efficiency Improvements
- Occupancy Sensors for Lighting Control
- Rooftop Unit Upgrades
- Gas Furnace Installation
- Gas Unit Heater Installation
- Steam Trap & Valve Replacement
- Building Automation System
- Window Replacement
- Weatherization
- Energy Performance Management
- Data Analytics

Savings Summary



Total Savings Over 15 years = \$1,292,999

Environmental Impact:

99,311 lbs. of harmful CO₂ greenhouse gas emissions reduced annually

Equivalent to:

- Preserving 3.4 acres of forest from deforestation
- Conserving 51,262 gallons of gasoline