



**Bluestem Unified School
District 205**
Leon, KS



PROJECT HIGHLIGHTS

Environmental Benefits

979 tons of harmful greenhouse gas emissions reduced annually

Equivalent to:

- Preserving 6.2 acres of forest from deforestation* or
- Conserving 2,065 barrels of oil*

Capital Costs

\$2,461,563

Annual Savings

Energy:	\$65,801
Non-Energy:	\$14,914
Utility Cost Reduction:	21%

* Sources:
 • Leonardo Academy's Cleaner & GreenerSM Emissions Reduction Calculator
http://www.cleanerandgreener.org/resources/emission_reductions.htm
 • U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator
<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

PROJECT DESCRIPTION

Energy Savings Performance Contract

Challenge: Several unique obstacles arose during the course of the project with Bluestem Unified School District 205. One of the elementary schools evaluated, though only eight years old, had never had a properly functioning mechanical and controls system. This particular school was costing the district nearly 30% more annually than the other schools. Another issue at Bluestem was the difficulty operating a new control system. Finally, the high school had a failing roof and old inefficient heating and cooling systems that needed to be replaced in the near future.

PROJECT SCOPE

Solution: Retrocommissioning the new elementary school was the biggest saver for the district. It saved nearly 30% on utilities. The retrocommission also lead to the discovery of six dirty coils with decreased air flow, two air handling units with the wrong motor/fan speed, missing or slipping belts on air handling units, approximately 30 plugged filters on fan power boxes, closed fire dampers, and more. All were repaired during the project.

A second phase was implemented at the high school in 2009. These improvements included the much needed HVAC upgrades, roof replacement and a new energy management system.

Contact:

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 Superintendent
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 Leon, Kansas 67074
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Construction Start Date:

June 2007 (Phase 1)

Construction End Date:

December 2009 (Phase 2)

ENERGY CONSERVATION MEASURES

Lighting

High efficiency lighting

Controls

- Energy management system
- Kitchen exhaust hood
- Domestic hot water feed pump
- Chilled water pump

Heating and Cooling

HVAC Systems

Water

Low-flow water fixtures

Building Envelope

Roof replacement

Other

- Building retro-commissioning
- Replace power transformer



Clients: K-12 Schools

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| <p>Baker County Schools,
Maccleddy, FL</p> <p>Bay County Schools,
Panama City, FL</p> <p>Bradford County Schools,
Starke, FL</p> <p>Bluestem Unified School District #205,
Leon, KS</p> <p>Buhler Unified School District #313,
Buhler, KS</p> <p>Calhoun County Schools,
Blountstown, FL</p> <p>Charlotte County Public Schools,
Port Charlotte, FL</p> <p>Charlottesville City Schools
Charlottesville, VA</p> <p>Clay County Schools,
Keystone Heights, FL</p> <p>Collier County Schools,
Naples, FL</p> <p>Columbia County Schools,
Lake City, FL</p> <p>Columbia Public Schools,
Columbia, MO</p> <p>Dade County Schools,
Miami, FL</p> <p>Desoto County Schools,
Arcadia, FL</p> <p>Emporia Unified School District 253
Emporia, KS</p> <p>Escambia County School District (65 schools),
Pensacola, FL</p> | <p>Foster-Glocester Regional School District and Ponaganset Middle & High School (2 schools),
Foster, RI</p> <p>Franklin County School Board,
Apalachicola, FL</p> <p>Garden City School District,
Garden City, NY</p> <p>Hardee County Schools,
Wauchula, FL</p> <p>Harrisonville Cass R-IX School District,
Harrisonville, MO</p> <p>Haven Unified School District #312,
Haven, KS</p> <p>Hendry County Schools,
Labelle, FL</p> <p>Highland County Schools,
Sebring, FL</p> <p>Hillsborough County Public Schools (10 schools),
Tampa, FL</p> <p>Humboldt Unified School District #258,
Humboldt, KS</p> <p>Indian River Schools,
Vero Beach, FL</p> <p>Jackson County Schools,
Marianna, FL</p> <p>Lake County Schools,
Tavares, FL</p> <p>Lee County School District,
Ft. Myers, FL</p> <p>Leon County Schools,
Tallahassee, FL</p> | <p>Mahopac Central School District,
Mahopac, NY</p> <p>Manatee County Schools,
Bradenton, FL</p> <p>Maries County School District,
Belle, MO</p> <p>Martin County Schools,
Stuart, FL</p> <p>Monroe County Schools,
Key West, FL</p> <p>Nassau County Schools,
Fernandina, FL</p> <p>Newport Public Schools,
Newport, RI</p> <p>Northampton Public Schools,
Northampton, MA</p> <p>North Jackson Unified School District #335,
Holton, KS</p> <p>Okaloosa County Schools,
Fort Walton Beach, FL</p> <p>Okeechobee County Schools,
Okeechobee, FL</p> <p>Osceola School District,
Kissimmee, FL</p> <p>Palm Beach County Schools,
West Palm Beach</p> <p>Park Hill School District,
Kansas City, MO</p> <p>Piper Unified School District #203,
Kansas City, KS</p> <p>Polk County Schools,
Bartow, FL</p> <p>Port Charlotte County,
Port Charlotte, FL</p> | <p>Putnam County Schools,
Palatka, FL</p> <p>Queen Creek School District,
Queen Creek, AZ</p> <p>Raymore-Peculiar School District,
Peculiar, MO</p> <p>Santa Rosa County Schools,
Milton, FL</p> <p>Sarasota County Schools,
Sarasota, FL</p> <p>School Board of Pinellas County,
Largo, FL</p> <p>Scott County Unified School District #466,
Scott City, KS</p> <p>Smithville R-11 School District,
Smithville, MO</p> <p>Springfield Public Schools,
Springfield, MO</p> <p>St. John's County Schools,
St. Augustine, FL</p> <p>Suwannee County Schools,
Live Oak, FL</p> <p>Walton County Schools,
DeFuniak Springs, FL</p> <p>Washington County Schools
Chipley, FL</p> <p>Windham Public Schools (6 schools),
Windham, CT</p> |
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