

Norton City Schools

Siemens helps Virginia school improve efficiency and create a more comfortable and safe learning environment.

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Located in the mountainous region of southwest Virginia, Norton City Schools is comprised of two schools serving over 800 students in grades Pre-K through 12. Its high school, John I. Burton High School, was constructed in 1953. Norton Elementary and Middle School was added in 1971.

In 2013, Norton City Schools enlisted Siemens Industry, Inc. to implement \$3 million in improvements to the HVAC/mechanical, fire, and security systems at Burton High School. With renovations complete, the school will bring many systems up to code and provide a safer, healthier environment for students and faculty.

Client Objectives

While it had performed ongoing maintenance throughout the years, many building systems at Burton High School were over 50 years old and in need of major renovation or replacement. Critical improvements identified by Norton City Schools included:

- HVAC upgrades to increase outdoor air flow into classrooms
- Replacement of its coal-fired boiler, which was both inefficient and consumed much of the school's annual maintenance budget
- Upgrades to the fire alarm system to meet current safety codes

To help achieve its goals, Norton City Schools also decided on performance contracting as the preferred funding vehicle. In a performance contract, facility improvement measures are completed upfront and paid for with the resulting energy savings over a set period of time. Through performance contracting, Norton City Schools is able to finance all of its much-needed upgrades and establish a long-term partnership.

"The energy savings we're generating have helped us to fast track other projects. We're making significant safety improvements that wouldn't have been possible otherwise."

*Dr. Jeff Comer, Superintendent of Schools
Norton City Schools*



Siemens Solution

Norton City Schools selected Siemens as its partner for its ability to meet their budget and timeline targets, including completing all work between June and August. Norton City Schools also liked Siemens' ability to think outside the box. For the HVAC replacement, Siemens recommended a variable refrigerant flow (VRF) system. VRF is an economical solution that delivers heating and cooling through one system and can match refrigerant delivered to the needs of specific classrooms, ensuring comfort and efficiency. "We're really excited about this system," notes Superintendent of Schools, Dr. Jeff Comer. "It's not something others were recommending, but we did our research and realized this was the way to go."

Other facility improvement measures in the performance contract include:

- Lighting retrofits in both the high school and elementary-middle school
- Building automation improvements, including AHU scheduling and temperature setbacks
- Building envelope improvements
- Fire alarm system upgrades
- Construction of a new security vestibule

The guaranteed energy savings from efficiency improvements helped make the new fire and security systems possible. "The energy savings we're generating have helped us to fast track other projects," notes Dr. Comer. "We're making significant safety improvements that wouldn't have been possible otherwise."

Client Results

When completed, the improvements are projected to save Norton City Schools 450,632 kWh of electricity and 232 tons of coal in the first year alone. In addition to improved efficiency and the resulting energy and operational savings, the renovations will also provide the students and faculty of Burton High School with improved indoor air quality and a safer, more secure learning environment.

Siemens Industry, Inc.
Infrastructure & Cities Sector
Building Technologies Division
1000 Deerfield Parkway
Buffalo Grove, IL 60089
Tel: (847) 215-1000

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