

Hoke County Schools - Sandy Grove Middle School

100% Energy Reduction Compared to Baseline
\$128,858 Energy Savings in 2015 Compared to Baseline

PROJECT DETAILS

LOCATION..... Lumber Bridge, NC
CONSTRUCTION TYPE..... New Construction
BUILDING TYPE..... Middle School
OWNER..... Firstfloor
BUILDING AREA..... 75,930 Enclosed SF
BUILDING CODE OR STANDARD..... ASHRAE 90.1-2007

DESIGN TEAM

ARCHITECT..... SfL+A
ENGINEER..... Optima Engineering
COMMISSIONING AGENT..... Hanson Professional Services

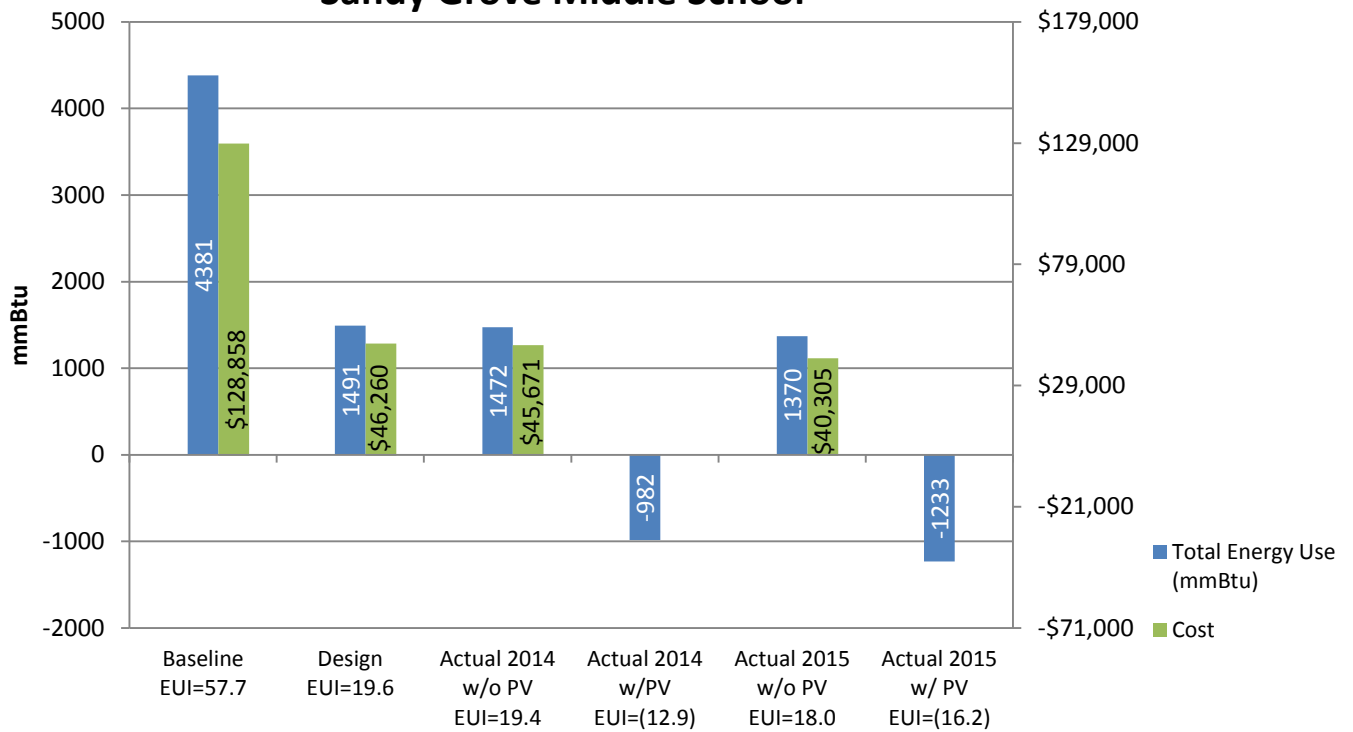
CONTACT

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Photo credits: Mathew Carbone

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Project Description

- General:** Sandy Grove Middle School is in an elite class of buildings that generate more energy than they consume each year. The 75,930 sf facility combines energy conserving practices with on-site renewable energy generation to produce more energy than the school requires.
- Photovoltaics:** A large photovoltaic solar array of 2,358 roof-mounted panels blankets the entire roof, as well as four solar structures that stand 20 feet tall. Combined, the panels produce over 752,000 kilowatt/hours of electricity per year – enough energy to power more than 68 homes.
- Mechanical Systems:** The geothermal system’s ground-sourced heat pumps use the naturally renewable ground temperature as a heat source in the winter and a heat sink in the summer. This subsurface conductive heat transfer returns near constant 55 degree water to the heat pumps, requiring less energy to raise or lower the indoor air temperature.
- Lighting Systems:** LED lighting is used extensively. The LED lighting not only uses less energy than more traditional fluorescent lighting, it emits less heat which in turn requires less mechanical cooling.
- Insulation and Windows:** The building uses super insulated wall and roof assemblies coupled with high-performance glazing.