Wake County Public School System - Alston Ridge Elementary School

28% Energy Reduction Compared to Baseline
$79,954 Energy Savings in 2013 Compared to Baseline

PROJECT DETAILS
LOCATION........................................ Cary, NC
CONSTRUCTION TYPE......................... New Construction
BUILDING TYPE............................... K-12 School
OWNER.............................................. Wake County Public School System
BUILDING AREA............................... 96,518 Enclosed SF
BUILDING CODE OR STANDARD..... ASHRAE 90.1-2004

DESIGN TEAM
ARCHITECT................................. Clark Nexsen (formerly Pearce Brinkley Cease + Lee)
ENGINEER................................. The Wooten Company
COMMISSIONING AGENT........... WCPSS acted as their own commissioning agent

CONTACT
Project Architect: Donna Francis, AIA, DFrancis@clarknexusen.com
**Project Description**

**Site:** Mostly one story structure with classroom wings oriented N/S alignment. One classroom wing is two stories.

**Construction:** Steel frame with concrete slab on grade.

**Building Envelope:** Wall: Brick veneer with CMU back-up at cafeteria, building operations & toilets only. Use of brick veneer with metal stud back-up at all other areas.

**Interior Construction:** Interior CMU corridor walls at cafeteria/PE/ food prep and toilets. All other walls are metal stud framing.

**Mechanical Areas:** Mechanical platforms constructed over classroom corridor wings, platforms supported by steel framing.

**Mechanical System:** Air-cooled chiller for chilled water, gas-fired condensing boilers for heating hot water, large variable air volume air handling units for multiple classrooms, DDC controls and occupancy sensors.

**High Performance Elements:** LEED certification guidelines used. Certification of building received in 2013. Use of two story classroom wing reduces the building footprint. Building orientation such that all classroom wings oriented north/south to minimize heat gains. Solar shading used on south and west elevation windows. Use of highly reflective roof to reduce heat gain.

**Energy Use:** 35.3 kBTU/sf**

**Modifications:** Use of mostly all brick veneer due to Town of Cary requirements - Use of metal panels were not permitted

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*Cooling set point was lowered and occupancy was increased from 2012 to 2013, which led to greater energy use in 2013.*