Alvaton Elementary School

Alvaton Elementary, an 80,000 sq. ft. public school near Bowling Green, Kentucky, has been awarded 2007 Best Heavy Commercial Project by the ICF Builder Awards.

This project is notable not only for its outstanding architecture and construction considerations, but also because it has opened a new sector to the entire ICF industry.

The story starts in 2004 when the local Nudura distributor approached the Warren County Board of Education with a proposal to use insulating concrete forms in their new elementary school.

"After they saw it, they asked if there was a school built with ICFs they could go look at," says Martin Clark. He arranged to take the school officials and the architectural firm they'd selected, Sherman Carter Barnhart, to tour an ICF school in Bentonville, Arkansas.

"One of the first things they noticed was the lack of noise," Clark continues. "They asked if there were any kids in the school because it was so quiet. After we took the tour, they asked the superintendent if he wouldn't mind telling them what the utility bills were running, and after they saw the bills, they said, 'absolutely, this is what we want to try.'"

Nudura and their local distributor, Holdfast, worked with the construction team to get them the specs, engineering details, and training they needed. "We made a number of visits with both the architect and contractor to help them with details, wall sections, and wall connections," says Clark. "The school district gave us a list of contractors that could possibly be bidding on the project, and we invited them to a training class to educate all the contractors

Project Statistics

Project Name:
Alvaton Elementary School

Location:
Bowling Green, Kentucky

Size: **80,000 sq. ft.;**
44,000 sq. ft. of ICF walls

Completion Date:
Summer 2006

Construction Team

Owner: **Warren County Board of Education**

General Contractor:
D.W. Wilburn

ICF Installer: **D.W. Wilburn**

Form Distributor:
HOLDFAST Technologies

ICF Brand: **NUDURA**

Architect:
Sherman Carter Barnhart

Fast Facts

- ***Accommodates 700 students***
- ***Geothermal Heating***
- ***R-30 Roof***
- ***"Green" Finishes***
- ***Awarded Energy Star Rating***
- ***Won "Best Elementary School" from CEFPI***
- ***ICFs cut 3 months off construction time***

Best Heavy Commercial

and trades so they would know how to bid it. From training, visits, and everything, it took about a year to get this project made."

Kenny Stanfield, the lead architect for the project, indicates that with Nudura's help, it was a fairly straightforward process.

"Really, the project went very smoothly," he says. "From our standpoint, there were several things that made us believe it was the right material for the project. The building does have a rather complex design, but it wasn't an issue because the manufacturer had a variety of specialty forms that we could use. It allowed us to make the design site specific, with no additional work because we could use off-the-shelf items."

D.W. Wilburn, the contractor who won the bid, hadn't used ICFs before either, but immediately noticed several advantages. The new school was being built on the existing school site, which created some congestion, but the hinged-tie design of the Nudura block alleviated many material storage issues. Their light weight meant no heavy equipment was needed, an advantage during a rainy spring that ended up being one of the wettest on record.

The weather was so wet, in fact, that traditional construction would have ground to a halt. "ICF walls cut 3 months off the construction schedule," says Stanfield. "The building could not have been completed in time if it hadn't been for ICF construction."

Even the trades found ICFs easier to work with than expected. "The electrical subcontractor hadn't done ICFs before, but they were very happy with how easy it was to work with," Stanfield says. "Additionally, they had a roof over their heads during that phase of construction, and that made it go more quickly and easily."

Finished in time for the 2006-2007 school year, the building set a new benchmark for sustainable school construction. In addition to its 44,000 sq. ft. of exterior ICF walls, it features a super-insulated, R-30 roof, geothermal heating, and "green" finishes throughout the structure. The 700-

student school is one of a select few to have received an Energy Star rating.

It also set new standards for beauty and functionality. The two-story school was built on a hillside, with the upper- and lower-level classroom wings joined by a double-height media center. A great hall links the media center with other shared areas of the building, including the gymnasium, cafeteria, and entrance lobby. Clerestory lighting and decorative beams add a level of richness uncommon in school construction.

The school is so unusual that the Council of Educational Facility Planners (CEFPI) named Alvaton "Best Elementary School" in the region last year. CEFPI is a professional association whose sole mission is improving the places where children learn.

"Everyone that uses the building—the administrators, teachers, and students—they're all very positive about the building," says Stanfield.

Rumors of a statewide mandate for ICF schools are unfounded, but, at the local level, the school district has made ICFs standard for all new construction. "They've already committed to a new high school and middle school from ICFs," Clark notes.

Clark, who now works for Nudura corporate, says that Alvaton is helping convince others to build ICF schools, just as the school in Bentonville did a few years ago. Holdfast and Nudura set up tours during construction and after the school was built. "The Kentucky high-performance school association put on a trade show, and last year the show was in Bowling Green and they took a tour of the school as well," Clark says.

"This was a team effort, not only from the board of education, but also with everyone at Nudura and Holdfast, Kenny Stanfield at Sherman Carter Barnhart, and D.W. Wilburn."

Stanfield says a lot of the credit goes to Nudura. "What they provided for us is the support, and not everybody does that. They really worked to make it good for the industry and not just for themselves."