CYPRESS TIMBERS were paired with innovative design for a new town hall in Newbern, Al., designed and built by Auburn University students. All photos courtesy the Rural Studio.

Cypress timbers called on for good looks, durability

CYPRESS TIMBERS—locally sourced and milled—were paired with innovative design for a new town hall in Newbern, Al. “We selected cypress because it’s a native Southern species,” says David Frazier, a fifth-year architecture student with the Rural Studio at Auburn University, Auburn, Al. “We liked that it’s naturally durable, rot- and decay-resistant, and not preferred by termites.”

Frazier was one of four students who worked on the project, from original design to final completion. Their challenge was to create a primary community campus to serve multiple functions: a voting location, a meeting space for the town council, and a suitable space for events attended by the town’s 186 residents.

In order to convey a scale and importance suitable for a civic structure, the students chose to use heavy cypress timbers, rather than a traditional structural frame and cladding. Walls were constructed using 16 rows of 8”x8” cypress timbers. For a 28 ft. span in one wall, they constructed a glue-laminated cypress beam to accommodate expansive windows and a door that opens to a courtyard.

While the cypress timbers offered simple, yet durable beauty, they also presented several significant design obstacles.

“The students did all the work themselves, by hand, including cutting the timbers to fit, drilling them, then stacking without the use of cranes or lifts,” says Chuck Harris, Custom Lumber Manufacturing, Dothan, Al., which supplied 22,000 bd. ft. of cypress timbers. “This was an incredible undertaking. Each 8-ft.-long timber weighs approximately 150 lbs.—and they needed 500 of them.”

Harris, who serves as past president of the Southern Cypress Manufacturers Association, worked closely with the student team. “We had numerous phone calls concerning design and strength values of cypress,” he recounts. “They also spent quite a bit of time with me, learning about cypress and what they could expect from it. They visited with us at the sawmill to see how we sawed the timbers, and then again at our facility in Dothan when we were drying them.”

Because the timbers were going to be end-butted together and stacked, they had to be cut very precisely at Custom Lumber’s mill. Then they were placed in an air-drying tunnel for two months, to achieve moisture content of 25% or less.
“The biggest challenge was dealing with the inevitable shrinkage of the timbers as they dry over time,” says Frazier. To prevent failure of the building envelope due to timber shrinkage, components had to be designed to adapt. Frames for windows and doors were fabricated with slotted joint connections and installed on the inside or outside of the walls.

“They were hung like a picture frame,” he explains. “With this technique, the cypress walls will be able to shrink up to 4” without causing damage to the envelope.”

The team also chose to let the cypress weather naturally, rather than apply any paint or stains. “In a few years, the cypress will be an attractive gray color,” Frazier says. “The building will blend into its surroundings on Highway 61.”

For more information on building with cypress, please visit the Southern Cypress Manufacturers Association at www.cypressinfo.org.

WALLS WERE CONSTRUCTED using 16 rows of 8’x8” cypress timbers, for simple, yet durable beauty, inside and out.

CUSTOM LUMBER’S mill in Dothan, Al., supplied 500 cypress timbers, about 22,000 bd. ft. Pictured is a member of the team, student Mallory Garrett, with president Chuck Harris.

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