

19th Century GREEN Home

Columbus, Ohio, USA



House Combines Salvaged Materials and Modern Sustainability

Where others see an abandoned house, builder Dan Troth sees an important piece of American history worth saving. After stumbling upon a nineteenth century timber frame farmhouse outside of Columbus, Ohio, Troth set out to preserve the hand-hewn timber frame by using it in a new home.

Troth meticulously disassembled the home, carefully documenting the pieces for reassembly. During the disassembly he found a newspaper that was placed in a wall cavity during the home's construction. It chronicled a Civil War battle that took place in September of 1862.

It was not long before Troth met a couple interested in incorporating the antique timber frame into a new home for their family of six. Troth, together with architect Todd Parker, F5 Design, began work on the 6,000 sq. ft. home that would be enclosed entirely with Insulspan structural insulated panels (SIPs).

"The homeowner was interested in using SIPs from a green building standpoint," said Parker. "But we really didn't explore conventional framing at all. SIPs were in the line from day one."

The Insulspan SIP system creates an airtight building envelope, helping the homeowner save energy and reduce their carbon footprint. As an avid green builder, Troth also plans to outfit the home with other energy saving features, including a geothermal heating & cooling system, tankless hot water heaters, and a heat recovery ventilator that provides ventilation without heat loss.

"With the energy crisis we're having, people are more concerned than ever about their utility bills," said Troth, who conducts thermal imaging and energy analysis on all the homes he builds. "SIPs also give my clients a stronger home and a healthier home. I feel like I'm also doing the right thing by trying to help our country conserve energy, one house at a time."

Parker explained that in addition to reducing energy use, the Insulspan SIP system was ideal for enclosing the timber frame structure. By using SIPs for the roof instead of more commonly used attic trusses, the family benefits by getting finished third floor living space. The homeowners chose to create a large guest room with a full bath on this bonus level.

"Timber frames typically have a large volume of space with tall walls, and the SIPs lend themselves nicely to fill in that space with large panels," said Parker. "In the roof you can use panels without a lot of augmented structural items."

Although Parker admitted this project was not something he encounters every day, he sees the benefits of using SIPs on future projects. Troth, who has been building with SIPs since 1988, prefers to work with them exclusively.

"The energy efficiency is a huge reason to use SIPs and one of the main reasons more people will convert to them in the future," said Parker.