



Story by Lars Wideawake

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TruexCullins Architecture

AT HOME IN VERMONT

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# Designed To Be Tops, from the Bottom Up

*The concept for this home was one of a small, energy-efficient house that blended in with the land.*



Located on the edge of woodland in Stowe, Vermont, this home is, in a way, an expression of the clients' love of nature and the outdoors. Large windows and careful site planning make the best use of natural light, a concept that seems to blur lines of distinction between the home's interior and the natural environment in which the structure is located.

LEE GRUTCHFIELD likes to think that the path that led to his becoming an architect, and Principal with TruexCullins Architecture in Burlington, might be part of a tradition steeped in New England craftsmanship: apprenticeship, in which a potential architect learns to make a building from the ground up. Through hands-on experience, he believes an architect learns to intuitively understand acoustics, structural principles, mathematics, and the workings of natural light. Lee should know; he spent 14 years working as a carpenter prior to studying architecture at Norwich University, where he earned his master's degree.

As the housing market continues to evolve in 2012 and begins its recovery from the 2008 crash, interest is again stirring in new home construction—this time, in smaller, more energy-efficient homes than what was previously the norm. Lee can proudly look back on many projects, but the most memorable and noteworthy is the house featured in this article—one that was the result of a concept launched in the darkest days of that 2008 housing crash. And, it's one that started, like Lee's career, from the ground up.

At his desk at 209 Battery Street in Burlington, Lee recalls how he and partner Rolf Kielman re-thought strategy when the recession hit, and how the lovely Stowe home that is the subject of this article came to be. "After the

The design of this home is based on three main principles. First, authenticity, via a modern style that is rooted in the Vermont vernacular. Second, simplicity, since the house by design calls attention to the world at large rather than itself. And third, honesty, in the way the structure of the house reveals itself in the timber frame of the floor joists over the living room.



market crashed in 2008, we started to think about offering some stock-house plans. In other words, house plans that folks of more modest means could purchase “off the shelf” from us. We were interested in being able to bring well-designed—and resource-efficient—small houses to clients who might not be able to afford full services but who would appreciate architecture. And so, we developed a series of small home plans that we thought also might be prefabricated, in that the houses could be made in a factory and trucked to a site.”

Roughly a year later, a friend, Brendan O’Reilly, owner of Grist Mill Builders, in Stowe, approached Lee.

Brendan asked if TruexCullins had some existing house designs that might work in conjunction with property he wanted to develop in Stowe. He had a potential buyer and figured the buyer might be interested in some of Lee’s “off-the-shelf” plans. “I met with Brendan and the clients,” says Lee. “They liked the plans, and we used them as the basis of what became the house, as it now stands.” Although the design (originally 2,200 square feet) changed and became a bit larger, at 4,300 square feet, when it was decided to finish the basement and to add a mother-in-law loft apartment, Lee advises that “the kernel of the original plan is there, especially in the

living room area.”

“I am fond of this house for several reasons,” Lee continues. “One of them is that the design reminds me of those very scary, but creative, days after the market crashed. Architects had a really rough go of it for a while. But Rolf and I put our fears aside and our noses to the grindstone and created some great plans that have made their way into much of our work since.”

Technology that made for energy efficiency in the Stowe house literally started at the bottom, with a geothermal heating system. Long trenches, approximately 4 feet deep, were dug on the foundation site; tubing was





Twin fireplaces serve both the outside porch area and the inside, where the clients' son (right) occasionally engages in a bit of rock wall climbing practice to stay in shape for one of the outdoor activities he enjoys.




## Just the facts

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then laid down in the bottom of the trenches. The tubes were filled with coolant that absorbs the heat in the ground. The operation of the system is such that the coolant is circulated to a heat pump in the boiler room, which extracts the heat, and then pumps it through a radiant floor system, which in turn heats the house.

Other, more subtle considerations from a careful site analysis also made their way into the master plan. The long side of the house faces due south, and the roof overhangs are sized to maximize the house's solar exposure and solar heat during the shortest days of winter and to effectively block it during the summer solstice. Marvin Aluminum Clad windows were selected for this project, and native, Vermont spruce was specified for the horizontal siding; traditional, long-lasting white cedar shingles came from neighboring Quebec. Lee adds that the 768-square-foot garage and its loft were actually constructed first, so the clients could come to Vermont and stay on weekends while the house was being built, a period of some 8 to 10 months. Along the way, the services of Jessica Carbone, interior decorator, were engaged to provide the finishing touches as the project neared completion.

Today, the clients, who Lee says were a joy to work with, enjoy this fine house (especially their son, who is an avid rock climber and finds the tall, stone fireplace much to his liking for a little practice now and then). It's just one reason why, as Lee observes, "this house is part of the clients' very active, outdoors sports lifestyle." All in all, it is hard to believe this unique house came out of what started as part of a pre-fab study, but it's true! 



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