

Sustainable Design Is Named Efficiency Vermont's 'Residential New Construction Partner of the Year'

With their portfolio of energy efficient building projects around Vermont, it came as no surprise that Alan and Nancy Benoit of Sustainable Design LLC in Manchester Center were selected as Efficiency Vermont's Residential New Construction Partners of the Year at the 2018 Better Buildings By Design conference. Among their many energy efficient projects is a recently completed contemporary farmhouse-style home in Mt. Holly, constructed by Chris Smith of Smith Building Company (see preceding article).

The Benoit's commitment to sustainable design goes way back, but came sharply into focus in 2008 when both were suddenly cast into the employment market.

"I had worked for another architectural firm," he recounts, "and Nancy had been working for an interior designer for several years. At the start of the housing recession, we both lost our jobs, which gave us an opportunity to refocus on things that were important to us."

Focus On Green

They started their own firm, with Alan as the architect and Nancy serving as the firm's senior designer, helping with measuring, drafting, laying out spaces and drawing 3D. Sustainable Design LLC focuses on several aspects of green construction and design, the most recent being the Mt. Holly project, which Benoit describes as "an affordable, compact state-of-the-art house, using durable materials, so that it will require very little maintenance. It's 600 square feet, with the upstairs unfinished and available for future expansion.

"We used a corrugated metal siding, warrantied for 40 years, over two inches of exterior RockWool insulation, which is actually fireproof, as opposed to the foam you see a lot of these days. (The RockWool) is actually basalt and slag that is melted down. They whip it like cotton candy that's then compressed into a board. We've been using RockWool for the last five years, but before that it was only available in the commercial market due to cost, where you had to get it in large quantities. We also used some reclaimed flooring on the entrance, which the client had. On the inside, we used slate flooring in the mudroom and hardwood on the rest."

Benoit has developed a robust wall

system himself, after spending years studying building science and learning from Joe Lstiburek, the founder of Building Science Corp. This revolutionary new wall assembly allows a home's walls to dry in both directions, to inside and to outside. Now available from rk Miles, it expels any trapped moisture and potentially extends the lifespan of a home's exterior to 100 years or more (see related article on pg. 3).

"The air barrier is a peel and stick, self-healing membrane which is water-resistant. Combined with exterior RockWool insulation and strapping, the walls dry properly under all conditions and at all times of the year. The same is not true for walls with foam or plastic or foil in the mix," says Benoit.

Passive House Certified

In 2012, Benoit also became Passive House certified.

The Passive House movement, which

began in Germany in the early 1970s, focuses on a durable and airtight building shell, which reduces maintenance over the life of the building while vastly reducing energy bills and looking for the elimination of a conventional HVAC system, and often allows a new home to approach or reach Net Zero.

"I had an opportunity to get trained and certified in a class at YesterMorrow in Waitsfield, taught by Katrin Klingenburg, who is from Germany and founded the Passive House Institute U.S. (PHIUS) in 2007.

"I was drawn to (the class/certification) because it aligned with the design philosophy I already had in place," he says. "Including a super insulated building, solar energy and passive orientation heating and cooling. It kind of pulled all those things together. The last house we did in Manchester Center had a 0.79 ACH (air changes per hour), and the Passive House standard is 0.60. So that's pretty close."



This 600 sq. ft. contemporary farmhouse-style home in Mt. Holly was designed by Alan Benoit and constructed by Smith Building Company.