

*Our 21st Year*

# VERMONT B/A

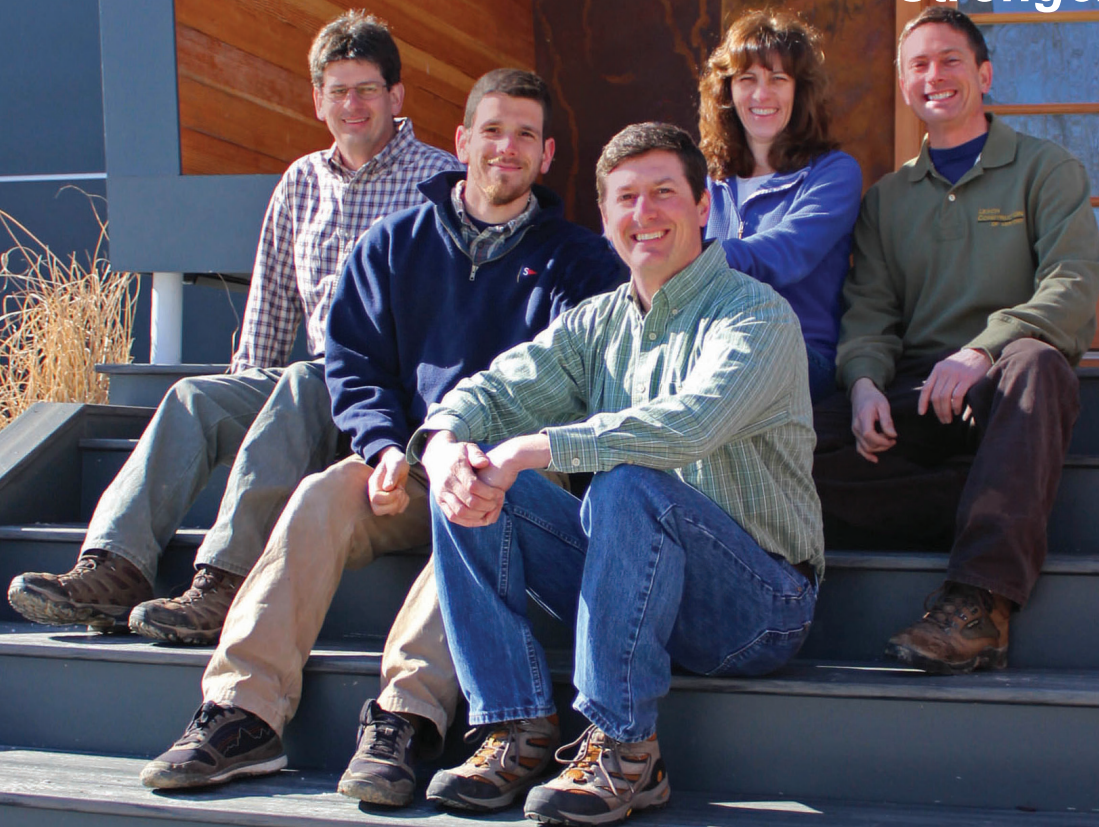
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ENERGY EFFICIENCY ISSUE

## Leach Construction Of Vermont, LLC

*Building Smarter,  
Stronger, Greener*





This modern home on our cover glows at sunset. This photo earned Leach Construction of Vermont the new “People’s Choice” Award as part of the 2013 Better Homes Awards, sponsored by the Northern Vermont HBRA. Fir paneling on the walls, ceiling and bench, plus fiber cement siding, from Richmond Home Supply. Design by Chris Brown.



# Leach Construction of Vermont, LLC

## Building Smarter, Stronger, Greener

By Dick Nelson

The home pictured on this page, built last year in Shelburne by Leach Construction of Vermont, and Andy and Judy Leach’s own home in Jericho (see page 12), couldn’t look more different at first glance.

The Shelburne home, winner of the new People’s Choice Award sponsored by the Northern Vermont HBRA, is as modern a home as you’ll find anywhere in the state. The Leach’s home, conversely, was constructed in a much more “vernacular,” or traditional, style. But they have one very important feature in common, as do all the projects built by the company over the past 13 years. They are both highly energy efficient.

It’s no surprise that the modern home, built for Rich and Colleen Tremblay, also won the HBRA’s 2013 Energy Star® Energy Efficiency Award. The Leaches have won the Energy Efficiency Award at the association’s annual Better Homes Awards six different times, including their first award in 2003...for their own home. They have also won multiple Better Homes Awards for Environmental Excellence, Innovative Design/Build, Single Family Home, Best Feature, and Commercial Renovation. Do you notice a pattern?

“We’re just continually tightening the process,” says company founder Andy Leach. “We’ve improved our building shell each time. Over the years, it’s been an important goal of ours, almost a game, to see if we can get the next one tighter and more energy efficient than the last one.”

Judy Leach, the company’s business manager and owner of a Masters Degree in Energy & Environmental Science from BU,



Leach Construction photos

This shot shows how the standing seam metal roof on the porch wraps around the side as well. The entrance is built at an angle for a distinctive look.



adds: “At this point, we are really happy with the quality and performance levels of our homes. It is a way we have set ourselves apart in the market.”

### Mission Statement

The company’s mission statement reads in part: “We strive to provide our customers with a range of building and remodeling services, specializing in custom, energy efficient homes... built to the highest energy efficiency and performance criteria possible... and advocate for environmental responsibility and sustainability with green building principles.”

That they have lived up to that philosophy is reflected in the recognition from their peers in the HBRA. And also in the comments of their clients, like Colleen Tremblay, who told *Vermont B/A*, “It was very important to us to build an energy efficient, zero-to-low maintenance house. Leach Construction and (architect) Christian Brown are award winners because they are experts. We’ve found our (energy) bills are minimal. We’re extremely comfortable. We wouldn’t change a thing.”

Another client, Dylan McNamara of Essex Junction, whose hybrid post and beam home (page 13) earned the 2012 Energy Efficiency Award, commented: “From our initial conversations, it was clear that (Leach Construction of Vermont) paid attention to detail and valued such elements as energy efficiency, quality workmanship, transparency, honesty, communication and commitment to customer satisfaction. Thanks to their commitment and dedication to our project, we have more than a ‘house.’ We have a quality ‘home’ that our family will enjoy for many years to come.”

And Chris Brown, of Brown & Davis Design in Jericho, who designed the award-winning Tremblay home, told *B/A*: “I’ve worked with Leach Construction a number of times. I love working with them. They have a tremendous amount of integrity and they’re very, very capable. They also are obviously very well versed in energy efficient construction techniques. We’re in a rapidly changing period of building technology. It takes a great deal of effort to keep up with that and they make that effort.

“The Tremblays asked me to recommend a builder, so I gave them a couple of possibilities. They really liked the Leaches and I was very happy to be able to collaborate with them on this house. This project was very challenging. It required a lot of out-of-the-box thinking and they were great at that.”

### The ‘People’s Choice’

The People’s Choice was a new award instituted for the 2013 version of the Better Homes Awards, with an eye toward “informing and educating the public about our association, our members and what we do,” according to the HBRA. Voting was conducted via various forms of social media, including Facebook, Linked In and the *Burlington Free Press* website. The winning Tremblay home was announced at the annual awards gala, held Nov. 7, 2013, at the ECHO Center, and the following Sunday in the *Free Press*.

“It was a thrilling surprise for us,” says Judy. “And it was a really nice for the Tremblays, as well. Colleen’s parents were visiting from Texas at the time. They opened up the Sunday paper and there it was!”

The dual award-winning project is highly customized in every

Large banks of windows capture the southern light. The home’s bedrooms are located on the lower level with the main living area above, to maximize views.



Leach Construction photo





The sleek modern kitchen features range hood extension from Chuck's Heating & Air Conditioning, "cascading" wraparound white marble countertops and the polished concrete floors by Vermont Eco-Floors.



way. Modern architecture, creative use of materials, custom design features, and high-end sophisticated finishes make this home truly innovative and unique.

"The owner and architect shared a vision of how this very modern and distinctive home would look, function, and perform," says Judy. "Our job was to bring together a very complex design, with layers of dissimilar materials, and make it look seamless, clean, and simple."

"We had to take a different approach," she continues. "For one thing, we started with a steel frame, very industrial looking, to support the 22-foot high ceilings on the main floor." In addition to the steel frame, Brown and the Leaches opted for 8 1/2-inch thick SIPs, because they are stronger than conventional framing and also higher performing.

*"Not a single stock item was used in this home. Christian Brown designed the features of the home to be modern and unique. We worked with some amazing subcontractors, suppliers, and local artisans, along with our own team, to create some really fantastic finishes for this home."*

—Judy Leach

"A big challenge," says Andy, "was to set the steel frame perfectly flat, level, and aligned. The frame structurally supports the wall, ceiling, and stair assemblies, so precision at every stage of construction was really important. The neighbors must have been surprised at the beginning when they saw the steel frame go up, this piece of steel that sort of resembled an upside down goalpost."

The home is highly energy efficient, with a HERS score of 40, and tight enough to meet passive house standards. Passive solar design elements include large banks of windows strategically placed on the south side to capture solar gain in winter, and large overhangs to provide shade in summer. Polished concrete floors with radiant heat provide high thermal mass.

"The floor system was engineered to support the concrete and hide the HRV system," says Judy. "Between floors, we added significant insulation to drive the radiant heat upward and also for sound proofing." The sound proofing worked so well, says Andy, that "we were working inside one day and had a big delivery truck arrive and we couldn't even hear it. They called Todd on another job and he had to call us to tell us it was there."

Super efficient mechanical systems, including an HRV for balanced ventilation, and a large fan in the main space, keep this home extremely comfortable. Energy Star® lights and appliances round out the package. Although renewables are not yet installed, provisions are in place for both solar and/or geothermal systems, which would bring this home close to net zero energy use.

In addition to its unique modern design and high performance, the fine finish details are also what make this home

so special.

"Not a single stock item was used in this home," says Judy. "Christian Brown designed the features of the home to be modern and unique. Every detail was carefully thought out and beautifully crafted. All fasteners are hidden, making all transitions clean and sleek, and allowing each feature to be its own work of art. We worked with some amazing subcontractors, suppliers, and local artisans, along with our own team, to create some really fantastic finishes for this



The spacious, modern central living area in the home on our cover, which won the new "People's Choice Award" from the HBRANV, as well as the Energy Star® Energy Efficiency Award.



home.”

The stairway, built using a steel frame and open walnut treads, was one of Brown’s unique design features (see page 16). He also designed the built-in walnut and zebrawood cabinetry, and VT marble counter tops that cascade down the sides in a waterfall effect.

In the master bathroom, the cascading marble formed one half wall in the master shower. The detailing to bring the tile, marble, glass door, and river rock floor together required precise craftsmanship by the tiler.

The lighting design was another challenge. The total lighting package is 80% efficient, and required a great deal of creativity to beautifully and effectively light such a large volume of space in the main area. Suspended low voltage and track lighting were used in the main living spaces.

Even the interior doors and trim were unique. The doors were selected from a commercial supplier, featuring a flush walnut wood veneer. Stainless steel hardware, door casing, and baseboards complement the doors and industrial theme of the home.

The home’s modern design, distinctive

angles, and crisp lines are especially apparent from your first approach. The siding consists of a combination of fiber cement clapboards and panels, separated by metal transition strips in a modern array. Rusted metal sheet panels were custom cut and applied around the front door and in blocks on the south wall. All transitions are perfectly aligned, requiring extremely tight tolerances in the installation.

The impressive modern entry way is really what first caught the eye of the People’s Choice voters. “The front porch is set at an angle, and wrapped in fir,” says Judy. “Rusted steel planters flank the front steps and invite you in.”

Adds Andy, “It all combined perfectly. The fir matched the rusted steel really well. It’s very warm. It stands out against the gray background. At night, it just glows.”

Colleen Tremblay offers the last word. “The Leaches were exceptional. They have worked successfully with Chris Brown in the past and therefore there was a seamless level of communication. I can’t overemphasize the quality of their work and their integrity. We were building a truly custom home featuring a variety of materials and design elements. This was a dynamic process that required a lot of care

and skill to manage successfully. They built exactly what we wanted, with the utmost attention to detail.”

### Promoting a Better Way to Build

“Our commitment to building better means beginning with really good design, investing in high performance, and crafting the fine finishes and features that make each home unique,” says Judy Leach. “It is our goal to capture our clients’ vision of home, and to build in a manner that we can be proud of. Combining all three of these elements is really important.”

The Tremblay home’s shape, orientation, and floor plan were designed to take advantage of southern sun, views, and natural features of the land. The design incorporated 22-foot high sloped ceilings in the main space, large banks of south facing glass, and a large thermal mass of polished concrete floors. Construction details were planned in a systems approach to capitalize on how the insulated frame, mechanicals, and window/door package would all work together most efficiently. “Working with Efficiency Vermont, we went through a number of different scenarios to determine



This shingle style home, designed and built by Leach Construction of Vermont, earned a pair of awards from the Northern Vermont HBRA in its 2003 Better Homes Awards: Energy Efficiency and a silver award for Single Family Home Over 3,000 sq. ft.



what would improve the Home Energy Rating Score (HERS) the most,” says Judy. “We developed a construction approach that would work well for this design and give the return on investment for thermal performance. A key factor was the building tightness. We’ve always put up a super insulated shell and in this house, we met the Passive House standard for tightness, which is less than 0.6 air changes per hour (based on air pressure of 50 pascals).”

Adds Andy, “We haven’t built an official Passive House yet, but the last two have met that standard. The third party verification from Efficiency Vermont is key. That Energy Star® certificate labeling the home as Five Star Plus goes right to the customer. The fact that it’s independently rated is very important.”

He says prospective homeowners, or current homeowners looking to remodel, seek them out “because they know we will make it a priority. We’ve been at it long enough now that people are aware of our reputation.

“They know we can build a beautiful custom home and make it energy efficient as well. All of our homes are Energy Star® rated through Efficiency Vermont. The details are really important.

“We put in a lot of time up front to work out the critical components. The customers have direct control over all the finish selections. The result is a home that is beautiful and comfortable to live in, highly personalized, durable, and cost-effective to maintain.”

### Energy Efficiency: A Mindset

“We’ve built a wide variety of house styles,” says Andy, “from traditional to very modern. Energy efficiency is a key component in every one. You build it into a house. You don’t add it on. You think ahead. You have a strategy of how the foundation affects what comes later.

“We indoctrinate our guys (members of the building team) that we need to do this right from the start. In the walls, the floors, the entire building envelope. It’s a mindset. We strive to get high R values and air tightness in every assembly. So we pay attention to anything that pokes a hole in that envelope and make sure it’s airtight.”

“We like the combination of SIPs (structural insulated panels) and ICFs (insulated concrete forms). But cost-wise, those are premium systems. There are also other ways to achieve excellent results. Rigid foam, spray foam, cellulose, and fiberglass are all options to use in various configurations to achieve high thermal

performance.”

In addition to an efficient envelope, all Leach Construction of Vermont homes also include heat recovery ventilation systems, to promote air quality, and Energy Star® light fixtures and appliances as well as strategic daylighting to reduce electricity demands.

Adds Judy: “You can find a system that will work for any size or style project. You can incorporate energy efficiency into any project, whether building new or remodeling. The principles are the same. Today, it’s high on everyone’s priority list. So I think our experience in this area, our track record, will serve us well in the future.”

The Leaches point out that building green, to the Energy Star Plus® level, offers

numerous advantages. Not only do the homes use less energy (typically 30 to 50 per cent less), but they also often come with financial incentives, have healthier indoor air quality, greater comfort, and reduce the impact on our natural resources.

“A better built, energy efficient home offers higher quality, more durability and more long term value,” says Andy.

### Team Effort

Leach Construction of Vermont is a family owned and operated company. Founder and president Andy Leach has devoted his 24-year career to the construction trade, having graduated from UVM with a degree in Business Administration and obtaining his



Leach Construction photos

This hybrid post and beam/SIP home earned Leach Construction a pair of awards in the 2012 Better Homes Awards, sponsored by the Northern Vermont HBRA: Energy Efficiency and Single Family Home 2,000-3,000 Sq. Ft.





Carolyn Bates photos

Designed by Thom Wood, this contemporary earned the 2010 Most Innovative Design/Build award in the HBRA's 2010 Better Homes Awards.

Construction Supervisor License in Massachusetts. Andy's brother Todd, company vice president, graduated from UVM with a degree in Small Business

Administration and has 13 years in the building trade. In 2012, he served the Northern Vermont HBRA as president, and prior to that served as vice president

for education.

Judy Leach, in addition to her Masters Degree in Energy and Environmental Science, graduated from UVM with a degree in biology. Brother Scott Leach, the company's health and safety manager, graduated from Champlain College with a degree in accounting and has 12 years experience in the building trade.

The Leaches say they owe their company's ongoing success to a true team effort and total commitment. Taking a hands-on approach, Andy and Todd manage projects in the field, from foundation through to the finish trim. Scott and the crew round out the field team, while Judy is responsible for design and business operations. The entire team, including talented subs, suppliers, architects and designers bring a diverse talent pool to each individual project.

Efficiency Vermont is a partner on all Leach Construction projects, providing a wealth of technical information and resources, and all their projects are enrolled in the Energy Star® program.

*Congratulations to Leach Construction of Vermont LLC on their selection as Builder of the Month. You may reach them at (802) 434-5578 or [www.leachconstructionvt.com](http://www.leachconstructionvt.com).*



The home's deck offers a panoramic view of Lake Champlain and the Adirondacks. It includes curved structural beams and Cor-Ten siding that rusted to a dark patina. The rear of the structure is in sharp contrast to the home's front exterior, which was mandated to remain compliant with the character of the downtown Burlington neighborhood.