

Residential Application of LP® SmartSide® Trim & Siding and Other LP Products



“House of the Future” Relies on LP Building Products for Performance and Reduced Carbon Footprint

SUMMARY

As the founder of a green building consultancy firm and the president of a company dedicated to green business development, green building consultant Robin Pharo had a vision. She wanted to design and build an energy-efficient home with a reduced carbon footprint using technologies and materials that could be easily replicated and adopted by homebuilders throughout the region without significantly adding to their construction costs.

OBJECTIVES

Calling it the “House of the Future,” Pharo wanted to implement a “best of” approach to responsible yet affordable homebuilding practices. Her mission was to demonstrate that an energy-efficient home using locally sourced materials wasn’t out of reach for the average homeowner. Using practices and building materials that were readily available in the Madison, Wis., area, she was determined to create a stylish, modern, and affordable home with annual heating and cooling costs of \$700 or less. Although it will be another year before these costs can be calculated, affordability is already something Pharo has achieved. This wasn’t a purely academic exercise. Pharo herself planned to move into the home when it was ready.

IMPLEMENTATION

Teaming up with Encore Construction, Windsor Building Systems, and GMK Architecture, Pharo got to work identifying which design and homebuilding practices could be easily implemented with only a minimal impact on overall

“This project is bringing new awareness of what can be accomplished right here and right now. If a homebuilder takes just one idea from this home and puts it to work, that’s one step further along the road to more energy-efficient home construction.”

*Virgil Waugh
President, Windsor Building Systems*



IN BRIEF

LOCATION

Ten miles outside Madison, Wisconsin

PROJECT SUMMARY

Determined to prove that energy-efficient homes were possible without significantly raising the cost of home construction, Robin Pharo and her team designed the “House of the Future” to showcase the industry’s best practices and building materials for environmental responsibility, sustainability and affordability.

WEBSITE

www.resourcerobin.com

PROJECT OBJECTIVES

- Identify the best practices and building materials for affordable, energy-efficient home construction
- Minimize the carbon footprint of building materials without sacrificing performance or affordability
- Create energy-smart solutions that could be replicated in future homes on a mass scale

SOLUTION

LP Building Materials played an important role in many elements of the home, providing engineered wood products that were manufactured and delivered with a small carbon footprint while still providing superior strength, durability, and consistency of performance.



construction costs. LP Building Products decided to sponsor the project, and Pharo immediately specified LP® SmartSide® Trim & Siding for the exterior siding, trim, soffit, and fascia for both environmental and performance reasons.

"I personally love SmartSide and the story behind it," said Pharo. "I know that LP uses SFI certified forest management and fiber sourcing systems, which is important to me. Plus, LP uses the whole log in their manufacturing process, so there's minimal waste."

Pharo also noted that all LP SmartSide products used in the project were produced nearby at a manufacturing facility in

Tomahawk, Wis., so the carbon footprint of transporting the building materials was kept to a minimum as well. Of course, a proven history of strength and consistency was also important to the selection process. "I've always been very satisfied with the performance of LP products, and so have my clients," said Pharo.

Next, Pharo and her team tested 16 different wall assemblies to determine the optimal thermal resistance at the best cost. The result was a unique R37.9 design that would add only \$3,000 total cost to a 2,000 sq. ft. home. Included in the wall assembly were LP® SolidStart® Laminated Strand Lumber (LSL) and LP® OSB sheathing.

The LSL, manufactured in Maine, is stronger than traditional lumber. It has no knots and resists warping and twisting for less waste on the job site.

As with every other part of the home, it was critical that the wall assembly be something that could easily be reproduced in other homes with minimal modification. After all, the goal was to demonstrate best practices for the future, not to create a one-of-a-kind structure.

When it was time for construction to begin, the building components were manufactured by Windsor Building Systems in Madison, Wis. The components included floor panels, wall panels with windows installed, and roof trusses. Based on a long history of success with LP Building Products, the company selected LP® TopNotch® OSB Sub-Flooring with its self-spacing tongue-and-groove profile and unique RainChannel™ notch system to withstand rainfall and prevent pooling water.

OUTCOME

As an essential part of the design, LP products were important elements that contributed to the affordability of this project, as well as the ability to be easily reproduced in other homes. Others included a geothermal system and iPad applications that centralized control of the home's many mechanical and electrical systems into the palm of the homeowner's hand. Pharo looks forward to seeing the practices and techniques demonstrated in this home replicated in other homes.



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