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Construction of DC Area's First Passive House Begins in Maryland

Bethesda, MD (October 4, 2010) – Crews from Panelwrights, LLC, of Shenandoah Junction, WV, have begun installing energy-efficient structural insulated panels (SIPs) on what will be Maryland's first certified Passive House. The project is a joint venture between O'Neill Construction Corporation of Gaithersburg, MD, and Peabody Architects of Alexandria, VA.

Widely popular in Europe, ultra-efficient passive homes are now gaining traction in the U.S. as a cost effective way to drastically reduce energy consumption. Passive homes require only one-tenth of the heating and cooling energy used in a conventional home by utilizing a super-insulated building envelope and a passive solar orientation.

By eschewing expensive high tech solutions, such as solar panels or geothermal heat pumps, passive homes can be built for only 10 to 15 percent more than a conventional home, according to the Passive House Institute U.S. Architect David Peabody hopes to meet the rigorous program standards by using relatively inexpensive materials and focusing on eliminating air leakage—a huge culprit for heat loss in a home.

“The key to the Passive House is in reducing energy demand to the point that traditional mechanical systems become irrelevant,” said Peabody. “This required an assiduous approach to eliminating air infiltration and thermal bridging.”

Peabody and builder Brendan O'Neill specified structural insulated panels (SIPs) for the above grade walls and roof of the home. SIPs are composed of insulating foam sandwiched between two structural facings, creating an effective air barrier that can be easily sealed at the joints between the prefabricated panels. To meet the Passive House standard, homes must reach an air infiltration requirement of 0.6 ACH 50, determined by a blower door test.

“When I first spoke with Brendan, meeting the air infiltration requirement was one of his biggest concerns,” said Al Cobb, President of Panelwrights, who provided and installed SIPs on the project. “Having built hundreds of SIP homes, I was confident that a properly installed SIP envelope could meet the Passive House requirements, and I was able to guarantee the builder that we could do that.”

The O'Neill-Peabody project, designed in the Craftsman vernacular of the American Foursquare, is out to demonstrate that this exotic sounding European import can look and feel



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like a traditional American home that sells at a competitive price. In addition to the energy-saving benefits of owning a passive home, occupants experience increased comfort, consistent indoor temperature and better indoor air quality. O'Neill's decision to embark on a passive house project started when he visited a passive home in Illinois during the middle of a Midwest blizzard.

"It was as toasty and comfortable as any house I'd ever been in. I looked in the mechanical room and the little heat pump was barely even running. I turned to Brendan, Jr. and said, 'We've got to build one of these,'" said O'Neill.

The home is expected to be completed in the spring of 2011. Tours are available by appointment.

Follow the construction at <http://passivehouse.greenhaus.org/>

About PanelWrights, LLC.

Panelwrights, LLC, (www.panelwrights.com) located in Shenandoah Junction, WV, is one of the mid-Atlantic's largest distributors and installers of Structural Insulated Panels (SIPs). The company provides complete panel packages as well as assistance with design, engineering, HVAC specification, and award-winning installation services. A sister company, SIPschool, (www.sipschool.org) provides classes to homeowners, architects and builders on designing and building with SIPs.

About Peabody Architects

In both new home construction and remodeling projects Peabody Architects (www.greenhaus.org) has been a leader in the introduction of greenbuilding practices. The firm completed the first LEED-Home project in the DC area, and is a pioneer in deep energy retrofitting. Peabody is one of the first U.S. architects certified by the Passive House Institute.

About O'Neill Development

O'Neill Development is a construction, remodeling and development firm that has been active in Maryland, Virginia and Washington D.C. since 1975. The company undertakes a broad spectrum of jobs from new and remodeled residential to land development, institutional, commercial and historic restoration.

About SIPA

The Structural Insulated Panel Association (SIPA) is a non-profit association representing manufacturers, suppliers, dealer/distributors, design professionals, and builders committed to providing quality structural insulated panels for all segments of the construction industry.

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