

## **Dietz & Company Architects in the Community:**

### **Architect Jeremy Toal Initiates Zero Energy Challenge for Affordable Homes**

*June 2009*

When Jeremy Toal, AIA, LEED AP isn't designing sustainable buildings at Dietz & Company Architects, he still keeps his focused commitment to green on track. In September 2008, Toal initiated the Zero-E Challenge Project for affordable homes. Since then, he has volunteered his time to lead a team of local architects and builders in pursuit of a zero energy Habitat for Humanity Home in Springfield, Mass. His goal: to demonstrate that housing can be both highly energy-efficient and affordable.

Toal explains, "Zero energy homes refer to homes that produce as much energy on-site as they consume. In this case, the zero net energy home is based on the standard Habitat for Humanity house that has approximately 1,000 square feet and includes three bedrooms and one bath."

With the design scheme for the zero energy home nearing completion, Toal plans on shipping off the design to Steven Winter Associates for energy modeling before presenting it to Habitat's Board of Directors for approval. The goal is to then make plans for the construction process to begin late in the summer of 2009.

Why is the Zero Energy Challenge so important? It's now known that the combustion of fossil fuels creates a greenhouse effect that is causing global climate change and impacting the planet and our lives. According to Toal, "To address this problem, the building industry is undergoing a dramatic shift towards sustainability and achieving zero-carbon buildings by 2030. However, much of the focus in the residential market has been on high-end custom or trendy, expensive modular homes. We will fall short of this goal for zero-carbon homes if we wait for solutions to trickle down. These solutions must be for everyone; and they are affordable and available now."

The aim of the Zero-E Challenge is to inform consumers of the concepts and systems available to achieve sustainable, near zero carbon homes. The Zero-E Challenge team plans to demonstrate how this goal can be achieved by designing the Habitat for Humanity home. The team has embarked on an integrated design process, collaborating as a group to produce a complete design for a home as close to zero net energy as possible. Members of the Zero E-Challenge team include several architects and designers from the Western Massachusetts Chapter of The American Institute of Architects (WMAIA),

builders from the Homebuilders Association of Western Massachusetts (HBA-WM) and Habitat for Humanity stakeholders.

The Greater Springfield Habitat for Humanity has identified three potential sites and is excited about the community coming together for this project. The WMAIA and the HBA-WM are supporting the collaboration by opening the process to its members through direct design participation and membership critiques.

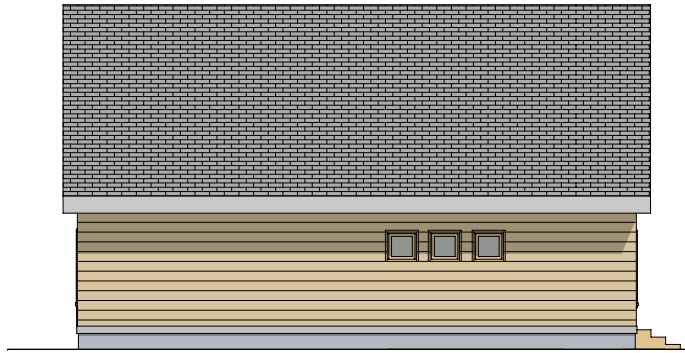
Anyone interested in getting involved in the design process or contributing materials, labor, money, or expertise should contact Jeremy Toal, AIA LEED-AP at [jeremyt@dietzarch.com](mailto:jeremyt@dietzarch.com).

You can also view images of the proposed zero energy house on the next two pages.

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6 Int 1  
SCALE



4 NORTH ELEVATION  
SCALE: 1/4" = 1'-0"



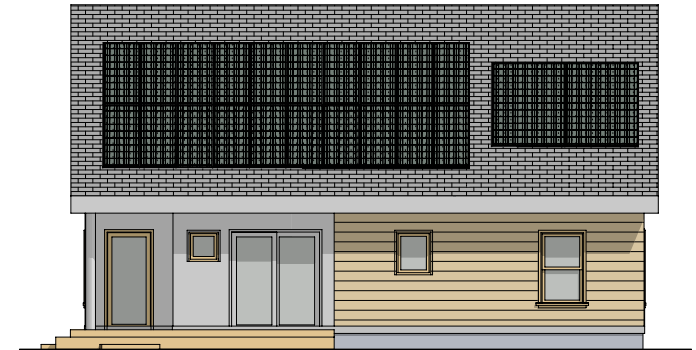
2 EAST ELEVATION  
SCALE: 1/4" = 1'-0"



5 View 1  
SCALE

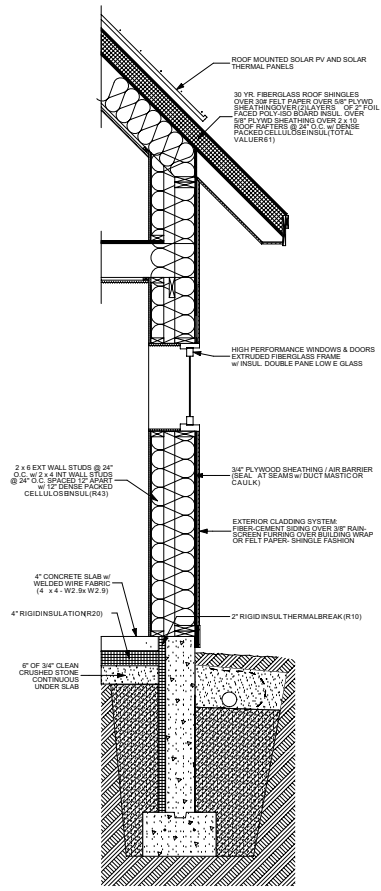


3 WEST ELEVATION  
SCALE: 1/4" = 1'-0"

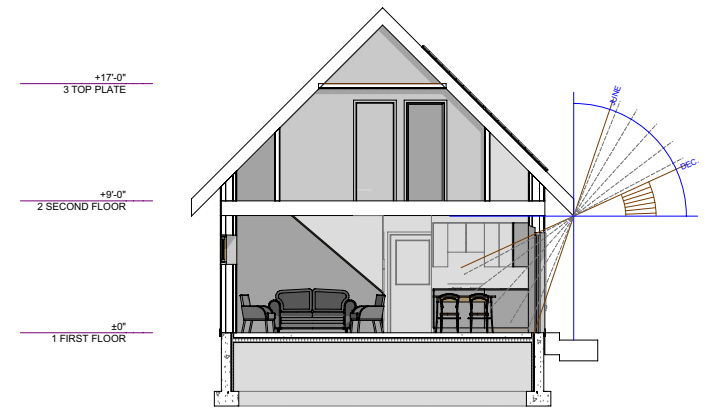


1 SOUTH ELEVATION  
SCALE: 1/4" = 1'-0"

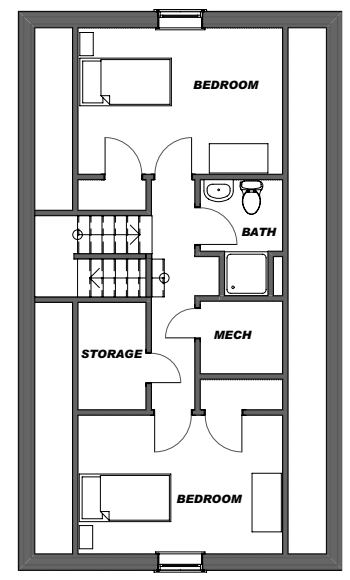
**ZERO-E CHALLENGE  
GREATER SPRINGFIELD HABITAT FOR HUMANITY**



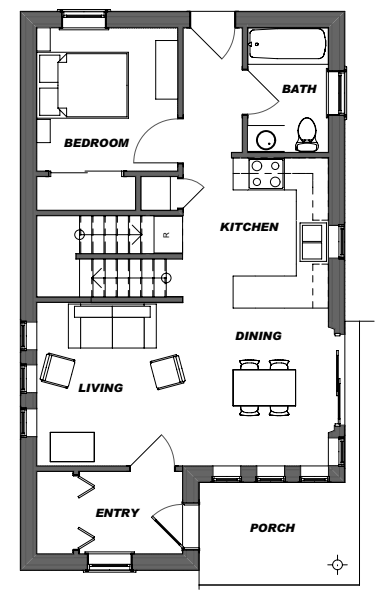
4 WALL SECTION A  
SCALE: 3/4" = 1'-0"



3 BLDG SECTION B  
SCALE: 1/4" = 1'-0"



2 SECOND FLOOR  
SCALE: 1/4" = 1'-0"



1 FIRST FLOOR  
SCALE: 1/4" = 1'-0"

# ZERO-E CHALLENGE GREATER SPRINGFIELD HABITAT FOR HUMANITY