



THE WOODS HOLE RESEARCH CENTER

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Center's Carriage House renovation on schedule for summer completion

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The Woods Hole Research Center has retained South Mountain Company, an employee-owned design/build firm based in West Tisbury, to plan and execute a deep energy retrofit of a recently acquired abutting property of its George M. Woodwell Building. The project, which began in mid-2009, is currently in construction and on schedule for a mid-summer completion.



Carriage House Rendering by Laurel Wilkinson

The property, currently called the Carriage House, was purchased by the Center in 2008 in anticipation of the expansion of staff size from 45 to 60 employees. According to President and CEO William Brown, "This renovation will transform a 100-year old building into a facility that reflects the Center's approach to energy sources and uses. It also builds upon the Center's experience in renovating historically interesting structure – repurposing them – for uses never conceived of by their original builders."

The property had most recently been a three-apartment residential structure. It was built in 1907, and was originally used to store cars and boats. Its masonry exterior consists of brick, stone, and imported granite.

The Center is applying proven off-the-shelf and commercially-available technologies to the task of mitigating the impacts of its daily activities and further demonstrating to the local community that renovation of our existing building stock can be done in aesthetically compelling ways which, at the same time, profoundly reduce energy use, increase comfort, and improve durability.

According to John Abrams, President and CEO of South Mountain Company, "The Center's mission aligns precisely with ours. This has been, to date, a remarkable collaboration. We look forward to seeing the important work of the Center continue in a worthy addition to the campus."

The plans being implemented for the Carriage House integrate it with the campus-wide Zero Net Energy strategy. Consistent with the design intent of the Woodwell building, the retrofit will eliminate the existing oil furnace in favor of super-efficient air source heat pumps for space conditioning accompanied by a super-insulated envelope, high-performance glazing, energy recovery ventilation, low energy use lighting and other efficiency strategies.

South Mountain's Project architect Ryan Bushey says that "The building committee asked for high performance, but they asked for a warm, homey environment as well. We are restoring the old timber trusses, adding new reclaimed timber structure, and using natural and recycled materials throughout."

The Center's George M. Woodwell Building, was the first building on the Center's Gilman Ordway Campus. Completed in 2003, it has been the recipient of numerous awards for "green" building design, including the AIA/COTE Top Ten Green



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Projects in 2004, a First place in the "Places of Work: Small Buildings" category of the NESEA Green Building Awards in 2004, and an Honorable Mention in Environmental Design & Construction Magazine's Excellence in Design Awards in 2004. The George Woodwell Building is primarily powered by a 25kW photovoltaic array and a 100kW wind turbine. No fossil fuels are used onsite in the operation of the building; heating and cooling of the building are largely accomplished through a ground-source heat pump system, and enthalpic energy recovery units pre-condition fresh air ventilation delivered throughout the building.

According to Joe Hackler, a research associate at the Center and Center's representative for project management with South Mountain, "This as an important project in transforming building energy performance in Massachusetts, as the Center is a highly visible institution with a proven track record in successfully engineering a high-performance building." It has extensive experience with monitoring building performance and an institutional imperative to share its experience with others. Existing building performance metrics are available on the Center's website and these pages will be revised and expanded to make a compelling argument for Deep Energy Retrofits as an adjunct to renewable energy sources in helping reduce dependence on fossil fuels.

South Mountain Company is a 35 year old employee owned architecture, building, and energy services company which specializes in high performance commercial and residential buildings, neighborhoods, and affordable housing. To learn more, visit www.southmountain.com.

The Woods Hole Research Center is an independent, nonprofit institute focused on environmental science, education, and public policy. It seeks to conserve and sustain the planet's vegetation, soils, water, and climate by clarifying and communicating their interacting functions in support of human well-being and by promoting practical approaches to their management in the human interest.

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