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Housing Office building green houses for rental stock BY PETER B. BRACE INDEPENDENT WRITER



PHOTO BY ROBERT ANDERSEN Called Reddi-Form blocks and made of Styro-Foam, the partially hollow blocks making up this foundation are fitted with steel reinforcement bars and filled with concrete to create super strong walls insulated inside and out to make the house 30 to 70 percent more heat

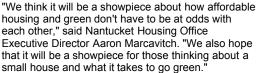
Affordable housing almost being an oxymoron on Nantucket, the Nantucket Housing Office's green construction protocol is likely to be the way for Nantucketers needing all the financial housing help they can to afford their homes in the long-term.

A case-in-point is the nearly 1,000- square-foot house that the Nantucket Housing Office is building at 2 Clarendon St. out in Tom Nevers.

Island builder Rob Andersen, the contractor for this project is building the foundation and exterior walls to the top of the gables ends of this house with expanded polystyrene Styrofoam blocks called Reddi-Form blocks that link together like Legos to create the most energy-efficient house possible.

This first green house for the Nantucket Housing Office will also employ an alternative technology septic system, bamboo flooring, low-volatile organic

compound paints, Energy Starrated appliances, low-flow faucets and a solar hot water system with radiant heating in the floors.

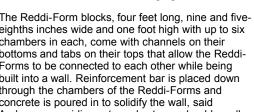


The Reddi-Form blocks, four feet long, nine and fiveeighths inches wide and one foot high with up to six chambers in each, come with channels on their bottoms and tabs on their tops that allow the Reddi-Forms to be connected to each other while being built into a wall. Reinforcement bar is placed down through the chambers of the Reddi-Forms and concrete is poured in to solidify the wall, said Andersen, providing extremely strong, durable walls and a continuous insulation barrier inside and outside



This south side of the small house that the Nantucket Housing Office is building at 2 Clarendon St. for affordable rental housing will get a lot of natural light through its windows, which will also provide hot water for bathing and heating from solar water heating panels on its roof.

that makes the house 30 to 70 percent more efficient than a traditional woodframed house.



Andersen added that the Styrofoam/ concrete combination also significantly deadens sound waves coming into the house with a reduction of 59 decibels less than an all wood- framed built house.

"We're really looking forward to doing this," said Andersen. "I think it's the right move for the Housing Office. It's easier to heat and cool, and if the town is going to invest our money to do affordable housing, it needs to be affordable. I wish I could go back and retrofit my house with it."

Marcavitch said that he is trying for the silver Leadership in Energy & Environmental Design rating











The Styro-Foam blocks forming the foundation and walls of this island house, known as Reddi-Form blocks, are the same kind that builder Rob Andersen will be using for the Nantucket Housing Office's affordable house in Tom Nevers on 2 Clarendon Street.

from the U.S. Green Building Council for this house and that he wants this first green affordable housing project to be as much of a benefit to the people to whom the Housing Office would rent it as a learning experience on which to build.

"The intent is to take all of the things we're learning from this project and apply them to other projects,"

said Marcavitch. "This isn't just about affordable housing, this is about housing in general, looking at different ways people can build houses."

The Reddi-Form blocks will work in concert with the solar panel hot water

panels, radiant heat floors and energyefficient

appliances. The solar panels are packed with evacuated tubes that absorb the heat from the collection surface of the panels, transferring it to water in the tubes for all household hot water needs. This heat exchanger system serves a dual purpose of providing hot water that is pumped through radiant heating pipes that will be laid in the floors of the house.

A super efficient propane-fired boiler controlled by a microcomputer kicks on when it determines the solar panel water is cooler than the chosen temperature settings for the house.

Andersen said that this system would be most active during the colder months of the year, specifically Sept. 21 through June 21.

"That, coupled with the insulation of the Reddi-Form blocks and we'll be able to use smaller appliances; it won't take as much energy to heat the building as it would with a conventional building," said Andersen.

The project is being funded by a grant for \$245,000 from the Community Preservation Committee and some financial help from Energy Star, which is also helping the Housing Office with the costs of its LEED certification. With a second grant for \$235,000 from CPC, the Housing Office is going to build another green house but with more traditional wood framing on Norquarta Drive.

Marcavitch said the Housing Office is trying to keep the size of these houses within reason to lessen its impact on the island environment and limit heating and cooling bills.

"In terms of green, obviously one of the most important things is keeping the size down, so to keep it at 676 square feet on the first floor, we're meeting a lot of LEED standards right off the bat," he said. "The Reddi-Form process makes it inherently very energy efficient."

Housing Nantucket

Nantucket could take a giant leap toward meeting its state-mandated 10% affordable housing quota with the construction of housing at the town's 2 Fairgrounds Road property. If you want to learn more about this quota, attend tonight's Board of Selectmen meeting at 6 p.m. on the second floor of the Town & County Building at 16 Broad St. At this meeting, John Ryan of Development Cycles of Amherst, Mass. who wrote Nantucket's 2002 Housing Needs Assessment, will update the board on his plan for affordable housing at 2 Fairgrounds.



