

Seismically Stable Rammed Earth Patent

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Jackson Architect Receives Patent for Seismically Stable Rammed Earth Construction
Ward + Blake's Tom Ward builds world's first "earthquake resistant" rammed earth home.

Jackson, Wyoming: April 13, 2006: Tom Ward of Ward + Blake Architects has received a patent for his "Seismically Stable Rammed Earth Construction process." Ward began work on the idea in 1999 after watching news coverage of a Turkish earthquake and noting that many of the homes built with earthen construction, an indigenous building technique, sustained less damage than some of the more modern structures. He asked himself if there might be a simple, inexpensive way to stabilize the indigenous materials even further.

"Fifty percent of the world's population lives in earthen houses, many of them in seismically active parts of the world," says Ward. "This strong, low-tech method could allow for the rebuilding of structures in areas ravaged by earthquakes or even for replacing existing structures to prevent future damage without resorting to expensive, culturally foreign building systems."

Ward and his partner, Mitch Blake, had experience working with traditional rammed earth construction. The team had used the method to build a Scottsdale, Arizona home as well as the Nature Conservancy's Wyoming headquarters in Lander. Familiar with the construction technique's potential weaknesses, Ward began pondering how rammed earth might be made more stable.

Working with Joe Grill of Nelson Engineering in Jackson, Ward developed the unique, low-tech method of stabilizing the rammed earth walls with reinforced steel rods in a "post tensioning system." Ward received a grant from the Newton Foundation to construct wall prototypes built by Ward's rammed earth construction mentor Jug Brandjord of Casper,

Wyoming, and test those walls at the University of Wyoming Department of Civil and Architectural Engineering.

Confident of the durability of the seismically-stable rammed earth walls, Ward recently completed construction of the first residence built with this process: his own home. Perched on a hillside overlooking the Snake River, Ward's 3,000-square-foot home incorporates materials mined from the site along with gravel pit by-products. Ward's home is not just innovative; its clay walls blend easily into the surroundings, keeping a low profile on the land.

"You won't find a lot of rammed earth homes in the area yet," says Ward. "But they are amazingly efficient to heat and cool, environmentally friendly, built with indigenous materials, and now, seismically resistant.

"The thing that is exciting to me," Ward adds, "is the potential for worldwide application of this process. Perhaps if the process is one day adopted in Third World countries, it will save not only homes from collapsing, but lives as well."

Since 1996, the award-winning Jackson, Wyoming firm of Ward + Blake Architects has developed a "New West" architectural vocabulary that reflects the growing Western Modernism movement. From the ecologically innovative headquarters for the Nature Conservancy, to the uniquely livable homes that honor their distinctive sites even as they reflect clients' individuality, Ward + Blake's residential and commercial designs capture the authentic, independent spirit of the West while taking regional design in a fresh and modern direction.

For more information, visit www.wardblakearchitects.com ; or call 307.733.6867.

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