

Construction Castoffs and Demolition Debris

Recycled and Salvaged Building Materials See New Life

If you are thinking about using recycled and/or salvage building materials for your next construction job, you don't have to look far to find good reasons for doing so.

Lanny Clavecilla, public information officer for the California Integrated Waste Management Board, says that 22 percent of the materials going into the state's waste stream result from construction and demolition—and practically all of those materials are recyclable. Studies done in Texas show that there, too, C&D waste makes up 22 percent of the total municipal solid waste stream and 38 percent of the total waste stream in the 13-county Houston-Galveston Area Council region.

Clavecilla adds that just from the standpoint of weight, C&D waste accounts for volume that is out of proportion to its percentage. A 2004 California statewide waste characterization study revealed that concrete alone accounted for more than 8 million tons of waste; lumber, almost 3.9 million tons.

Any builder knows that erecting a home involves debris, but did you know just how much? According to Monty Moore, vice president of construction for Neil Kelly Co., the building of just one new 2,000-square-foot home will result in three to four tons of debris. That's about twice the amount

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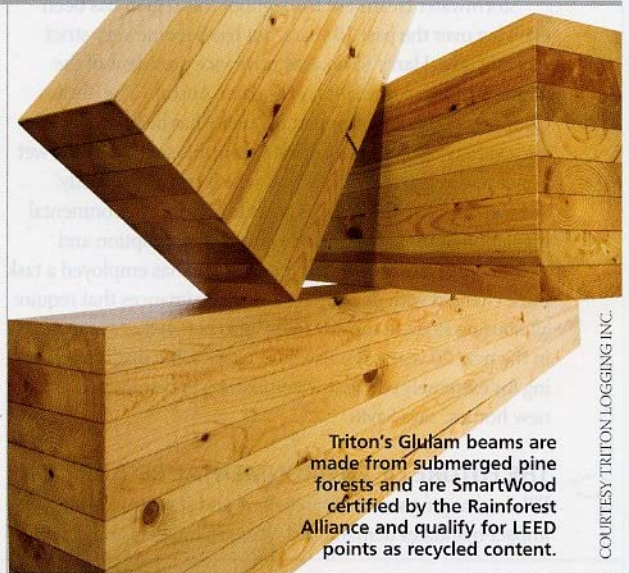
allowed for home LEED certification.

From an environmental perspective, keeping these materials out of the landfills makes sense. But it also makes sense from an economic perspective—specifically, the builder's economic perspective.

"Dump fees in the Bay Area are very high, as much as a hundred a ton," says Matthew Levesque, program manager for Building REsources in San Francisco. "And storage space rentals are high. Hanging on to used building materials for the next job or taking them to the dump [is] pretty much a compelling reason for finding another way to go."

Building REsources has been accepting donations of used building materials, including doors, windows, glass, hardware, lighting and plumbing, for 12 years, in return for which the builder receives a tax receipt. In 2005, the company took in and sold more than 12 tons of material. It expected to realize a 15 percent to 16 percent increase in 2006, a pattern that has been developing over the past few years.

Levesque says the company charges about a third of what you would expect to pay for a new product at retail. At the ReBuilding Center in Portland, Executive Director and Co-Founder Shane Endicott says everything is half or less what it



Triton's Glulam beams are made from submerged pine forests and are SmartWood certified by the Rainforest Alliance and qualify for LEED points as recycled content.

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would cost new. "That's our formula to make it affordable to people at all income levels," he says. "It's the same concept as the thrift store. You should be able to find bargains."

Like Building REsources, the ReBuilding Center is a non-profit, and Endicott says it's one of the largest in the U.S. by volume of reclaiming used building materials for reuse. It keeps a full-time staff of drivers busy bringing in the equivalent of three to five 20-ton flatbed truckloads a day.

The center's DeConstruction Services also takes materials that would otherwise go to the landfill by dismantling buildings slated for demolition, and it does so by hand, in reverse order from the way the structure went up. The deconstruction of an average 2,000-square-foot home is equivalent to preserving over 30 mature trees and thousands of pounds of greenhouse gases, Endicott says. The center is certified to regrade salvage wood so it can be used in new construction.

Levesque describes used lumber as "a real tricky thing" and says it breeds a lot of competition on the West Coast for what there is of it. "If we get lumber in on Friday, it's gone by Sunday," he says. "There is more demand for it than we can satisfy." He says the company is trying to link up with C&D materials processors and work out a method of sorting out the clean usable timber and setting it aside so Building REsources can market it back to the city.

Builders of course need lumber, and that need has inspired some creative action on the part of manufacturers and suppliers. Vancouver, B.C.-based Triton Underwater Logging Inc. harvests underwater timber from lakes with the aid of the Sawfish, a remote-controlled, chainsaw-equipped submarine that does its job without disturbing the lake's floor. The company was recognized by BuildingGreen Inc. as one of its top

10 Green building products for 2006.

A glance at the other winners reveals a trend that is growing in importance in reducing the waste stream: the use of recycled content materials.

Timbron International sells an interior moulding manufactured in Stockton, Calif., that is 90 percent recycled plastic and has the same density as soft wood. It can be cut, nailed, glued, sanded, caulked and painted. It is durable, waterproof, termite proof and highly resistant to mold and mildew. 3form Inc. was recognized for its Varia ecoresin and its 100 percent recycled

THE DECONSTRUCTION OF AN AVERAGE 2,000-SQUARE-FOOT HOME IS EQUIVALENT TO PRESERVING OVER 30 MATURE TREES AND THOUSANDS OF POUNDS OF GREENHOUSE GASES, REBUILDING CENTER EXECUTIVE DIRECTOR SHANE ENDICOTT SAYS.

polymer panel products (see New Products, p. 76).

C&D debris such as chipboard scraps and cut-off ends of wood also can find new life by going into the ground as a soil amendment.

For builders wondering where to start their search for recycled materials, the California Integrated Waste Management Board offers a recycled content product directory on its website. When *BUILDERnews* checked the construction category on the site in late November, we found 167 products for asphalt and concrete alone, including the names of the providers. We found 50 providers of reclaimed building materials for flooring,

73 providers for marble and 146 providers for insulation.

Portland-based Green builder Dave Heslam tries to incorporate at least one salvage component into every new home he builds. He's working on a new home now that has salvaged maple flooring.

Used flooring is less expensive than new flooring, but that's not true of all salvage materials, he says. "An old door might need a lot of work to be rehung," he says, "because it's a lot of labor to clean it up before restoring and repainting it. I've had clients who wanted to reuse a toilet. I think that's a bad idea. For what you're paying a plumber to rebuild a toilet, you could have bought a really nice dual-flush toilet. But some people get into a reuse mindset: They want to buy everything used." —SUZANNE JOHNSON

Triton Logging's Sawfish harvests intact forests flooded by dam reservoirs. Worldwide some 300 million trees stand preserved, representing tens of billions of board feet of eco-friendly wood products.



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