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Design Perspectives: Home sweet home is a cargo container

By CLAIR ENLOW
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Progress is a trail of crazy ideas. In the best of all worlds, really good ideas stick because they make so much sense they can't be ignored.

Now here's a crazy idea: recycle some of the cargo containers stacked in harbors up and down the West Coast, stranded by the imbalance of trade. Tinker with them a little so they can be used to build houses, low-rise buildings in commercial areas and even whole neighborhoods

That's what designer and builder Joel Egan and architect Robert Humble want to do. In preliminary meetings with the city's Department of Planning and Development, they say they have laid the groundwork to submit a successful permit application for a four-story building built entirely out of shipping containers.

In two or three months the modified containers may be ready to move from a fabricator in Enumclaw to Capitol Hill. The mixed-use, low-rise building would occupy a small vacant lot at 1406 E. Union, just around the corner from Piccora's Pizza, at 14th and East Madison.



Image courtesy of Scott Melbourne

Cargotown, which was created by Team Hybrid for a charrette sponsored by the city, is shown as a streetscape of multi-story structures built out of cargo containers at Terminal 46.

Renderings show a structure with an eye-catching modern attitude and a fashionable corrugated skin. Its complex configuration and human scale make it a refreshing standout against the drab stucco walls and storefronts that surround it.

It takes a second look -- and some subtle cues -- to recognize the containers. But there they are -- cut, connected and topped with a roof garden.

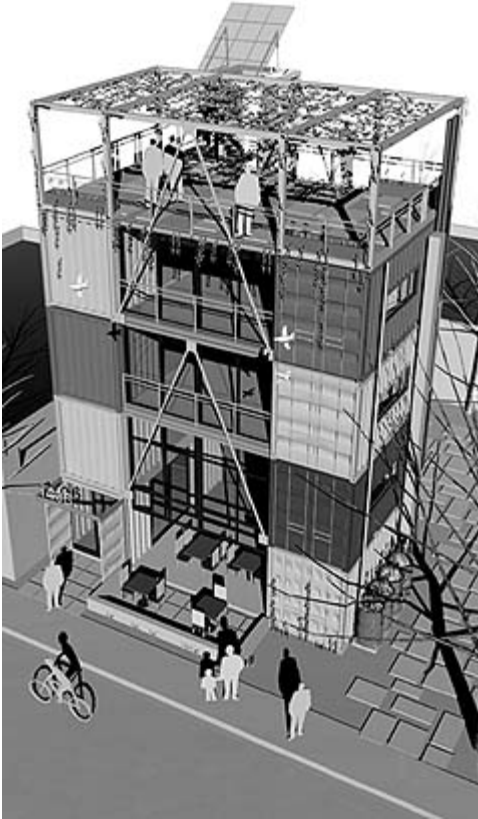
Eight 8-by-20-foot containers are bolted to a concrete slab and stacked four deep in two parallel wings. Clear-span bridges yield open floor space that opens to views through sliding glass doors. They are connected by open-air bridges to a stair tower made of one extra-long (40-by-8-foot) container standing on end. There is about 1,000 square feet of commercial space on the first level, which is double-height with a mezzanine. Two residential units above contain about 630 square feet each.

The word cargotecture, coined by Egan to represent their enterprise, is emblazoned vertically on the stair tower in the computer rendering.

"We try not to take ourselves too seriously," said Humble, "but it's important to take the project seriously."

If all goes well, 1406 E. Union could be ready before the end of the year. Danny Piccora of Piccora's Pizza plans to set up his office there and lease the two upper-level apartments.

Because of its small scale and the small number of units, Egan and Humble's permit application is not expected to undergo design review. If it did, however, Humble would have to recuse himself from the Capitol Hill neighborhood design review board, which he chairs.



This vision of 1406 E. Union shows eight cargo containers stacked four deep in two parallel wings. If all goes well, the project will start by fall and be the first of its kind in Seattle.

The project is intended to be a prototype for more projects using cargo containers. It will be a first in Seattle. But it will not be the first time an architect has seen the possibilities in shipping containers, and used them.

The Hong Kong office of Chinese architect Tao Ho, who studied with Walter Gropius of the Bauhaus, is located in a multi-story structure he designed using shipping containers. In London, a multi-family building designed by Eric Reynolds and made of shipping containers can be seen from the Thames River. New York, Boston, Atlanta and Austin have seen experiments with cargo container construction.

The projects go from streamlined to sumptuous. In Los Angeles, a house designed with cargo containers by Jennifer Siegal of Mobile Design was recently featured in the New York Times. The addition of grain trailers adds to the mix of recycled elements, and they are all connected with steel and glass. With stylish interior finishes and furnishings, the house evokes the golden era of L.A. Modern.

To the architects and designers who have dabbled in this type of recycling, shipping containers have everything: structural integrity, insulation and dimensions that lend

themselves to standard room sizes. The typical interior end dimension -- seven feet, four inches -- is just about right for a bed to fit against the end wall.

Plumbing and electrical infrastructure can follow a cargo container structure like an exoskeleton. The plan for 1406 E. Union, for instance, shows a tubular element that runs up one exterior wall. Plumbing chase and electrical service are inside.

Most cargo containers are manufactured in China, and over-engineered for structural rigidity and hard use. With steel frames and corrugated steel skins, used cargo containers can be had for less than \$1,000, according to Humble. Some have foam insulation. The long walls can be removed without destroying the rigid frame. The floor has the strength of a box beam and is typically covered with hardwood -- somewhat distressed and ready to polish.

Humble and Egan describe cargotecture as "an affordable, adaptable system which can and will be adjusted to International Building Code preferences while matching the needs of the frugal developer."

The two are seeking partnerships with fabricators and manufacturers to modify the containers and produce parts and pieces that will make it easier to construct many units. They are also looking to form partnerships with developers.

They see cargotecture as an alternative building type -- eco-friendly and emblematic of edgy, youthful urban culture. It is ideal, they say, for small, odd lots or larger land holdings where more traditional development models won't work for economic or other reasons.



Images courtesy of Robert Humble

The containers are connected by open-air bridges to a stair tower made of one extra-long container standing on end.

Cargotecture is part of a larger category of architecture that includes the temporary, the mobile and the mass-produced. These words evoke images of double-wides with gable-roofs and pasted-on columns, the kind likely to be set down on clear-cut lots.

Nevertheless, a growing group of unconventional design firms that span international boundaries are busy experimenting with structures that are urban, modular and largely built off-site, pitched as housing for the young, the hip or the homeless. They honestly address the nomadic nature of many lives, and some are arresting in their beauty and ingenious in their practicality. They don't pretend to be anything but what they are.

Regulations, long-term plans and professional ethics all place pressure on architects to design for the long term. Is there any place for mass-produced or temporary buildings in a design-conscious, environmentally responsible world?

Well, yes. Beginning with our own waterfront. How about Terminal 46?

Egan, Humble and graduate student Ben Dalton -- a third partner -- originally came together with artist Buster Simpson and 12 other participants as part of Team Hybrid, one of many groups that participated in a series of charrettes on the future of the Seattle Waterfront sponsored by the city. Calling Terminal 46 part of their Cargotown proposal, they envisioned a village of structures and open spaces built with used shipping containers. A long list of special features, including shared roofs that collect rainwater, would make it a model of sustainability.

"It's a strategy to get home grown, affordable live-work space," said Simpson, who is promoting different kinds of public art and construction projects that involve used or discarded industrial materials and parts. Small, start-up companies, according to Simpson, can "put their money into their research instead of their rents."

"The nice things about these cargo containers," said Simpson, "is it's not really a change of use."

As the last big piece of maritime land adjacent to downtown Seattle, 88-acre Terminal 46 is now a site of contention between two possible futures. In one, promoted by newly elected Port Commissioner Al Fisk and the longshoreman's union, longtime tenant Hanjin would stay -- along with 3,000 industrial jobs, the giant orange cranes, the acres of shipping containers and Seattle's standing as a maritime center.

In the other -- promoted by developer Frank Stagen, like-minded south downtown developers and some public officials -- we begin preparing now for a post-Hanjin transformation of Terminal 46 that would yield a staggering three million square feet of office space, two residential neighborhoods, a cruise ship terminal, a sports arena and a five-star hotel.

Cargotown is the antithesis to this kind of vision, a kind of Hooverville for the millennium, a showcase for environmental values with very snappy views.

Maybe we could have it all -- shipping, industrial jobs, new neighborhoods, artists' housing, small business incubators. Bring on light industry, young families, pets, urban agriculture -- all in the shadow of the big orange cranes and with views of the Olympics.

The building materials are cheap, abundant -- and very close by. The city need not commit to cleaning up deep layers of contaminated sediment or building heavy infrastructure for a large master plan.

The best part of this scenario is the flexibility. The cargotecture of Egan and Humble is essentially temporary, because it can be disassembled, unbolted from its foundation, and reassembled somewhere else.

When it is time for more intensive development or sweeping land use change, this kind of architecture can move on. The structures can be disassembled and loaded onto ships, trains or trucks -- along with the full cargo containers -- and sent to the next village or vacant lot anywhere around the world.

For more information, go to www.cargotecture.com.

Clair Enlow can be reached at (206) 725-7110 or by e-mail at clair@clairenlow.com.

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