

# BETTER Builder

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*the builder's source*



## Alternative Building Systems

### INSIDE

Innovations in Panelized  
Framing and Cladding  
Insulated Concrete Forms  
Building a Legacy  
Structural Sustainability  
The Finish-Ready Basement



# An “Inside the Box” Approach

When affordable housing professional Thomas Fischer retired following a distinguished 15-year leadership career with Habitat for Humanity, he had no idea that he would be spending much of his time now preparing a multitude of requests for proposals (RFPs) for a new and innovative housing product.

Fischer, who has a long-time passion for providing housing for people in need, served first as the executive director of the Brampton/Caledon branch, then, following an amalgamation, as vice president of the Greater Toronto Area branch of Habitat for Humanity – a non-governmental

organization that helps people in communities around the world build or improve places they can call home. He has a track record of successful affordable housing builds in Peel Region.

“I retired, but I soon realized that there is a huge need to supply housing to those people who can’t afford it, especially these days,” says Fischer. When he heard about NOW Housing, he was intrigued. NOW Housing is a Cambridge, Ont.-based company that uses steel shipping containers and converts them into clean, comfortable, fully furnished and affordable modular homes. Two years later, as vice president of partnerships, he



JOHN VAN TRAN, ARCHITECTURAL VISUALIZATION

Staggering top and bottom units at the rear forms access and porch at the front of the structure.



# to Affordable Housing

is being contacted by non-profit organizations, government departments and private developers.

“The process starts with our containers, which are surplus, manufactured overseas and sourced from local suppliers, mostly in Toronto,” says Fischer. “The only containers we buy are called ‘one-trippers,’ meaning they are used once to ship things like furniture and electronics from overseas. The magic happens in our factory, where the containers – all 9’6” tall ‘high boys,’ 8 feet wide by 20 or 40 feet long – are modified to create high-quality, permanent housing in a variety of sizes and models,” Fischer explains.

Finished units come in a variety of configurations, depending on the requirements of clients. They include: the space-efficient Studio, which contains a separate bedroom, bathroom with ensuite laundry and a full kitchen with a dinette set; the larger Single bedroom unit, comprised of containers connected side-by-side, which offers a spacious living room; the Duo Suite, with two separate adjoining suites containing a bedroom, bathroom and kitchen; and the Multi-Bedroom, which is multiple containers wide and offers a common living/dining area and shared bathrooms (including laundry), best suited to individual



Two containers form a single unit 16 feet wide and 40 feet long.

families or several tenants sharing common spaces. All units can be built barrier-free with accessibility features for people with disabilities, including lower countertops, larger bathrooms and wider access doors.

Far from being spartan, NOW Housing homes come with a number of modern, comfortable and maintenance-free features to make the spaces feel like home, such as hardwood kitchen cabinets, granite countertops, separate heating/cooling systems, quality furnishings, large windows (and sliding glass doors in some units) for natural light, wiring for internet and cable connectivity, and scratch-proof/water-resistant panel system walls and vinyl flooring.

“Because our units are made of solid steel, they can stand up to almost anything our Canadian climate can throw at them. Inside, we use non-organic and mould-resistant materials to make cleaning and maintenance easier and provide quick turnover timetables between tenants,” says Fischer.

“Our units can be stacked multiple

**“Our units can be stacked multiple storeys high, creating contemporary multi-unit designs with entrance and balcony overhangs to form affordable housing complexes in single-development areas.”**

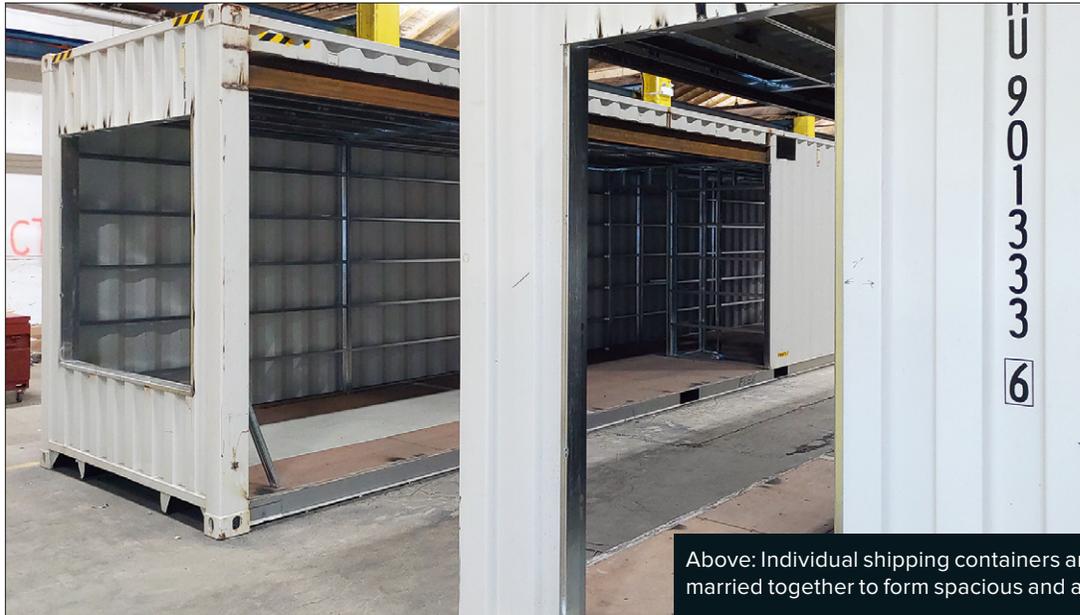
storeys high, creating contemporary multi-unit designs with entrance and balcony overhangs to form affordable housing complexes in single-development areas,” Fischer adds. “Through our quality-controlled production line process, which promotes optimal efficiency, we can produce affordable units faster, in greater quantity and at lower cost than any competitor.”

As for the construction of its homes, NOW Housing takes great care in sourcing environmental, economical

and durable materials to ensure the highest level of comfort. Inside its Cambridge factory, unit interiors are fitted with steel studs (separated, according to Code, by a “thermal break” from the exterior steel walls) and insulated in between with two-pound closed cell spray foam. Instead of conventional drywall, a more durable and maintenance-free wall panel system is installed.

“When you have small spaces where people live closer to walls and windows, energy efficiency has to be better. The Canada Mortgage and Housing Corporation (CMHC) requires efficiency to be significantly improved for modular ‘in situ’ buildings – by at least 25%. All of our units are certified CSA-A277 at the factory,” says Fischer.

To ensure the highest possible level of energy efficiency and comfort, NOW Housing consulted with home and heating system designer John Godden to build in the latest energy recovery ventilation (ERV) technology and state-of-the-art air source heat pumps. All windows are high-performance triple-glazed designs. On the outside, areas that require extra sealing, such



Above: Individual shipping containers are modified and married together to form spacious and affordable floor plans.  
 Below: High density polyurethane foam is blown with a stand-off wall system to provide thermal comfort and air tightness.



as seams, are insulated as needed. Finally, exterior cladding (siding or brick) is applied according to the exterior appearance desired by the client. Completely finished and furnished units are installed by crane on site in a matter of hours.

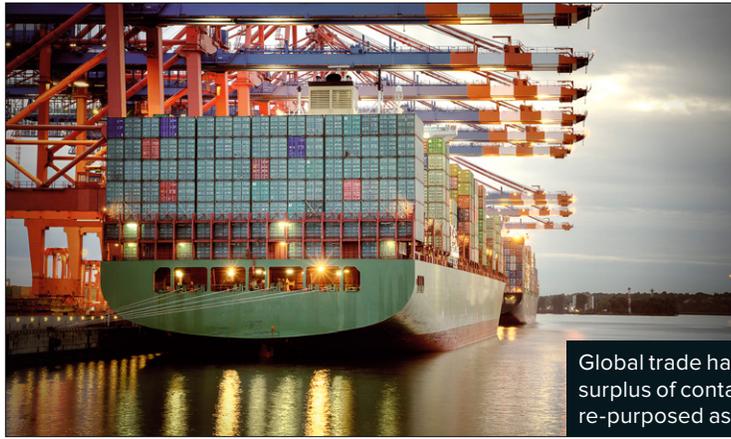
Today, in addition to building a steady supply of affordable modular homes, Fischer and the company are keeping busy applying for contracts from municipalities across Ontario who are eager to provide affordable housing to their middle-class, student and vulnerable citizens. Thanks to the federal government's recent release of the Rapid Housing Initiative (through the CMHC), \$1 billion is available to create up to 3,000 new permanent, affordable housing units across Canada: a major cities stream component of \$500 million in immediate support for pre-determined municipalities, and a projects stream of \$500 million for projects based on applications from provinces, territories, municipalities, Indigenous governing bodies and organizations, and non-profit organizations.

An October 27, 2020 news release regarding the initiative stated: "Everyone should be able to find a place to live, raise their families, and build their future ... since 2015, the Government of Canada has helped more than 1 million people have a safe and affordable place to call home. This work is more important than ever as communities across the country continue to deal with the impacts of COVID-19. By investing in affordable housing, we can create jobs and grow our middle class, build strong communities, fuel our economic

recovery, help reduce homelessness and support vulnerable Canadians."

"At NOW Housing, our mission is to work towards a sustainable environment for future generations – by reducing landfill waste and our carbon footprint; practicing reduction, re-use and recycling; and producing unique and environmentally friendly structures," says Fischer, noting that the company's market has been focused on smaller-space projects (typically rentals), sized at 480 square feet including living area, bathroom and kitchen.

“Our aim is to positively influence the stability and quality of community living by providing an improved housing solution to change the landscape of communities, allowing everyone to maintain their independence and dignity. Through co-operative endeavours with agencies, organizations, municipal and regional governments, and private and non-profit organizations, our goal is to be the largest builder of affordable housing in Ontario (and eventually Canada) by continuing to deliver cost-conscious solutions,” Fischer explains.



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Global trade has provided a surplus of containers to be re-purposed as living space.

As he completes yet another RFP for a municipal affordable housing project, Fischer reflects on the process: “I truly wish that helping people could be easier. I may sometimes complain, but really, my affordable housing journey has been well worth the effort.” **BB**



**Marc Huminilowycz** is a senior writer. He lives and works in a low energy home built in 2000. As such, he brings first-hand experience to his writing on technology and residential housing and has published numerous articles on the subject.

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