

**The Rapid
Rise Of
Affordable
Modular
Housing
In
Canada**

By John McMullen,
Marketing Director, Modular Building Institute



The Rapid Rise of Modular Building in Canada

In October 2020, the Government of Canada, through its Canadian Mortgage Housing Corporation (CMHC), launched the Rapid Housing Initiative (RHI) to address the urgent housing needs of vulnerable Canadians. The initial round of the RHI's funding—all of which went toward modular buildings—was CN \$1 billion, and in the immediate wake of COVID-19, it went quickly. And it was put to immediate use.

"The federal funding available through RHI set out to cover the construction of new rental housing units that would be available for occupancy within 12 months," says Mark Becker, Chief Operating Officer at Dexterra Group and interim President, NRB Modular Solutions. "This is a very tight timeline to deliver on and it made modular construction an attractive choice to provide the fastest path to occupancy."

In fact, the RHI exceeded its initial target of creating 3,000 new affordable housing units, and, in total, supported the construction of more than 4,700 units across Canada.

In 2021, the RHI was provided a second round of funding: an additional \$1.5 billion toward the construction of new multifamily modular housing. And like the first round, these additional funds helped the RHI exceed its initial target of creating 4,500 new affordable units and is expected to create a total of over 5,400 new housing units across Canada.

These huge successes were followed by a pair of even bigger announcements in 2021. Two of the continent's largest banks, Scotiabank and Bank of Montreal, each agreed to work with the CMHC and commit a combined \$22 billion to create new affordable housing across Canada over the next 10 years.





The Rapid Rise of Modular Building in Canada, *Continued*

As it has from the beginning, MBI is working closely with the CMHC to funnel as much of these committed funds as possible to the modular-focused RHI, which itself is currently working on the application guidelines for its expected third round of funding.

“We’ve seen firsthand how these projects have made a difference,” says Curtis Ince, Director, Brand and Marketing at Nomodic, a Canadian provider of prefabricated construction solutions who has built several modular projects funded under the RHI. “By giving people a key to the first front door they’ve had in years, it gives them a sense of ownership and a sense of pride.”

“Modular building is integral to making an impact on the need for affordable and attainable housing across our country,” says Andrew Neill, president and CEO of ANC, an Ontario-based general contractor, construction management company, volumetric steel modular manufacturer, and winner of the 2021 Canadian Homebuilders Association National Housing Award for Modular Innovation. “Being able to start the manufacturing process before building permits are issued allows us to get ahead of schedules and provide ‘rapid housing’ which is not possible with conventional construction methods.”

“Modular building is integral to making an impact on the need for affordable and attainable housing across our country.”

-Andrew Neill, President of ANC





Canadian Deputy Prime Minister and Minister of Finance, Chrystia Freeland, speaks to the importance of addressing the affordable housing crisis in Canada during a visit to the site of Nomodic’s modular supportive housing complex for Atira Women’s Resource Society in Surrey, BC.
Credit: Nomodic and Martin Knowles Photo/Media

The Rapid Rise of Modular Building in Canada, *Continued*

“We fully expect modular adoption to continue to grow and likely accelerate as developers, architects, and their clients look for ways to leverage the unique benefits of modular construction,” concludes Dexterra Group’s Mark Becker.

MBI is proud to have helped make such an impact, not only on behalf of its members, but for those who have been directly helped through the creation of these new affordable homes.

For more information on MBI, visit their website at <https://www.modular.org/>





CASE Homes (Compact Affordable Sustainable Efficient)

Through a design/build contract, ANC provided four (4) CSA-certified modular homes under the Government of Canada's Rapid Housing Initiative.

ANC Modular fabricated three (3) standard and one (1) AODA/FADS-compliant bachelor units concurrently while completing site plan approvals and permit processes.

At issuance of permit, all four (4) homes were erected in three (3) hours, cladded and roofed within five (5) days.

"ANC has a 'base' modular 'box' design that was developed to be exceptionally fluid to many types of housing structures. Using our 'base' modular structure, we were able to design four very unique projects concurrently. A four-plex, a duplex, a townhome complex that had two one floor homes, and three two storey homes in one block, as well as a four-storey apartment building. All these projects used our base modular 'box' and ANC was able to configure them to each development's needs."

Andrew Neill, President and CEO of ANC





Brant Native Housing – Transitional Homes

Through a design/build contract, ANC provided four (4) CSA-certified mods configured into two (2) 2-bedroom semi-detached homes under the Government of Canada's Rapid Housing Initiative.

Site setback constraints made for minimum neighborhood impact and disruption.

At issuance of permit, all four (4) mods were erected in three (3) hours, then cladded and roofed in five (5) days.





Six Nations Housing

Through a design/build contract, ANC provided sixteen (16) CSA-certified mods configured in to two (2) 2-bedroom single storey and three (3) 3-bedroom 2-storey townhomes. These buildings were completed under the Government of Canada's Rapid Housing Initiative.

Three (3) months from approved design plans, ANC landed all sixteen (16) modular units in a single day. Townhomes were roofed and cladded within ten (10) days of erection. Tie-ins and ready for occupancy permits were complete within four (4) weeks of landing.





INDIGENOUS SUPPORTIVE HOUSING COMPLEX

INDIGENOUS SUPPORTIVE HOUSING COMPLEX

Location: North Saanich, B.C.

Completed: January 2022

Value: \$5.4 million

Size: 12,000 sq.ft.

Levels: 3

Suites: 12

Onsite duration: 181 days

Key features:

- Six 3-bedroom suites, six 1-bedroom suites
- Full kitchens with energy efficient appliances
- High quality, premium finishes
- Large private bathrooms with walk-in showers
- Accessible features including wheelchair ramps

Built with the support of CMHC's Rapid Housing Initiative, this building helps address the urgent need for affordable housing for residents of Pauquachin First Nation in North Saanich, BC. This project was designed and constructed in less than twelve months.

"As the need for affordable and Indigenous housing continues to mount in North America, we are confident that offsite and modern methods of construction can continue to provide benefits in several areas when compared to traditional construction methods.

As programs such as the CMHC's RHI continue to be implemented, Nomodic and its partners remain well-equipped to adapt to the growing demand and deliver projects within government-prescribed timelines."

Kevin Read, President and CEO of Nomodic





'LITTLE'S TOO' SUPPORTIVE HOUSING COMPLEX

Location: Surrey, B.C.

Completed: August 2022

Budget: \$9.8 million

Size: 24,095 sq. ft.

Levels: 4

Suites: 44

Key features:

- 44 self-contained suites, each with kitchenette/washroom
- Commercial kitchen, dining and lounge areas, storage, laundry, and tenant support rooms
- Accessible features including wheelchair ramps
- Meets BC Energy Step Code 4

Built with funding from CMHC's Rapid Housing Initiative and in cooperation with Turnbull Construction Project Managers, this new complex for Atira Women's Society serves women who are homeless or at risk of homelessness. The facility provides wrap-around services, integrated health supports, and daily meals for residents.





TYEE SENIORS HOUSING

BUILDING APPLICATION: Affordable Seniors Housing

BUILDING TYPE: Volumetric Modules

PROJECT LOCATION: Kamloops, British Columbia

BUILDING SIZE: 2 Bldgs at 2,404 SF/1 Bldg at 2,204 SF

PROJECT TIMELINE: 11 Months

Background

The Tk'emlúps te Secwépemc Indian Band (TteS) in Kamloops, British Columbia received 10 suites of affordable housing, built on its lands at Tyee Park.

This project was funded as part of the Canada Rapid Housing Initiative (RHI) to create new, affordable housing for elders in the local community.

The manufacturing was completed at NRB's largest manufacturing plant in Kamloops which is also located on Tk'emlúps te Secwépemc land base; with both the land and building under long-term lease.

Our successful collaboration with TteS to develop the design resulted in culturally sensitive housing units providing TteS with certainty of cost, schedule, and quality.

Challenge

Under the criteria guidelines in place from the RHI program, NRB was awarded the contract to build two 1-storey four-plexes and one 1-storey duplex in May of 2021 with a planned completion of December 2021.

Due to wildfires in the area escalating surrounding priorities for BC Hydro, a pole removal caused the installations to see a delay in building completion until early April 2022.

Results at a Glance

The supply and Installation of Seniors Housing included the following:

- Two four-plex units and one 2-bedroom duplex.
- Total of 10 suites.
- Building one and three have 2 suites at 599 SF, 2 suites at 603 SF each.
- Building two has 2 suites at 1098 SF.
- Barrier free accessibility provided to 3 suites
- Exterior grading to level entry of accessible suites with concrete slabs at entries for all suites.
- Hardie Panel siding
- Interior drywall (mud, tape and paint)



"We wanted to challenge the perception that modular buildings couldn't seamlessly integrate within a community. To combat the stigma associated with homelessness, one of our key goals with the 11 Macey Ave and 150 Harrison St project was to foster inclusion and create a well-integrated, welcoming space."

Mark Becker, Chief Operating Officer at Dexterra Group and interim President, NRB Modular Solutions.



City of Toronto Supportive Housing

BUILDING APPLICATION: Affordable Housing
BUILDING TYPE: Volumetric Modules
PROJECT LOCATION: Toronto, Ontario
BUILDING SIZE: Two Buildings - 27,000 sq.ft. each
PROJECT TIMELINE: 10 Months

Background

As part of the Housing Now initiative implemented by the City of Toronto in 2019, 11 City-owned sites were identified for the development of affordable housing. In May 2020, the City chose NRB to design, manufacture, and install 100 modular units of permanent supportive housing as Phase I of a pilot project.

Challenge

We were tasked with the design, manufacturing, transportation, and installation of two affordable housing complexes in a timely manner to accommodate the rapid need for housing for the residents who are struggling to find a home in the City.

The first building, located on Macey Avenue in the area of Pharmacy and Danforth avenues, has 56 suites. The second building is located on Harrison Street near Dovercourt Road and Dundas Street and has 44 suites.

Results at a Glance

The two buildings feature 100 single occupancy suites, with self-contained bathrooms and kitchens, individual climate control and a private living space. The central building has an indoor and outdoor amenity space, central laundry, commercial kitchen and dining area

25% of the buildings' suites are accessible and Gold Certified by the Rick Hansen Foundation Accessibility Certification. The structures also come equipped with a CCTV camera monitoring system, an in-suite intercom network, and exterior solar shades, which minimizes energy consumption.

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Mark Becker, Chief Operating Officer at Dexterra Group and interim President, NRB Modular Solutions.





ANC

Bespoke

&

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ANC
800-218-4757

By: Paul Harrison



Bespoke & Unique: ANC's Modular Building Department Sets the Standards for Efficient and Responsible Construction in Canada

History & Background

After having worked in the construction industry for two decades, Andrew Neill founded ANC in 2017. With an extensive portfolio of large projects under his belt, Andrew has taken his company to soaring heights in the few short years since its birth.

"Andrew wears many hats within the organization; it's his pride and joy and one of the loves of his life. The hat he wears most proudly is his hardhat, and he can be seen with his boots on the ground more than at his desk." Says Sarina Gallo, ANC's Interior Design and Marketing lead.

"In 2019, ANC founded ANC Modular, which focuses exclusively on volumetric modular building components, as well as new modular innovations." Sabrina explains what led ANC to adopt the modular approach to building: "The ability to move quickly was grounded in the idea of putting people first, followed by lean principles and processes that would help us align with our goal. The industry is very exciting, having a significant and positive impact on affordable housing, the workforce, and the environment. To that end, we built a prototype, established our factory, and began recruiting talent and leadership. Not only is the business strategy behind the decision compelling, but the social aspect taps into the deeper meaning of the contribution we are making. It is very energizing."

"The industry is very exciting, having a significant and positive impact on affordable housing, the workforce, and the environment."





THE PROCESS

Since modular builds are built in-house at the factory, one would think the process would differ from traditional builds, but Sabrina says this is not the case: "The construction process is very similar to traditional construction; it all starts at the planning & development stage. While we have modularity processes in place for efficiency, each project is bespoke and unique in its needs. We continually review and refine our processes, and this allows us to adapt and evolve in a rapidly changing environment and serve the rapid housing initiatives that we have been awarded with great fluidity."

THE DIFFERENCE

But modular builds do differ from traditional builds in a few important ways. First, they are more efficient, and often more cost effective too: "The main final benefit of modular construction is derived from the increased speed of construction on site. We manufacture all the modular components ourselves, which allows us to plan, control, and reliably predict the progress of the work more accurately. The majority of the work is made in a factory, while sitework and foundations are simultaneously performed on the site. This time-saving benefit keeps the project on schedule and speeds up construction time, while still being efficient, taking the build to more of a manufacturing methodology. Additionally, working in a controlled environment is key and is largely driven by mitigating risks of traditional construction by minimizing delays and site disruptions. We do practice long lead procurement, which has been a benefit in efficiency and cost."



"We manufacture all the modular components ourselves, which allows us to plan, control, and reliably predict the progress of the work more accurately. The majority of the work is made in a factory, while sitework and foundations are simultaneously performed on the site."

THE GROWING DEMAND

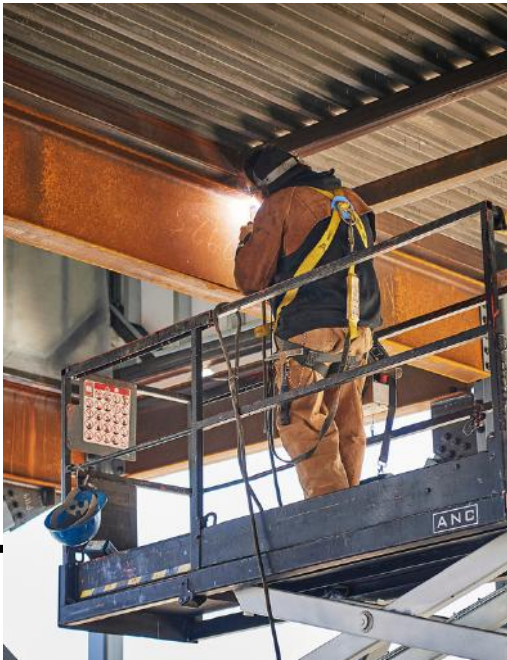
ANC is well-positioned to respond to the growing demand for rapid housing as modular building is considered one of the leading methods to solve the affordable housing shortage in Canada. For this reason, modular building has undergone a major boom in recent years. The Canadian Mortgage Housing Corporation (CMHC) created the Rapid Housing Initiative (RHI) in 2020 in order to deal with the ongoing housing shortage in Canada. In the past three years, the RHI has injected \$3 billion into the modular market, along with another \$22 billion from the private sector, which has led to the construction of over 4,500 residences in Canada.



THE MANUFACTURING PROCESS

As Andrew Neill notes: “Being able to start the manufacturing process before building permits are issued allows us to get ahead of schedules and provide ‘rapid housing’ which is not possible with conventional construction methods.” Needless to say, in order to keep up with the growing demand for housing in Canada, modular builds will play an integral role going forward.

Andrew further explains how the modular process streamlines the construction process to minimize disruption and maximize efficiency: “ANC has a ‘base’ modular ‘box’ design that was developed to be exceptionally fluid to many types of housing structures. Using our ‘base’ modular structure, we were able to design four very unique projects concurrently. A four-plex, a duplex, a townhome complex that had two one-floor homes, and three two-storey homes in one block, as well as a four-storey apartment building. All these projects used our base modular ‘box’ and ANC was able to configure them to each development’s needs.” Through these methods, ANC is often able to have projects go from the landing stage to the occupancy stage in as little as four weeks.



“Being able to start the manufacturing process before building permits are issued allows us to get ahead of schedules and provide ‘rapid housing’ which is not possible with conventional construction methods.”





ANC DIVISIONS

In addition to modular builds, ANC has numerous other divisions, including custom homes, 3PL Logistics, construction management, and real estate development. As Sabrina Gallo states: “We offer a full-service experience in the construction landscape, and have teams heading our custom residential projects, commercial builds, and modular division. Our modular division tackles the manufacturing, assembly, and logistics for our modular projects, but we also fabricate components such as elevator shafts, and stairwells.”

“We have many valued trade-partners who are keen in pursuing modular construction and this is largely being driven by the absence of conditions that are typically navigated in the market. Factory production creates a consistent workforce environment that maintains productivity year-round. It provides a predictable, long-term, year-round business. The ability to apply their mastery and processes in a new environment has been rewarding, based on the feedback that we have received.” says Gallo.

It should come as no surprise that business is booming at ANC. They have multiple projects on the go, as well as some major ones that they have recently wrapped up. “Our team is so grateful for the opportunity to build modular buildings to support social housing initiatives for The City of Brantford and Six Nations Housing, and Temporary Lodging for the City of Mississauga Fire.” Sabrina continues: “We were recently awarded a 56 Unit housing development, 127 Modular units with the Canadian Helen Keller Center at 150 Eighth Street in the Etobicoke–Lakeshore neighborhood of Toronto. We are super excited about it and look forward to sharing the progression on LinkedIn!”





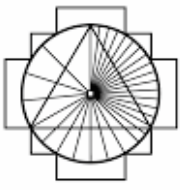
THE FUTURE

With the modular division growing each day, the future is exciting at ANC. For their amazing work in modular building, ANC was awarded with the 2021 Canadian Homebuilders' Association's National Housing Award for Modular Innovation, Ontario Concrete Associations Award for Innovation, and Andrew Neill was recognized as a winner of the Top 40 under 40 in Canadian Construction by Onsite Magazine. ANC shows no signs of slowing down. Sabrina is confident that their methods are having many positive impacts in a variety of areas: "You will see us applying tech and innovation in a landscape that we are absolutely passionate about, and in a way that speaks to our social and responsibility philosophies as builders."

Work is bustling at ANC as the demand for efficient, and cost-effective housing in Canada is high. For this reason, ANC is always on the lookout for new talent. Anyone interested in an exciting career in construction in the Brantford area should forward their resumes to info@ANC.ca

For more information on ANC, visit their website at <https://ANC.ca/>





ADAPTIVE
H O M E S
HIGH PERFORMANCE | PROGRESSIVE DESIGN

A Modular Revolution In Revelstoke



By: Greg Akesson



A Modular Revolution in Revelstoke

An Interview with Logan Ashley from Adaptive Homes

History & Philosophy

Adaptive Homes is all about building high performance, manufactured, custom homes of all sizes. They are designed to lower carbon footprints, improve quality of life for their inhabitants, and to be accessible and affordable for everyone. One of the men behind Adaptive Homes, Logan Ashley, describes the company's beginnings as a collaboration based on similar core values and a vision for a more sustainable future.

It all began six years ago when Logan's now business partner, Jocoah, had the idea of building preconstructed, or prefab, homes. At the time, Logan had already been involved in his own business for a year and a half, building homes using rammed earth, a process of building homes with less of an environmental impact. Having built homes together in the past, Logan and Jocoah realized they had similar values: both had a knowledge of rammed earth builds, and both wanted to build more sustainable and efficient homes. So, after discussing their business plans, they joined forces and began constructing pre-manufactured homes in Revelstoke, British Columbia. Thus, Adaptive Homes was born.

Having built homes together in the past, Logan and Jocoah realized they had similar values.



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Process and Standards

Though not a process used by Adaptive Homes, the rammed earth concept remains an influence on Logan's environmentally conscious approach to construction. Rammed earth is a process whereby clay soil and lime are mixed to create layers that are reinforced with rebar and packed down. The effect is like a concrete wall, but it uses soil with a high clay content instead of concrete. Rammed earth is durable and retains heat well.

Passive Housing Standards are another key area for Adaptive Homes. Passive Housing certification began in Germany and made its way to North America, where it has become a required standard by the province of British Columbia. Logan describes the housing standards as: "based around levels of measurements that you want to reach for stuff like solar gain, air tightness, and the use of certain building materials, with the aim of reducing heating and cooling costs." In achieving high passive building standards, Adaptive Homes works closely with Vetta Windows for their high-performance glazed windows, 475 Performance for materials and insulation, SIGA for air barriers and weather barriers, the Canadian Homebuilders Association for their classes on passive building, and Passive House Canada for their training and support.

The journey to making homes more accessible will involve changes to the way mortgages are handled by the banks. Traditionally, mortgages are not approved if a customer decides to go with a prefab home. As Logan says, "I've talked to a lot of my clients where their mortgage specialists are not aware of other ways or knowledgeable in how to finance a build that is (pre)manufactured. Because it is 90% completed, the foundation is the only thing done on site. Once it is delivered, the build is only ready for appraisal at that moment, and the appraiser can only then provide the lump sum of 90%. Meanwhile other ways of private lending have to be arranged up until that point." It is clear the lending system has not kept pace with the homebuilding industry: a major roadblock to making homes more affordable and accessible in today's marketplace.

**Adaptive Homes works closely
with Vetta Windows for their
high-performance glazed
windows**

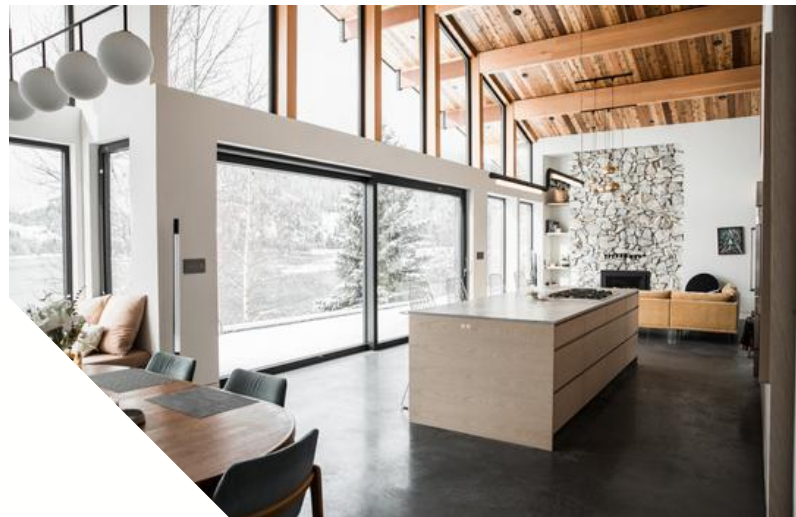


The Future

In a labour market that is currently experiencing a lack of skilled workers, it is not so much the shortage of workers that Adaptive Homes is concerned with, but staying abreast of the housing shortage. As with any successful builder, Adaptive Homes is growing and as Logan says about his company, "if you want to make an impact through the construction industry, learn how to build houses to the highest standard out there in the construction industry, and also mix your lifestyle into your work, then by all means Adaptive Homes is a great place to work."

The future for Adaptive Homes involves innovating new building materials, making materials more affordable and accessible, and growing the business into new regions and territories. They are currently working on strategic partnerships with communities and municipalities as well as the lending sector to create a one-stop-shop for housing. Though challenges undoubtedly lie ahead, Adaptive Homes is poised to meet them head on in an innovative and environmentally responsible manner.

For more information on Adaptive Homes, visit their website at <https://adaptivehomes.org/>



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reach

