

Modular Housing Initiative - Update to Council



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Agenda

- What is prefab/modular/container housing?
- Examples of existing modular housing
- Why are we doing it?
- RFQ process and shortlist
- Pilot Sites
- Community notification and engagement
- Next Steps



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What is prefab modular housing?

Prefabricated “Prefab” housing –

- Buildings built in components e.g. panels, modules or transportable sections.
- ‘prefab’ is not an industry term like modular home, manufactured home, panelized home, container or site-built home.

Modular housing –

- Sectional prefabricated buildings that consist of multiple sections called modules.
- "Modular" is an off-site method of construction differing from other methods. e.g. Traditional "stick-built" construction.
- Modular components are constructed off-site on indoor assembly lines. Established modular providers can deliver up to 5 modules a day.
- Completed modules are transported to the building site and assembled by a crane.

Container Housing –

- Form of modular construction using shipping containers or steel boxes as the structural frame.
- The use of containers as a building material has grown in popularity of the past several years due to their inherent strength, wide availability, and relatively low expense



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Existing examples of Modular Housing





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Existing examples of Modular Housing





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Existing examples of Modular Housing VCH Housing, Bella Bella, BC

- Canada's first modular multi-unit residential Passive House project
- The project consists of six two-storey attached townhomes
- Built for VCH in Bella Bella





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Existing examples of Modular Housing Popup GreenFlexStudios, Austria

- 40 Modular housing units for students
- Passive House
- 2 month factory prefabrication
- 1 month site install
- Can be relocated 5 times





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Existing examples of Modular Housing

Y Cube housing, London, UK.





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Existing examples of Modular Housing: Y Cube housing, London, UK.

“Y:Cube is a fantastic example of the innovative housing projects we support to address a range of housing demands. We need bold ideas to stimulate growth and address the historic failure to build enough homes and modular construction has an important role” - *Richard Blakeway, Deputy Mayor of Housing. GLA*

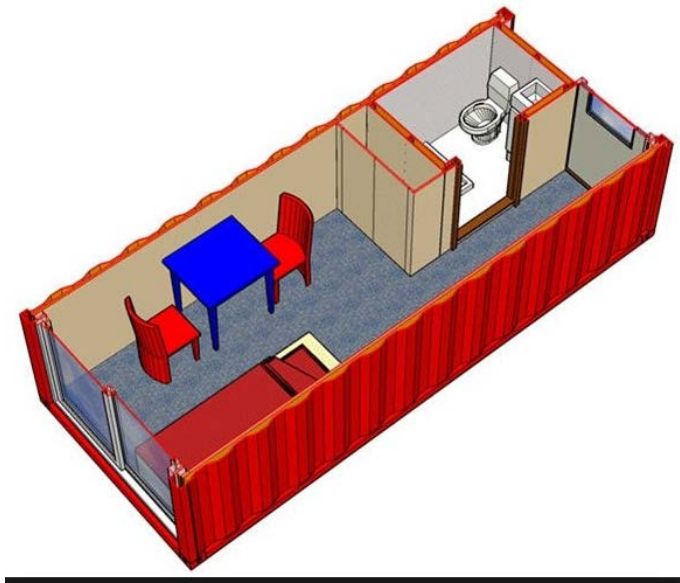
- Y:Cube fulfils a brief for a portable ‘plug and play’ housing system offering good quality affordable accommodation in self-contained units.
- The concept is not designed to provide long term accommodation, but to act as a transition between temporary accommodation and market housing.
- Let by YMCA on assured short-hold tenancies at 65% of the market rent for a one bed flat in the area with an anticipated length of stay of 3 to 5 years.
- modular system that enables the factory-made units to stack easily on top and/or alongside each other, making it completely adaptable to the size and space available and therefore perfect for tight urban sites, creating semi-permanent communities



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Existing examples of Modular Housing: Keetwonen, Amsterdam

- 60 unit pilot project launched in 2005
- Student housing
- 270 sq.ft units
- Used Shipping containers due to strength, cost and availability
- Now over 1000 containers, installed at 20 – 25 per day.





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Why are we doing it?

- Urgent need for housing supply in the City;
- To utilize sites and infill opportunities, including smaller sites that are currently vacant or unused, and sites awaiting re-development;
- This form of construction is well positioned to deliver units expeditiously and cost effectively;
- Pilot new construction techniques to enable off site manufacture, faster and safer construction on site, better quality control and enhanced energy efficiency to achieve Net Zero goals



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Why are we doing it?

- Modular units can be re-located as required to new temporary sites when existing site is due for redevelopment;
- The temporary concept is not designed to provide long term accommodation, but to act as a transition between temporary accommodation and permanent housing
- Also long term modular housing can also be built where there is an opportunity for infill or small sites
- Potential for larger developments too, as seen in Whistler



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Additional Advantages of Modular Housing

Outlined below are some key added benefits and innovations that modular prefabrication presents;

- Added Health & Safety protocol and controls in the factory based environment
- Increased economies of scale for materials and labour – many projects on the go at one time
- Use of local employment
- Reduced wastage and material efficiency – cutting lists and materials shared between a number of projects.
- Innovation in construction technology



RFQ Process and Shortlist

- An RFQ was issued to pre-qualify multiple proponents to design, supply and construct modular housing.
- 12 proponents were shortlisted. The top 5 will be invited to submit responses to site specific RFP's for the first pilot sites.

Top 5 proponents shortlisted for pilot project RFP. We will rely on their experience to deliver pilot projects quickly and efficiently

Remaining proponents to be shortlisted for future opportunities

| Company |
|------------------|
| Atco |
| Atira/Ladacor |
| Britco |
| Horizon North |
| Kindred/Dialog |
| Chaparral |
| Container West |
| CTHS – Workforce |
| JVN/D |
| Mods |
| Monitac |
| Shelter |

Type 1a Pilot Site – 1500 Main St.

Type 1b: Temporary use – Micro units
(approx. 250sq.ft with washroom
and kitchen)

Site Size: Approximately 25,500 square feet;
approx. 10,000 square feet required
for pilot (40 + units)

Zoning: FC-1 (conditional use for rooming
house)

Site Constraints and Opportunities:

- Currently occupied by Solefoods Ltd – potential partnership
- Site contamination
- Site requires services/utilities
- Right of Way through lower part of site





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Type 1a Pilot Site – 1060 Howe (rear parkade)



Type 1a: Temporary use – Rooming house units (approx. 170sq ft with individual washrooms) and attached communal amenity space.

Site Size: Approximately 13,00 square feet; Number of units here will be established pending engineering load calculations.

Zoning: DD

Site Constraints:

- Site utilities unknown
- Site is on the top level of a raised concrete deck carpark
- Access constraints – Downtown site, rear lane access



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Further Pilot Projects

Future modular pilot projects are expected to include:

- Family housing
- Shelters
- Infill opportunities for seniors
- Embedding Passive House Standard where feasible
- Longer term / more permanent housing options



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Partnerships

We will be seeking funding and land opportunities from:

- Federal funding
- Provincial funding
- Private funding
- Land owners with potential sites available



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Community Notification & Engagement

Information letter:

- Info letter sent to neighbouring residents & businesses (notification about site specific RFPs)
- vancouver.ca/tempmodularhomes site launched (VAHA page)
- Info letter/website include background info, staff contact info

DE Notification process:

- Standard notification process once DE submitted
- Community input
- Non-profit Operations Management Plan submitted as part of app.
- Community Advisory Committee to address any community concerns if required



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Next Steps – Pilot Project Timeline

- **May 2016** – Public Notification
- **May 2016** – RFP sent to top five Respondents
- **July 2016** – Select proponent
- **Oct 2016** – Issue DP and related BU / other permits
- **Q1 2017** – Construction completion



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Thank You - Questions

