

The background image is a faded, grayscale photograph of a street scene. It features several multi-story wooden buildings with various window styles. In the foreground, a red hatchback car is parked on the left, and a blue SUV is parked on the right. A few people are visible on the far left, standing near the red car. The overall image has a soft, semi-transparent overlay effect.

Practical, High Performance, Prefab Ready Standardized Designs

March 26, 2025

Rod Nadeau, IBG Innovations

Natalie Douglas, ZEBx

Presentation Outline

Intention: a builder/developers approach to designing and delivering high-performance, housing that can be manufactured off site or built on site. This will be validated and contextualized by ZEBx, who will clarify the connection between high-performance, affordability, and prefabrication.

- **Welcome & Introductory Remarks**
- **Who is IBG** & *how did we get where we are?*
- **What is ZEBx** & *how can we understand the intersection of high-performance building and prefabrication/offsite construction?*
- **What is IBG's Standardized Design Library** & *what cost-saving tactics has IBG used to help inform these designs?*
- **Key Takeaways & Concluding Remarks**
- **Q/A & Discussion**







[BSCE](#) [About](#) [Research & Education](#) [Research Facilities](#) [Industry Services](#) [News](#)

Building Science Centre of Excellence

Welcome to the Building Science Centre of
Excellence











[RESOURCES](#)

[ZEBx TV](#)

[EVENTS](#)

[NEWS](#)

[ABOUT](#)

[ZEIC](#)

[CONTACT US](#)



[Subscribe](#)

zebx

ZERO EMISSIONS BUILDING EXCHANGE

Powered by **zeic**

Working to rapidly accelerate the knowledge, capacity and passion for zero-emissions buildings in Vancouver and British Columbia

[Industry
Resources](#)

[Events &
Demonstrations](#)

[Specialized
Programming](#)

[Learn More About ZEBx](#)



High-Performance Prefab – The Future of Construction

Featuring **Winton Homes** from Prince George, **Collective Carpentry** from Invermere and **BCollective Homes** from North Vancouver.

 Overview

 ZEBx Resources

Building More: Repeatable and Resilient MURB Designs

ConEd Credits: AIBC 1 Core; BC Housing 1 CPD (Relevant enactments)

Location: Level 2: Room 218/219

Architecture Construction & Trades Engineering Homebuilding & Renovation

Sustainable & High Performance Buildings | Decarbonization, Electrification & Energy Efficiency |

BC's Standardized Design Catalogue: What Now?

ConEd Credits: AIBC 1 Core; BC Housing 1 CPD (Relevant enactments)

Location: Level 2: Room 218/219

Architecture Construction & Trades Engineering Homebuilding & Renovation

Sustainable & High Performance Buildings | Decarbonization, Electrification & Energy Efficiency |



How does offsite construction relate to high-performance, resilient, & low-carbon building?

Quality control and construction precision
leading to **tighter building envelopes**

↓ operational emissions

Increased speed of construction (multiple
components are built simultaneously as
opposed to sequentially, repetition, etc.)

can contribute to cost savings

Material efficiency and **reduction of
construction waste**

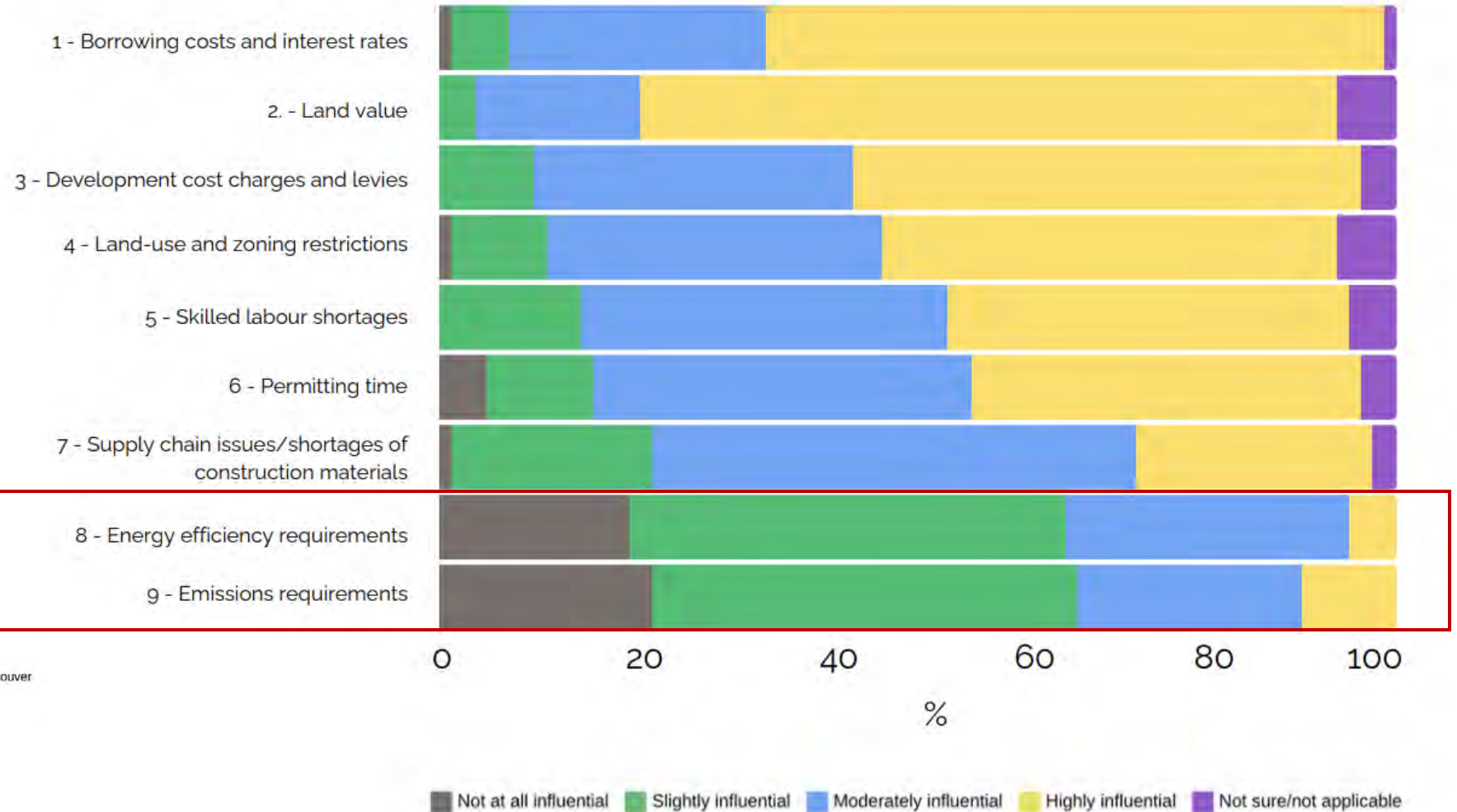
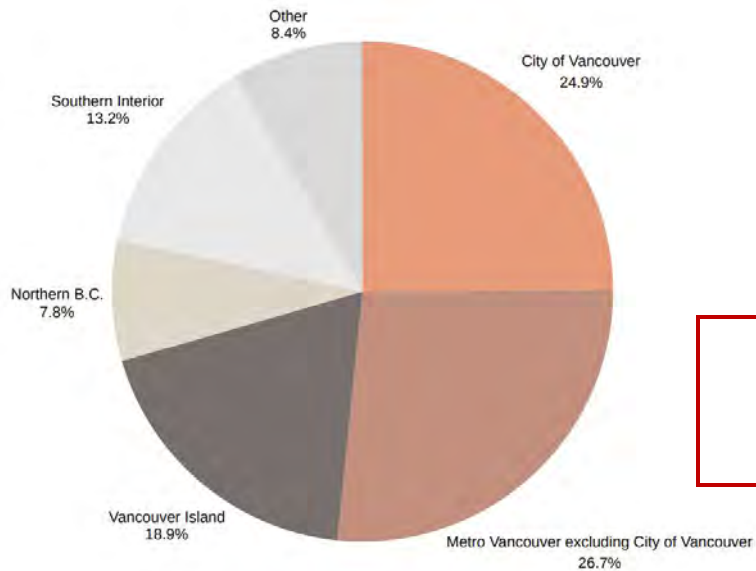
↓ embodied emissions

More **efficient use of skilled labour**
(controlled and comfortable setting,
automation, etc.)

can attract better talent

Q4: In your opinion, to what degree do the below factors influence the increasing costs of new housing development in B.C.?

Q2: Where are most of your projects located? (Select all that apply)





ORION: A NEAR-ZERO EMISSIONS MULTI-UNIT RESIDENTIAL BUILDING IN PEMBERTON, B.C.

CASE STUDY

Orion is a multi-unit residential building in Pemberton, British Columbia. The project is expected to exceed the energy efficiency requirements set for its region and meet Step 4, the highest level of the BC Energy Step Code, while maintaining the construction cost below the market rate. This case study presents practical solutions and strategies implemented during design and construction to deliver an affordable, sustainable, low-carbon, healthy building in British Columbia's South Coast.

October 2020

PREPARED BY



THE UNIVERSITY OF
BRITISH COLUMBIA

VIDORRA
DEVELOPMENTS



ENERGY & CARBON PERFORMANCE

Orion's energy efficiency measures are optimized to meeting the energy demand to achieve minimal carbon emissions. The "near-zero-carbon" building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Minimal Operational Carbon Emissions

Through the project team's close collaboration, the building's energy demand was minimized by using high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Low Embodied Carbon Emissions

Embodied carbon emissions (CO₂e) from materials and construction processes were minimized by using low-carbon concrete, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Measures

The building's energy efficiency measures include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Measures

The building's energy efficiency measures include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Measures

The building's energy efficiency measures include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

HIGH-PERFORMANCE ENVELOPE

The project team's close collaboration, the building's energy demand was minimized by using high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

High-Performance Envelope

The building's high-performance envelope includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

High-Performance Envelope

The building's high-performance envelope includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

High-Performance Envelope

The building's high-performance envelope includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

High-Performance Envelope

The building's high-performance envelope includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

High-Performance Envelope

The building's high-performance envelope includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

ENERGY EFFICIENCY STRATEGIES

The project team's close collaboration, the building's energy demand was minimized by using high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Strategies

The building's energy efficiency strategies include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Strategies

The building's energy efficiency strategies include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Strategies

The building's energy efficiency strategies include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Strategies

The building's energy efficiency strategies include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Energy Efficiency Strategies

The building's energy efficiency strategies include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

ENVELOPE DETAILS

The project team's close collaboration, the building's energy demand was minimized by using high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Envelope Details

The building's envelope details include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Envelope Details

The building's envelope details include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Envelope Details

The building's envelope details include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Envelope Details

The building's envelope details include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Envelope Details

The building's envelope details include high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

DOMESTIC HOT WATER SYSTEM

The project team's close collaboration, the building's energy demand was minimized by using high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Domestic Hot Water System

The building's domestic hot water system includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Domestic Hot Water System

The building's domestic hot water system includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Domestic Hot Water System

The building's domestic hot water system includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Domestic Hot Water System

The building's domestic hot water system includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Domestic Hot Water System

The building's domestic hot water system includes high-performance building envelopes, energy-efficient systems, and on-site renewable energy. The building is designed to achieve net-zero emissions by using on-site renewable energy and energy efficiency measures.

Technical Details

Structure

Both buildings have virtually identical structures. The foundation consists of insulated concrete foundation (ICF) walls and concrete piers which are set on concrete strip and pad footings. Wood posts and beams at the ground-floor level support the floor assembly for the second level. As ground level, the floor is a concrete slab-on-grade and all suspended floor assemblies above it consist of pre-engineered wood joists, plywood sheathing and concrete topping. The roof structure consists of parallel chord trusses with plywood roof decking. Above the ground-floor level, the floor and roof assemblies are supported by interior and exterior wood stud walls. The ground-floor walls were constructed using 203 mm (8") solid studs and the floors above were constructed using 152 mm (6") solid studs. The wood stud walls were prefabricated on-site and steel studs plate with a crane. The exterior walls were constructed with concrete blocks. The balconies are supported by cantilevered, precast concrete beams and the ground-floor balconies (which also double as the second-level balconies) are constructed with pre-built, pre-cast concrete trapezoidal panels.



Photo by [Name]



Photo by [Name]

Fenestration

Because energy-efficient buildings require high-performance windows, Vista Software (Vista) were chosen for the development. The vinyl-framed windows include triple-paneled insulating glass units with low-emissivity coatings and a solar heat gain coefficient of 0.42 to reduce the cooling load. The operable windows for the residential units are 60-inch-tall windows. Without accounting for the thermal bridging that will occur around the window, the overall effective U-value of the windows ranges from 0.71 to 0.83 W/m²K. The U-value for the aluminum-framed patio entry doors is 0.7 W/m²K. Some window shading is provided by balcony decks above.

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

Photo by [Name]

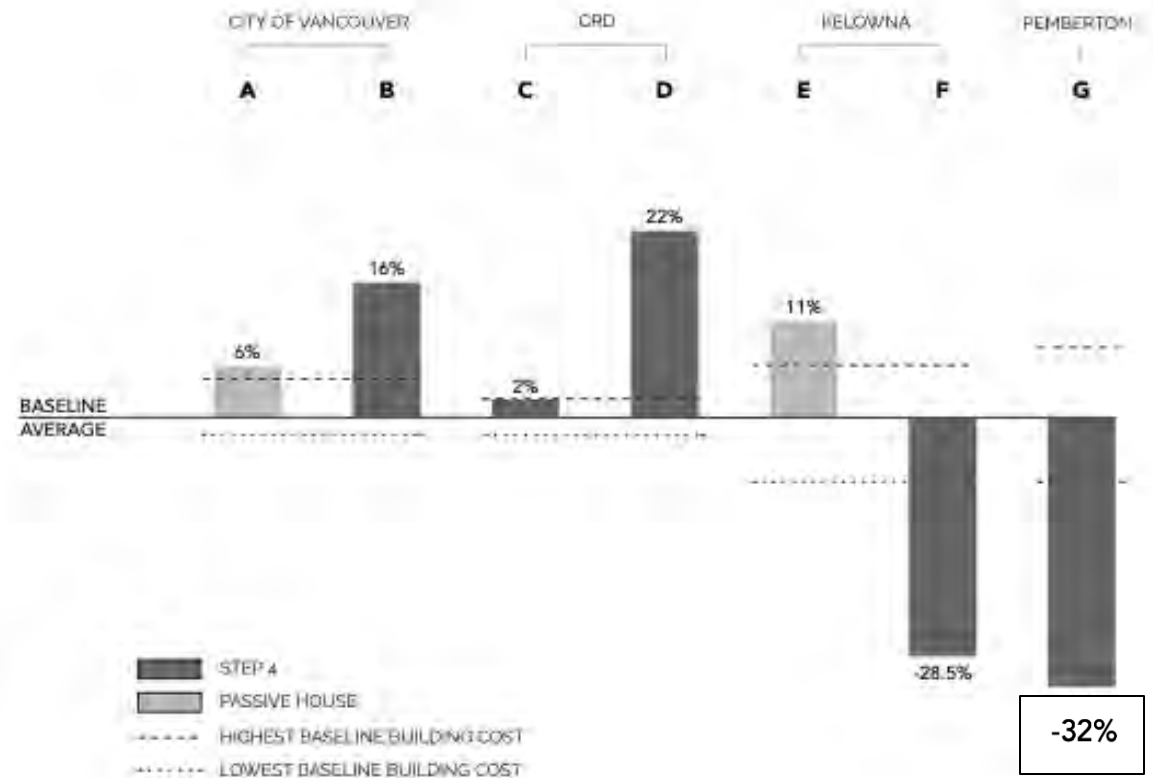
Photo by [Name]

CONSTRUCTION COST ANALYSIS OF HIGH-PERFORMANCE MULTI-UNIT RESIDENTIAL BUILDINGS IN BRITISH COLUMBIA

JUNE 2021



OVERALL COST COMPARISON





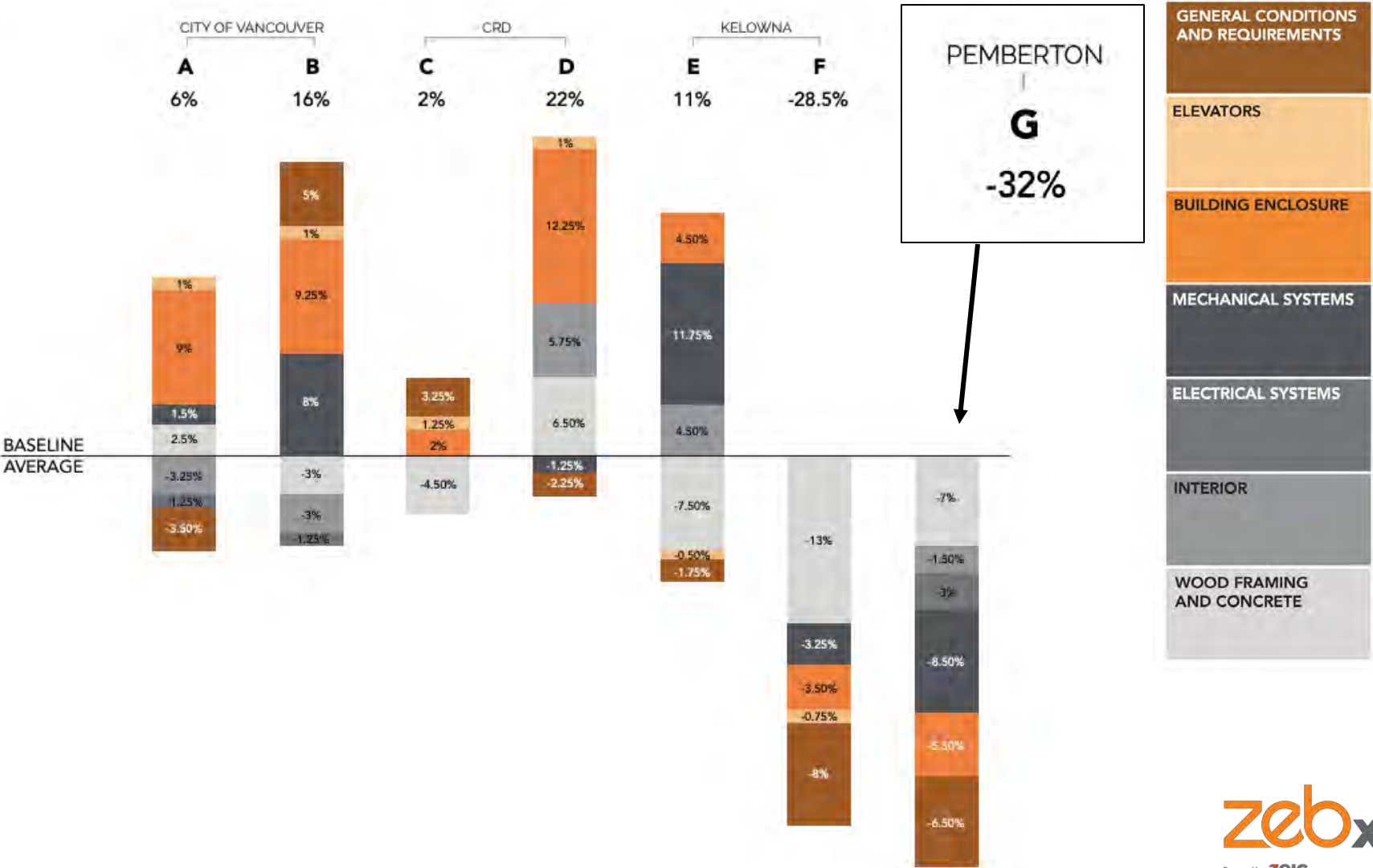
COST BREAKDOWN

GENERAL CONDITIONS AND REQUIREMENTS	Management (project management/coordinator, superintendents, etc.), field office (tools, furniture, office supplies, services, equipment, etc.), field warehouse (support facilities, storage, equipment, tools, training, materials, etc.), private equipment, security, meals, toilets, storage, etc.), project safety requirements (safety, safety equipment, safety supplies, fire protection, etc.), owner management, temporary power, water, heating, air, ventilation, training, etc. and includes insurance and bonding, temporary, temporary, temporary, legal
ELEVATORS	Elevator cabs, hoisting equipment, machines, drives, controllers
BUILDING ENCLOSURE	Roofing and/or cladding, fenestration, shading devices, exterior doors, roofing and roof deck waterproofing, roofing and/or insulation including insulation, building waterproofing, painting and roof deck waterproofing, damp-proofing and waterproofing on concrete walls, exterior carpentry
MECHANICAL SYSTEMS	Heating, ventilation and air conditioning (HVAC) systems, plumbing systems, building automation systems, fire protection system
ELECTRICAL SYSTEMS	Electrical distribution systems, lighting, fire alarm system
INTERIOR	Interior finishes for interior walls, bathroom fixtures (1/2" and 1/4" glass, shower, bathtub, etc.), flooring and paint, wall work (bathroom, kitchen, bathroom vanity, entrance lobby fixtures, etc.), finish carpentry (interior and exterior), baseboards, etc., wall-to-wall carpeting, interior doors
WOOD FRAMING AND CONCRETE	Concrete footings, walls, supported slabs and full-on-grade, elevator shafts, concrete block walls, structural steel and miscellaneous metals, mass timber components, rough carpentry including wood stud walls, roof trusses

HIGH-PERFORMANCE PROJECT DETAILS



OVERALL COST COMPARISON BY SYSTEM







Integrating Smart & Adaptive Building Solutions.



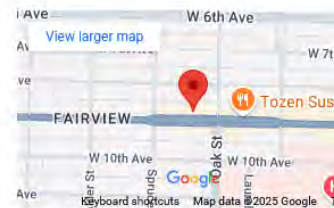
[Back to Search](#)

RICHARD KADULSKI ARCHITECT

Qualified Net Zero Energy Advisor, Professional Services

📍 #204, 1037 West Broadway, Vancouver, BC,

📞 (604) 689-1841



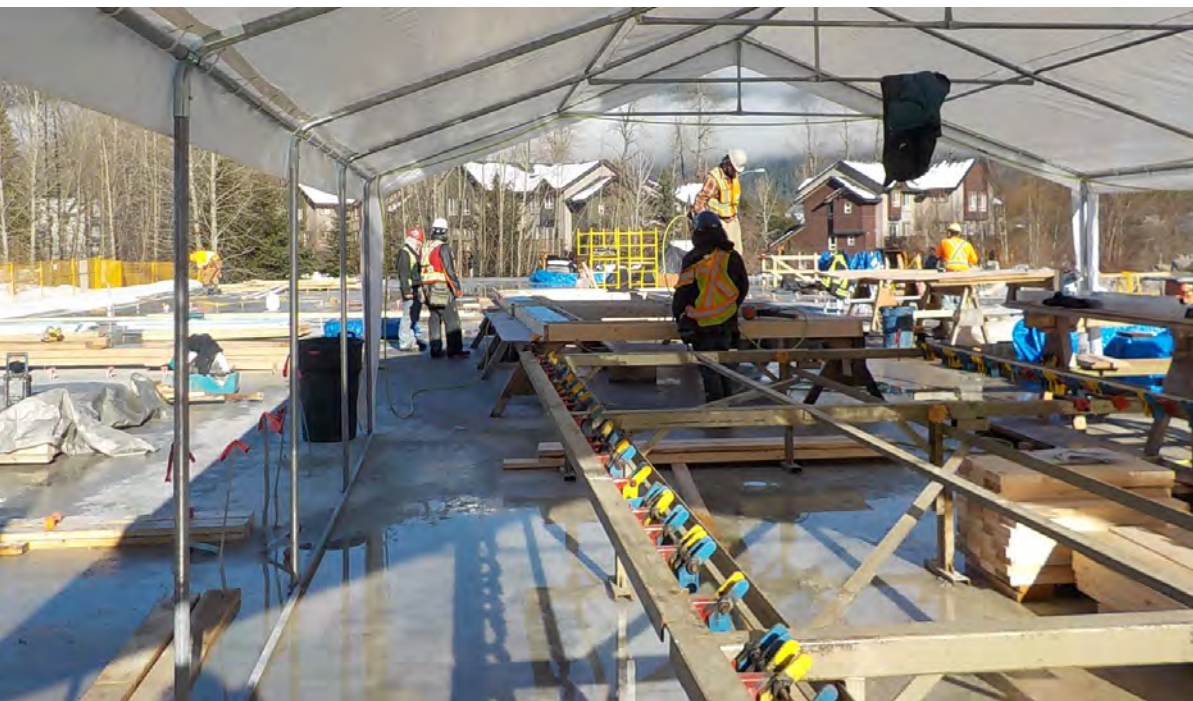






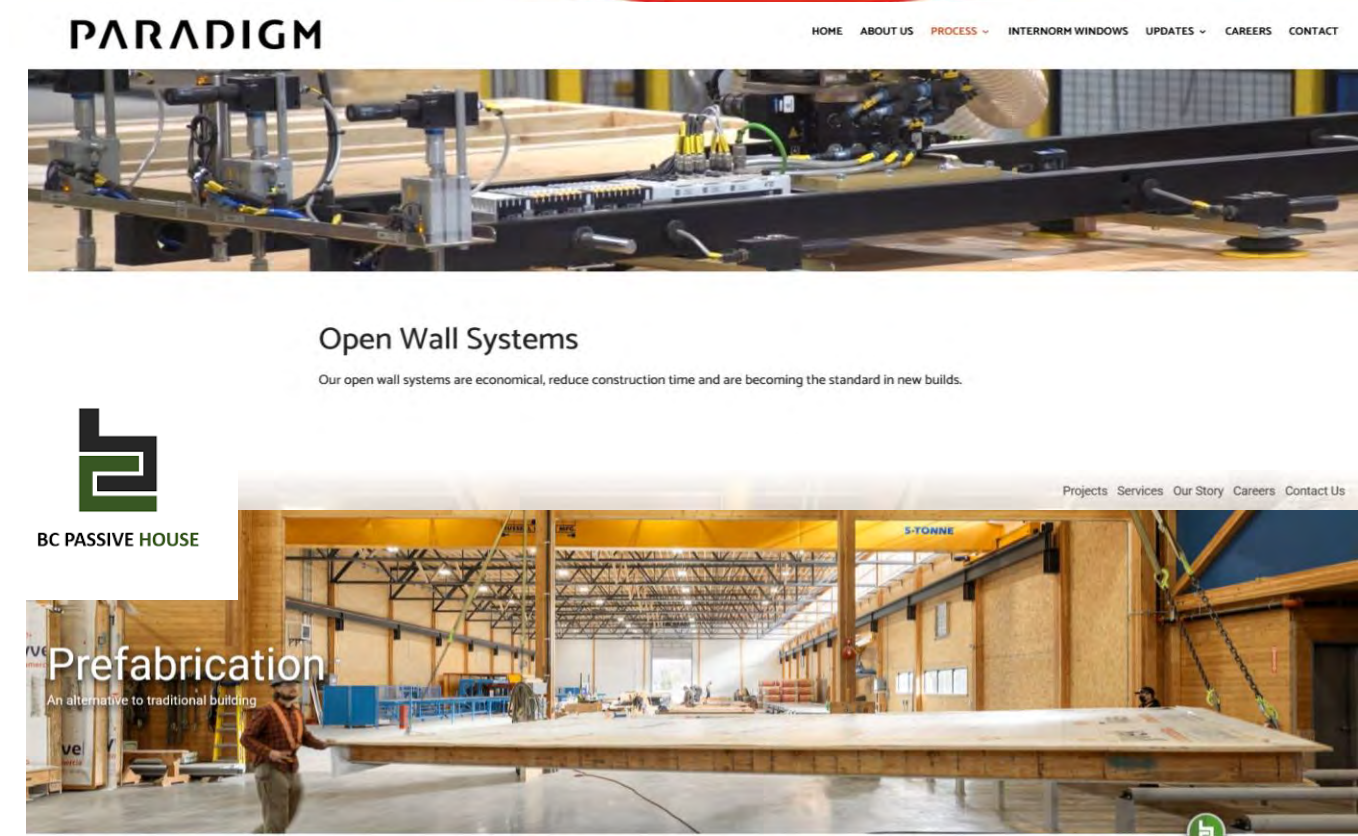
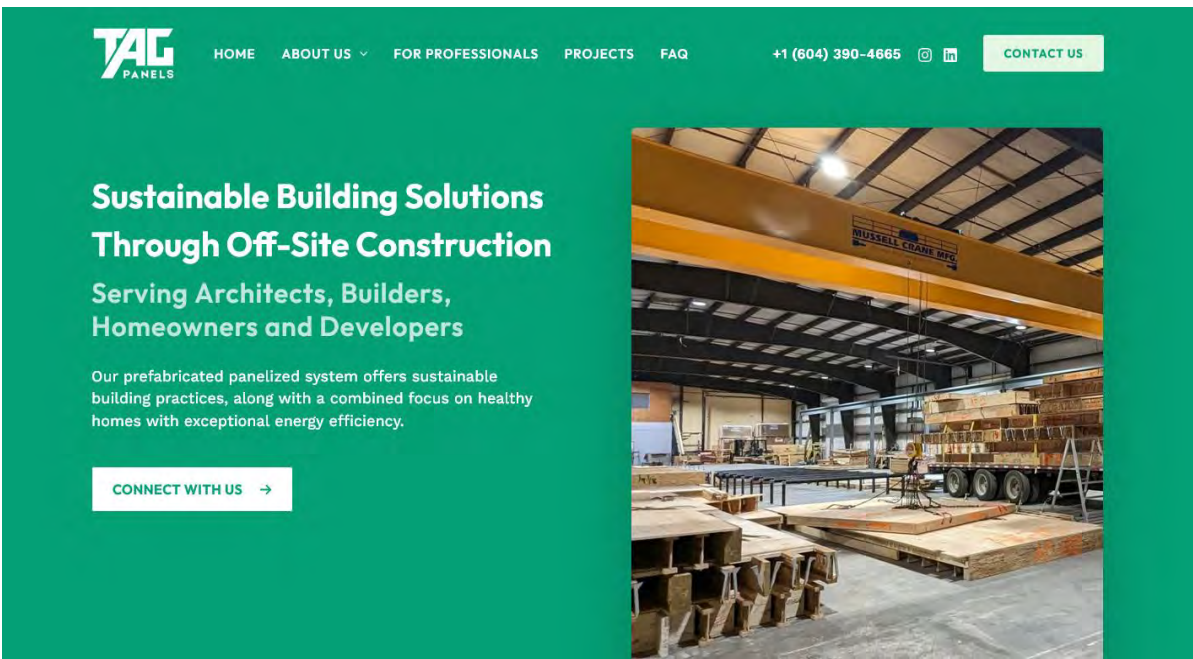
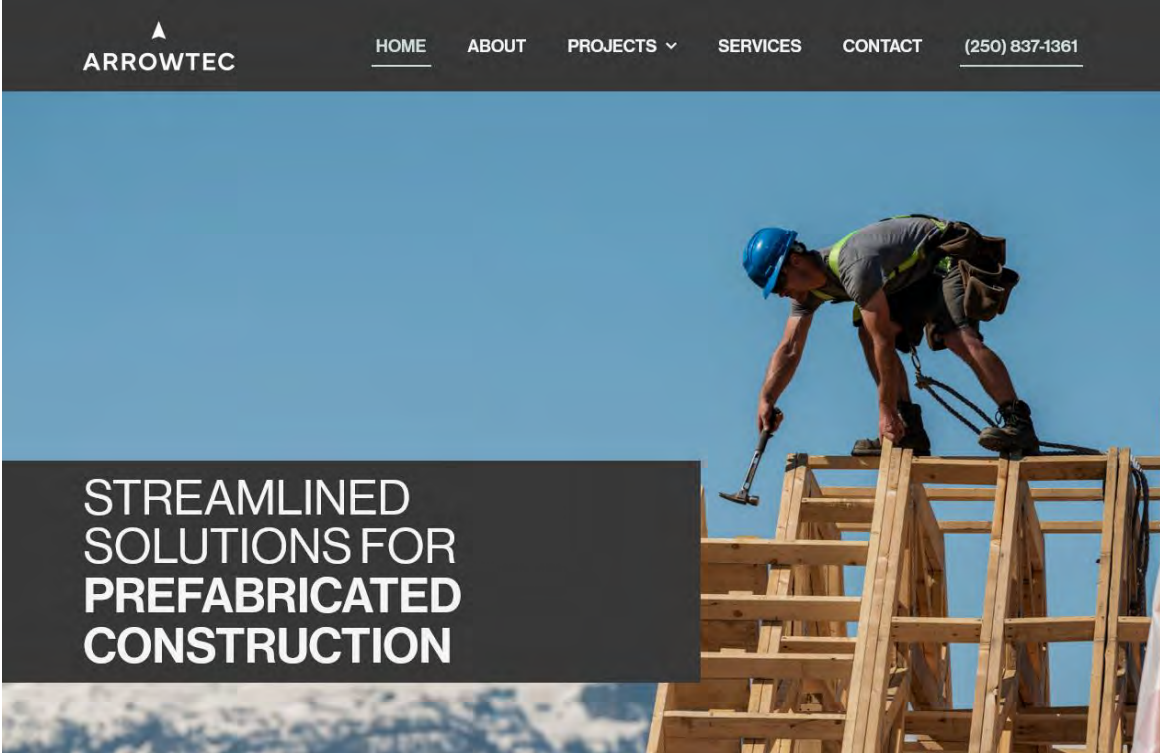







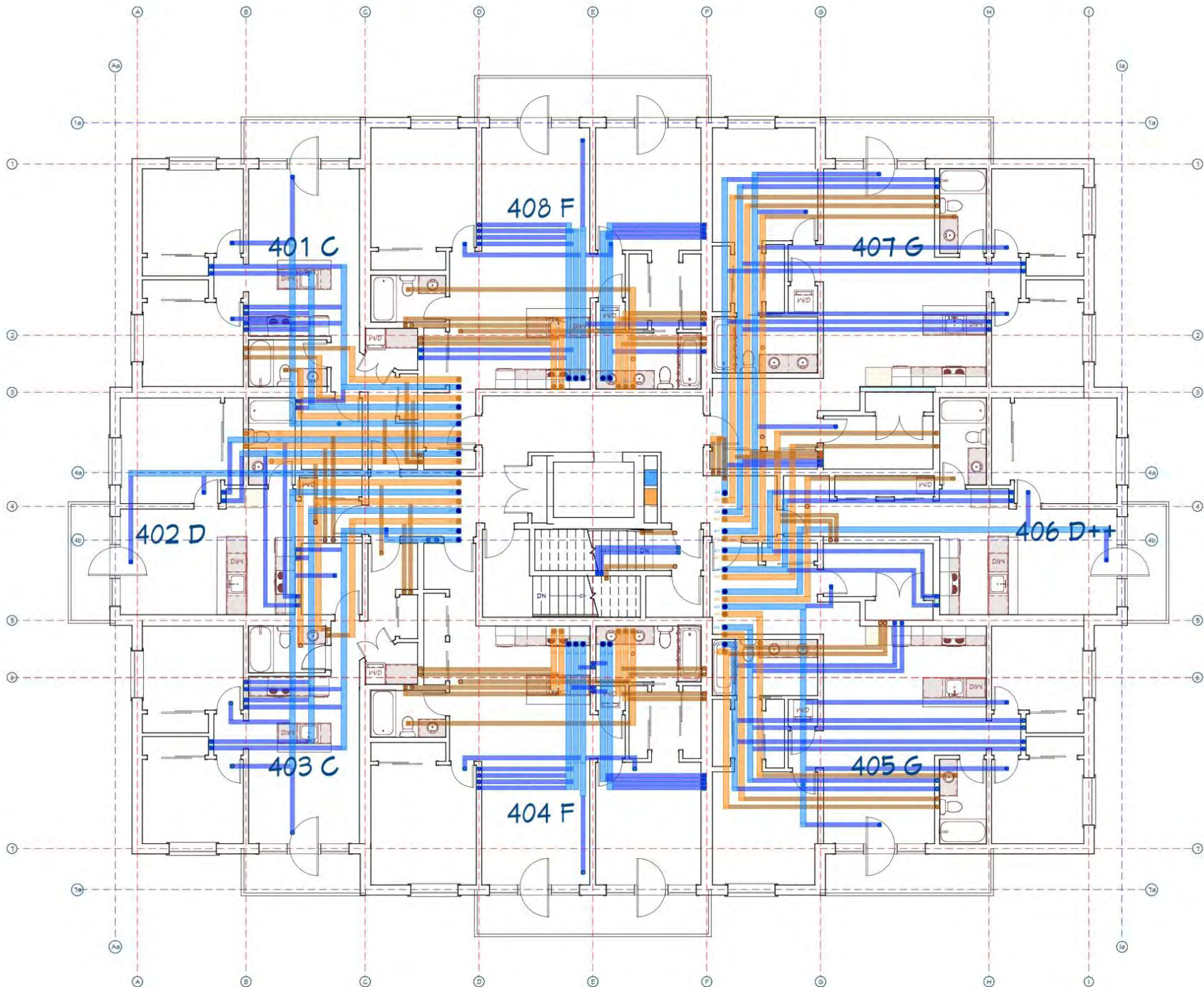








How to get a free
mechanical system.



Revision Table	
Number	Date

INNOVATION

BUILDING

Oso Mechanical Plans

DRAWINGS PROVIDED BY:
Innovation Building Group
Ryan Nadeau
ryan.nadeau@innovationbuilding.com

DATE:

2021-06-17

SCALE:






3/16" = 1'

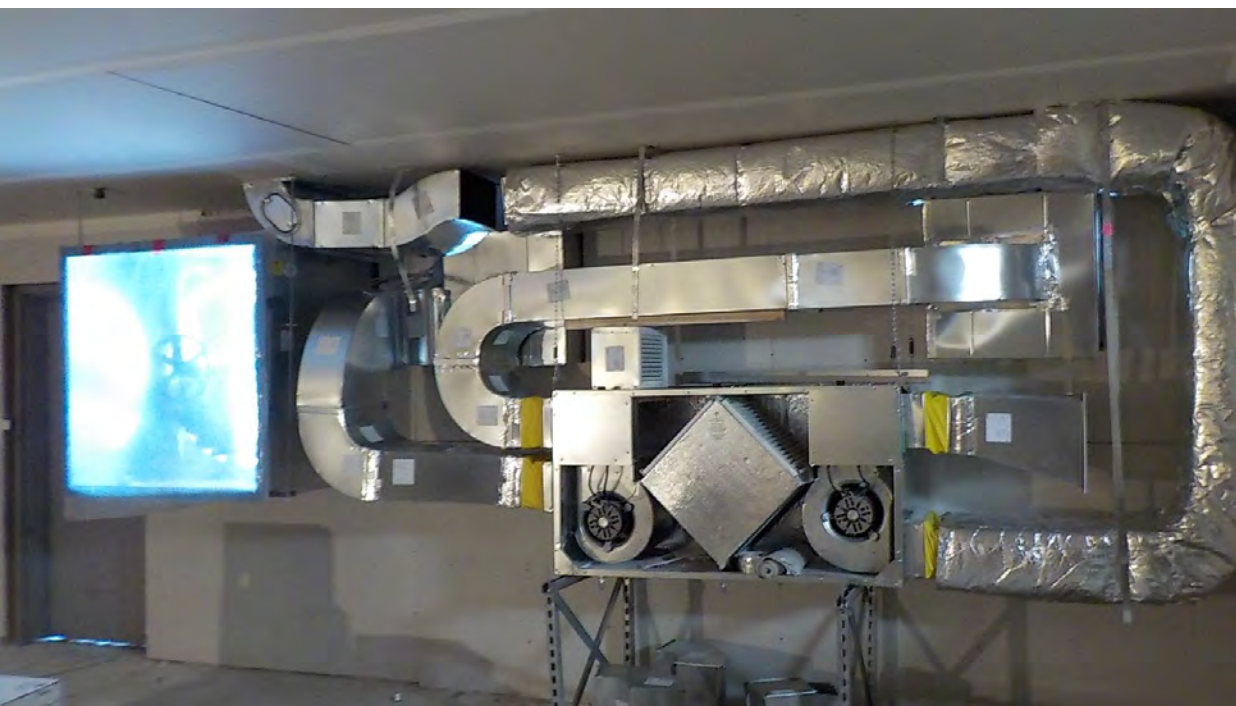


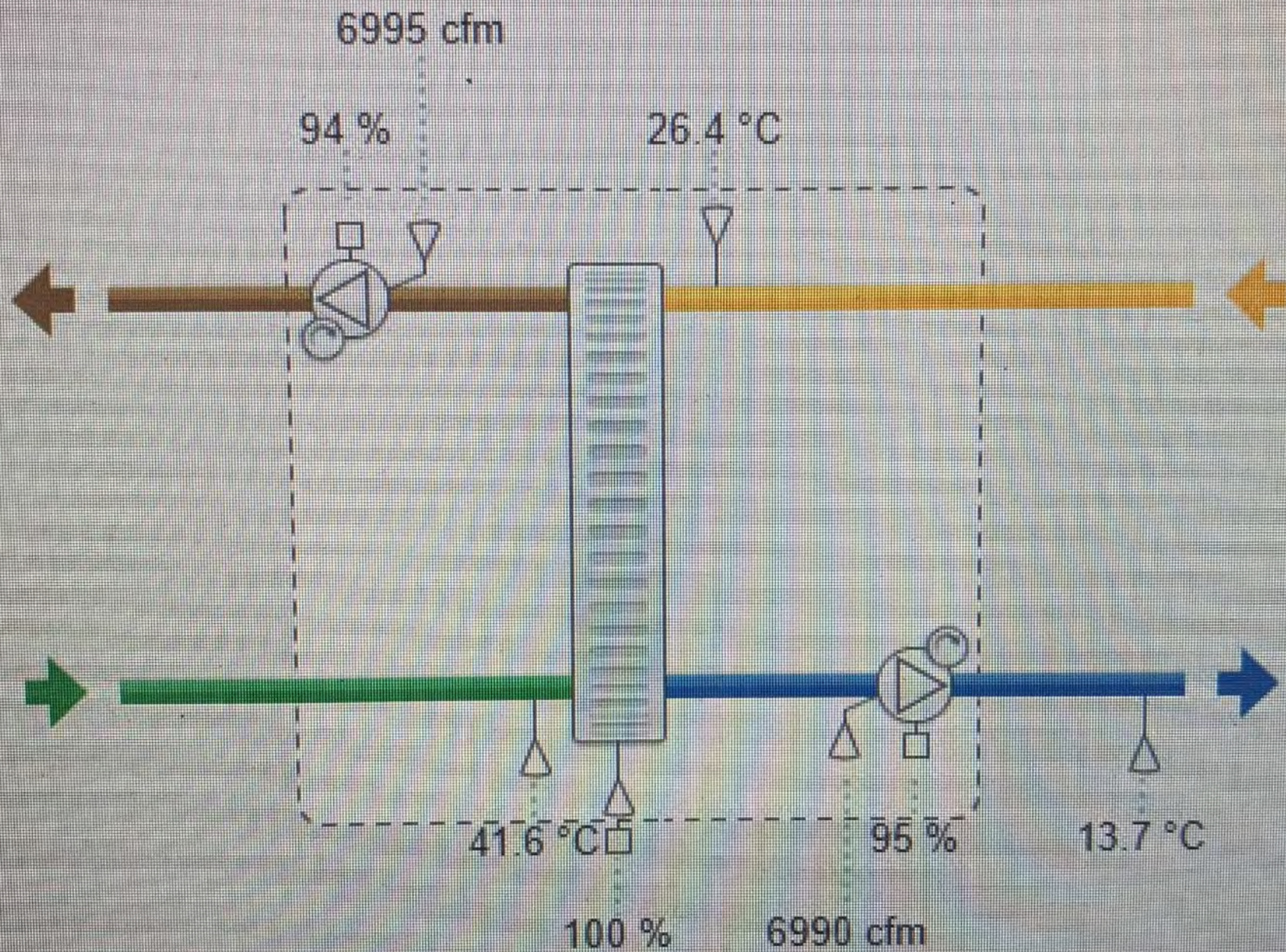


COLOUR MARKING LEGEND

VENTILATION:

-  SUPPLY AIR
-  EXHAUST AIR
-  PLUMBING
-  DRYWALL- SINGLE LAYER 5/8"
-  DRYWALL- DOUBLE LAYER 5/8"





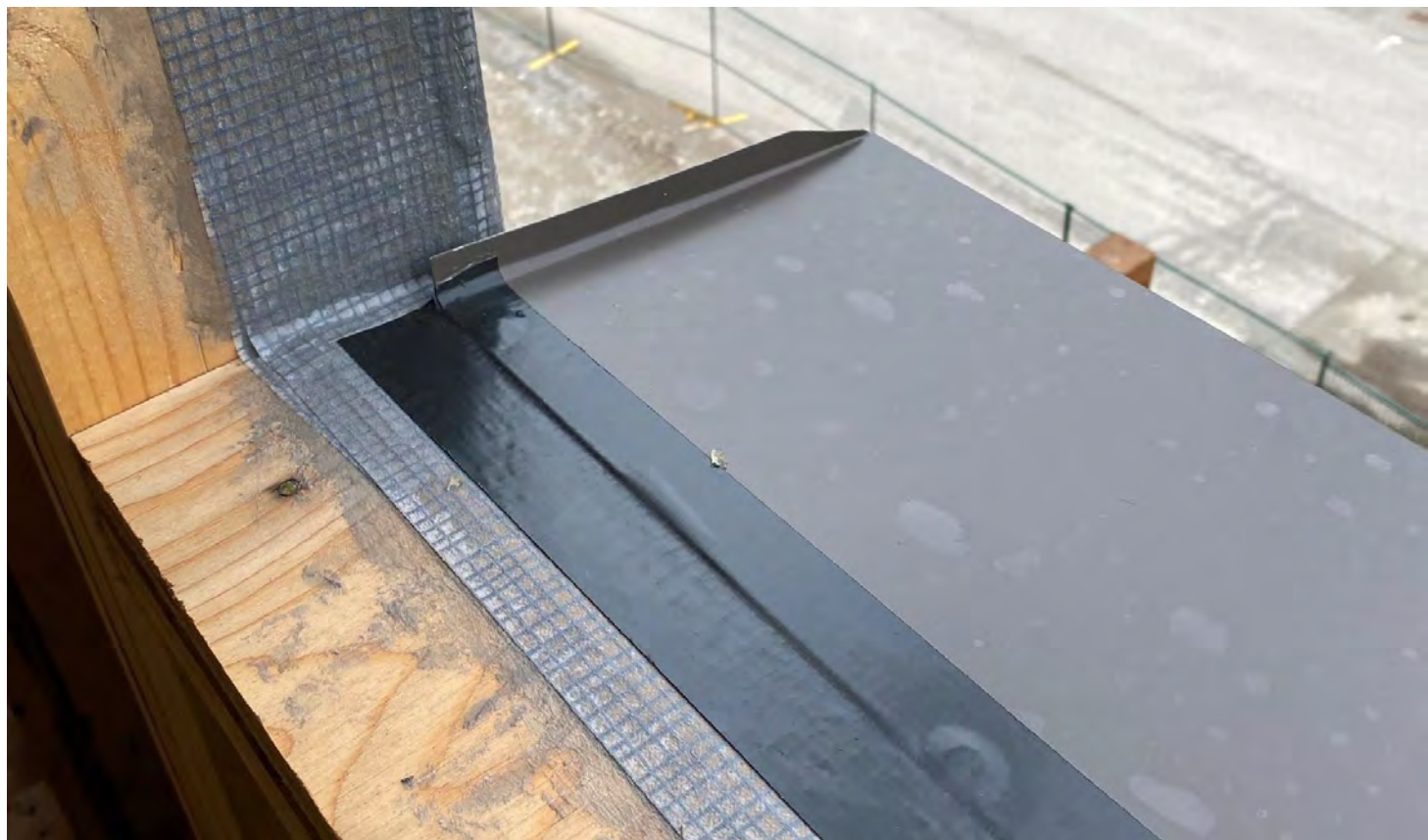
Flowchart



Te
Free
Use o



EIFS Adex-RS

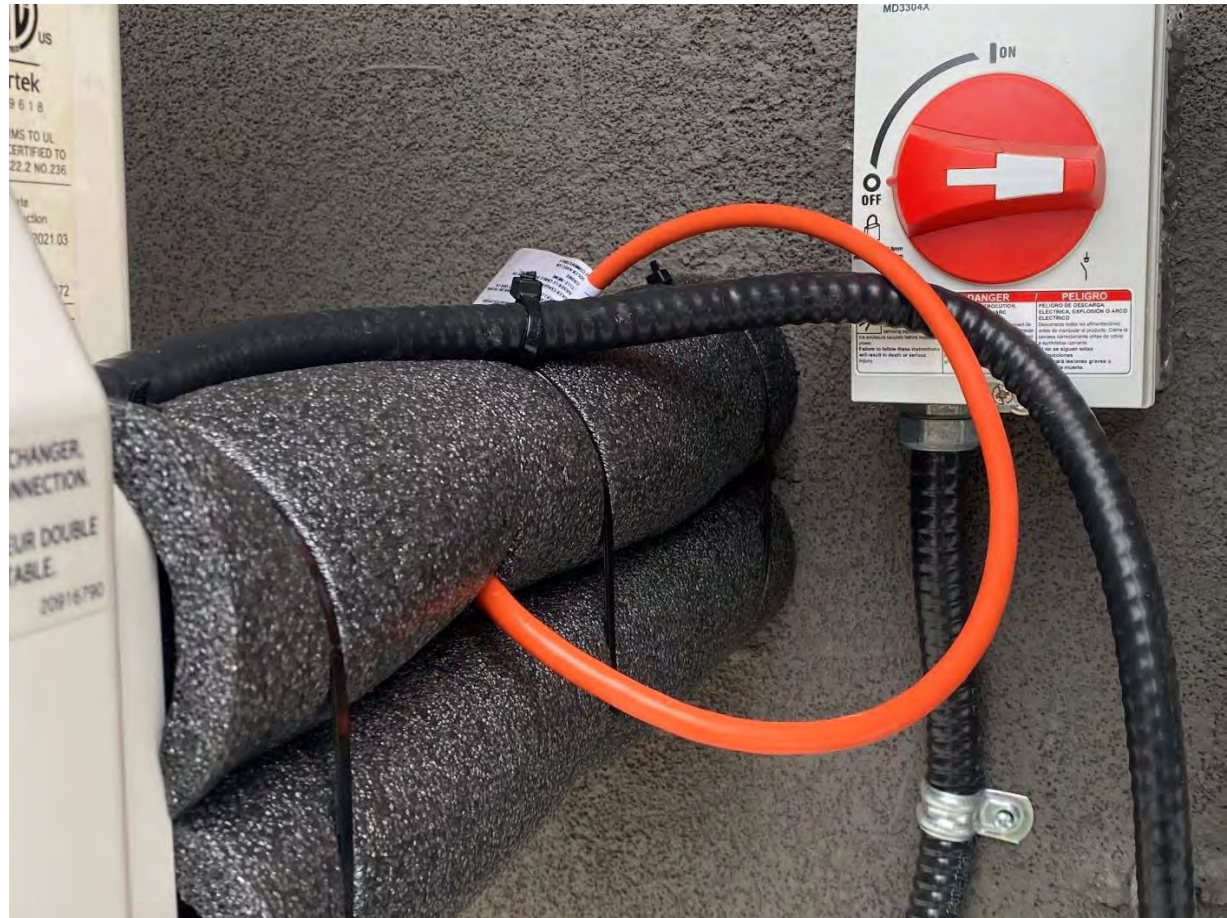


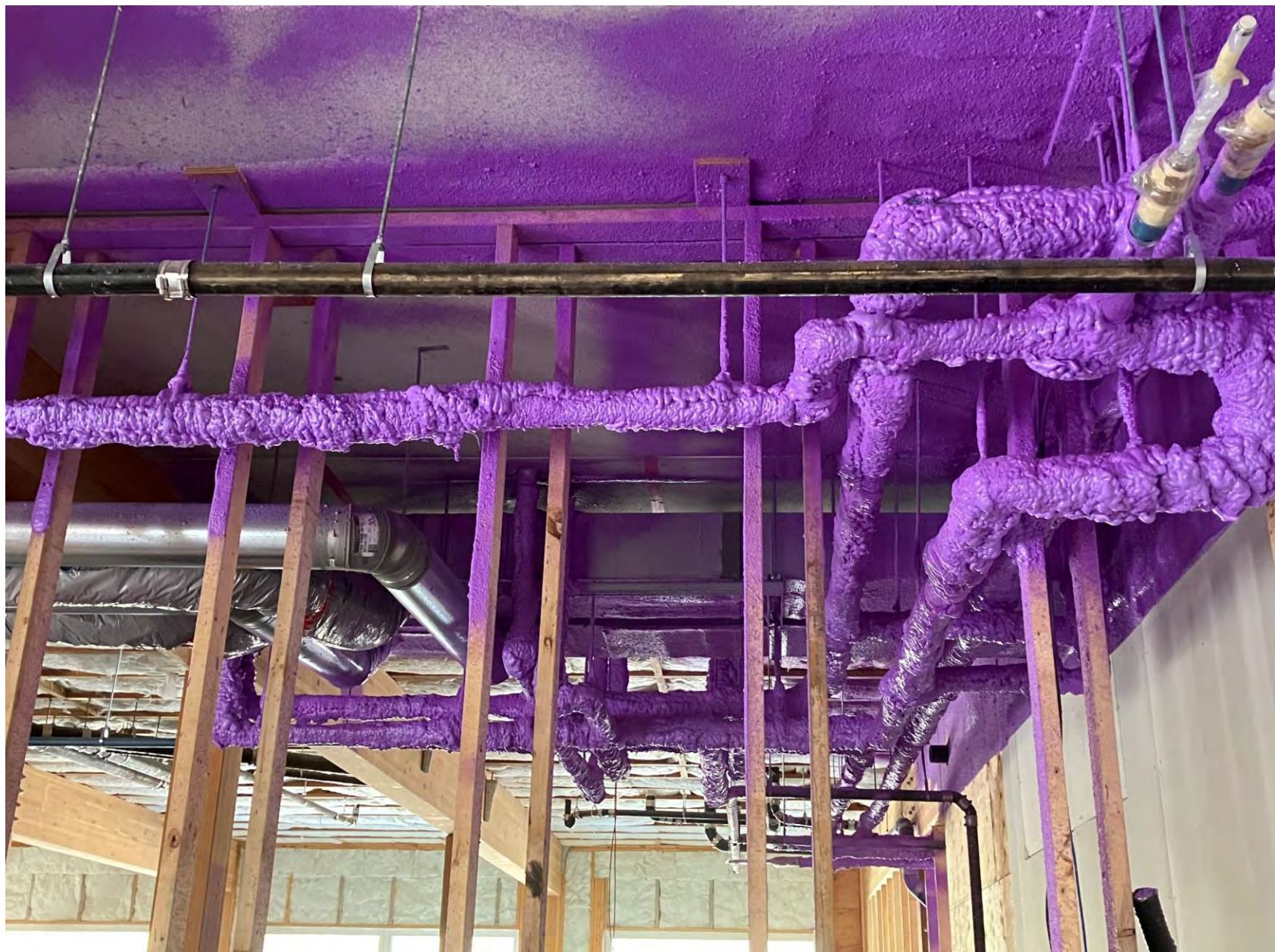














STIEBEL ELTRON



**COMMERCIAL / INDUSTRIAL
Electric Tankless Water Heater**

Read ALL start-up instructions before turning on electric power.
To prevent damage or voiding warranty, make sure
water is running through heater before start-up.

CAUTION!

Disconnect water supply before servicing.
Disconnect all electrical power to heater before servicing.

⚠ FAILURE TO DISCONNECT POWER COULD CAUSE
SERIOUS INJURY OR DEATH FROM ELECTRICATION

STIEBEL ELTRON

800.826.5537

CAUTION: USE SUPPLY WIRE SUSTAINABLE FOR 90°C
ATTENTION: UTILISER DES FILS D'ALIMENTATION
APPROPRIÉS À 90°C

STIEBEL ELTRON

800.826.5537

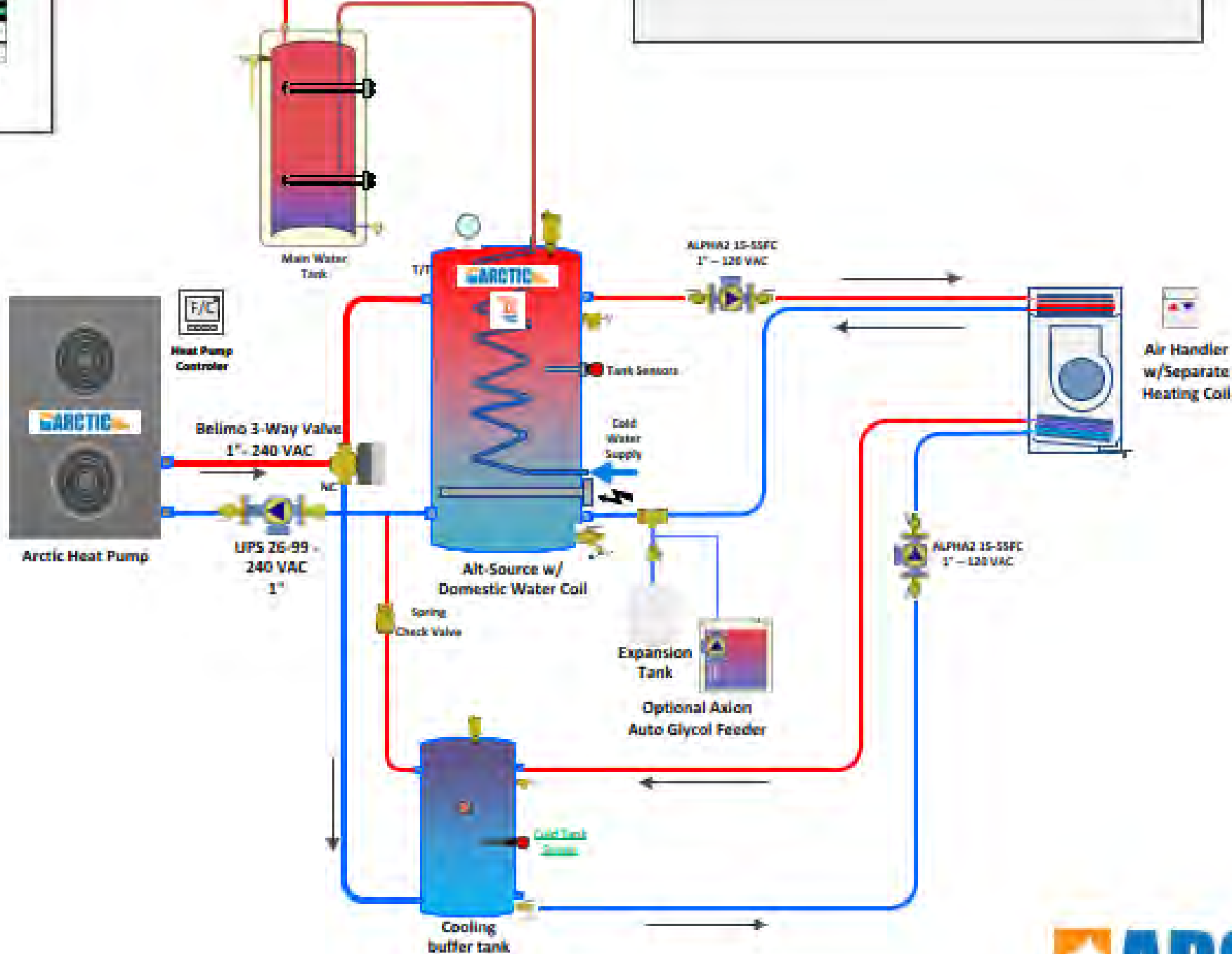
Model CE 36 KW
Serial Number: 17652



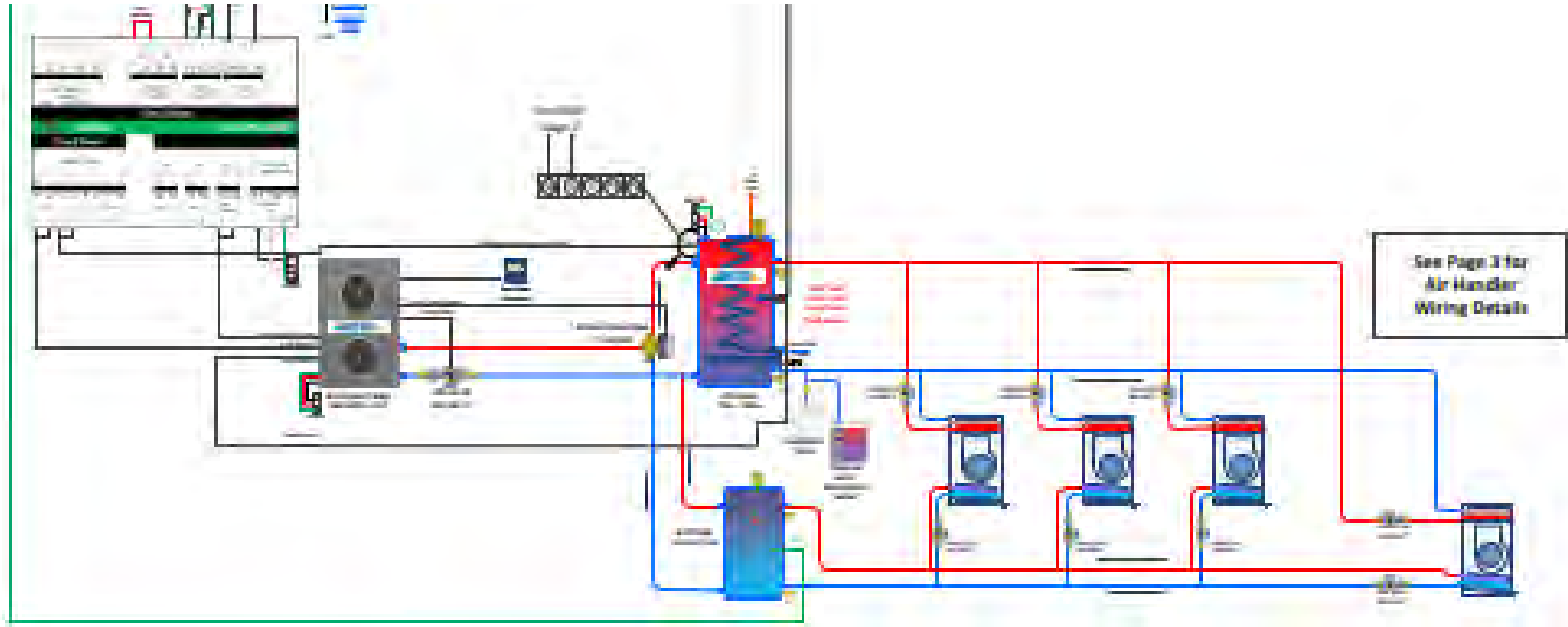
HBX ECO-0600



Optional Zon-0600



4 units just add an ERV



- **Casa R15 ERV**
Air flow range
270-1710 M3/h









The Community modular design allows for different unit counts and floor plan mixtures.



5 Unit Floorplan



4 Unit Floor Plan

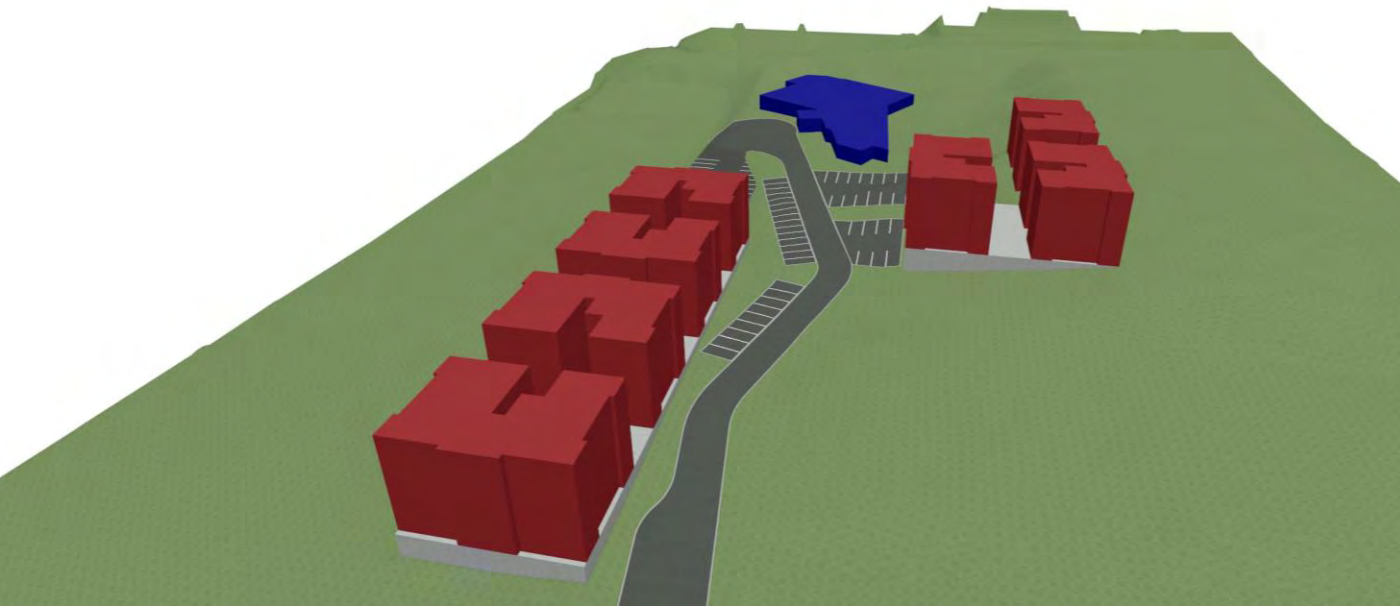


3 Unit Floor Plan



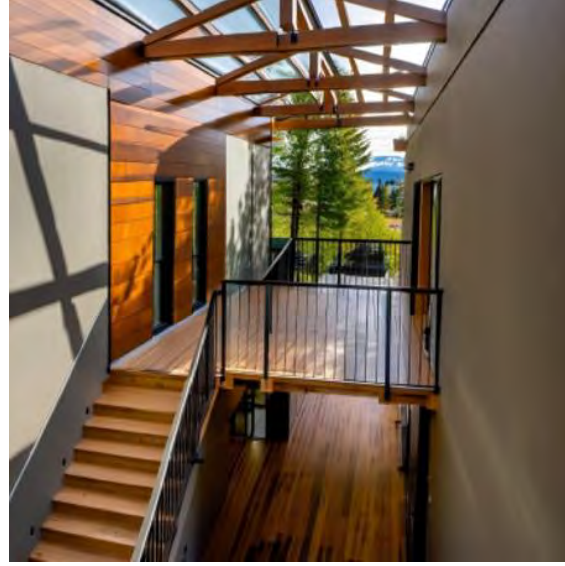
2 Unit Floor Plan

7 buildings with
commercial/community
space





Fourplex and a 45-unit building

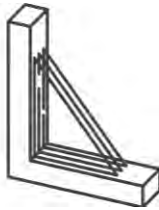






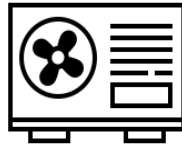
Key Technical Takeaways

High Performance Envelope & Structure



Airtight membranes, window glazing, window frame detailing and placement, lower window-to-wall ratio, massing, continuous insulation, etc.

Efficient HVAC & MEP Systems



E.g., using efficient, electrified heat pumps (ensure appropriate sizing) & ERVs, which together offers cooling and helps improve air quality, etc.

Appropriate Training & Coordination

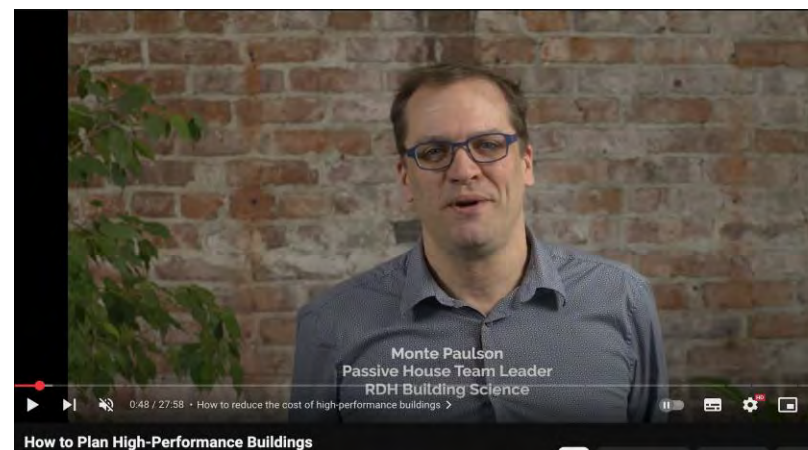


Strong understanding of building science, collaborative team, good communication across specialists & trades, etc.

Software Tools (BIM & Digital Twins)



More efficient use of energy and materials (more precise modelling)



May 2024 Decarb
Lunch: Resilient
Code Updates –
Cooling for Part 9
Homes



University of
Victoria Student
Housing and
Dining Complex



Video: High-
Performance
Prefab – The
Future of
Construction

Key Overarching Takeaways

- Prefabrication **can help 'build in' energy and material efficiency** into pre-designed, highly repeatable, and easily installable building components (e.g., panel, wall, and floor systems).
- If done at scale, offsite construction and prefabrication **has the potential to reduce cost**.
- Designing with **repeatability and buildability** top of mind is key to reducing costs and increasing the quality of our buildings.

IBG's experience demonstrates that with pragmatic, knowledgeable, and open-minded local governments and builders, high-performance and prefab ready standardized designs can result in more affordable buildings in BC.

Have any questions? +1 (604) 273-0117 info@zeb-x.ca

Home

Resources

Calendar

Events

News

About

ZEIC

Contact Us

Subscribe

RESOURCES

Search

Enter search text

Categories

Climate Change

Energy Efficiency

Green Building

Low Carbon Buildings

Net Zero

Renewable Energy

Sustainable Design

Sustainable Development

Sustainable Finance

Sustainable Infrastructure

Sustainable Living

Sustainable Procurement

Sustainable Supply Chain

Sustainable Transport

Sustainable Urban Planning

Sustainable Water Management

Sustainable Waste Management

Sustainable Yards

Series

Climate Change

Energy Efficiency

Green Building

Low Carbon Buildings

Net Zero

Renewable Energy

Sustainable Design

Sustainable Development

Sustainable Finance

Sustainable Infrastructure

Sustainable Living

Sustainable Procurement

Sustainable Supply Chain

Sustainable Transport

Sustainable Urban Planning

Sustainable Water Management

Sustainable Waste Management

Sustainable Yards

Systems

Climate Change

Energy Efficiency

Green Building

Low Carbon Buildings

Net Zero

Renewable Energy

Sustainable Design

Sustainable Development

Sustainable Finance

Sustainable Infrastructure

Sustainable Living

Sustainable Procurement

Sustainable Supply Chain

Sustainable Transport

Sustainable Urban Planning

Sustainable Water Management

Sustainable Waste Management

Sustainable Yards

Subjects

Climate Change

Energy Efficiency

Green Building

Low Carbon Buildings

Net Zero

Renewable Energy

Sustainable Design

Sustainable Development

Sustainable Finance

Sustainable Infrastructure

Sustainable Living

Sustainable Procurement

Sustainable Supply Chain

Sustainable Transport

Sustainable Urban Planning

Sustainable Water Management

Sustainable Waste Management

Sustainable Yards

Decarb Lunch

4-Hat Zero Retrofit - Lessons From the Cutting Edge

Where Embedded Carbon Meets Circular Economy

Building Decarbonization in Cold Climates

Mar 2025 Decarb Lunch: A Net Zero Retrofit - Lessons From the Cutting Edge

Feb 2025 Decarb Lunch: Where Embedded Carbon Meets Circular Economy

Jan 2025 Decarb Lunch: Decarbonization in Cold Climates

Decarb Lunch

Leading the Transformation: A New Deep Retrofit Service in BC

Avoiding Common Pitfalls of Green Material Specification

Demystifying Decarbonization: See the Infographic

Dec 2024 Decarb Lunch: Laying the Groundwork - A New Deep Retrofit Service in BC

Nov 2024 Decarb Lunch: Avoiding Common Pitfalls of Green Material Specification

Demystifying Decarbonization with an Easy-to-Follow Infographic

Decarb Lunch

Commercial Building Electrification Guide Launch

Marpole Community Centre Retrofit as a Net Zero Building

A Deep Retrofit in West Vancouver - A Case Study in Deep Decarbonization

Nov 2024 Decarb Lunch: Commercial Building Electrification Guide Launch

Oct 2024 Decarb Lunch: Marpole Community Centre

Sep 2024 Decarb Lunch: A Deep Retrofit in West Vancouver - A Case Study in Deep Decarbonization

Decarb Lunch

Decarbonizing a Historic Vancouver Newspaper - The Business Case

BCIT: Zero Carbon Step Code Key Facts

Home Zero - Clean Energy Retrofits in Vernon

Sep 2024 Decarb Lunch: Decarbonizing a Historic Vancouver Newspaper - The Business Case

BCIT: Zero Carbon Step Code Key Facts

Jun 2024 Decarb Lunch: Home Zero - Clean Energy Retrofits in Vernon

Load more

zeb x The BC Green Building Calendar

Welcome to the BC Green Building Calendar:
Here you will find all of the latest events and training related to green building subject matter including, emissions, energy efficiency, resiliency, high-performance design, and more.
If you would like to submit an event or for more details on submission guidelines, see the bottom of this page.

Filters

April 2025

Course

Presented by: CACEA

Apr 01 Tuesday 7:30am - 1:30pm

CACEA's Integrated Design Process Facilitation Training

Workshop

Presented by: CHBA BC

Apr 02 Wednesday 8:00am - 5:00pm

Residential Enclosure Retrofits: A Hands-On Experience - KAMLOOPS

Course

Presented by: CACEA

Apr 03 Thursday 7:30am - 1:30pm

CACEA's Integrated Design Process Facilitation Training

Course

Presented by: BCIT ZEBLC

Apr 03 Thursday 8:00am - 4:30pm

XZEB 1130 - Airtightness and Low-TEDI Enclosures Lab for Zero Energy/Emissions and Passive House Buildings

Webinar

Presented by: ZEBx

Apr 03 Thursday 12:00 - 1:00pm

Decarb Lunch: Vancouver's GHG Reporting Bylaw - Reflections & Projections

Webinar

Presented by: Fraser Basin Council

Apr 08 Tuesday 12:00 - 1:00pm

EnerGuide Energy Studies: Understanding and Using the Findings

March 2025

Sun Mon Tue Wed Thu Fri Sat

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Add to your iCal, MS or Google Calendar

Subscribe to calendar

zeb x

Powered by ZEIC



Practical, High-Performance, Prefab-Ready Designs for Professionals, Planners and Permitters

**Local Government Offsite
Housing Accelerator**





Webinar will begin shortly

Credit: Innovation Building Group



Final components
are being assembled

Credit: Innovation Building Group

Today's Housing Project

10:00 I. Pre-Construction: Introduction

Alex Boston, LG Offsite Housing Accelerator: Welcome & Context

10:10 II. Construction: Practical, High Performance, Prefab-Ready Designs

Rod Nadeau, Innovation Building Group: Integration & Optimization

Natalie Douglas, ZEBx: Costs & Carbon

11:00 III. Open House: Let's Talk

Meet & Greet with the Builder & The Energy Analyst

Wrap

11:30 IV. Handover



I. Pre-Construction Introduction & Context

Alex Boston,
Local Government Offsite
Housing Accelerator



Credit: Native Land Digital, native-land.ca

can't ignore the elephant in the room



Credit: Axios

we need access
to new markets

Canada's free
trade agreements

OPEN NEW MARKETS



The biggest market with guaranteed access: our own!



We have demand:
BC needs 600,000 new housing units by 2030, Canada needs 3.5 million units to meet new demand and a backlog, according to CMHC.
At current construction rates, this volume won't be met until the 2040s

MANUFACTURING HOMES

The only way to drive productivity step changes



Non-Market Housing, Grand Forks



Student Housing, Courtenay



Health Services Housing, Bella Bella



Indigenous Housing, Vancouver



Duplex Community, Gibsons



Student Housing, Vernon & Salmon Arm

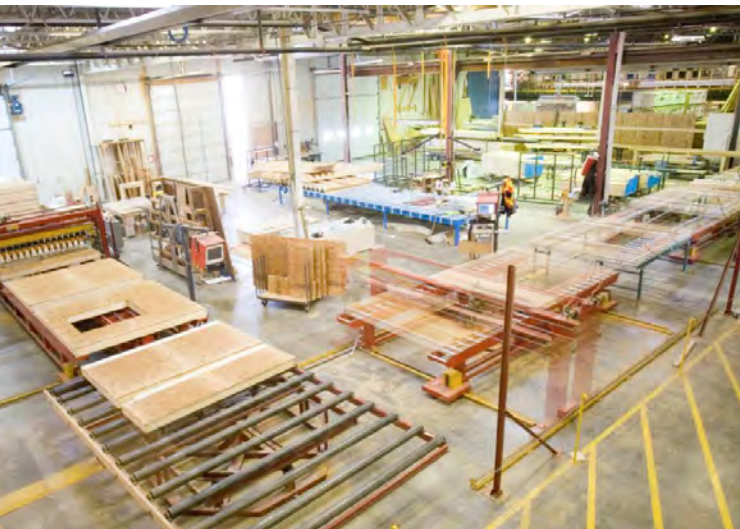
MANUFACTURING PLANTS & MANUFACTURING JOBS



Paradigm Building Solutions, Lewis Creek



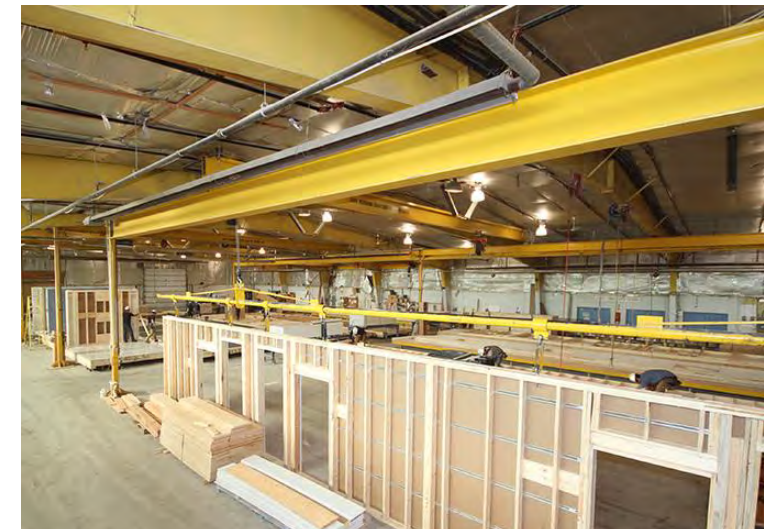
Mitsui Homes, Langley



Sinclar – Winton Homes, Prince George



Kalesinikoff Mass Timber, Thrums



ATCO Structures, Kamloops

A
Affordability
Climate action
Economic development
A

Offsite Construction &
Strategic Land Use
is an ACE Card

The biggest barrier to offsite manufacturing growth is
inadequate demand



Standardized Offsite-Ready Designs &
local Pre-Zoned, Pre-Reviewed, Standardized Prefab Designs can
help grow demand

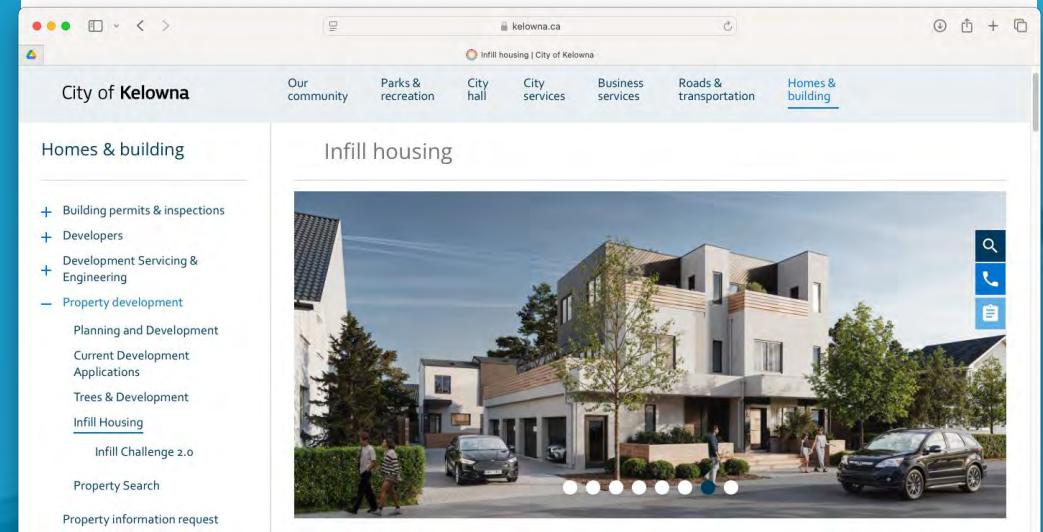
Pre-Zoned, Rereviewed, Prefab Designs

BC Housing, CMHC, Metro Vancouver Six Storey



Source: Iredale Architecture

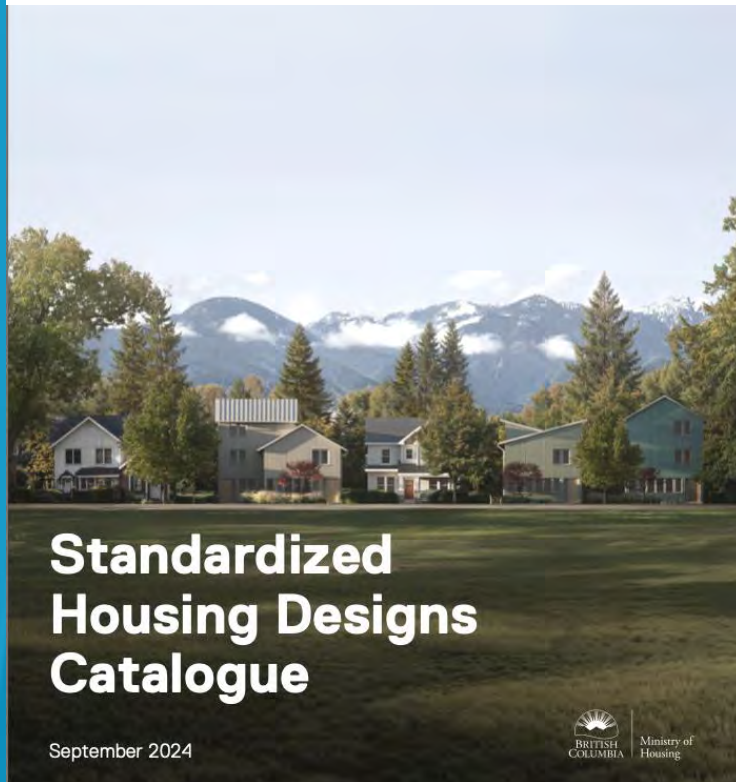
City of Kelowna Modular Offsite-Ready Six Plex



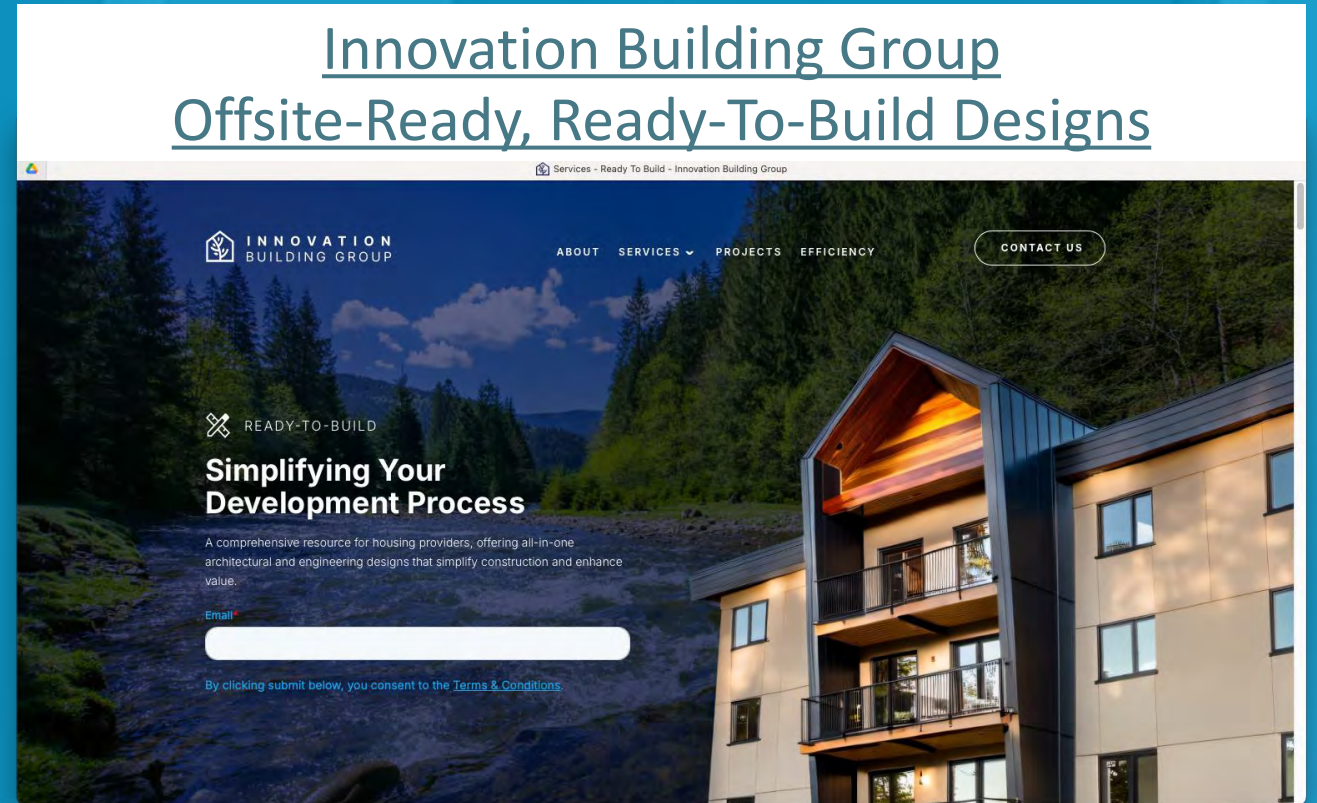
Triple A Permitting Pathway!

Standardized, Offsite-Ready Designs

BC Ministry of Housing Coach & Multiplex



Innovation Building Group Offsite-Ready, Ready-To-Build Designs



Today's Guest: Rod Nadeau, Innovation Building Group



II. Construction: Practical, High Performance, Prefab-Ready Designs

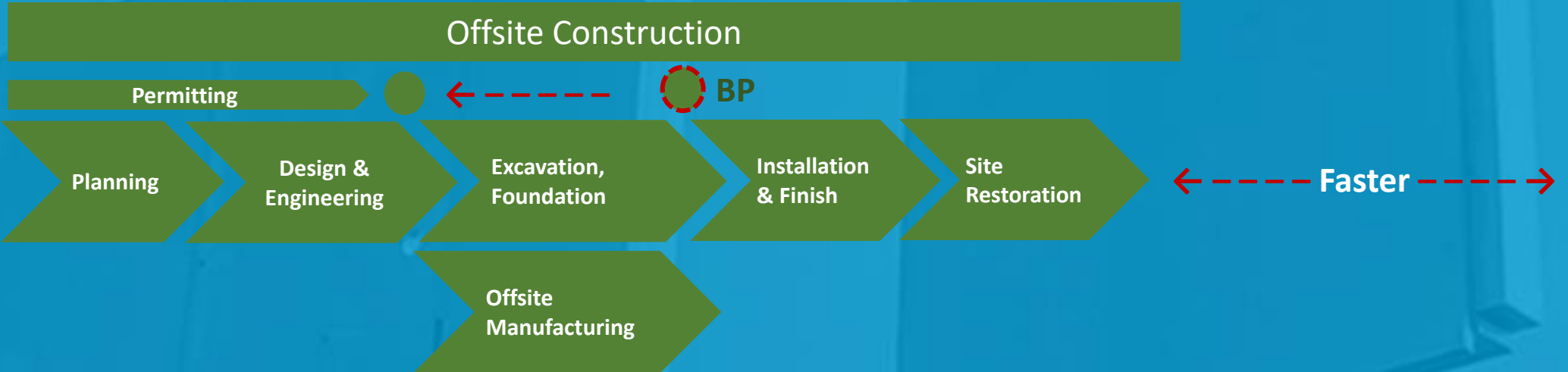
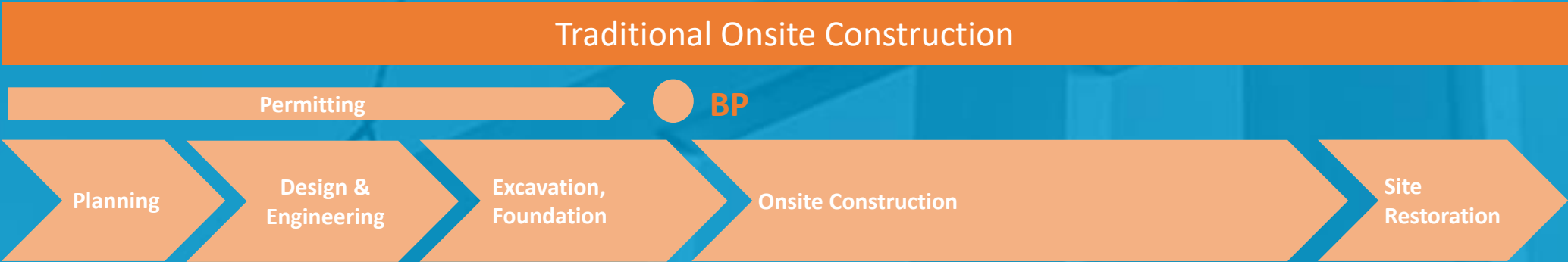
See Rod Nadeau &
Natalie Douglas Presentation





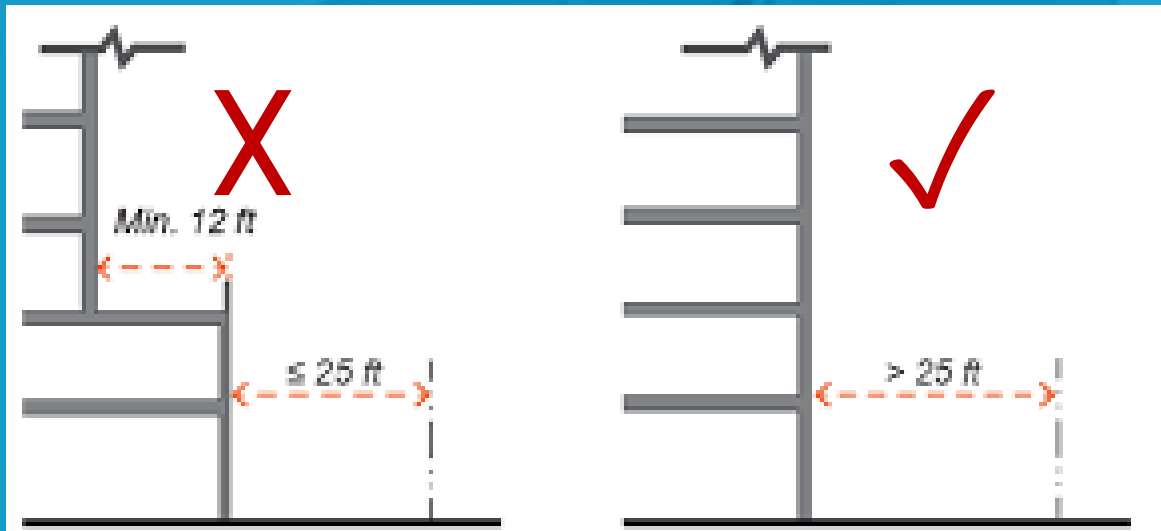
III. Open House Meet & Greet with the Builder & The Energy Analyst

Local Gov
Solution
Highlight:
Early BP



Local Gov Solution Highlight:

Phase out Step-Back Requirements or Establish Variances to Design Guidelines



Traditional step-back requirements on upper floors increase cost and embodied carbon and reduce energy performance.



Eliminating step-backs or establishing design guideline variances supports cost, carbon and time management. This Adera multifamily project in Coquitlam has CLT floors and elevator shafts manufactured offsite by Kalesnikoff.



IV. Hand Over



Offsite Construction Toolbox Nuts & Bolts

Building Permit Hub

The B.C. government is working with partners across all levels of government and First Nations to standardize and streamline the building permit process and unlock the construction of more homes, faster.

New Hub to Standardize Permitting

Prefab Construction Navigator

Introduction Canadian prefab today Directory Company characteristics Segments to watch Why pref

CA New Database on Prefab Construction Companies & Services

Local Government Offsite Housing Construction Accelerator Info Session

Dealing an ACE Card for BC on Affordability, Climate and the Economy

Local Government Info Session Input Emailed & Soon on ZEIC website

Webinar Series

Vertical Additions:
An innovative pathway to delivering more homes

In partnership with:
HASSLACHER NORICA TIMBER
From wood to wonders.

Canadian Wood Council Vertical Additions to Existing Non-Market Housing

If we want to win,
Our most important asset doesn't dangle from our
shoulders, it sits on top of them!



HEADS up!