Decarb Lunch Series

zebx

The OSO Residential Development

Thu Dec 1, 2022,
from 12- 1pm PST
Free Webinar I zebx.org

INTEGRAL

VIDORRA DEVELOPMENTS

mood provided by: spring gang
song: Mama Funk

PODCASTS

zebx

ZERO EMISSIONS BUILDING EXCHANGE

Spotify

Listen on
Apple Podcasts

Google Podcasts

The ZEBx Podcast is now on Spotify, Apple & Google

RESOURCES

SORTING:

Categories:

- [ ] Articles
- [ ] Case Studies
- [ ] Past Events
- [x] Podcasts
- [ ] Reports
- [ ] Videos & Slides

Series:

- [ ] Decarb Lunch
- [ ] Deep Emissions Retrofit Dialogue
- [ ] NZER Challenge Playbook Series
- [ ] NZER Challenge Winners Series
- [ ] Tech Demonstration

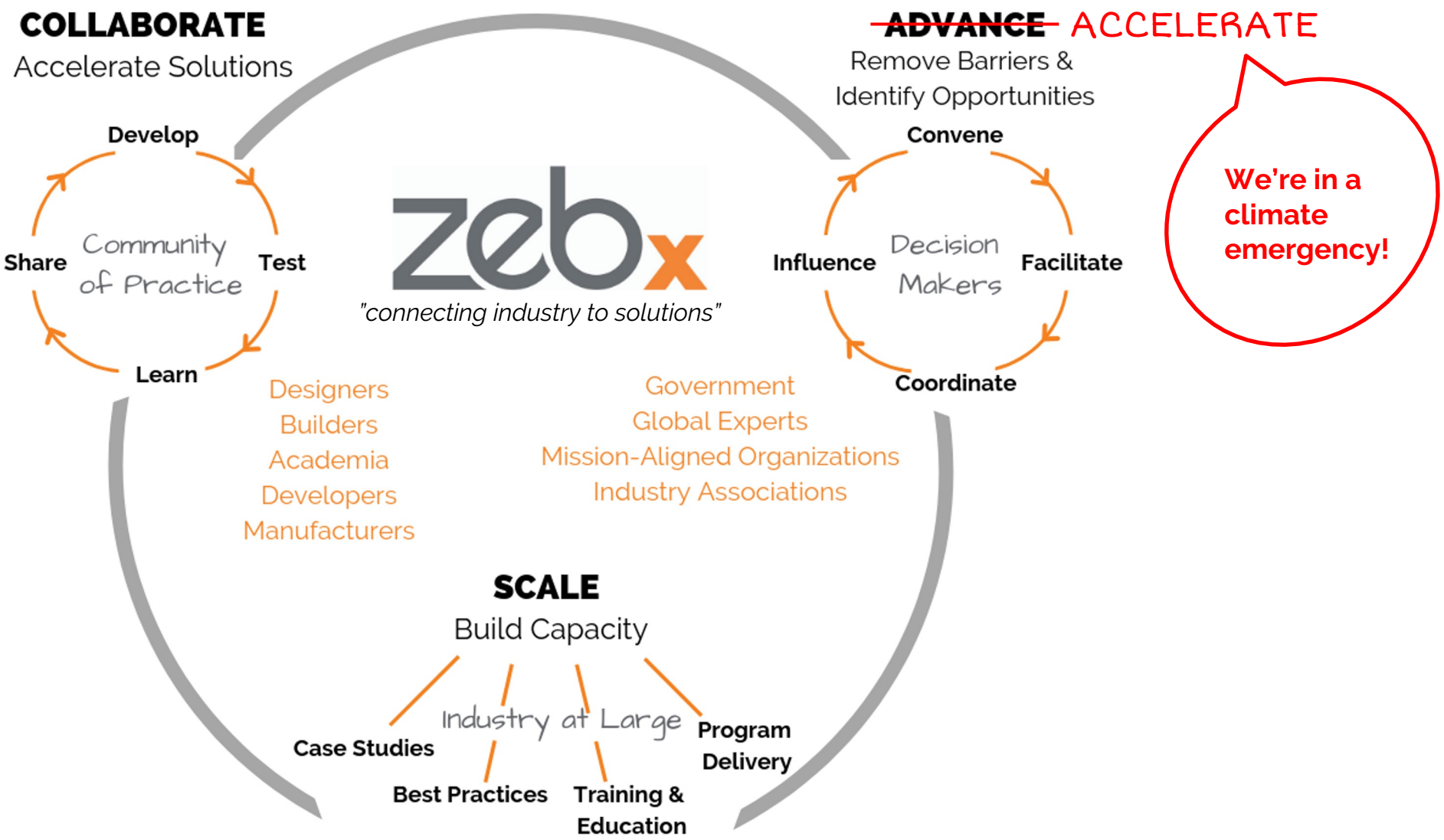
Systems:

- [ ] Building Enclosure
- [ ] Domestic Hot Water Heat Pump
- [ ] Geothermal
- [ ] Mechanical
- [ ] Solar Energy

The ZEBx Podcast Decarb Lunch Jan 2022: Reducing Embodied Carbon for Step Code Homes

The ZEBx Podcast Decarb Lunch Oct 2021: From Net-Zero Energy to Near-Zero Emissions

The ZEBx Podcast Decarb Lunch Jul 2021: Developer/Builder Recipes for Low-Cost, All-Electric, Step 4 Residential Construction


COLLABORATE
Accelerate Solutions
Develop
Test
Learn
Share
Community of Practice
zebx
"connecting industry to solutions"
~~ADVANCE~~ ACCELERATE
Remove Barriers & Identify Opportunities
Convene
Facilitate
Coordinate
Influence
Decision Makers
We're in a climate emergency!
Designers
Builders
Academia
Developers
Manufacturers
Government
Global Experts
Mission-Aligned Organizations
Industry Associations
SCALE
Build Capacity
Industry at Large
Case Studies
Best Practices
Training & Education
Program Delivery

zebx.org

We are a broad **coalition working together** to electrify buildings in British Columbia in order to reduce their climate impacts and reliance on fossil fuels.

BC Hydro
City of Vancouver
zebx

Prism Engineering
BÜRO47 architecture
SES Consulting
FRESCo
Flow Engineering
EMODE solutions
Coastal Heat Pumps
open Technologies
Audette
ecotrust canada
Williams Engineering
AME Group
Trotter & Morton
Rede
SHAPE
Canada Green Building Council
Small Planet Supply
Colliers
SHARC Energy
District of North Vancouver
Township of Langley
Cornerstone
ATEK Energy Systems
Community Energy Association
SFU School of Sustainable Energy Engineering
Passivehouse Canada
Omicron
aym engineering ltd.
A&H Engineering Ltd.
AES
Vancity
Whole Systems Energy Consulting
BOMA
CityGreen
Meridian Pacific
BC Housing
olympic International
BCACE
Morrison Hershfield
City of Victoria
Home Performance Stakeholder Council
CONCERT
EllisDon
teca
The Coastal Village
Saanich
wpm
TRANE Technologies
INTEGRAL
GreenMatters Technologies
GREE Canada
GLAVE Strategies
Impact Engineering
My Home Designer
Foresight
Progressive Air
SolarEarth
AECOM
KUTAK
GNAR
Vancouver Economic Commission
REHAU
R.E. Collins Construction & Home Repairs
RDH Building Science
ClimaChange Solutions
BCNPHA
kemp construction
Cadillac Fairview
HVACSystems
SISA Energy
FirstLight
LWPAC
Intelligent City
Montroc Consulting Inc
Energy Step Solutions
Harbourgreene
DYNAMICHVAC
MCABC
thinkBright HOMES
AEC Applied Energy Consulting
CAPE
CACEA
Norman Disney & Young
metrovancouver
Affine
QuadReal
EMCO HVAC
innoTech

b2electrification.org

CLF Carbon Leadership Forum Vancouver

joins

ZEBx

ZEBx is proud to announce the **Carbon Leadership Forum, Vancouver** has joined our organization.

clfvancouver.com

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

JUNE 2021

zebx

Does it really cost more to build a high-performance building? Historically, this question has been addressed with theoretical studies, but nothing beats having the actual data. ZEBx, in partnership with BTY Group and seven builders from across BC, has completed a cost analysis of seven high-performance, wood-framed, mid-rise, multi-unit residential buildings that meet Step 4 of the Energy Step Code or the Passive House standard. The results of the study may surprise you!

PODCAST

zebx

UDI URBAN DEVELOPMENT INSTITUTE PACIFIC REGION

The ZEBx Podcast Decarb Lunch

Developer/Builder Recipes for Low-Cost, All-Electric, Step 4 Residential Construction

Season 1 Episode 5

In our June Decarb Lunch, we presented ZEBx's in-depth analysis of construction costs for high-performance multi-family buildings in BC. Of the seven buildings in the study, two all-electric, Step 4 buildings were constructed for well under the average cost of similar code-minimum residential buildings in the area. How did they achieve this impressive result? Was it the fact that they are both developers and builders? Do they have some special recipe for constructability or cost-effective high-performance building development?

CASE STUDY

What makes the OSO residential development in Golden BC impressive is not just the fact that the buildings are all-electric (climate-friendly), energy-efficient (top step of the BC Energy Step Code), and climate-resilient, but also how they were constructed in a highly cost-effective way. This had a lot to do with the developer/builder that has several high-performance building projects under its belt. Check out our most recent, in-depth case study on this finalist of the CleanBC Net-Zero Energy-Ready Challenge.

POLL 1

Tell us about yourself!

Three-part anonymous poll

INTEGRAL

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BETTER BUILDINGS
NZER CHALLENGE

Lisa Westerhoff
Principal, Integral Group

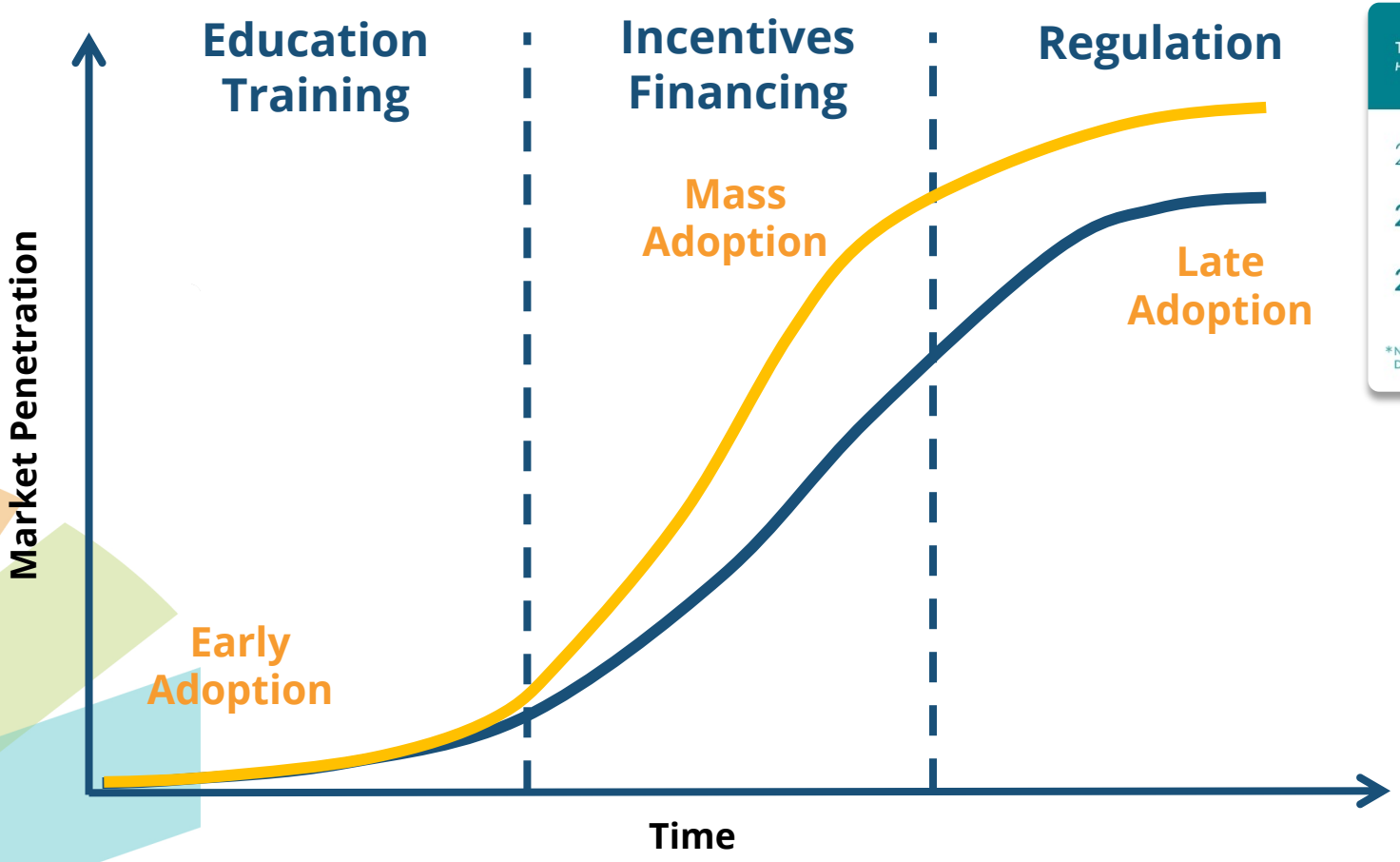
INTEGRAL

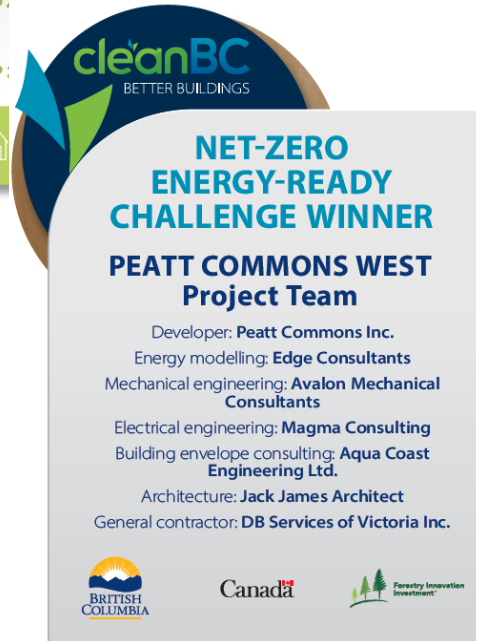
The Net-Zero Energy-Ready Challenge

- Designed to **support, promote and celebrate** the design and construction of net-zero energy-ready buildings
- Intended to help **offset any incremental design and construction costs** for high-performance buildings
- Projects are showcased as leading examples of **innovative, energy-efficient designs**

British Columbia | cleanBC BETTER BUILDINGS | Canada | Forestry Innovation Investment

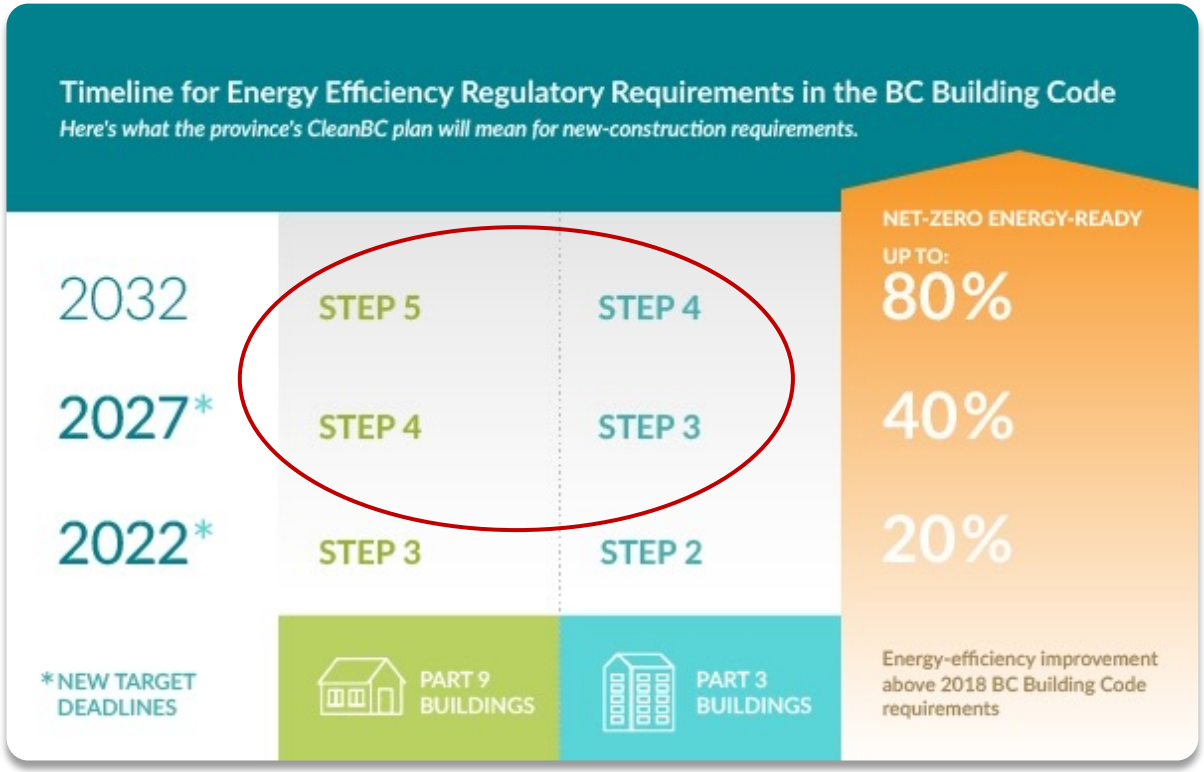
Accelerating Market Transformation





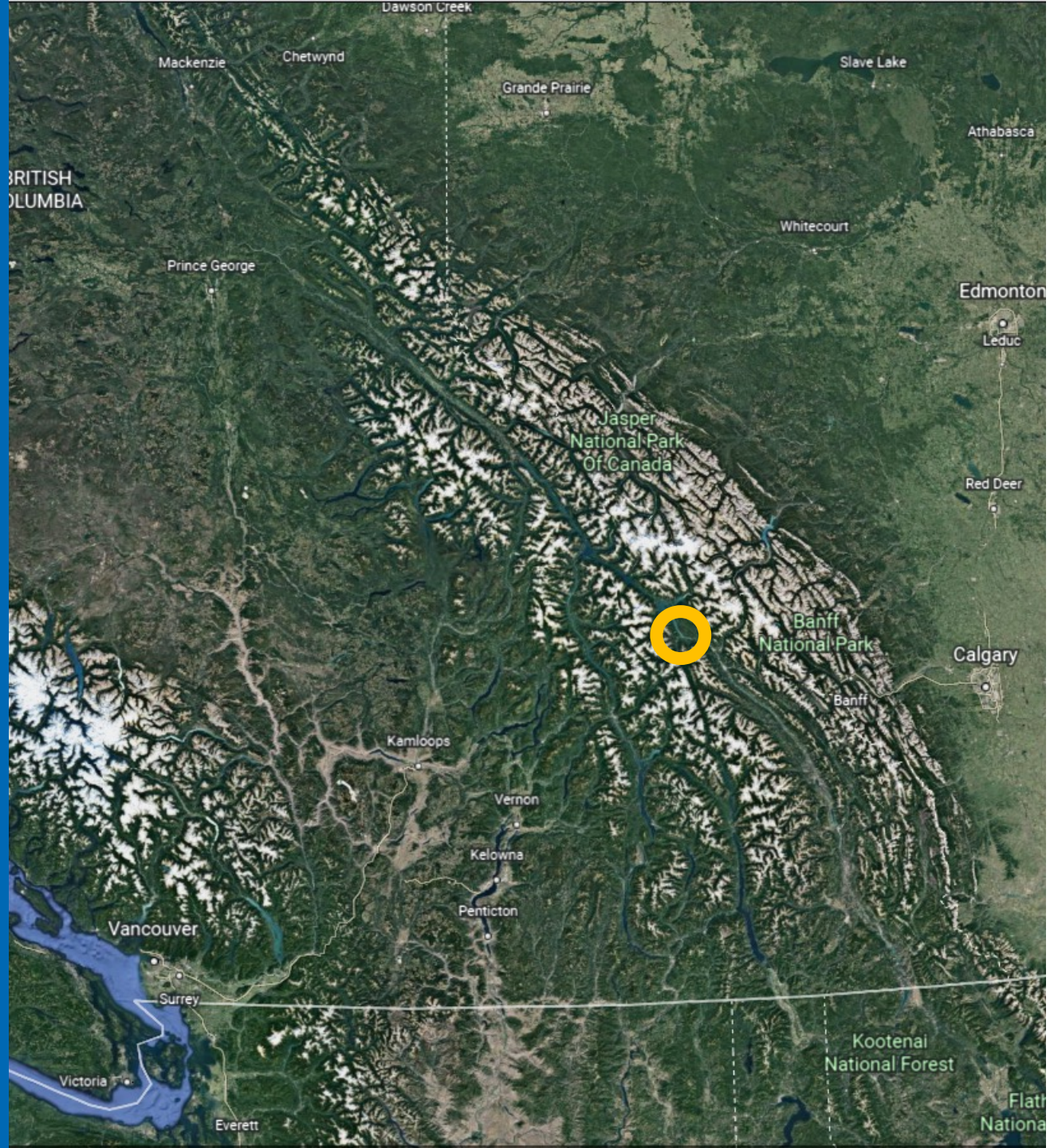
Supporting Local Government Leadership

- Consulting with local building industry to adopt higher steps of the Step Code
- Providing incentives for higher levels of performance
- Creating Low Carbon Energy System Pathways to incentivize emissions reductions
- Removing barriers to higher efficiency buildings (e.g. DPA design guidelines)



What's Next?

- Incoming GHGI metrics
- Measuring and regulating embodied carbon
- Identifying and supporting operational performance improvements
- Ensuring future climate readiness & resilience

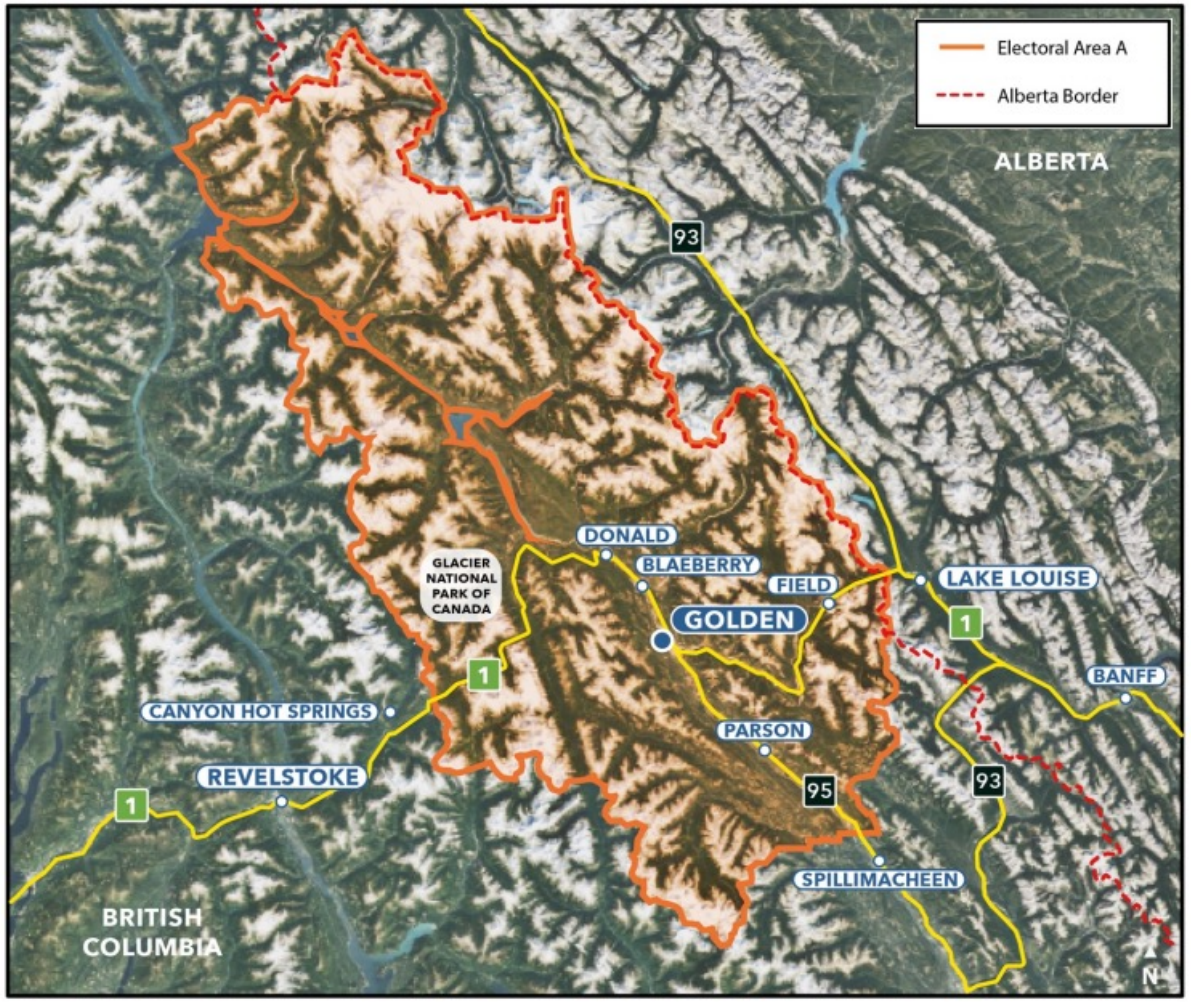


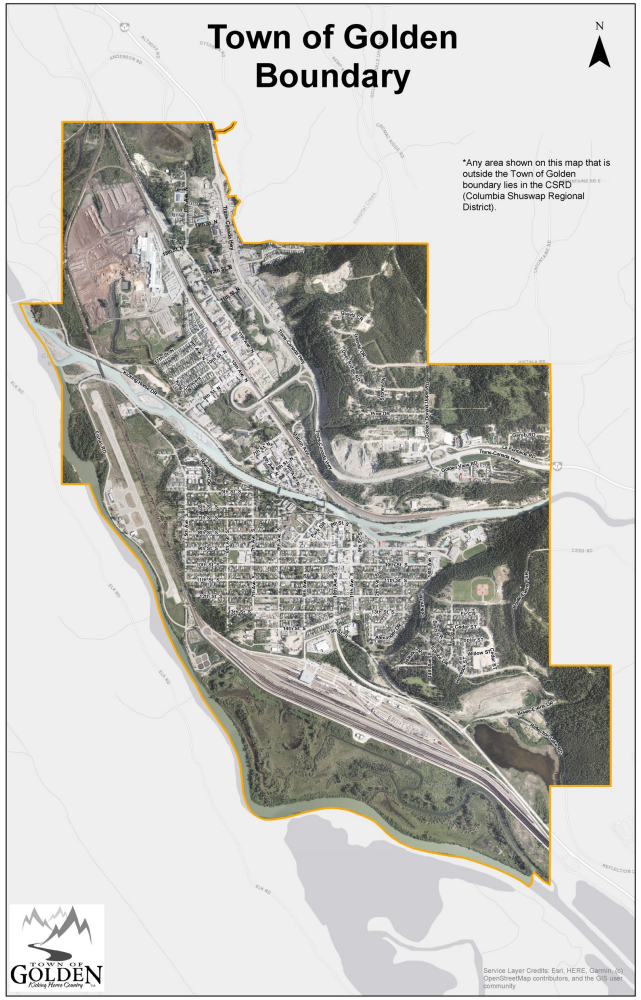
Step Code in Golden

Phil Armstrong
Director of Planning and Development

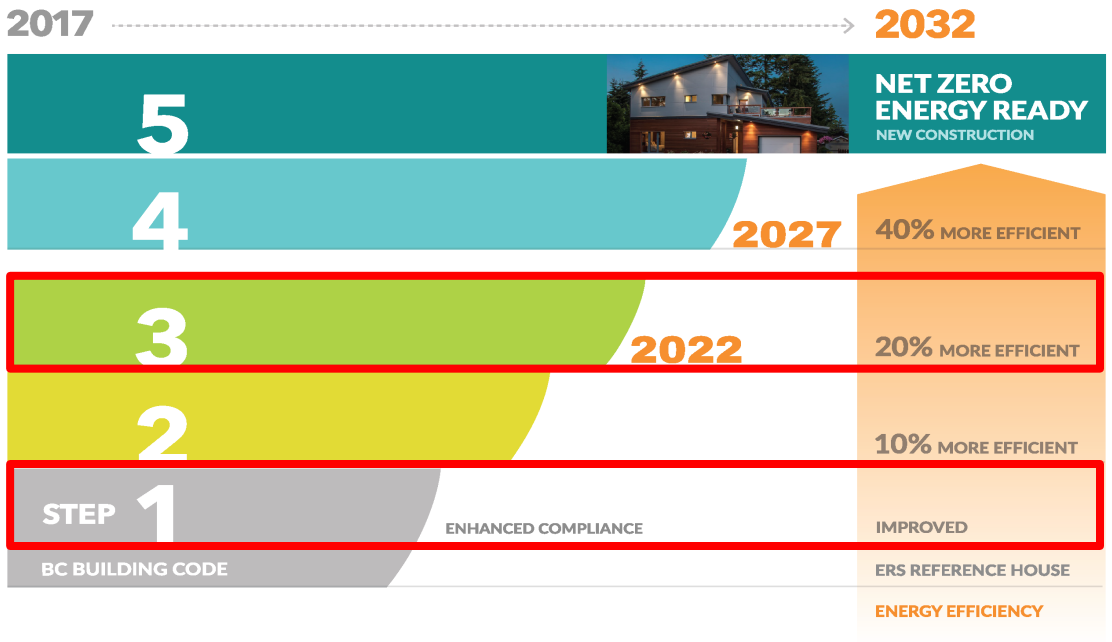
Caspar Viereckel
Building Official

Town of 3,986 people.



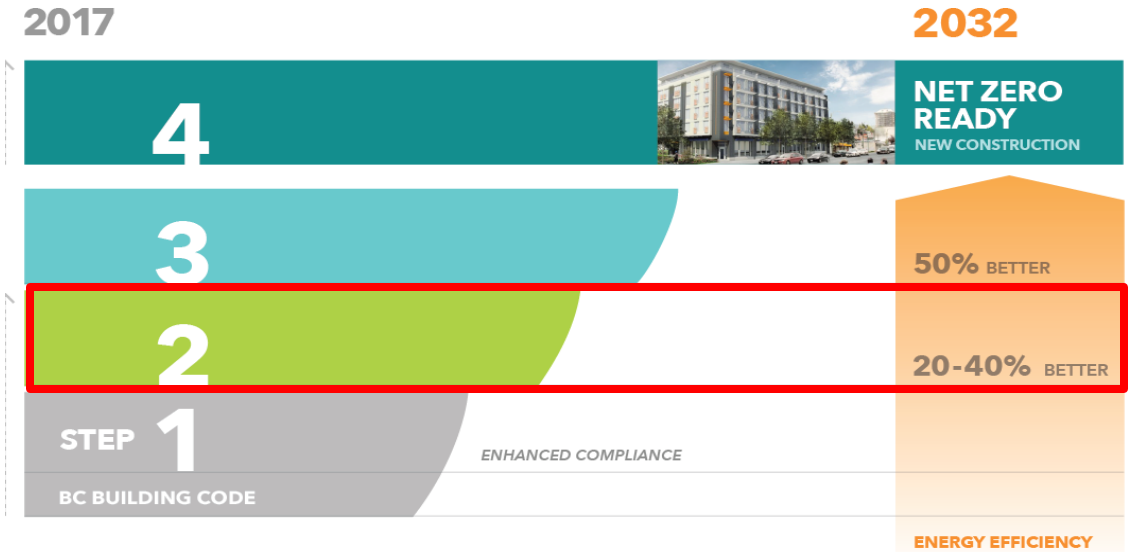


- Mostly single family dwellings.
- Some older apartments from 1970s
- In the last five years have seen a handful of multi-family and mixed use buildings (prior to that no multi-family for decades)



-**Step 1** for Part 9 buildings since March 2022
-**Step 3** December 15th

PATHWAY TO 2032: **PART 3 (WOOD-FRAME RESIDENTIAL)**



-**Step 2** for Part 3 buildings since March 2022.
-At this no next step proposed.

Goals

- Adoption of Step 1 prior to becoming mandatory to allow for “no fail” trial period for local contractors
- Step 2 necessary to avoid large multi-family projects getting built to low NECB 2015 standards

Challenges

- Shortage of skilled workers for local contractors
- High costs for efficient mechanical systems (heat pumps) in single family dwellings
- Lack of progressive approach by Architects/RPs for large buildings

Experience

- Contractors need to be creative, experiment with new technologies and alternative solutions
- Progressive projects, such as OSO lead the process, sparking interest in builders and public
- Town acts as hub, relaying information on best practices, materials/technologies or contractor availability

POLL 1

What did you tell us about yourself?

INTEGRAL

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Simple works
1901

Solana 2014

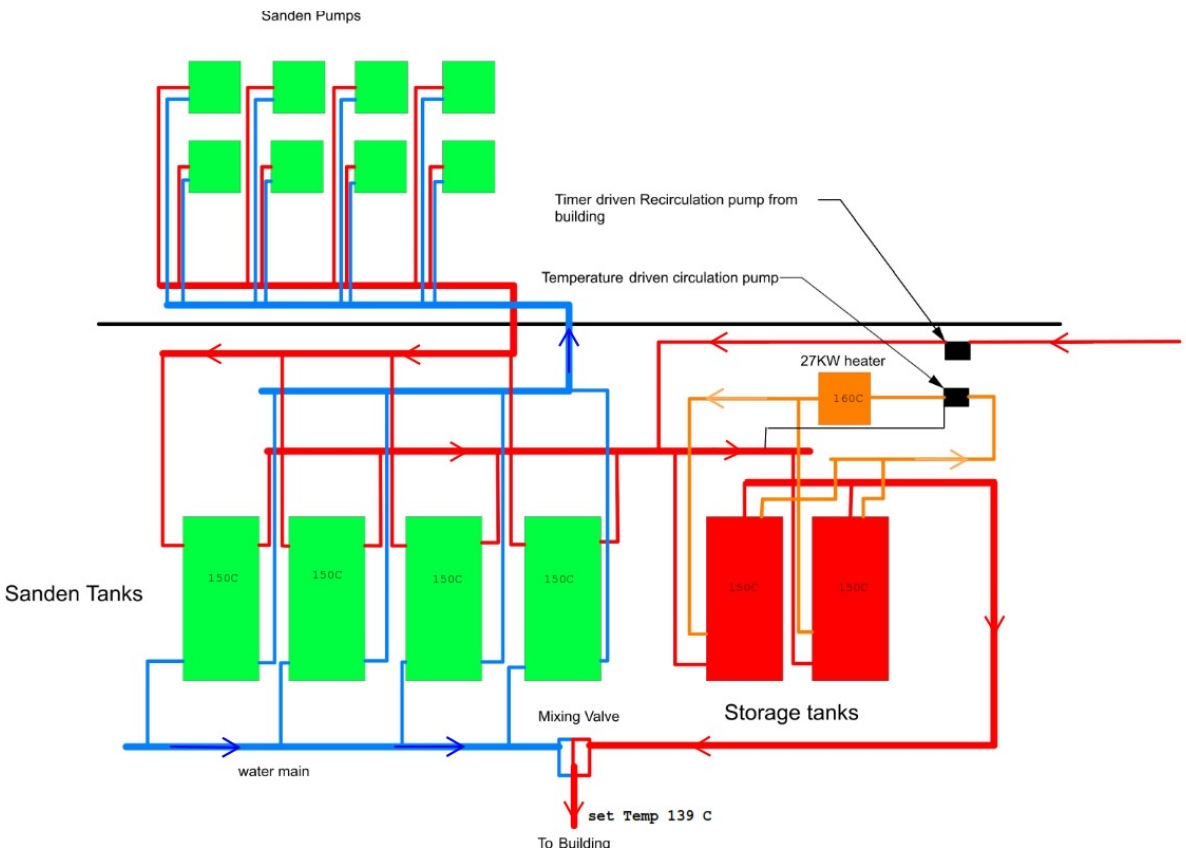
Radius
2017

Orion 2019

Nudura ICF

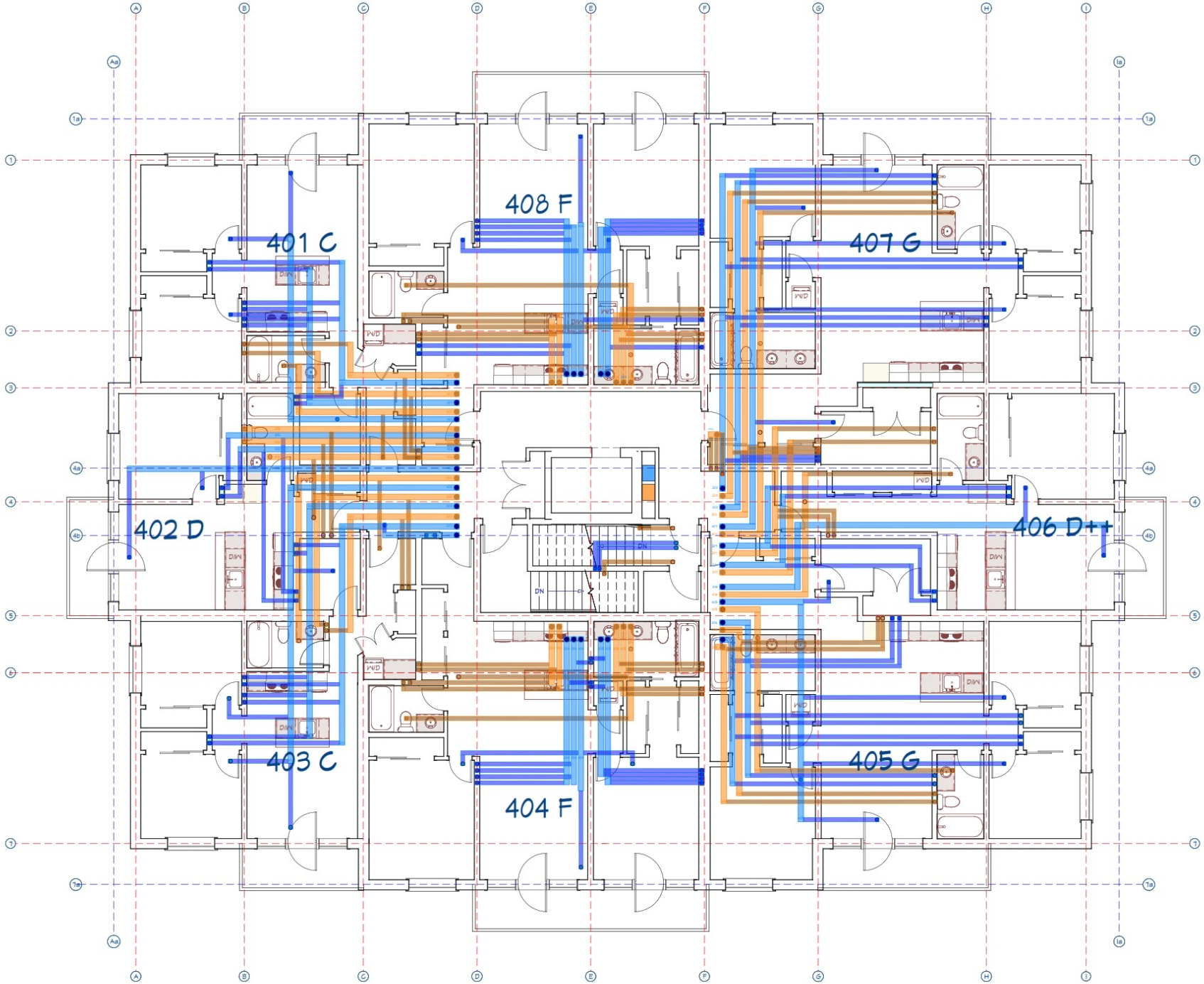
Optimum value framing

Heat Pump Hot Water System



Hot water

ARMACY
CO-OP
OFFICE
CAFE
HEALTH
SPORTS
WELLNESS



Revision Table			
Number	Date	Revised By	Description

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'

FLEXMASTER
7"
TRIPLE-LOCK™ • FABRIFLEX™
VANCOUVER • CALGARY • MISSISSAUGA
TORONTO • OTTAWA • MONTREAL
10" KMR42

602R

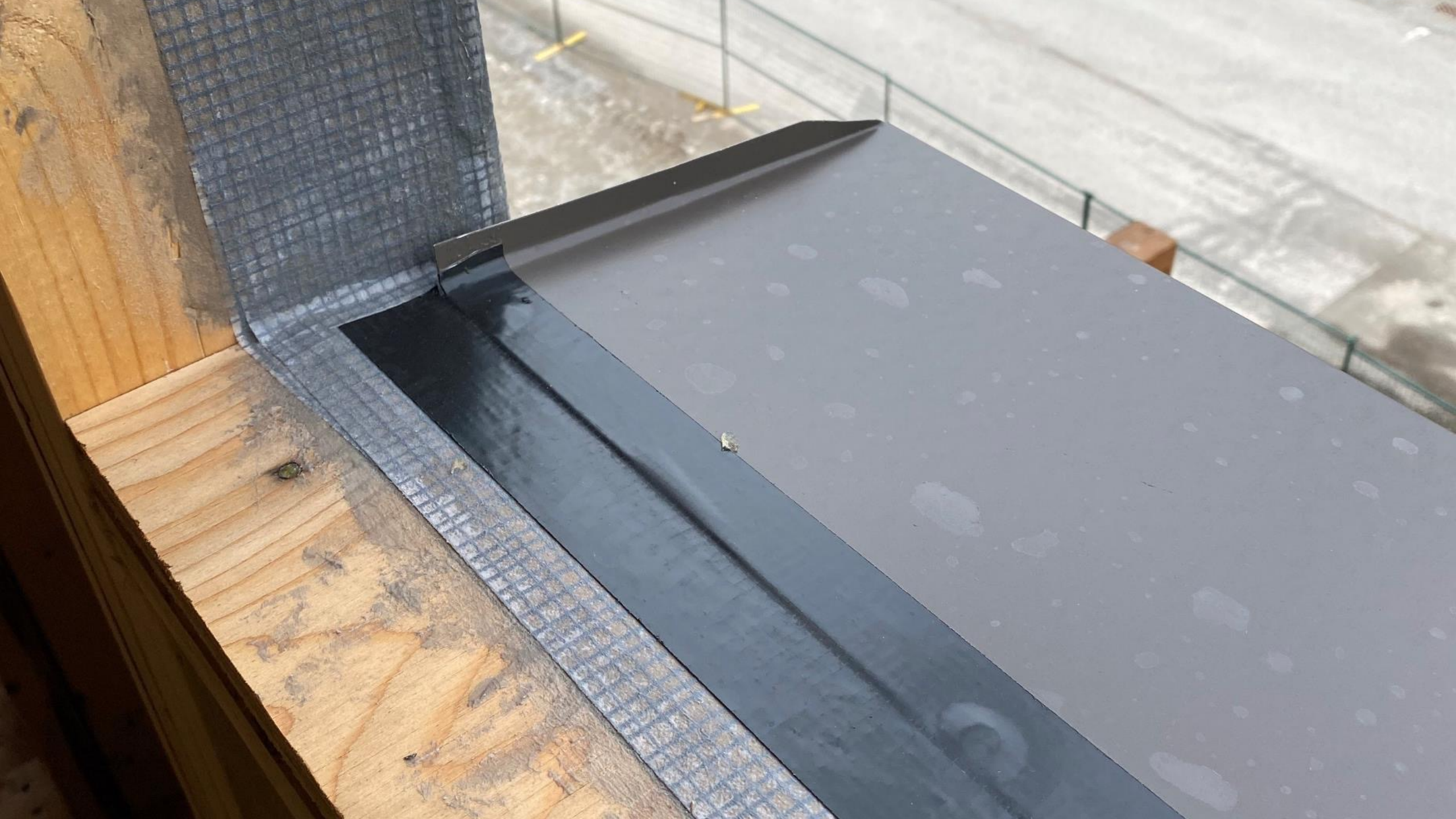
INSONOMAT

COLOUR MARKING LEGEND
VENTILATION:
SUPPLY AIR
EXHAUST AIR
PLUMBING
DRYWALL- SINGLE LAYER 5/8”
DRYWALL- DOUBLE LAYER 5/8”

AH CONTROLLER
PAC-AH001-1
Model
Input Voltage (M-NET)
DC30V
Input / Output Voltage
VOLTS PHASE HZ
AC208/230V 1 60
Amps
0.055A
Ambient Temperature Range
-4~115°F(-20~46°C)
IP Rating
IP00
Weight: 5.23Kg/11.5 lb
Serial No.: 12G03410
Manufactured by Mitsubishi Electric US, Inc.
Made in Mexico
DWG NO. PA79C714G01
WARNING :
RISK OF ELECTRIC SHOCK. CAN CAUSE INJURY OR DEATH. DISCONNECT ALL REMOTE ELECTRIC POWER SUPPLIES BEFORE SERVICING.
AVERTISSEMENT :
RISQUE DE CHOCS ÉLECTRIQUES. PEUT CAUSER DES BLESSURES ET MÊME ENTRAÎNER LA MORT. COUPER LES SOURCES D'ALIMENTATION À DISTANCE AVANT LE DÉPANNAGE.
DWG NO. JG79R877H01
Dashboard
UP
DOWN
OK
MENU

EIFS from Adex

Board



VEKA
VEKA
VEKA
The Quality Profile

SANKO

SANCO2
SANCO2
SANCO2
SANCO2

Intertek
5019618
MD3304X
ON
OFF
DANGER
PELIGRO
PELIGRO DE DESCARGA ELÉCTRICA, EXPLOSIÓN O ARCO ELÉCTRICO
WALL HEAT EXCHANGER
BLE WATER CONNECTION
HEUR DE CHALEUR DOUBLE
TES D'EAU POTABLE

WATER DROP
Powered By SANCO2
SMALL PLANET SUPPLY

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COMMERCIAL / INDUSTRIAL
Electric Tankless Water Heater
CAUTION!
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Model CE 36 KW
Serial Number: 17652

Rheem
DANGER
HOT

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FIRE SAFETY PLAN
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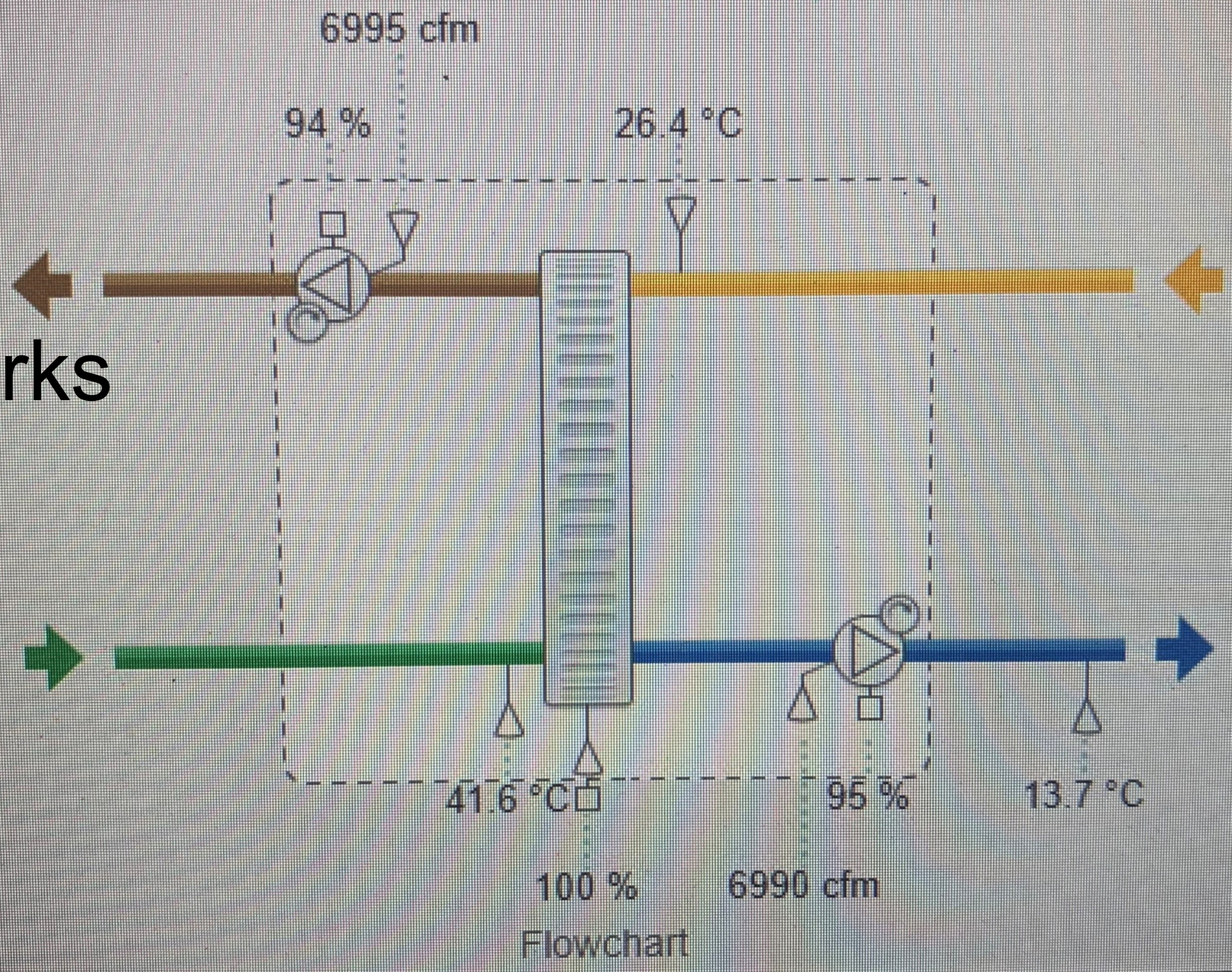
TimberStrand® LSL

It works



Ebbtide 2023