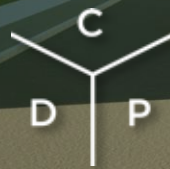


Alberta Alive Affordable Housing: Sustainability for a Changing Neighborhood

Allies for Efficiency Webinar

Portland, Oregon

September 20th, 2023



Community Development Partners



COLAS CONSTRUCTION



WINDSOR ENGINEERS

Working with

EnergyTrust of Oregon



Panelists



Lucy Corbett
Senior Development
Manager
CDP



Rosanne Lynch
Project Architect
Access Architecture



Alex Colas
Vice President,
Preconstruction
Colas Construction



Thayer Hendrickson
Partner
Windsor Engineers

Community Development Partners (CDP)

DEVELOPER & OWNER

Office Locations: Portland, OR and Newport Beach, CA

FIRM HIGHLIGHTS

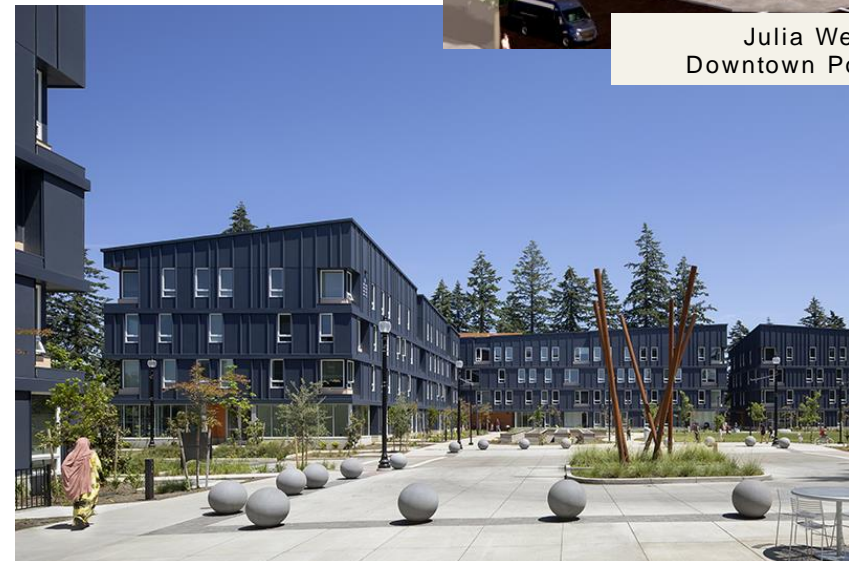
- Mission of building innovative and sustainable projects with a focus on long-term community engagement
- Proven track record working within complex public/private partnerships across 5 states (OR, CA, NV, AZ, CO)
- Portfolio: successfully built 2,000+ units/\$575M+ in affordable housing
- Certified B Corporation which reflects a dedication to impact over profit



Patton Home, Portland, OR



Julia West
Downtown Portland



Rockwood Village, Gresham, OR

Project Background

Mission

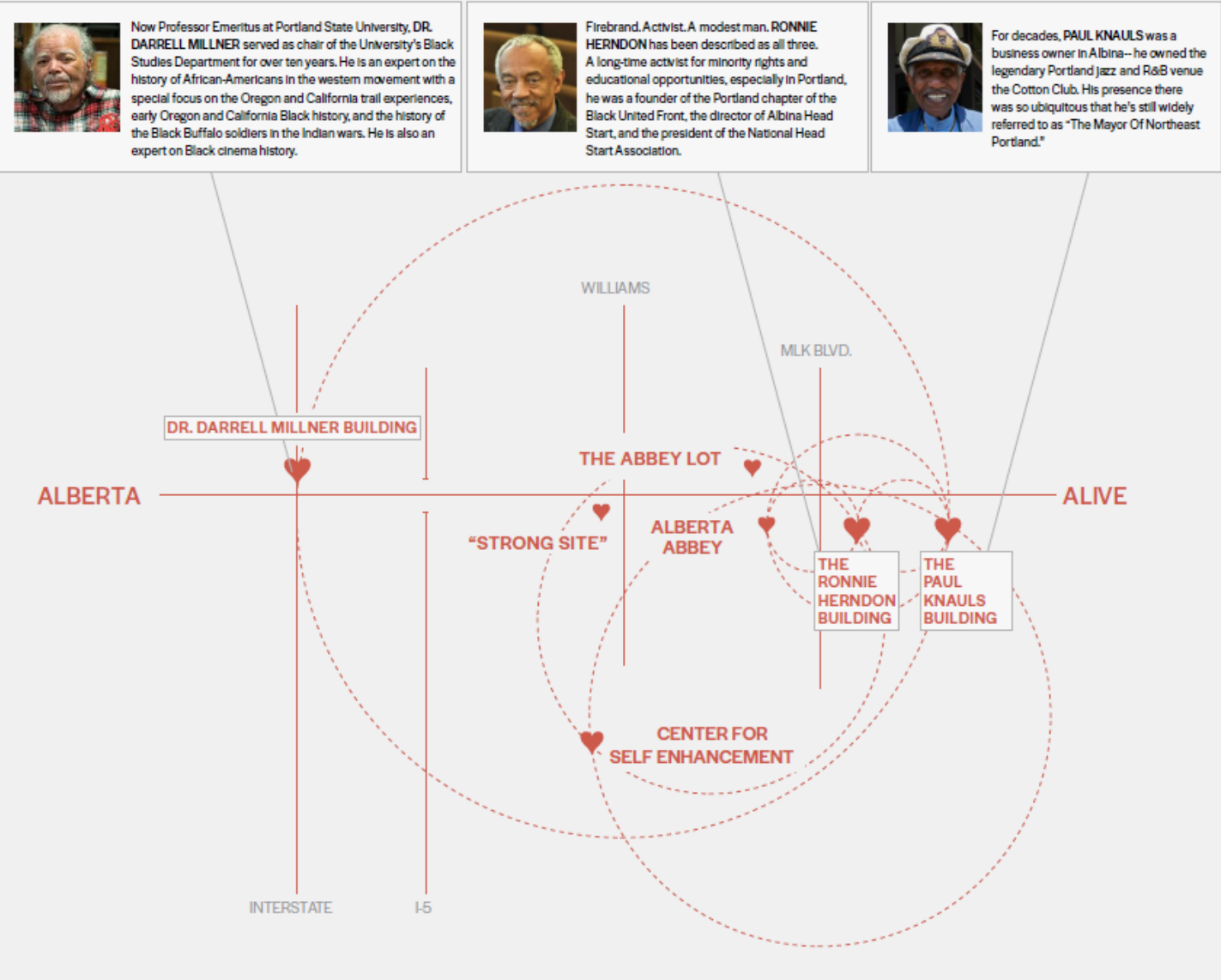
Alberta Alive celebrates and strengthens Portland's historically Black N/NE neighborhoods by providing affordable housing, supportive services, and a shared community for underserved individuals and families.

Vision

Alberta Alive champions the revival of Black N-NE Portland where:

- Residents feel at home and connected with their neighbors.
- Local opportunities provide a framework for personal and community investment.
- Strong community retains, attracts, and grows generations of Black legacy.
- Neighborhoods far and wide emulate Alberta Alive's success.

Project Background



Now Professor Emeritus at Portland State University, **DR. DARRELL MILLNER** served as chair of the University's Black Studies Department for over ten years. He is an expert on the history of African-Americans in the western movement with a special focus on the Oregon and California trail experiences, early Oregon and California Black history, and the history of the Black Buffalo soldiers in the Indian wars. He is also an expert on Black cinema history.



Firebrand. Activist. A modest man, **RONNIE HERNDON** has been described as all three. A long-time activist for minority rights and educational opportunities, especially in Portland, he was a founder of the Portland chapter of the Black United Front, the director of Albina Head Start, and the president of the National Head Start Association.



For decades, **PAUL KNAULS** was a business owner in Albina-- he owned the legendary Portland jazz and R&B venue the Cotton Club. His presence there was so ubiquitous that he's still widely referred to as "The Mayor Of Northeast Portland."

Project Background

- Project Addresses: 510 NE Alberta (9,988 SF) and 780 NE Alberta (5,432 SF)
- Buildings are co-owned with Self Enhancement Inc. (SEI)
- Architect and contractor selection influenced by their organizational missions and commitment to increasing minority participation in design and construction



510 NE Alberta

- 21 units of Family Housing
 - 2 1-bedroom units (SF)
 - 11 2-bedroom units (SF)
 - 8 3-bedroom units (SF)

780 NE Alberta

- 31 units of Permanent Supportive Housing (PSH) for Veterans
 - 6 studios (SF)
 - 25 1-bedroom units (SF)

Project Background

- Buildings share:
 - Same architect and contractor
 - Building type (III-B, 5 stories wood-frame)
 - Building systems
 - Many of the same subcontractors (e.g. earthwork, framing, concrete, HVAC, windows)
- Buildings differ in:
 - Some subcontractors due to Davis-Bacon prevailing wages on 780 Alberta (e.g. siding, masonry, plumbing, painting)
 - Utility structure (100% owner paid utilities at 780, tenant paid electricity at 510)
 - Rent structure
 - Resident services program and providers

Project Background

Project Challenges

- Design
 - Community Design Standards
 - Very small site footprints
 - Mechanical appeals
- Construction
 - Framing cost escalation after bidding
 - Supply chain delays (electrical gear, windows, elevators)
 - Appeals to allow buildings to open without generators

ACCESS ARCHITECTURE

ARCHITECT

Location: Vancouver, WA

FIRM HIGHLIGHTS

- Founded in 2018
- A 13-person mission-driven, minority-owned, full service architectural and planning firm.
- Completed nearly 500 affordable (including PSH), senior, and special needs housing units, both new construction and the renovation of existing buildings.
- Projects follow an Outcome-Based Design process, where community engagement is paired with academic research to create designs that are better informed and more effective.



TIMBERVIEW / PORTLAND, OREGON
MASS TIMBER / 105 UNITS OF AFFORDABLE HOUSING



THE GLORIA CENTER / THE DALLES, OR
NAVIGATION CENTER + EMERGENCY SHELTER

Project Goals

- Respond thoughtfully to the target population(s) through inclusive building and site design.
- Convey a sense of permanence so buildings feel rooted in the existing neighborhood fabric.
- Use site constraints as opportunities for innovation.
- Maximize buildable area through efficient design.
- Design buildings that are durable and sustainable.
- Work collaboratively with project team, including capacity building for SEI.



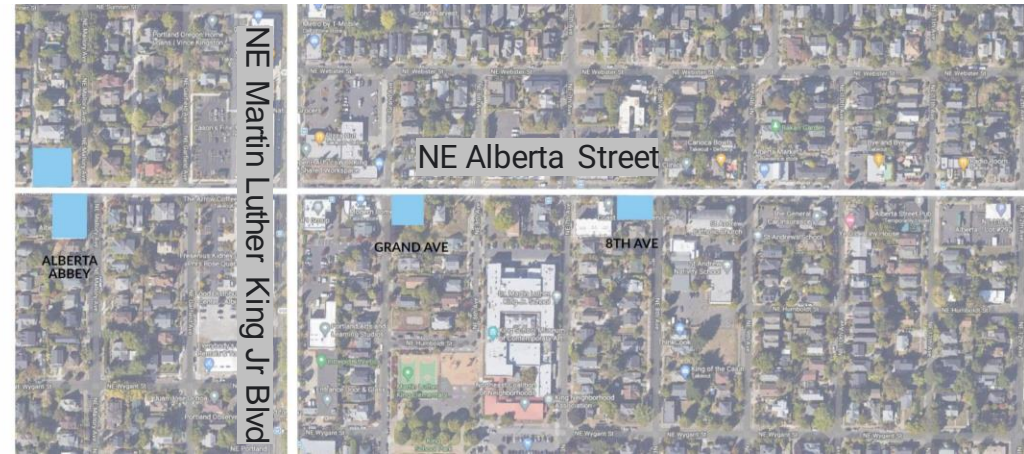
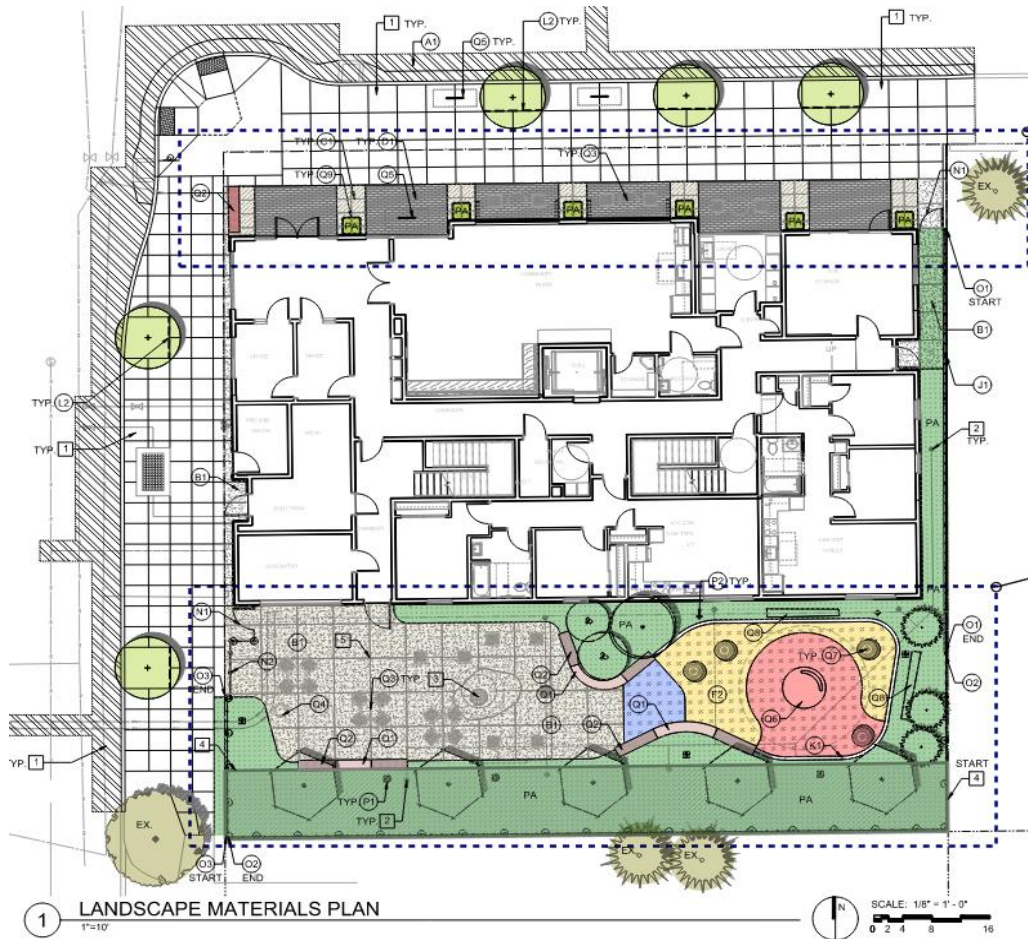
510 NE ALBERTA (GRAND) / PORTLAND, OREGON
31 UNITS OF AFFORDABLE HOUSING FOR FAMILIES



780 NE ALBERTA (8TH AVE) / PORTLAND, OREGON
21 UNITS OF AFFORDABLE HOUSING FOR VETERANS

Project Overview

510 NE Alberta (Grand)



- 5-STORY WOOD-FRAMED BUILDING
- TYPE III-B CONSTRUCTION
- 24,500 GSF
- (21) TOTAL 2, 3 AND 4-BEDROOM UNITS
- 830 SF COMMUNITY ROOM
- GROUND FLOOR LAUNDRY ROOM

Project Overview

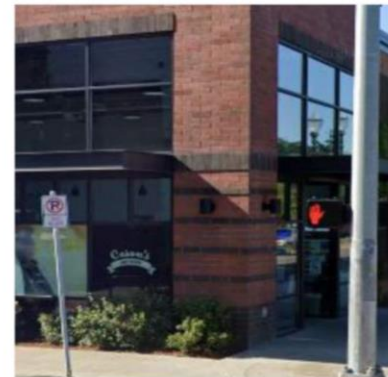
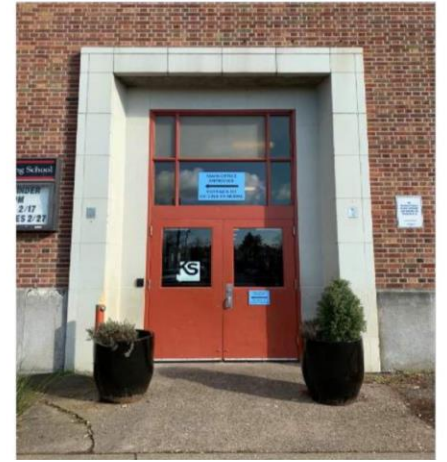
780 NE Alberta (8th Ave)



- 5-STORY WOOD-FRAMED BUILDING
- TYPE III-B CONSTRUCTION
- 19,300 GSF
- (31) TOTAL STUDIO AND 1-BEDROOM UNITS
- 480 SF COMMUNITY ROOM
- LAUNDRY ROOM ON (3) FLOORS

Process

Neighborhood Context



Process

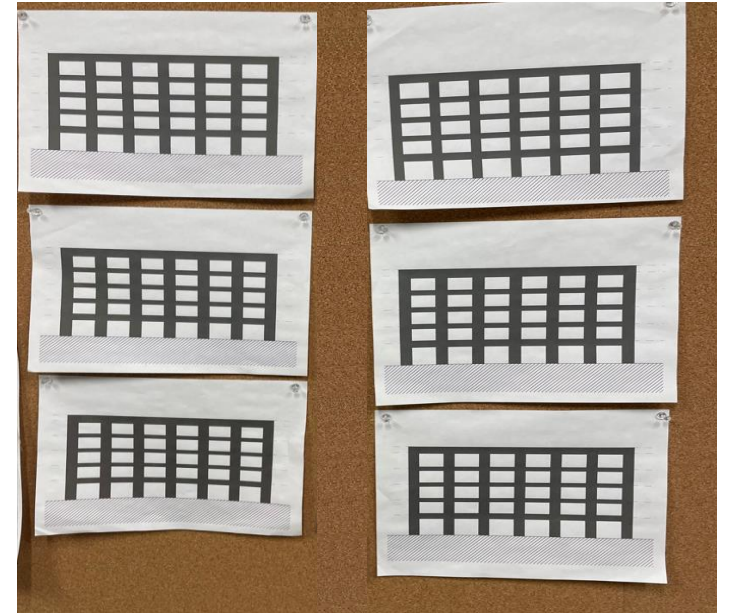
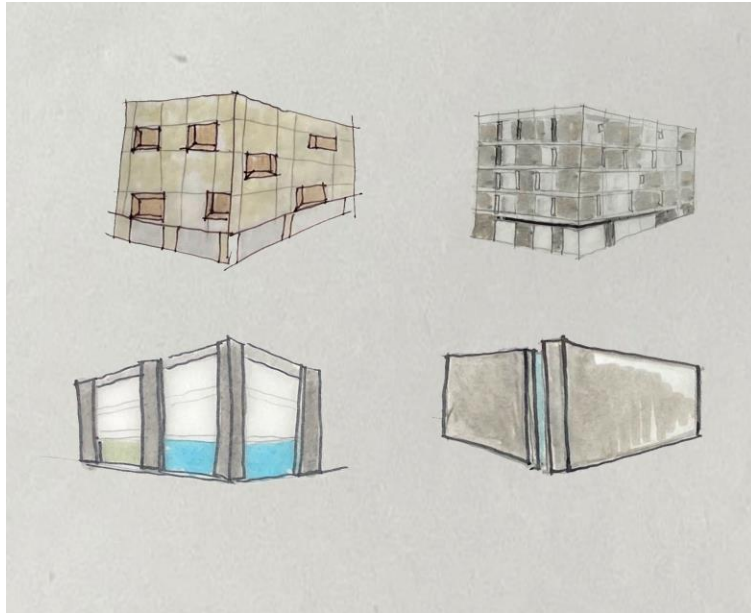
Precedent Inspiration



CDP / SEI / ACCESS / COLAS / WINDSOR / ETO

Process

Early Massing



Process

Designing for a Target Population

OUTREACH

- Neighborhood Meeting
- Surveys

RESEARCH

- History of Neighborhood
- Trauma Informed Design

PARTICIPATION

- SEI (Self Enhancement, Inc.)
- Do Good Multnomah

LANDSCAPE PLAN - GRAND AVE

ALBERTA ALIVE
PROJECT#19039 | 12.17.2020

SEI
SELF ENHANCEMENT, INC.

CDP
Community
Development
Partners

Access Architecture
400 COLUMBIA STREET, STE. 300, VANCOUVER, WA 98660



Process

Designing for a Target Population

GRAND:

- Trauma Informed Design
- Inclusive Playground Design
- Large Community Room with Play Area
- Vibrant Color Palette

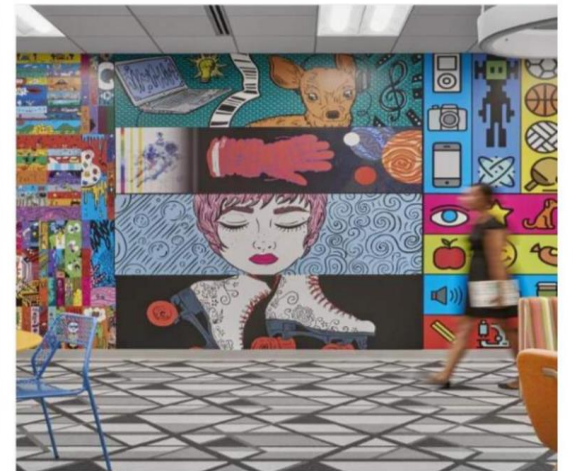
8TH AVE:

- Trauma Informed Design
- Veteran Research
- Restorative Color Palette
- Telehealth Room
- Library/Small Meeting Room
- Laundry on Multiple Floors



Process

Precedent Inspiration



Designing within Constraints

Zoning + Building Code *Community Design Standards*



TYPE II LAND USE REVIEW

- PLANNING STAFF REVIEW AND APPROVE APPLICATION
- NOT COMPLETELY PRESCRIPTIVE
- 56 DAY PROCESS
- DONE PRIOR TO PERMITTING

COMMUNITY DESIGN STANDARDS

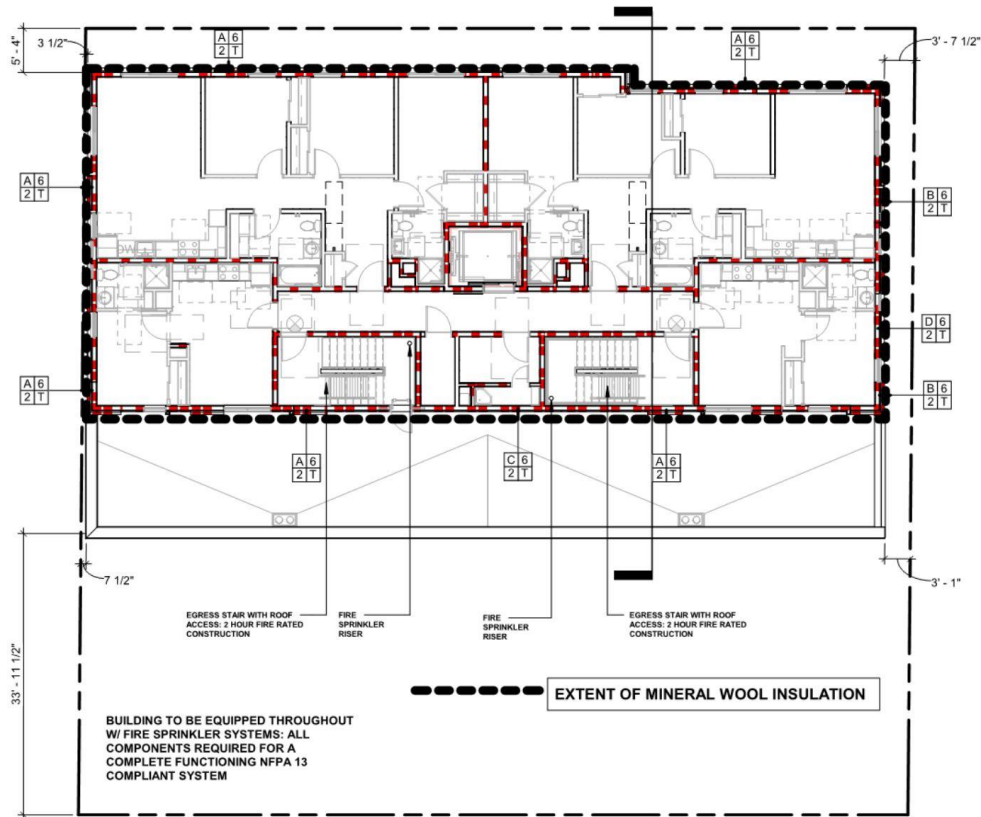
- PART OF THE ZONING CODE
- WRITTEN AS PRESCRIPTIVE
- REVIEWED AND APPROVED AS PART OF THE PERMITTING PROCESS

Designing within Constraints

Zoning + Building Code *Appeals*

White Paper

Fire Analysis of Fire Retardant Treated Wood Alternate



Appendix A; Figure 3: Fifth Floor Plan

Appeal to the City for **Type IIIB construction** using mineral wool in lieu of fire-treated wood (exterior walls) as an alternate for aerial access road width and the sacrificial stud. Other appeal items included were eliminating the drinking fountain and the use of a natural gas generator for standby power to the elevator.

Designing within Constraints

Zoning + Building Code *Adjustments*

Land Use adjustments were requested to share required outdoor area between both sites and to reduce required bike parking at 8th Ave building.

REQUIRED OUTDOOR AREA - 8TH AVE

INDOOR COMMON AREA - 8TH AVE	SQUARE FEET
COMMUNITY ROOM	482 SF
RESIDENT SERVICES	106 SF
COMPUTER ROOM	70 SF
MEETING ROOM	228 SF
SUB TOTAL:	886 SF

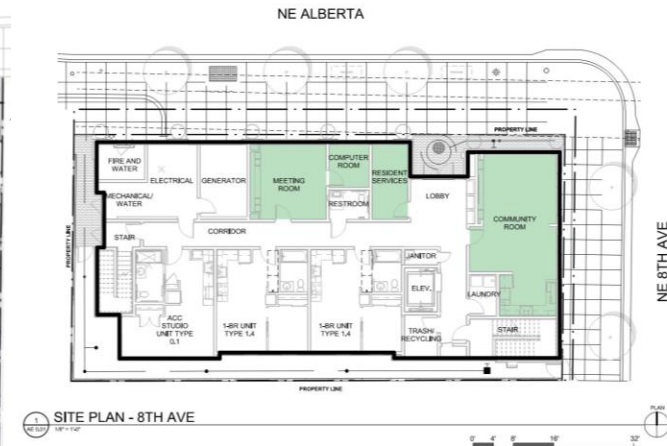
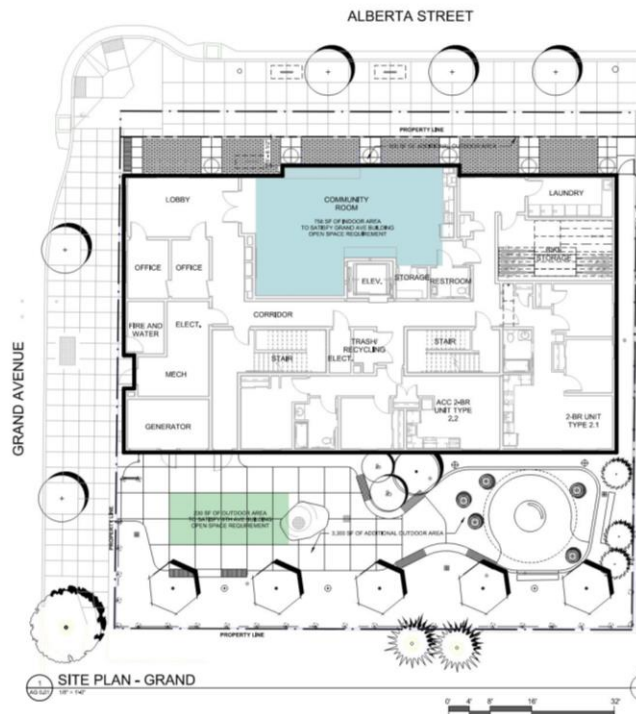
OUTDOOR COMMON AREA - GRAND AVE	SQUARE FEET
OUTDOOR COURTYARD	230 SF
TOTAL:	1,116 SF*

*WITH 31 DWELLING UNITS, A MINIMUM 1,116 SQUARE FEET OF OUTDOOR AREA AND/OR COMMON INDOOR AREA ARE REQUIRED, 886 SQUARE FEET OF COMMON INDOOR AREA IS PROVIDED AT THE 8TH AVE BUILDING & THE REMAINING 230 SQUARE FEET OF REQUIRED OUTDOOR AREA IS MET USING THE OUTDOOR AREA AT THE GRAND AVE SITE.

REQUIRED OUTDOOR AREA - GRAND AVE

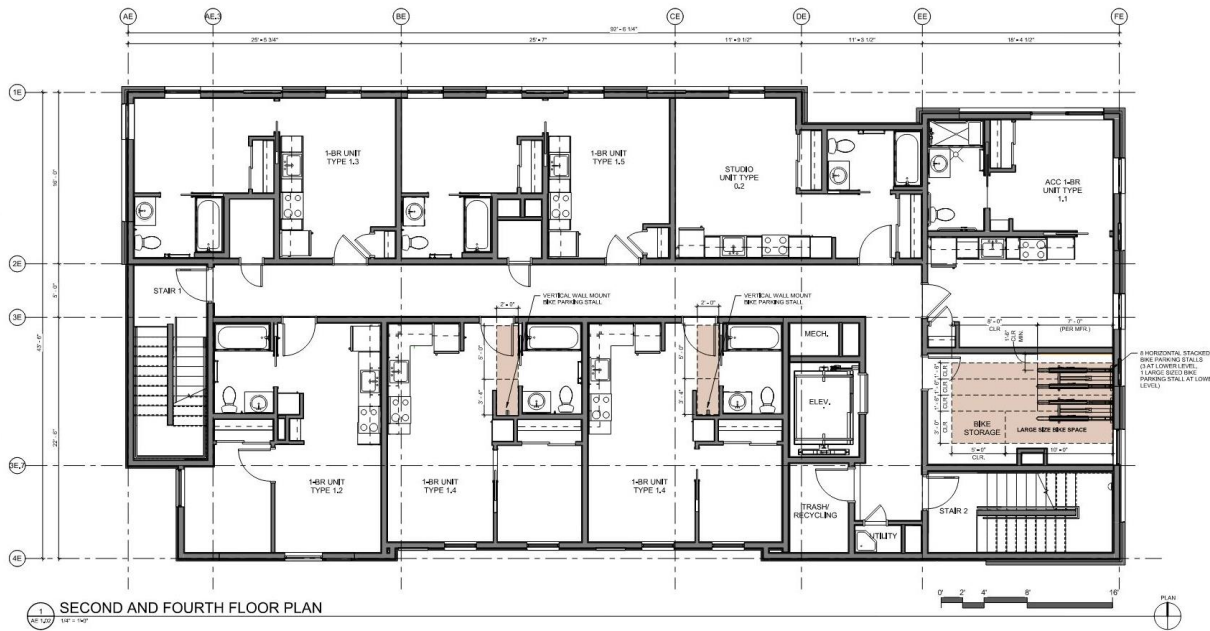
ROOM	AREA
COMMUNITY ROOM	756 SF*

*THIS COMMUNITY ROOM SATISFIES THE OUTDOOR AREA REQUIREMENT FOR THE GRAND AVE BUILDING (365F X 21 UNITS = 756SF OF REQUIRED OUTDOOR AREA).



Designing within Constraints

Small Footprint



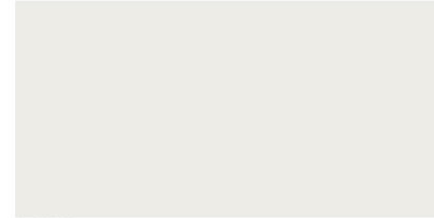
CHALLENGES

- No economies of scale
- City Planning and Zoning Standards
- Tight tolerances for wood framed building

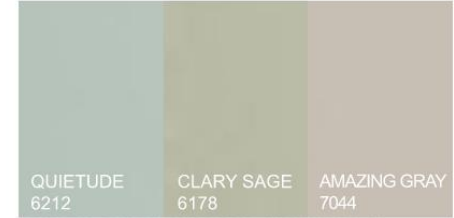
Durability



PERSPECTIVE
TYPICAL UNIT



PAINT
SHERWIN WILLIAMS / PURE WHITE 7005



QUIETUDE 6212 CLARY SAGE 6178 AMAZING GRAY 7044
ACCENT PAINT (SELECTION VARIES PER FLOOR)
SHERWIN WILLIAMS



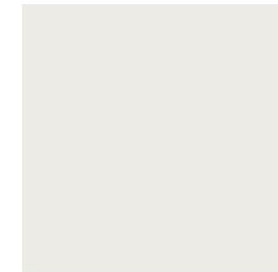
SOLID SURFACE
DDN / TAPIOCA
(KITCHEN & BATHROOM)



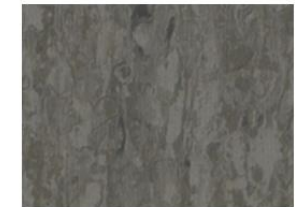
P-LAM CABINETS
PANOLAM / PRISM / CELADON
(KITCHEN & BATHROOM)



LVT
TARKETT / ALOFT /
COOPERS OAK BAY 82



RUBBER WALL BASE
TARKETT / DURACOVE /
ICICLE 08



SHEET VINYL
TARKETT / IQ OPTIMA /
HEAVY CREAM
(BATHROOM FLOORING)

Collaboration



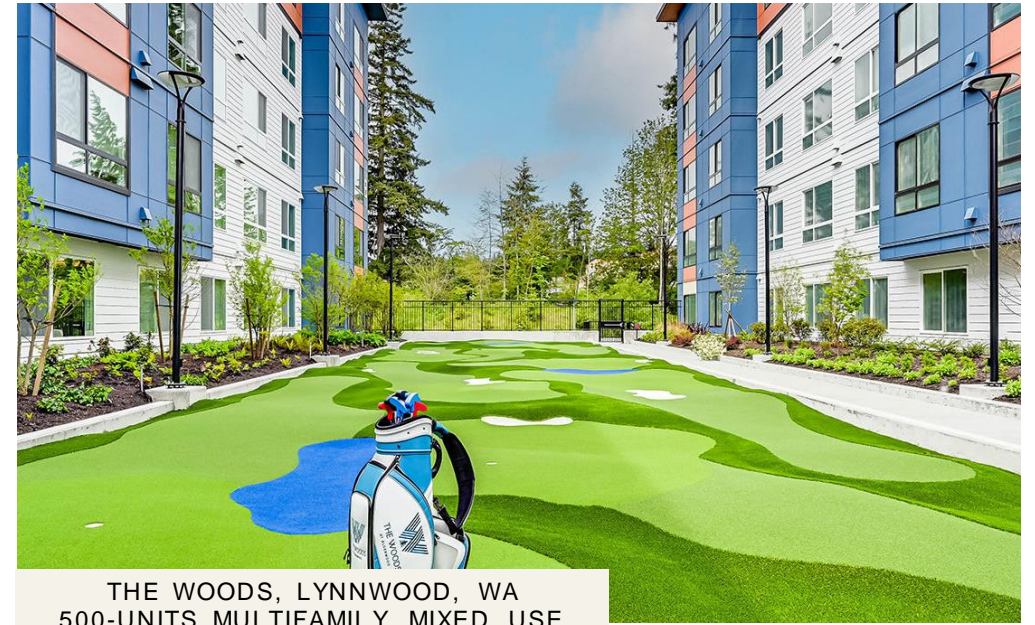
WINDSOR ENGINEERS

MEP & CIVIL ENGINEERING CONSULTANTS

Location: Ridgefield, WA

FIRM HIGHLIGHTS

- Mission: Providing world-class client experiences through people, purpose, and performance.
- Markets served include Multifamily, Commercial, Industrial, Municipal, and Healthcare.
- Western regional markets: Portland Metro area, Puget Sound area.
- Offices also located in Minneapolis/St Paul and Duluth, Minnesota.



THE WOODS, LYNNWOOD, WA
500-UNITS MULTIFAMILY MIXED USE



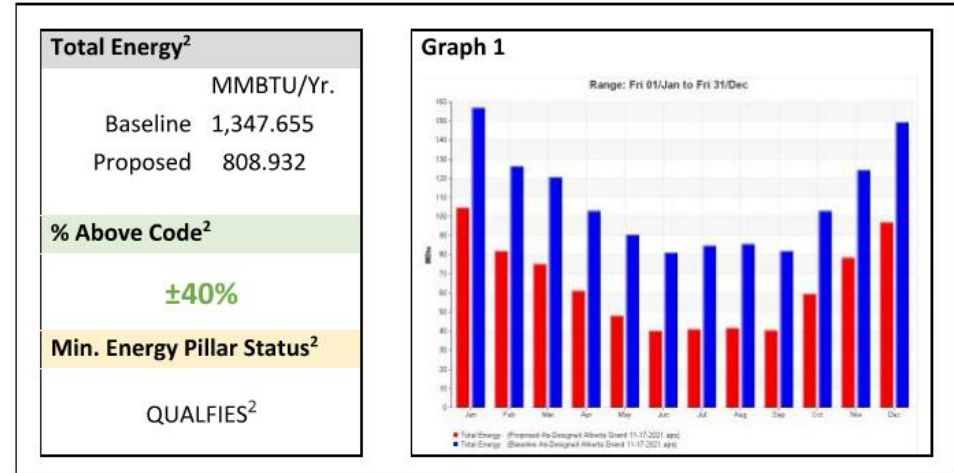
INTRO CLEVELAND, CLEVELAND, OH
300-UNITS MASS TIMBER MIXED USE

Energy and Sustainability Goals

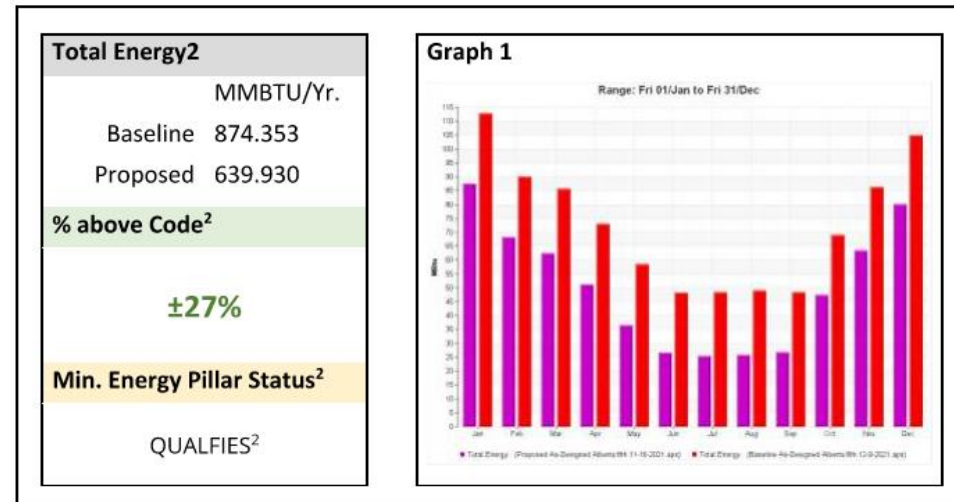
- Energy modeling was provided by Earth Advantage using IES-VE software.
- The primary energy goal was to meet EA's v1 certification: performance at least 10% better than code minimum.
- Proposed efficiency measures resulted in 27% (8th Ave) and 40% (Grand Ave) better than code.
- Code baseline: ASHRAE 90.1 (2016)

ENERGY MODELING RESULTS

PRELIMINARY AS-DESIGNED MODELING RESULTS²



PRELIMINARY AS-DESIGNED MODELING RESULTS²



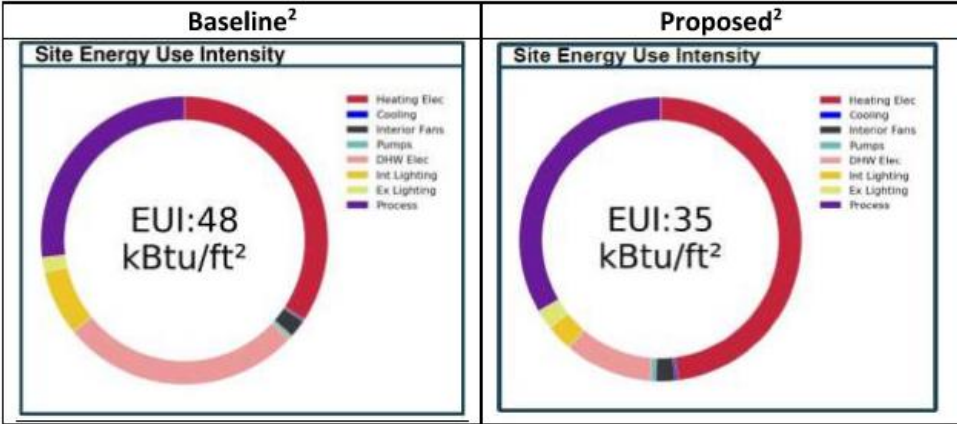
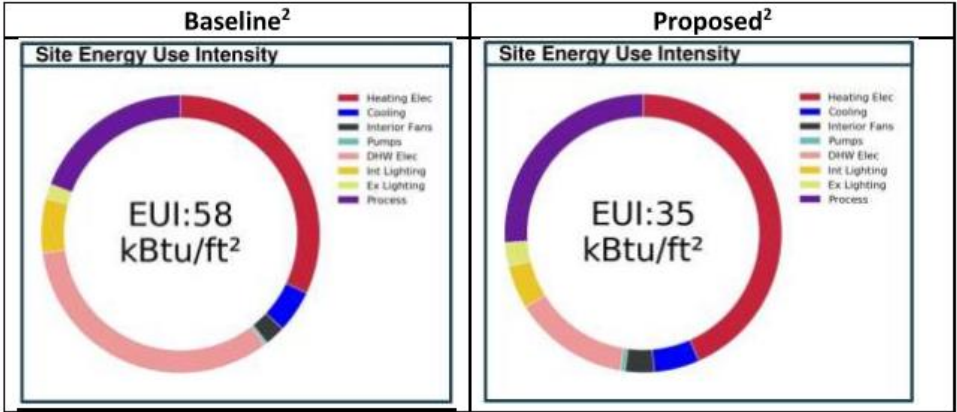
Energy Use Intensity (EUI) Values

GRAND AVE

- EUI baseline: 58 kBTU/sf
- EUI designed: 35 kBTU/sf
- 40% better than baseline

8th AVE

- EUI baseline: 48 kBTU/sf
- EUI designed: 35 kBTU/sf
- 27% better than baseline



Key Sustainability Features

MEP HIGHLIGHTS

- Heat Pump Water Heating (3.0 COP min, 4.2 COP designed)
 - ~75% energy reduction from code minimum
- High-efficiency LED lighting, with occupant sensors in common areas
 - ~20% energy reduction from code minimum



Engineering in Small Urban Footprints

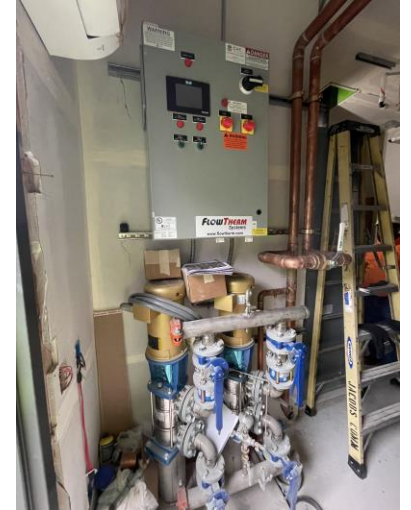
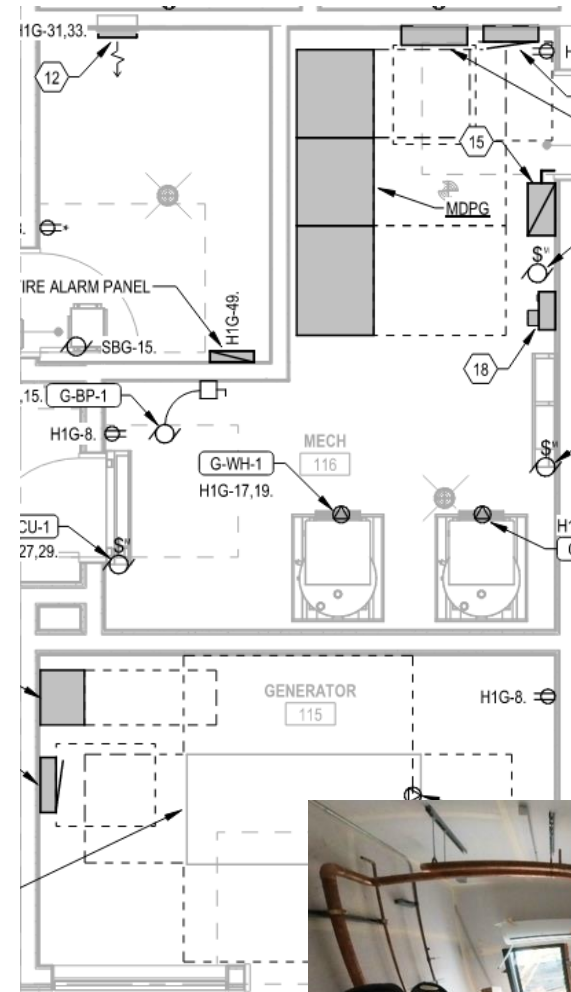
MEP CHALLENGES

- MEP systems collocated within small mechanical rooms
- Code-required standby generator location, ventilation, and exhaust
- Maximum space utilization

SOLUTIONS

- High level of 3D coordination required
- Wall-mounted booster pump (vs. skid)
- Heat pump system for mechanical room heat transfer

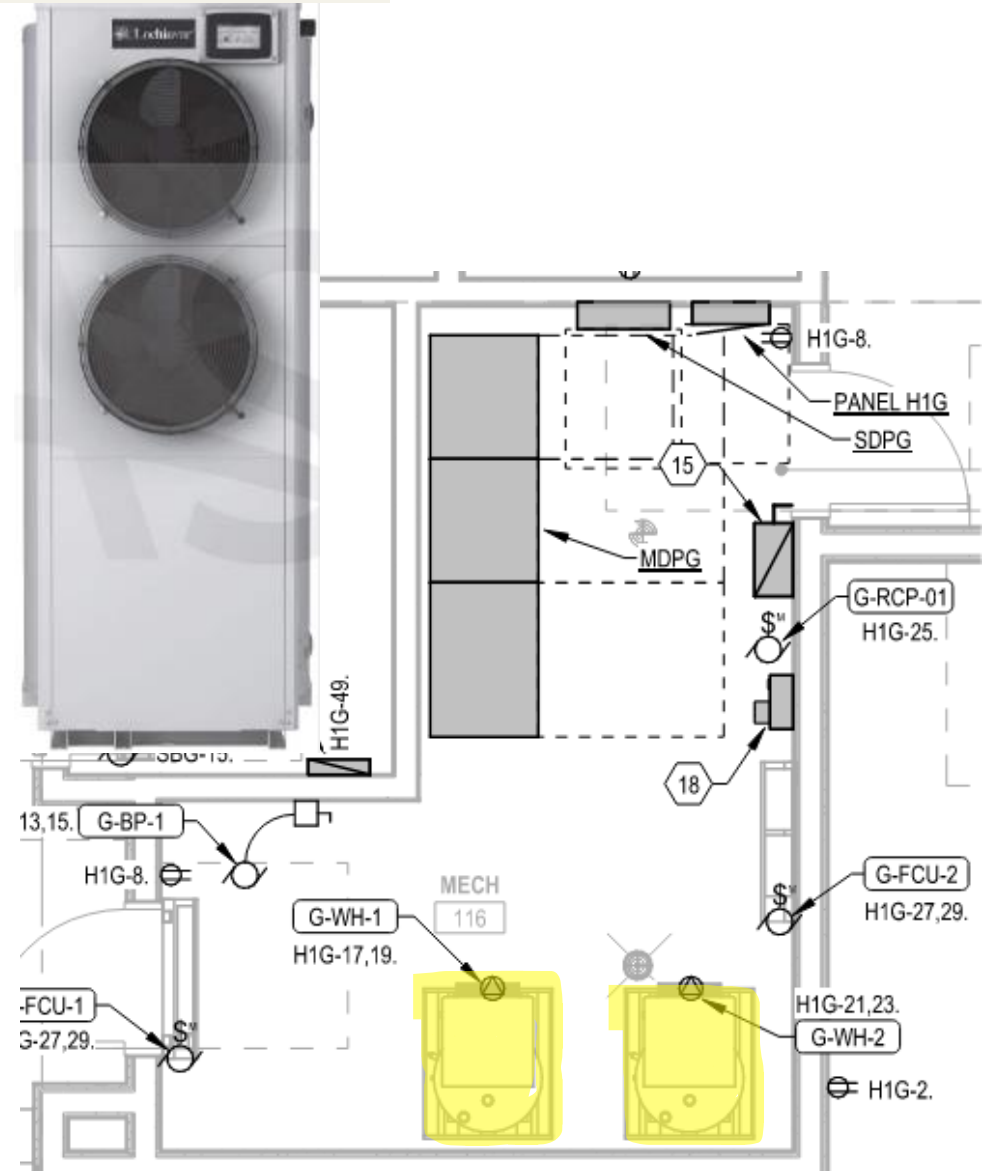
TYPICAL MECHANICAL ROOMS



Central Heat Pump Water Heating System

HIGHLIGHTS

- Lochinvar CHPA series
- 119 gallon capacity (x2)
- 4.2 Coefficient of Performance (COP)
- Challenge: air volume for heat transfer within small mechanical room
- Solution: additional heat pump system for air-to-air heat transfer



Standby Generator Challenges

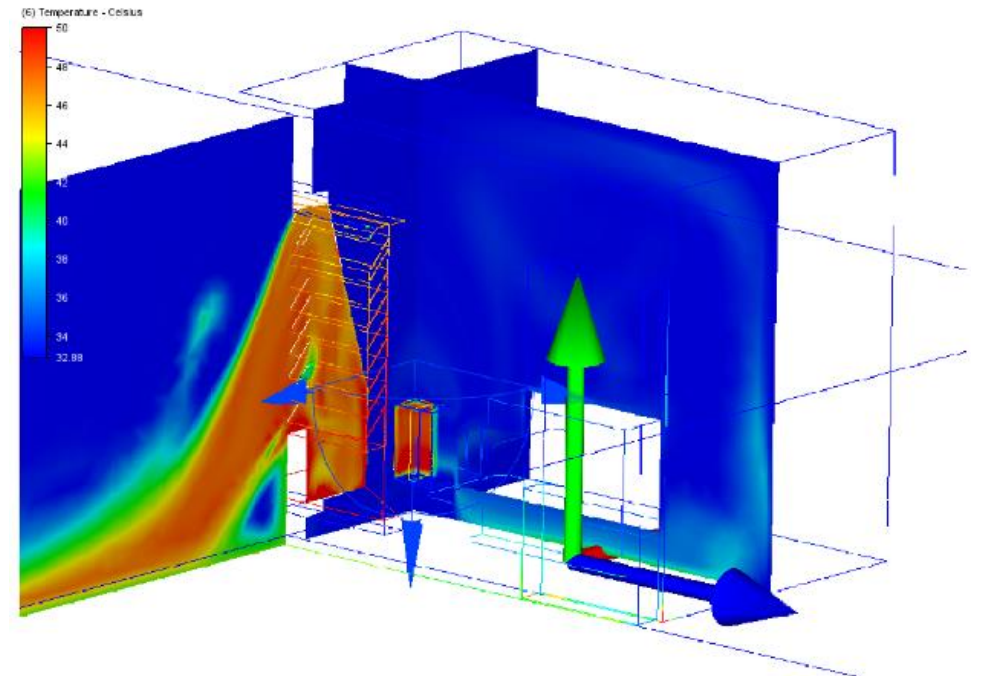
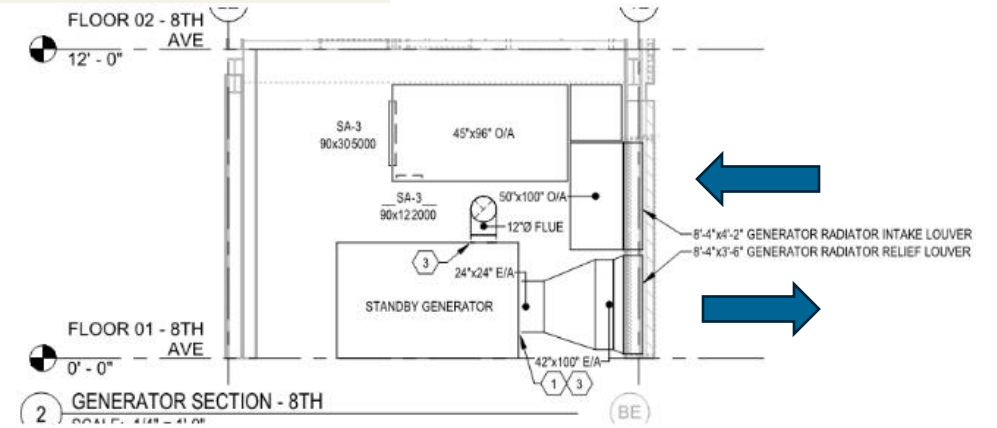
CHALLENGES

- Location on ground floor for fire/seismic concerns
- Ventilation clearances: code variance appeal
- Ventilation near public ROW
- Routing flue exhaust through congested areas
- Generator lead times

SOLUTIONS

- Computational fluid dynamics (CFD) analysis of generator room
- Generator specification, maximum fan flow rate
- Louver design
- Flue routing coordination (through roof)

GENERATOR VENTILATION



Environmental Air Ventilation Concerns

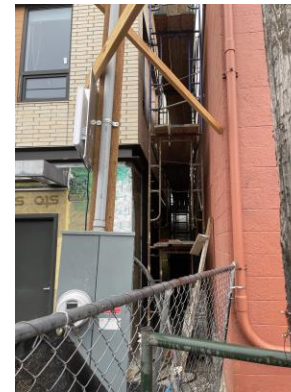
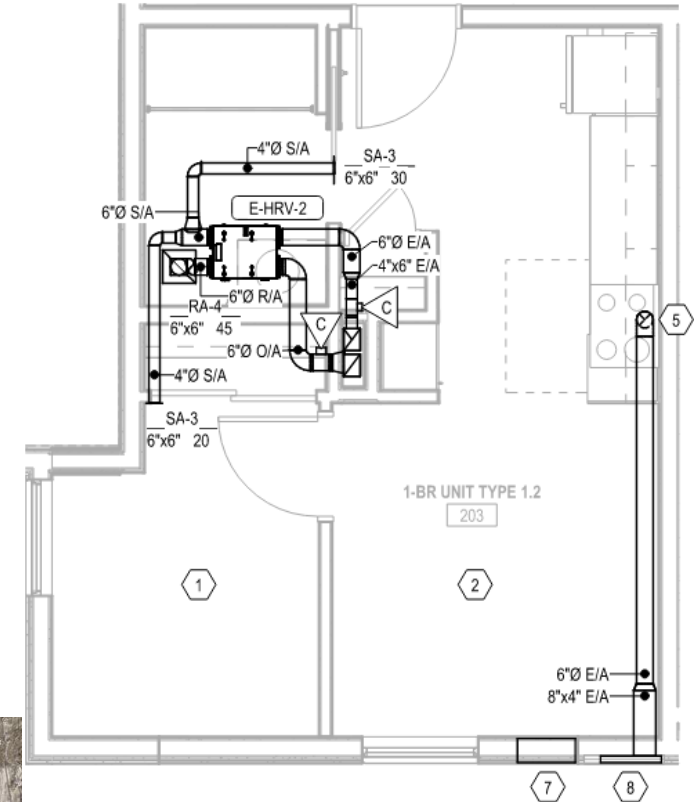
CHALLENGE

- Location of neighboring buildings make ventilation clearances difficult in some areas
- A different approach was required for OSA intake

SOLUTION

- Use ducted energy recover ventilators (ERV)
- Route ducting to the roof
- Additional benefits:
 - Reduced energy use/increased efficiency
 - Improved indoor air quality (IAQ) for occupants

VENTILATION APPROACH



BUILDING PROXIMITY



COLAS CONSTRUCTION (COLAS)

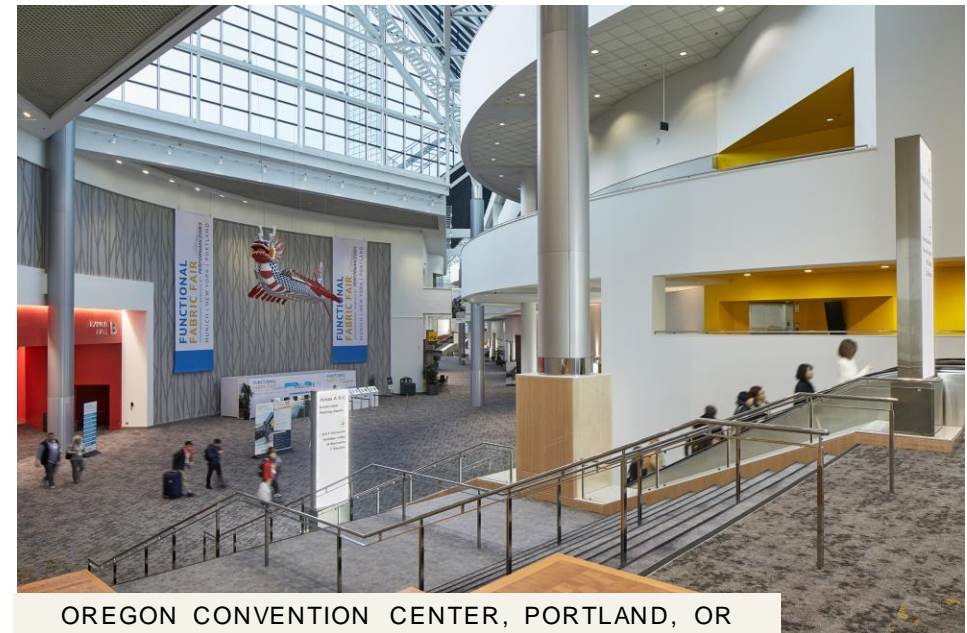
GENERAL CONTRACTOR

Location: Portland

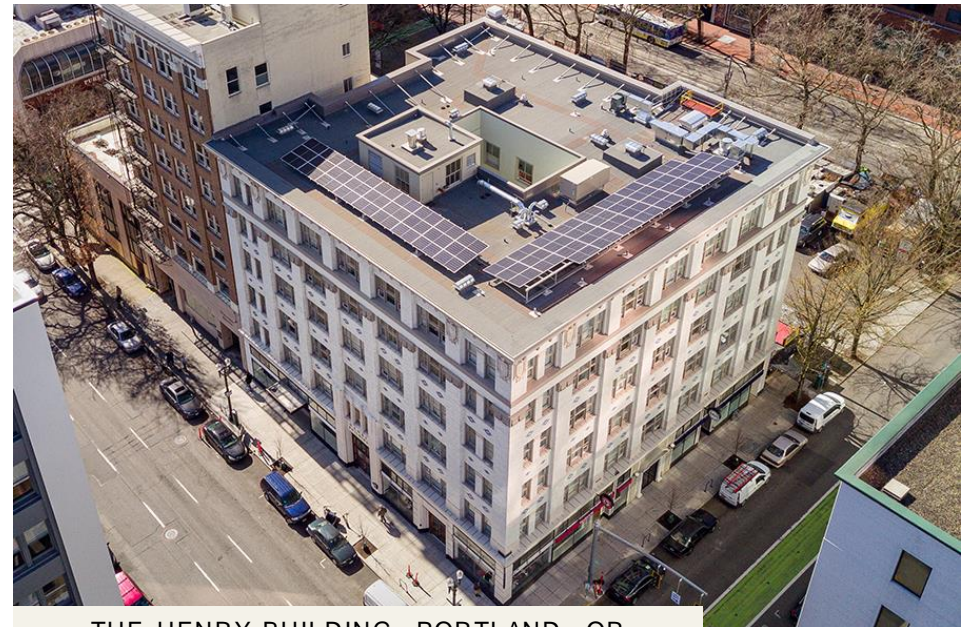
FIRM HIGHLIGHTS

- Mission: *to build legacies and strengthen communities*
- 26+ years of excellence, with over 90% of projects sustainably certified
- Industry leader in the built environment- exceeding expectations for racial and gender equity, workforce participation in construction, and construction safety
- Stewards of diverse representation from all aspects, with over 50% of management identifying as BIPOC and/ or women
- Focused on projects that uplift the community in the Pacific Northwest

Alberta Alive Affordable Housing: Sustainability for a Changing Neighborhood



OREGON CONVENTION CENTER, PORTLAND, OR
VIEW OF EXHIBITION HALL CONCOURSE



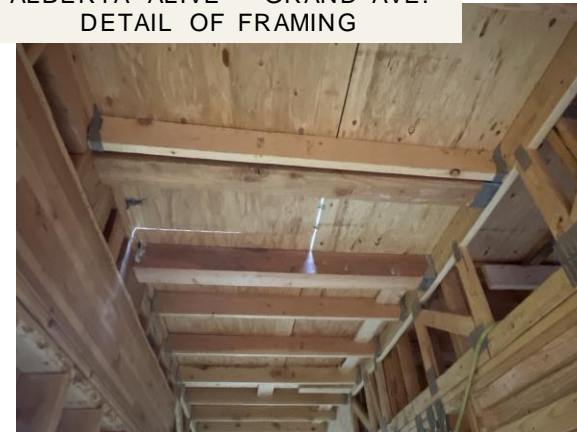
THE HENRY BUILDING, PORTLAND, OR
AERIAL VIEW OF THE EXTERIOR

Construction

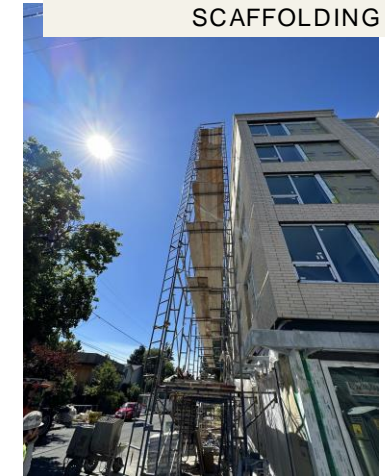
HIGHLIGHTS

- Coordinating construction for a high-performance building on a small urban footprint
- How to make sure the buildings are solar-ready and what to consider early on
- How market challenges were overcome – prevailing wage job considerations, labor shortage, cost escalations, and the general state of the market
- Colas Construction’s story

ALBERTA ALIVE – GRAND AVE.
DETAIL OF FRAMING



ALBERTA ALIVE – 8TH Ave.
SCAFFOLDING



ALBERTA ALIVE – GRAND AVE.

