

FREEDOM'S PATH TO ZERO



Small Multifamily Housing for Veterans

Team EcoEDGE // Miami University



ECOEDGE TEAM

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



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Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



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OUR CLIENTS: VETERANS

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



MEETING THE VETERANS

An American flag is positioned in the center of the frame, set against a dramatic sunset sky with golden light and scattered clouds. The flag is partially obscured by the large, white, bold text of the title. The foreground shows a field of tall grasses, also bathed in the warm light of the setting sun.

SITE INFORMATION

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

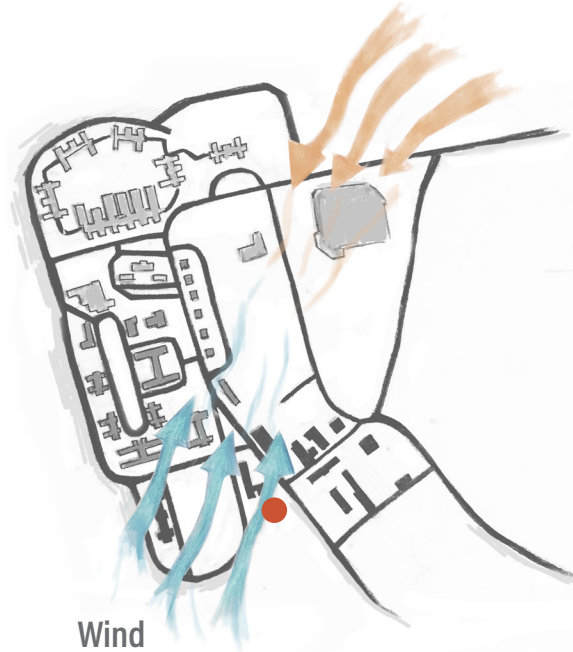
MEP + Geothermal

Innovation

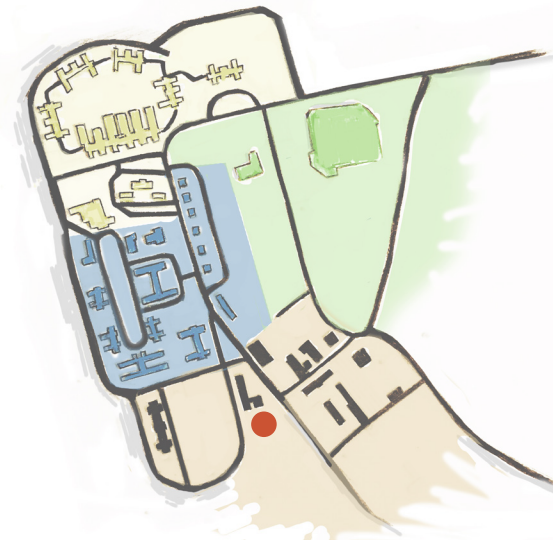
Closing Remarks



Vegetation



Wind



Function



Pedestrian Network



SITE PLAN

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



DESIGN GOALS

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

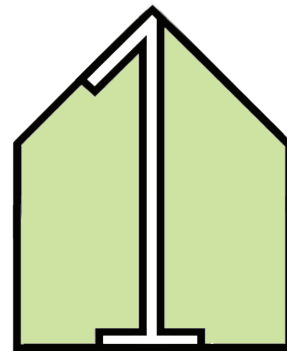
Envelope Performance

Air Quality

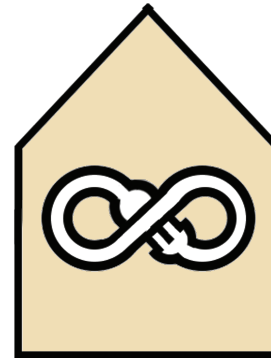
MEP + Geothermal

Innovation

Closing Remarks



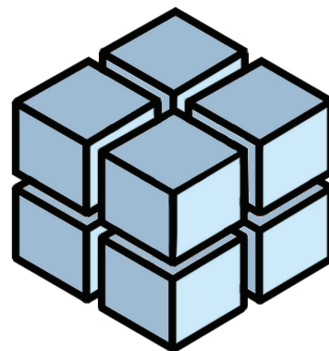
housing first



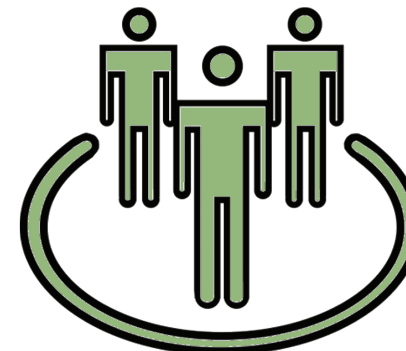
passive house



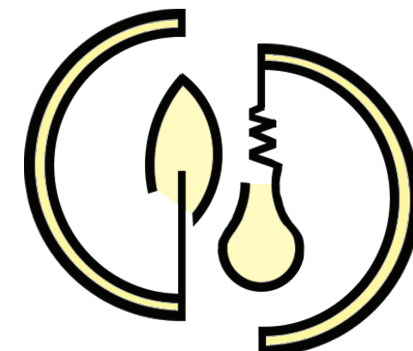
universal design
and accessibility



compartmentalization

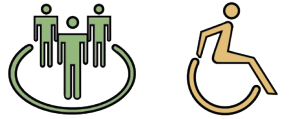


community



renewable resources

PLANS

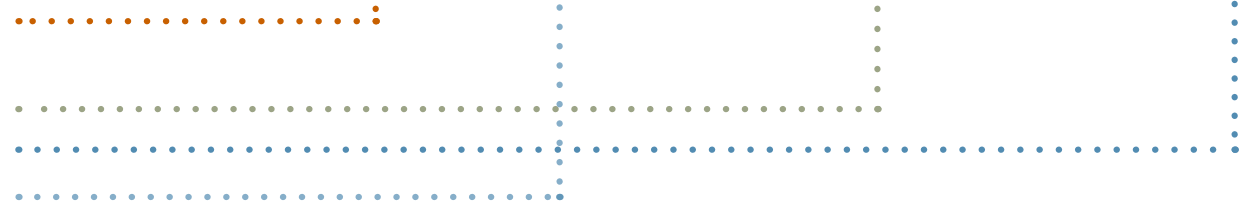


- Introduction
- Architecture**
- Interior Design
- Energy Analysis
- Financial Analysis
- Constructability
- Envelope Performance
- Air Quality
- MEP + Geothermal
- Innovation
- Closing Remarks

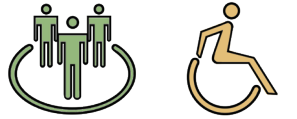


FLOOR ONE

- Administrative Offices
- Technology Center
- Community Space
- One Bedroom Unit
- Studio Unit
- Two Bedroom Unit



PLANS

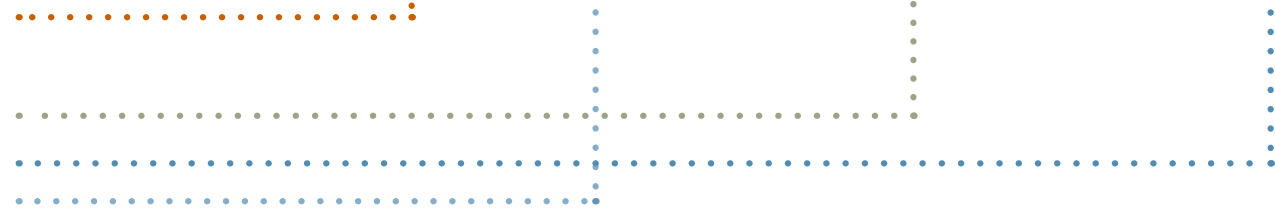


- Introduction
- Architecture**
- Interior Design
- Energy Analysis
- Financial Analysis
- Constructability
- Envelope Performance
- Air Quality
- MEP + Geothermal
- Innovation
- Closing Remarks

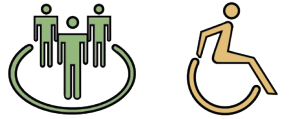


FLOOR TWO

- Community Kitchen & Dining Area
- Laundry Room
- Exercise Room
- One Bedroom Unit
- Studio Unit
- Two Bedroom Unit



PLANS



- Introduction
- Architecture**
- Interior Design
- Energy Analysis
- Financial Analysis
- Constructability
- Envelope Performance
- Air Quality
- MEP + Geothermal
- Innovation
- Closing Remarks



ACCESSIBILITY



Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

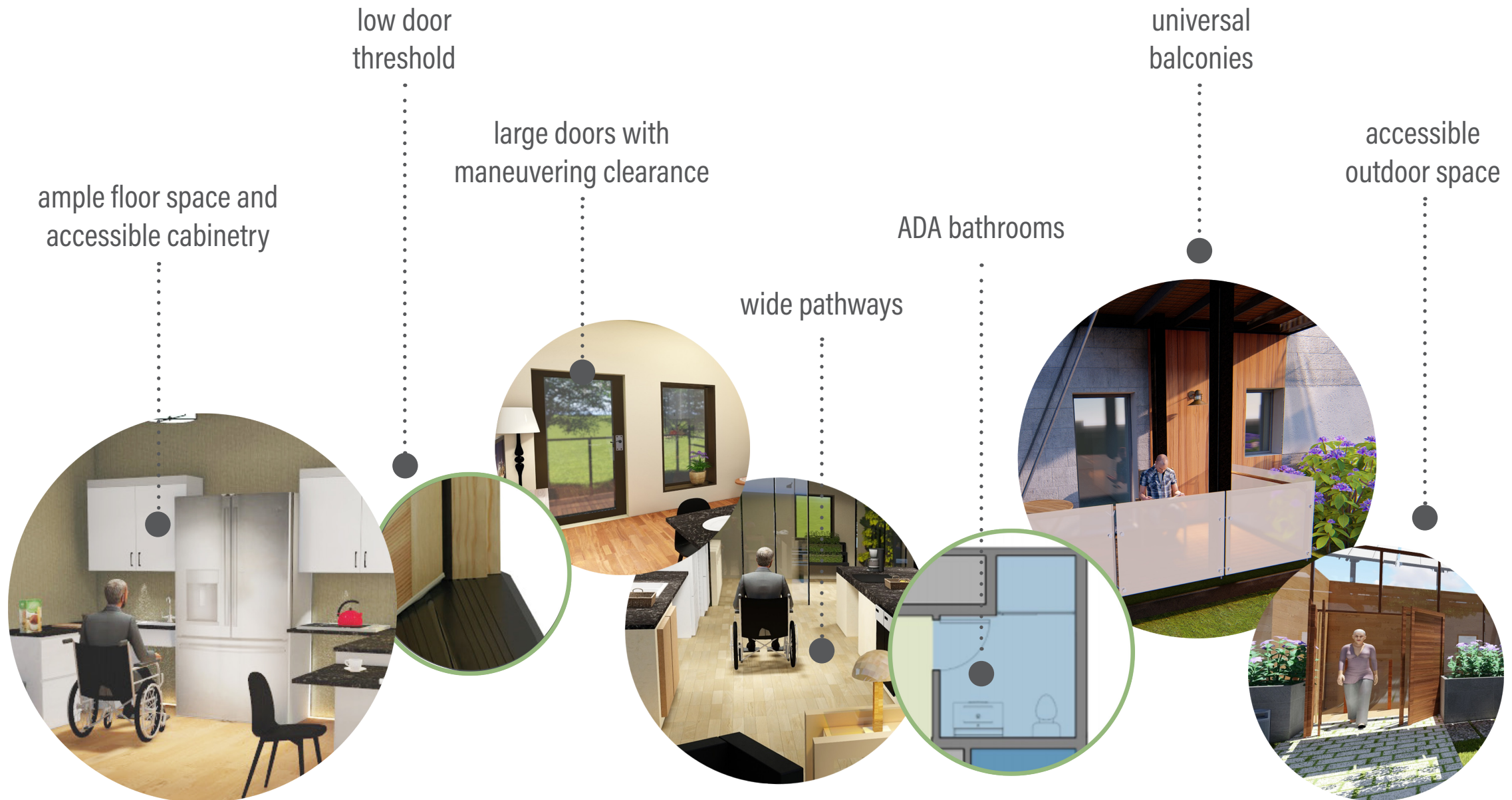
Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



UNITS

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

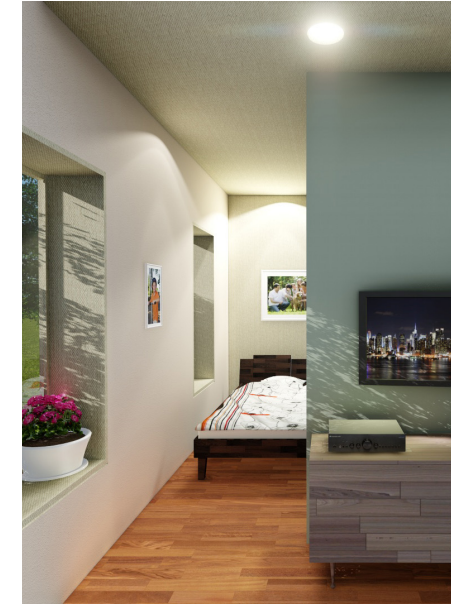
Closing Remarks



Two Bedroom Unit
915 sq. ft.



One Bedroom Unit
600 sq. ft.



Studio Unit
380 sq. ft.

UNIT MATERIALITY

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

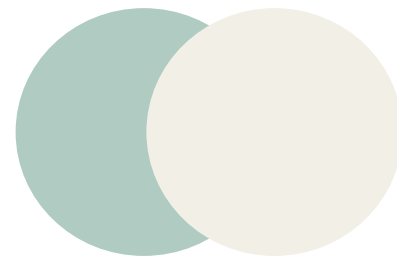
Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



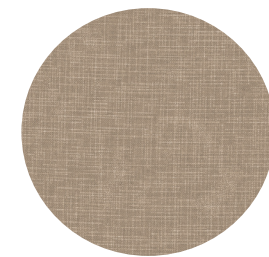
Maine Grey // Hush White
Paint



Maple
Cork Floor

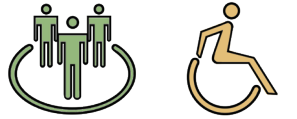


Harbor Grey
Countertops



Flaxseed Tweed
Cotton Fabric

COMMON SPACES



Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



Technology Center



Laundry Room



Administrative Offices



Community Kitchen and Dining (also known as the **BINGO** place)

REM/RATE

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

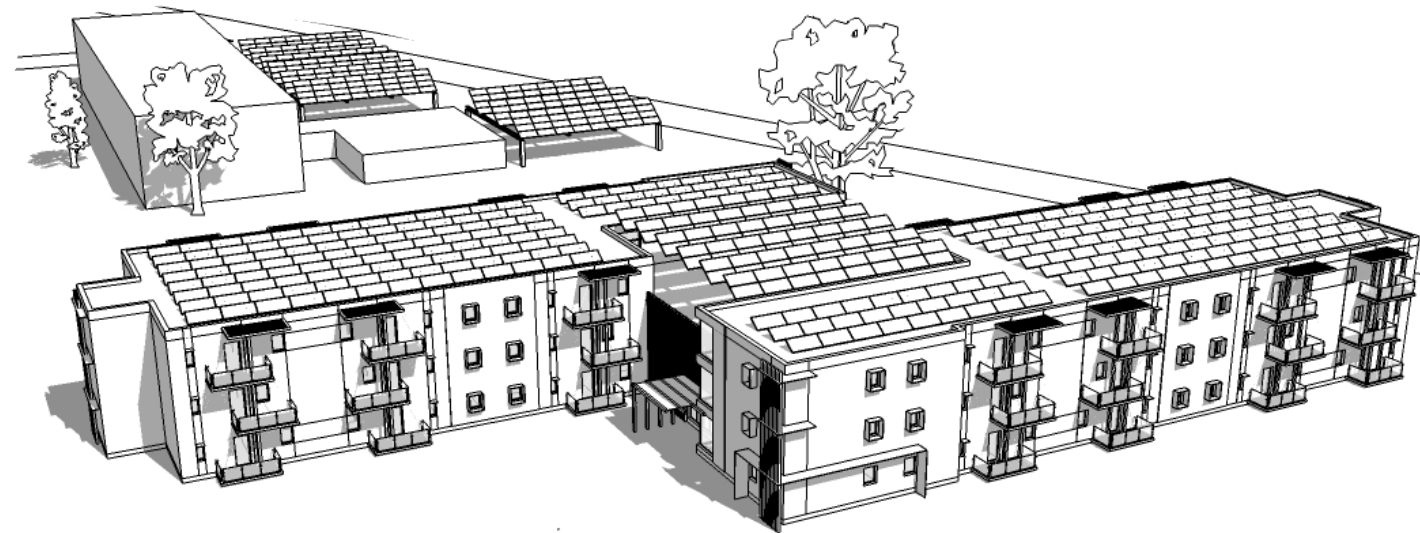
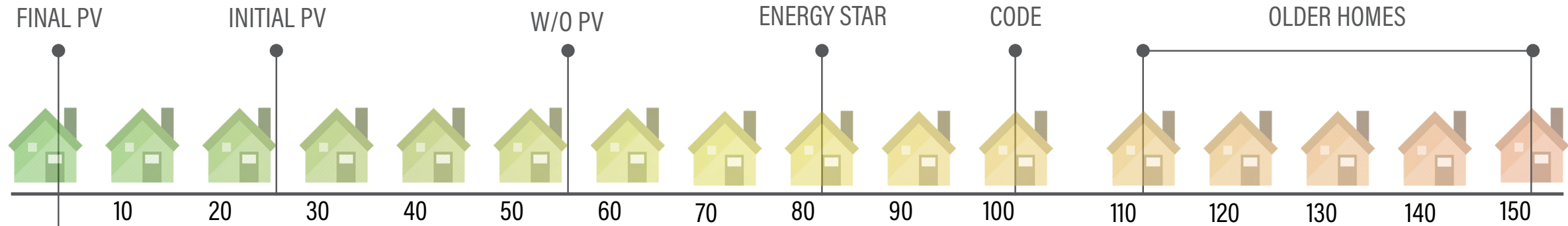
Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



PV Array Information	
With Extra Panels (Parking Lot)	
Size Of System	191.10 kW
# Of Panels	616
Pay-Back Period	30 Years
Kw Per Year	223,470
Without Extra Panels	
Size Of System	108.5 kW
# Of Panels	352
Pay-Back Period	17 Years
Kw Per Year	126,945

WUFI PASSIVE



Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

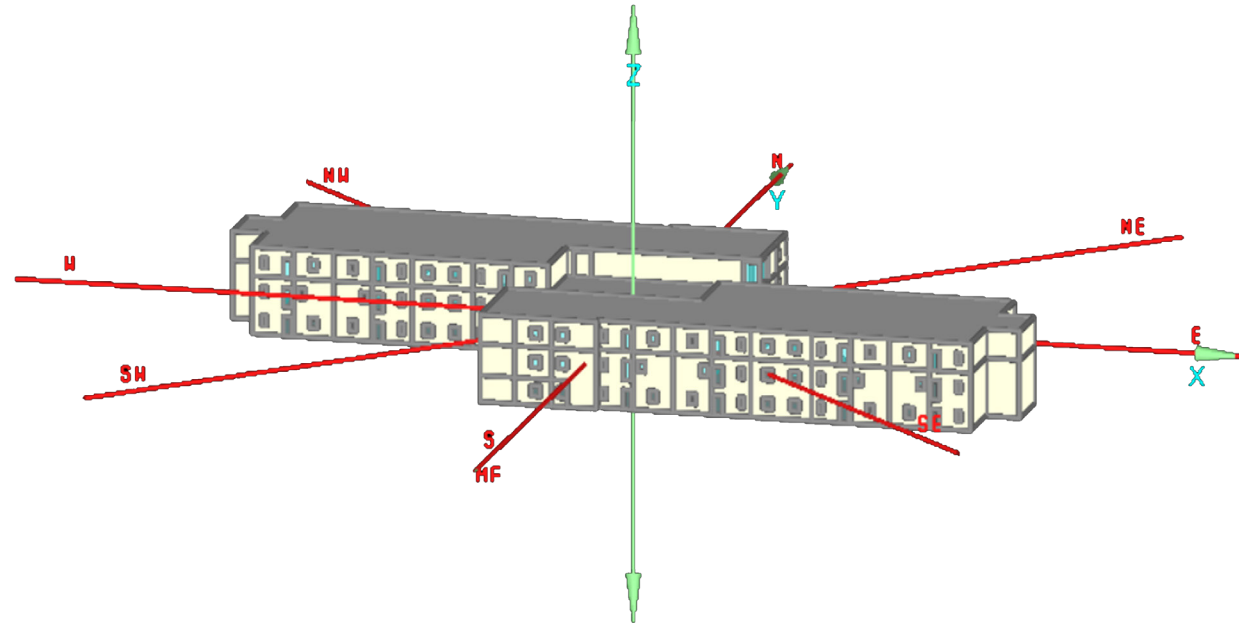
Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



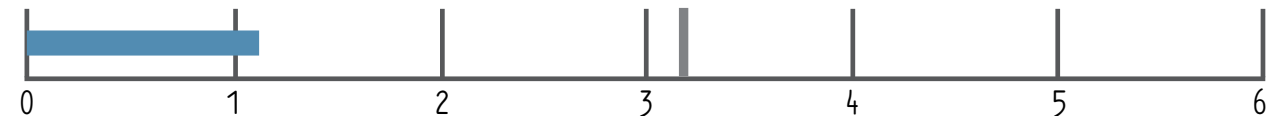
Heating Demand: **1.22** kBtu/ft²yr



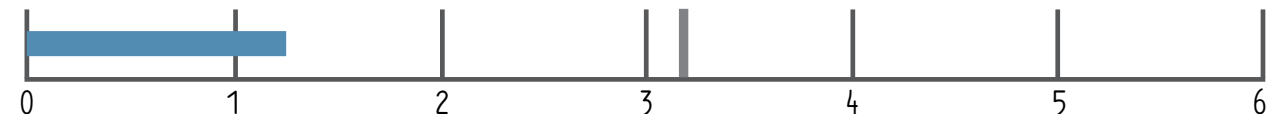
Cooling Demand: **1.48** kBtu/ft²yr



Heating Load: **1.12** kBtu/ft²yr



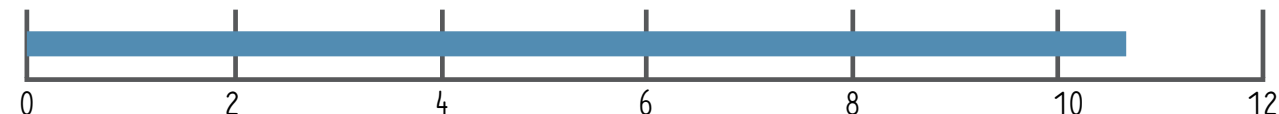
Cooling Load: **1.25** kBtu/ft²yr



Source Energy: **28.92** kBtu/ft²yr



Site Energy: **10.71** kBtu/ft²yr



FINANCIAL ANALYSIS

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

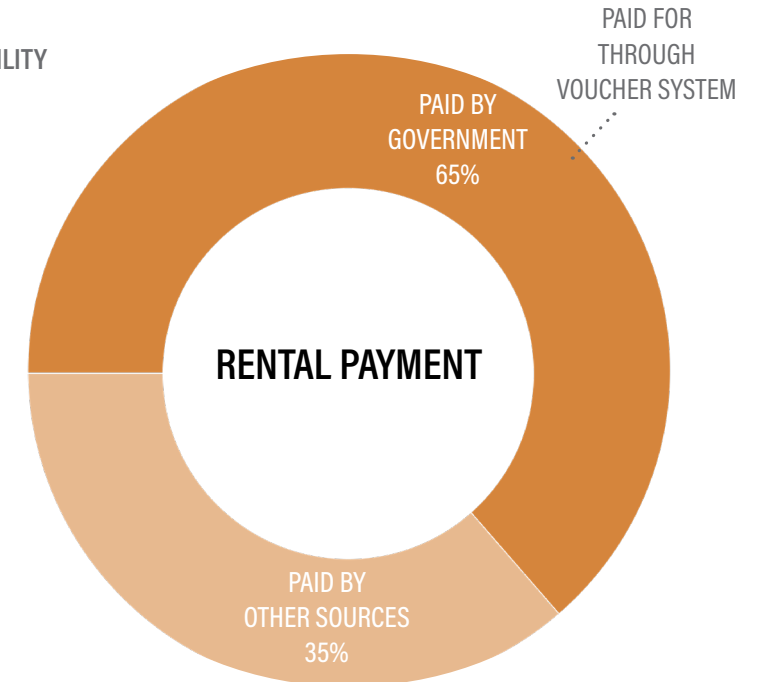
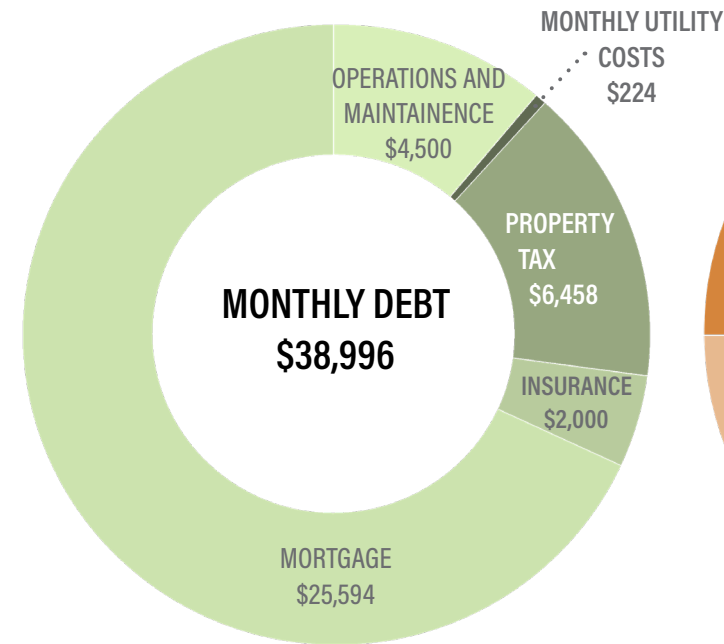
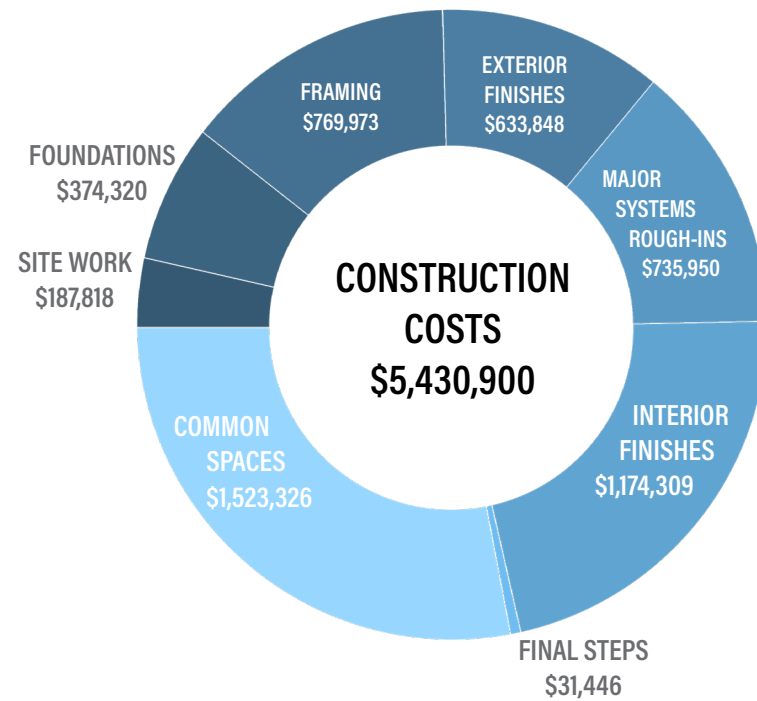
Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



RENT PRICING PER UNIT		
Unit Style	Unit Size	Unit Cost*
Studio	380 Sq. Ft.	\$450 Per Month
One Bedroom	600 Sq. Ft.	\$550 Per Month
Two Bedroom	915 Sq. Ft.	\$650 Per Month

Rent pricing is lower than average in this area.
 *These rent prices are factoring in VA Program and government allowance

CONSTRUCTION TIMELINE

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

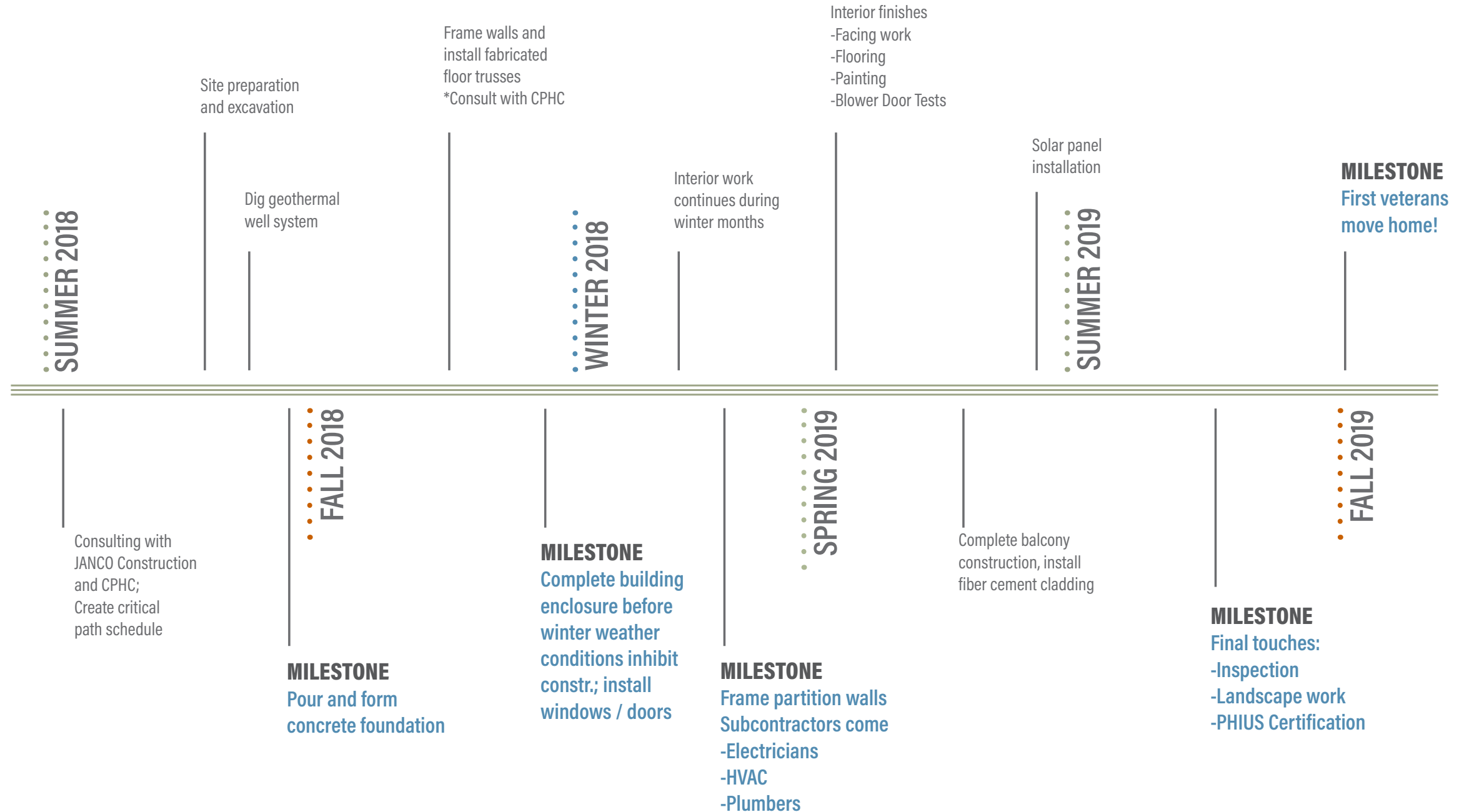
Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks

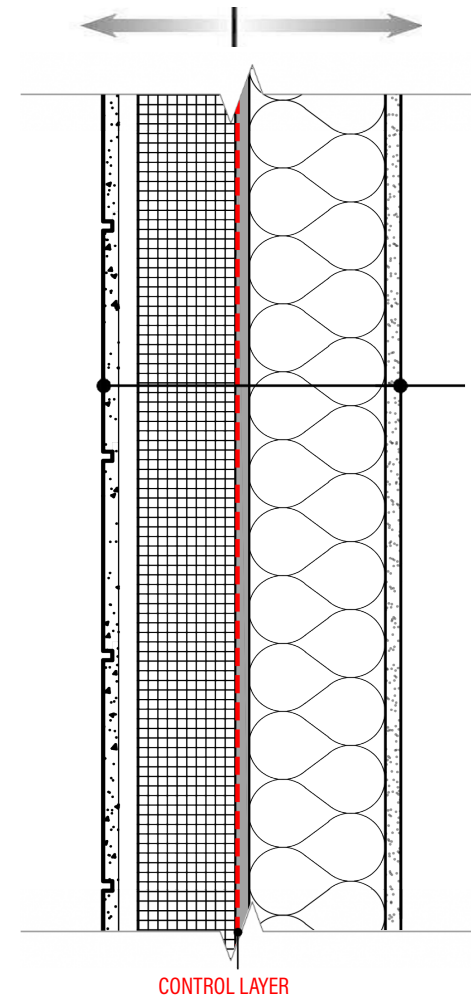
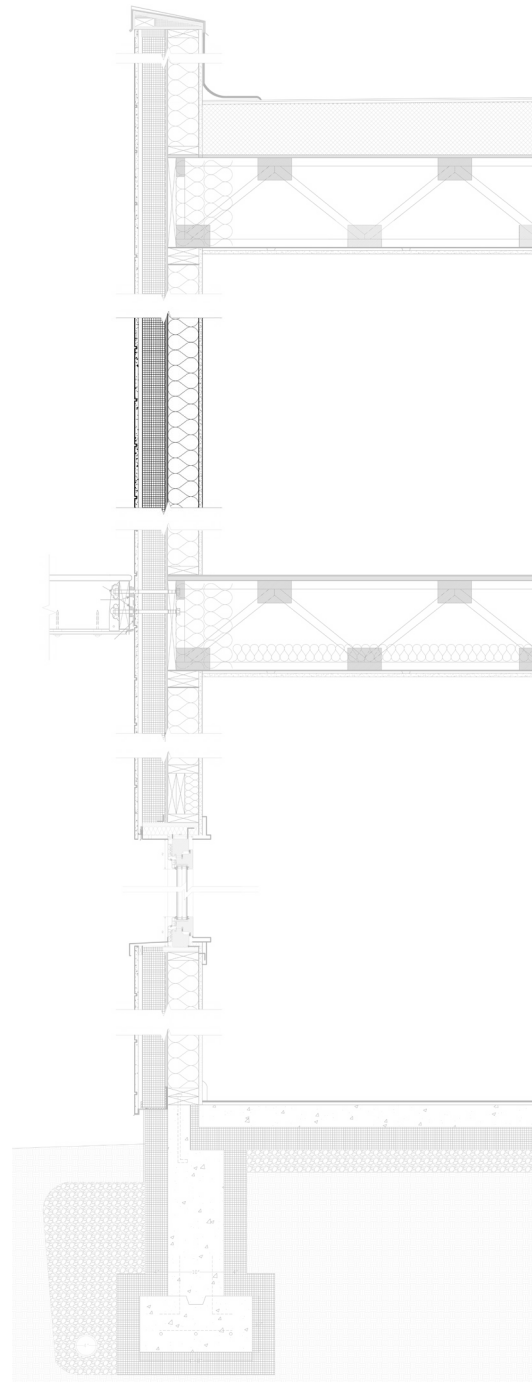




WALL SECTION DETAIL

2X6 WOOD-FRAMED EXTERIOR WALL (R-38)

- Introduction
- Architecture
- Interior Design
- Energy Analysis
- Financial Analysis
- Constructability
- Envelope Performance**
- Air Quality
- MEP + Geothermal
- Innovation
- Closing Remarks



From Exterior to Interior

- 5/8" Nichiha fiber cement board siding
- 3/4" Ventilated air gap, 1x4 vertical
Wood furring strips
- 4" Roxul Cavityrock DD
- 1/2" Zip panel system (air and vapor barrier)
- 2X6 Wood studs at 16" O.C., w/dense pack cellulose
- 5/8" Gypsum wall board

WINDOW SECTION DETAIL

GLO W7 TRIPLE PANE ALUMINUM WINDOW (R-7)



Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

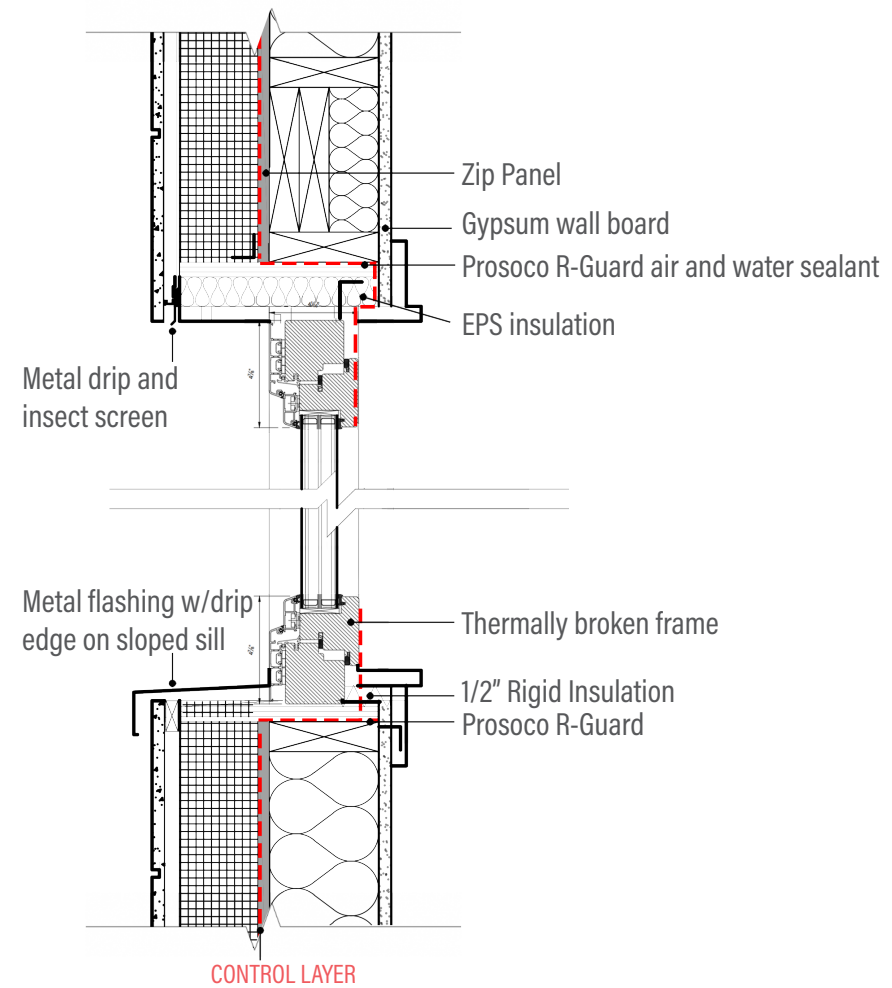
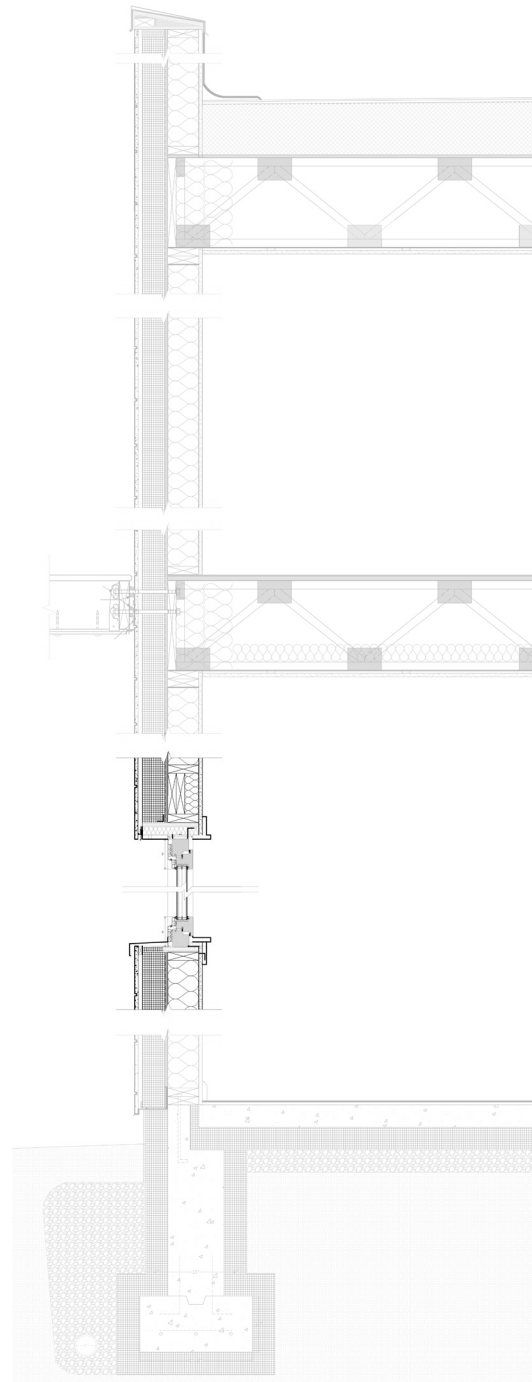
Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



IAQ: LOW-VOC MATERIAL SELECTION

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



Richlite Recycled
Paper Countertops

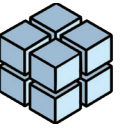


AFM Safecoat Paint



CorkCore Flooring

ERV



Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

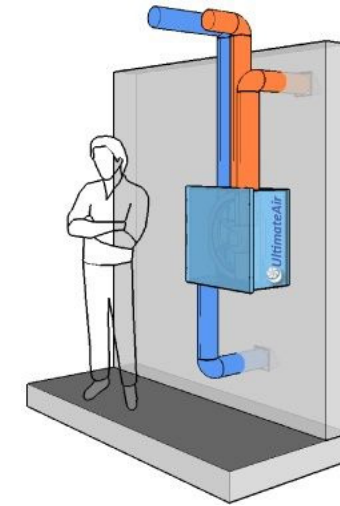
Envelope Performance

Air Quality

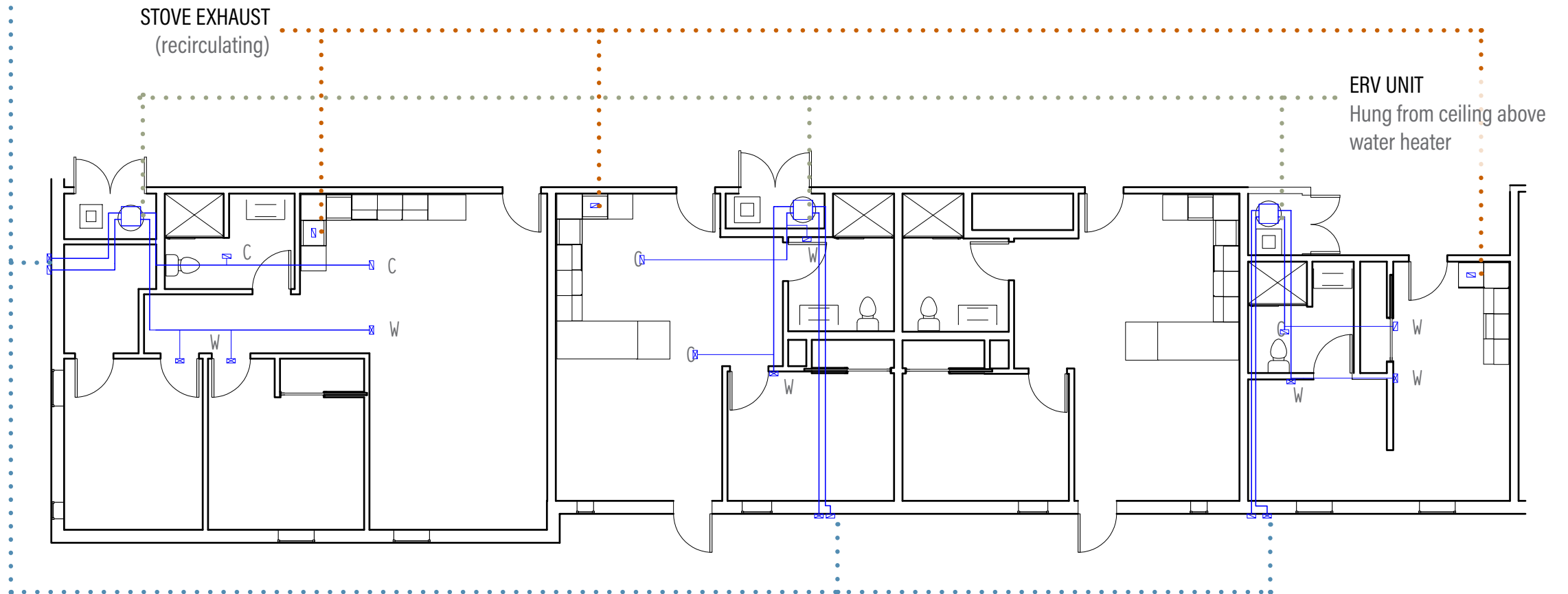
MEP + Geothermal

Innovation

Closing Remarks



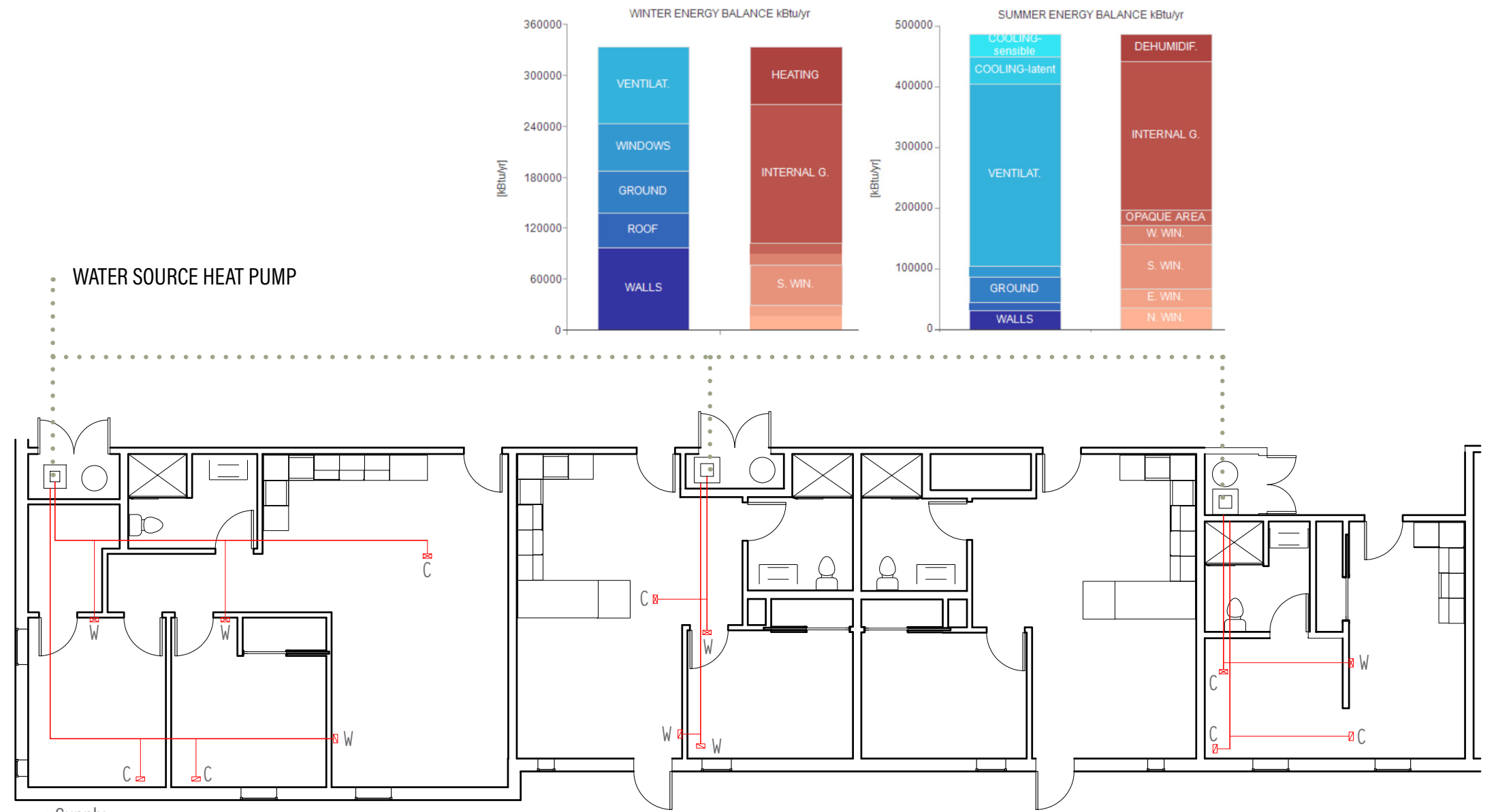
- EXTERIOR SUPPLY + EXHAUST
(Split vertically 6' apart; separation here is for graphic understanding)



GEOHERMAL HEATING AND COOLING



- Introduction
- Architecture
- Interior Design
- Energy Analysis
- Financial Analysis
- Constructability
- Envelope Performance
- Air Quality
- MEP + Geothermal**
- Innovation
- Closing Remarks



EXECUTIVE SUMMARY OF INNOVATION



Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks



OUR VISION

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks

FREEDOM'S PATH TO ZERO

seeks to *inspire* professionals in housing, government, and community development to create a future of accessible, attainable, and sustainable housing for Veterans in need.



THANK YOU

Introduction

Architecture

Interior Design

Energy Analysis

Financial Analysis

Constructability

Envelope Performance

Air Quality

MEP + Geothermal

Innovation

Closing Remarks

