

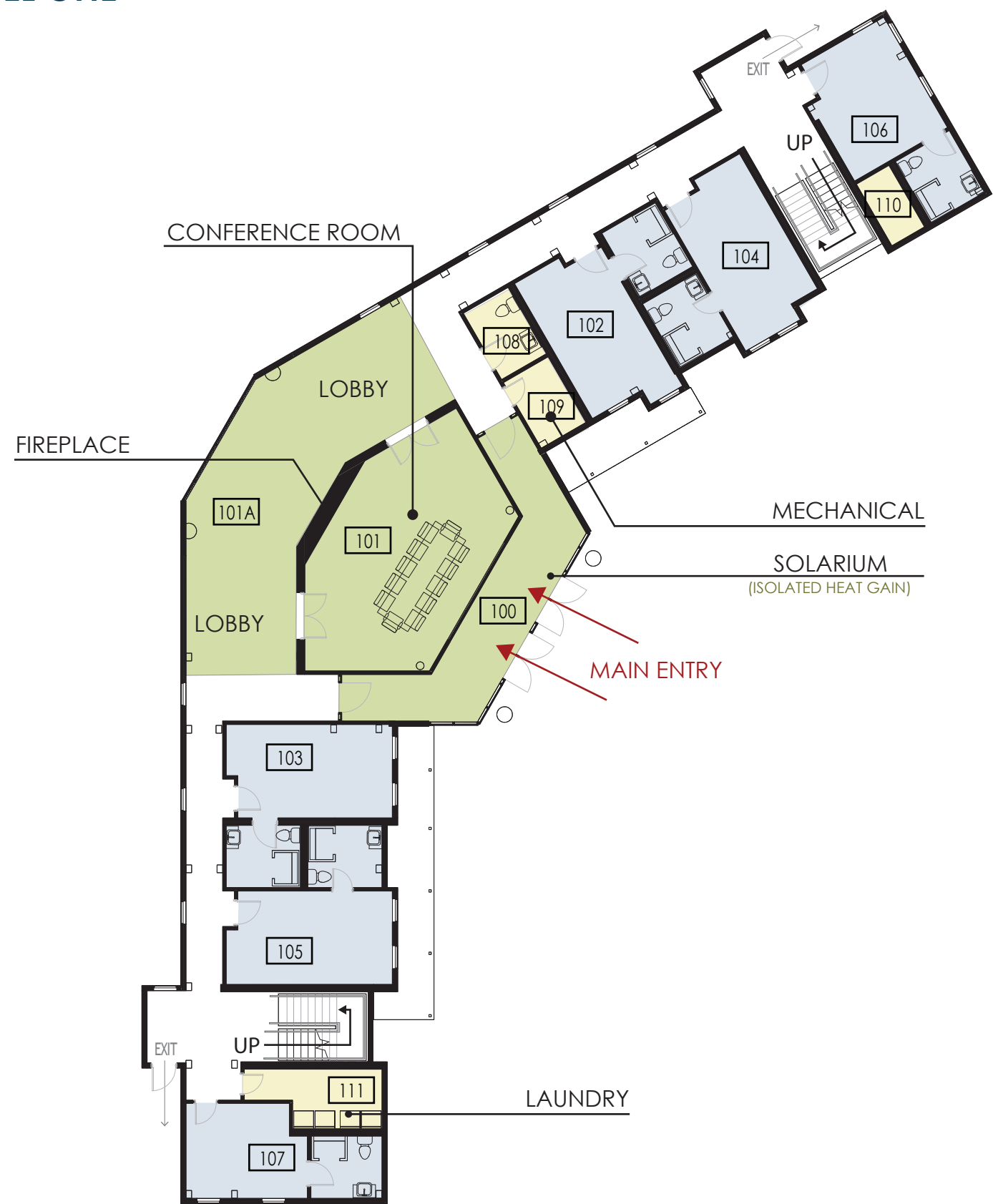
# WQW Ranch Design Update July 08, 2024

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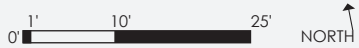


# VOLUNTEER LODGE Floor plans

## LEVEL ONE



## LEGEND



- ADA Guest Bedrooms (en-suite bathrooms)
- Community Space
- Support

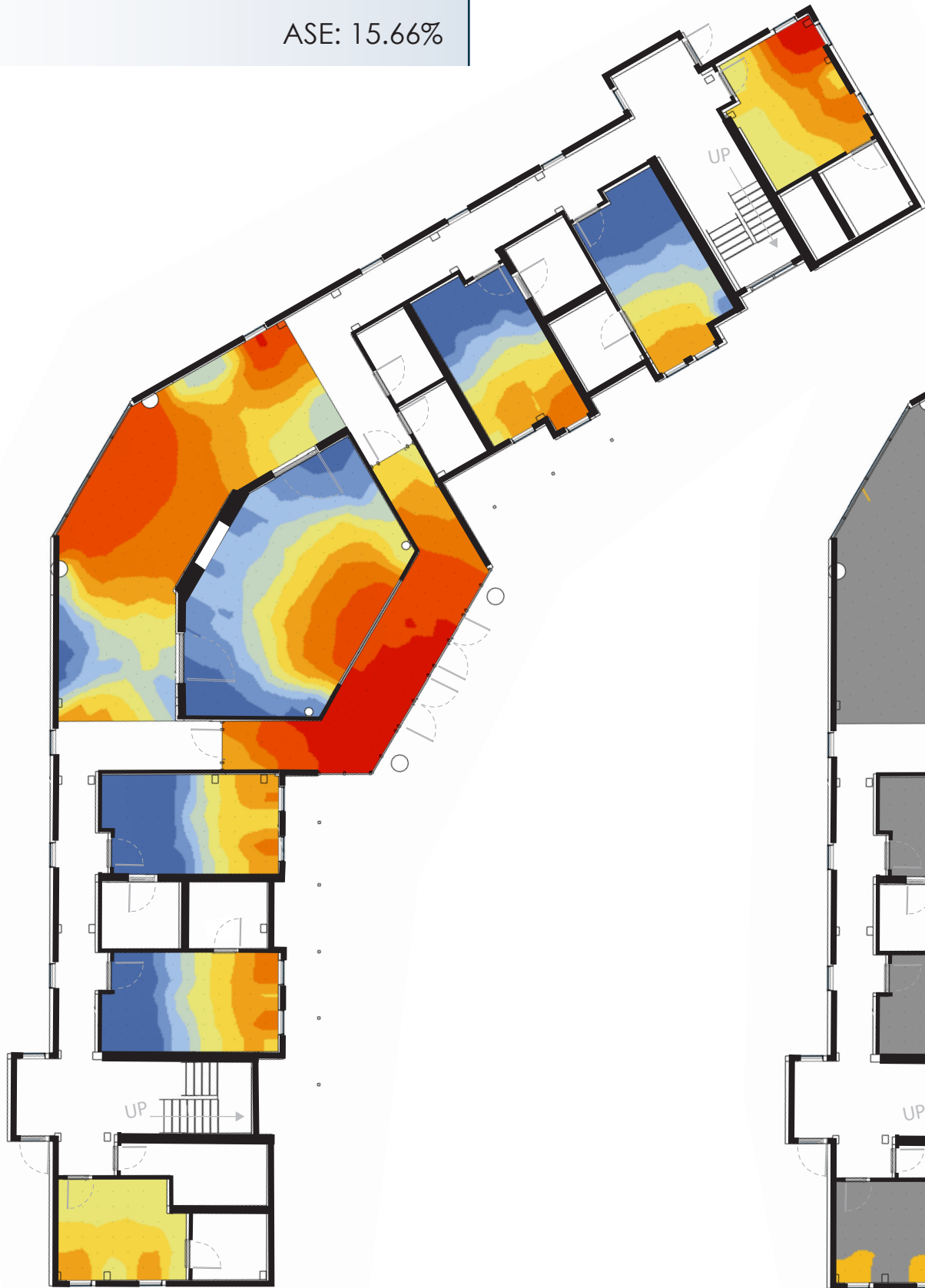
Room #	Area	Room Name
100	393 SF	Solarium
101	611 SF	Conference Room
101A	778 SF	Lobby
103	308 SF 232 SF 76 SF	ADA Guest Bedrooms Room En-Suite Restroom
105	309 SF 233 SF 76 SF	ADA Guest Bedrooms Room En-Suite Restroom
107	272 SF 196 SF 76 SF	ADA Guest Bedrooms Room En-Suite Restroom
102	308 SF 232 SF 76 SF	ADA Guest Bedrooms Room En-Suite Restroom
104	327 SF 251 SF 76 SF	ADA Guest Bedrooms Room En-Suite Restroom
106	298 SF 225 SF 73 SF	ADA Guest Bedrooms Room En-Suite Restroom
108	66 SF	Public Restroom
109	65 SF	Mechanical
110	44 SF	Mechanical
111	113 SF	Laundry
	1250 SF	Circulation
Total	5504 SF	Gross
Total	2957 SF	Net

# VOLUNTEER LODGE v4.1 LEED Daylight Analysis

## LEVEL ONE

sDA: 46.50%

ASE: 15.66%



## OVERALL BUILDING

### Level One

Lodge sDA: **49.85%**

Lodge ASE: **19.03%**

### Level Two

Lodge sDA: **46.50%**

Lodge ASE: **15.66%**

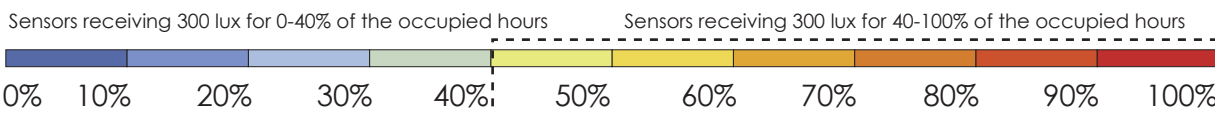
### Total

Lodge sDA: **48.46%**

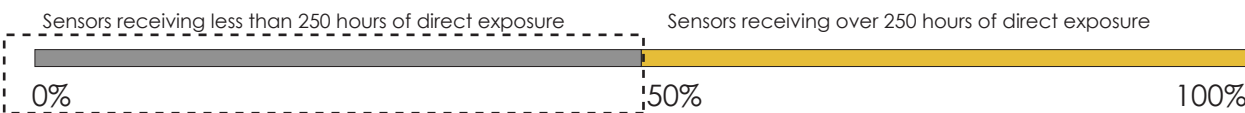
Lodge ASE: **17.80%**

**+1 LEED Credit**

### Daylight Autonomy Values Legend (sDA)

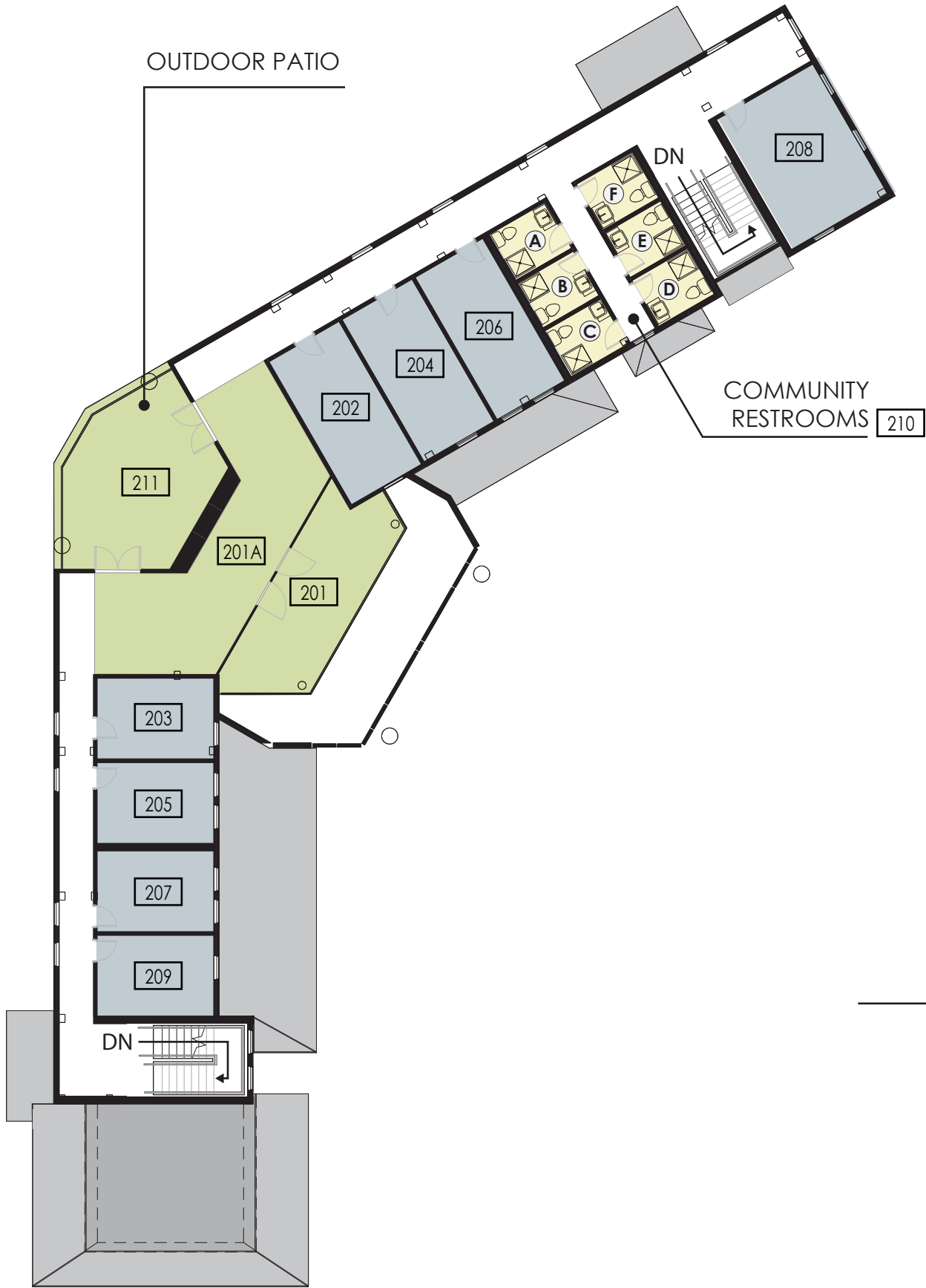


### Annual Sunlight Exposure Legend (ASE)



# VOLUNTEER LODGE Floor plans

## LEVEL TWO



### Building Totals

<b>Footprint:</b>	<b>5,504 ft<sup>2</sup></b>
Community:	2,581 ft <sup>2</sup>
ADA Rooms:	1,822 ft <sup>2</sup>
Non-ADA Rooms:	1,434 ft <sup>2</sup>
Support:	598 ft <sup>2</sup>
<b>Net ft<sup>2</sup>:</b>	<b>6,435 ft<sup>2</sup></b>
Outdoor Patio:	376 ft <sup>2</sup>
Circulation:	2,435 ft <sup>2</sup>
<b>Net Total</b>	<b>9,246 ft<sup>2</sup></b>
Height:	27' - 11"

## LEGEND



- Non-ADA Guest Bedrooms
- Community Space
- Support

Room #	Area	Room Name
201	297 SF	Solarium Overlook
201A	502 SF	Lobby
202	204 SF	Non-ADA Guestroom
204	203 SF	Non-ADA Guestroom
206	196 SF	Non-ADA Guestroom
208	255 SF	Non-ADA Guestroom
203	144 SF	Non-ADA Guestroom
205	144 SF	Non-ADA Guestroom
207	144 SF	Non-ADA Guestroom
209	144 SF	Non-ADA Guestroom
210	310 SF	Community Restrooms
A	52 SF	
B	51 SF	
C	52 SF	
D	52 SF	
E	51 SF	
F	52 SF	
211	376 SF	Outdoor Patio
	1185 SF	Circulation

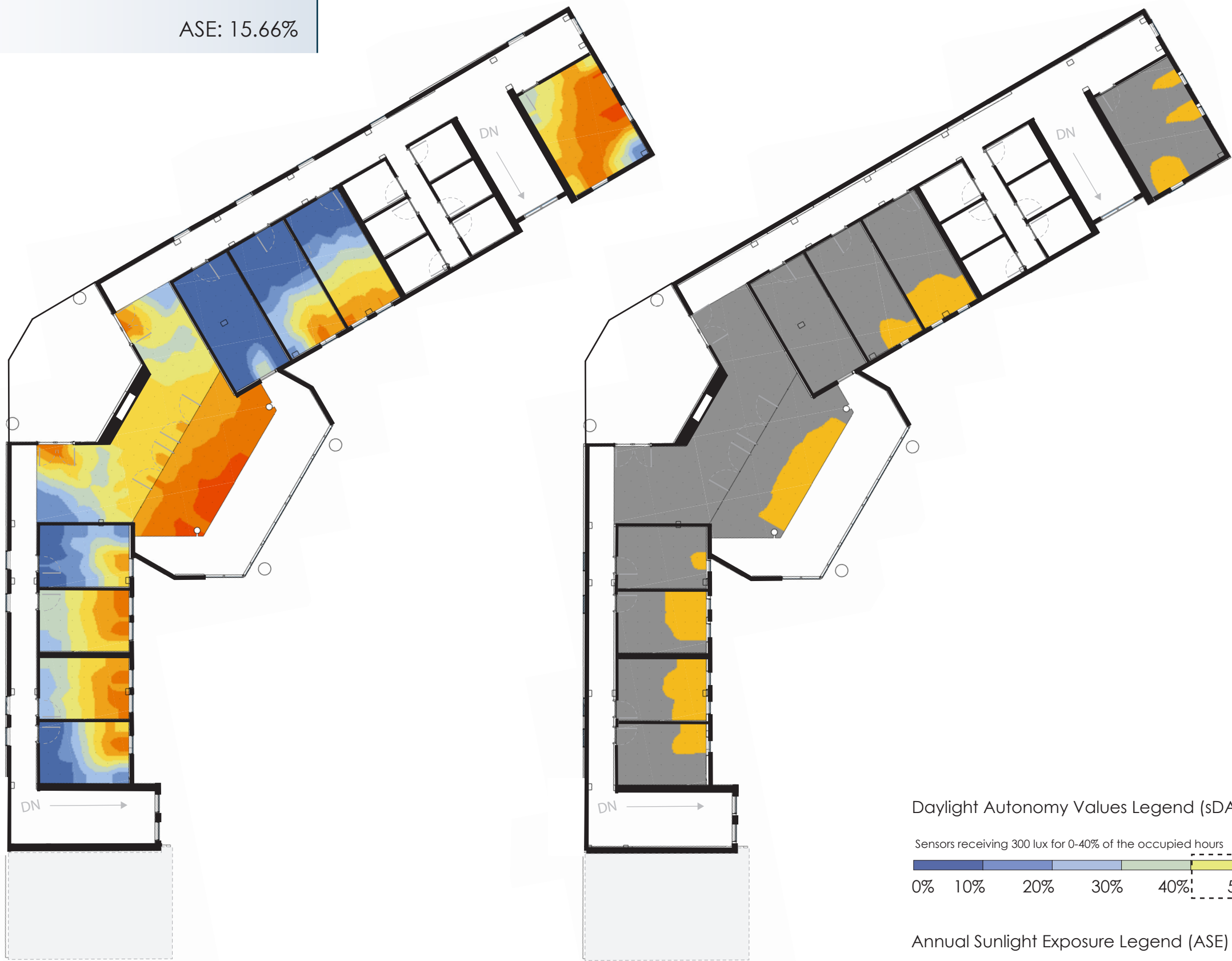
<b>Total</b>	<b>3942 SF</b>	<b>Gross</b>
<b>Total</b>	<b>2106 SF</b>	<b>Net</b>

# VOLUNTEER LODGE v4.1 LEED Daylight Analysis

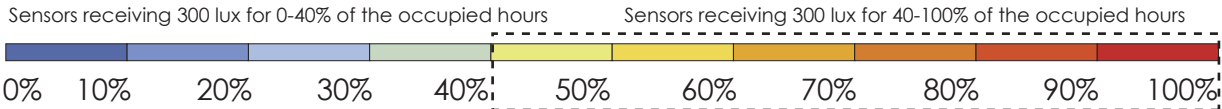
LEVEL TWO

sDA: 46.50%

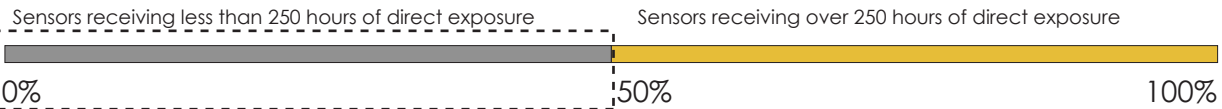
ASE: 15.66%



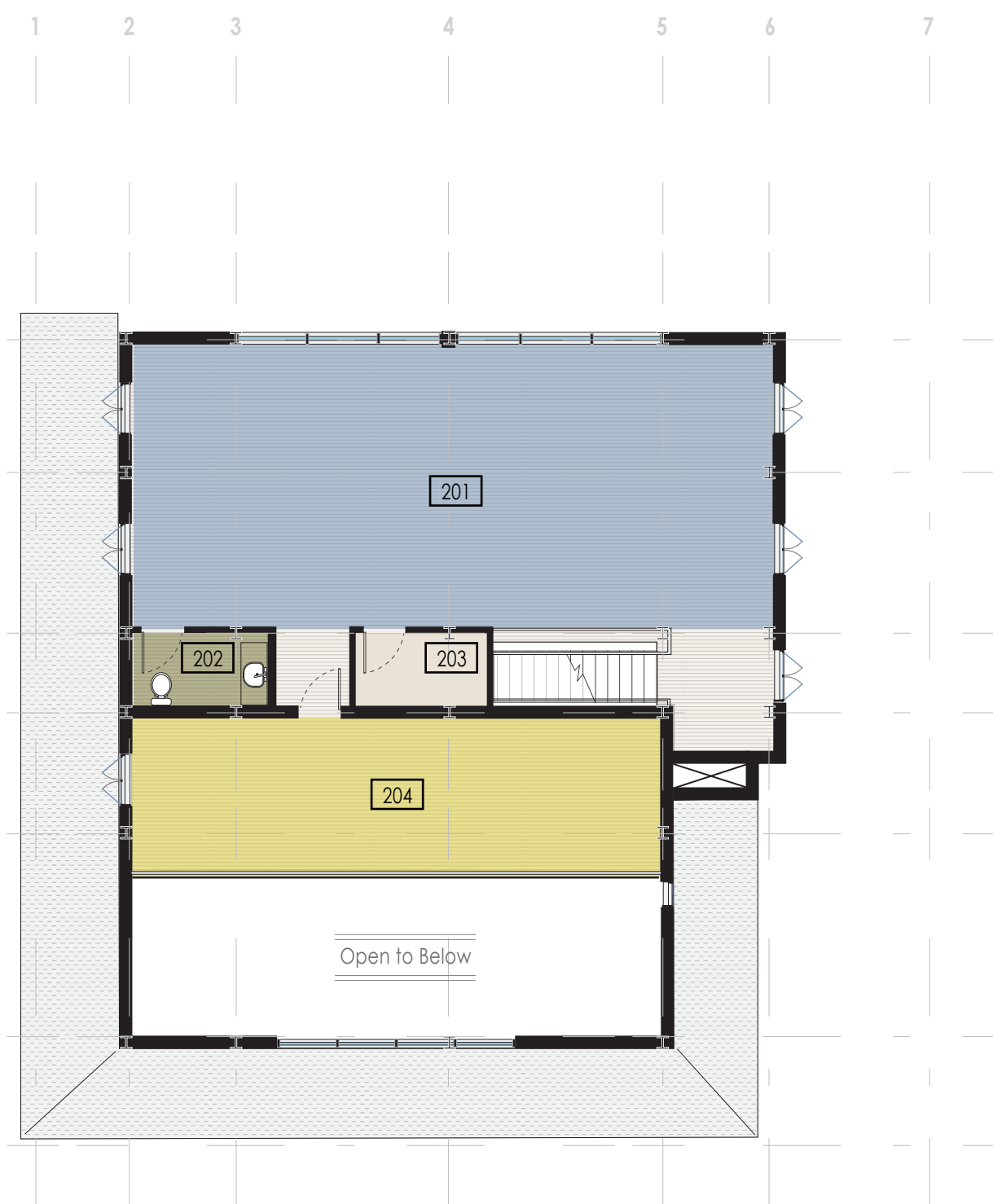
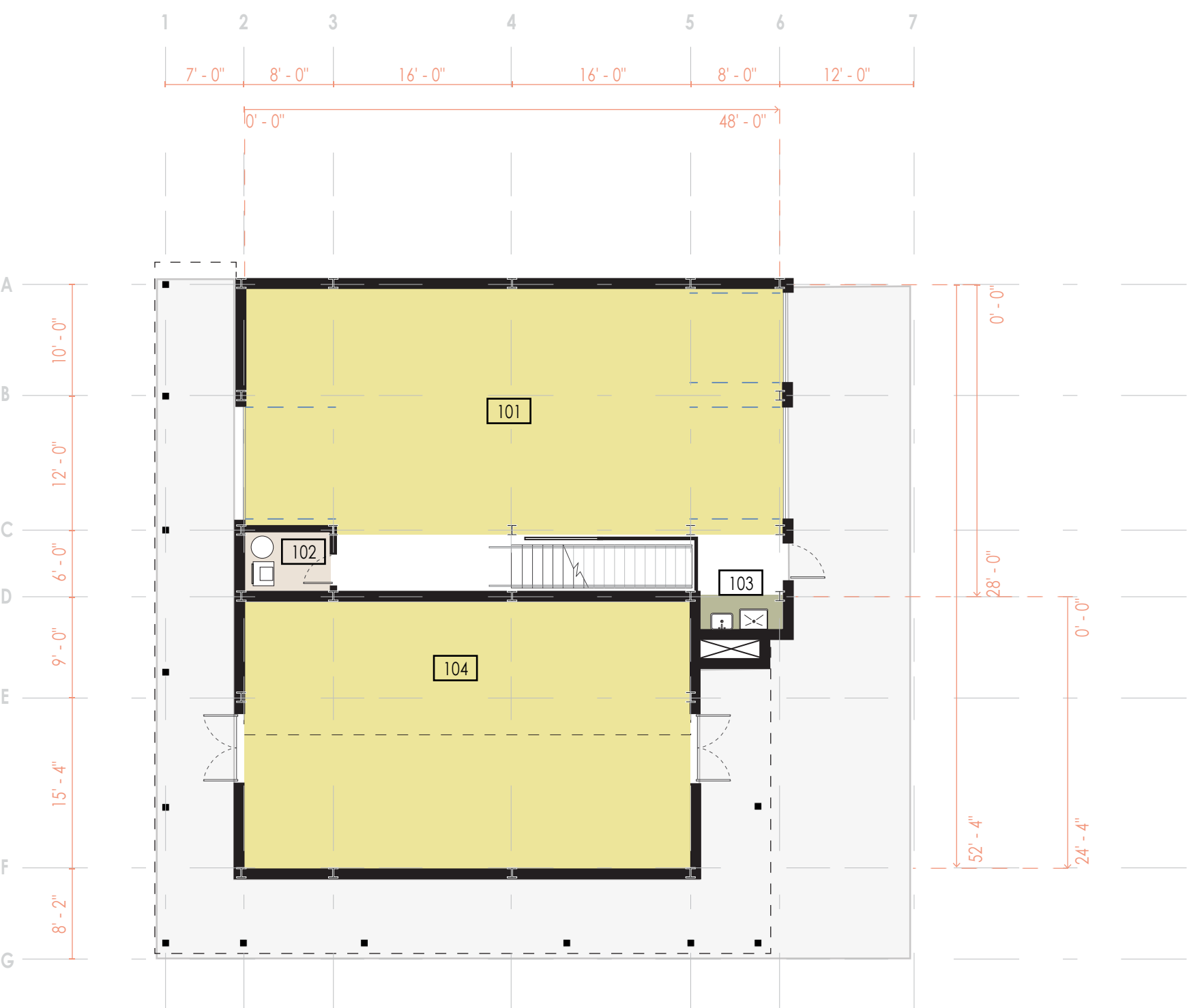
Daylight Autonomy Values Legend (sDA)



Annual Sunlight Exposure Legend (ASE)



# STORAGE GARAGE Floor plans



LEGEND				Level One			Level Two			Totals	
<div></div>	Storage	Room #	Area	Room Name			Room #	Area	Room Name		
<div></div>	Mixed-Use	101	1120 ft²	Pull Through Storage			201	1120 ft²	Open Area Mixed-Use	Footprint:	2,345 ft²
<div></div>	Building Support	102	44 ft²	Mech.			202	59 ft²	Restroom	Net ft²:	3,786 ft²
<div></div>	Wash Facilities	103	27 ft²	Mud Room			203	56 ft²	Closet	Storage:	2,556 ft²
<div></div>	Concrete Pad	104	958 ft²	Isolated Storage			204	478 ft²	Isolated Storage	Isolated Storage:	1,436 ft²
<div></div>	Roof	Total	2345 ft²	Gross			Total	1873 ft²	Gross	Mixed-Use:	1,120 ft²
		Total	2149 ft²	Net			Total	1637 ft²	Net	Height:	32' - 00"

Scale

0 ft10 ft25 ft50 ft

NORTH



# VOLUNTEER LODGE v4.1 LEED Daylight Analysis

## LEVEL ONE

sDA: 59.23%

ASE: 13.85%

## LEVEL TWO

sDA: 100%

ASE: 14.02%

## OVERALL BUILDING

### Level One

Garage sDA: **59.23%**

Garage ASE: **13.85%**

### Level Two

Garage sDA: **100.00%**

Garage ASE: **14.02%**

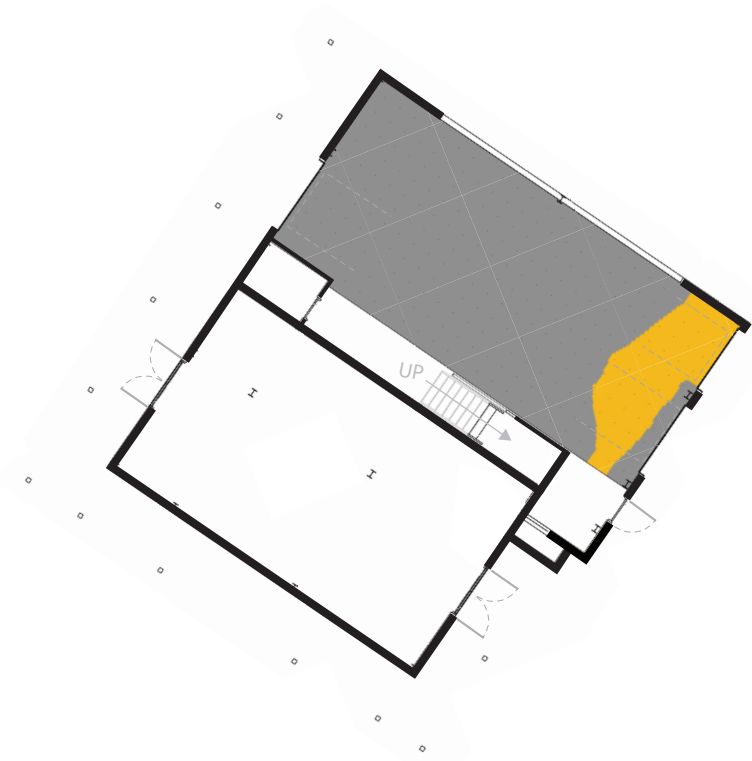
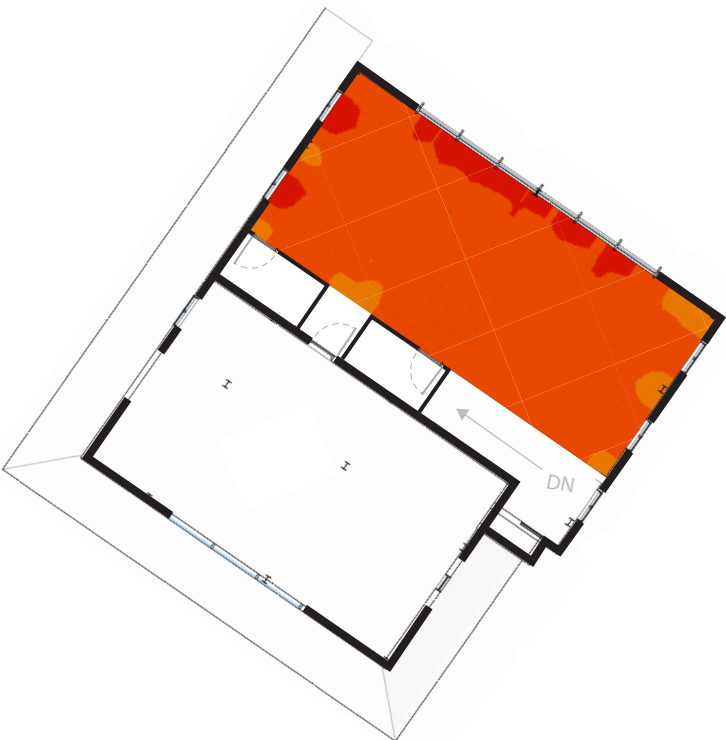
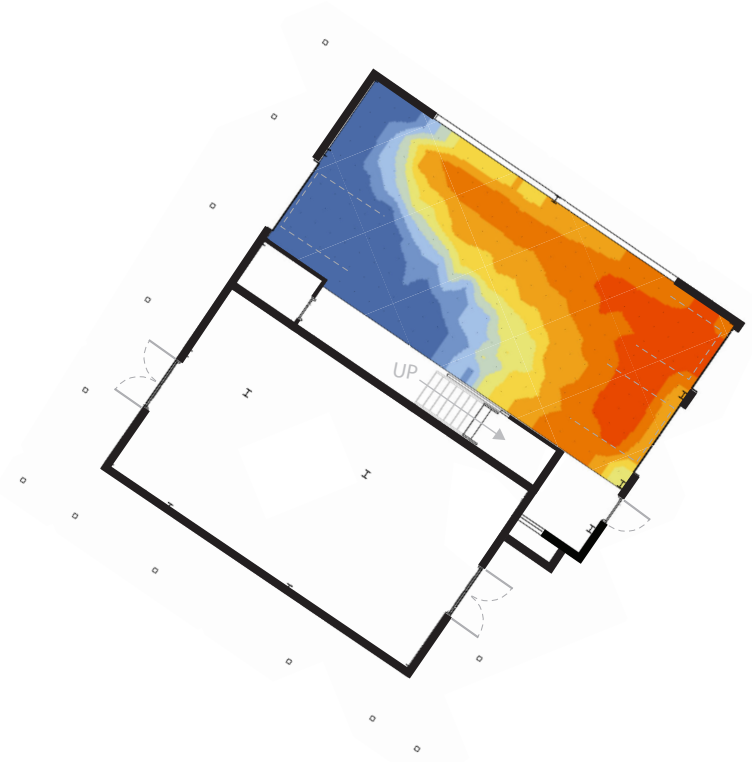
### Total

Garage sDA: **79.30%**

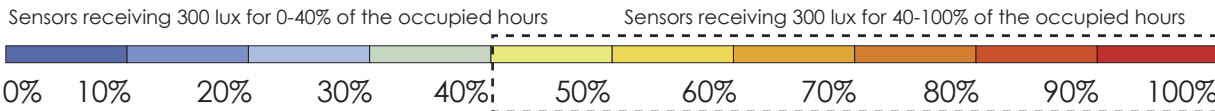
Garage ASE: **13.93%**

**+3 LEED Credit**

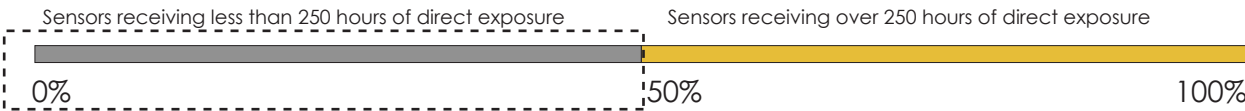
**+Exemplary Performance**



### Daylight Autonomy Values Legend (sDA)



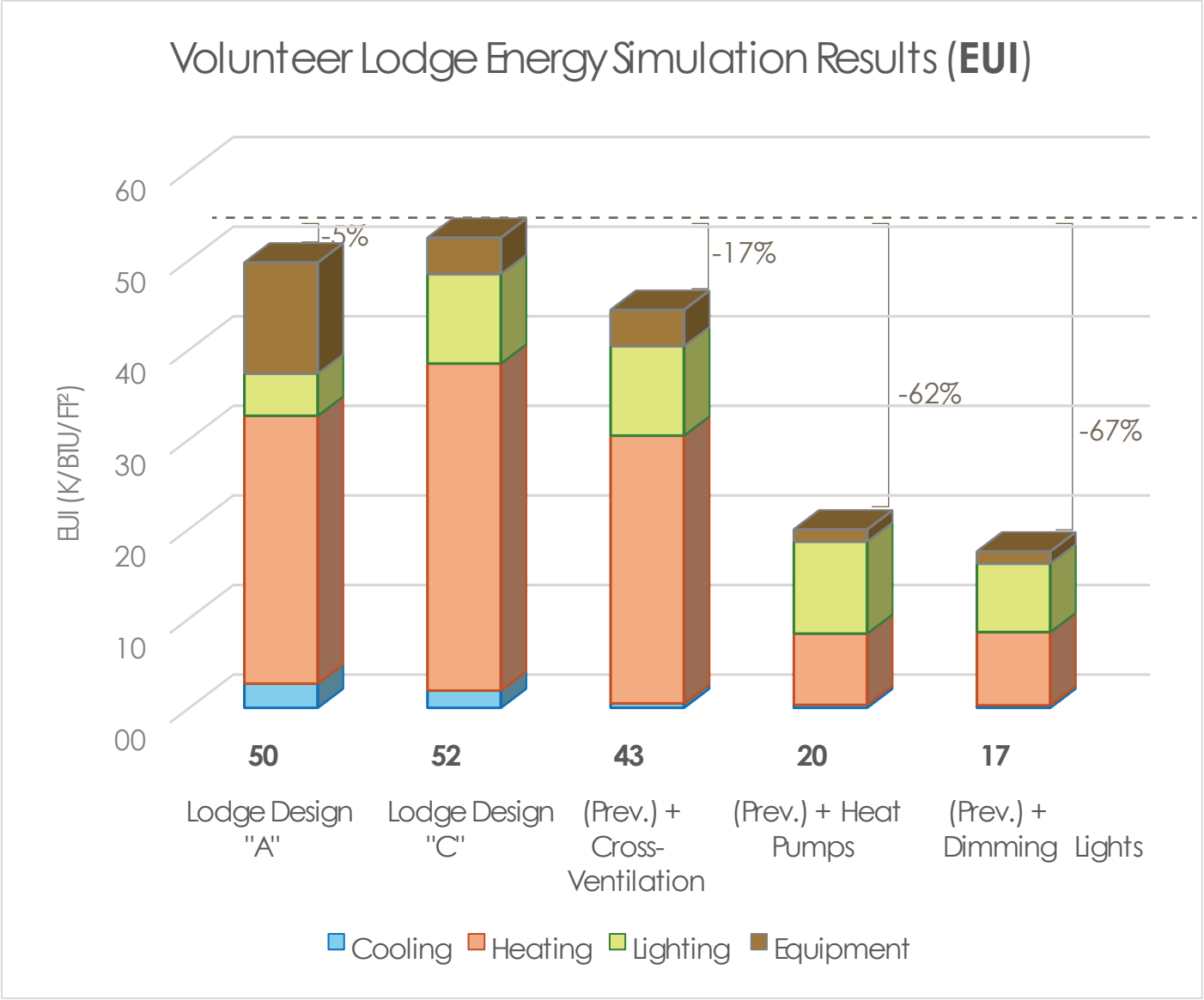
### Annual Sunlight Exposure Legend (ASE)



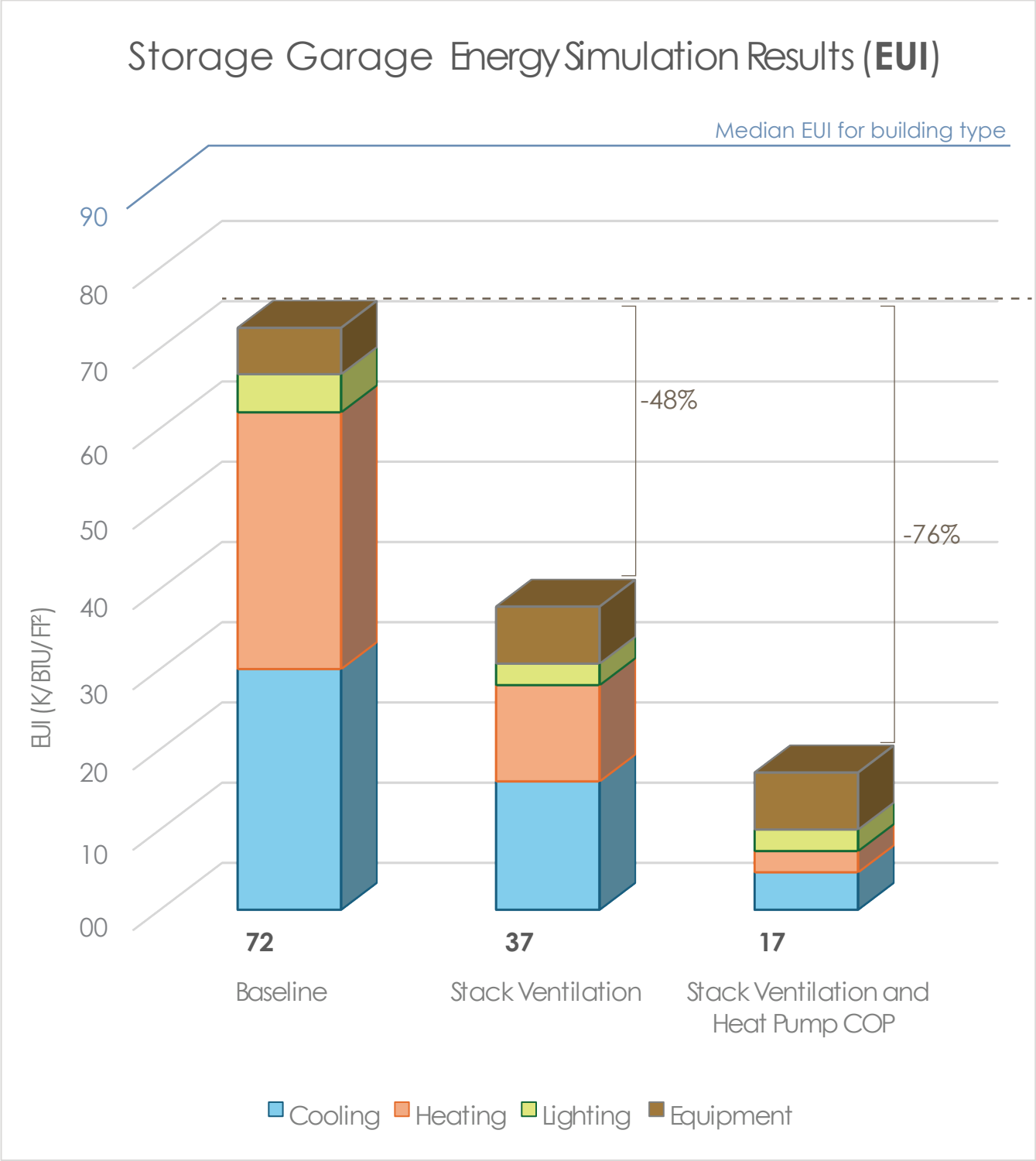
# ENERGY ANALYSIS

## Energy Analysis:

- Energy models were developed throughout the design process in order to make design decisions which could improve energy efficiency.
- Passive design iterations included cross-ventilation through the alignment of openings (windows) and stack ventilation through the solarium (lodge) and the solar chimney (storage garage).
- Active design elements included the use of energy efficient Heat Pumps, simulated by analyzing Heat/Cooling COP (Coefficients of Performance) and Building Control Systems simulated through the dimming of lights.



Above: A comparison chart demonstrating the energy saving potential of various design iterations for the storage garage. Stack ventilation from the solar chimney provided the most significant energy reduction.

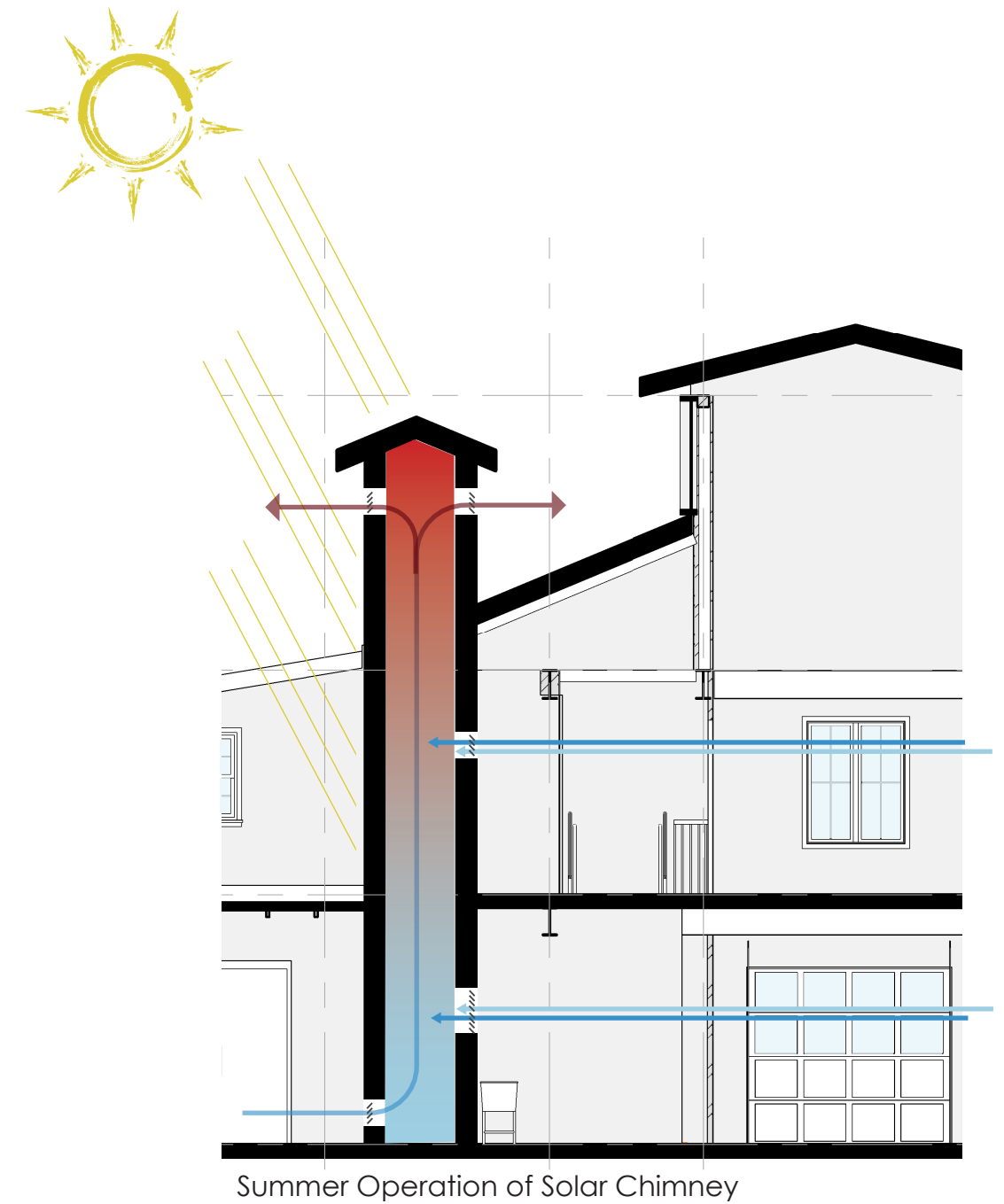
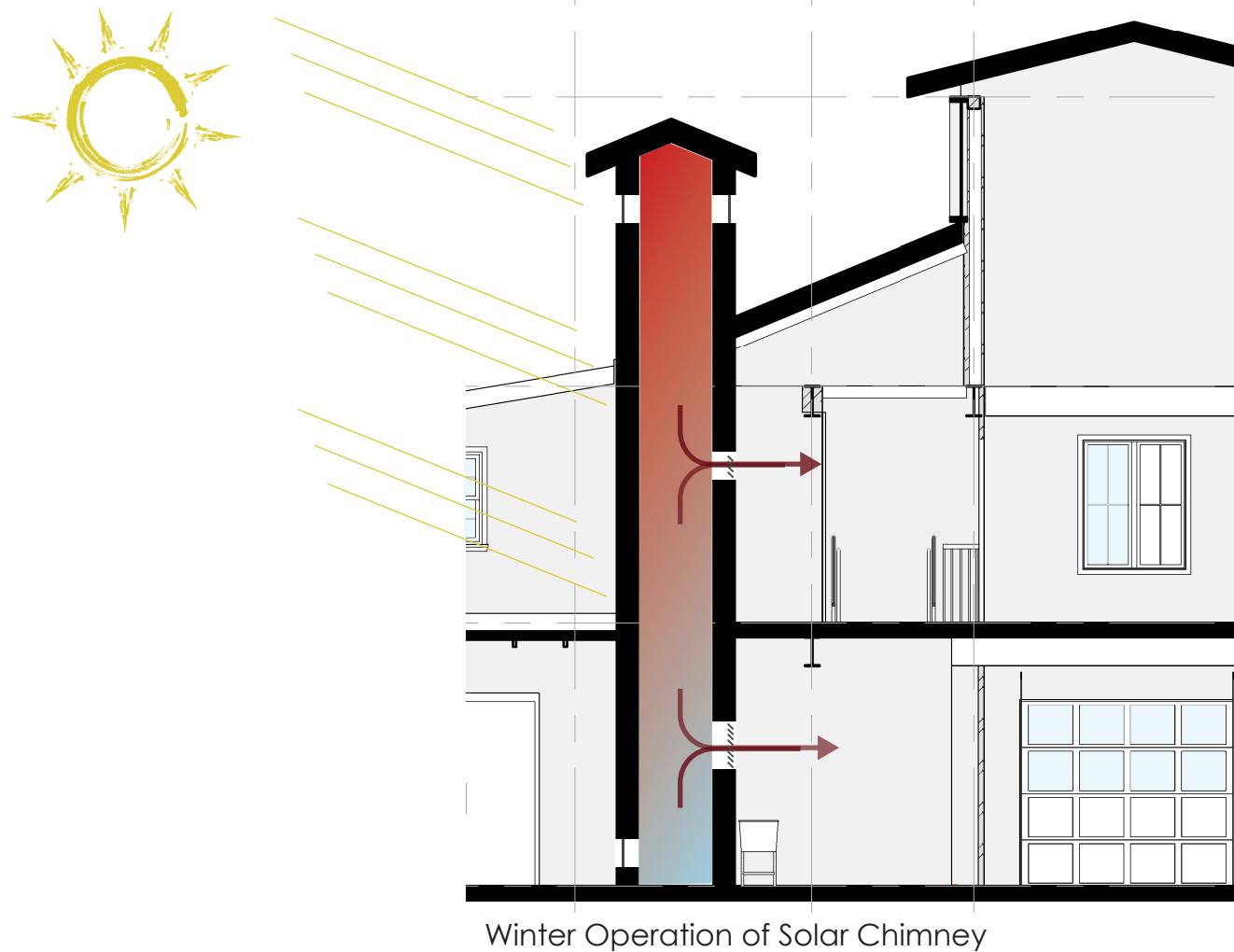


Above: A comparison chart demonstrating the energy saving potential\* of various design iterations for the volunteer lodge. Passive design techniques incorporated into the design provide a starting point well below the median EUI of 94 kBTU/ft² (not shown on graph.) \* Please note, these values are for design comparisons and do not reflect actual expected energy usage.

# STORAGE GARAGE Energy Analysis

## Energy Saving Strategies Applied:

- Clerestory Glazing
- North Oriented Glazing
- Solar Chimney
- Stack and Cross Ventilation
- Thermal Mass (Polished Concrete Flooring)
  - Night Flushing
- Heat Pump



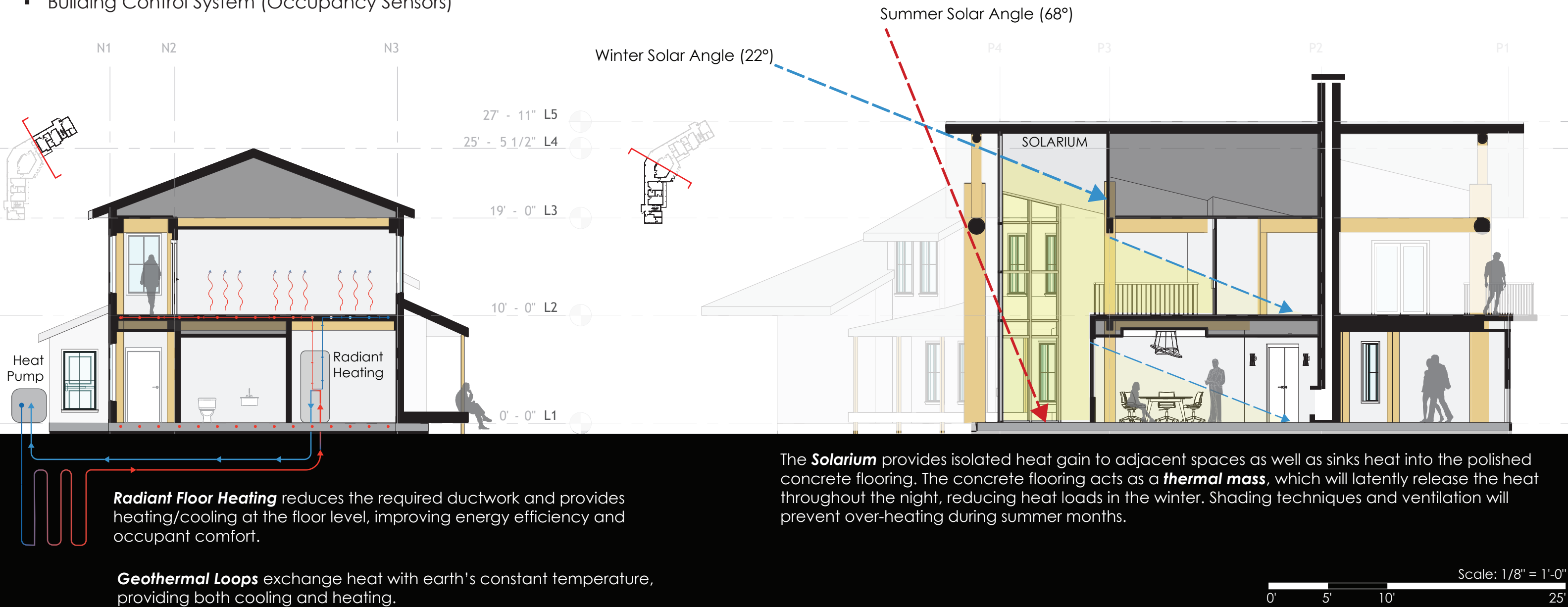


# VOLUNTEER LODGE

Energy Analysis

## Energy Saving Strategies Applied:

- Cross Ventilation
- Thermal Mass (Polished Concrete Flooring)
  - Night Flushing
- Heat Pump
- Solar Shading
- Solarium Vestibule
- Building Control System (Occupancy Sensors)







# SITE PLAN

## Landscape Features



### Amur Maple

Height: 15-20 ft  
Sun: Full Sun- Partial Shade  
Soil: Moist Well-drained soil, but can tolerate a range  
Water: Drought Tolerant  
Pruning: Every 4-5 years

- Relatively pest free
- Rich fall colors



### Purple Fountain Grass

Height: 4 ft  
Sun: Full Sun  
Soil: Well-drained  
Water: Drought tolerant  
Pruning: Annually (Fall)

- Attracts songbirds and other animals
- Pest resistant



### Dwarf Honeysuckle Bush

Height: 4 ft  
Sun: Full Sun- Partial Shade  
Soil: Well-drained  
Water: Drought tolerant after established  
Pruning: Optional

- Attracts songbirds and other wildlife



**Retaining Wall**



**Existing Road**



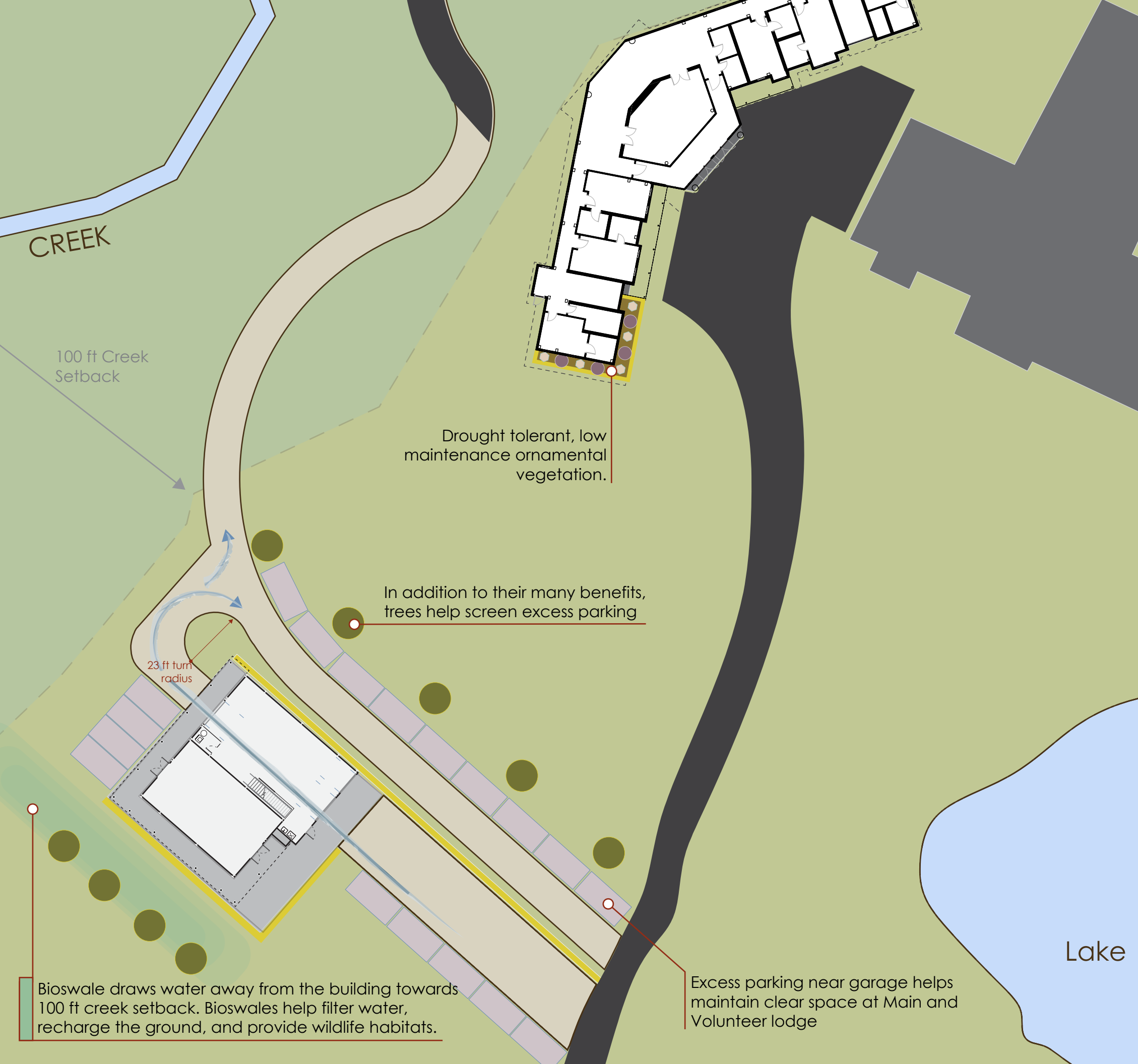
**Permeable Paving**



**Potential Street Parking**

Scale: 1/32" = 1'-0"

0' 25' 50' 100'





# Storage Garage | Exterior View



Solar Chimney

Reclaimed Lumber

Horizontal Shading

Permeable Paving

Reduces volume and pollution of water run-off  
Reduces storm water mitigation needs  
Recharges groundwater

Permeable Concrete

Regular Concrete

Overhang for exterior storage



# Storage Garage | Interior Render of Mixed-Use Space



Clerestory  
Glazing

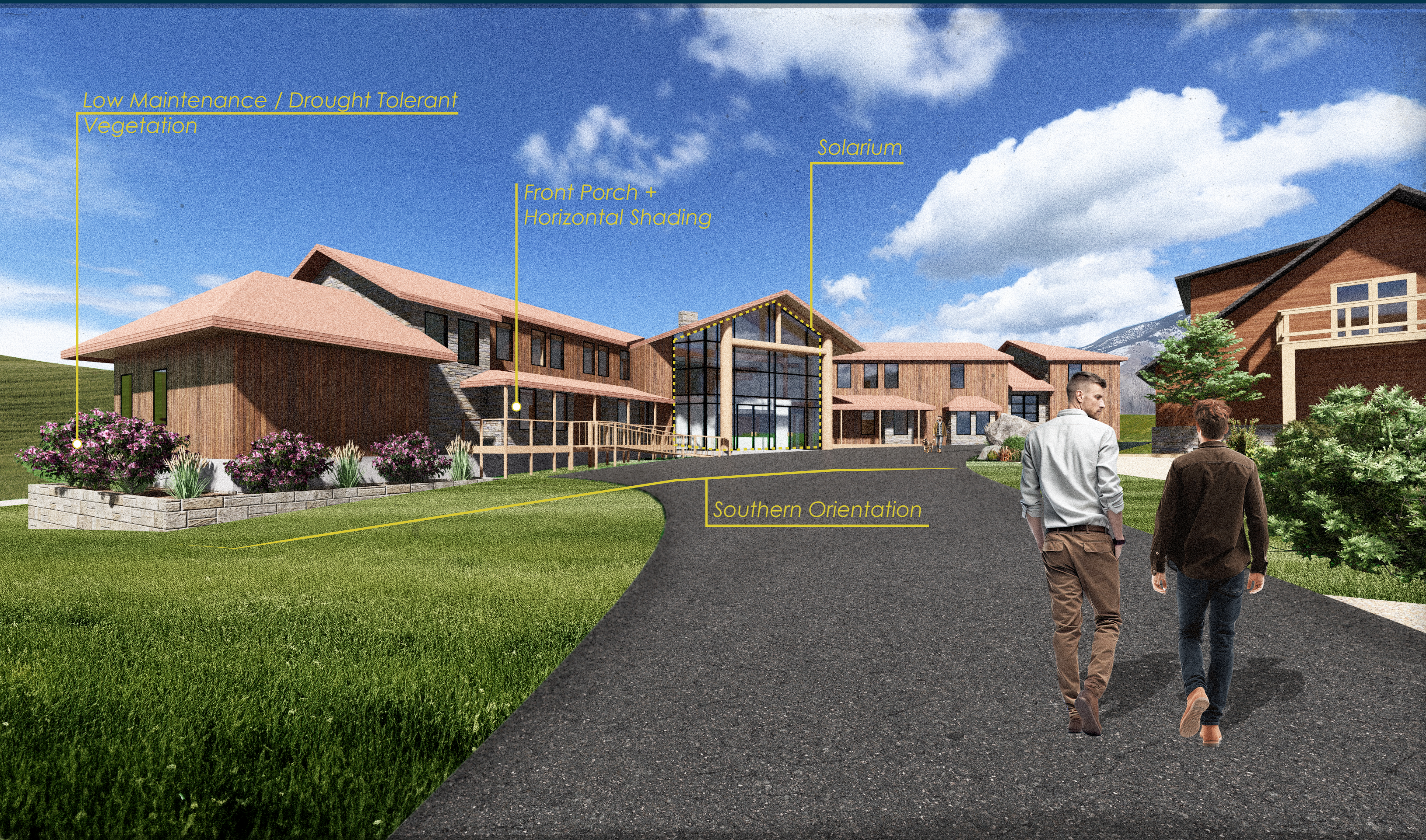
Northeast Glazing  
(exterior vertical shading)

Radiant Flooring (Polished Concrete on Steel Deck)



# Volunteer Lodge

External view, approach facing Northwest



Low Maintenance / Drought Tolerant  
Vegetation

Front Porch +  
Horizontal Shading

Solarium

Southern Orientation



# Volunteer Lodge

View from Main Lodge Garage Doors, facing Southwest





# Volunteer Lodge

| Interior render of Facilitation/Conference room

