



COMMUNAL HUB // STACKABLE, USABLE, LIVABLE  
ADRESA: 1380 M.N.M.  
555AT1 | WS22/23  
XIE LIANG (XAVIER), SEAH

## PROJECT SITE // KRKONOSE NATIONAL PARK



### CHOSEN SITE AND ITS ADVANTAGES

Existing sloping terrain provides good coverage against strong Southern and Western winds most of the year

Offers great views towards Labský důl (Elbe Valley)

Accessible and convenient as it is located near the main human and vehicular circulation routes

Potential to tap into the existing power grid and water supply points that is shared with the nearby restaurant (Vrbatova Bouda)



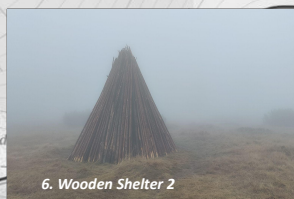
## SITE VISIT // JOURNEY MAP



4. Wooden Shelter 1



5. Bunkr H3/39/A-180 Z



6. Wooden Shelter 2



3. Vodopád Pančavy



2. Řopík (H3/40/A-160 Z)



1. Vrbatova Bouda



## ANALYSIS | TERRAIN

### Peaks

The highest points are highlighted as following

### Valleys

Grand valleys offering spectacular landscape views

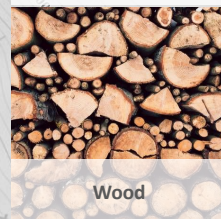
### Green Zones

Most areas in the national park are rich grasslands

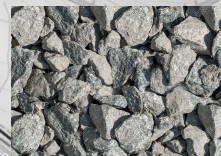
### Blue Zones

Small streams flowing to the east towards the waterfalls

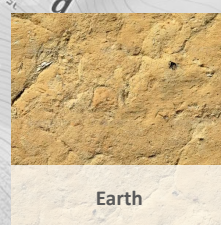
## MATERIALS



Wood



Stone



Earth





## ANALYSIS // MICROCLIMATE

### Sunlight

Areas are exposed to direct light from South

### Wind

Higher altitude, stronger wind speed

### Rain & Humidity

Foggy and wet

### Western Wind

(May-October)  
(December-April)

### Eastern Wind

(April-May)

### Southern Wind

(October-December)

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## ANALYSIS | CIRCULATION

### Main Human Circulation

Majority of hikers uses main designated trails, cyclists are uncommon

### Secondary Human Circulation

Hikers use these trails to explore other rural parts of the park

### Vehicular Circulation

Limited, with public bus arriving every 20-30 mins to and fro the top and foot of the hill

0 200 400 600 m

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## DESIGN STATEMENT //

TO DESIGN A SUSTAINABLE COMMUNAL HUB THAT ENCOURAGES SOCIAL BONDING AND CULTIVATES A NEW WAY OF LIVING IN THE UNPREDICTABILITY

### DESIGN STRATEGIES

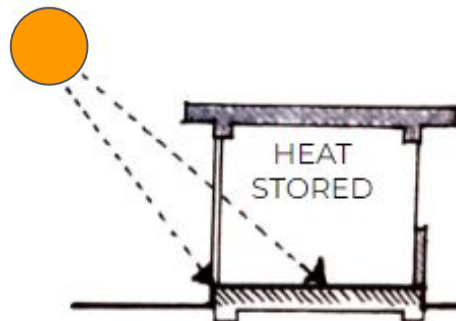
#### BUILDING ORIENTATION



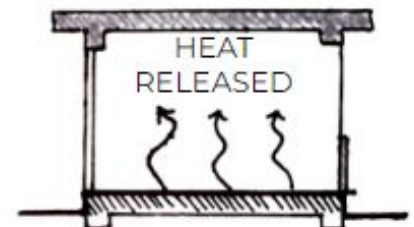
Relatively further away from the equator, the South facade maximises more solar energy, heating up the house.



#### THERMAL MASS



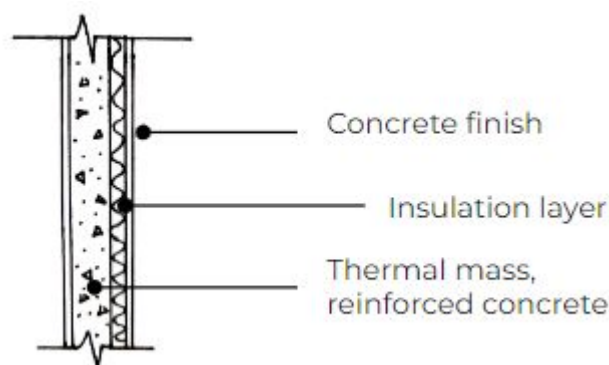
DAY



NIGHT

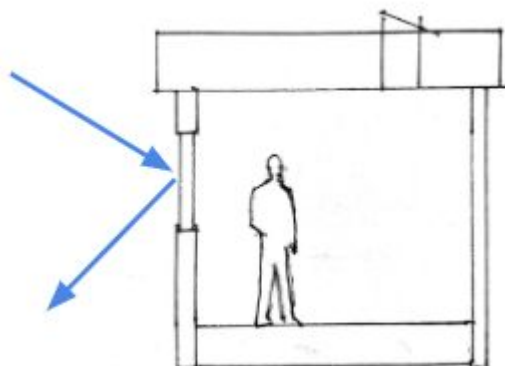
High thermal mass benefits cold climates as it allows heat to be absorbed during the day and released at night to keep warm.

#### INSULATED WALLS



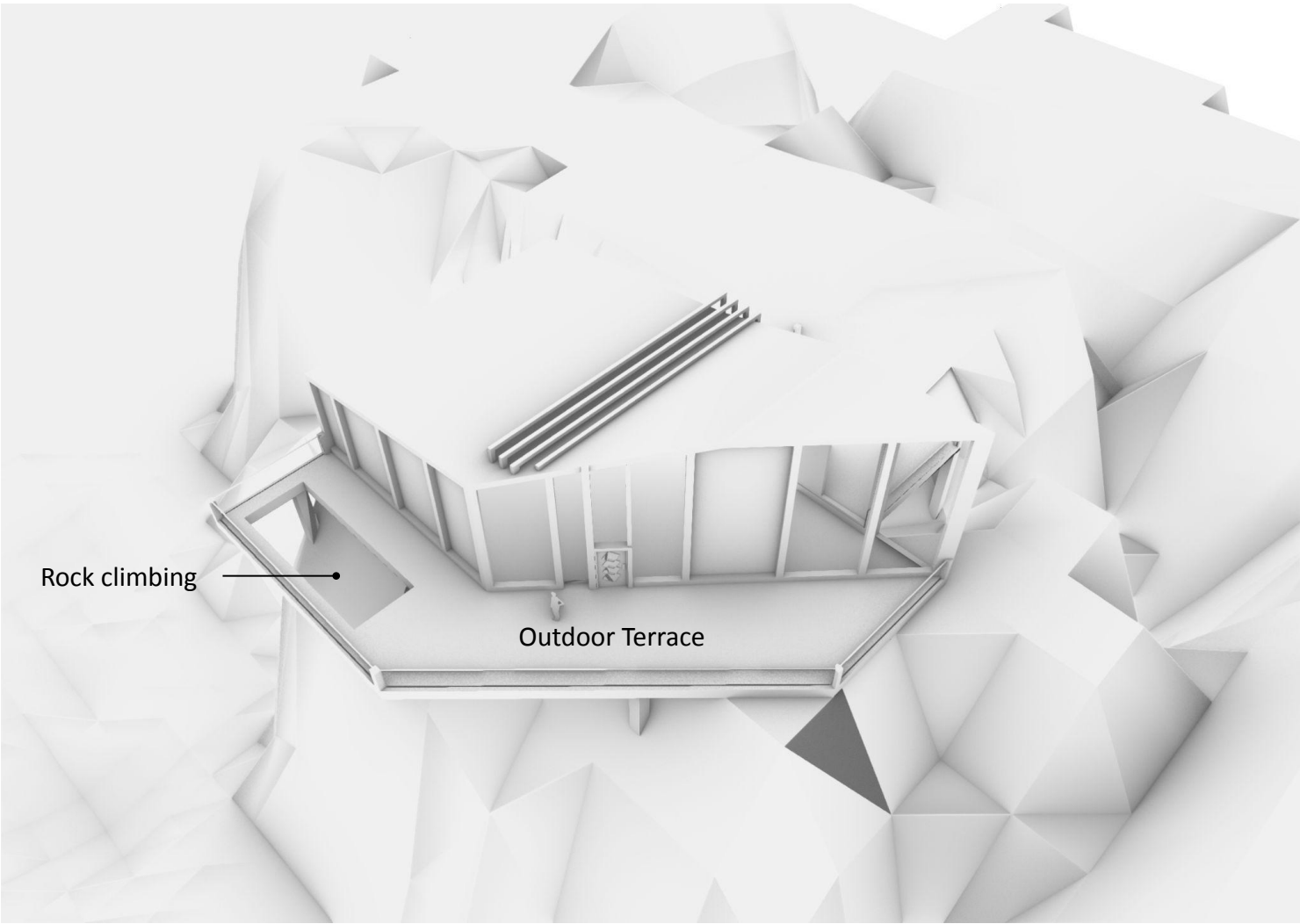
Insulation adds thermal mass to the walls, enabling the increased retention and subsequently release of heat, which is ideal for Czech Republic's cold climate.

#### AIR INFILTRATION



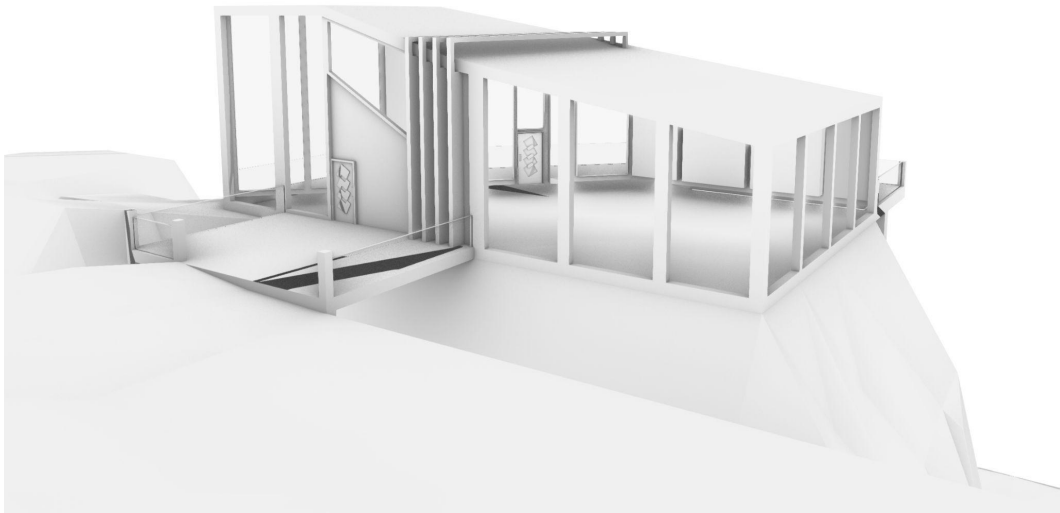
Air sealed windows prevent cold air from entering, therefore maintaining temperatures indoor

ITERATION 1 //  
SLANTED ROOF





ITERATION 1 //  
SLANTED ROOF

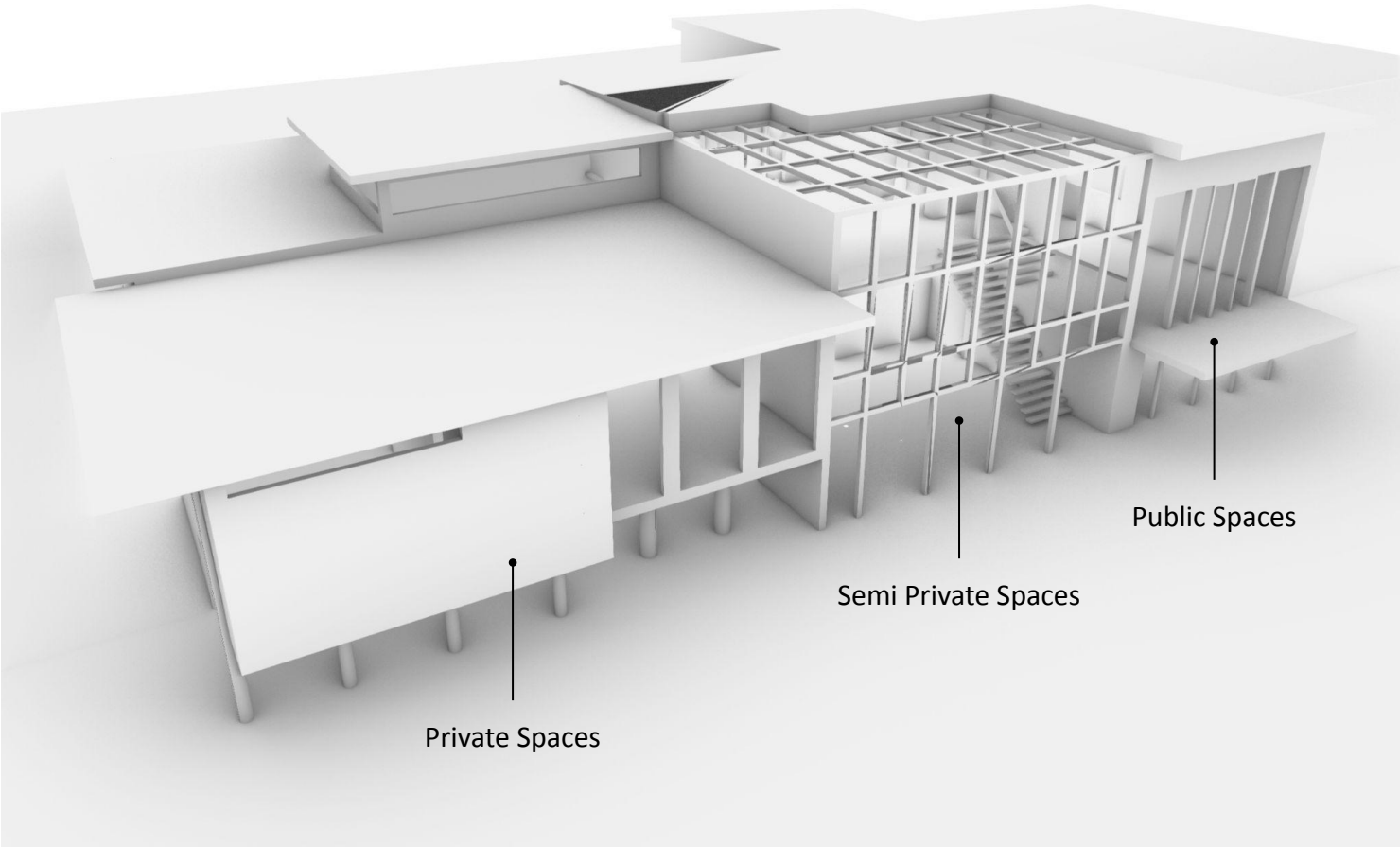


Front Perspective



Slanted Roof Profile

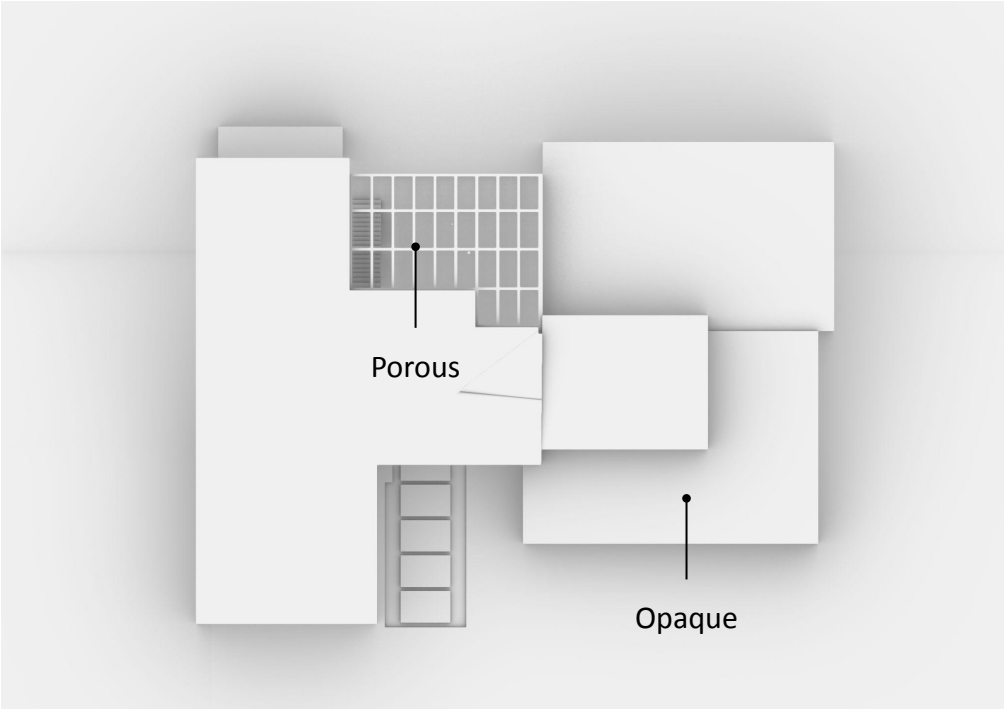
ITERATION 2 //  
POROSITY OF SPACES



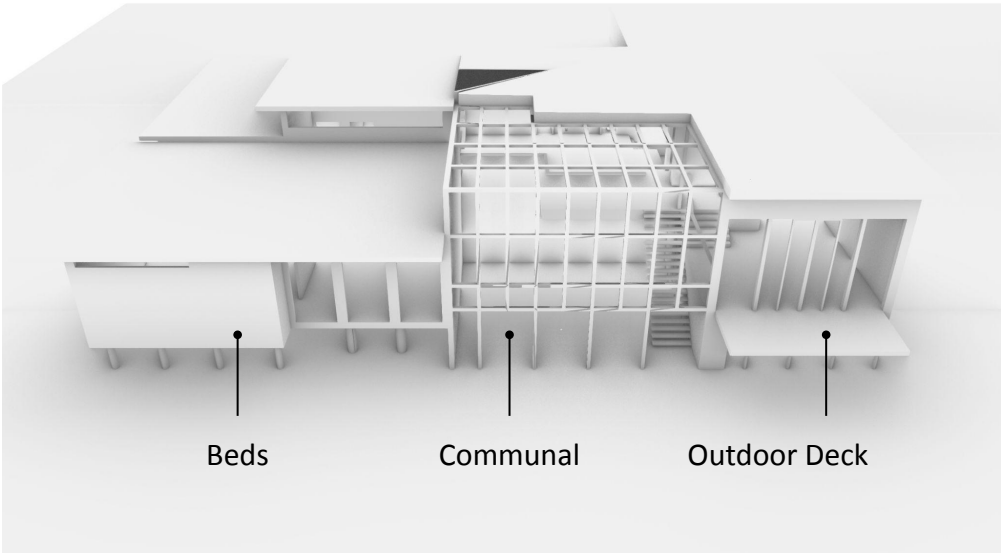
Front Perspective



ITERATION 2 //  
POROSITY OF SPACES

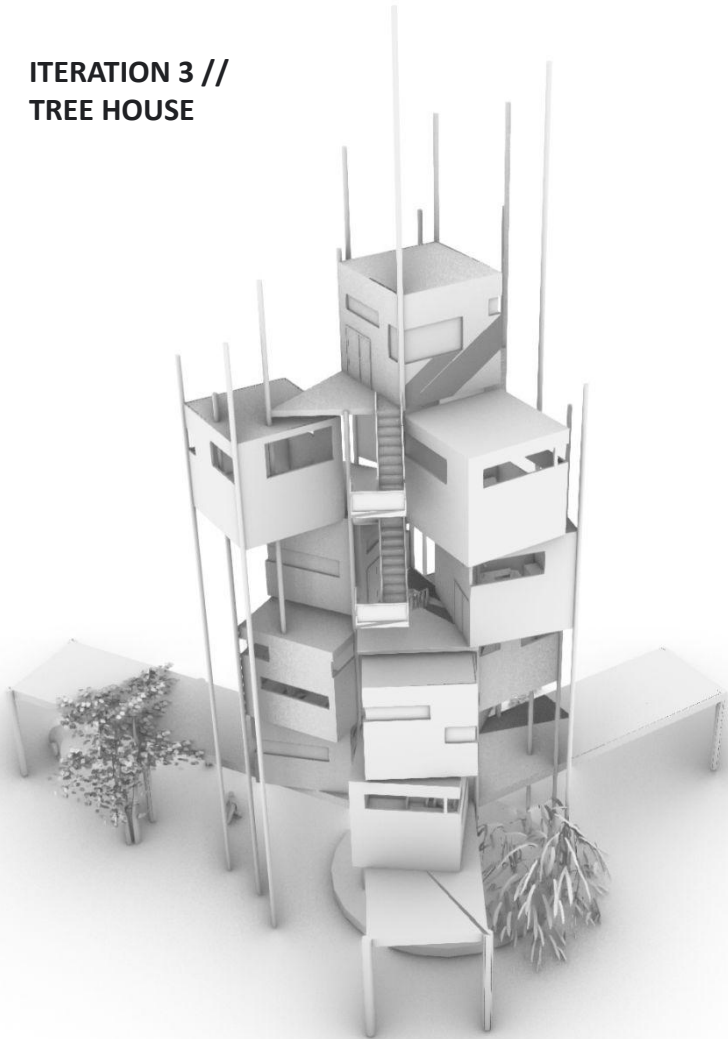


Top View

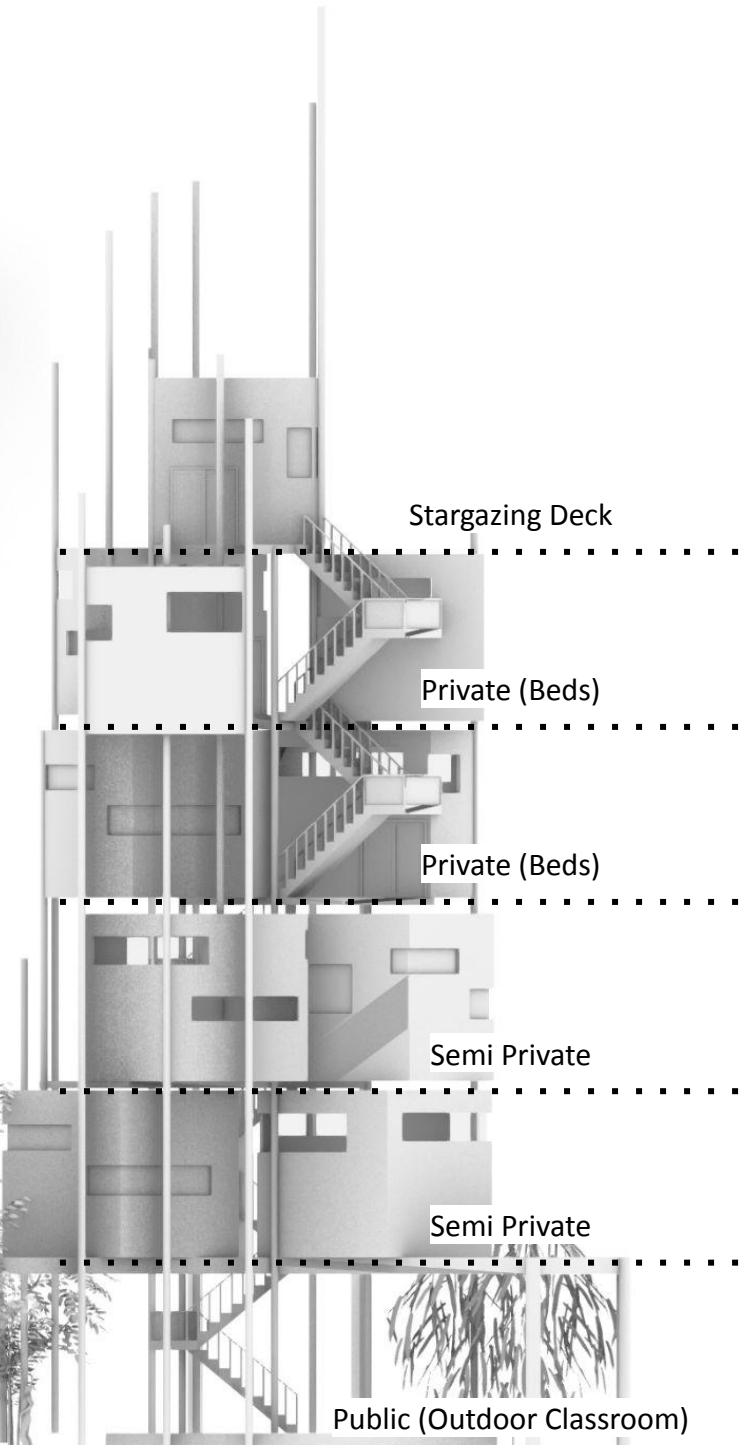


Front Facade

ITERATION 3 //  
TREE HOUSE



Front Perspective

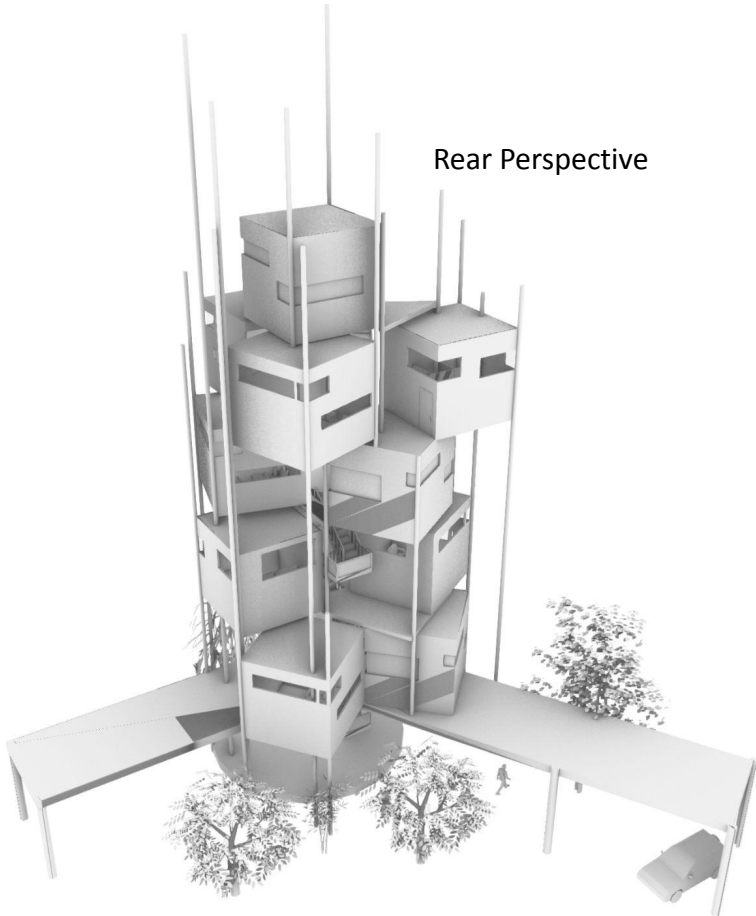


East Elevation



ITERATION 3 //  
TREE HOUSE

Rear Perspective



Stargazing Deck

Private (Beds)

Private (Beds)

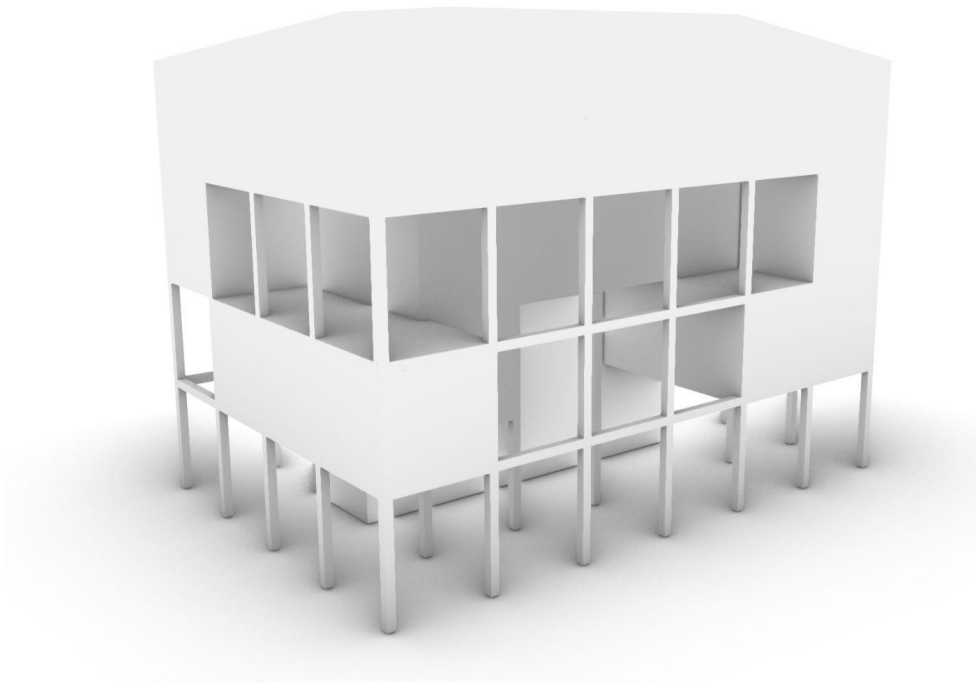
Semi Private

Semi Private

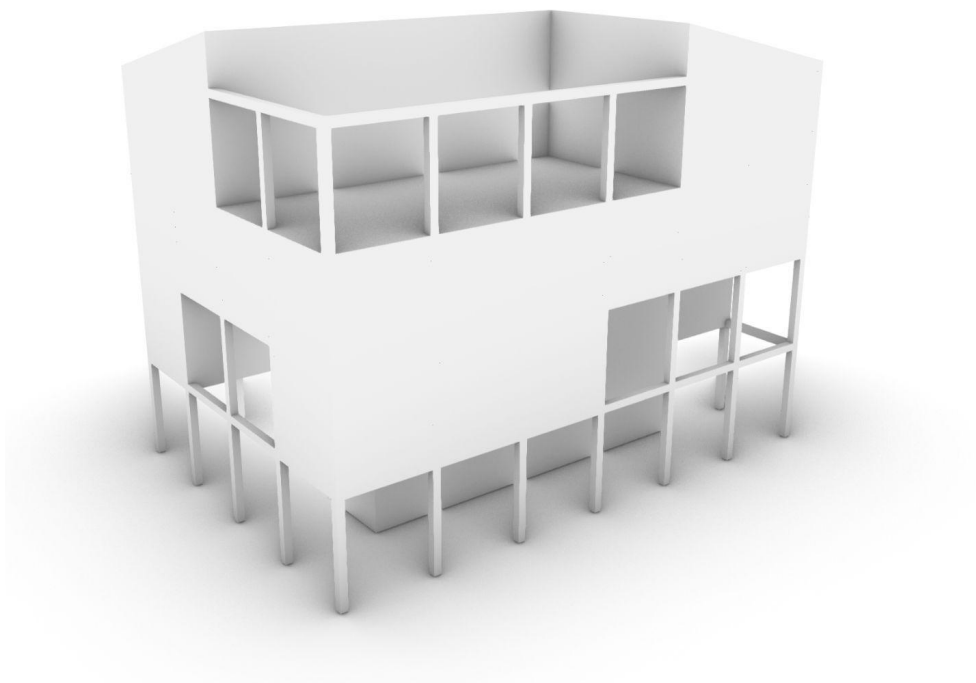
Public (Outdoor Classroom)

West Elevation

**ITERATION 4 //**  
**COMBINATION OF ITERATION 1 & 2**



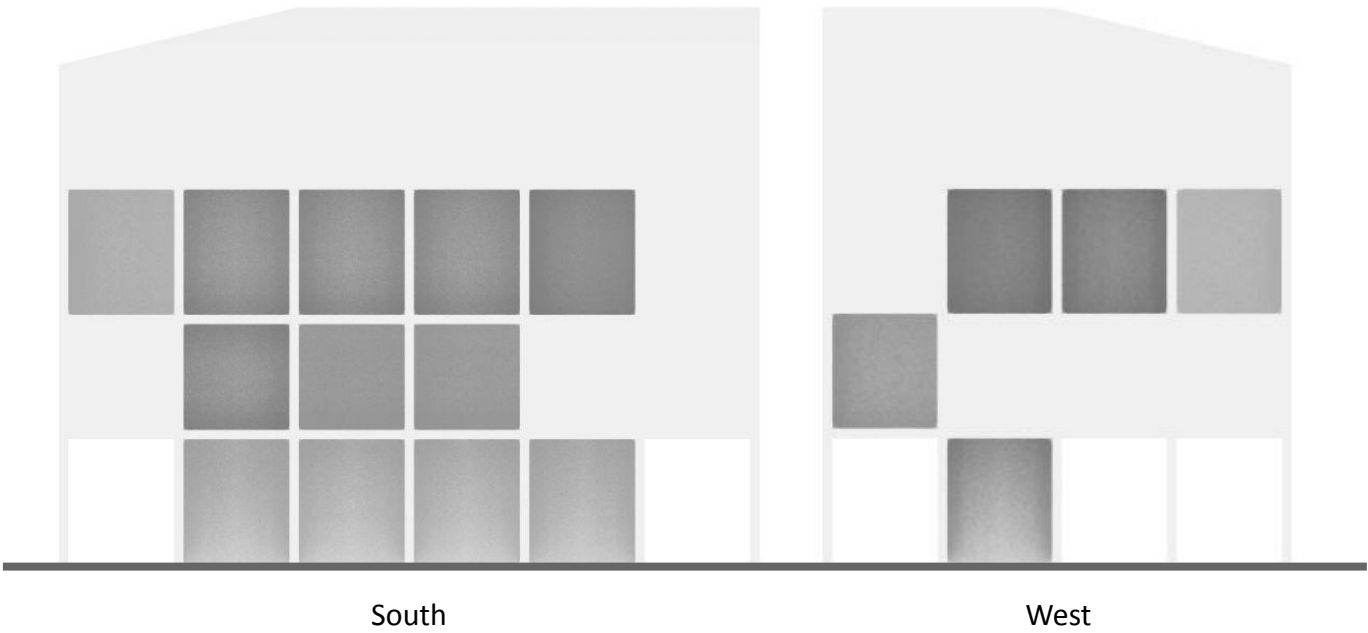
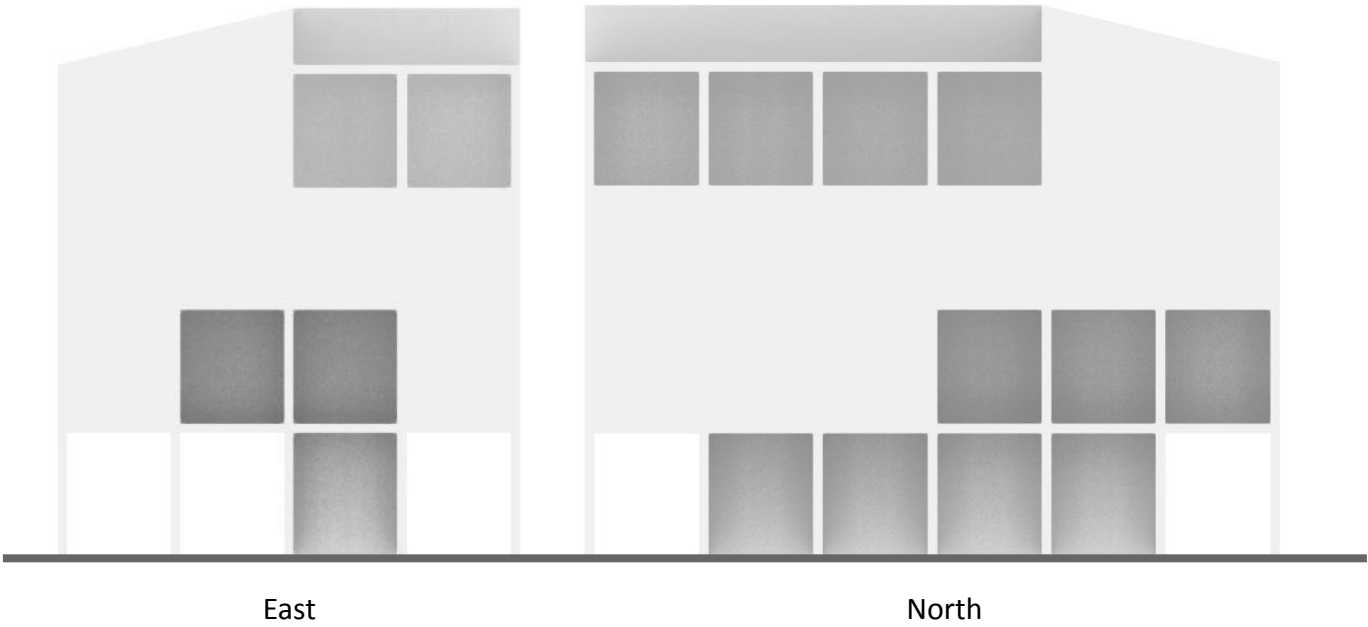
South Facing Facade



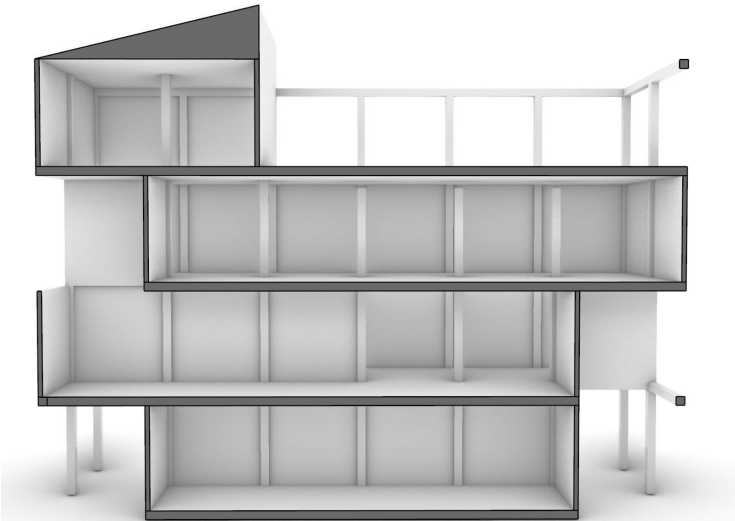
North Facing Facade



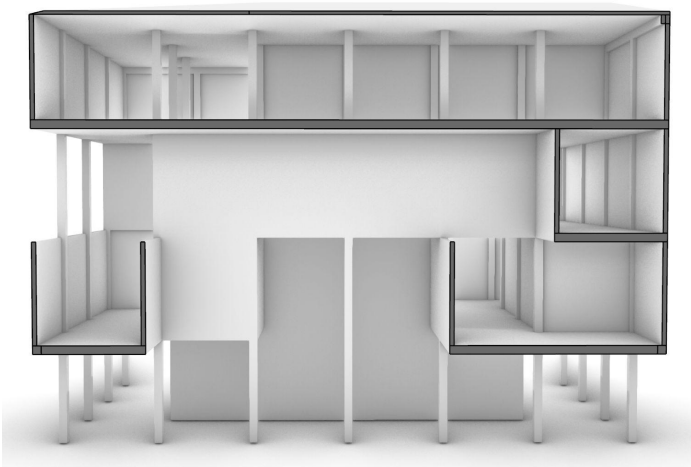
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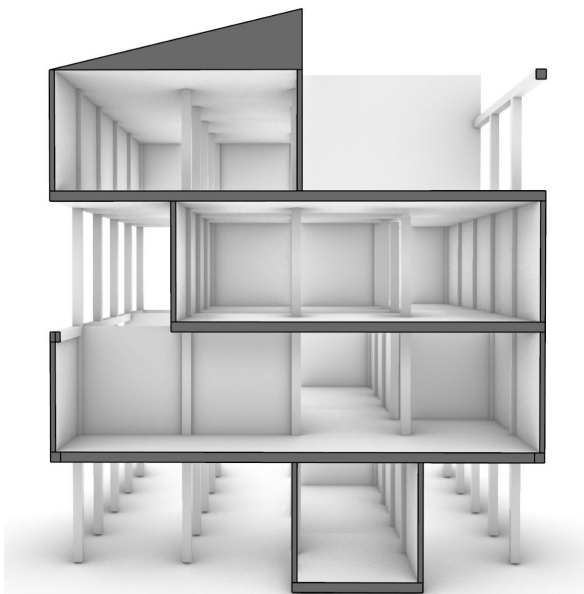


South Section AA

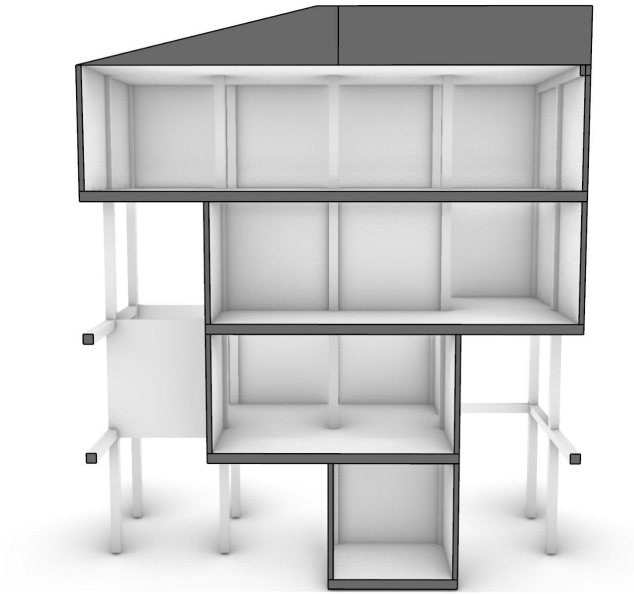


South Section BB

ITERATION 4 //  
COMBINATION OF ITERATION 1 & 2



East Section AA



East Section BB



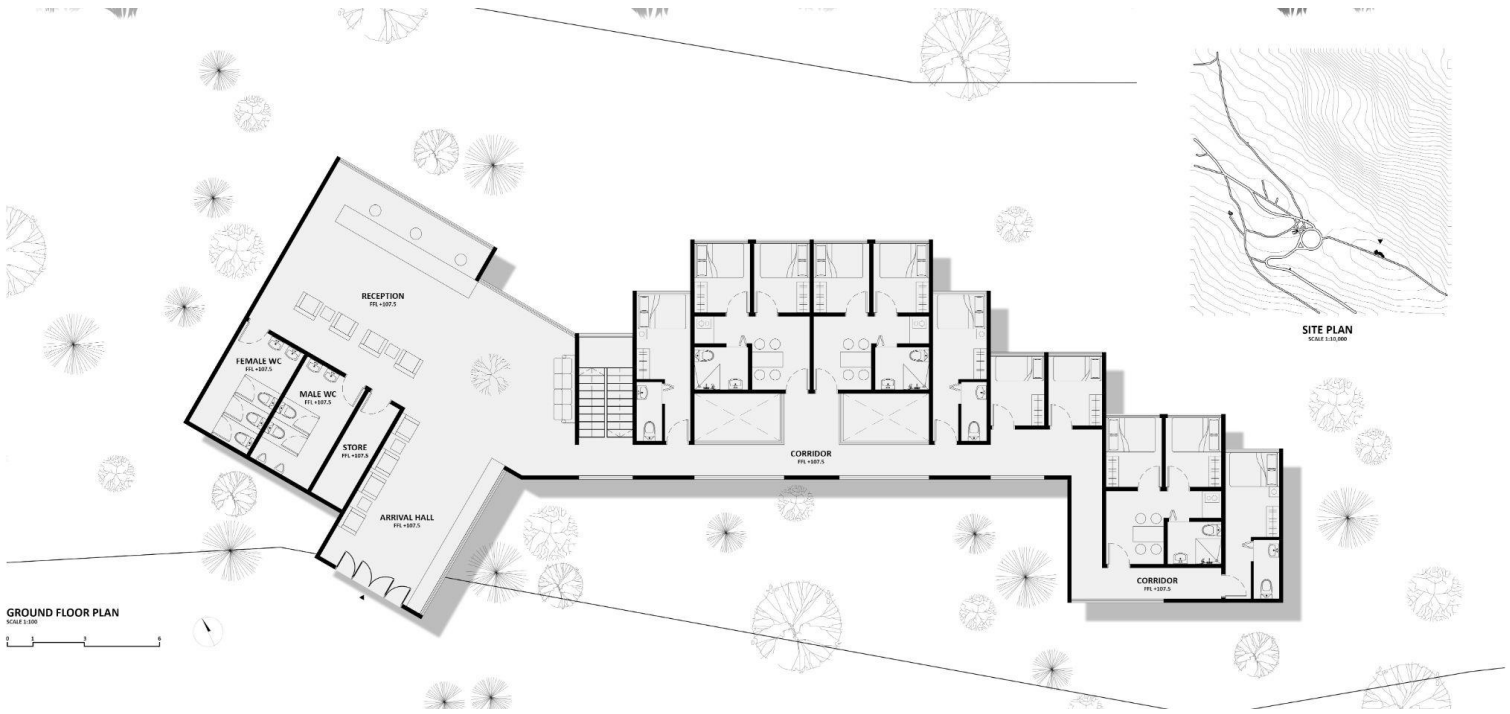
**FINAL ITERATION //**  
**STACKABLE, USABLE & LIVABLE**



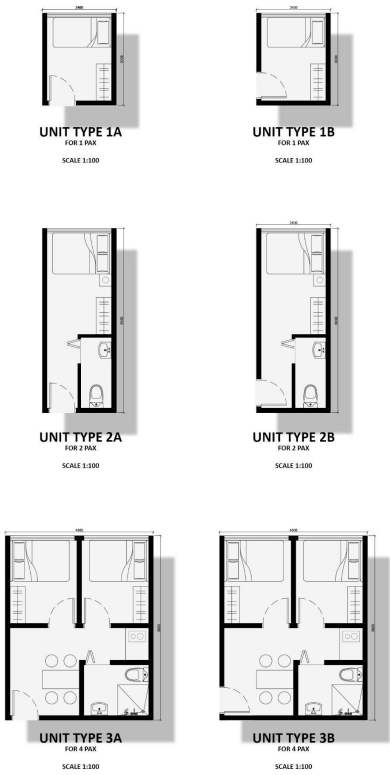
**FINAL ITERATION //**  
**STACKABLE, USABLE & LIVABLE**



FINAL ITERATION //  
STACKABLE, USABLE & LIVABLE

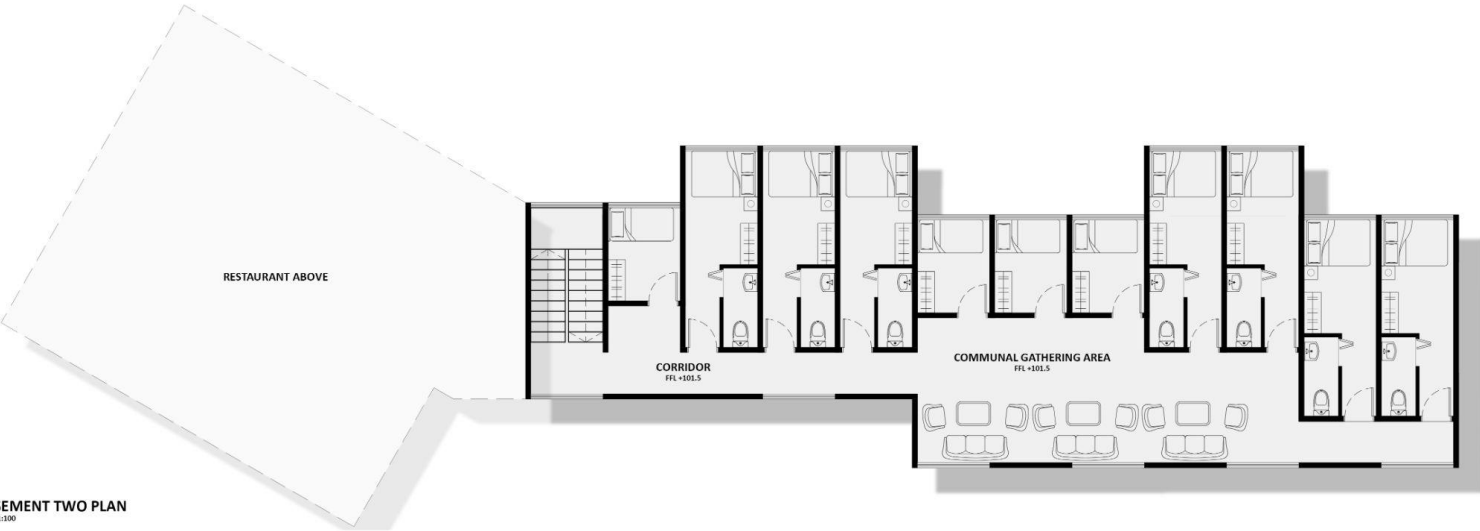


AVAILABLE UNIT TYPES  
SCALE 1:100

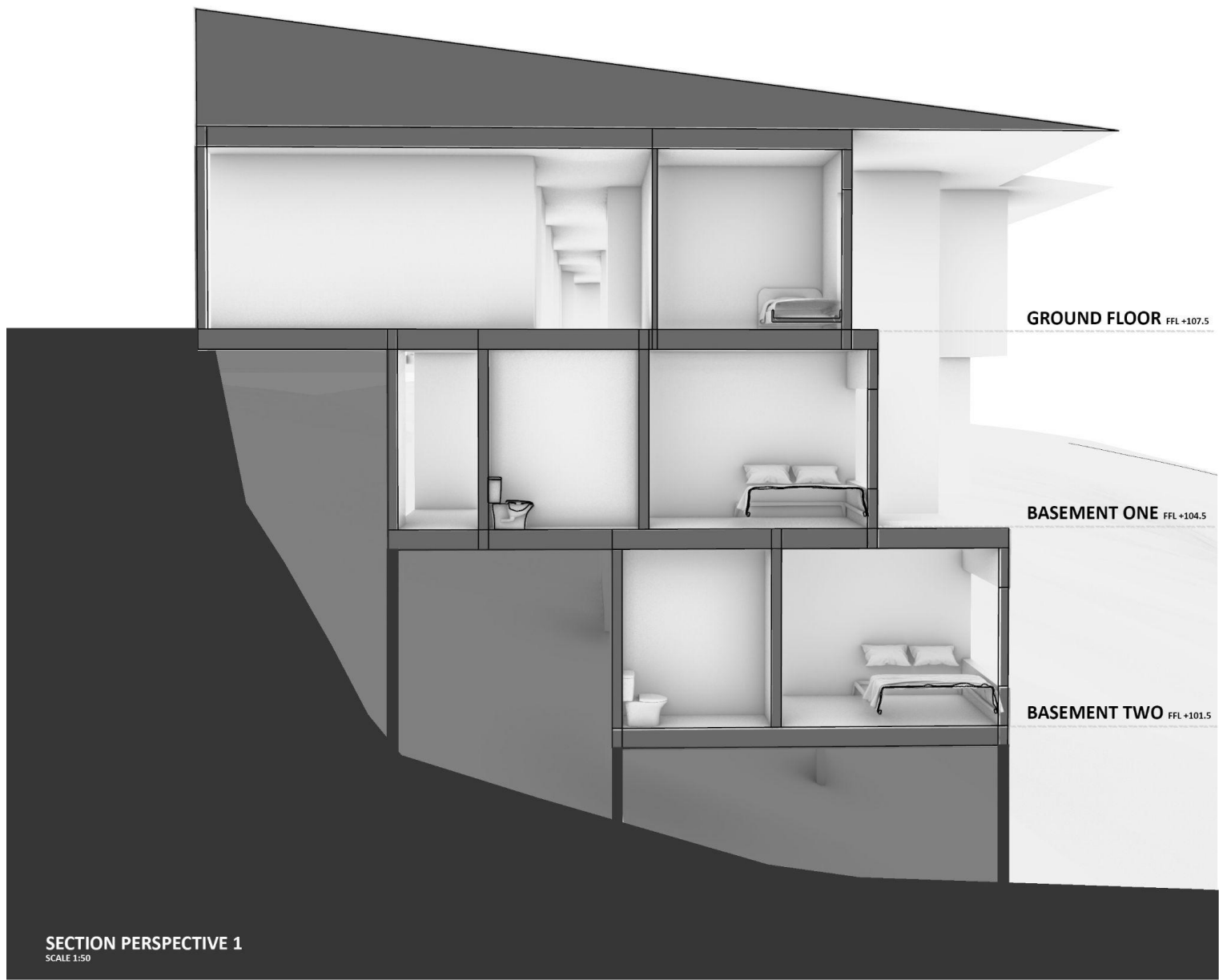




FINAL ITERATION //  
STACKABLE, USABLE & LIVABLE



FINAL ITERATION //  
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FINAL ITERATION //  
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SECTION PERSPECTIVE 2

SCALE 1:50



