



ARCHITECTURE STUDENT CONTEST
20th INTERNATIONAL EDITION, NORD ISÈRE 2025

Universiti Tunku Abdul Rahman (UTAR)
Ar Sam Chin Sing | Team 23861



CHO CHI KEI



LER TECK HO



TRAVIS THEN KAI HONG

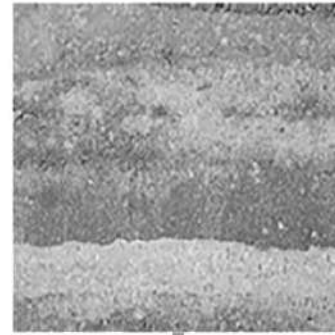
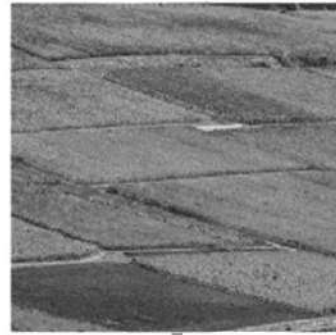
An architectural rendering of a sustainable living community. The scene features rolling green hills with a winding wooden boardwalk path. People are shown walking, jogging, and riding bicycles along the path. In the background, there are mountains, a hot air balloon, and a flock of birds flying in the sky. On the right, a modern building with large windows and a flat roof is visible, with a white car parked nearby. The overall atmosphere is bright and airy, suggesting a harmonious relationship between nature and architecture.

1 : 1 LIVING DE TERRE

EMBRACE THE LAND, AND THE BUILDINGS WILL SING

01 INTRODUCTION

SITE ANALYSIS
PROJECT GOAL
CONCEPT AND IDEOLOGY



SITE ANALYSIS

GREENERY LAYER

(Chimilin)



URBAN LAYER



TRANSPORTATION



LANDSCAPE



(Villafontaine)



- Forest
- Orchard/ Grass
- Farmland
- Park

- Industrial/ Retail area
- Residential area

- Car/ Motorway
- Pedestrian walk way
- Bicycle Lane

- Hydrology

PROJECT GOAL

CHIMILIN

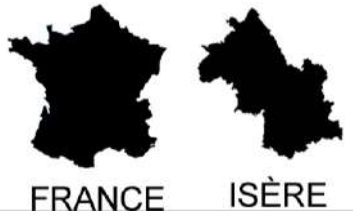


VILLEFONTAINE

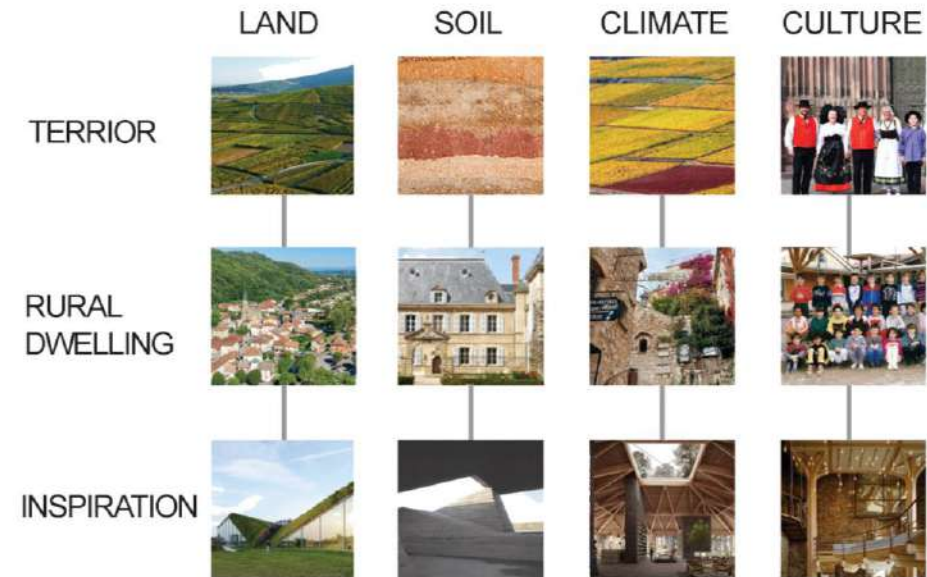


THE LINK: TERROIR

The project offer physical continuity between the two zones, inspired by the terroir concept. Zone A and Zone B are imagined as two "nodes" on a living network, connected by their rhythmic topography and structured density.



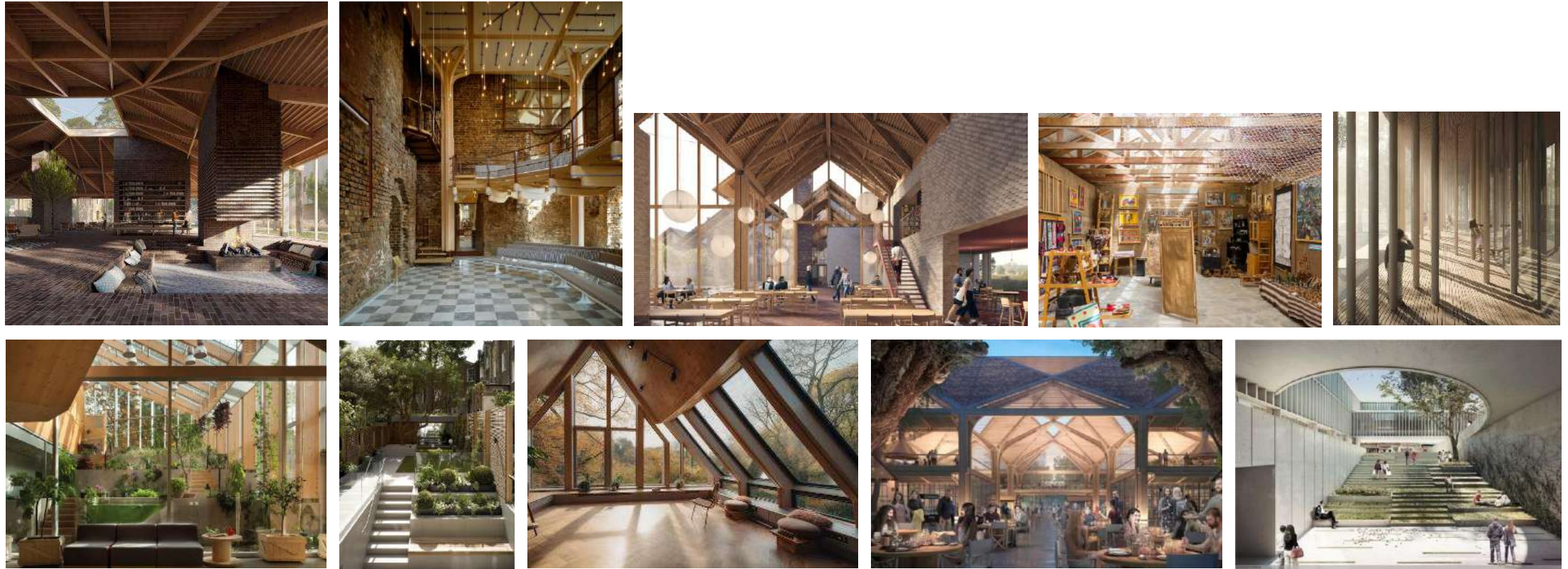
CONCEPT AND IDEOLOGY



WHY TERROIR ?

Intertwined with the land of Nord-Isère, the design fosters a harmonious coexistence of people, nature, and industry. Inspired by the terroir concept, it reimagines the synergy of land, soil, climate, and culture to celebrate Nord-Isère's unique identity.

CONCEPT AND IDEOLOGY



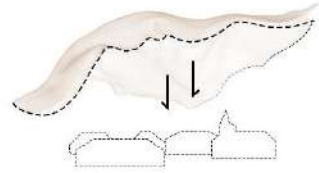
RAMP EARTH, LIGHT AND NATURE

"Terroir" redefines architecture as an extension of the land and the people who inhabit it, creating a timeless dialogue between the natural, cultural, and industrial. Just as terroir shapes the character of wine, this design shapes the experience of place—rooted in Nord Isère's essence, yet adaptable to the evolving needs of its community. The project stands as a testament to the region's identity, offering a harmonious, grounded, and inspiring environment for generations to come.

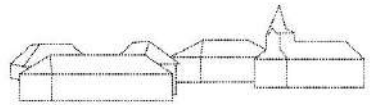
CONCEPT



RHYTHMIC TOPOGRAPHY



**INTRODUCTION OF
LIVING TERRIOR**

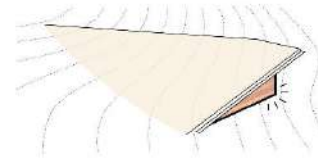


STRUCTURED DENSITY



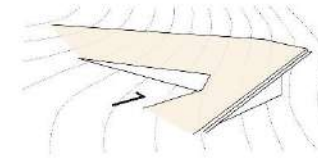
LAND

The building integrates with landscape following natural contours



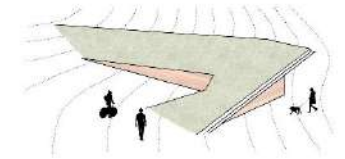
SOIL

Local Resource materials like rammed earth provide a tactile connection and sustainability



CLIMATE

Passive design enhancing comfort and dynamic sensory experience.



CULTURE

The cover of various meaningful spaces.

02

NEW CONSTRUCTION

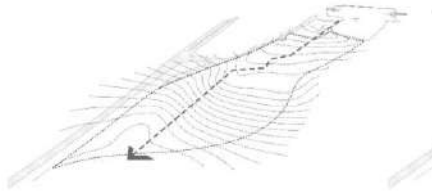
- SITE STRATEGIES
- BUILDING STRATEGIES
- PROJECT DETAIL
- LANDSCAPES
- SUSTAINABLE STRATEGY





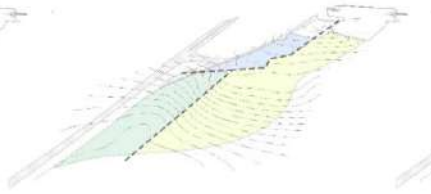
ENTRANCE VIEW
FROM LGA

DESIGN STRATEGY



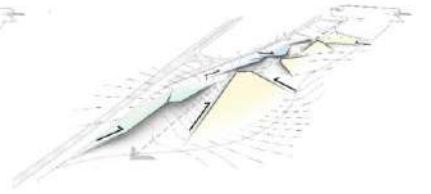
Path follow contour

Paths flow with the land's natural curves, reducing disruption and enhancing harmony with nature.



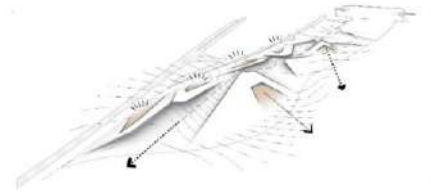
Spacing Zone

Functions are separated into public and semi-public zones, ensuring privacy, clarity, and smooth user flow.



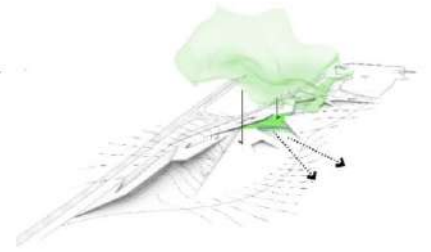
Land Form

Design follows the land's shape, using slopes to define space and support natural systems.



Orientation toward sun

Spaces opening align with the sun for optimal light, warmth, and energy efficiency.



Terroir Wrapper

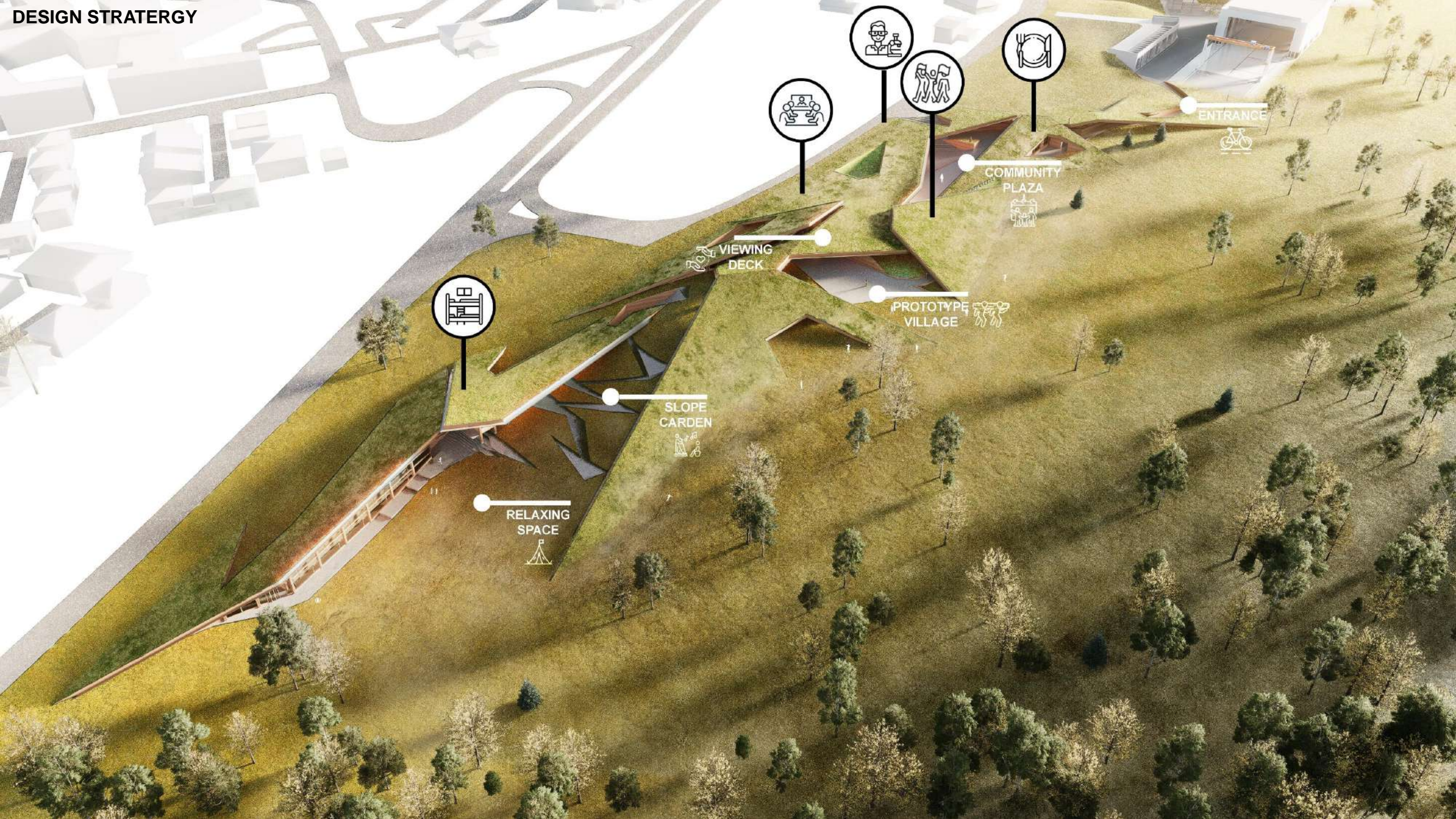
A unifying design element ties all zones together while allowing unique expressions.



Enhance Joyful

Joy is inspired through playful landscapes and walkable green roofs that invite exploration and connection with nature.

DESIGN STRATEGY



RELAXING SPACE

SLOPE GARDEN

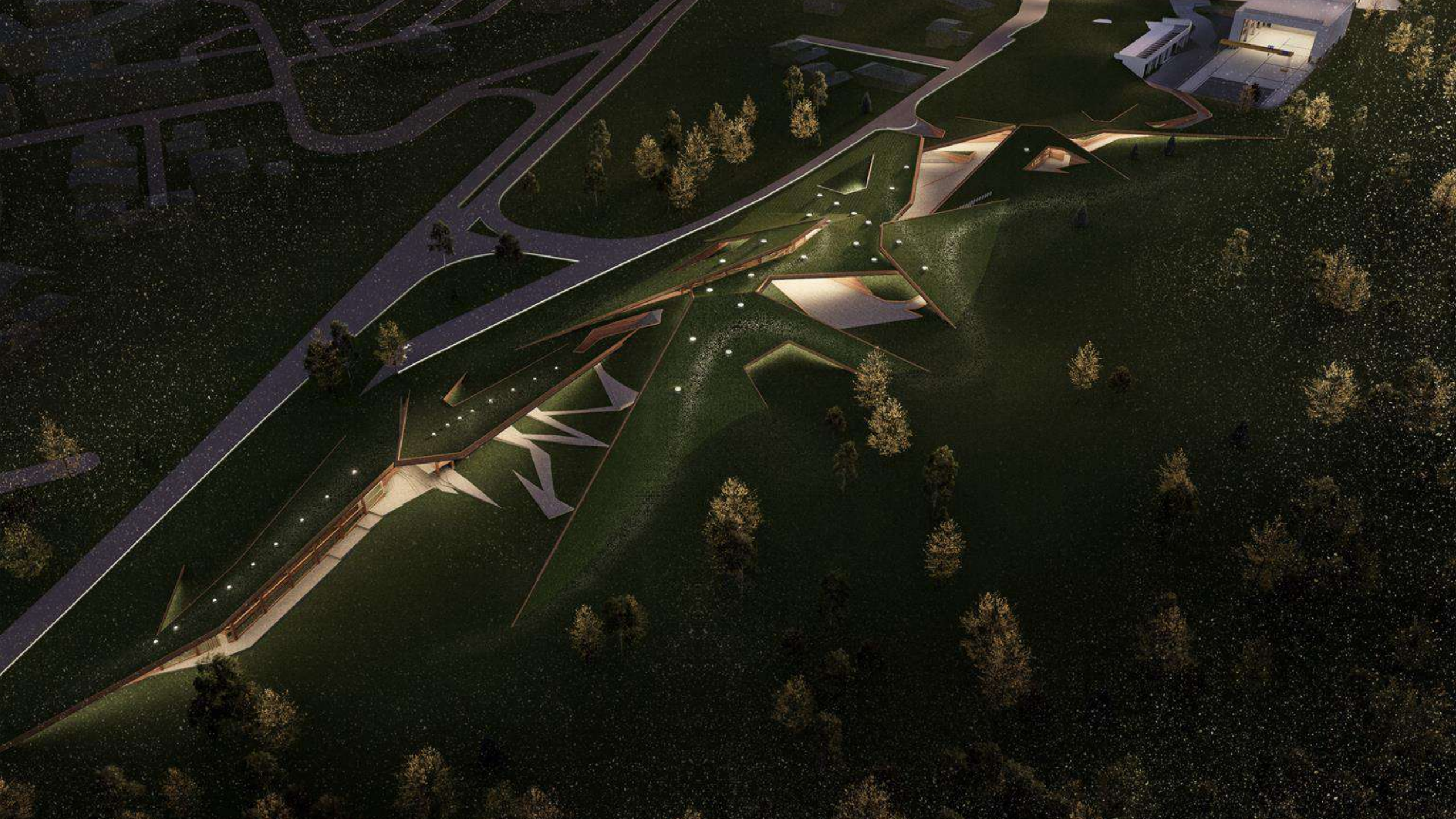
VIEWING DECK

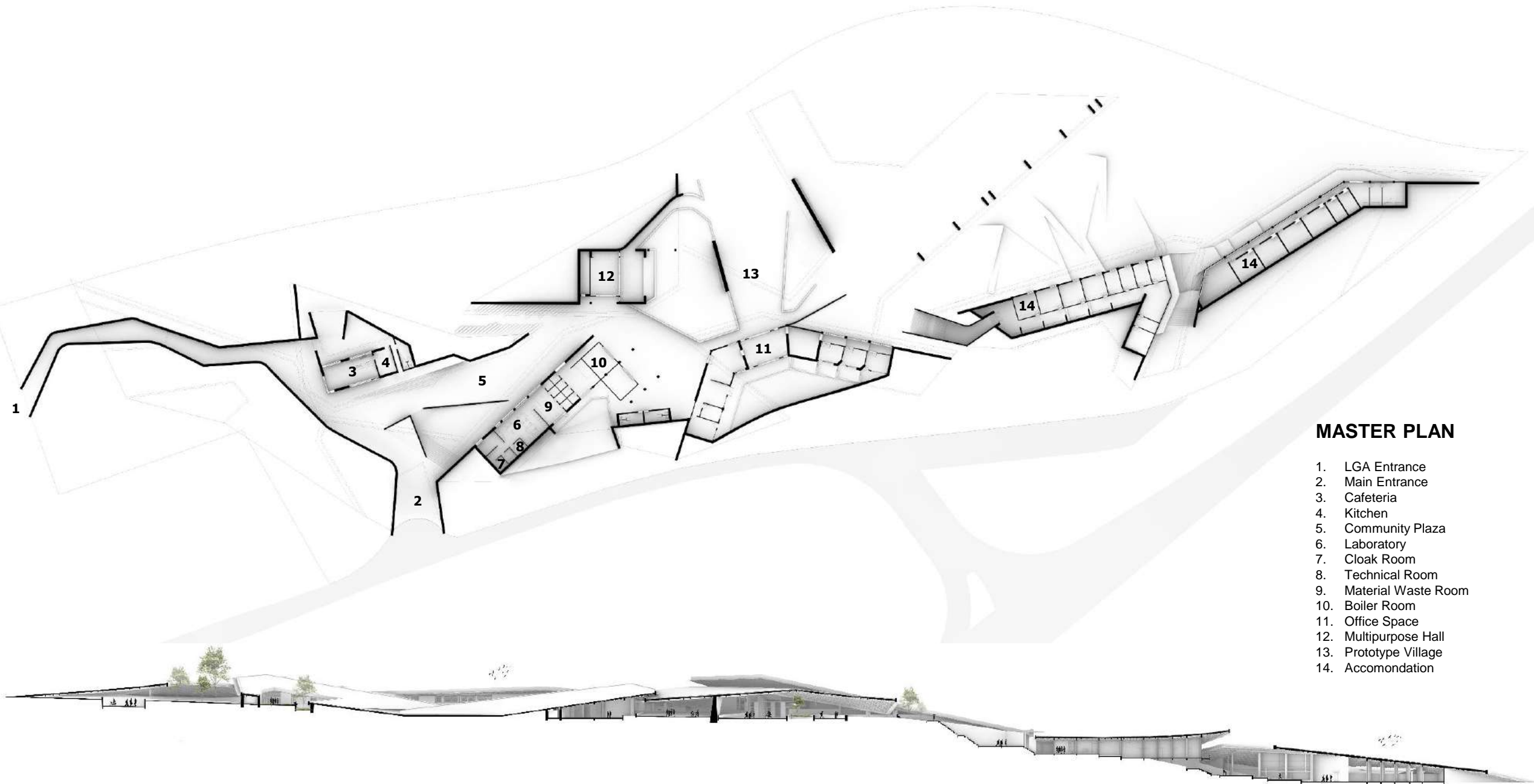
PROTOTYPE VILLAGE

COMMUNITY PLAZA

ENTRANCE



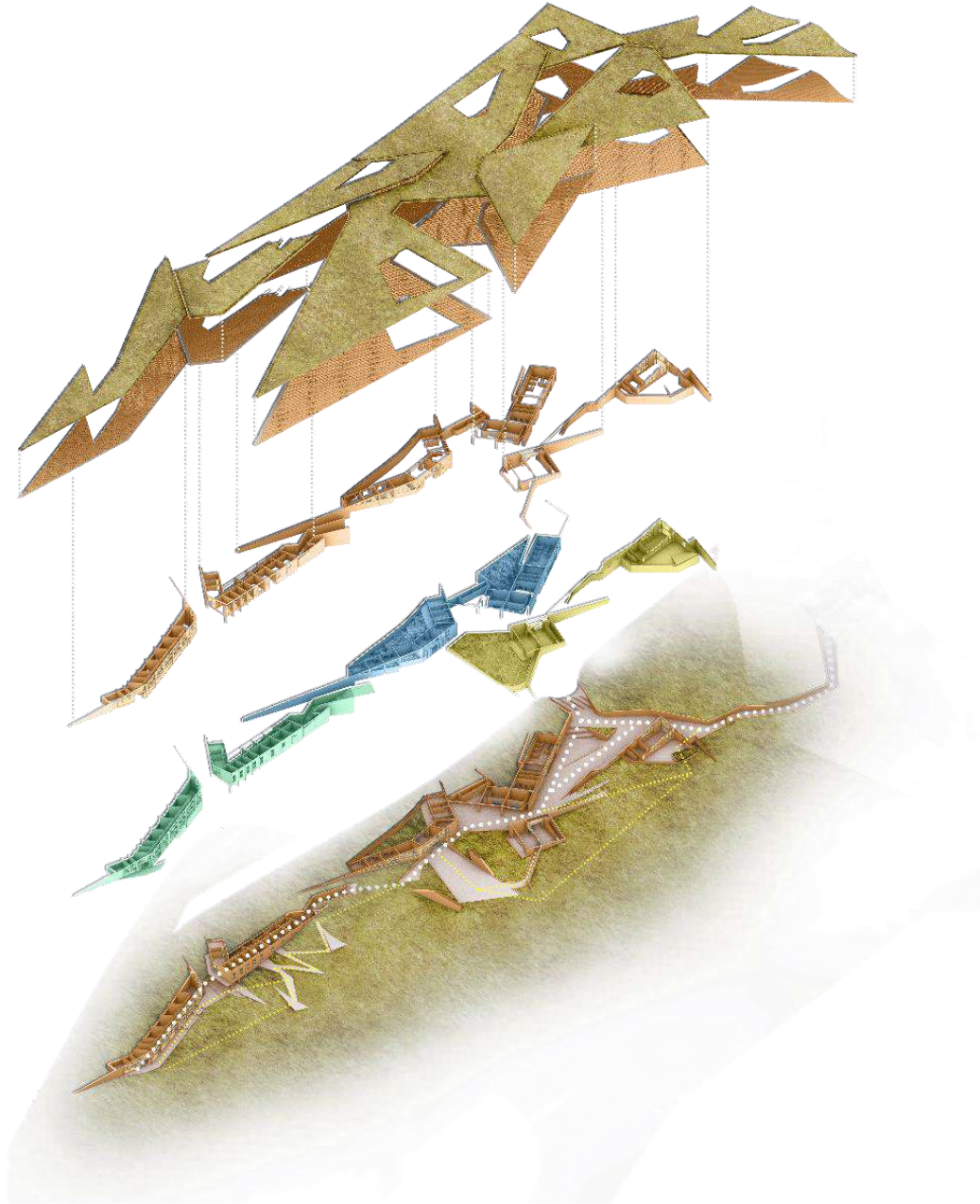




MASTER PLAN

- 1. LGA Entrance
- 2. Main Entrance
- 3. Cafeteria
- 4. Kitchen
- 5. Community Plaza
- 6. Laboratory
- 7. Cloak Room
- 8. Technical Room
- 9. Material Waste Room
- 10. Boiler Room
- 11. Office Space
- 12. Multipurpose Hall
- 13. Prototype Village
- 14. Accommodation

EXPLODE ISOMETRIC



Green Roof

The green roof improves insulation, reduces heat gain, and provides a walkable landscape that promotes biodiversity and well-being.

Timber Ceiling

Exposed timber ceiling adds warmth, rhythm, and natural texture to the interior spaces.

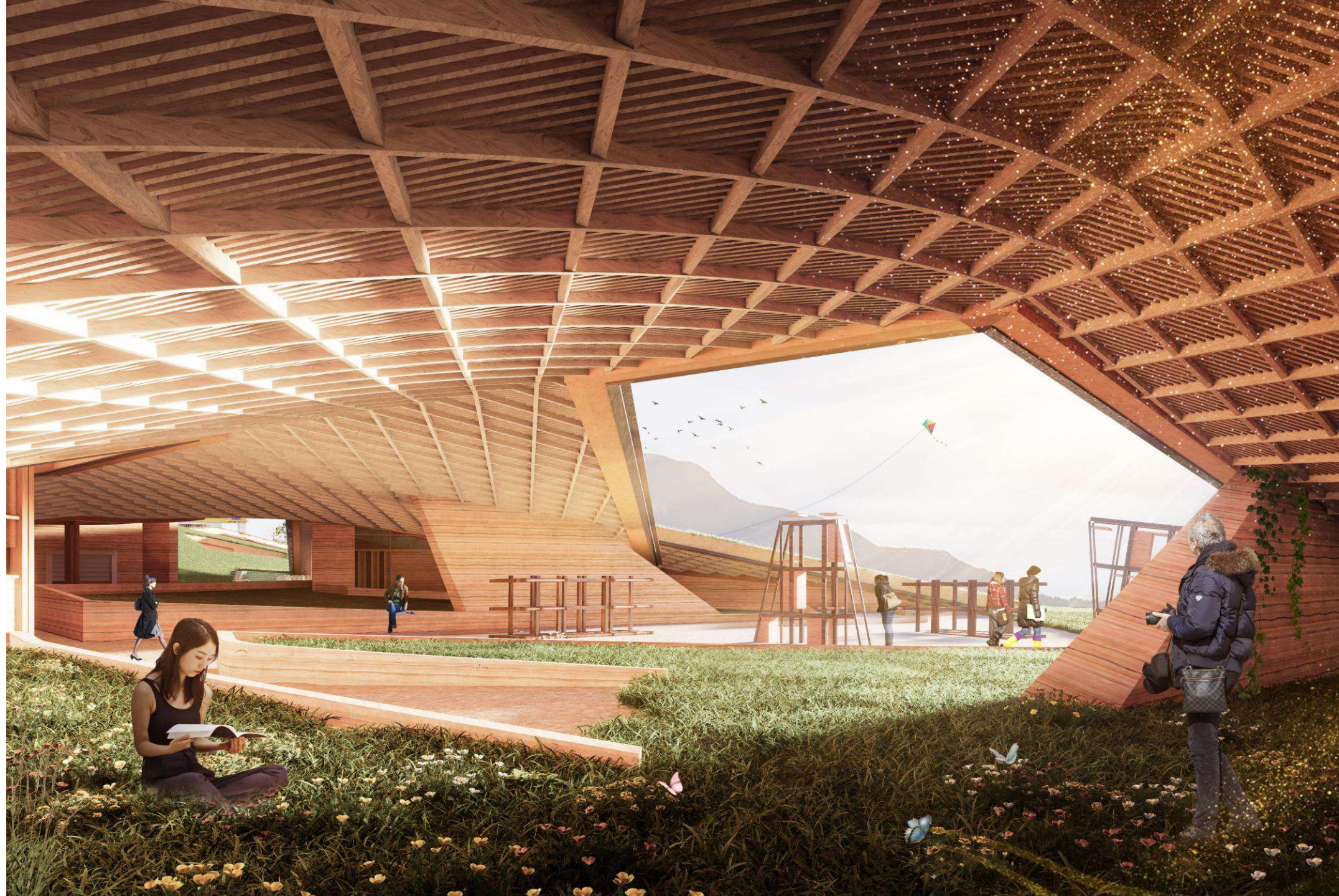
Recycled CLT Structure & Pise Wall

Sustainable structure using recycled cross-laminated timber and pise walls promotes low carbon footprint and thermal comfort.

COMMUNITY PLAZA



PROTOTYPE VILLAGE



MULTIPURPOSE HALL



 **glassolutions**
SAINT-GOBAIN

 **isover**
SAINT-GOBAIN

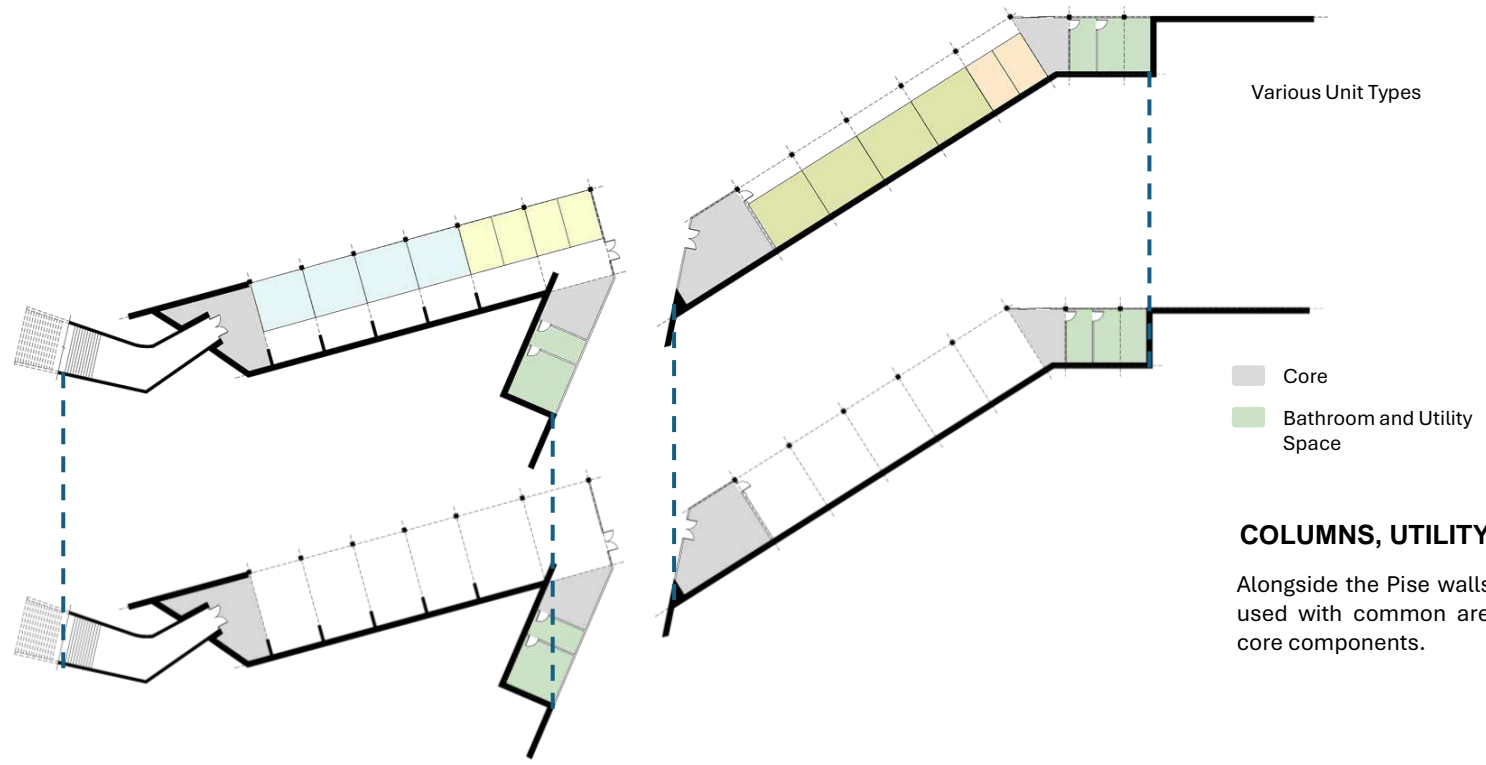
 **gyproc**
SAINT-GOBAIN

 **weber**
SAINT-GOBAIN

ACCOMMODATION



MODULAR ACCOMMODATION



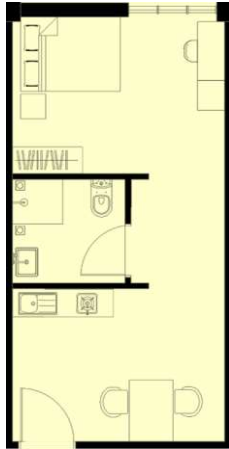
COLUMNS, UTILITY AND BATHROOM CORE

Alongside the Pise walls, modular timber columns are used with common areas, utilities and bathroom as core components.

MODULAR ACCOMMODATION

Unit Types

Split into appropriate unit types with 1-8 bedrooms using modular prefabricated systems



SINGLE BED

short-term stays, offering high privacy for solo guests



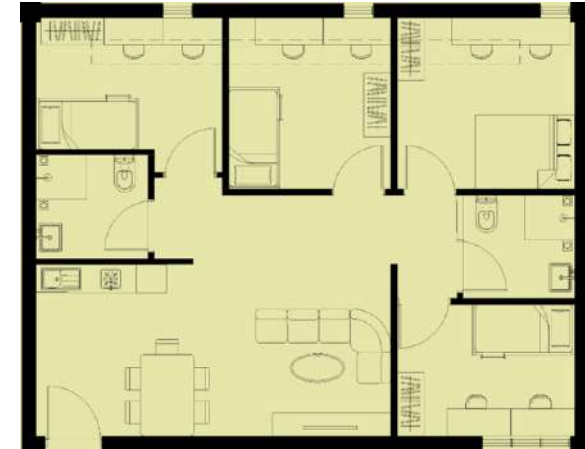
2 BED

Provides extra workspace, suitable for disabled individuals



6 BED

Shared room, balances social interaction and cost-effectiveness

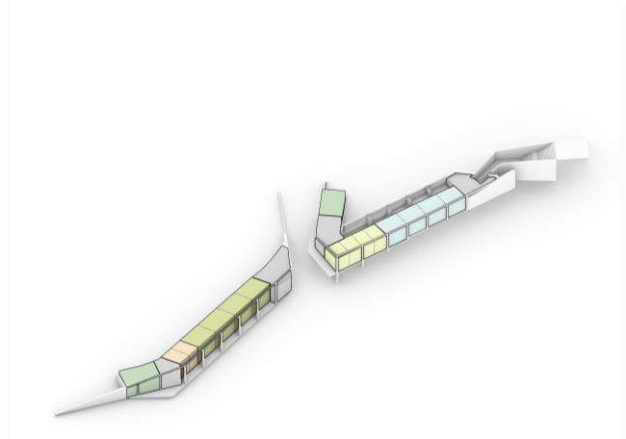


8 BED

Structured for group living while maintaining some privacy.

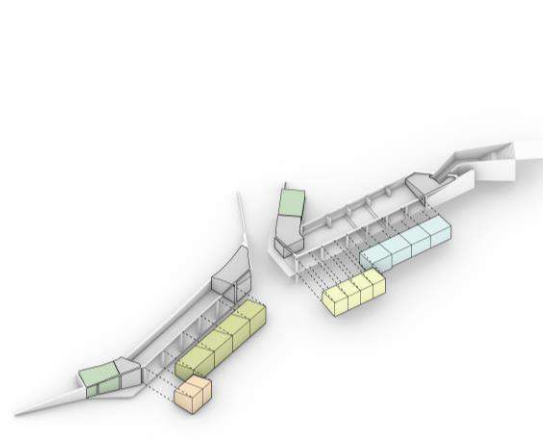


MODULAR ACCOMMODATION



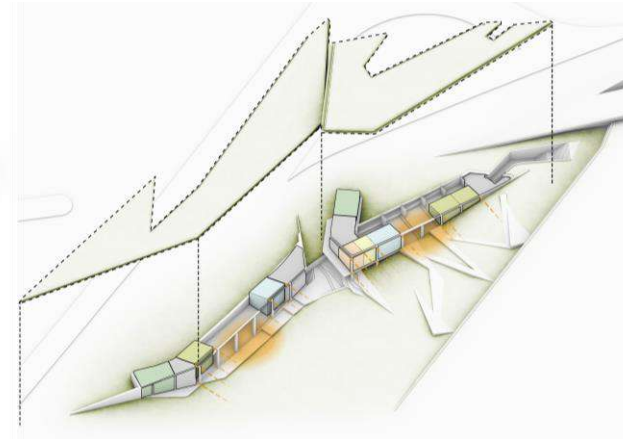
Residential Oriented Layout

Fully-maximizing the layout to fit modular residential units



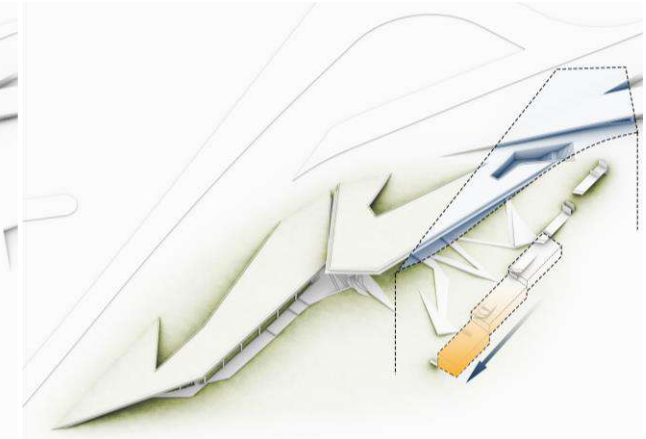
Plug & Play

Each unit can be plugged out of the layout



Mixed-Use Scenarios

Different variations of unit layout can be placed, accommodating specific needs of users, and freeing up space for more common or workspace areas



Future Development

Adjacent spaces are free to be developed into more accommodation

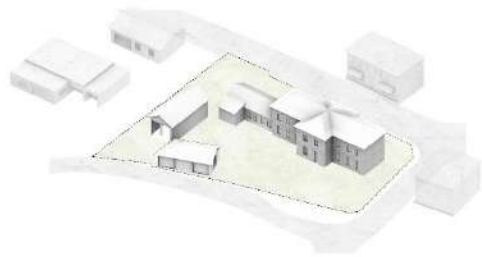
03

RENOVATED BUILDING

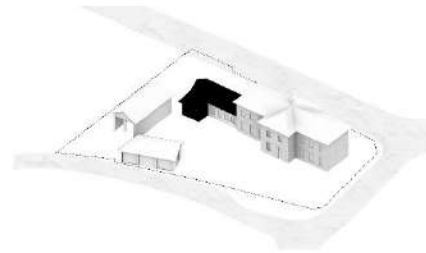
BUILDING STRATEGY
PROJECT DETAIL
SUSTAINABLE STRATEGY



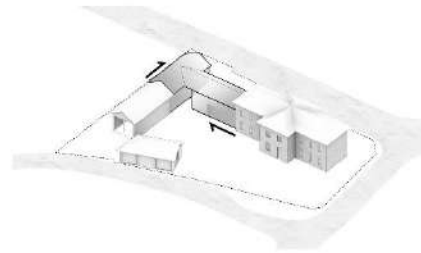
DESIGN STRATEGY



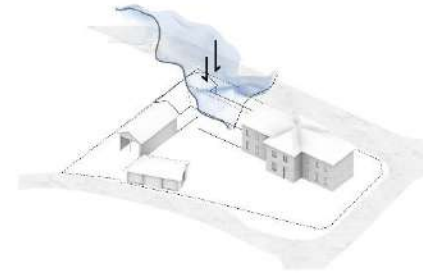
1. Original building



2. Partial Demolition



3. Extension for more usable space



4. Terroir Wrapper

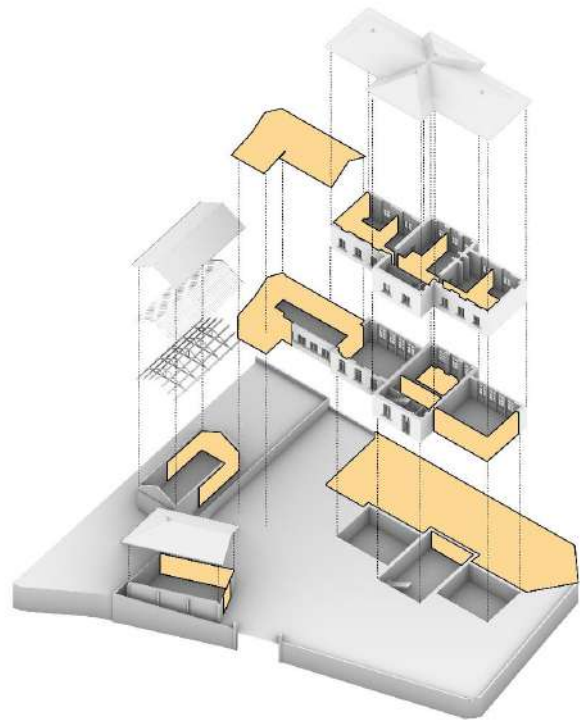


5. Community and Nature

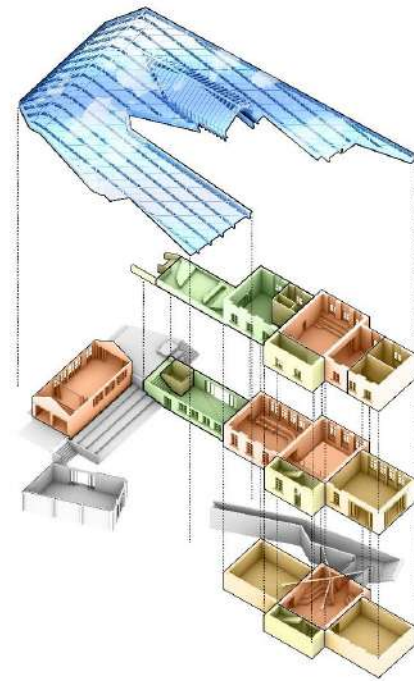
Renovation Strategy: Anchoring the Past in Chimilin

Zone A transforms the abandoned school into a community center, a hub for gathering and celebrating the region's heritage. The west side will be partially demolished and extended to create more communal spaces for the villagers. The Terroir Wrapper serves to create a greenhouse environment, suitable for inviting nature into the building, connecting the community to their land.

BUILDING STRATEGY

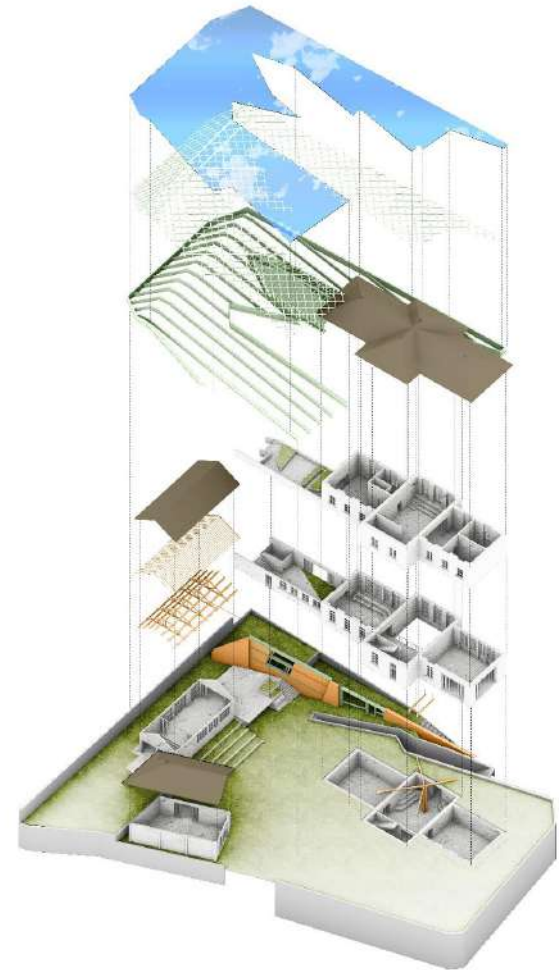


Demolished building parts



- Public (Café and MPH)
- Semi Public (Workspace)
- Private (Green Library)

Terroir Wrapper with space zoning

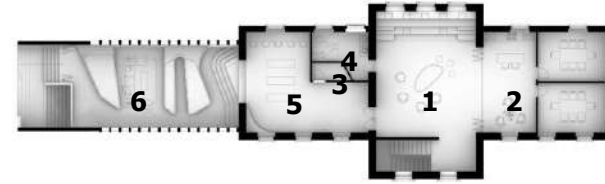


Structure and landscape

FLOOR PLAN

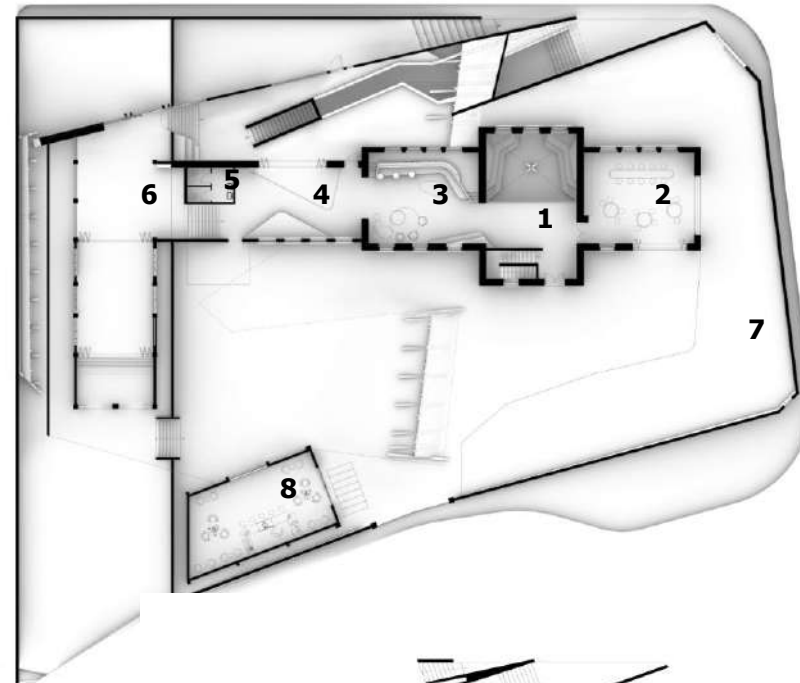
1ST FLOOR PLAN

1. Common Corridor
2. Associate Workspace
3. Storage
4. Toilet
5. Indoor Library
6. Urban-farm Library



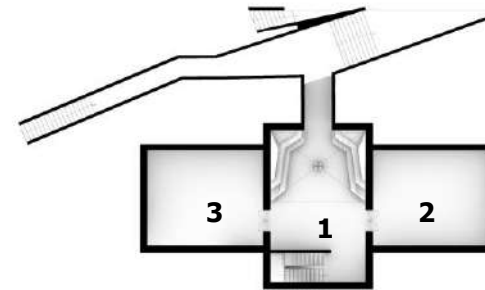
GROUND FLOOR PLAN

1. Bulletin Hall
2. Workshop
3. Discussion Lounge
4. Cozy Junction
5. Toilet
6. Multi-purpose Room
7. Outdoor Exhibition
8. Cafe



BASEMENT PLAN

1. Welcome Reception
2. Storage
3. Boiler Room & Utilities



BASEMENT ENTRANCE



GREEN LIBRARY



CAFE



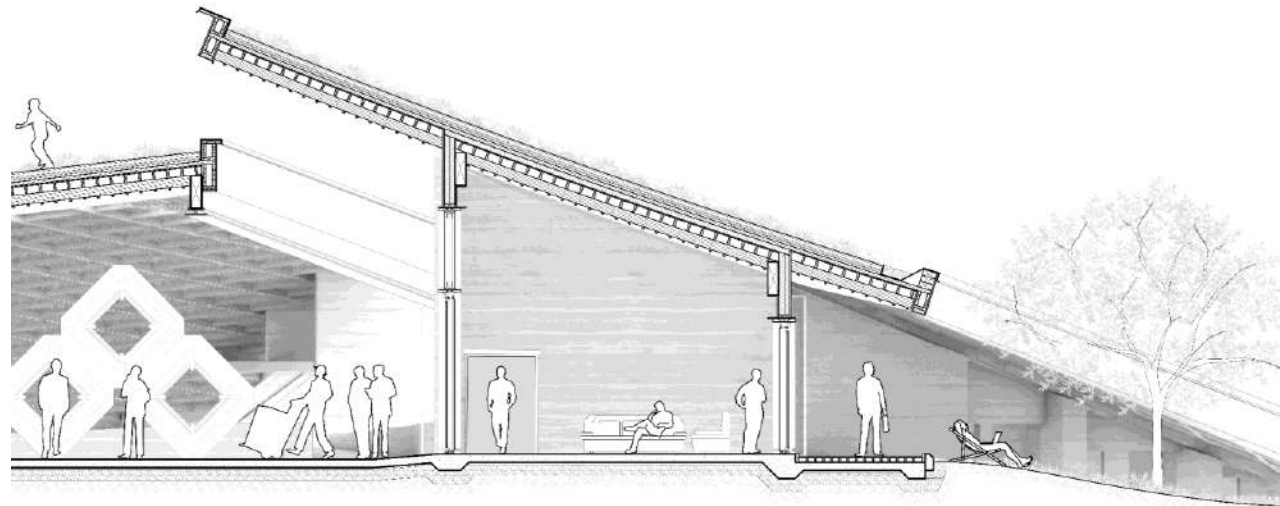
EXTERIOR PERSPECTIVE



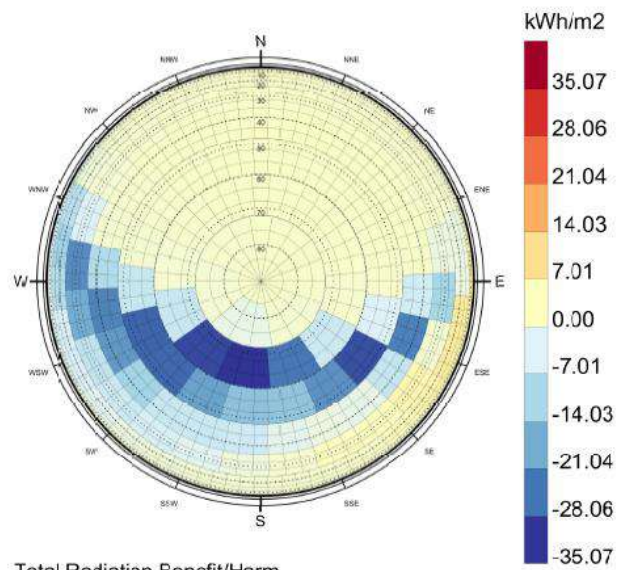
03

Energy and Technics

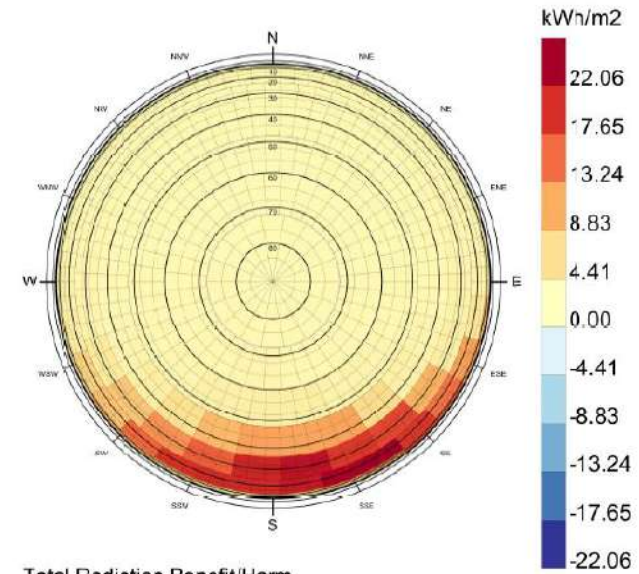
- CLIMATE ANALYSIS
- DAYLIGHT HARVESTING
- THERMAL COMFORT STRATEGY
- AIR QUALITY
- VISUAL COMFORT STRATEGY
- WATER MANAGEMENT
- DETAIL SECTION



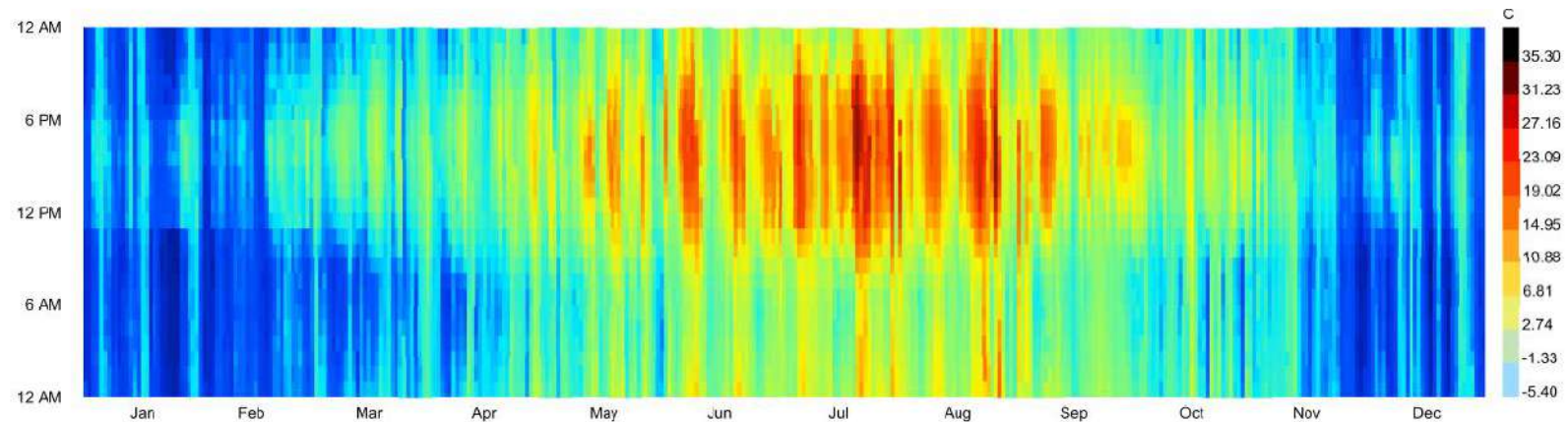
CLIMATE ANALYSIS



Total Radiation Benefit/Harm
 30 Mar 01:00 - 26 Oct 23:00
 city : Lyon
 time-zone : 1.0
 country : FRA
 source : SRC-TMYx



Total Radiation Benefit/Harm
 26 Oct 01:00 - 29 Mar 23:00
 country : FRA
 time-zone : 1.0
 source : SRC-TMYx
 city : Lyon



Dry Bulb Temperature (C)
 1/1 to 12/31 between 0 and 23 @ 1
 country : FRA
 time-zone : 1.0
 source : SRC-TMYx
 city : Lyon

DAYLIGHT HARVESTING

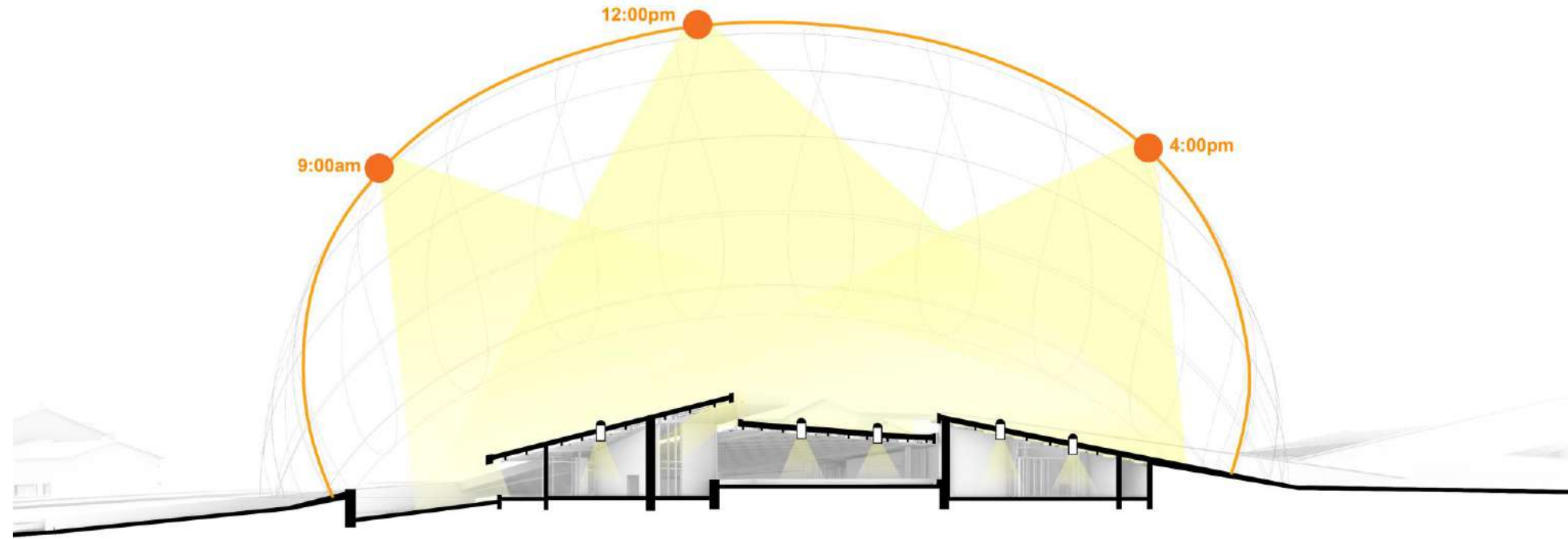


CELESTORY DESIGN

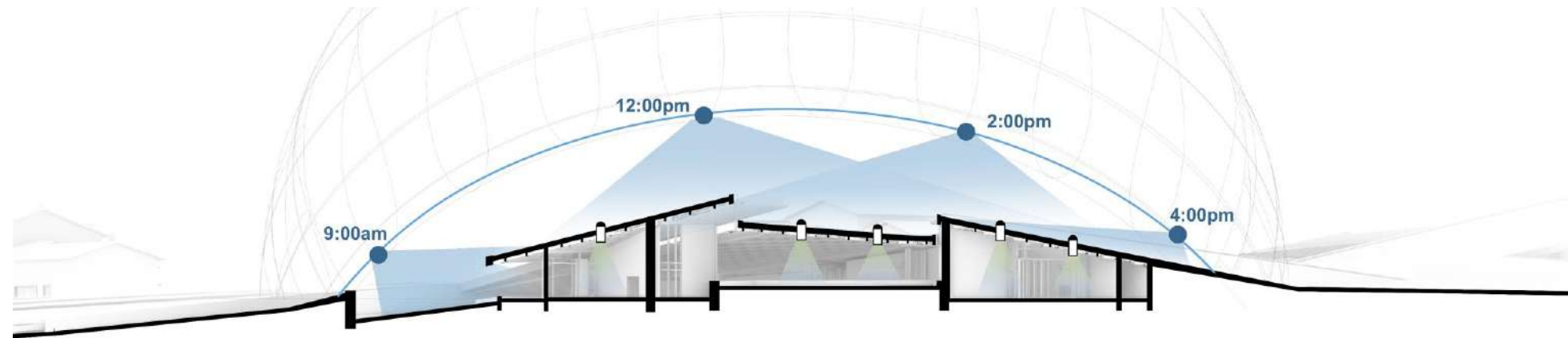
incorporates high-level windows near the roofline to enhance natural light, promote passive ventilation, and reduce reliance on artificial lighting while maintaining privacy.

LIGHT TUBE

captures and reflects natural sunlight to brighten indoor spaces in the morning, harnesses solar energy during the day, and functions as an LED light bulb at night using stored solar power.



SUMMER JUNE 16hours of daylight per day



WINTER DECEMBER 8hours of daylight per day

LIGHT TUBE



THERMAL COMFORT STRATEGY

GREEN ROOF DETAIL

Extensive Vegetation

Soil

Draincell

3mm **weber** PUM Coating w/ WEBERTape Fibremesh 100

10mm **weber** floor 4955 Acoustic Membrane

70mm CLT Element

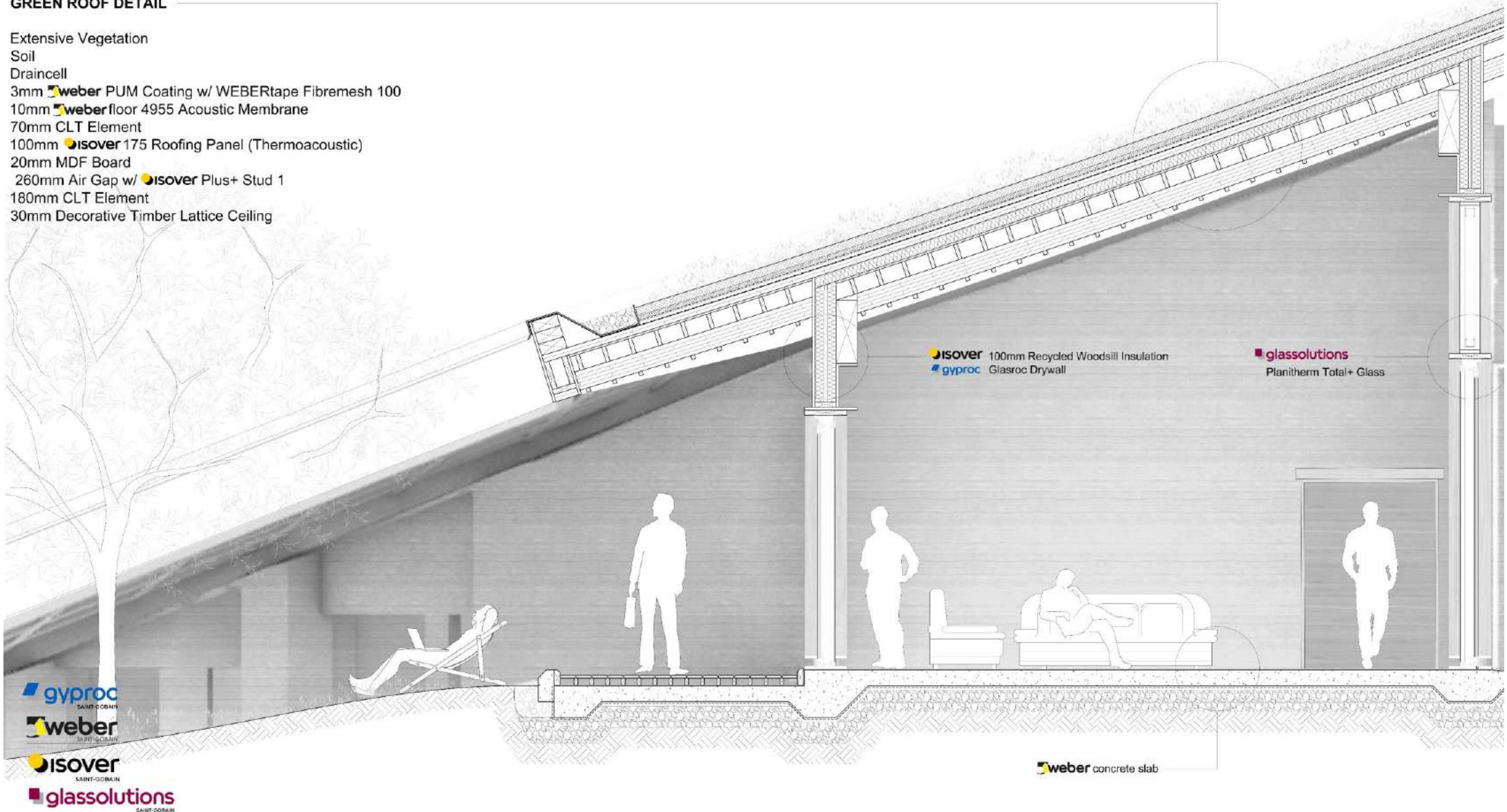
100mm **isover** 175 Roofing Panel (Thermoacoustic)

20mm MDF Board

260mm Air Gap w/ **isover** Plus+ Stud 1

180mm CLT Element

30mm Decorative Timber Lattice Ceiling



isover 100mm Recycled Woodsill Insulation
gyproc Glasroc Drywall

glassolutions
Planitherm Total+ Glass

gyproc
SAINT-GOBAIN

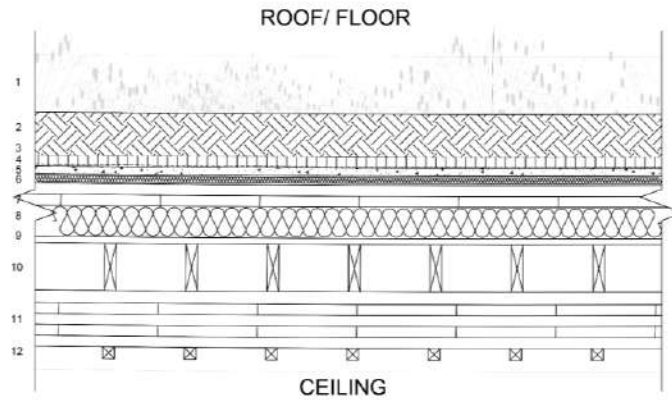
weber
SAINT-GOBAIN

isover
SAINT-GOBAIN

glassolutions
SAINT-GOBAIN

weber concrete slab

THERMAL COMFORT STRATEGY

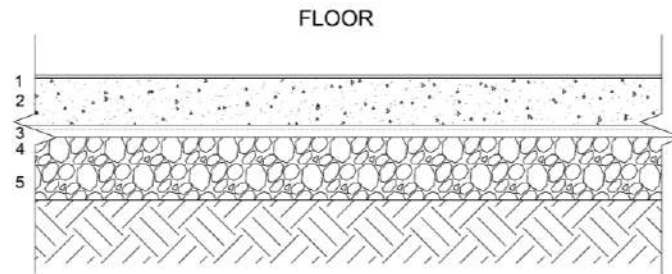
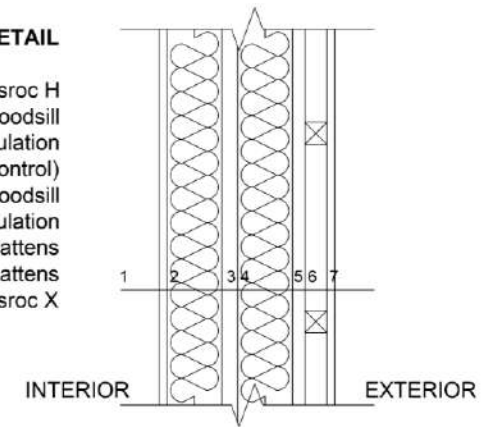


GREEN ROOF DETAIL

1. Extensive Vegetation
2. Soil
3. Draincell
4. 3mm **weber** PUM coating w/ **webertape** fibremesh 100
5. 10mm **weber** floor flex screed
6. 30mm **weber** floor 4955 acoustic membrane
7. 70mm CLT Element
8. 100mm **isover** 175 Roofing Panel (Thermoacoustic)
9. 20mm MDF Board
10. 260mm Air Gap w/ **isover** Plus+ Stud 1
11. 180mm CLT Element
12. 30mm Decorative Timber Lattice Ceiling

TIMBER STUD DRYWALL DETAIL

1. **gyproc** 12.5mm Glasroc H
2. 100mm **isover** Recycled Woodsill Insulation
3. Air Gap (Vapour Control)
4. 100mm **isover** Recycled Woodsill Insulation
5. Vertical Timber Battens
6. Horizontal Timber Battens
7. **gyproc** 12.5mm Glasroc X

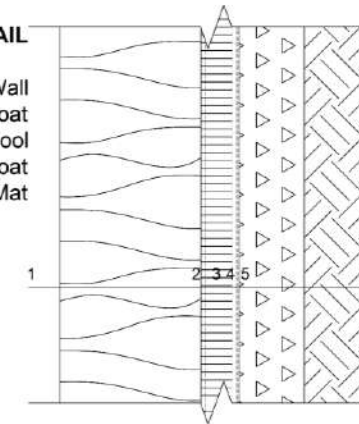


CONCRETE SLAB DETAIL

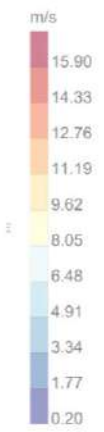
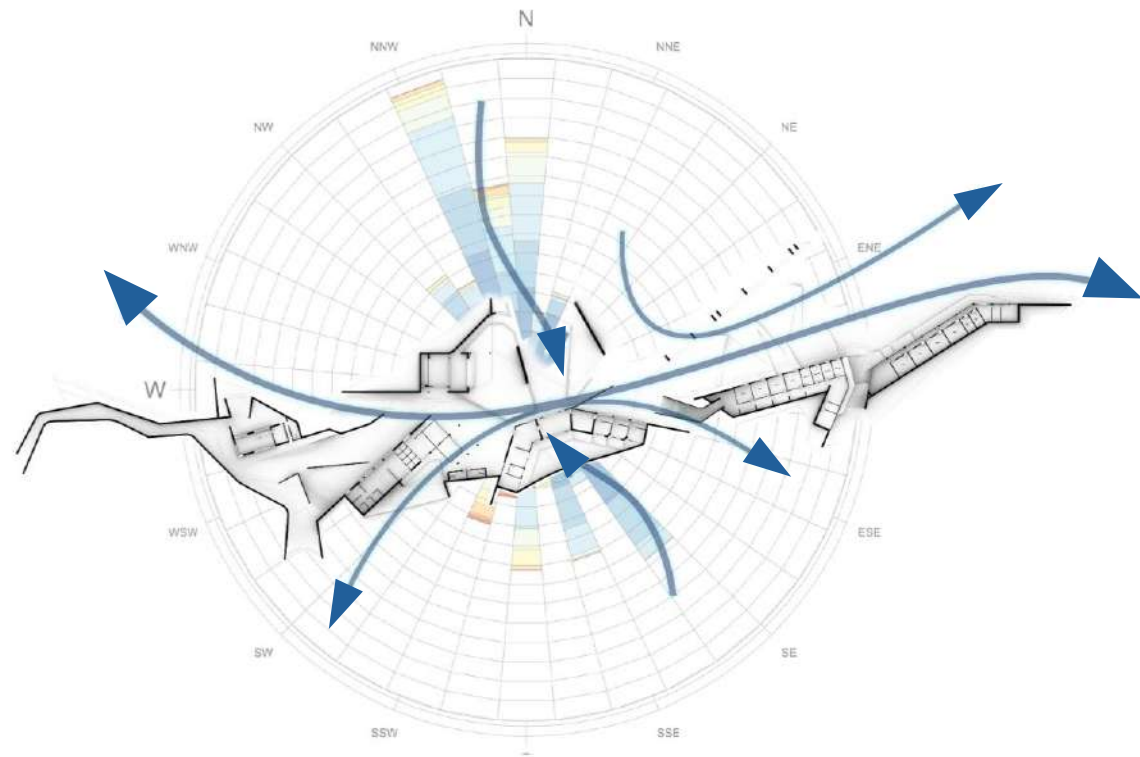
1. 4mm **weber** PUC MF coating
2. 150mm RC slab
3. 3mm **weber** PUM coating w/ **webertape** fibremesh 100
4. 40mm Sand Binding
5. Hardcore

RETAINING RAMMED EARTH DETAIL

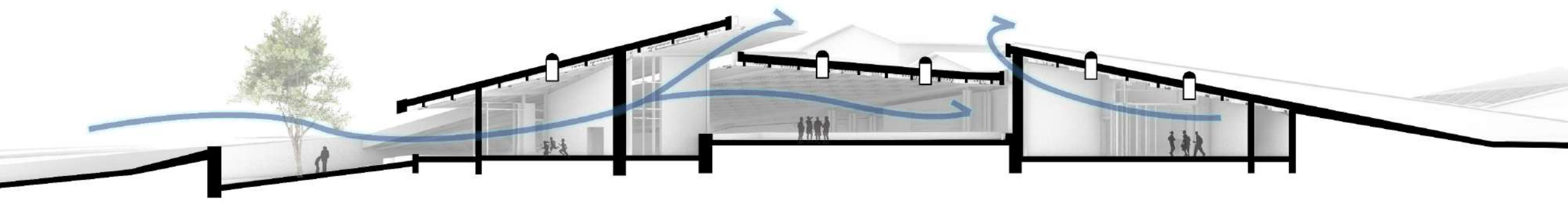
1. 450mm Rammed Earth Wall
2. 4mm **weber dry** Bitumen Coat
3. 100mm **isover** Glass Wool
4. 2x 4mm **weber dry** Bitumen Coat
5. **weber.sys 93** Drainage Mat



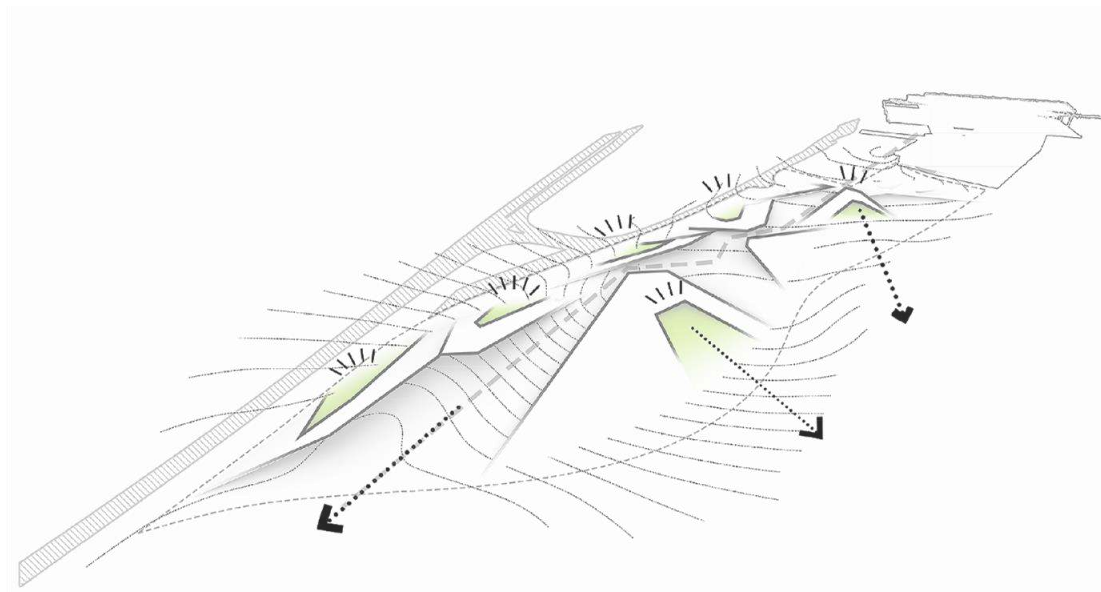
AIR QUALITY



Wind Speed (m/s)
source: SRC-TMYx
city: Lyon
country: FRA
time-zone: 1.0
period: 1/1 to 12/31 between 0 and 23 @1
Calm for 5.84% of the time = 512 hours.
Each closed polyline shows frequency of 0.6% = 50 hours.



VISUAL COMFORT STRATEGY



COURTYARD

A courtyard between buildings will allow for natural light and ventilation, creating a comfortable and connected outdoor space for users.

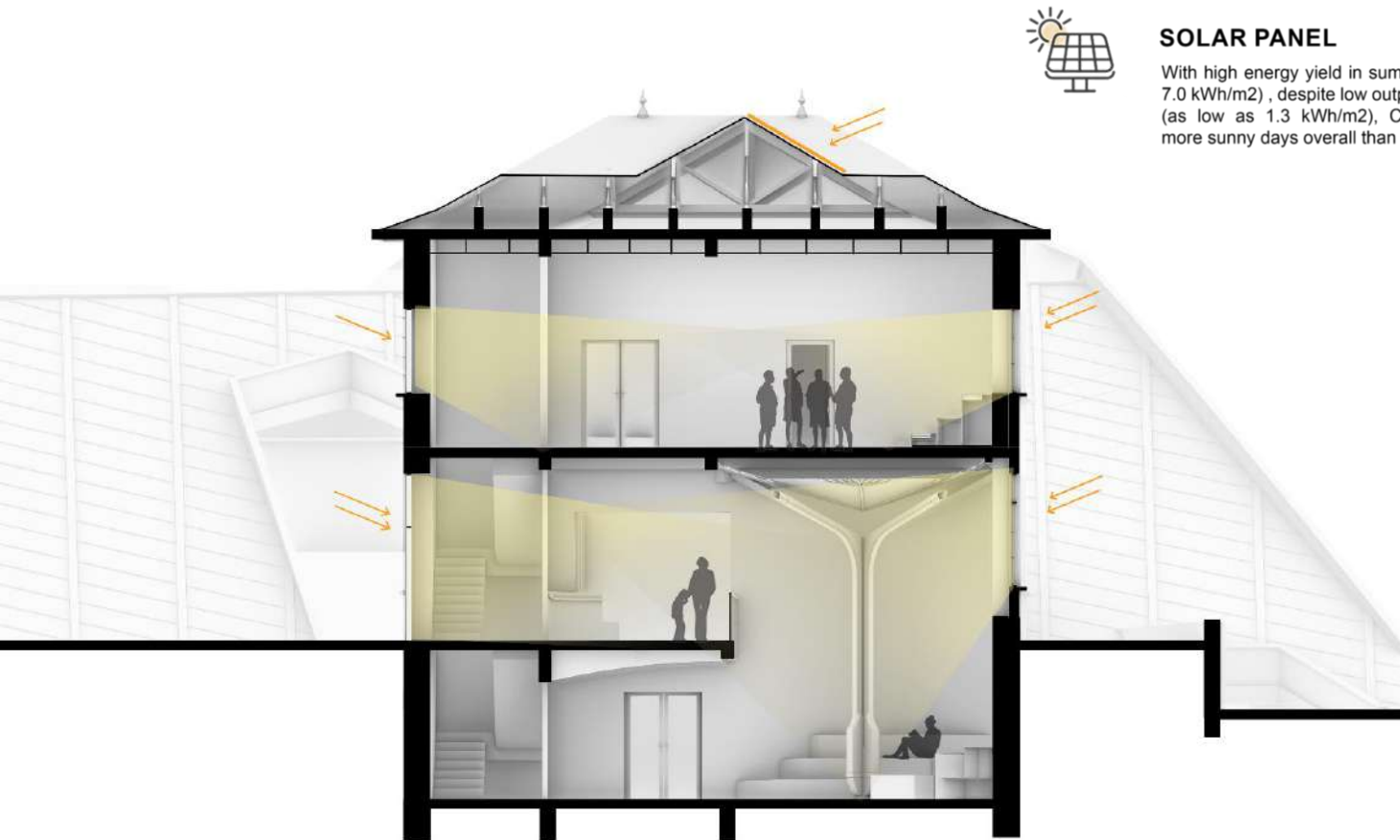


GREEN ROOF

enhance stormwater management, reduce heat absorption. The plant layer provides residents with a tranquil green area while also aiding in air purification, urban cooling, and biodiversity enhancement.



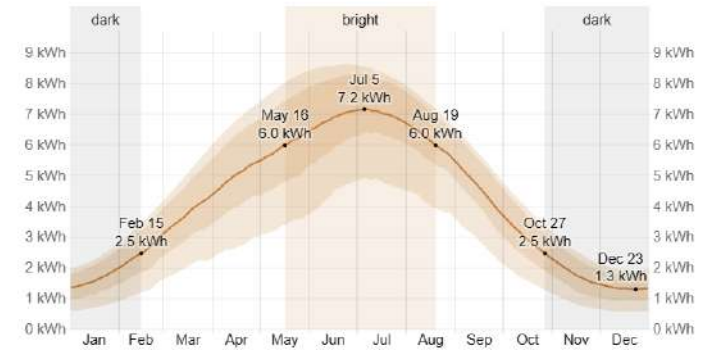
DAYLIGHTING AND VENTILATION



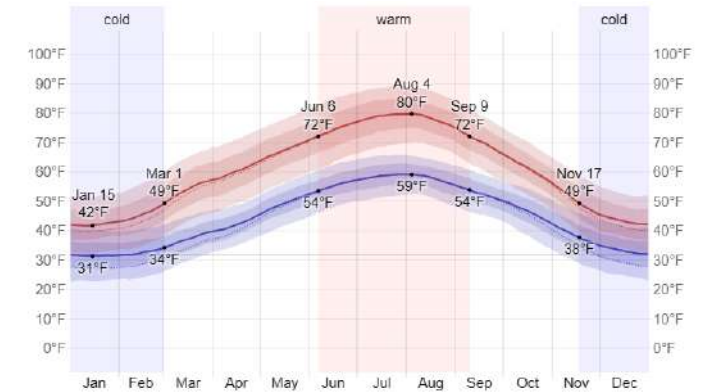
SOLAR PANEL

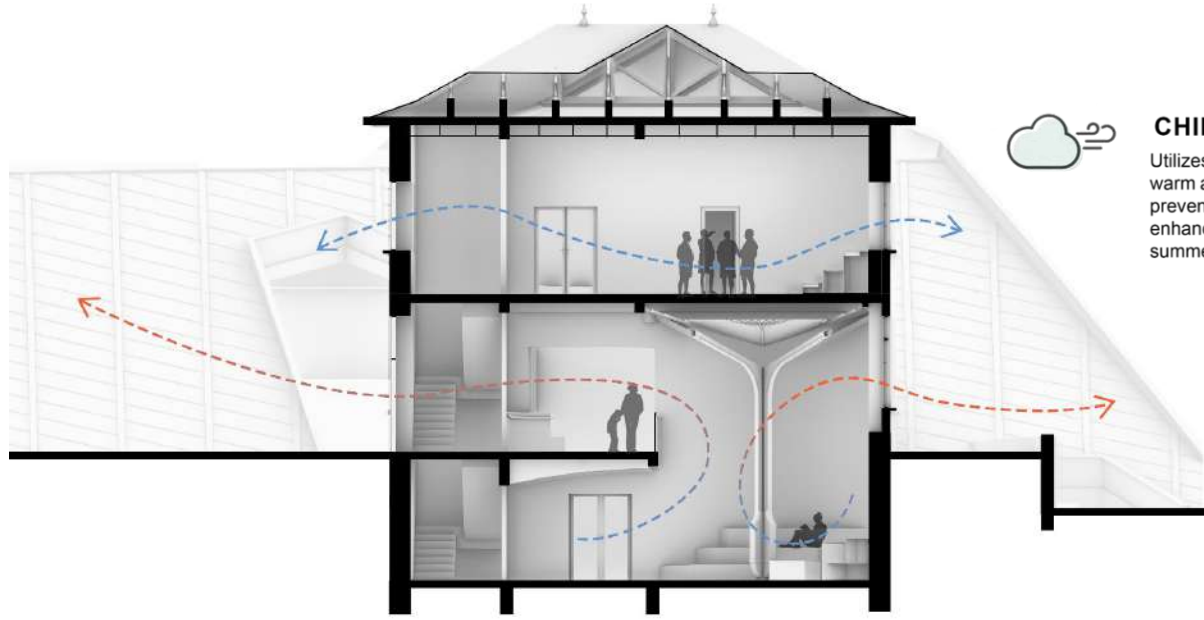
With high energy yield in summer (up to 7.0 kWh/m²), despite low output in winter (as low as 1.3 kWh/m²), Chimilin has more sunny days overall than summer

Average Daily Incident Shortwave Solar Energy in Chimilin



Average High and Low Temperature in Chimilin



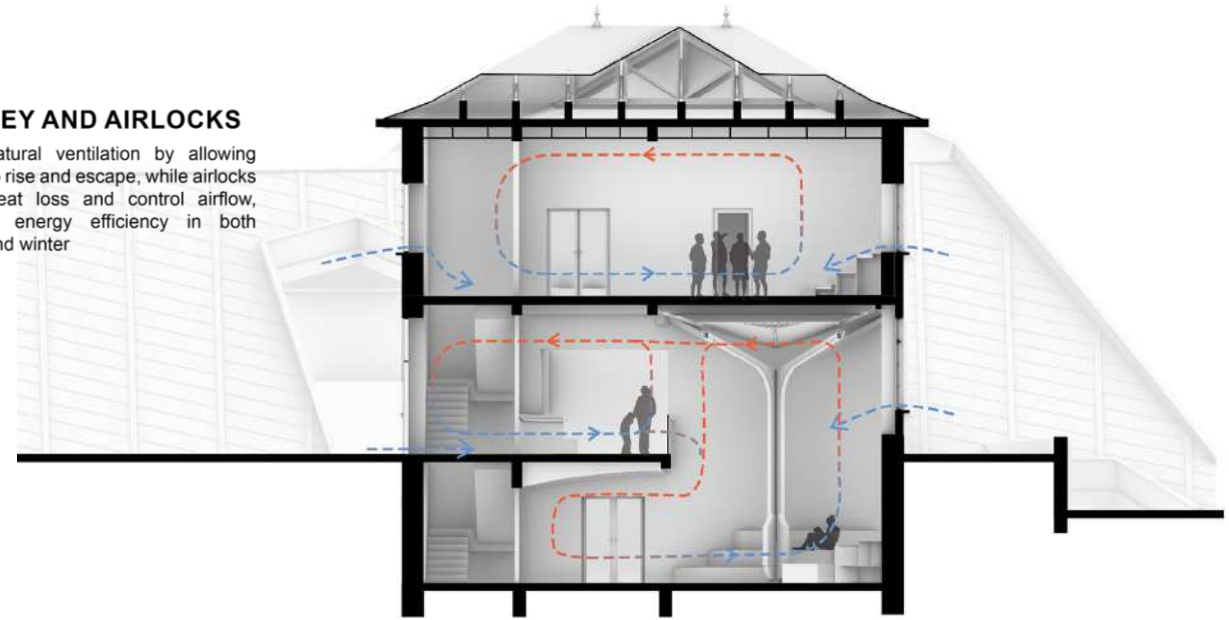


SUMMER



CHINMEY AND AIRLOCKS

Utilizes natural ventilation by allowing warm air to rise and escape, while airlocks prevent heat loss and control airflow, enhancing energy efficiency in both summer and winter



WINTER

WATER MANAGEMENT



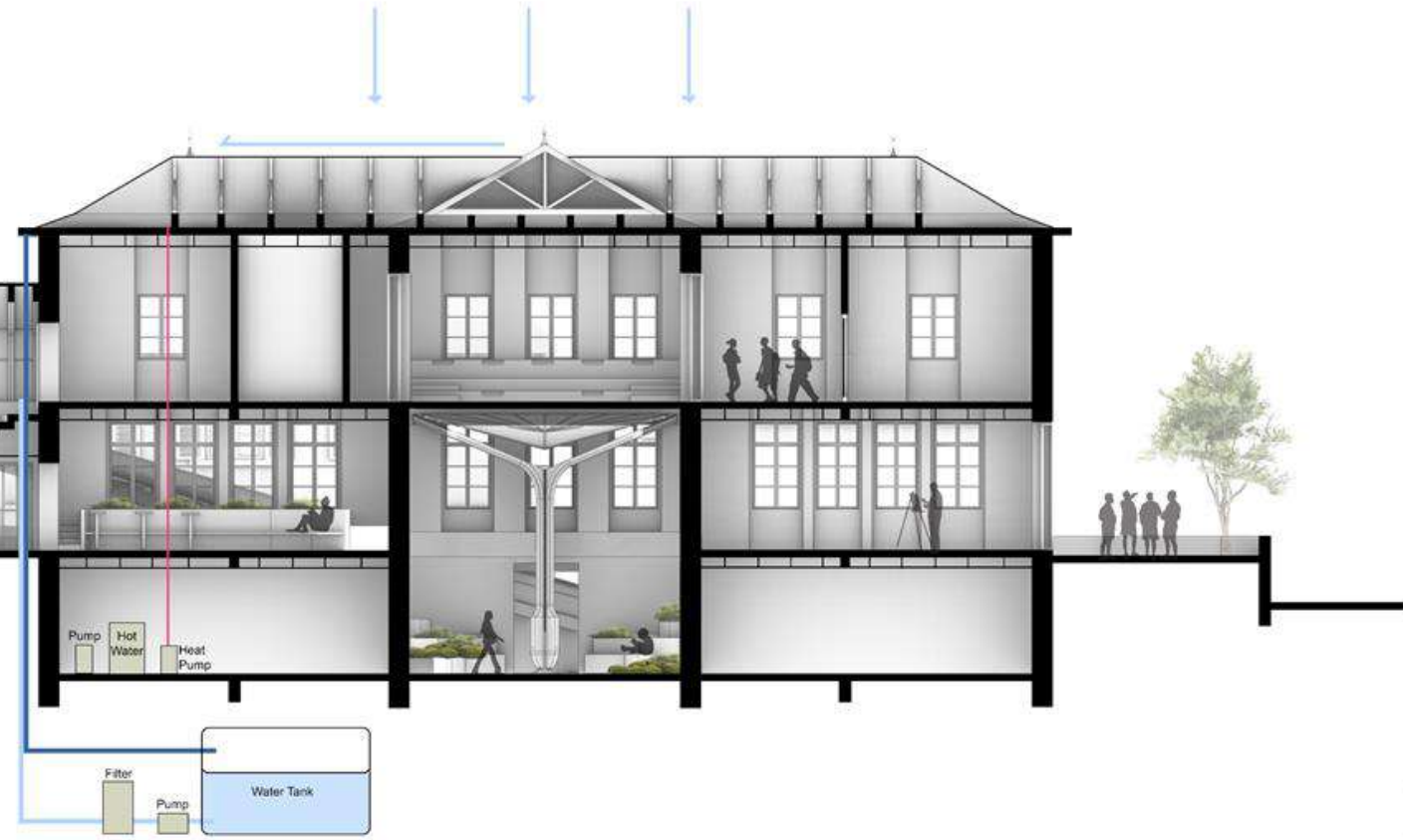
ROOF MELTING SYSTEM

A roof melt system for a flat roof uses heating cables or hydronic heating to prevent snow and ice buildup, ensuring proper drainage, reducing structural load, and preventing water damage.

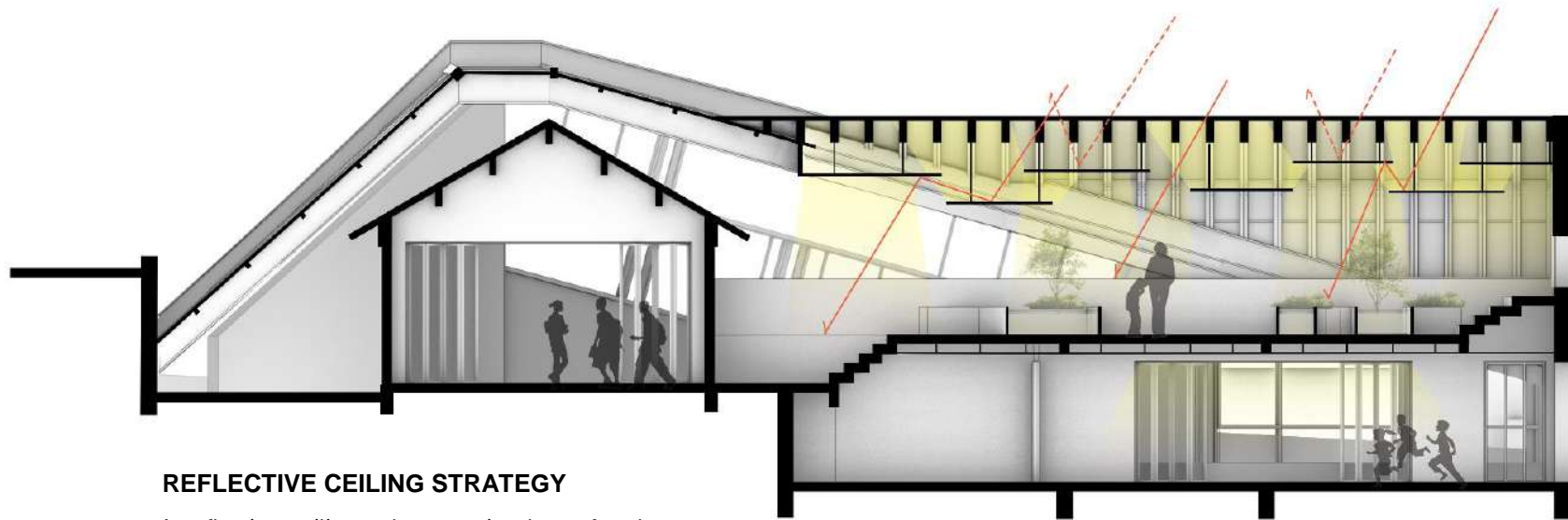


RAIN WATER HARVESTING

Incorporated into building's roof drainage system, non-potable applications like cleaning, toilet flushing, and irrigation, Tactic encourages water conservation and lessens on municipal water supply.

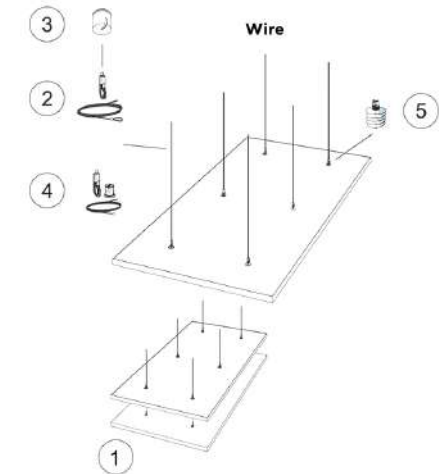


Glass Type	Tint	U-value (the lower the number the more internal heat remains in the home)	g-value (the lower the number the less heat transmitted into your home)	TL (the % of light entering the room)
Azura	Blue	1.0	0.33 (67% of heat blocked)	47%



REFLECTIVE CEILING STRATEGY

A reflective ceiling enhances visual comfort by distributing natural light more evenly, reducing glare and the need for excessive glazing.



Installation diagram (M404) for Ecophon Solo Rectangle 1800x1200


Quantity specification (excl. wastage)

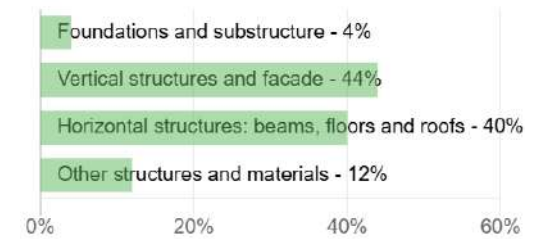
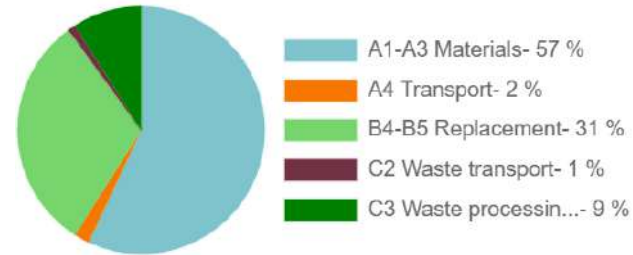
	Size, mm
	1800x1200
1 Solo Rectangle	2,16m ² /panel
2 Connect Adjustable wire hanger (Alt 1)	6/panel
3 Connect Covering cup (Alt 1, Optional)	6/panel
4 Connect Adjustable wire kit (Alt 1, Optional)	6/panel
5 Connect Absorber anchor (Alt 1)	6/panel


ecophon SOLO™ RECTANGLE
Akutex™ FT




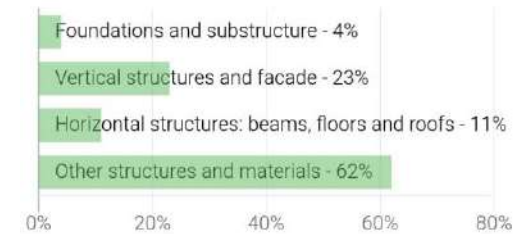
SITE B

Cradle to grave (A1-A4, B4-B5, C1-C4)		kg CO ₂ e/m ²
(< 350) A		273
(350-530) B		
(530-710) C		
(710-890) D		
(890-1070) E		
(1070-1250) F		
(> 1250) G		



SITE A

Cradle to grave (A1-A4, B4-B5, C1-C4)		kg CO ₂ e/m ²
(< 350) A		247
(350-530) B		
(530-710) C		
(710-890) D		
(890-1070) E		
(1070-1250) F		
(> 1250) G		



1 : 1 LIVING DE TERRE

EMBRACE THE LAND, AND THE BUILDINGS WILL SING

