ARCHITECTURE STUDENT CONTEST

21st INTERNATIONAL EDITION, BELGRADE 2026

Old Belgrade

Modern Belgrade

Team n°16 | United Arab Emirates

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Elevated Living

Elevating architecture into a continuous, walkable landscape that reconnects the city, the river, and the community.

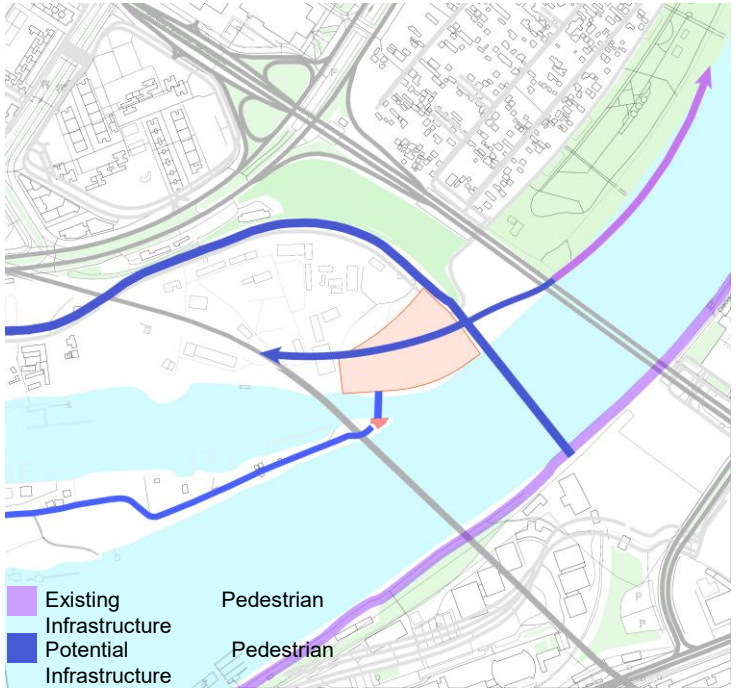
Site Analysis

Understanding the Urban Fabric

The surrounding context is characterized by a fragmented mix of industrial structures, infrastructure, and open spaces. This condition limits spatial continuity while weakening the relationship between the site and the surrounding urban fabric.

Ecological Potential of the Riverfront

The site is directly connected to the Sava River, offering a unique opportunity to integrate water, landscape, and urban space. This proximity enables the extension of green corridors while supporting biodiversity and enhancing the riverfront ecosystem.



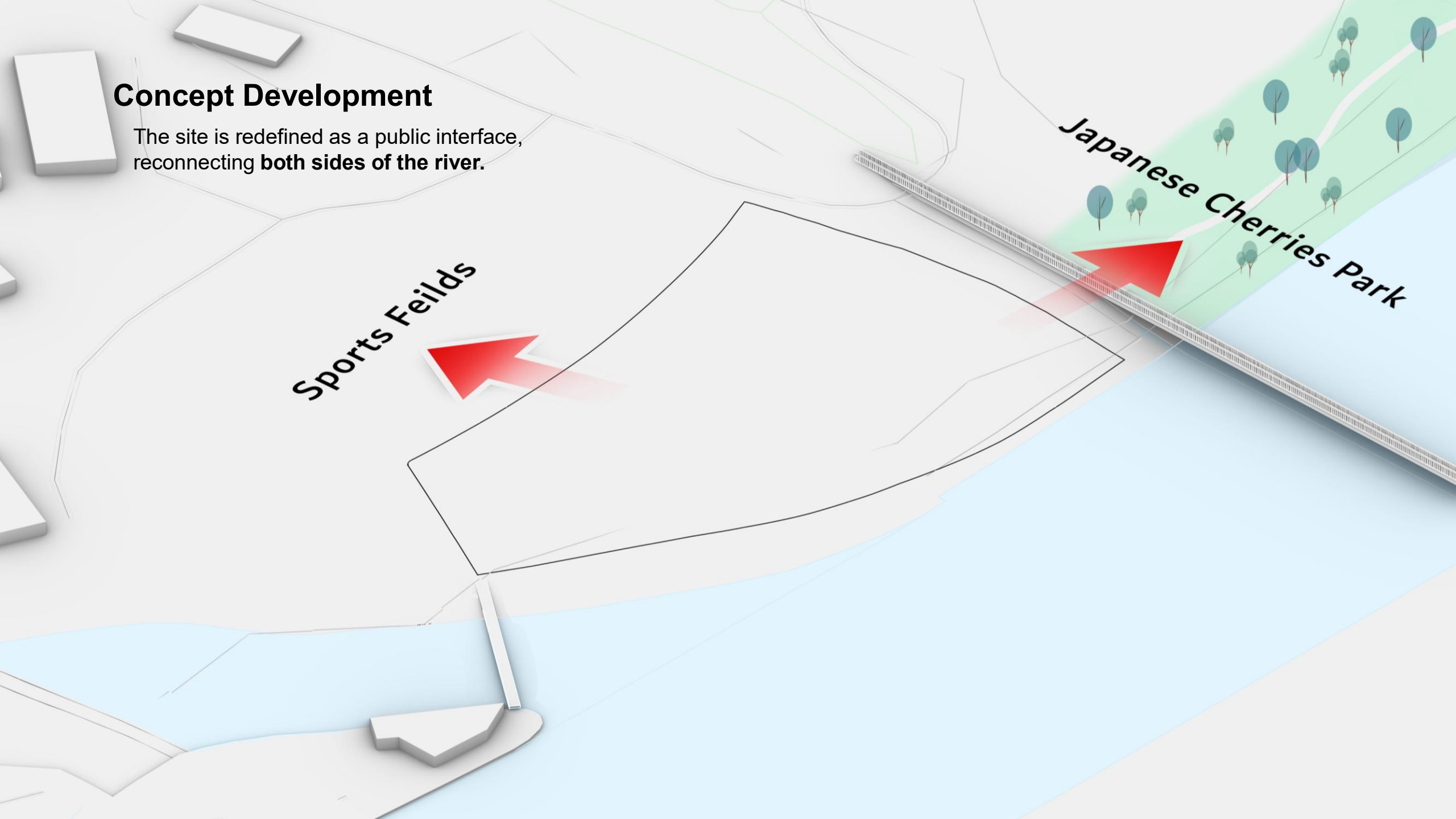
Connectivity & Movement

The site is positioned along key pedestrian and cycling routes (Euro Velo Routes), yet remains poorly connected to its surroundings. This condition highlights the need to strengthen movement networks and improve access to the riverfront.

From Fragmentation to Connection: shaping a continuous, accessible, and ecologically integrated riverfront.

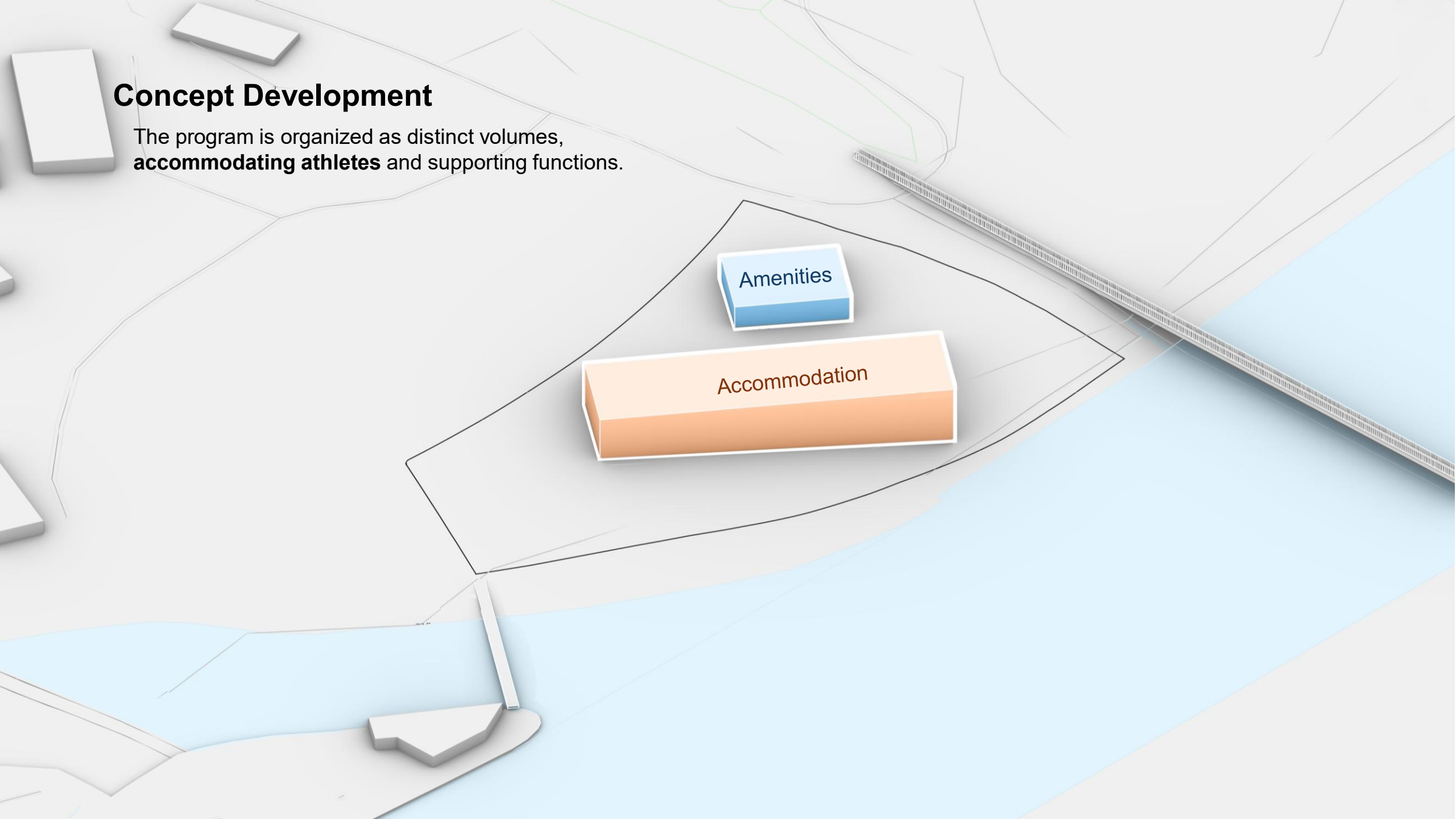
Concept Development

The site is redefined as a public interface, reconnecting **both sides of the river.**



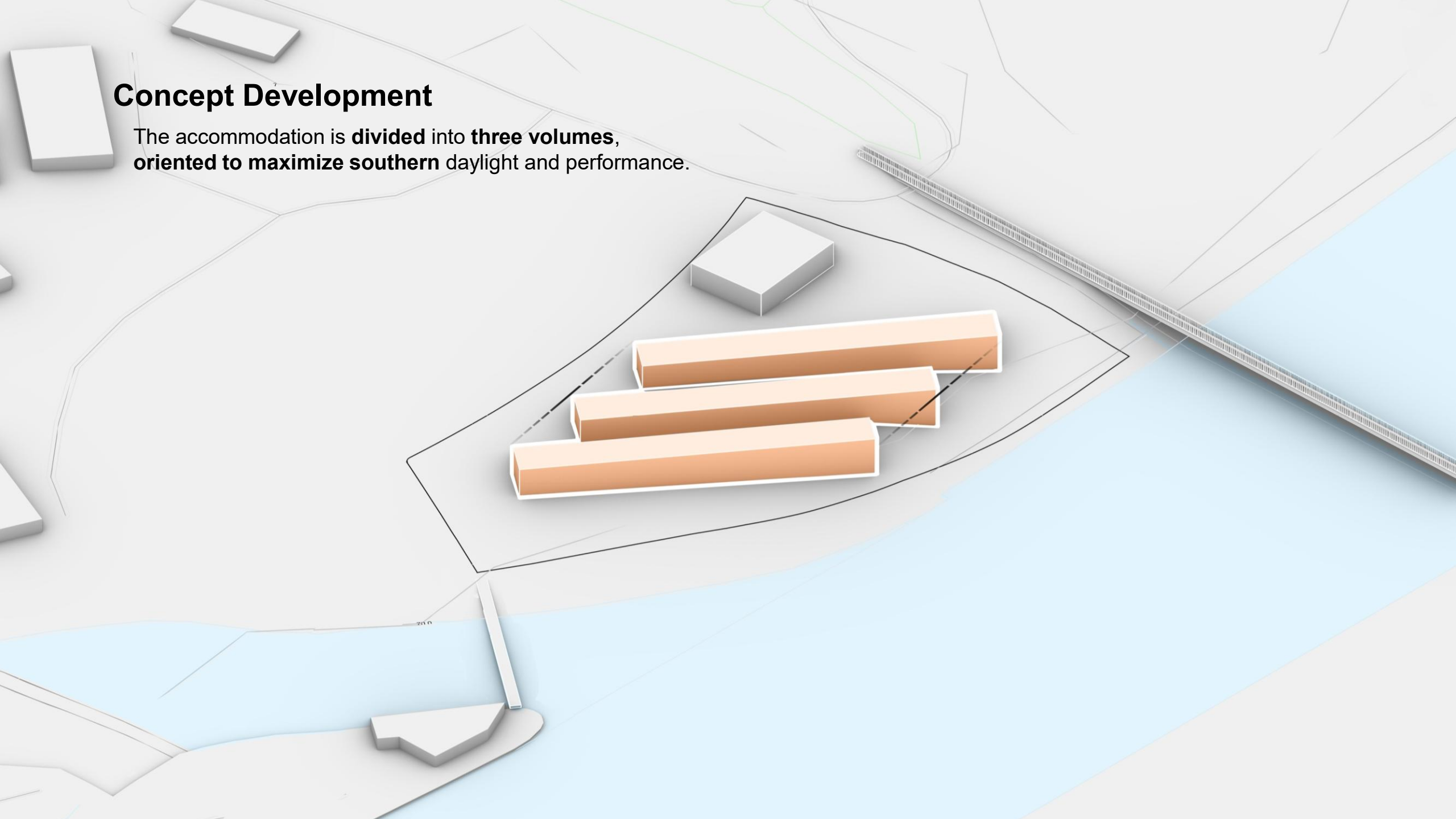
Concept Development

The program is organized as distinct volumes, **accommodating athletes** and supporting functions.



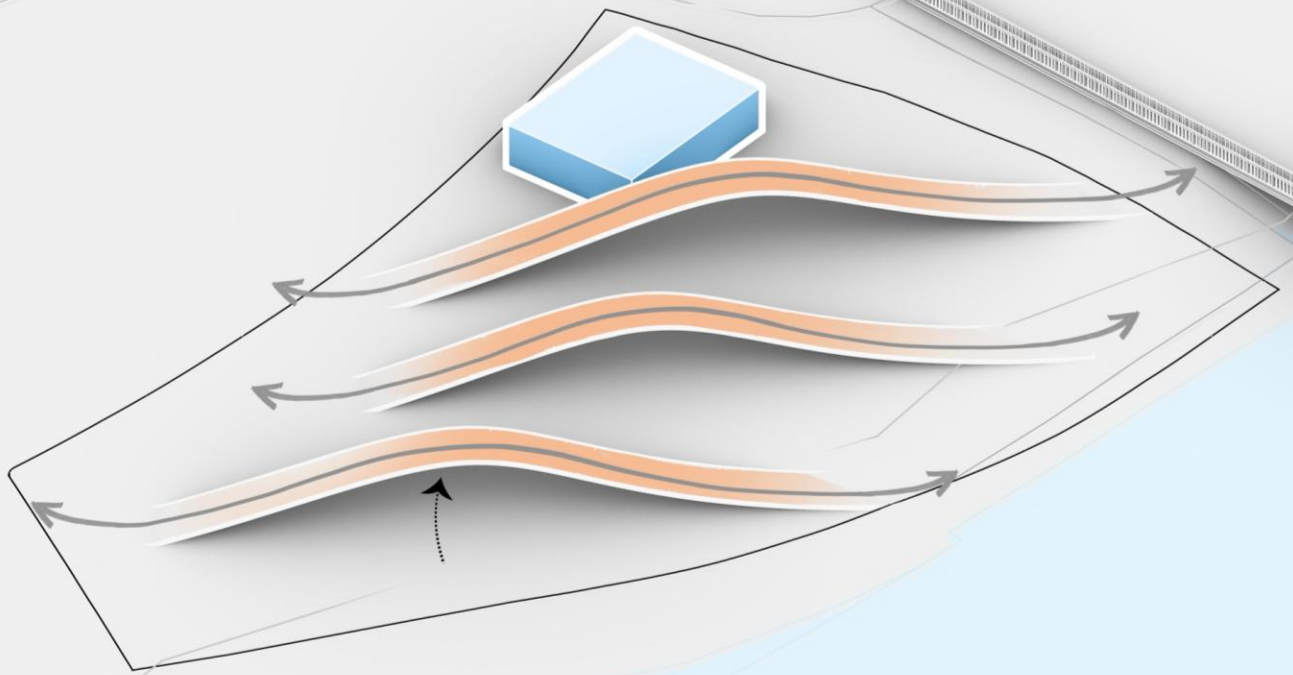
Concept Development

The accommodation is **divided** into **three volumes**,
oriented to maximize southern daylight and performance.



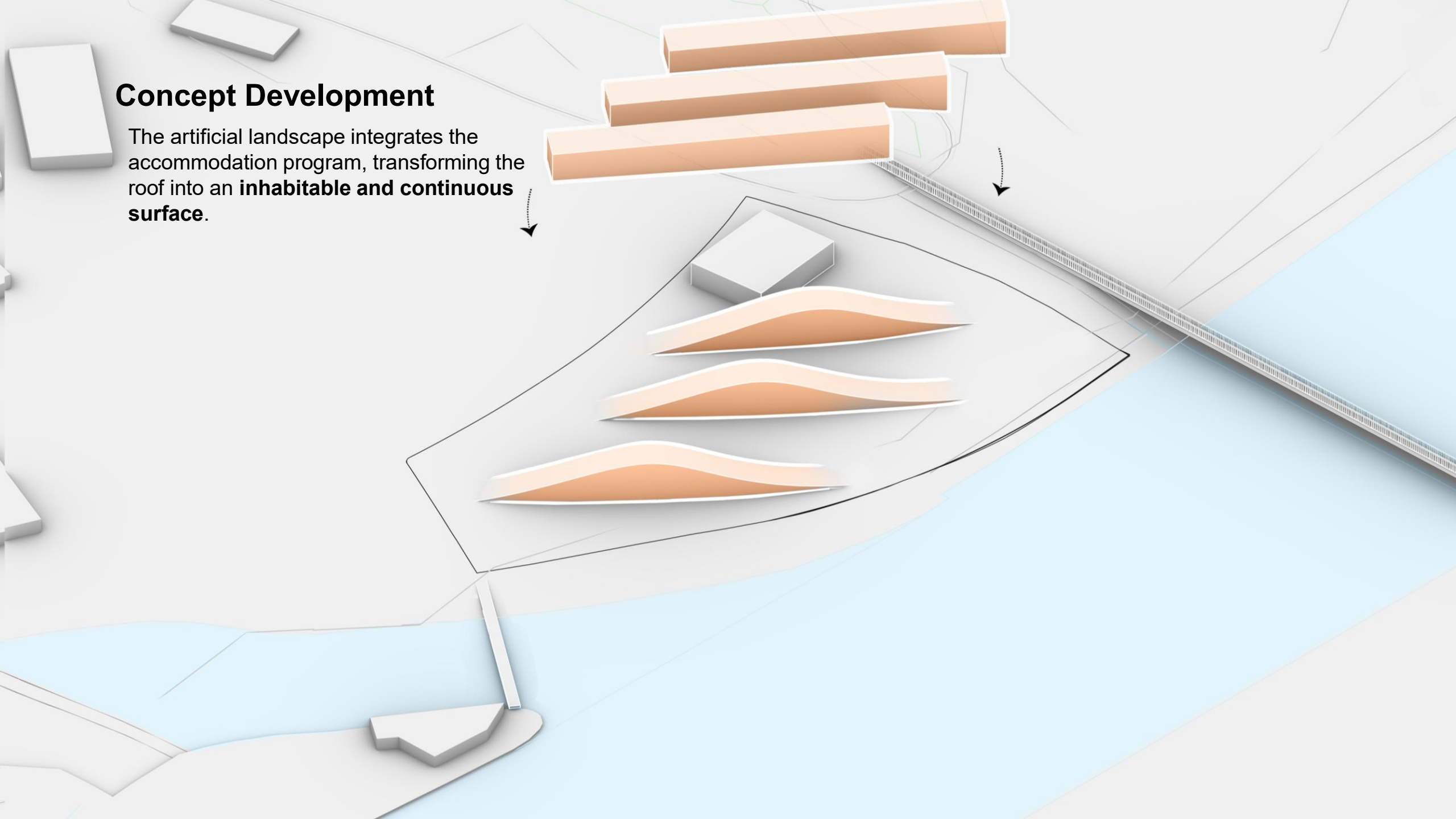
Concept Development

The three volumes are transformed into a **continuous landscape**, enhancing public use while ensuring efficient use of built area.



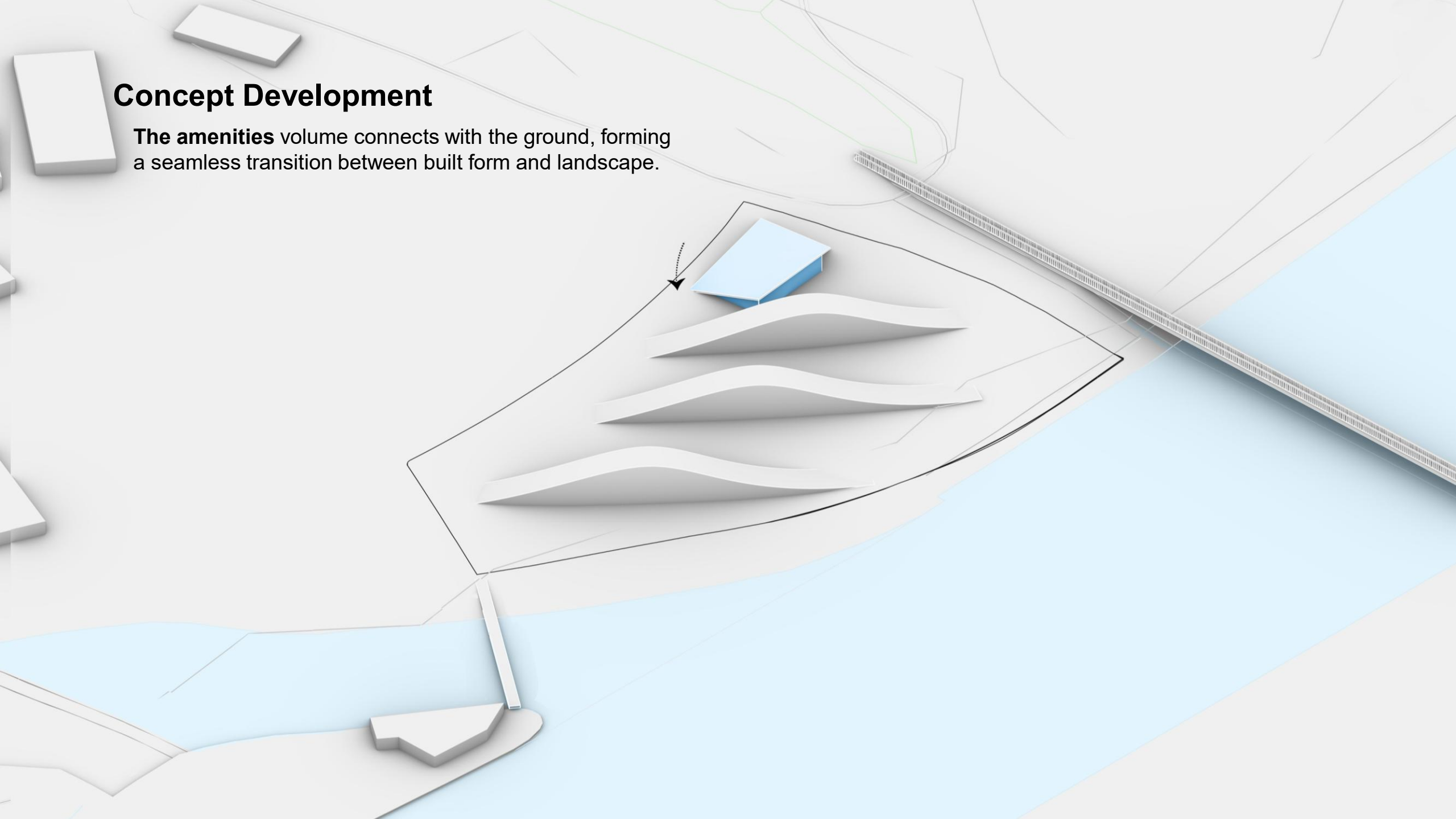
Concept Development

The artificial landscape integrates the accommodation program, transforming the roof into an **inhabitable and continuous surface**.



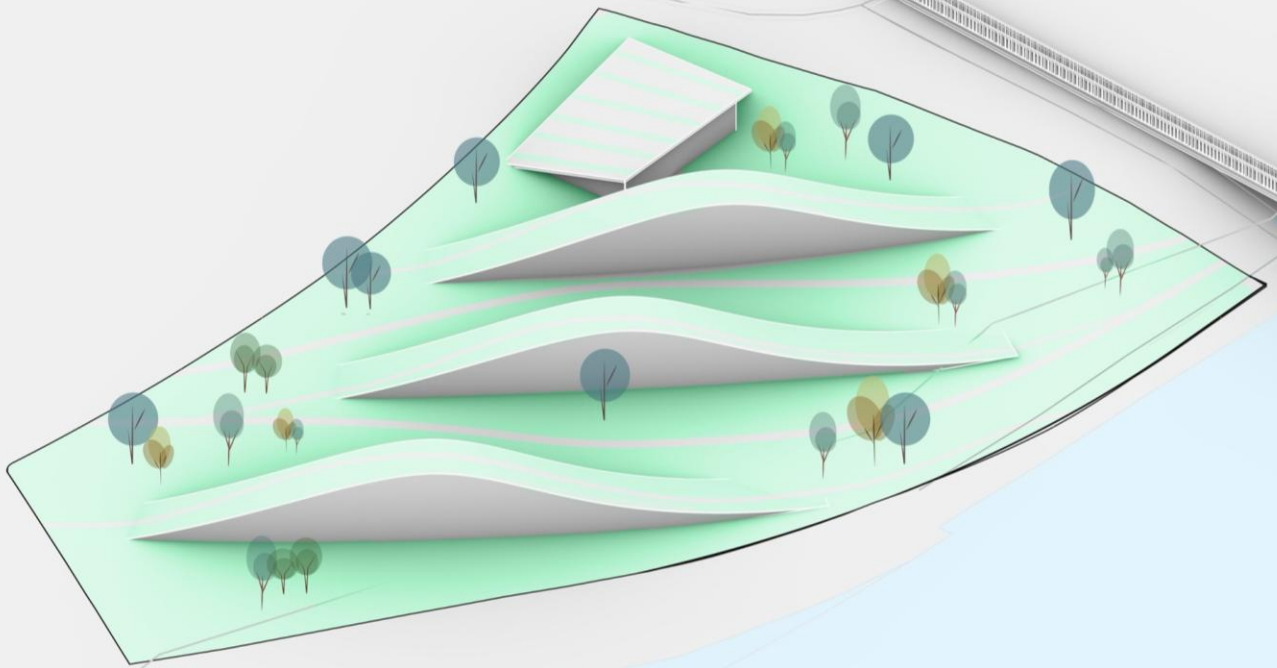
Concept Development

The amenities volume connects with the ground, forming a seamless transition between built form and landscape.



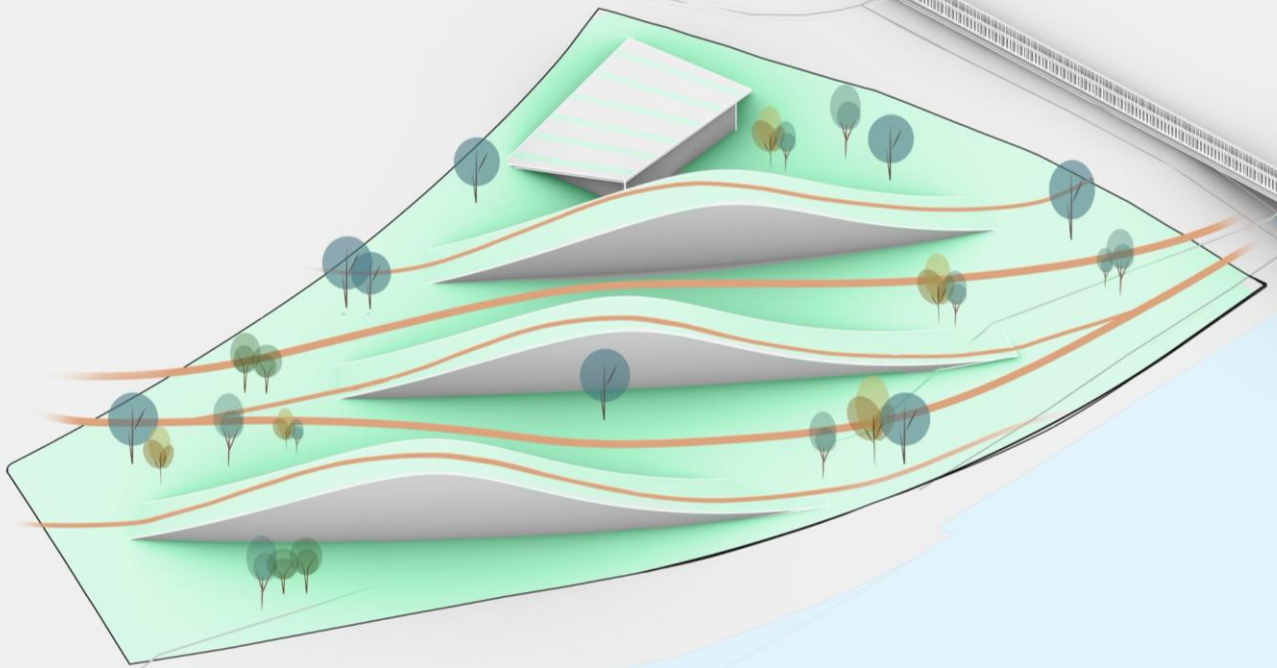
Concept Development

The buildings merge with the landscape, creating a **continuous green surface** across the site.



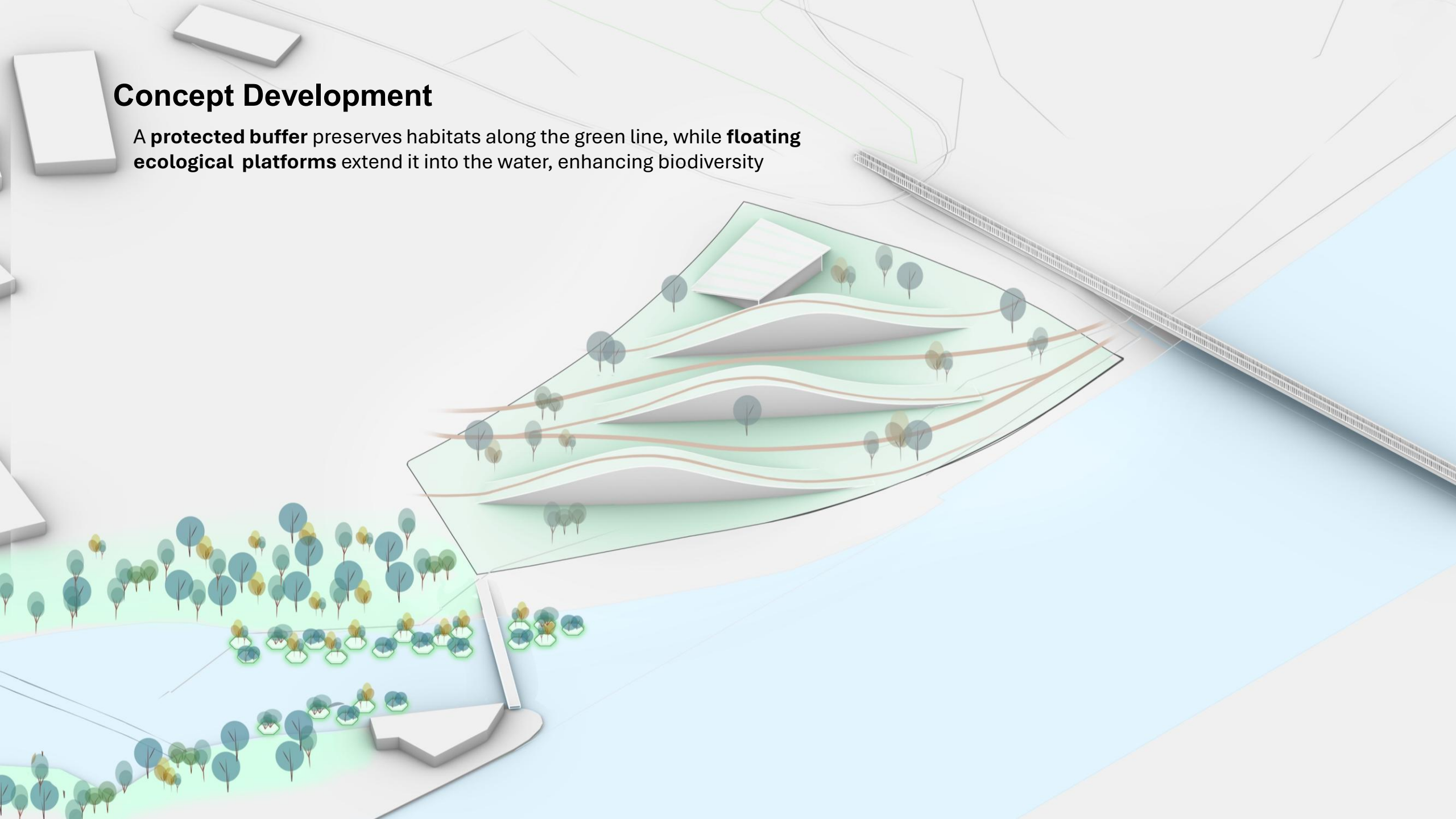
Concept Development

The landscape becomes an **elevated walkway**, forming a continuous and accessible pedestrian experience.



Concept Development

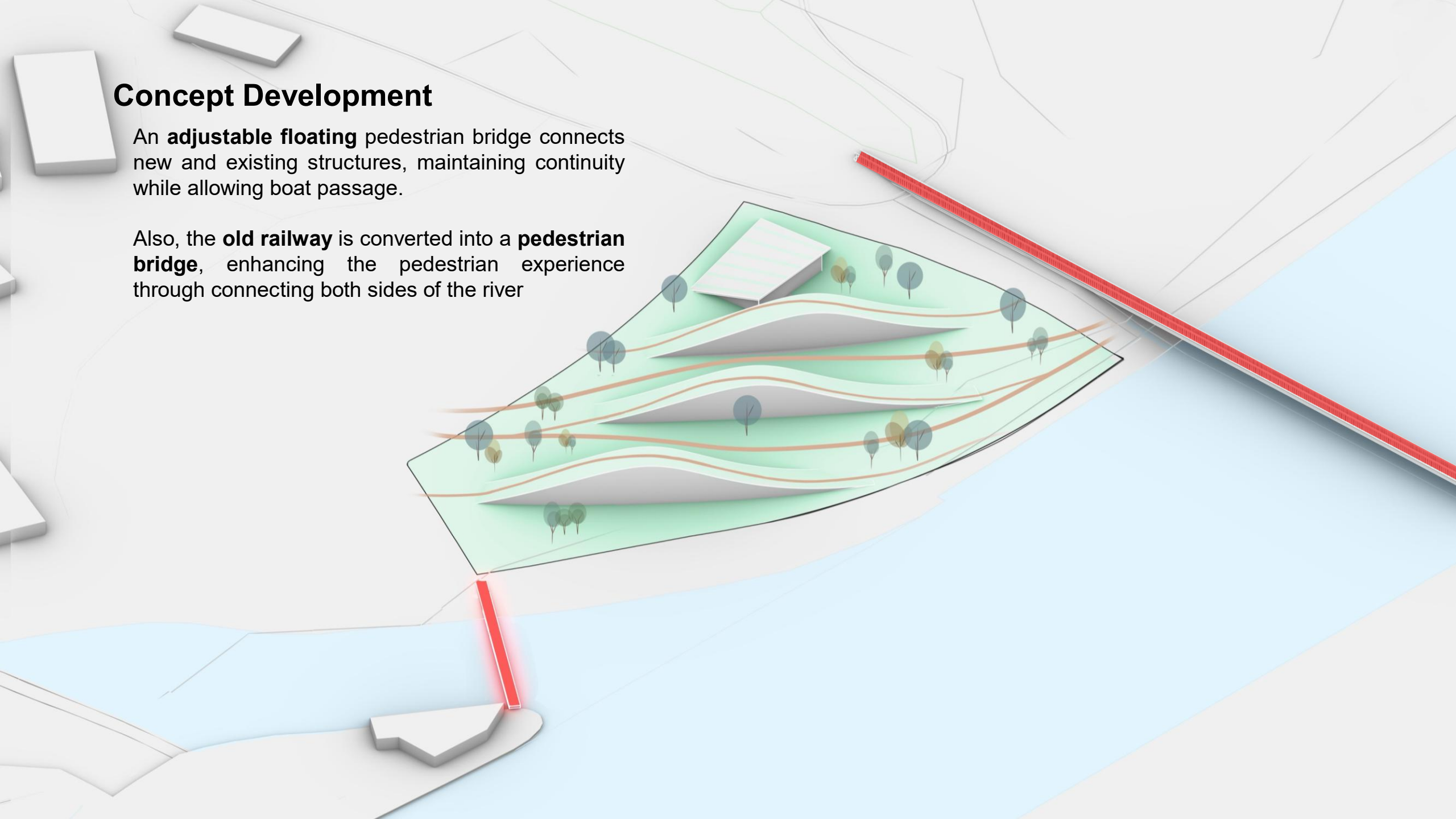
A **protected buffer** preserves habitats along the green line, while **floating ecological platforms** extend it into the water, enhancing biodiversity



Concept Development

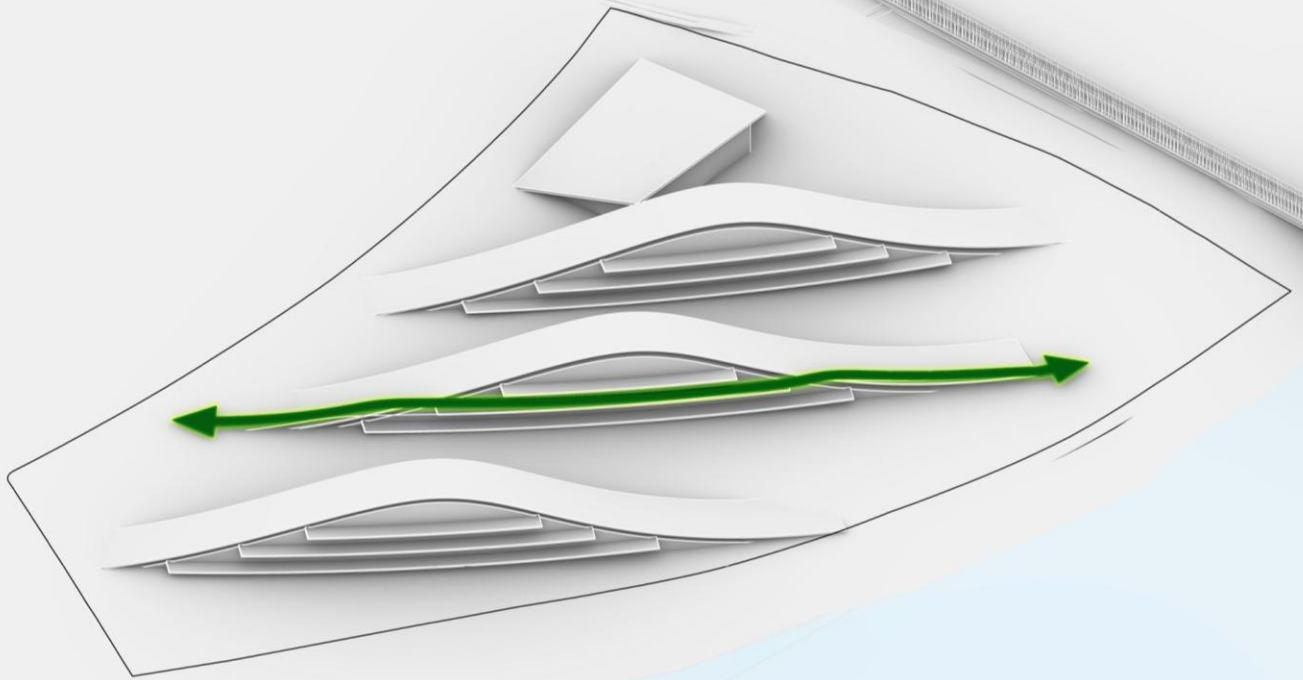
An **adjustable floating** pedestrian bridge connects new and existing structures, maintaining continuity while allowing boat passage.

Also, the **old railway** is converted into a **pedestrian bridge**, enhancing the pedestrian experience through connecting both sides of the river

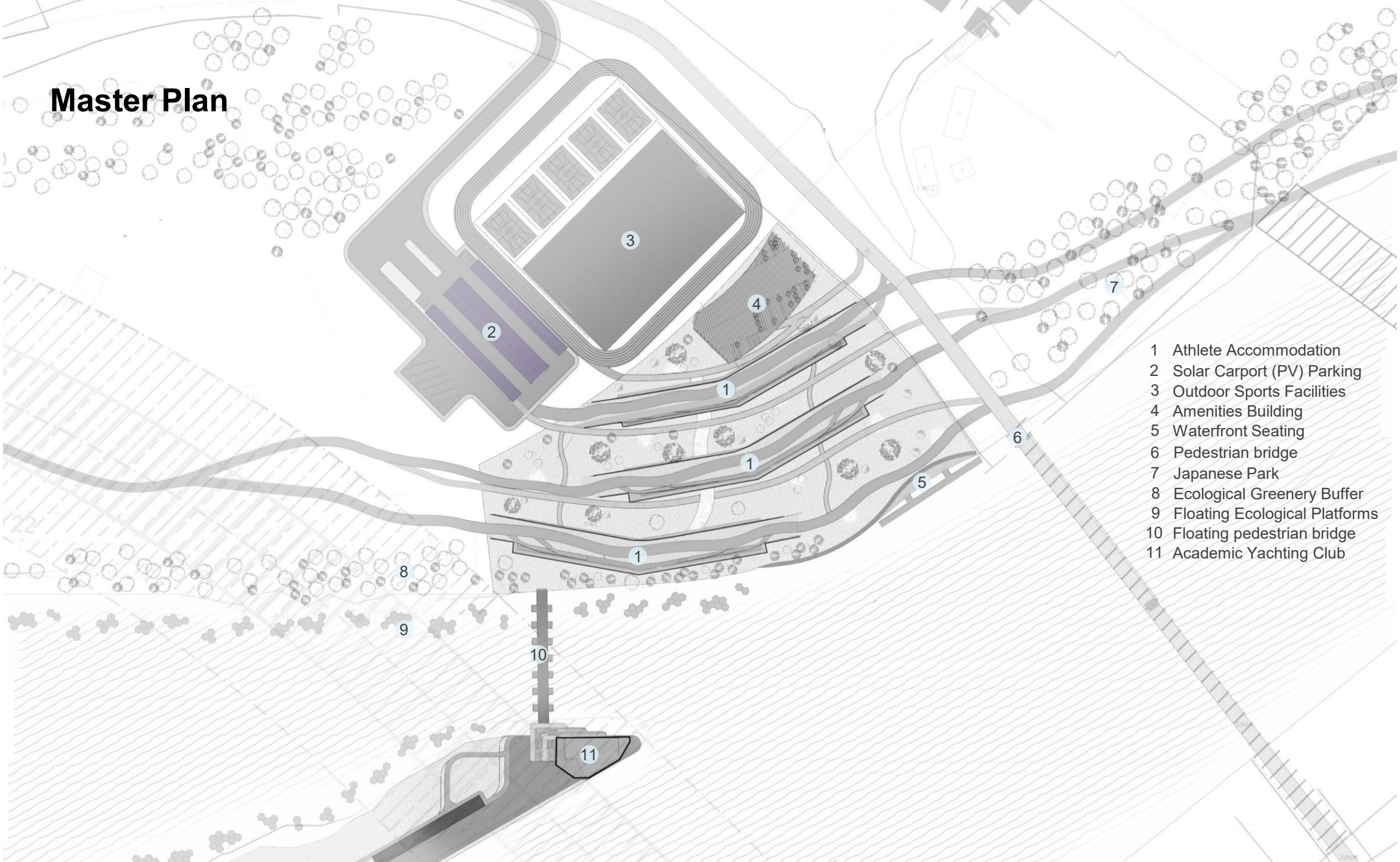


Concept Development

Elevated Neighbourhood: The housing units are connected through **shared terraces**, forming a **continuous** and **social living** environment.

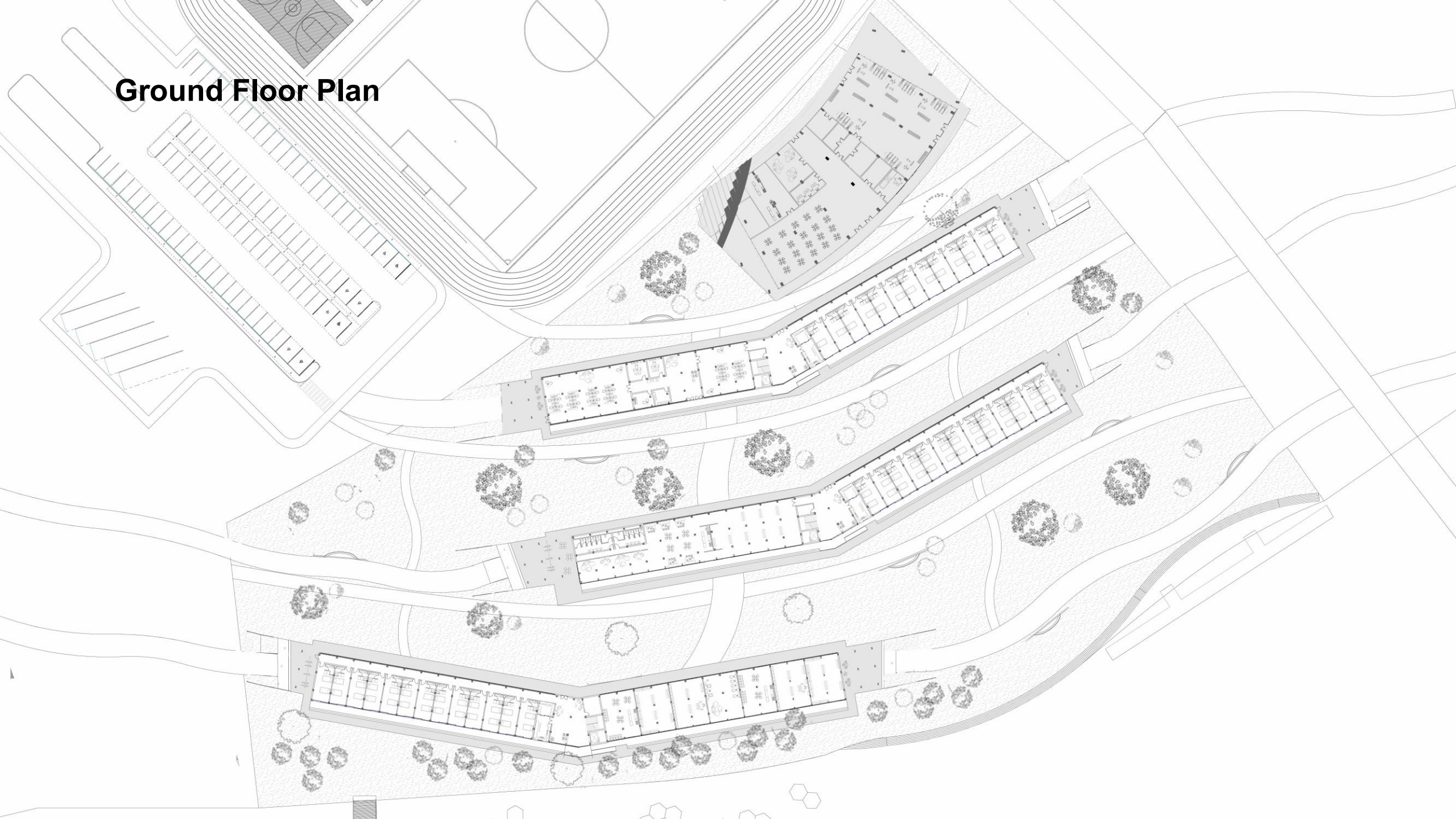


Master Plan

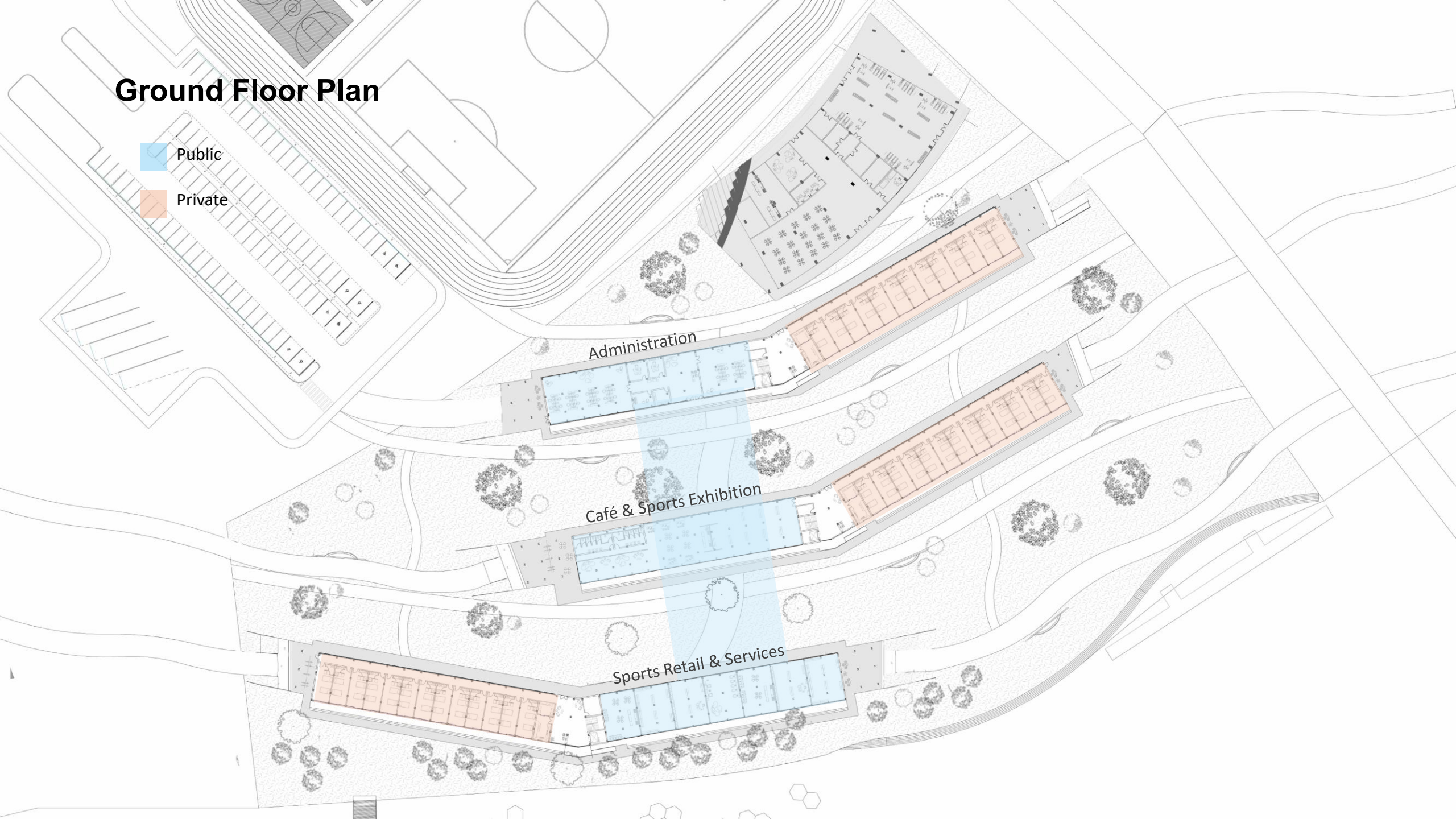


1 Athlete Accommodation
2 Solar Carport (PV) Parking
3 Outdoor Sports Facilities
4 Amenities Building
5 Waterfront Seating
6 Pedestrian bridge
7 Japanese Park
8 Ecological Greenery Buffer
9 Floating Ecological Platforms
10 Floating pedestrian bridge
11 Academic Yachting Club

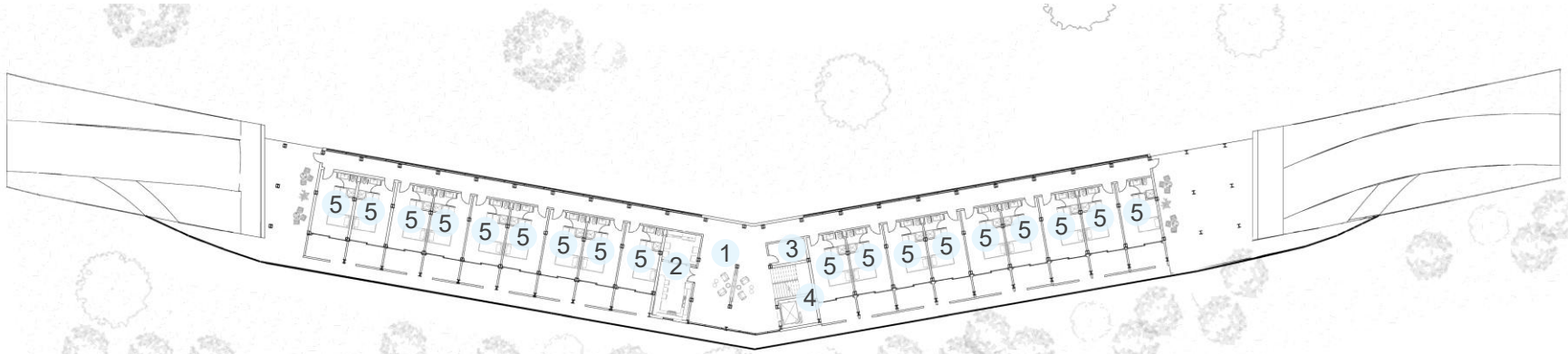
Ground Floor Plan



Ground Floor Plan



1st Floor Plan



1 Reception & Lobby
2 Laundry & Kitchenette
3 Electrical Room
4 Vertical Circulation Core
5 Accommodation Units

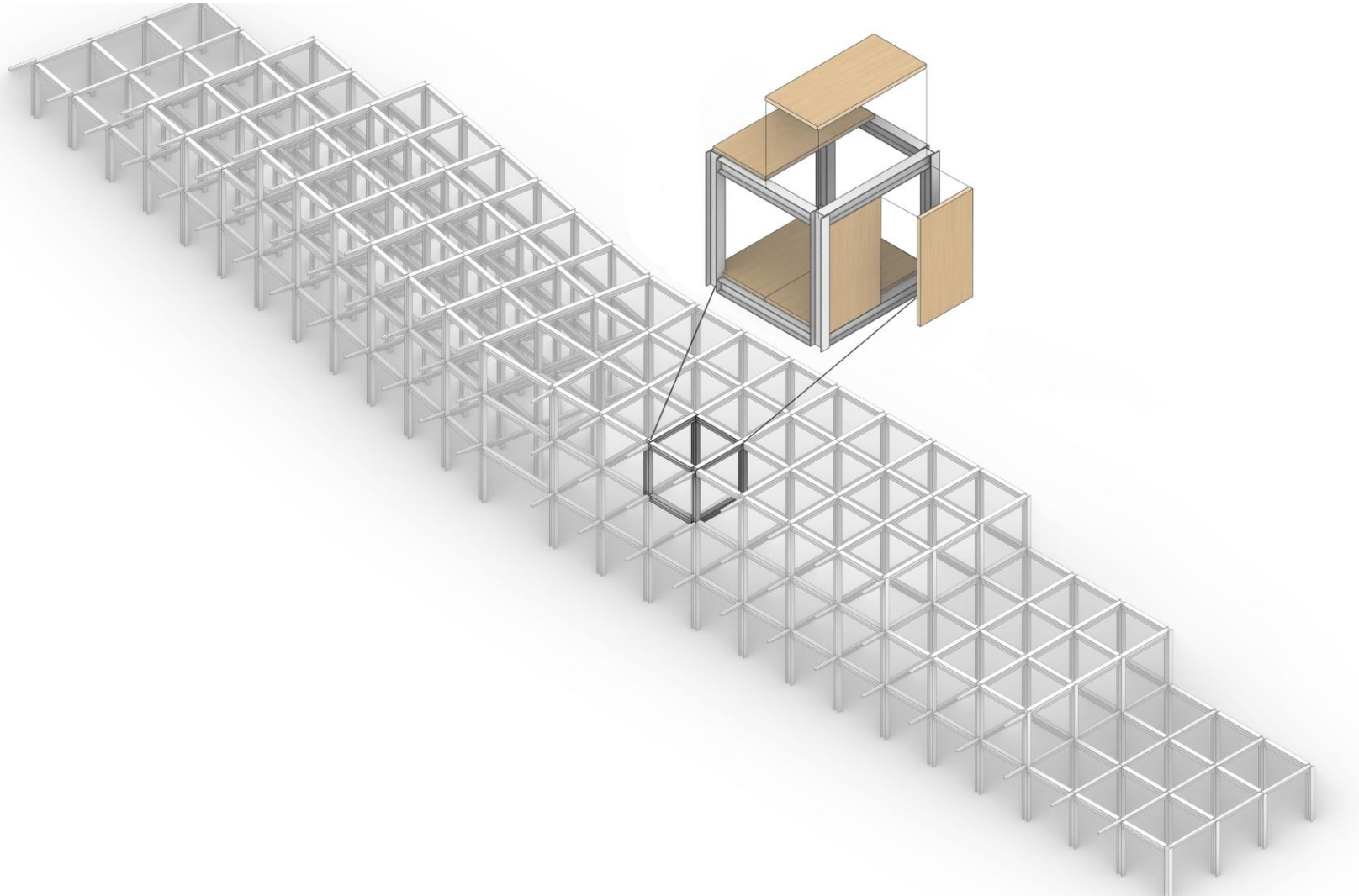
2nd Floor Plan

1 Reception & Lobby
2 Laundry & Kitchenette
3 Electrical Room
4 Vertical Circulation Core
5 Accommodation Units

Hybrid Steel – Timber Structure

A hybrid steel–timber system defines a flexible structural framework, supporting efficient construction and long-term adaptability.

- Prefabricated modular grid (3.8m × 4m)
- Steel frame with CLT floor and wall panels
- Reduced embodied carbon through timber
- Designed for adaptability and future reuse

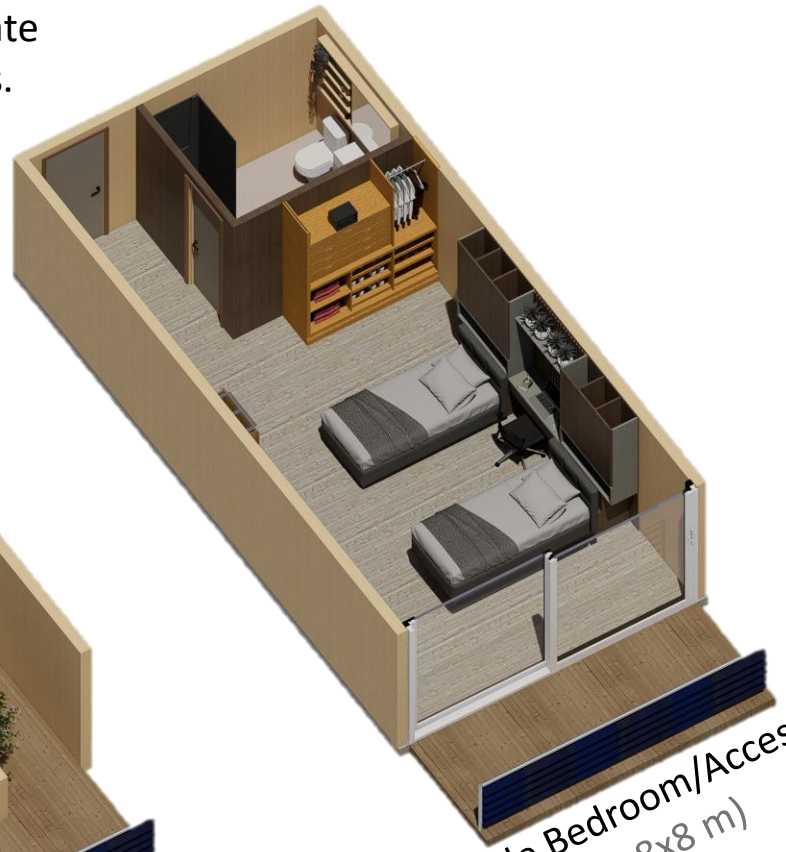


Modular Room Prototype

- Residential unit prototypes: single, double/ accessible

- All prototypes follow a modular alignment to facilitate prefabrication, with a total capacity of 120 personas.

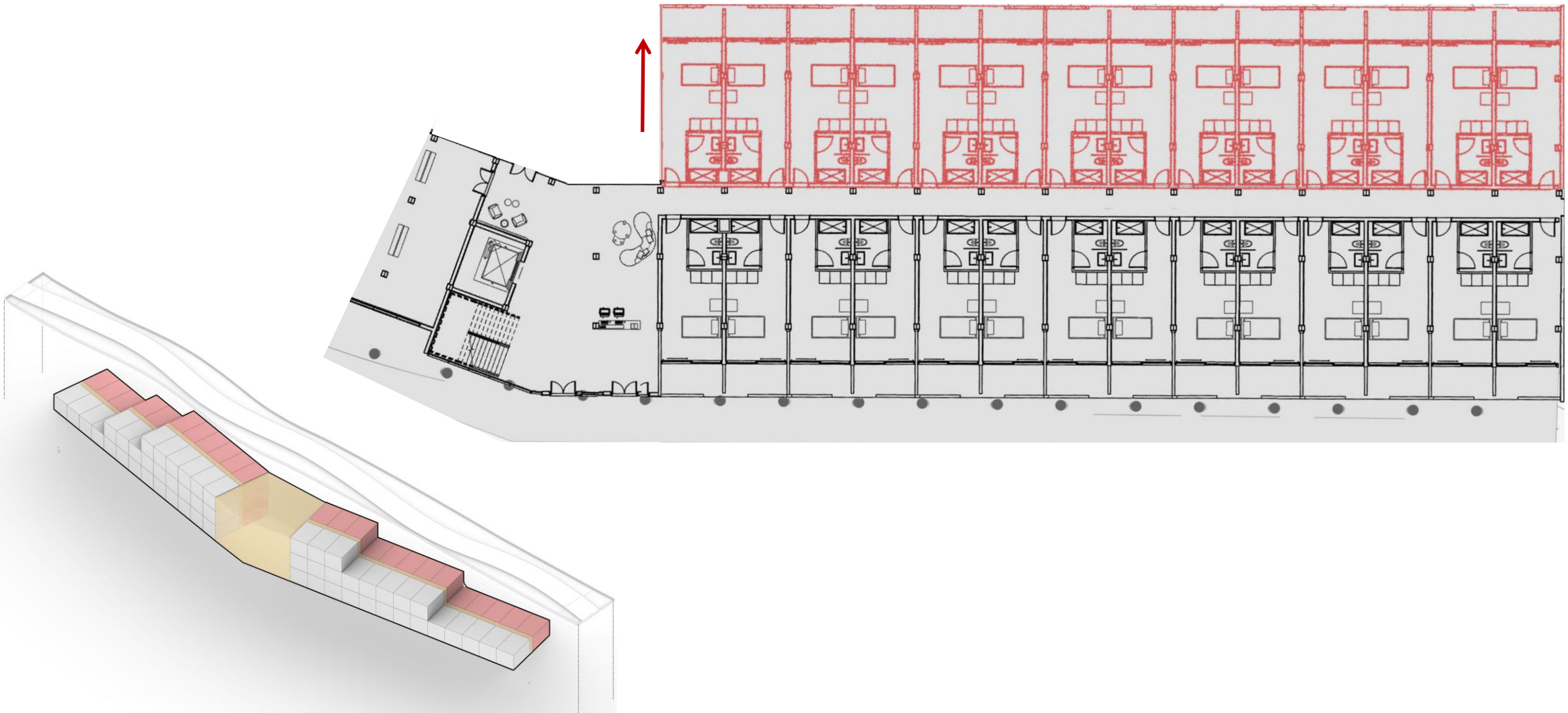
Single Bedroom
(3.8x6 m)



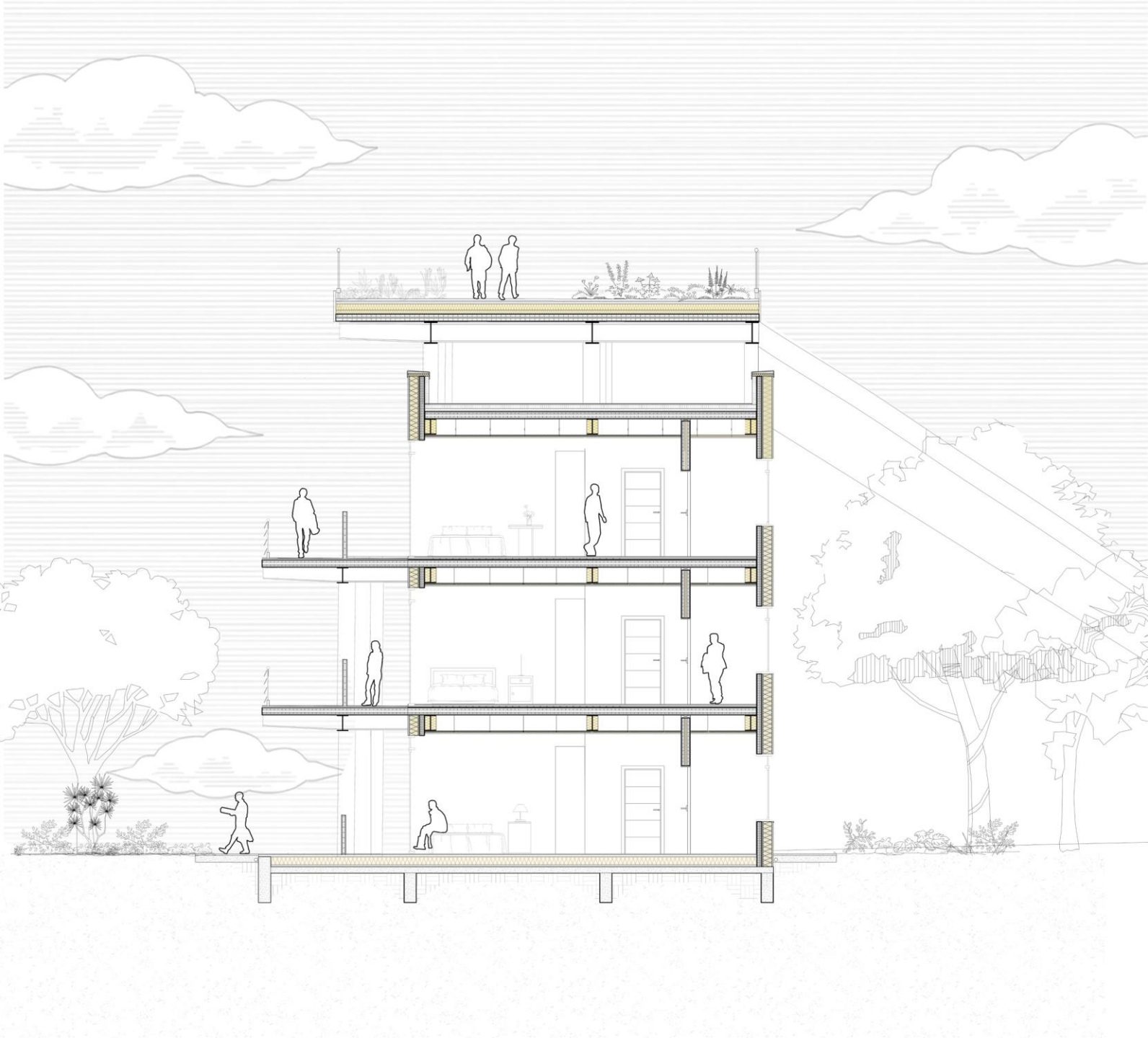
Double Bedroom/Accessible
(3.8x8 m)

Future Expansion

The accommodation is designed as a modular system that supports future expansion through mirrored, repeatable units



Strategies



Strategies

Walkable Green Roof

Vegetation & Ecology

Vegetation layer enhances biodiversity and improves microclimate conditions.

Thermal Performance

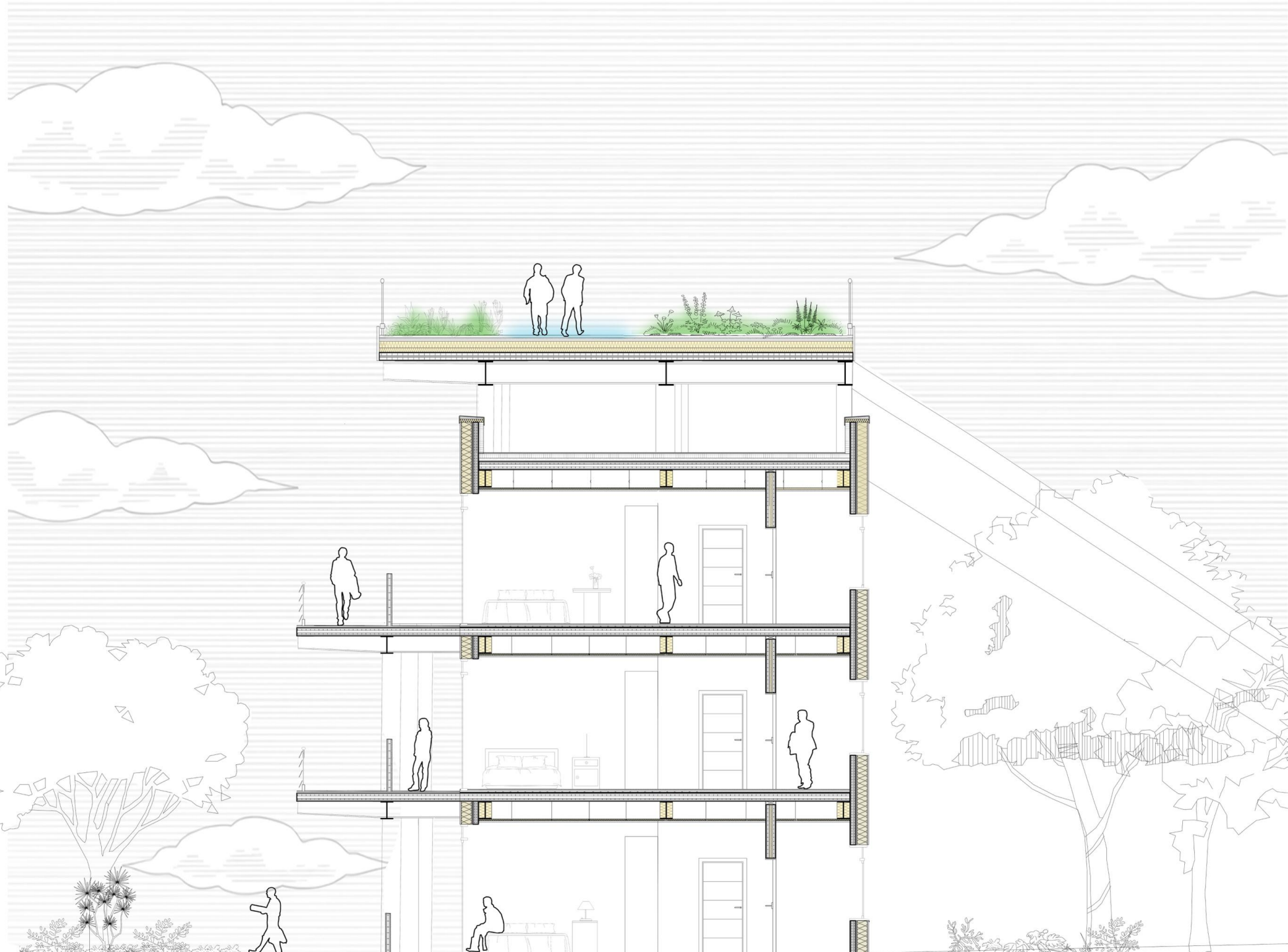
Acts as an insulating layer, reducing heat gain and improving energy efficiency.

Walkable Surface

Provides a continuous path for walking and promotes physical activity.

Elevated Activity

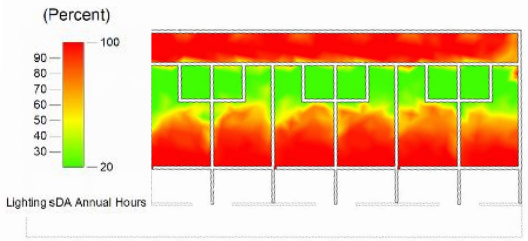
Elevated use reduces disturbance and protects habitats.



Strategies

Daylight Comfort

- South-oriented rooms ensure balanced daylight
- Passive solar gain in winter improves thermal comfort
- Controlled shading in summer reduces heat gain

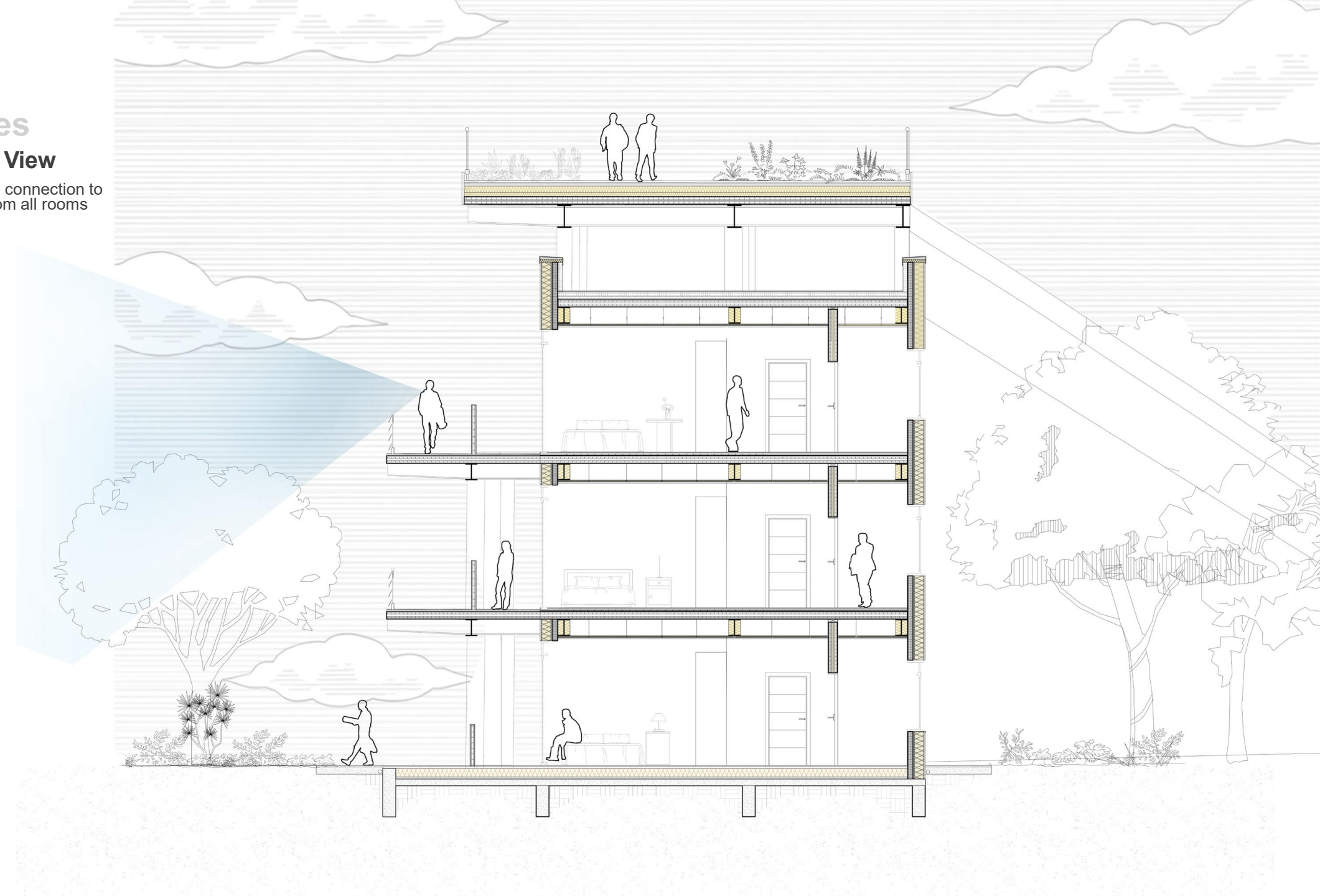


100% of rooms achieve Spatial Daylight Autonomy (sDA 300 lux / 50%)

Strategies

Equal River View

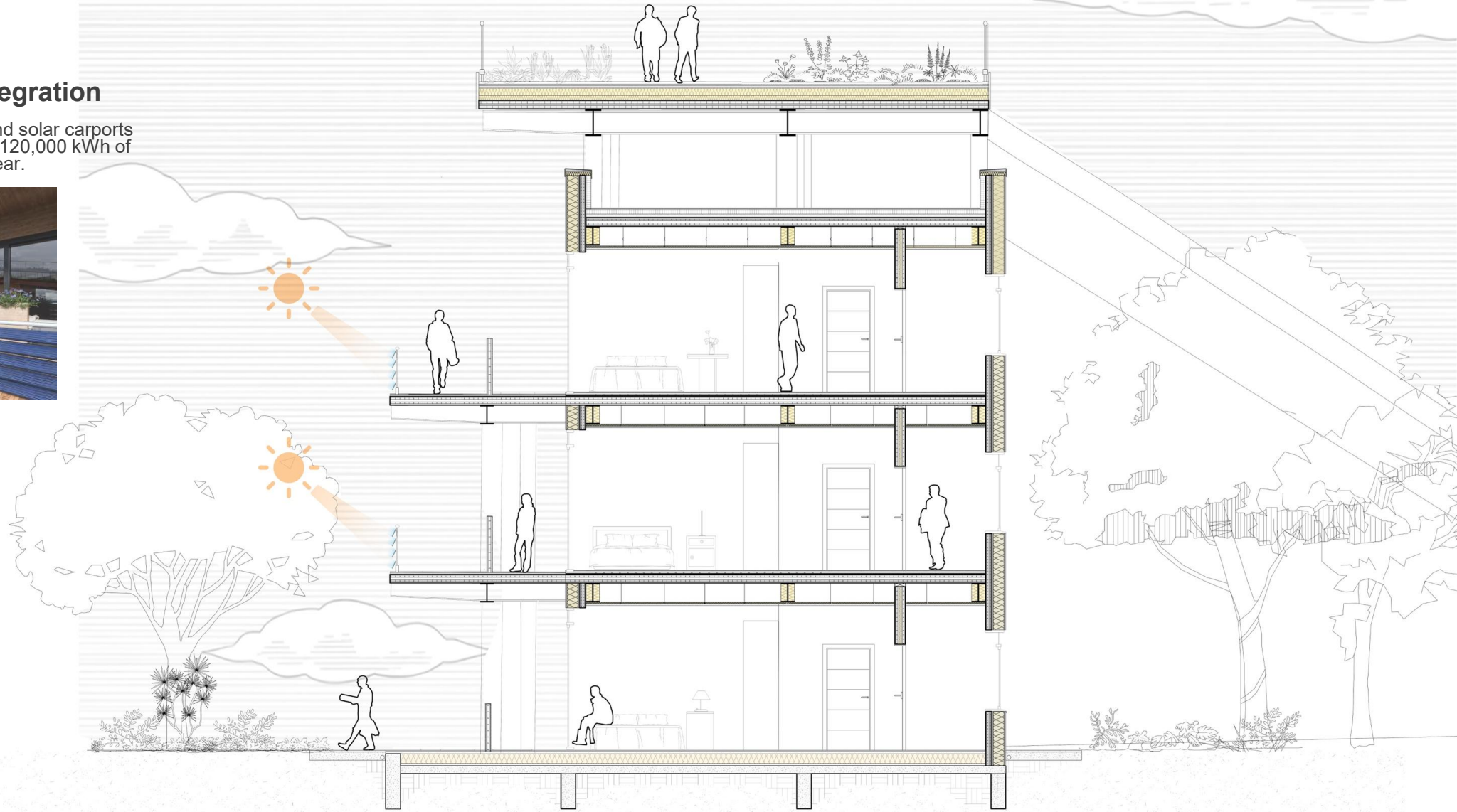
Continuous visual connection to the Sava River from all rooms



Strategies

Photovoltaic Integration

PV-integrated railings and solar carports generate approximately 120,000 kWh of renewable energy per year.

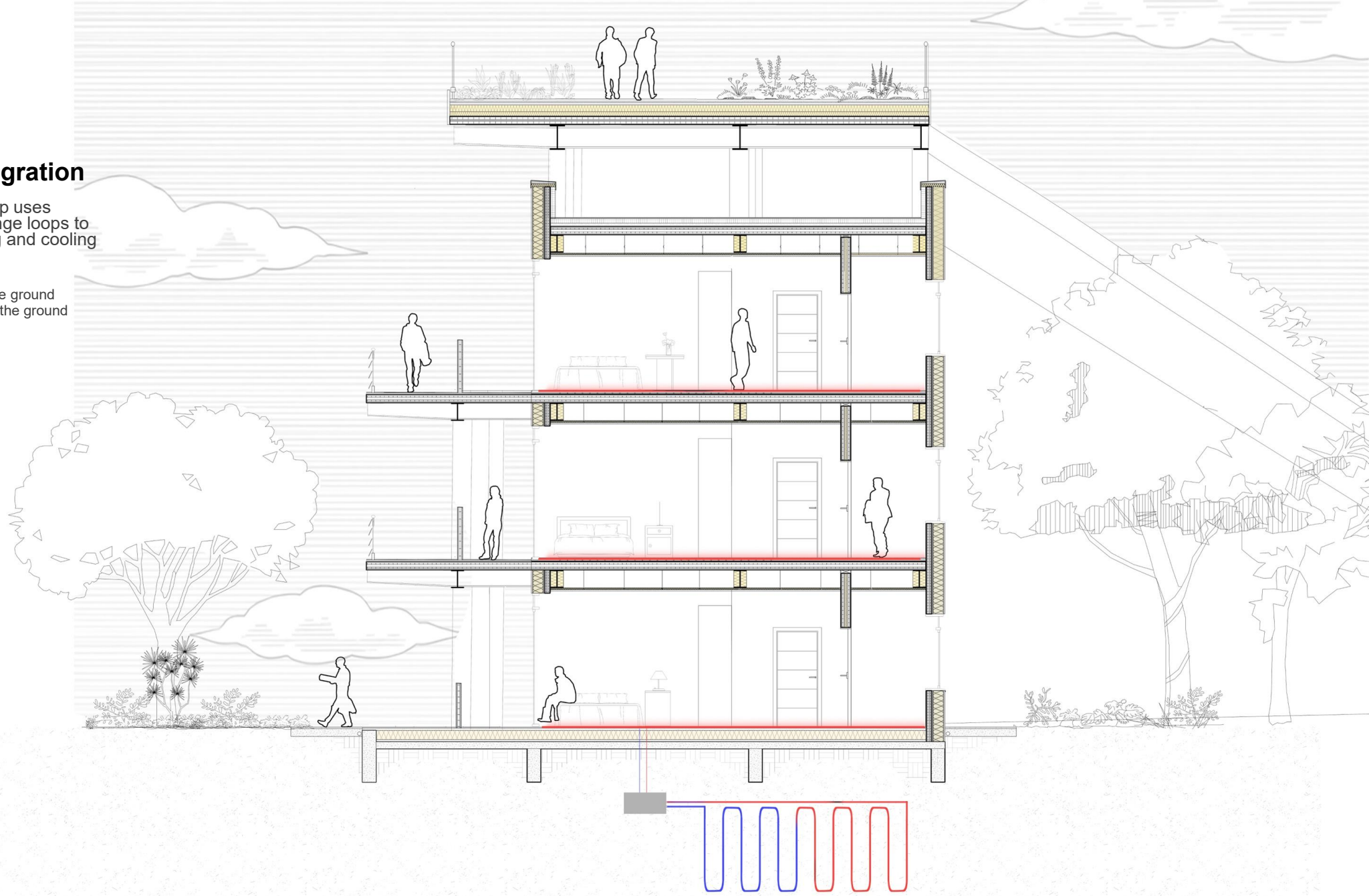


Strategies

Geothermal Integration

A geothermal heat pump uses subsurface heat exchange loops to provide efficient heating and cooling

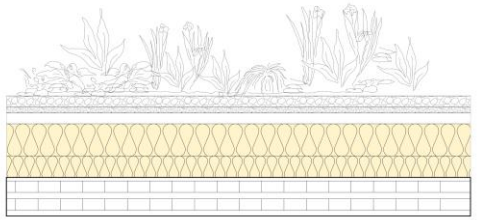
Winter: extracts heat from the ground
Summer: transfers heat into the ground



Saint Gobain Products

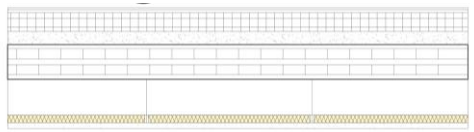
Green Roof

Extensive vegetation
30 mm Extensive mineral substrate,
50 mm Isover Flora hydrophilic panels, thickness
Filter fabric, 120 g/m2
Drainage dimpled membrane
Protective geotextiles, 300 g/m
Waterproofing resistant to root penetration
Isover EPS 150 thermal insulation gradient wedges
Isover EPS 100 thermal insulation
Vapour barrier
CLT Panel

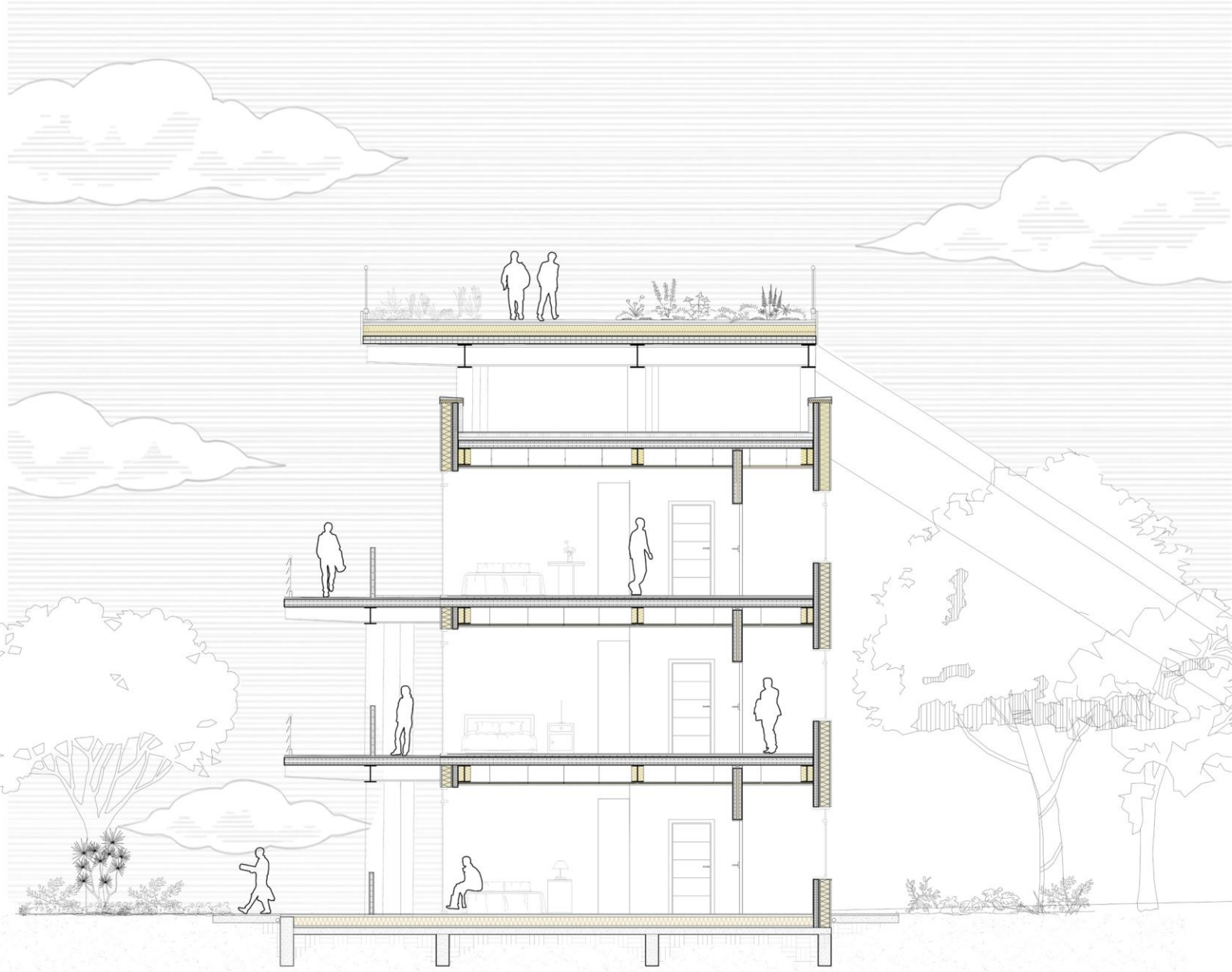


Non-Green Roof

10mm ROOF FINISHING
WABERDRY PURE FABRIC 110G
15mm WEBERDRY PUR SEAL AQUA POLYURETHANE
WATER-PROOFING MEMBRANE
100mm ISOVER 175 ROOFING PANEL (THERMOACOUSTIC)
VAPOUR CONTROL LAYER
70mm WEBERFLOOR BASE SCREED
CLT element
Air gap suspended ceiling 270 mm
Ecophon Master
Wooden ceiling

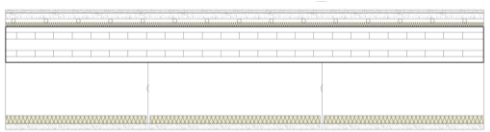


ecophon SAINT-GOBAIN
ISOVER SAINT-GOBAIN
gyproc SAINT-GOBAIN
weber SAINT-GOBAIN



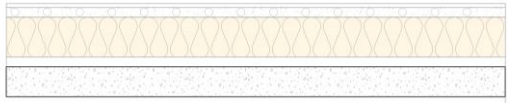
Suspended Floor Slab

14 mm Parquet
2 mm Foam
30 mm Thin layer of screed
20 mm Electro and capillary tube underfloor heating elements
20 mm Glava footstep impact sound board
180 mm CLT element
Air gap Suspended ceiling
40 mm Ecophon Master™ A
30 mm Wooden ceiling



Ground Floor Slab

14 mm Parquet
2 mm Foam
60 mm WEBER FLOOR 150 DURA screed
VARIO® membraneunderfloor heating cables
2x100 mm ISOVER Renovation Roll Thermal (86% recyclable materials)
50 mm Air gap
Breathable Mesh
150 mm ENIVOMIX Ultra Low Carbon Concrete
2 mm Polyethylene sheet



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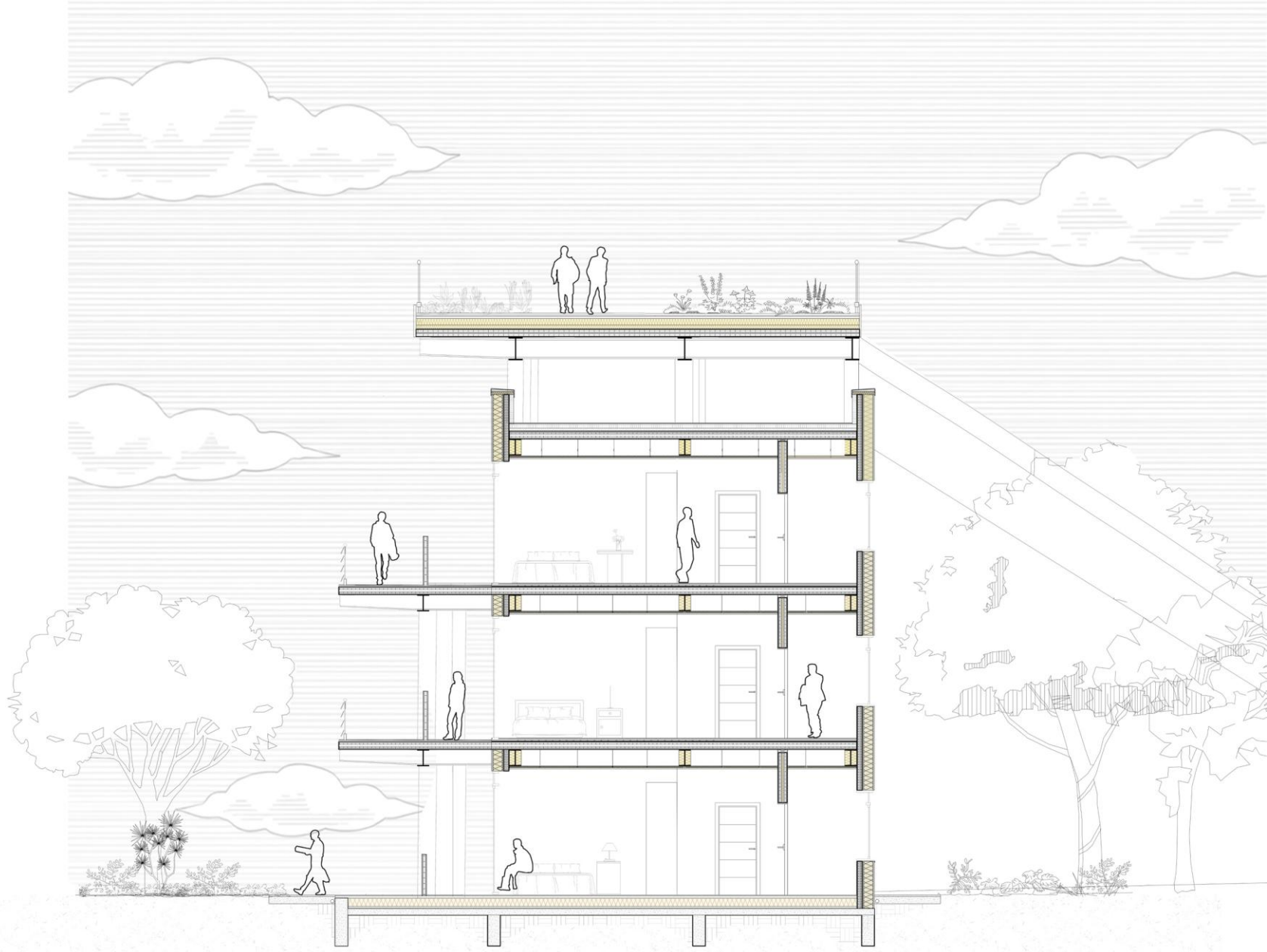
ISOVER SAINT-GOBAIN
gyproc SAINT-GOBAIN
weber SAINT-GOBAIN

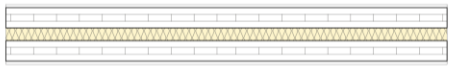


Exterior Wall

12.5 mm Gyproc GNE 13 Normal
120 mm CLT element
0.2 mm ISOVER VarioR Xtra
220 mm ISOVER PLUS+ Board 32 between 245 mm ISOVER PLUS+ Stud 1
22 mm Wooden facade

Interior Wall Insulated

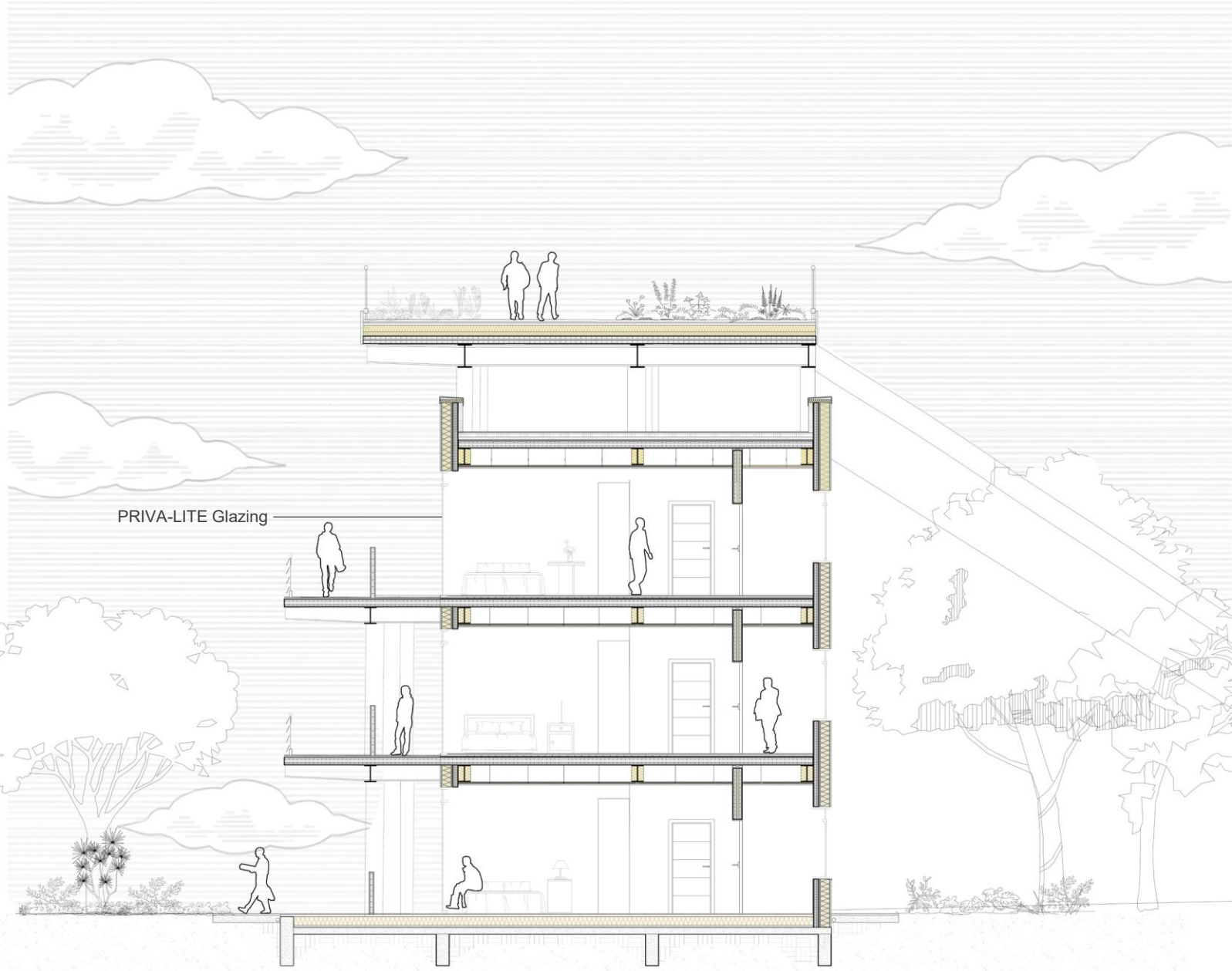
12.5 mm Gyproc GNE 13 normal
80 mm CLT element
50 mm ISOVER Cavity Wall Board 32
80 mm CLT element
12.5 mm Gyproc GNE 13 Normal



Interior Wall

12.5 mm Gyproc GNE 13 Normal
90 mm CLT element
12.5 mm Gyproc GNE 13 Normal

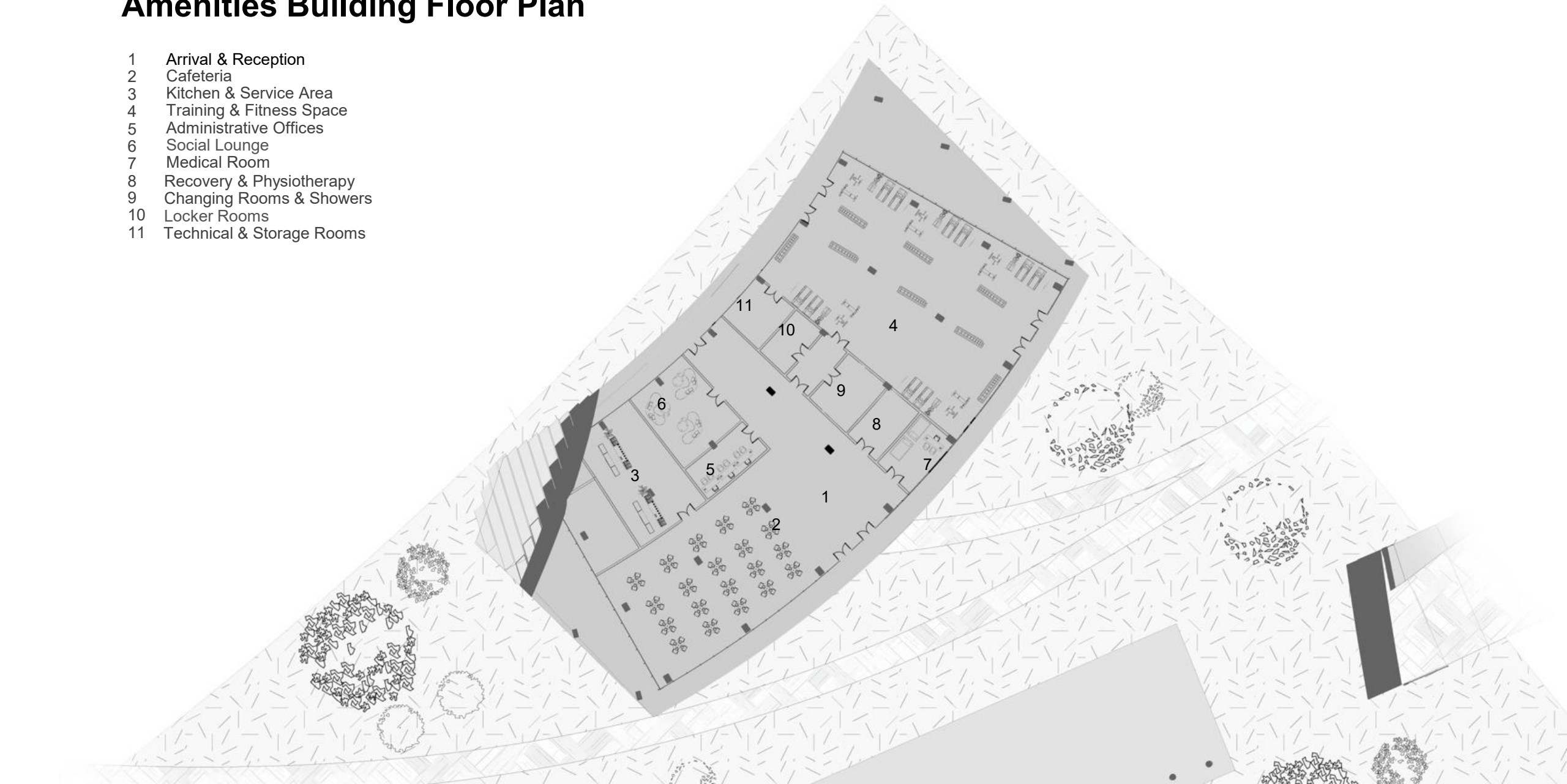
ecophon SAINT-GOBAIN
isover SAINT-GOBAIN
gyproc SAINT-GOBAIN
glassolutions SAINT-GOBAIN



Amenities Building

Amenities Building Floor Plan

1 Arrival & Reception
2 Cafeteria
3 Kitchen & Service Area
4 Training & Fitness Space
5 Administrative Offices
6 Social Lounge
7 Medical Room
8 Recovery & Physiotherapy
9 Changing Rooms & Showers
10 Locker Rooms
11 Technical & Storage Rooms

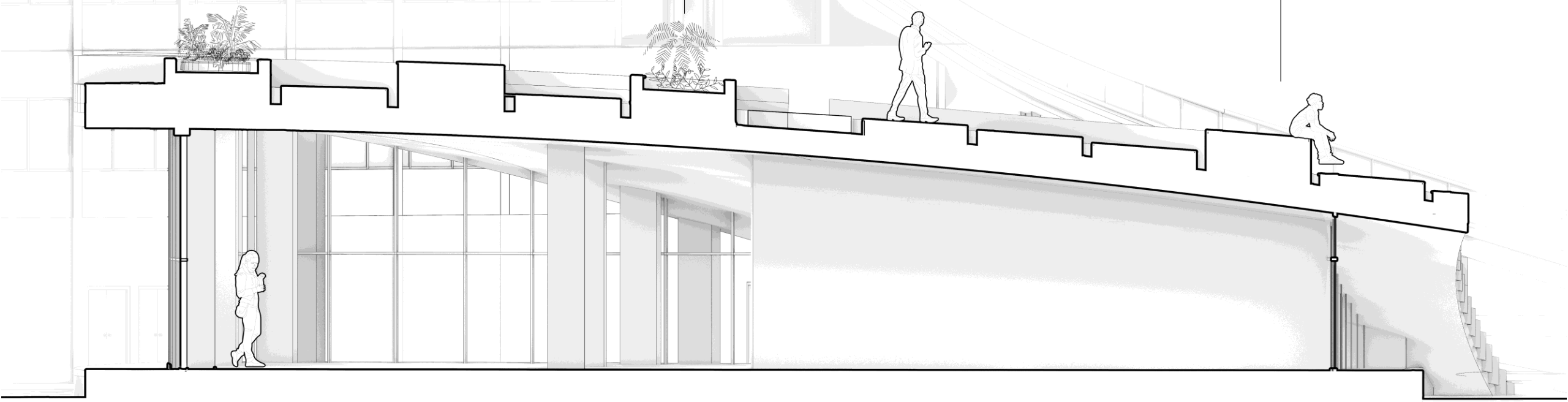



START

Amenities Section

Integrated Planting in the pots imbedded in the roof

Amphitheatre-like terraced roof looking at the sports fields, creating a building-integrated spectators seating



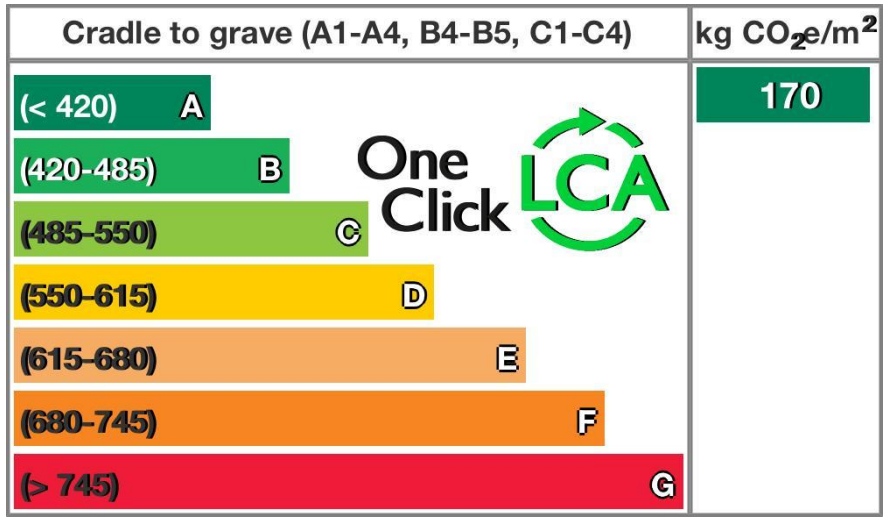
1 m 2 m 5 m 10 m

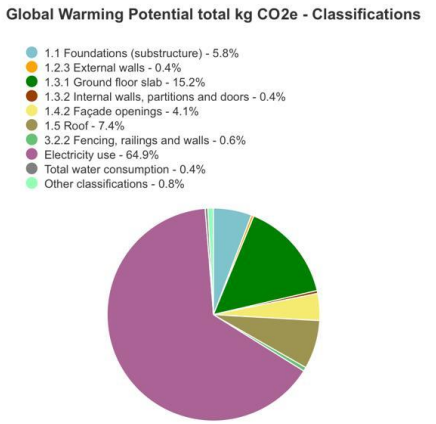
Scale 1:50

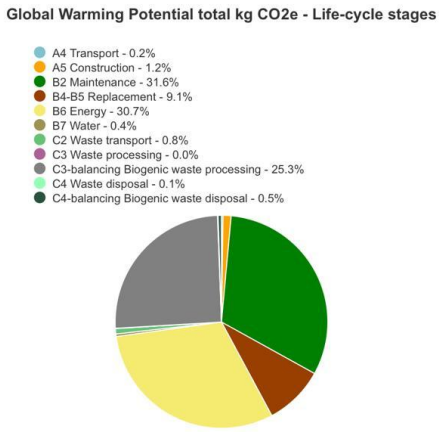
Elevated Landscaping

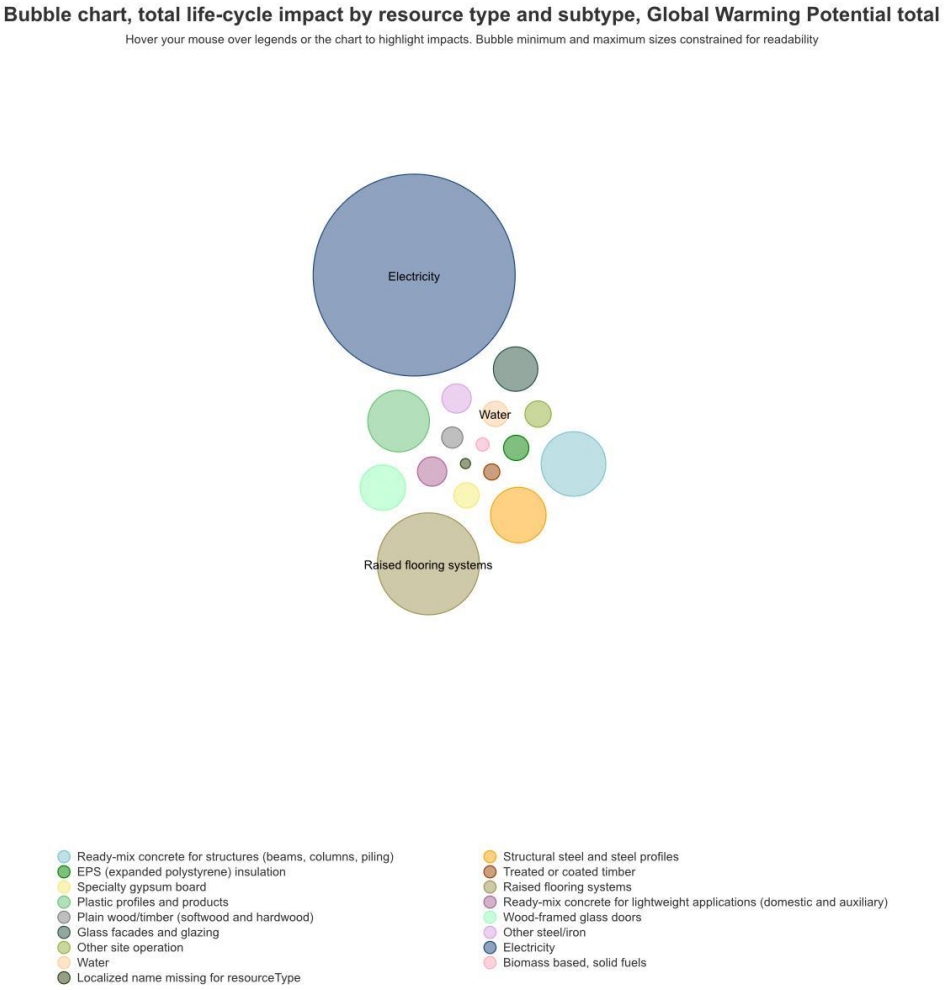
Riverfront connectivity

Building Performance







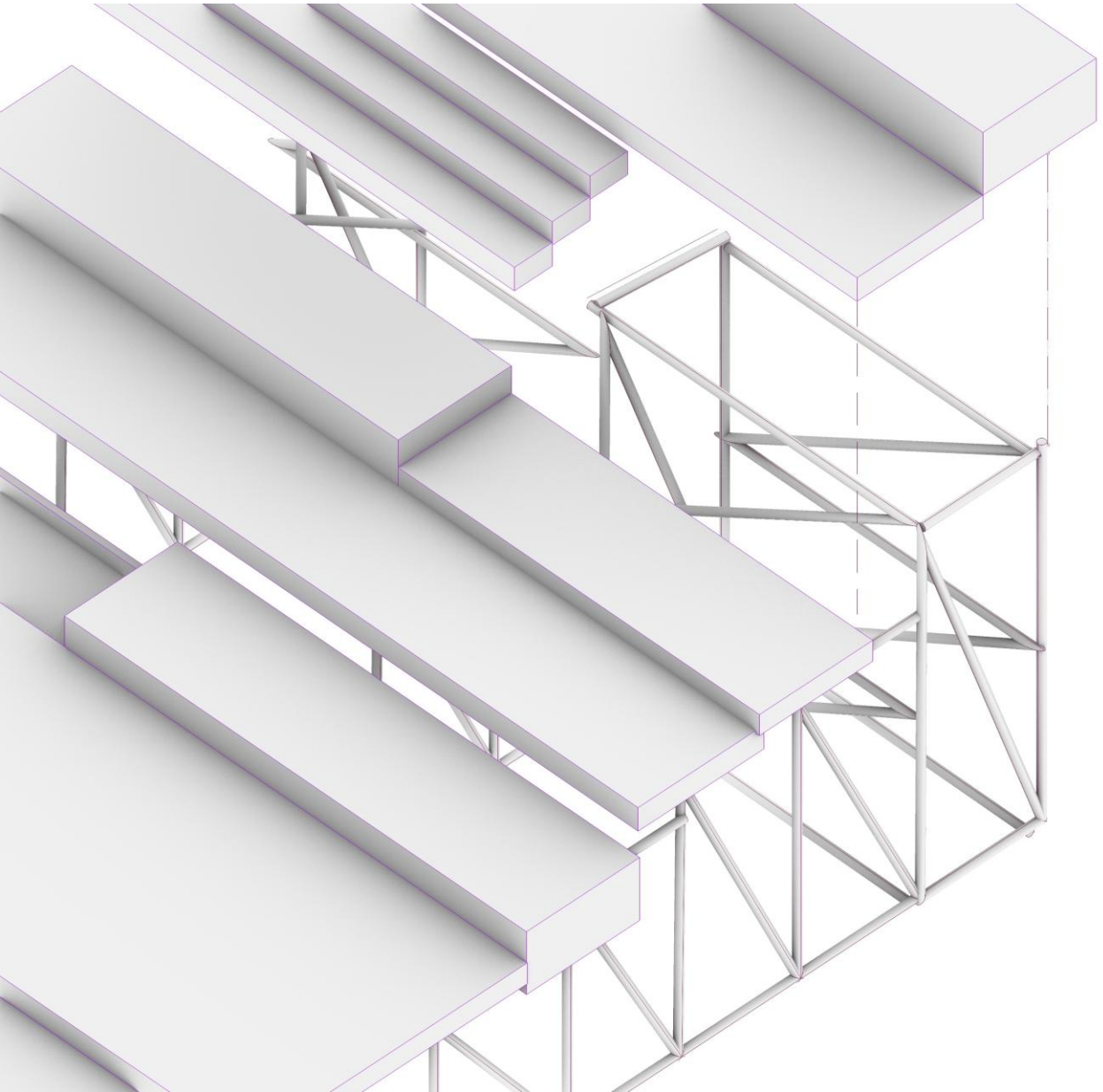


Renovation

Academic Yachting Club Belgrade

The renovation reactivates the building’s heritage while transforming it into an active and flexible hub, strengthening its connection to the Sava River and creating an open, inviting public waterfront.

Waterfront Seating Structure



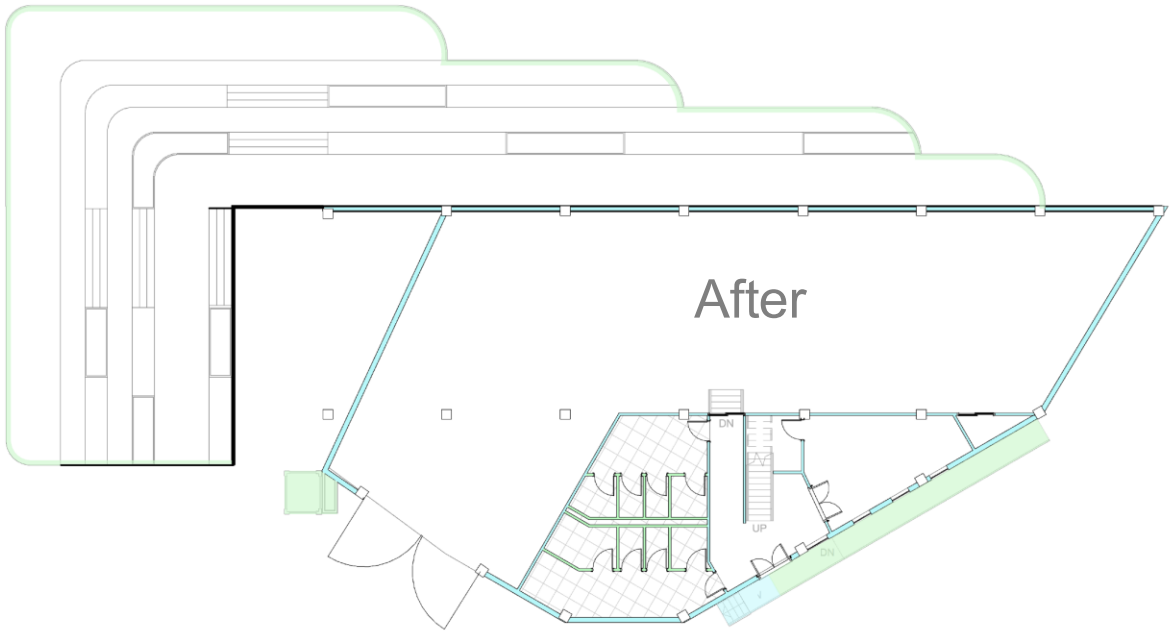
Steel Framing Staircase

Site Plan


Pedestrian Circulation
Outdoor Seating
Outdoor Events
Outdoor Terraced Lounge
PV Panels on the roof
Solar Carport (PV)
Cycling Route

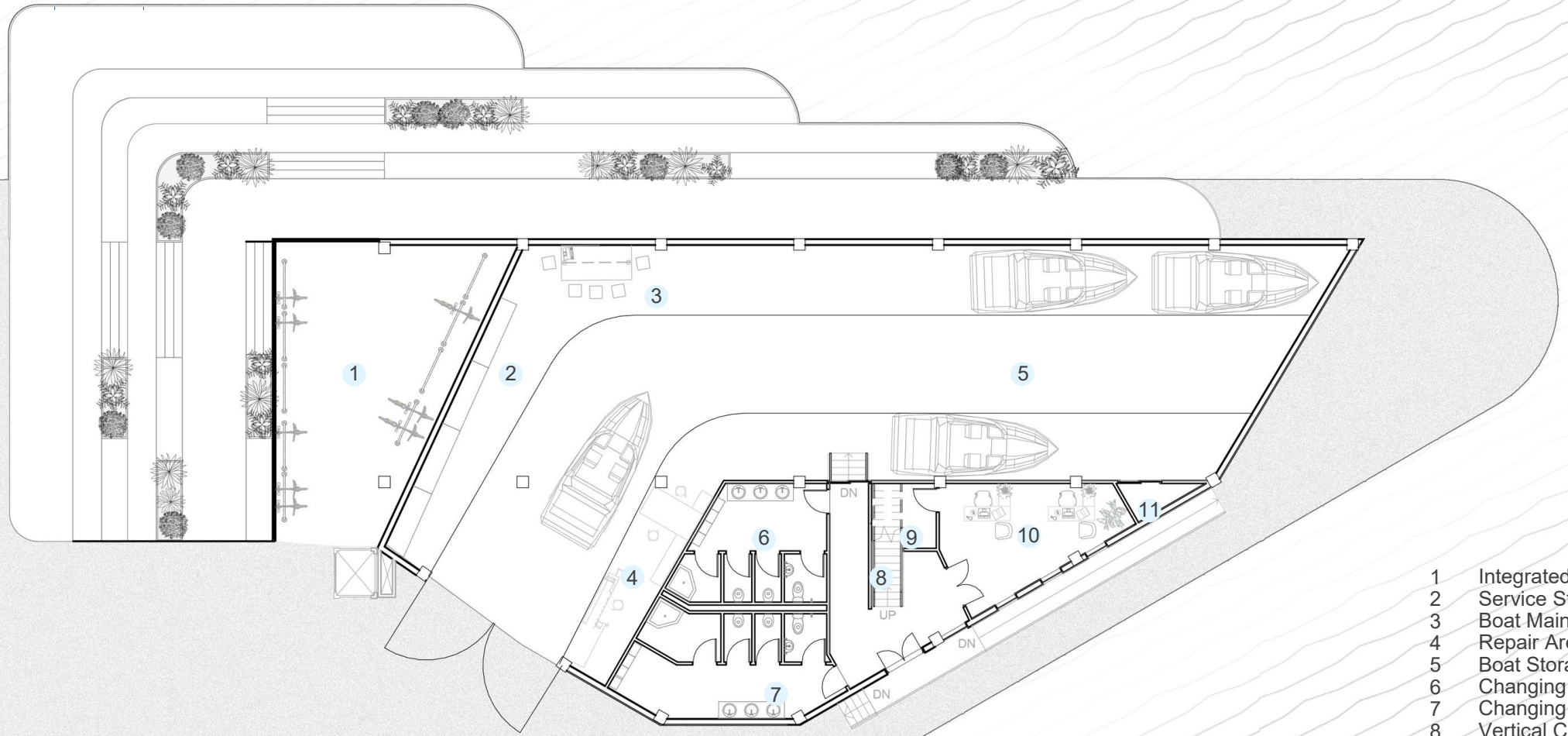
Renovation Strategy: Spatial Transformation

Ground Floor Plan



- Preservation of primary structural elements and envelope
- Selective removal to improve circulation and spatial clarity
- Strategic program to improve functionality and performance

Ground Floor Plan

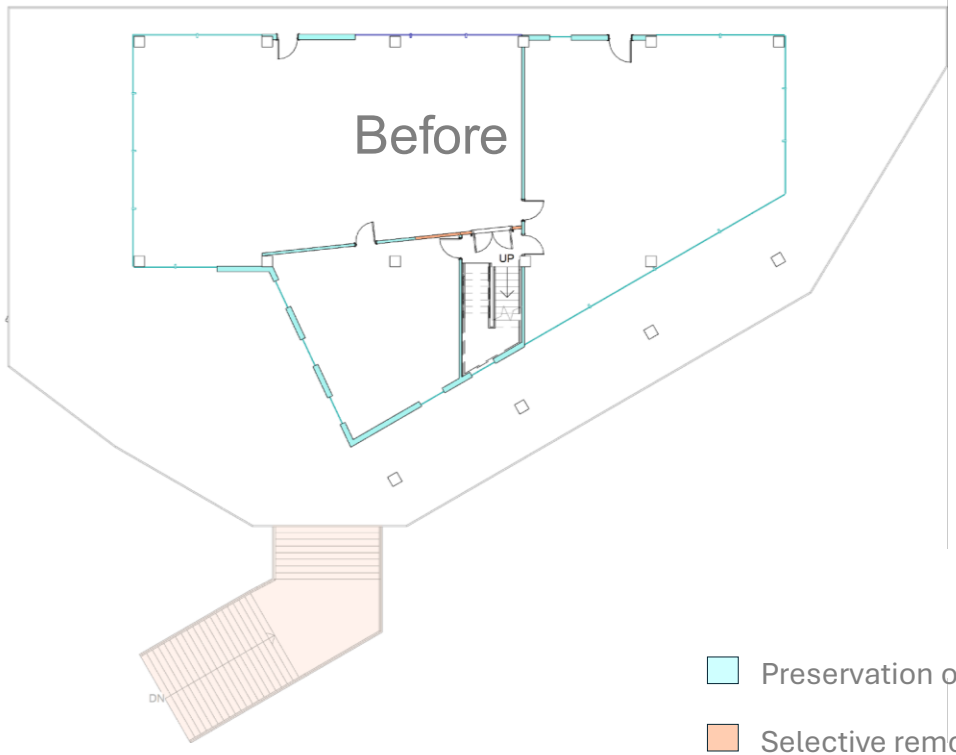


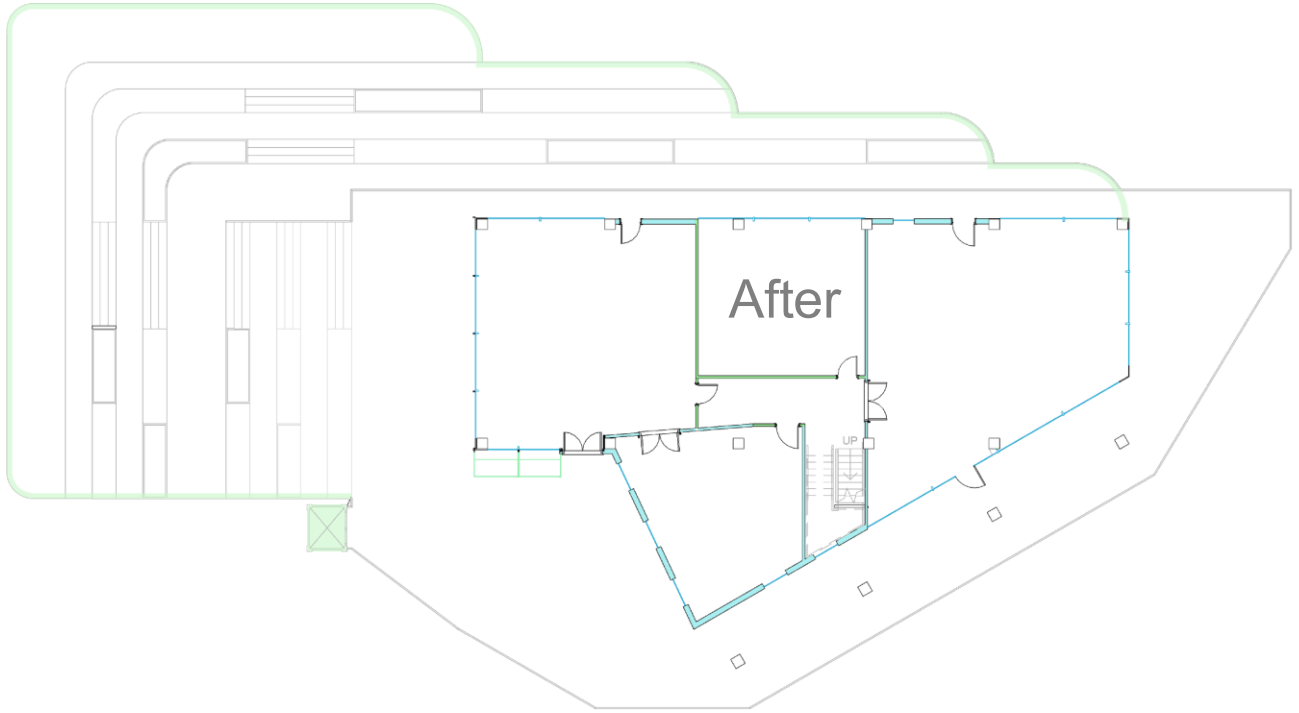
1 Integrated Bicycle Parking
2 Service Storage
3 Boat Maintenance Workshop
4 Repair Area
5 Boat Storage Hall
6 Changing & Sanitary (Male)
7 Changing & Sanitary (Female)
8 Vertical Circulation (Stairs)
9 Office Storage
10 Administrative Office
11 Mechanical Room

0 2 4 6 8m
1:200

Renovation Strategy: Spatial Transformation

First Floor Plan





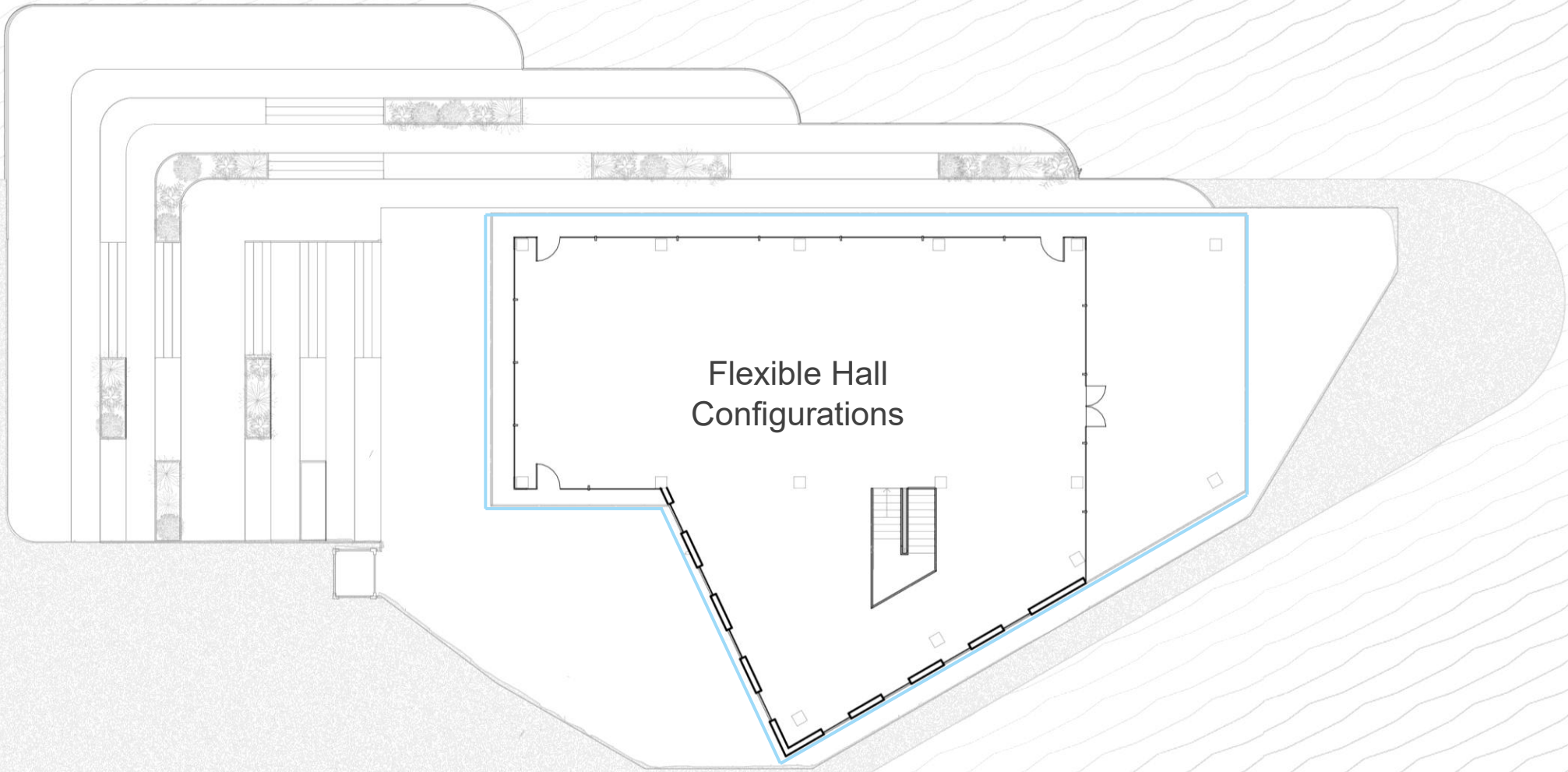
- Preservation of primary structural elements and envelope
- Selective removal to improve circulation and spatial clarity
- Strategic program to improve functionality and performance

First Floor Plan

1 Stepped Seating Terrace
2 Platform Lift (Accessible)
3 Café Area
4 Workshop / Meeting Room
5 Fitness Room
6 Vertical Circulation (Stairs)
7 Open Office Area
8 Pantry & Break Area

0 2 4 6 8m
1:200

Second Floor Plan



Second Floor Plan Flexible Hall Configurations

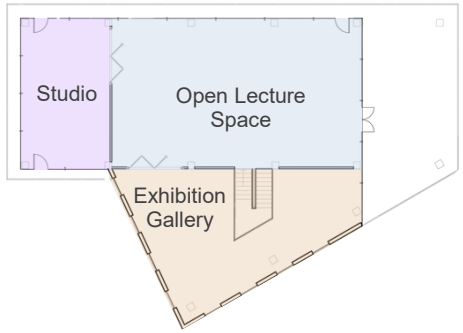
Top-hung retractable wall panels slide and stack, enabling spatial reconfiguration while maintaining acoustic separation

Panel thickness:100 mm acoustic partitions

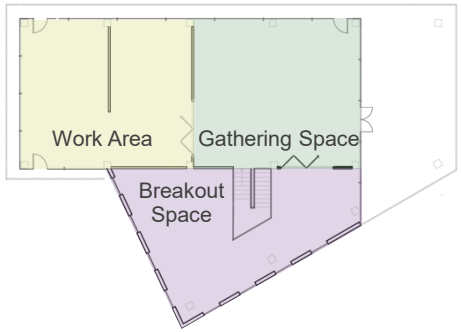
Open

Dual

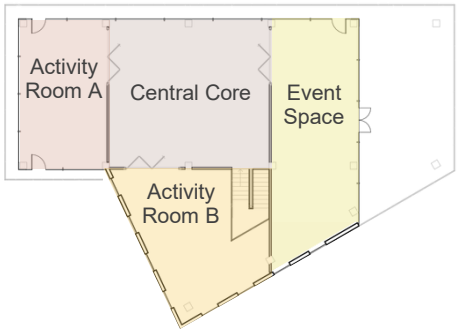
Composite



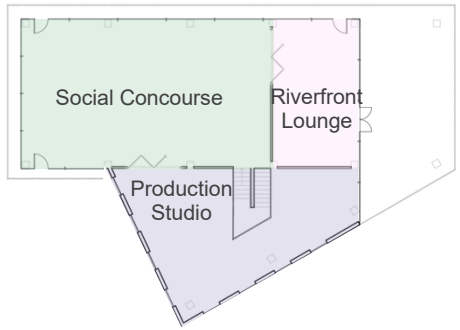
Mixed



Radial



Gradient



Renovation Strategies

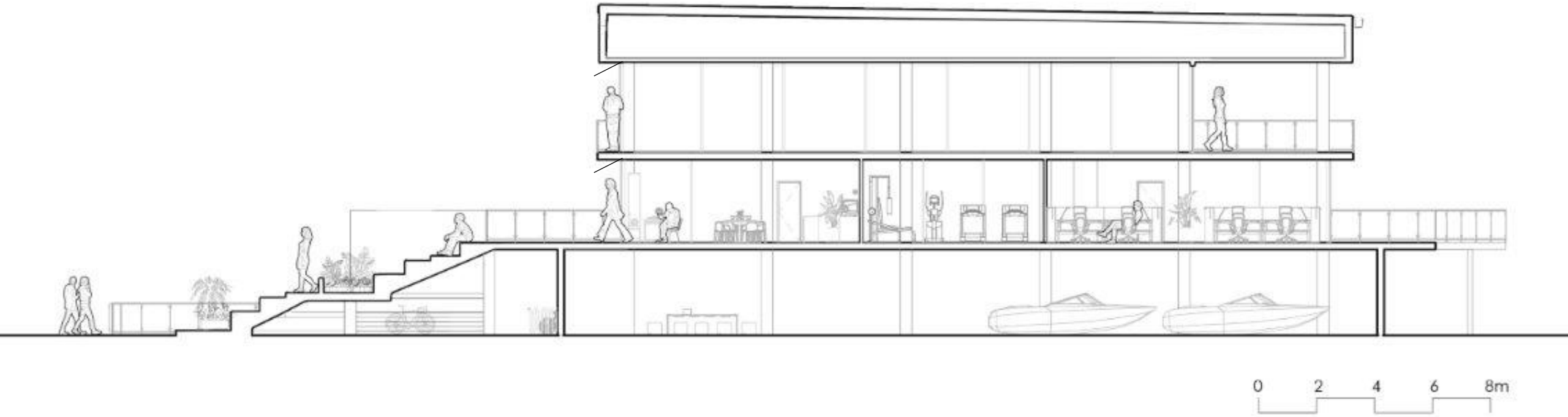
Envelope Performance

Water Management

Solar Energy

Timber Material

Acoustic Comfort



Renovation Strategies

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Exterior Wall Renovation

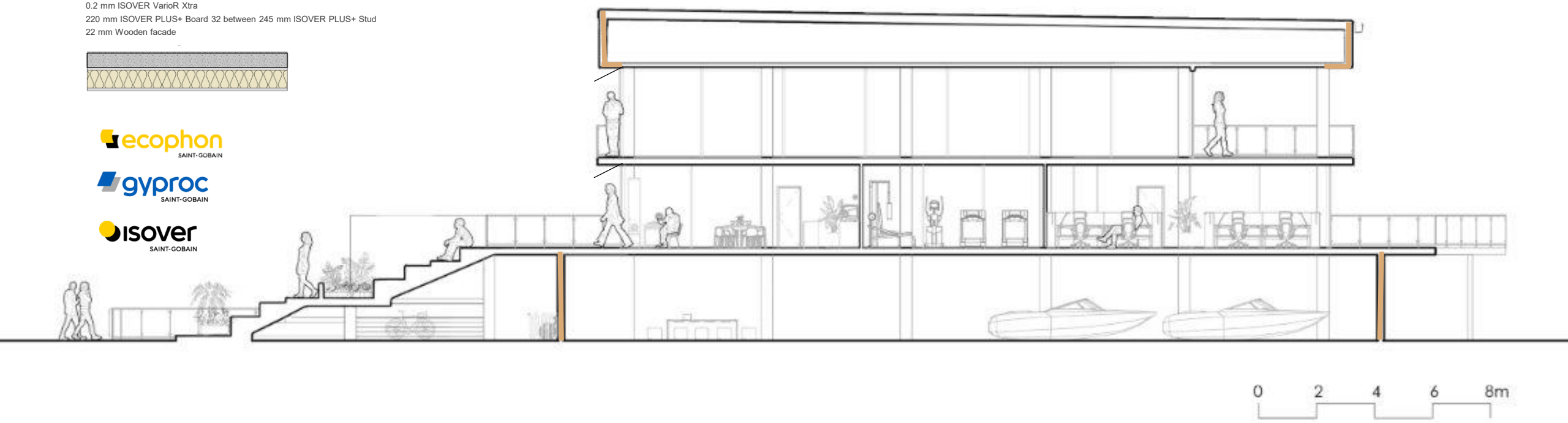
Improving thermal performance through insulated walls and optimized envelope design.

12.5 mm Gyproc GNE 13 Normal
180 mm Precast Concrete Panel
0.2 mm ISOVER VarioR Xtra
220 mm ISOVER PLUS+ Board 32 between 245 mm ISOVER PLUS+ Stud
22 mm Wooden facade

ecophon SAINT-GOBAIN

gyproc SAINT-GOBAIN

isover SAINT-GOBAIN



Renovation Strategies

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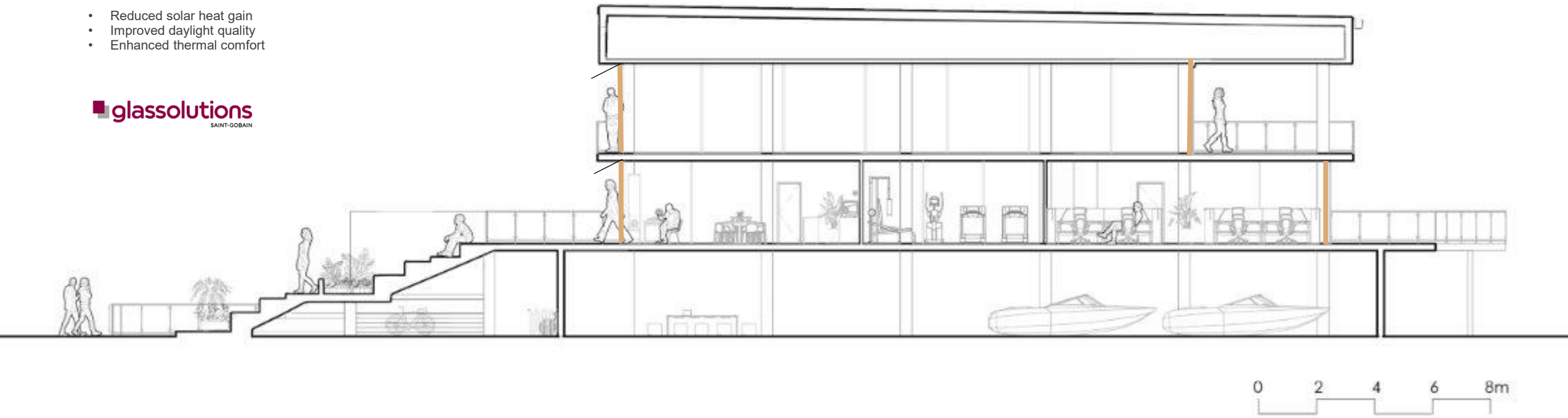
Glazing Upgrade

The existing glazing is upgraded using high-performance solar control glass (COOL-LITE®), reducing solar heat gain and improving thermal and visual comfort while preserving the original façade system

- Reduced solar heat gain
- Improved daylight quality
- Enhanced thermal comfort

glassolutions SAINT-GOBAIN



Renovation Strategies

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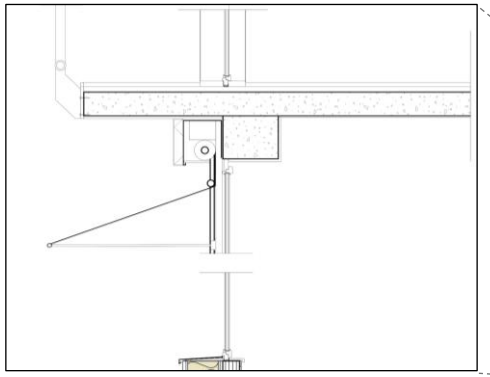
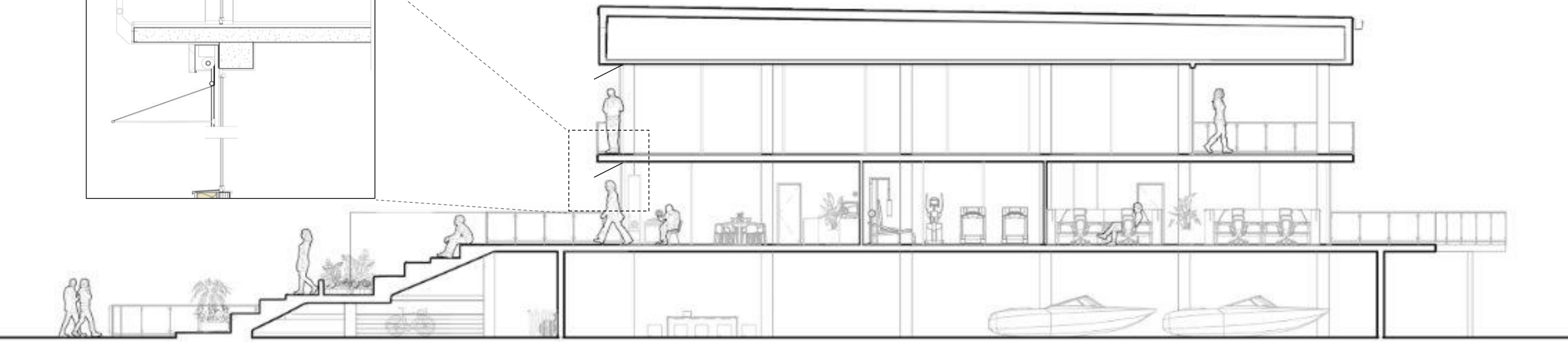
Adjustable external awnings

Integrating adjustable external shading system to optimize solar control, reduce glare, and enhance indoor comfort through adaptable daylight management.”





Renovation Strategies

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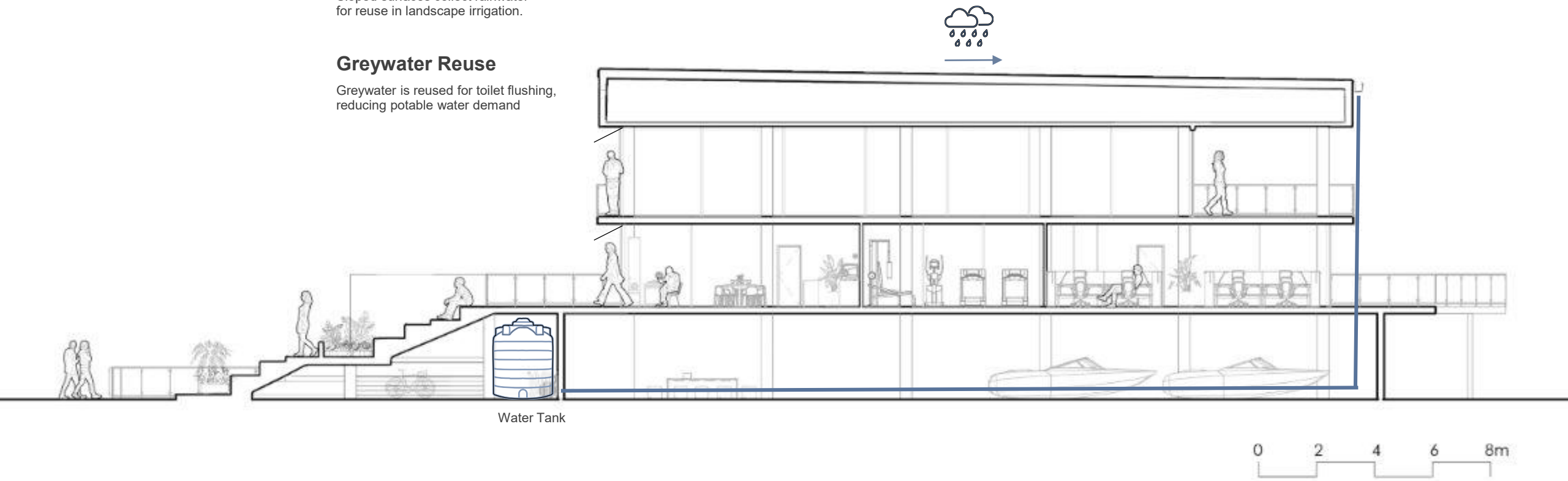
Rainwater Harvesting

Sloped surfaces collect rainwater for reuse in landscape irrigation.

Greywater Reuse

Greywater is reused for toilet flushing, reducing potable water demand



Renovation Strategies

Envelope Performance

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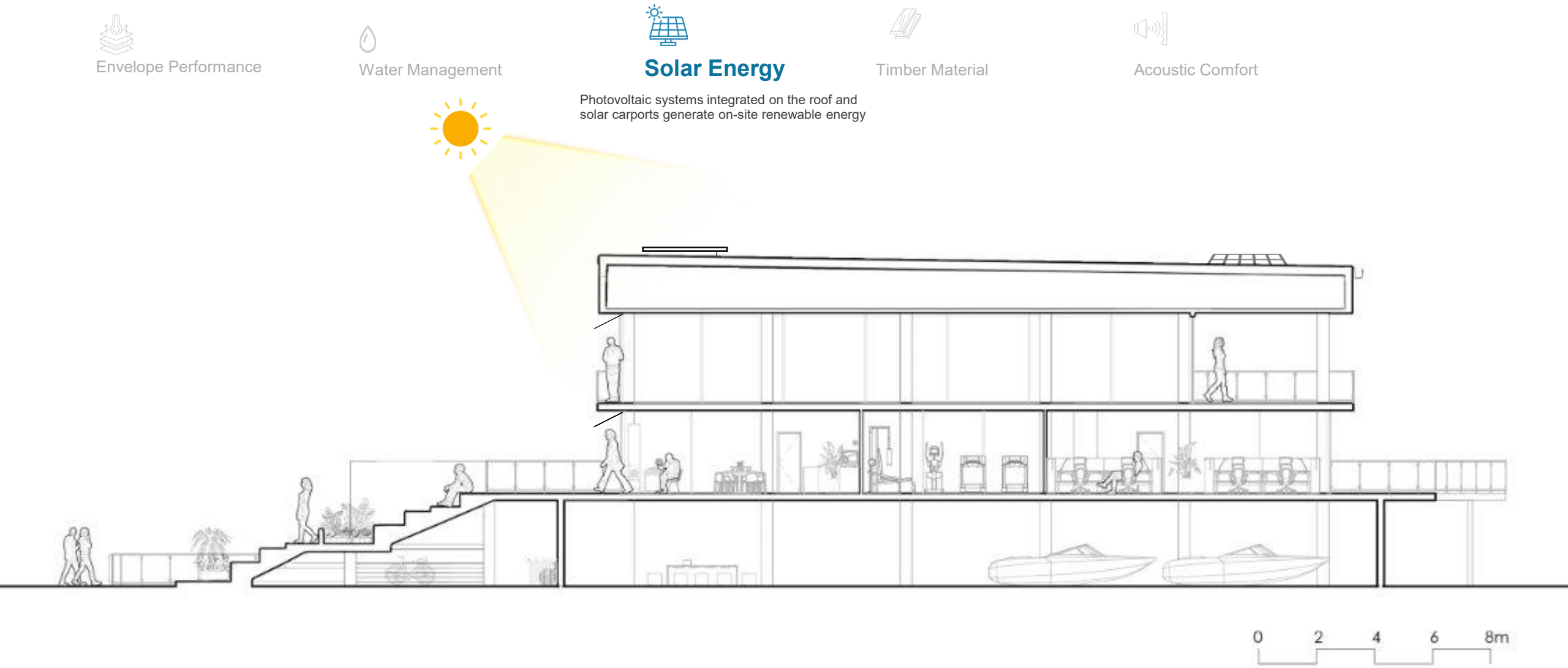
Solar Energy

Photovoltaic systems integrated on the roof and solar carports generate on-site renewable energy

Timber Material

Acoustic Comfort



Renovation Strategies

Envelope Performance

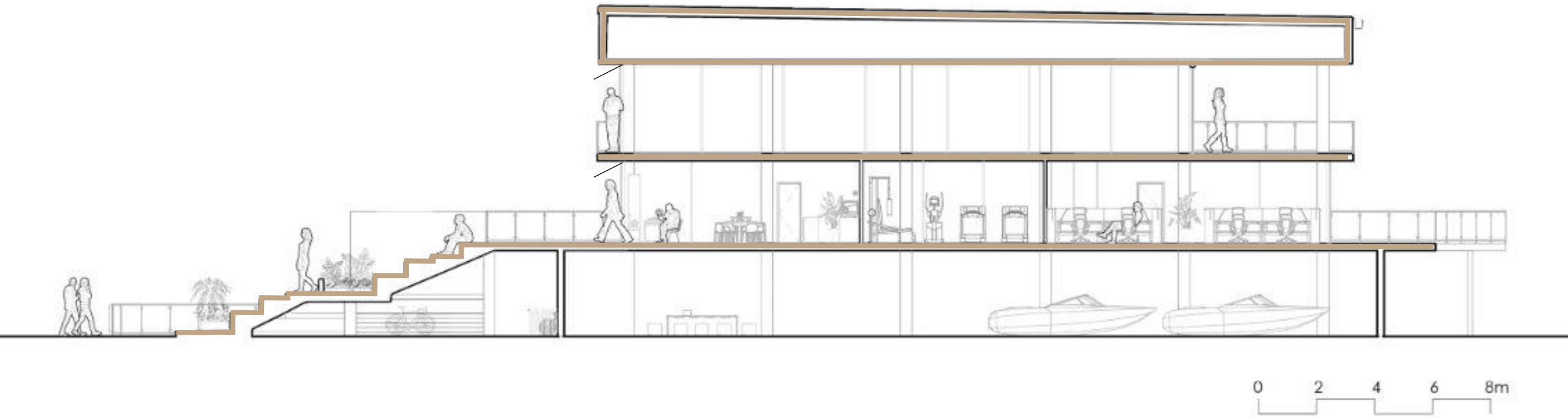
Water Management

Solar Energy

Timber Material

Introduce locally sourced timber as a low-carbon material, enhancing thermal comfort, durability, and overall spatial quality.

Acoustic Comfort



Renovation Strategies

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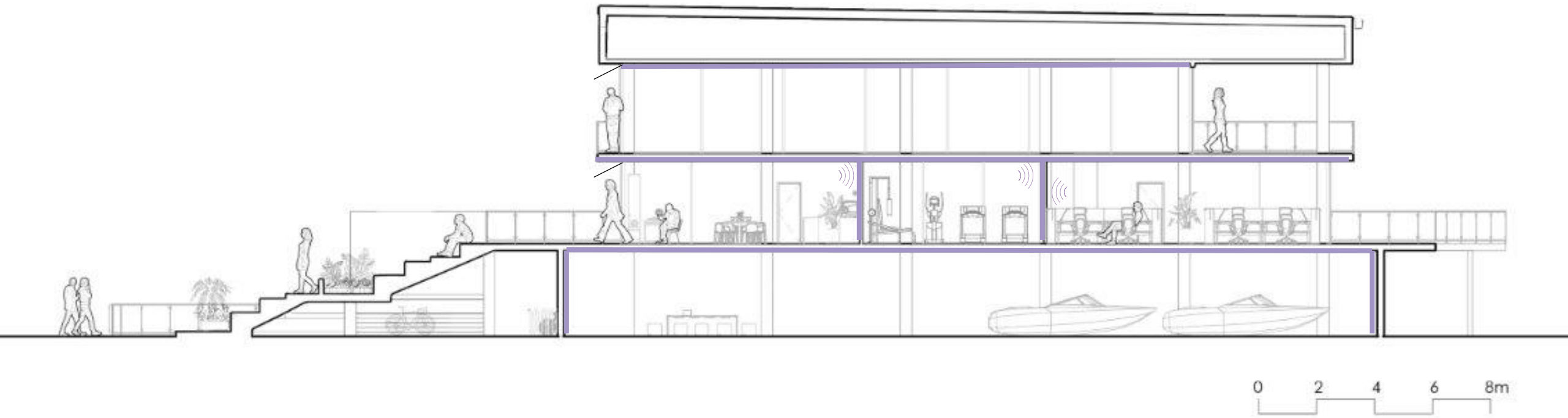
Acoustic Comfort

Acoustic design reduces noise transmission using insulated partitions and ceiling systems, enhanced with Saint-Gobain Gyproc solutions

gyproc SAINT-GOBAIN



Elevated Living