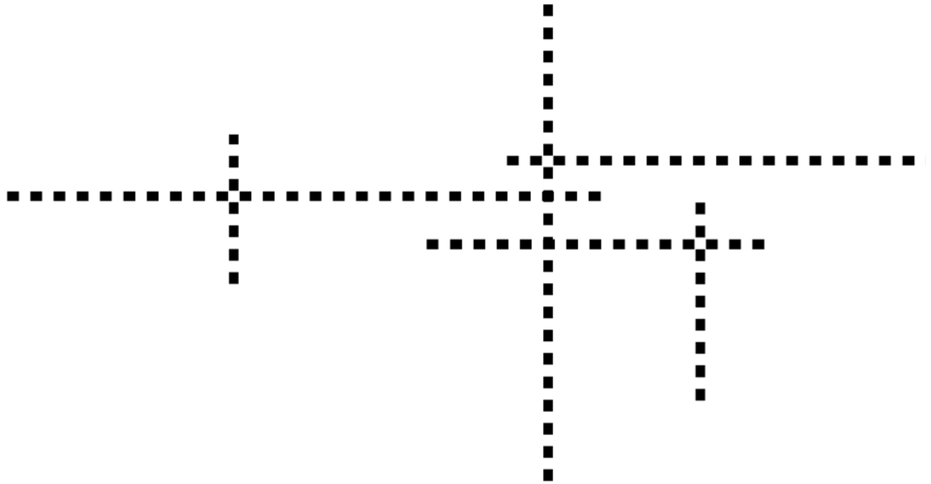
ARCHITECTURE STUDENT CONTEST

20th INTERNATIONAL EDITION, NORD ISÈRE 2025

The Social Promenade

Saint-Gobain Student Competition 2025

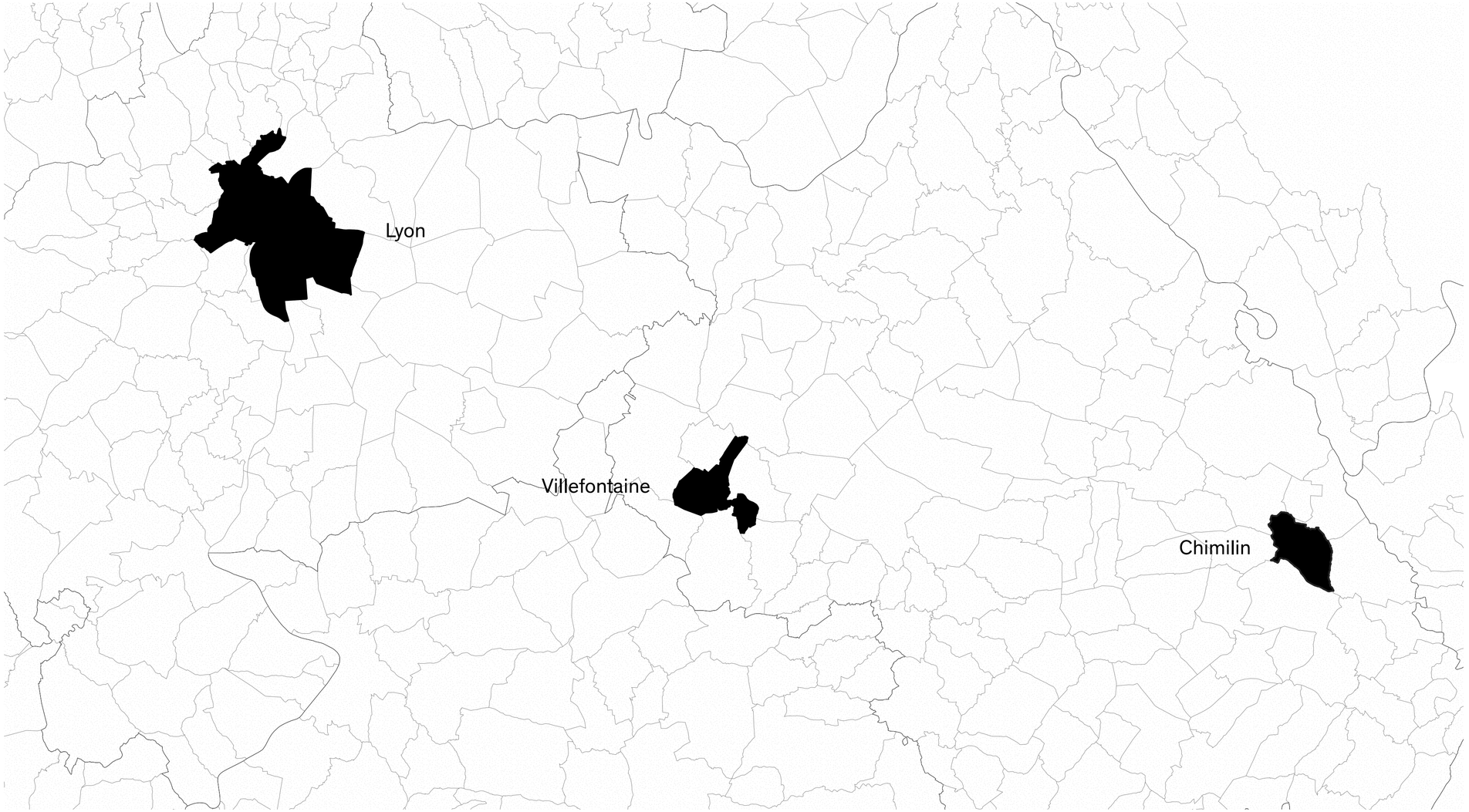


Abstract

The project is situated in Villefontaine and Chimilin, two towns closely connected to Lyon. A new high-speed railway between Lyon and Turin is planned to pass between them—without stopping—intensifying the condition of transience and disconnection.

The Social Promenade responds to this condition by introducing spaces designed for pause, encounter, and everyday use. Rather than opposing the flow of high-speed infrastructure, the project inserts a parallel sequence of spatial moments that allow for staying and gathering.

Between Villefontaine, a town shaped by transportation-led urban development, and Chimilin, a town fragmented by similar forces, the project proposes a promenade that reconnects what has been bypassed. The result is not a transport node, but a series of public spaces where local life can unfold.



The contest sites are located in Villefontaine and Chimilin, both in close geographical and infrastructural relation to Lyon.

Overview

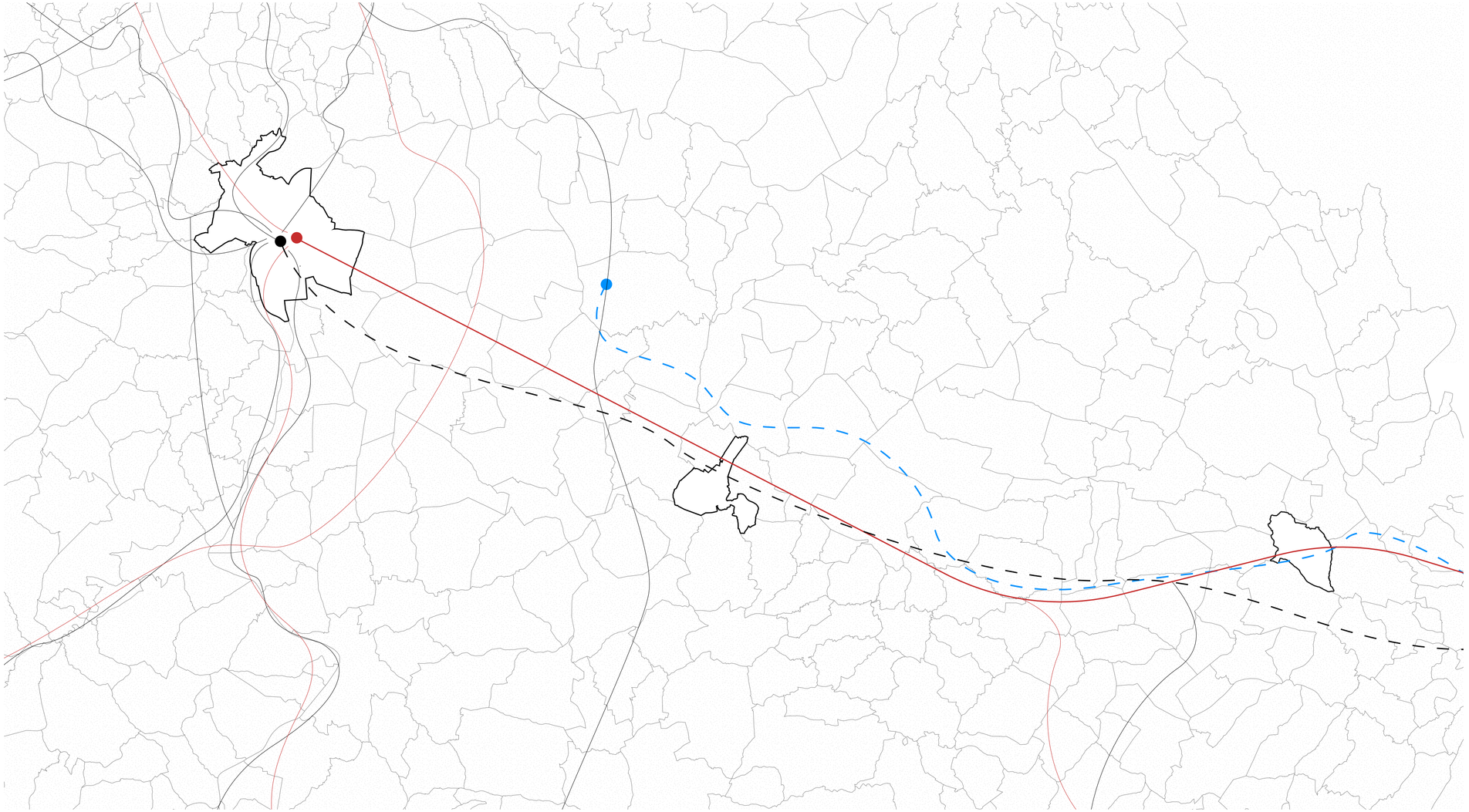
Existing Mobility

Most transportation flows originate from Lyon, extending outward to connect the two sites.

The main mobility corridor linking the two sites consists of the A43 highway and the railway line.

Overview

Lyon-Truin
High-Speed Railway



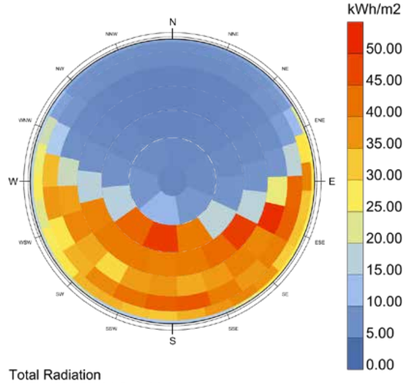
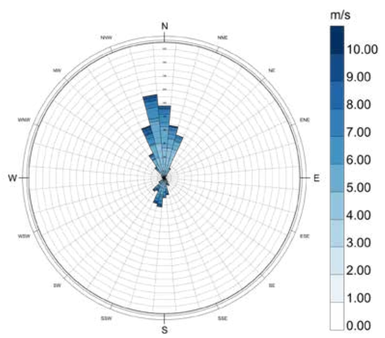
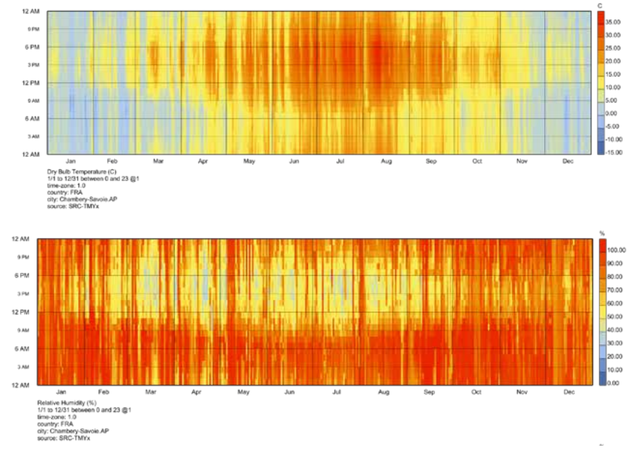
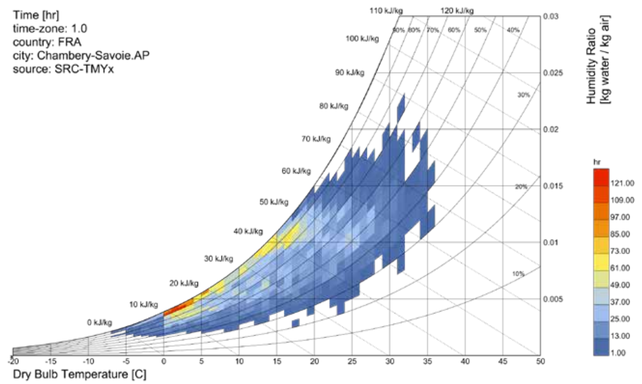
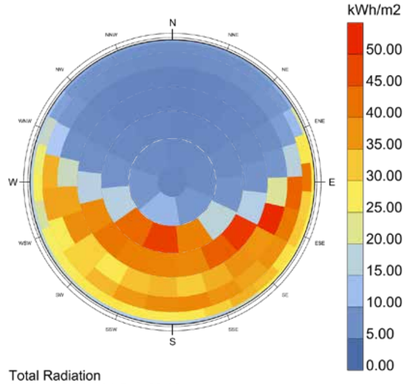
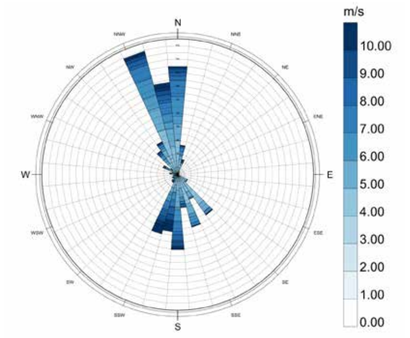
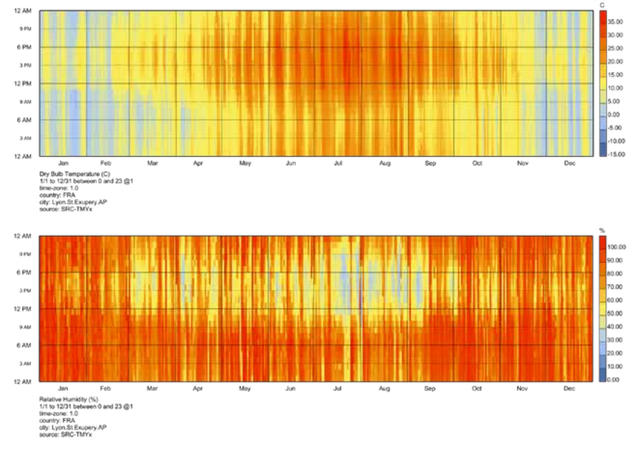
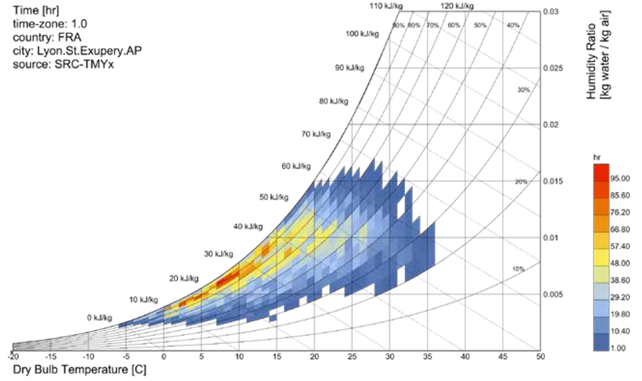
A new high-speed railway connecting Lyon and Turin is planned to pass between the two sites.

The Social Promenade

The project introduces a Social Promenade in both sites to create spaces for staying, gathering, and interaction.

Overview

Weather Analysis

	Sky Dome	Wind Rose	Dry Bulb Temperature & Relative Humidity	Psychrometric Chart
Chimillin	 Total Radiation 01 Jan 00:00 - 31 Dec 23:00 time-zone : 1.0 country : FRA city : Chambery-Savoie.AP source : SRC-TMYx			
Villefontaine	 Total Radiation 01 Jan 00:00 - 31 Dec 23:00 time-zone : 1.0 country : FRA city : Lyon.St.Exupery.AP source : SRC-TMYx			

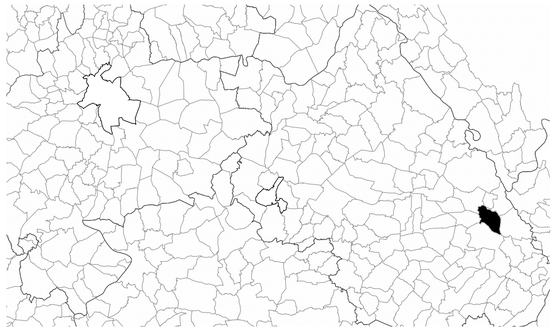
Both Chimilin and Villefontaine experience hot, dry summers and cold, humid winters.
However, Villefontaine shows stronger and more consistent wind patterns, allowing for design strategies focused on natural ventilation.

02

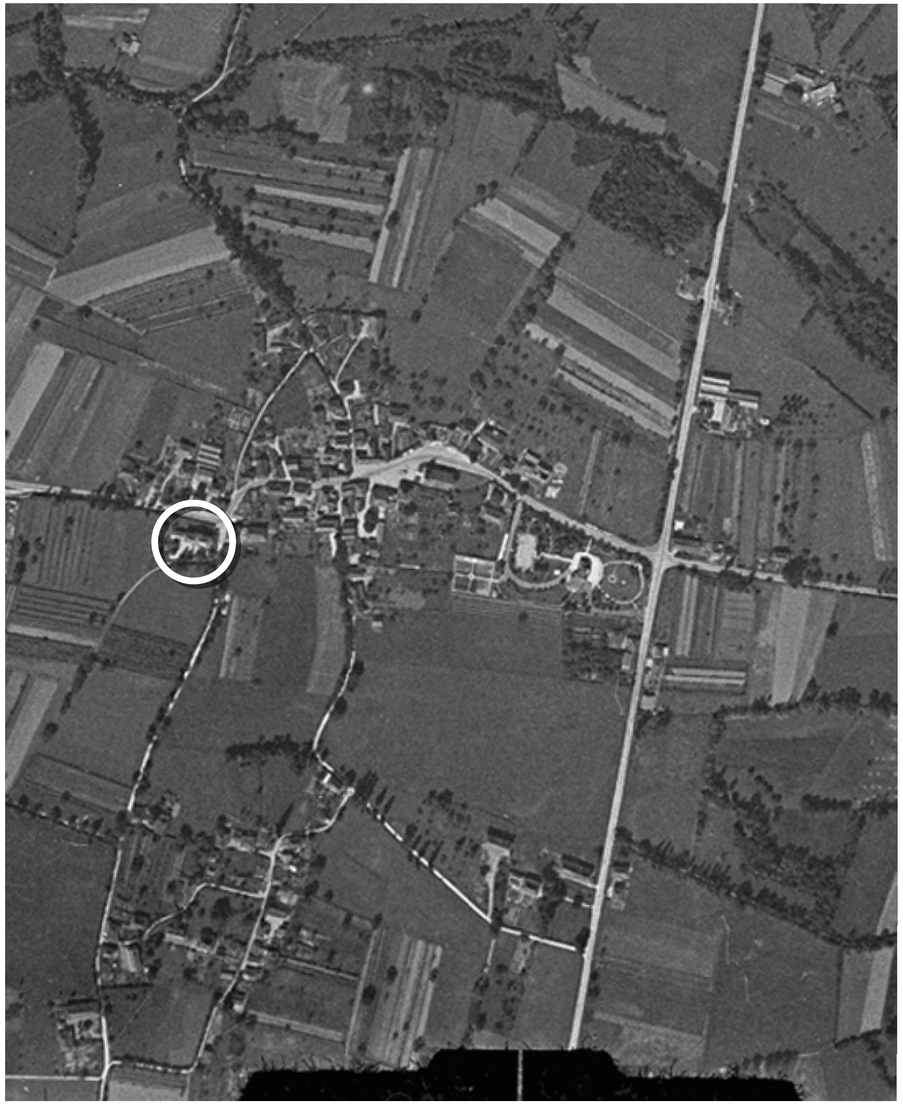
Chimilin

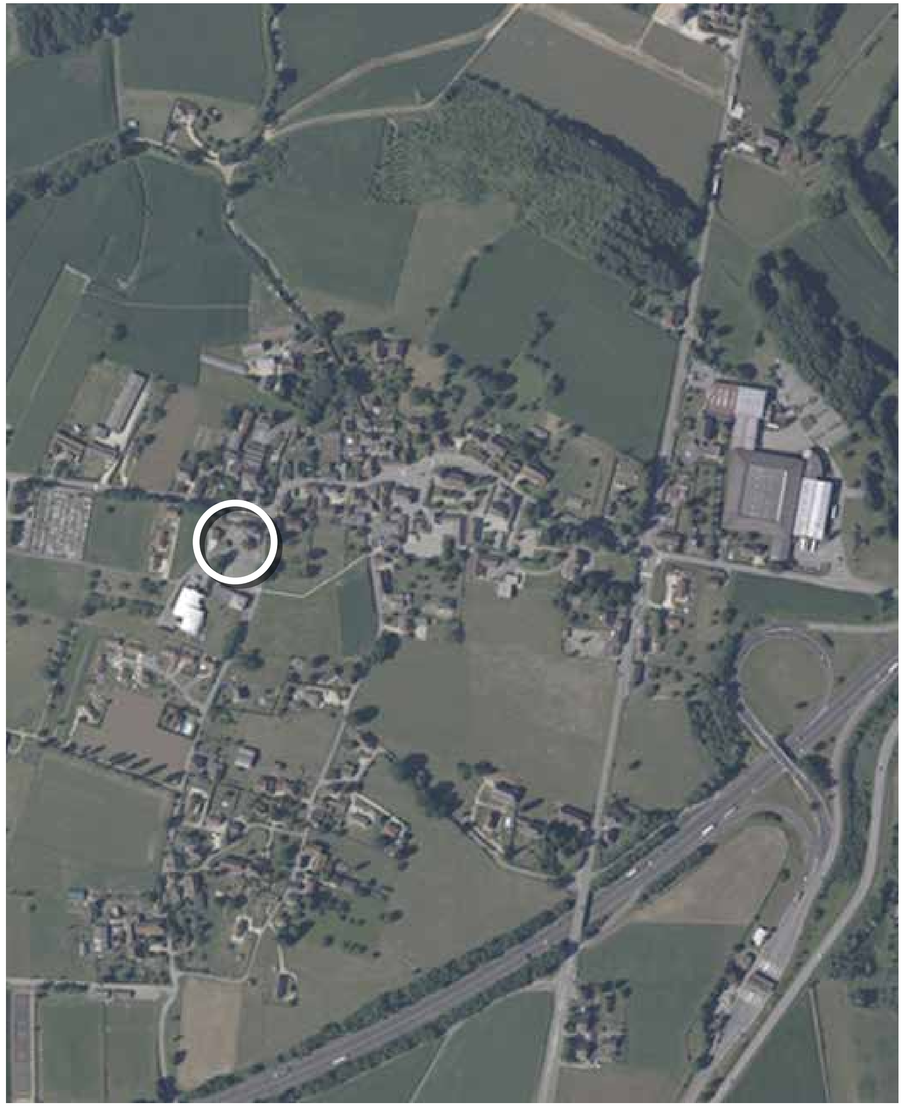
1. Site Analysis
2. Design Strategy
3. Renovation
4. Drawings
5. Details
6. Sustainability Strategy

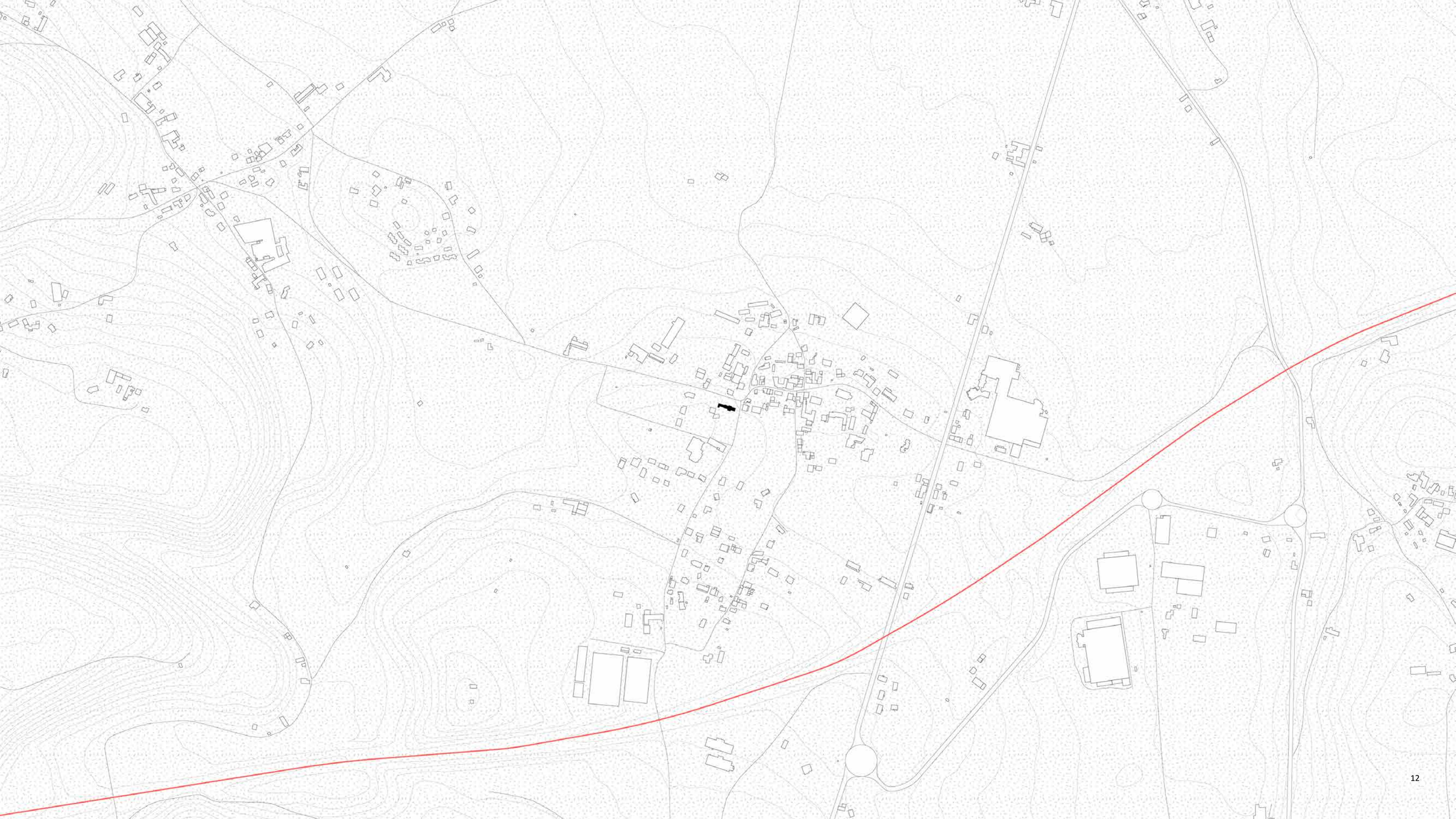
Chimilin



Chimilin is a small rural village, where the most significant change over time has been the construction of the highway. The highway physically fragmented the territory.







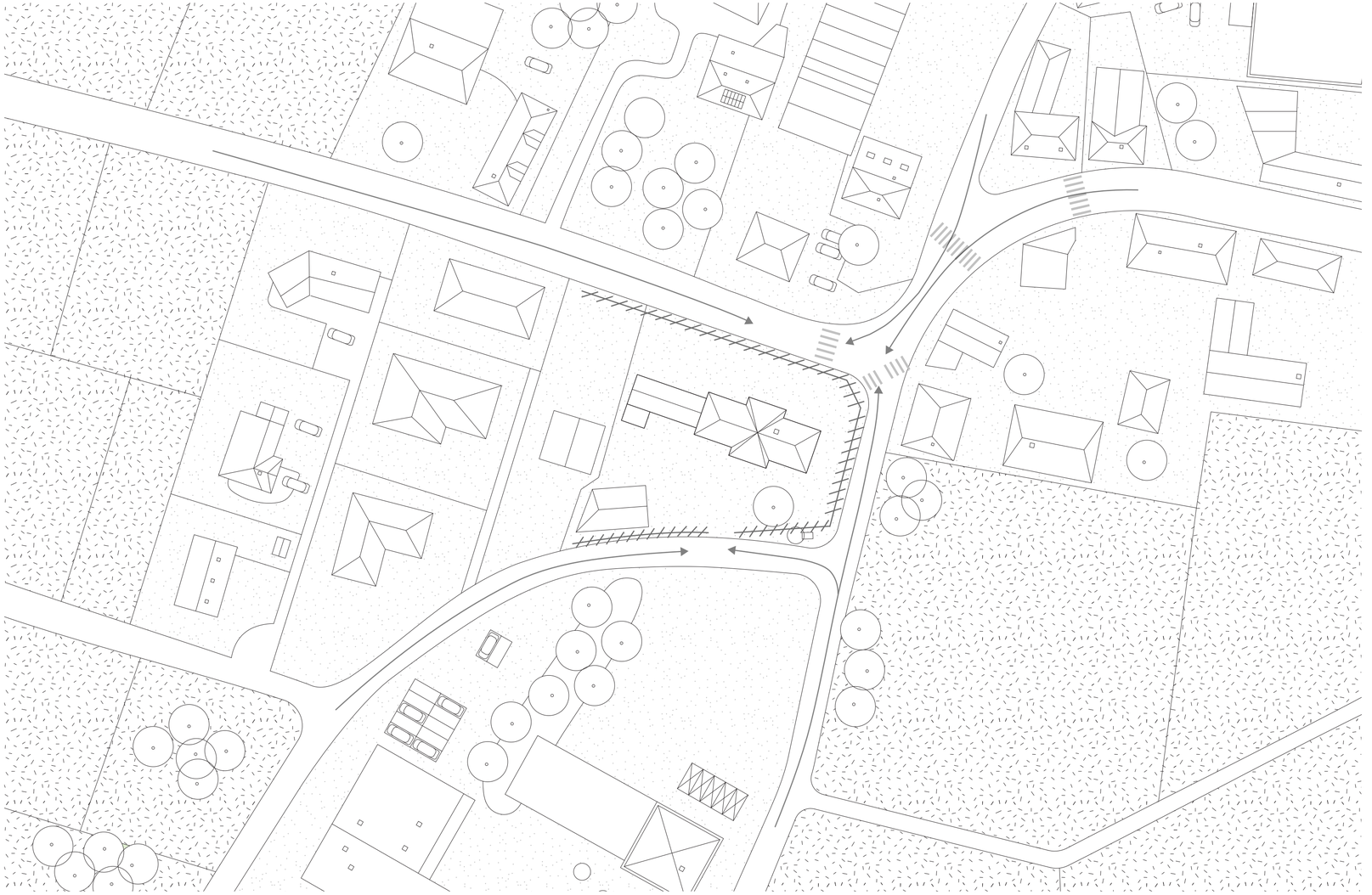
Design Strategy

1. Exisiting Condition

The contest site, located at an intersection, is currently enclosed by a perimeter wall, creating a sense of spatial separation from the surrounding context.

Design Strategy

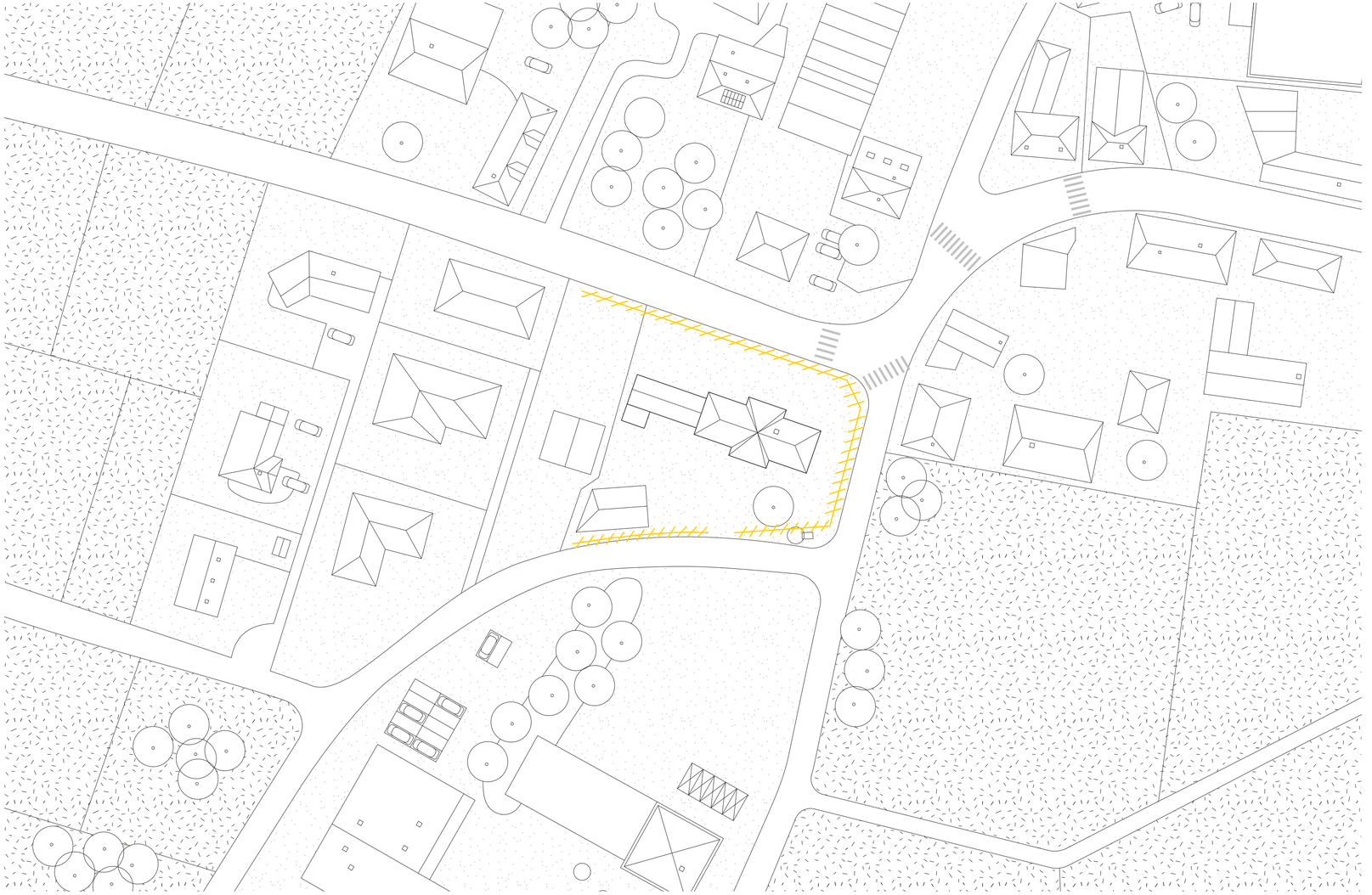
2. Junction



The site holds strong potential for accessibility, as it is positioned at the junction of several local paths.

Design Strategy

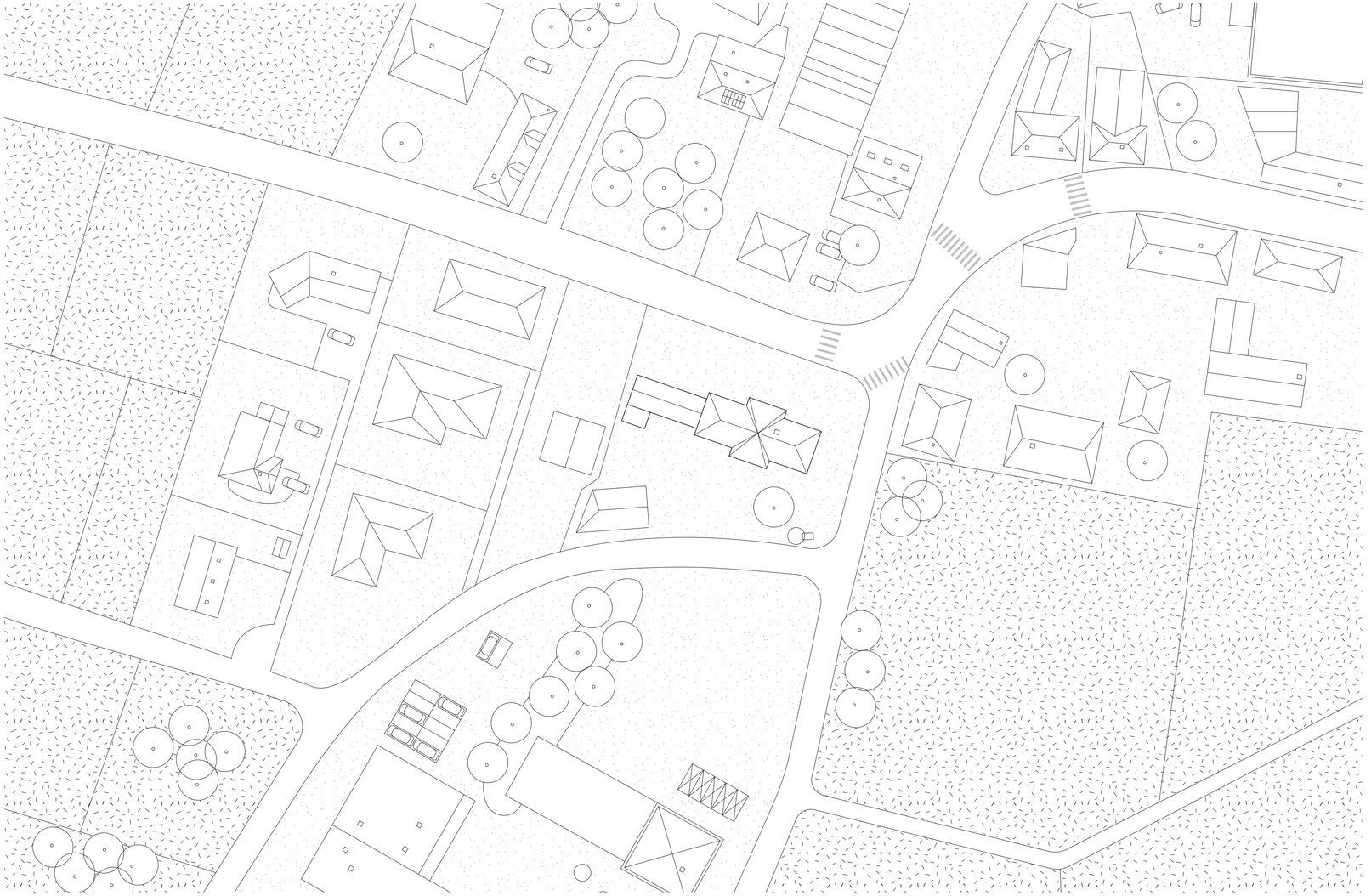
3. Unwalling



The perimeter wall is removed to enhance the site’s accessibility.

Design Strategy

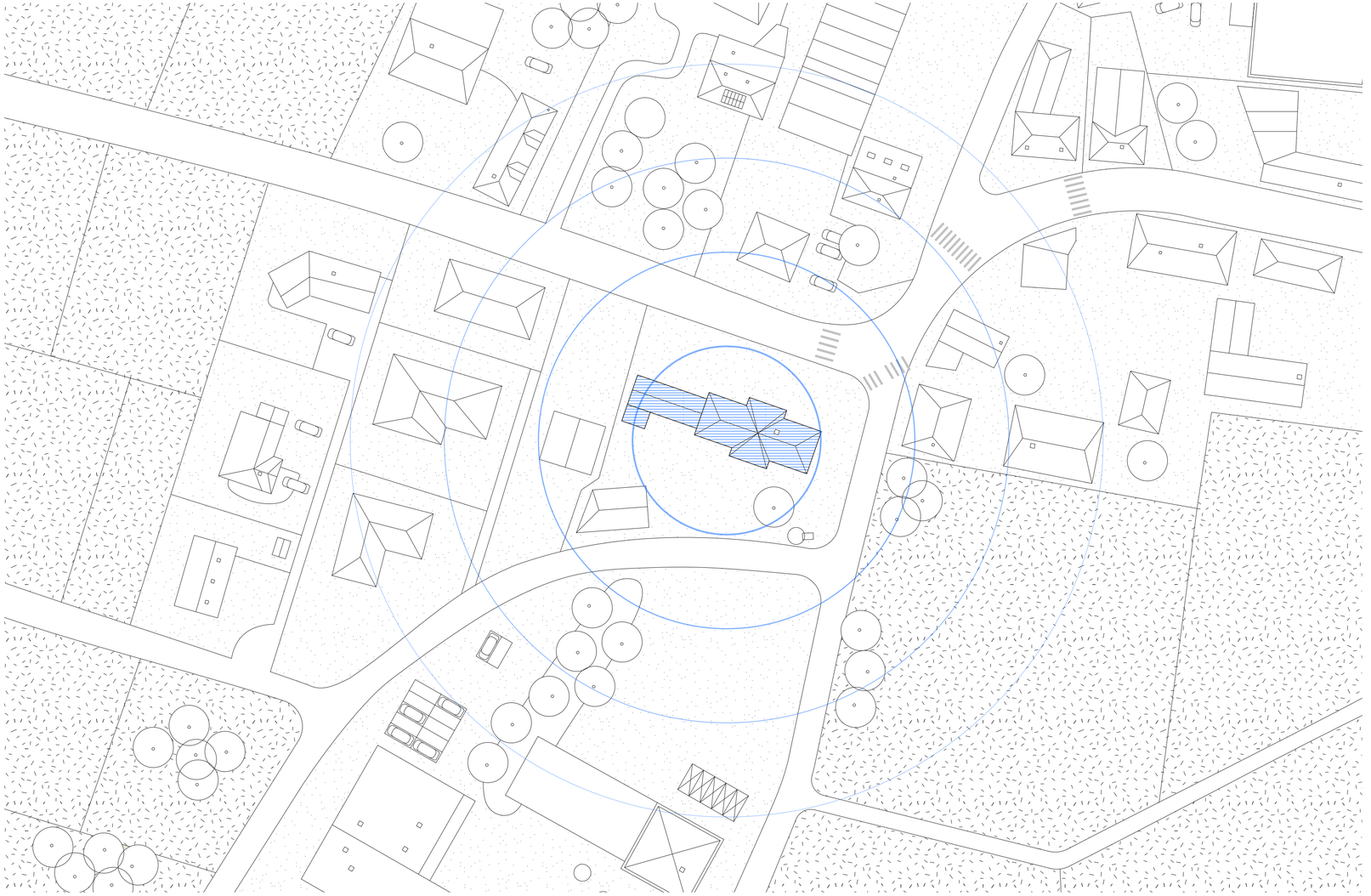
4. Clearing



A cleared ground condition allows for reprogramming and spatial reinterpretation.

Design Strategy

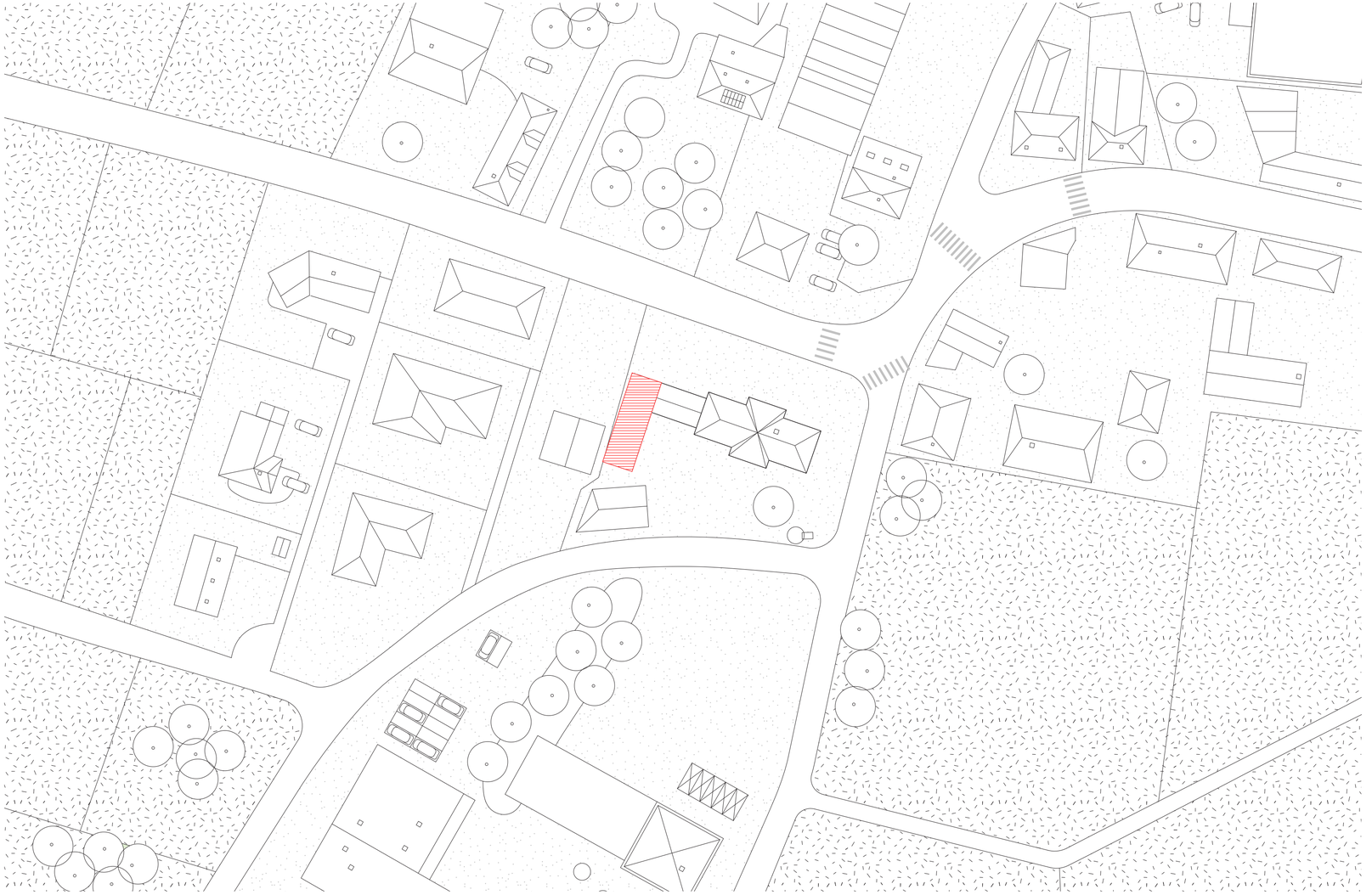
5. Centripetal & Centrifugal



The site becomes both a centripetal and a centrifugal origin, receiving local activities while radiating outward through new spatial flows.

Design Strategy

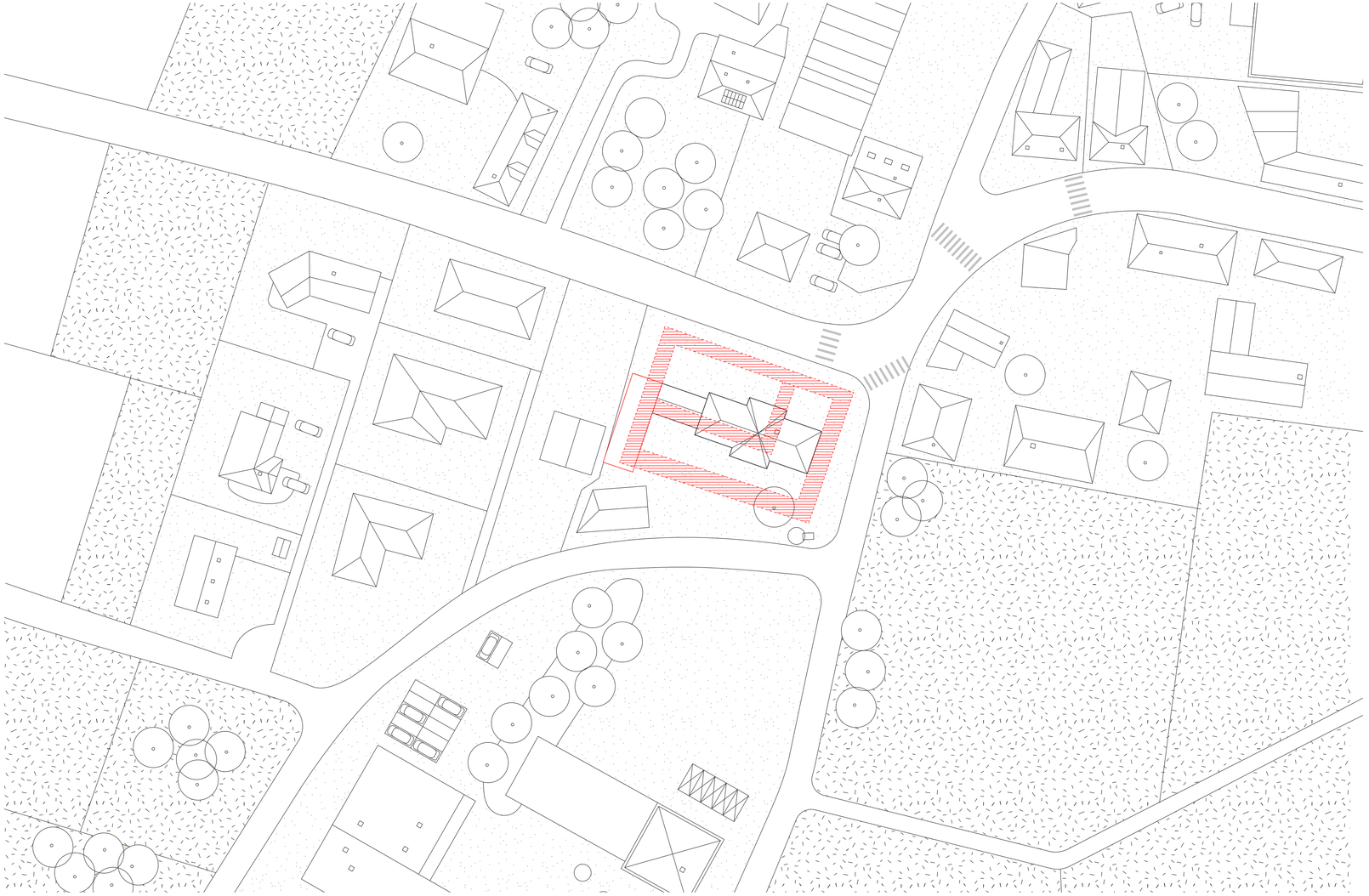
6. Placement



A new mass is added to the site.

Design Strategy

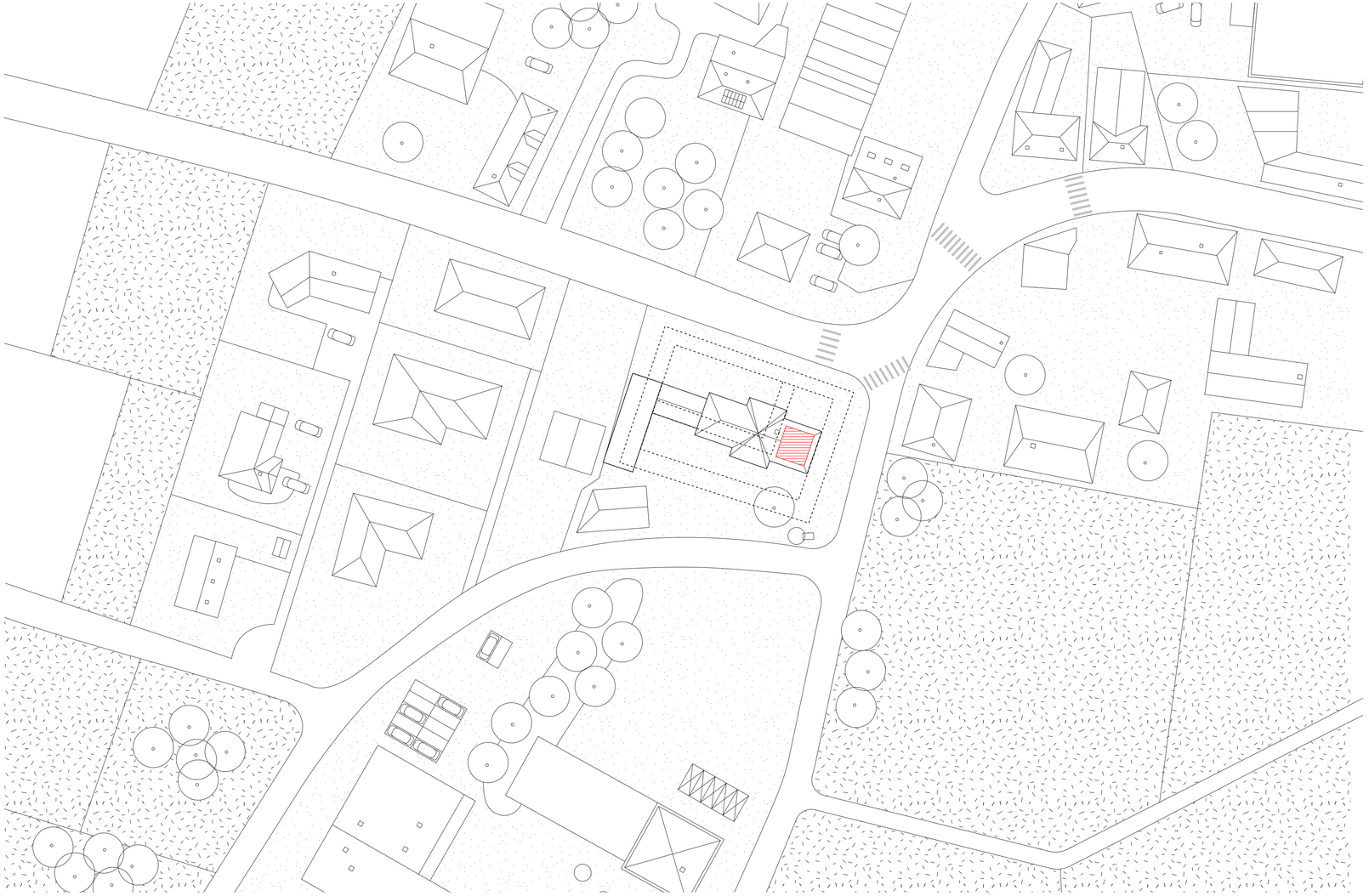
7. Promenade



A promenade is inserted to support everyday use and encourage staying.

Design Strategy

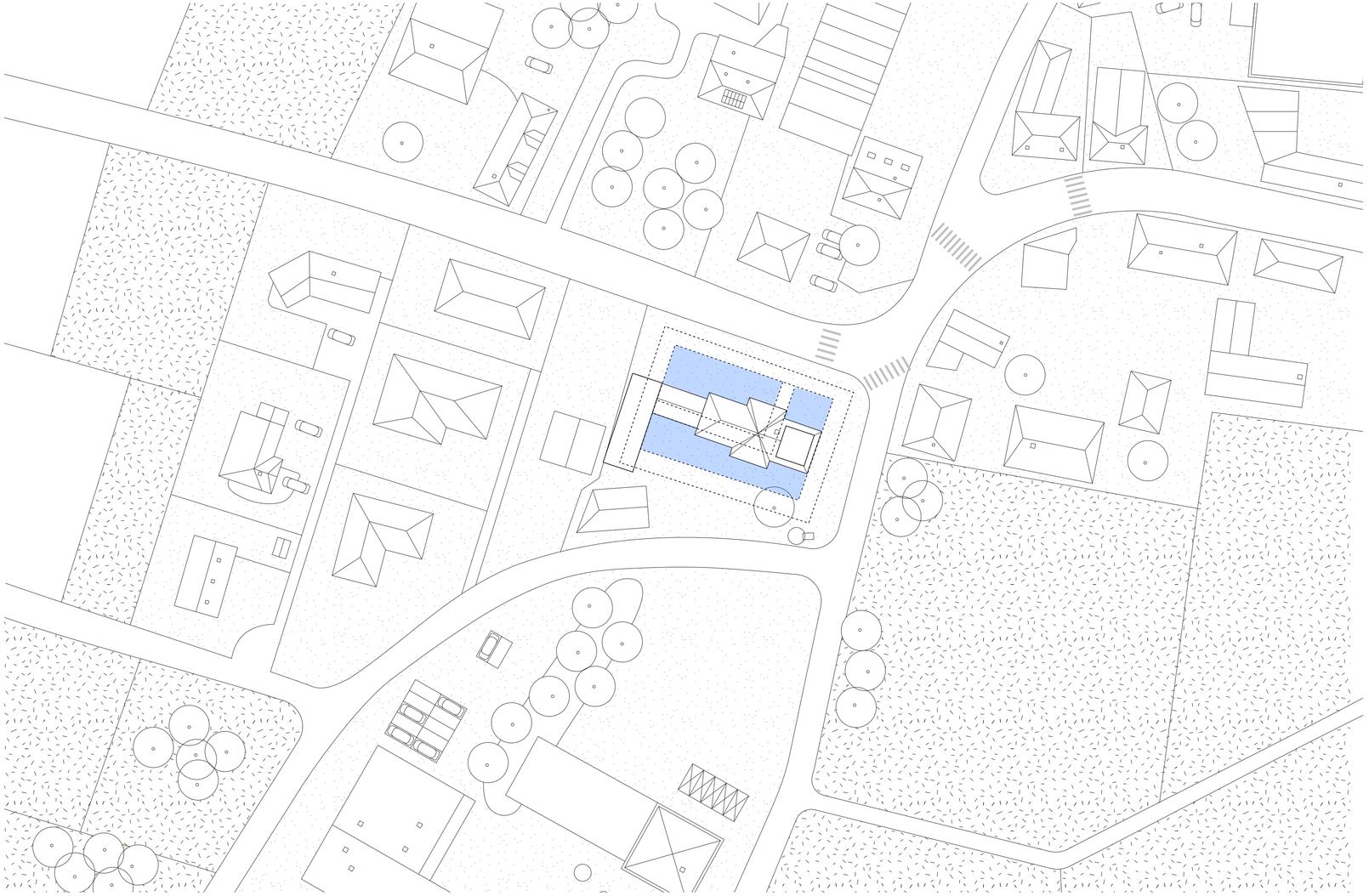
8. Implantation



Small-scale unit is implanted along the promenade in relation to its flow.

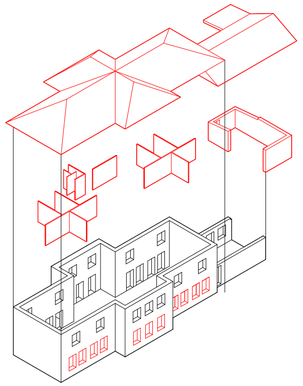
Design Strategy

9. Enclosure

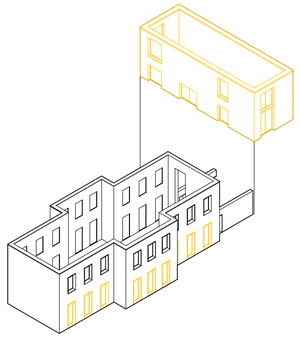


The residual spaces formed by the path and masses become public areas for local residents.

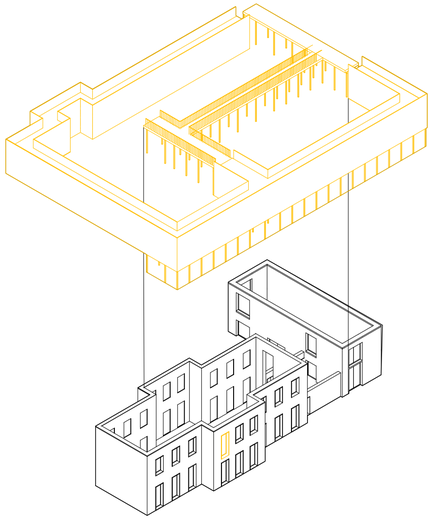
Renovation



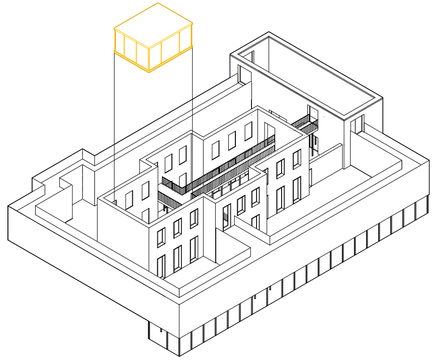
1. Demolition



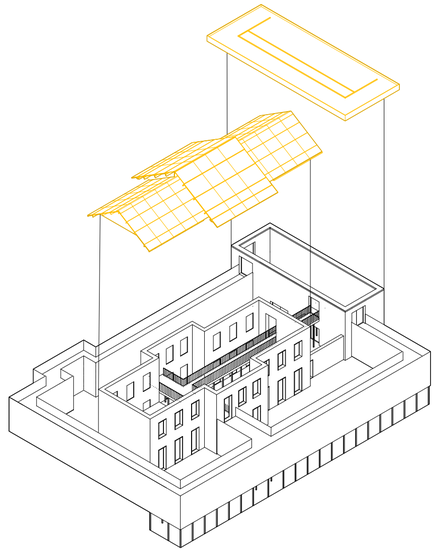
2. Addition



3. Promenade Installation



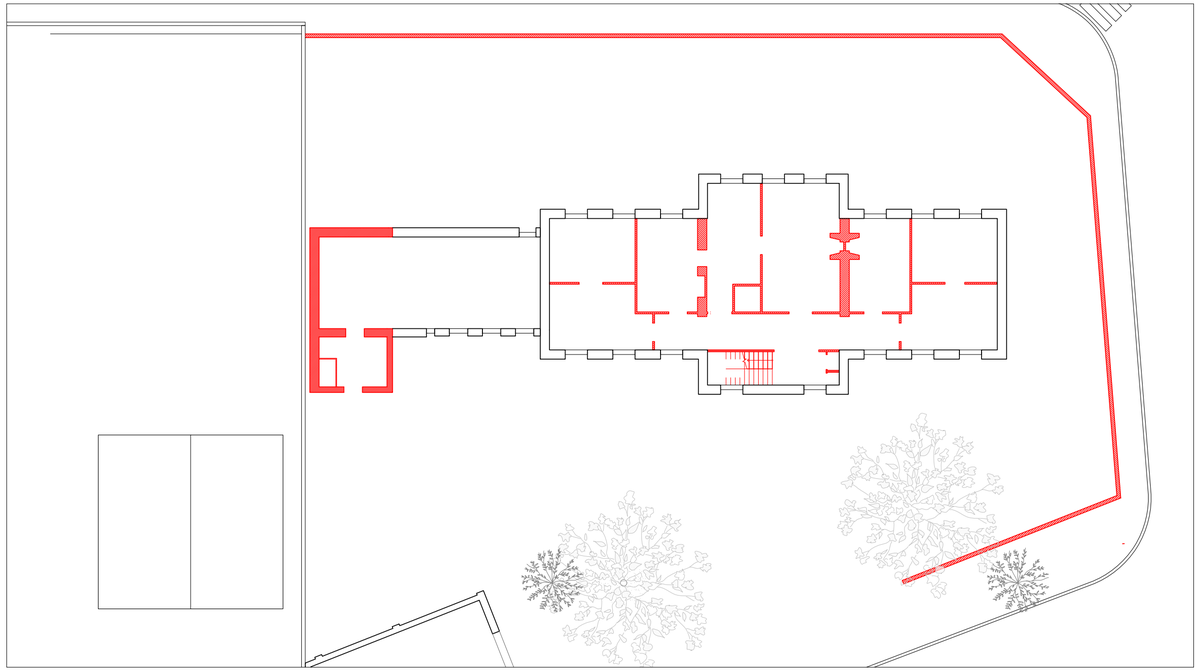
4. Unit Implantation

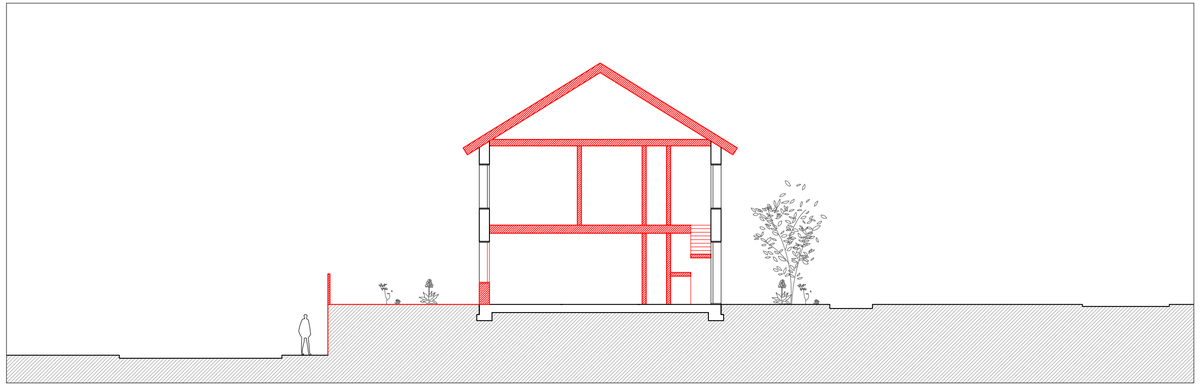


5. Roof Refurbishment

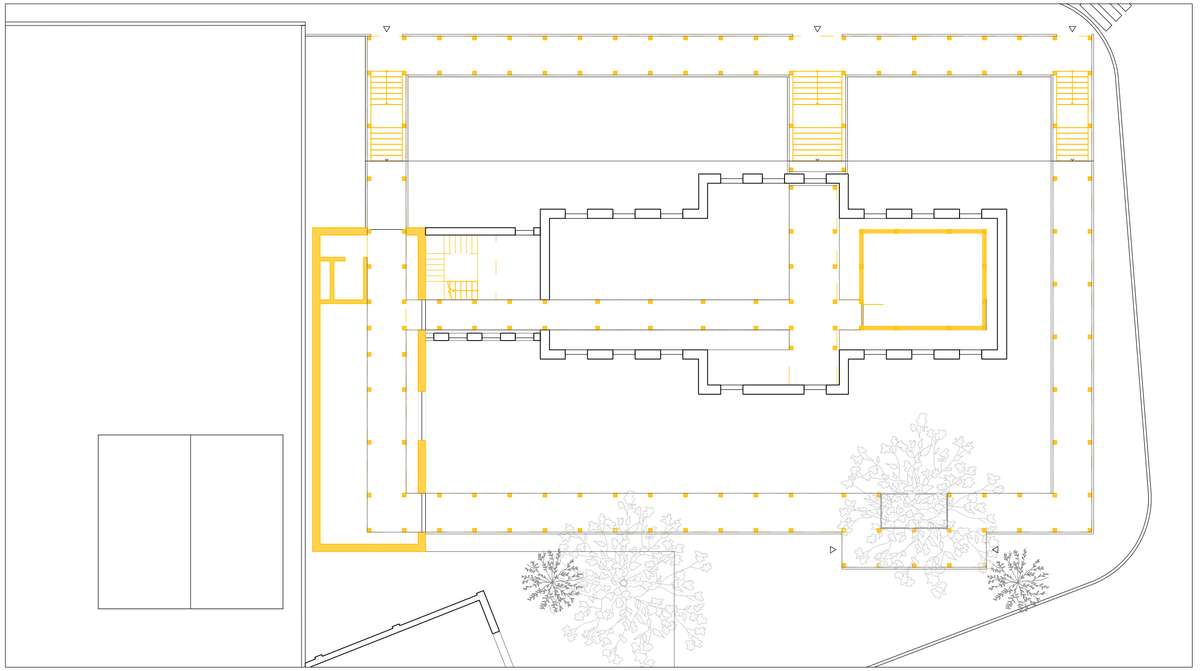
Renovation

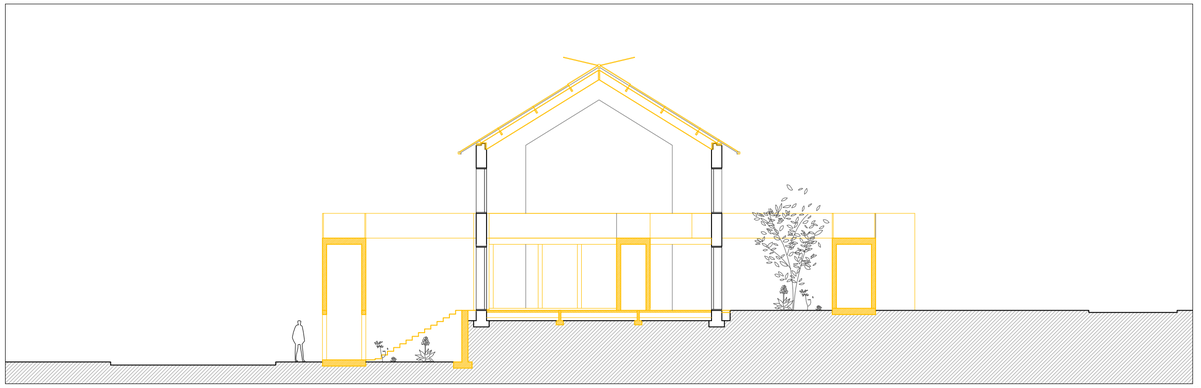
Demolition



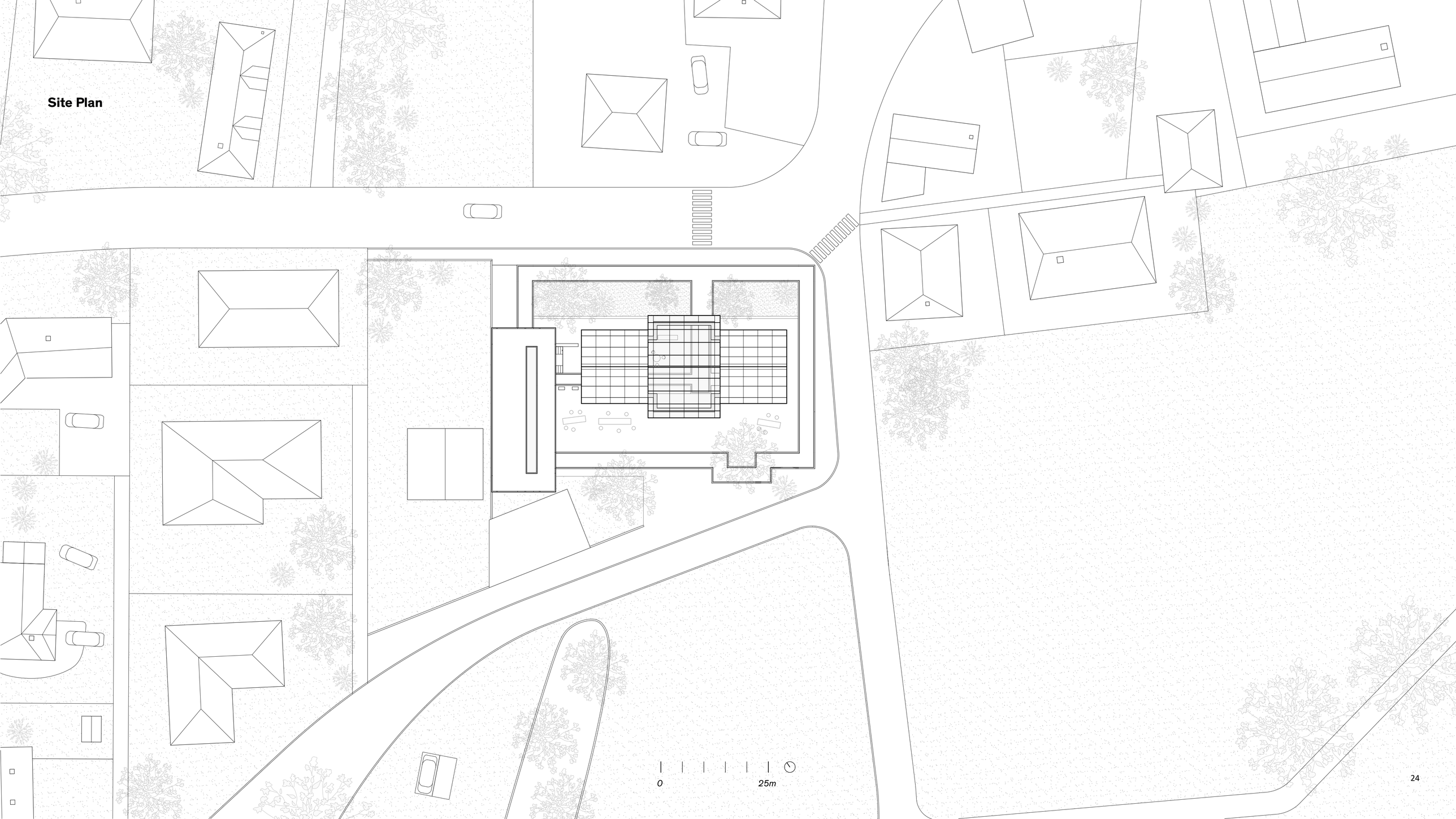


Addition



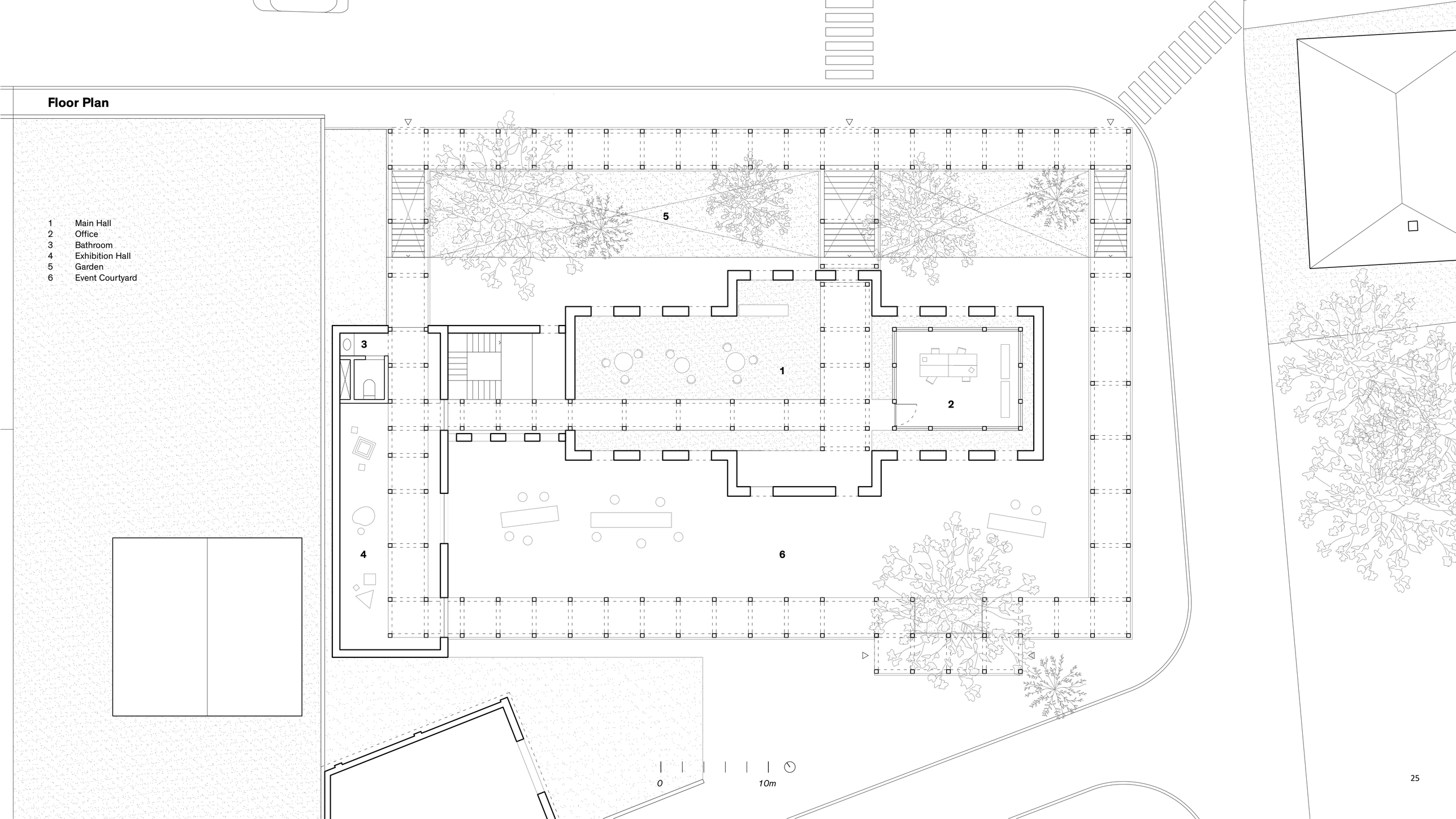


Site Plan

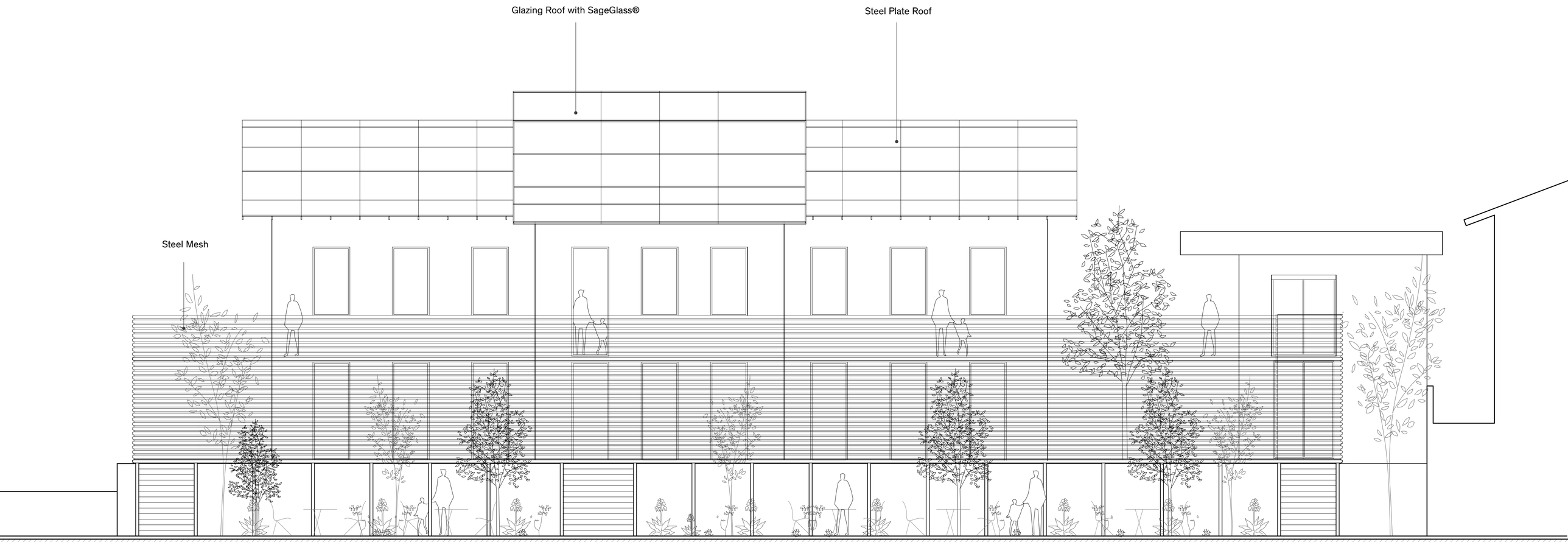


Floor Plan

1 Main Hall
2 Office
3 Bathroom
4 Exhibition Hall
5 Garden
6 Event Courtyard

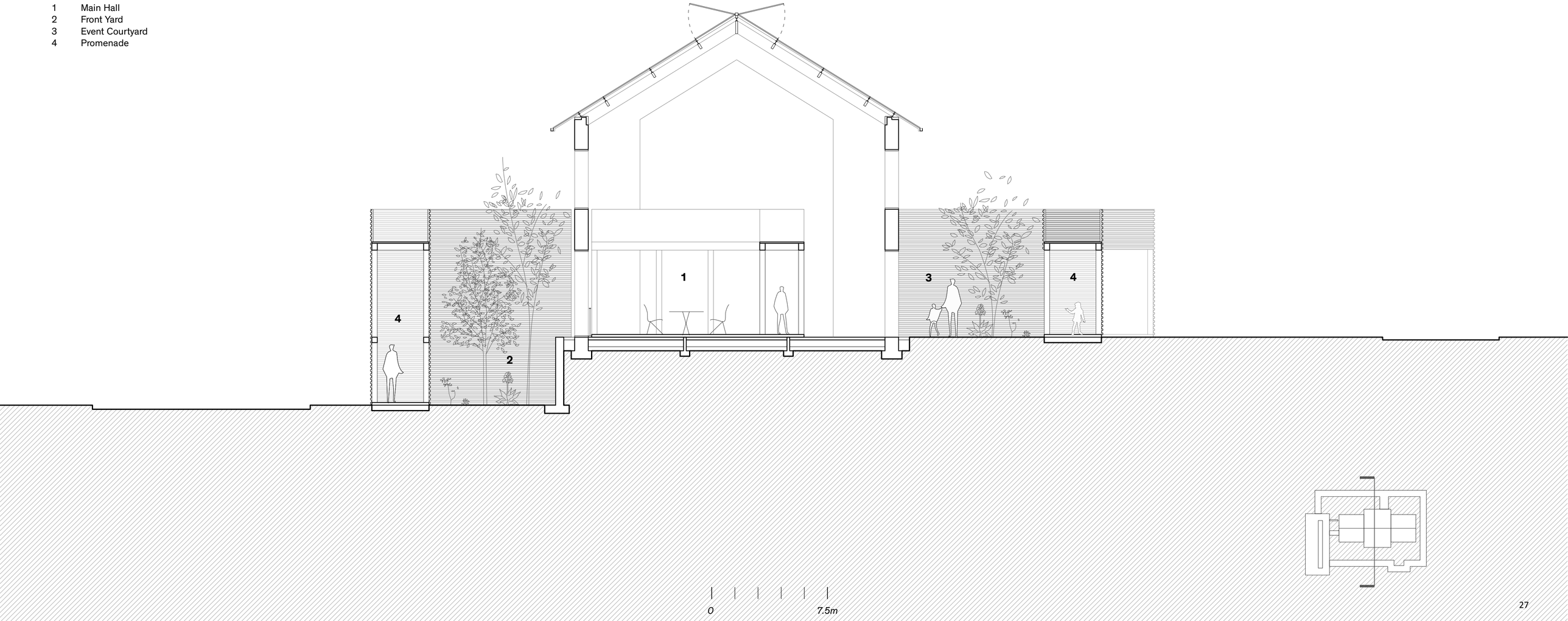


Elevation_North



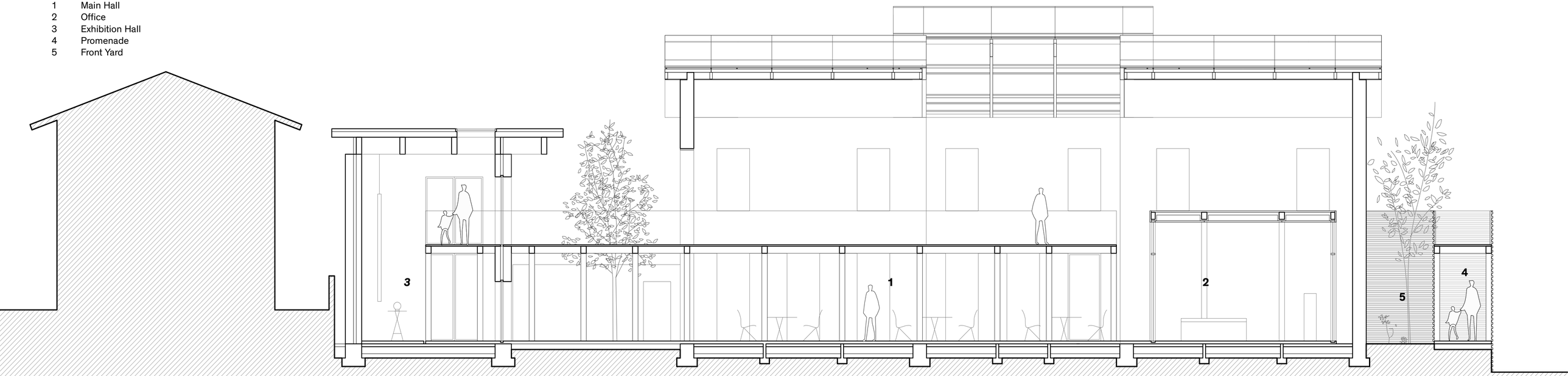
Section_A-A’

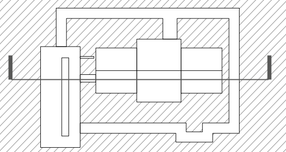
1 Main Hall
2 Front Yard
3 Event Courtyard
4 Promenade



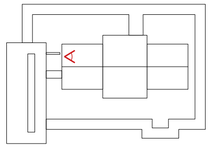
Section_B-B’

1 Main Hall
2 Office
3 Exhibition Hall
4 Promenade
5 Front Yard



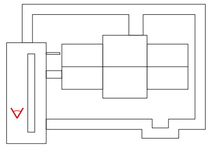


0 7.5m



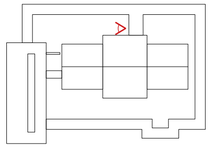
Main Hall

The main hall is designed as a large, open space by removing the existing interior structure to accommodate local community associations and activities. A skylight system using SageGlass enables adaptable light transmittance based on environmental conditions, creating a comfortable semi-outdoor atmosphere within the interior.



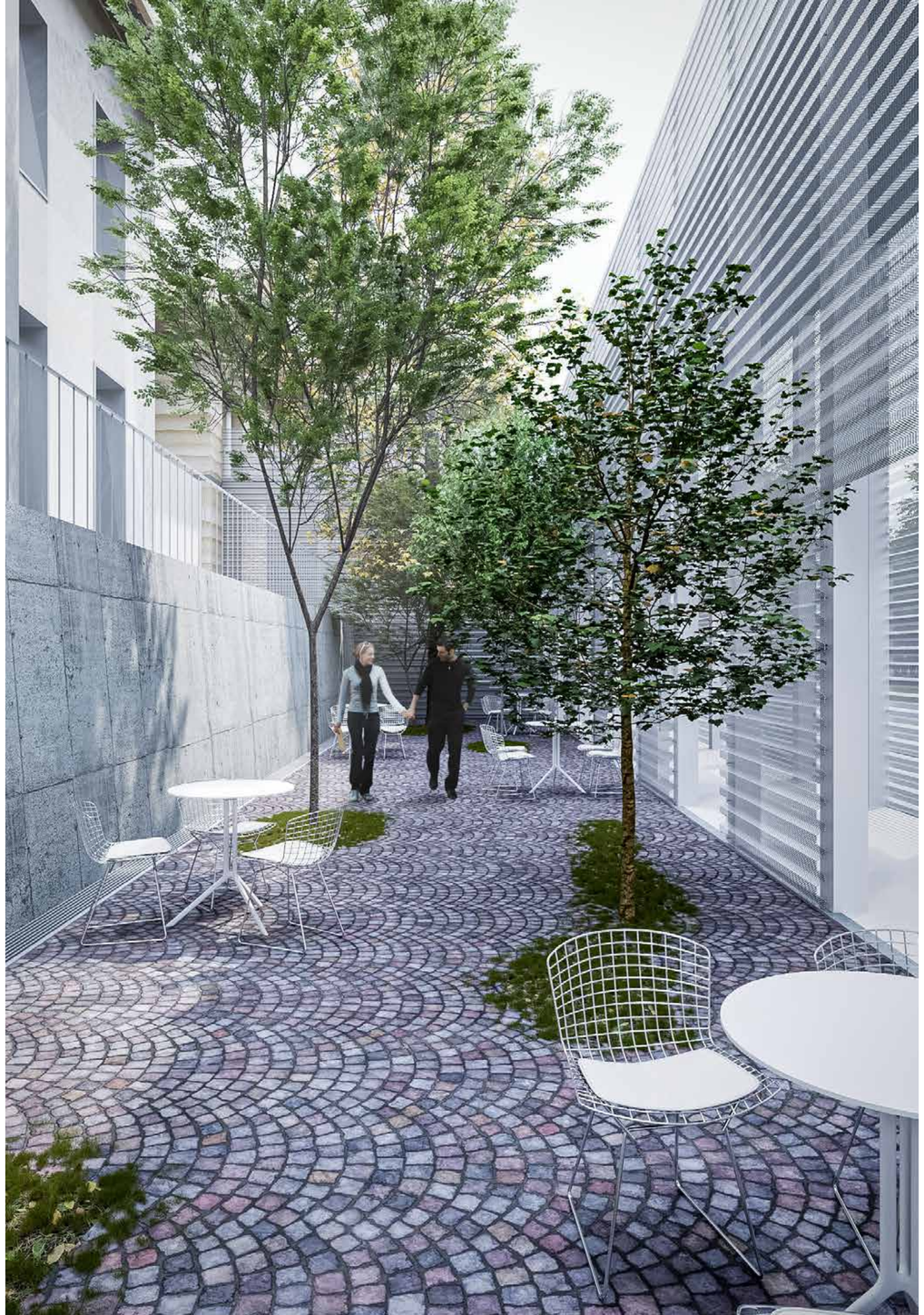
Exhibition Hall

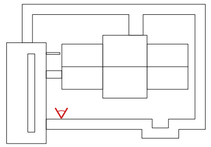
Constructed with rammed earth, the exhibition hall evokes the image of pisé, a traditional building method of the region. It functions as an archive that exhibits and preserves the everyday life of the local community.



Front Yard

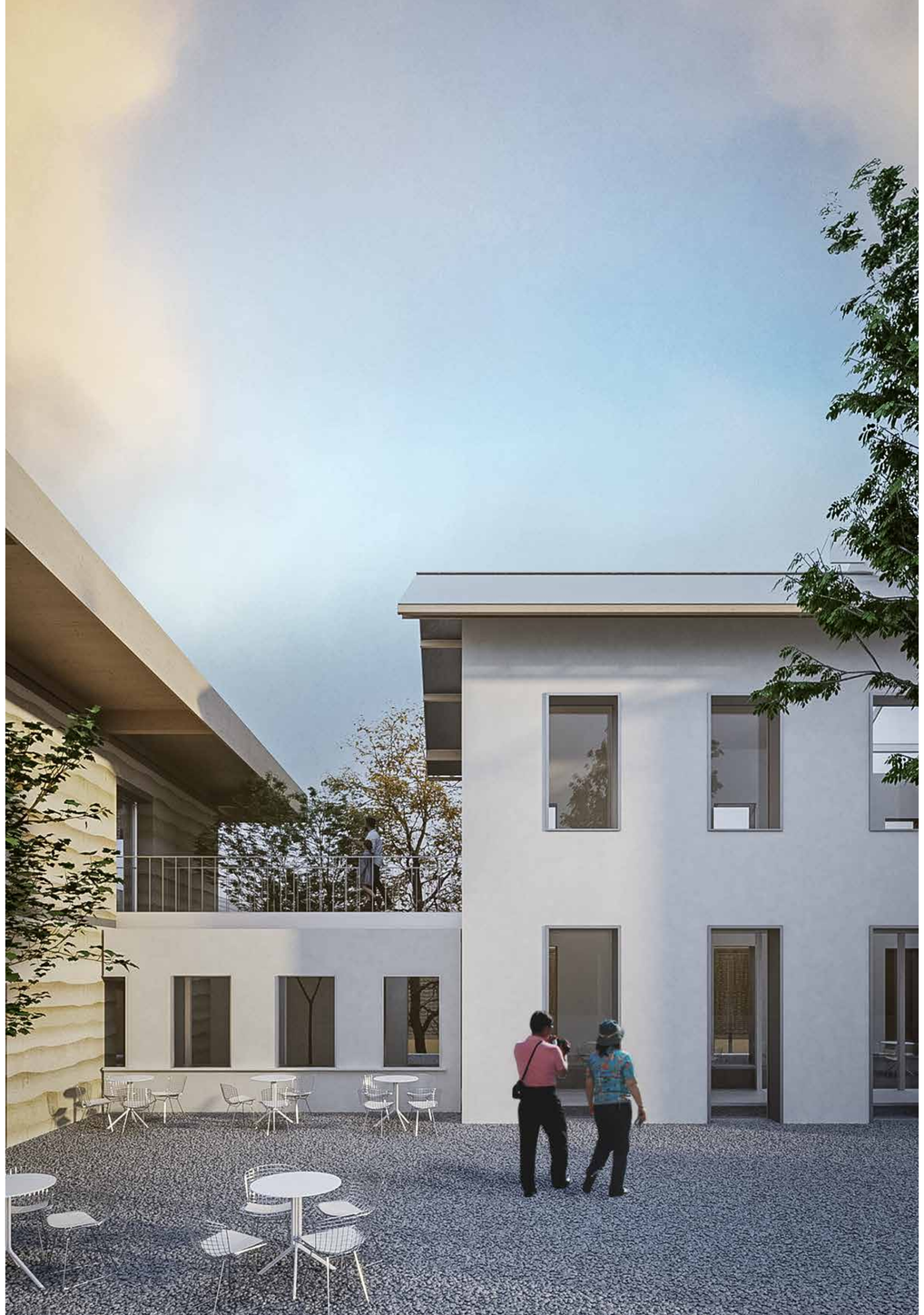
The front yard, designed for universal accessibility, is enclosed by the site's topographical levels and the social promenade, forming a protected garden space.



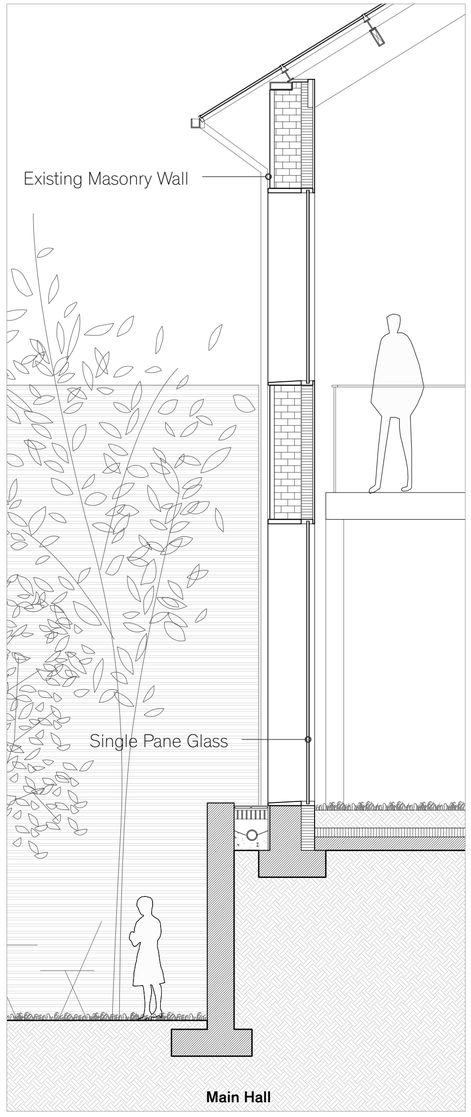


Event Courtyard

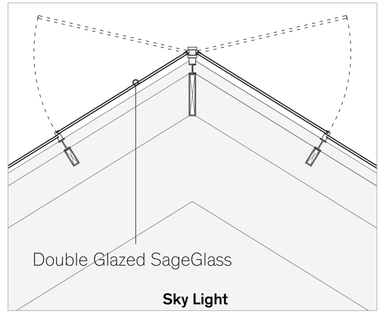
On the southern side of the building, a spacious courtyard is created to accommodate various community events and gatherings. Designed as an open and flexible space, it serves as a shared platform that supports both everyday use and special occasions within the neighborhood.



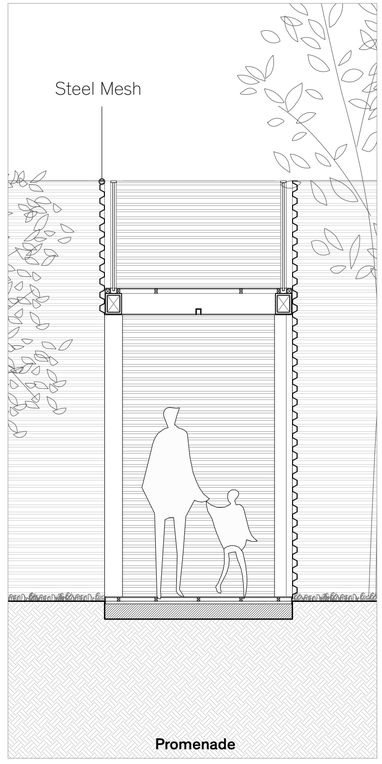
Detail Section



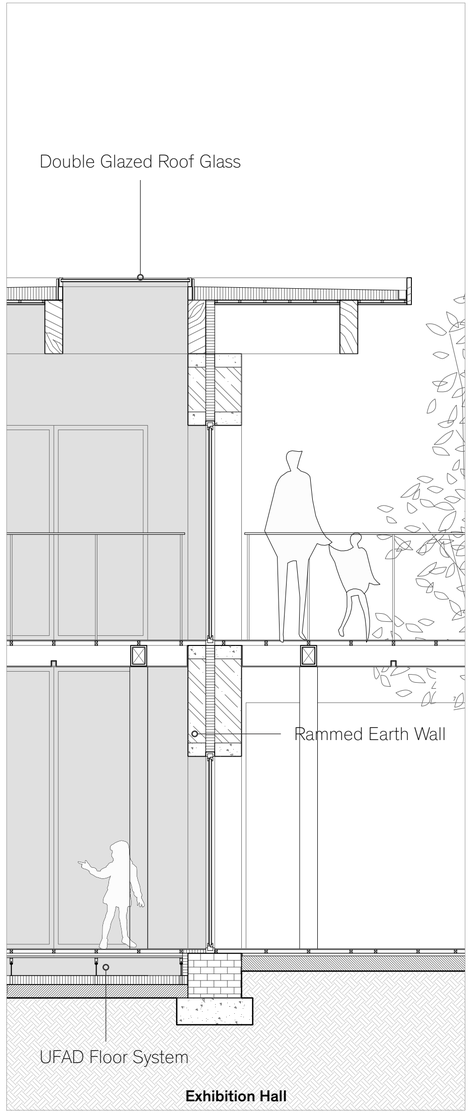
Main Hall



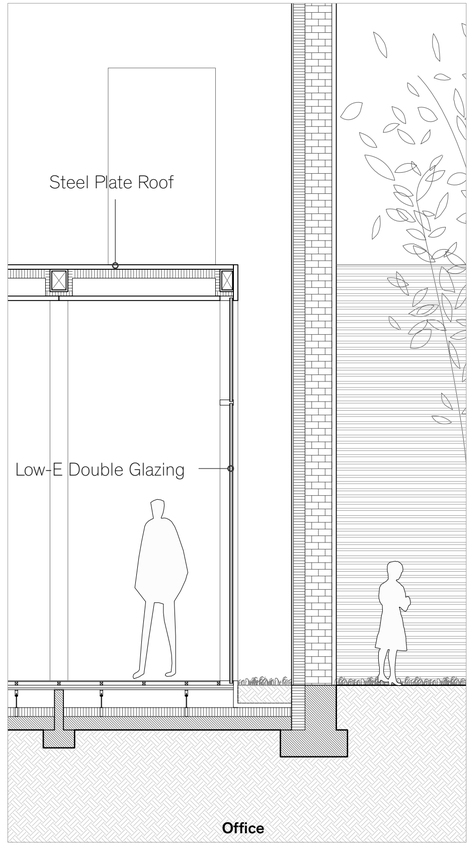
Sky Light



Promenade



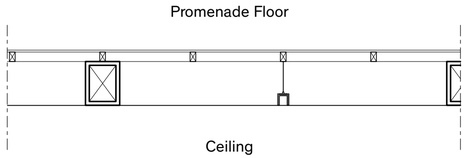
Exhibition Hall



Office

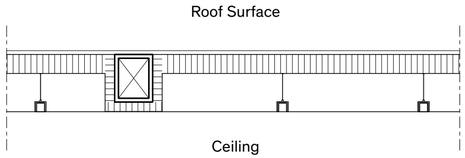
Detail Section

Promenade

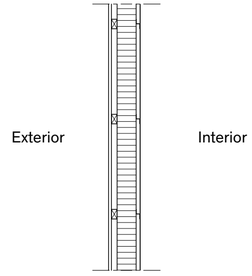


10mm steel plate - ArcelorMittal Durbar® Floor Plate
30x40mm steel studs - Placo® Stil® F 530 / Stil® Prim
180x230mm steel beam
Lighting system
1mm Hunter Douglas – Steel Metal Ceiling Systems

Box Unit Roof



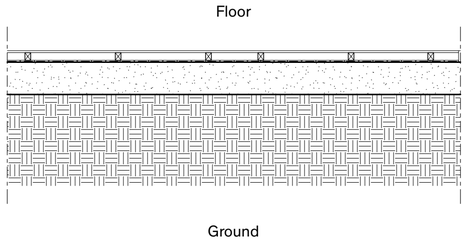
10mm steel plate - ArcelorMittal Durbar® Floor Plate
100mm Thermal Insulation – ISOVER Multimax 30
180x230mm steel beam
Lighting system
1mm Hunter Douglas – Steel Metal Ceiling Systems



Steel Plate Wall

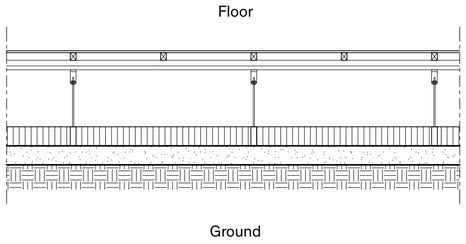
2mm Steel Plate - AcelorMittal Granite® HDX / Silky Shine
Z-bar + Air cavity (20mm)
100mm Thermal Insulation – ISOVER Multimax 30
Vapor Barrier – Isover Vario® KM Duplex UV
30x40mm steel studs - Placo® Stil® F 530 / Stil® Prim
15mm Interior Finish – Gyproc Rigidur H

Outdoor Floor

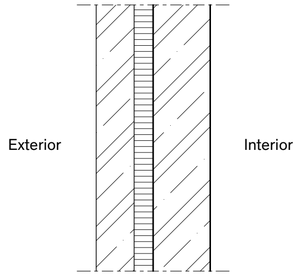


10mm steel plate - ArcelorMittal Durbar® Floor Plate
30x50mm steel studs - Placo® Stil® F 530 / Stil® Prim
3mm EPDM Rubber Pad
Bituminous sheet
170mm Concrete Slab

Raised Access Floor



10mm steel plate - ArcelorMittal Durbar® Floor Plate
30x50mm steel studs - Placo® Stil® F 530 / Stil® Prim
300mm UFAD plenum
Vapor Barrier – Isover Vario® XtraSafe
100mm Concrete Slab



Rammed Earth Wall

Silane-based penetrating hydrophobizer – KEIM Silan-100
300mm Rammed Earth
100mm Thermal Insulation – ISOVER Multimax 30
200mm Rammed Earth
Silane-based penetrating hydrophobizer – KEIM Silan-100

Sustainability Strategy

Ventilation

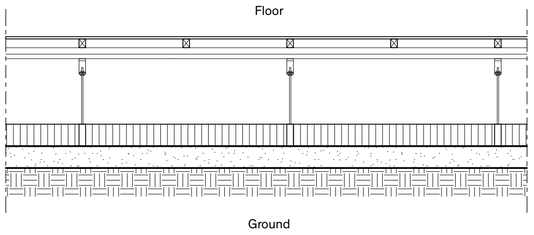
Hybrid Ventilation

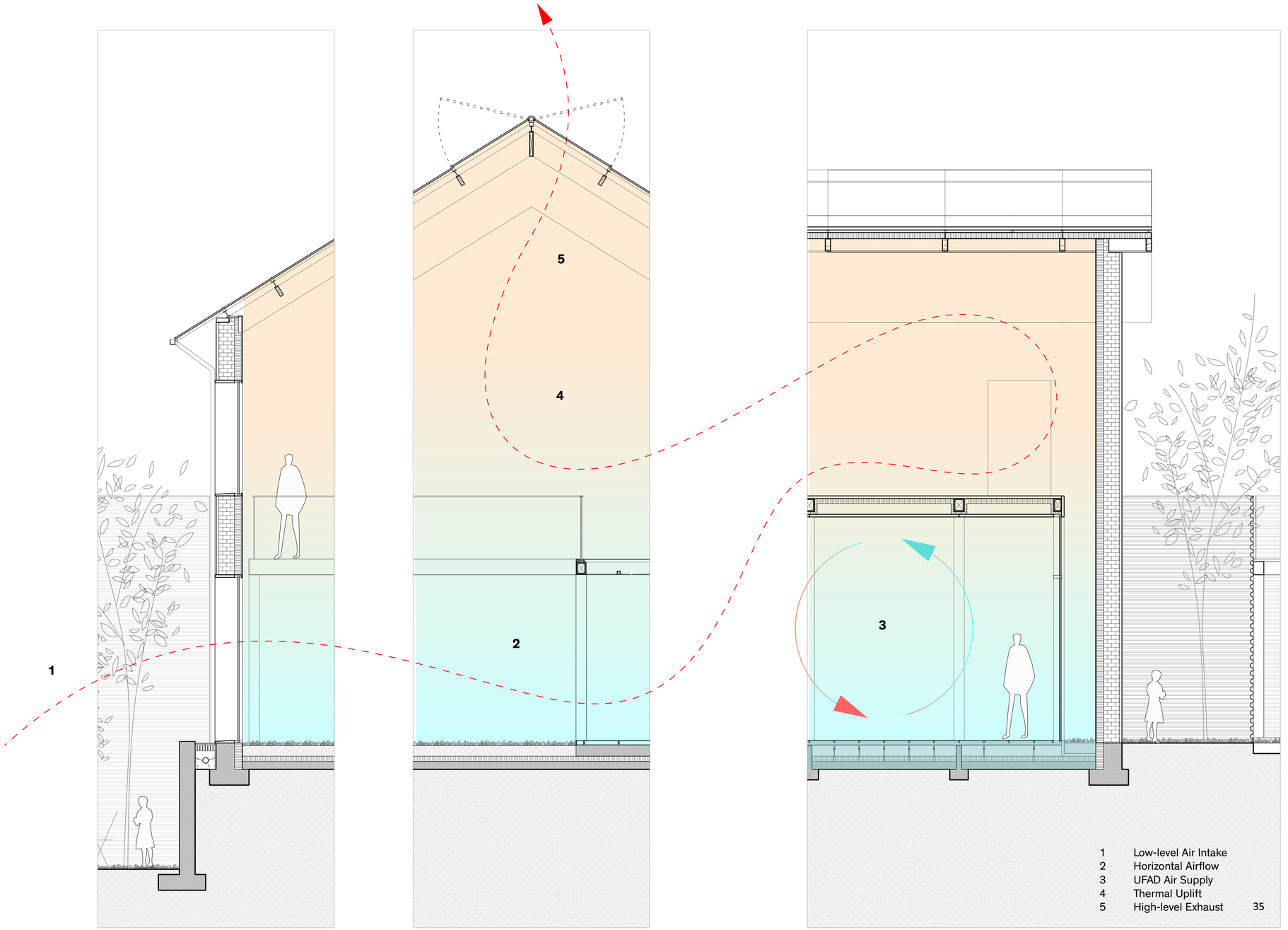
Hybrid ventilation system combines mechanical underfloor air supply with passive roof-level exhaust, forming a continuous airflow loop that reduces energy consumption and ensures consistent thermal comfort.

1) Cool exterior air enters through low-level wall openings.
2) Conditioned air is supplied through the underfloor plenum using a UFAD system.
3) Air circulates horizontally across the occupied zone
4) Warm air rises through thermal uplift
5) Hot air exits naturally through roof-level openings

Raised Access Floor

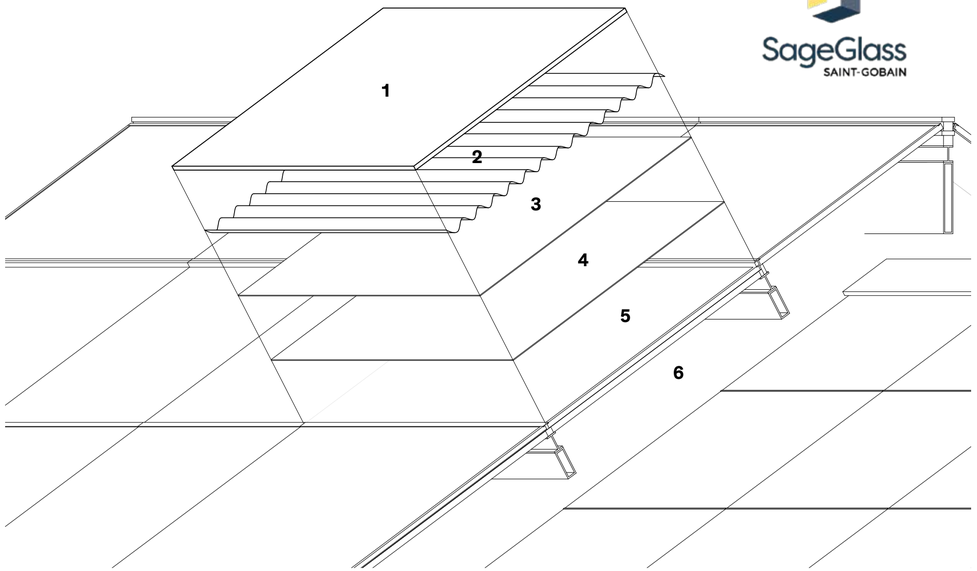
10mm steel plate - ArcelorMittal Durbar® Floor Plate
30x50mm steel studs - Placo® Stil® F 530 / Stil® Prim
300mm UFAD plenum
Vapor Barrier – Isover Vario® XtraSafe
100mm Concrete Slab





SageGlass Roof Glazing System

Ample daylight is introduced through the roof glazing, while SageGlass modulates solar heat and glare during summer. This dynamic performance ensures both thermal comfort and visual quality without compromising transparency.



1. Outboard Lite

The outermost glass layer is designed to vary in thickness and coating depending on rooftop solar conditions, reducing glare and controlling solar exposure.

2. Interlayer

A structural interlayer laminates the outer lite to the electrochromic glass, maintaining safety and durability under rooftop environmental stress.

3. EC Coated Lite

The electrochromic layer is sputter-coated onto annealed glass, enabling dynamic modulation of light and heat at the core of the system.

4. EC Coating

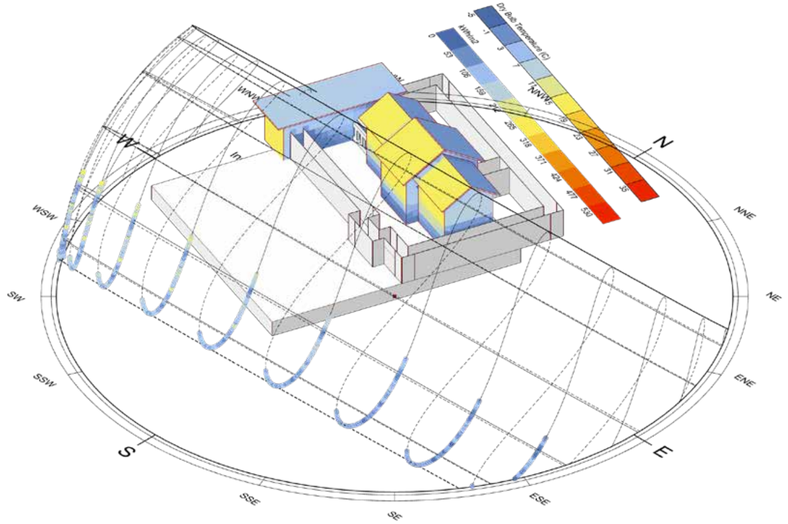
The multi-layered electrochromic coating allows the glazing to adapt to seasonal conditions—darkening in summer to block excess heat and lightening in winter to allow passive daylight.

5. Cavity

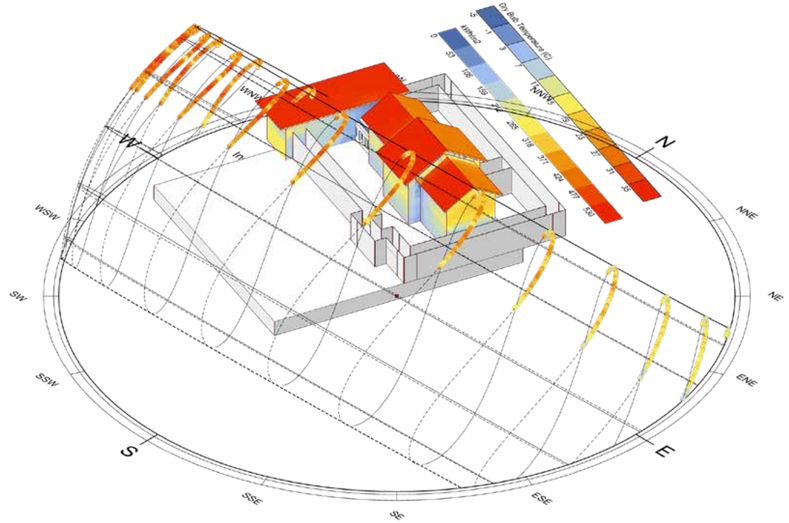
The sealed cavity includes warm-edge spacers and gas fill (air, argon, or krypton) to enhance thermal insulation and prevent rooftop heat loss.

6. Inboard Lite

The inboard glass can include Low-E coatings or laminates to ensure thermal comfort beneath the roof and improve energy performance.



Sun Radiation [Winter]



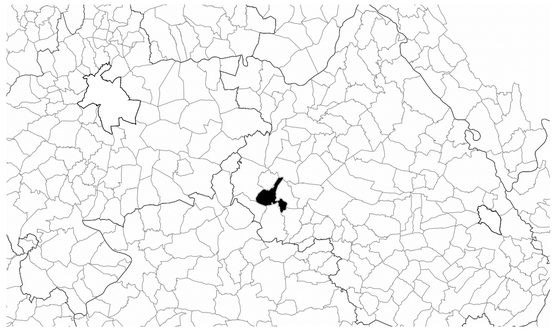
Sun Radiation [Summer]

03

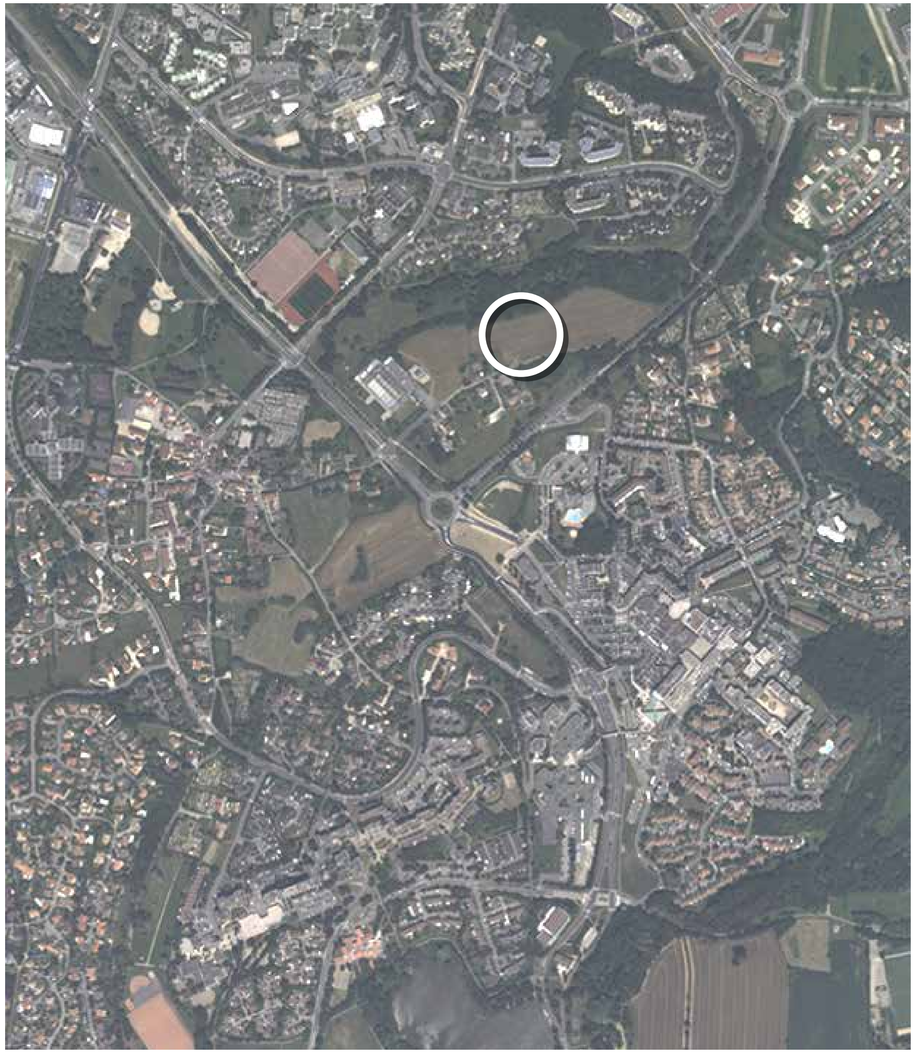
Villefontaine

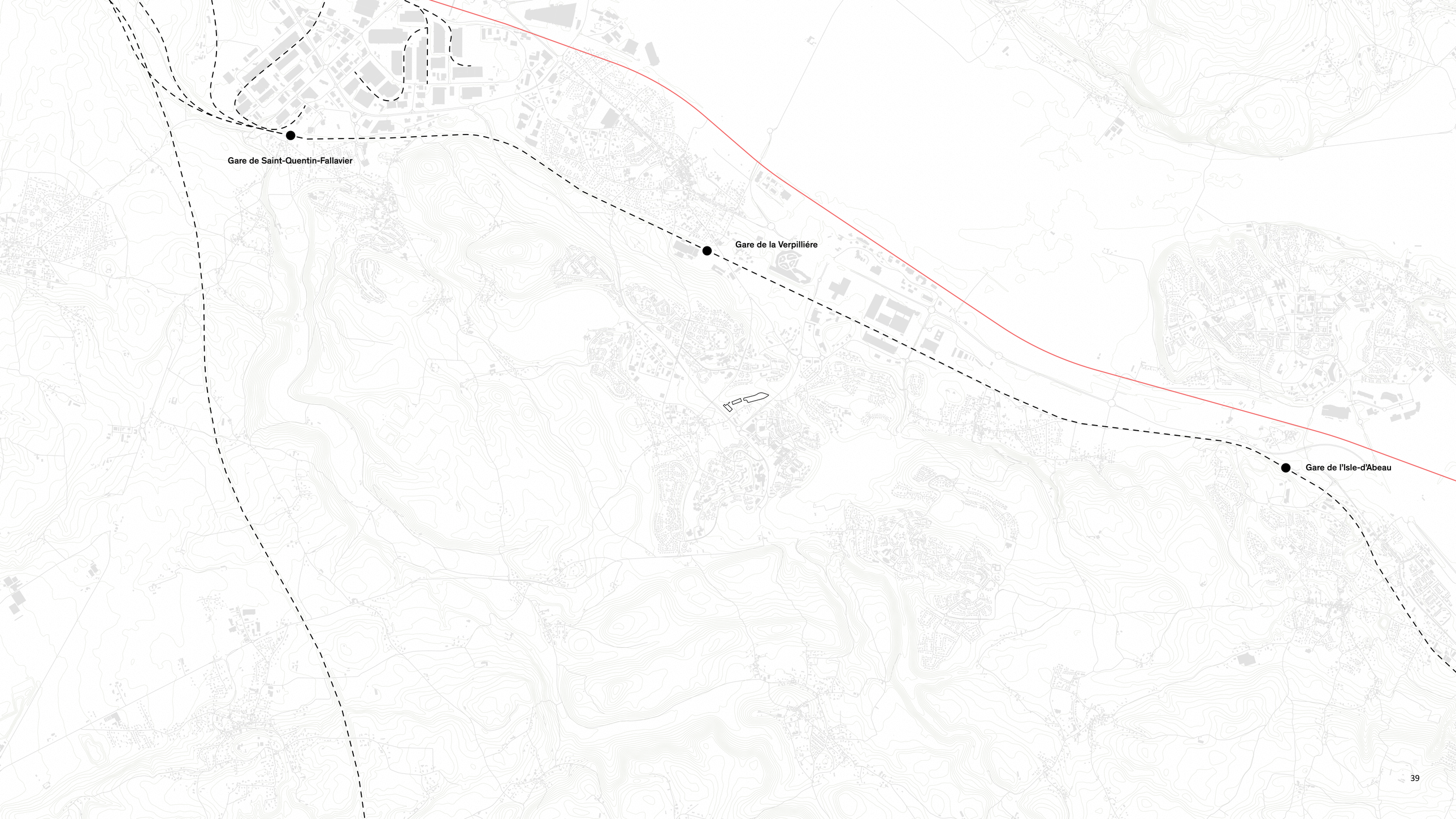
1. Site Analysis
2. Design Strategy
3. Program Distribution
4. Drawings
5. Student House
6. Details
7. Sustainability Strategy

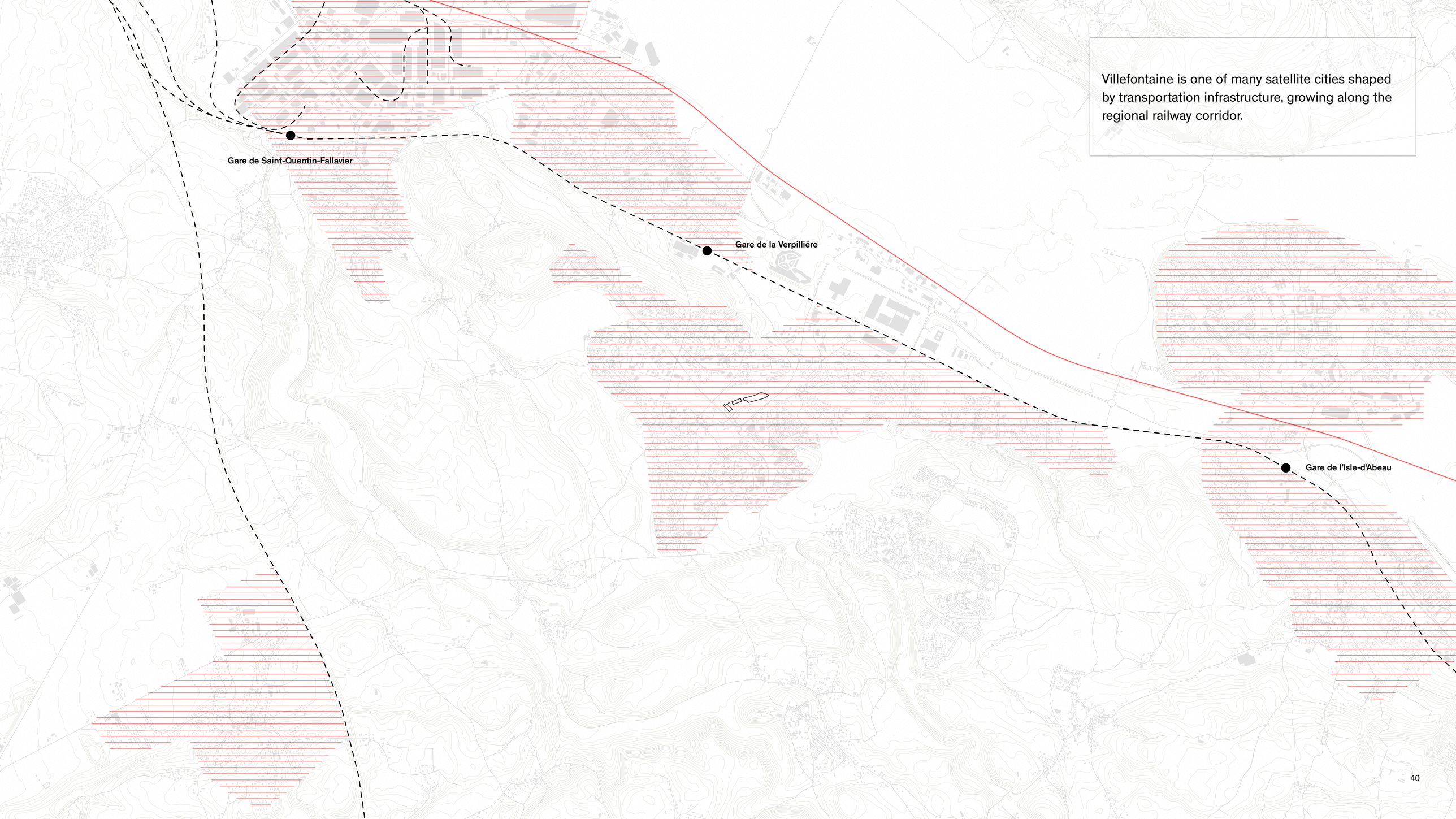
Villefontaine



Villefontaine is a satellite city that emerged alongside the development of transportation infrastructure. The contest site is located at an intersection between roads, formed in the leftover space where mobility networks meet.




Gare de Saint-Quentin-Fallavier
Gare de la Verpilliére
Gare de l'Isle-d'Abeau

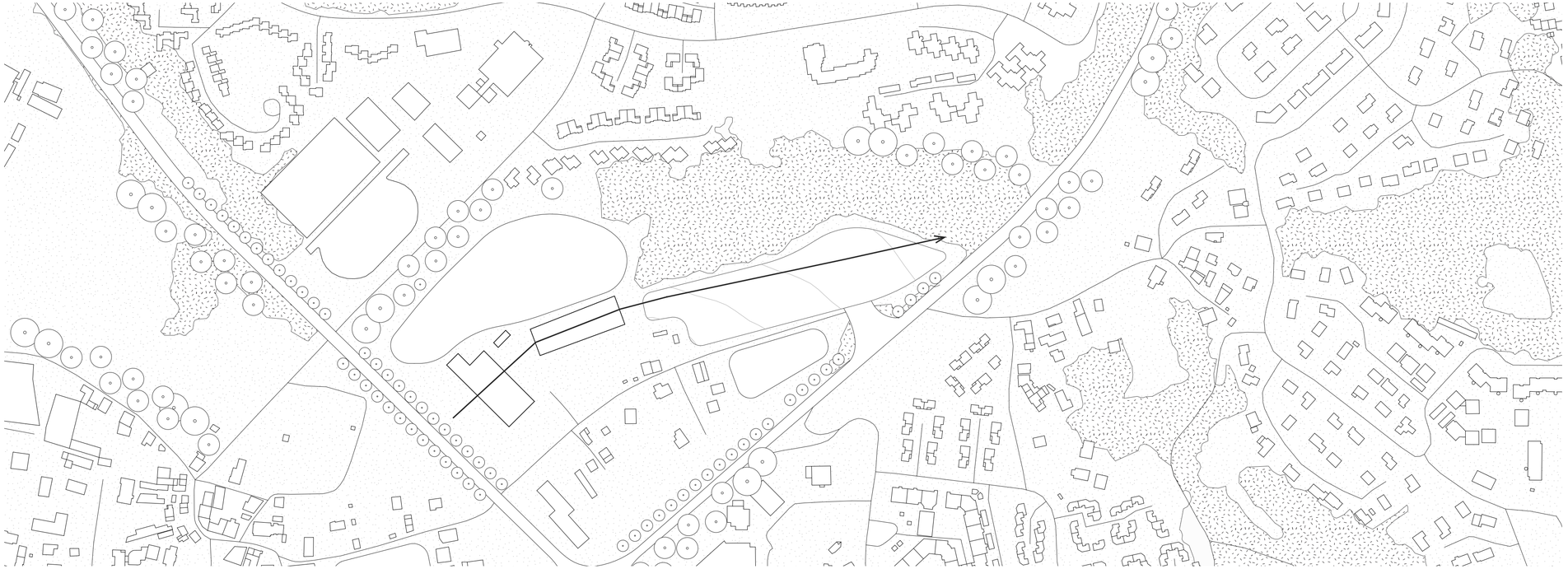


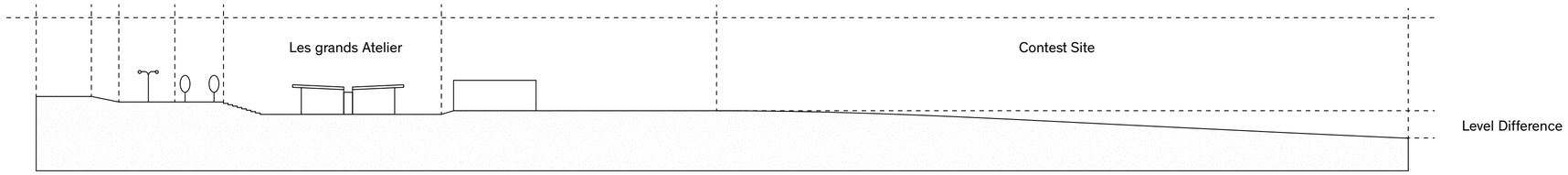
Villefontaine is one of many satellite cities shaped by transportation infrastructure, growing along the regional railway corridor.

Traces of the pre-urban rural landscape remain in Villefontaine, where green corridors continue to flow through the city and extend into the site.

Design Strategy

1. Current Context

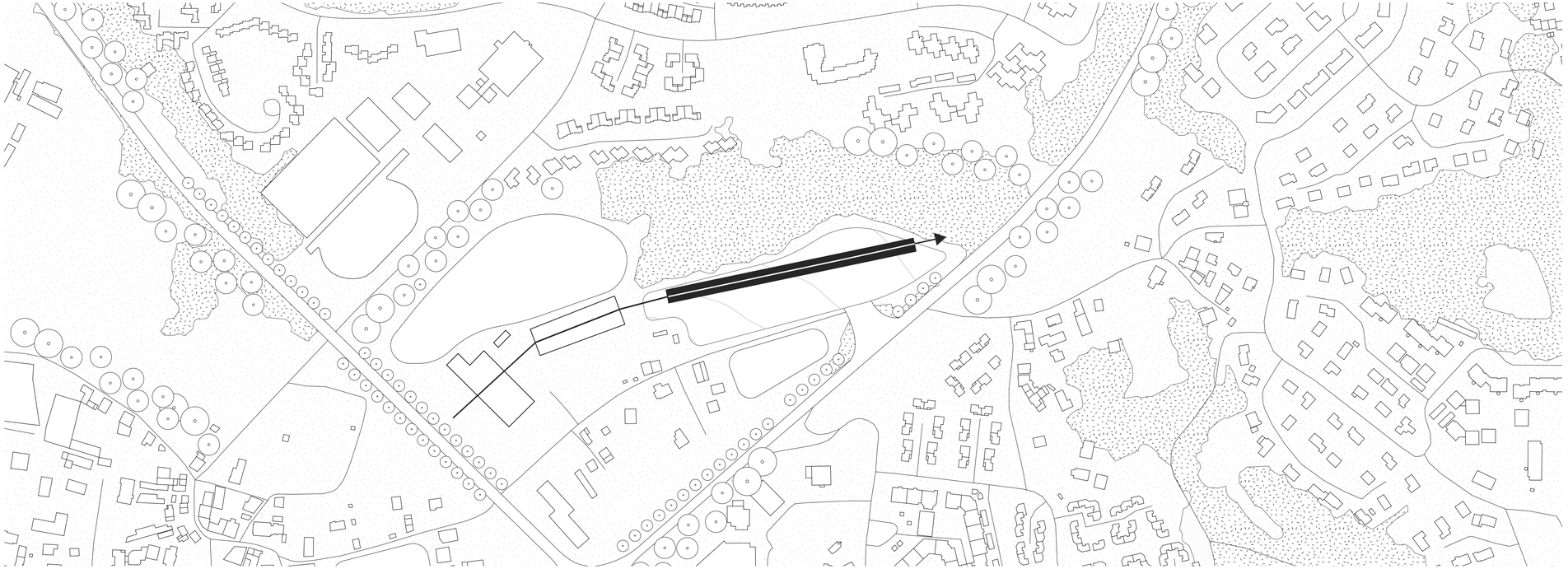


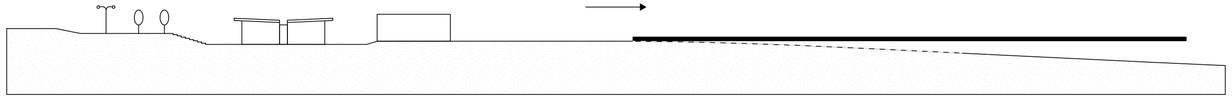


The contest site is located along the main axis extending from Les Grands Ateliers, forming a natural continuation of the spatial structure of the existing campus.

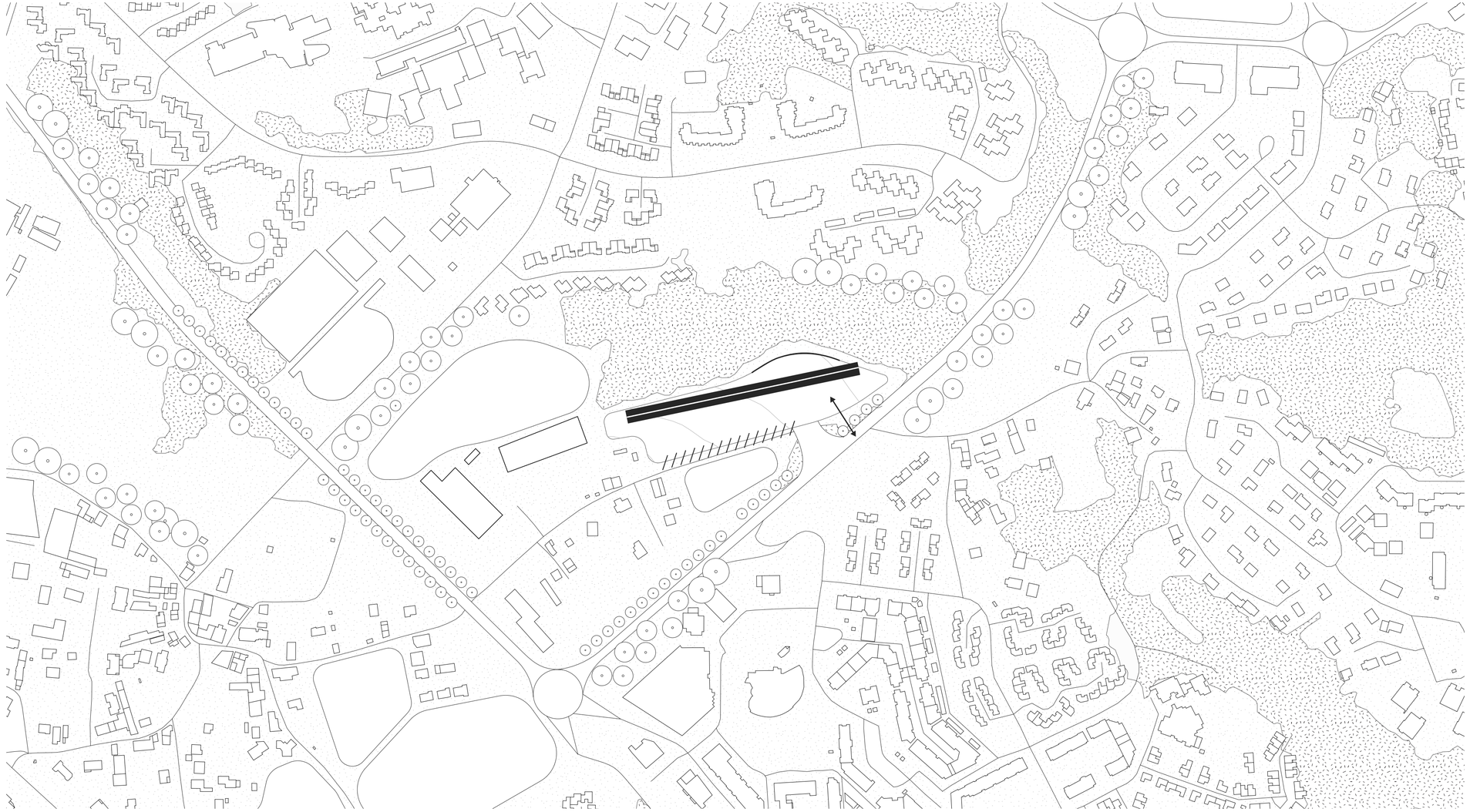
Design Strategy

2. Extend





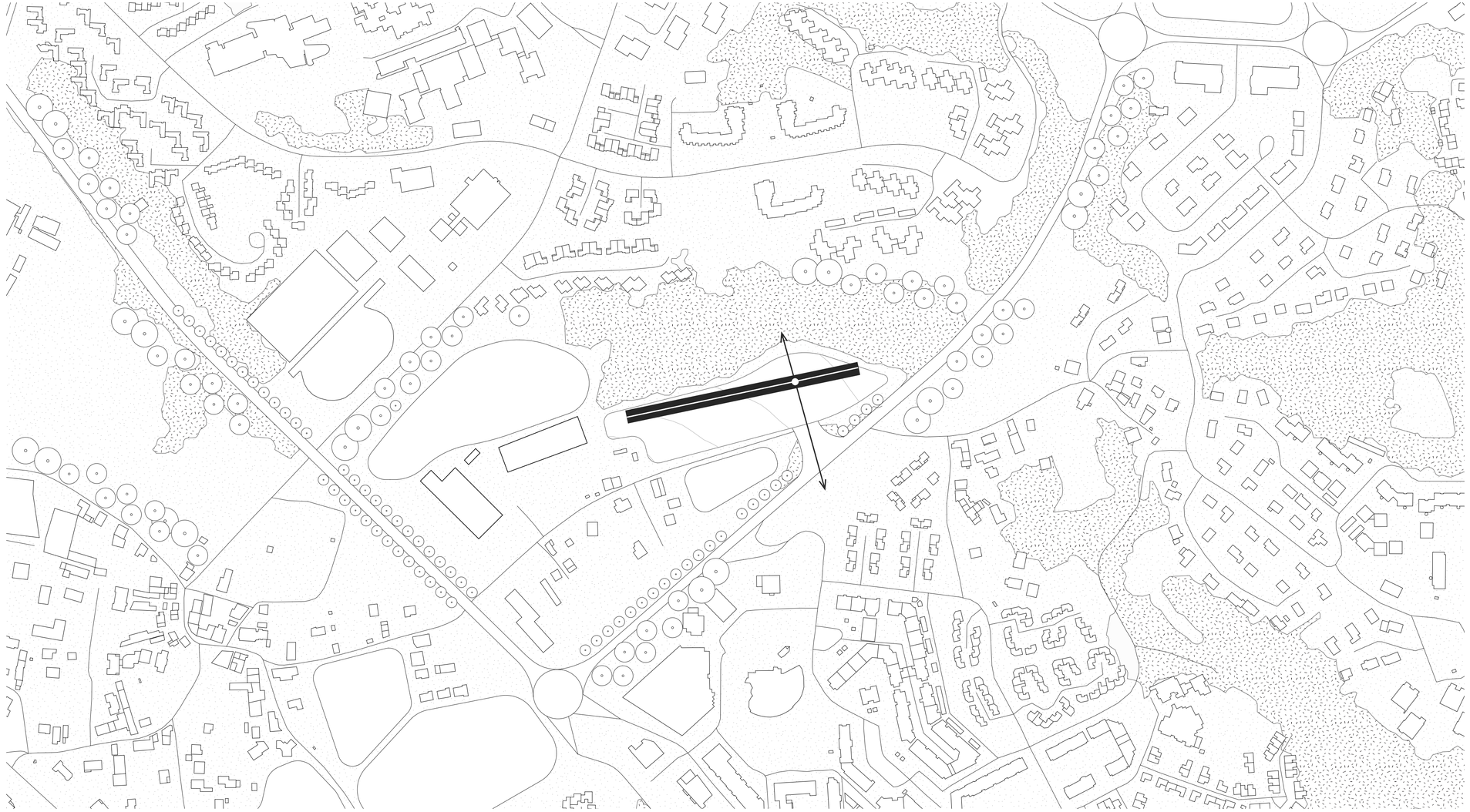
The linear mass extends along the main axis in response to the spatial direction of the existing campus.



The linear mass is situated between the residential front and the natural terrain at the rear, opening toward the public.

Design Strategy

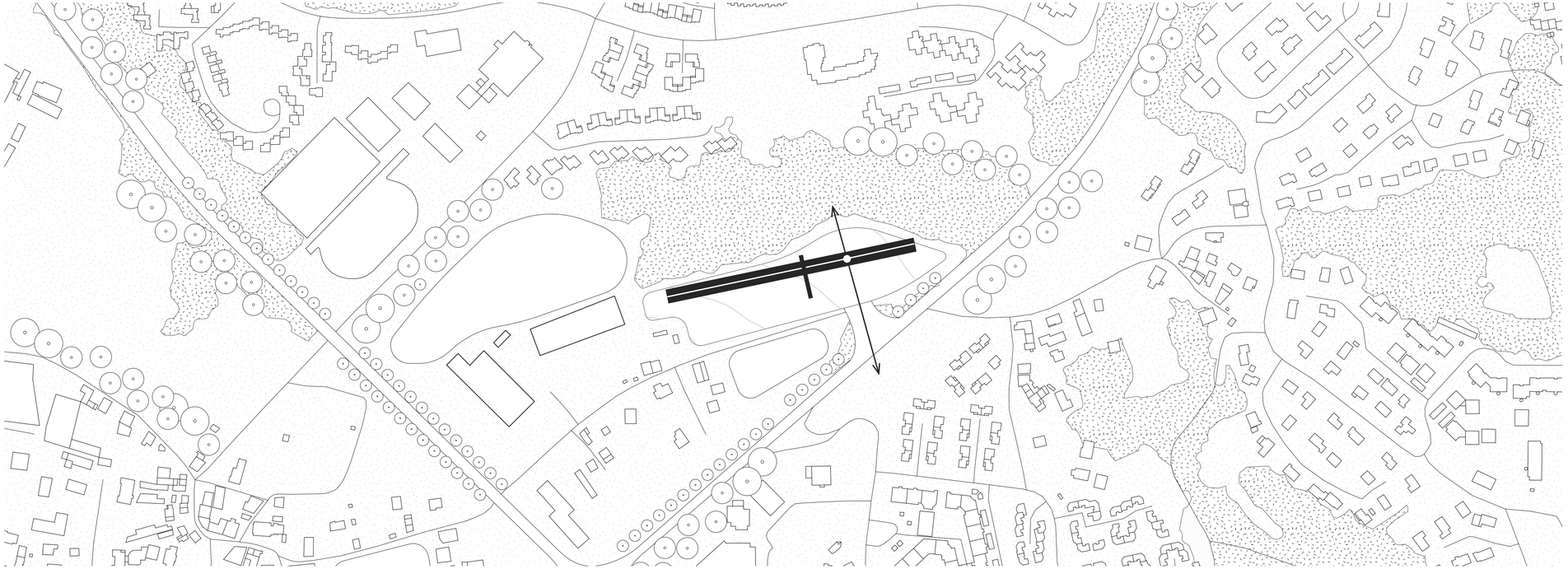
4. Junction

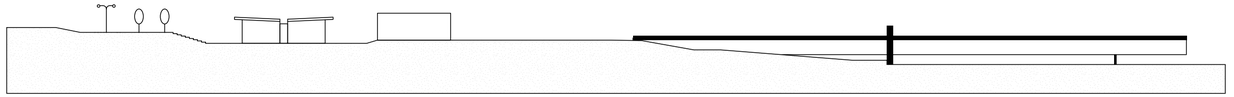


A perpendicular axis intersects the linear mass to link public space and natural terrain.

Design Strategy

5. Seperation

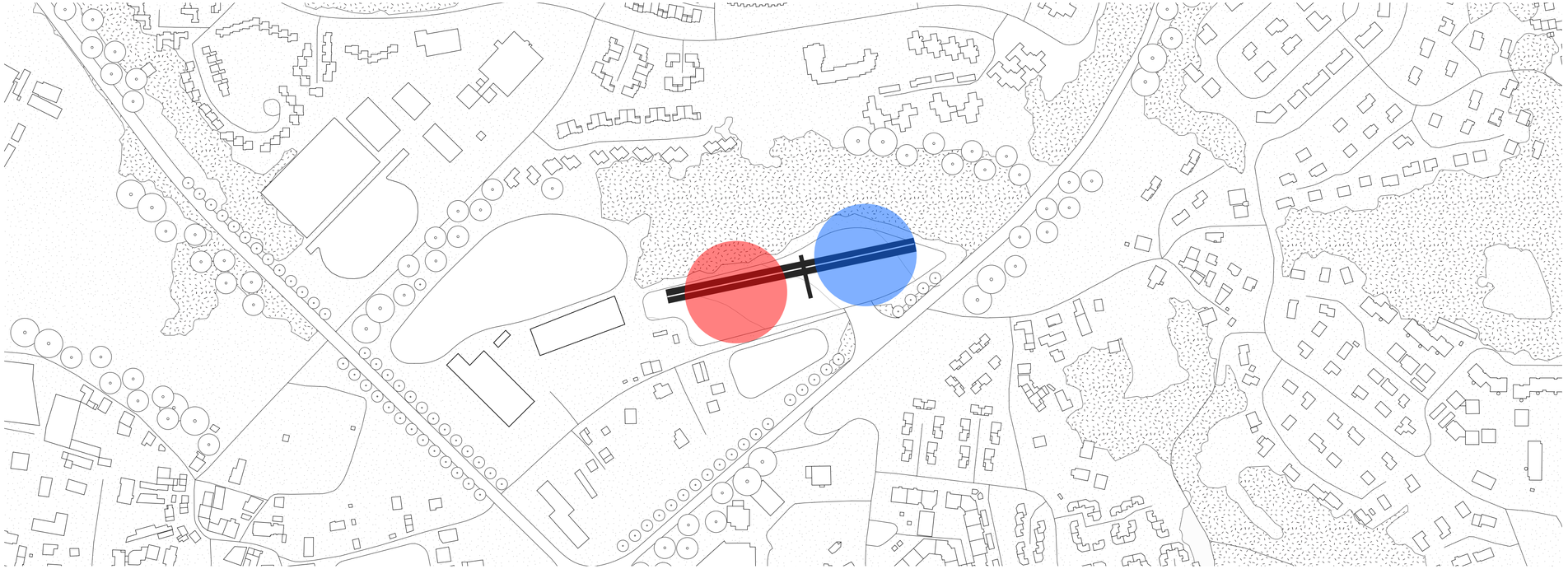


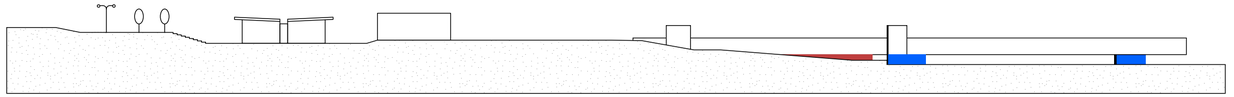


A thick wall runs through the linear mass, creating a clear spatial division.

Design Strategy

6. Boundary

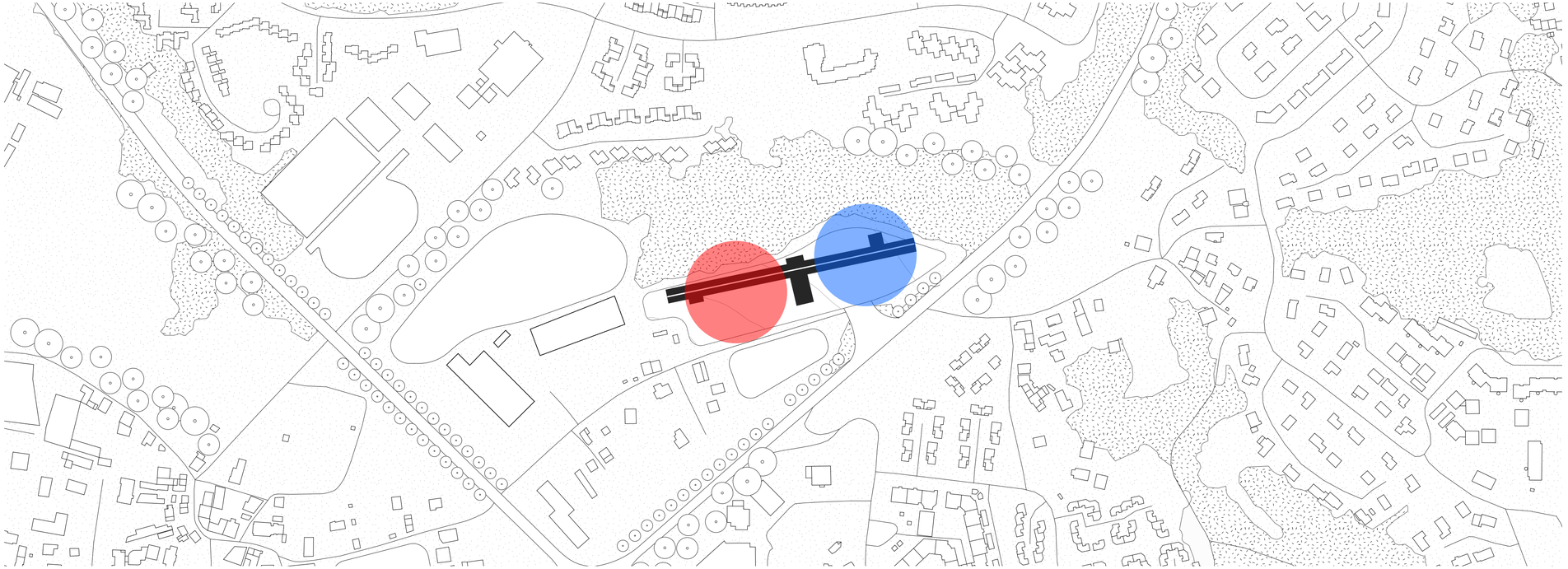


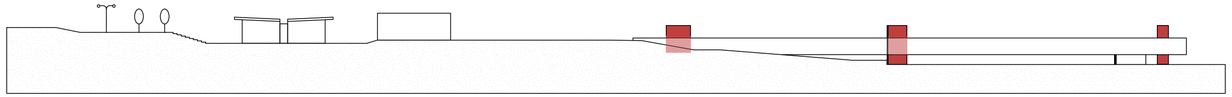


The spatial division reflects topography and context, forming student and public zones.

Design Strategy

7. Core Allocation

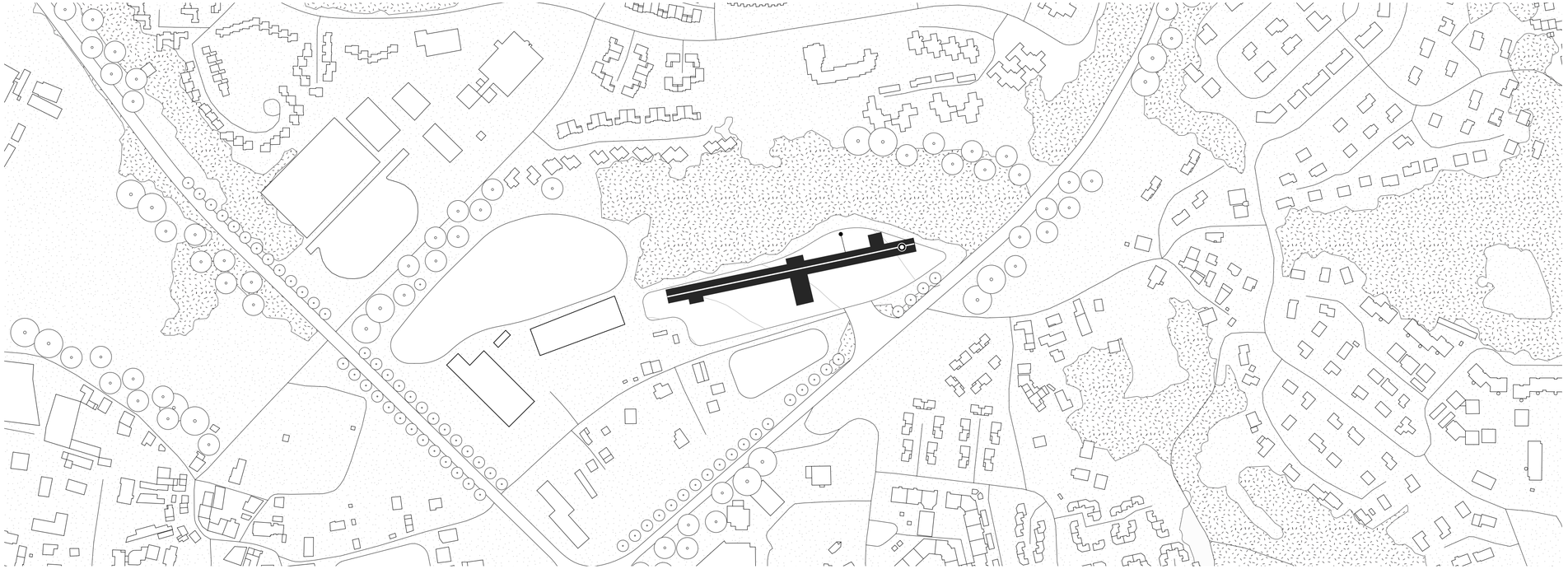


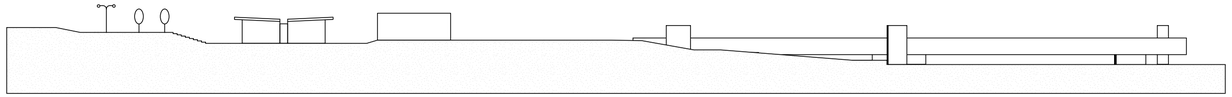


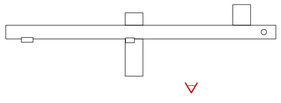
Cores are placed hierarchically according to the character of each space.

Design Strategy

8. Promenade

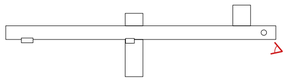






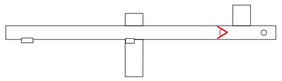
Event Courtyard

On the southern side of the building, a spacious courtyard is created to accommodate various community events and gatherings. Designed as an open and flexible space, it serves as a shared platform that supports both everyday use and special occasions within the neighborhood.



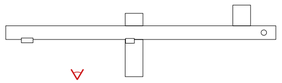
Civic Park

Along the elongated building mass, the Civic Park is divided into a series of defined outdoor zones where citizens can engage in various public activities.



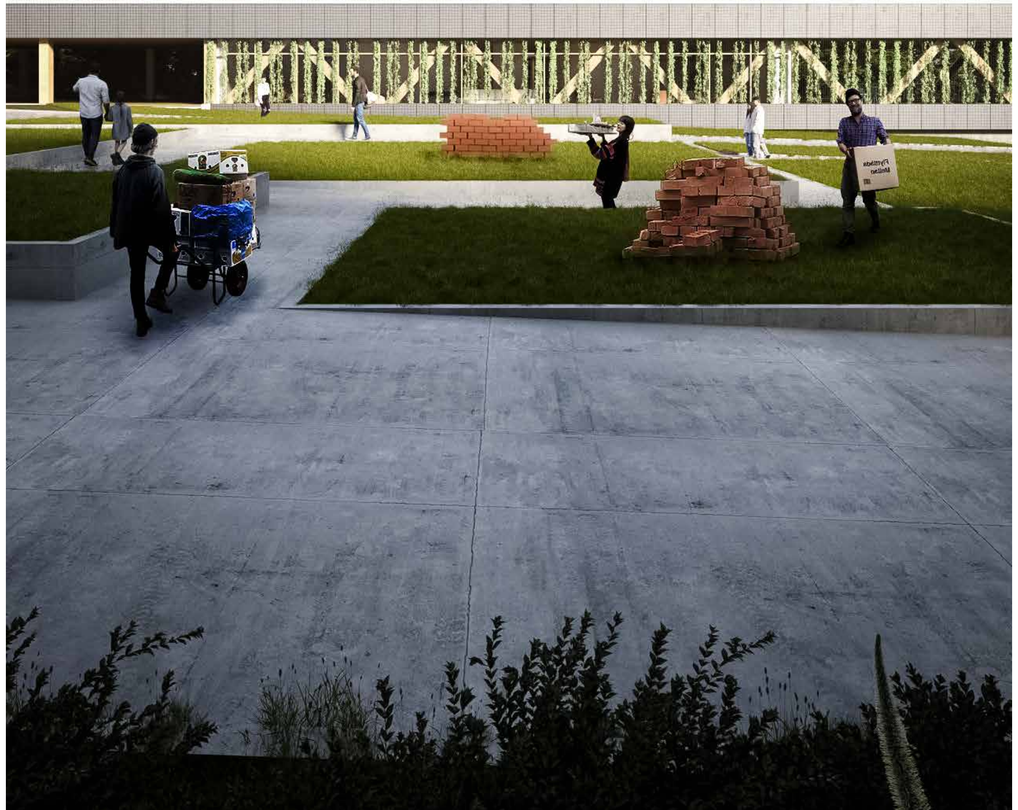
Threshold

Beneath the lifted mass, a long corridor acts as a threshold separating the natural and urban realms. This passage offers a transitional experience, allowing users to move between contrasting spatial conditions.

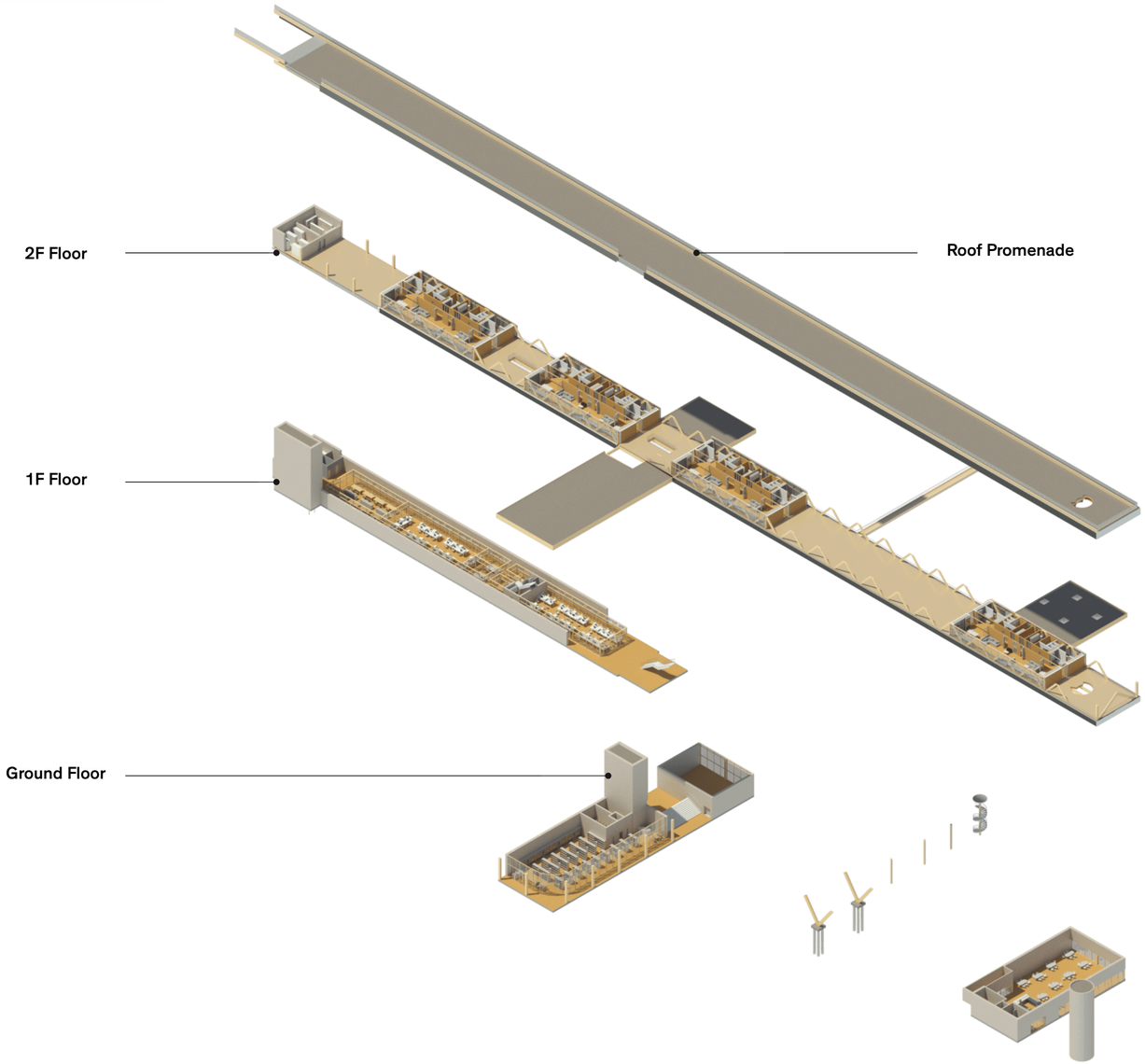


Prototype Village

The Prototype Village, located on the school-facing side of the spacious courtyard, serves as a space for large-scale fabrication and the exhibition of student works. It is designed to support experimental projects and making practices in an open, hands-on environment.



Program Distribution



2F Floor

Name	Surface(㎡)
House unit*4	307*4=1228
Camping Area	700
Silo	30
Boiler room	30

1F Floor

Name	Surface(㎡)
Office spaces	157
Office spaces	158
Laboratory	107
Shredder space	16
Kitchen	12
Meeting rooms (20)*2	22*2=44
Meeting rooms (10)*2	10*2=20
Sanitary (H/F)	12
Locker room (H/F)	16
Machine rooms*4	6*4=24
Sanitary (H/F)	12

Ground Floor

Name	Surface(㎡)
Cafeteria	344
Exhibition	297
Multi-purpose	150
Sanitary (H/F/Disable)	43
Sanitary (H/F/Disable)	31

Site Plan

1 Prototype Viliage
2 Roof Promenade
3 Biotop
4 Civic Park
5 Civic Garden
6 Camping Site

0 50m

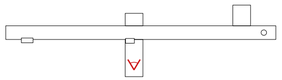
Ground Floor Plan

1 Exhibition Hall
2 Multi Purpose Hall
3 Cafeteria
4 Office
5 Meeting Room
6 Laboratory
7 Kitchen
8 Machine Room
9 Shredder Space
10 Locker Room

Floor Plan_1F

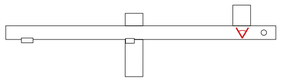
1 Dormitory Cluster
2 Porch
3 Material Library
4 Silo
5 Boiler Room

0 40m



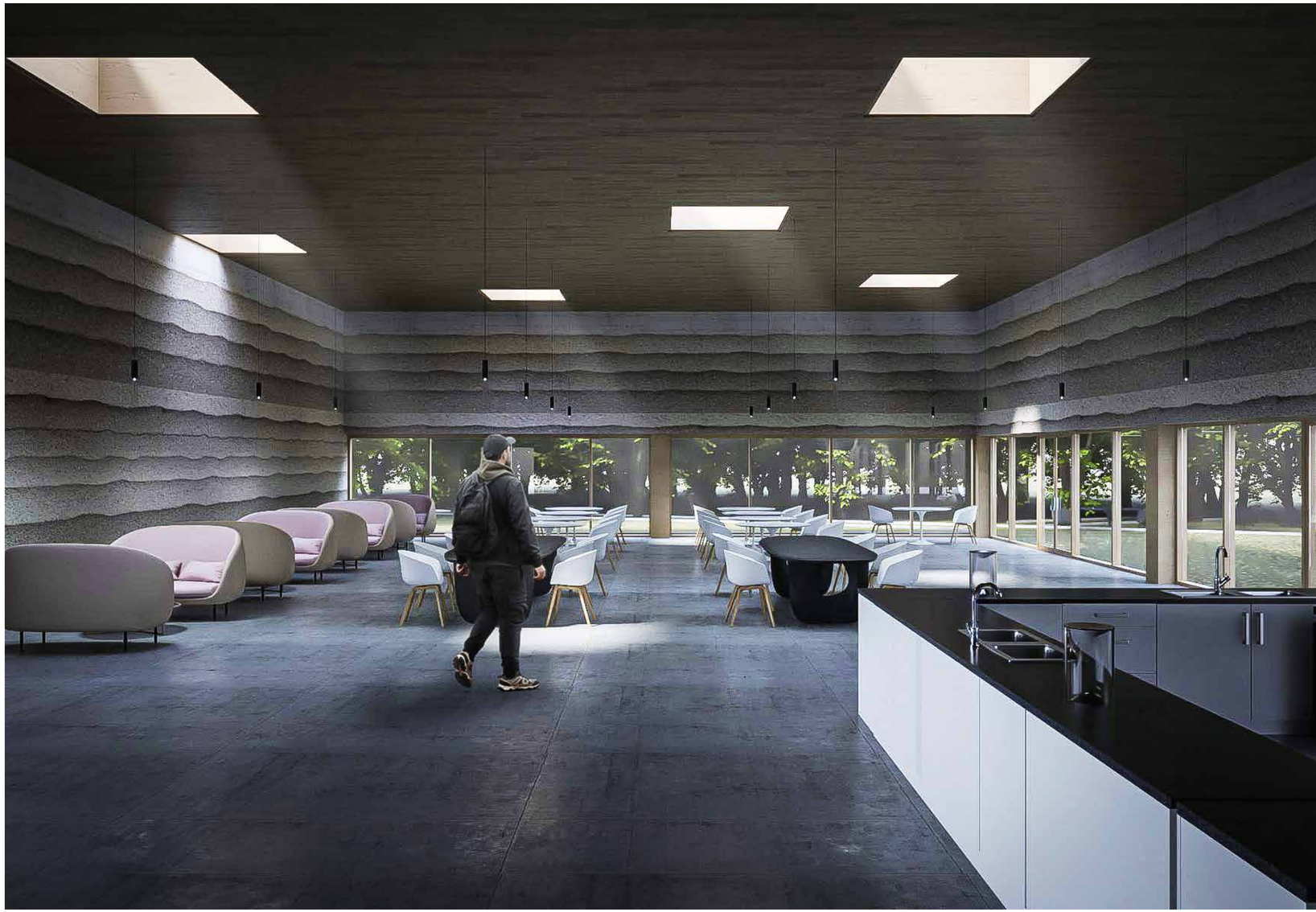
Exhibition Hall

Extruded forward while supporting the elongated mass, the exhibition volume displays works by both local residents and students, serving as a shared platform for interaction and exchange



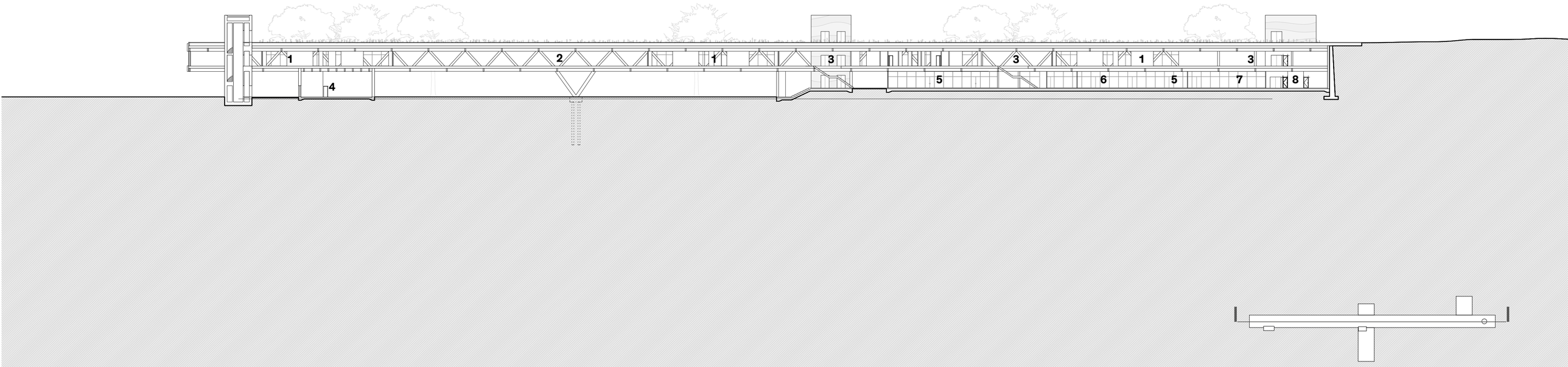
Cafeteria

In contrast to the exhibition volume, the mass projecting toward the northern landscape establishes a strong connection to nature while remaining protected from the southern civic courtyard facing the city.



Section_A-A’

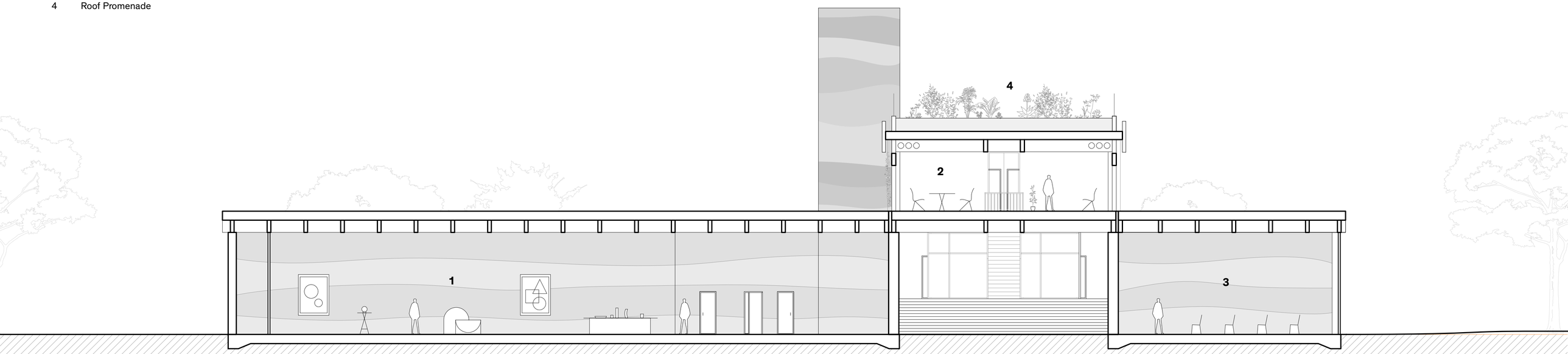
1 Dormitory Cluster
2 Material Library
3 Porch
4 Cafeteria
5 Office
6 Meeting Room
7 Laboratory
8 Locker Room

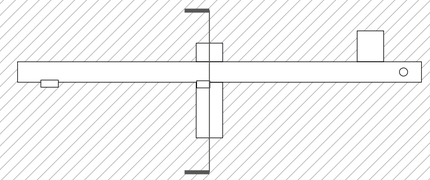


0 40m

Section_B-B’

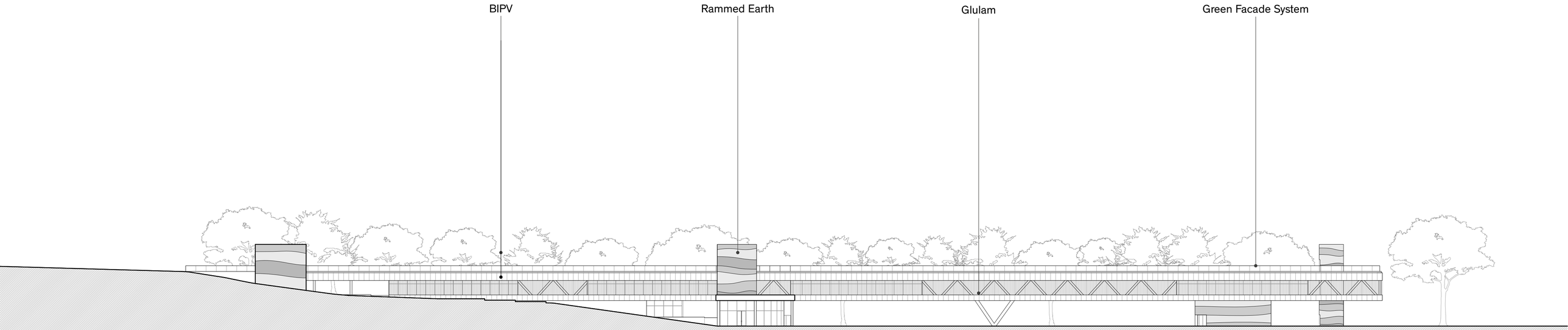
1 Exhibition Hall
2 Porch
3 Multi Purpose Hall
4 Roof Promenade





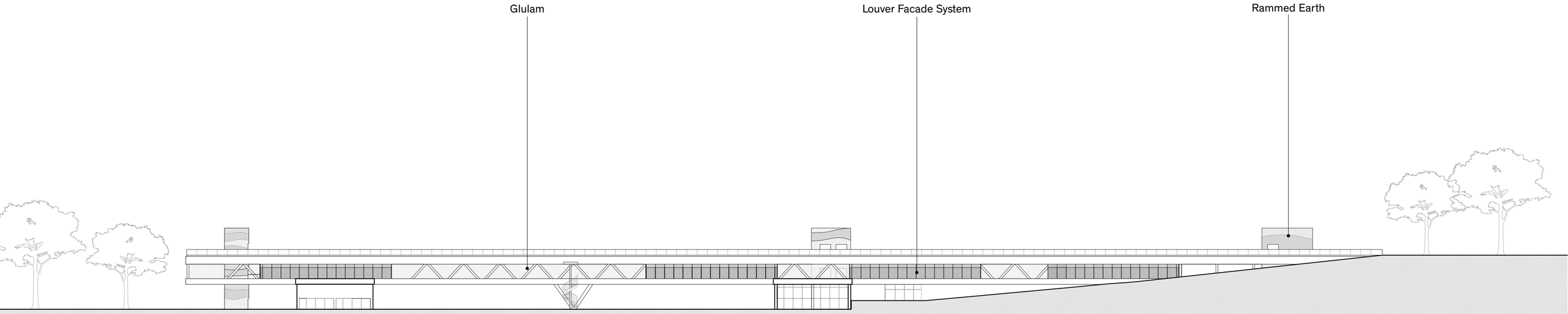
0 10m

Elevation_South



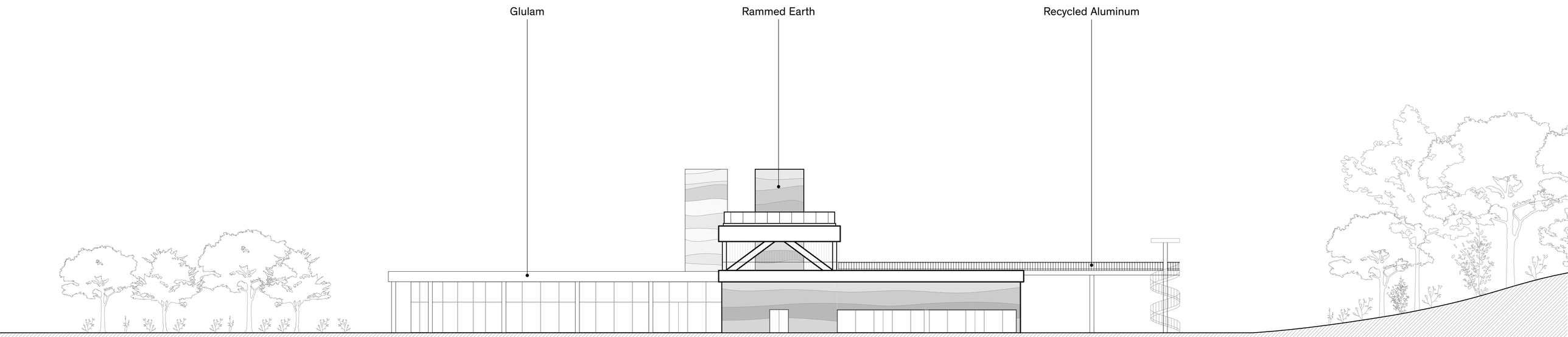
0 40m

Elevation_North



0 40m

Elevation_East



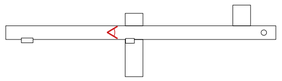
0 20m

Floor Plan_1F Student House

The first-floor student house is organized into Type A and Type B unit clusters, each separated by a shared porch.

P Porch
A Cluster Type A
B Cluster Type B
M Material Library

0 30m



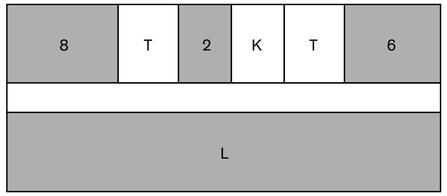
Porch

The porch, positioned between student housing clusters, serves as an in-between space where residents can gather, relax, and interact.

Cluster Type A

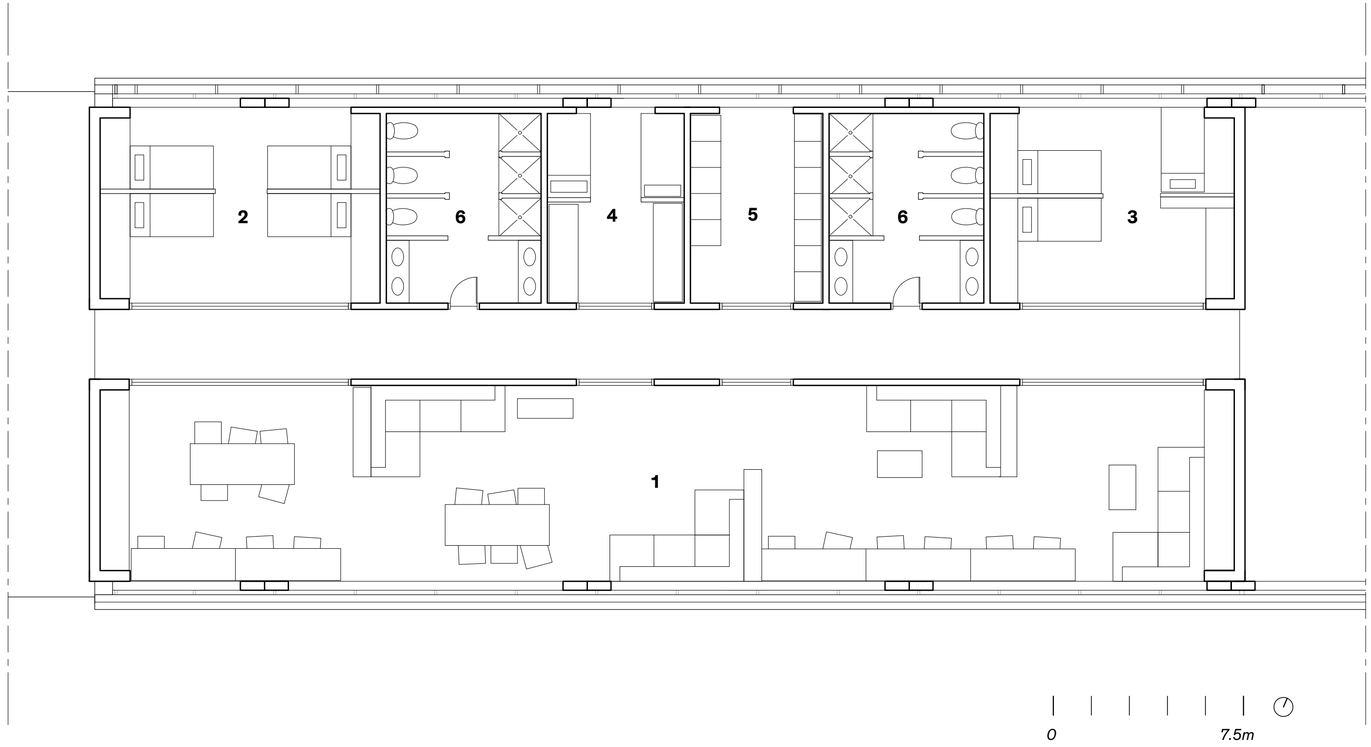
Each cluster includes a shared living room, with bathrooms and a small kitchenette placed between the individual rooms.

Cluster Organization



Area Distribution

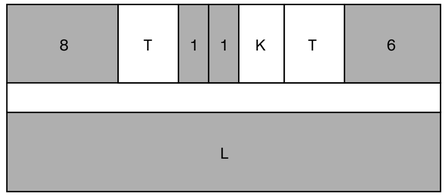
Index	Name	Surface(㎡)
1	Living Room	115
2	Dormitory 8 Beds	27
3	Dormitory 6 Beds	24
4	Double Room	13
5	Kitchen	13
6	W/C and Shower	14*2=28



Cluster Type B

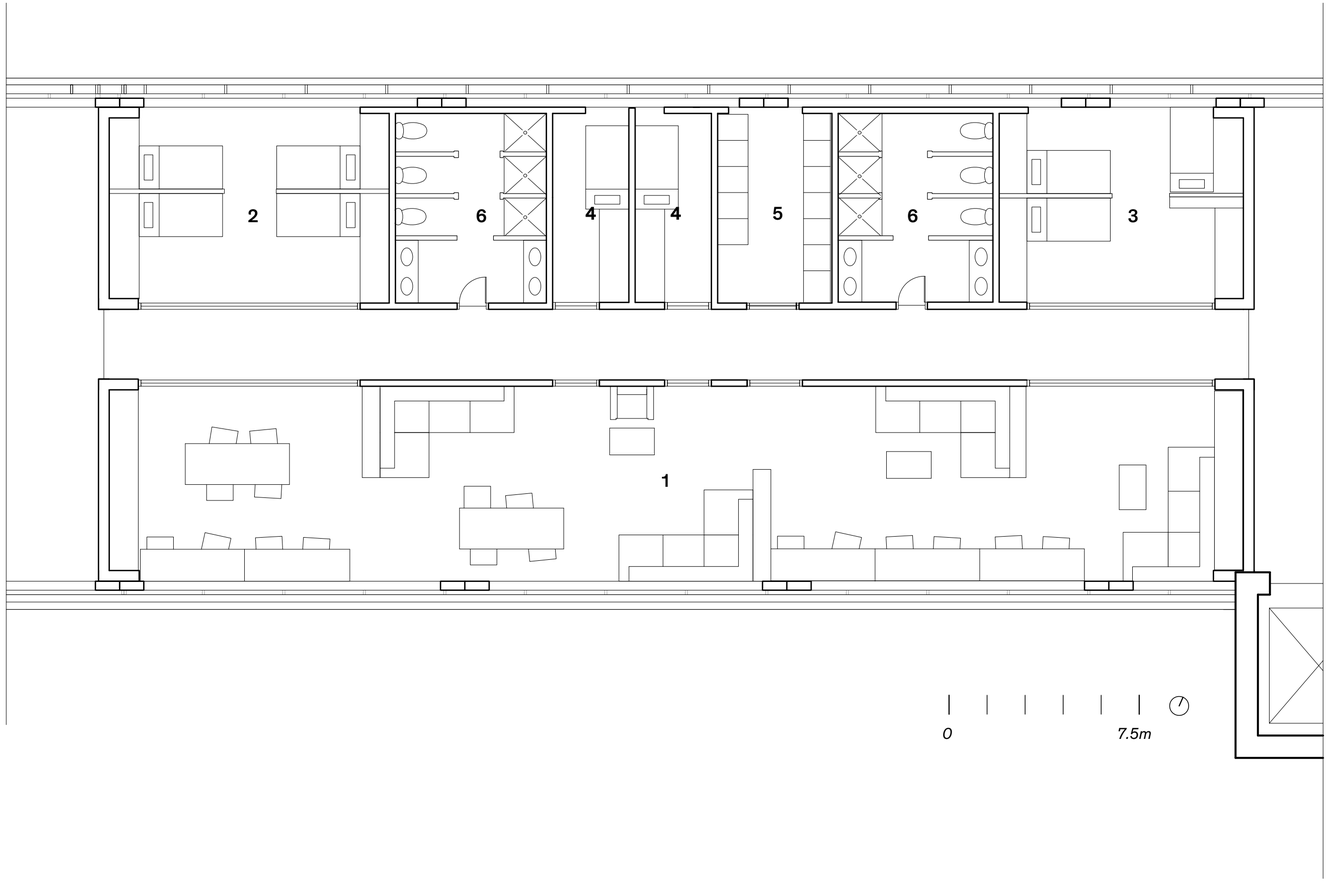
Each cluster includes a shared living room, with bathrooms and a small kitchenette placed between the individual rooms.

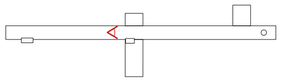
Cluster Organization



Area Distribution

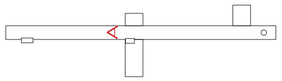
Index	Name	Surface(㎡)
1	Living Room	115
2	Dormitory 8 Beds	27
3	Dormitory 6 Beds	24
4	Single Room	13*2=26
5	Kitchen	13
6	W/C and Shower	14*2=28





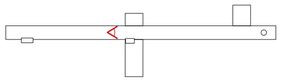
Corridor

The corridor, positioned between the private bedrooms and the shared living room, serves as a spatial threshold where around 20 students within the cluster naturally encounter one another.



Living Room

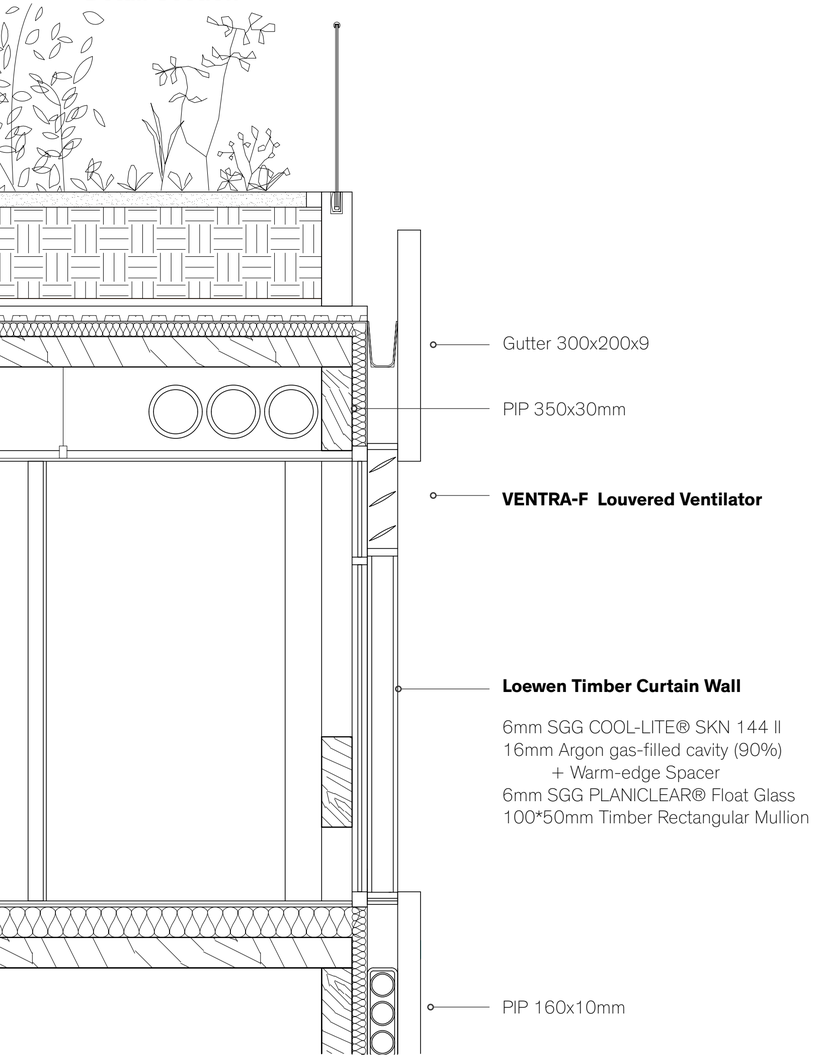
The living room is not assigned to individual units, but instead combines the allocated area from each to create a shared space for all residents. A wide curtain wall on the south side maximizes access to natural light.



Bedroom

While the bedrooms can be opened depending on need, their privacy is naturally protected by a system of louvers and the surrounding northern landscape.

Detail Section



Gutter 300x200x9

PIP 350x30mm

VENTRA-F Louvered Ventilator

Loewen Timber Curtain Wall

6mm SGG COOL-LITE® SKN 144 II
16mm Argon gas-filled cavity (90%)
+ Warm-edge Spacer
6mm SGG PLANICLEAR® Float Glass
100*50mm Timber Rectangular Mullion

PIP 160x10mm

AVANCIS SKALA BIPV DETAIL

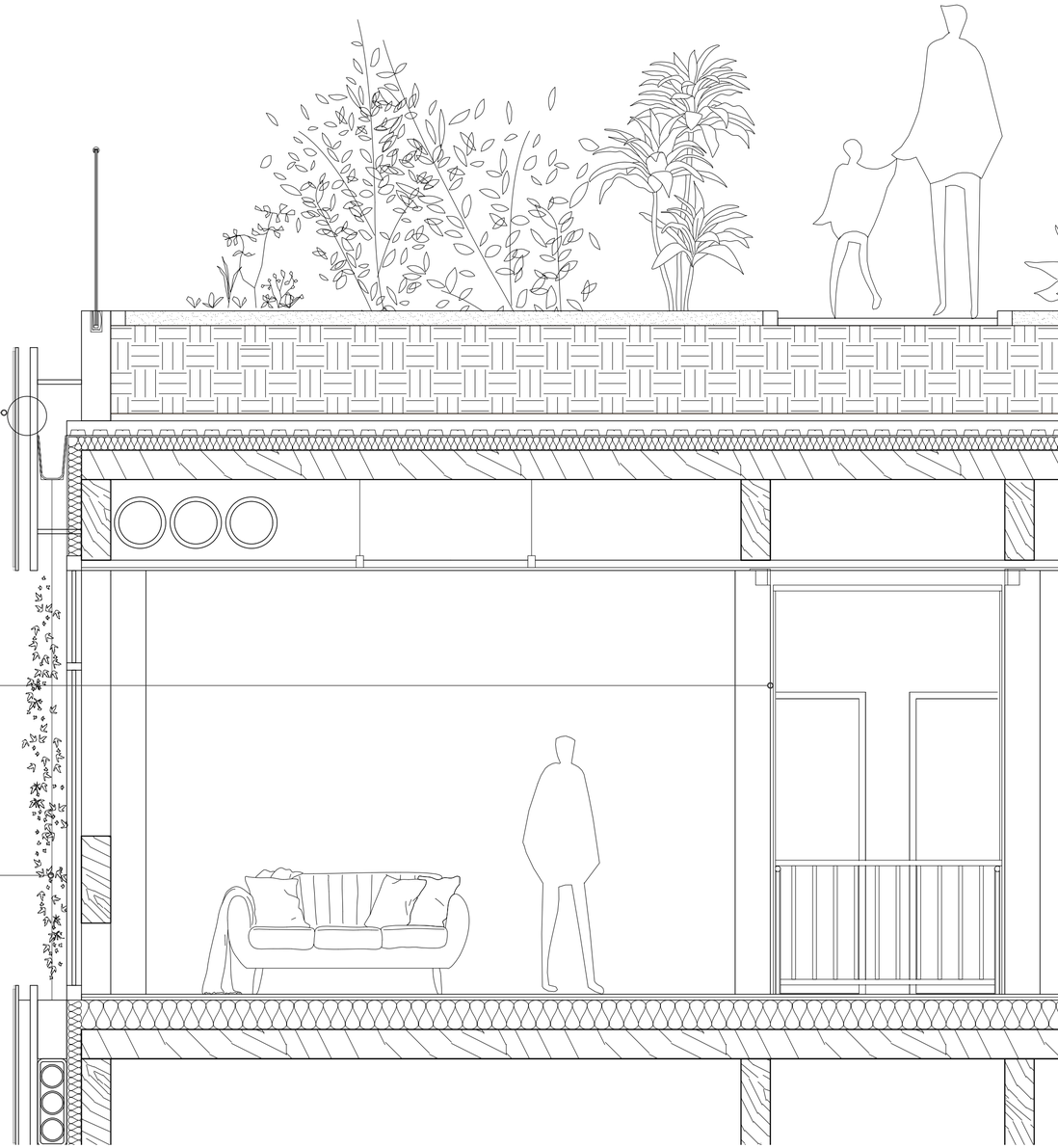
SKALA Glass-Glass PV Module
50mm Aluminim Backrail System
40mm Ventilated Air Cavity
2mm EPDM Gasket
30mm Thermal Bracket

Framed Glass Partition

12mm Priva-lite Classic Panel – Glassolutions
6mm Spacer / Frame Void
50*20mm Bereco FSC Timber Frame

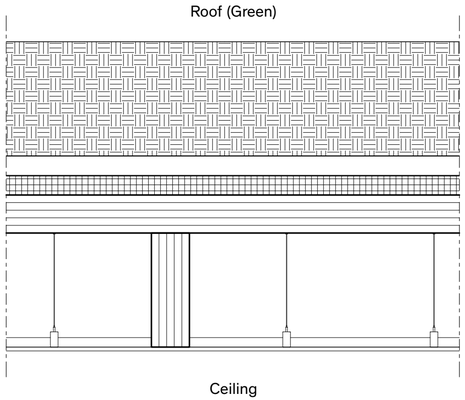
GREEN WALL DETAIL

Top Anchor Tie – Stainless Fixing
Climbing Ivy – Hedera Helix
3mm Wire Mesh – Galvanized Steel Grid
100mm Air Gap – Stainless Steel Bracket
200mm Soil Box – Cultilene Base Block



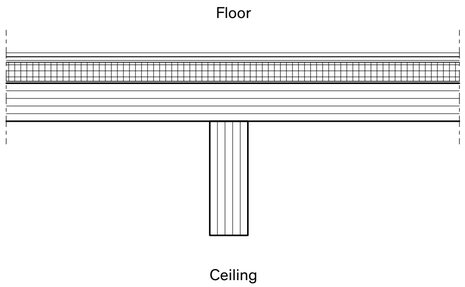
SAINT-GOBAIN Cultilene SAINT-GOBAIN gyproc SAINT-GOBAIN glassolutions SAINT-GOBAIN isover SAINT-GOBAIN AVANCIS CNBM Loewen TRIA FRANCE Bereco

Detail Section



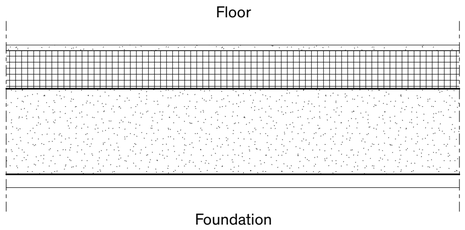
Green Roof

600mm Growing Medium – Leca® Lightweight Aggregate 10-20mm
Filter Fabric – ADFORS Geotextile
100mm Drainage – abedrain Protection Membrane
Root Barrier – ADFORS Root Barrier Geotextile
Waterproofing Membrane – Weberdry TPO / Roof Natura
100mm Thermal Insulation – Isover Woodsil
Vapor Barrier – Isover Vario® KM Duplex UV
200mm CLT(Cross Laminated Timber) Panel
CLT BEAM (
50mm Acoustic Insulation - Isover Arena 32
20mm Wooden Ceiling - Solid Oak Panels



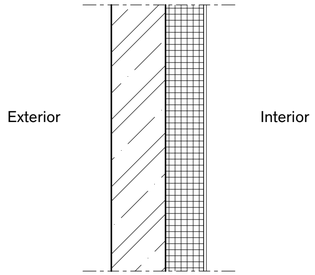
1F Slab

20mm Engineered Oak Flooring
2mm Natural Cork Underlay
8mm Formaldehyde-free OSB Board
Vapor Barrier – Isover Vario® KM Duplex UV
100mm Isover Woodsil
between 120mm Timber Studs Service Gap
200mm CLT(Cross Laminated Timber) Panel



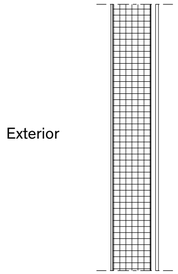
G/F Slab

30mm Concrete Surface Polish or Hardener Finish
200mm Thermal Insulation – Isover Multimax 30S
Vapor Barrier – Isover Vario® KM Duplex UV
450mm Reinforced Concrete Slab
70mm Compacted Gravel Bedding



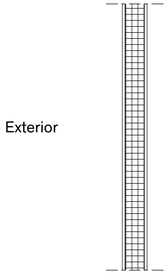
Exterior Wall - Rammed Earth

Silane-based penetrating hydrophobizer – KEIM Silan-100
285mm Rammed Earth
200mm Thermal Insulation – ISOVER Multimax 30
15mm Interior Finish – Gyproc Rigidur H



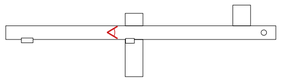
Exterior Wall

10mm Exterior Finish – Weber Silicate Mineral Paint
Waterproofing Membrane – ISOVER Vario® XtraSafe
200mm Thermal Insulation – Isover Woodsil
25mm OSB Structural Core
Vapor Barrier – Isover Vario® KM Duplex UV
15mm Interior Finish – Gyproc Rigidur H



Interior Wall

15mm Interior Finish – Gyproc Rigidur H
100mm Acoustic & Thermal Insulation – ISOVER Arena 32
15mm Interior Finish – Gyproc Rigidur H

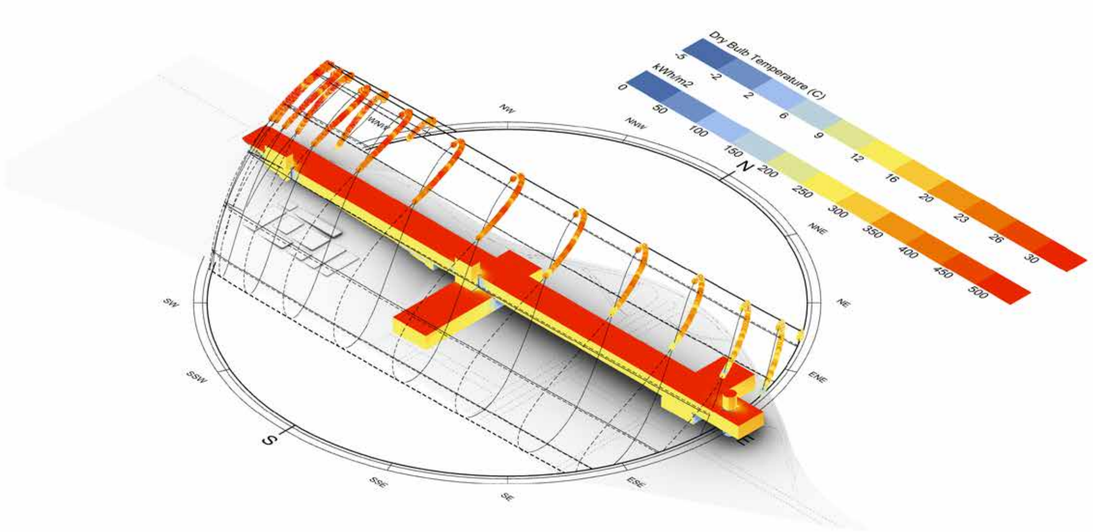


Green Facade System

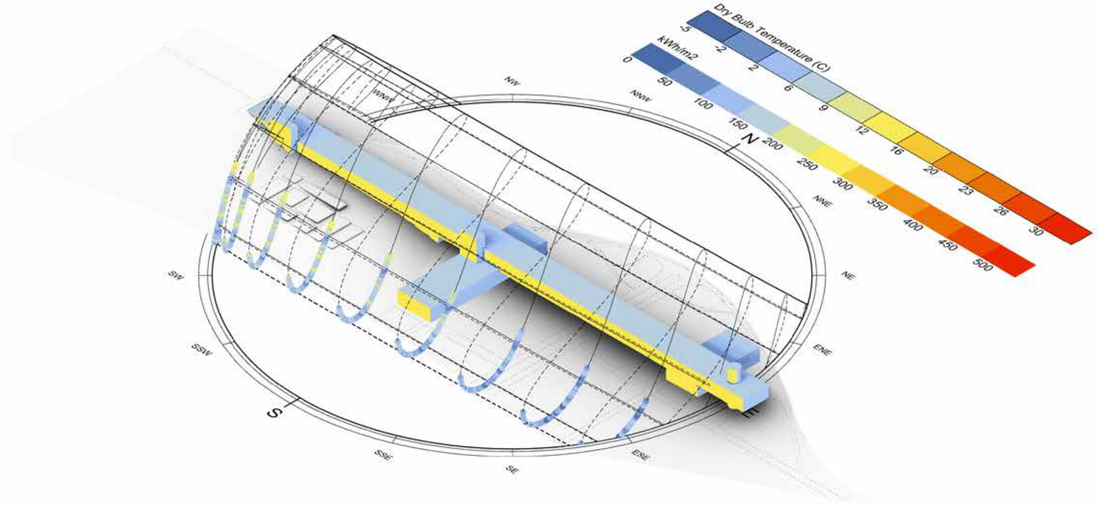
The green façade acts as a buffer at the threshold where private living spaces meet public zones such as the courtyard and main entrance. It simultaneously preserves the impression of the surrounding nature and provides visual privacy for residents.

Sustainability Strategy

Sun Path & Sun Radiation Analysis



June to August



December to February

The linear form enhances solar gain and airflow, which are regulated through passive strategies
: **Green Roof** controls rooftop heat, and **Green Wall** adapts seasonally to optimize light and shade.

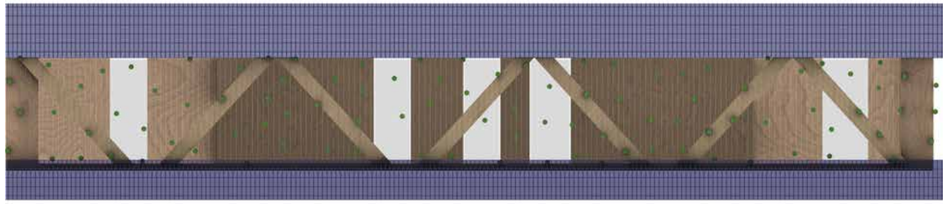
Sustainability Strategy

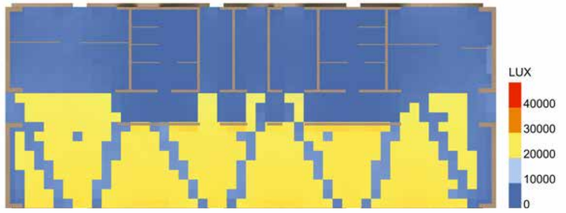
Green Ratio Analysis

Green Ratio according to season

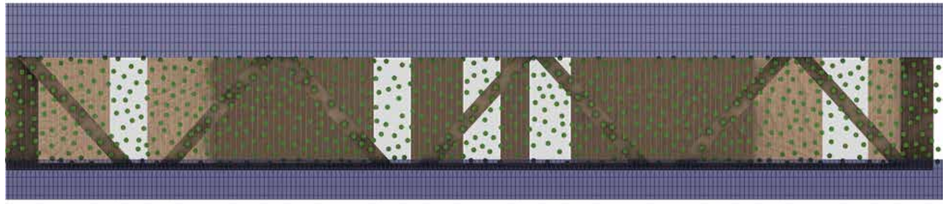
Point in time Dayllight Analysis

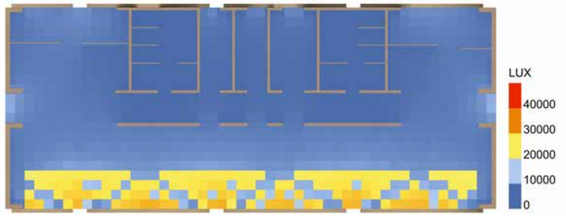
January



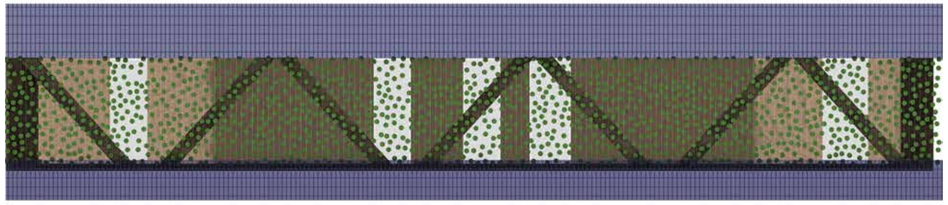


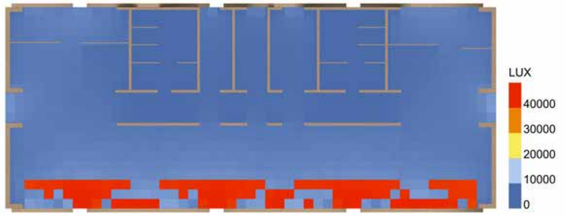
April



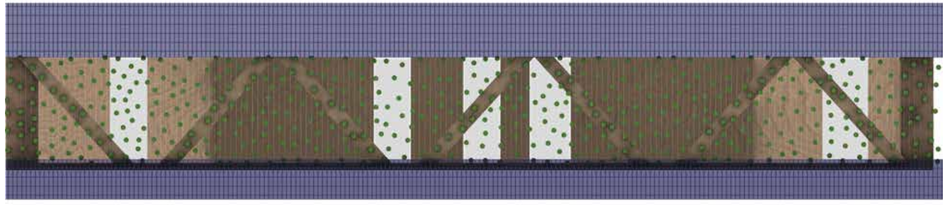


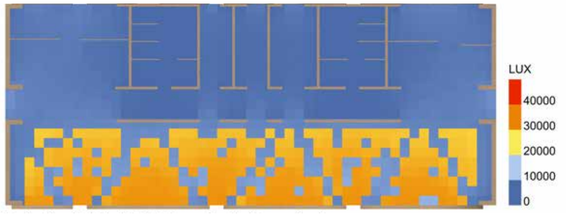
July





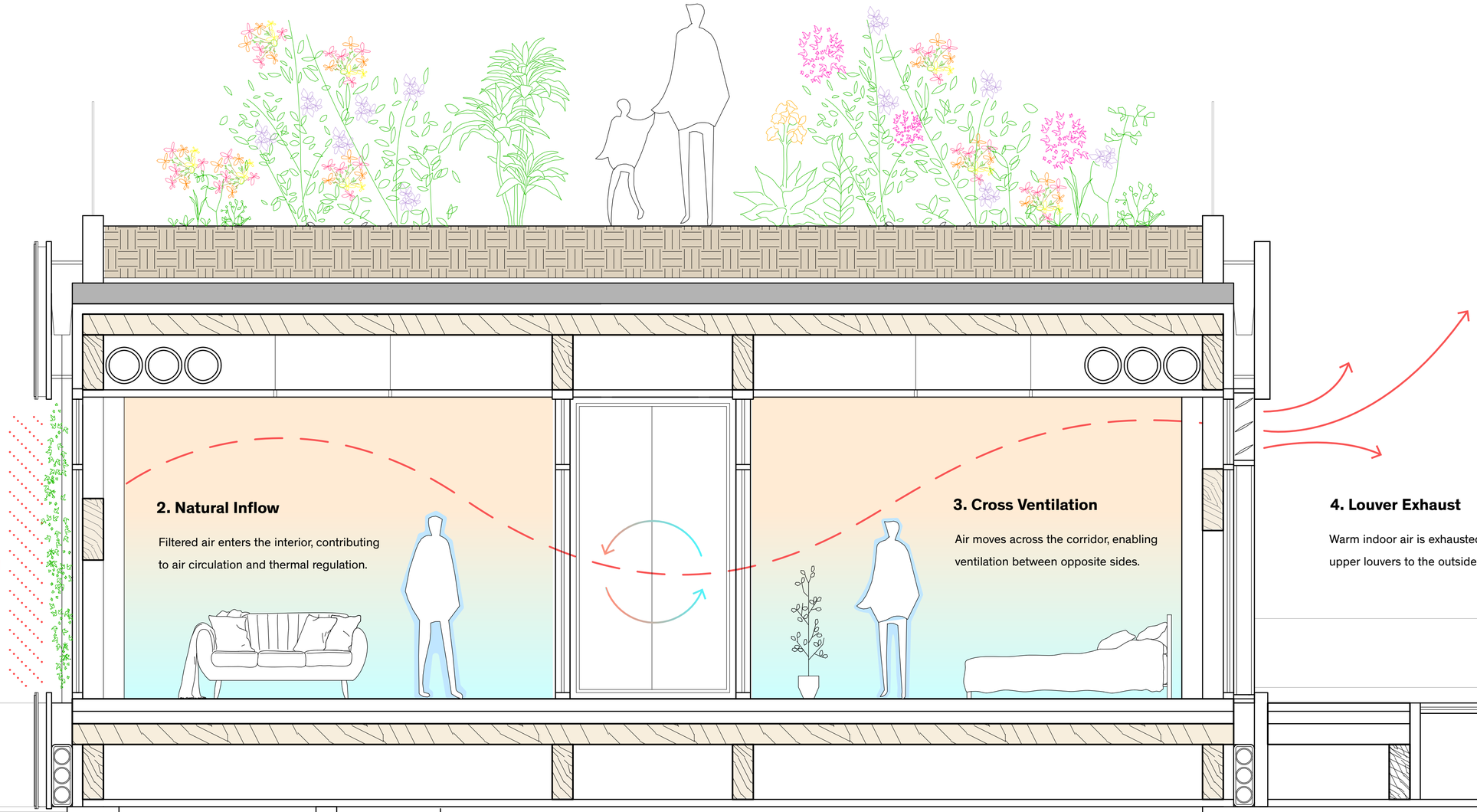
August





Sustainability Strategy

Green Ventilation Loop



1. Green Filtration

The green façade reduces dust and lowers the temperature of incoming air.

2. Natural Inflow

Filtered air enters the interior, contributing to air circulation and thermal regulation.

3. Cross Ventilation

Air moves across the corridor, enabling ventilation between opposite sides.

4. Louver Exhaust

Warm indoor air is exhausted through upper louvers to the outside.

Sustainability Strategy

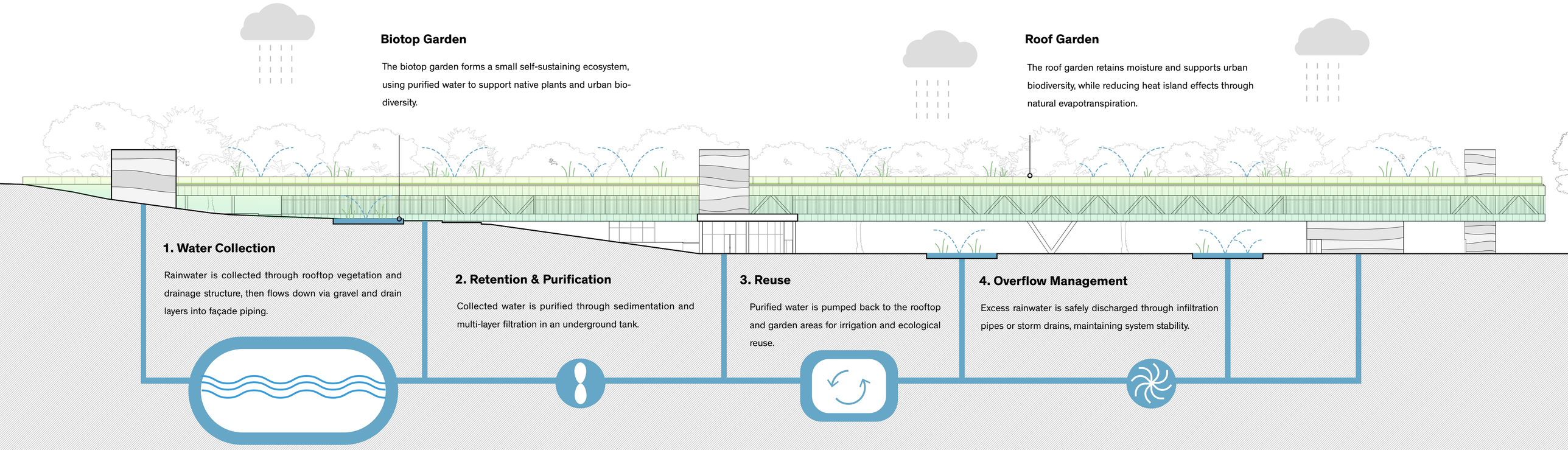
Rain Harvesting

Biotop Garden

The biotop garden forms a small self-sustaining ecosystem, using purified water to support native plants and urban bio-diversity.

Roof Garden

The roof garden retains moisture and supports urban biodiversity, while reducing heat island effects through natural evapotranspiration.



1. Water Collection

Rainwater is collected through rooftop vegetation and drainage structure, then flows down via gravel and drain layers into façade piping.

2. Retention & Purification

Collected water is purified through sedimentation and multi-layer filtration in an underground tank.

3. Reuse

Purified water is pumped back to the rooftop and garden areas for irrigation and ecological reuse.

4. Overflow Management

Excess rainwater is safely discharged through infiltration pipes or storm drains, maintaining system stability.

Sustainability Strategy

Rain Harvesting Detail

1. Rain Capturing

Rooftop vegetation and gravel layers receive rainwater and direct it into the drainage system through natural filtration.

2. Vertical Channeling

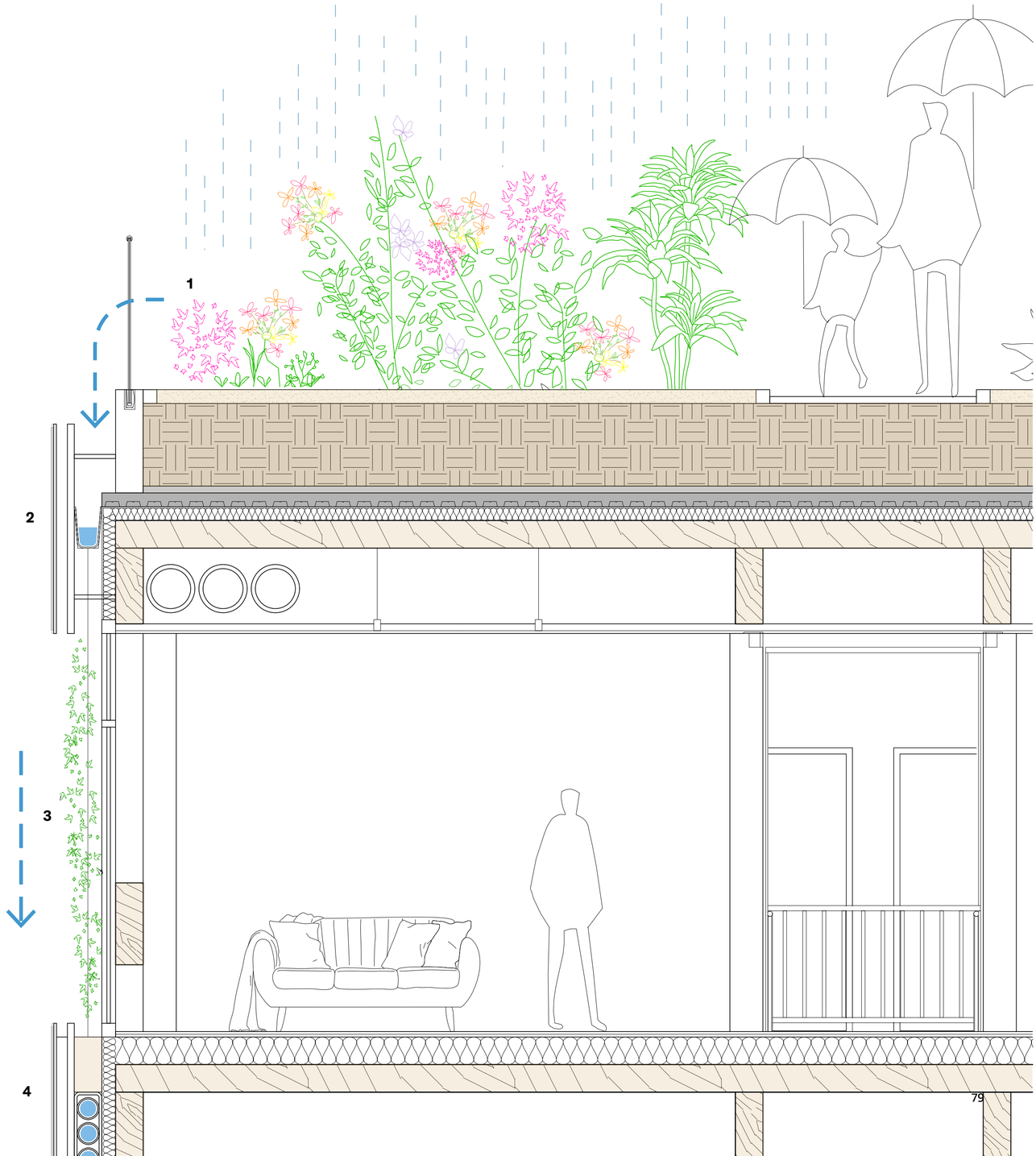
Water flows downward through the vertical pipe by gravity, guided toward the green façade.

3. Facade Irrigation

Along the descent, water irrigates the green wall vegetation, supporting continuous plant growth.

4. Drainage to Retention

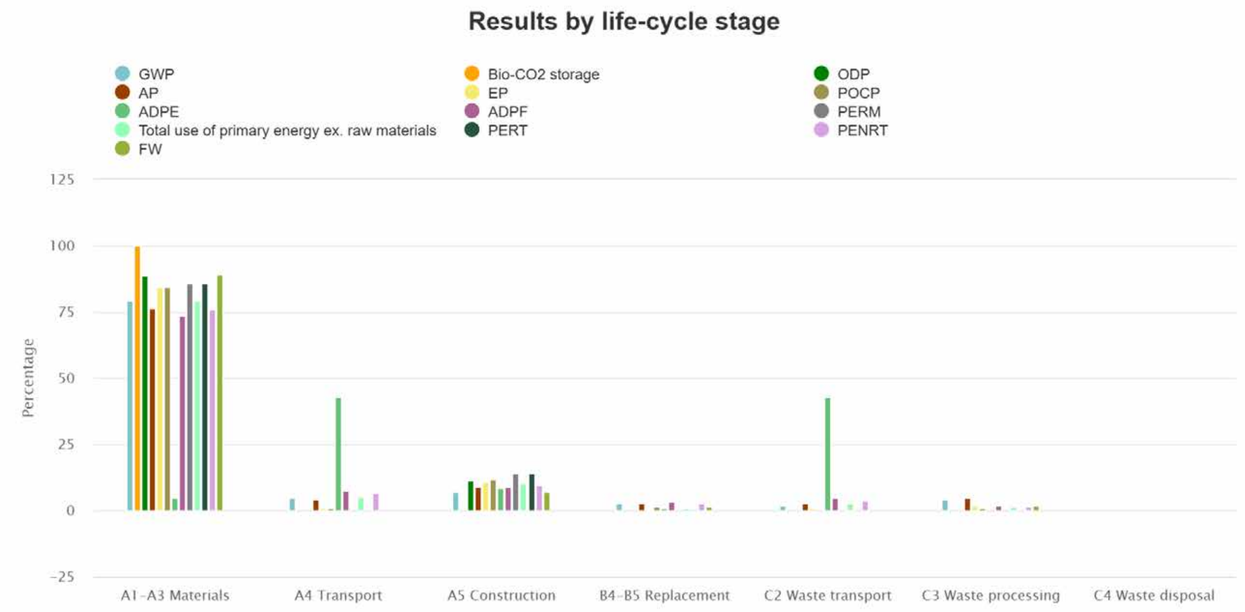
Remaining water is directed into an underground retention tank, initiating the next phase of purification and reuse.



Sustainability Strategy

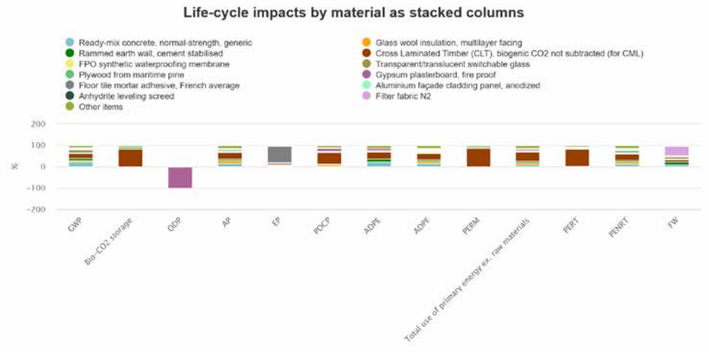
Oneclick LCA

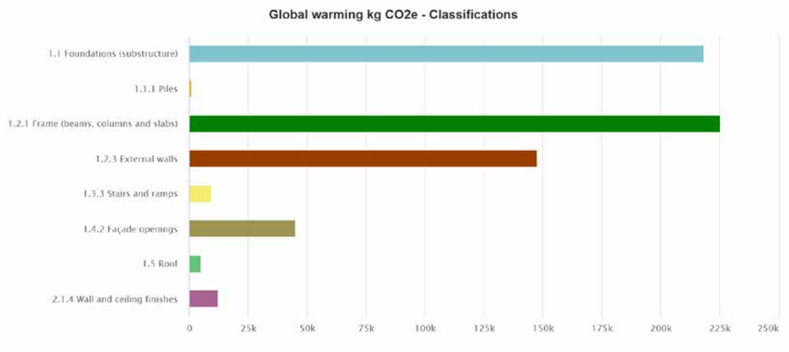
Cradle to grave (A1-A4, B4-B5, C1-C4)	kg CO_2e/m^2
(< 350) A (350-530) B (530-710) C (710-890) D (890-1070) E (1070-1250) F (> 1250) G	215

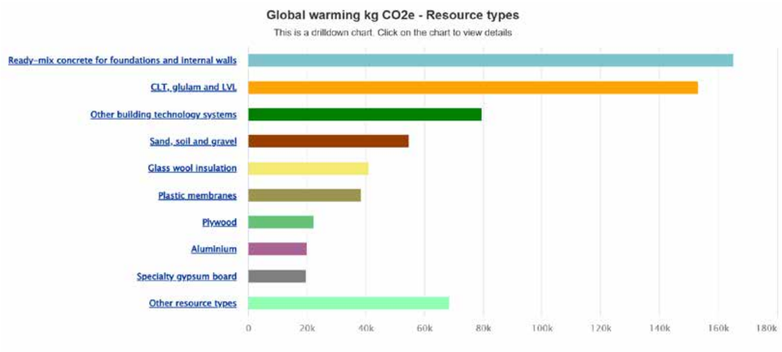


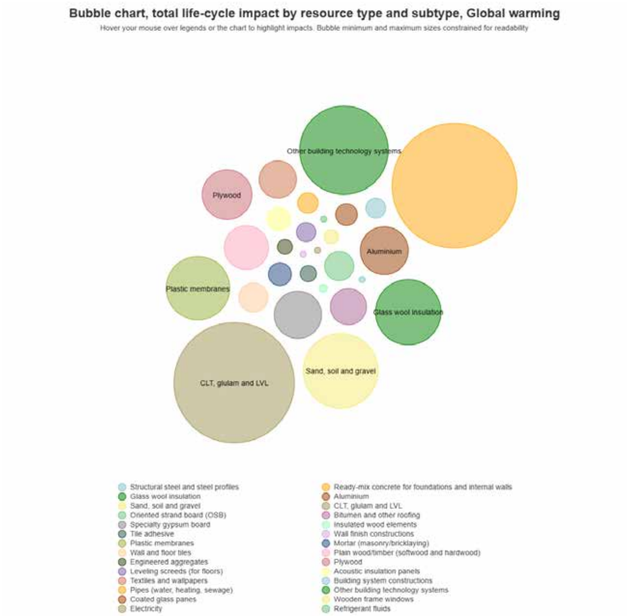
Sustainability Strategy

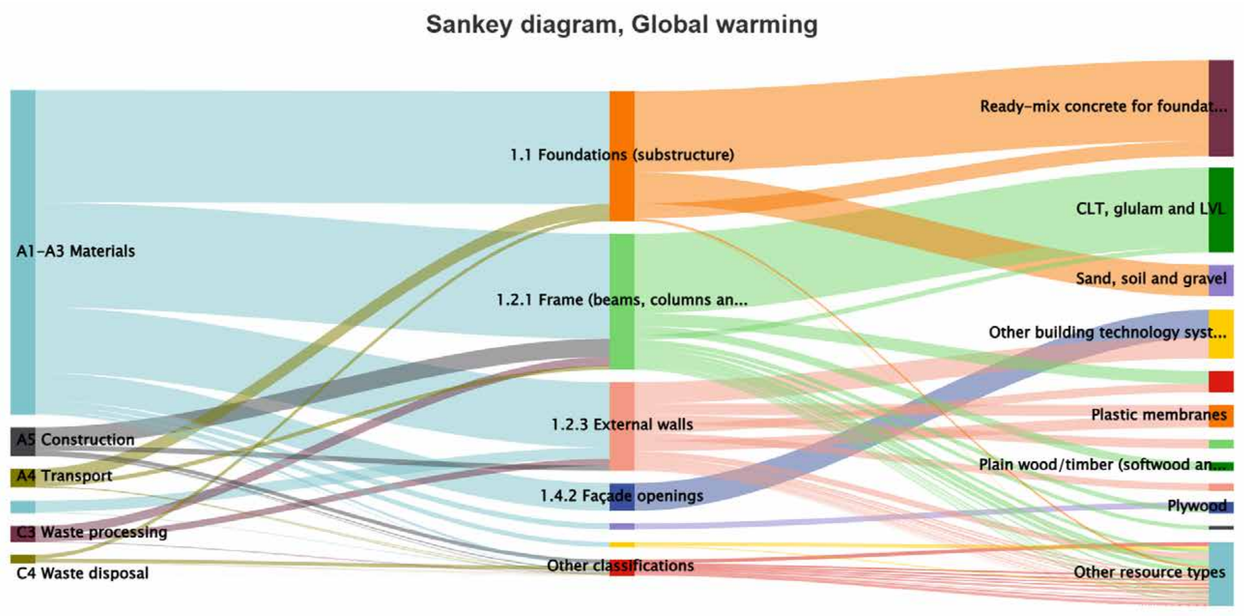
Oneclick LCA











The Social Promenade

Saint-Gobain Student Competition 2025