SELF-MAKING

Japan

Shibaura Institute of Technology

Team No.33

Team Member

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Concept

SELF-MAKING

Creating things with hands helps us understand materials and their life cycles.
In the world facing environmental and urban issues, those hands-on experiences can foster a deeper understanding of societal structures and inspire potential solutions.

What is SELF-MAKING?

A conscious process of shaping yourself through relationships with others and the environment.

A NEW FORM of COMMUNITY

Self-making provides an opportunity to understand the circularity of things and to rethink environmental issues. In addition, engaging in self-making with others can encourage the development and thriving of a strong community.

Local Food

Use local vegetables at morning markets and restaurants.

Education

Deepen understanding of the life cycle and raise environmental awareness.

Co-Creation & Collaboration

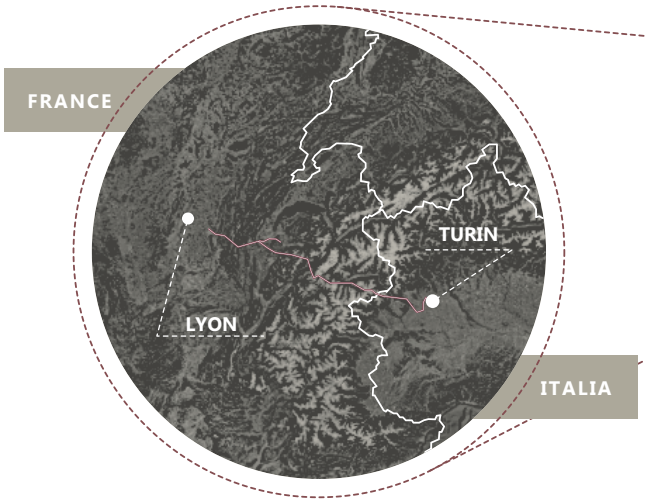
Utilizing individual strengths to empower the community.

THE LYON-TURIN RAILWAY

In 2035, a railway connecting Lyon in France and Turin in Italy will be opened.

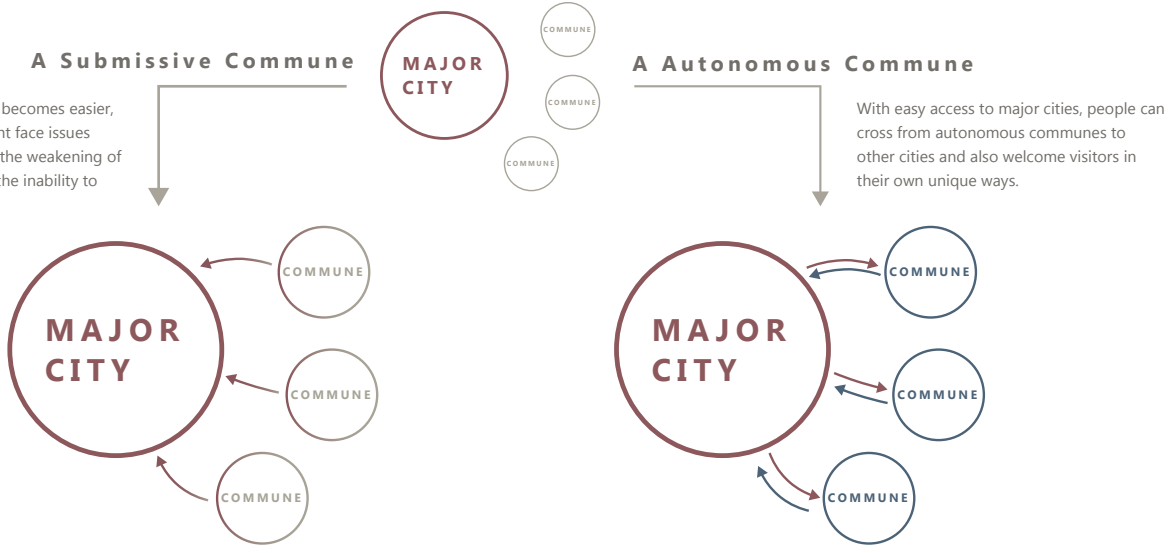
The Lyon-Turin Railway

The opening of the railway may lead to the surrounding villages being encroached upon and lost due to the cultural and economic influence of the large cities.

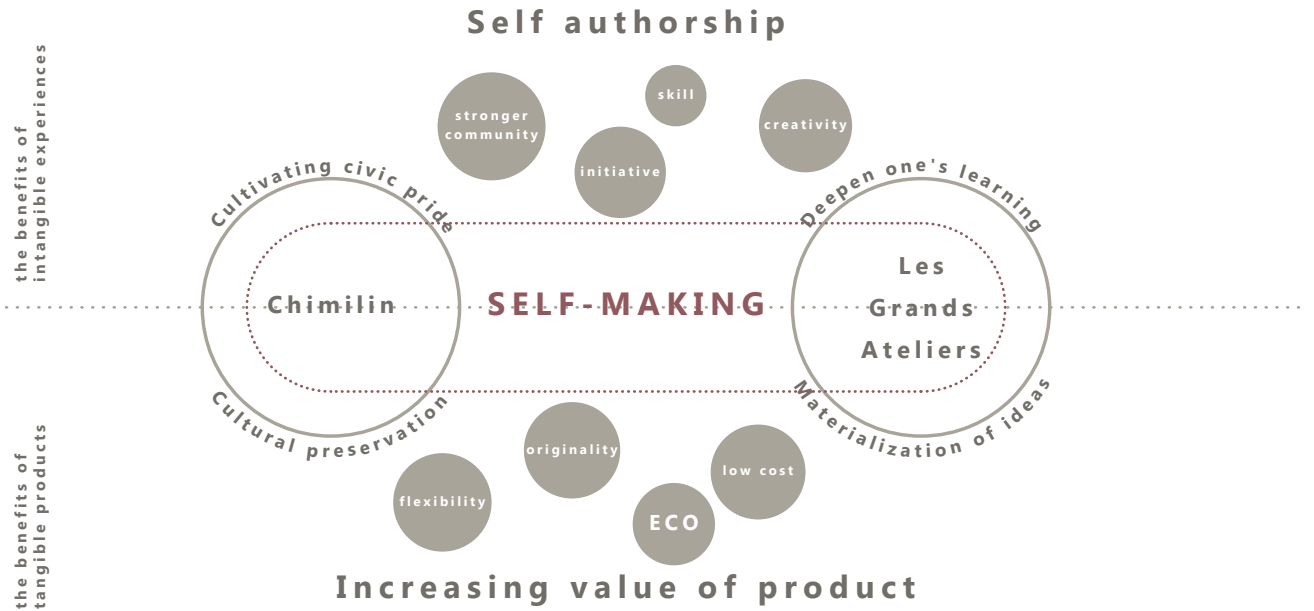


THE LYON-TURIN RAILWAY

With the opening of the railway, small communes will be absorbed by large cities. In order for small communes to fully benefit from the opening of the railway, they need their own culture or strong community.



WHAT SELF-MAKING ACHIEVES



LES GRANDS ATELIERS - CHIMILIN

Students will travel from Les Grands Ateliers to small communes to work on projects that will contribute to the community through various techniques.
Students will interact with diverse communes at the soil architecture festivals and other events regularly held in Les Grands Ateliers.

Basic Data

Atelier where you can experiment on a 1:1 scale.

An international festival called the Soil Architecture Festival is held.

People visit from all over France.

People who do the Tour de France visit.

Post-Planning Actions

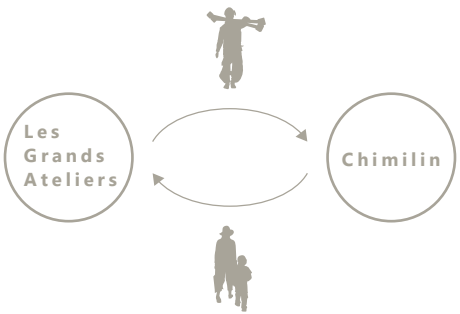
People from the commune where the renovation project was carried out visit regular meetings.

Students can learn about the actual society.

Students and the general public can interact and gain new knowledge.

Renovation Project

Students go to Chimilin to transfer skills.



In The Future

Share Chimilin's unique technology with students and people in other communes.

Basic Data

A commune with a population of 1452.

There are 27 socio-cultural associations.

Agriculture is flourishing.

The main railroad lines are Lisbon and Kiev.

Post-Planning Actions

People who have undertaken the renovation project will visit regularly.

A base for the daily activities of the sosio-cultural association will be created.

A base for welcoming people from the outside will be established.

CHIMILIN HUB

The Chimilin Hub, renovated by residents, will be a center for community interaction that is continually updated through self-making by residents. It will also display records of Chimilin's activities and facilitate interaction with visitors from outside the community.

URBAN DATA

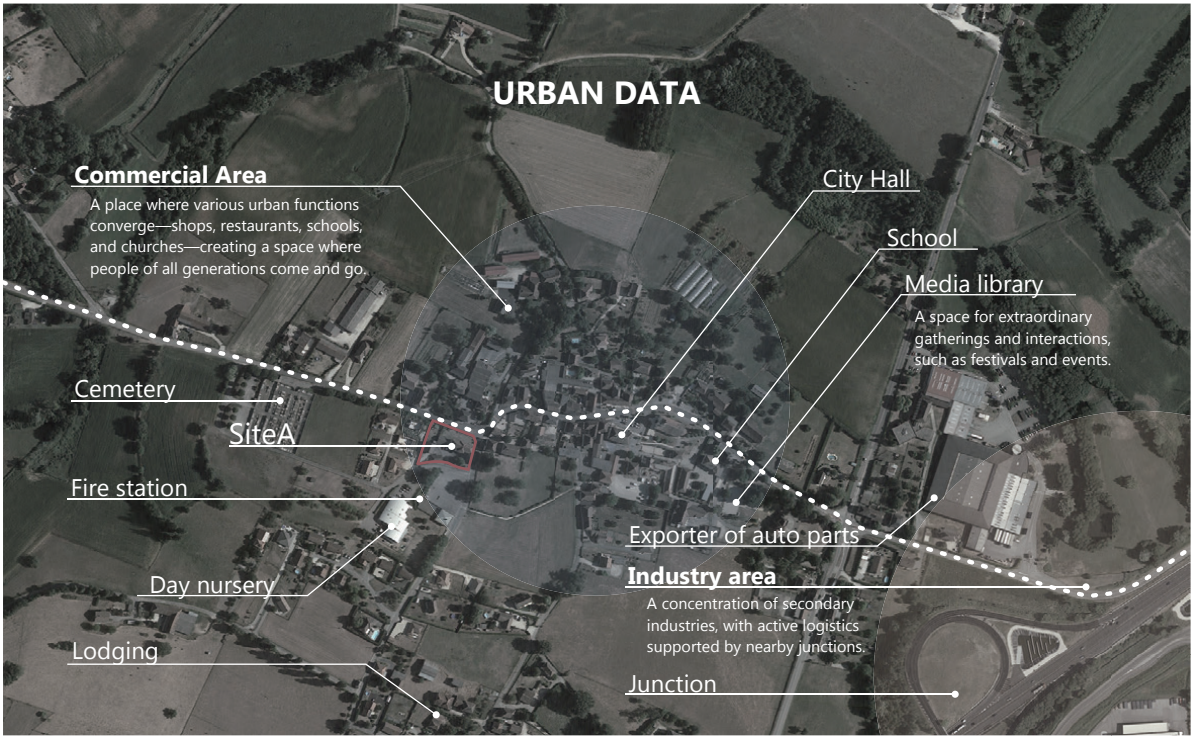
EXPRESSWAY

HIGHWAY

INTERCHANGE

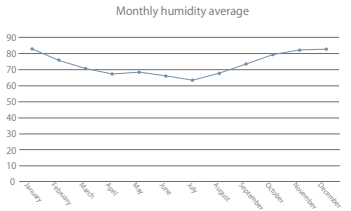
GREEN

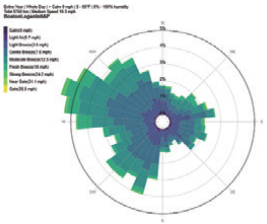
FIELD

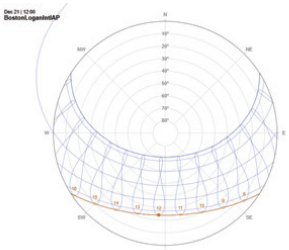

URBAN DATA
Commercial Area
A place where various urban functions converge—shops, restaurants, schools, and churches—creating a space where people of all generations come and go.
City Hall
School
Media library
A space for extraordinary gatherings and interactions, such as festivals and events.
Cemetery
SiteA
Fire station
Exporter of auto parts
Industry area
A concentration of secondary industries, with active logistics supported by nearby junctions.
Day nursery
Lodging
Junction

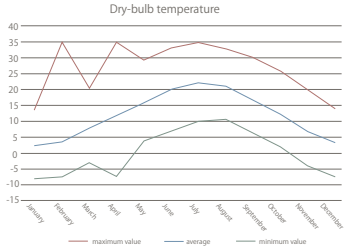
DATA on CHIMILIN

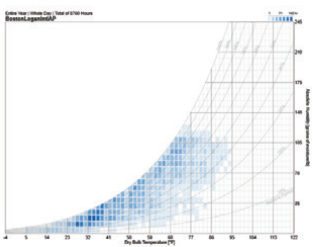
Chimilin has hot, humid summers and cold winters with some snowfall, but not severe. Unlike the surrounding mountains, the city is relatively mild, but temperatures fluctuate significantly, especially in the mornings and evenings.

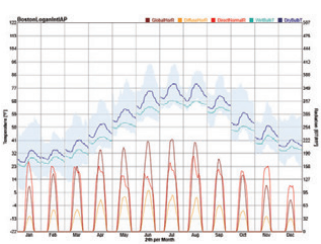










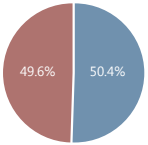


CONCEPT

The opening of the Lyon-Torino railway will affect Chimillin in many ways. For example, decline in local culture, exodus of young people, increase in tourism, etc. In order to solve these problems, it is necessary for the village residents, especially the youth, to carry on the character of the community. Flexible spaces encourage diverse activities and interactions, while a mix of functions helps attract and retain young people.

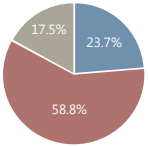
"A multi-generational exchange center that carries on the local culture"

Human structure of Chimilin



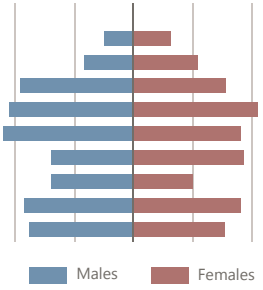
Gender

Males	707
Females	696



Age Groups

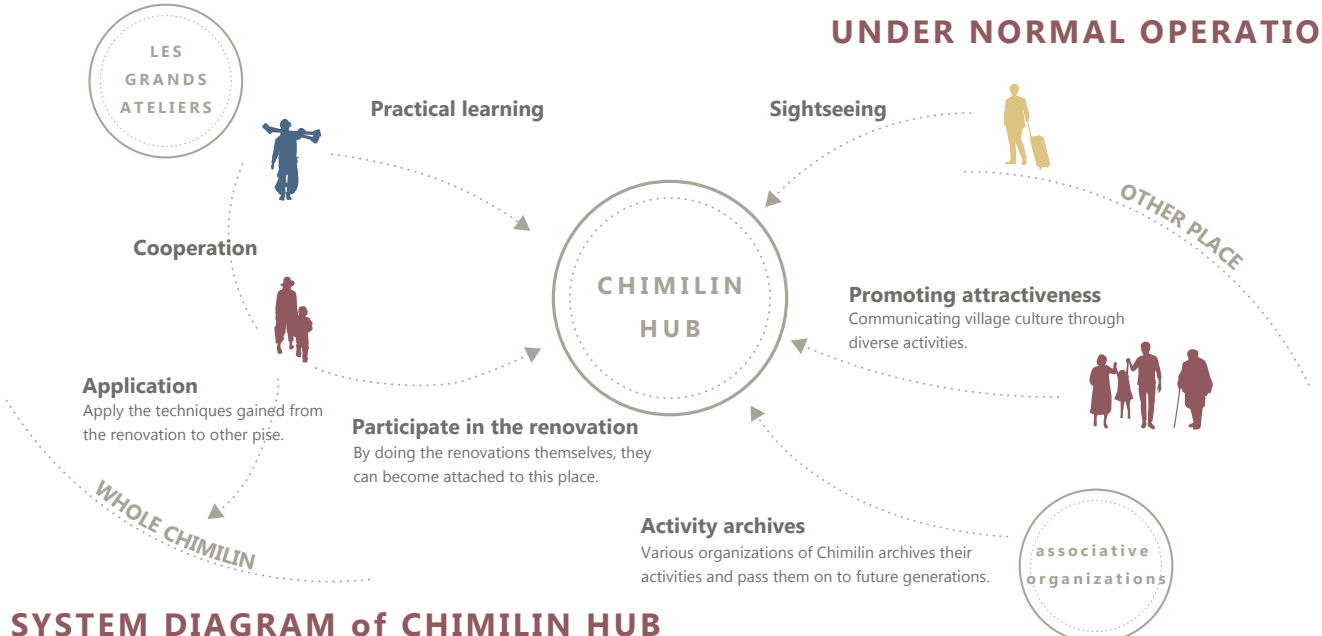
0-17 years	332
18-64 years	824
65+ years	246



Age Distribution

90+ years	12
80-89 years	58
70-79 years	98
60-69 years	177
50-59 years	213
40-49 years	204
30-39 years	166
20-29 years	121
10-19 years	186
0-9 years	168

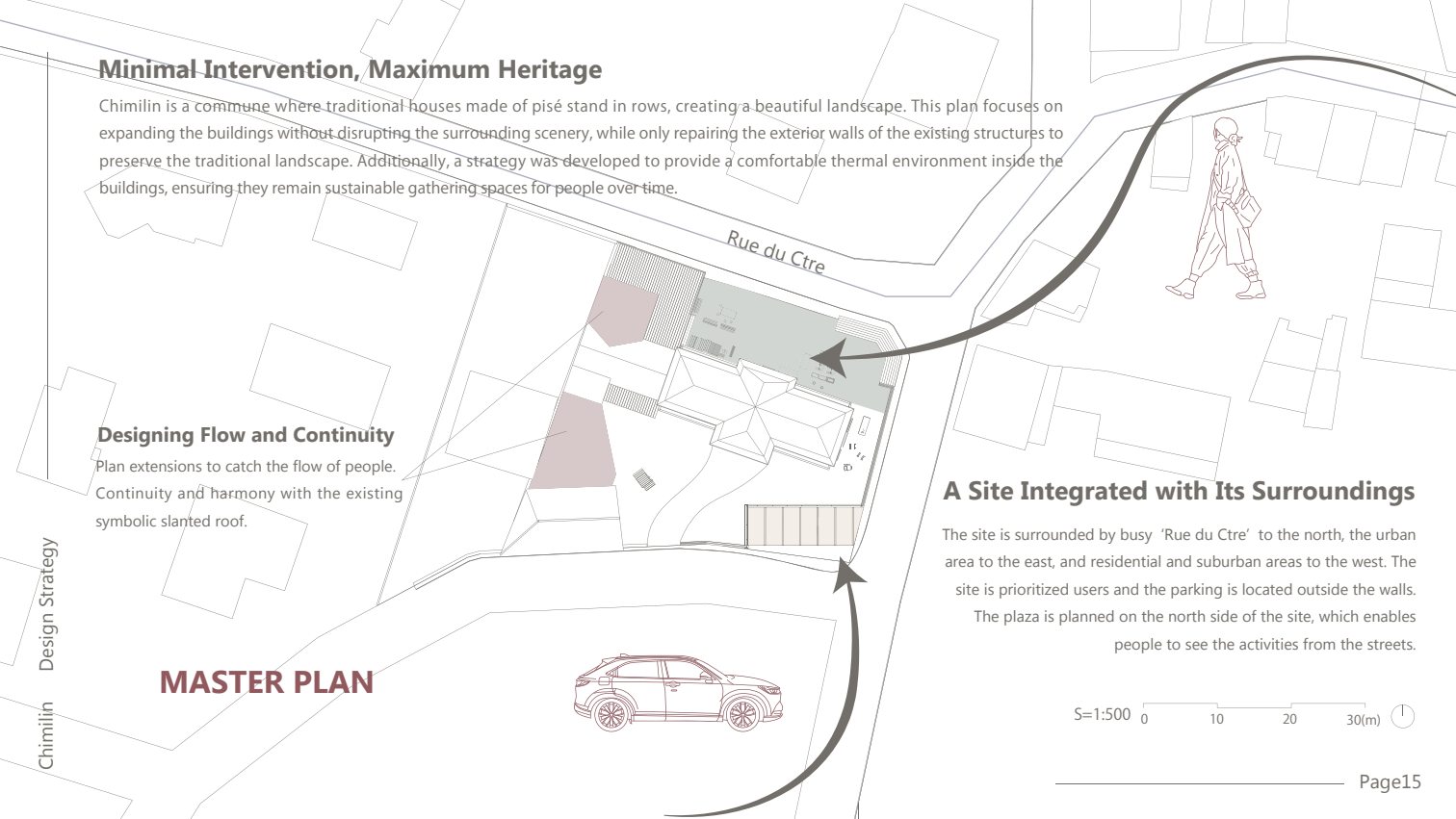
SYSTEM DIAGRAM of CHIMILIN HUB UNDER NORMAL OPERATION



SYSTEM DIAGRAM of CHIMILIN HUB RENOVATION PROJECT

Minimal Intervention, Maximum Heritage

Chimilin is a commune where traditional houses made of pisé stand in rows, creating a beautiful landscape. This plan focuses on expanding the buildings without disrupting the surrounding scenery, while only repairing the exterior walls of the existing structures to preserve the traditional landscape. Additionally, a strategy was developed to provide a comfortable thermal environment inside the buildings, ensuring they remain sustainable gathering spaces for people over time.



Designing Flow and Continuity

Plan extensions to catch the flow of people. Continuity and harmony with the existing symbolic slanted roof.

MASTER PLAN

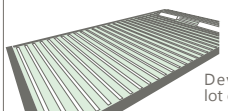
A Site Integrated with Its Surroundings

The site is surrounded by busy 'Rue du Ctre' to the north, the urban area to the east, and residential and suburban areas to the west. The site is prioritized users and the parking is located outside the walls. The plaza is planned on the north side of the site, which enables people to see the activities from the streets.

S=1:500 0 10 20 30(m)

RENOVATED FLOW

In the first phase, the contractor performs relatively major renovations such as ground manipulation and floor removal.

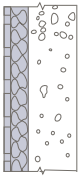


Ecological greening of parking pavement.

Develop a parking lot outside the fence.

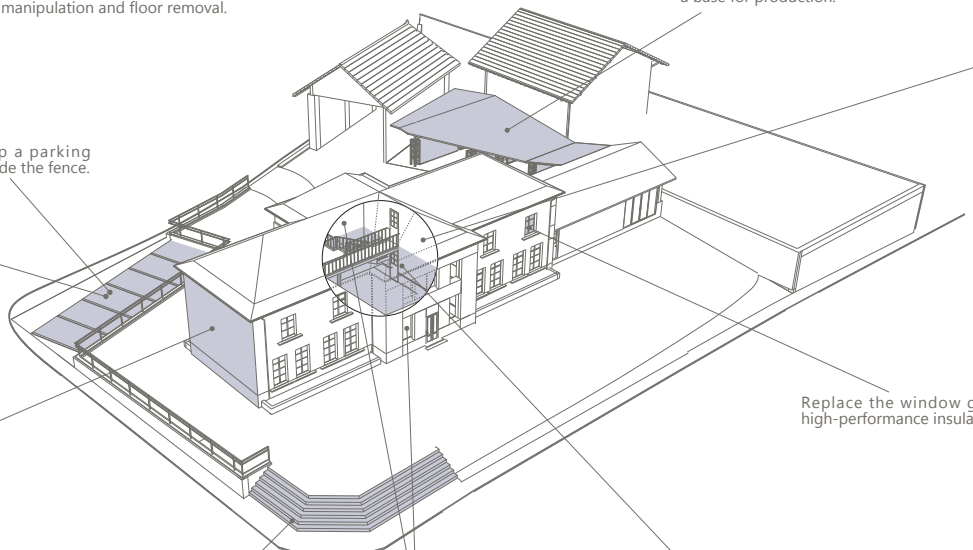
Establish a workshop as a base for production.

Install insulation on the inside of the interior walls.



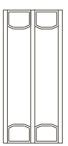
GR 32 Rolled Kraft Coated

isover SAINT-GOBAIN



Repair the large cracks in the exterior walls.

Replace the window glass with high-performance insulating glass.



ECLAZ 3

SAINT-GOBAIN

Provide a stairwell to break up existing blockages and allow for open and flexible activities.

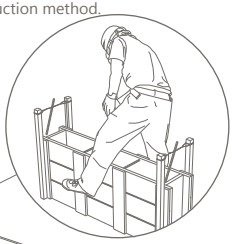
Provide a staircase on the street side that opens to the community.

Install glass wool insulation in the ceiling and floor.

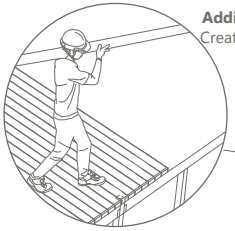
RENOVATED FLOW

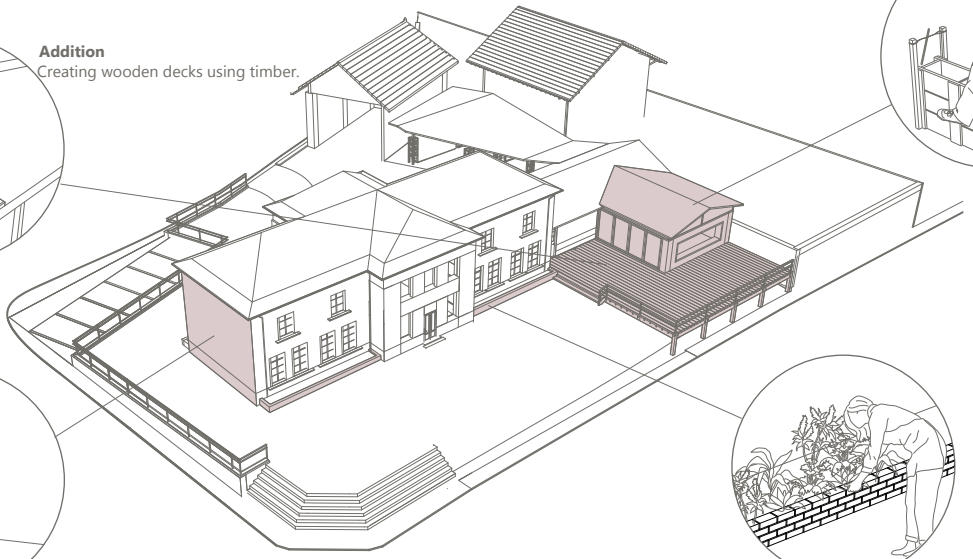
In the second phase, the renovation will be carried out by the residents themselves, together with students from Les Grands Ateliers.

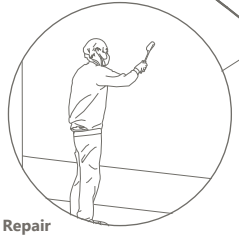
Addition
Building mud walls using the plate construction method.



Addition
Creating wooden decks using timber.



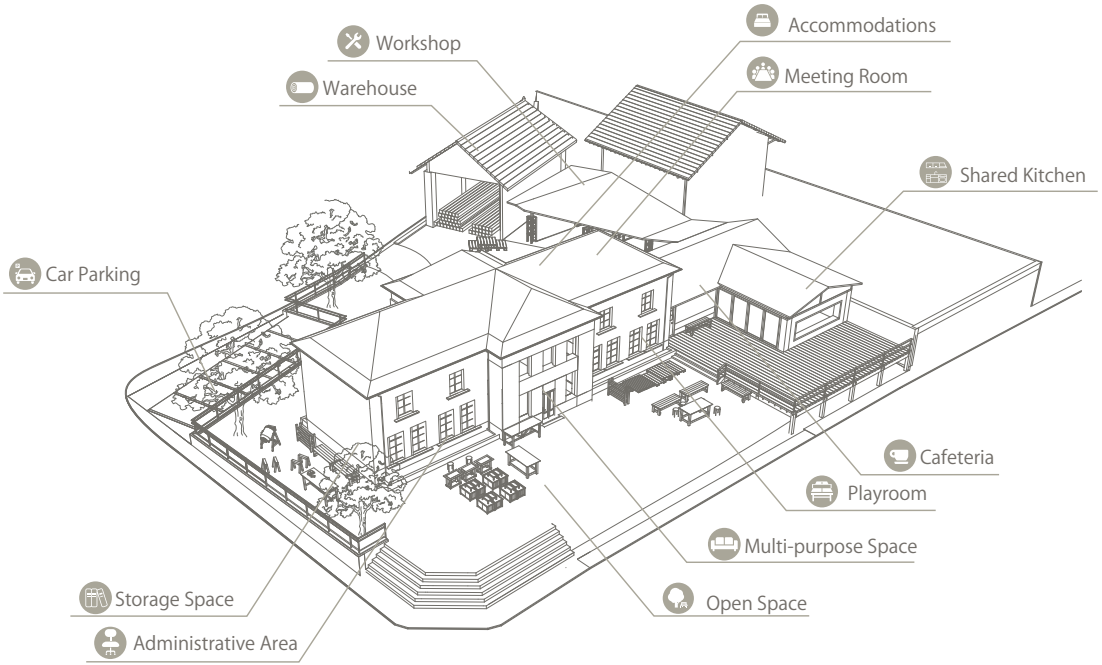




Repair
Painting and repairing cracked walls.

Garden
Creating flower beds by piling clay bricks.

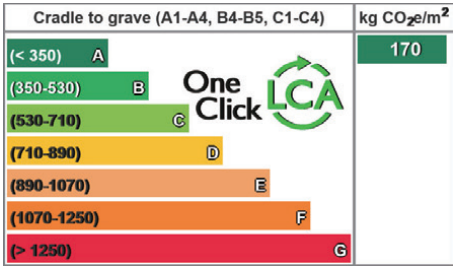
FUNCTIONAL LAYOUT



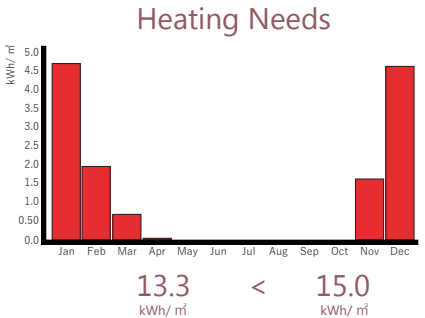
ENVIRONMENTAL CONSIDERATION

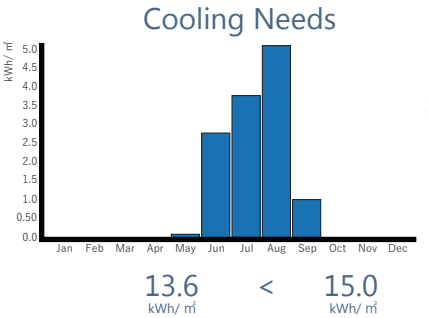
Life-cycle analysis of additions

By reusing waste materials from renovation and selecting local building materials, CO_2 emissions from transportation are reduced.

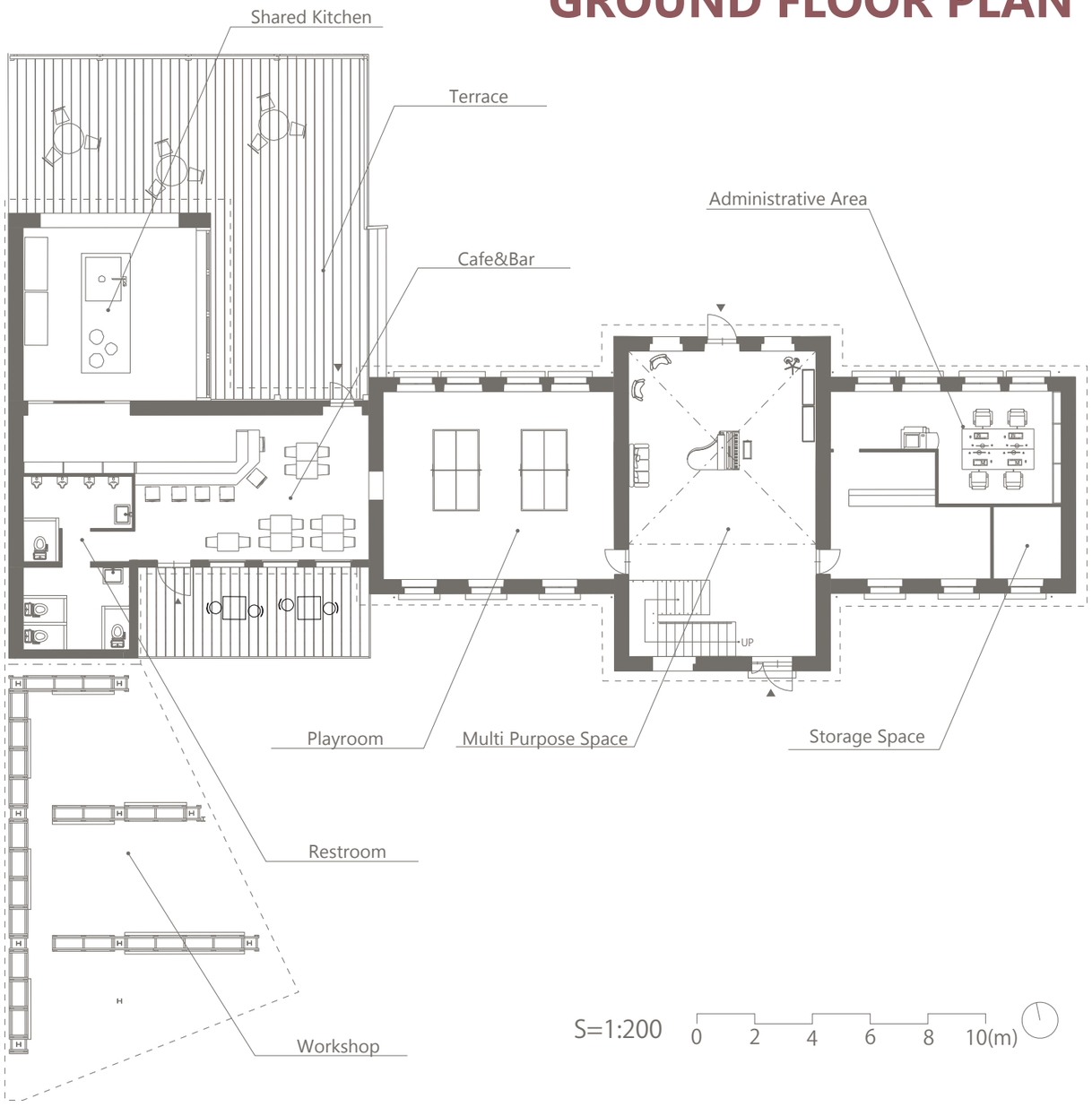


Annual energy demand

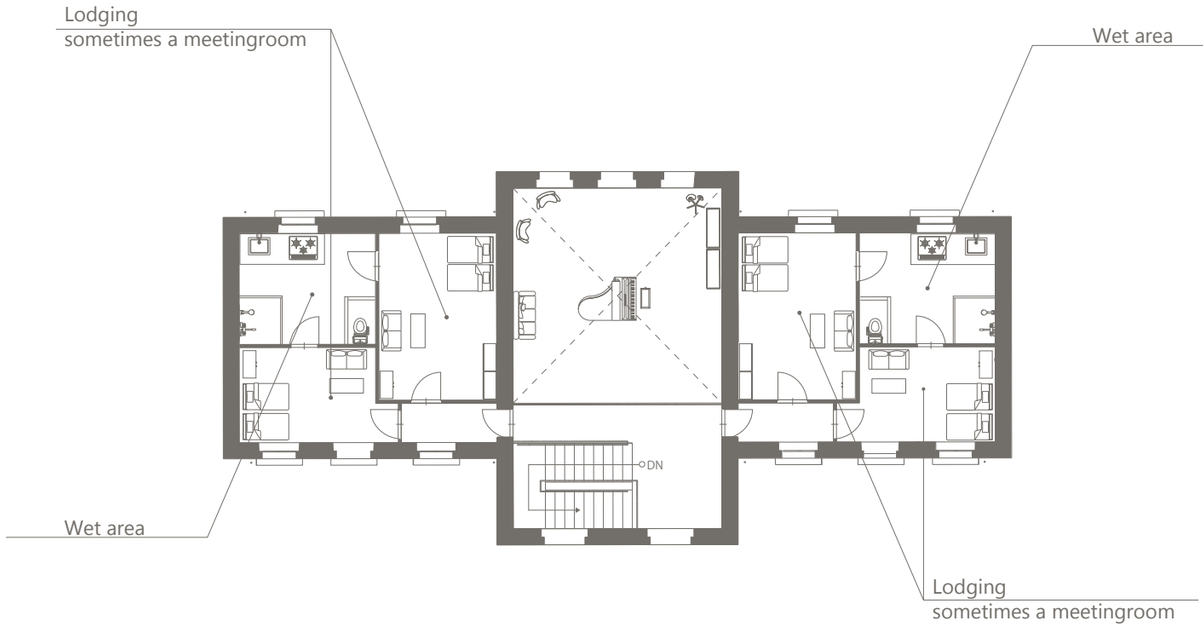




GROUND FLOOR PLAN

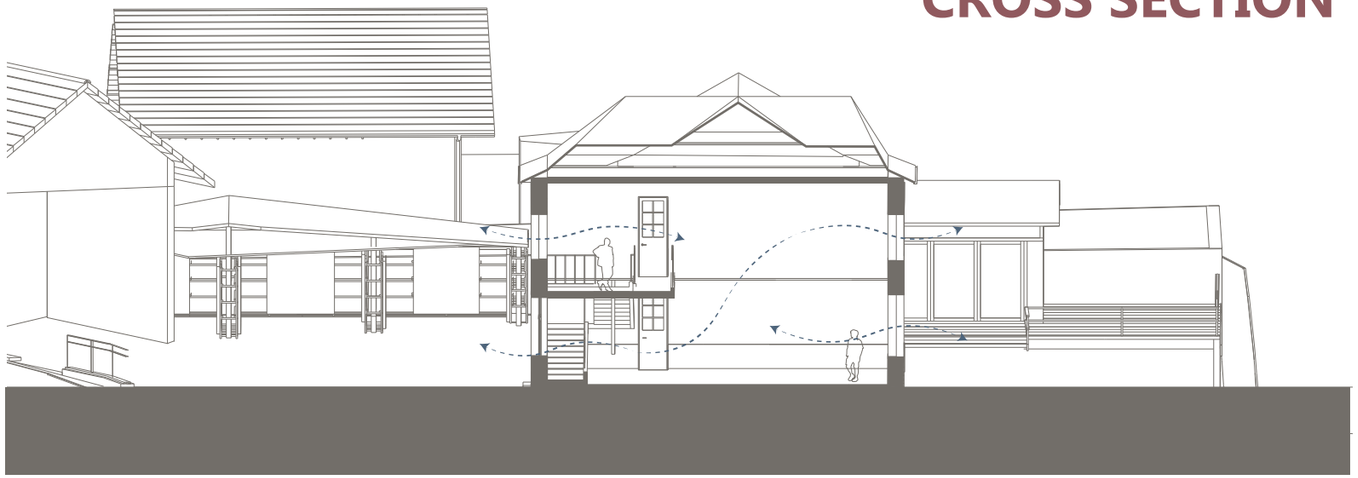


FIRST FLOOR PLAN



S=1:200 0 2 4 6 8 10(m)

CROSS SECTION

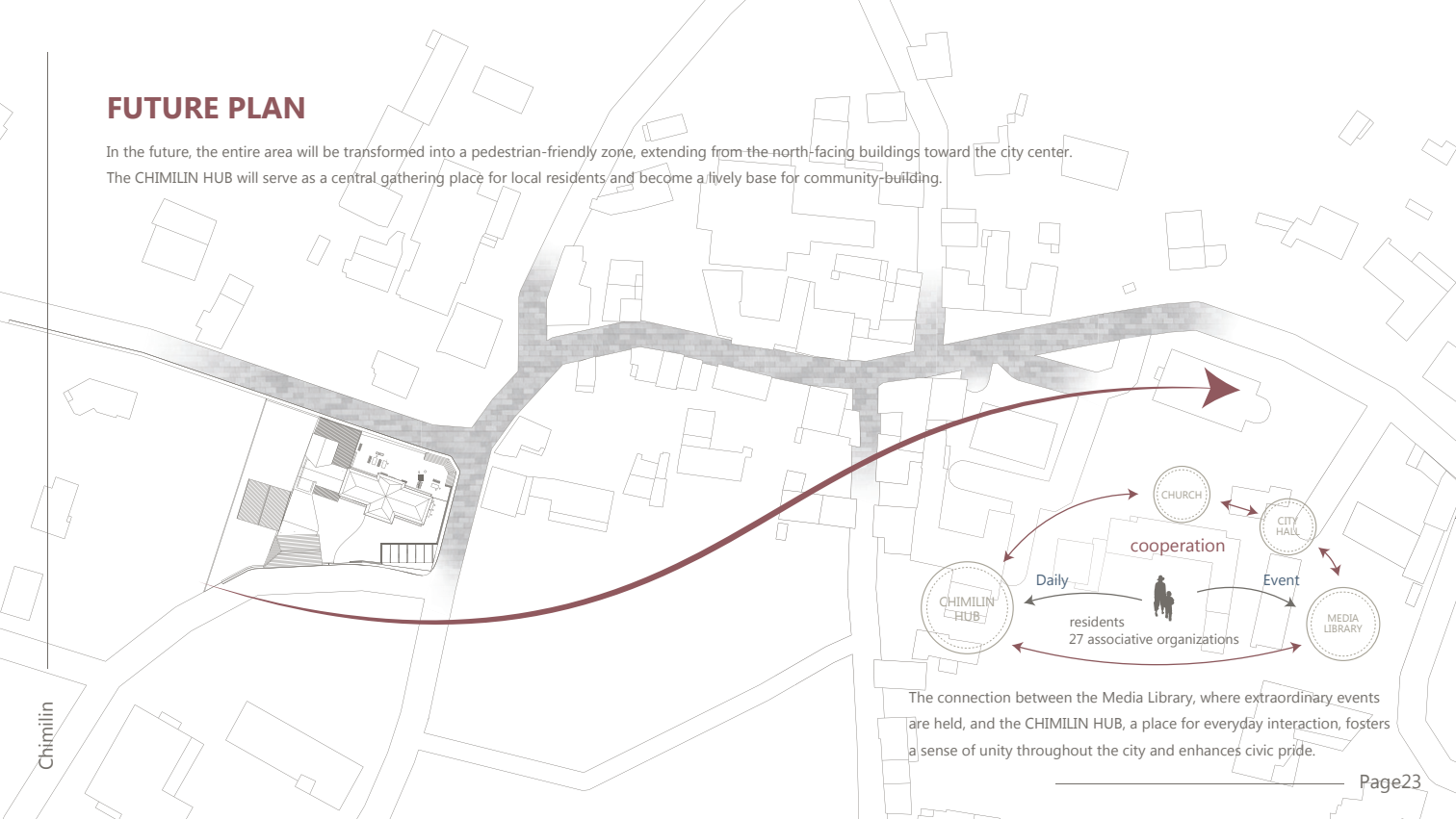


ELEVATION

S=1:200 0 2 4 6 8 10(m)

FUTURE PLAN

In the future, the entire area will be transformed into a pedestrian-friendly zone, extending from the north-facing buildings toward the city center.
The CHIMILIN HUB will serve as a central gathering place for local residents and become a lively base for community-building.



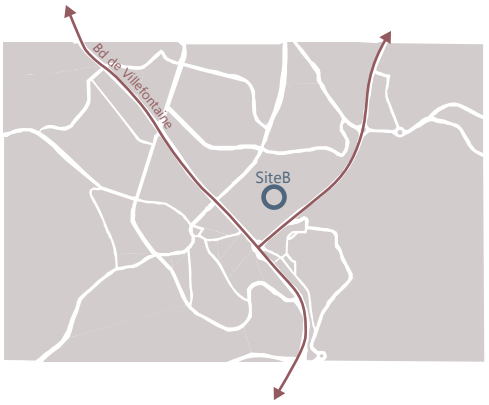
The connection between the Media Library, where extraordinary events are held, and the CHIMILIN HUB, a place for everyday interaction, fosters a sense of unity throughout the city and enhances civic pride.

The Chimilin Hub revitalizes a traditional pisé building as a flexible space for community life, cultural exchange, and hands-on learning. By involving students and local residents in the renovation process, it strengthens bonds between the school and the village. The hub serves as a lasting symbol of collaboration, sustainability, and local identity—empowering Chimilin to thrive in the face of change.

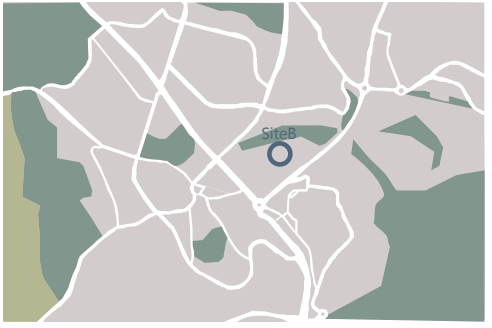
CO NEST ATELIERS

Co Nest Ateliers lets visitors engage with daily life, interact with locals, and experience their creations in use, promoting social sustainability in the community.

URBAN DATA

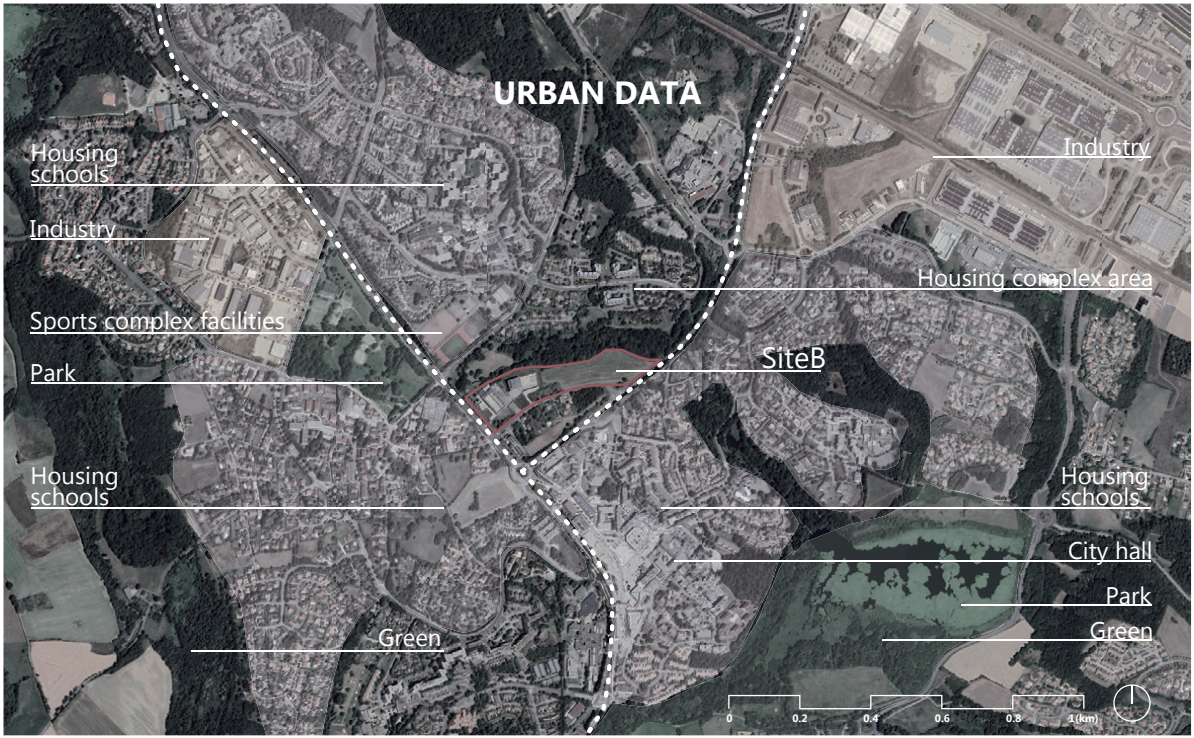


HIGHWAY



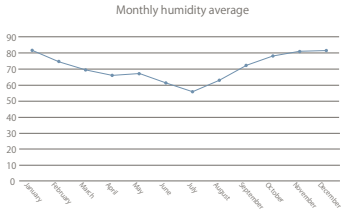
GREEN

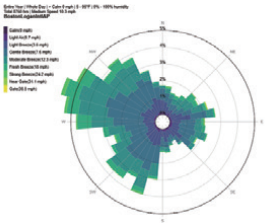
FIELD

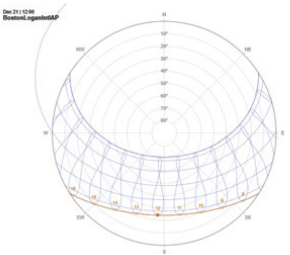

URBAN DATA
Housing schools
Industry
Sports complex facilities
Park
Housing schools
Green
Industry
Housing complex area
SiteB
Housing schools
City hall
Park
Green
0
0.2
0.4
0.6
0.8
1(km)

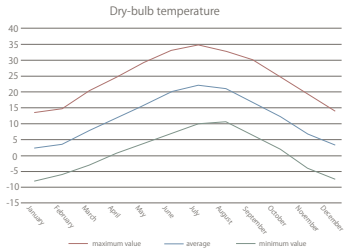
DATA ON VILLEFONTAINE

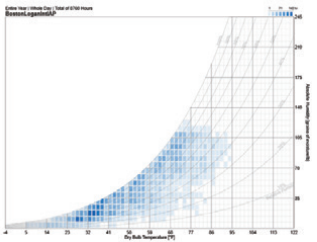
Villefontaine has hot, humid summers and cold winters with some snowfall, but not severe. Unlike the surrounding mountains, the city is relatively mild, but temperatures fluctuate significantly, especially in the mornings and evenings.

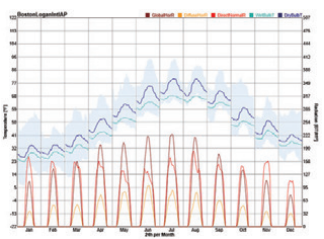






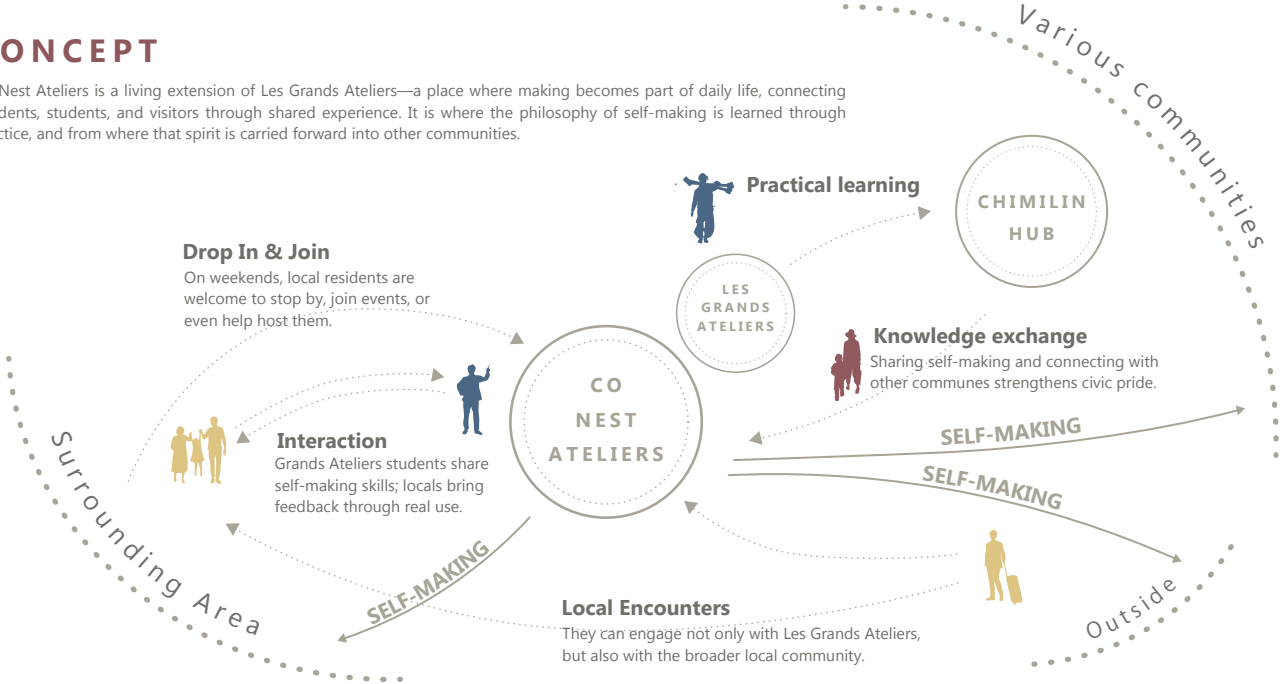






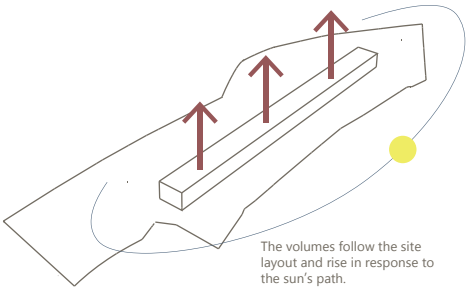
CONCEPT

Co Nest Ateliers is a living extension of Les Grands Ateliers—a place where making becomes part of daily life, connecting residents, students, and visitors through shared experience. It is where the philosophy of self-making is learned through practice, and from where that spirit is carried forward into other communities.

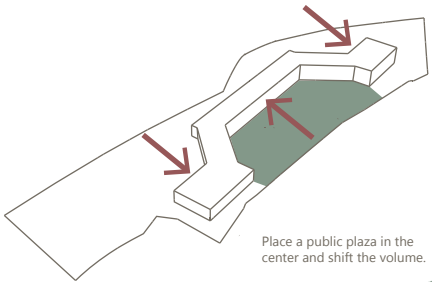


DESIGN DEVELOPMENT DIAGRAM

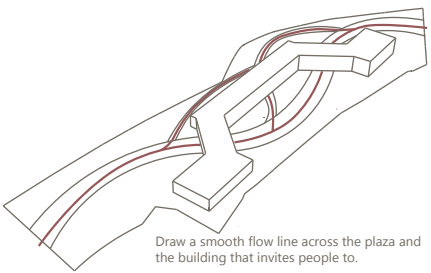
This sequence of spatial transformations is designed to guide movement, invite gathering, and foster interaction—shaping an environment where people naturally engage with one another and the surrounding context.



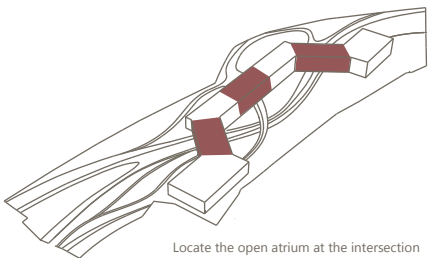
The volumes follow the site layout and rise in response to the sun's path.



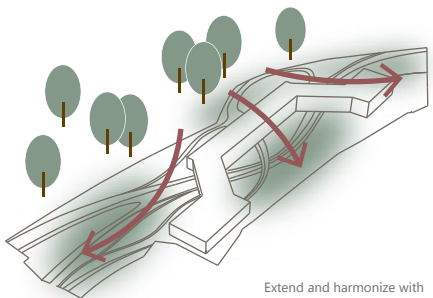
Place a public plaza in the center and shift the volume.



Draw a smooth flow line across the plaza and the building that invites people to.



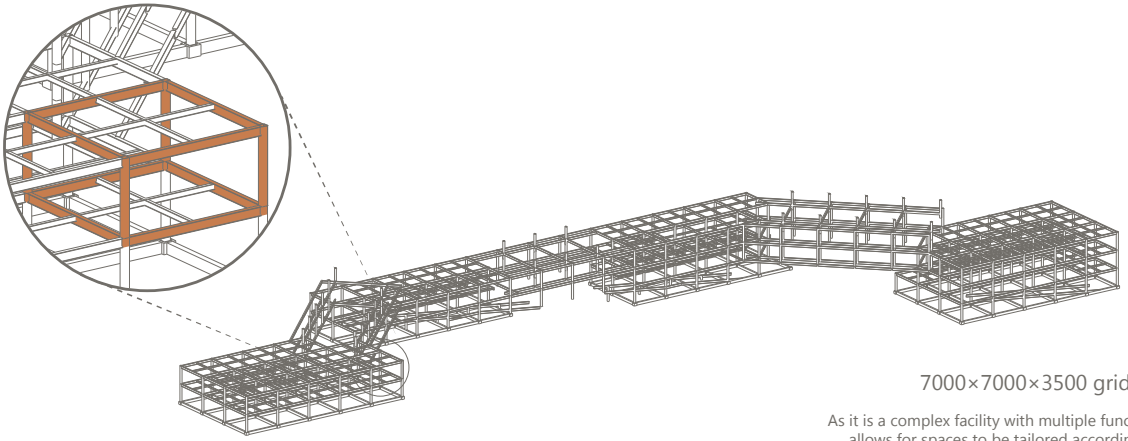
Locate the open atrium at the intersection of the building and the traffic line.



Extend and harmonize with neighboring greenery

STRUCTURAL DIAGRAM

A steel structure was adopted to **create a large open space** as a workshop for SELF-MAKING.
The lightness of the material helps avoid any sense of oppression.



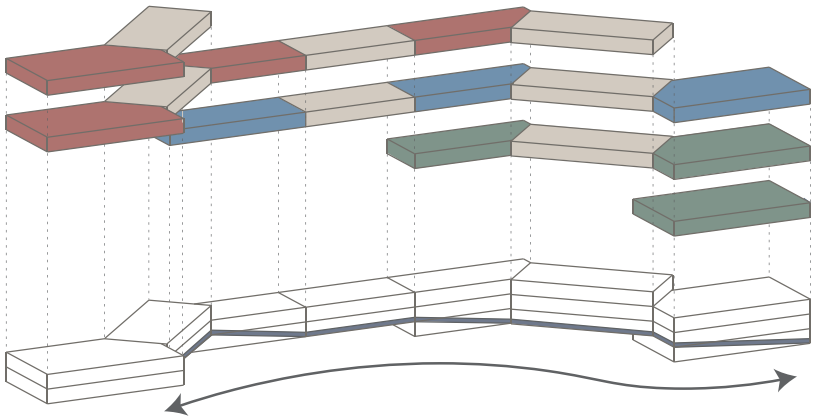
7000×7000×3500 grid structure

As it is a complex facility with multiple functions, the grid system allows for spaces to be tailored according to each function

Les Grands Ateliers is frequently used for short stays and one-off activities.
Until now, it has merely been a 'box' for creative acts, but by incorporating spaces to display and preserve works, the atelier itself gains depth and accumulates history.
To allow these works to come alive—and to enable anyone to shape the space through their own creations—simple materials such as glass and steel were used, along with a straightforward form

FUNCTIONAL ARRANGEMENT

Placing different user groups on separate floors within a single building allows the public to observe the activities of Les Grands Ateliers, while its users can also encounter new ideas through contact with the public—creating moments of shared awareness and inspiration.

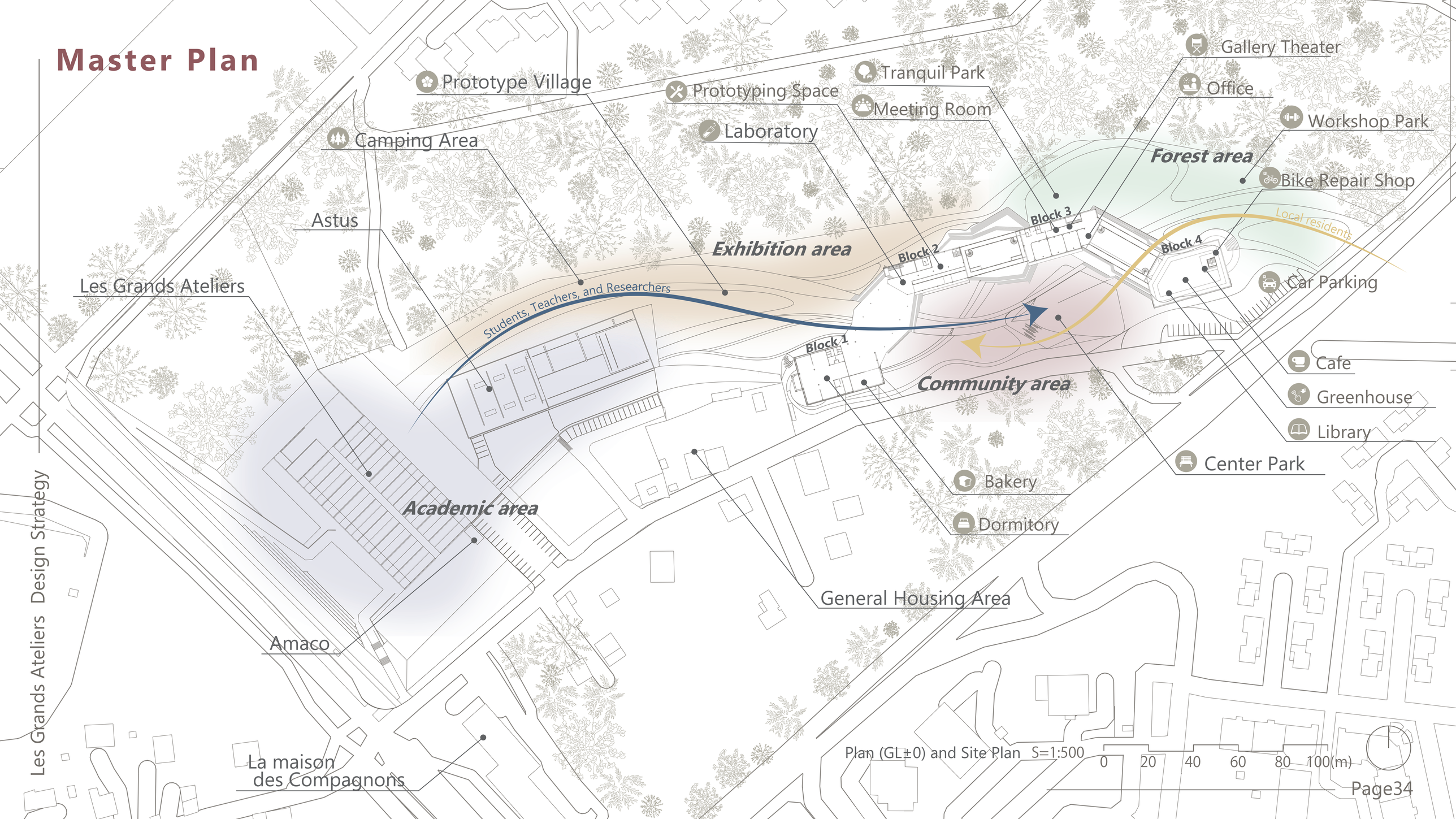


Private zone	Use by related parties	
Semi-public zone	Can see each other's activities	
Public zone	Available to all	
Open atrium	A place of activity. Interface area connecting inside and outside of the building.	
Line of flow	Flow lines for people and materials	

LINE of FLOW

The line of flow runs through the entire building along the plaza, allowing various people—from makers to general visitors—to cross paths. Since this line connects directly to both the plaza and the open atrium, it encourages a wide range of activities and interactions.

Master Plan


Prototype Village
Prototyping Space
Tranquil Park
Gallery Theater
Office
Meeting Room
Laboratory
Camping Area
Workshop Park
Forest area
Bike Repair Shop
Astus
Exhibition area
Block 3
Block 2
Block 4
Local residents
Les Grands Ateliers
Students, Teachers, and Researchers
Car Parking
Block 1
Cafe
Community area
Greenhouse
Library
Center Park
Bakery
Academic area
Dormitory
General Housing Area
Amaco
La maison
des Compagnons
Les Grands Ateliers Design Strategy
Plan (GL±0) and Site Plan S=1:500
0 20 40 60 80 100(m)

ACTIVITY SYSTEM of CO NEST ATLIERS

Rooftop terrace

Step out
onto the rooftop garden.

Open Atrium

Furniture made
from scrap wood in an open atrium.

Prototype Village

Come and see
the work of Prototype Village.

General Entrance

Parents and children
come to visit on holidays.

Compost

Bringing rubbish
to the compost bin.

Dormitory

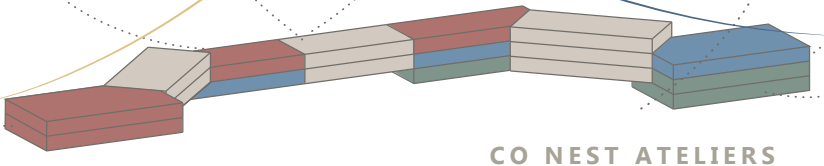
In the evening,
the group will meet in the dormitory.

Greenhouse

Enjoy café time in the greenhouse.

Student

General public



CO NEST ATELIERS

Private zone Semi-public zone Public zone Open atrium

NET ZERO

Net Zero refers to achieving a balance between the amount of produced and the amount removed or offset. Under self-making, the CO2, precipitation, waste, and energy consumption emitted by this building will be used by the building itself to achieve net zero in this building as well.

CARBON

Minimize CO2 emissions from construction to demolition. Make it lush and green.

WATER

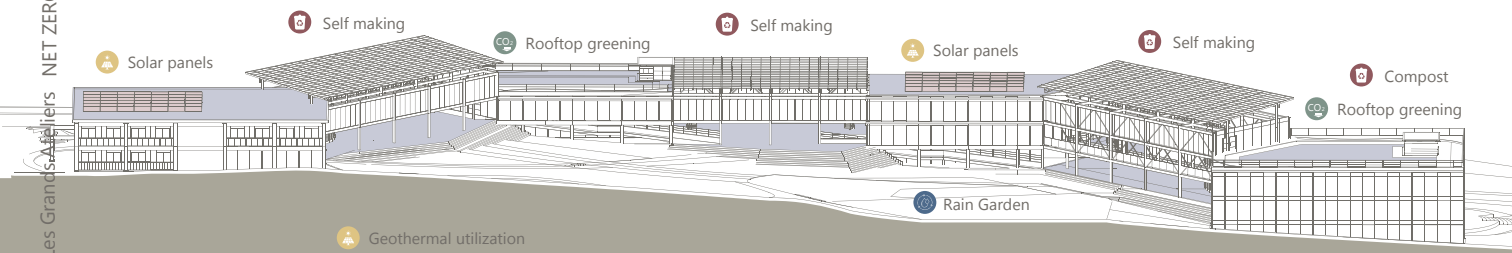
Collecting rainwater and utilizing it for graywater.

WASTE

Using waste materials and unwanted furniture for self-making.

ENERGY

Reducing energy consumption through renewable energy and building materials.

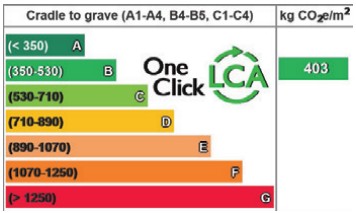


LIFE-CYCLE ANALYSIS

CARBON

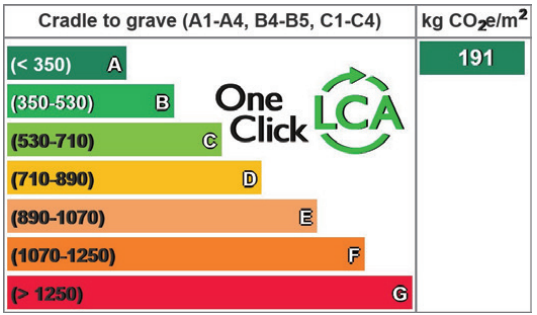
Since most of this project is made of steel frames, we carefully selected them to reduce the building's lifecycle CO2 emissions.

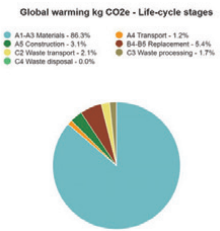
<base value>

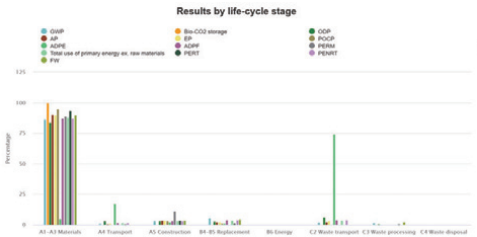


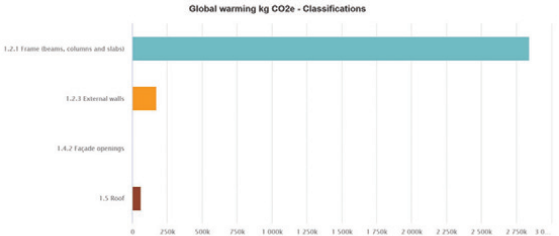
Select local building materials.
Hollowing sections to reduce weight and materials.

<after improvement>





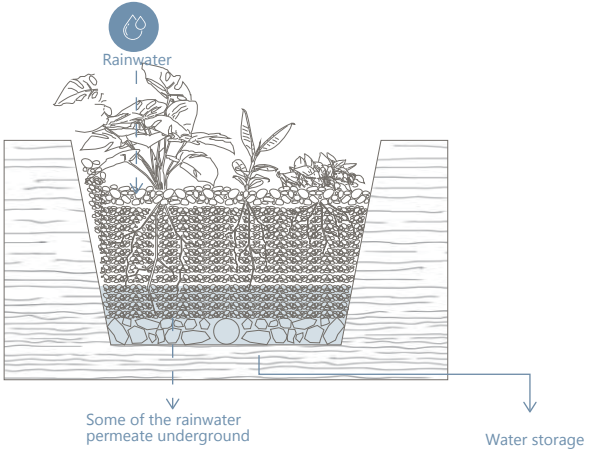




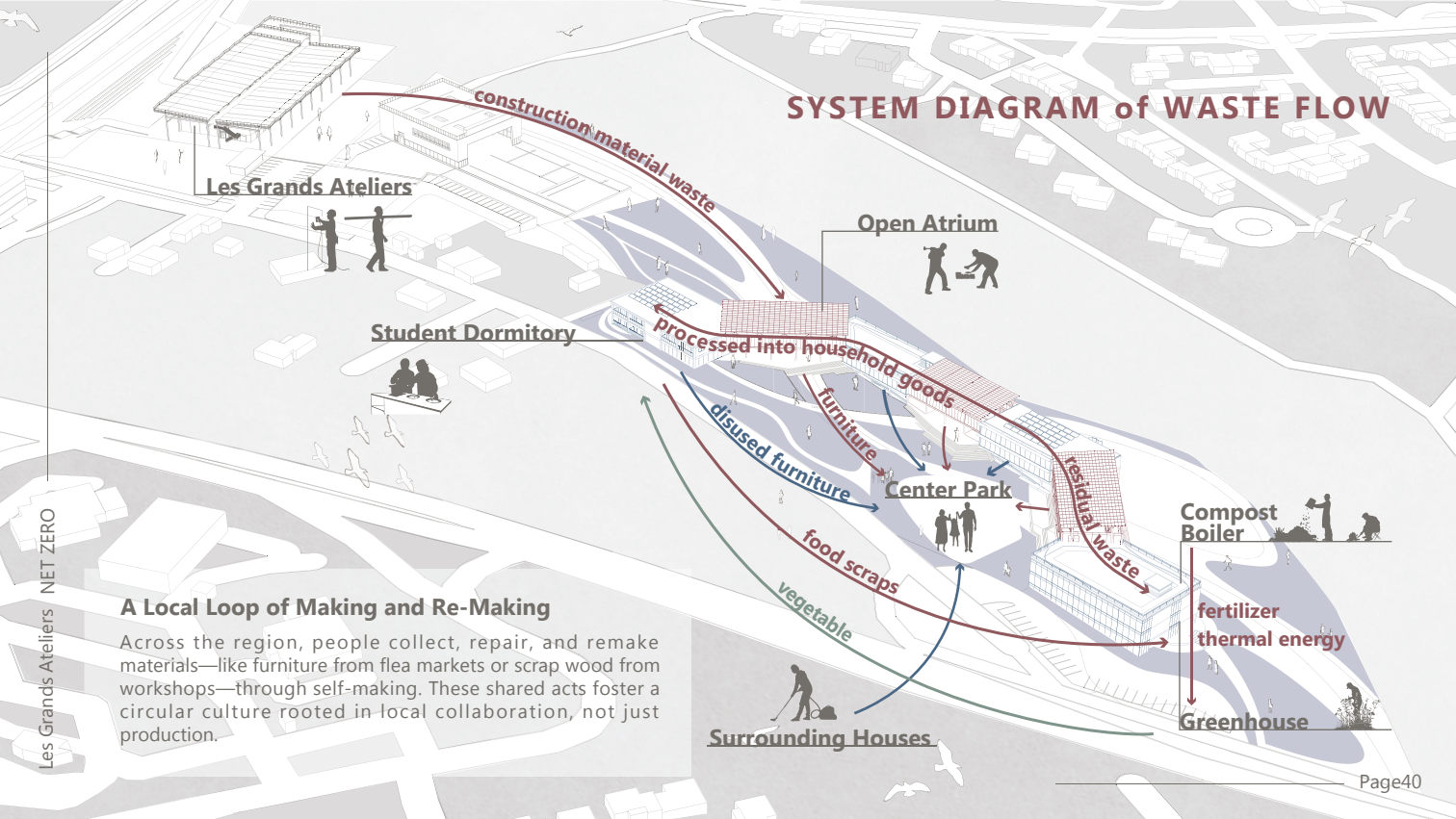
RAIN GARDEN

WATER

Annual Stormwater Runoff (Reuse Target) :	10,800 m^3
Rain Garden Storage Capacity (Per Rain Event) :	390 m^3
Annual Reusable Rainwater Volume :	3,240 m^3



SYSTEM DIAGRAM of WASTE FLOW



A Local Loop of Making and Re-Making

Across the region, people collect, repair, and remake materials—like furniture from flea markets or scrap wood from workshops—through self-making. These shared acts foster a circular culture rooted in local collaboration, not just production.

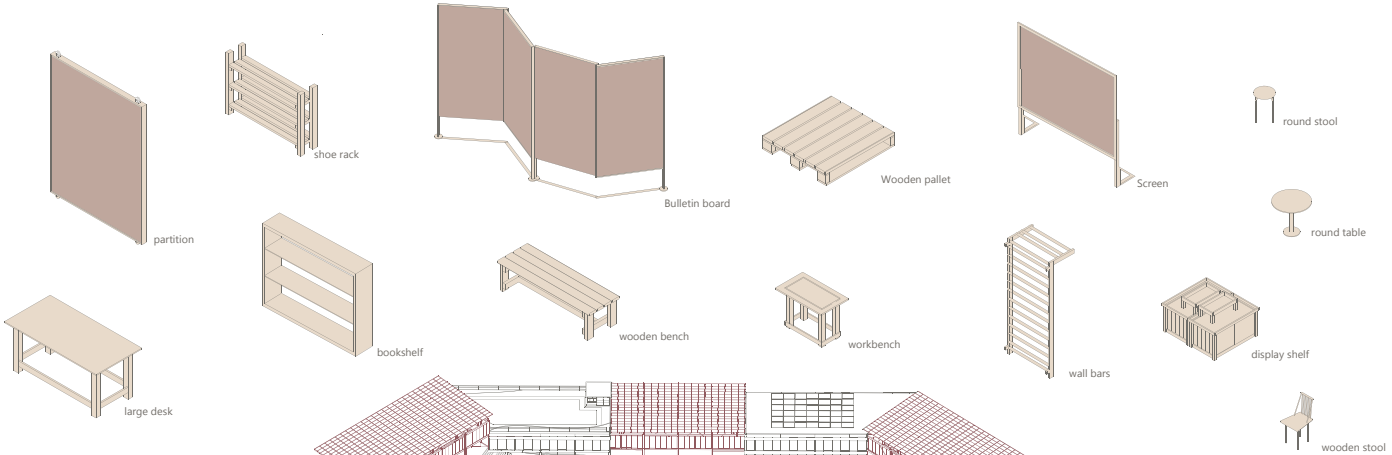
To promote community interaction, we regularly hold local participation events such as flea markets, farmers' markets, and seasonal festivals. During the Grains d' Isère, part of the site is used as a venue and campsite, while in daily life it serves as an open public park for the community.

GREENHOUSE

The greenhouse is integrated with the library and café, offering a place to relax during daily life. The boiler that heats part of the facility uses wood scraps from self-making activities, while the soil is enriched with compost made from household, local, and Co Nest Ateliers waste.

CREATED FANITURE by SELF-MAKING

In the three open atriums, people create what is needed in response to the adjacent functions.



SELF-MAKING PARTITION WALL

Self-making produces a wide range of furnishings and sundries. One of these is taken up.

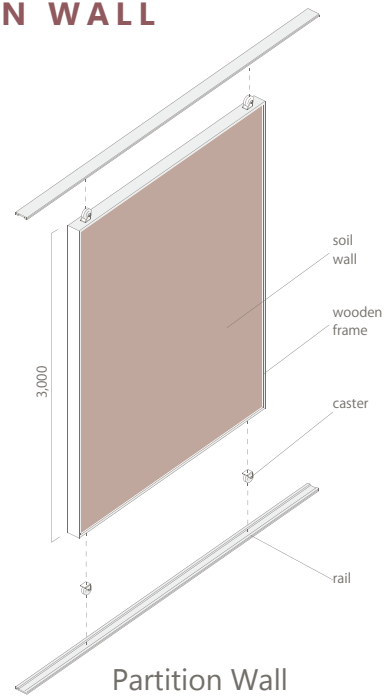
Self-making partition system

The system is made of soil and wood that are generated mainly from waste in the campus of Les Grands Ateliers. The soil is pressed with hands within a wooden frame, which defines the system height. The system is used as a partition wall dividing spaces and also as a functional device to control the indoor thermal environment.

This furniture makes use of many of the excellent properties of soil.

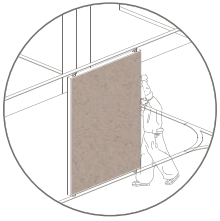
Superior soil characteristics

- Moisture-regulating function
- Heat storage function
- Energy saving as a natural resource
- Design
- Easy to process



Partition Wall

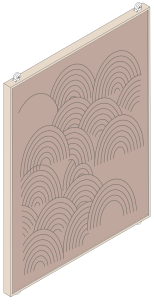
Pressing the soil into the frame.Everyone teaches each other in a simple task that everyone can do.



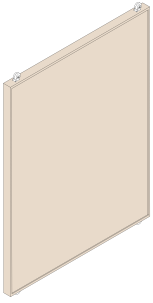
Move freely through a room via rails. Used for a variety of purposes.

It is a wall that can be freely designed, and each wall is unique.

VARIOUS TYPES of PARTITION WALLS

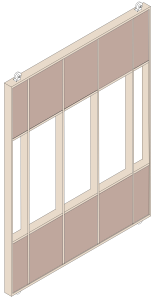


- A wall with a surface coated in soil.
- The large surface area of the earth helps regulate sudden changes in humidity.
- High in design quality.
- Functions as a space divider.



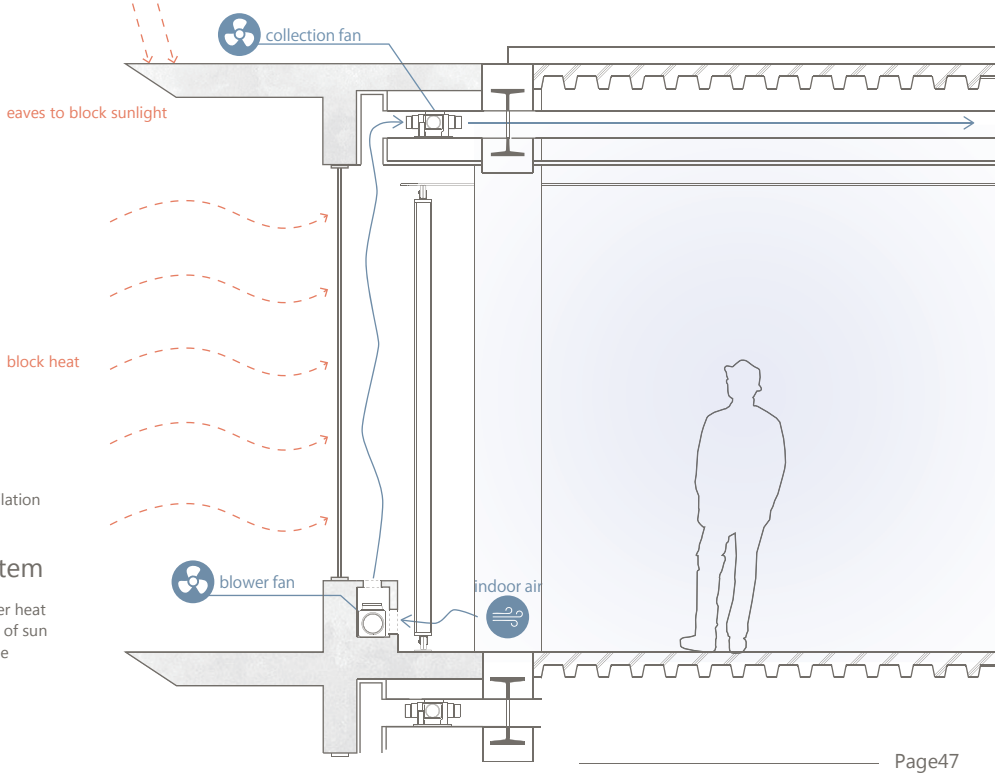
- Earth and wood are used as different materials on the front and back.
- Orientation can be adjusted depending on placement.
- Wood blocks sunlight, while earth provides humidity control.

- The large volume of soil provides thermal storage and heat dissipation functions.
- By increasing thickness and narrowing the width, the mass is reduced.



- Allows for versatile applications.
- The method of constructing the wall creates variations in how the space is divided.
- Enables flexible and diverse spatial configurations.

SUMMER



Air Barrier System

Collection fans and blower fans to promote natural ventilation effects.

Push-Pull Ventilation Window System

Ventilation systems with soil walls prevent strong summer heat from outside before it flows into the room. Combination of sun shading and ventilation to prevent room temperature rise

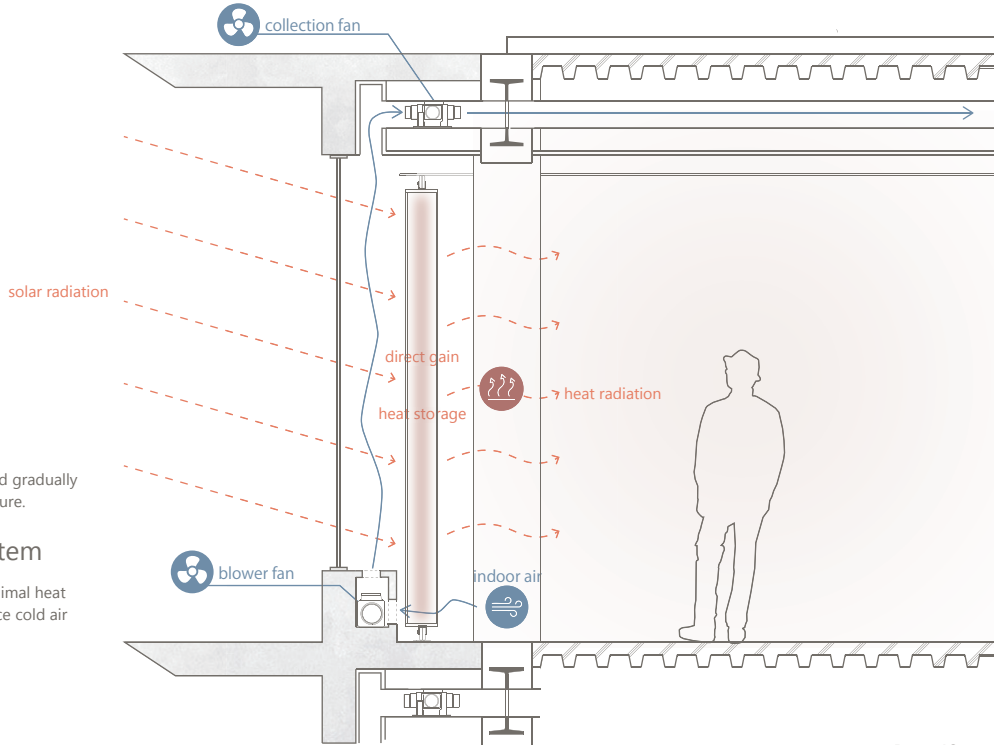
WINTER

Thermal Storage System

The heat-retaining soil partition wall stores solar heat and gradually releases it over time, slightly raising the indoor temperature.

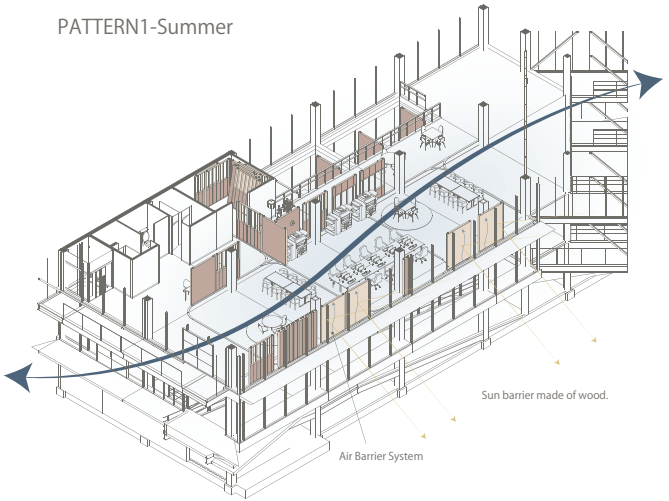
Push-Pull Ventilation Window System

Minimal air replacement with limited ventilation and minimal heat loss. Gentle exhaust/air supply balance adjusted to reduce cold air infiltration.



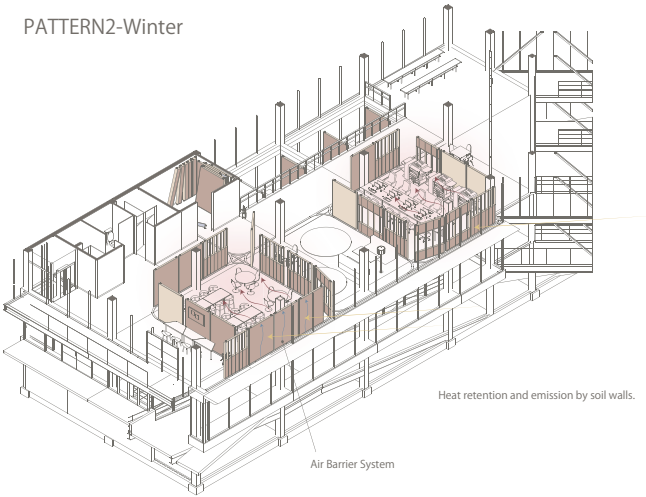
OFFICE

PATTERN1-Summer

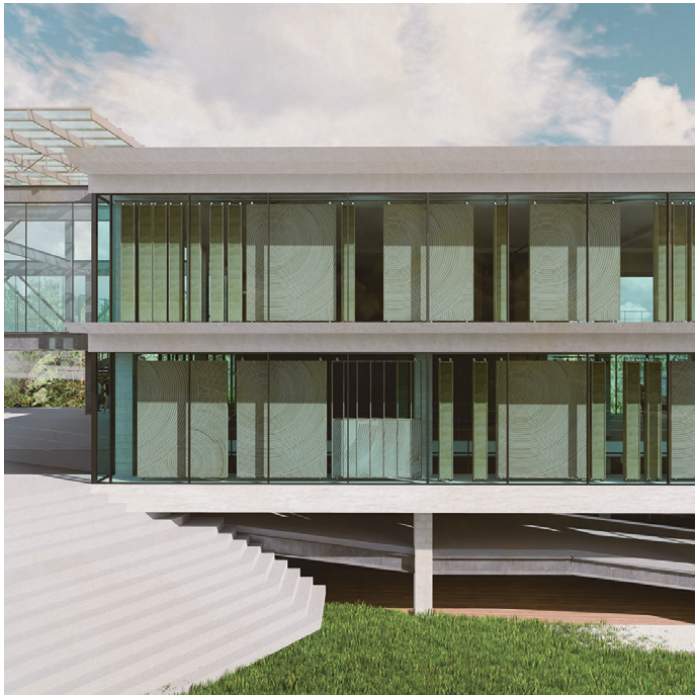


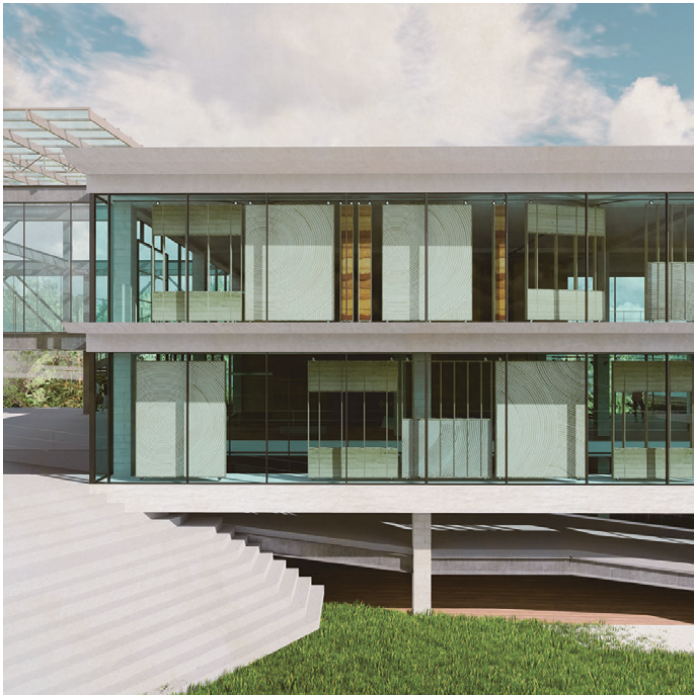
The layout creates open spaces by forming wind paths that allow airflow to pass through. Partition walls placed near the windows are oriented with the wooden side facing outward to block sunlight and prevent heat buildup.

PATTERN2-Winter



Multiple small-volume spaces are created to retain heat and form a warm environment. Partition walls placed near the windows are oriented with the soil side facing inward, utilizing its thermal storage properties to radiate heat into the interior.





The arrangement of the Variable Wall alters the appearance of the facade.
This ever-changing facade captivates people in the plaza.

WINTER

This strategy helps prevent excessive indoor cooling and maintains stable warmth, ensuring thermal comfort even during the coldest months.

Heat Trench

- Draw in outside air through pits or underground ducts warmed by geothermal energy.
- Ventilate indoor spaces using the warmed outside air.
- Pass the warmed outside air beneath the floor to slightly raise the room temperature.

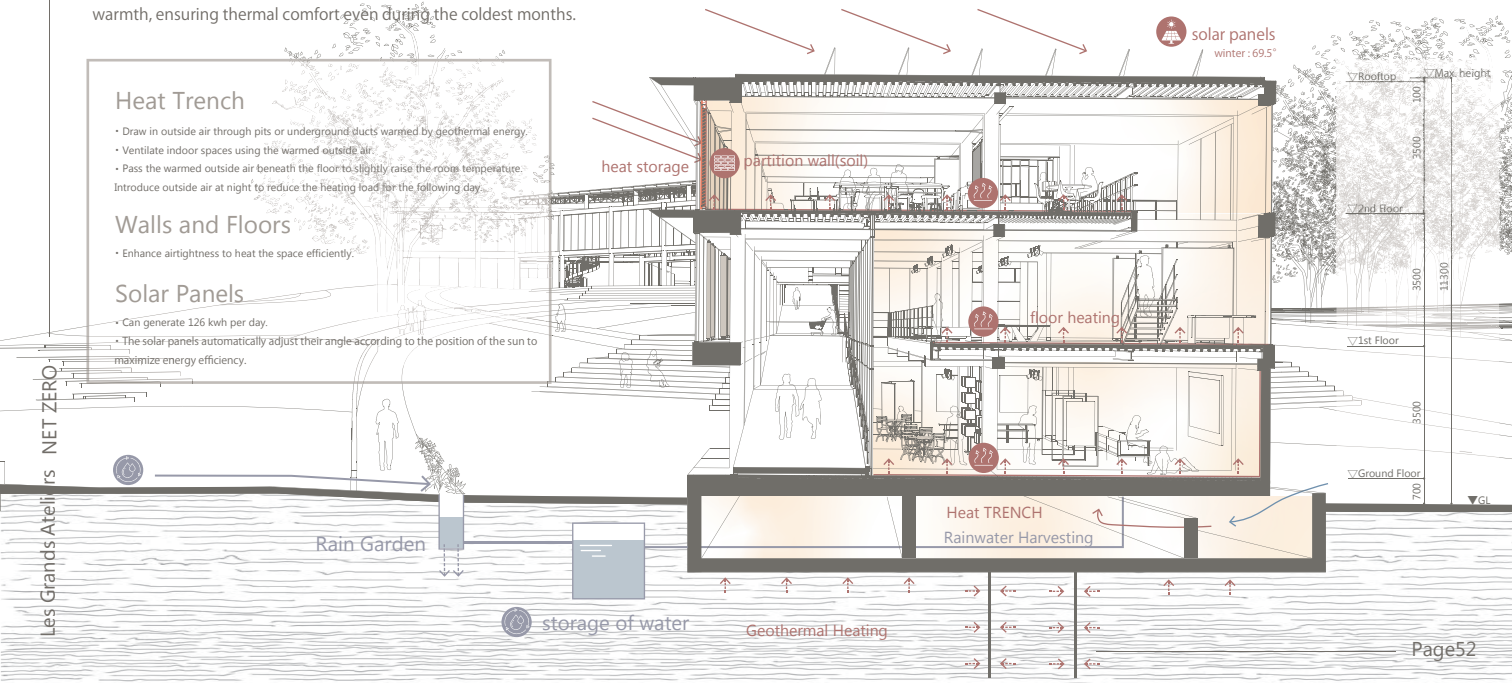
Introduce outside air at night to reduce the heating load for the following day.

Walls and Floors

- Enhance airtightness to heat the space efficiently.

Solar Panels

- Can generate 126 kwh per day.
- The solar panels automatically adjust their angle according to the position of the sun to maximize energy efficiency.



SUMMER

This strategy prevents overheating in summer, maintaining comfortable indoor conditions even during heatwaves.

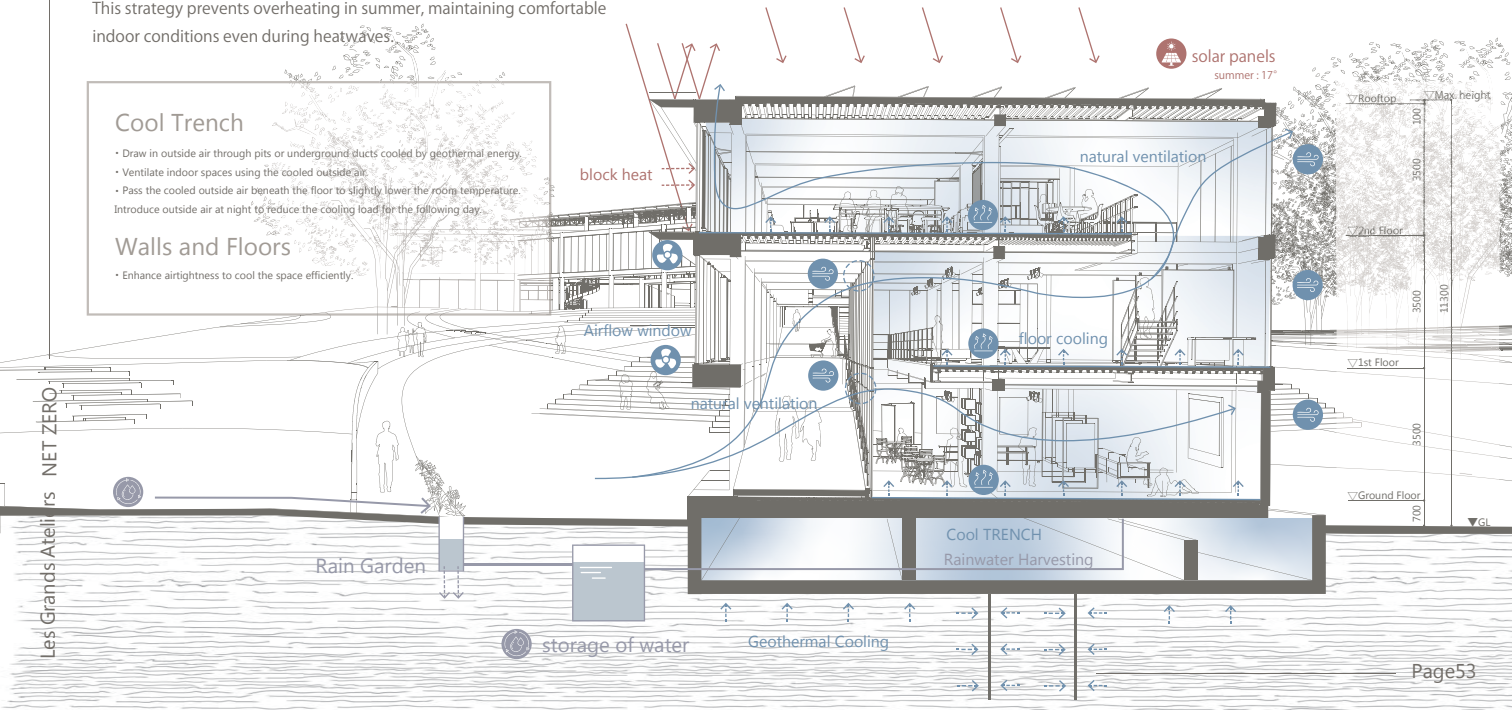
Cool Trench

- Draw in outside air through pits or underground ducts cooled by geothermal energy.
- Ventilate indoor spaces using the cooled outside air.
- Pass the cooled outside air beneath the floor to slightly lower the room temperature.

Introduce outside air at night to reduce the cooling load for the following day.

Walls and Floors

- Enhance airtightness to cool the space efficiently.



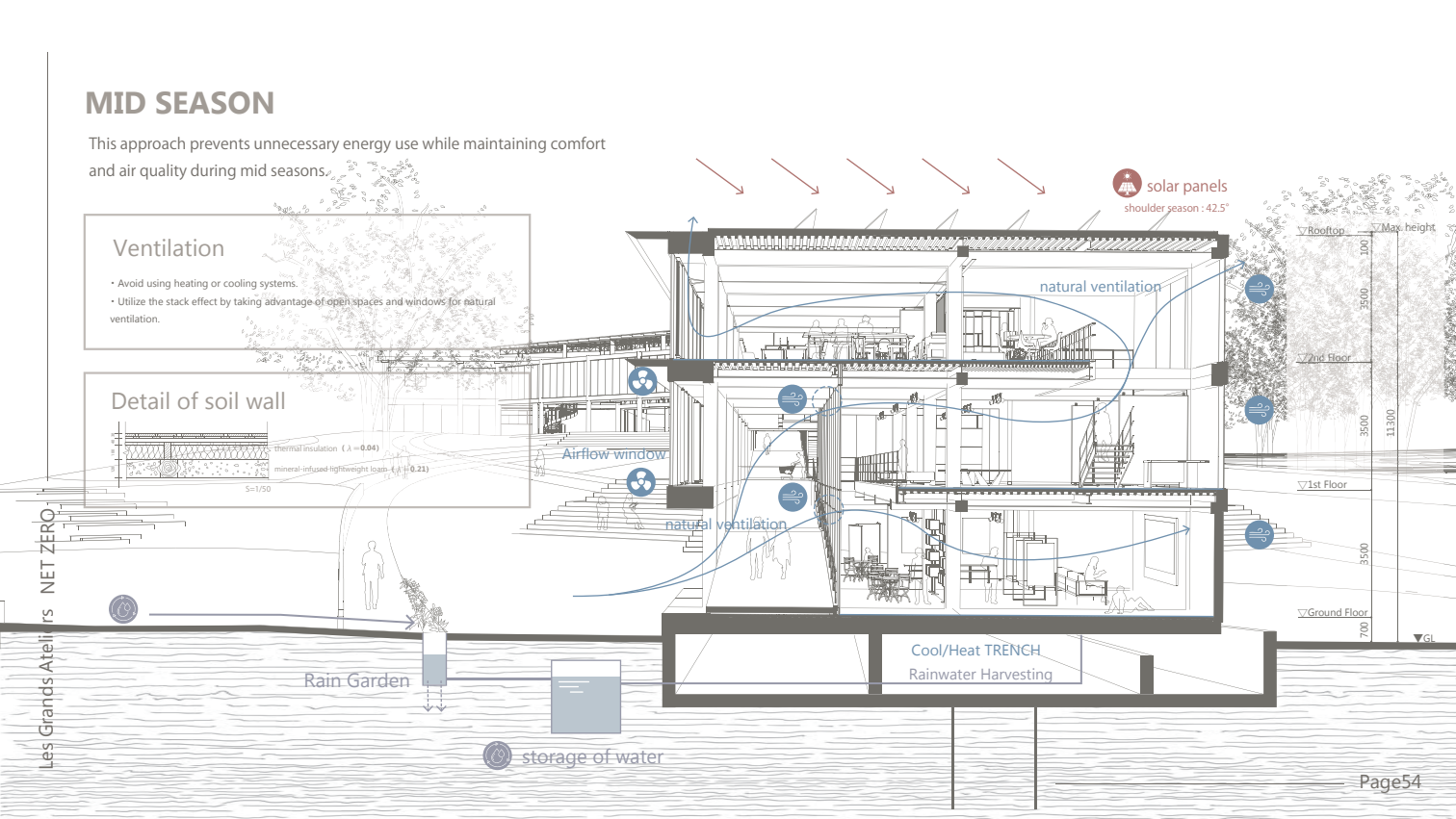
MID SEASON

This approach prevents unnecessary energy use while maintaining comfort and air quality during mid seasons.

Ventilation

- Avoid using heating or cooling systems.
- Utilize the stack effect by taking advantage of open spaces and windows for natural ventilation.

Detail of soil wall

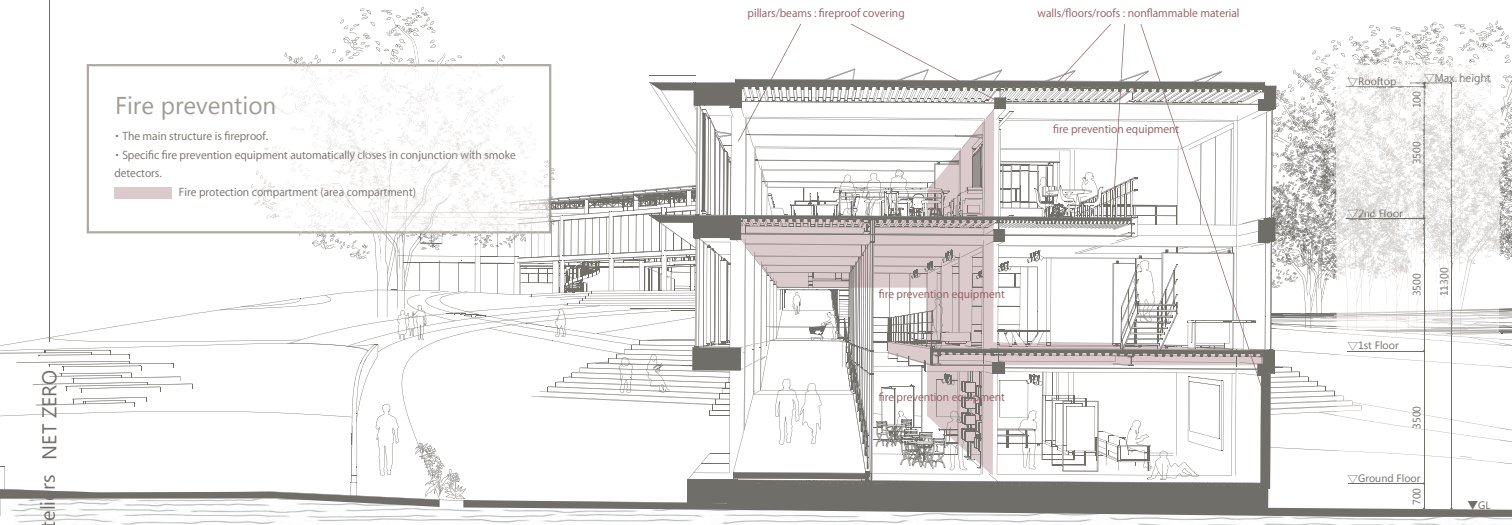


in CASE of FIRE

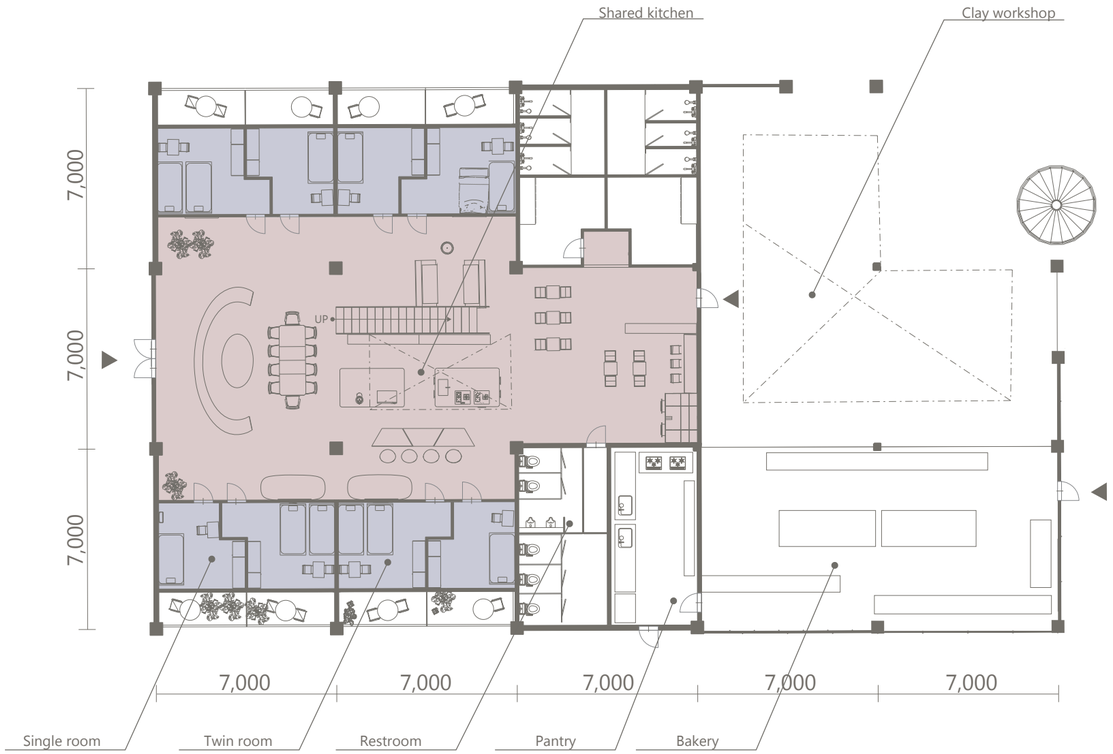
Fire prevention

- The main structure is fireproof.
- Specific fire prevention equipment automatically closes in conjunction with smoke detectors.

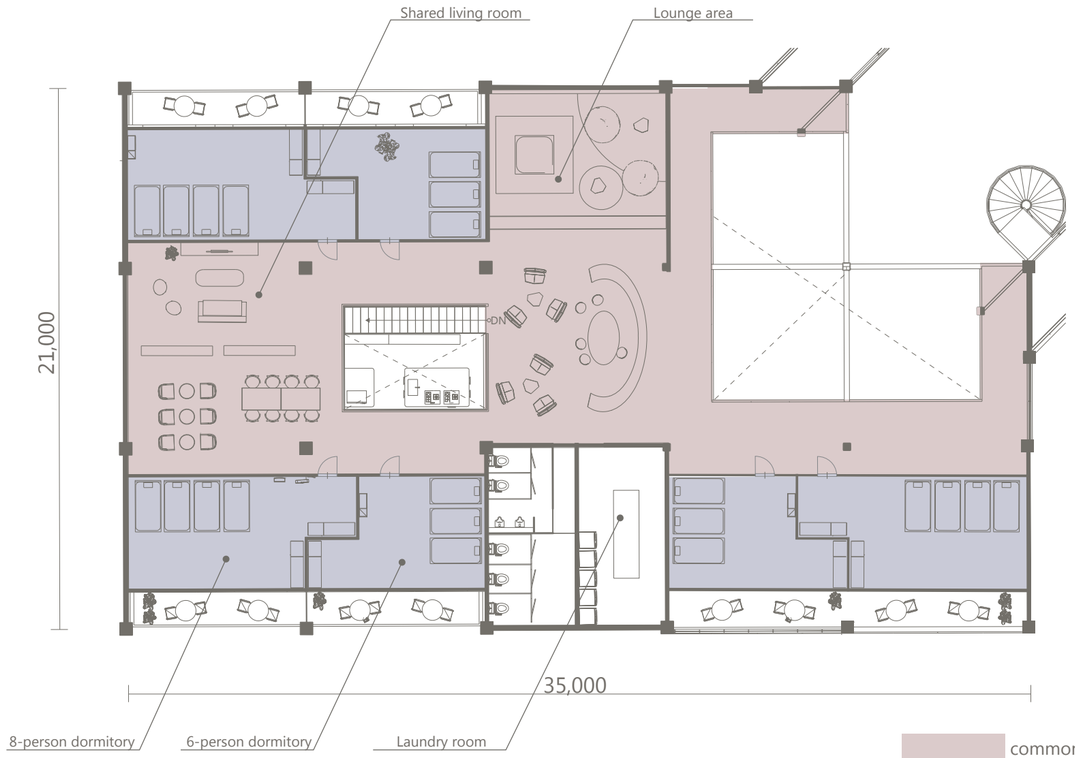
Fire protection compartment (area compartment)



GROUND FLOOR PLAN



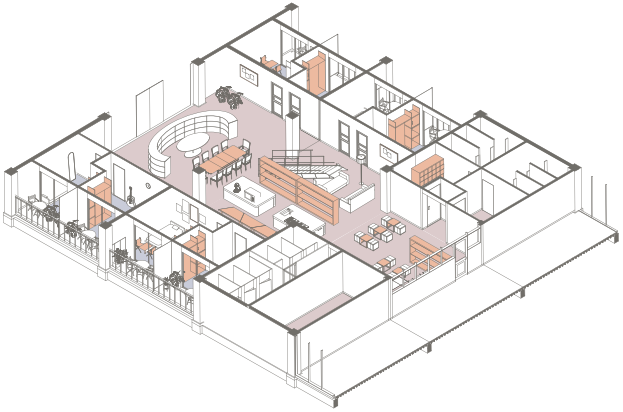
FIRST FLOOR PLAN

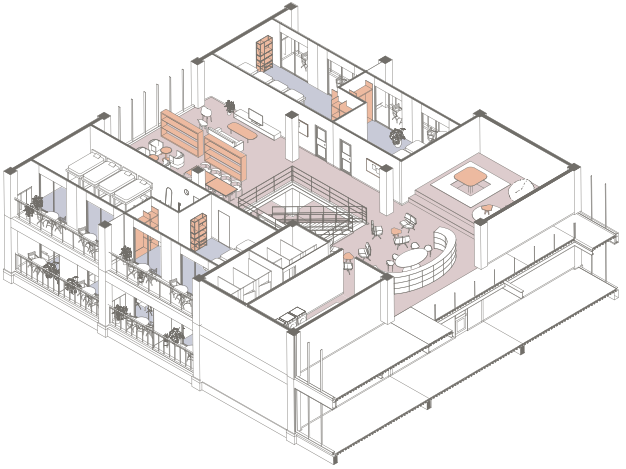


S=1:200 0 2 4 6 8 10(m)

SELF-MAKING of RESIDENTIAL BLOCK

Furniture made through SELF-MAKING is used in
both private and common areas.





COMFORTABILITY

Interior wall

Wall between units (airborne noise)
65dB ≥ 60dB
Class A1

Floor and Ceiling

Ceiling between floors (airborne noise)
60dB ≥ 60dB
Class A1

Ceiling between floors (impact noise)
60dB ≤ 60dB
Class A1

Window

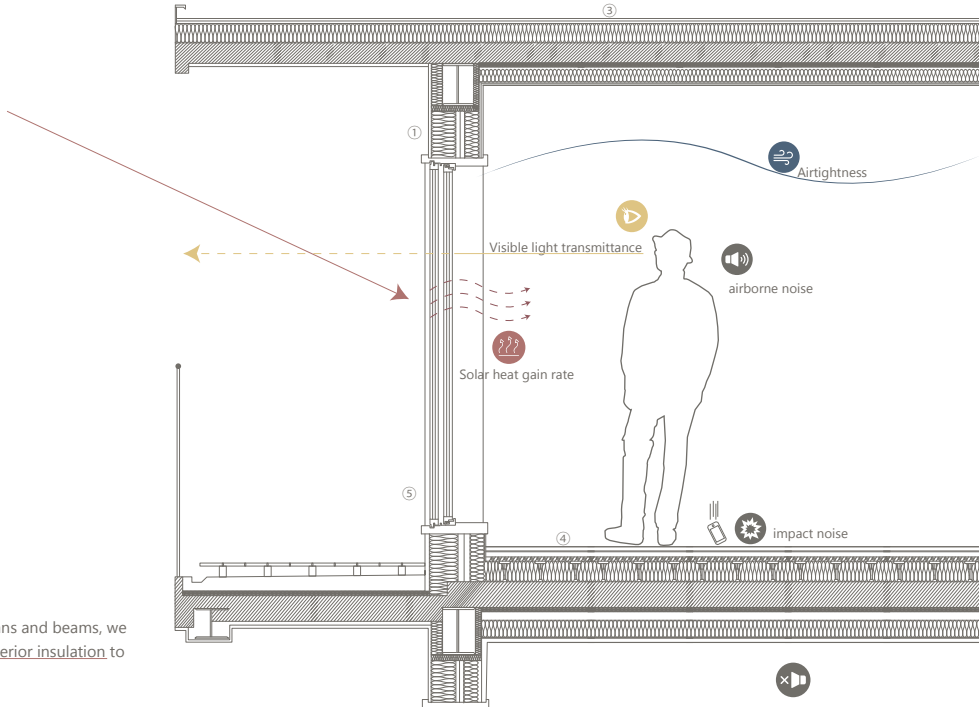
Solar heat gain rate
g-value = 45%

Airtightness
q-value = 0.465$m^3/(h \cdot m^2)$ < 0.6$m^3/(h \cdot m^2)$

Visible light transmittance
70.9%

Exterior wall

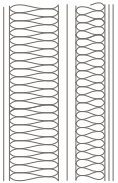
As the steel structure creates thermal bridges at the columns and beams, we wrapped them with insulation and ensured continuous exterior insulation to maintain overall thermal performance.



DETAILS

① Exterior wall

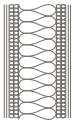
Provides excellent thermal and acoustic insulation, enhancing comfort and reducing energy consumption for heating and cooling.



Plaster board	30mm	
Isover standard	180mm	ISOVER
Isover • bario extrasafe	25mm×2	ISOVER
Isover standard	50mm	
Plaster board	15mm	

② Interior wall

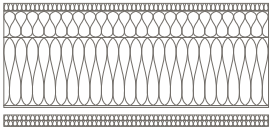
Delivers superior sound insulation, creating quiet and comfortable indoor spaces while improving overall acoustic performance.



Ecophon Clipso™ So Acoustic 495 D / AC	25mm	ecophon
Plaster board	12.5×2mm	ISOVER
Isover standard	100mm	
Plaster board	12.5×2mm	
Green glue		ISOVER
Ecophon Clipso™ So Acoustic 495 D / AC	25mm	

③ Roof

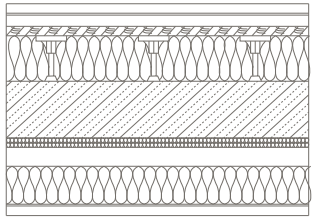
Ensures high thermal protection, reducing heat loss through the roof and contributing to overall energy efficiency.



Plaster	10mm	
Isover standard	20mm	ISOVER
PVC	0.25mm	
Plaster	200mm	

④ Floor

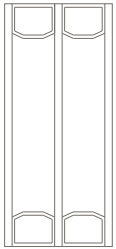
Improves thermal comfort underfoot and enhances the building´s energy performance with durable insulation layers.



Natural wood	15mm	
Plywood	20mm	
Particle	20mm	
Polyethylene film	20mm	
Floor top	150mm	
Isover standard	100mm	ISOVER
Concrete overlay	150mm	
Humidification sheet	15mm	
Polystyrene foam	50mm	
Rubble	16mm	

⑤ Window

Features high-performance glazing that maximizes natural light while minimizing heat loss and enhancing thermal comfort.



ECLAZ 3	4mm	SAINT-GOBAIN
Kr	15mm	
FL	4mm	
Kr	15mm	
ECLAZ 3	4mm	SAINT-GOBAIN

PASSIVE HOUSE U-VALUE

Exterior wall U-value

Wall	Material	Thickness(m)	Thermal conductivity(W/m・K)	Thermal resistance(㎡・K/W)
Out side				91%
External heat hlux				0.11
External finish	Plaster board	0.0300	0.2200	0.1364
Steel column + insulation				
External insulation	Isover standard	0.1800	0.0380	4.7368
Air		0.0200	0.0241	0.8299
Sheet	Isover・bario extrasafe	0.0250	0.0000	0.0000
Internal insulation	Isover standard	0.0500	0.0380	1.3158
Internal finish	Plaster board	0.0150	0.2200	0.0682
Internal heat flux				0.0400
In side				
Thermal resistance value		0.3200	0.5401	7.2371
Thermal conductivity	Column diameter[m]	Total thermal bridge segment length		0.1382
Thermal bridge	0.2100	0.6400	0.1344	0.1259
U-balue(W/ ㎡・K)				0.1478
Evaluation				OK

Floor U-value

Floor	Material	Thickness(m)	Thermal conductivity(W/m・K)	Thermal resistance(㎡・K/W)
In side				0.1500
Interior finish	Natural wood	0.015	0.1200	0.1250
Interior base	Plywood	0.020	0.1600	0.1250
	Particle	0.020	0.15	0.1333
	Polyethylene film	0.020	0.042	0.4762
Insulation	Floor top	0.150	0.0360	4.1667
Concrete overlay		0.150	1.5000	0.1000
Humidificaton sheet		0.015	0.0000	0.0000
	Polystyrene foam	0.050	0.0380	1.3158
Rubble		0.160	3.1000	0.0516
Soil				0.1500
Total		0.3900	1.5360	6.7936
U-balue(W/ ㎡・K)				0.1472
Evaluation				OK

Roof U-value

Roof	Material	Thickness(m)	Thermal conductivity(W/m・K)	Thermal resistance(㎡・K/W)
Out side				0.0400
Cosmetic floor	Plaster	0.1000	0.2200	0.4545
Insulation	Isover standard	0.2000	0.0380	5.2632
Waterproof layer	PVC	0.00025	0.2900	0.0009
Reinforced plaster	Plaster	0.2000	0.2200	0.9091
In side				0.0900
Total		0.5003	0.7680	6.7577
U-balue(W/ ㎡・K)				0.1480
Evaluation				OK

Window U-value

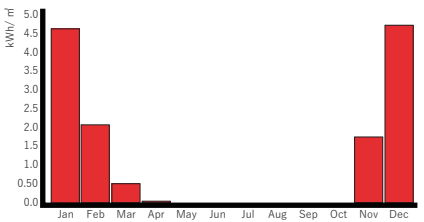
Window	Material	area(m^2)	Performance(W/K)
Out side			
Glass(triple glass)	ECLAZ3	4.412	2.691
Sash	wood	0.2000	0.649
		Length(m)	
Spacer	swisspacer	12.9	0.374
In side			
U-balue(W/ ㎡・K)			0.788
Evaluation			OK

PASSIVE HOUSE ENERGY-NEEDS

Residential Block

Les Grands Ateliers

Heating Needs

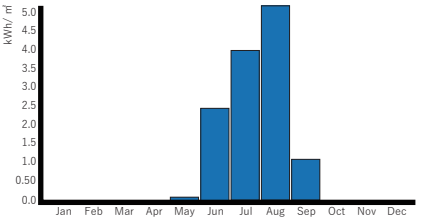


Heating needs (kWh/m²)

	Jan	Feb	Mar	Apr	Nov	Dec	Total
Heating	4.61	2.06	0.49	0.03	1.75	4.72	13.66
Total	4.61	2.06	0.49	0.03	1.75	4.72	13.66

13.7 kWh/ m² < 15.0 kWh/ m²

Cooling Needs



Cooling needs (kWh/m²)

	May	Jun	Jul	Aug	Sep	Total
Cooling	0.06	2.43	3.96	5.17	1.07	12.69
Total	0.06	2.43	3.96	5.17	1.07	12.69

12.7 kWh/ m² < 15.0 kWh/ m²

Indicator	Building [kWh/m²]	Limit value [kWh/m²]	Comply
Heating needs	13.7	15.0	Yes
Cooling needs	12.7	15.0	Yes

Lighting autonomy 300 Lux	Autonomy [%]	Required [%]	Comply
TZ: SPACE 1 DAYLIGHTINGCONTROLS	72.0	60.0 %	Yes

Summer comfort (overheating % of season)	Overheating [%]	Required [%]	target [%]	Comply
TZ: SPACE 1	0.0	10.0 %	5.0 %	Yes

At Co Nest Ateliers, visitors to the Les Grands Ateliers can engage in learning that is closely connected to everyday life. By interacting with local residents, meeting people from other regions, or even living on-site, they can experience the everyday reality of using something they have made or having someone else use it. Opening the Les Grands Ateliers as a creative campus also helps raise awareness of social sustainability throughout the community.


Self authorship
Cultivating civic pride
Chimilin
SELF MAKING
Cultural preservation
Deepen one's learning
Les
Grands
Ateliers
Materialization of ideas
Increasing value of product
A conscious process of shaping yourself through relationships with others and the environment.