ARCHITECTURE STUDENT CONTEST

21st INTERNATIONAL EDITION, BELGRADE 2026

Faculty of Architecture

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THE LOOP

Sports and Recreation Hub

SAINT-GOBAIN

01 INTRODUCTION

SITE ANALYSIS

PROJECT GOAL

CONCEPT



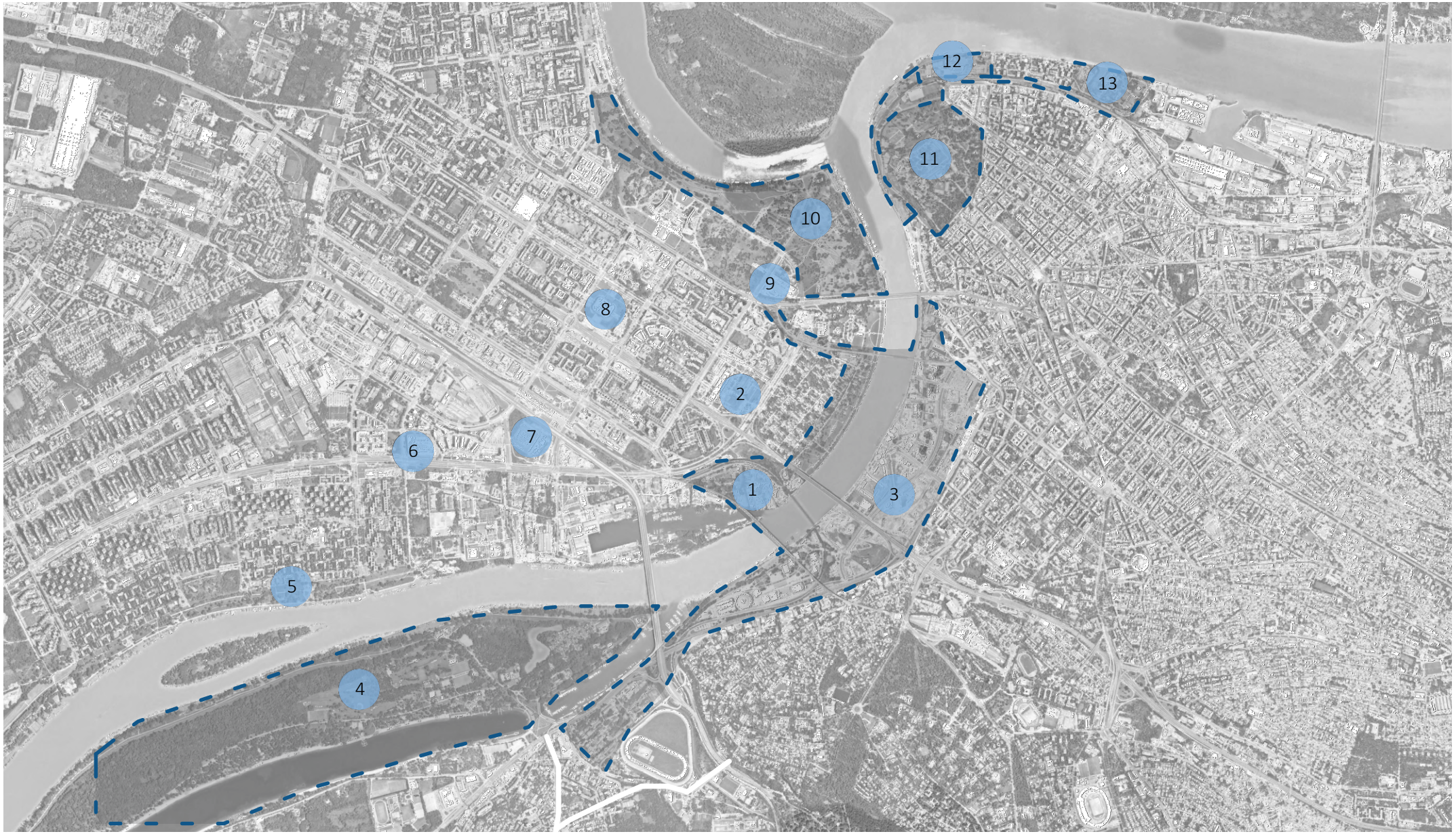






SAINT-GOBAIN

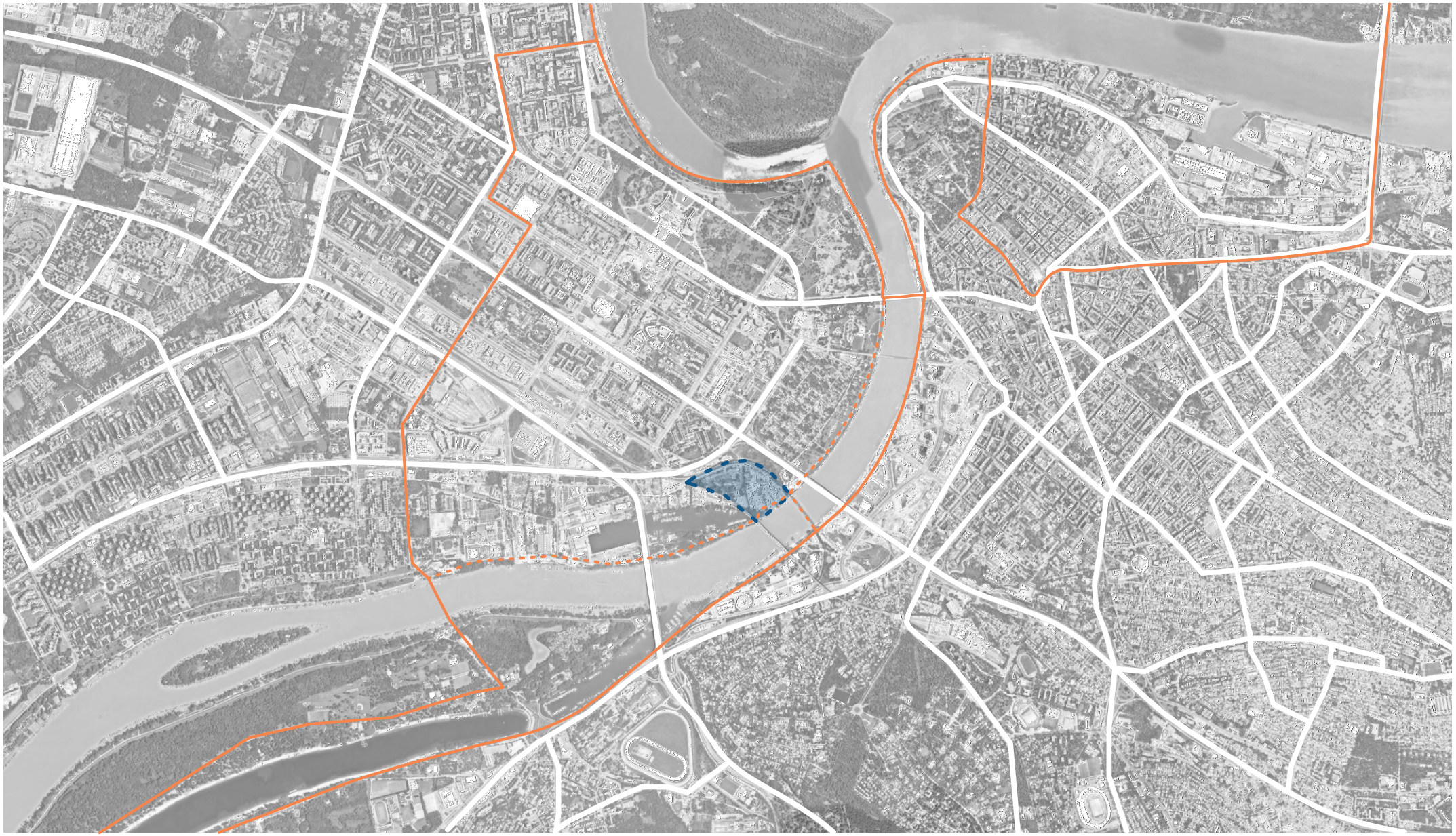
SITE ANALYSIS



1 - project location
2 - Sava Centar
3 - Belgrade Waterfront
4 - Ada lake
5 - New Belgrade riviera
6 - Shopping malls
7 - Bus & Train Station
8 - Belgrade Arena
9 - Shopping malls
10 - Ušće (confluence) park
11 - Kalemegdan fortress
12 - Sport & recreational center
13 - Belgrade linear park

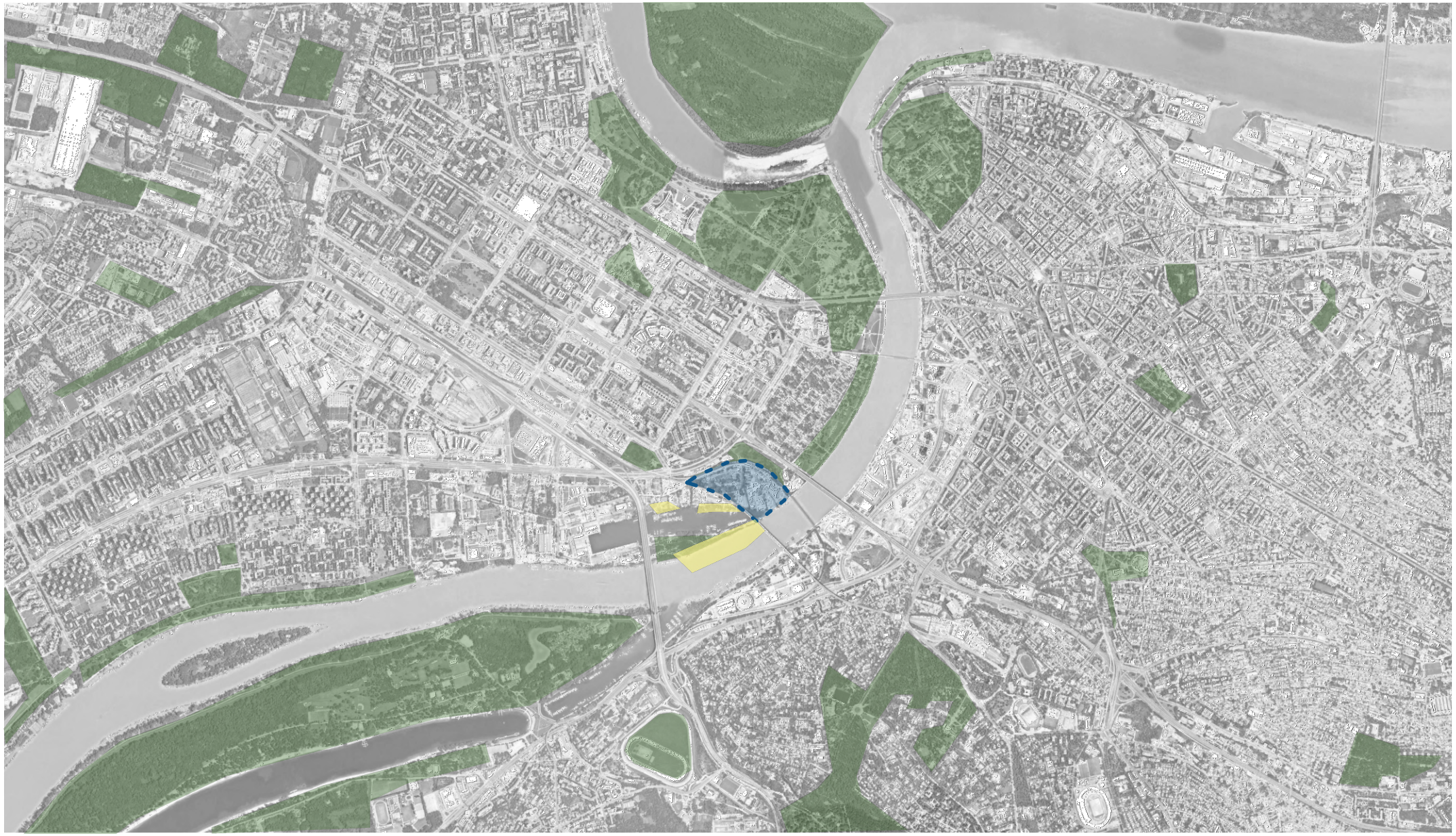
SAINT-GOBAIN

SITE ANALYSIS



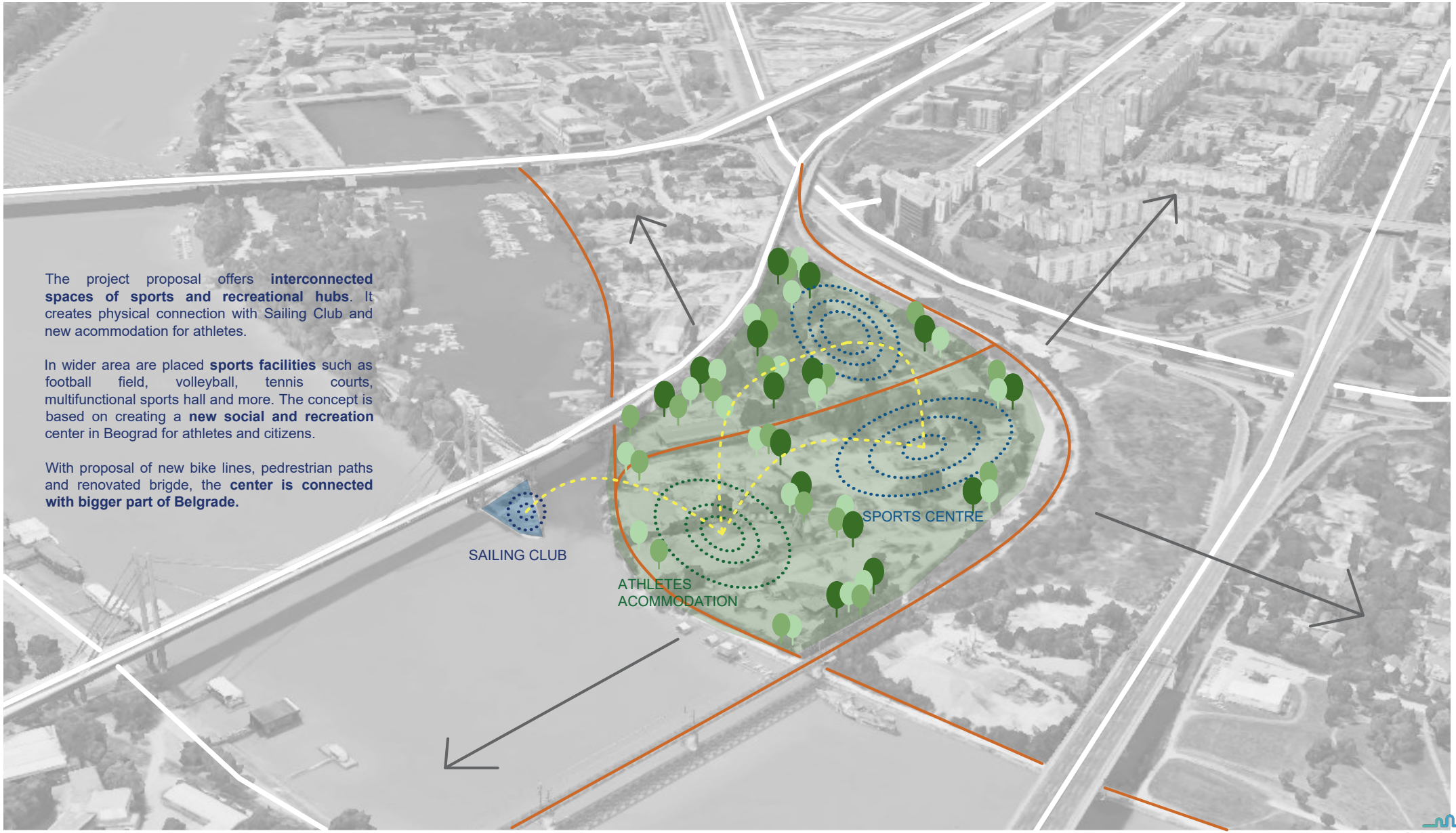
SAINT-GOBAIN

SITE ANALYSIS



SAINT-GOBAIN

PROJECT GOAL



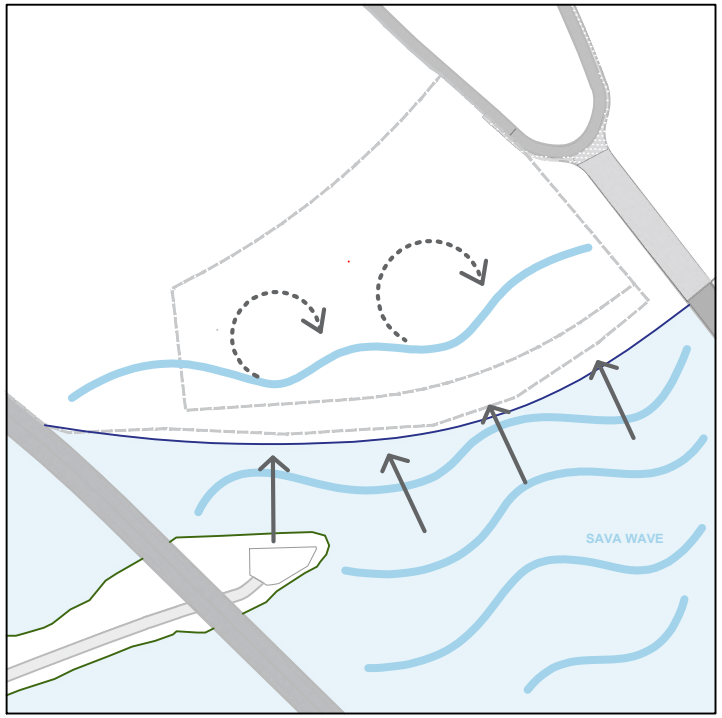
The project proposal offers **interconnected spaces of sports and recreational hubs**. It creates physical connection with Sailing Club and new acommodation for athletes.

In wider area are placed **sports facilities** such as football field, volleyball, tennis courts, multifunctional sports hall and more. The concept is based on creating a **new social and recreation** center in Beograd for athletes and citizens.

With proposal of new bike lines, pedrestrian paths and renovated brigde, the **center is connected with bigger part of Belgrade.**

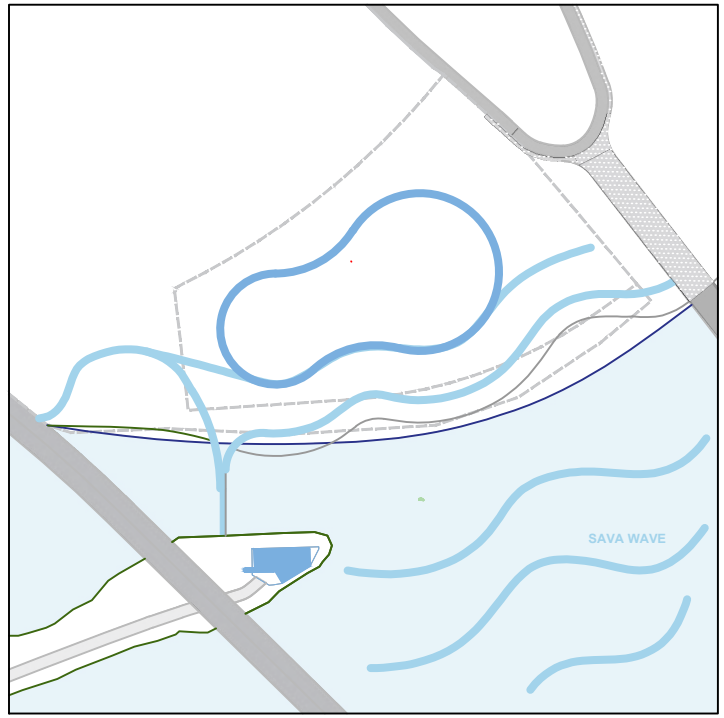
SAINT-GOBAIN

CONCEPT



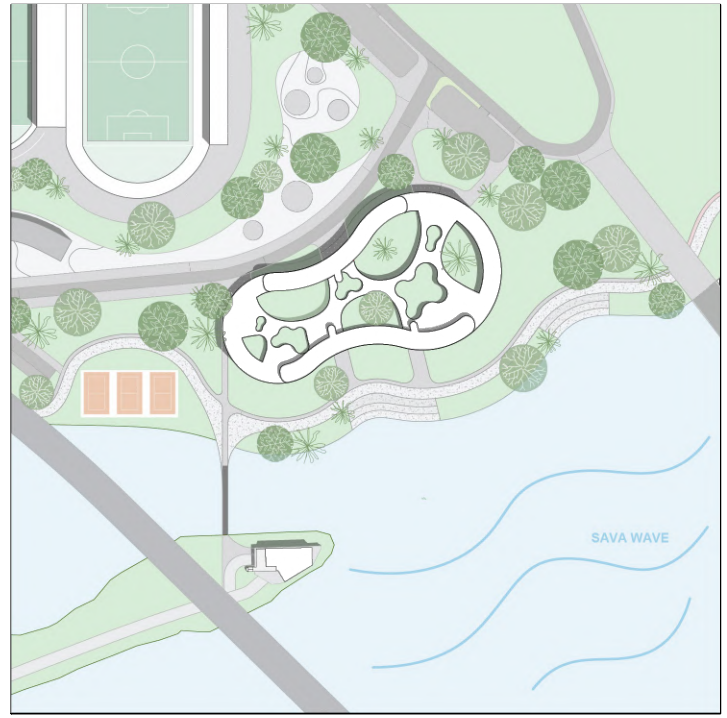
INFLUENCE OF THE SAVA RIVER

The close proximity of the Sava River influences the design of the buildings, thus blurring the boundaries between land and water and creating a harmonious natural space.



MULTIPICATION OF SAVA WAVES

As waves move toward the shore, the broader area of the site is shaped as well. A multiplication of wave-like imitations emerges. In this way, it connects multi-purpose structures into a harmonious whole.



LOOP SHAPE OF THE BUILDING

The volume of the building is shaped with an organic form, whose curves naturally fit into the river landscape and the accompanying flow of the Sava River.

02 NEW CONSTRUCTION

DESIGN STRATEGY

MODULAR ACCOMODATION

MASTER PLAN

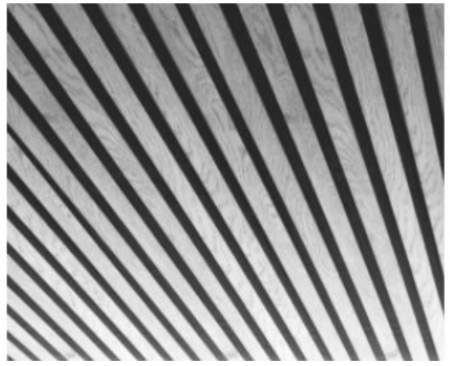
PROJECT DESIGNS

PROJECT DETAIL



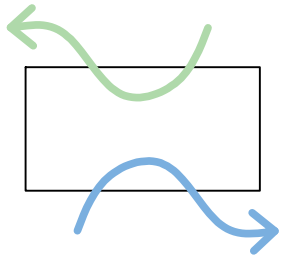




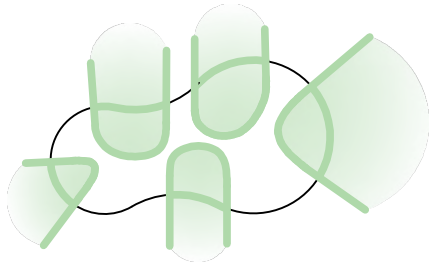




SAINT-GOBAIN

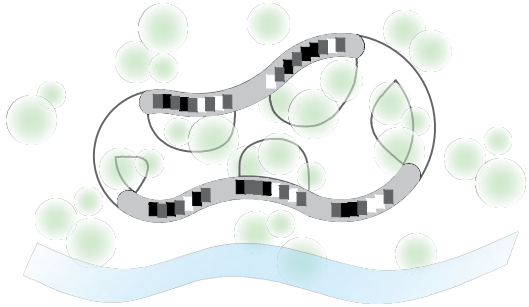
DESIGN STRATEGY



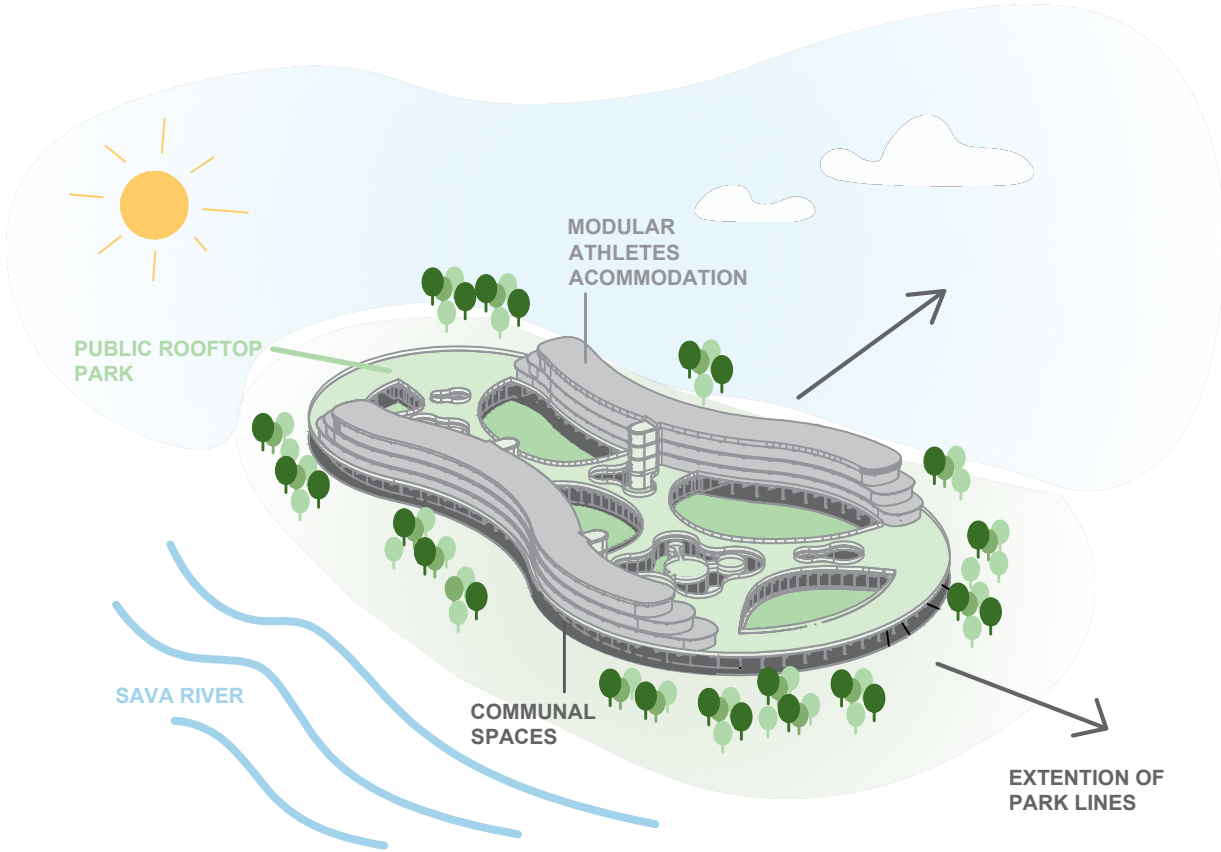
extention of greenery
and the river

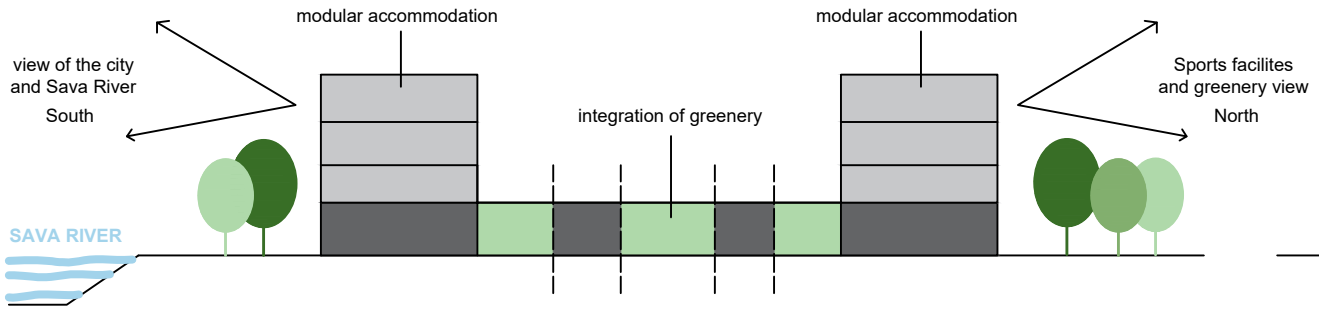


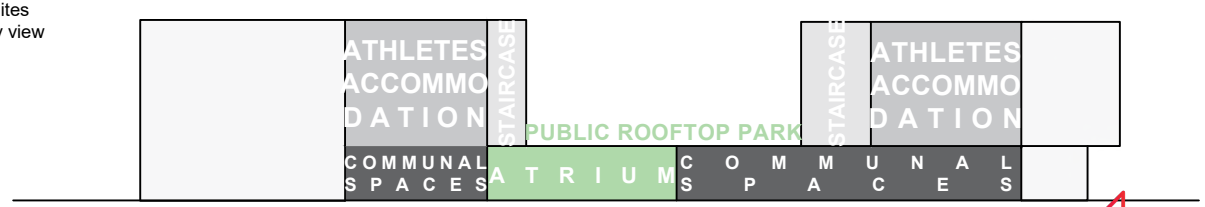
opening the building
towards nature



athletes accommodation from 1st floor
opening new views
connection with the landscape

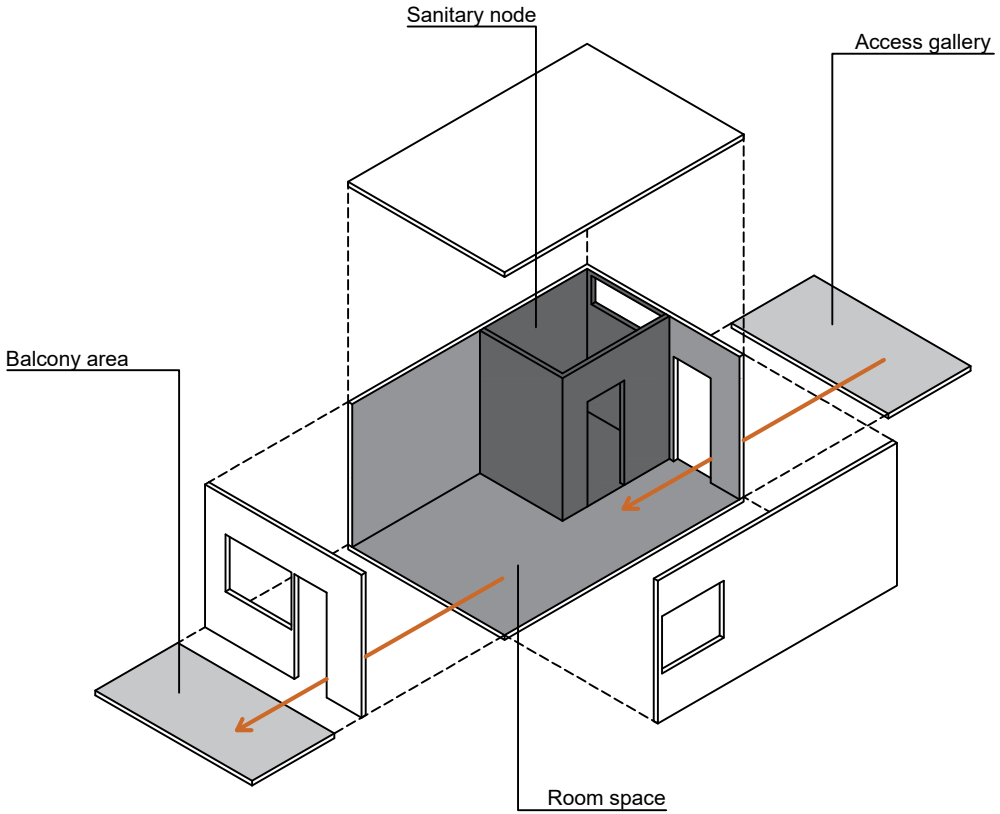


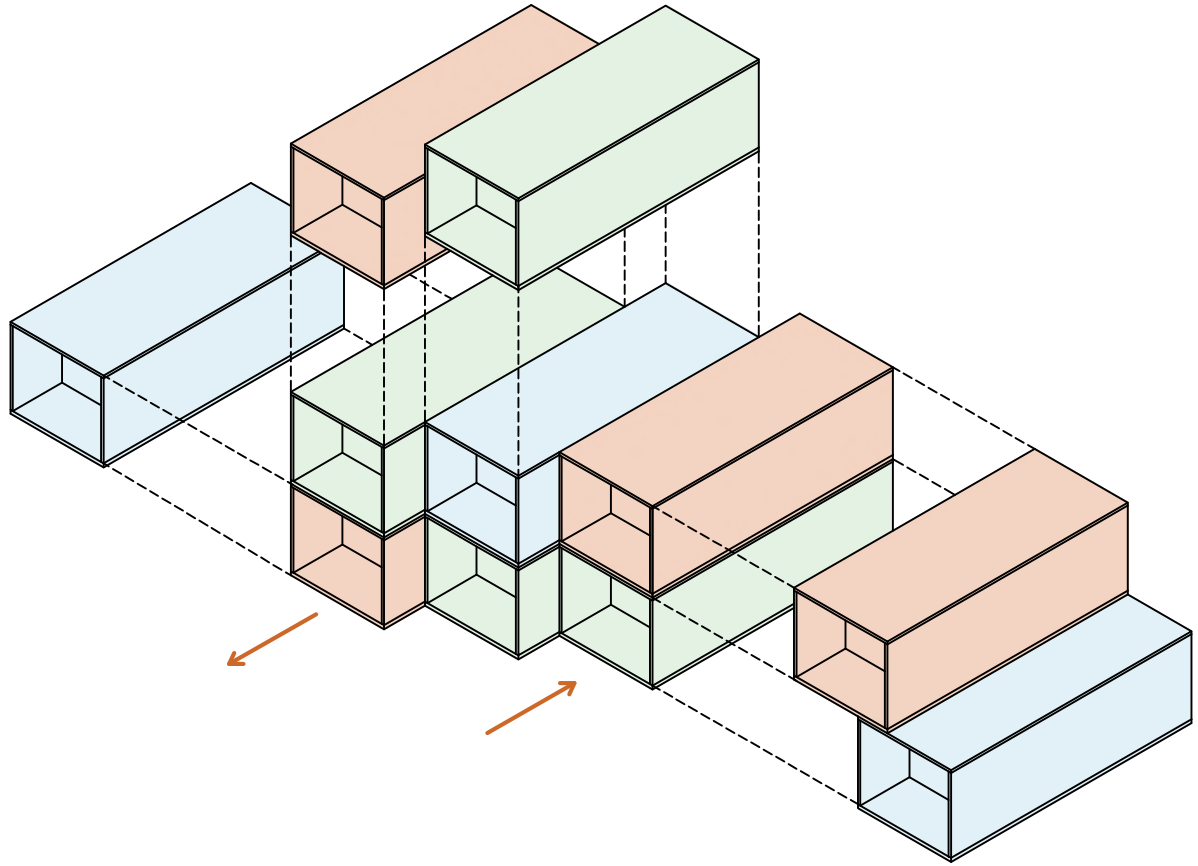




SAINT-GOBAIN

MODULAR ACCOMODATION

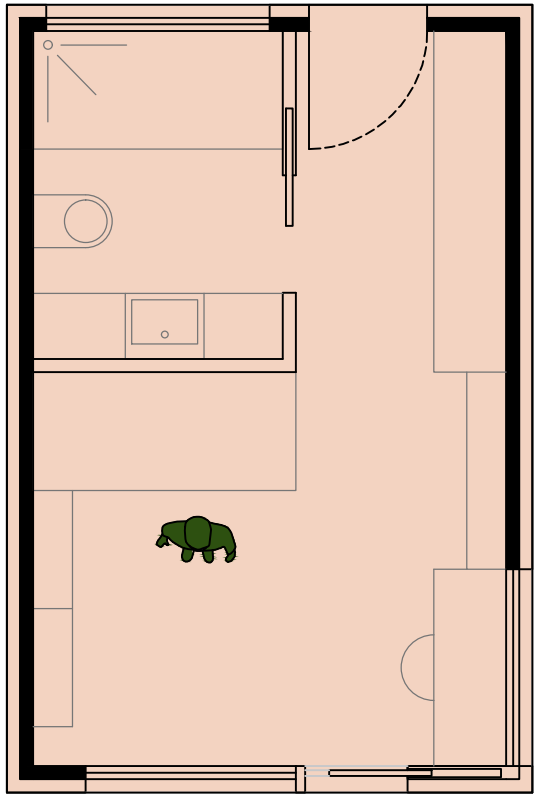




This modular unit is organized around a clear and functional spatial sequence. Access to each room is provided via an external gallery, which serves as a circulation corridor leading into the module. Upon entering, the main room space is arranged together with an integrated sanitary unit, ensuring compact and efficient use of the interior. The module also includes direct access to a private balcony, extending the living area outward and improving spatial quality.

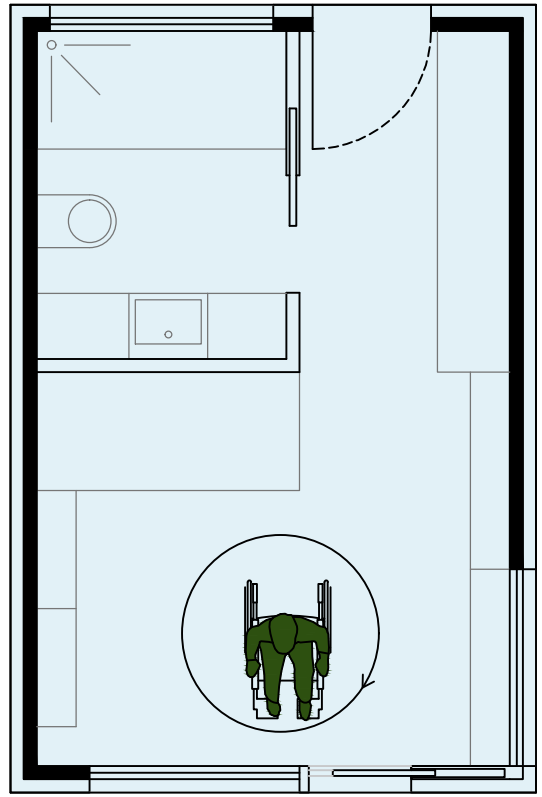
On a larger scale, these modules are vertically stacked to form a cohesive structure. In plan, they are slightly offset from one another in a stepped arrangement, creating a dynamic composition while also enhancing privacy, light access, and ventilation for each unit. This staggered positioning contributes to both the functional and aesthetic value of the overall design.

MODULAR ACCOMODATION



One person room

Two people room



Room for disabled people

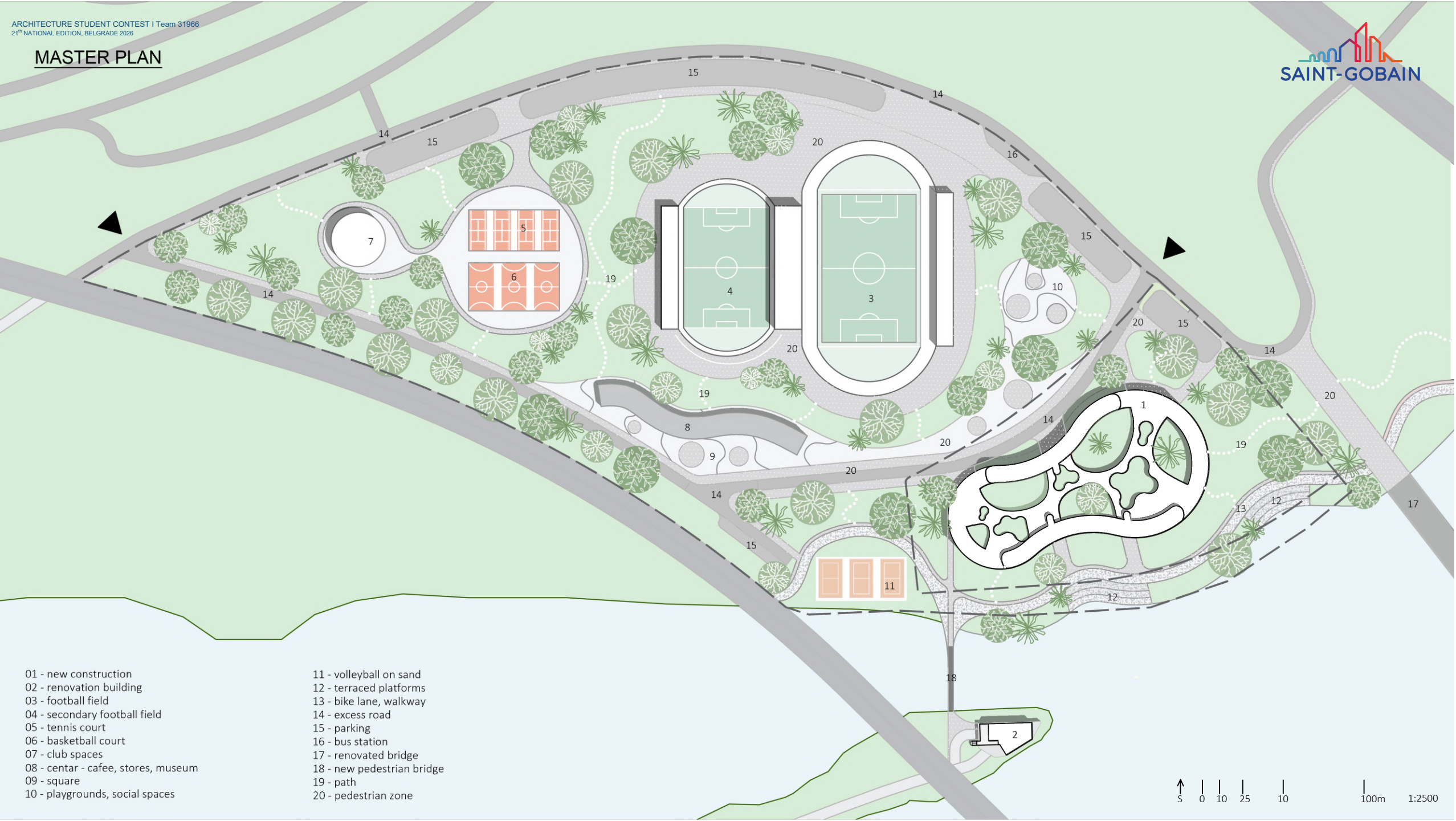
This room module is designed with fixed dimensions but offers flexible use in three different configurations: for a single person, two people, or a person with disabilities. The adaptability is achieved through foldable and transformable furniture, including beds, tables, and storage elements. For example, one bed can be folded away to create additional space, while tables and other furniture can be adjusted as needed. This system allows each room to be easily reconfigured to meet different user needs, maximizing functionality within the same spatial footprint.

SAINT-GOBAIN


SAINT-GOBAIN

MASTER PLAN

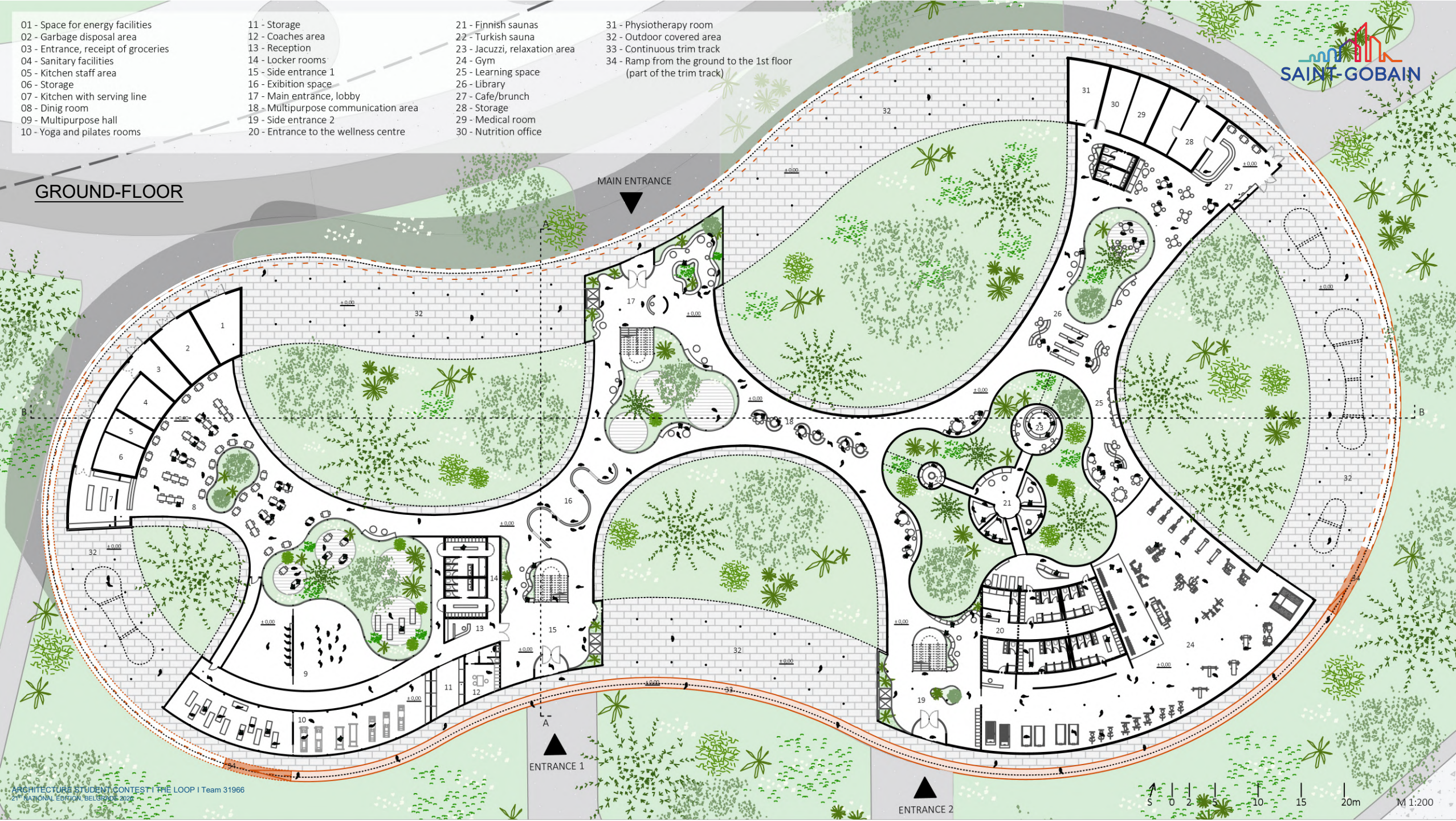
SAINT-GOBAIN



01 - new construction
02 - renovation building
03 - football field
04 - secondary football field
05 - tennis court
06 - basketball court
07 - club spaces
08 - centar - cafee, stores, museum
09 - square
10 - playgrounds, social spaces
11 - volleyball on sand
12 - terraced platforms
13 - bike lane, walkway
14 - excess road
15 - parking
16 - bus station
17 - renovated bridge
18 - new pedestrian bridge
19 - path
20 - pedestrian zone

01 - Space for energy facilities
02 - Garbage disposal area
03 - Entrance, receipt of groceries
04 - Sanitary facilities
05 - Kitchen staff area
06 - Storage
07 - Kitchen with serving line
08 - Dinig room
09 - Multipurpose hall
10 - Yoga and pilates rooms
11 - Storage
12 - Coaches area
13 - Reception
14 - Locker rooms
15 - Side entrance 1
16 - Exibition space
17 - Main entrance, lobby
18 - Multipurpose communication area
19 - Side entrance 2
20 - Entrance to the wellness centre
21 - Finnish saunas
22 - Turkish sauna
23 - Jacuzzi, relaxation area
24 - Gym
25 - Learning space
26 - Library
27 - Cafe/brunch
28 - Storage
29 - Medical room
30 - Nutrition office
31 - Physiotherapy room
32 - Outdoor covered area
33 - Continuous trim track
34 - Ramp from the ground to the 1st floor (part of the trim track)

GROUND-FLOOR



SAINT-GOBAIN

FIRST FLOOR

01 - Entrance hall of the athletes residence
02 - Closed gallery
03 - Balcony
04 - Roof terrace/ public park
05 - Continuous trim track
06 - Housing unit module
07 - Laundry room and social area
08 - Greenery
09 - Atrium
10 - Playground and street gym
11 - Floor glazed walkway

S 0 2 5 10 15 20m

M 1:200

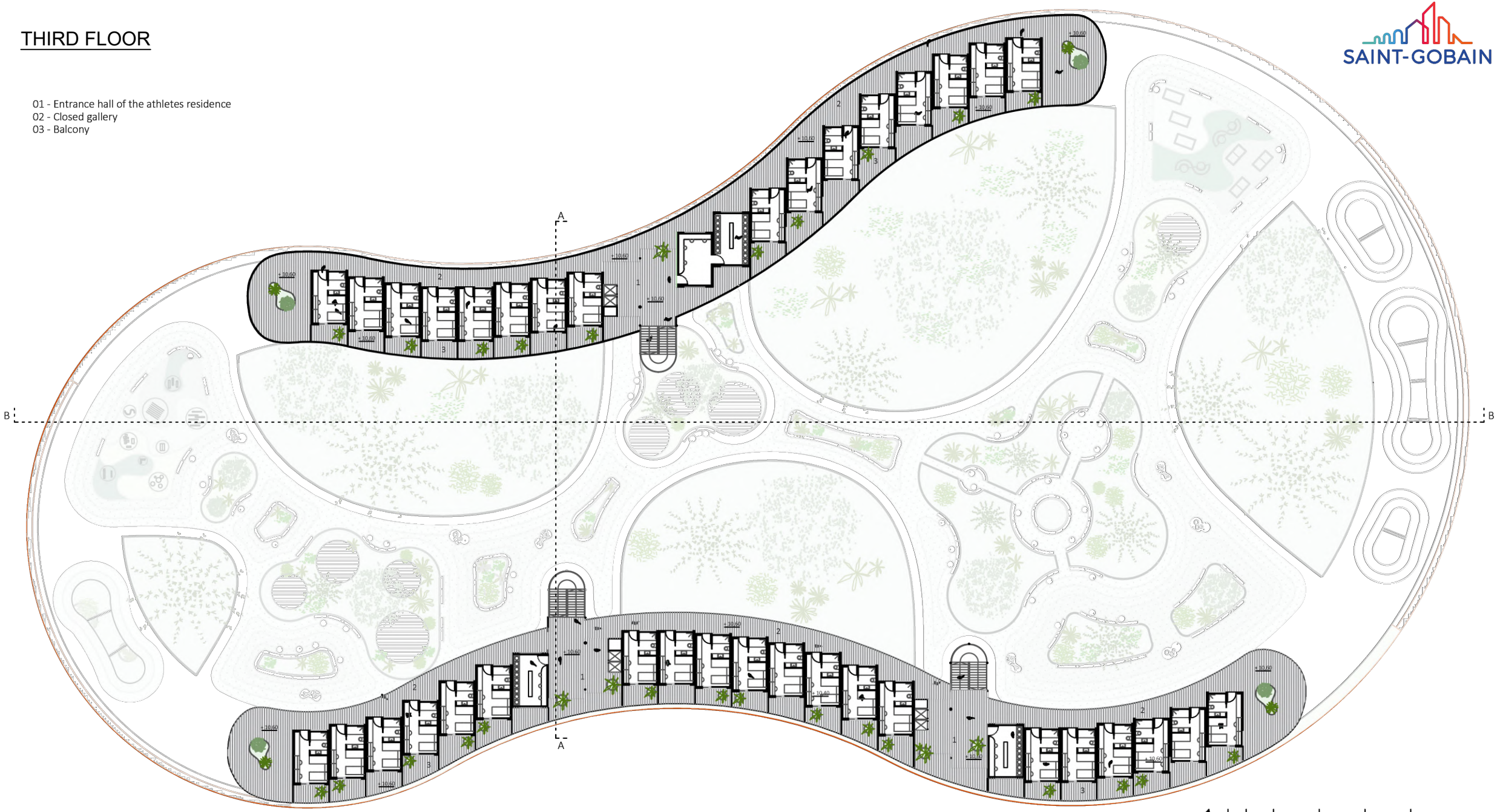
SECOND FLOOR

01 - Entrance hall of the athletes residence
02 - Closed gallery
03 - Balcony

S 0 2 5 10 15 20m M 1:200

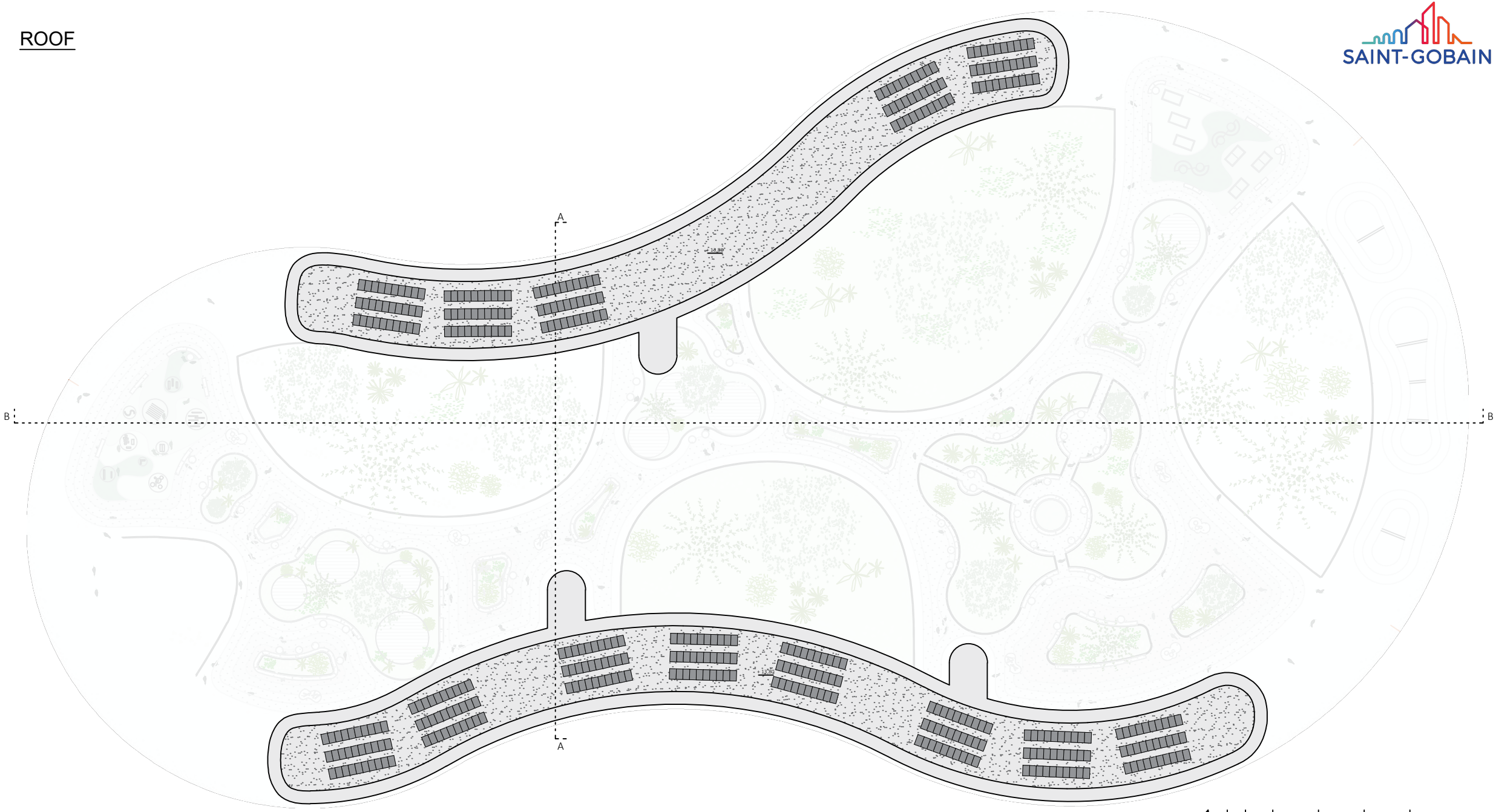
THIRD FLOOR

01 - Entrance hall of the athletes residence
02 - Closed gallery
03 - Balcony



S 0 2 5 10 15 20m M 1:200

ROOF



S 0 2 5 10 15 20m

M 1:200

SECTIONS

0 2 5 10 15 20m M 1:200

FACADES

0 2 5 10 15 20m

M 1:200

FACADES

0 2 5 10 15 20m

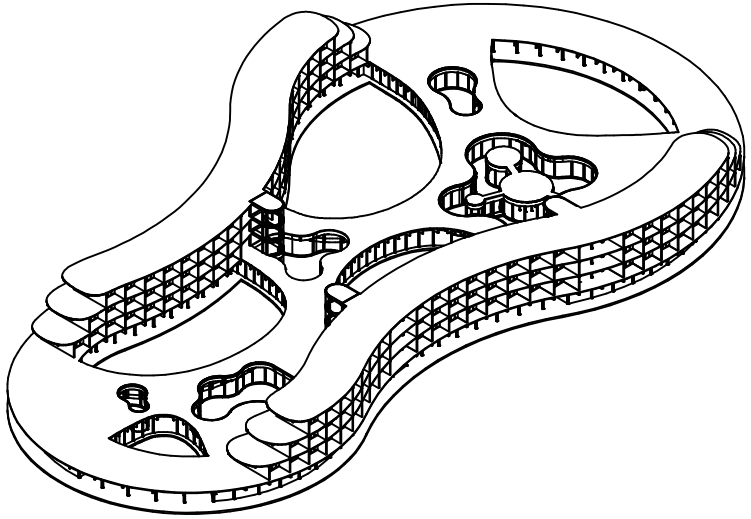
M 1:200

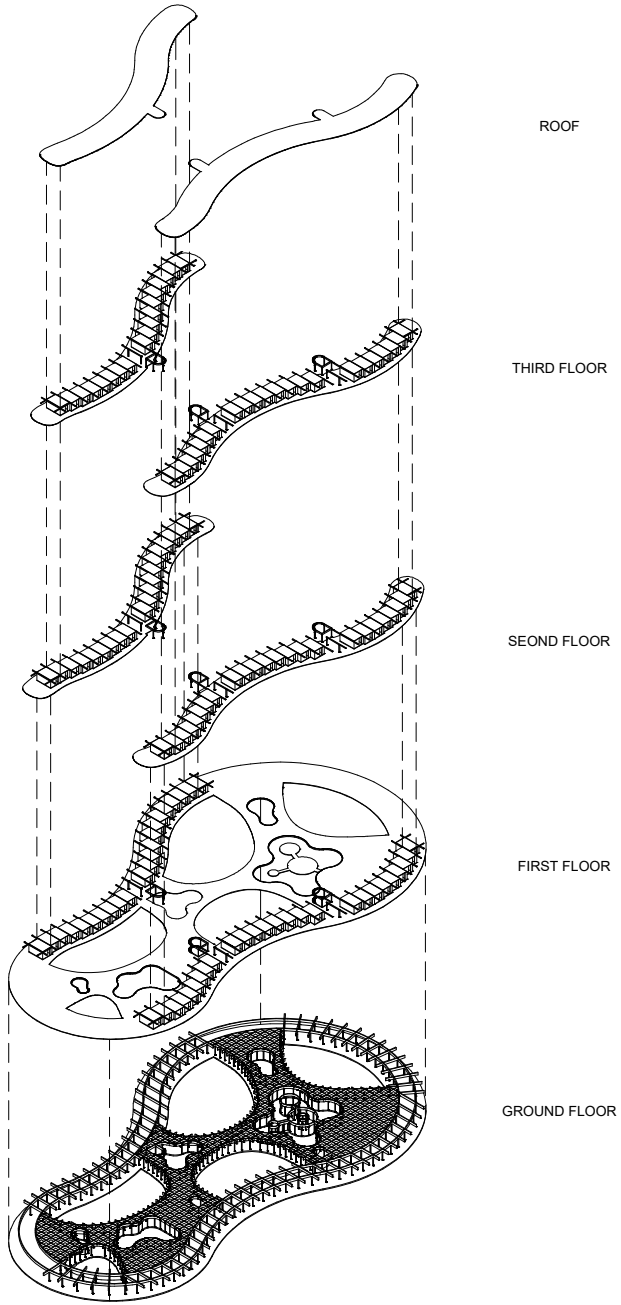
SAINT-GOBAIN

SAINT-GOBAIN

SAINT-GOBAIN

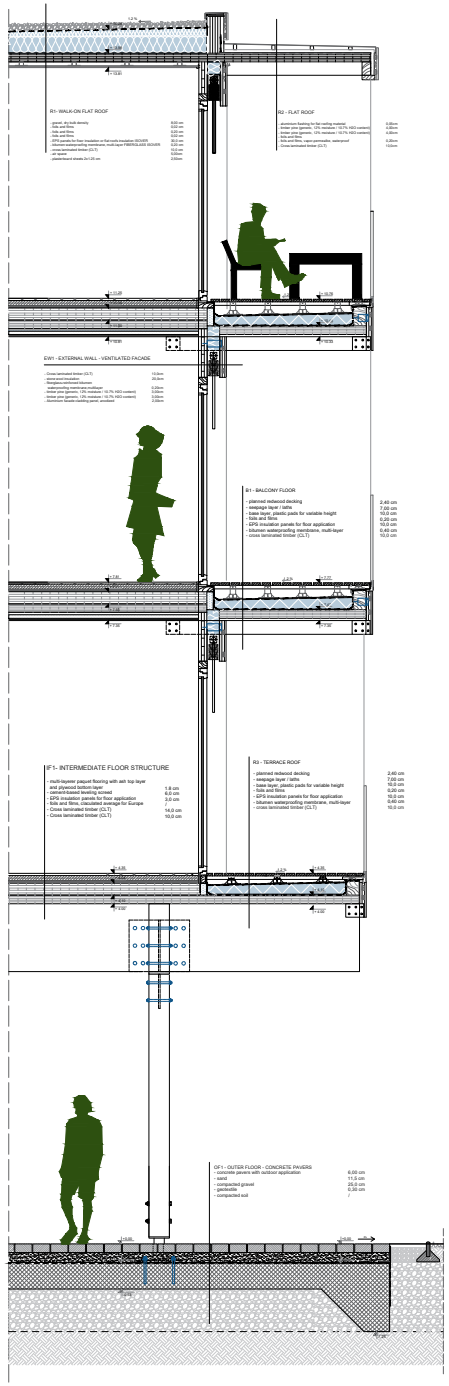
PROJECT DETAIL





SAINT-GOBAIN

PROJECT DETAIL 1:50 SECTION



0 0.5 1 2 5 m

weber SAINT-GOBAIN

isover SAINT-GOBAIN

SAINT-GOBAIN

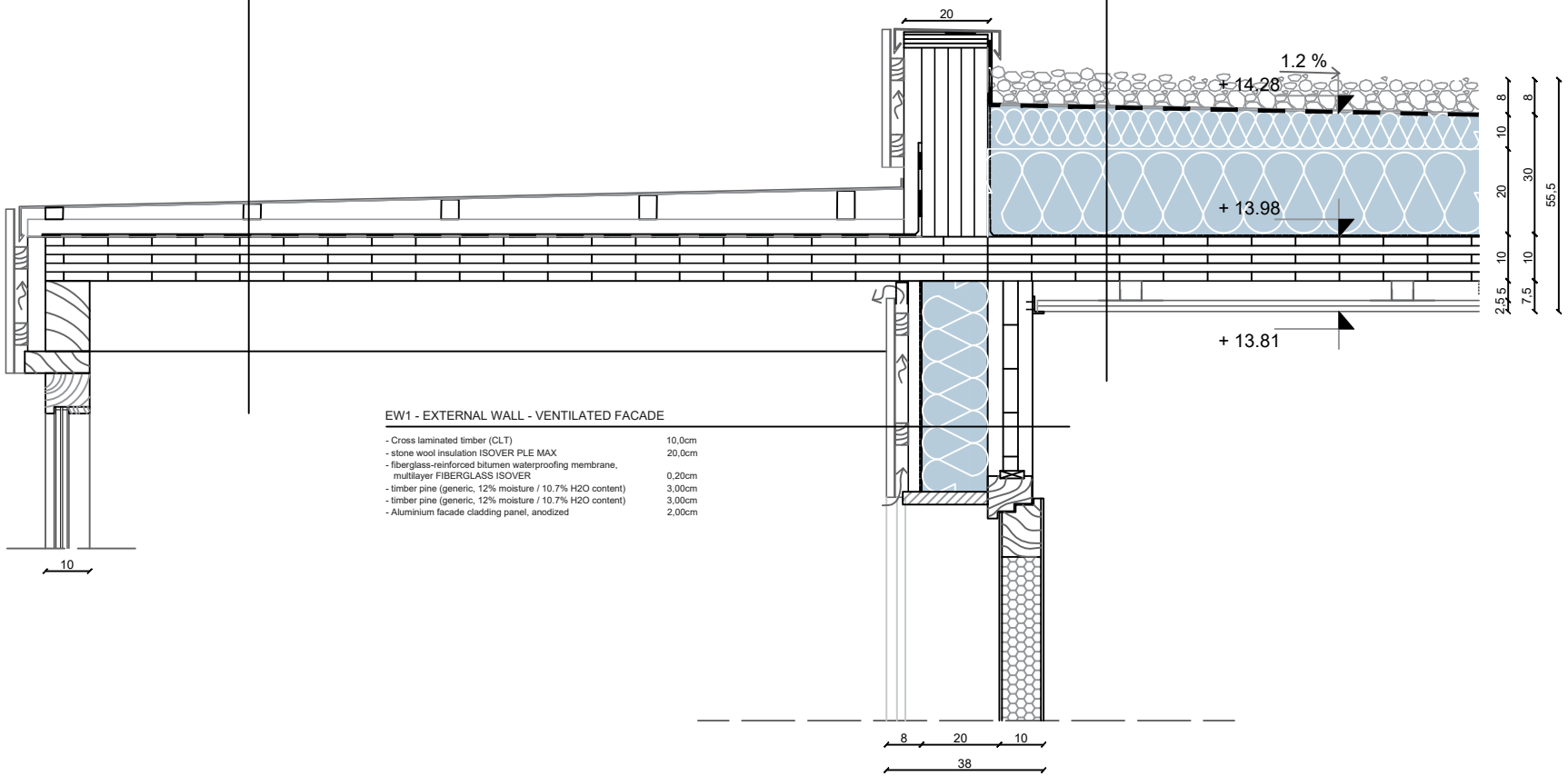
PROJECT DETAIL 1:10 D1

R2 - FLAT ROOF

- aluminium flashing for flat roofing material	0,05cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	4,00cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	4,00cm
- foils and films	
- foils and films, vapor-permealbe, waterproof	0,20cm
- Cross laminated timber (CLT)	10,0cm

R1- WALK-ON FLAT ROOF

- gravel, dry bulk density	8,00 cm
- foils and films	0,02 cm
- foils and films	0,20 cm
- foils and films	0,02 cm
- EPS panels for floor insulation or flat roofs insulation ISOVER	30,0 cm
- bitumen waterproofing membrane, multi-layer FIBERGLASS ISOVER	0,20 cm
- cross laminated timber (CLT)	10,0 cm
- air space	5,00cm
- plasterboard sheets 2x1.25 cm	2,50cm



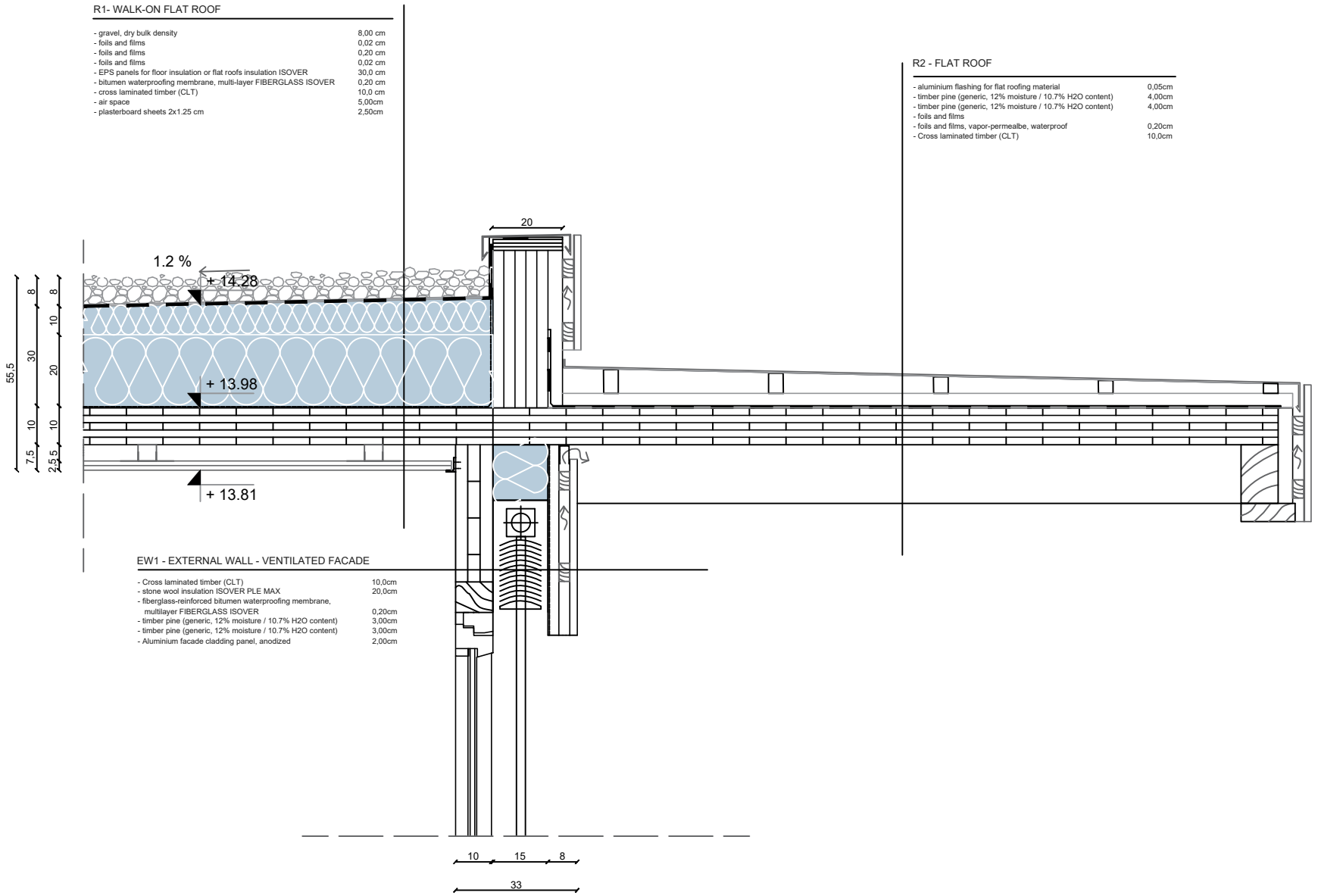
0 0.1 0.2 0.5 1 m

weber SAINT-GOBAIN

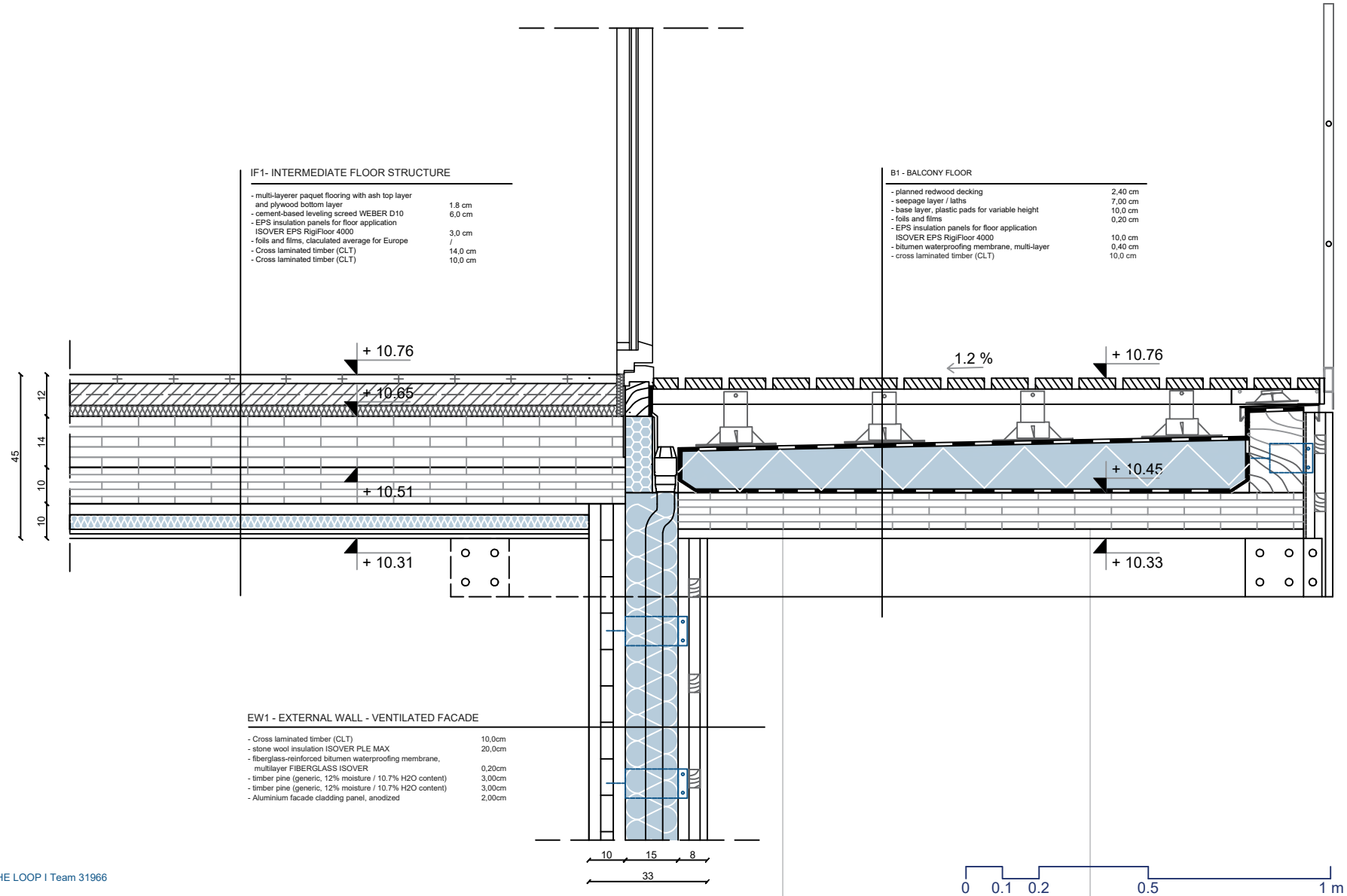
isover SAINT-GOBAIN

SAINT-GOBAIN

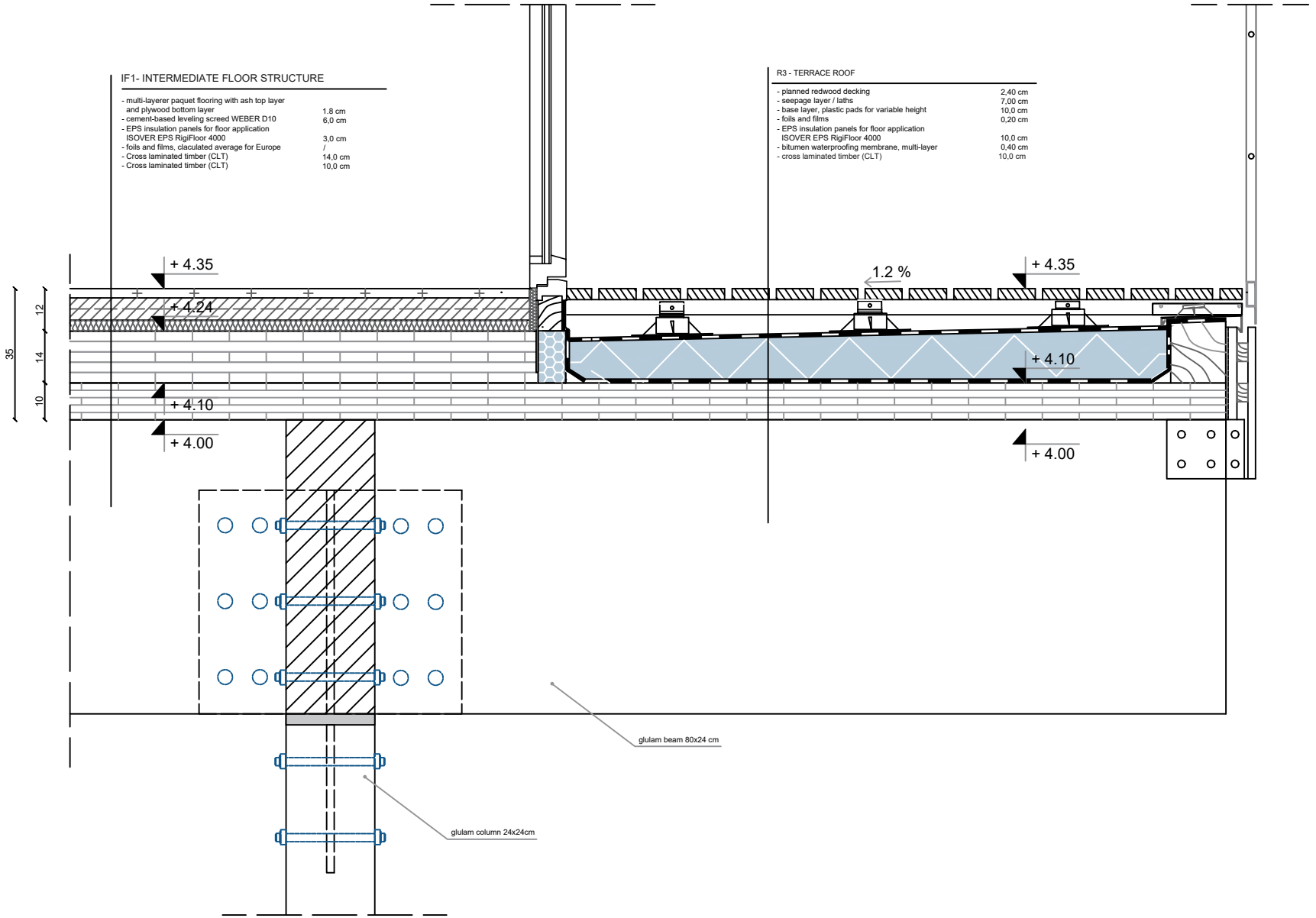
PROJECT DETAIL 1:10 D2



PROJECT DETAIL 1:10 D3

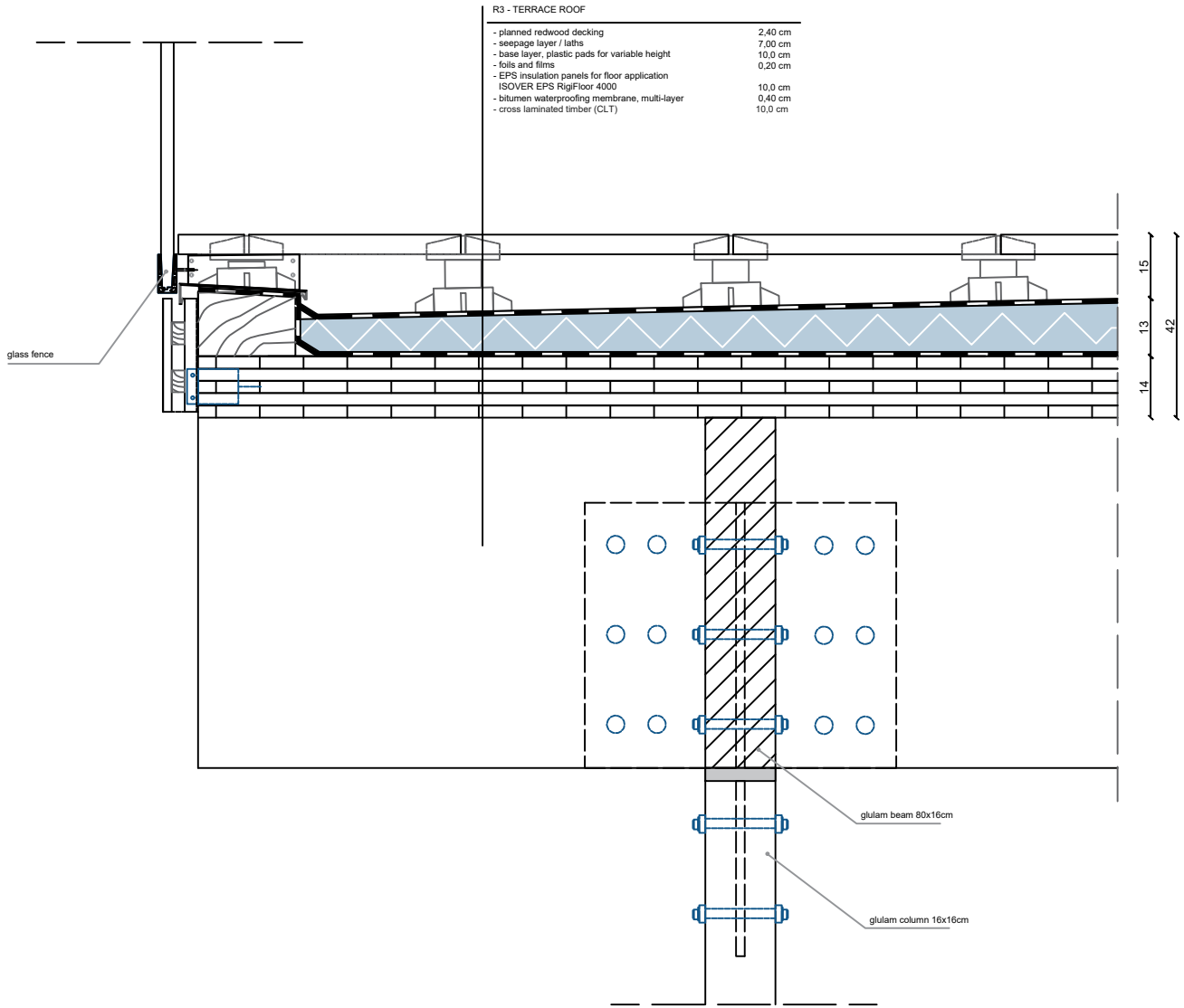


PROJECT DETAIL 1:10 D4



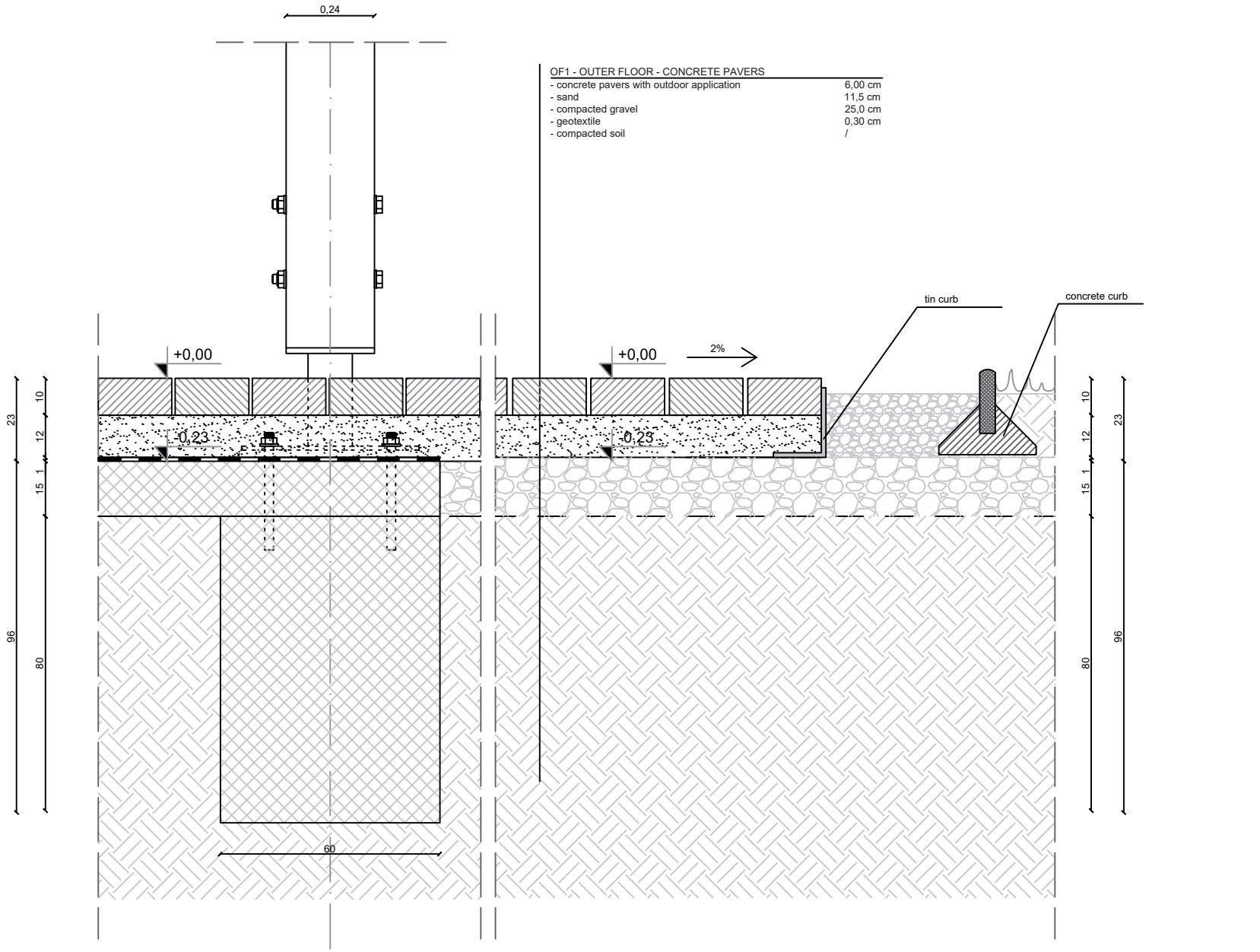
0 0.1 0.2 0.5 1 m

PROJECT DETAIL 1:10 D5



0 0.1 0.2 0.5 1 m

PROJECT DETAIL 1:10 D6



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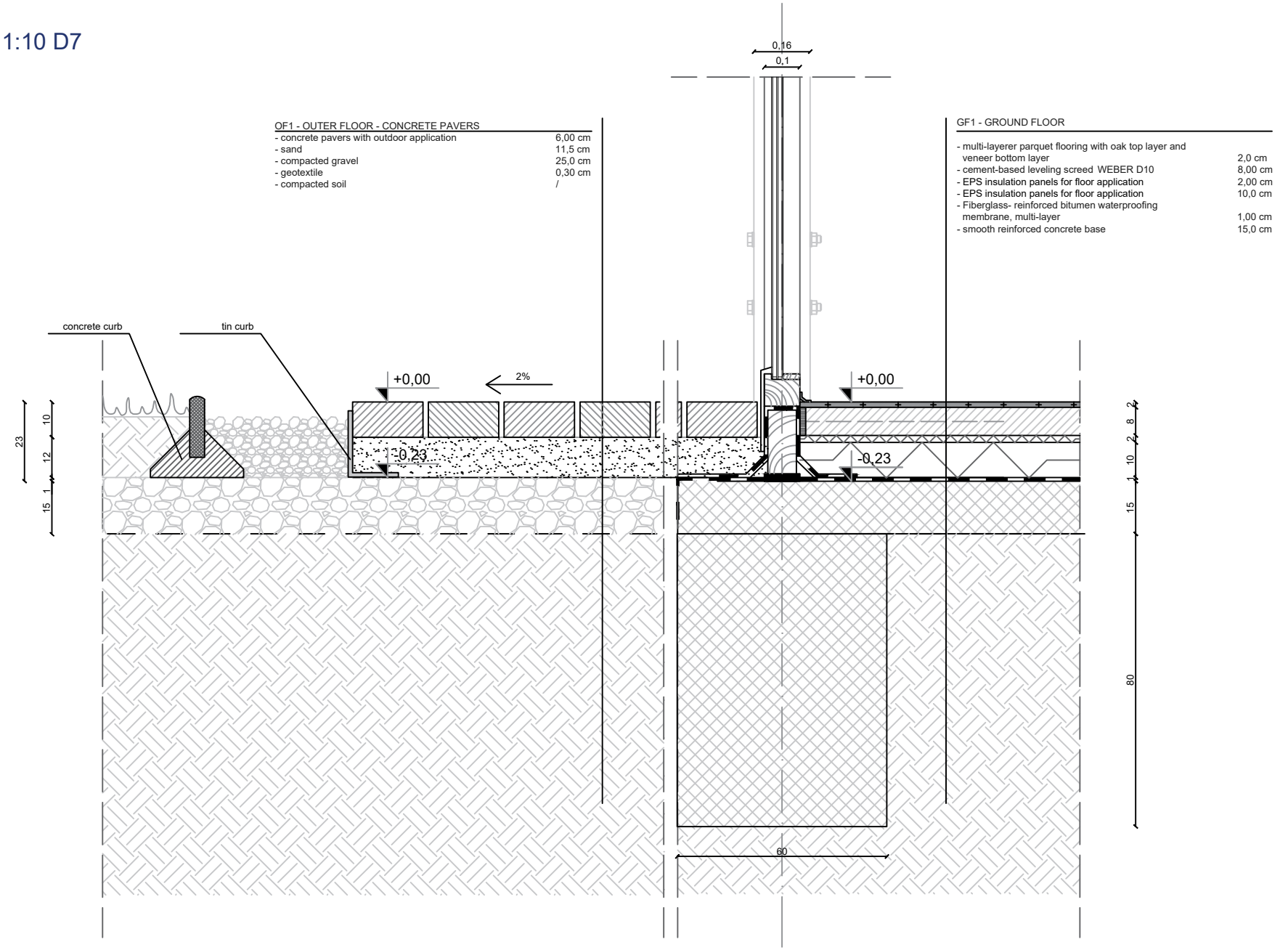
SAINT-GOBAIN

PROJECT DETAIL 1:10 D7



OF1 - OUTER FLOOR - CONCRETE PAVERS

- concrete pavers with outdoor application	6,00 cm
- sand	11,5 cm
- compacted gravel	25,0 cm
- geotextile	0,30 cm
- compacted soil	/

GF1 - GROUND FLOOR

- multi-layerer parquet flooring with oak top layer and veneer bottom layer	2,0 cm
- cement-based leveling screed WEBER D10	8,00 cm
- EPS insulation panels for floor application	2,00 cm
- EPS insulation panels for floor application	10,0 cm
- Fiberglass- reinforced bitumen waterproofing membrane, multi-layer	1,00 cm
- smooth reinforced concrete base	15,0 cm

0 0.1 0.2 0.5 1 m

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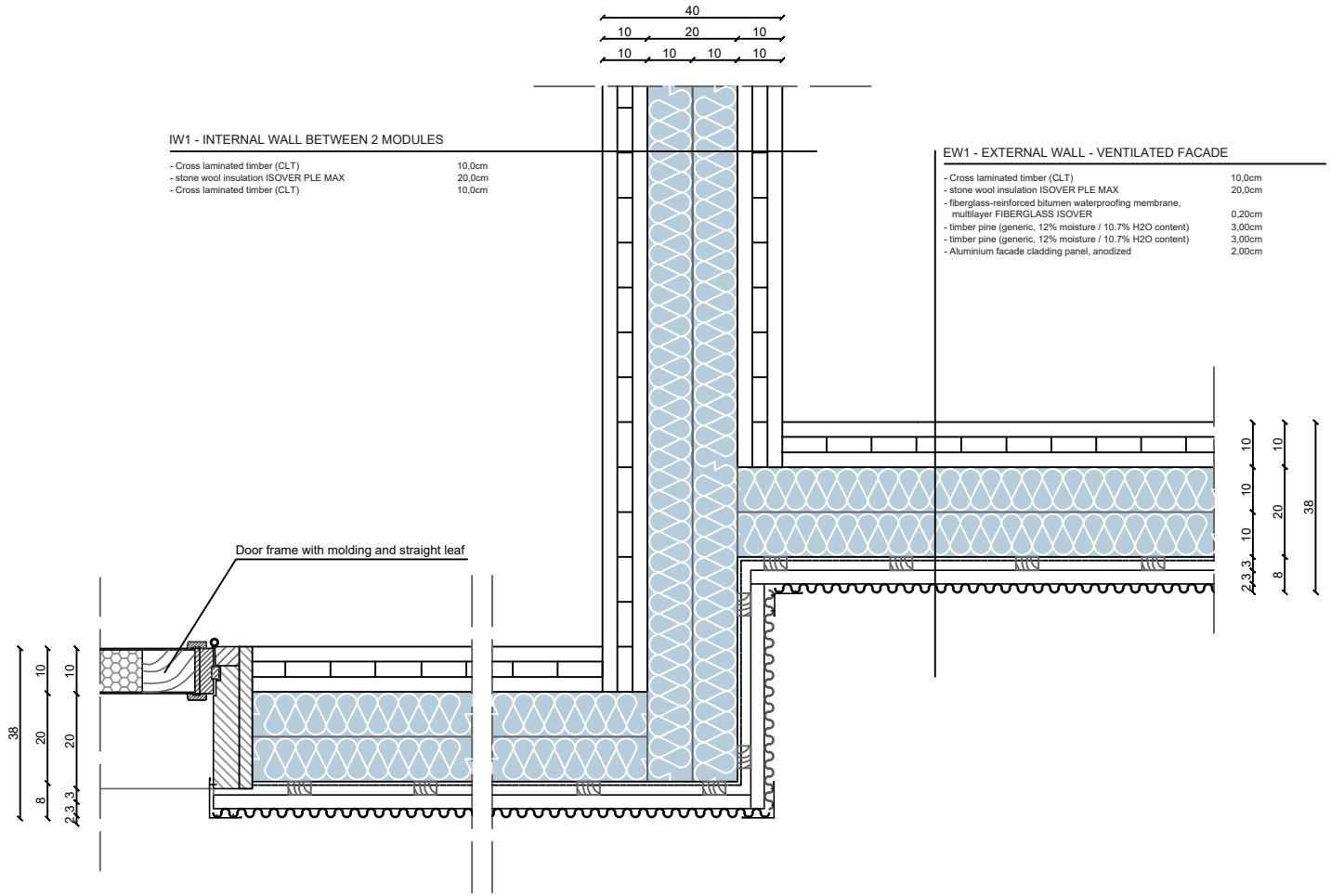
isover SAINT-GOBAIN
SAINT-GOBAIN

PROJECT DETAIL 1:10 FLOORPLAN



0 0.1 0.2 0.5 1 m

03 RENOVATED BUILDING

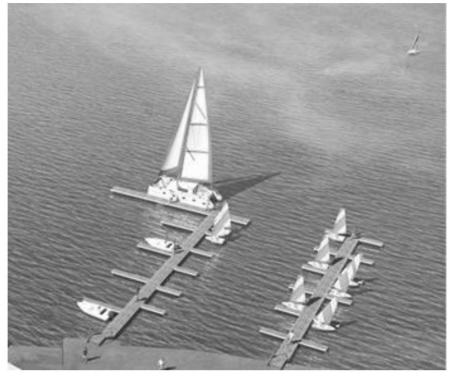
DESIGN STRATEGY

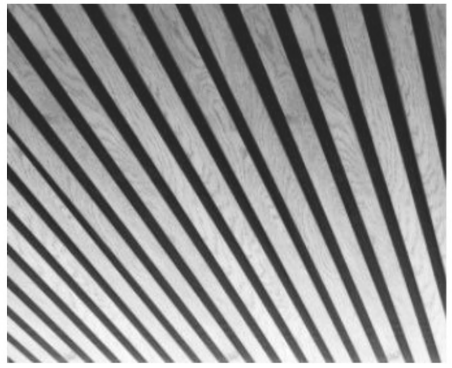
PROJECT DESIGNS

PROJECT DETAIL



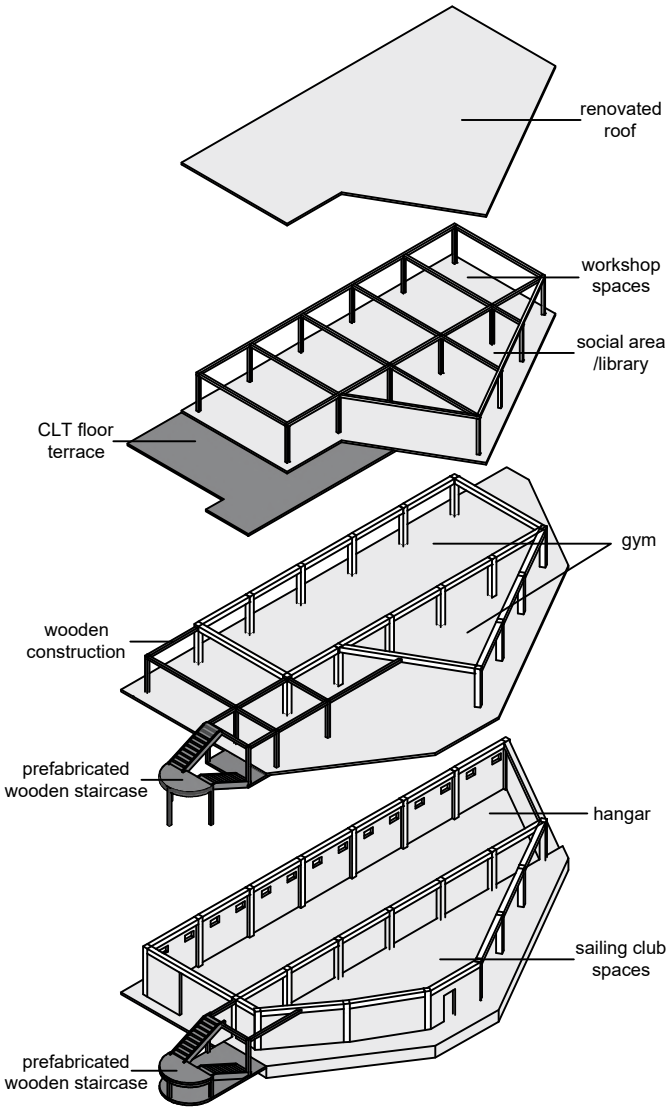


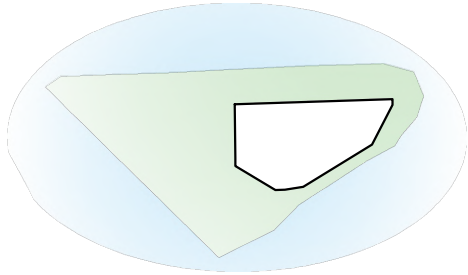


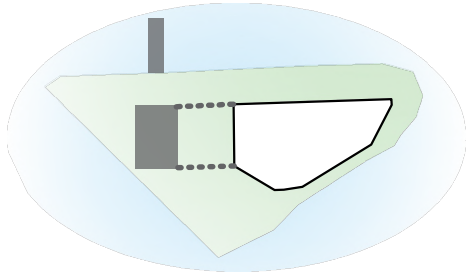

SAINT-GOBAIN

DESIGN STRATEGY

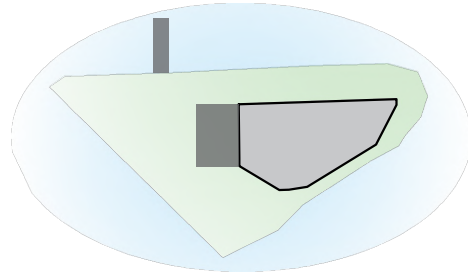




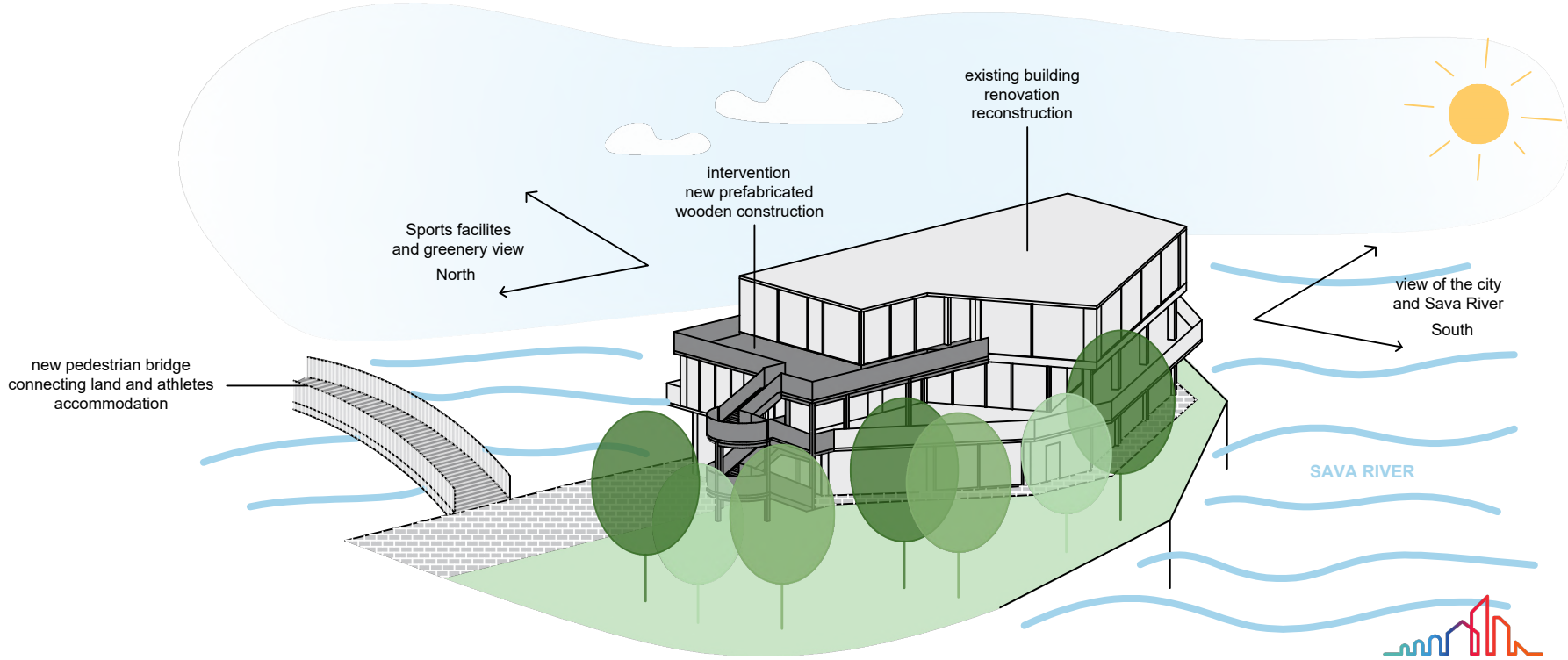
existing construction



adding new prefabricated wooden construction

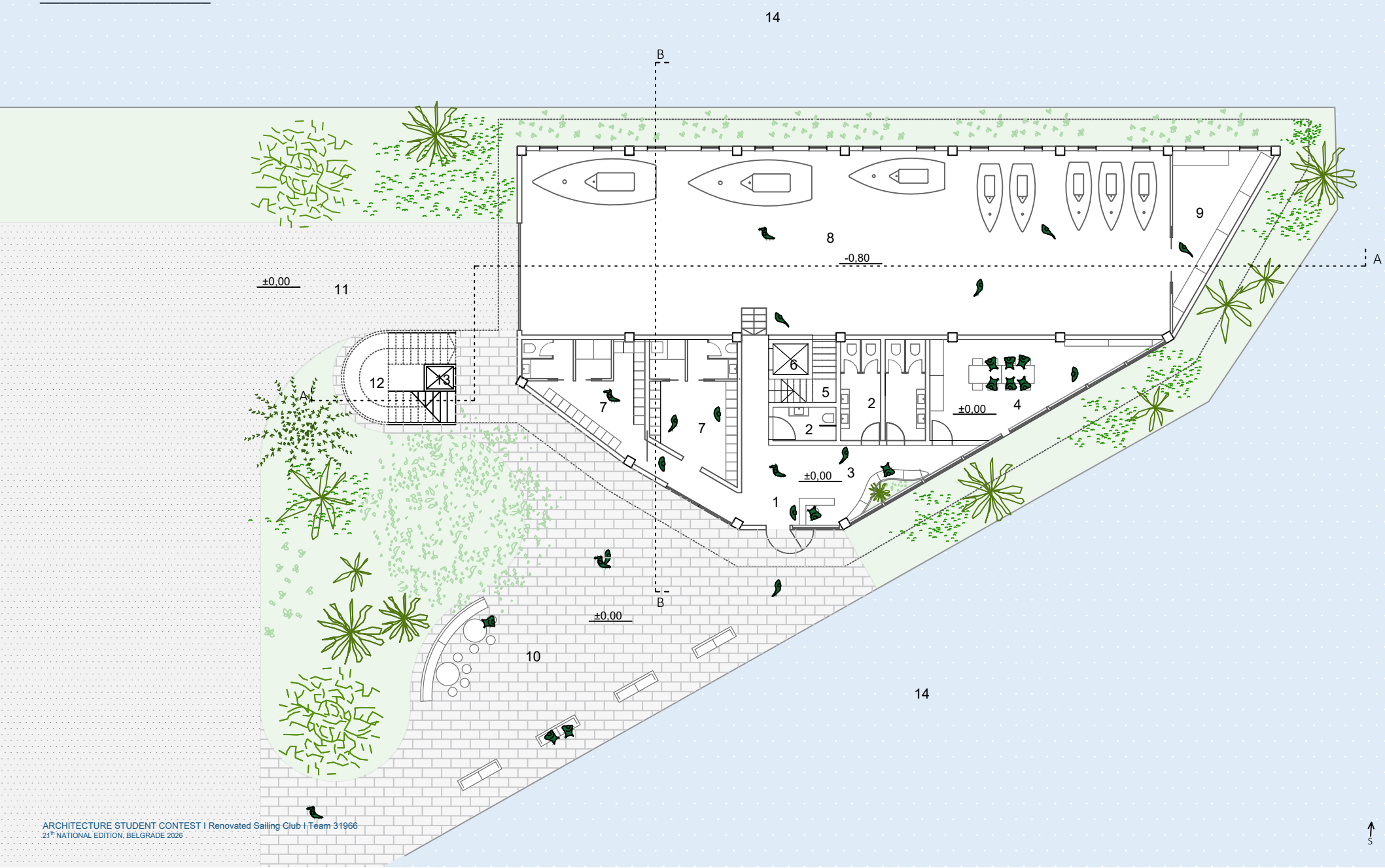


improvement of sailing club building implementation of old and new connected with athletes accommodation



SAINT-GOBAIN

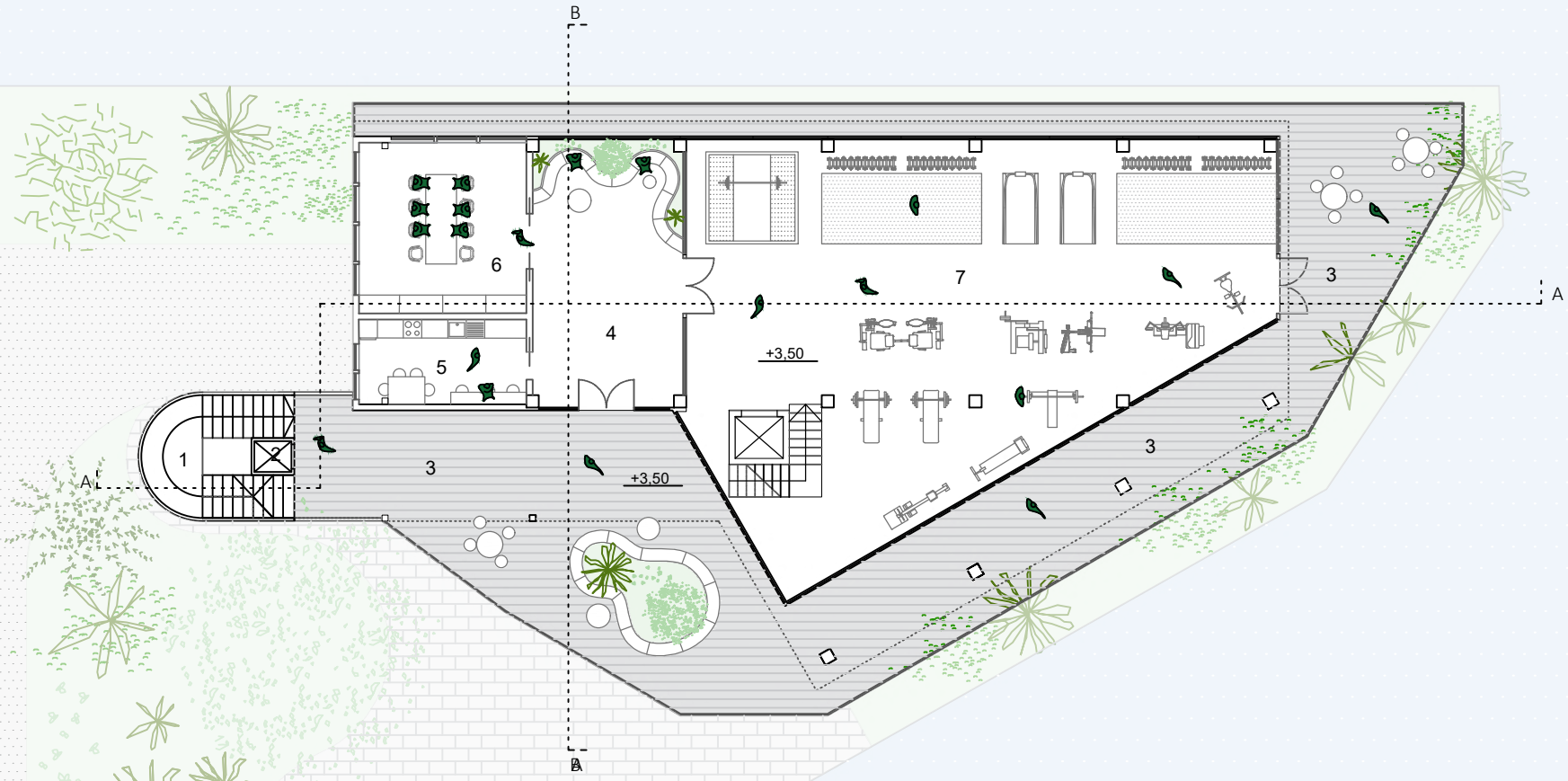
GROUND-FLOOR



1 - main entrance
2 - sanitary facilities
3 - lobby
4 - meeting room
5 - staircase
6 - lift
7 - dressing room
8 - hangar
9 - storage
10 - landscape
11 - access road
12 - outdoor wooden staircase
13 - lift
14 - Sava River

S 0 2 5 10 15 20m M 1:100

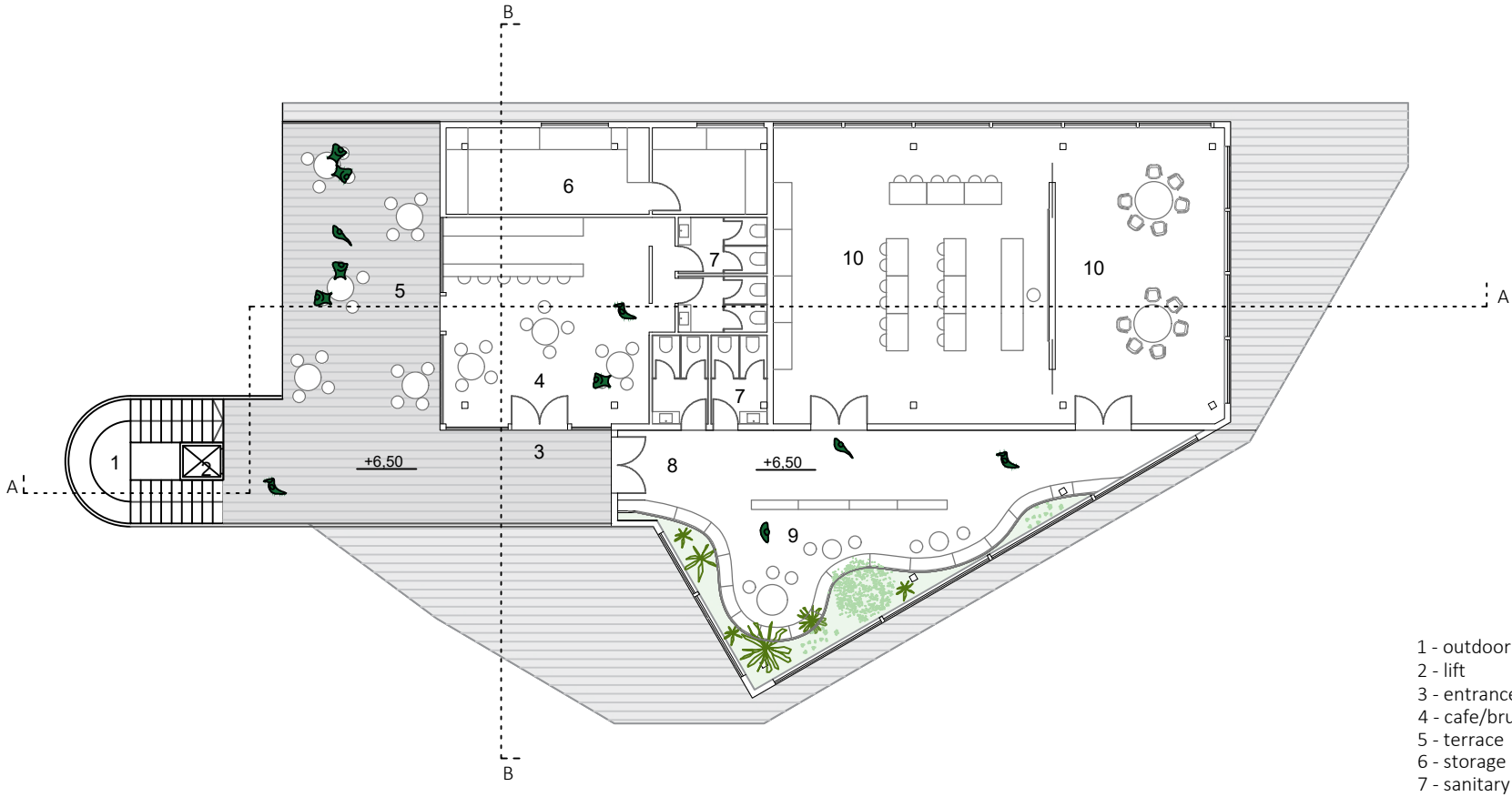
FIRST FLOOR



1 - outdoor staircase
2 - lift
3 - terrace
4 - lobby
5 - kitchen
6 - meeting room
7 - gym

S 0 2 5 10 15 20m M 1:100

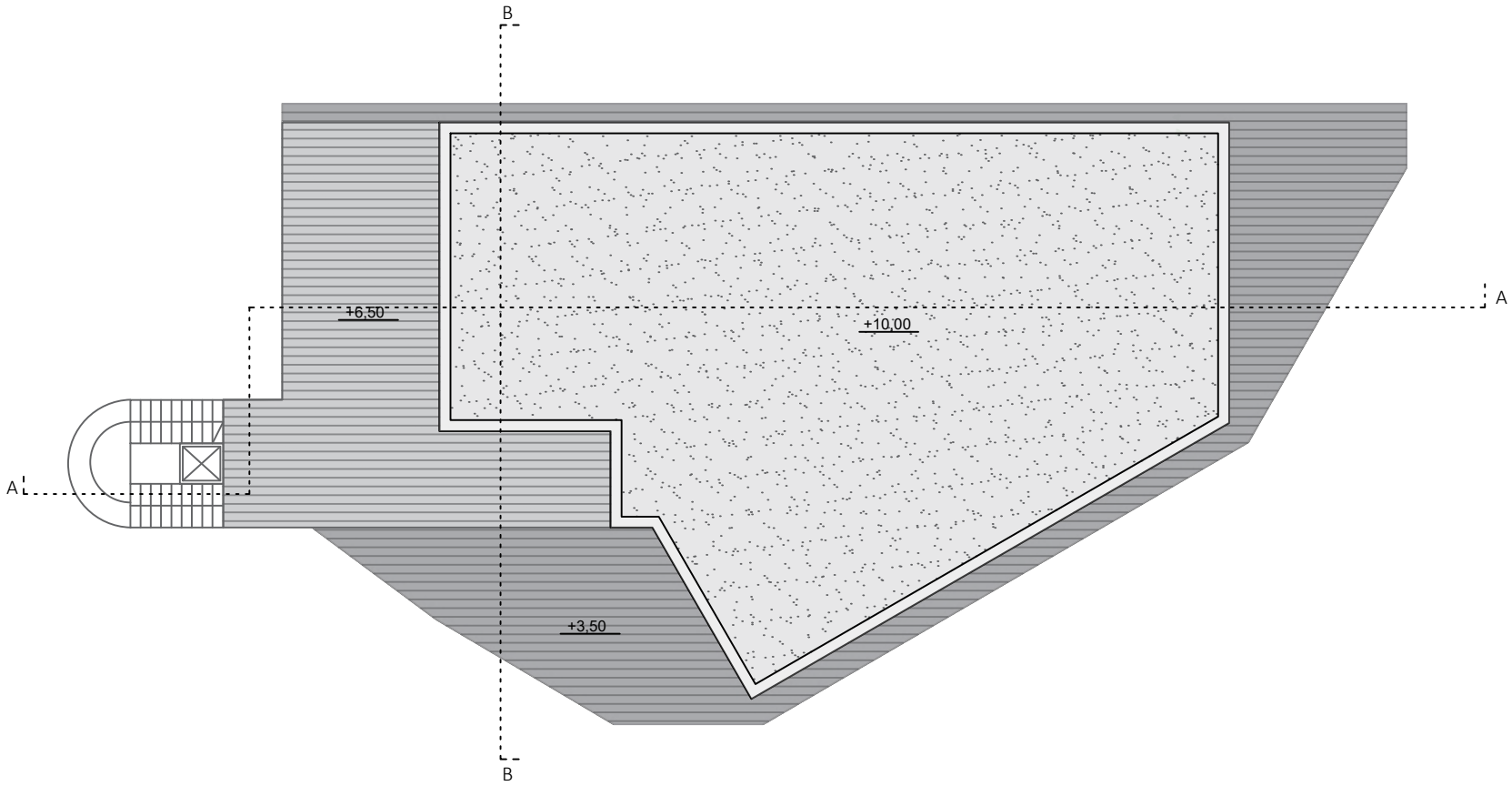
SECOND FLOOR



1 - outdoor staircase
2 - lift
3 - entrance to cafe/brunch
4 - cafe/brunch
5 - terrace
6 - storage
7 - sanitary facilities
8 - entrance to city administration premises
9 - social area/library
10 - workshop spaces

S 0 2 5 10 15 20m M 1:100

ROOF



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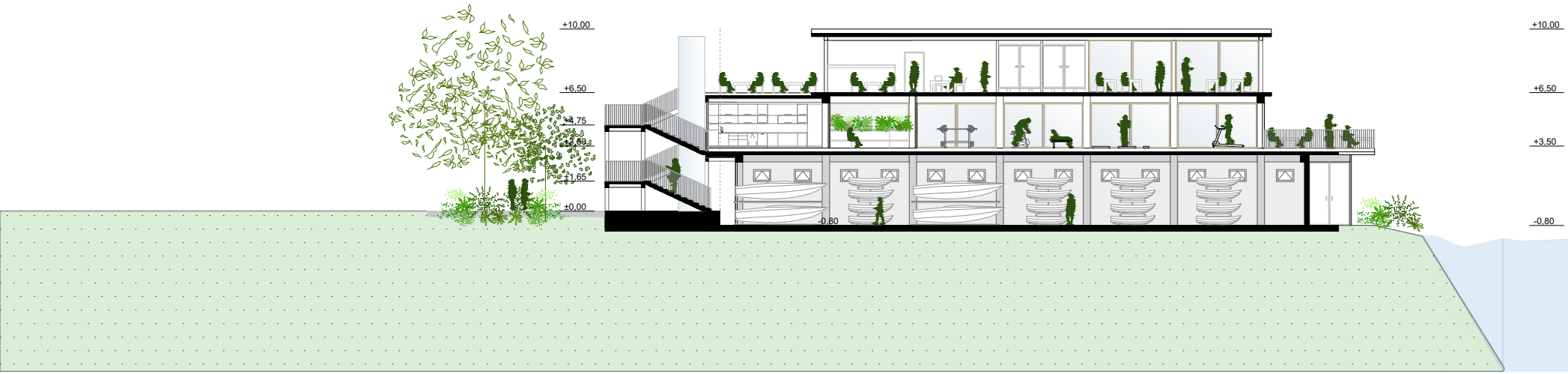
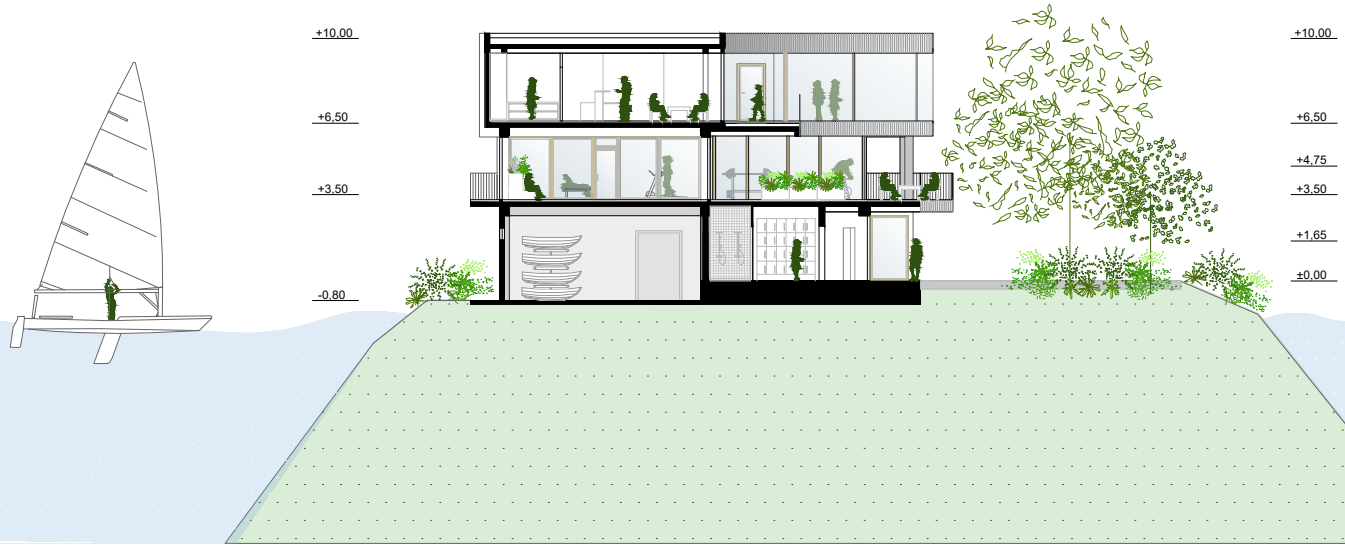
SECTIONS





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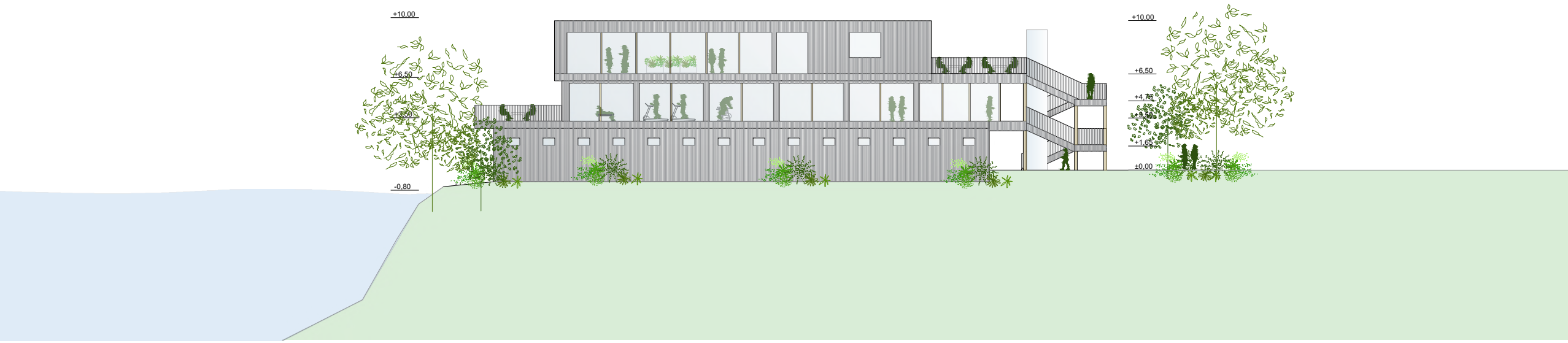
FACADES



0 2 5 10 15 20m M 1:100

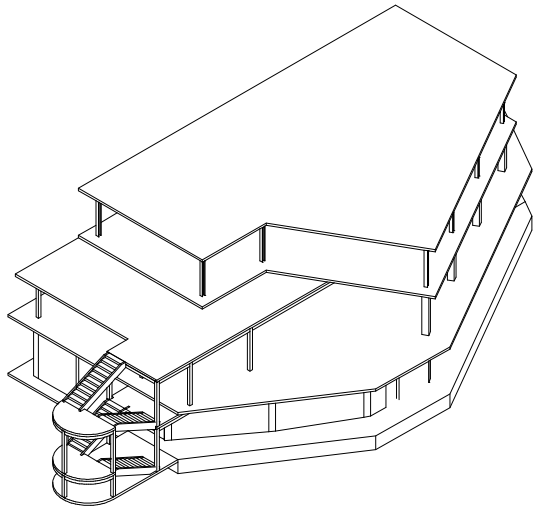
FACADES

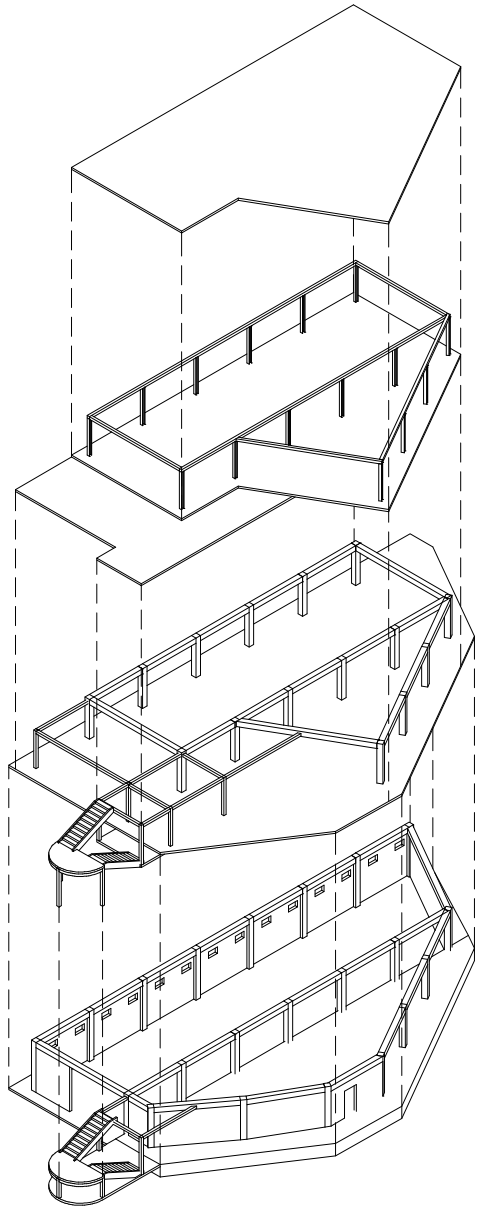
0 2 5 10 15 20m M 1:100

SAINT-GOBAIN

SAINT-GOBAIN

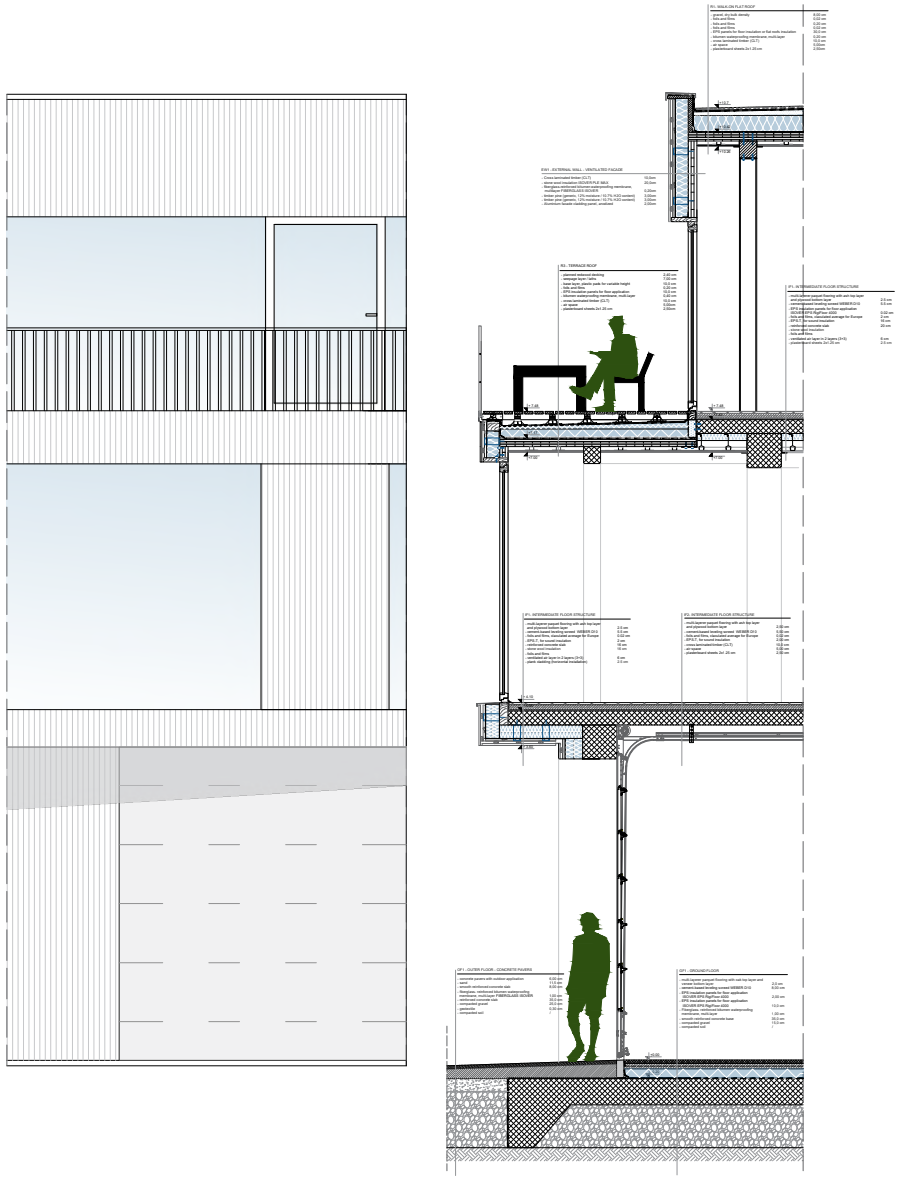
PROJECT DETAIL





SAINT-GOBAIN

PROJECT DETAIL 1:50 SECTION



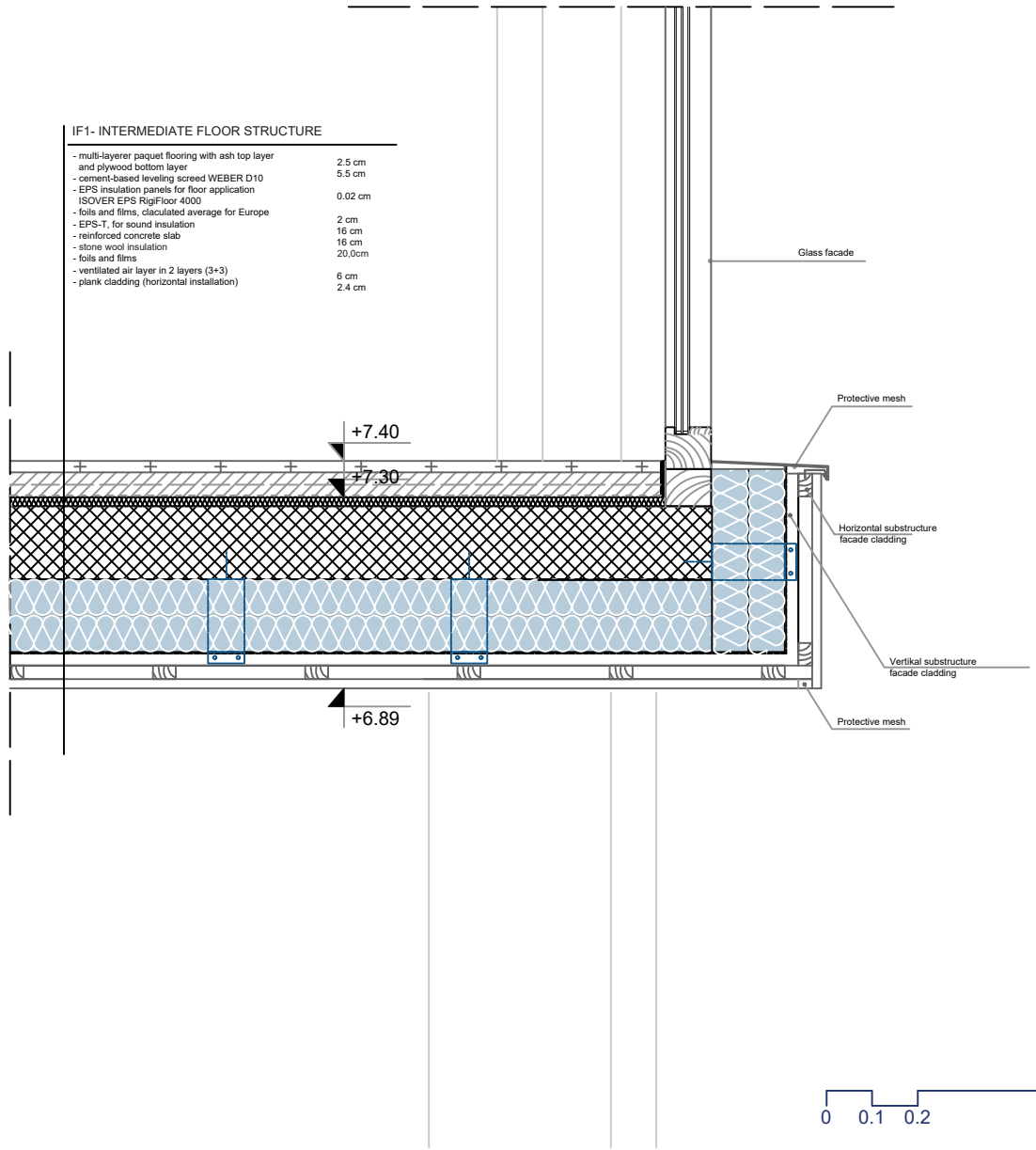
0 0.5 1 2 5 m

weber SAINT-GOBAIN

isover SAINT-GOBAIN

SAINT-GOBAIN

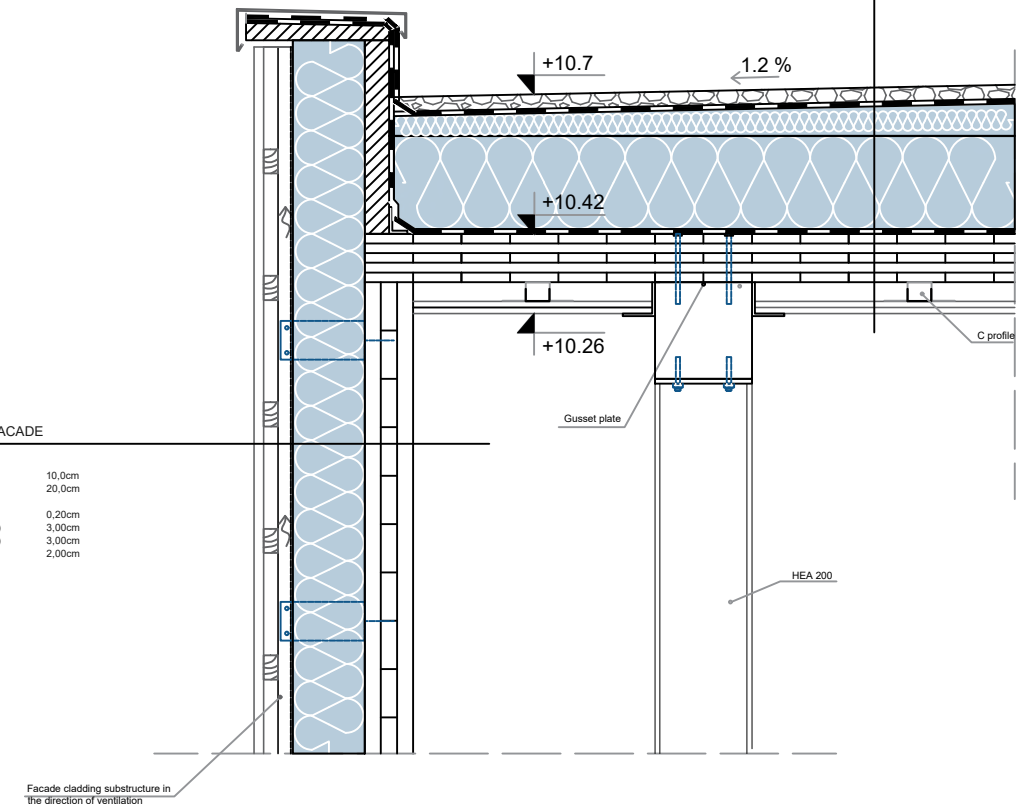
PROJECT DETAIL 1:10



PROJECT DETAIL 1:10

R1- WALK-ON FLAT ROOF

- gravel, dry bulk density	8,00 cm
- foils and films	0,02 cm
- foils and films	0,20 cm
- foils and films	0,02 cm
- EPS panels for floor insulation or flat roofs insulation	30,0 cm
- bitumen waterproofing membrane, multi-layer	0,20 cm
- cross laminated timber (CLT)	10,0 cm
- air space	5,00cm
- plasterboard sheets 2x1.25 cm	2,50cm

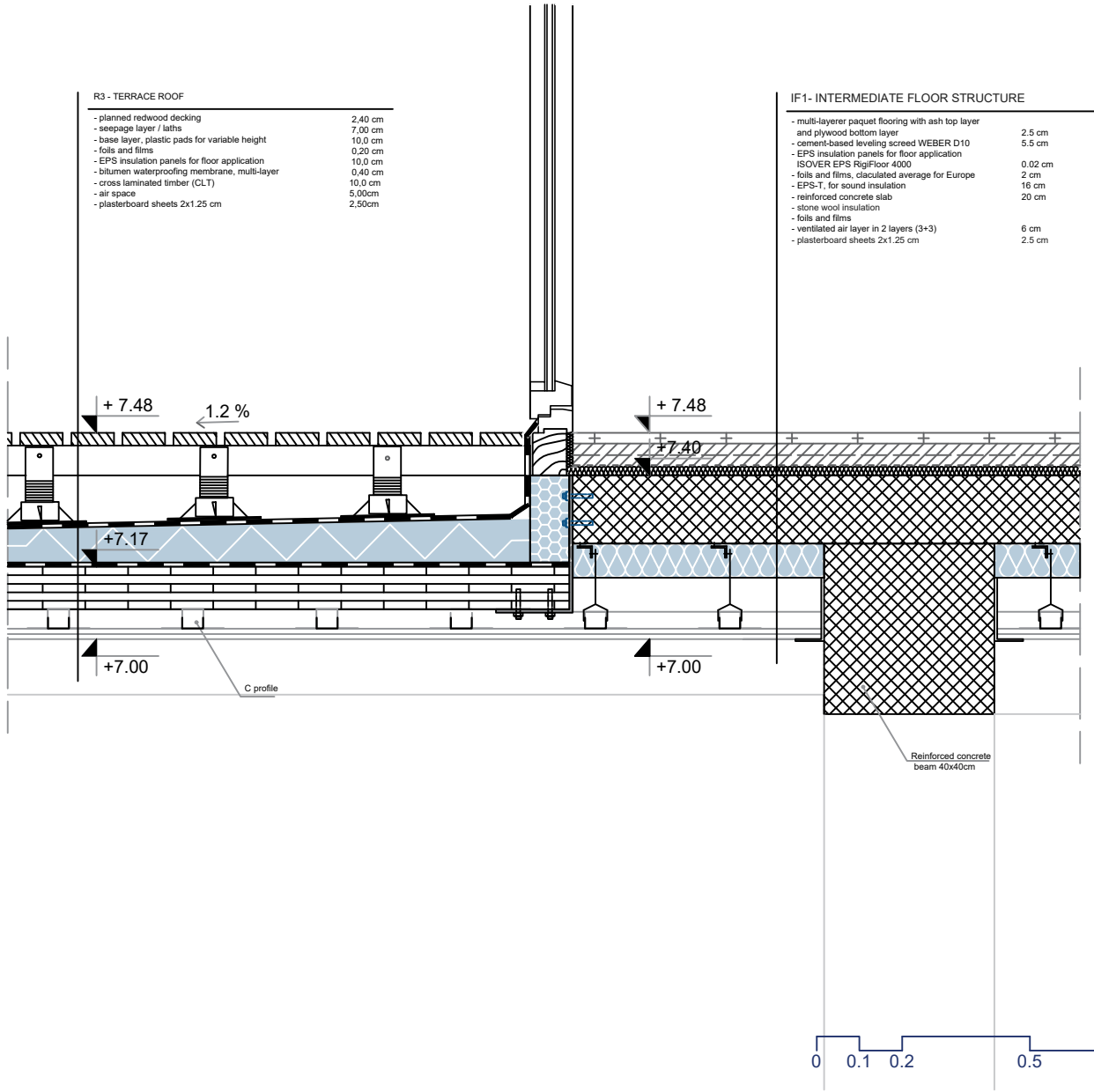


EW1 - EXTERNAL WALL - VENTILATED FACADE

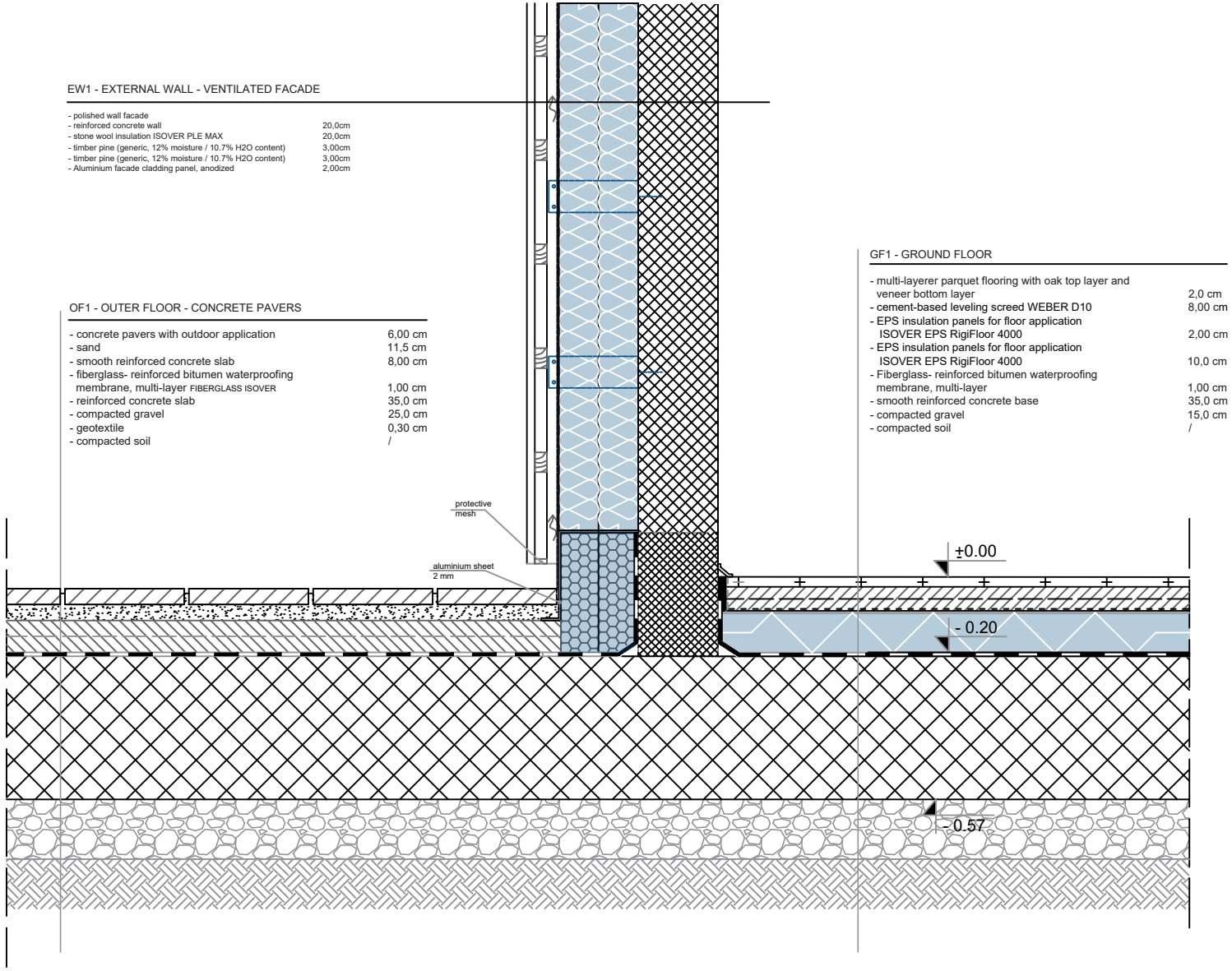
- Cross laminated timber (CLT)	10,0cm
- stone wool insulation ISOVER PLE MAX	20,0cm
- fiberglass-reinforced bitumen waterproofing membrane, multilayer FIBERGLASS ISOVER	0,20cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	3,00cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	3,00cm
- Aluminium facade cladding panel, anodized	2,00cm

0 0.1 0.2 0.5 1 m

PROJECT DETAIL 1:10

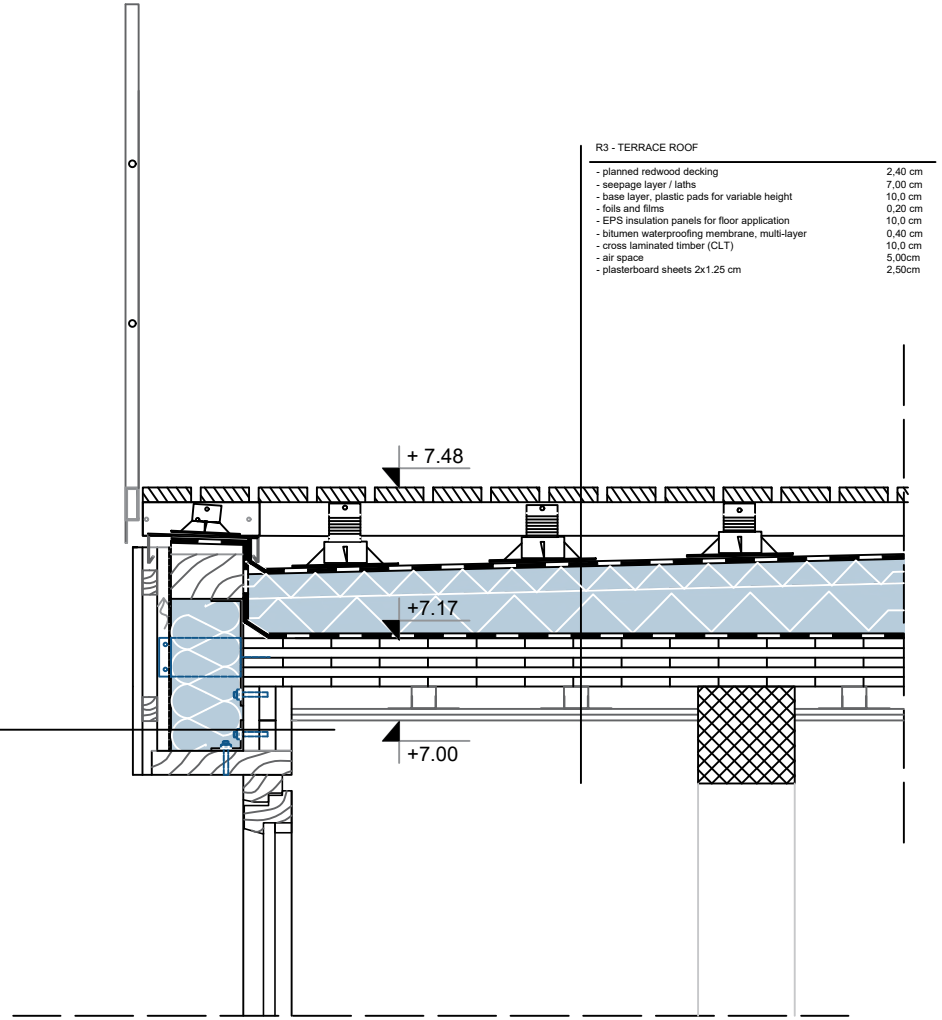


PROJECT DETAIL 1:10



0 0.1 0.2 0.5 1 m

PROJECT DETAIL 1:10



R3 - TERRACE ROOF

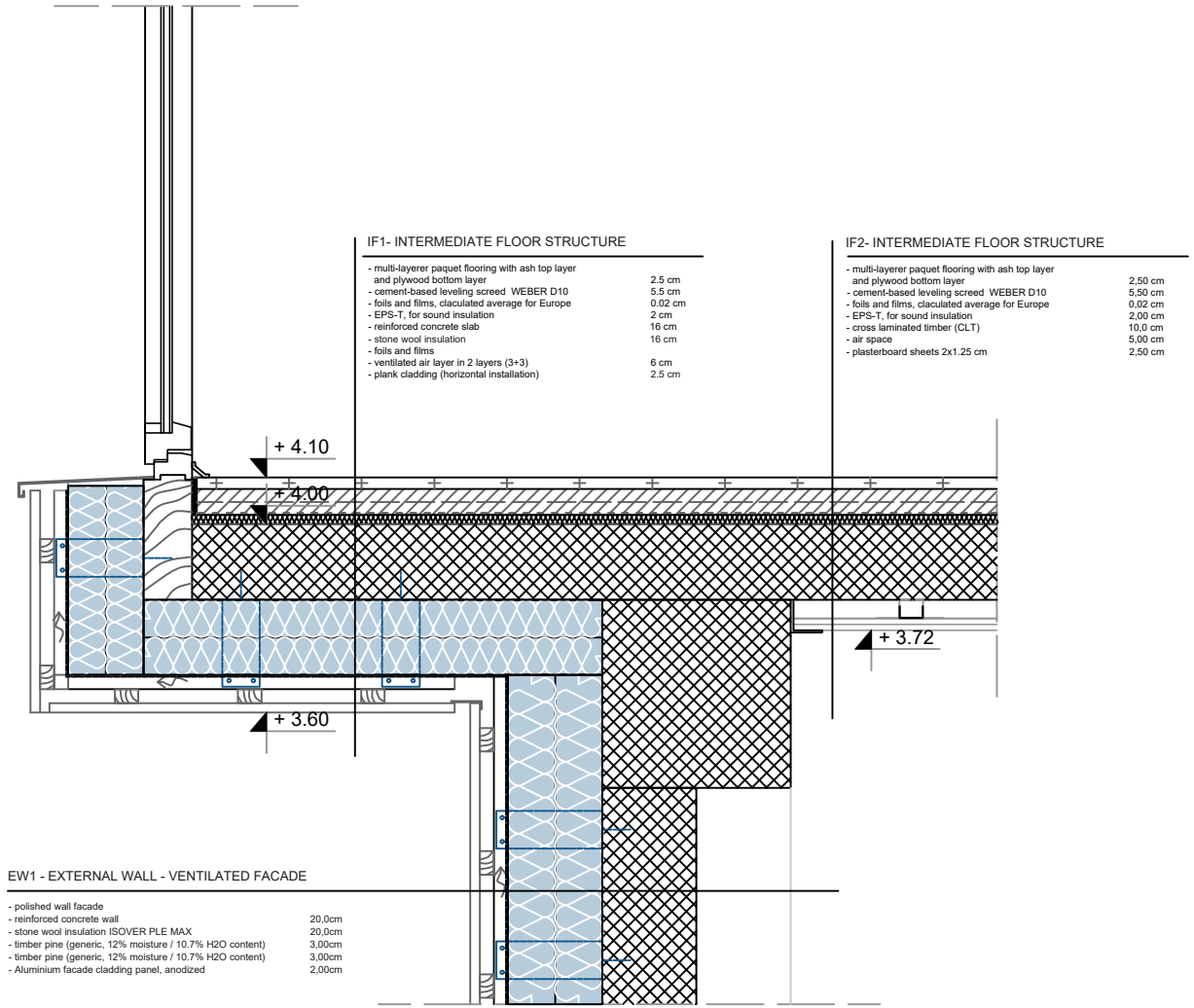
- planned redwood decking	2,40 cm
- seepage layer / laths	7,00 cm
- base layer, plastic pads for variable height	10,0 cm
- foils and films	0,20 cm
- EPS insulation panels for floor application	10,0 cm
- bitumen waterproofing membrane, multi-layer	0,40 cm
- cross laminated timber (CLT)	10,0 cm
- air space	5,00cm
- plasterboard sheets 2x1.25 cm	2,50cm

EW1 - EXTERNAL WALL - VENTILATED FACADE

- Cross laminated timber (CLT)	10,0cm
- stone wool insulation ISOVER PLE MAX	20,0cm
- fiberglass-reinforced bitumen waterproofing membrane, multilayer FIBERGLASS ISOVER	0,20cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	3,00cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	3,00cm
- Aluminium facade cladding panel, anodized	2,00cm

0 0.1 0.2 0.5 1 m

PROJECT DETAIL 1:10



IF1- INTERMEDIATE FLOOR STRUCTURE

- multi-layerer paquet flooring with ash top layer and plywood bottom layer	2.5 cm
- cement-based leveling screed WEBER D10	5.5 cm
- foils and films, claculated average for Europe	0.02 cm
- EPS-T, for sound insulation	2 cm
- reinforced concrete slab	16 cm
- stone wool insulation	16 cm
- foils and films	
- ventilated air layer in 2 layers (3+3)	6 cm
- plank cladding (horizontal installation)	2.5 cm

IF2- INTERMEDIATE FLOOR STRUCTURE

- multi-layerer paquet flooring with ash top layer and plywood bottom layer	2,50 cm
- cement-based leveling screed WEBER D10	5,50 cm
- foils and films, claculated average for Europe	0,02 cm
- EPS-T, for sound insulation	2,00 cm
- cross laminated timber (CLT)	10,0 cm
- air space	5,00 cm
- plasterboard sheets 2x1.25 cm	2,50 cm

EW1 - EXTERNAL WALL - VENTILATED FACADE

- polished wall facade	
- reinforced concrete wall	20,0cm
- stone wool insulation ISOVER PLE MAX	20,0cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	3,00cm
- timber pine (generic, 12% moisture / 10.7% H2O content)	3,00cm
- Aluminium facade cladding panel, anodized	2,00cm

0 0.1 0.2 0.5 1 m

04 ENERGY AND TEHNICS

SUSTAINABILITY STRATEGY

THERMAL COMFORT STRATEGY - MODULE

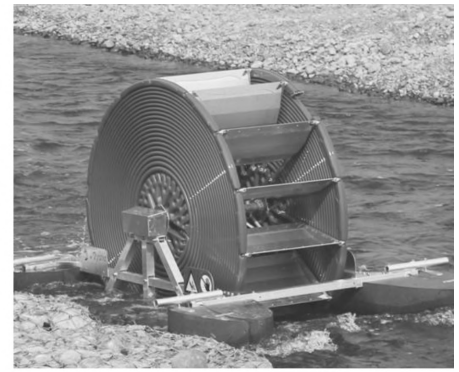
CIRCULATION, COMFORT AND DAYLIGHT HARVESTING

WATER MANAGEMENT

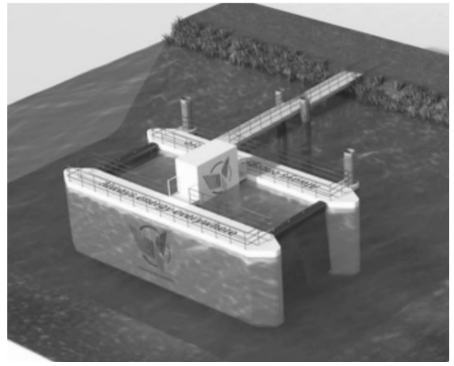
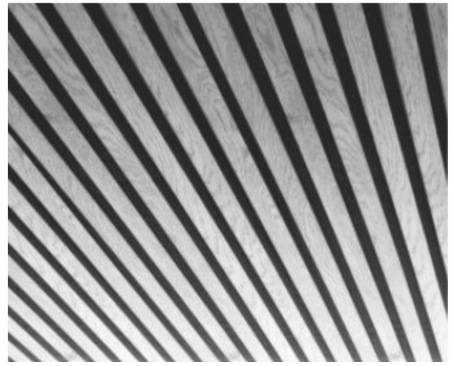
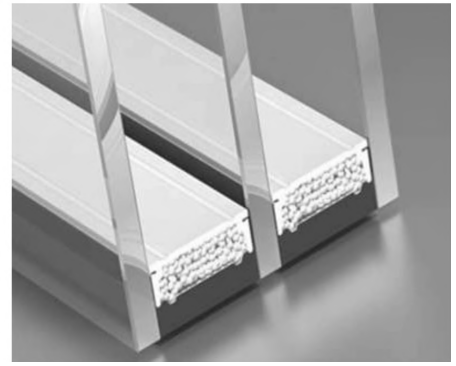
ENERGY SOLUTION

ONE CLICK LCA



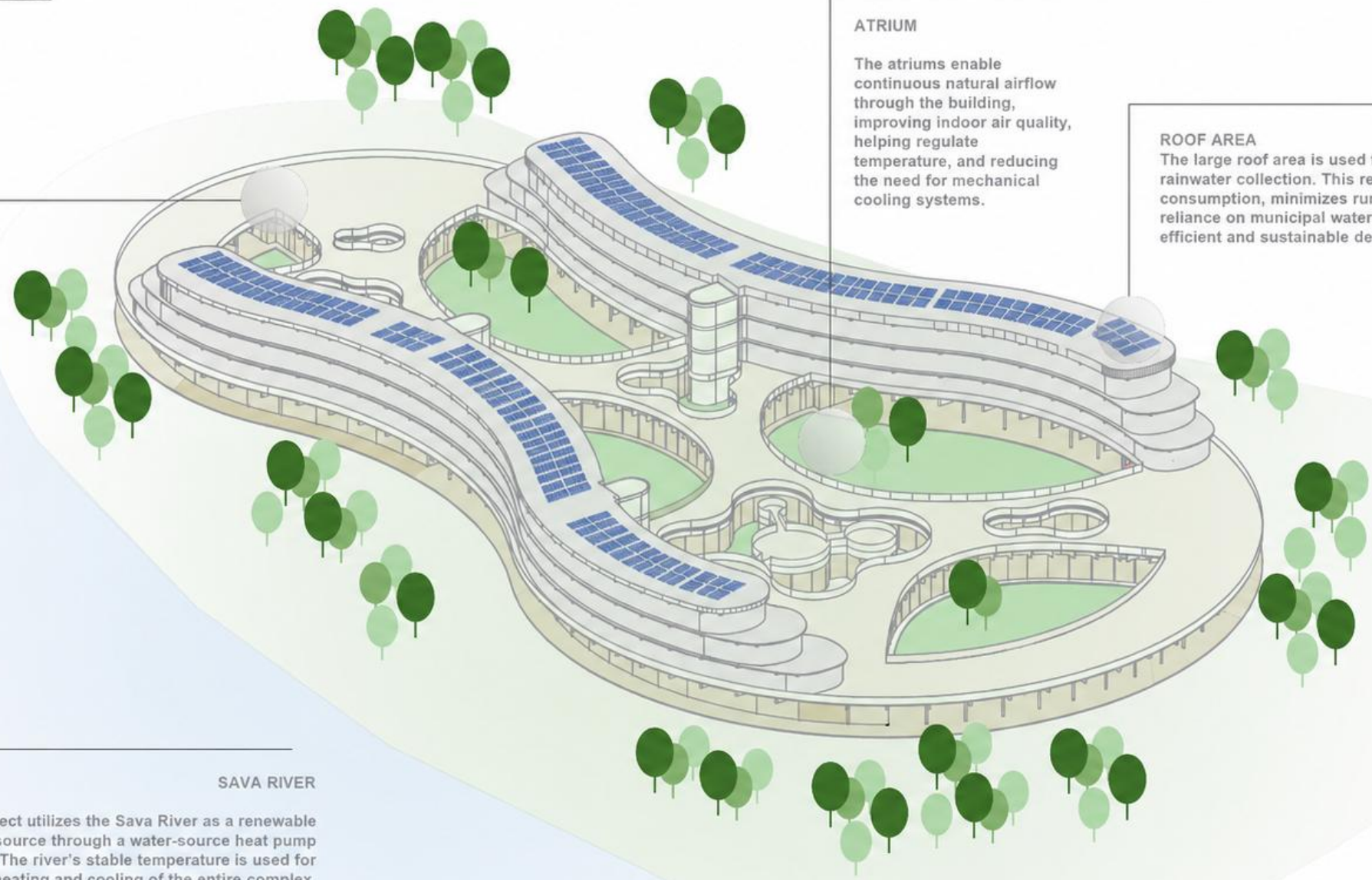




SAINT-GOBAIN

SUSTAINABILITY STRATEGY



PUBLIC ROOFTOP PARK

Trees and greenery are integrated into a public park and a green roof system. They improve air quality, provide shade, enhance biodiversity, and reduce the urban heat island effect while creating pleasant outdoor spaces.

ATRIUM

The atriums enable continuous natural airflow through the building, improving indoor air quality, helping regulate temperature, and reducing the need for mechanical cooling systems.

ROOF AREA

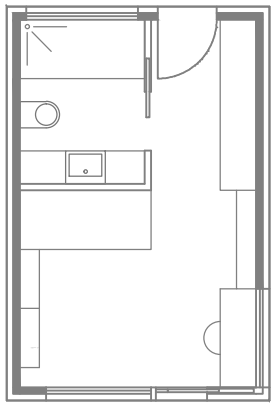
The large roof area is used for solar panels and rainwater collection. This reduces energy consumption, minimizes runoff, and decreases reliance on municipal water systems, supporting an efficient and sustainable design.

SAVA RIVER

The project utilizes the Sava River as a renewable energy source through a water-source heat pump system. The river's stable temperature is used for efficient heating and cooling of the entire complex, significantly reducing energy consumption and dependence on non-renewable energy sources.

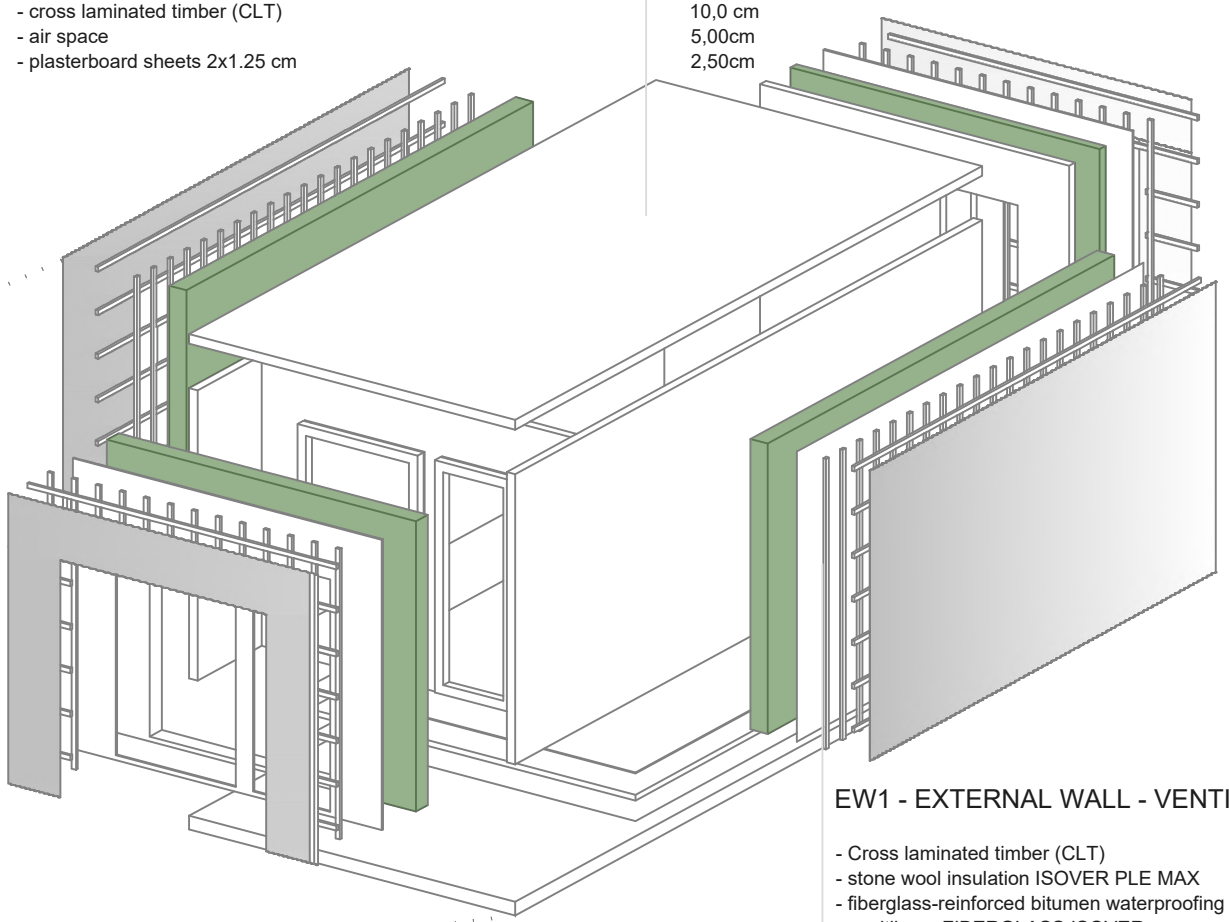
THERMAL COMFORT STRATEGY - MODULE

The modular construction system is designed to enhance thermal comfort through high-performance insulation, layered façade elements, and the use of CLT as a primary structural material. This sustainable timber system reduces environmental impact while providing excellent thermal properties. Carefully composed material layers improve thermal resistance, reduce heat loss in winter, and prevent overheating in summer. The façade system, combined with external shading elements, creates a stable indoor climate while minimizing energy demand.



R1- WALK-ON FLAT ROOF

- gravel, dry bulk density	8,00 cm
- foils and films	0,02 cm
- foils and films	0,20 cm
- foils and films	0,02 cm
- EPS panels for floor insulation or flat roofs insulation ISOVER	30,0 cm
- bitumen waterproofing membrane, multi-layer FIBERGLASS ISOVER	0,20 cm
- cross laminated timber (CLT)	10,0 cm
- air space	5,00cm
- plasterboard sheets 2x1.25 cm	2,50cm



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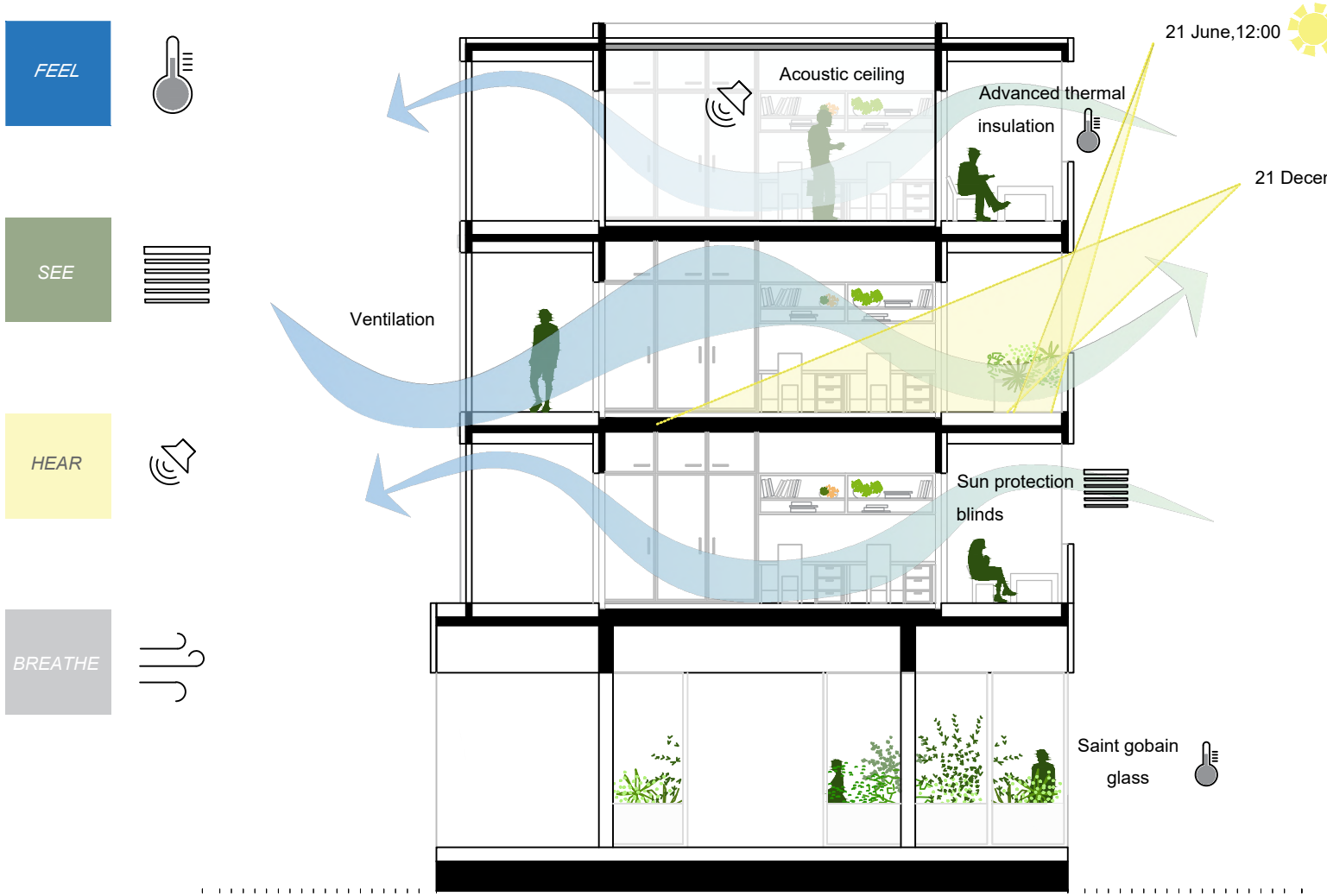
- timber pine (generic, 12% moisture / 10.7% H2O content)	3,00cm
- Aluminium facade cladding panel, anodized	2,00cm

SAINT-GOBAIN

CIRCULATION, COMFORT AND DAYLIGHT HARVESTING



The section illustrates a passive design approach that integrates natural ventilation, daylight harvesting, and thermal comfort. Continuous airflow moves through the building, improving indoor air quality and reducing the need for mechanical systems.

Large glazed surfaces and carefully positioned openings allow deep daylight penetration, while shading elements control solar gain throughout the year. The use of advanced insulation and high-performance materials enhances energy efficiency, creating a comfortable and sustainable indoor environment.

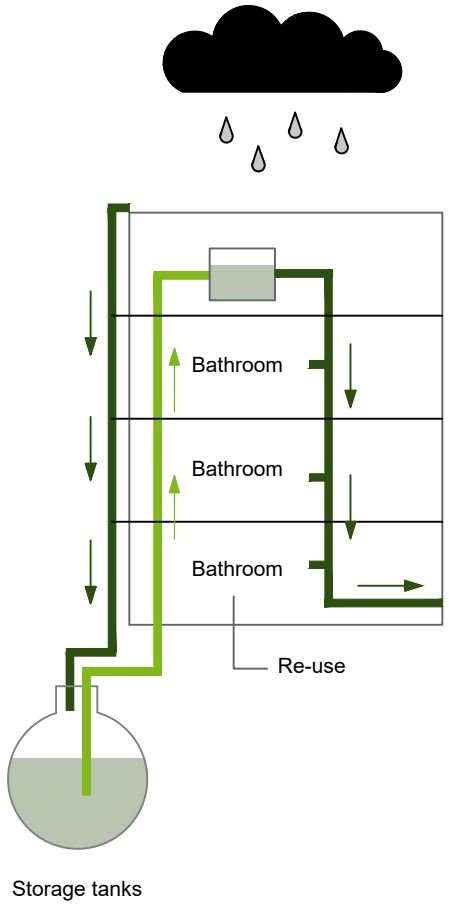
SAINT-GOBAIN

WATER MANAGEMENT

RINWATER RECYCLING

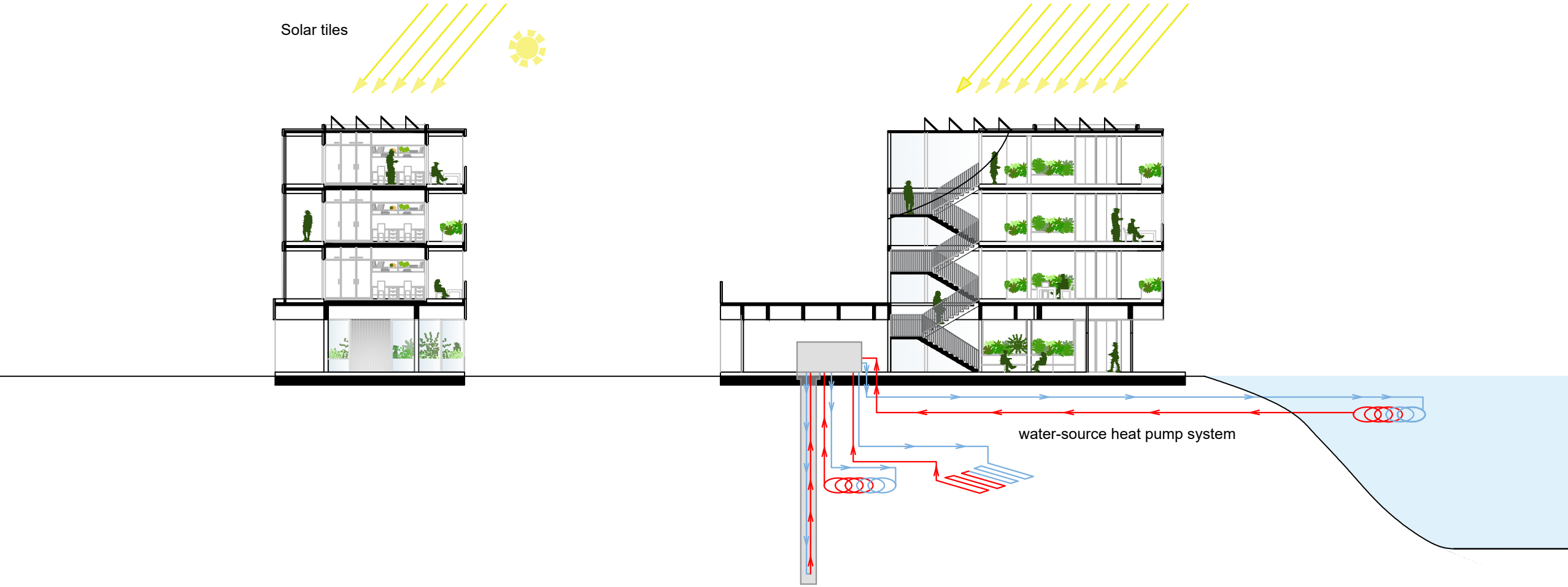
Rainwater is collected and reused as part of an integrated water management system, reducing runoff and demand on municipal supply. The harvested water is used for irrigation and other non-potable purposes, supporting efficient and sustainable water use.

SHEMA



SAINT-GOBAIN

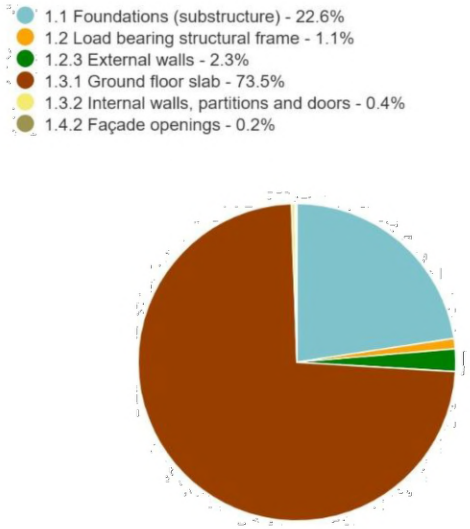
ENERGY SOLUTION



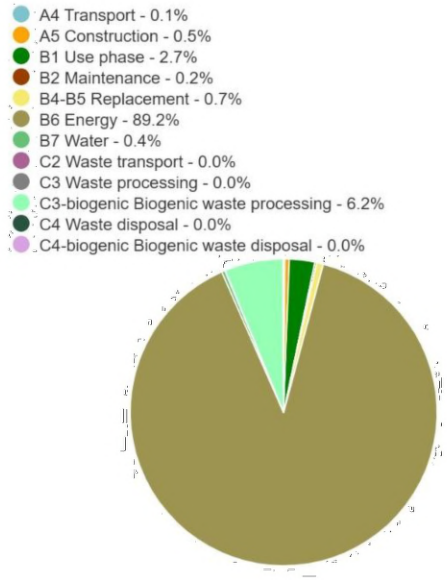
SAINT-GOBAIN

ONE CLICK LCA

Mass kg - Classifications

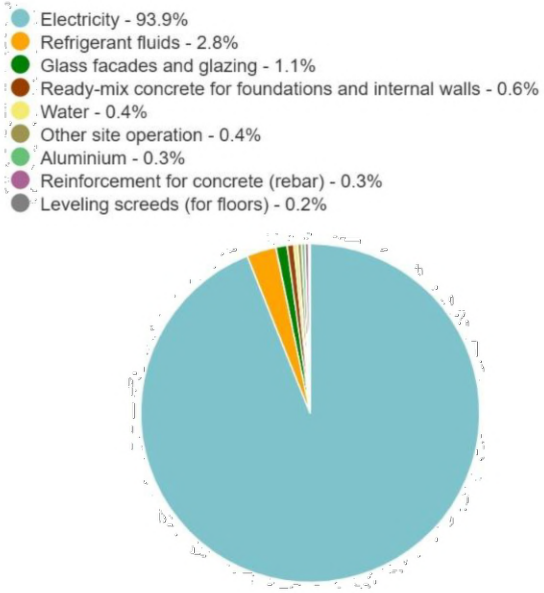


Global Warming Potential total kg CO2e - Life-cycle stages

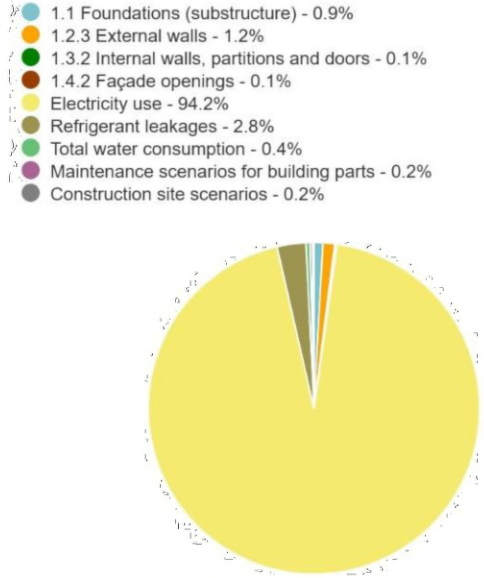


Global Warming Potential total kg CO2e - Resource types

This is a drilldown chart. Click on the chart to view details

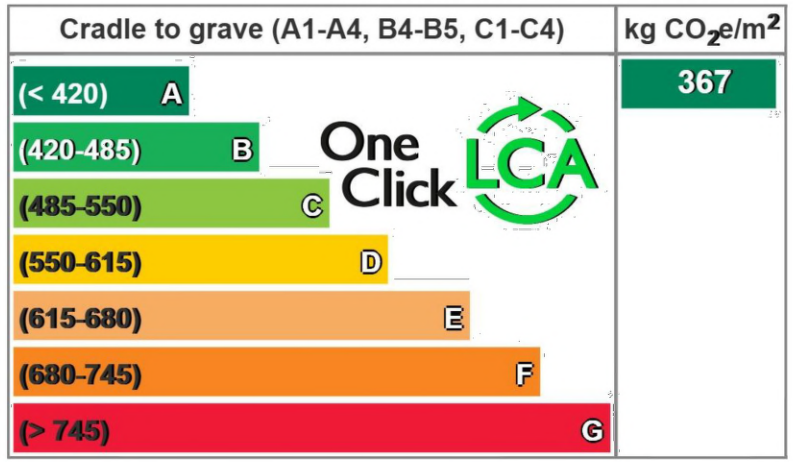


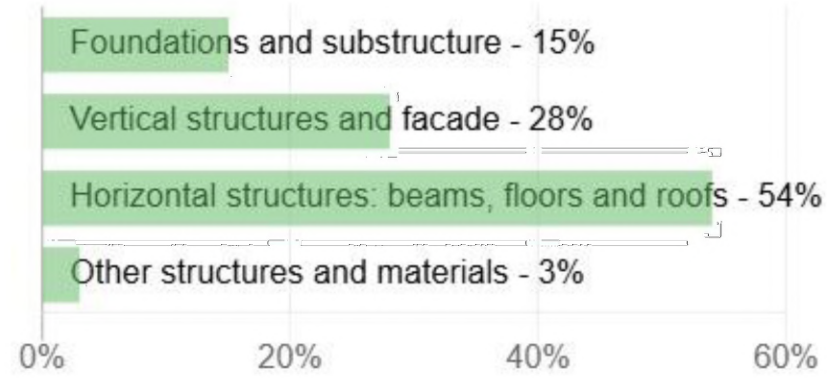
Global Warming Potential total kg CO2e - Classifications

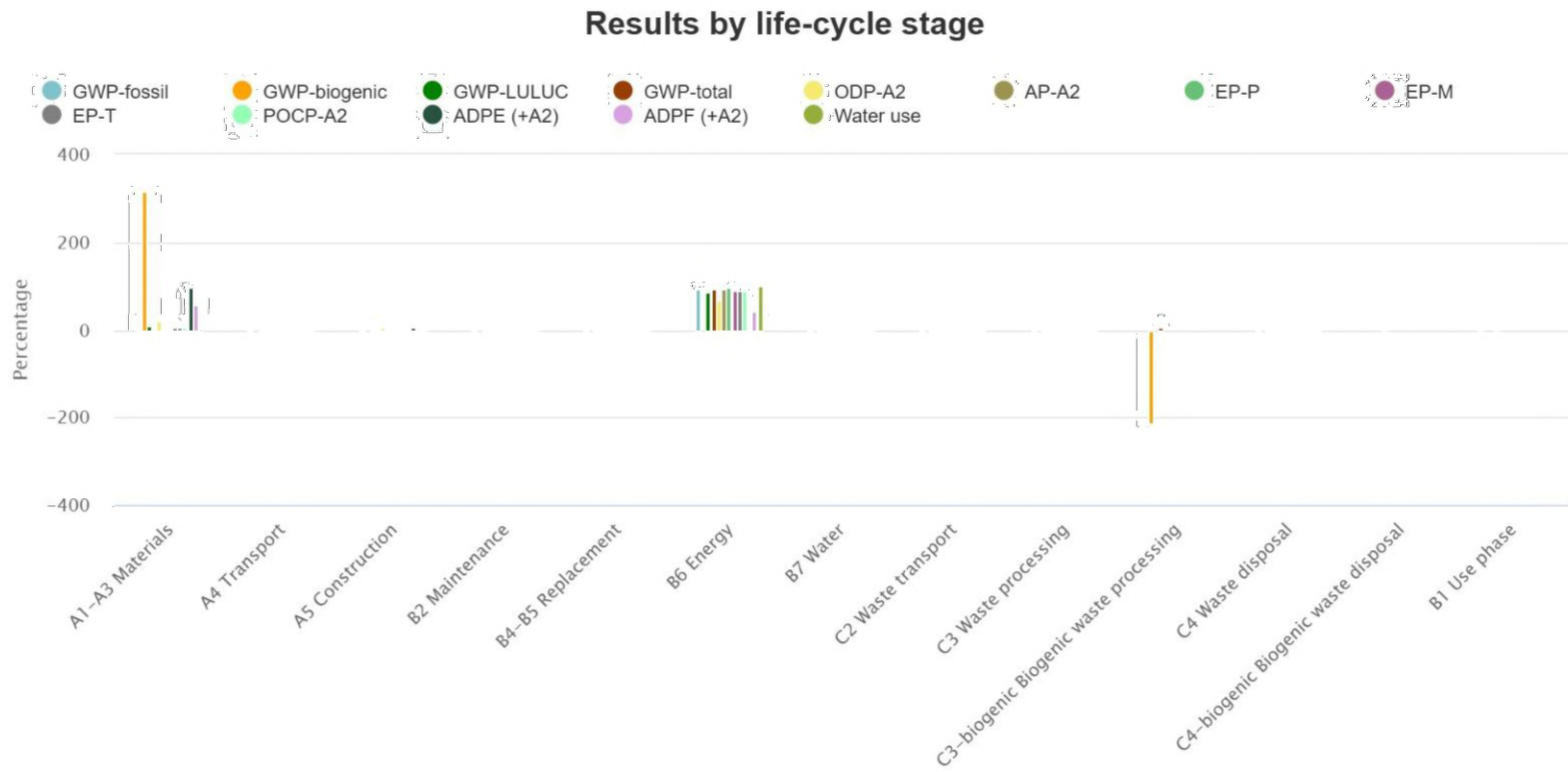


SAINT-GOBAIN

ONE CLICK LCA







SAINT-GOBAIN