# ERSID MANDIJA

*MArch.ARCHITECTURE CONSTRUCTION TECHNOLOGY*

## CONTACT


Shkoder,Albanija
Nuremberg,Germany

ersidmandija@gmail.com
dijasidiarch@gmail.com

+355694653880


## LANGUAGES

**NATIVE**
Albanian
**ADVANCED**
Serbian,English,Croatian
**INTERMEDIATE**
Italian,Turkish

## EDUCATION

**2012** HIGHT SCHOOL
-"28 Nentori" Shkoder,Albanija

**2013** SERBIAN LANGUAGE DEGREE
-Belgrade,Serbia

**2018** BACHELOR DEGREE
-University of Belgrade,Architecture Faculty
Belgrade,Serbia
Bachelor's of Architecture/Engineering

**2020** MASTER DEGREE
-University of Belgrade,Architecture Faculty
Belgrade,Serbia
Master's of Architecture Technology

## EXPERIENCE

**2016** -Intern "Bilali sh.p.k",Tirana,Albania

**2018** -Internship at Belgrade Waterfront

**2019** -Junior Architect at "Bilali sh.p.k",Tirana,Albania

**2020** -Architect at "Archidea"Shkoder,Albania

**2021** -Project designer at "Urban A&O",NY,USA

**2023** -CDs Contractor at "Arcanary" Sydney,Australia

**2023** -Principal of Construction at "Urban A&O",NY,USA

## SOFTWARE SKILLS

**EXPERT**
Autocad,Photoshop,Sketchup,Lumion
**ADVANCED**
InDesign,Word,Exel,Enscape,V-Ray
**INTERMEDIATE**
Revit,Tower

## Projects & Construction

**2023**
-**Reconstruction House**-Cedar Point,Dr.Lowell,AR,USA
-**Metal Barndominium house**-AR,USA
-**Animal Emergencz Clinic**-Deerfield Beach,FL,USA
-**Medical Suite**-NY,USA
-**Ludwig Residence**-Baazar,KS,USA
-**Shopping Center**-Celina,TX 75009,USA
-**Jallah Hotel**-Scheiffelin,Liberia

**2022**
-**Rec-House**-50 Midhampton Avenue,NY,USA
-**Reconstruction House**-Cedar Point,Dr.Lowell,AR,USA
-**J Residence**-North Parke Avenue,IN,USA
-**Lyn Residence**-Birmingham Ln,FL,USA
-**Project Energos**-NV,USA
-**Barndominium house**-New Moon Way,AZ,USA
-**Hybrid Data Center**-Helsinky,Finland
-**Metal Barndominium house**-AR,USA
-**Wiehe Residence**-KN,USA
-**Wonderbotz**-NJ,USA
-**Ranch House**-IN,USA

## Project Awards

**2022**
-***Rethinking The Future,First reward for industrial concept***-Project Helsinki Hybrid Data Center
-***Rethinking The Future,Sustainable Project of the Year***-Project Energos

**2021**
-***Iconic Award,Germany***-Project Energos
-***Novum Design Award,Silver***-Project Helsinki

**2020**
-***Opal Platinium Award,London***-Project Energos

# Ersid Mandija

mast.arh.eng

Portofolio 2020

ersidmandija@gmail.com
+355 69 465 3880

# Contains

- **P01**

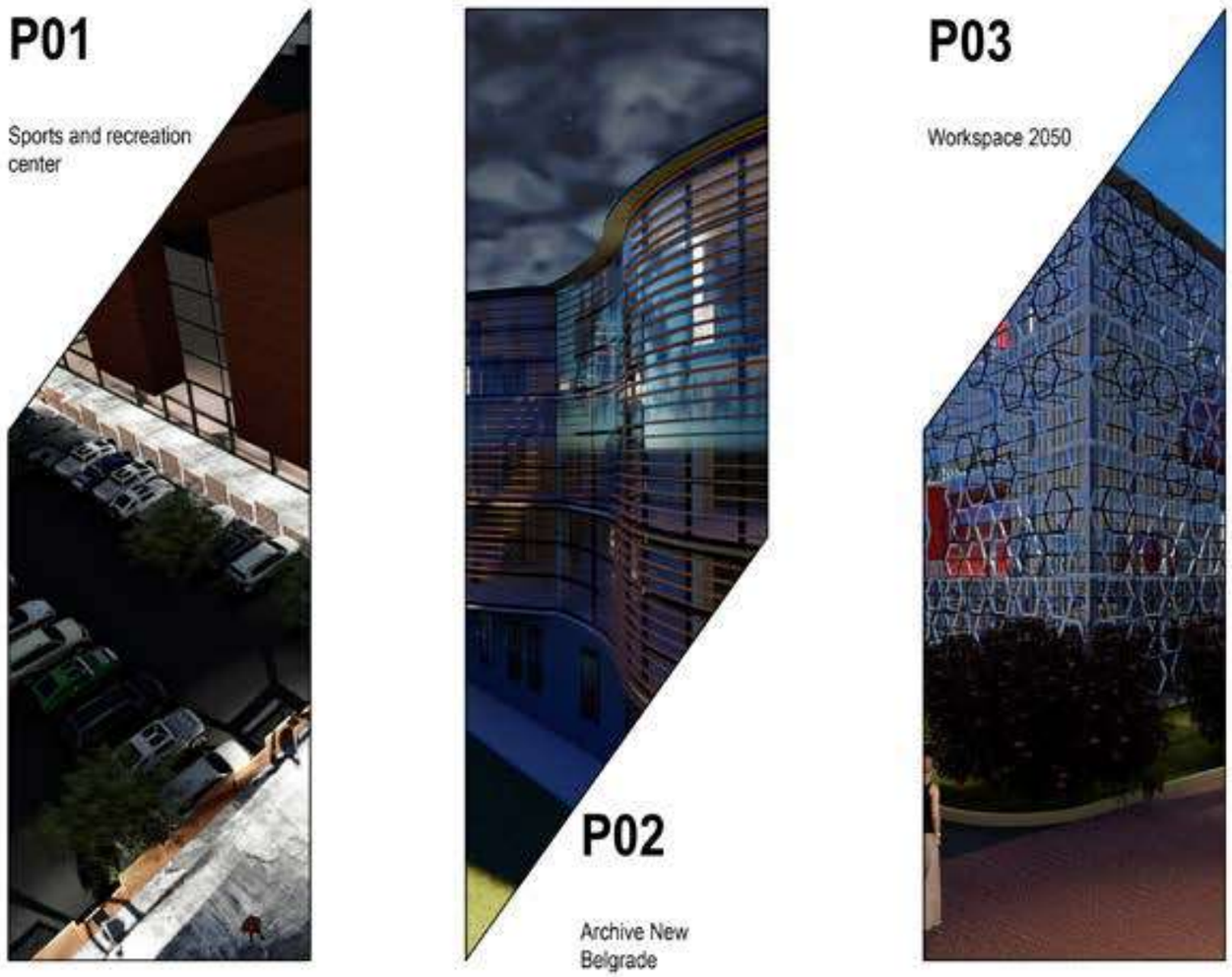
  **Sports and recreation center**

- **P02**

  **Archive New Belgrade**

- **P03**

  **Workspace 2050**



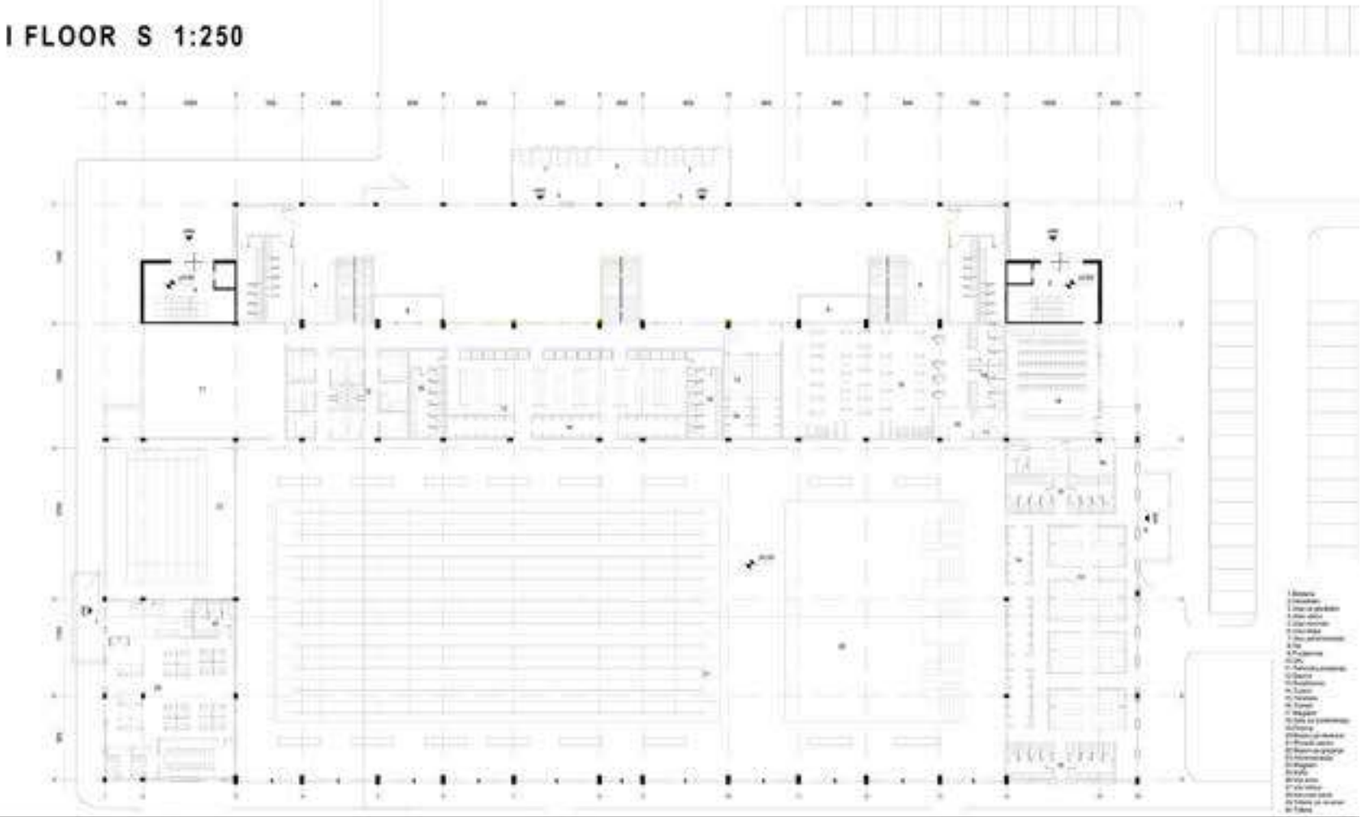
# P01 Sports and recreation center

Center has 5 entrances. The first and largest is for spectators. When you enter, there is a large hall, also toilets and shops spaces.Stairs and elevators direct you at the second floor where grandstands are located.First floor is used for locker rooms, saunas, gym, showers, toilets for visitors.A large magazine that has a technical function also appears in this zone.VIP and journalists entrance are separated from spectator and have their own special entrance.

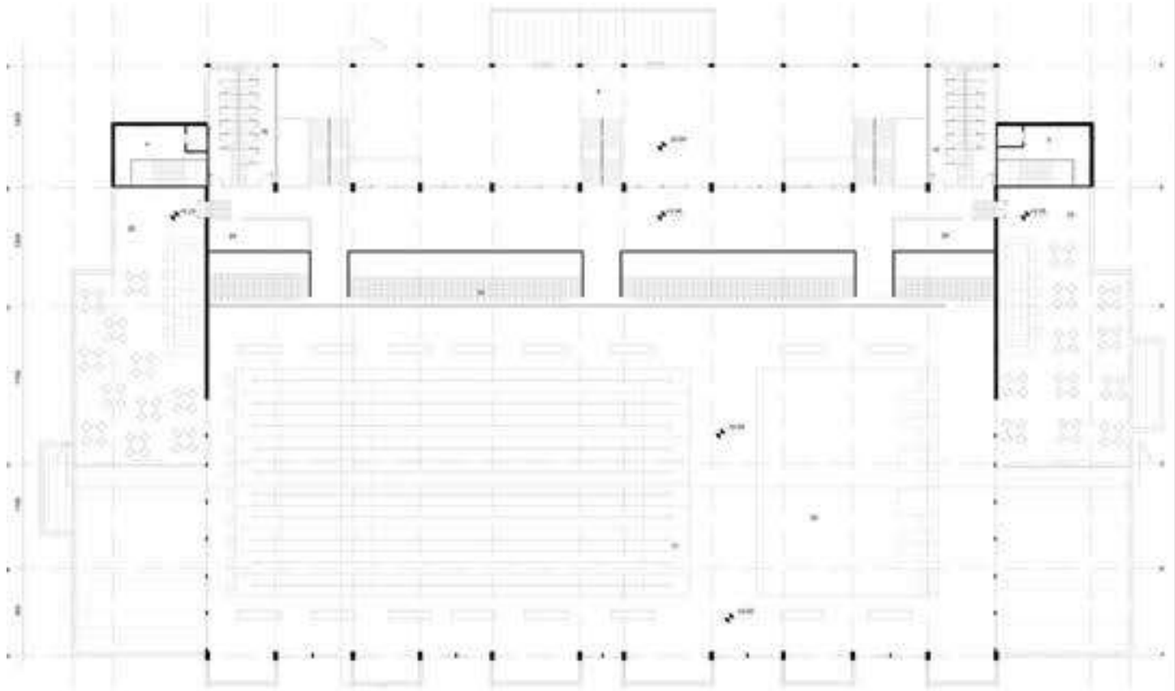
From the locker room you enter right into the sports hall where there are 2 pools, one for jumping and one for swimming, both with Olympic dimension. In a separate area there is a swimming pool for warm ups.The administration enters from the left side of the building, and the teams from the right side.The teams space is used for locker rooms, toilets, showers, space for coaches, space for doping and have a separate entrance to the conference room.

When you climb to the second floor, a large corridor appears, you pass through it and enter the grandstand on both sides of the building, on the second floor a cofeshop is also located. Third and last floor space is used by VIPs and journalists.

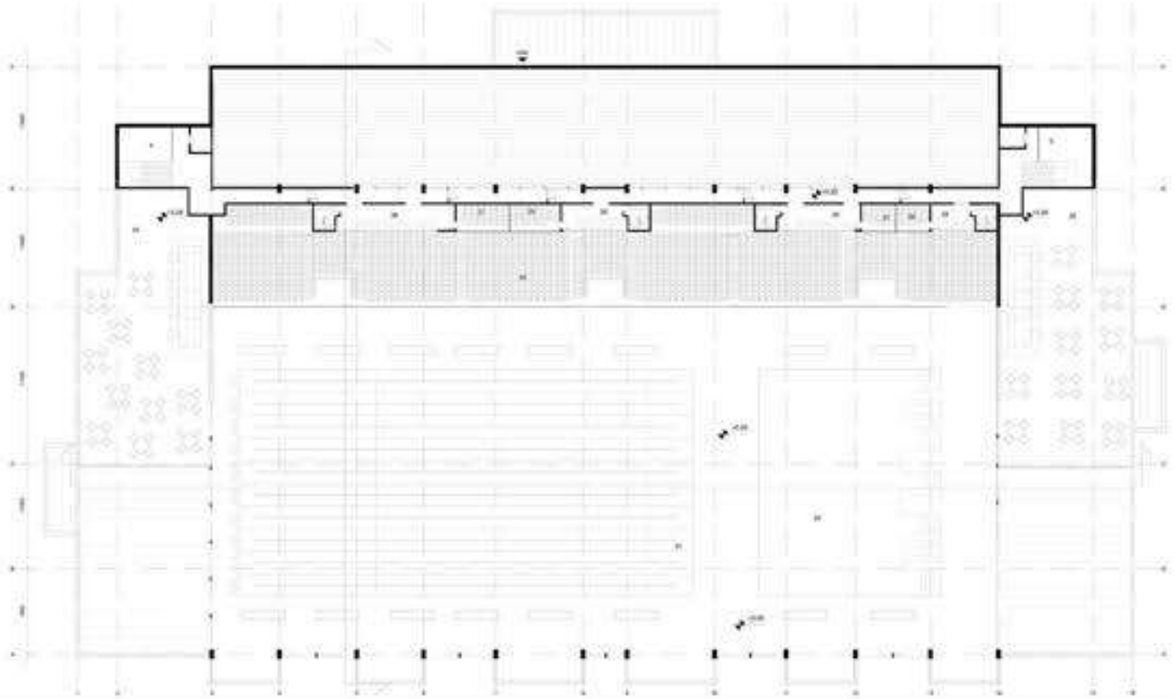
I FLOOR S 1:250



II FLOOR R 1:250



III FLOOR S 1:250



# P01 Construction

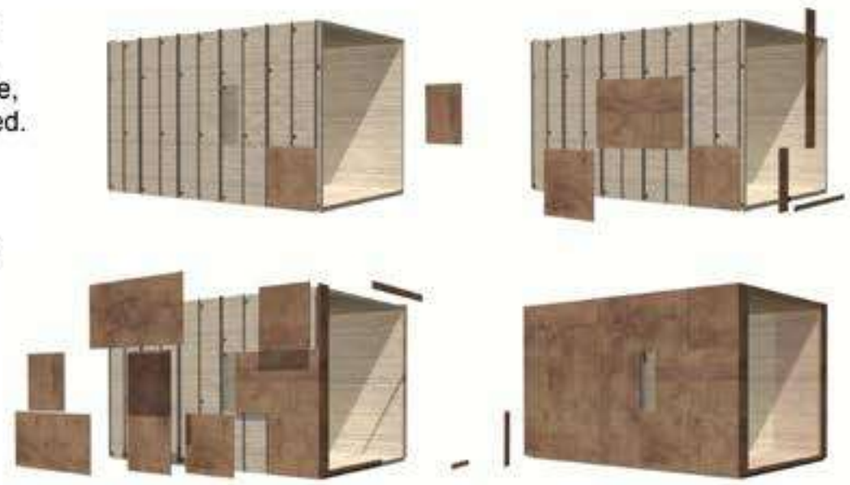
## CONSTRUCTION

The substructure of vertical profiles is fundamental within the process since it facilitates the circulation of air behind the panels when separating them from the building. This hidden structure must be designed to meet all static requirements and support the average wind load of the place where it is being installed. The inclination of the façade, the dimensions and the thickness of the wooden panels, and the chosen mounting system should also be considered. The minimum support width of the profile for intermediate points is 60 mm, and 80 mm for the points where two panels meet.

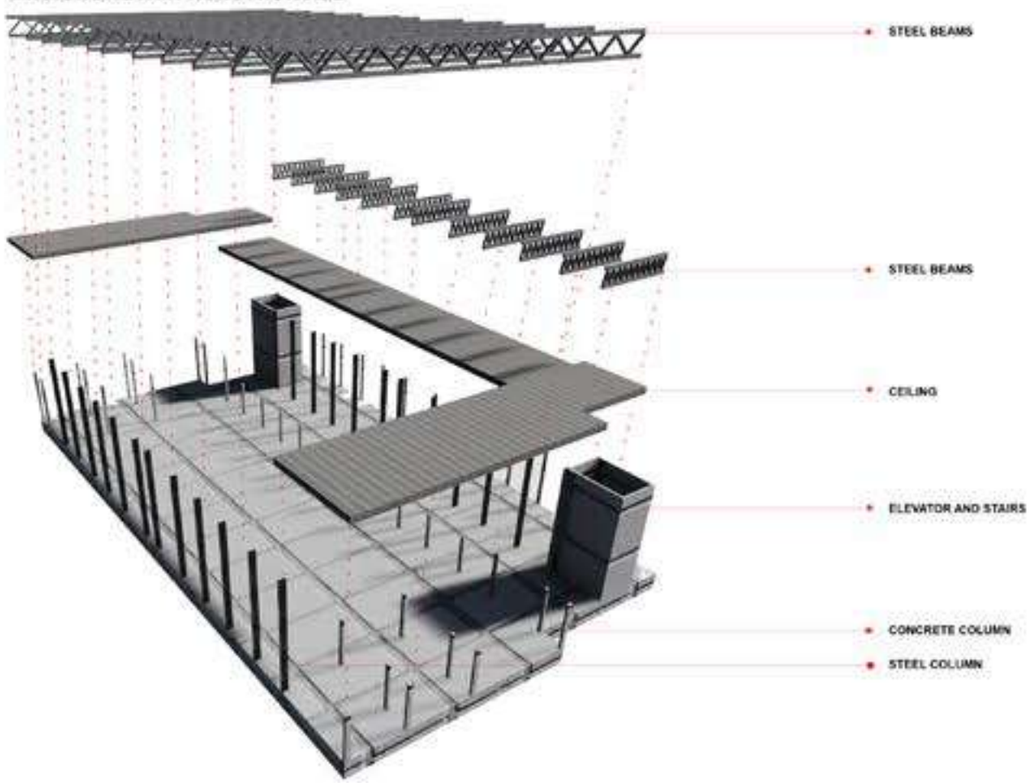
Wood Substructure / If the project is in a dry area, without frequent rains, you can build a substructure with wooden slats, which must be treated beforehand. It is recommended to add PVC joints or closed cell polyethylene foam on the exposed surfaces, to extend the useful life of the structure.

Metal substructure / For wet or rainy areas, it is recommended to build a substructure of metal profiles; galvanized steel or aluminum. In areas near the sea, stainless steel profiles should be used.

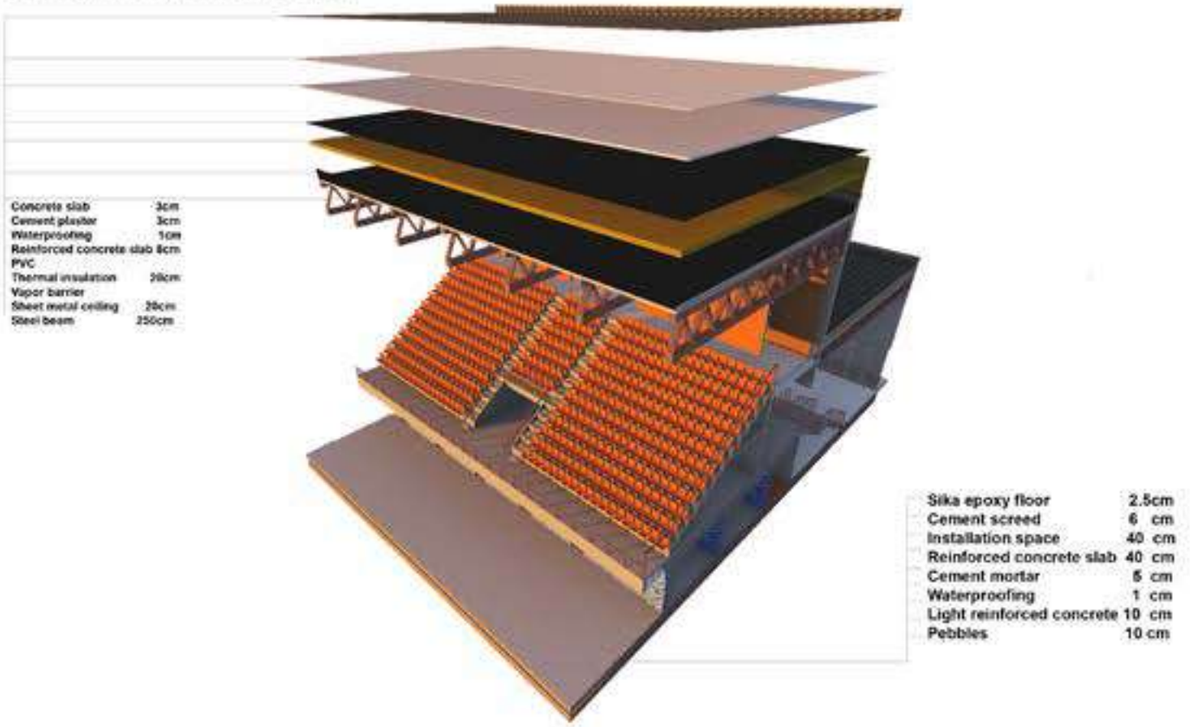
As for the beams, they are made of steel, 40m long with a height of 2.7m and appear every 6-8 m distance,.The columns are made of concrete and steel.



AKSIONOMETRIA KONSTRUKCIJE




AXIONOMETRY OF CONSTRUCTION

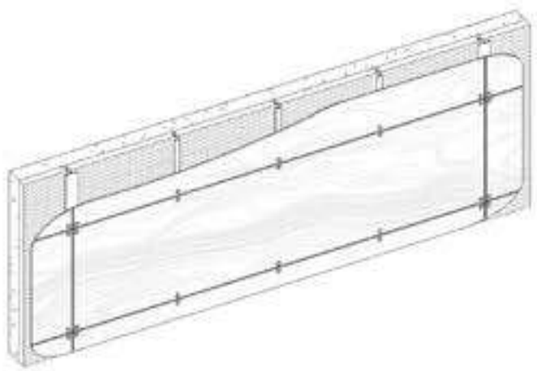


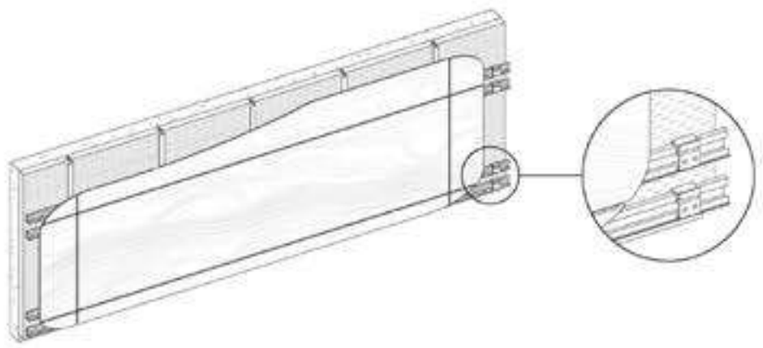
# P01 Materialization

Materials used at this building are  wood ,glass and precast concrete.The design was conceived as a 'magic box' with its pixelated precast concrete exterior acting in tension with the white pearl natatorium interior. The charcoal tones of the precast concrete present an animated façade in symphony with the transparent curtain wall, creating a rhythm of solid and void.

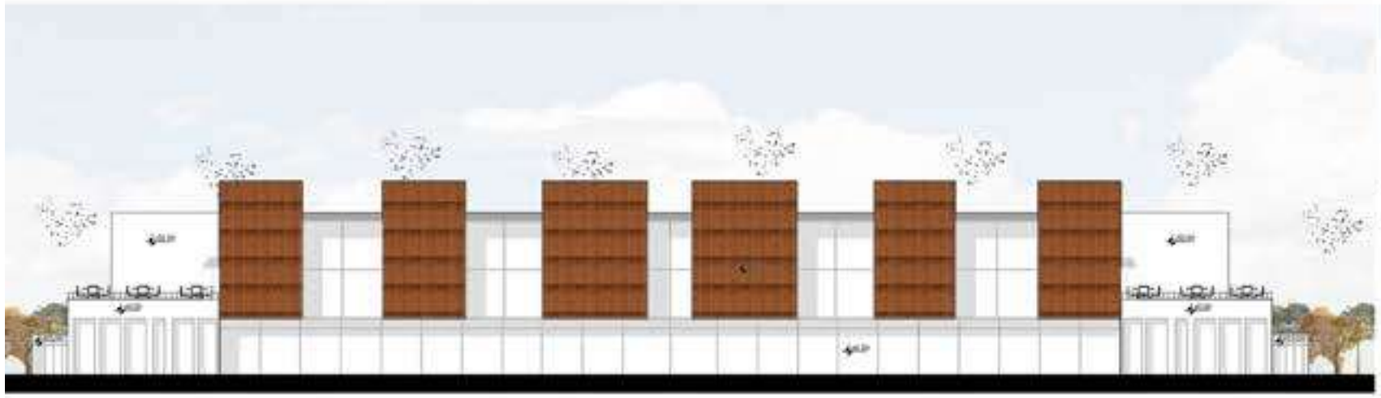
Dri-Design panels were selected in pre-weathered ANTHRA-ZINC, a rich, charcoal black color that combines seamlessly with other natural building materials, including wood and glass. The zinc panels provide a distinctive tone and texture, and the dark color creates a timeless, neutral palette on the building's exterior.Glass and wooden facades appears on the side of the building directet at the river, due to their attractiveness view, and light that obtaine the sporting hall.

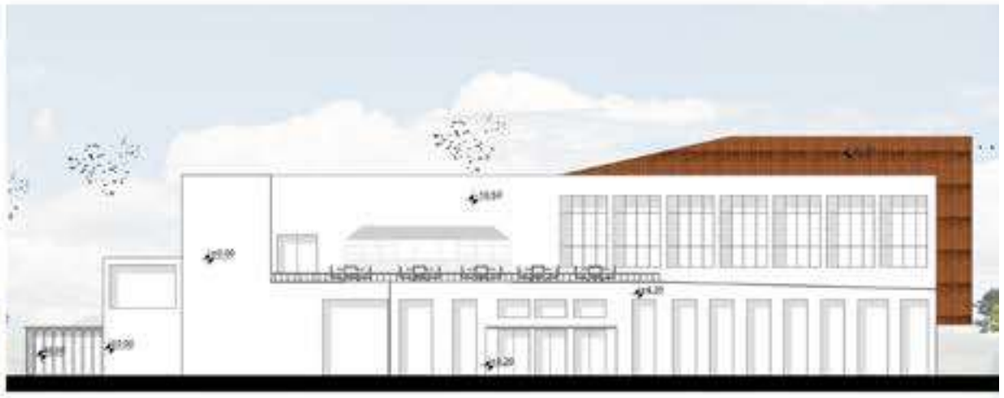
## STRUCTURE

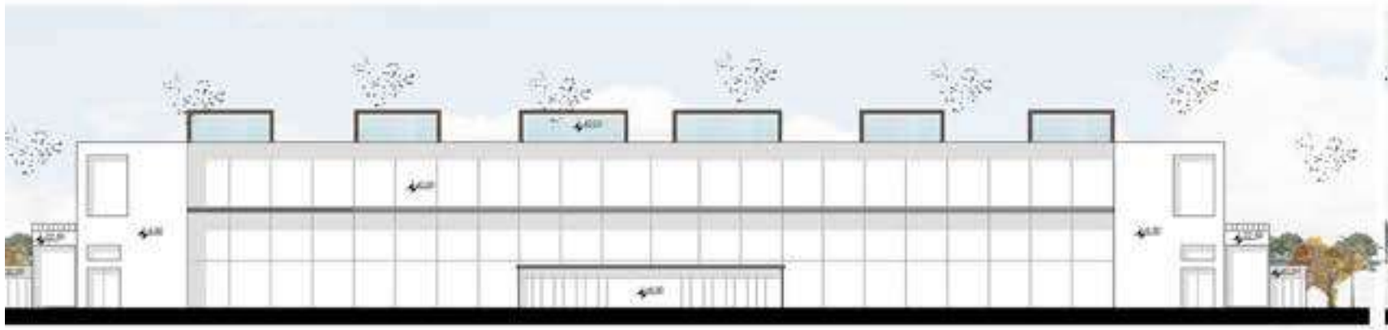



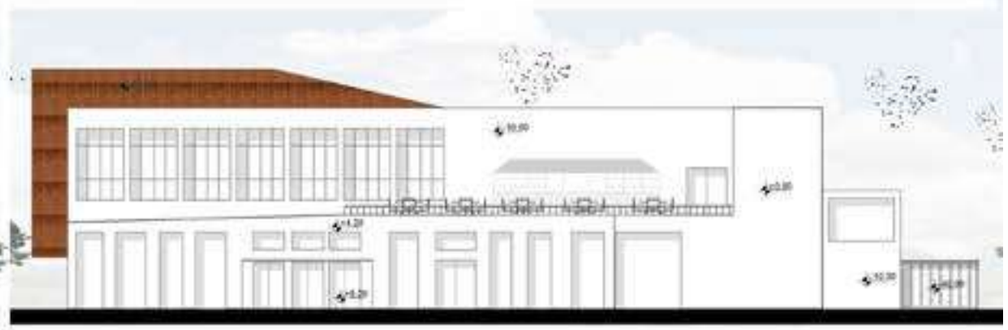


# P01 Facades and 3D view





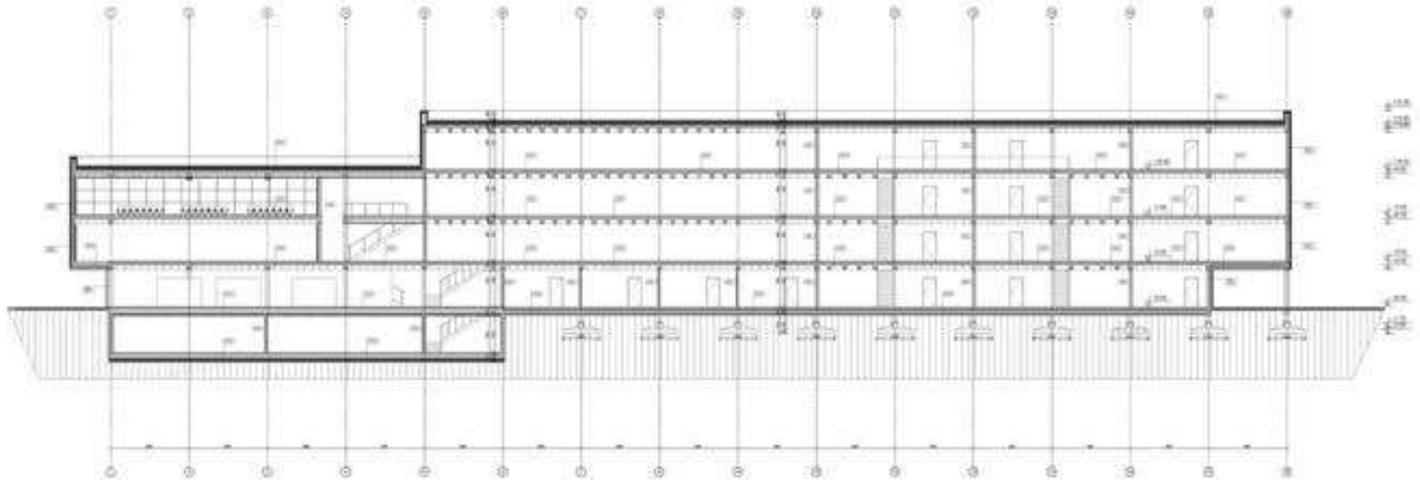




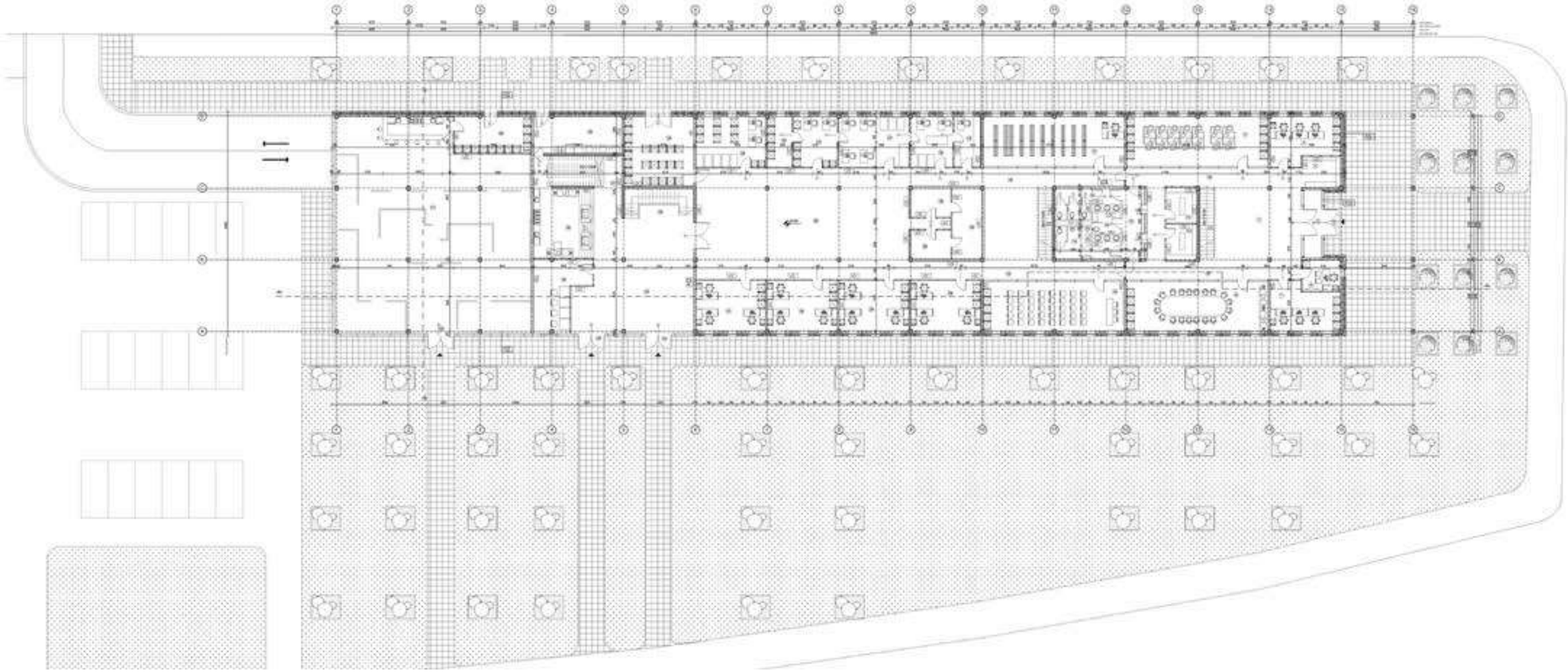
# P02 Archive New Belgrade

Lokacion


Section 1-1 S 1:500



I Floor S 1:400

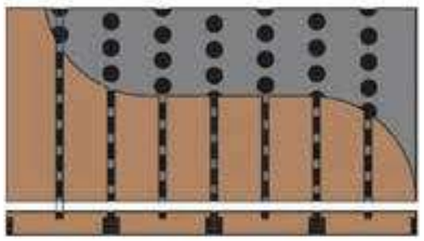


# P02 Facade,section and plan floor

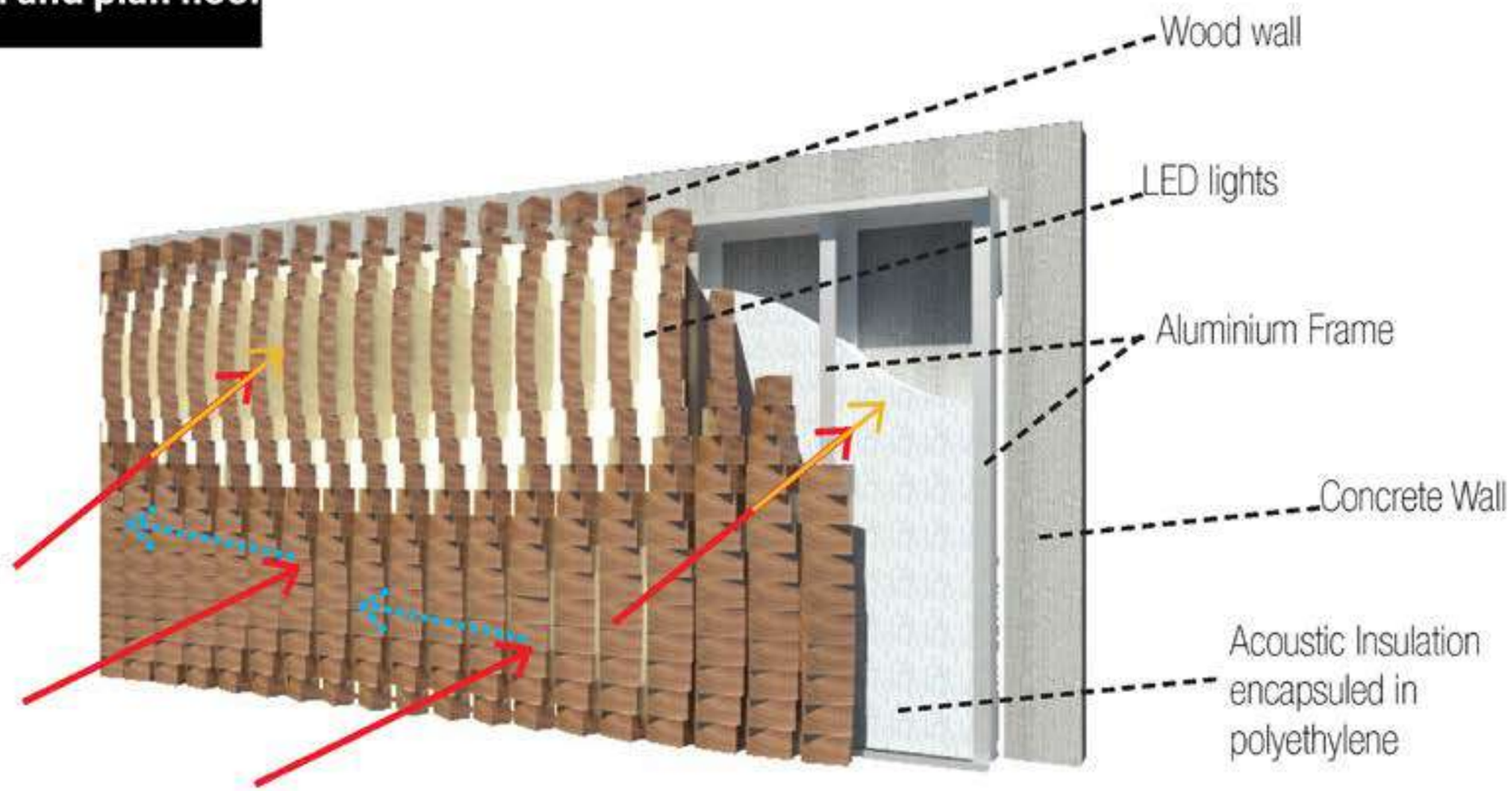
Direct Sound Rays

Indirect reflected Sound Rays

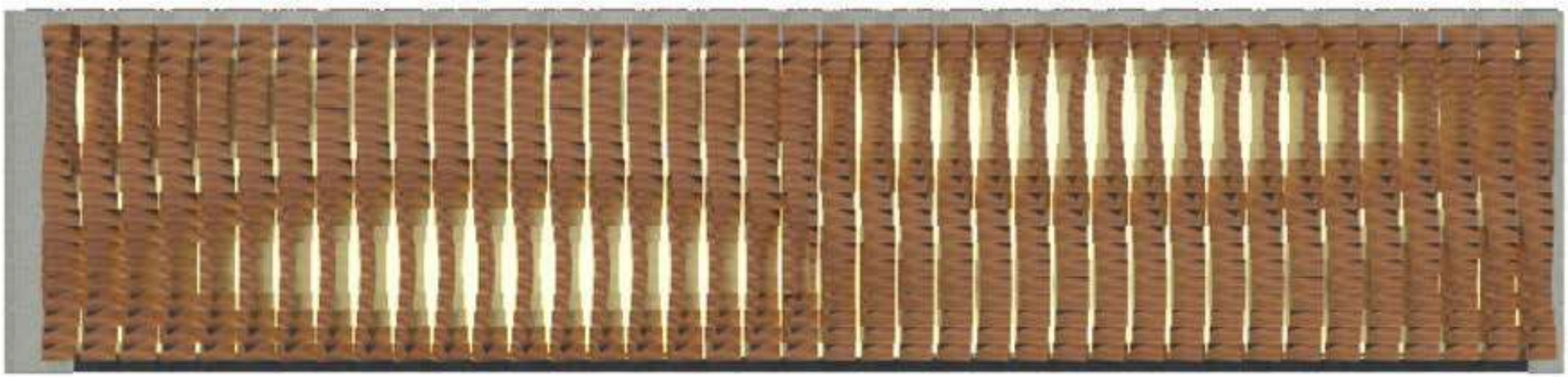
Absorbed Sound Rays



Porosity in the wood

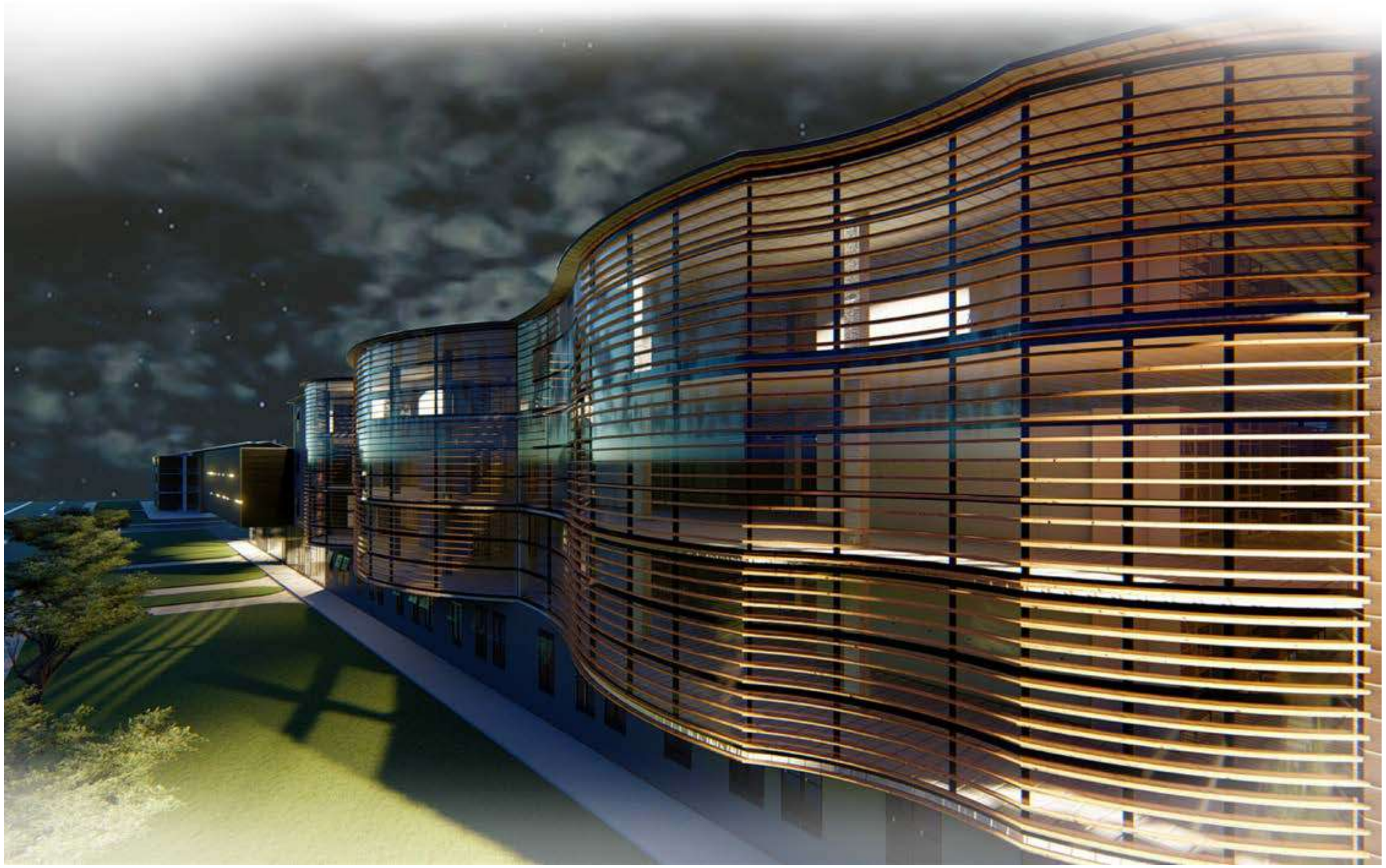



CONSTRUCTION WALL DETAIL

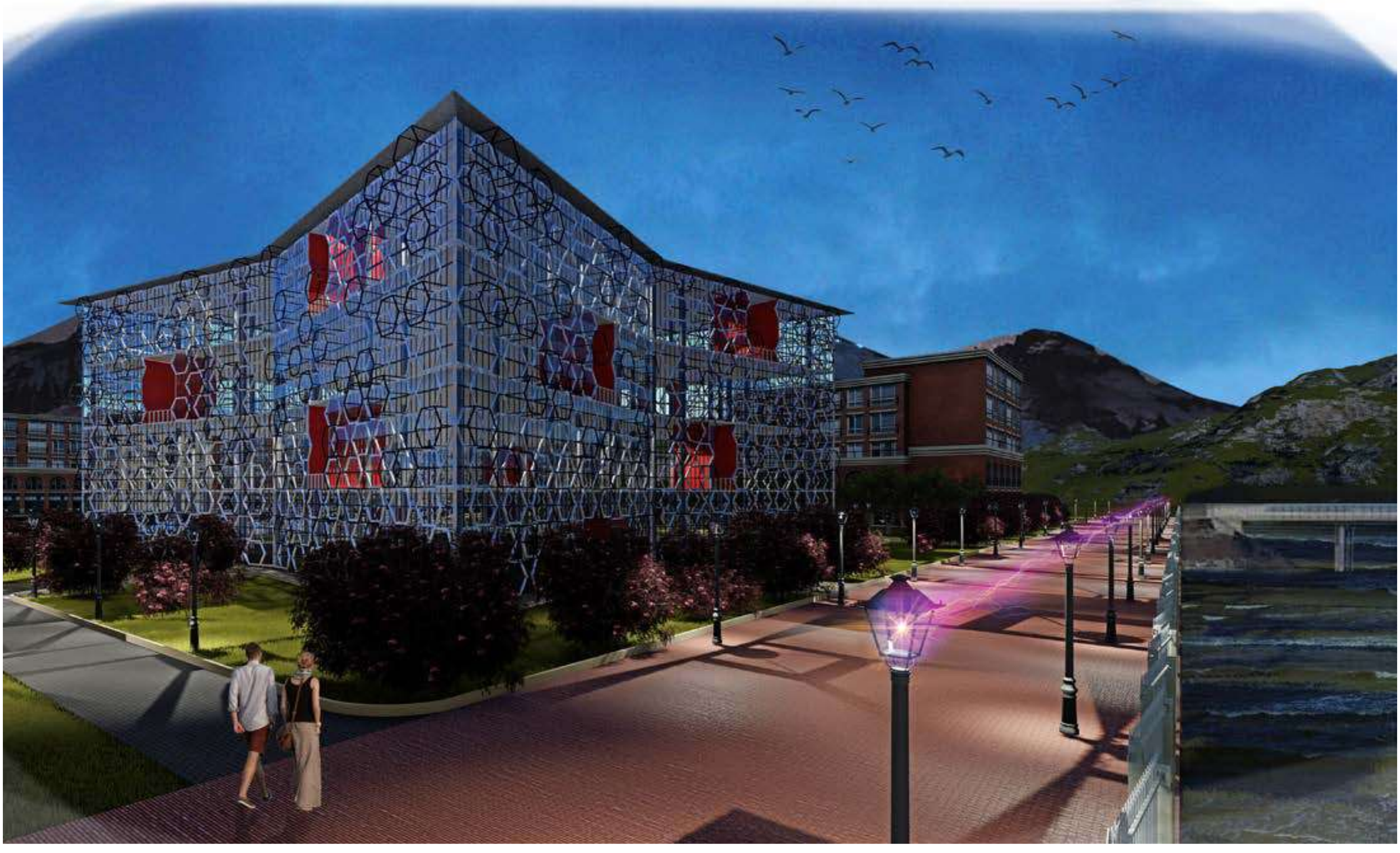


ACOUSTIC WOOD PATTERN WALL

# P02 3D View

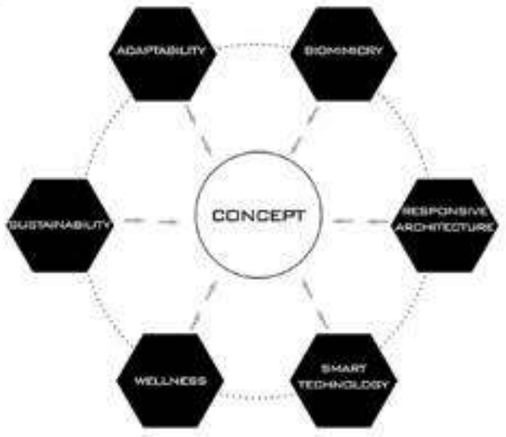


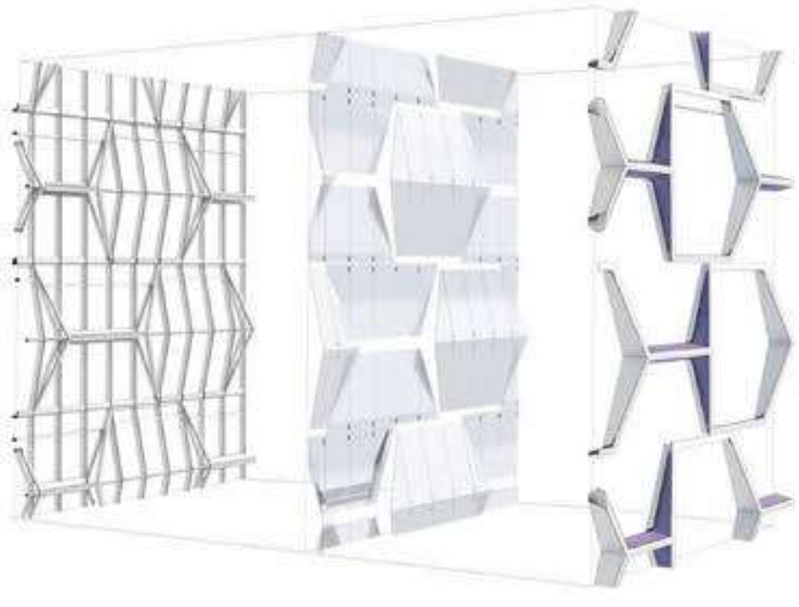
# P03 WORKSPACE "2050"

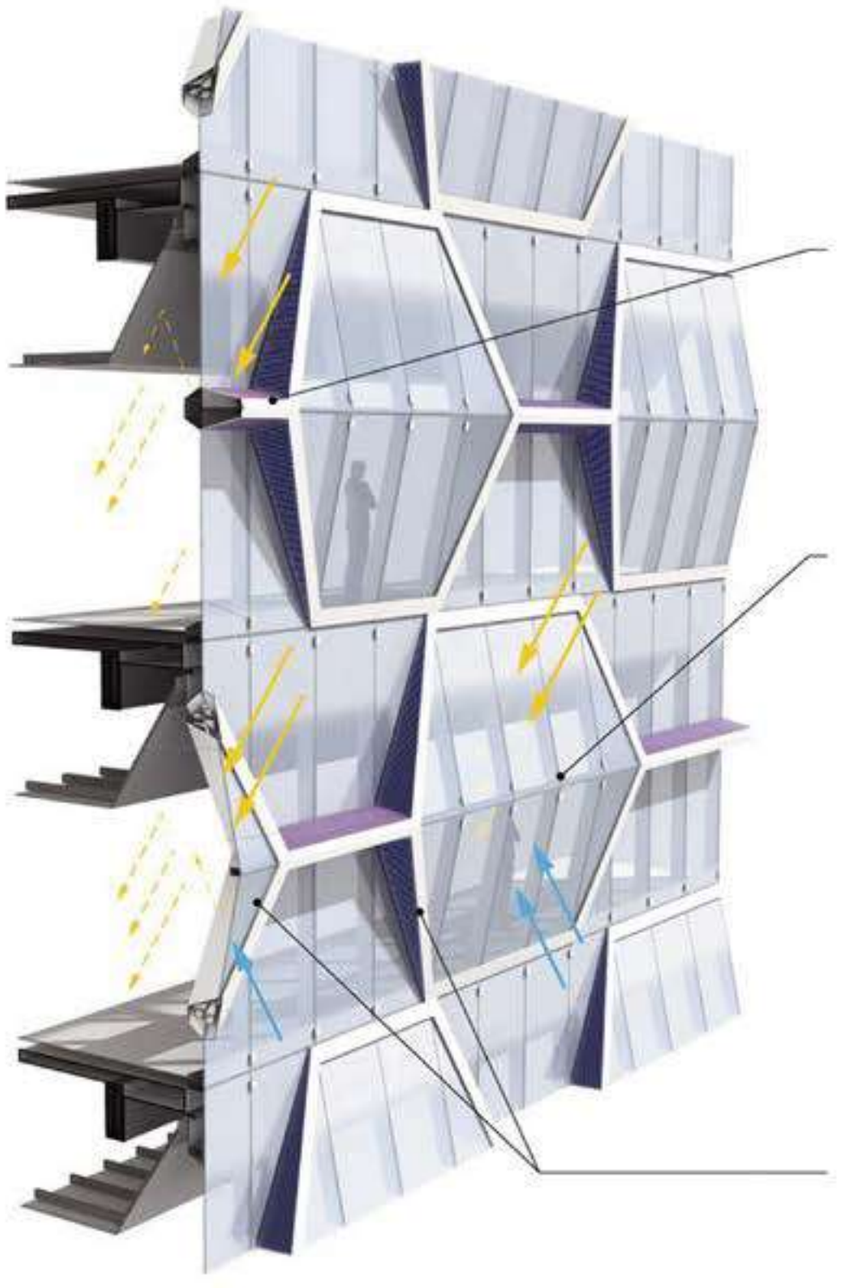


# P03 FACADE DETAILS

The basic shape of the hexagon is used to create patterns that increase the performance of the facades with angles and shading devices that are responsive to the climatic conditions of Albania. Along with systematic material variations, these geometric panels add texture and cohesion to the building, whilst reflecting light and pocketing shade. The texture and volume of the facade are important to maintaining the comfort of those living and working in the residential and office buildings. Shading devices and high-performance glass are important for developing a sustainable and liveable facade.





**PANEL 1**

--Upper lite with heavier coating and frit with framing acting as shading and light shelf

**PANEL 2**

-Angled,frittted and coated glass in top lite for peak solar performance

-Lower angled black receives only reflected light

**PANEL 3**

-Transition panels are hybrid of both performances and make patterning possible

# P03 BEAM DETAILS AND DESIGN

1.Engineered prefab wood truss

2,Preinstalled continuous liner flourescent

3.Acustic insulation

4.Suppy air duct

5.Roof assembly over natatorium

6.Preinstalled sprinkler heads

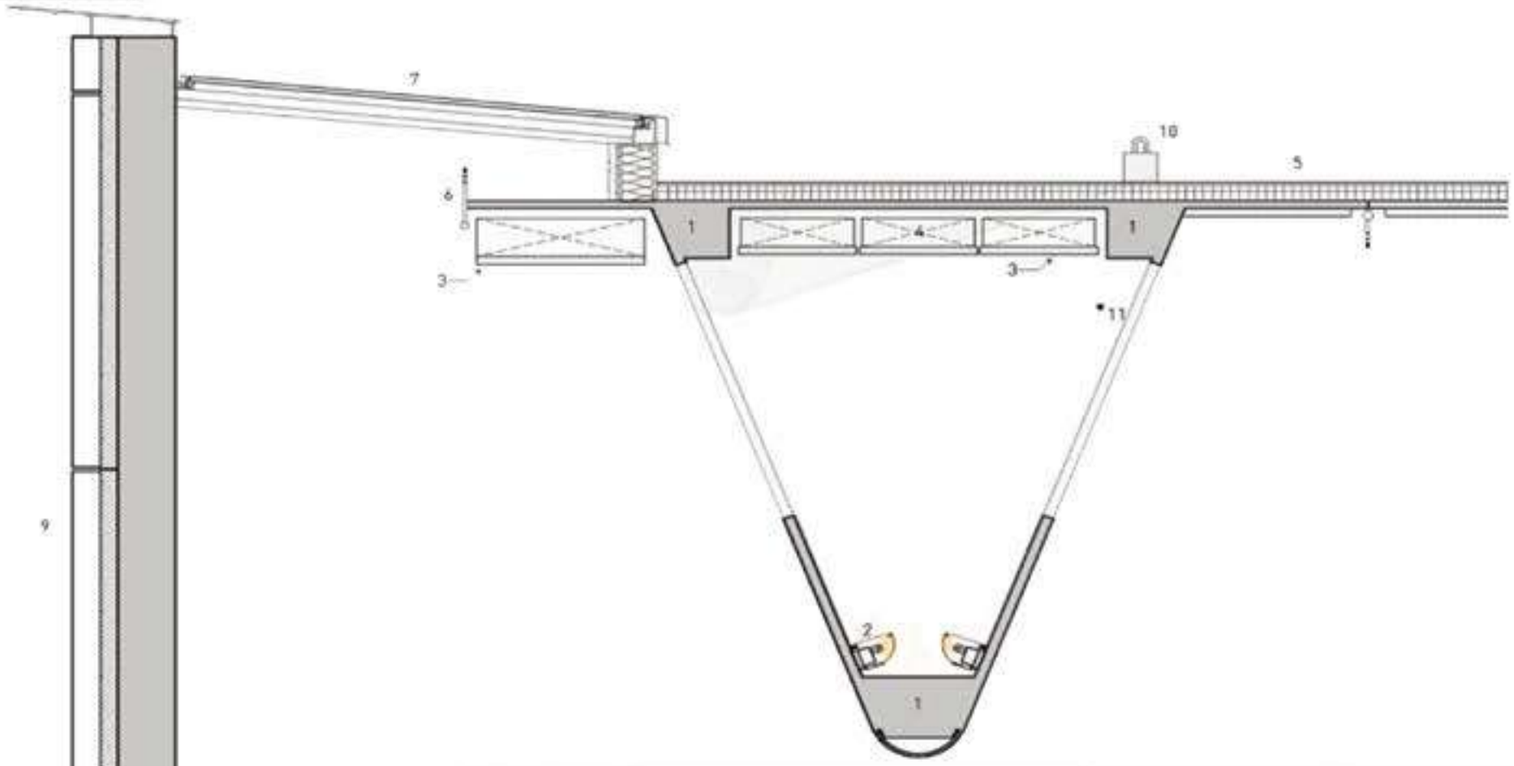
7.Low-e coated skylight

8.Galvanized steel plate flashing

9.Precast conrete wall

10.Steel roof anchor

11.Safety cable

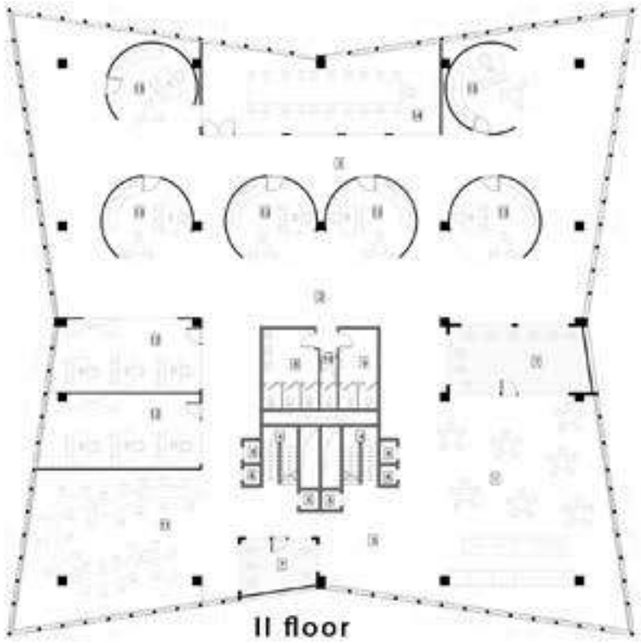



5.45 metar long V-shaped trusses are made from CNC cut Laminated Strand Lumber panels, comprised structurally of glulam top and bottom chords, LSL webbing, and plywood deck.

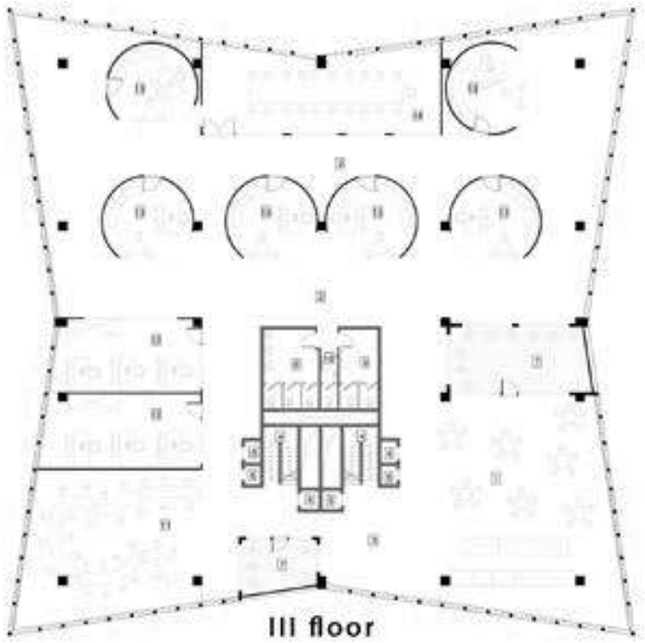
Inside the trusses are pre-installed mechanical ducts, sprinklers, up-lighting, and acoustic ceiling insulation. The trusses are designed particularly to enhance up-lighting, and built-in catwalks allow easy access.

# P03 SECTION AND PLAN FLOOR

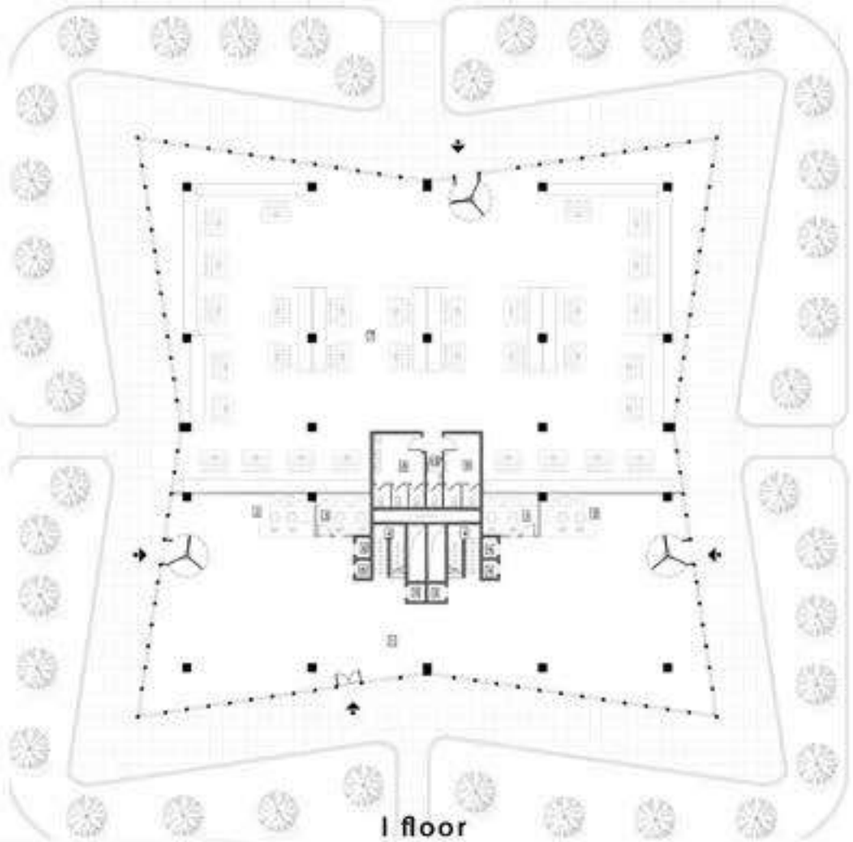
R 1:400



II floor



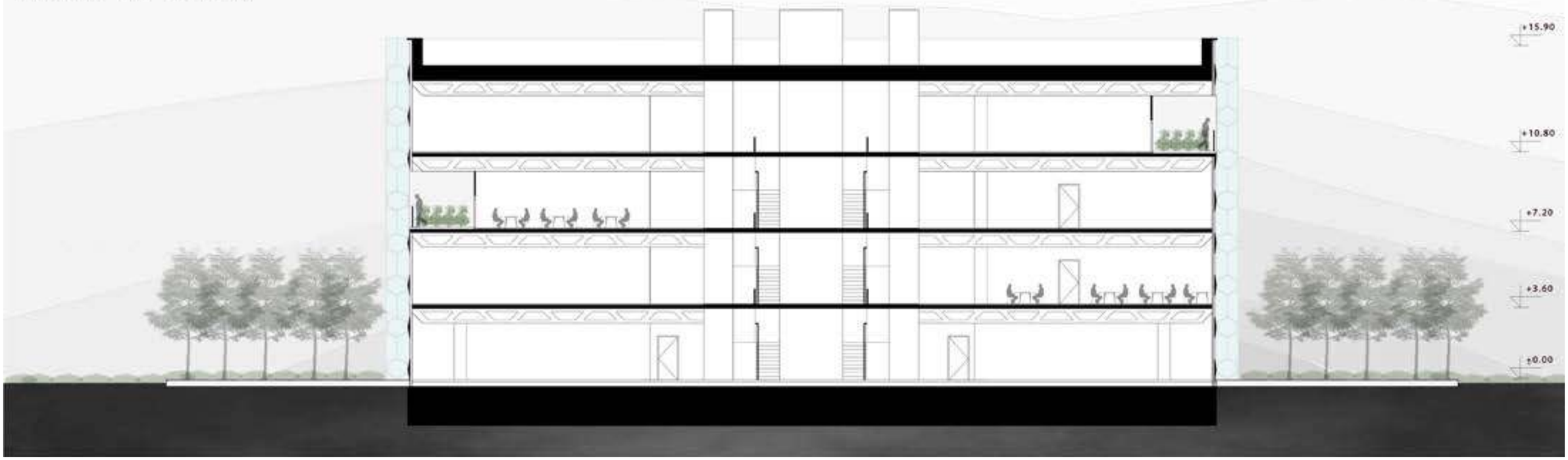
III floor



I floor

Rozafa tvrdjava

Section 1-1 S 1:150



# PROJECT ENERGOS
# FACADE CONSTRUCTION DETAILS

# DATA CENTER

Project Energos Reno is a 3,700 acre mixed-use development near Reno, NV that aims to enable secure, swift storage and transmission of data between government agencies and commercial clients. Upon completion, Energos Reno will be the largest industrial/ commercial development in the United States powered by hybrid renewable energy.

The Data Center folded concrete façade employs the latest technology in low-carbon concrete by reducing the cement required for concrete. The cementitious element of concrete is responsible for the majority of the embodied carbon in the concrete. This means it is worth concentrating on reducing the cement required for the concrete. Superplasticiser admixtures help reduce tWhe embodied carbon by reducing the water/cement ratio. This provides a stronger concrete for the same quantity of cement. The Data Center will also employ the use of aerated concrete which involves the addition of a foaming agent such as aluminum powder to a mixture of cement, siliceous-based fine aggregate and water, to react with the lime in cement and create expansive reactions due to the formation of hydrogen gas, thereby producing a lightweight porous material.

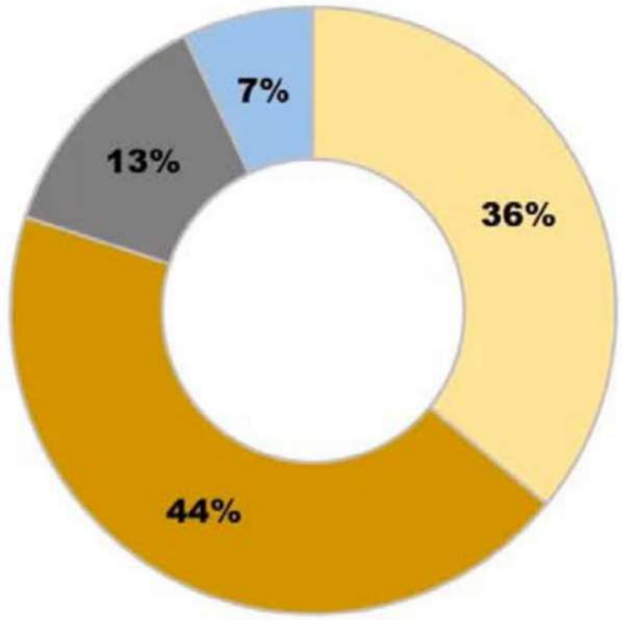
# LOW CARBON CONCRETE

**Low-Carbon Concrete Can Fight Global Warmingv**

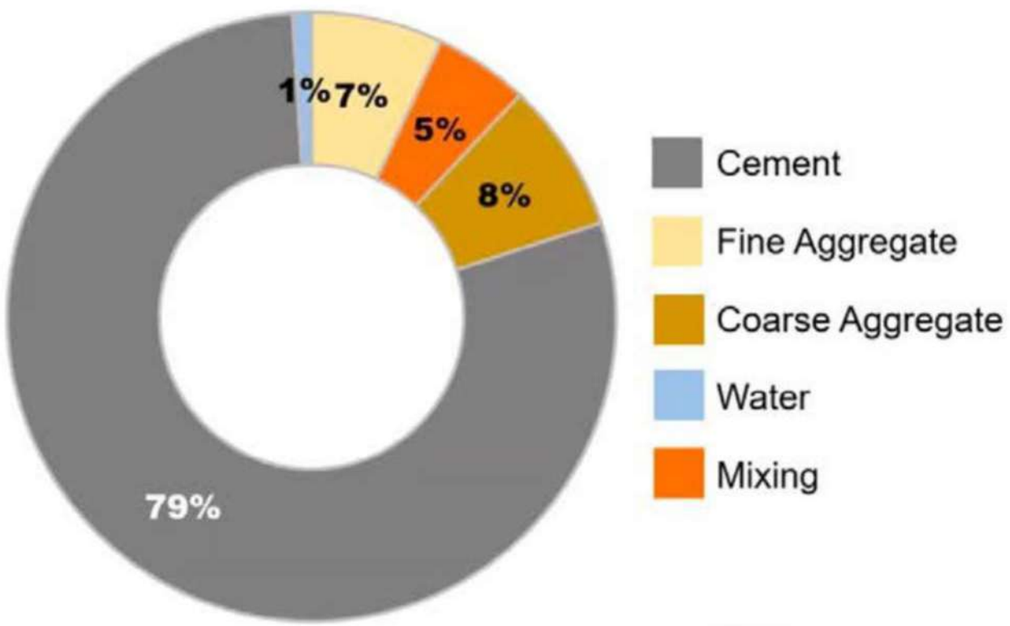
## LOW EMBODIED CARBON CONSTITUENTS

Concrete is a low carbon material. Its versatility, performance and local availability has resulted in it being the second most consumed material globally (after water). The potential to reduce global carbon emissions, by reducing the embodied carbon of such a widely used material are not in doubt.

As shown in the figure above, the majority of the volume of concrete is aggregates that are low in embodied carbon. The majority of the embodied carbon of concrete comes from the binder, the cementitious material - this can be **Portland cement (CEM1) or secondary cementitious materials, such as GGBS, FA or limestone. Secondary cementitious materials have a lower embodied carbon and can be used in combination with CEM1, as permitted in BS 8500**. The embodied carbon of the constituent materials of concrete is published in Specifying Sustainable Concrete. More detail on cementitious materials can be found in MPA Cement's Factsheet 18.

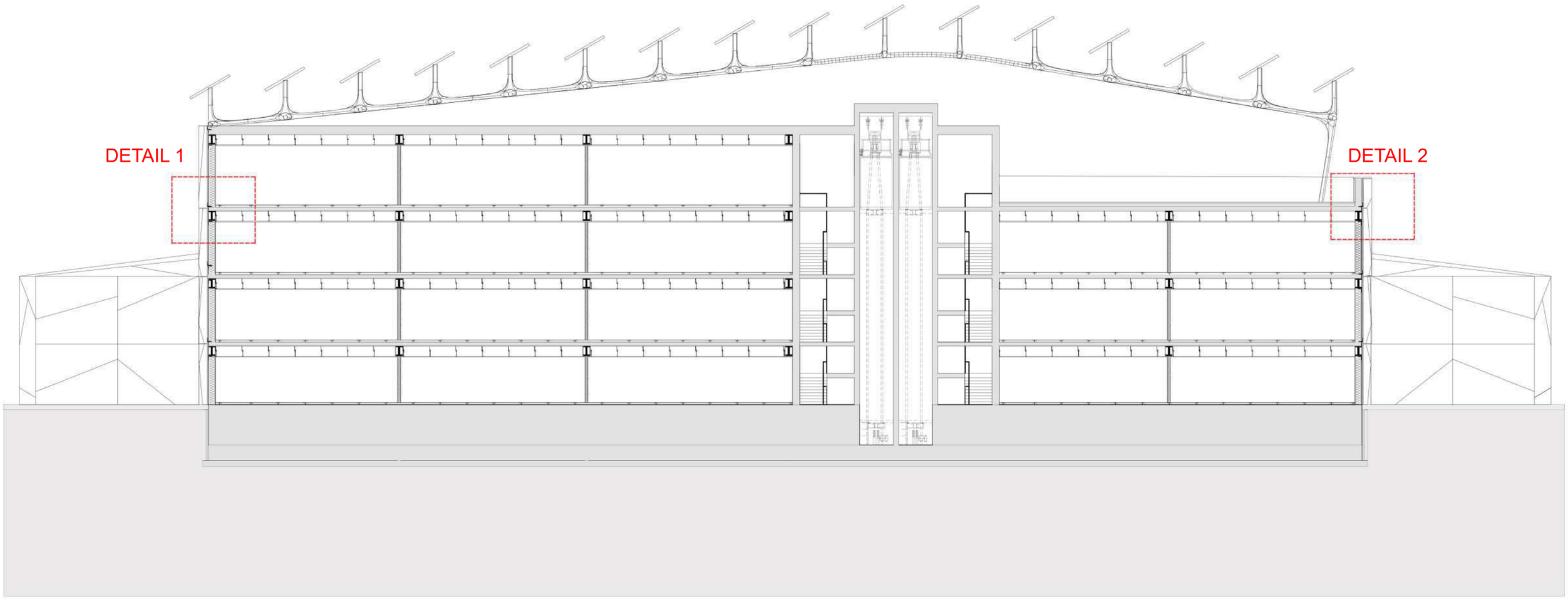



**MATERIALS**




**GHG EMISSIONS**

CSHub MIT CONCRETE SUSTAINABILITY HUB




**PROJECT ENERGOS**

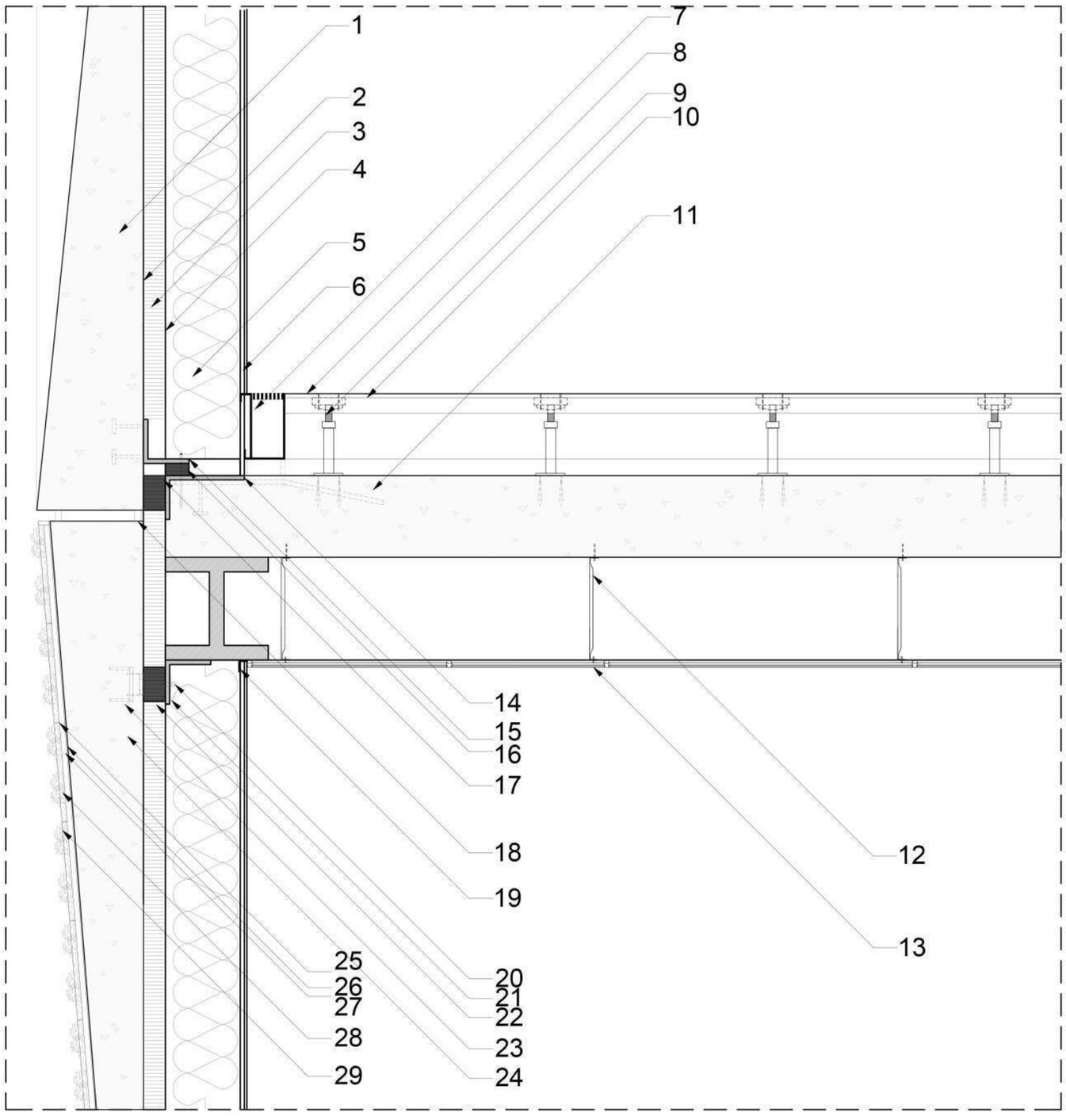
Section 1-1

0 5 10 15

N

CONSTRUCTION DOCUMENTS

# A.1




1.Precast concrete panel
2.Continuous sheathing
3.Rigid insulation
4.Steel stud
5.Batt insulation
6.Drywall
7.Floor vent
8.Finished flooring
9.Pedestal system
10.Hat channel
11.Concrete floor slab
12.Ceiling hangers
13.Ceiling
14.Cast-in-place anchor
15.Guagle steel angle
16.Plastic horseshoe shim
17.Smoke seal and fire stop
18.Caulking
19.L profile
20.Threaded rod with nuts and washers
21.Steel plate with slot
22.Plastic horseshoe shim
23.Slotted insert
24.Precast concrete panel
25.Wedge anchor
26.Waterproffing
27.Steel/Aluminium frame
28.Side trim panel
29.Plants

**PROJECT ENERGOS**

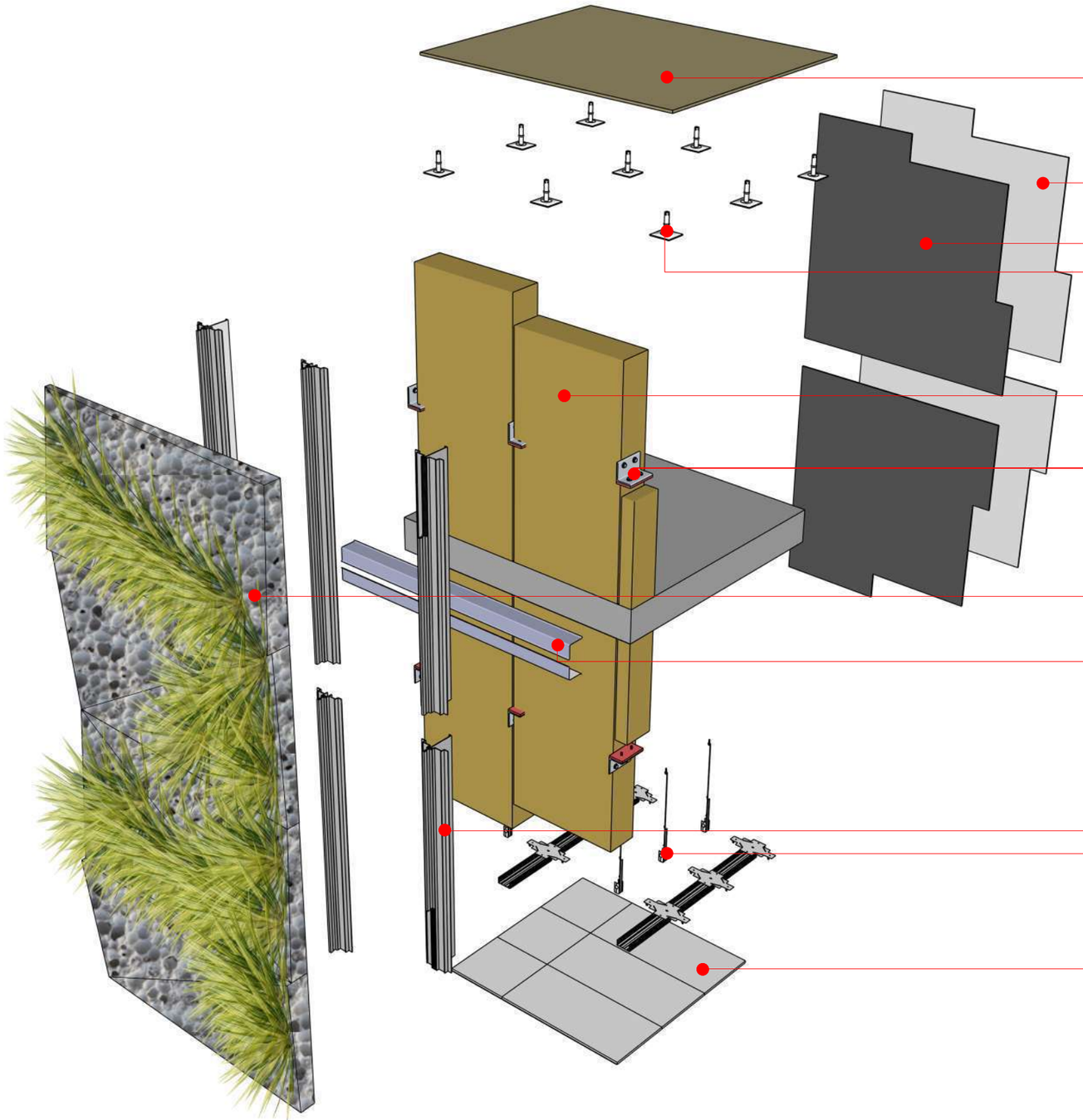
**Detail -1**

0 5 10 15

N

CONSTRUCTION DOCUMENTS

# A.2



1.Precast concrete panel
2.Continuous sheathing
3.Rigid insulation
4.Steel stud
5.Batt insulation
6.Drywall
7.Floor vent
8.Finished flooring
9.Pedestal system
10.Hat channel
11.Concrete floor slab
12.Ceiling hangers
13.Ceiling
14.Cast-in-place anchor
15.Guagle steel angle
16.Plastic horseshoe shim
17.Smoke seal and fire stop
18.Caulking
19.L profile
20.Threaded rod with nuts and washers
21.Steel plate with slot
22.Plastic horseshoe shim
23.Slotted insert
24.Precast concrete panel
25.Wedge anchor
26.Waterproffing
27.Steel/Aluminium frame
28.Side trim panel
29.Plants

**PROJECT ENERGOS**

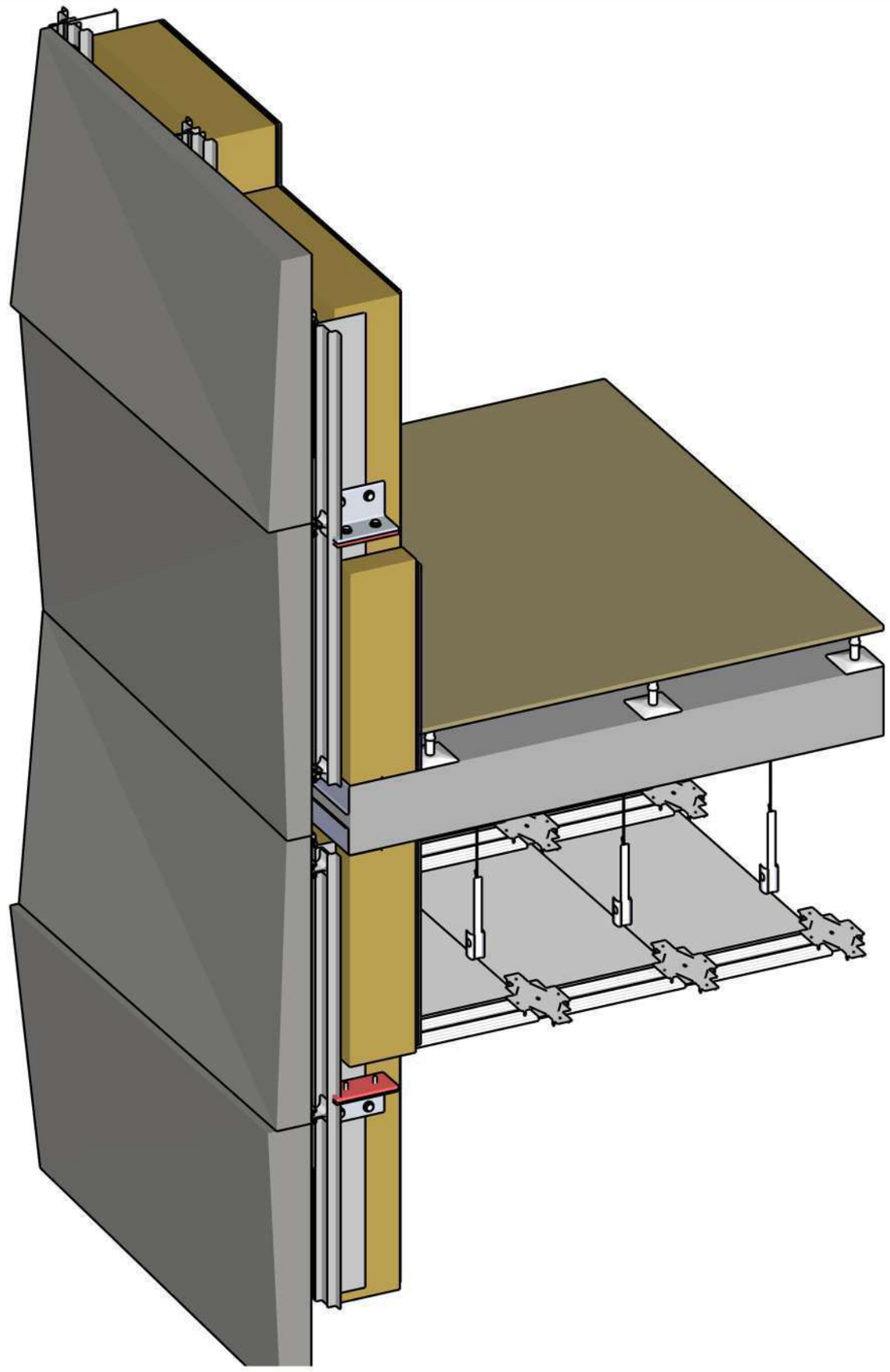
CONSTRUCTION DOCUMENTS

**Detail -1**

0 5 10 15

N

**A.2**



**PROJECT ENERGOS**

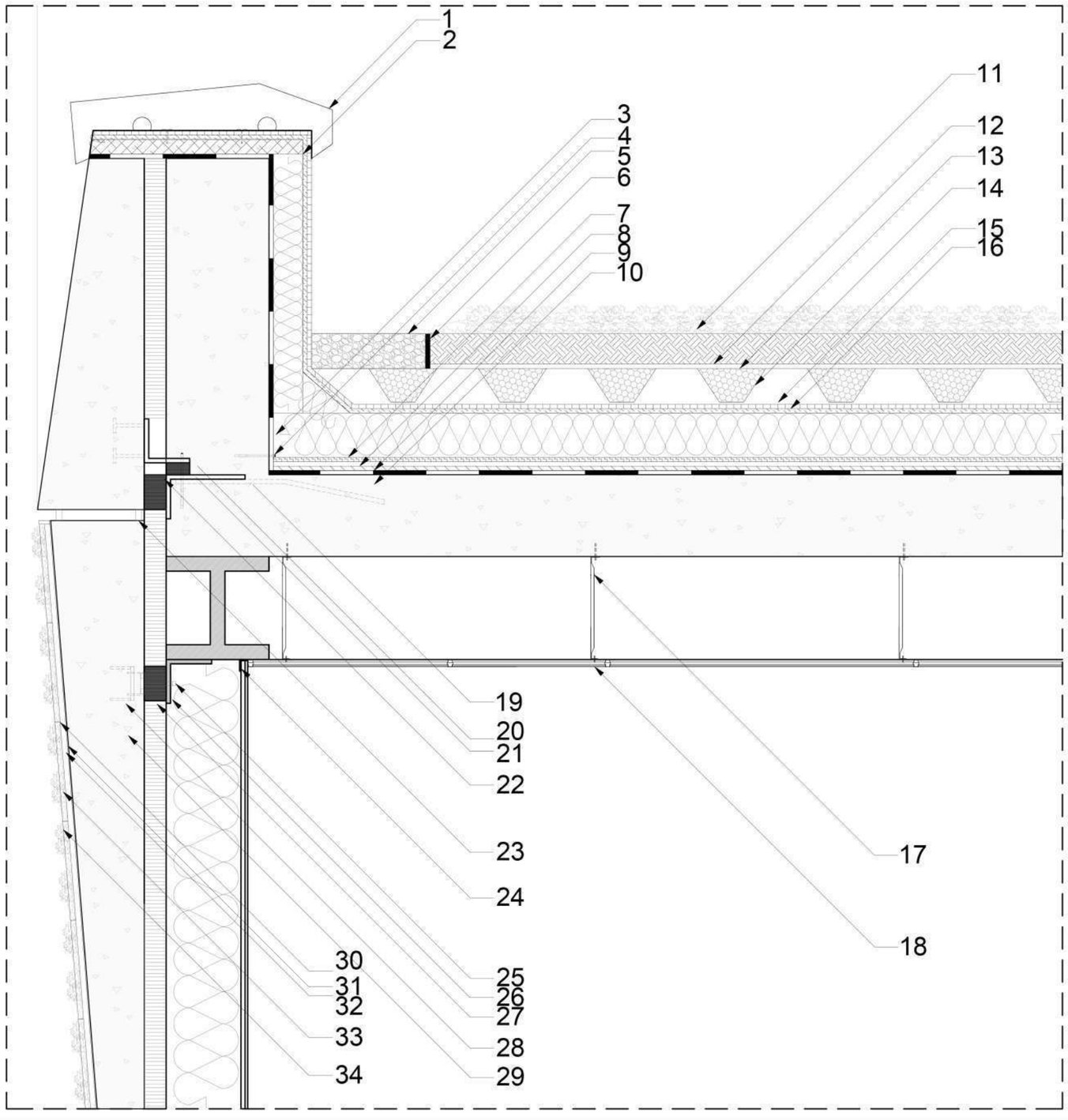
**Detail -1**

0 5 10 15

N

CONSTRUCTION DOCUMENTS

**A.2**




1.Sheet-metal parapet cap
2.Board
3.Thermal insulation
4.Seam plates and fasteners
5.Smooth gravel edge channel
6.Retention trim
7.Drainage layer
8.Root barrier
9.Membrane protection
10.Concrete floor slab
11.Plants
12.Engineered soil
13.Filter fabric
14.Reservior layer
15.Moisture-retention layer
16.Aeration layer
17.Ceiling hangers
18.Ceiling
19.Cast-in-place anchor
20.Guagle steel angle
21.Plastic horseshoe shim
22.Smoke seal and fire stop
23.Caulking
24.L profile
25.Threaded rod with nuts and washers
26.Steel plate with slot
27.Plastic horseshoe shim
28.Slotted insert
29.Precast concrete panel
30.Wedge anchor
31.Waterproffing
32.Steel/Aluminium frame
33.Side trim panel
34.Plants

**PROJECT ENERGOS**

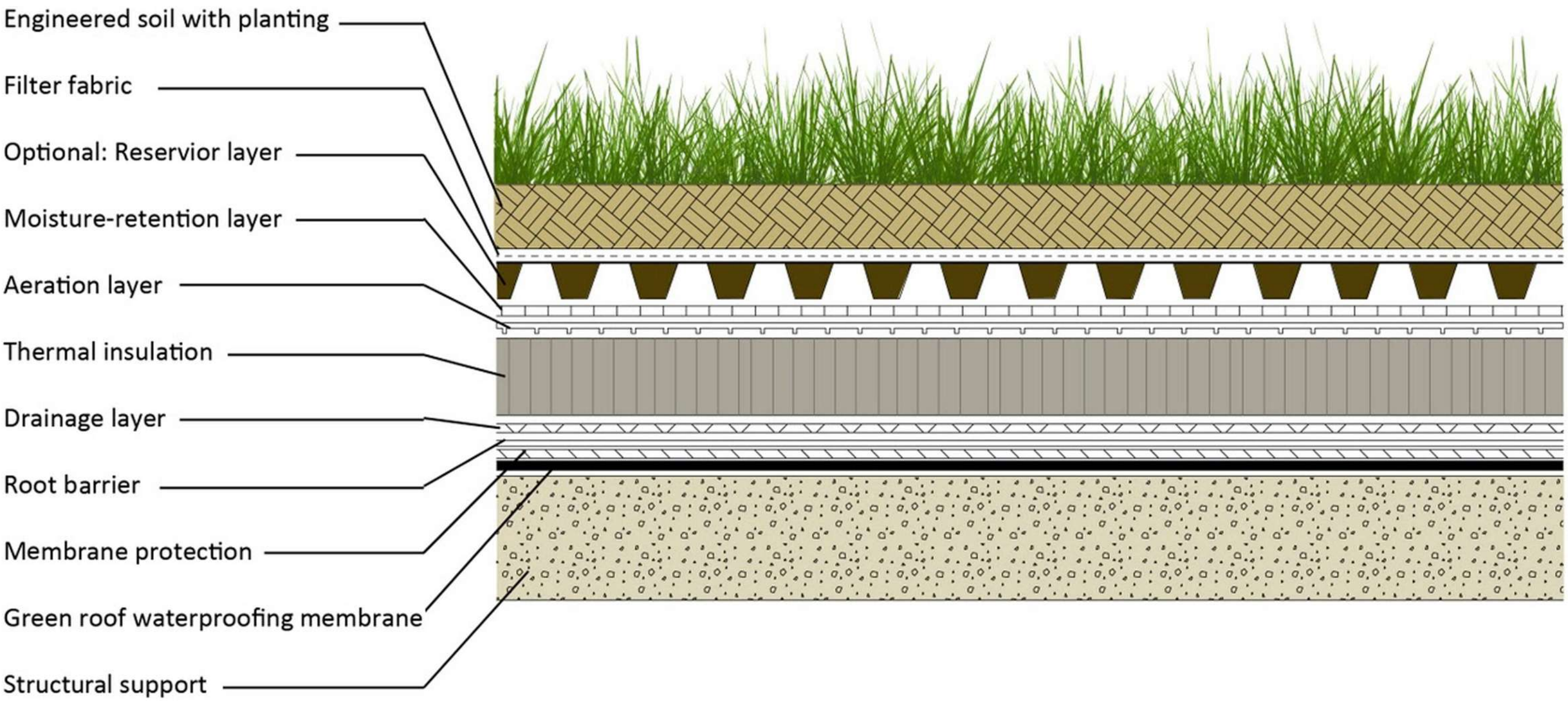
**Detail -2**

0 5 10 15

N

CONSTRUCTION DOCUMENTS

# A.3




**PROJECT ENERGOS**

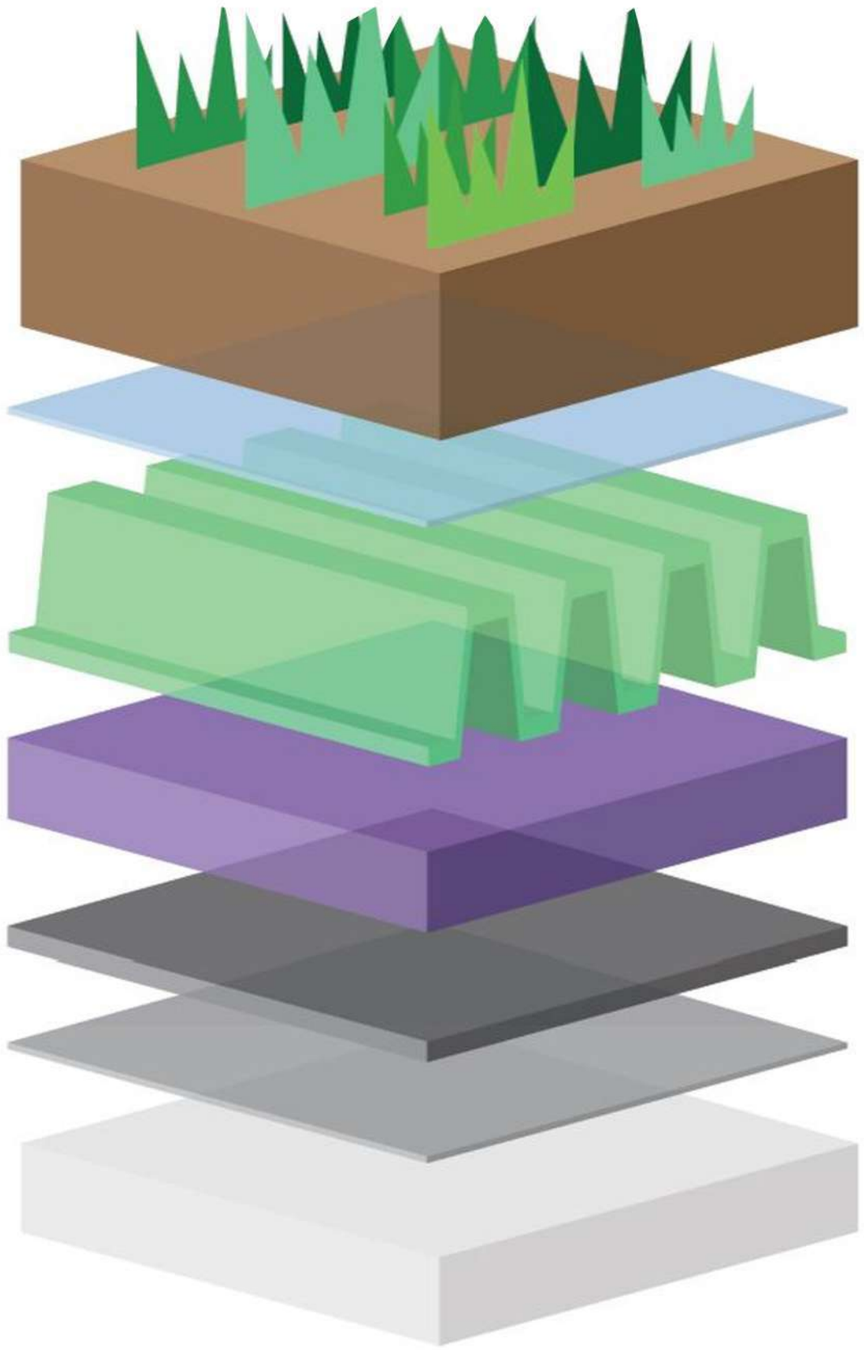
CONSTRUCTION DOCUMENTS

Detail -2

0 5 10 15

N

**A.3**



Vegetation

Growing Substrate

Filter Sheet

Drainage Layer

Protection Mat

Root Barrier

Waterproofing Layer

Roof Deck

**PROJECT ENERGOS**

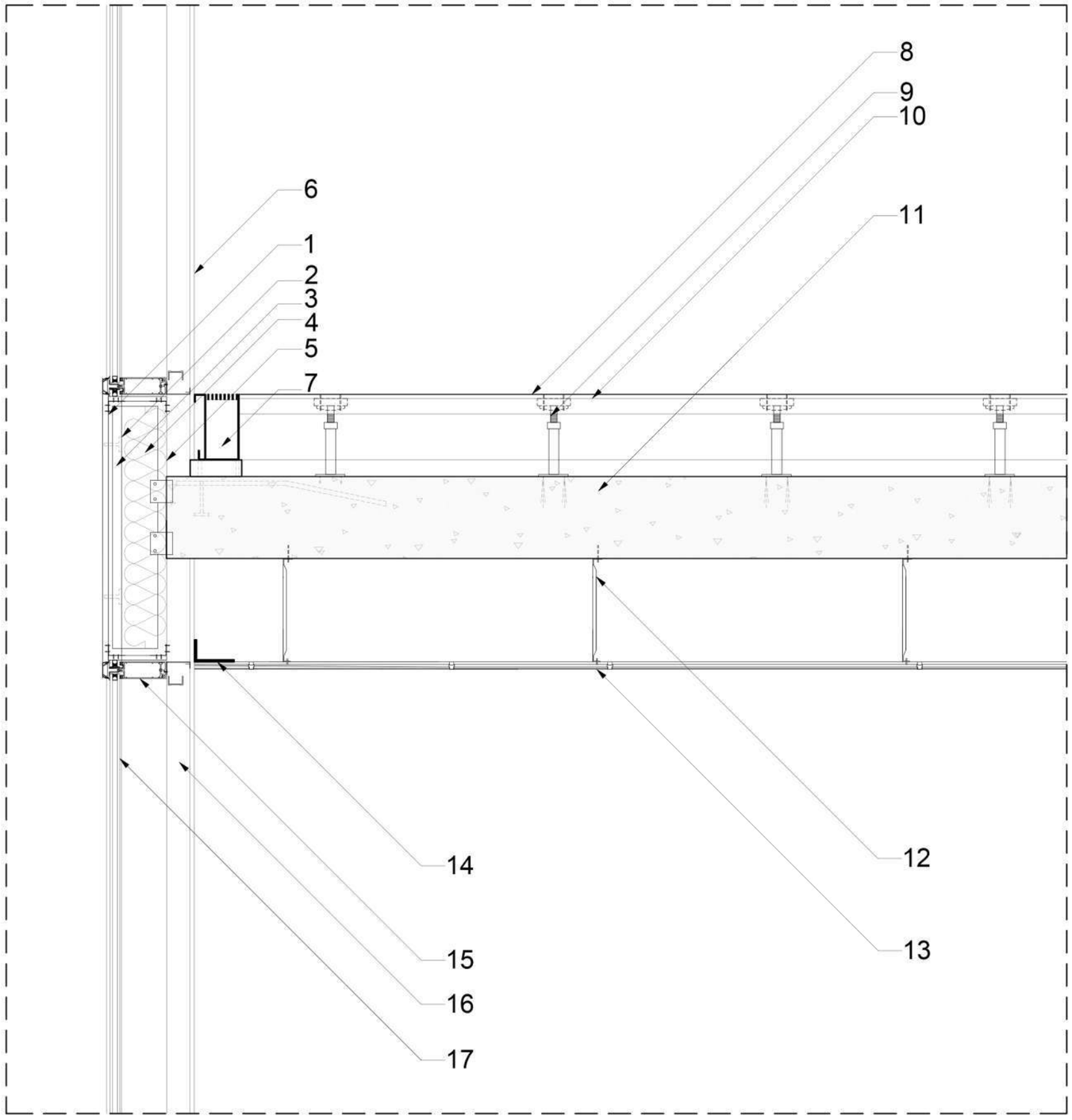
Detail -2

0 5 10 15

N

CONSTRUCTION DOCUMENTS

# A.3




1.Aluminium slab
2.Ventilation layer
3.PVC
4.Substructure+ thermal insulation
5.Vapor permeable foil
6.Side trim
7.Floor vent
8.Finished flooring
9.Pedestal system
10.Hat channel
11.Concrete floor slab
12.Ceiling hangers
13.Ceiling
14.L profile
15.Glas profile
16.Vertical structure
17.Curtain wall  facade

**PROJECT ENERGOS**

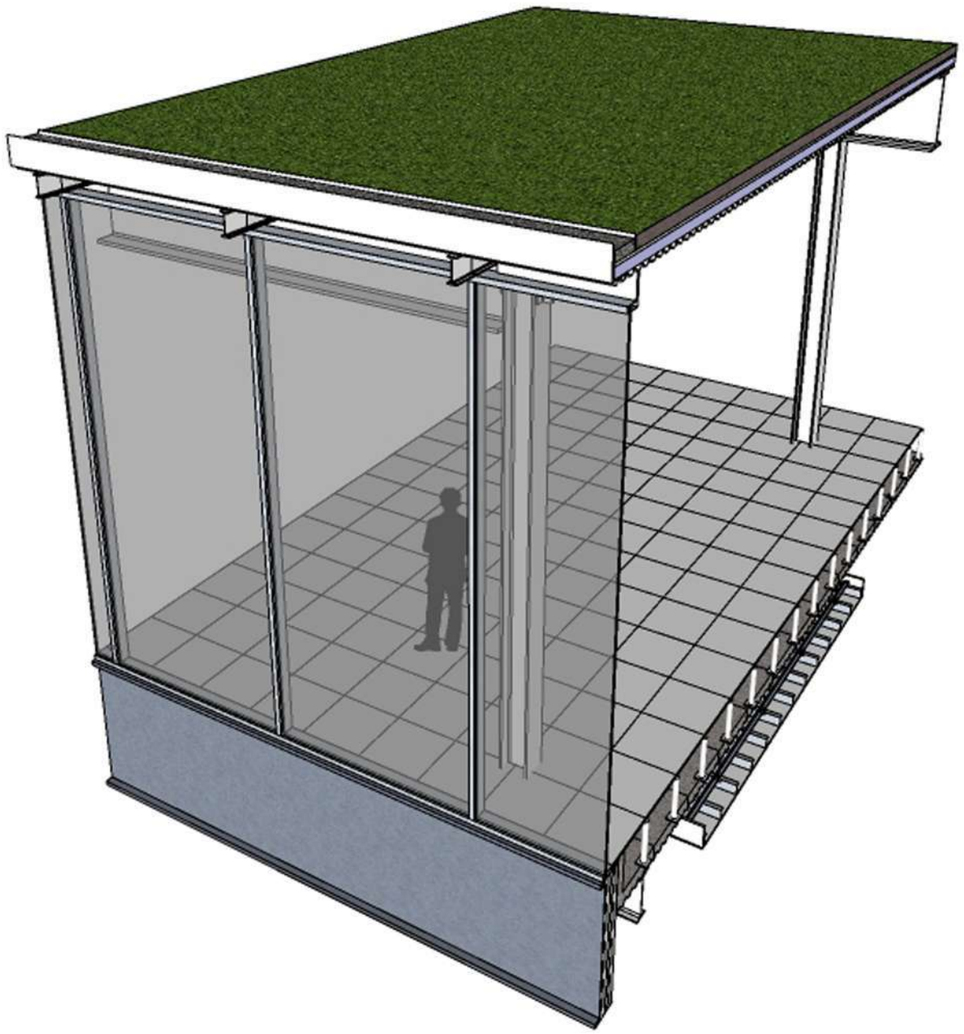
CONSTRUCTION DOCUMENTS

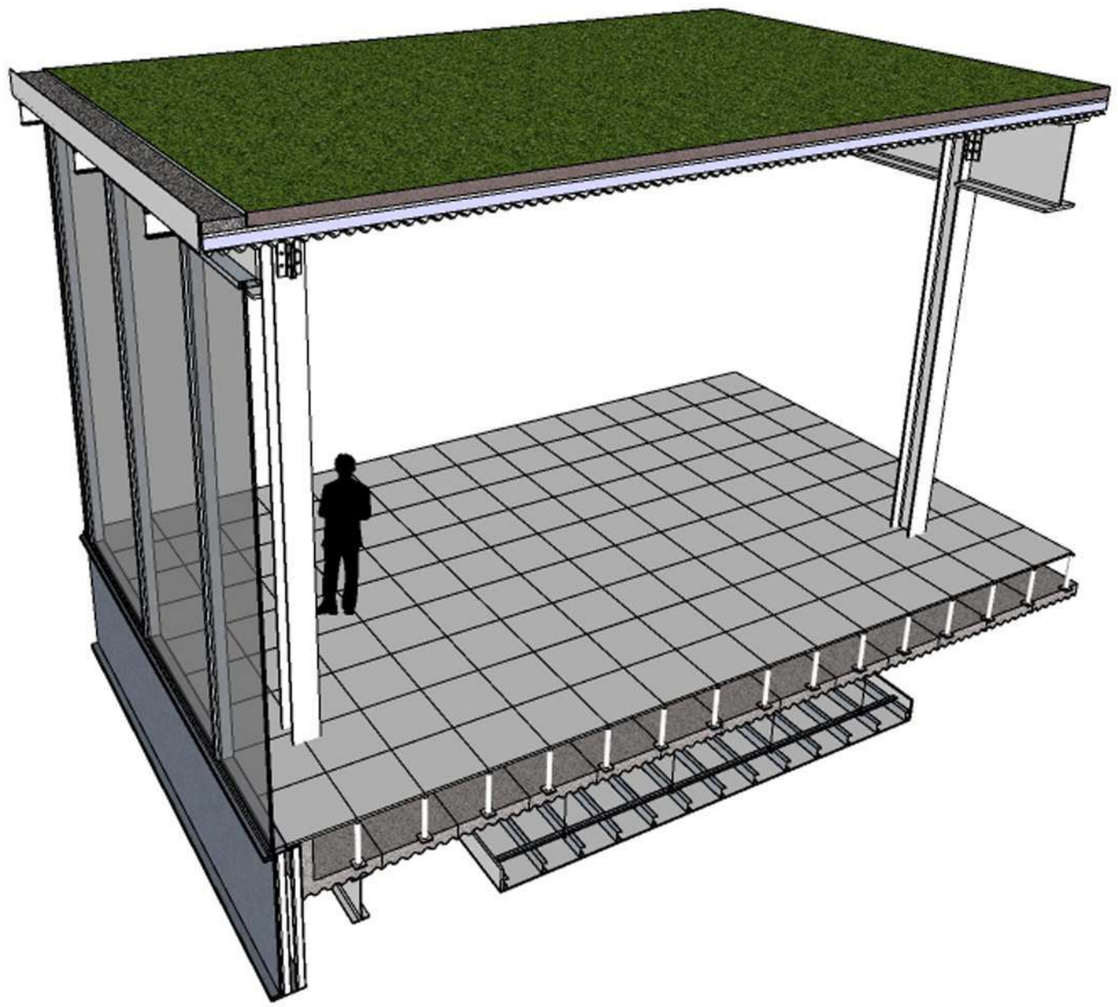
**Detail -3**

0 5 10 15

N

# A.4





**PROJECT ENERGOS**

CONSTRUCTION DOCUMENTS

**Detail -3**

0 5 10 15

N

# A.4