



SCHOOL OF THE FUTURE SKYRO

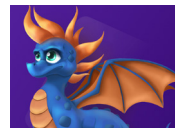
Slovak University of Technology in Bratislava  
Faculty of Architecture  
VA BIG design studio  
winter semester 2024/2025 - 6th year

student: Bc. Alica Ďurbáková

local architects: Ing. Ján Baška RIBA inflow  
Ing. arch. Michal Racheľo inflow  
Ing. arch. Andrej Boros inflow

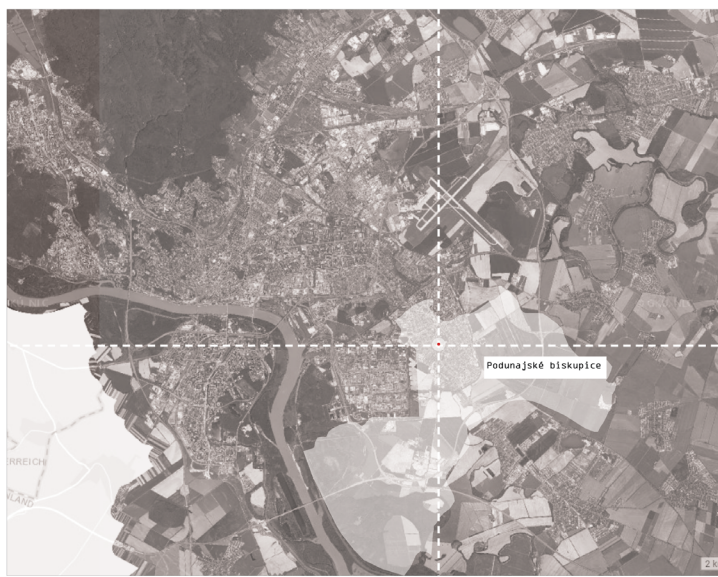
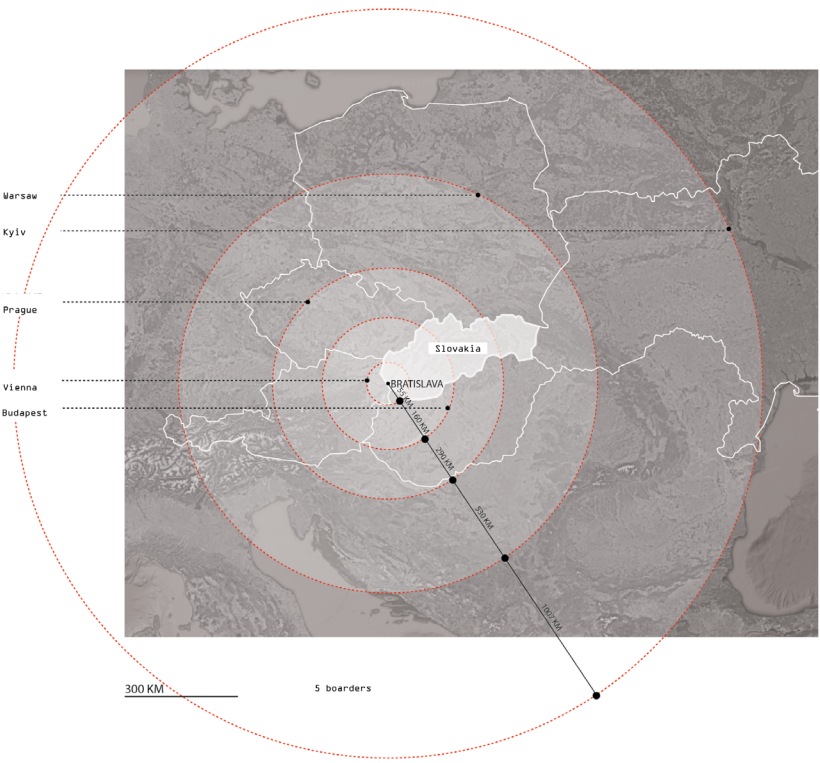
core team: Nikol Maraj, Architect, BIG Copenhagen  
Matthew Oravec, Associate Architect BIG Copenhagen

Subject guarantor: doc. Ing. arch. Alexander Schleicher, PhD.

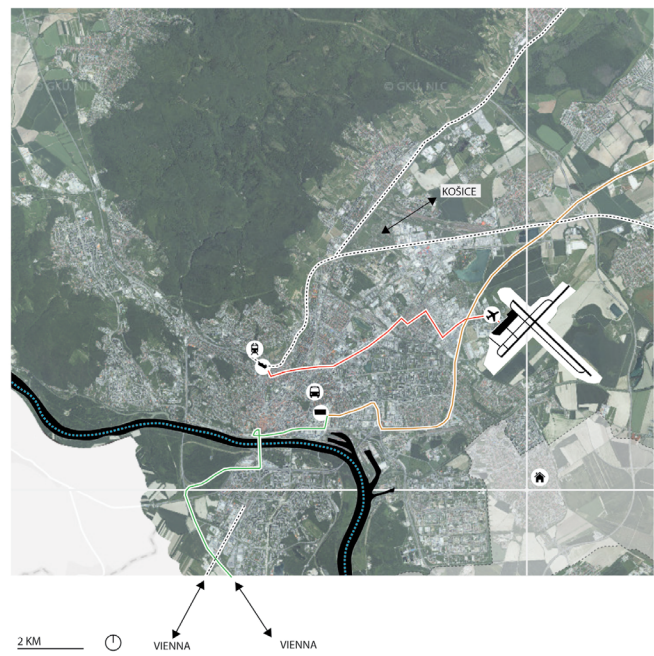


Client: Skyro High School

The school specializes in new methods of education associated with the latest technologies and the use of artificial intelligence. Students have the opportunity to choose between two specializations:  
Development of hybrid applications  
Creation of digital games



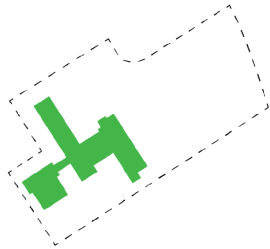
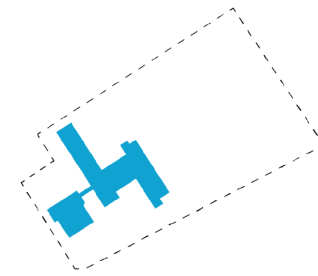
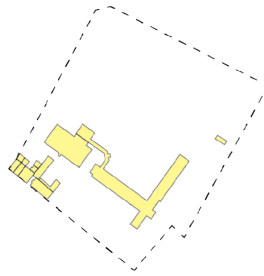
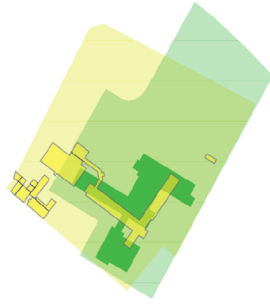
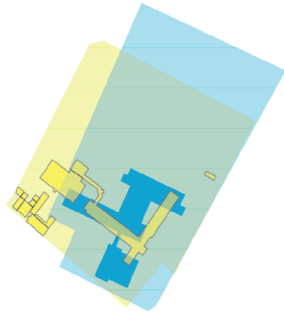
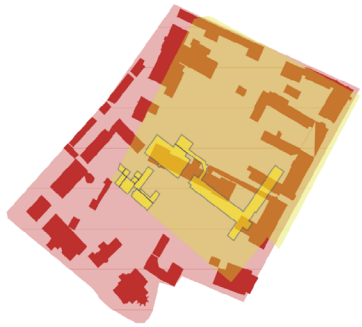
Location



- ..... train
- bus transport
- bus 61 from airport
- bus transport vienna
- ..... ship transport



## COMPARISON WITH OTHER SCHOOLS



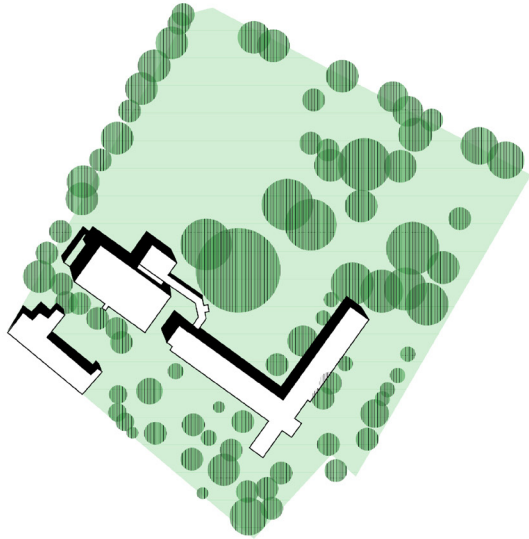
Name of the school	Block area	Built-up area	Gross floor area	Reinforced surfaces	Green area	Index of built-up area
ZŠ Biskupická 21	26 136	3 003	7 769	6 983	16 152 m <sup>2</sup>	0,11
Krajinská - Vetvárska	51 981	14 681	34 477	15 833	21 467 m <sup>2</sup>	0,28
Gymnázium FG Lorcú	26 313	3 564	7 240	6 644	16 105 m <sup>2</sup>	0,13
Škola Galileo	23 664	3 676	6 660	6 937	11 069 m <sup>2</sup>	0,16

BLOK ZŠ BISKUPICKÁ 1		
Block area	26 136	m <sup>2</sup>
Built-up area	3 003	m <sup>2</sup>
Gross floor area	7 769	m <sup>2</sup>
Reinforced surfaces	6 983	m <sup>2</sup>
Green area	16 152	m <sup>2</sup>
Index of built-up area	0,11	

BLOK KRAJINSKÁ - VETVÁRSKA		
Block area	51 981	m <sup>2</sup>
Built-up area	14 681	m <sup>2</sup>
Gross floor area	34 477	m <sup>2</sup>
Reinforced surfaces	15 833	m <sup>2</sup>
Green area	21 467	m <sup>2</sup>
Index of built-up area	0,28	

BLOK GYMNAZIUM FG LORCU		
Block area	26 313	m <sup>2</sup>
Built-up area	3 564	m <sup>2</sup>
Gross floor area	7 240	m <sup>2</sup>
Reinforced surfaces	6 644	m <sup>2</sup>
Green area	16 105	m <sup>2</sup>
Index of built-up area	0,13	

BLOK ŠKOLA GALILEO		
Block area	23 664	m <sup>2</sup>
Built-up area	3 676	m <sup>2</sup>
Gross floor area	6 660	m <sup>2</sup>
Reinforced surfaces	6 937	m <sup>2</sup>
Green area	11 069	m <sup>2</sup>
Index of built-up area	0,16	



SITE MEASUREMENT

Block area 26 136 m<sup>2</sup>  
 Built-up area 3 003 m<sup>2</sup>  
 Index of built-up area 0,11

Built-up area 3003 \* 4875,64 = 7878,64 m<sup>2</sup>  
 Index of built-up area 0,28

Built-up area maximum 7 003 m<sup>2</sup>

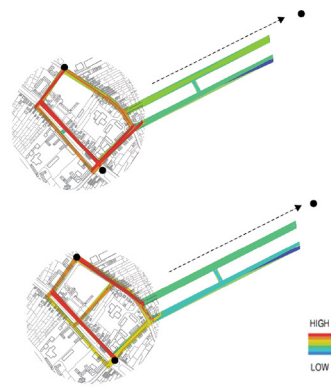


VARIATIONS OF OPTIONS WITH MAXIMUM BUILD UP INDEX





space syntax



space syntax  
result of connecting streets - change in accessibility



THE WAY FROM THE SHOPPING STOPS



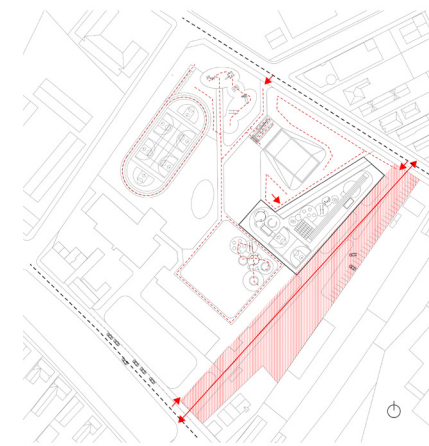
THE WAY FROM THE MIU P-BISKUPICE BUS STOP



WAY FROM THE TRAIN STATION



- IN METERS



CONNECTION BETWEEN TWO STREETS - CREATING A SAFE ENTRY FOR STUDENTS

PEDESTRIAN MOVEMENT

RESTRICTION  
TIME  
DISTANCE  
LOCATION OF ORIGINAL ENTRY  
LOCATION OF BUS STOPS  
COMPARING TIME - DISTANCE  
CONNECTION

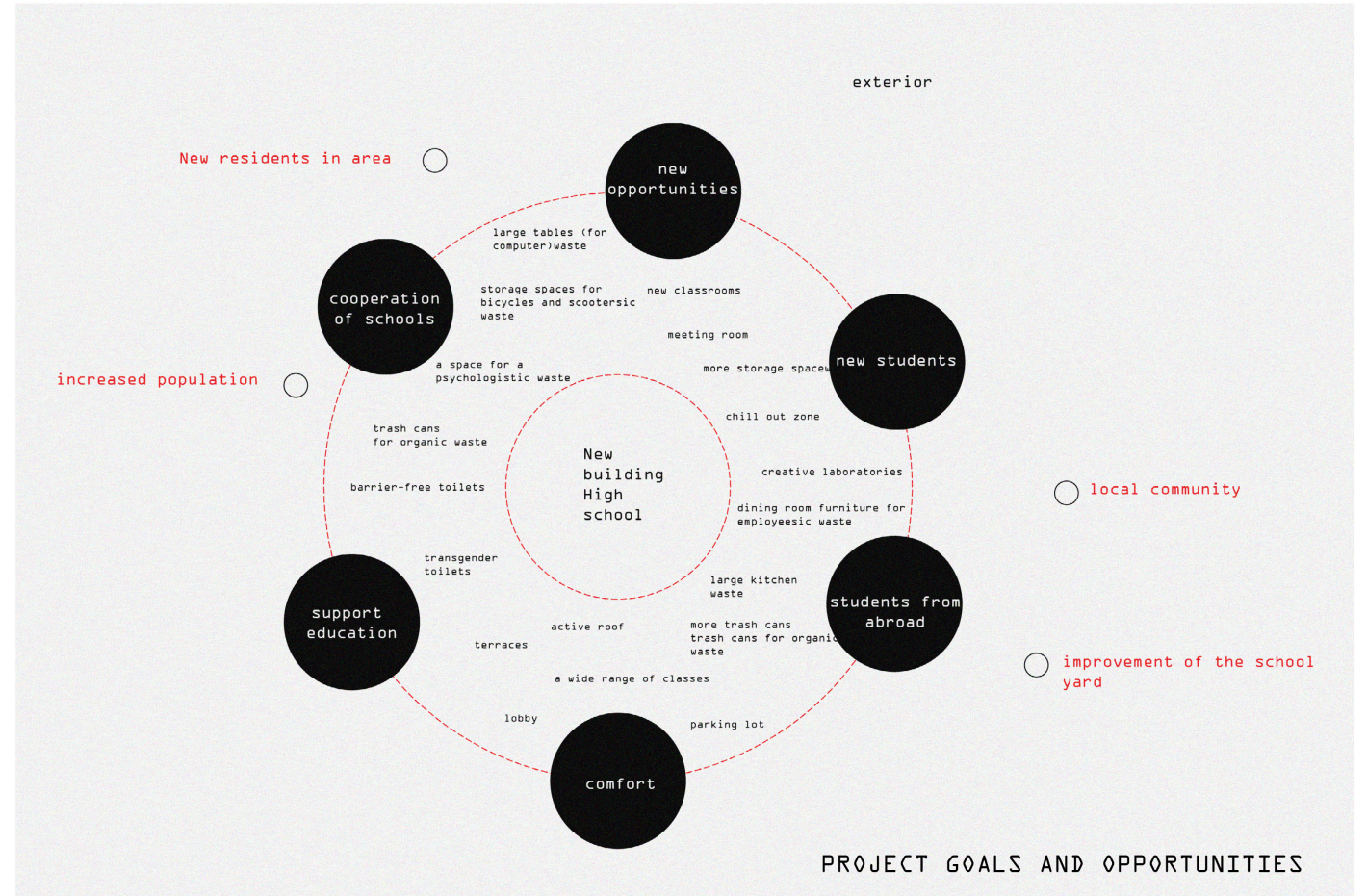
## FROM A SMALLER TO A LARGER VIEW

The design for the extension of the secondary school focuses on creating a practical and functional building. The goal is to minimize hallways and connect the new part seamlessly with the existing school. The layout places technical rooms and bathrooms in the center, along with the main staircase, forming a central core. Around this core are classrooms that make the most of the available façade space.

The building steps back on the second and third floors, creating terraces. Every floor has access to outdoor areas. The roof is designed for recreation, with playgrounds for different age groups. The schoolyard offers various sports activities, and the gym roof, which extends above ground, adds an interactive element. The design also focuses on supporting biodiversity in the schoolyard.

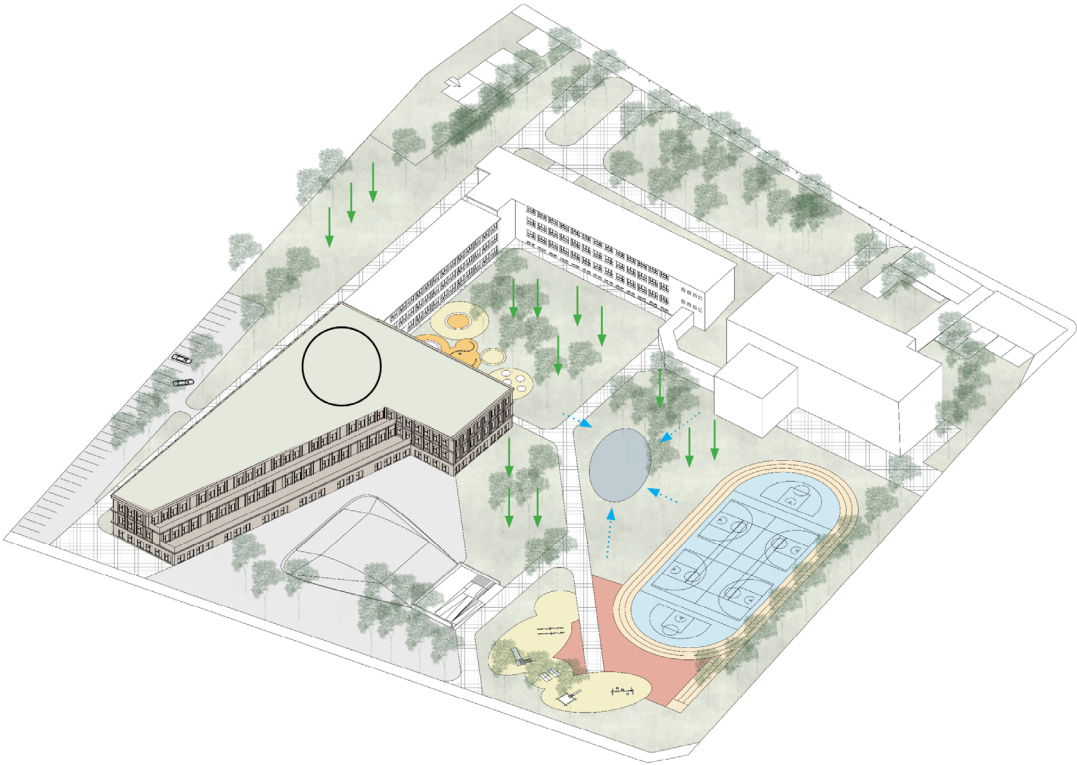
### summary

Built-up area	2500	m <sup>2</sup>
Children	500	
m <sup>2</sup> per one child	3-5	m <sup>2</sup>
Recommended area	1750	m <sup>2</sup>
Regular classes(number)	30	
Regular classes	1800	m <sup>2</sup>
Open space classes	1200	m <sup>2</sup>





PROJECT GOALS AND OPPORTUNITIES - SUPPORTING BIODIVERSITY IN THE SCHOOL YARD



- PERMEABLE SURFACES
- RAIN GARDEN
- GRASS SURFACES

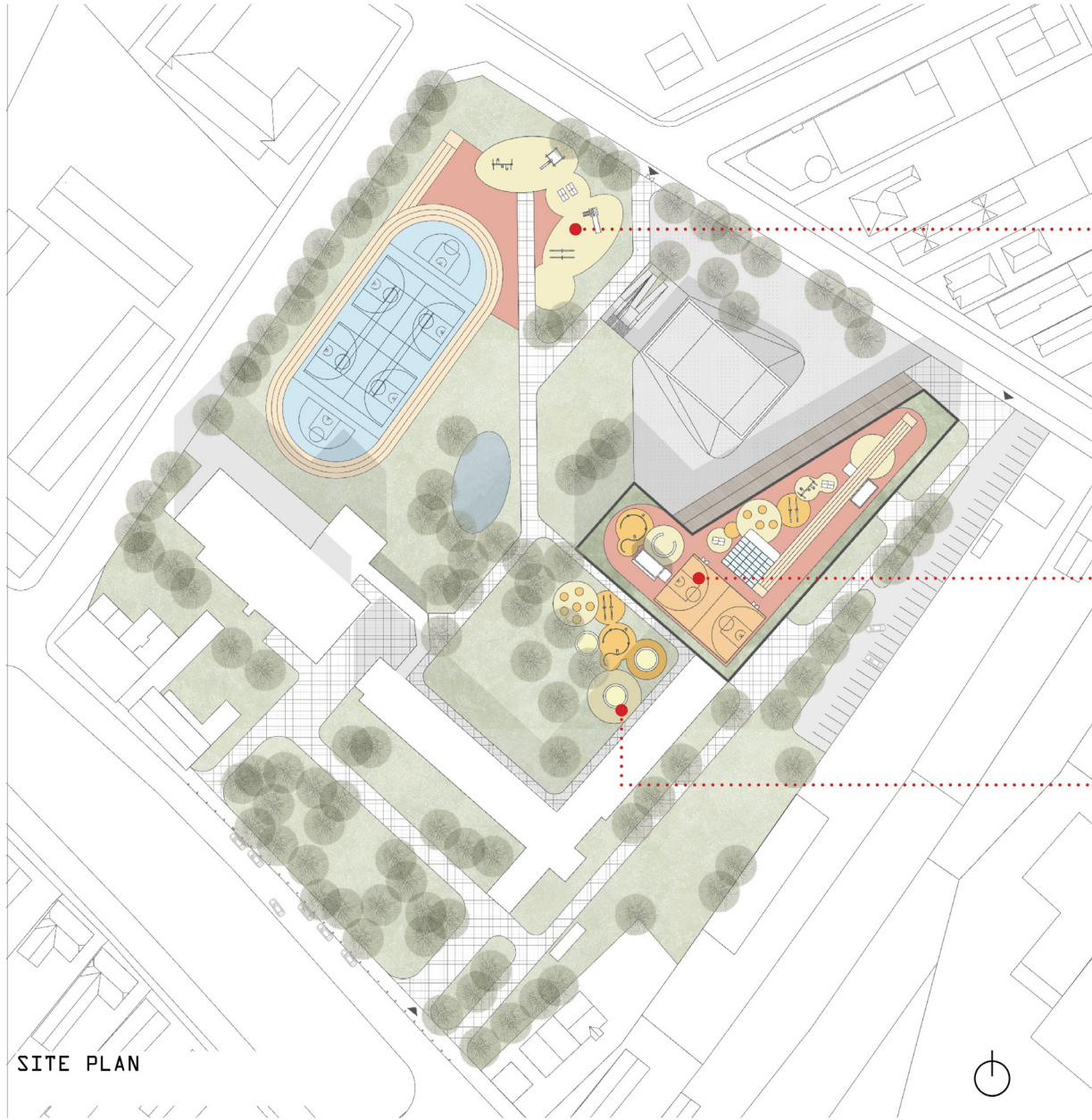
TREES, PLANTS, HOME FOR ANIMALS (BEES, INSECTS)

WATER RETENTION

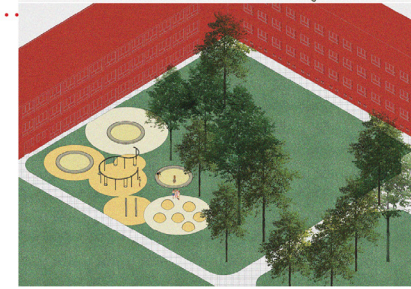
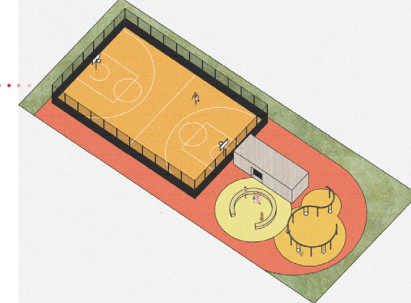
REUSE WATER

GREEN ROOF

ACTIVE ZONE  
TRANSIT ZONE



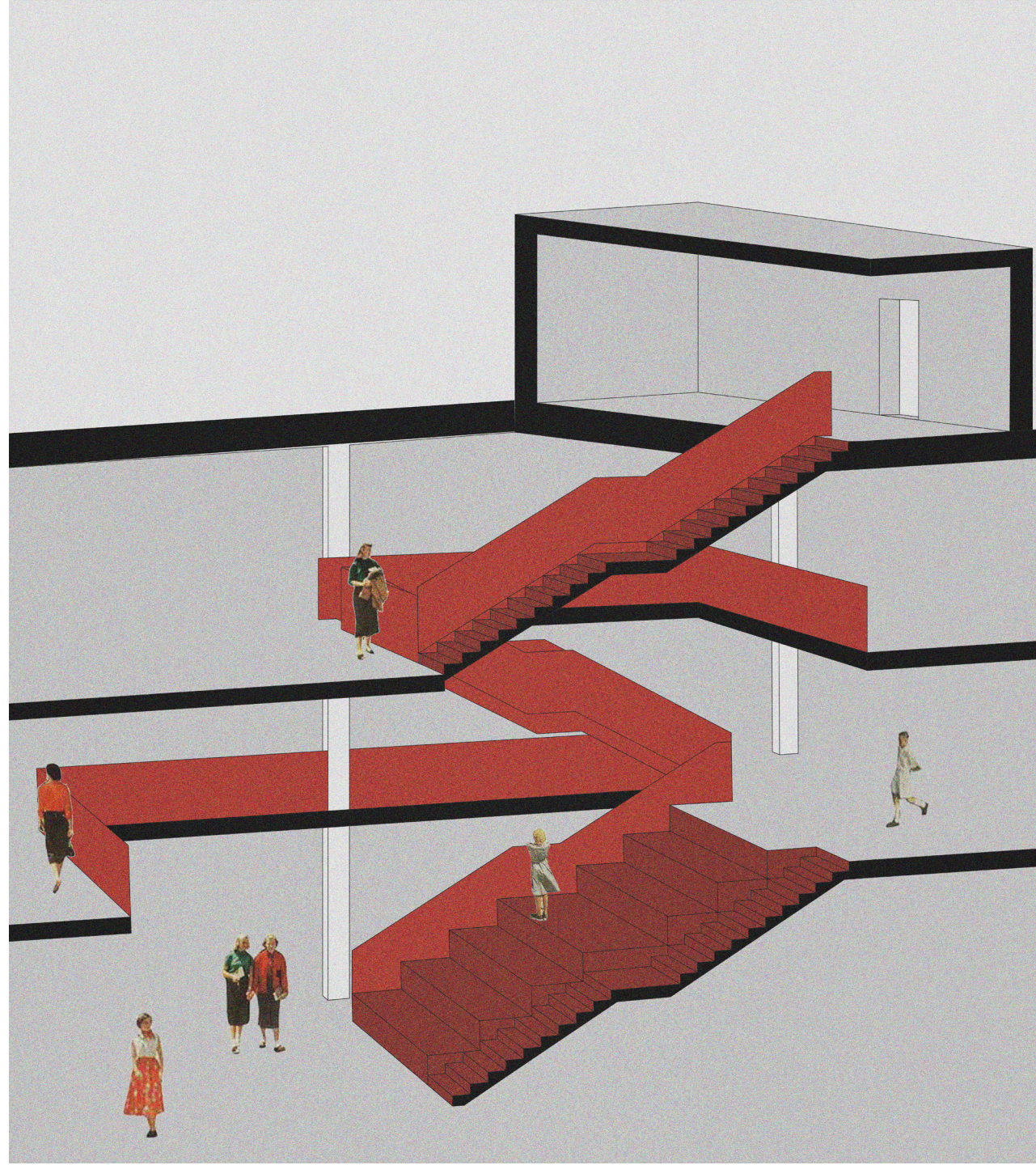
SITE PLAN



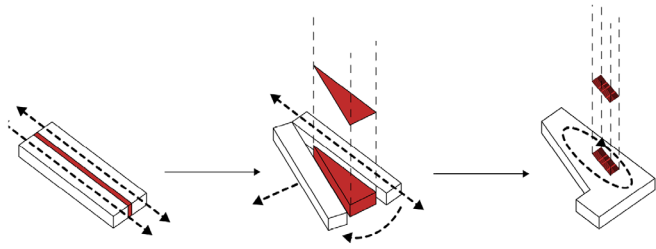
PLAYGROUNDS



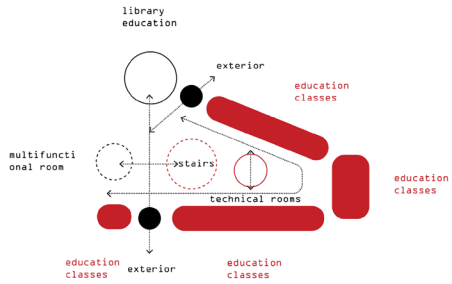
ARCHITECTURAL CONCEPT



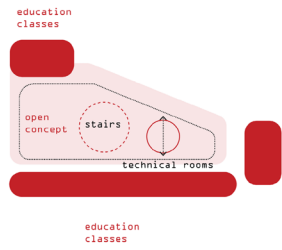




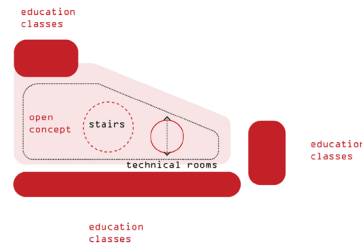
ARCHITECTURAL CONCEPT



FUNCTIONAL DIAGRAM 1ST FLOOR

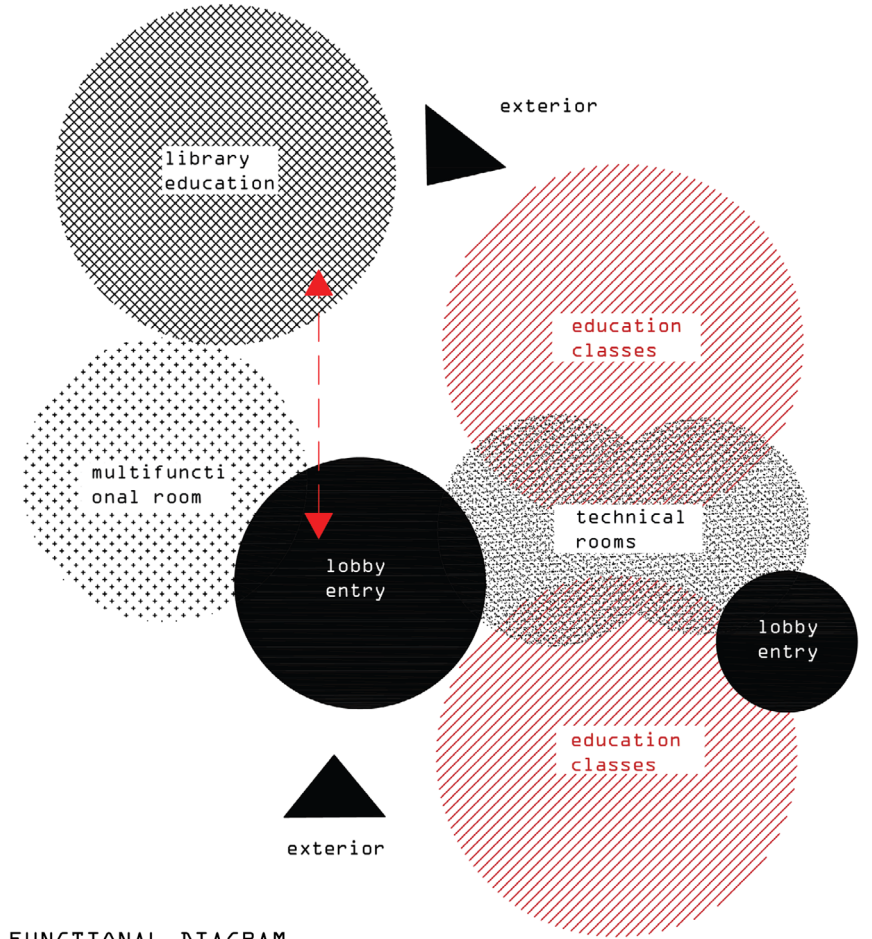


FUNCTIONAL DIAGRAM 2ND FLOOR



FUNCTIONAL DIAGRAM 3RD FLOOR

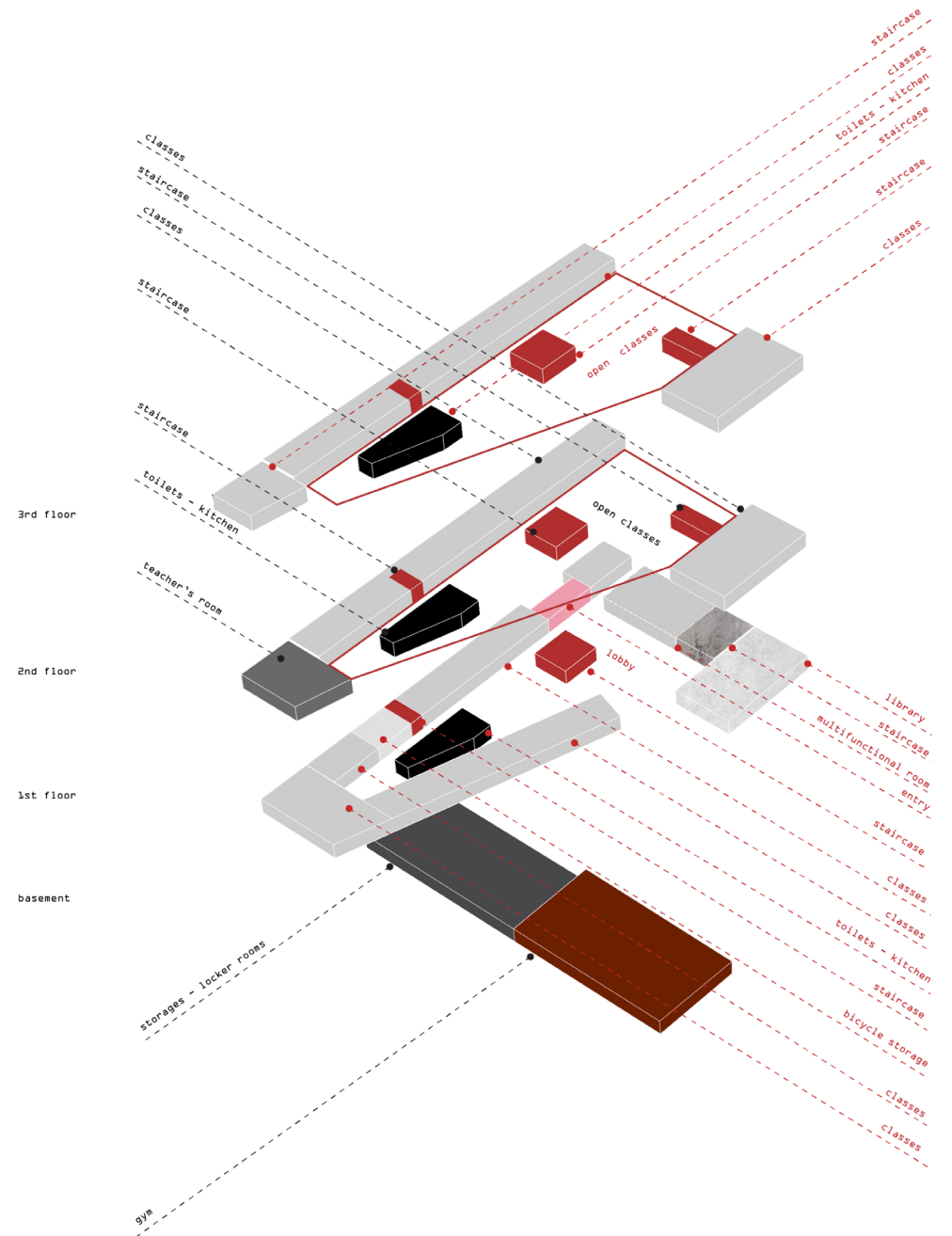
UNIFIED AND CONNECTED  
MAIN CORE  
CIRCULATION MOVEMENT

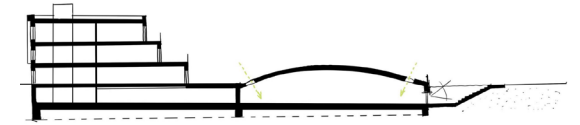
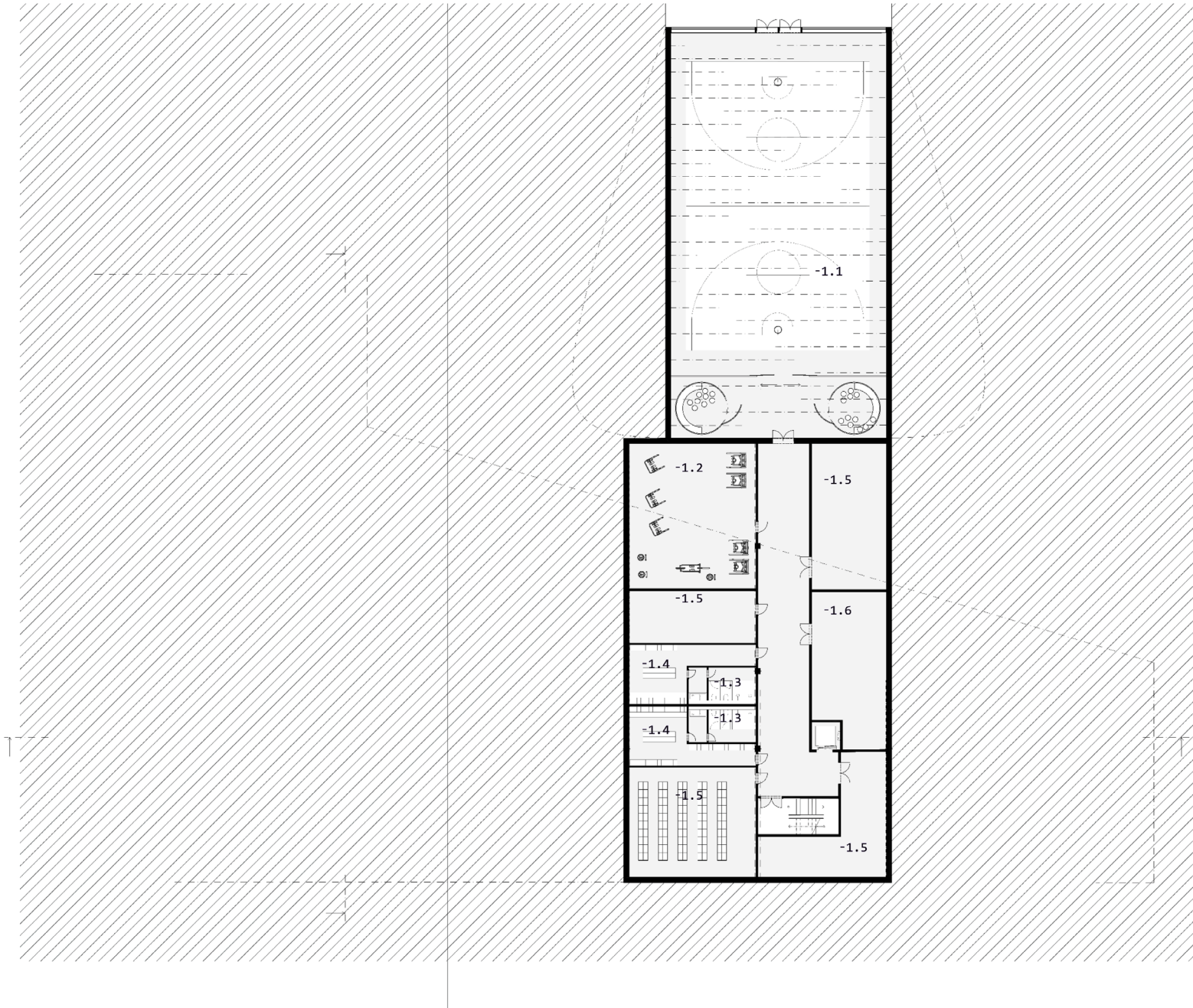


FUNCTIONAL DIAGRAM



FLOOR PLANS





## underground

### LIST OF ROOMS

- 1.1 GYM
- 1.2 GYM
- 1.3 HYGIENE
- 1.4 DRESSING ROOM
- 1.5 WAREHOUSES
- 1.6 TECHNICAL ROOM



#### GYMNASIUM - HELLERUP, DENMARK

Architects: Bjarke Ingels Group

Area: 1100 m<sup>2</sup>

Year: 2013

Photographs: Jess Lindhe

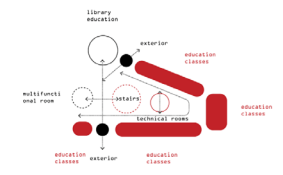
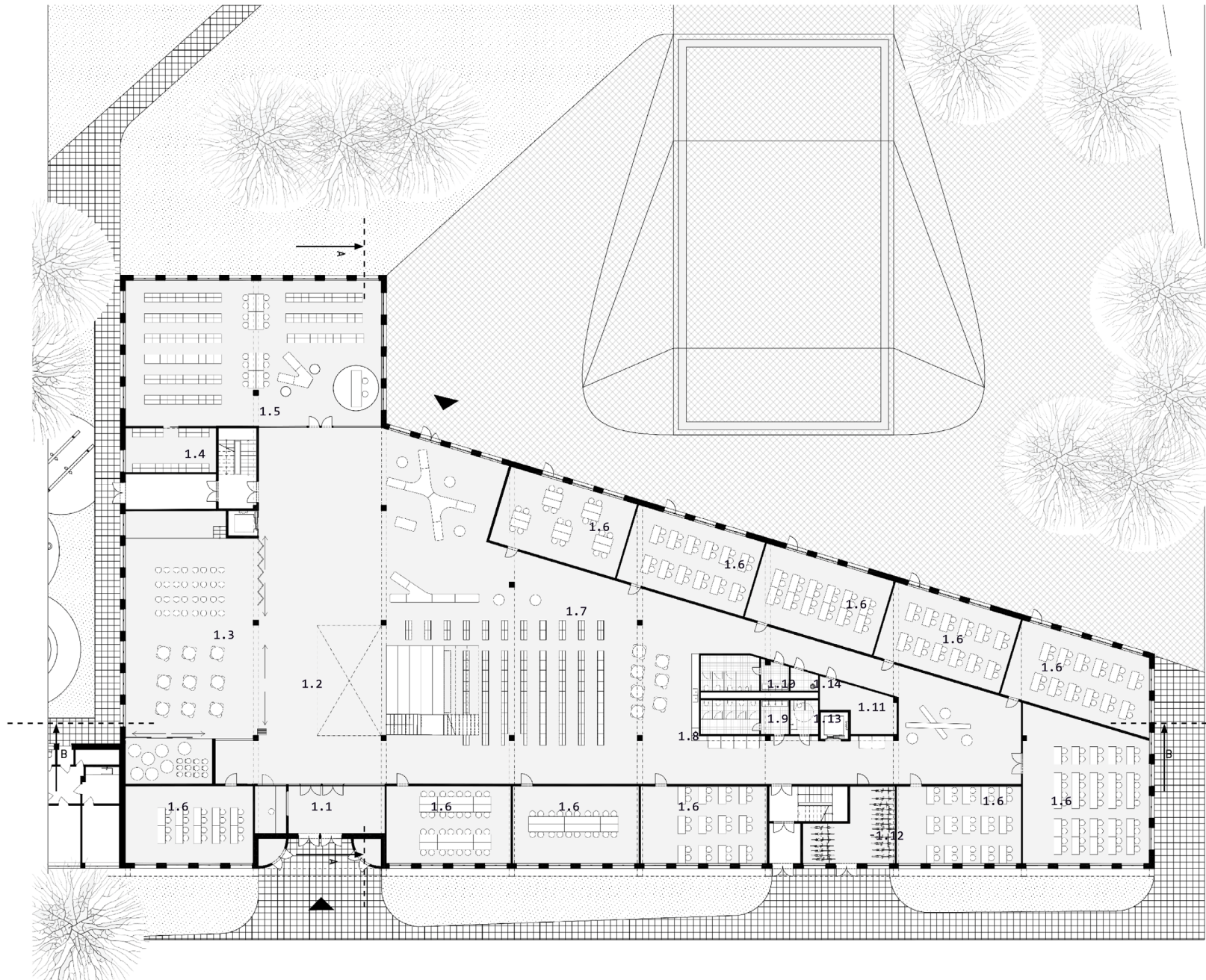
Manufacturers: Alufilm, Flewood A/S

Contractor: CG Jensen, Klaus Møls Nielsen, Dion Munksgaard

Engineering: EKI Consulting Engineers







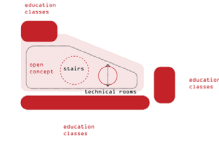
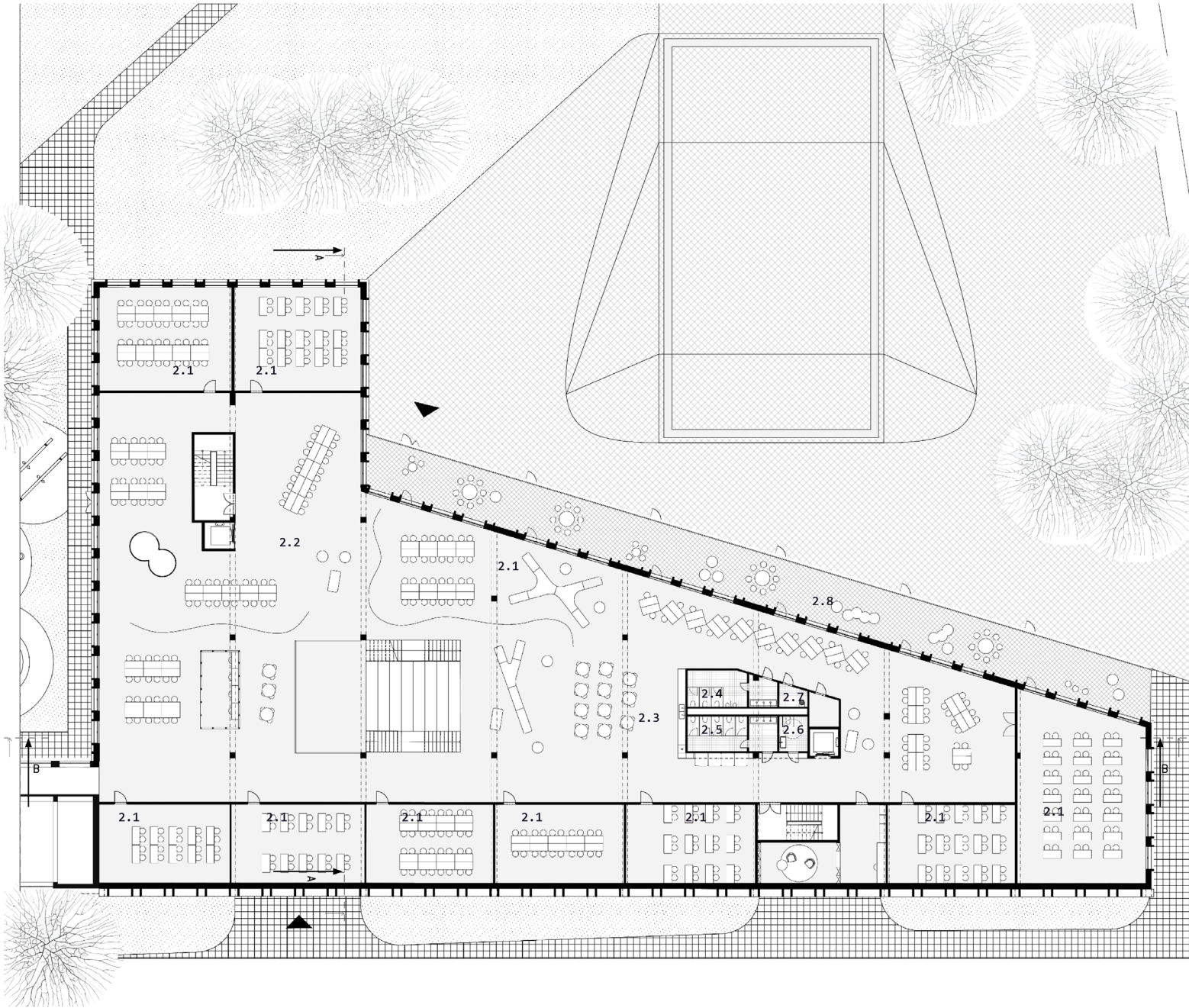
## 1st floor

### LIST OF ROOMS

- 1-1 ENTRANCE - DOOR ROOM
- 1-2 LOBBY
- 1-3 MULTIFUNCTIONAL ROOM
- 1-4 WAREHOUSE
- 1-5 LIBRARY
- 1-6 CLASS
- 1-7 DRESSING ROOM
- 1-8 KITCHEN
- 1-9 TOILET MEN
- 1-10 WOMEN'S TOILET
- 1-11 SERVER ROOM
- 1-12 ROOM FOR BICYCLES
- 1-13 BARRIER-FREE WC
- 1-14 ROOM FOR CLEANING



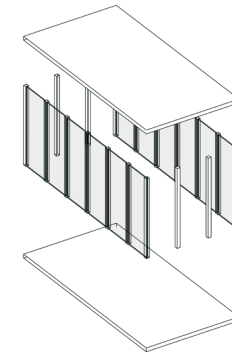




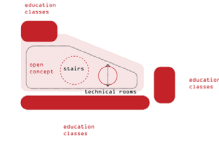
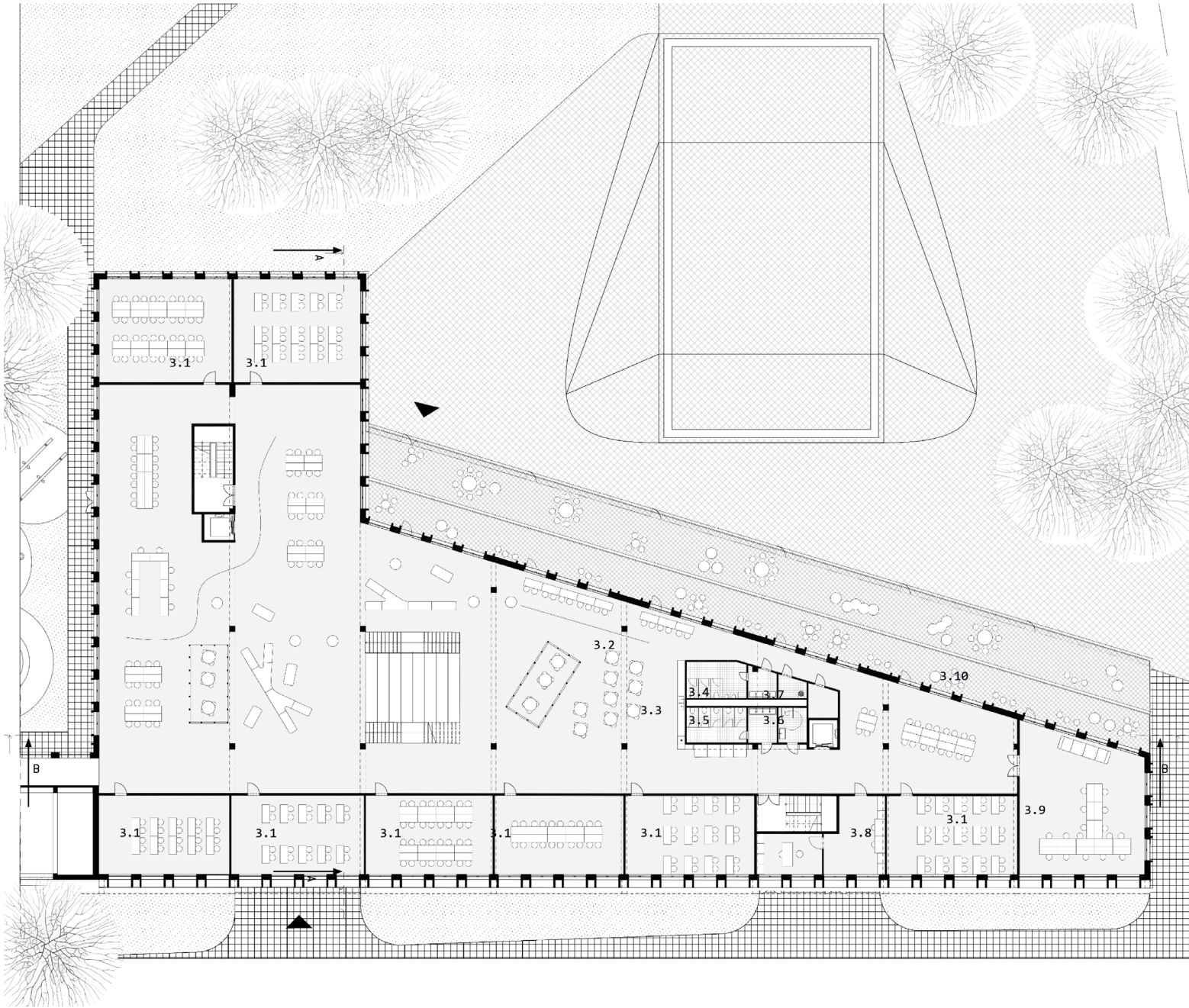
## 2nd floor

### LIST OF ROOMS

- 2.1 CLASS
- 2.2 OPEN TEACHING CONCEPT
- 2.3 KITCHEN
- 2.4 TOILET MEN
- 2.5 WOMEN'S TOILET
- 2.6 BARRIER-FREE WC
- 2.7 ROOM FOR CLEANING
- 2.8 TERRACE



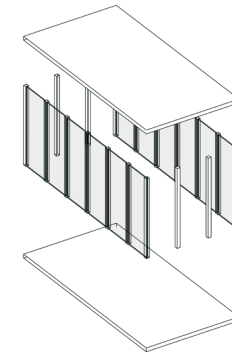




### 3rd floor

#### LIST OF ROOMS

- 3.1 CLASS
- 3.2 OPEN TEACHING CONCEPT
- 3.3 KITCHEN
- 3.4 TOILET MEN
- 3.5 WOMEN'S TOILET
- 3.6 BARRIER-FREE WC
- 3.7 ROOM FOR CLEANING
- 3.8 OFFICES
- 3.9 TEACHER'S ROOM
- 3.10 TERRACE





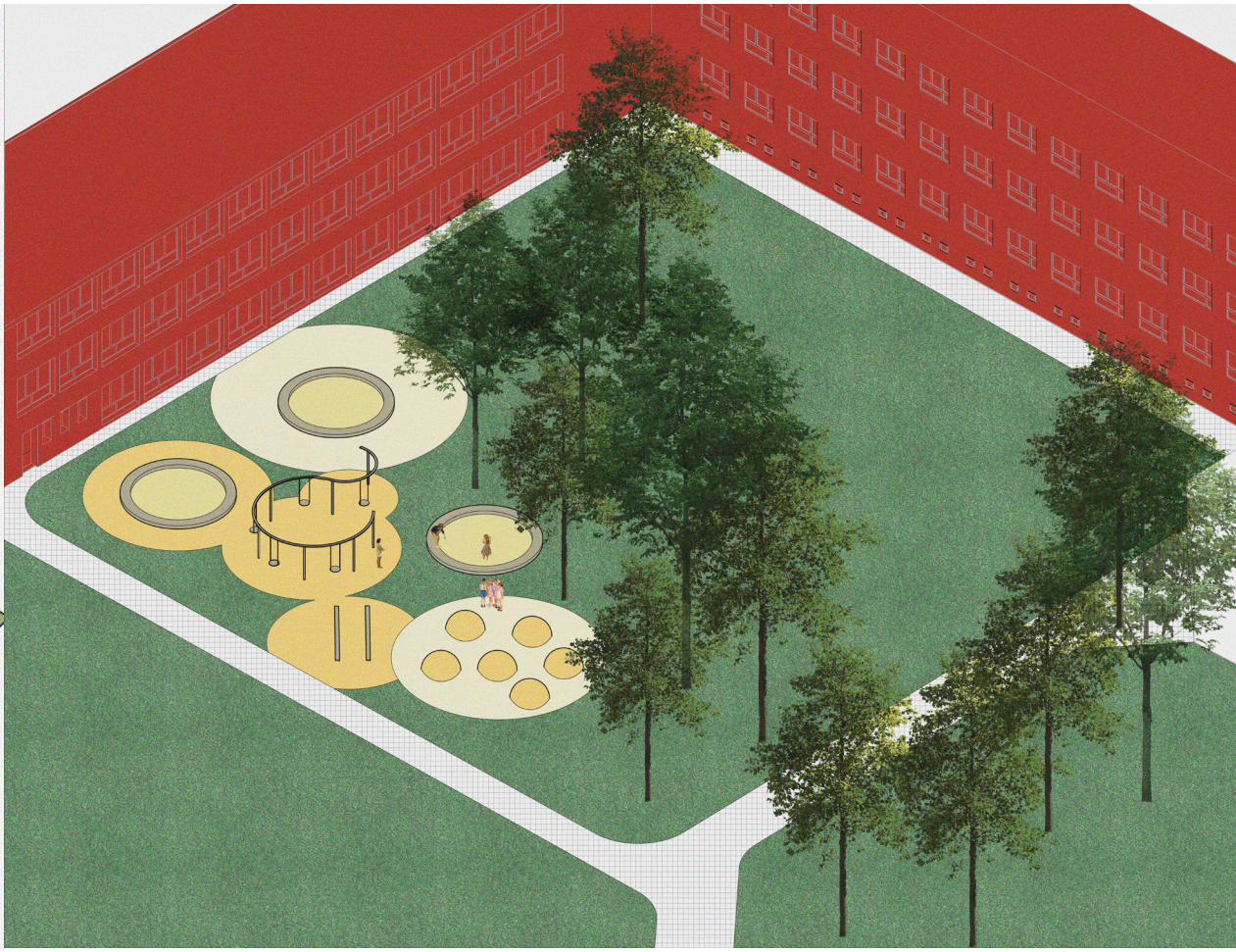
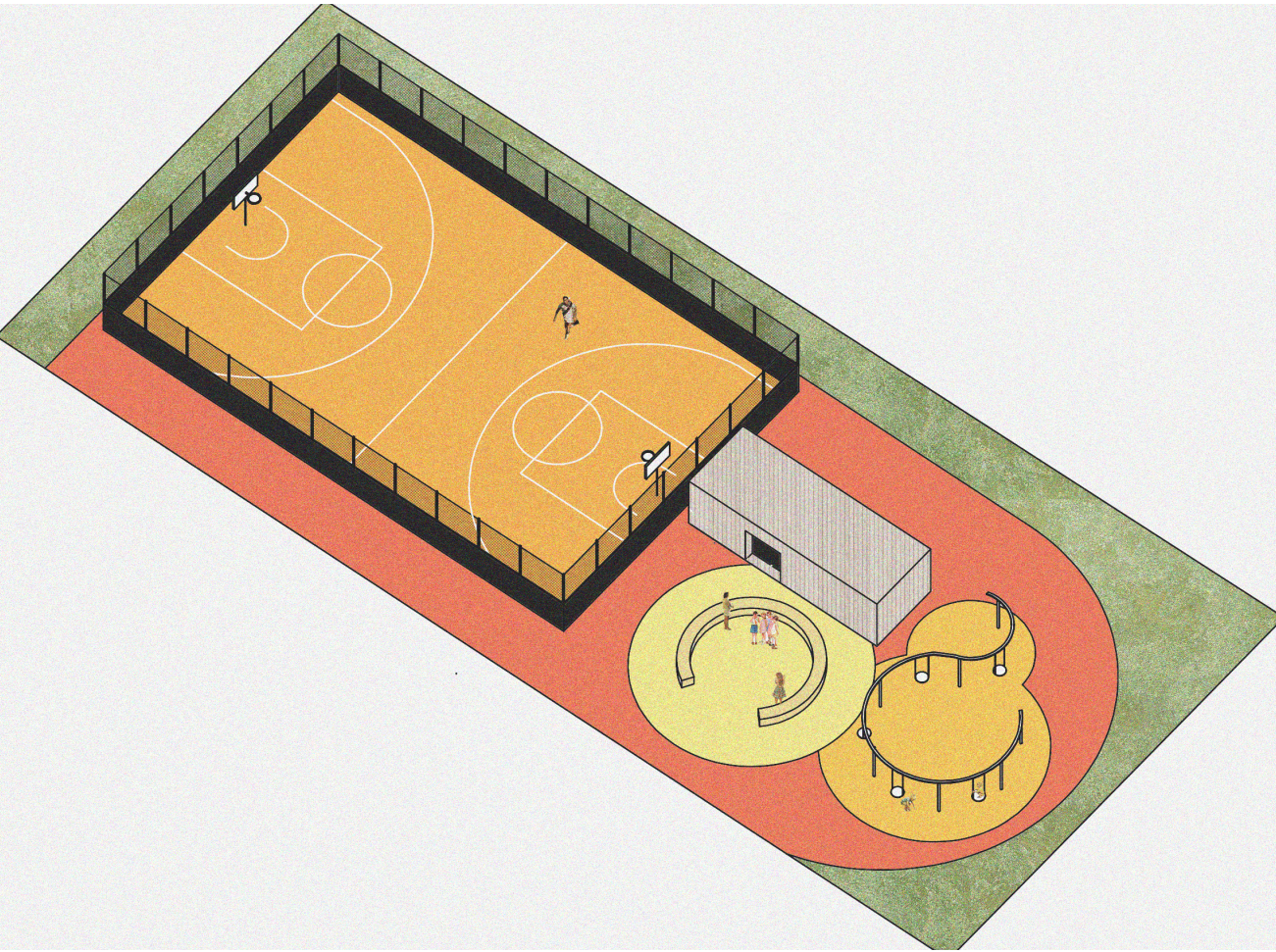


roof

LIST OF ROOMS

- 
- 4.1 RUNNING TRACK
  - 4.2 PLAYGROUND
  - 4.3 BASKETBALL COURT







ELEVATIONS





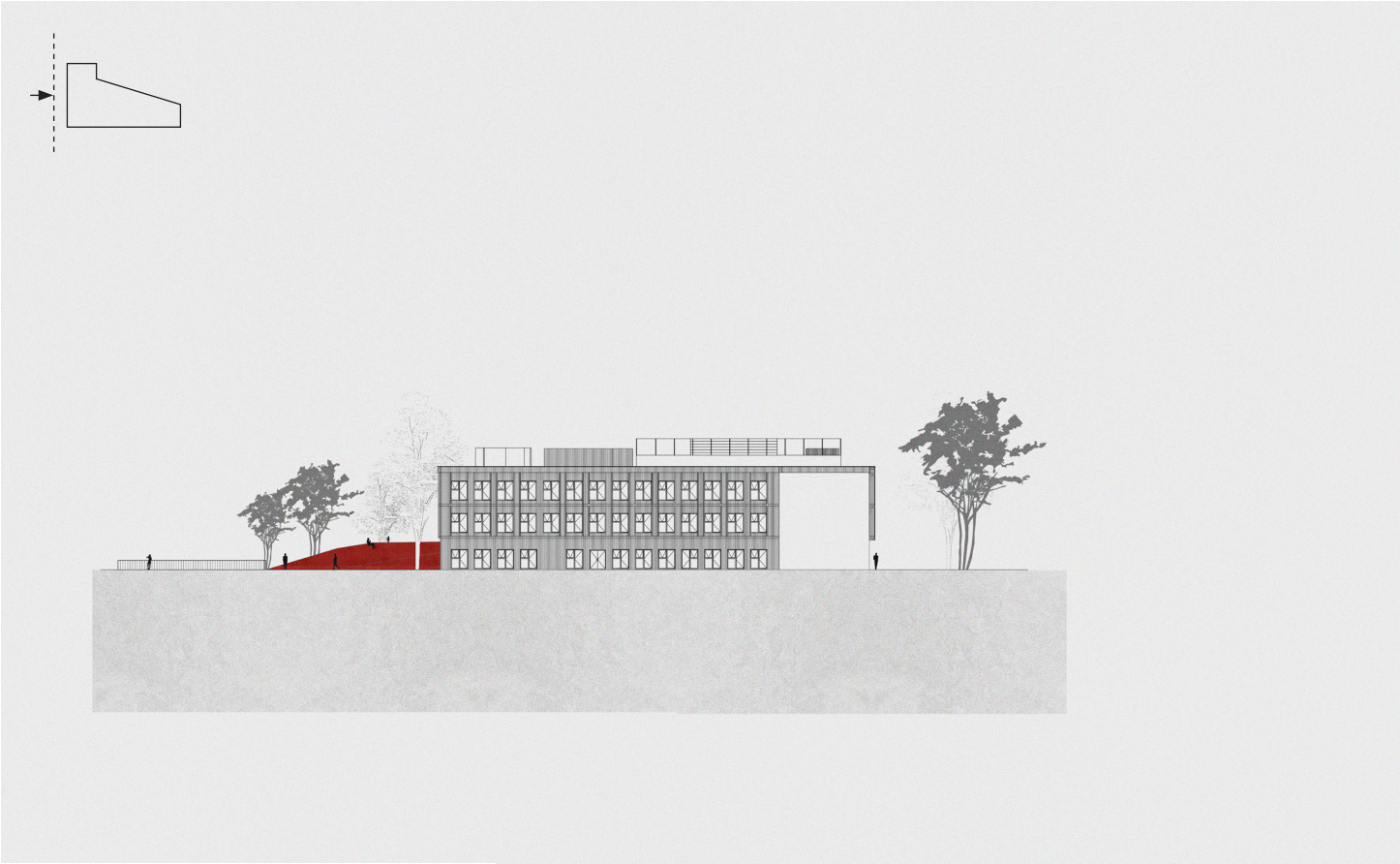


SOUTH-EAST ELEVATION

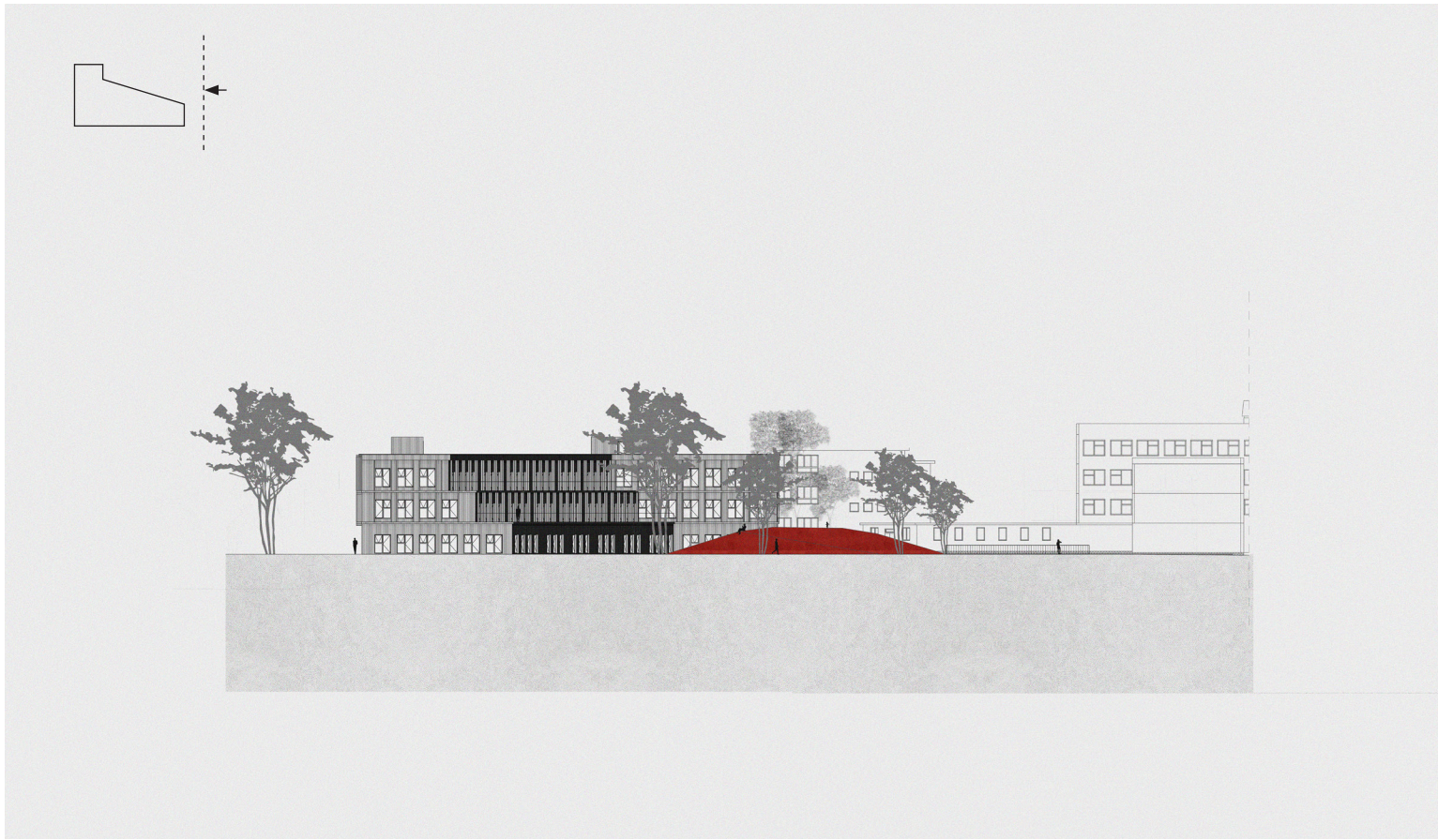


NORTH-WEST ELEVATION





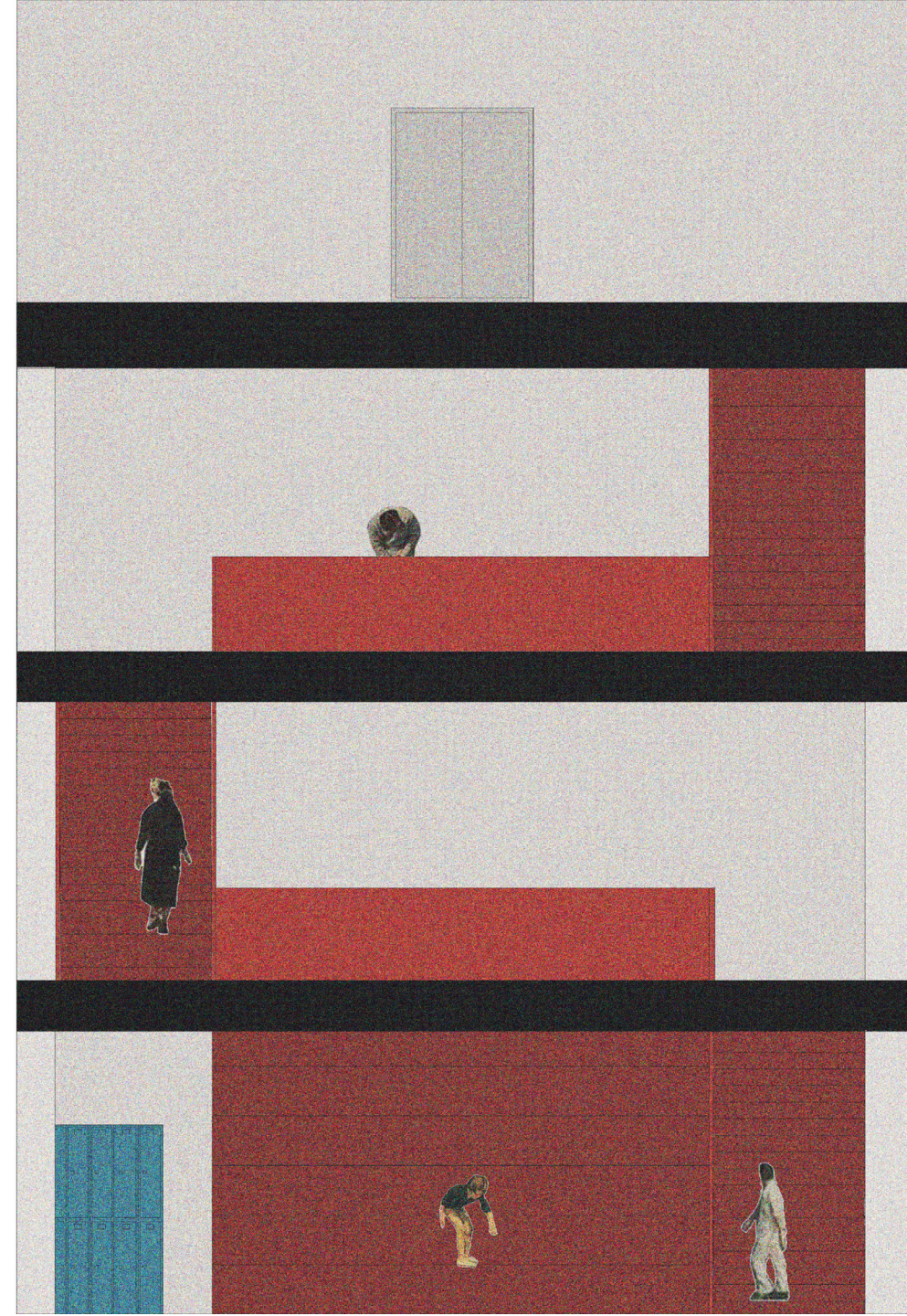
SOUTH-WEST ELEVATION



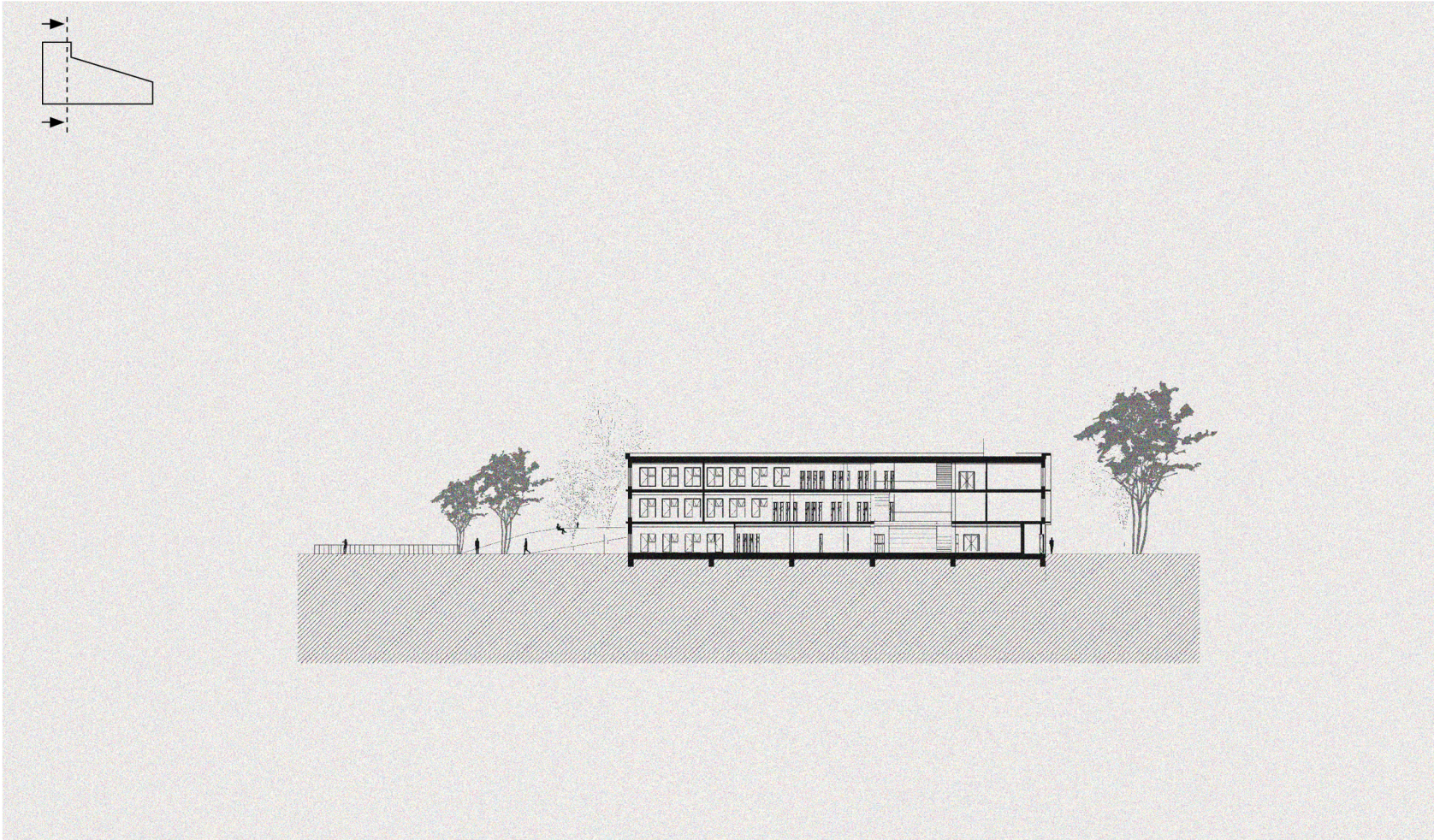
NORTH-EAST ELEVATION



CROSS SECTION

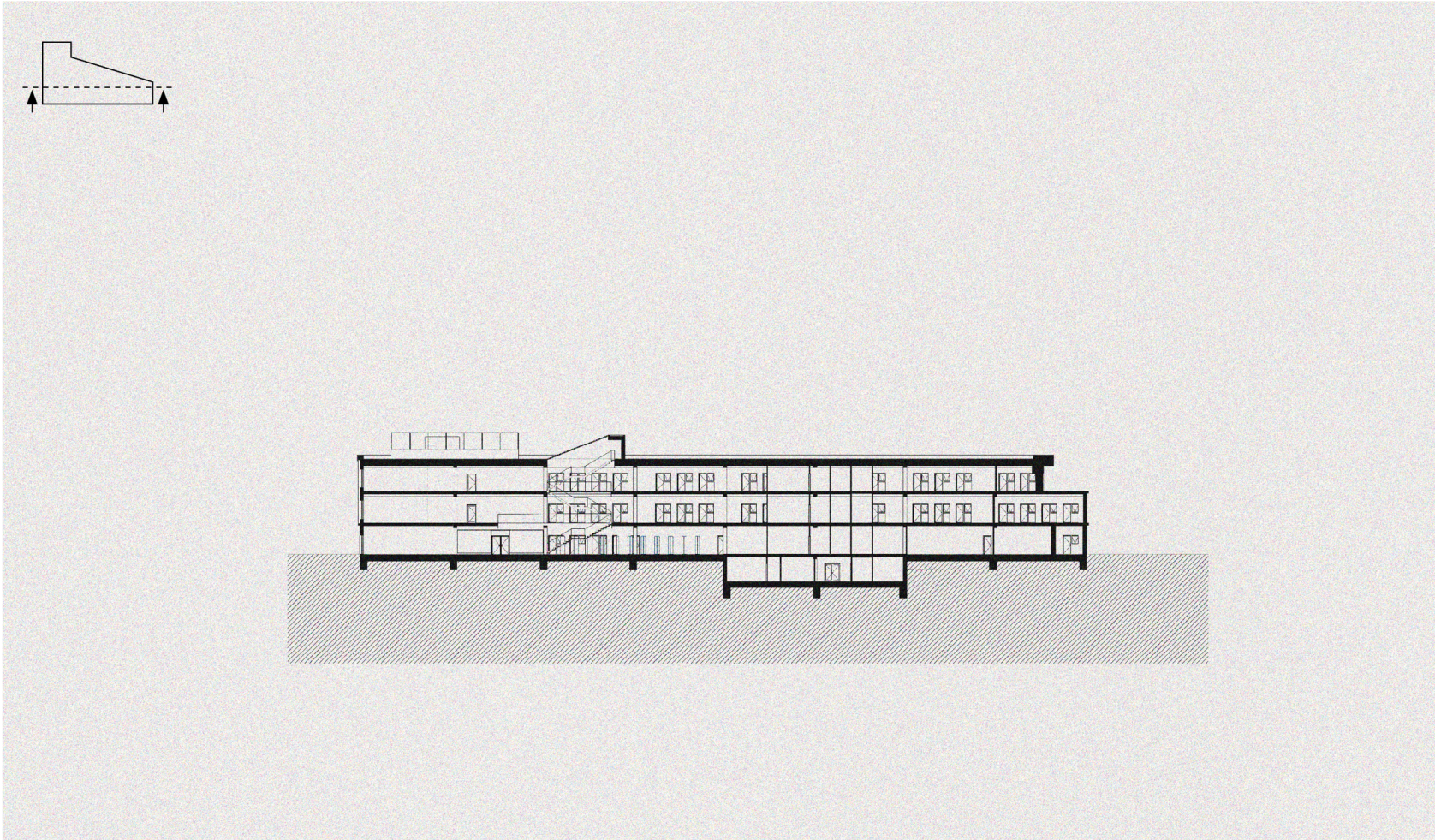






CROSS SECTION\_A





CROSS SECTION\_B





VISUALIZATION





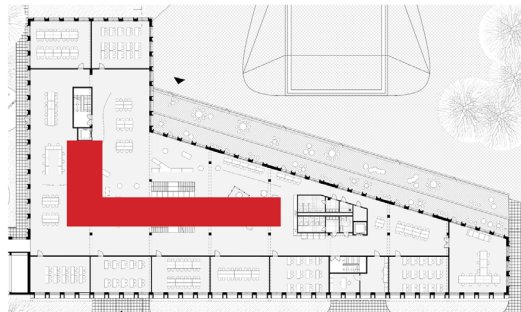
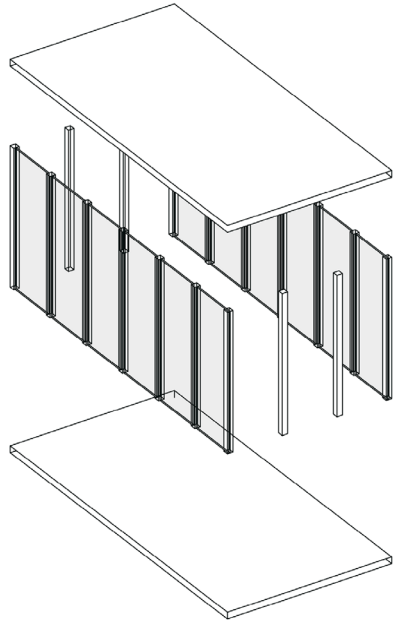




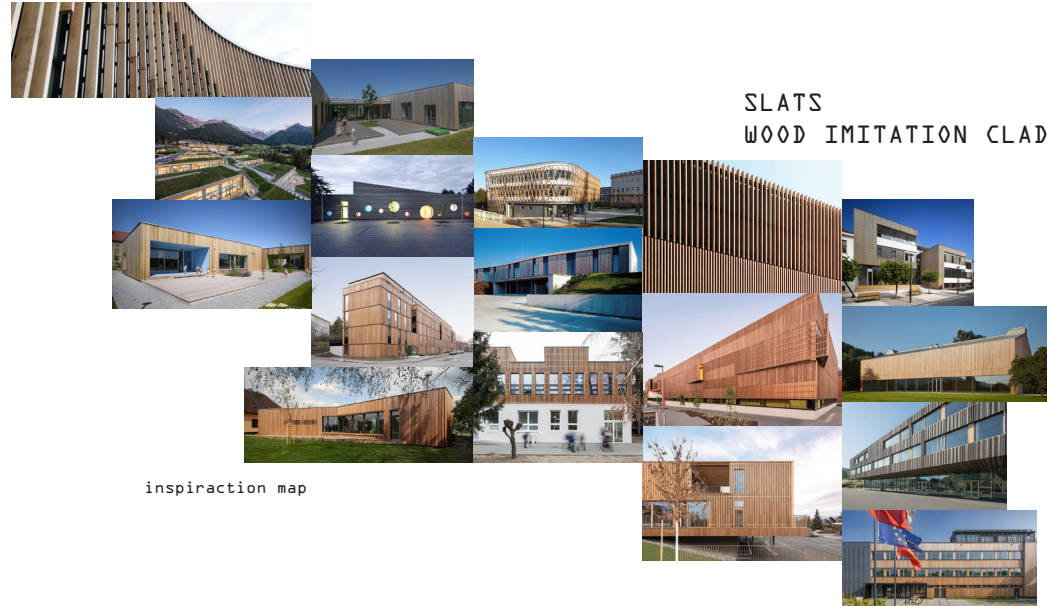








the movement of the boxes is limited to the red area due to the electrical plugs, but they remain moveable



SLATS  
WOOD IMITATION CLADDING.

inspiration map

THANK YOU FOR YOUR ATTENTION