

# *Architectural Design Competition*



*Ryterna modul Architectural Challenge 2022  
Cycling Tourism Complex Lithuania*

*International architectural competition for the  
development of a recreational area in  
"PAPUSHEVO PARK" Moscow Russia*

*Lagi 2022 Design Competition horticulture  
show , renewable energy Mannheim Germania*

*Infill Challenge Design Competition  
city of Kelowna Canada*

*Ryterna modul Architectural Challenge 2022*  
*Cycling Tourism Complex "The Pedal"*





City of Cassino

**Description**

Participation in the Ryterna modul design competition for the construction of a cycle tourism complex provides for the location of the intervention on Eurovelo or on cycle paths and itineraries on the European continent. The planned cycling complex can be built in accordance with local urban planning regulations in every part of Italy and Europe but given the request for the competition brief it was located on the Eurovelo route in Italy along the Via Romea (Franchigena) in the city of Cassino. The choice of this city is not accidental as Cassino is often a destination for European cycling tourists due to the presence of archaeological sites, religious architecture and war cemeteries. Cassino is an Italian town of 35.220 inhabitants in the province of Frosinone in Lazio. The climate is quite hot with hot and muggy summers even if the convective motions tend to lower the temperature, in winter the cold does not suffer much the climate is pleasant. The characteristic places of the city of Cassino are: **Montecassino Abbey** Founded by San Benedetto da Norcia in the year 529, **Roman amphitheater**, **Roman theater of Cassino**; **Commonwealth Cemetery**; **Polish cemetery**; **Germanic cemetery**.

For the location of the cycling complex, an area has been chosen which is intended by urban planning regulations for tourist accommodation activities, a plot of land of about 9.500 square meters where it is possible to build hostels structures for restoration in full compliance with the volumes provided for in the planning documents, located near the Roman amphitheater and at the foot of the abbey of Montecassino. In the design, the provisions of the design brief were respected using prefabricated modules of 3x8m dimensions, in a total number of 15, assembled as indicated in the project tables. Two modules were added on the two floors for the creation of the stairwell and a module for the restaurant bar which needed a space for food preparation; the brief included a total of

12 modules. The structure of each single module is made of steel frames arranged every 6 meters so for a 3x8 module 3 frames are needed. In order to guarantee structural stability, the construction of the structures and overhangs and the composition of the modules have been provided for the frames every 2 meters in order to guarantee resistance to vertical seismic actions and horizontal wind actions. The module is made up of polyurethane panels covered in wood of wooden floors of 3 m span and steel frames therefore they are very light structures with low seismic mass for which despite being the municipality of Cassino with high seismicity  $A_g=2.18 \text{ m/sec}^2$  the horizontal actions are reduced. The only problem may be represented by cantilevered structures for vertical earthquakes for which inclined steel pillars have been inserted. The cycling complex consists of a restaurant bar with adjoining kitchen, an entrance hall, toilets and a module for the repair and recharging of electric bikes with pedal assistance on the first floor; while on the second floor there are the bedrooms, for the overnight stay and the toilets separated by gender as required by the brief. A photovoltaic system has been set up on the roof, the surface of which can be increased and extended to the plot of land according to the energy needs for lighting, heating and recharging, so that the structure is energy self-sufficient and costs are not incurred. The architecture has a clear rationalist imprint with hints of minimalism, a structure that integrates well into the natural environment that can also be built at reduced costs. It is clear that it must work all year round and therefore intended not only for cyclists and motorcyclists but also for people who wish to have a meal together and visit the characteristic places of the city with priority for Eurovelo tourists. The name that has been given to the cycling complex "THE PEDAL" has a clear reference to pedaling and the physical effort resulting from a ride on a bicycle, mitigated today by the pedal assist which allows you to travel long distances with minimal effort.



Planimetry scale 1:1000

Urban Planning  
Tourist hotel area

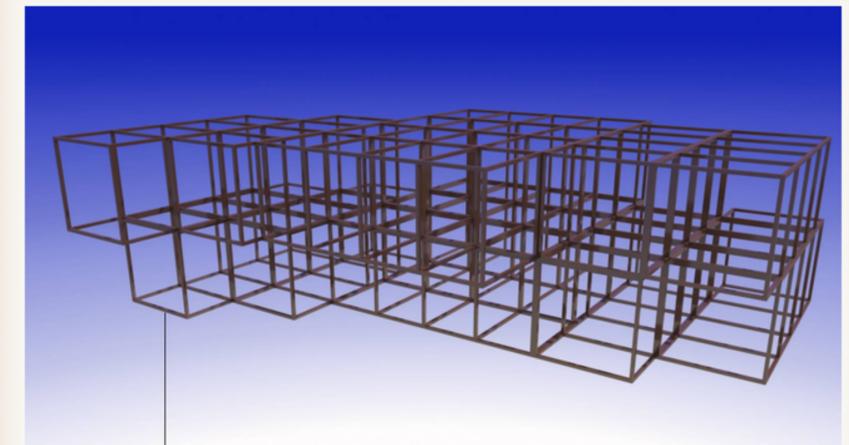
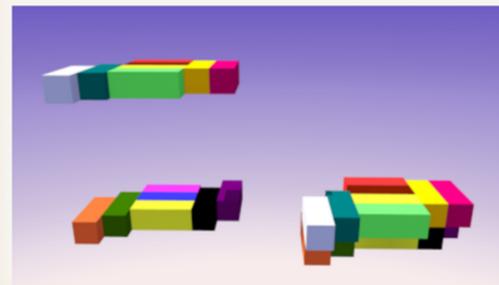
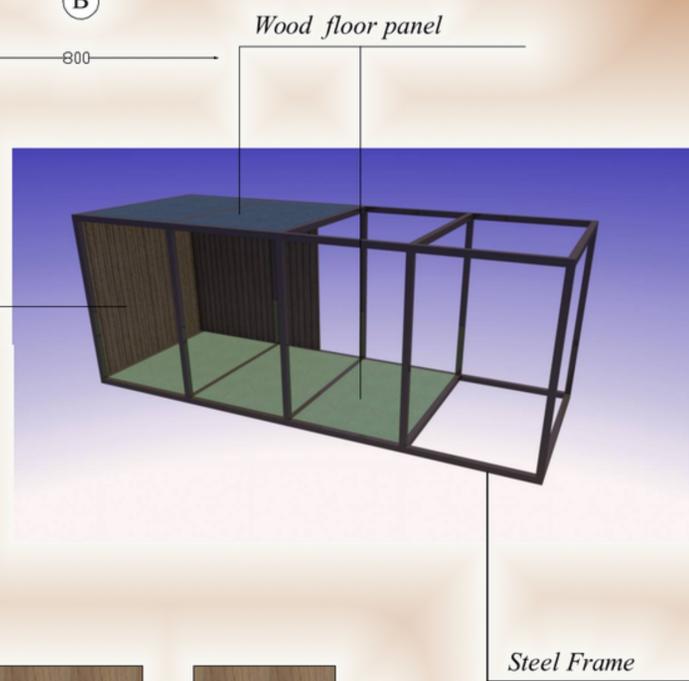


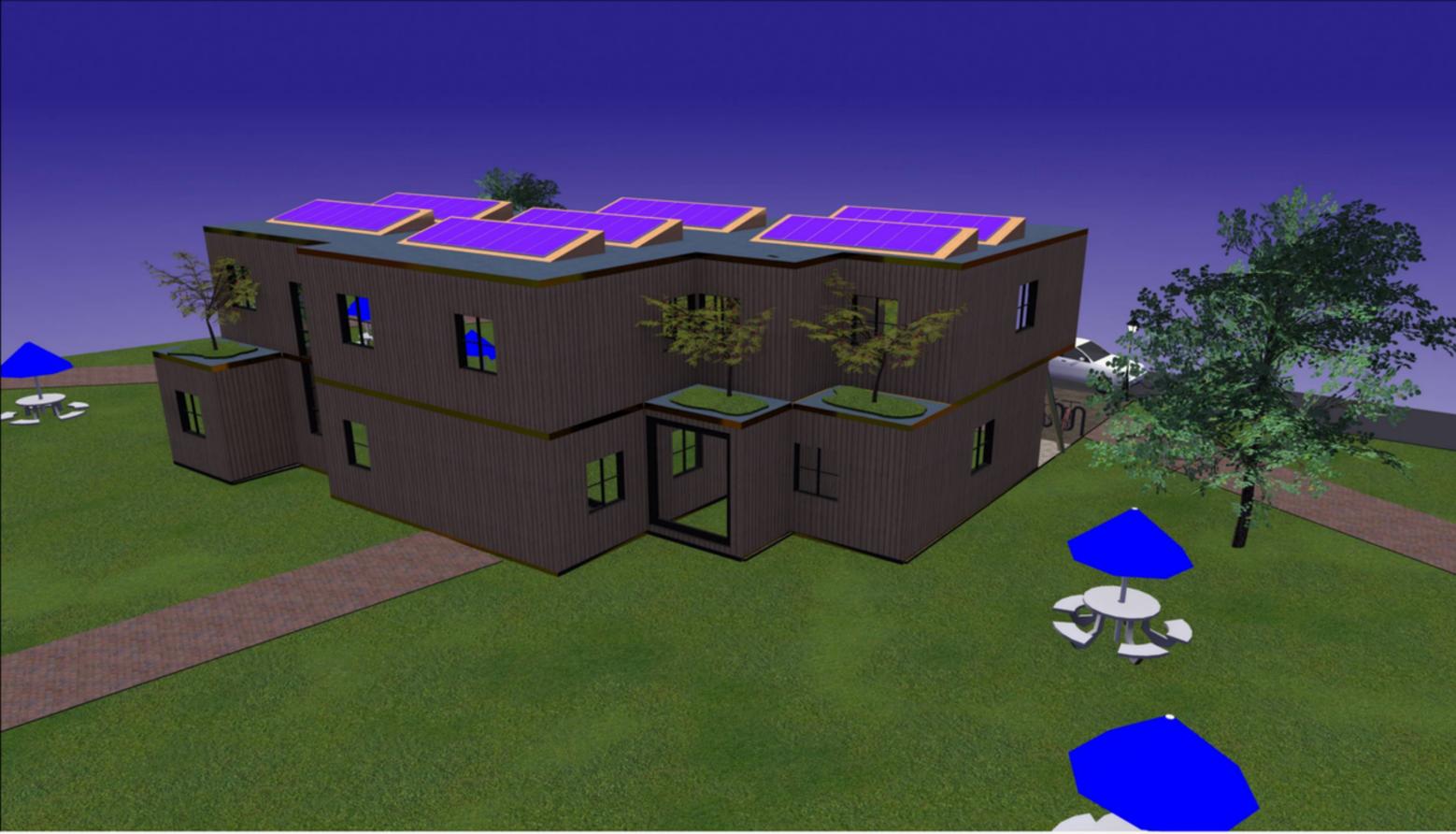


Modules assembly

Modul

polyurethane sandwich panel with wood facing



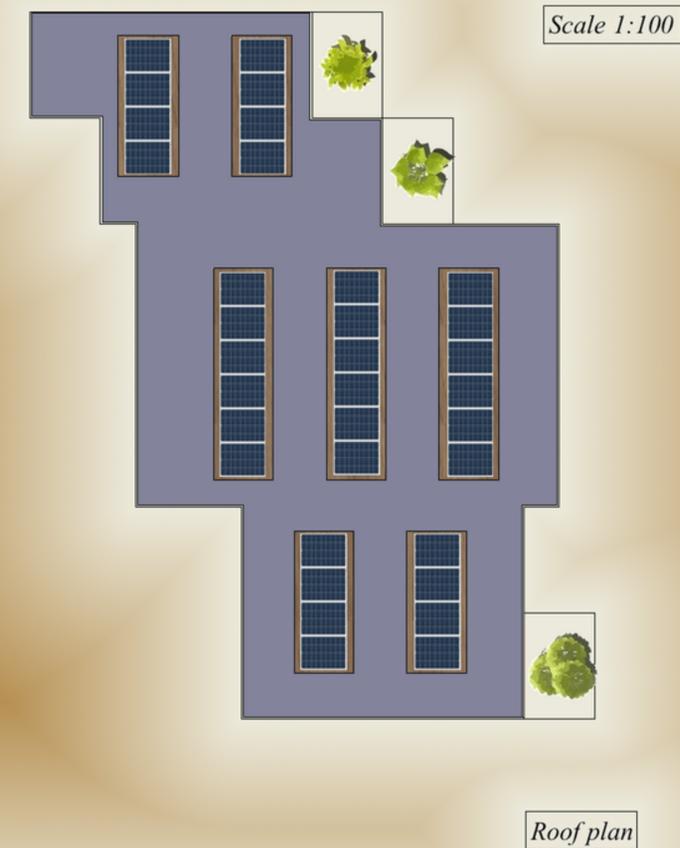


Elevation C

Section A-A



Elevation B



Through the evolution of the bicycle, traveling long distances is no longer very tiring, the electric bike with pedal assistance reduces physical effort to a minimum, consequently crossing the European continent spending a holiday along the Eurovelo itineraries becomes pleasant.



The photovoltaic system positioned on the roof of the cycling complex provides the necessary electricity at no cost and guarantees the energy self-sufficiency of the complex. In the city of Cassino, a plant with a peak power of 1 kWp corresponding to three photovoltaic panels occupying an area of 4.5 square meters in one year is capable of producing approximately 1375 kWh of electricity.



Obviously you must have charging stations where you can recharge the battery of your bicycle and move easily.



# *International Architectural Competition*

## *Papushevo Park*



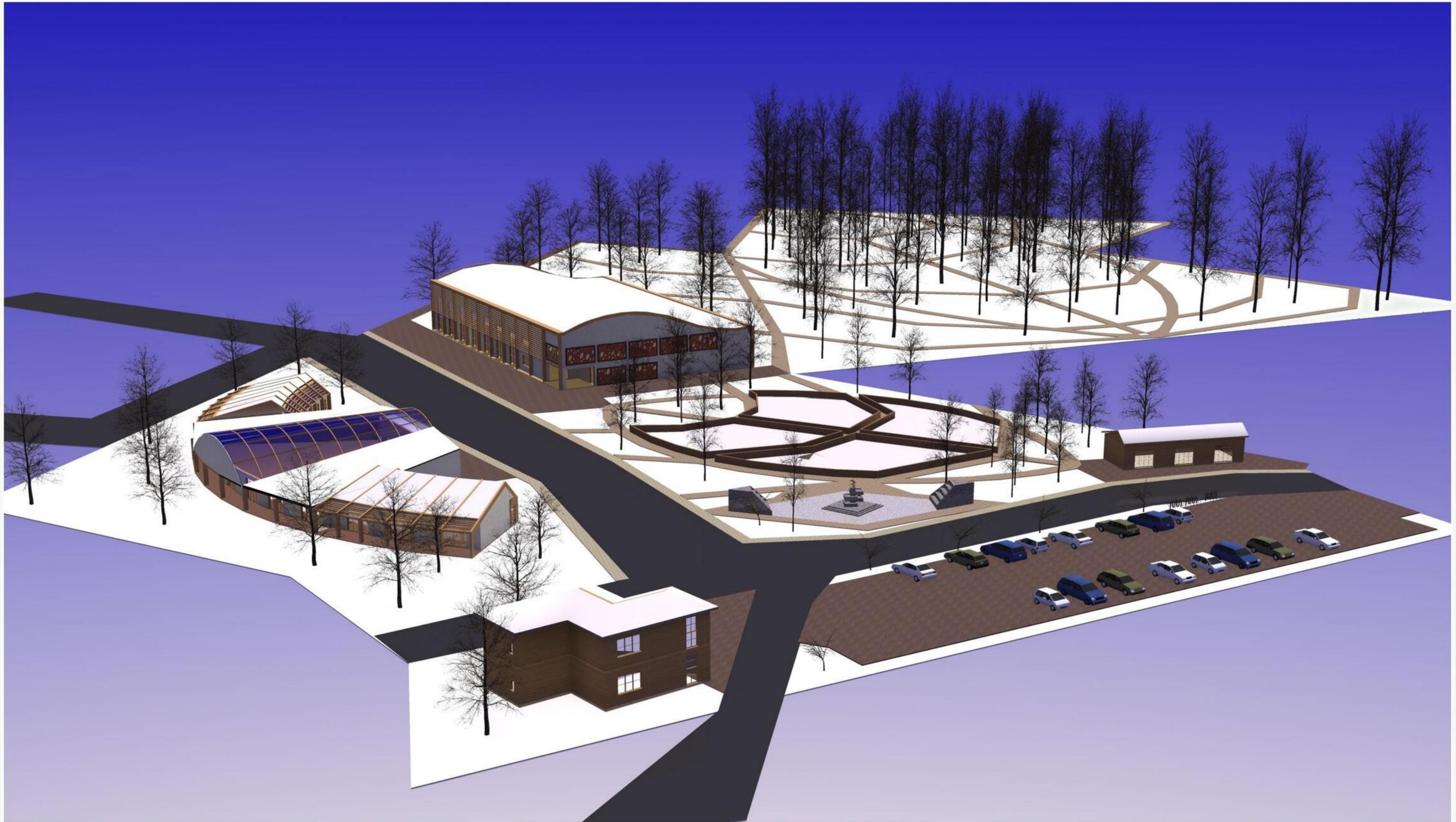
*ΠΑΠΥΣΗΕΒΟ ΠΑΡΚ*



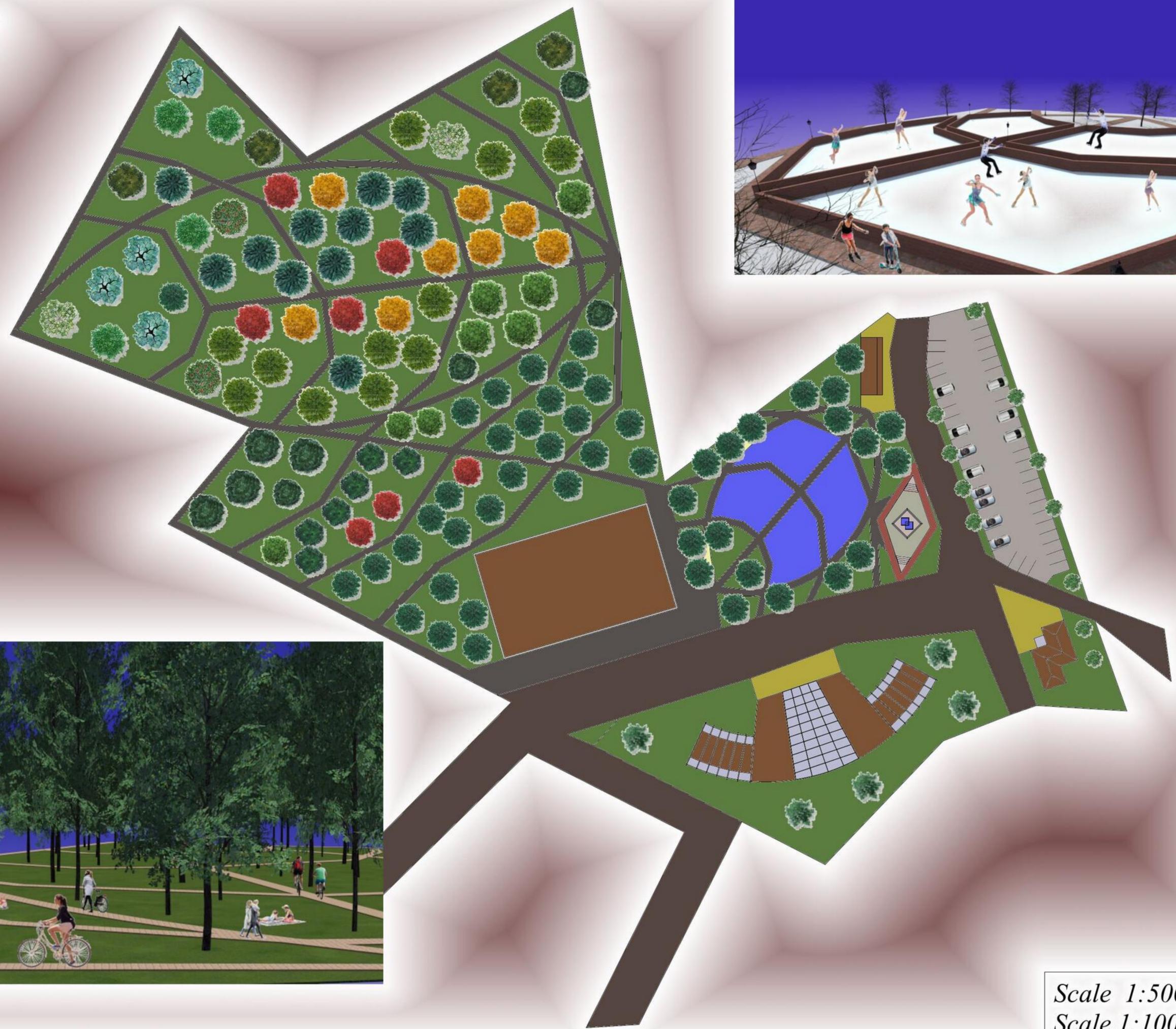
# *Papushevo Park*



# *Papushevo Park*

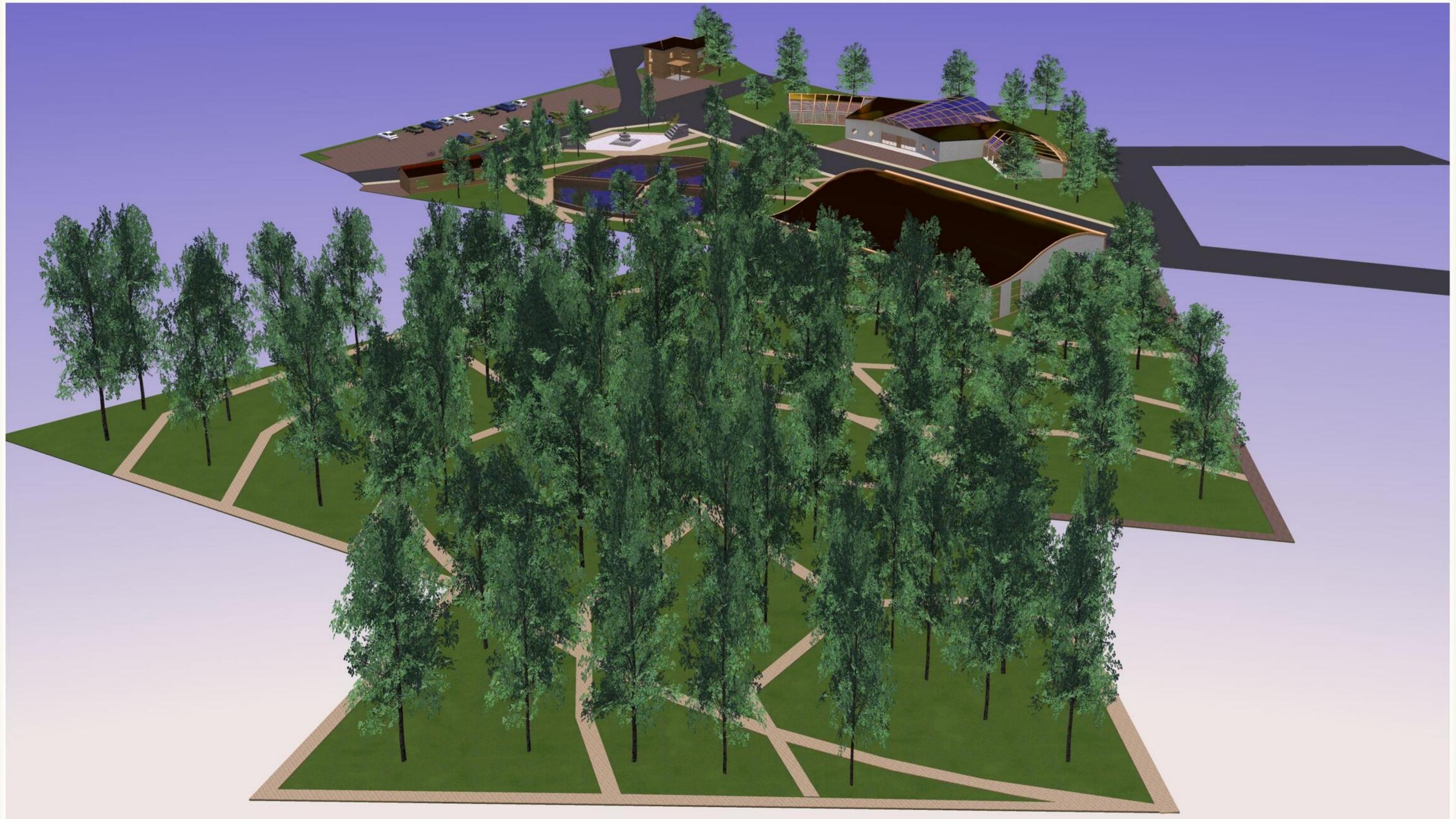


# Planimetry



Scale 1:500 A1  
Scale 1:1000 A3

# *Papushevo Park*



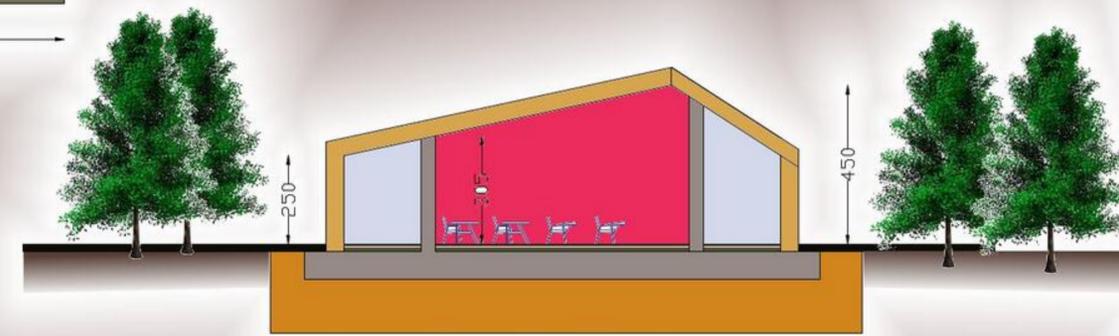
# Children's educational



- Hall
- Classrooms
- Free activity space
- Dressing room
- Teacher room
- Director office
- Bathrooms
- Storage area
- Medical office



Ground floor plan



Section A-A



Frontal Façade

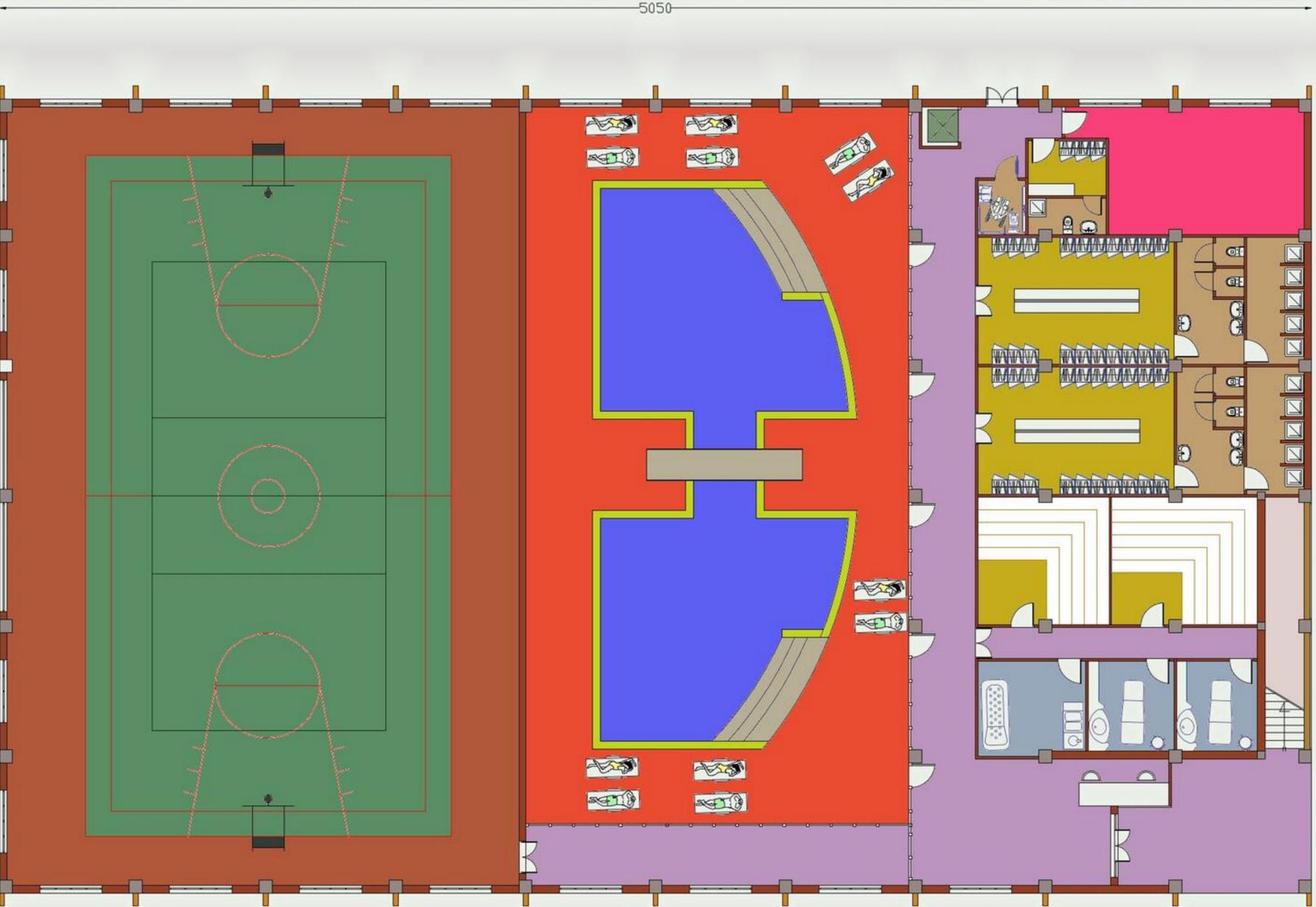
Scale 1:100 A1  
Scale 1:200 A3

# *Children's educational*



# Gymnasium : Fitness , Sauna

	Hall
	Fitness
	Pool
	Dressing room
	Finnish sauna
	Massage room
	Bathrooms
	Tool Shed



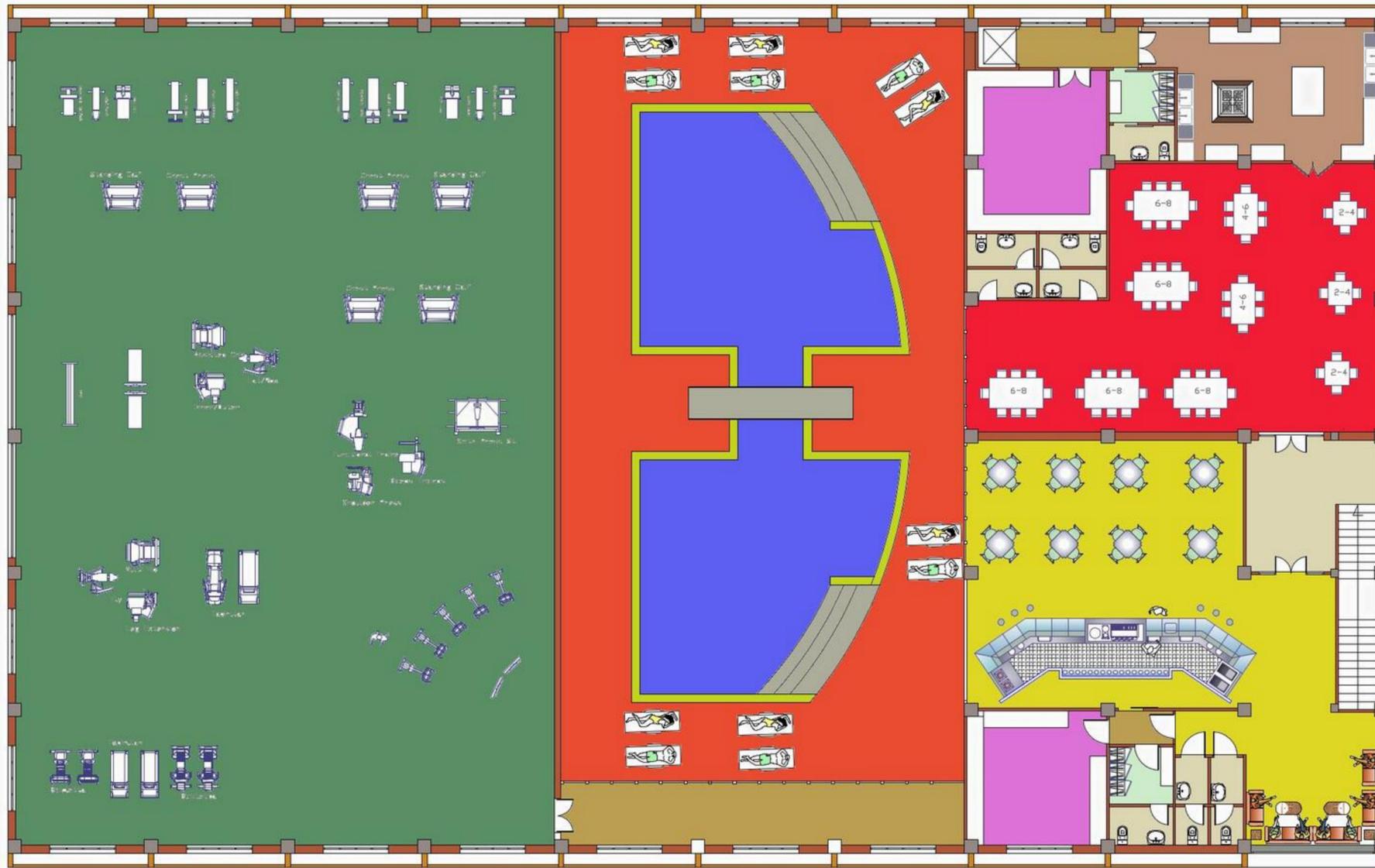
Ground floor plan



Scale 1:100 A1  
 Scale 1:200 A3

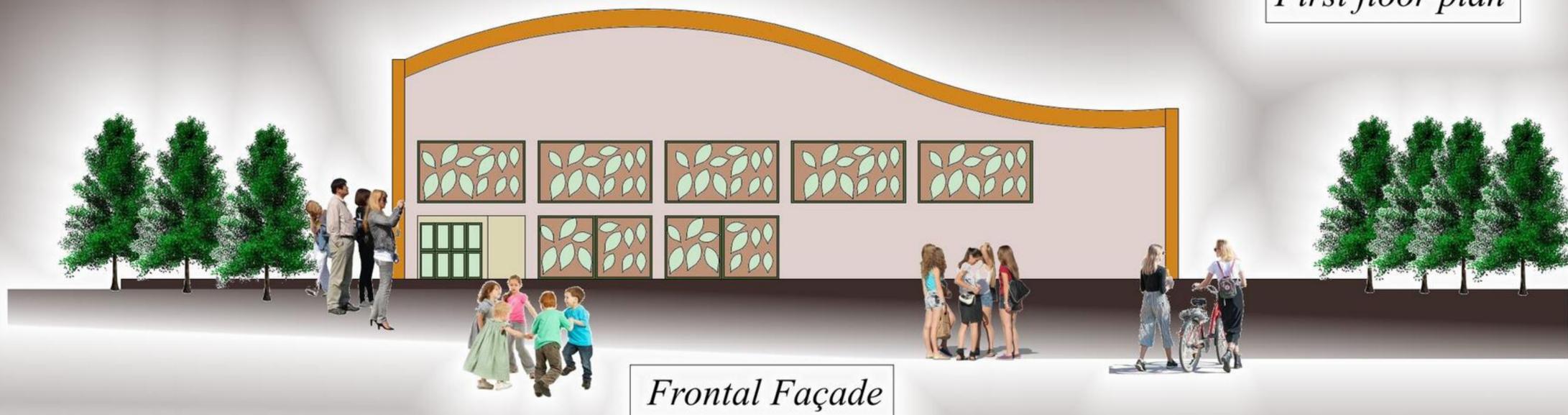
# *Gymnasium : Fitness , Sauna*





- Hall
- Restaurant
- Kitchen
- Dressing room
- Food storage
- Bar
- Bathrooms

*First floor plan*



*Frontal Façade*

*Scale 1:100 A1*  
*Scale 1:200 A3*



*Square*



# Building Management Company



Ground floor plan



Ground floor plan



First floor plan



Shop Bakery

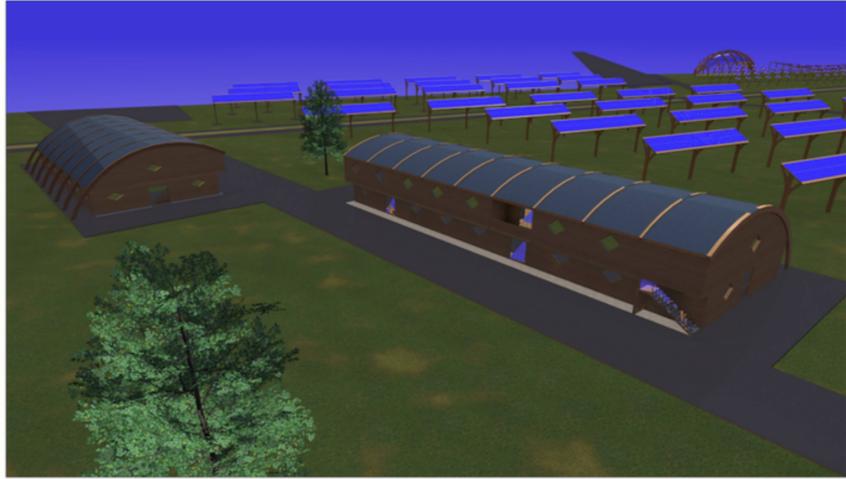
Scale 1:50 A1  
Scale 1:100 A3

*Lagi 2022 Design Competition horticulture show , renevable energy Mannheim Germania*



Scale 1:2000

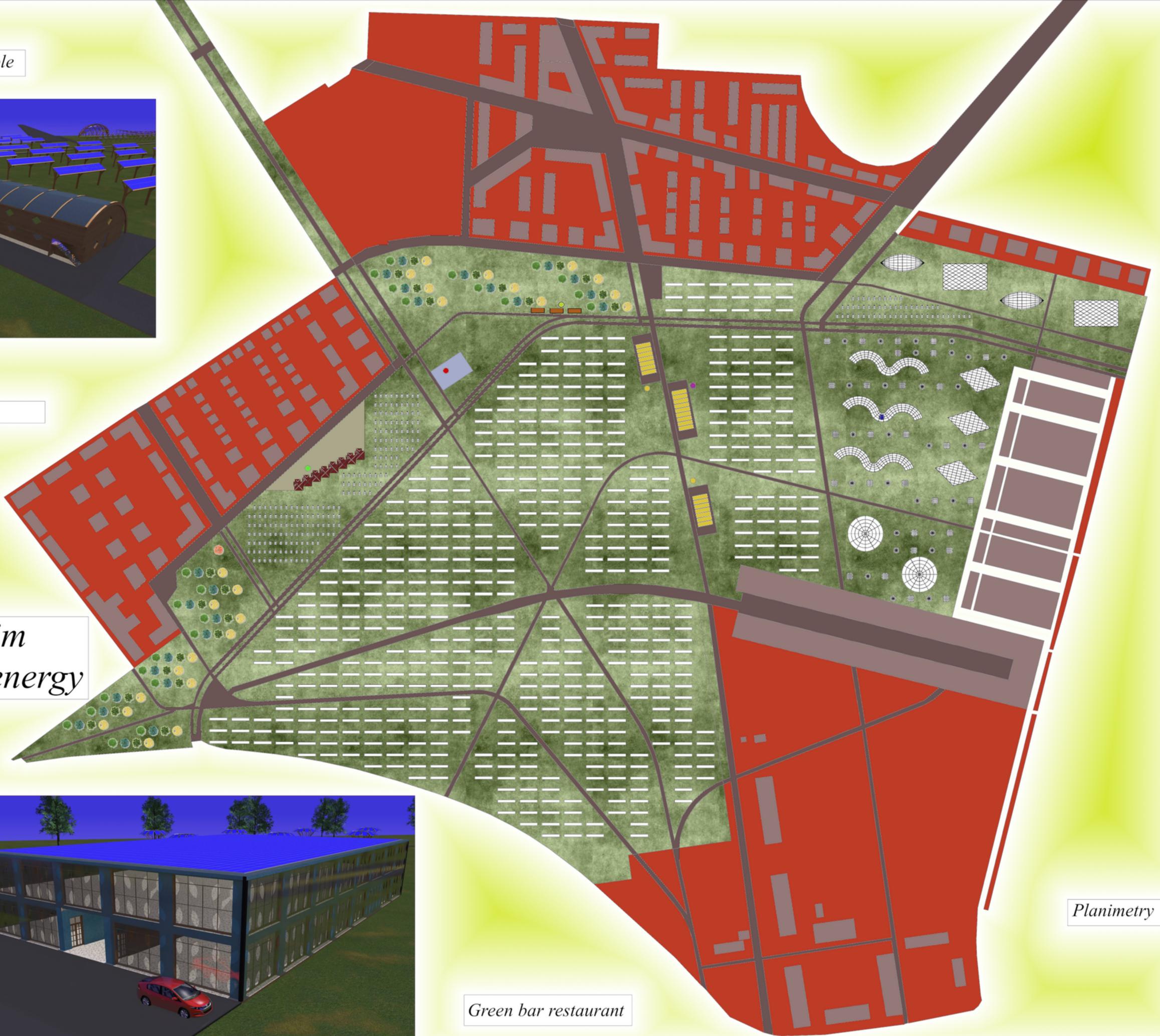
Cow stable



Link video [Click here](#)

- Greenhouses
- Green bar
- Cow stable
- Sheep Stable
- Farmer houses
- Electrical Cabin

Lagi 2022 Mannheim  
beautiful forms for energy

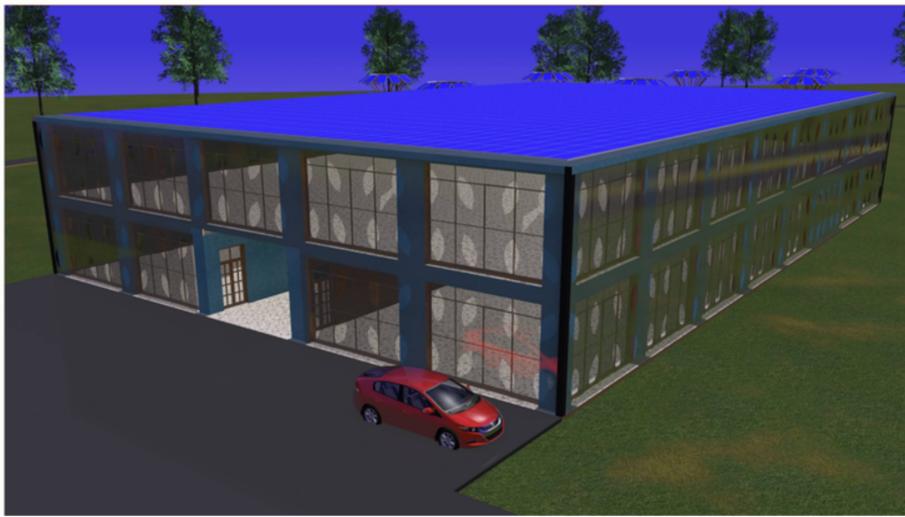


Planimetry

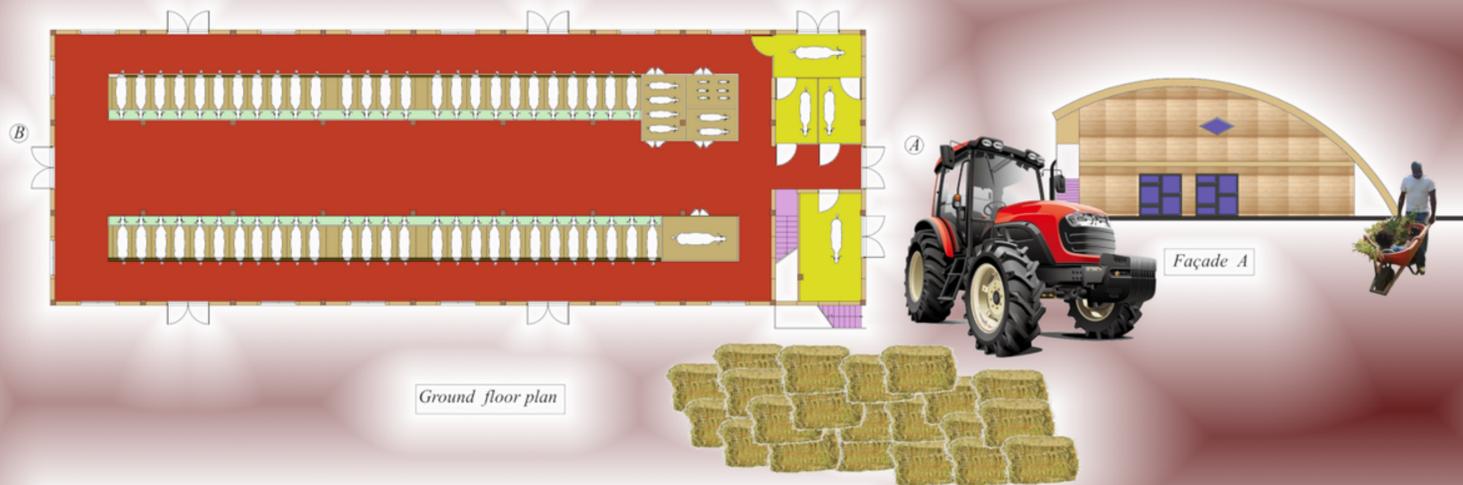
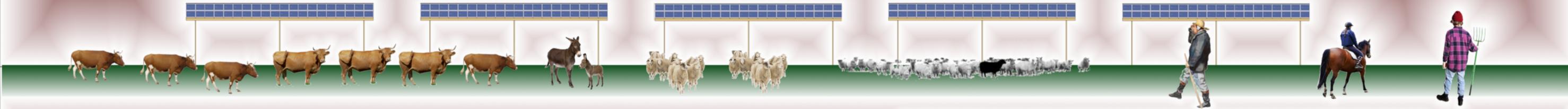
Green bar restaurant



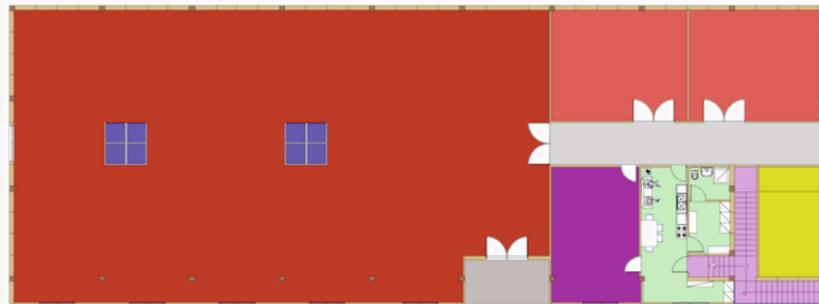
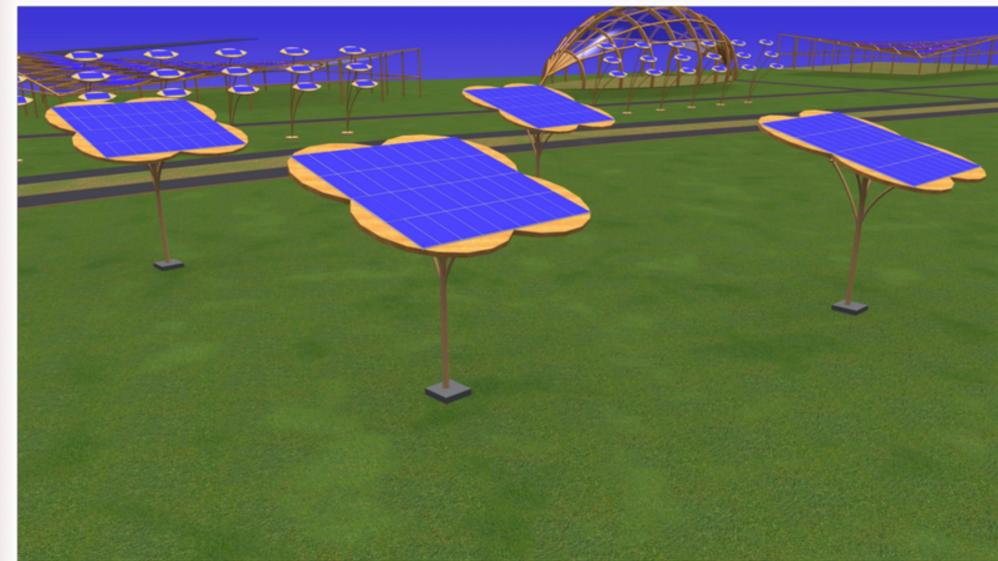
Scale 1:10000  
Surface 53 Ha



Scale 1:200



Ground floor plan



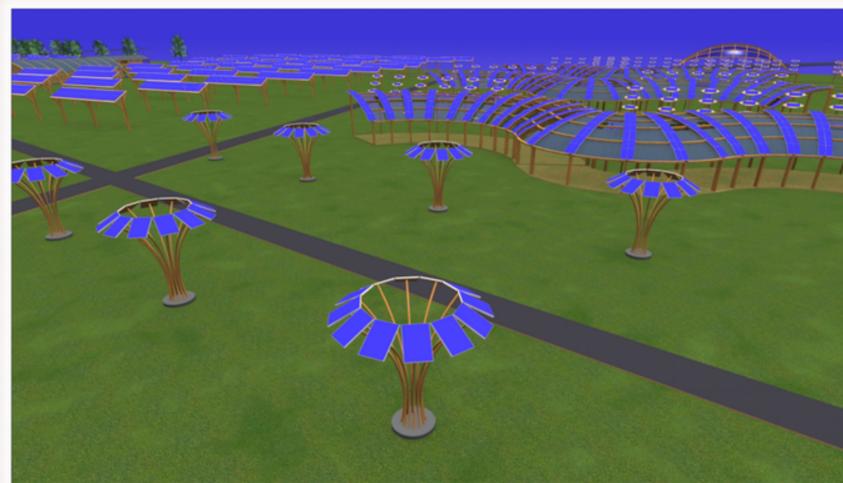
First floor plan

Lagi 2022 Mannheim  
beautiful forms for energy

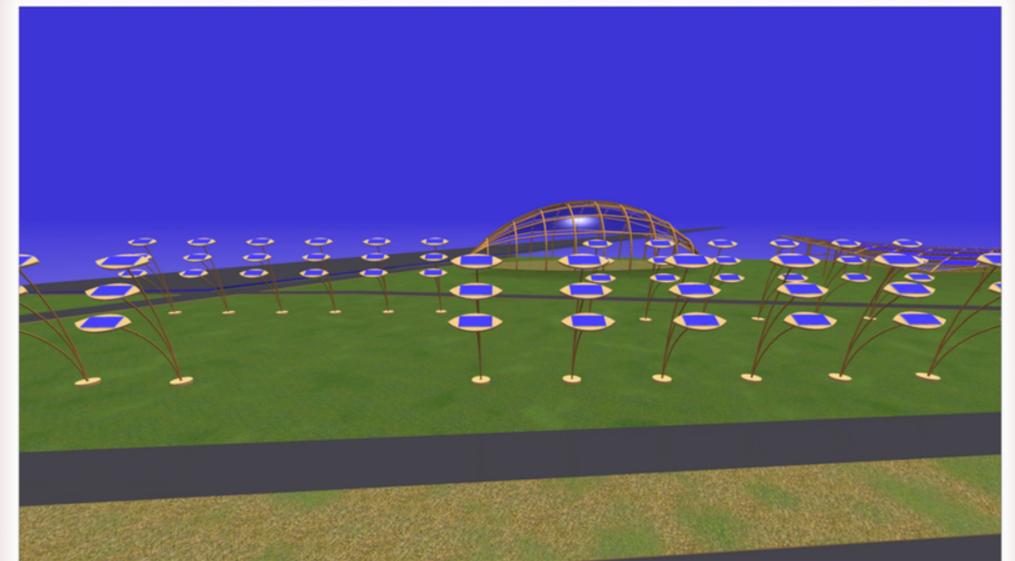
Cow stable

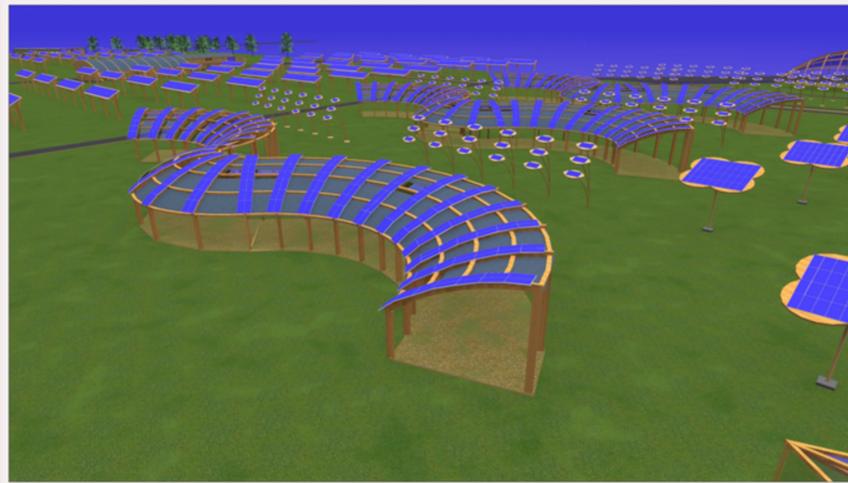


Façade B

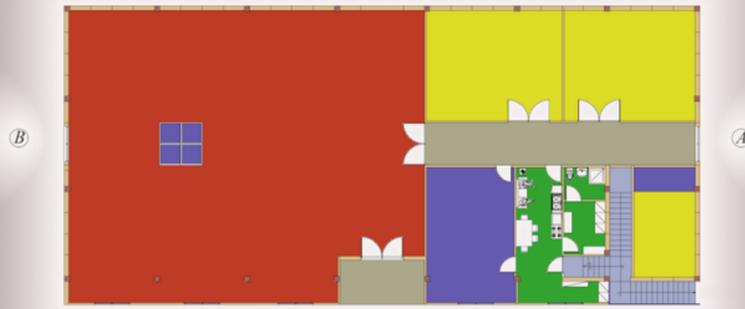


Photovoltaics trees

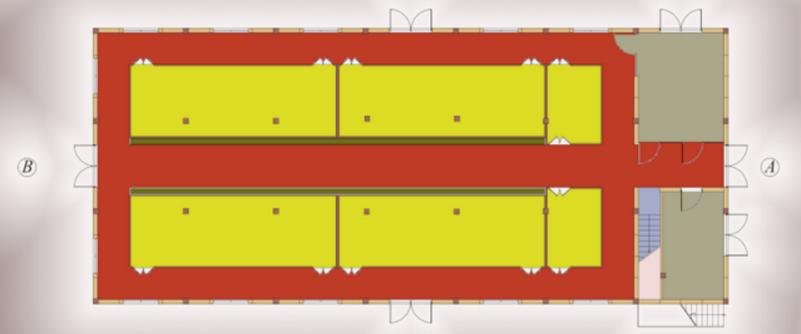




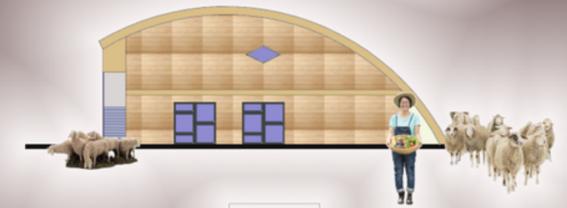
Sheep stable



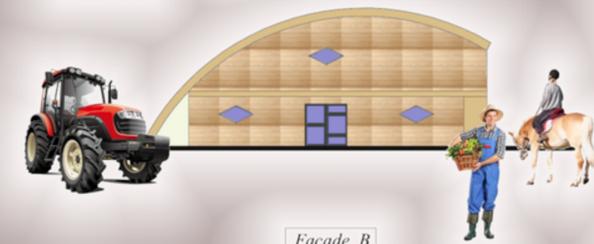
First floor plan



Ground floor plan



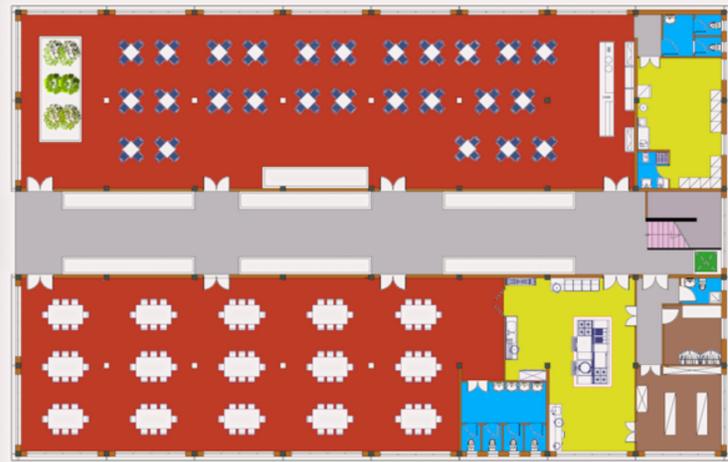
Façade A



Façade B

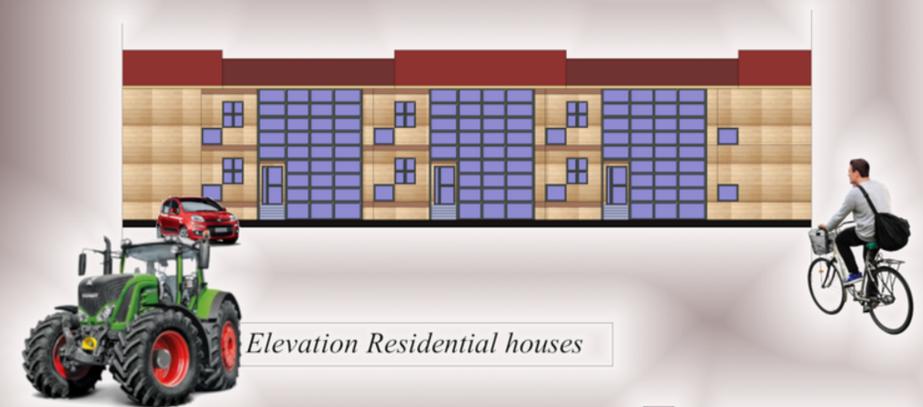
Lagi 2022 Mannheim beautiful forms for energy

Green bar restaurant

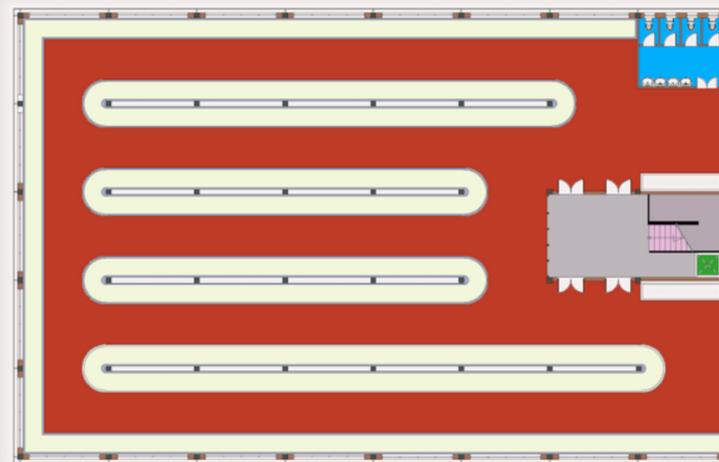
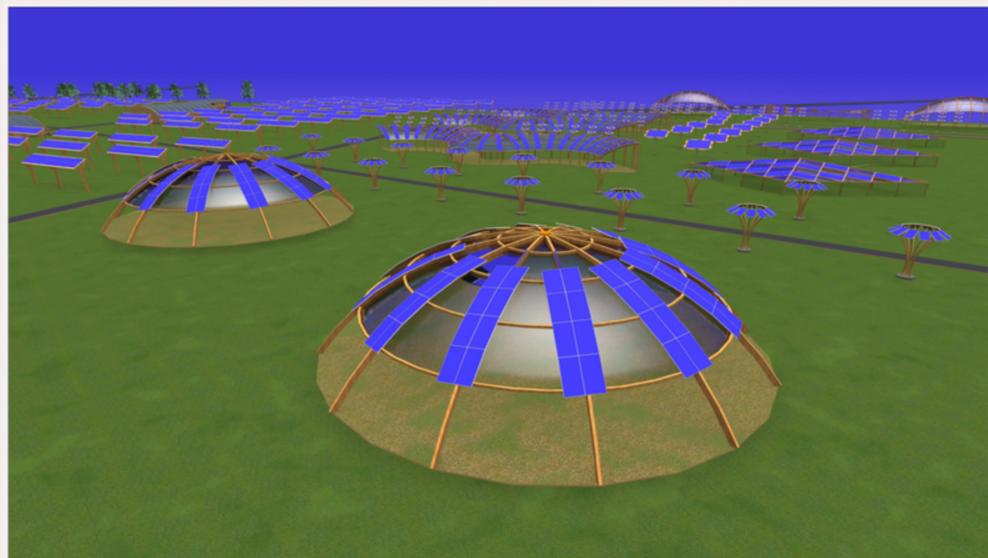


Ground floor plan

Greenhouses



Elevation Residential houses



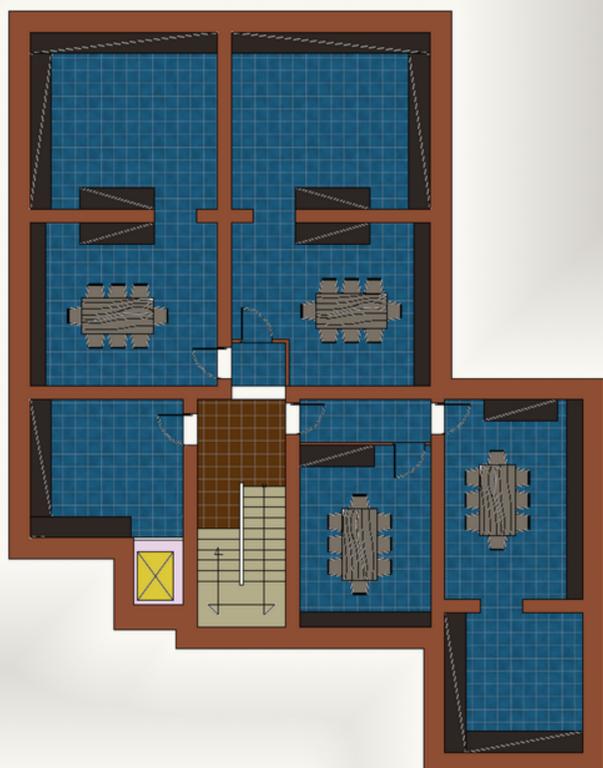
First floor plan



Residential houses for farmers

*Infill Challenge Design Competition  
city of Kelowna Canada*





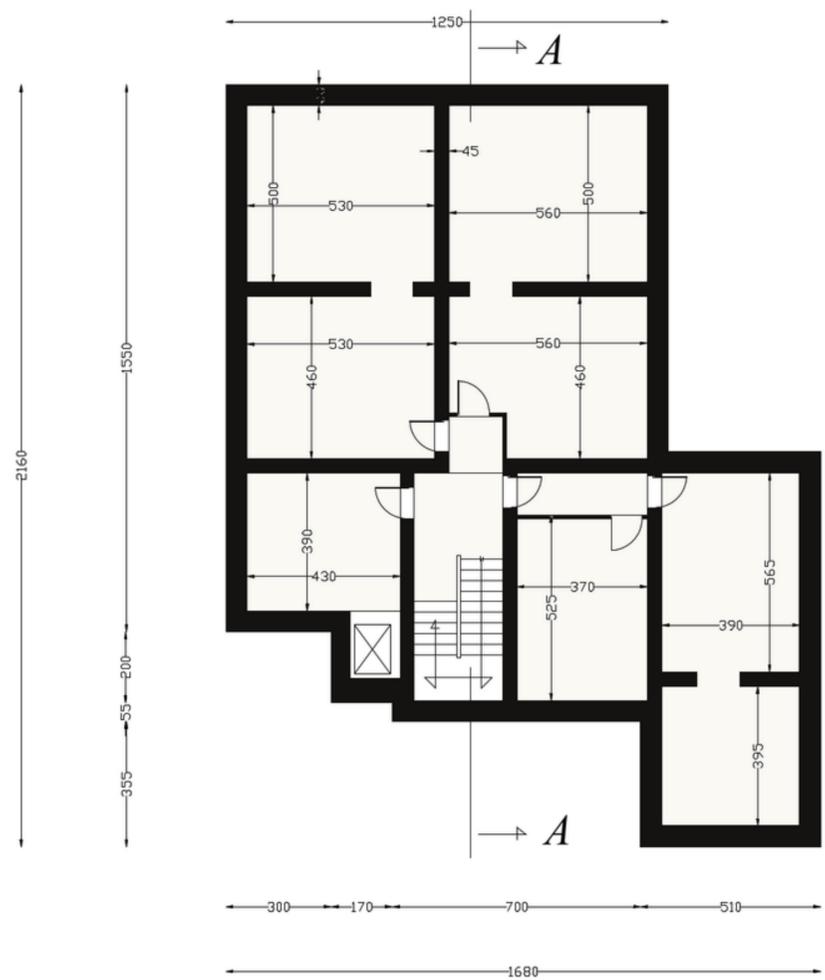
*Basement floor plan*



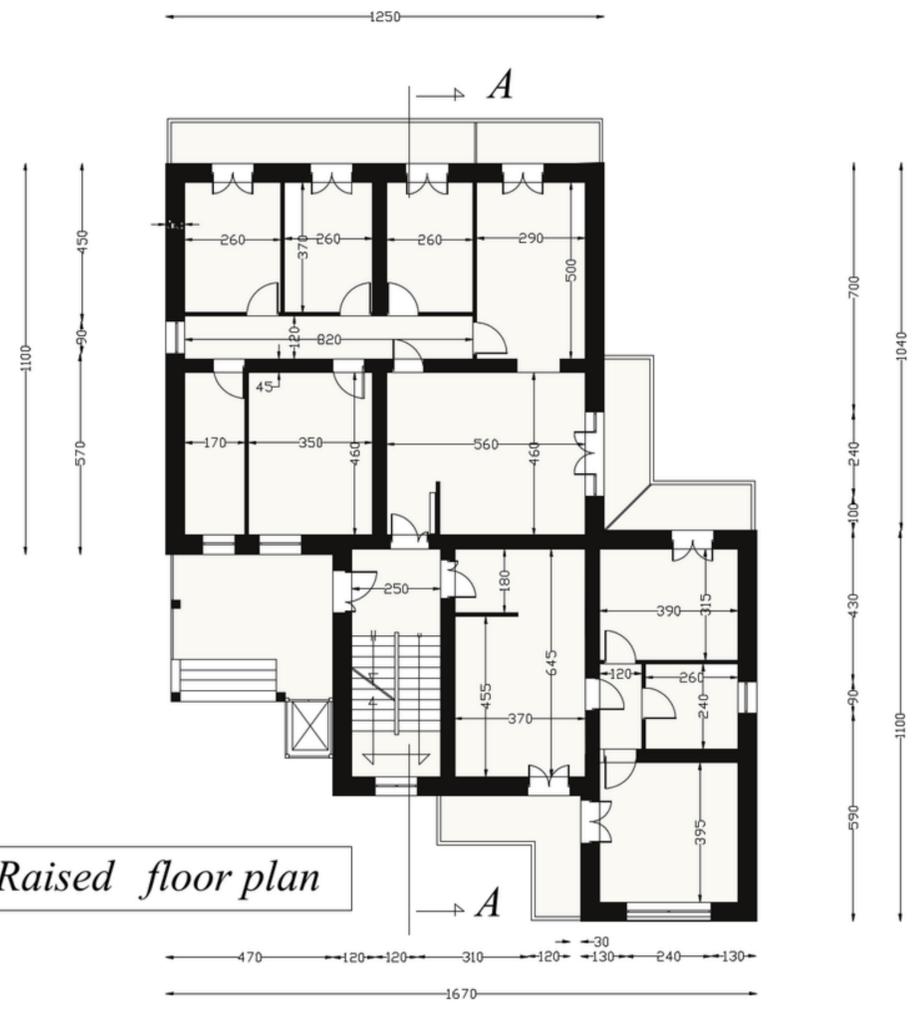
*Raised floor plan*



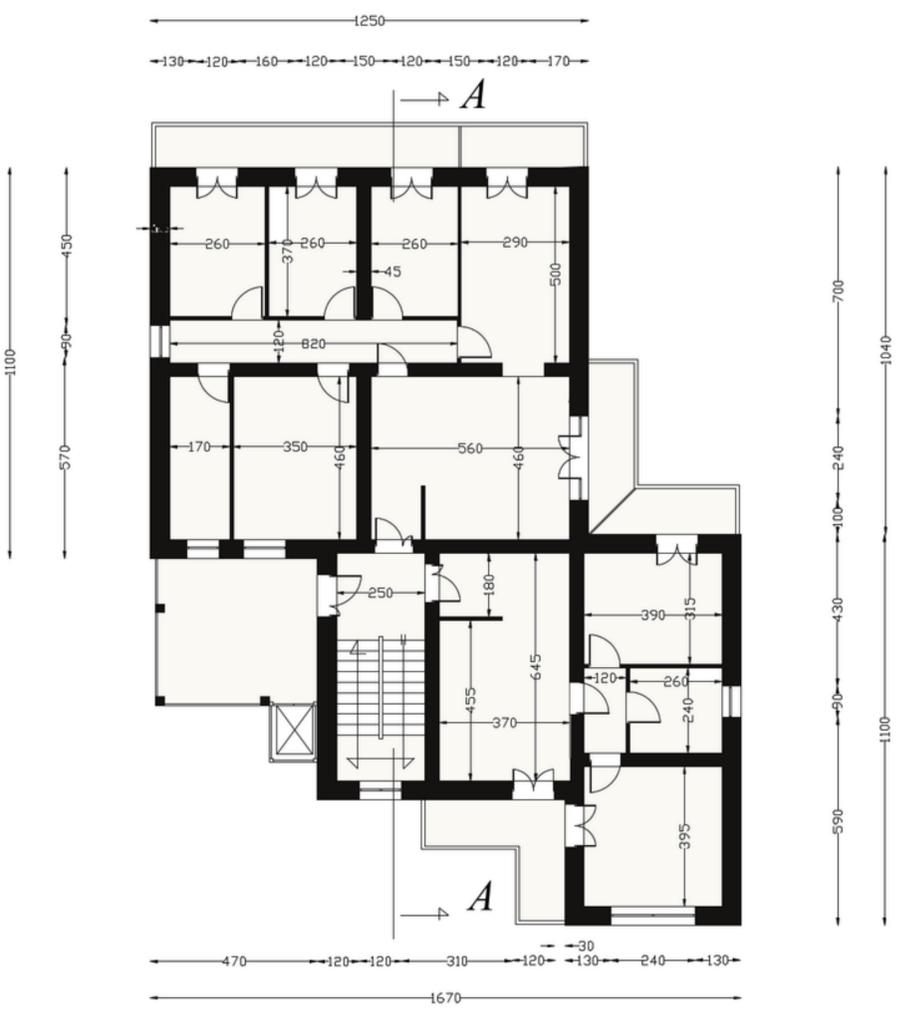
*First floor plan*



Basement floor plan

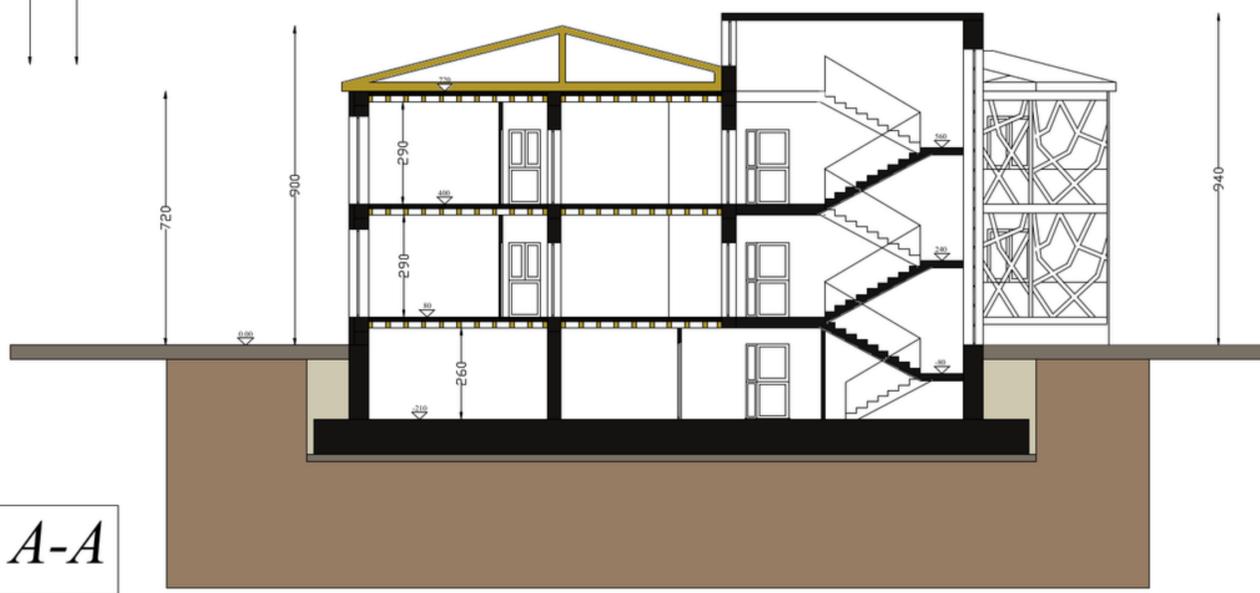


Raised floor plan



First floor plan

Section A-A

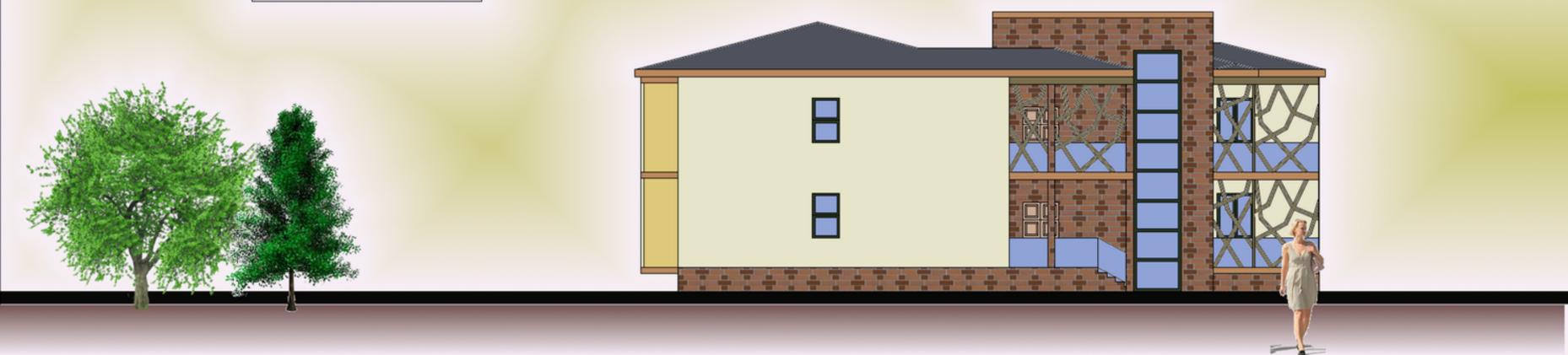




*Façade 1*



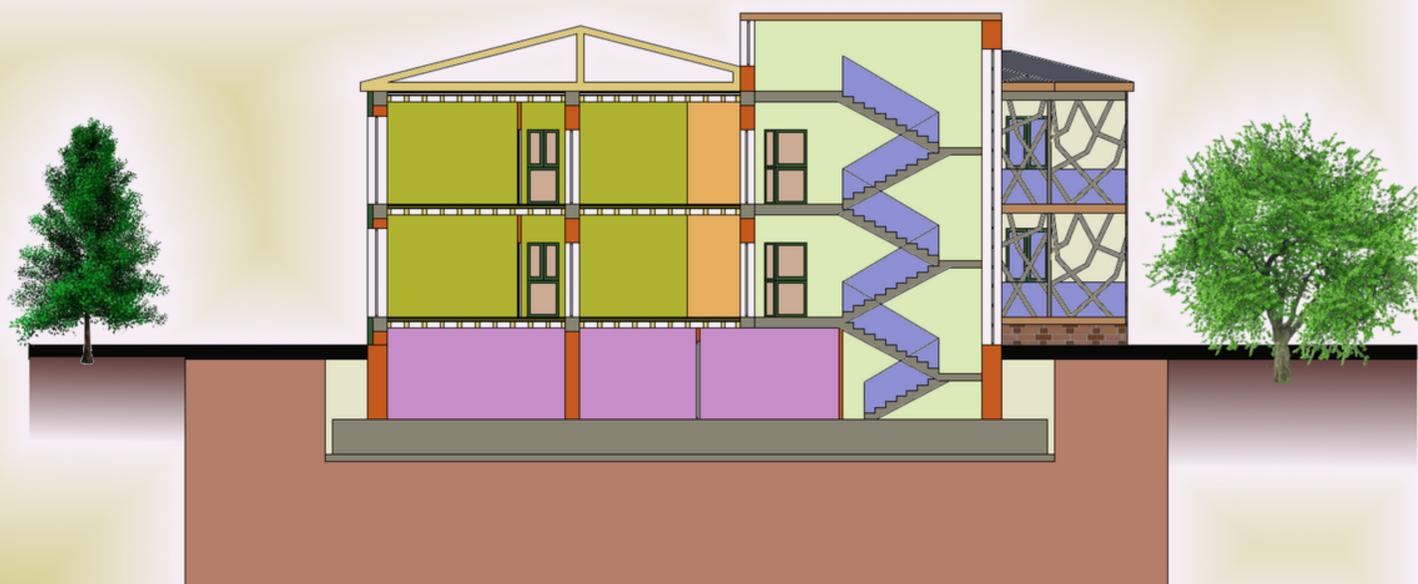
*Façade 3*



*Façade 4*

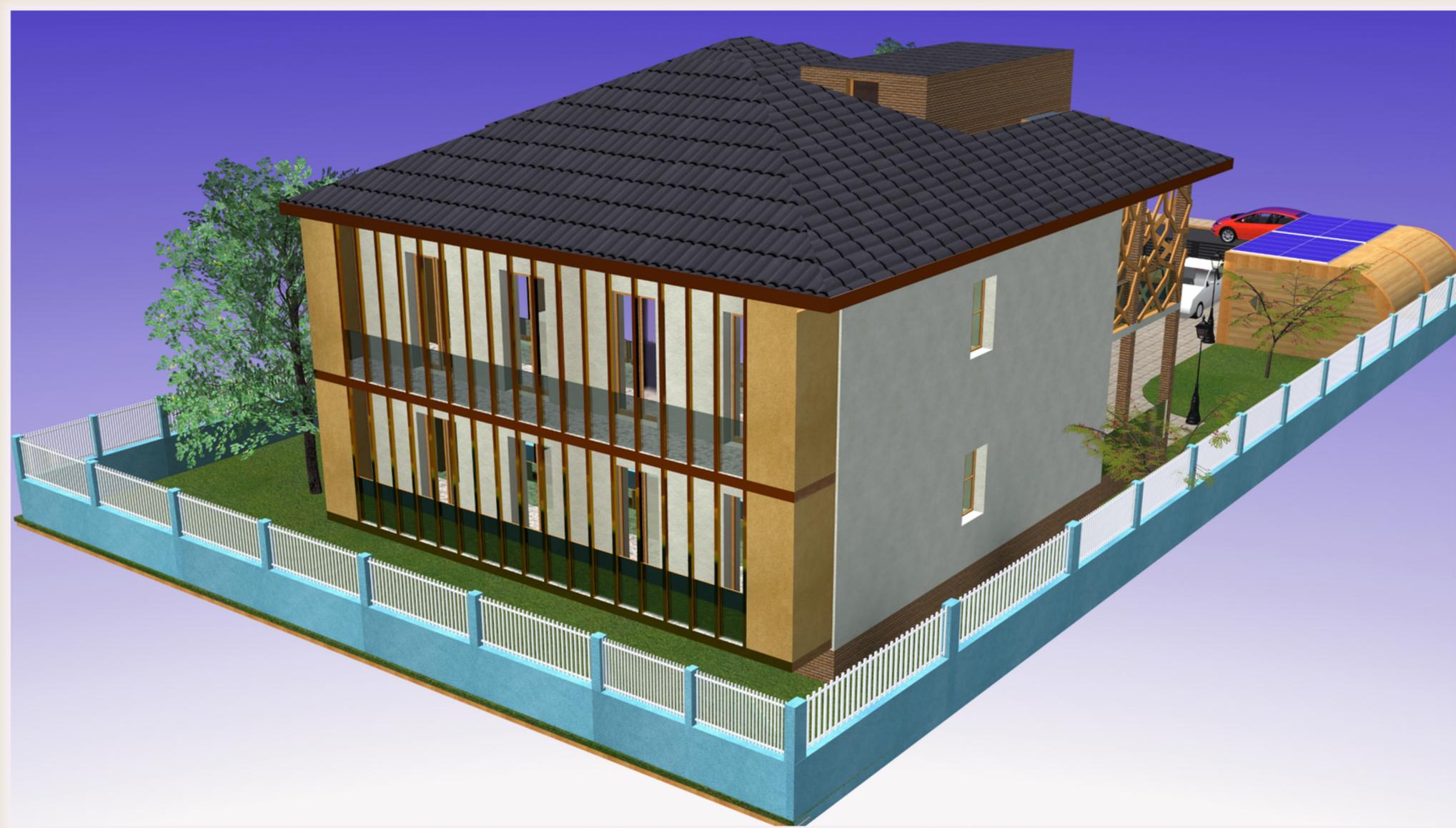


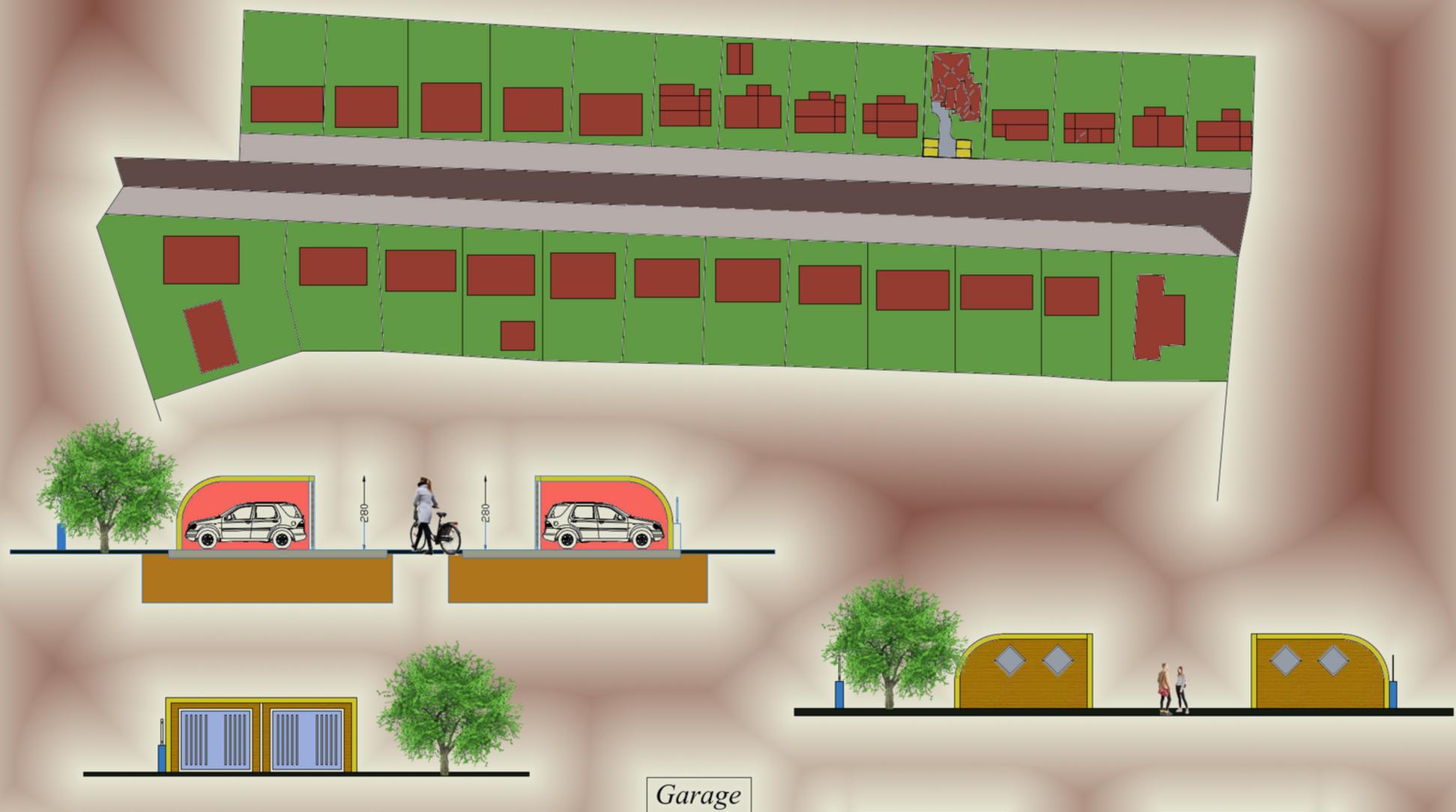
*Façade 2*



*Section A-A*

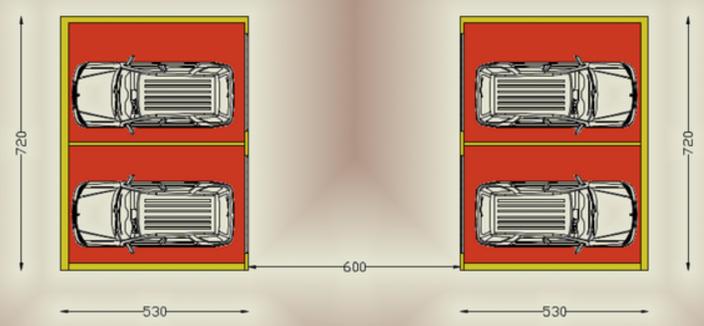






Garage

Planimetry



Lime

Composter

Hedge

Oak

Lime

Maple

Scale 1:200 A1  
Scale 1:400 A3



Garden

*Materials Board*



*Bricks for facing*



*Roof tiles*

*Copper gutters*



*External plaster*



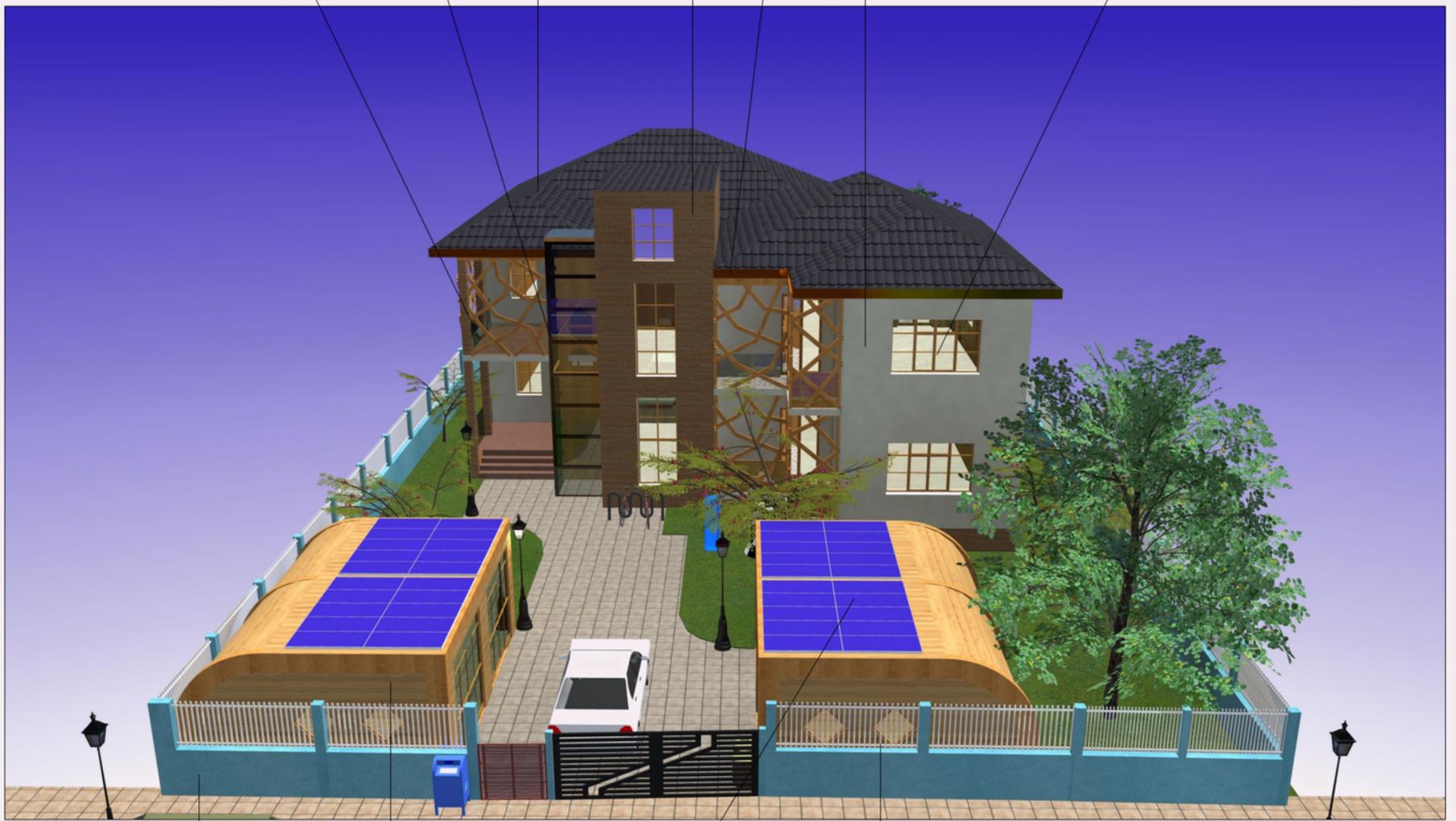
*Steel structure*



*Wood aluminum window*



*Glass railing*



*Steel railing*



*Photovoltaic panel*



*Concrete wall with plaster*



*Xlam wood panel*



*Urban Impact Context*



*Materials Context*

