

Syrian architecture

is diverse and rich that is combined with history. A courtyard is an important part of Syrian architecture. The entrance to a building always leads to a courtyard with a fountain. The interior is often decorated with geometric mosaic patterns. Also, the architectural style of veil and Arabic architecture is often combined in Syrian architecture.

Conclusion: Our goal is to integrate Syrian and Arabic architectural elements into the design, featuring an inner garden as a central element. We aim to integrate greenery into the courtyard, emulating traditional Syrian architecture, to foster a social atmosphere.

Historical Research

Syria's history spans from ancient empires like Akkadian, Assyrian, Babylonian, Persian, Macedonian, Roman, and Byzantine, followed by Arab rule and subsequent dynasties until independence in 1946.

Located near the Turkish border, Azaz has become a stable refuge during the Syrian conflict, attracting NGOs for housing and aid projects to restore stability and hope to displaced communities.

Conclusion: Syria has a great history and a war that is still going on. This means that the design must be sturdy enough to withstand the war and strengthen the area's history

Climate and Environment

During the day: 33°C
Night: 20°C

Soil Erosion (Cherlinka, 1970)
Desertification (European Court of Auditors, 2021)
water scarcity (Plyaset, n.d.)

Notable architectural elements in the cities:

- Light colors: Reflect all heat
- Natural stone: Absorbs heat and releases it slowly
- Concrete: Heavy material retains heat

Conclusion: In response to Syria's warm climate and dehydration challenges, our design will feature light colors and substantial massing to effectively manage heat.

Massa studie

Variant 1

Variant 2

Variant 3

Variant 1 harris profile

| Functional classification | -2 | -1 | 1 | 2 |
|---------------------------|----|----|---|---|
| Practicality | | | | |
| Efficient use of space | | | | |
| Orientation | | | | |
| Insolation | | | | |
| Escape | | | | |
| Uniqueness | | | | |
| Multifunction | | | | |
| Program requirements | | | | |

1 3 4 0

Variant 2 harris profile

| Functional classification | -2 | -1 | 1 | 2 |
|---------------------------|----|----|---|---|
| Practicality | | | | |
| Efficient use of space | | | | |
| Orientation | | | | |
| Insolation | | | | |
| Escape | | | | |
| Uniqueness | | | | |
| Multifunction | | | | |
| Program requirements | | | | |

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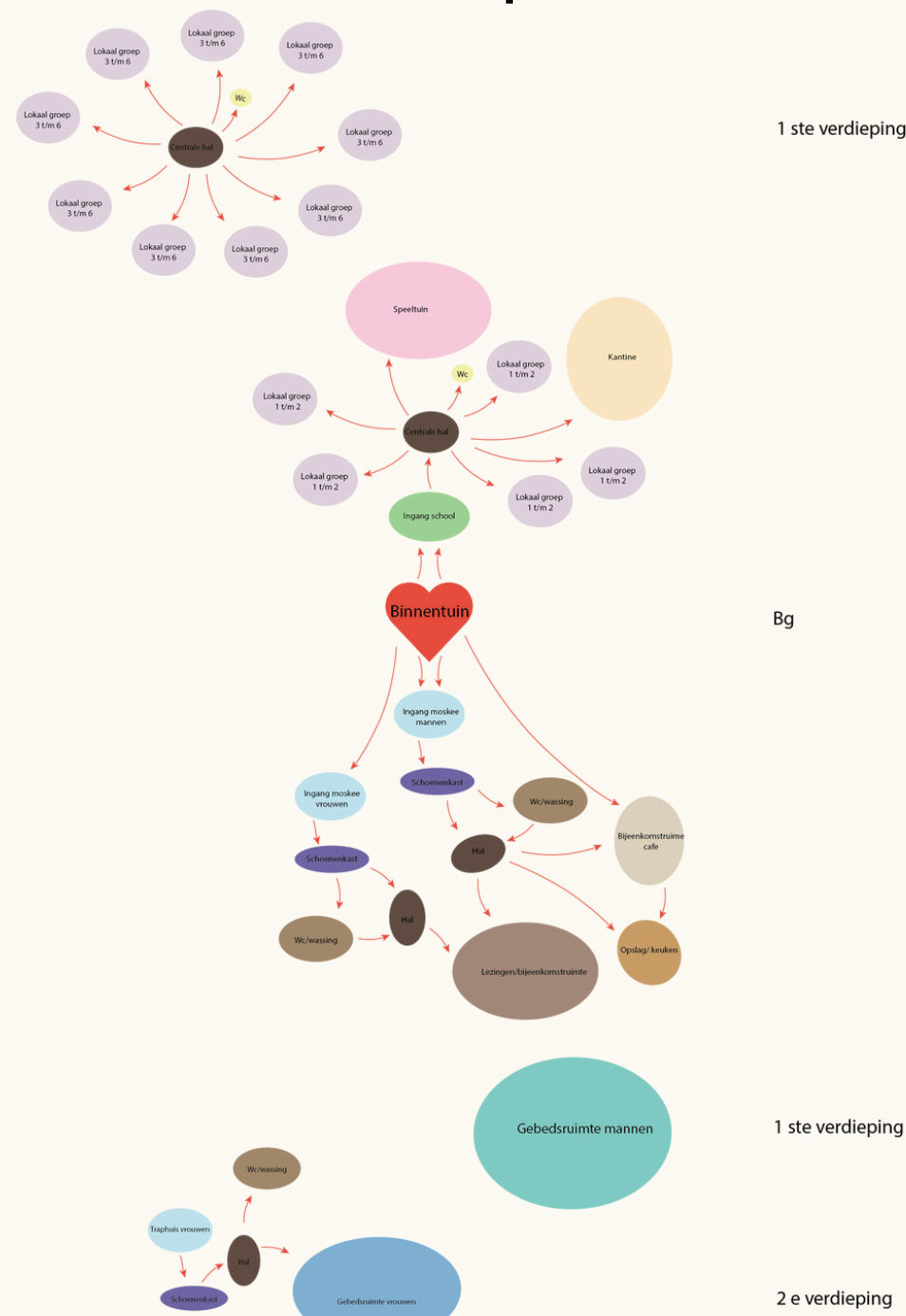
Variant 3 harris profile

| Functional classification | -2 | -1 | 1 | 2 |
|---------------------------|----|----|---|---|
| Practicality | | | | |
| Efficient use of space | | | | |
| Orientation | | | | |
| Insolation | | | | |
| Escape | | | | |
| Uniqueness | | | | |
| Multifunction | | | | |
| Program requirements | | | | |

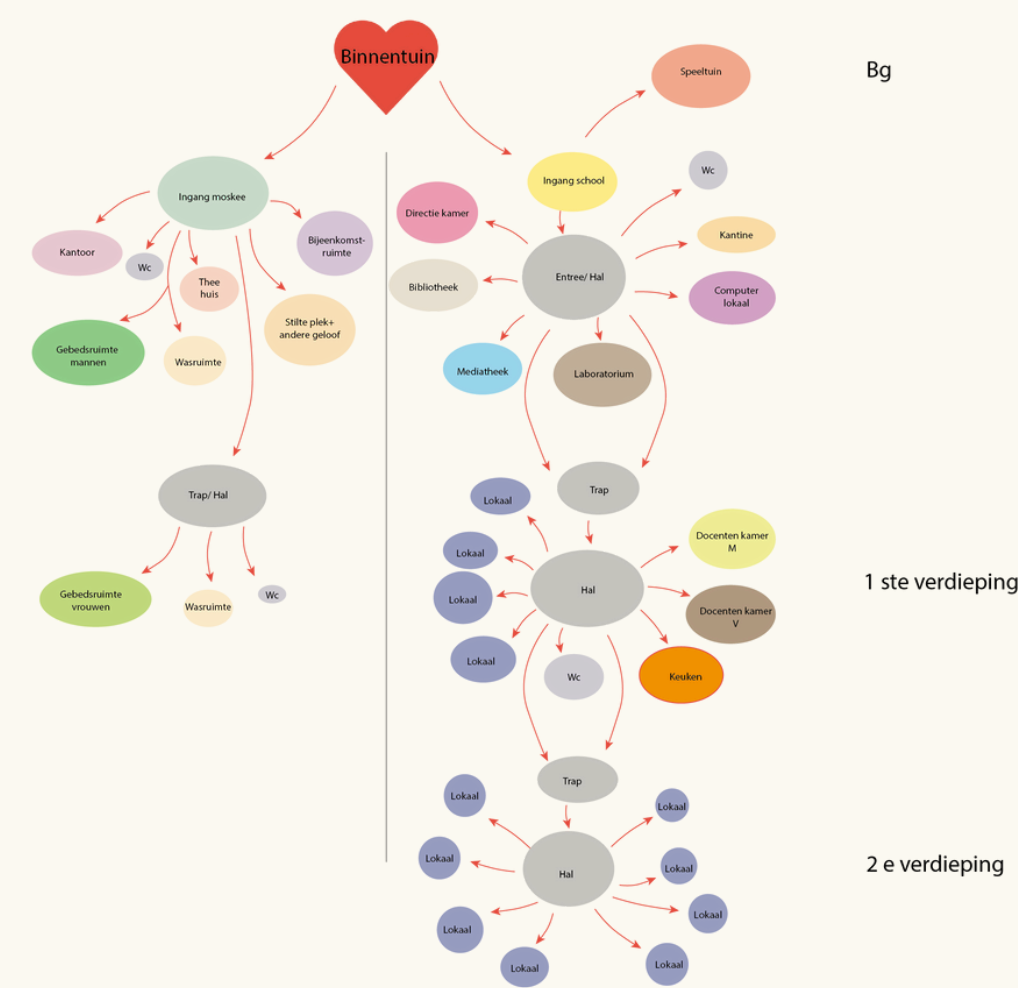
1 4 3 0

Conclusion: Based on the Harris method, we have chosen to further develop variant 2. This was the mass study with the most positive points.

Stain plan



Vlekkenplan 1



Vlekkenplan 1 harris profile

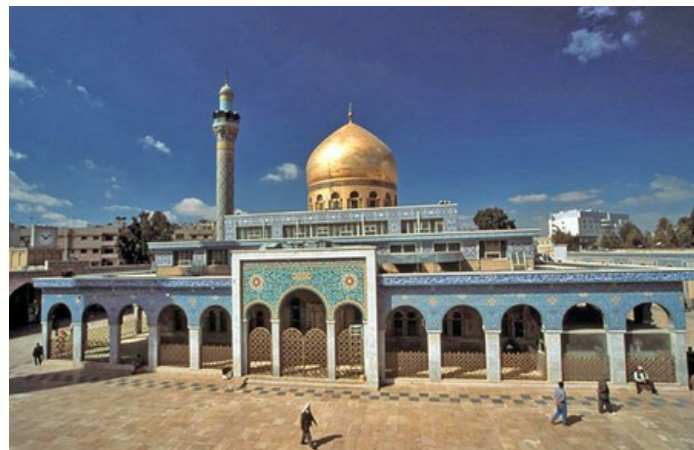
| Functional classification | -2 | -1 | 1 | 2 |
|---------------------------|----|----|---|---|
| Practicality | | | | |
| Efficient use of space | | | | |
| Orientation | | | | |
| Multifunction | | | | |
| Program requirements | | | | |

Vlekkenplan 2 harris profile

| Functional classification | -2 | -1 | 1 | 2 |
|---------------------------|----|----|---|---|
| Practicality | | | | |
| Efficient use of space | | | | |
| Orientation | | | | |
| Multifunction | | | | |
| Program requirements | | | | |

Conclusion: From the Harris method, both stain pans have the same points. Because of this we want to use both spot plans. The first point we take into is to make the mosque 2 floors, then we want a central courtyard, which will be the heart of the design.

Reference mosque



Sayyidah Zaynab Mosque



Omijaden Mosque



Mosque of Aleppo

Reference School



School in Ar-Raqqa



School in Ar-Raqqa

Design

The following points from our reference:

Mosque

- Arabic architecture
- Often 2 floors
- Rectangular building, round doors and windows
- Graceful entrance
- 1 minaret

School

- Rectangular or L shape
- often 3 floors
- Playground
- Light colors, no decoration



Plan of requirements

Primary school requirements:

- 22 classrooms with Computer room, library, mediatheque and laboratory.
- Children's playground

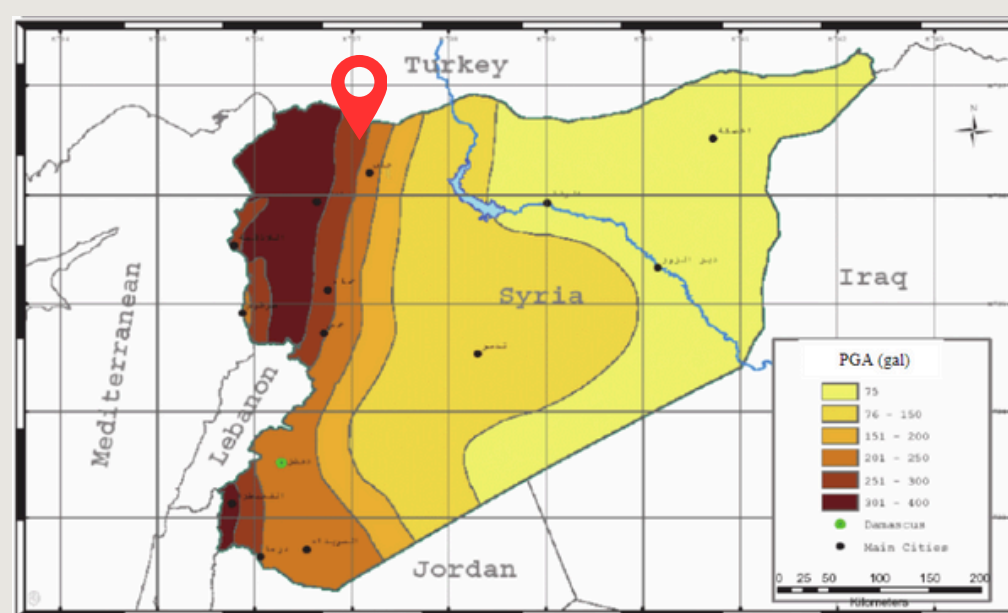
Administration rooms in the school requirements:

- Director's room
- 2 teacher's room 35 m² (women and men)
- Small kitchen for the teachers

Mosque requirements:

- Surface of 350-400 m²:
- Large prayer room for men only
- Prayer room for women only
- Women's area upstairs
- Mosque is build towards Mecca
- One minaret
- Courtyard

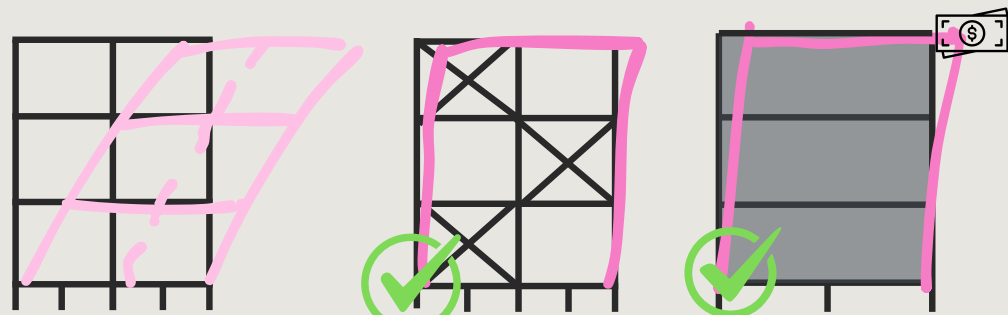
Earthquake proof structure



Al-Salameh, in the brown area, indicates a PGA of 300 cm/s², which can significantly damage structures not designed for such forces.

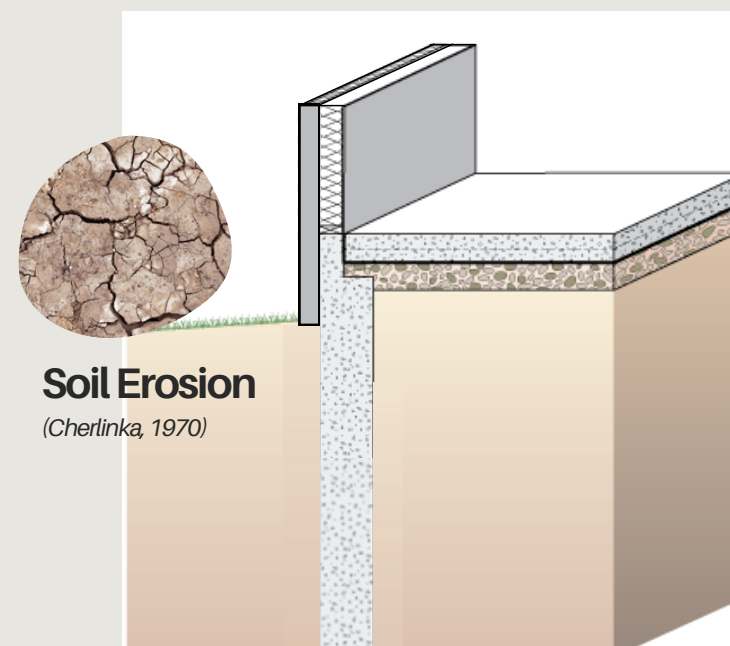
Since Syria lacks specific building regulations, we referenced Türkiye's 2018 Turkish Building Earthquake Code (TBEC).

Pile and Slab Foundation



Structure needs

- Floors: Reinforced concrete (Class C25).
- Supporting Walls: High-strength steel (S420).
- Foundations: A combination of pile and slab foundations for stability and load-bearing capacity in sandy and gravelly soils.

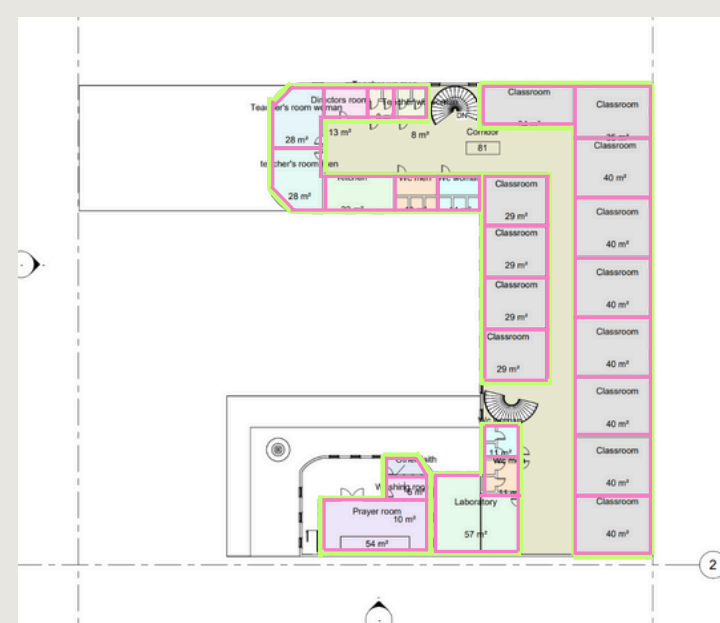


Floor analysis

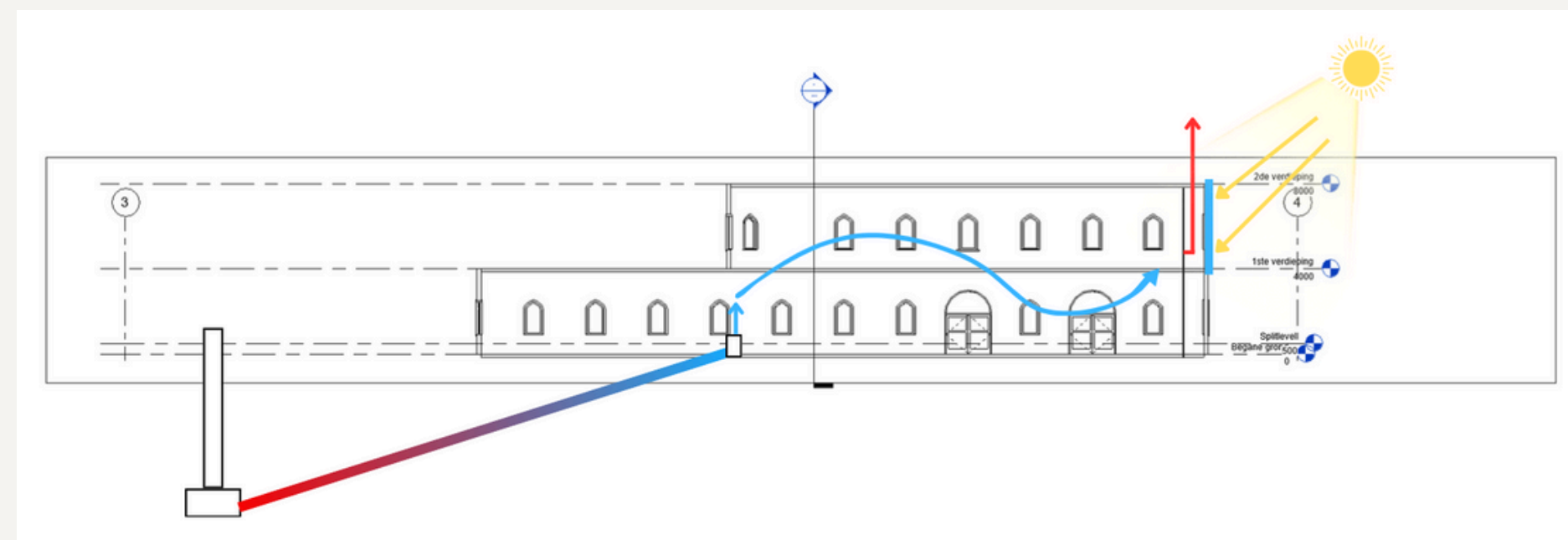
The floor laying goes from load-bearing wall to load-bearing wall.

Fire departments

- Sub-Fire Compartment
- Fire Compartment



Ventilation: Earth air tunnels heat exchang with a solar chimney



The underground tunnel takes advantage of the Earth's relatively constant temperature. In summer, the tunnel cools the incoming air, and in winter, it warms it before the air enters the building. This moderates the temperature fluctuations and makes the ventilation system more efficient. A solar chimney enhances ventilation by using the natural rise of warm air.

Sustainable Energy: Green roof with solar panels



The sedum tray

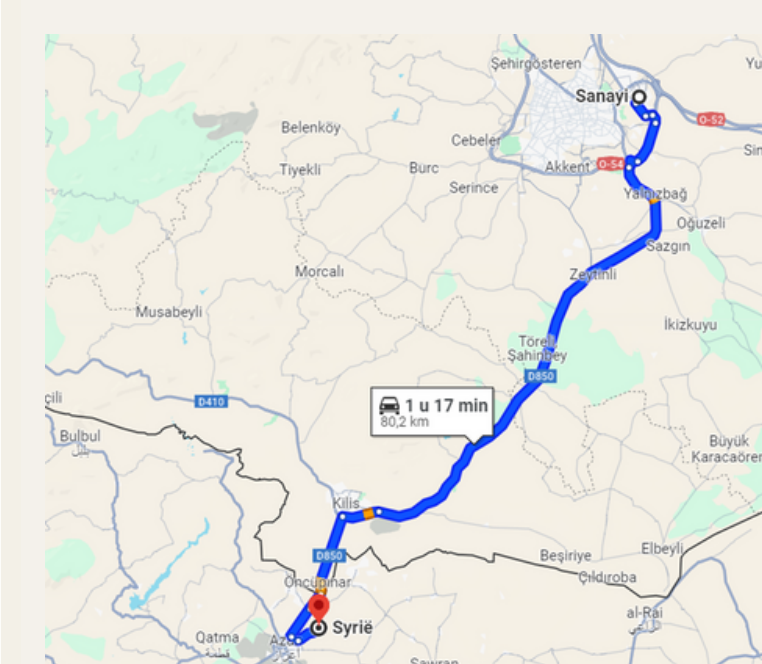
- Recycled lightweight foam tray
- drainage layer that facilitates rainwater runoff
- easy to install
- the total area of 1084,3 m², 4338 trays will be needed



Sedum tray 50 x 50 cm (B2B Groendakspecialist, 2023)

Solar panels

- Clean energy
- Reduce carbon emissions and reliance on fossil fuels.



Logistics

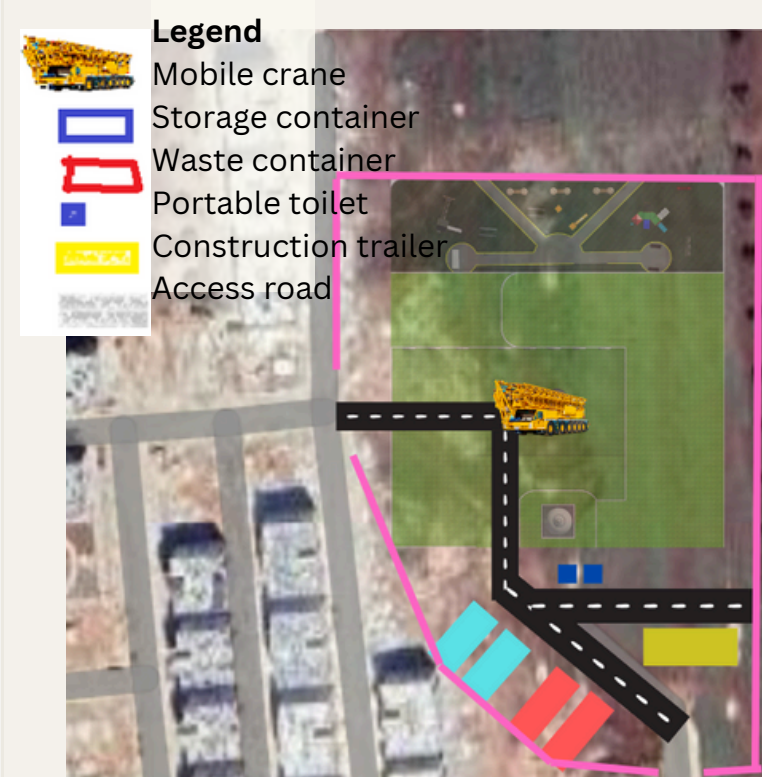
For our project near Azzaz, Syria, we will source construction materials and essential equipment, such as mobile cranes, from Gaziantep for its wide selection of suppliers.

Construction Materials

Cement, sand, gravel, water, reinforcing steel, moisture-proof membranes, insulation, concrete additives, form release agents.

Equipment

Mobile cranes, concrete mixers, pumps, vibrators, measuring and leveling tools, formwork scaffolding, generators, safety gear (helmets, gloves, shoes), storage containers, water tanks, and pumps.



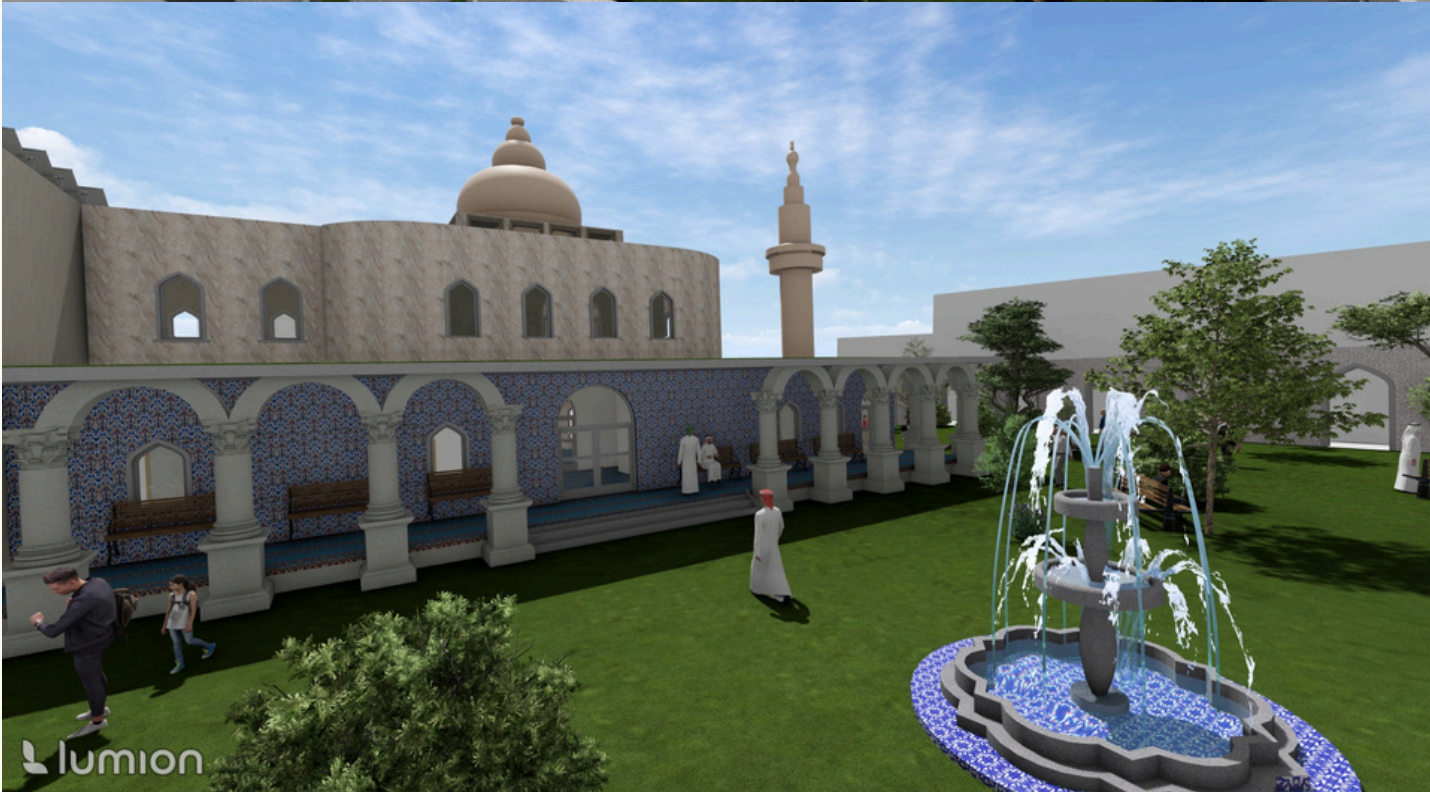
Why we use concrete instead of clay?

We chose concrete for its strength, durability, fire resistance, design flexibility, low maintenance, and temperature stability. Sourcing from Gaziantep ensures timely, high-quality supplies. Concrete's faster construction time makes it ideal for a safe, sustainable, and efficient school in northern Syria.





Exterior



Entrance men



Playground



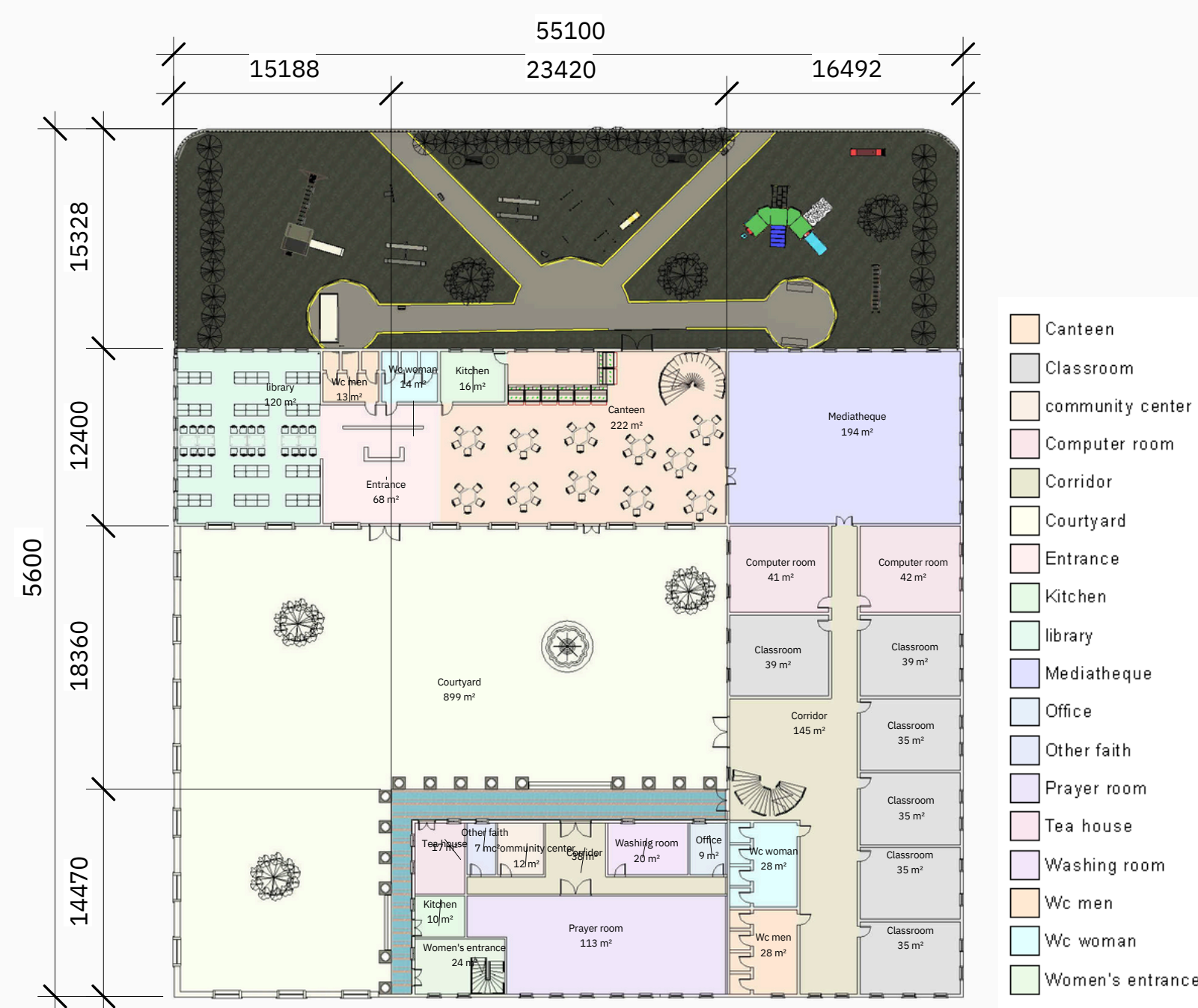
Canteen



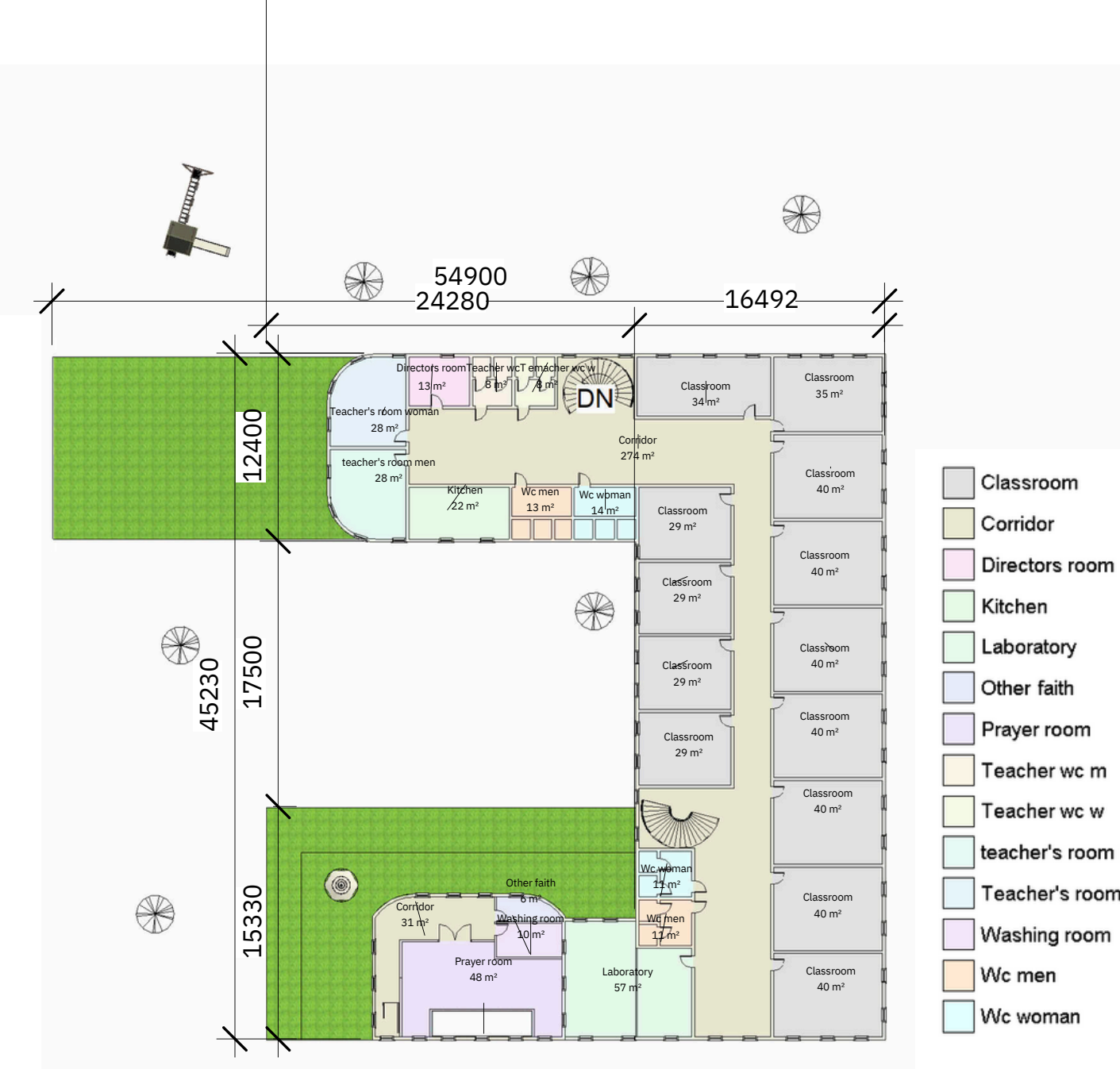
Women's prayer room



Local



Ground floor scale 1 to 500

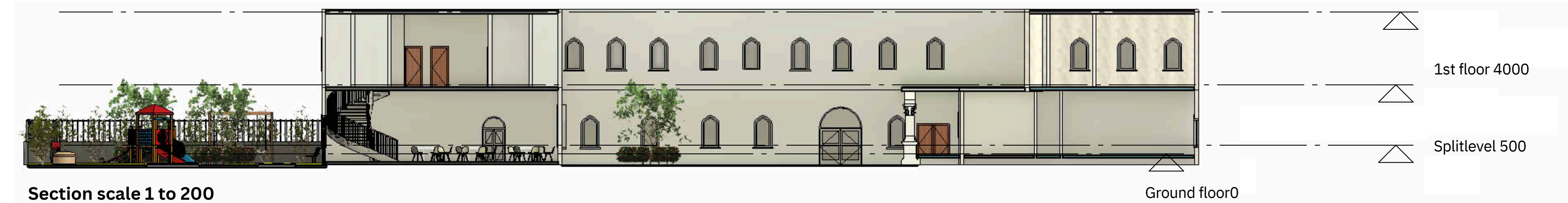


First floor scale 1 to 500

Design

the design is designed with the idea of syria architecture in mind. By having a courtyard that is accessible to everyone, we create a social space. Both the school and mosque on the ground floor are socially and freely furnished and accessible to everyone. The school is connected to the courtyard by placing large windows on the ground floor.

To create a quiet courtyard, the playground has been placed behind the school to reduce noise. The classrooms are mainly located on the second floor of the school, which is a quiet part of the school that is only accessible to students. The media library, canteen and laboratories are all located on the ground floor



Section scale 1 to 200

