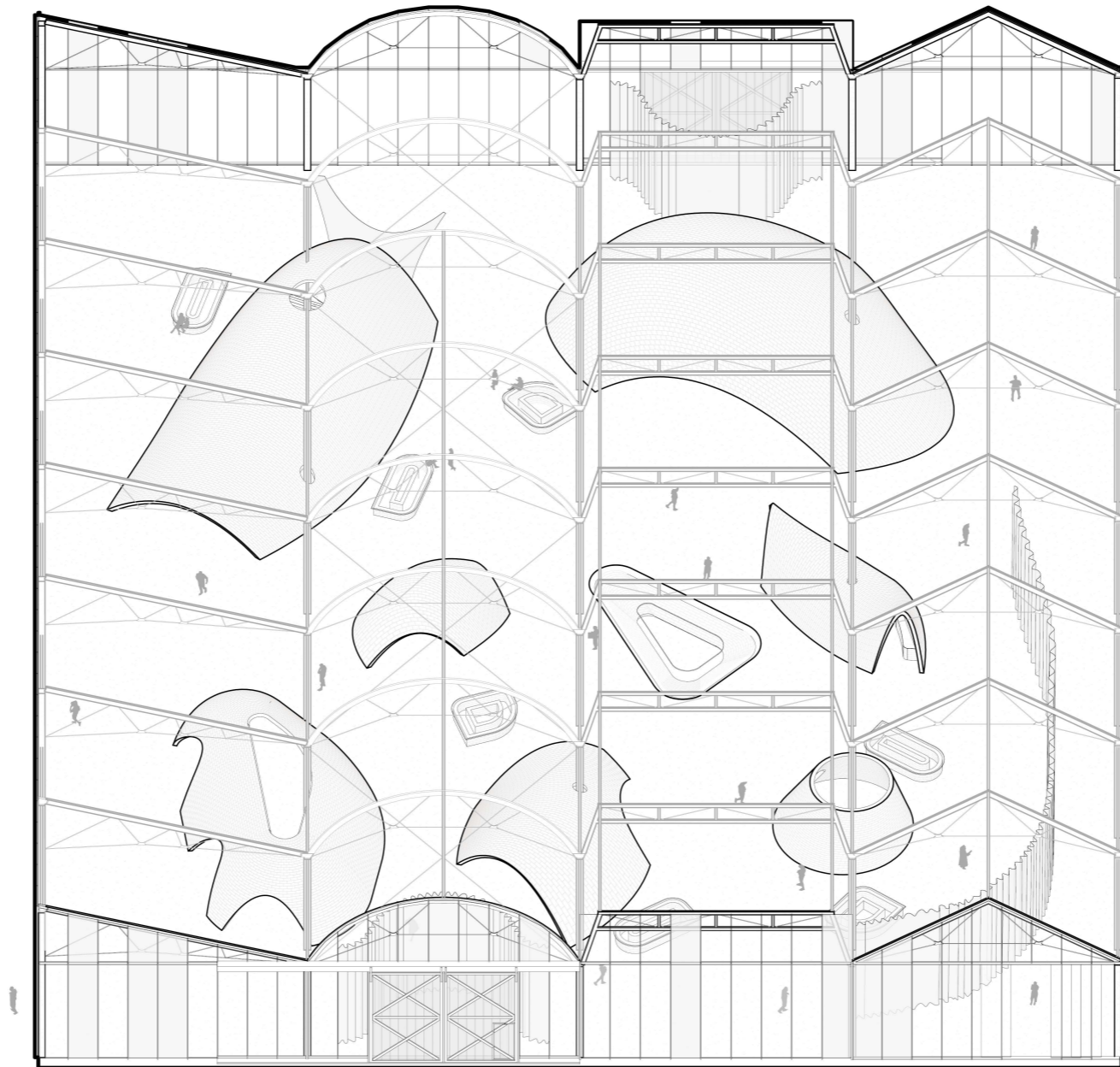


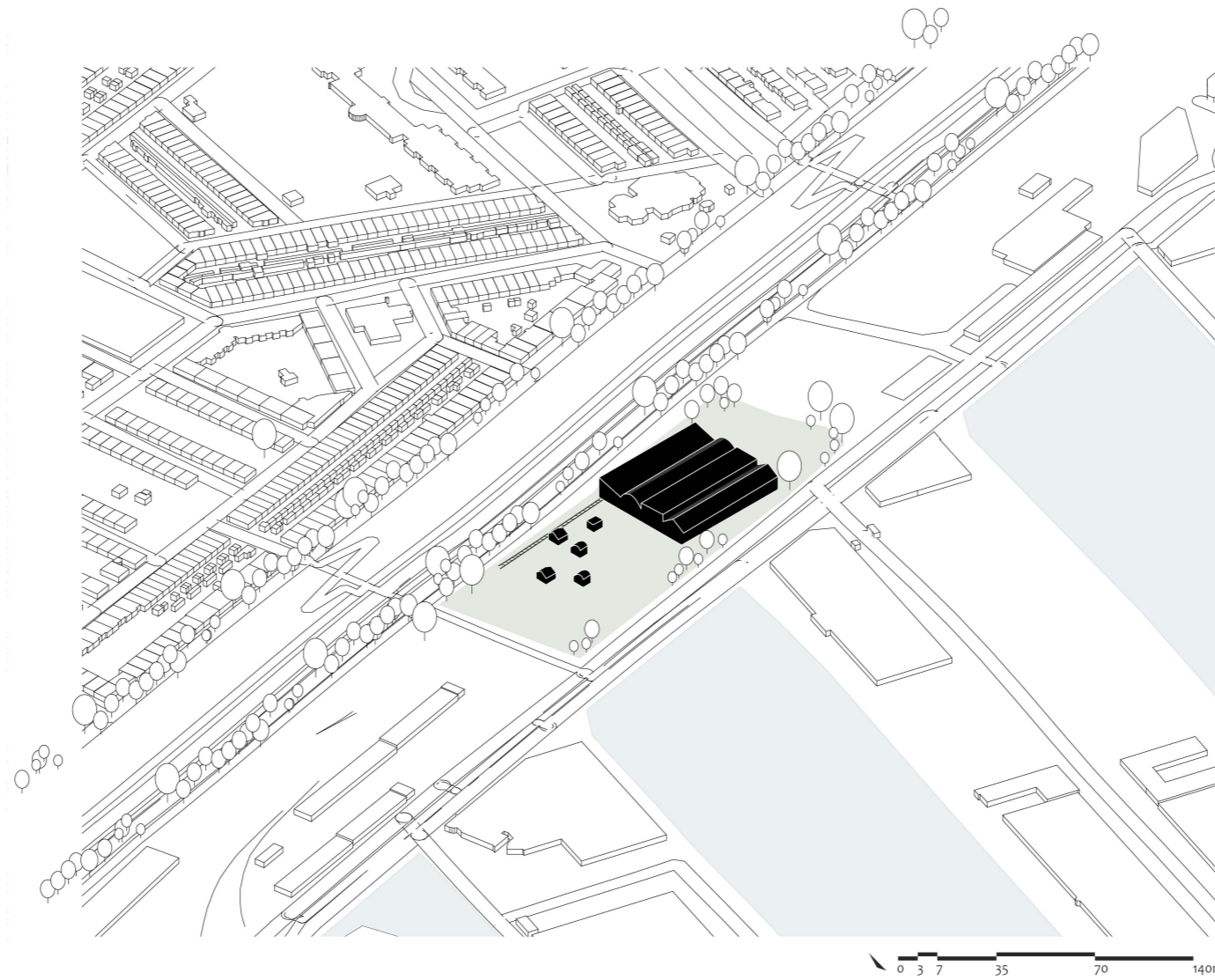
# BRICK HOUSE; CREATIVE HUB

---



# SITE OVERVIEW

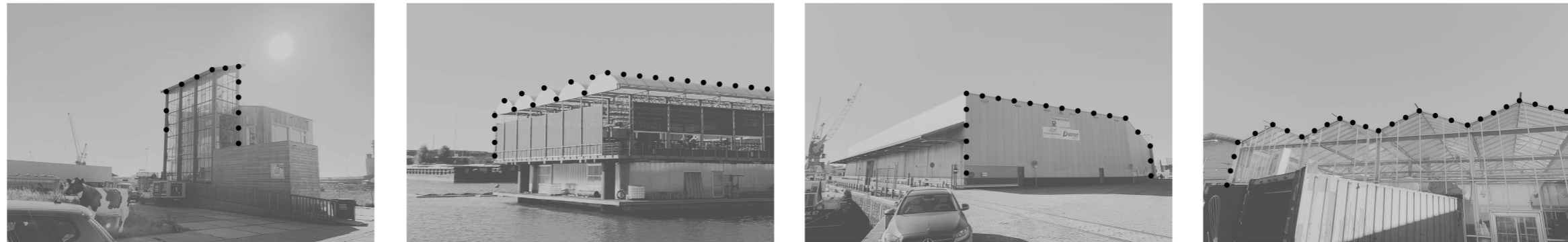
---



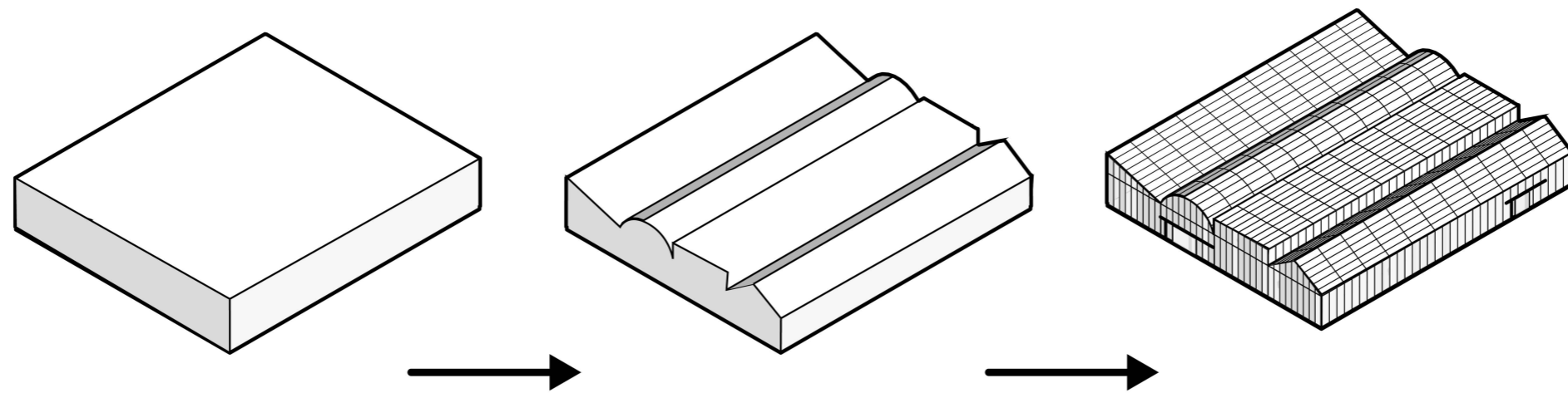
# EXTERIOR

---

NEIGHBOURING INDUSTRIAL/ GREENHOUSE BUILDINGS



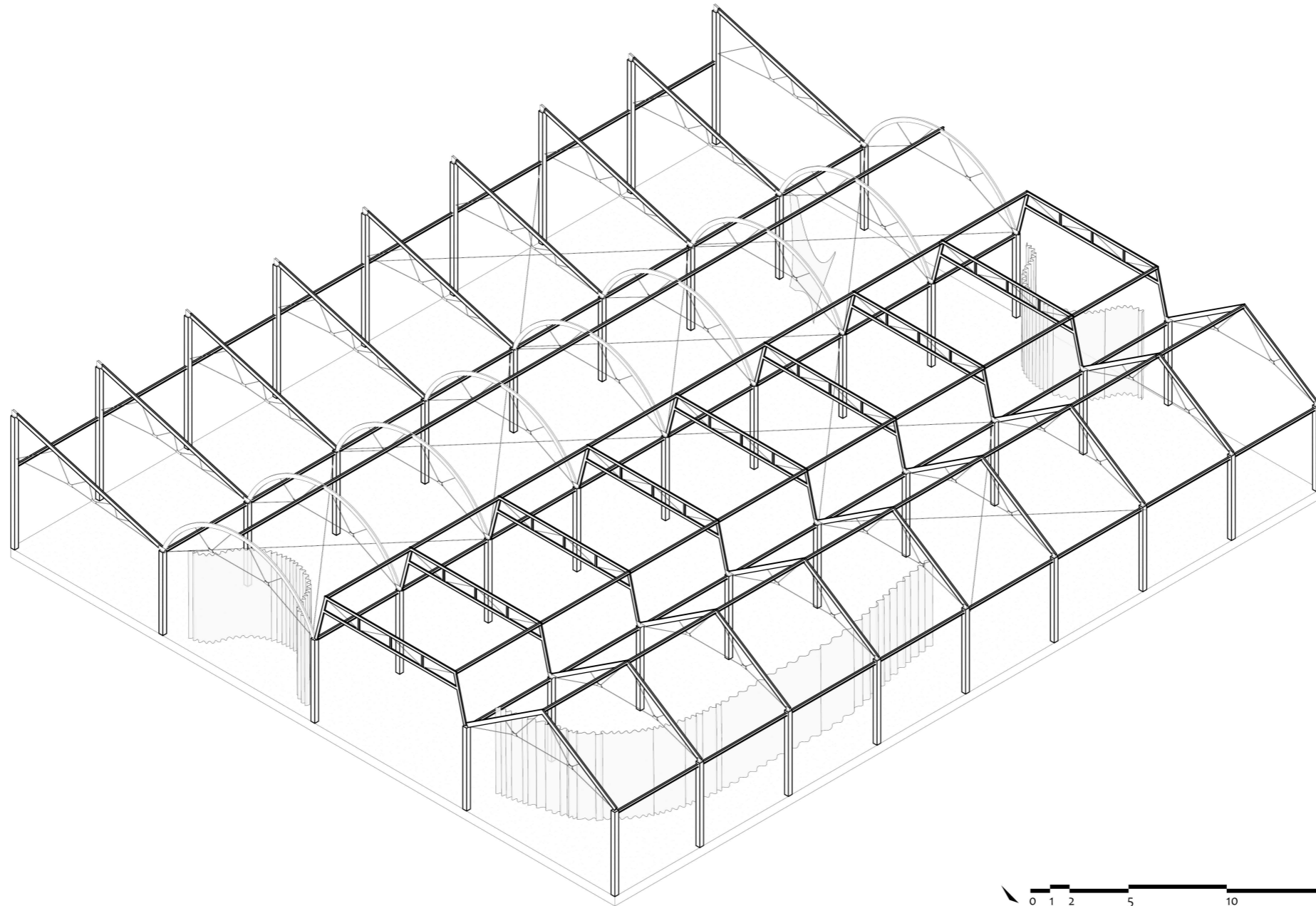
IMPLEMENTATION ROOFS



0 3 6 25 50 75m

# CONSTRUCTION

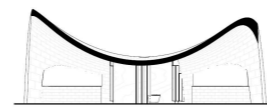
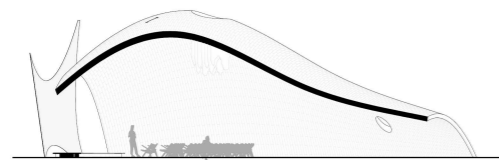
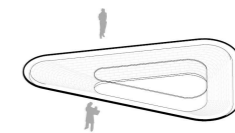
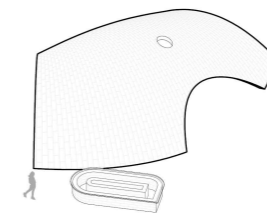
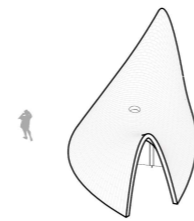
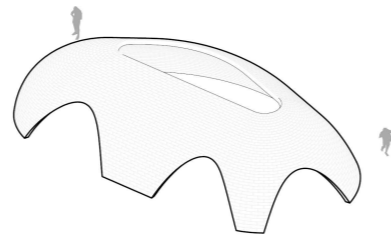
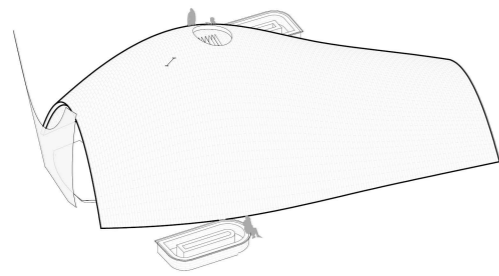
---



# PROGRAM SCALE

---

COMPRESSED EARTH BRICK VOLUMES



AUDITORIUM

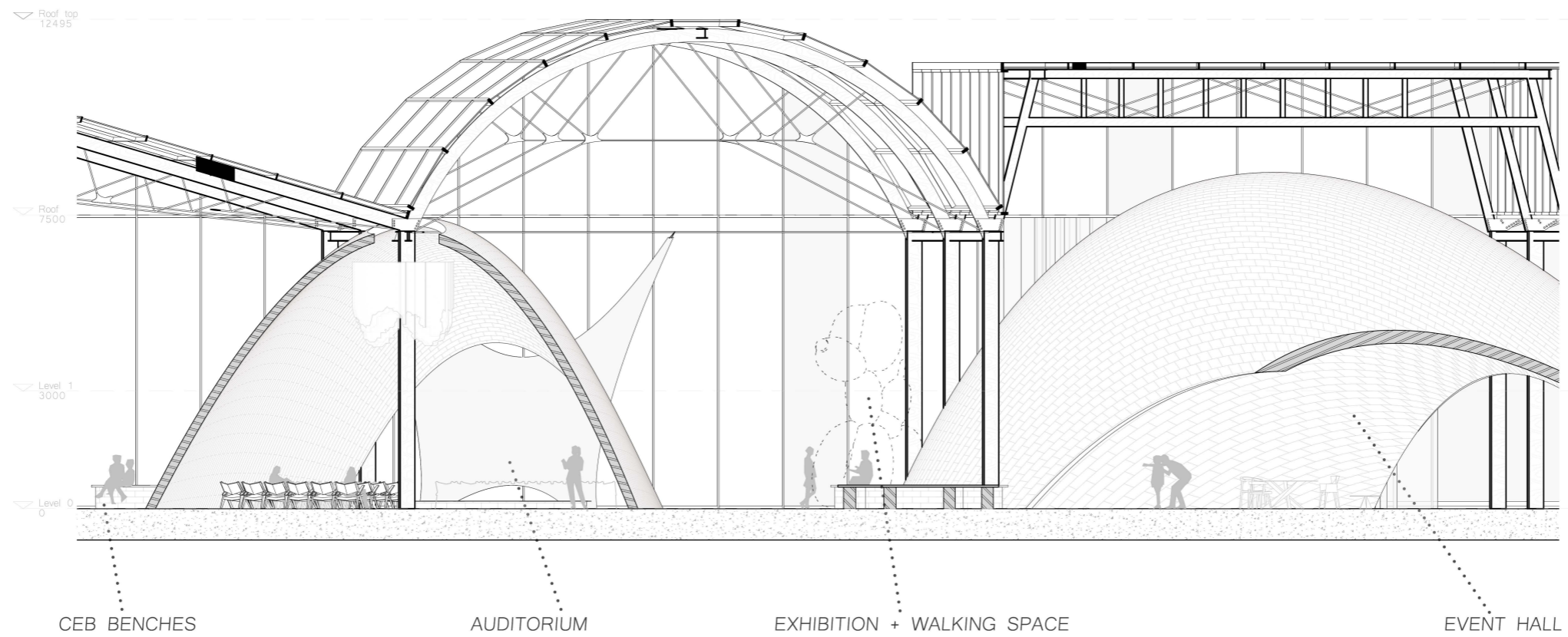
INDOOR WORKSHOP SPACE

RESTROOMS

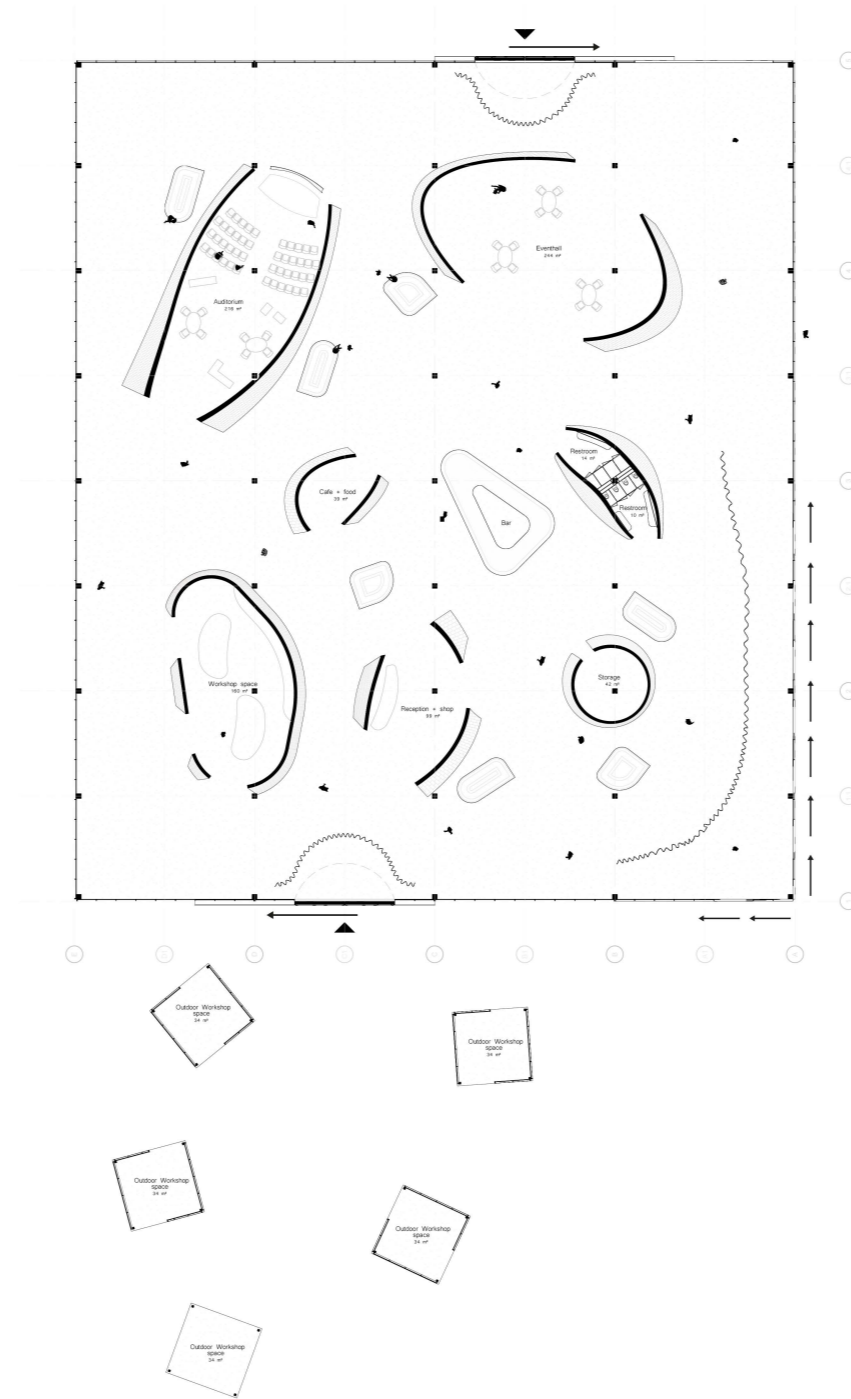
RECEPTION

BAR

# SECTION



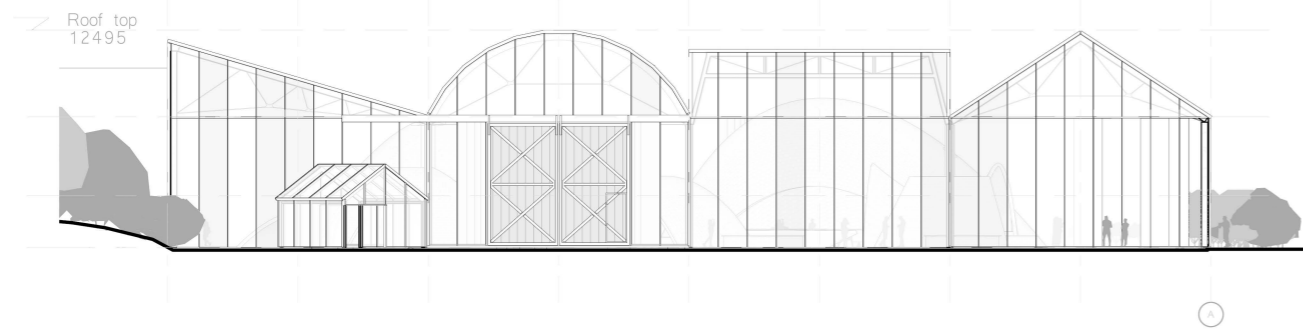
# PLAN



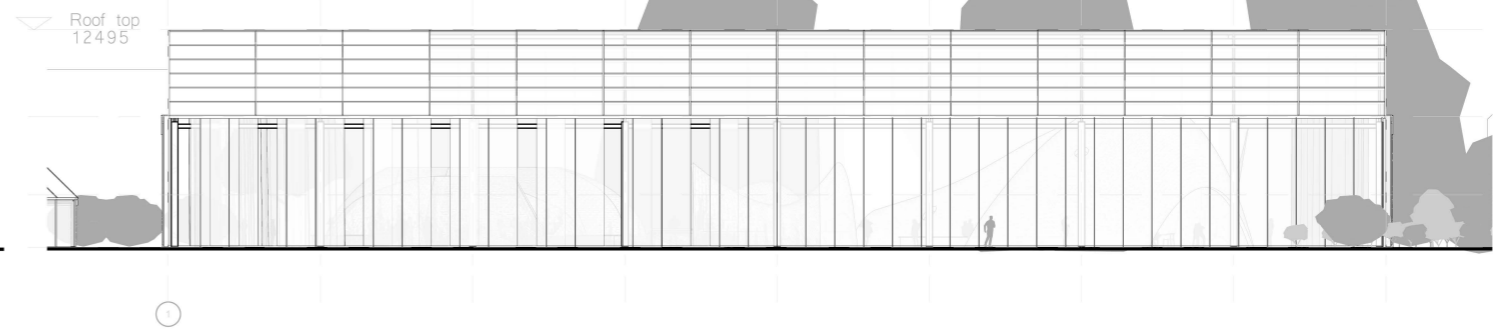
GROUND FLOOR

# ELEVATIONS

---



FRONT

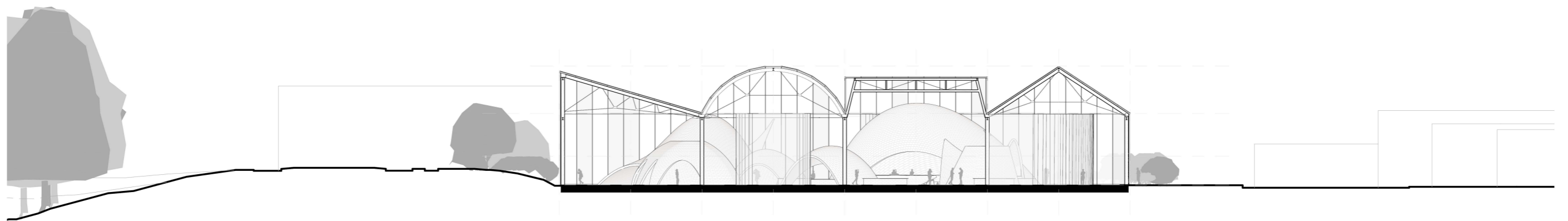


SIDE



# SECTIONS

---



AA

# SECTIONS

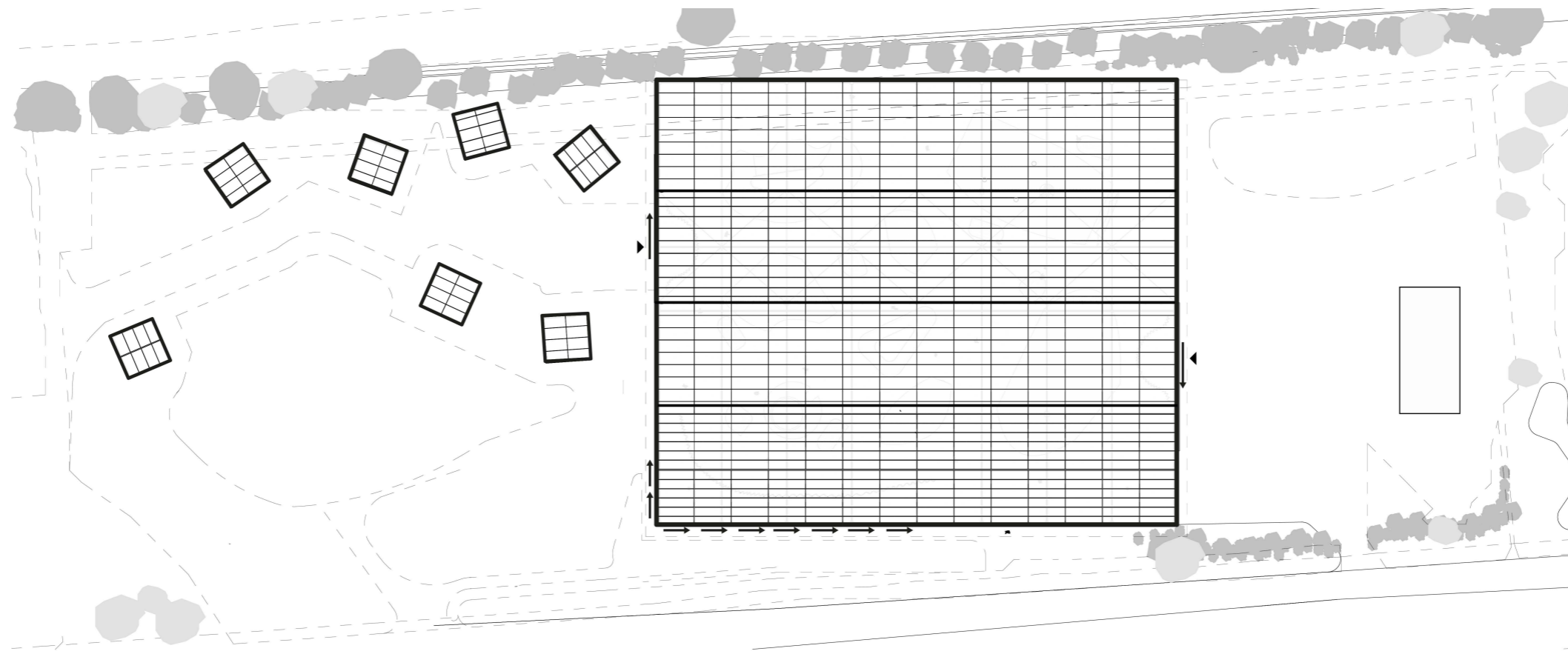
---



BB

# SITE PLAN

---



# MODEL

---



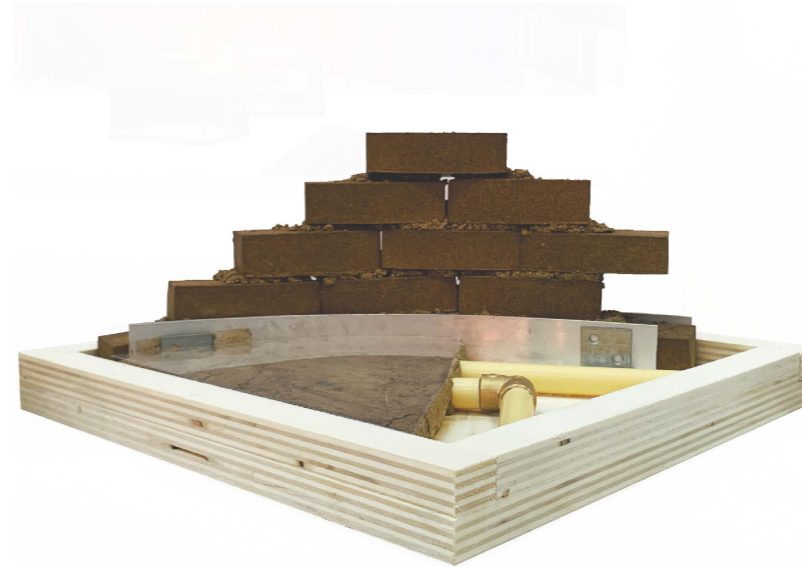
PLAN OVERVIEW

# MODEL

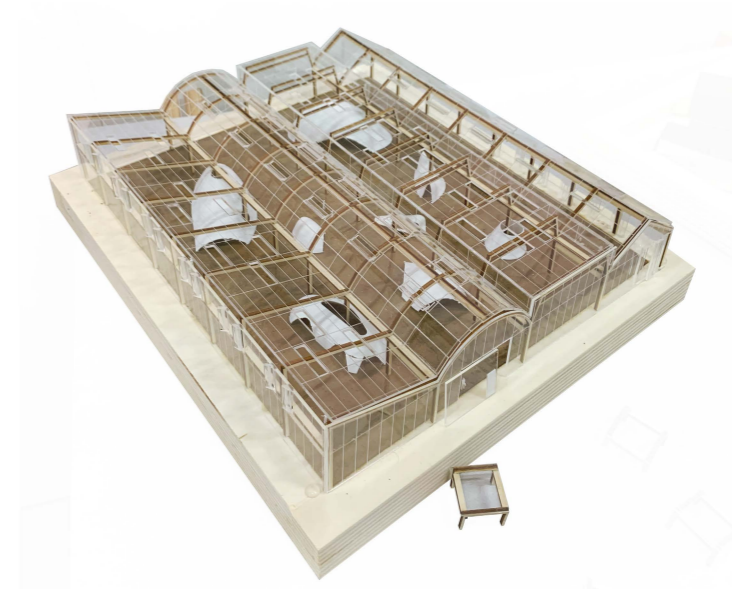
---



1/50



1/5



1/200

# PRESENTATION POSTERS

**ARCHITECTURE**

IMPLANTATION 1:2000

PLAN 1:500

CONCEPT DIAGRAM

CONSTRUCTION

FLOOR PLAN 1:200

DOMES TYPOLOGIES

- EVENTHALL
- LARGE PUBLIC SPACE
- AUDITORIUM
- LARGE INTIMATE SPACE
- WORKSHOP SPACE
- INTIMATE OPEN ACCESS SPACES
- RECEPTION
- INTIMATE OPEN ACCESS SPACES
- RESTROOMS
- STORAGE

BUILDING SITE

ELEVATIONS 1:200

SECTIONS 1:200

DETAILED SECTION 1:50

REFERENCES

PROJECT COLLAGE

SUCRE M. WANGA 0893778  
STUDIO GROUNDED MATTER

# PROPOSITION

---

Because of the high kilnfiring temperatures, the firedclay industry has high energy consumption and is responsible for high greenhouse gas emissions (GHG). The creation of fired clay bricks has an energy consumption that is almost 300% higher than the energy consumption of concrete blocks. Taking into account the lower embodied energy of concrete blocks, it's expected that in the future this material will gain a higher market share. Still, masonry fired clay bricks and concrete blocks are and will continue to be widely used construction materials around the world, even in highly developed countries. China alone is responsible for 100 billion units. Around 91% of the total brick production (1391 billion units) concerns handmade bricks. China and India are the major producers of handmade bricks, respectively, with 700 billion and 144 billion units respectively. The remaining countries are responsible for the production of 422 billion units. This leads to the exploitation of hundreds of millions of tons of nonrenewable resources and, to make things worse, in the next decades the brick (and block) demand will continue to rise just because the building construction industry in less developed countries will also rise steadily to deal with the dramatic increase of urban population.

Source: Introduction to eco efficient masonry bricks and blocks F. Pacheco Torgal, in *Eco Efficient Masonry Bricks and Blocks*, 2015

The material seems to have a great potential for use in construction applications especially in many of the world's developing areas. Using the new technique, compressed earth brick will have more adequate mechanical properties in addition to superior weathering resistance as compared to other earth construction materials. The material will have a lower environmental impact and lower costs than other construction materials. Also, more social acceptability of the materials is expected because their appearance is similar to other available materials. The range of design possibilities in combination with other earth techniques and materials are appealing and interesting to use.

## Concept:

In support of my approach to my previously made argument in showing the potential and persuading the masses in why building with CEB is so beneficial, I want to showcase this potential to the fullest. To do this zooming out first on the matter and gradually zoom in to the building and its concept and design.

I want to spark the conversation and head in a different direction. Use the bricks in their strengths and bring them into a more modern place. Replacing the materials and solutions in the space where CEB would make more sense. Trying to ignite the way we think about CEB and layout the path into venturing further with CEB in a more external and primary building solution. CEB is in the appearance of the forefront of going into this direction.

Accessibility and manufacturing potential. Similar use and flexibility in assembly, aesthetic and structural properties. The capability of CEB, strengths. Not a replacement, a different approach. The focus is on the structural aspect of the CEB. How to show the capacities of the earth brick and simultaneously respect its limits to preserve its sustainable properties. To explore the overall sensation of the building, give it a lighter feel through the use of other materials, light, and space.

My concept is to have this showcase for the brick. The brick volumes will be the main attraction in the building and form a part of the exhibition itself. The exhibition space and walking route will be the same. The exhibition will form the spine of the whole building and connect the different spaces. The volumes are positioned in a way that will evoke this sense of circularity within the building. Everything feels connected. This connection fits in with the circular and sustainable nature of the brick. The open free realm format will further enforce a sense of lightness in the building which is beneficial due to the CEB's heavy nature. This glasshouse concept will come into fruition as a greenhouse with PVC curtain panels and aluminum mullions and building upon already existing solutions Climate comfort-wise within a greenhouse.

## Functionality

Yes, this transparent facade with its highly reflective nature will appear dark and opaque in certain angles, but it's also one of its few liabilities to have some privacy during the day.

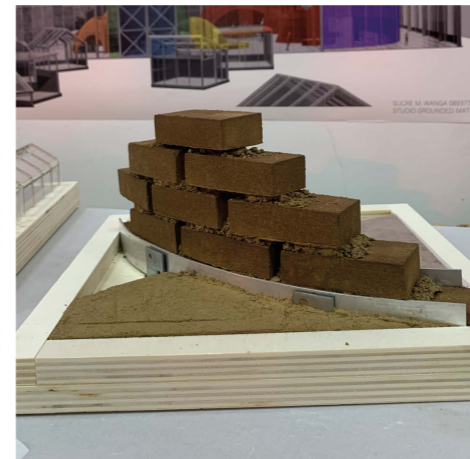
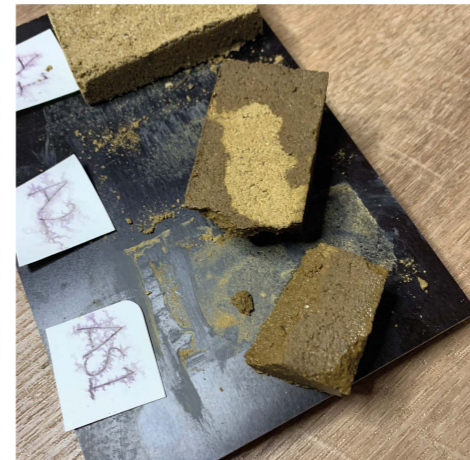
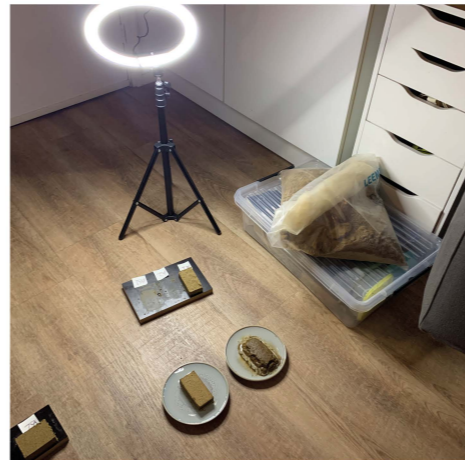
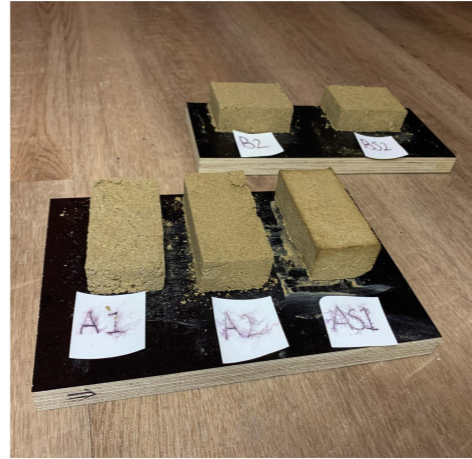
What makes my project interesting is that it's not really about the most efficient or best use of the brick in Holland. I think that might be a bit early. My concept is all about being a means of persuasion and sparking the interest to use rammed earth in a more general sense in the West. With the exaggerated shapes, I want people to question what the volumes are made up from, show the versatile usage and give them familiarity in the CEB's recognizable appearance. The best solution is to just spread the word get people to know about it and work with it so that will generate a new wave of experimentation with the material and expand further. There is still a lot to learn and develop but I'm convinced in the

probability of this conversation shifting sooner in a better direction.

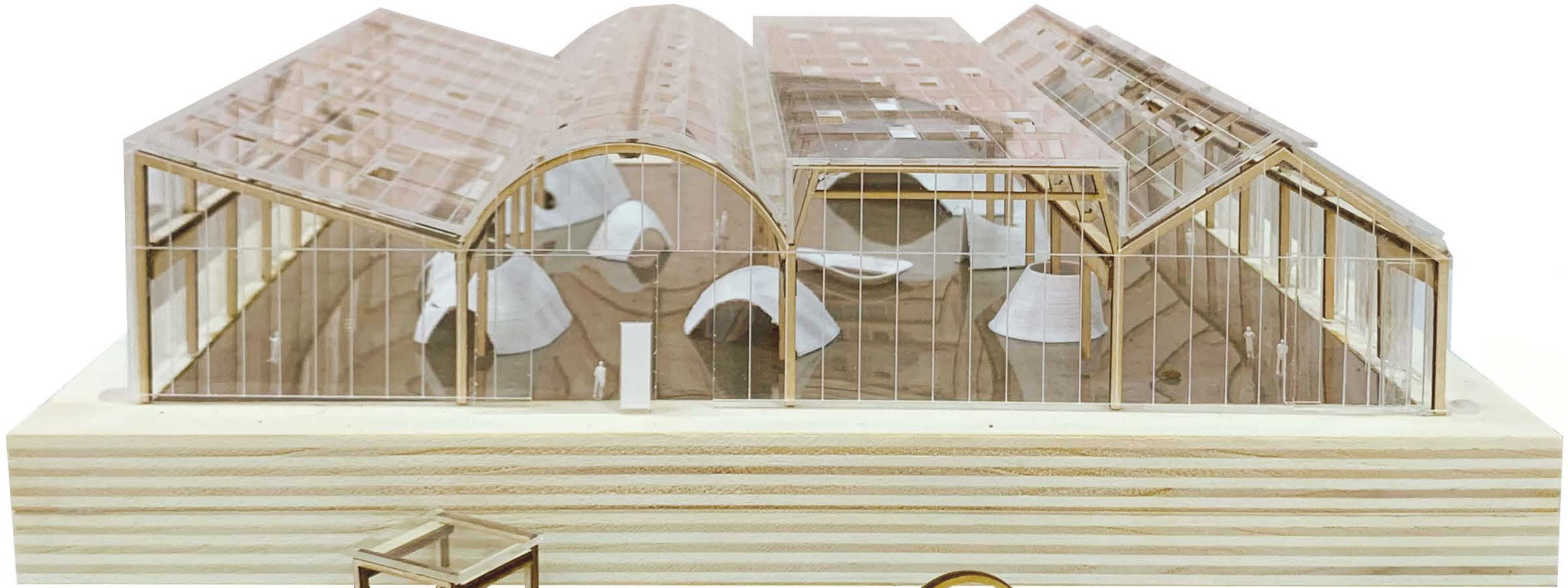
## Threats:

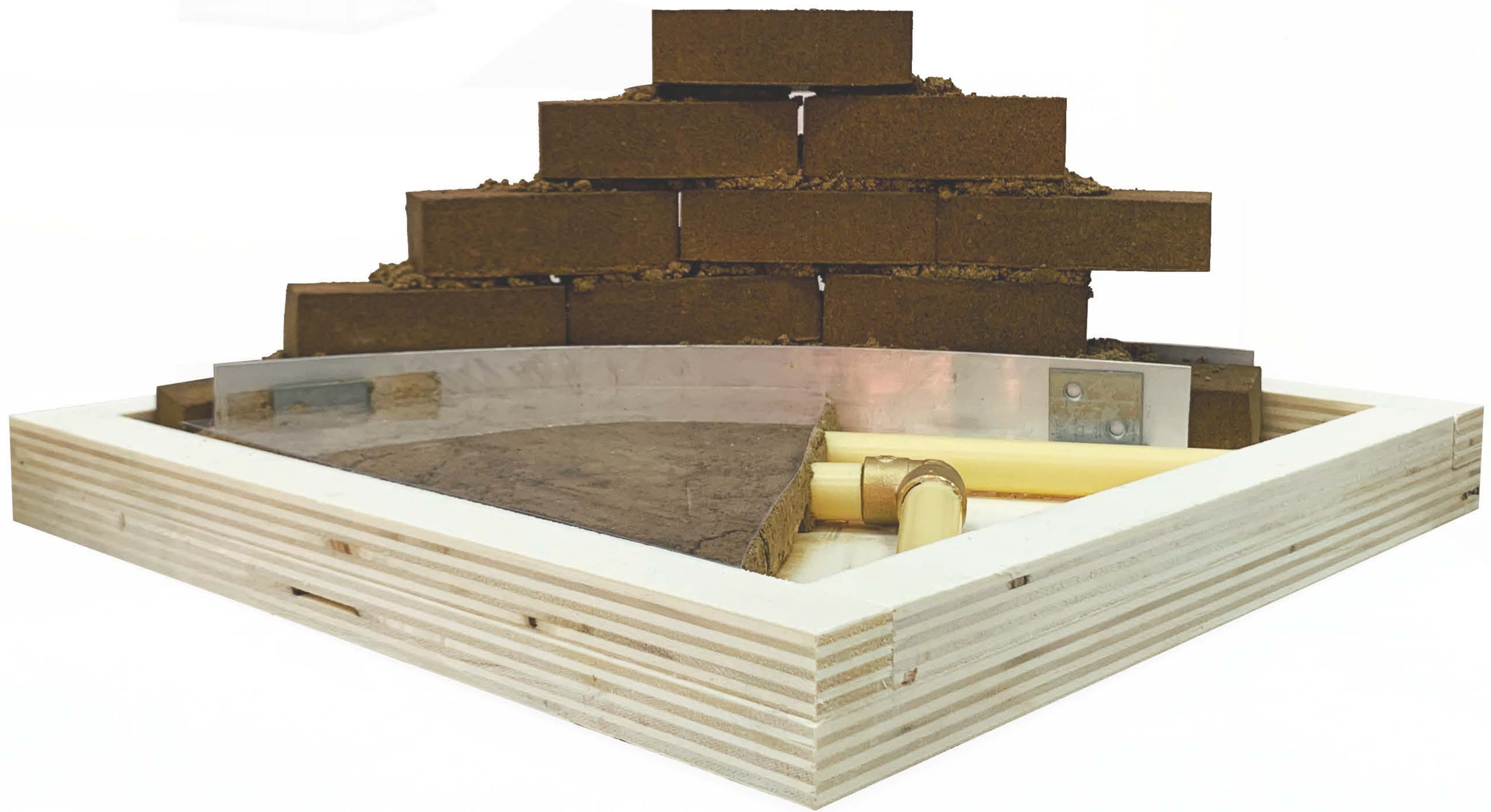
Water and erosion are the biggest threats and stabilizing them with cement and calcium will take away the sustainable aspect of the CEB. For this, I'm researching ways into giving the CED hydrophobic properties in a nonchemical way. Therefore I'm using Soy milk which gives the water a hydrophobic layer and increases its water resistance. This aspect can also be part of the brick showcase and further development and marketing for the CEB.

# MATERIAL RESEARCH

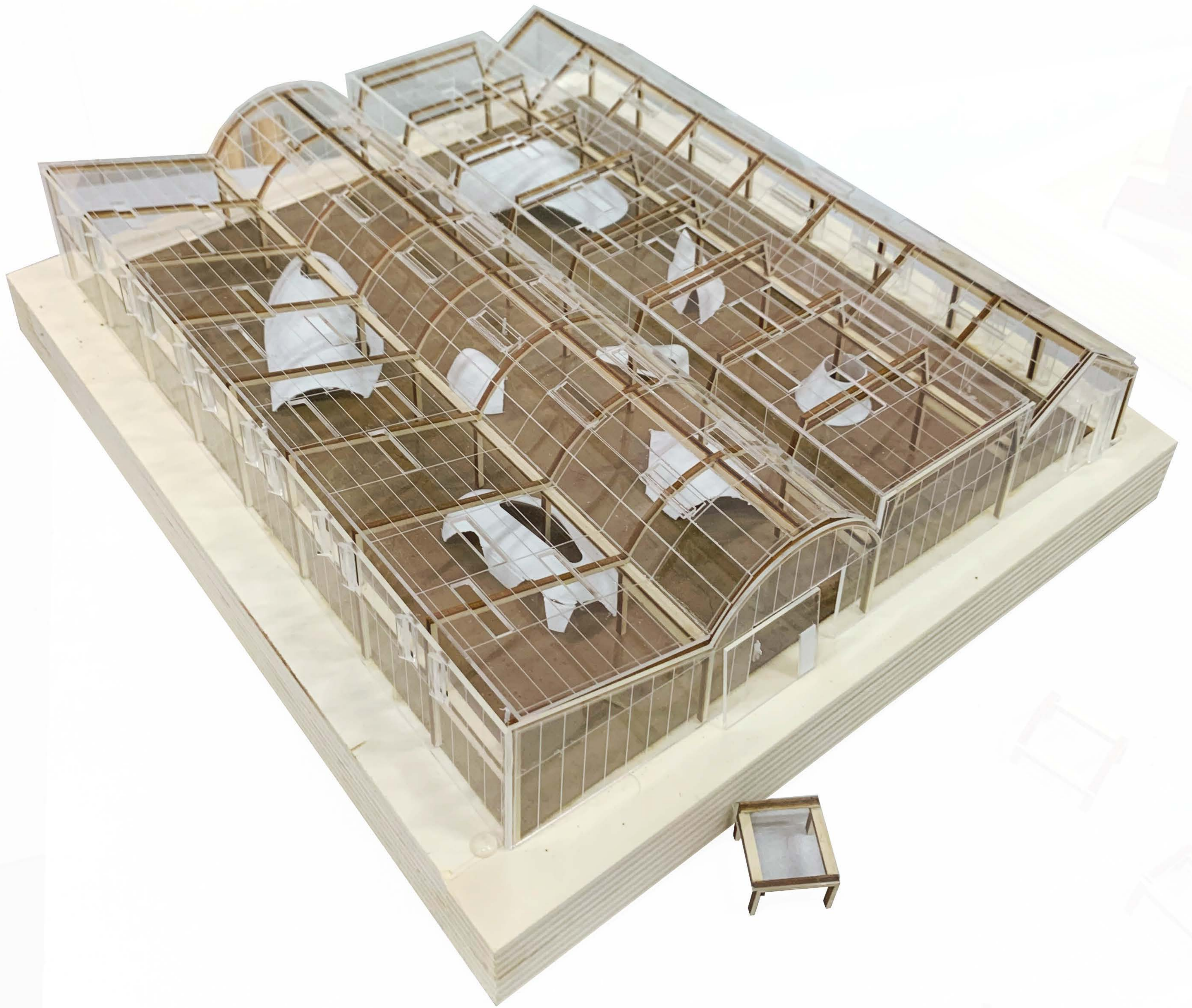












# COLLAGE

---

