

Preserving the intangible
Traditional boat-building craft in Lista

Diploma autumn 2023
The Oslo school of Architecture and Design

Ahmad Mikael Spinnangr Al-Shamma

Supervisors

Lone Sjøli
Rolf Gerstlauer
Wenkai Xu

Binder I

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Binder I

Organization of the binder

This is binder 1 of the diploma. It contains the architecture proposal. Additional research about boats and further explorations of the proposal can be found in binder 2.

CHAPTER I

Abstract and spatial program

Abstract

This diploma works with the tradition of boat building and its craft in Borhaug; a small coastal village in Farsund municipality. Boat-building has been an important cultural and economic activity in northern Europe for a long time. Many Scandinavian boats share the same root. They are however all different. Boat building is an activity that is always affected by its local context. The type of trees available, the intended use of the boat and cultural factors all play a role in the shaping of the boat.

Boat traditions differ from region to region. Commonalties can always be found but each region develops the boat in a way that best suits its culture, economy, and resources. Borhaug is no exception to this. In 1815 Gjert Gundersen came to Lista as a merchant but then settled in as a boat builder. He brought with him the boat building tradition from Hardanger. He observed the eastern boats in Lista as there were no boats being built in Lista at that time. He then combined the eastern and western boat into what now is know as the Lista boat.

Ole Olsen Stave, a local, took what Gundersen had and developed it further. He was the first to put a deck on a Lista boat. His contribution goes beyond that as he gave that tradition further to his apprentices that carried on the work after his death.

In the second half of the 19th century the Lista boat started to get more attention and demand from regions in the south. The production of these boats became an important economic activity. Many families started building boats and use them to fish. The boats were also used in races and shows where the Lista boat won different competitions increasing the demand even more. The boat was known to require less ballast thus making it attractive for fishermen. Borhaug became a center for all the fishermen to fish and to fix and build boats.

When the fishing industry started to take a downturn the Lista boat was being used for transportation of goods. It also proved to be successful in that regard.

The lista boat struggled to compete against industrial boats. Adaptations were made to the wooden boats but the local industry could not keep up with the rapid industrialization of boat making centers. More and more boat workshops started closing with the last one closing being Brekneholmen boat workshop that was converted in 2003 into a cultural center.

The research in this diploma is concerned with boat building as a craft. The research is thereafter used to develop an architectural proposal for preserving the boat and its craft. The proposal takes place in the harbor area of the cultural center. It reverts it back to its original function where it will be used as a small boat workshop. The program is also extended with a slipway in order to provide a space for the larger Lista boats to come back to the district for inspection and further work.

Research question

How can architecture help preserve the boat building tradition in Lista ?

Spatial program

Workshops

- Small boats
- Large boats
- Kids workshop

Storage space

Exhibition space

Boat slip

Reception

CHAPTER II

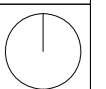
Drawings set

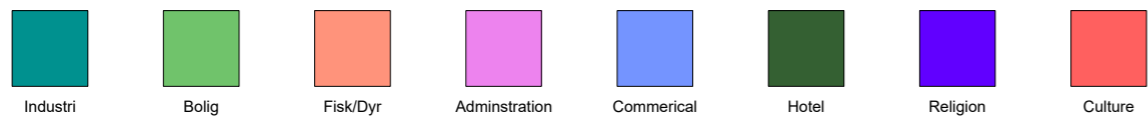


The Project takes place in Borhaug. Borhaug is a village in south east of Lista peninsula. The lista light house is to the west of the village and the Lista airport is to the north of the village. Borhaug was once known for building boats *Listeskøyta*. in 1814 Gjert Gundersen traveled from Jondal to Lista to sell fruits and cheese and started building boats in Borhaug. This activity was soon proven to be commercially valuable which pushed Ole Stave to develop *Listeskøyt*. Stave was the first to build a boat with a deck.

Existing situation plan

1:2000





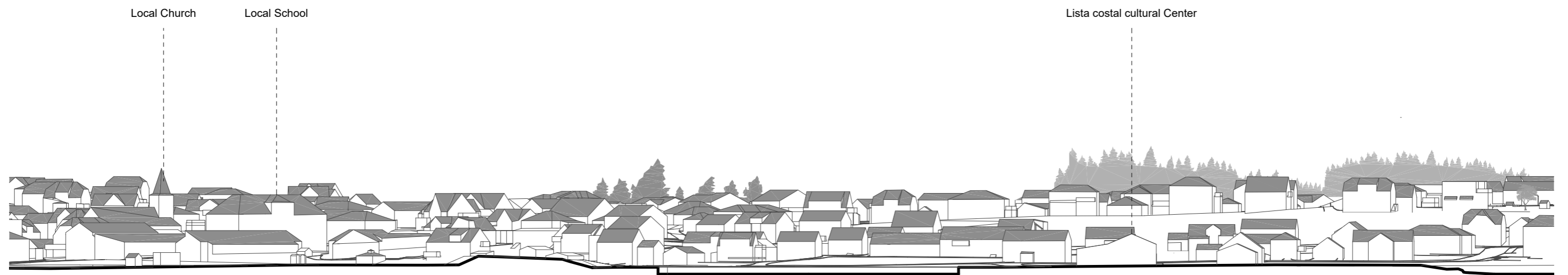
Most of the building stock in the village is housing. The village has a church a school a kindergarden and some commerical buildings. The only cultural building is the Listakystkultursenter.

Area of interest

Building Typologies

1:2000





Borhaug is a costal village. The connection to the sea side is important. The site takes place in an important and rather highly contested area. Here there are many interested parties. The public wants access and views. The kindergarden uses the area for activites for the children. The fishing shop has many parties interested in it as a restruant, appartment, workshop for boats etc. The project has to take into consideration all theses asperiration and the propsal should be as inclusive as possible.

A Costal village

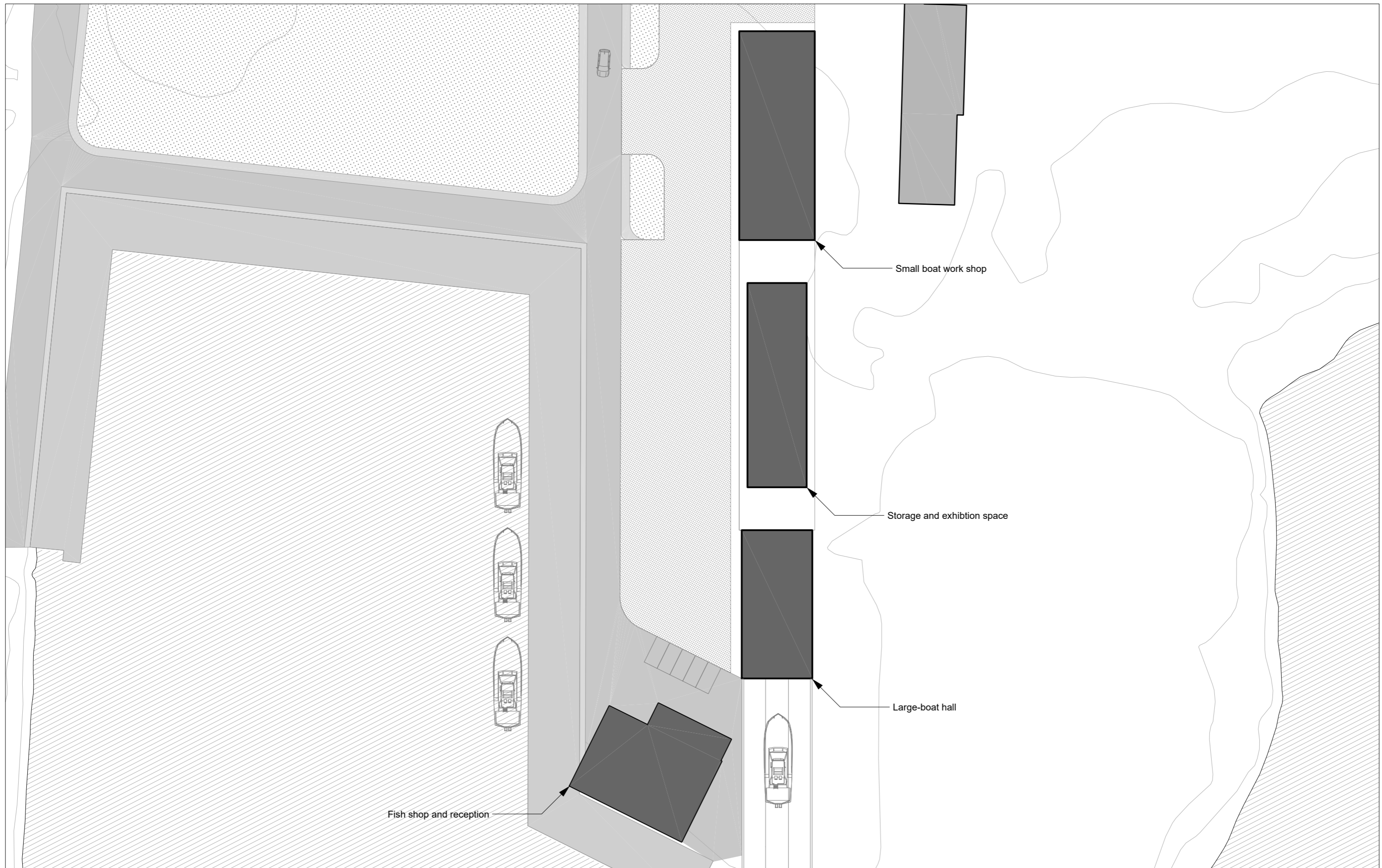
1:1000



The area of interest for the project is highly contested in the village. Many different parties wish to take over the development of this area.
Some wish to develop the boat commercial activities in here with a boat slip way to receive large boats.
The existing local fish shop wishes to develop the area to be able to start farming fish on land. Furthermore a third party wishes to orient the area more into tourism with hotel program.
The proposal recognizes that Borhaug is a village with a connected history to the sea. The proposal thus is developed around uniting the fishing activity with the boat building and repair activities.
The project does not wish to take an important part of the village and privatize, it rather further develops the existing functionalities to become a part of a whole and connect Borhaug to its history.

Proposal situation plan 1:2000



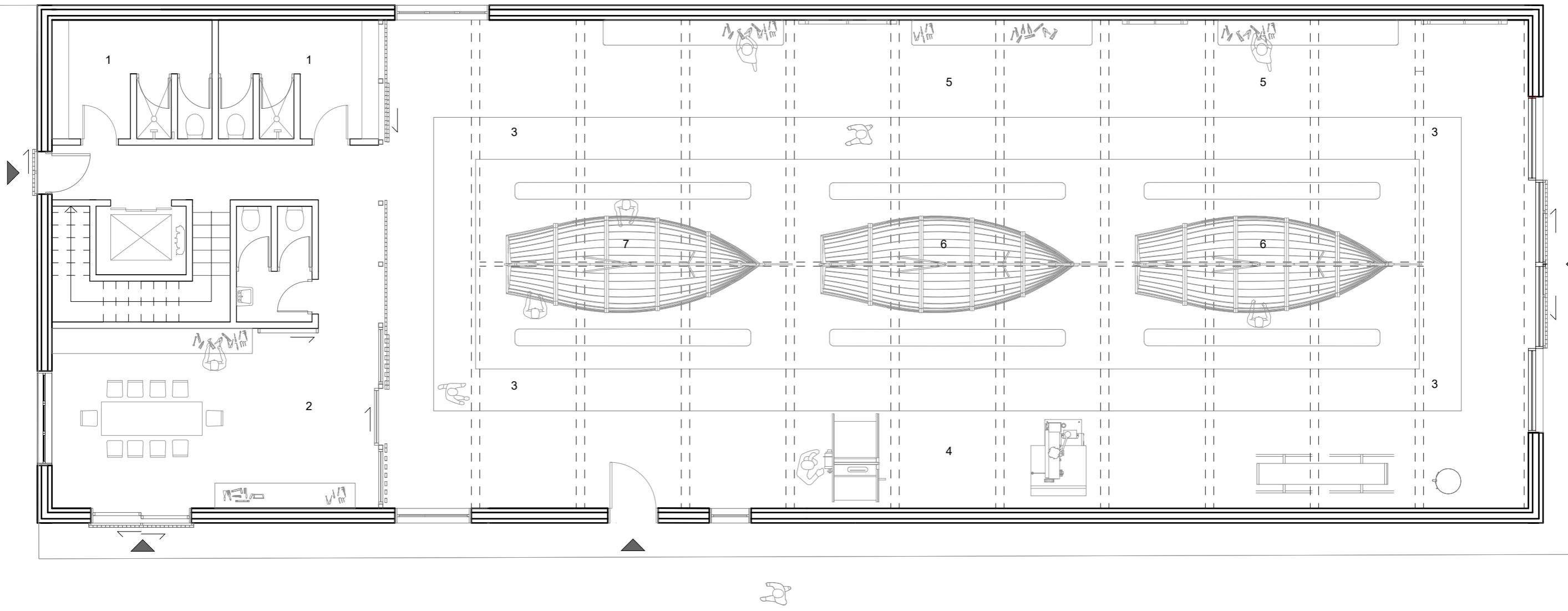


The project is developed through maintaining the axis already established by the original *Brekneholmen* boat workshop which is used today as a coastal culture center. The project thus works with the two existing buildings on site (*Brekneholmen* boat workshop and the fish shop). The proposal transforms the coastal center back to its original function; a boat building workshop for small size boats. In order for the boat building and repair activities to take place two new volumes are added to the project ; a storage space and a slipway. The linear axis allows the project to come closer to the most suitable part of the harbor for a boat slipway ; the most southern part of the harbor. The placement of the volumes brings the boat volumes closer to the fish shop. The reception for the entire project is placed inside the fish shop with a cafe.

Proposal situation plan

1:600




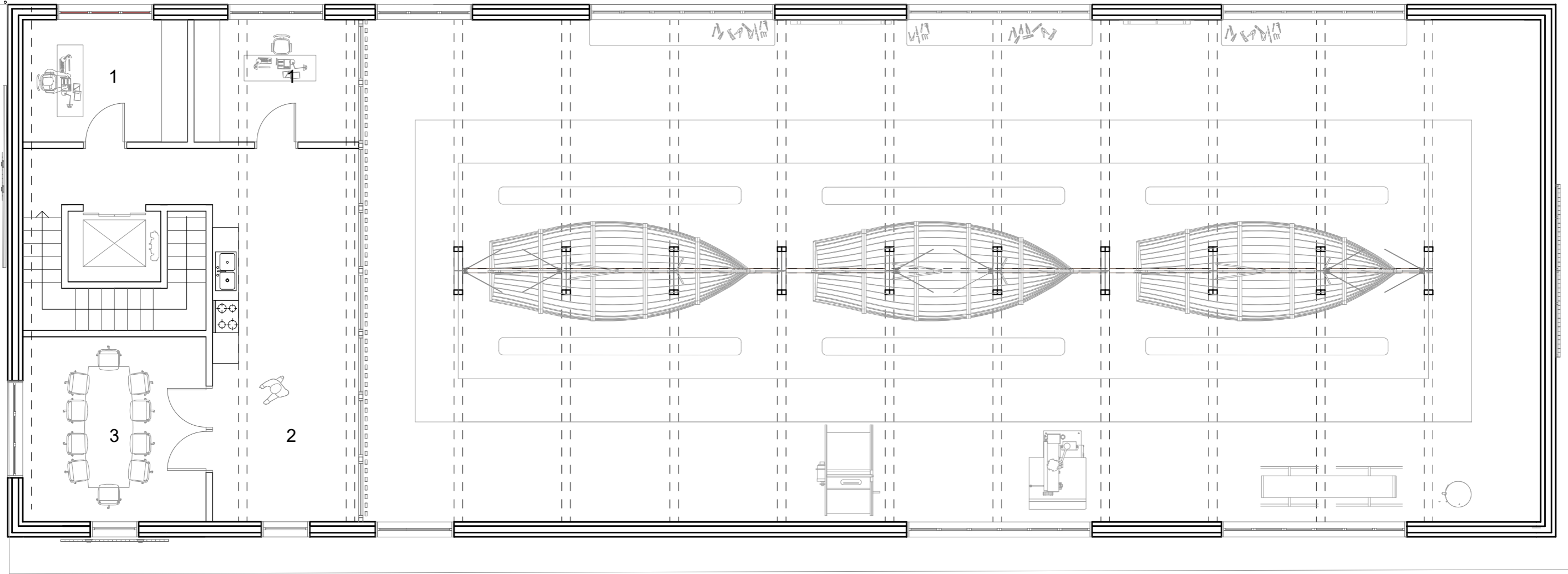


- 1 - Men/Women wardrobe
- 2- Kids workshop
- 3- Ciruclation loop
- 4- Machine working area
- 5- Hand held tools area
- 6- Master/apprentice work station
- 7- Hobbyist work station

The proposal for the project transforms the building from its current state as a cultural center to a boat building workshop for boats of 10 norwegian AI*s. The current state of the center is static almost frozen in time. Although the center poses a great example of the Lista boat as its center piece it is hard to see how the boat histroy unfloded or how these boats were actually constructed. The project thus works with preserving the boats by preserving thier building tradition. The boats here are to be used and protected but always in use. As the boat building tradition slowly gorws with in the project through the people the knowledge and the specific know how of the lista boat is preserved. The building has 2 parts; adminstratral areas and one continuous space for the boat making.

*AI = 0.6275 Meters

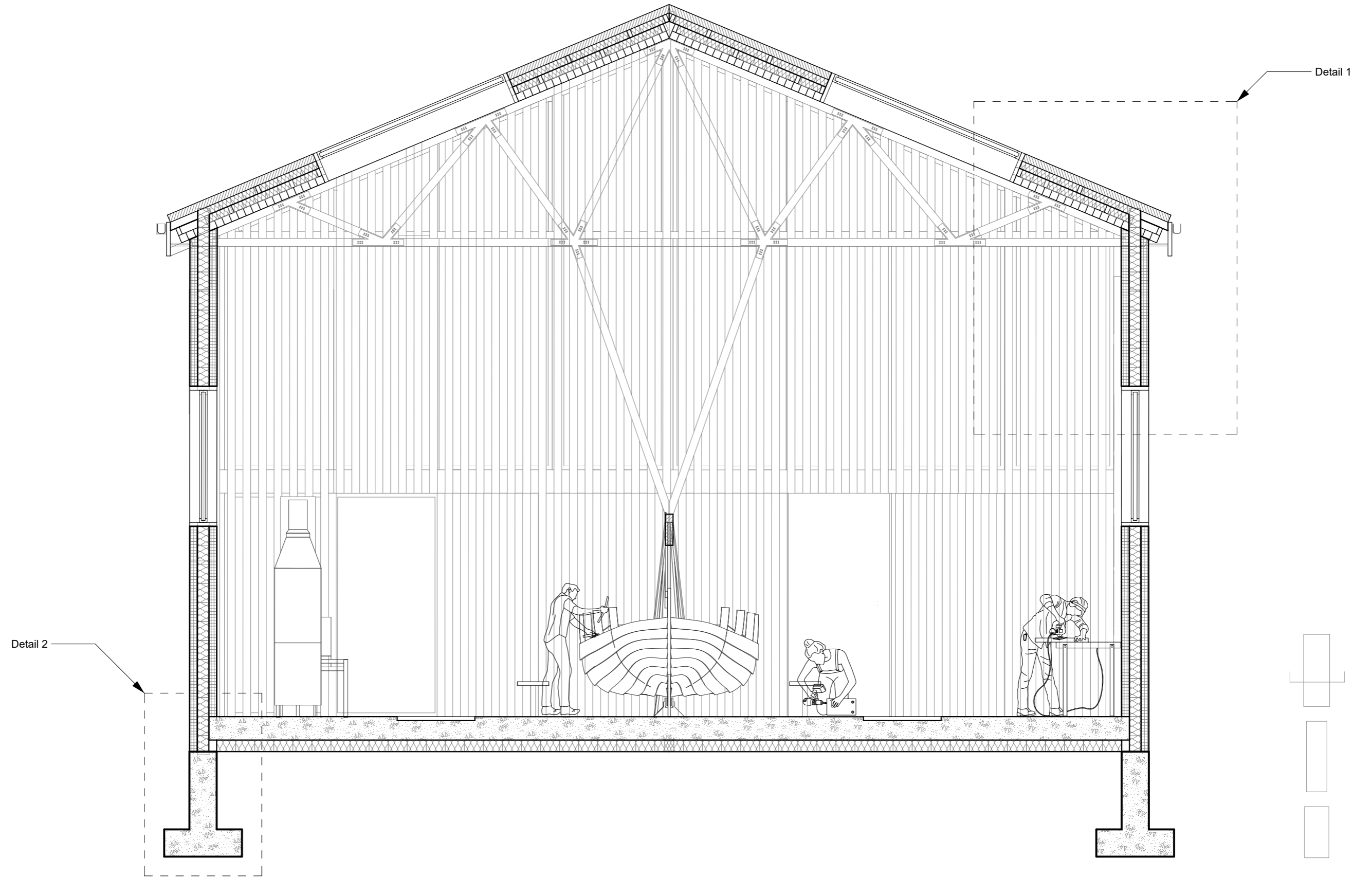
Small-boat workshop	1:100
	



- 1 - Office
- 2- Pause room
- 3- Meeting room

The second floor of the building is the private rooms for the employees.
 2 offices a meeting room and a pause area.
 The space is visually connected to the workshop.

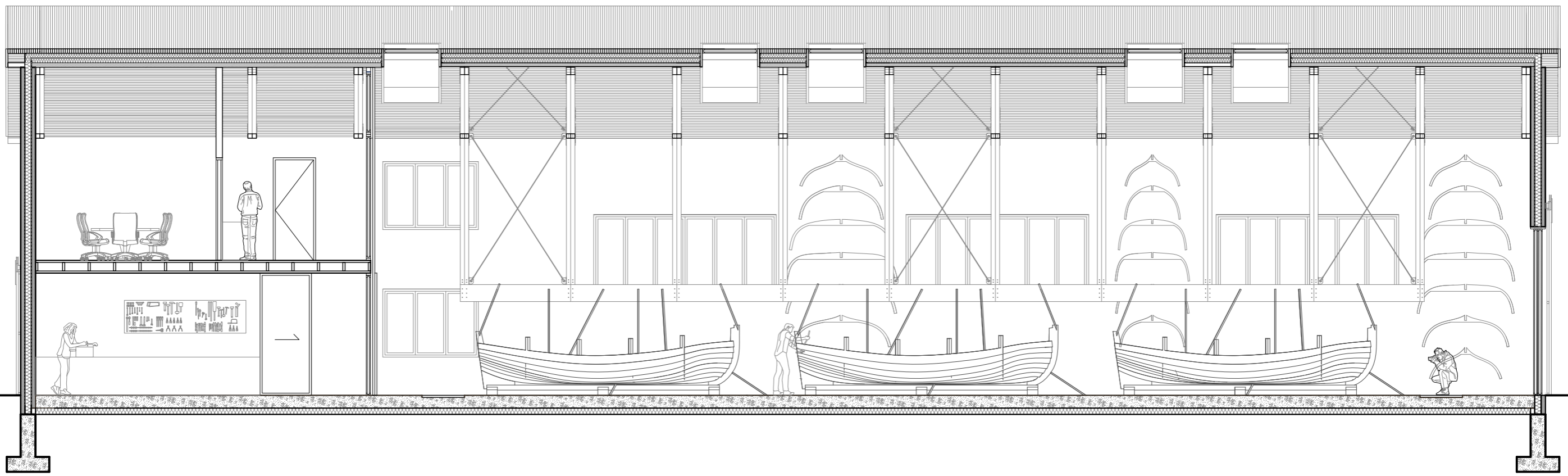




The transformed building exposes the truss system that carried the roof providing a larger void and connecting the building to the traditional boat workshop.

Small boat workshop section

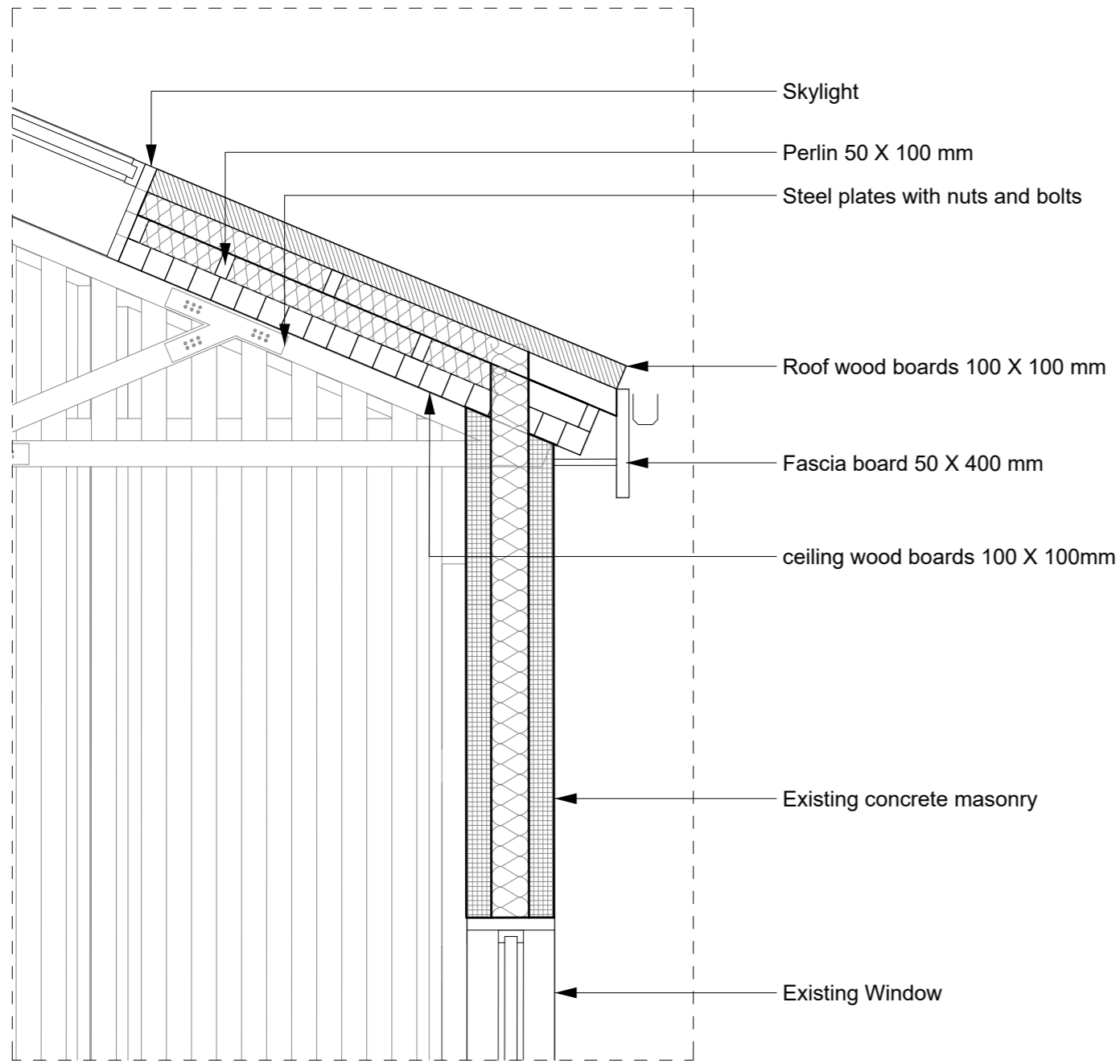
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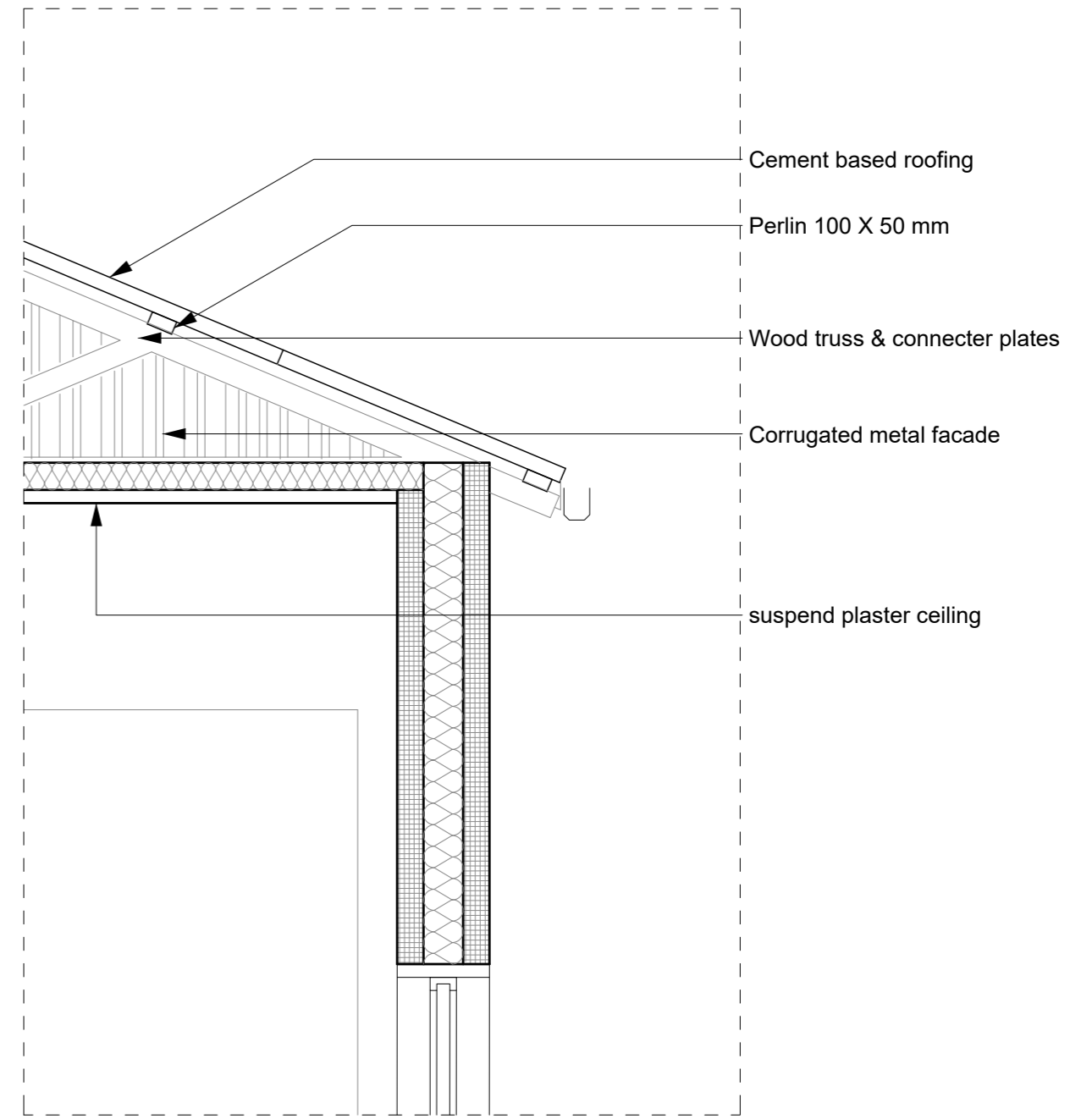
The workshop is one continuous space. It makes it possible for the people using it to interact with each other and share knowledge.
 The boat beam becomes a central piece in the building. It divides the space into 3 parts. The hand held tool area, the machine area, and the boat work stations.
 The rhythmic structure organizes the long space into different work stations

Small Boat workshop
 longitudinal section

1:2000



Intervention Detail



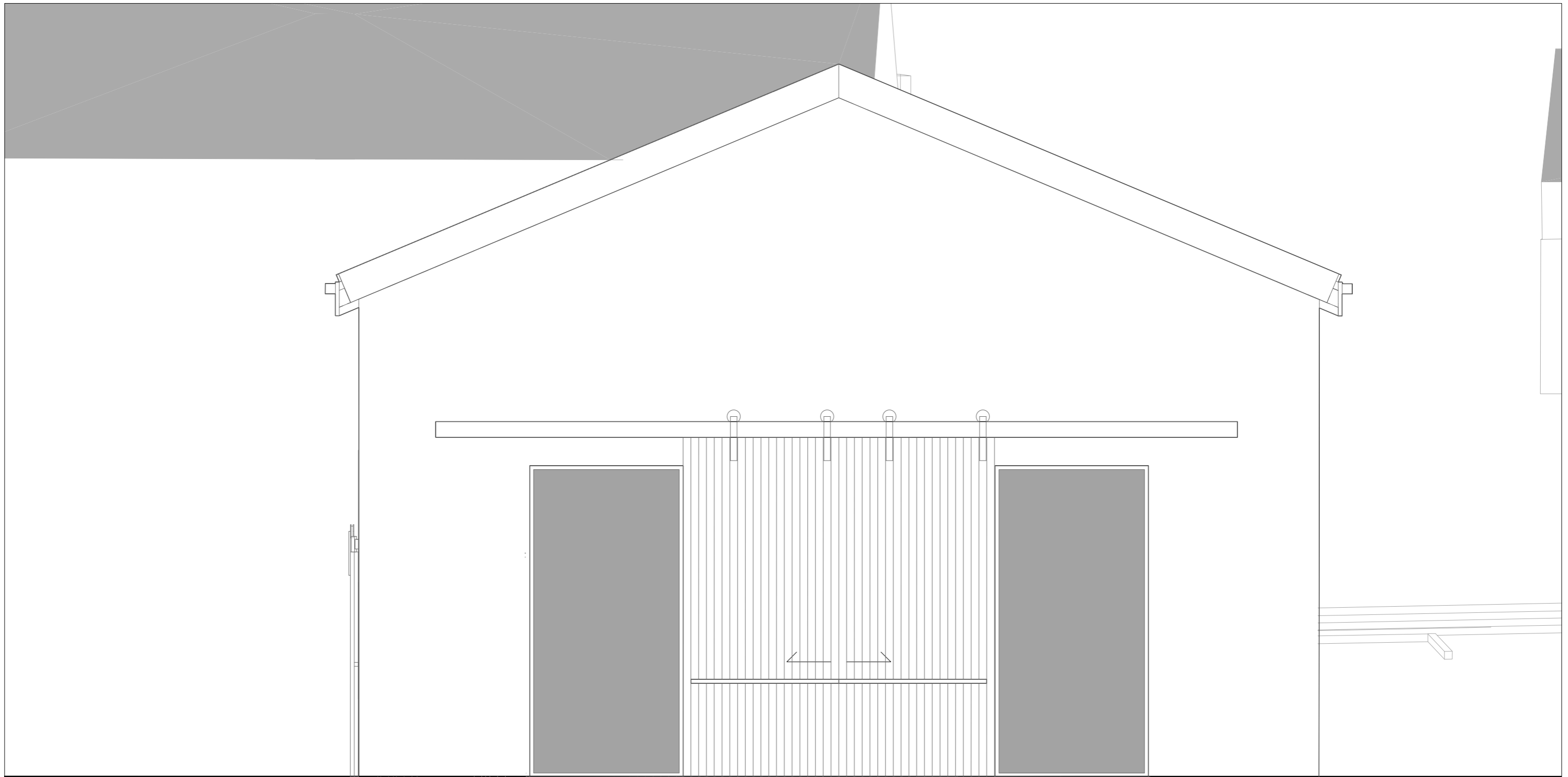
Existing Detail

The structural intervention in the old Brekneholmen building can be divided into two main parts.

- 1- Doubling the truss so that it can span a larger distance and extending it so it carries the beam for the boat.
- 2- Remove the suspended roof and insulate the roof to expose the architectural traditional architectural qualities of the boat workshop.

Small Boat workshop detail [1]
Intervention vs Existing Details
Detail 1

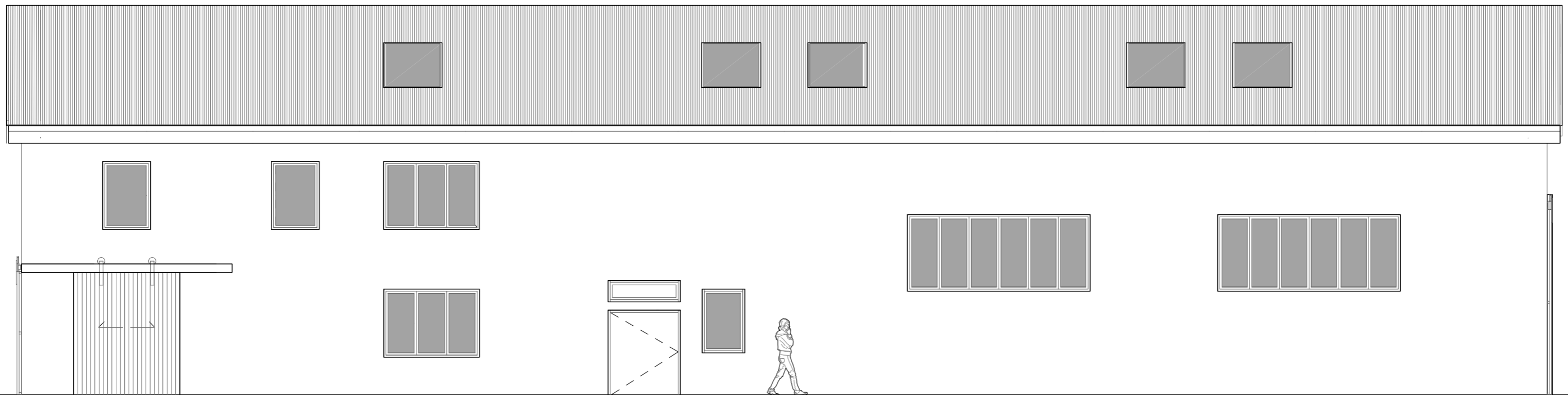
1:25



The north and south facade are taken down rebuilt.
The southern facade is fitted with a large barn door that can have different configurations which helps in moving the boats in and out of the building.

Small boat workshop
South facade

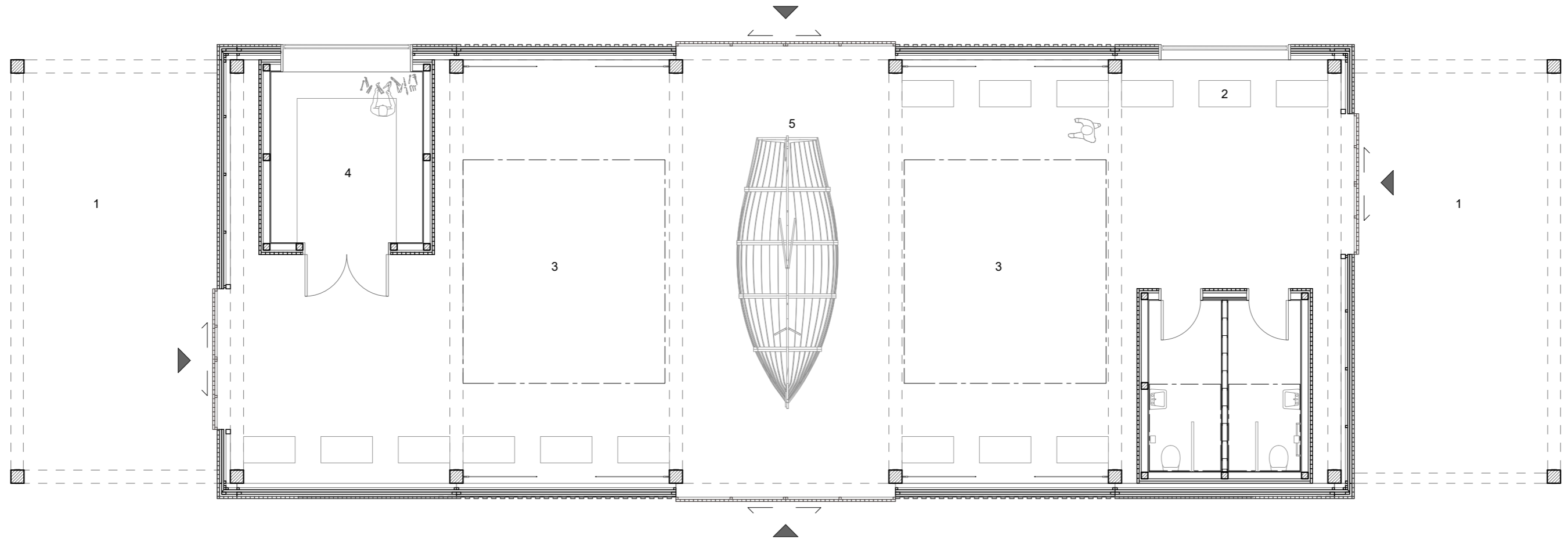
1:50



The long facades are not changed much.
A small addition of the a barn door for the kids workshop is added to the facade instead of the garage door, to ensure easy access to the workshop.
The main change is the roof, it is now in made out of wooden boards making the building relate to the additional volumes.

Small boat workshop
West facade

1:100

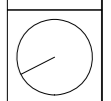


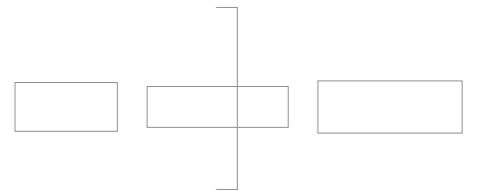
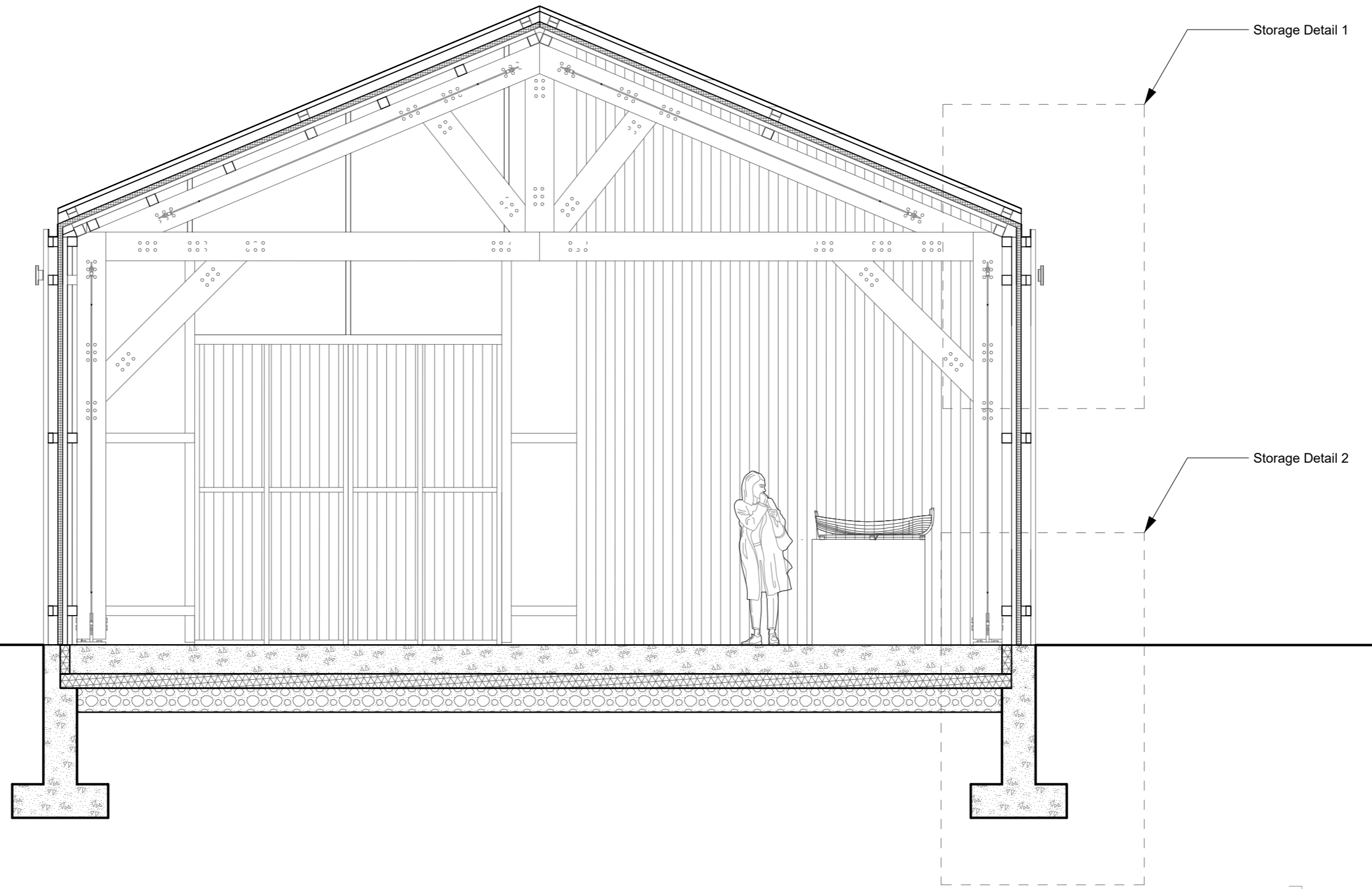
- 1- Covered outside area
- 2- Boat scale models
- 3- wood storage space
- 4- Metal workshop
- 5- Boats sale

The storage is an essential part of the boat workshop activity. The project deals with this part of the program not only as a monofunctional space rather its also an exhibition space. The samll scale models of the boats will be moved to here where the visitor can check them as they move through the project. Furthermore the visitor can check the boats for sale.

Storage hall_Plan 1st

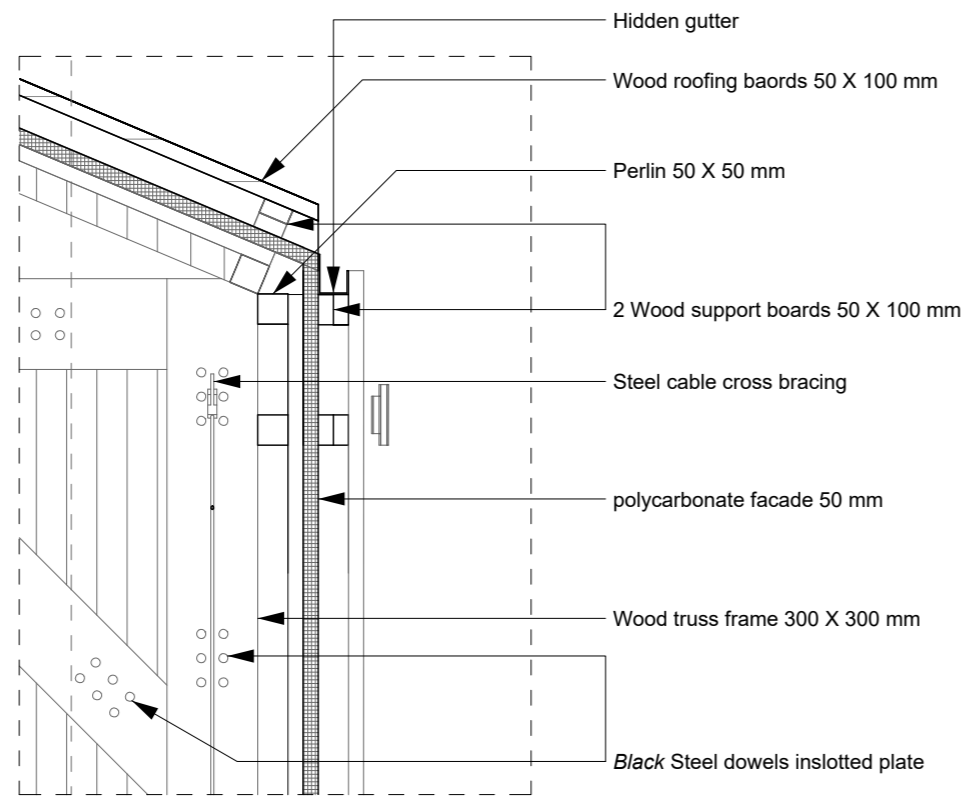
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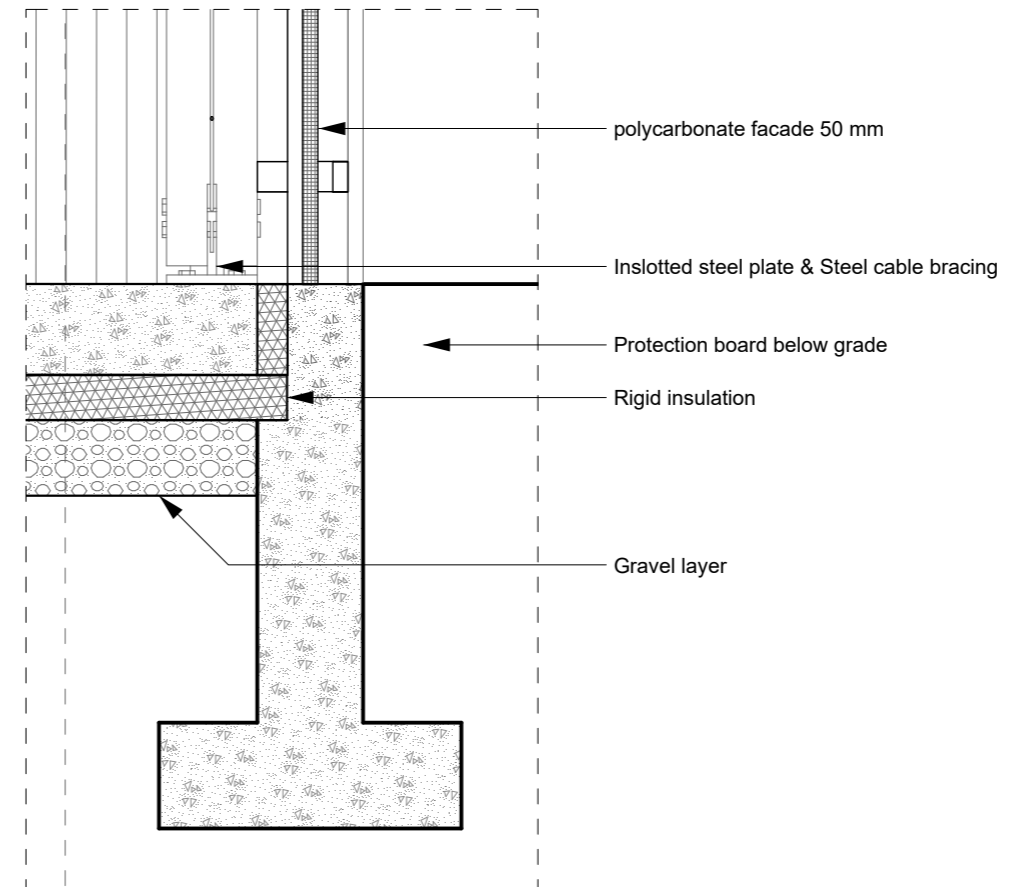


The storage space has king post structure.
 A simple truss that contrasts the repurposed Fink truss in the small boat workshop.
 Cross bracings in the truss stabilize the structure laterally in one direction and steel cables stabilize it in the other.
 The facade is a polycarbonate that filters the light coming in

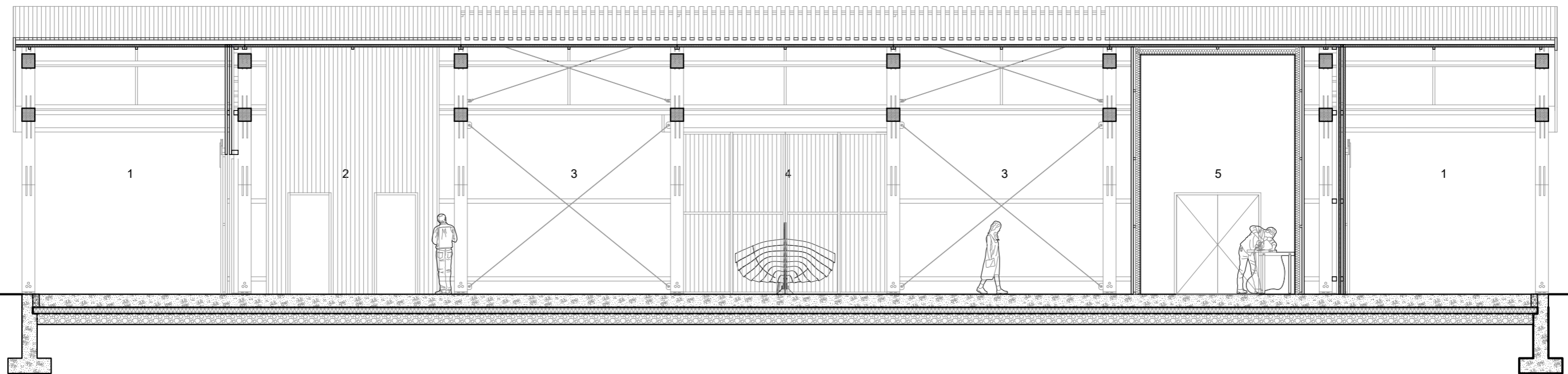
Storage hall
 Cross Section
 1:50



Detail 1



Detail 2



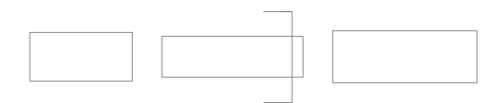
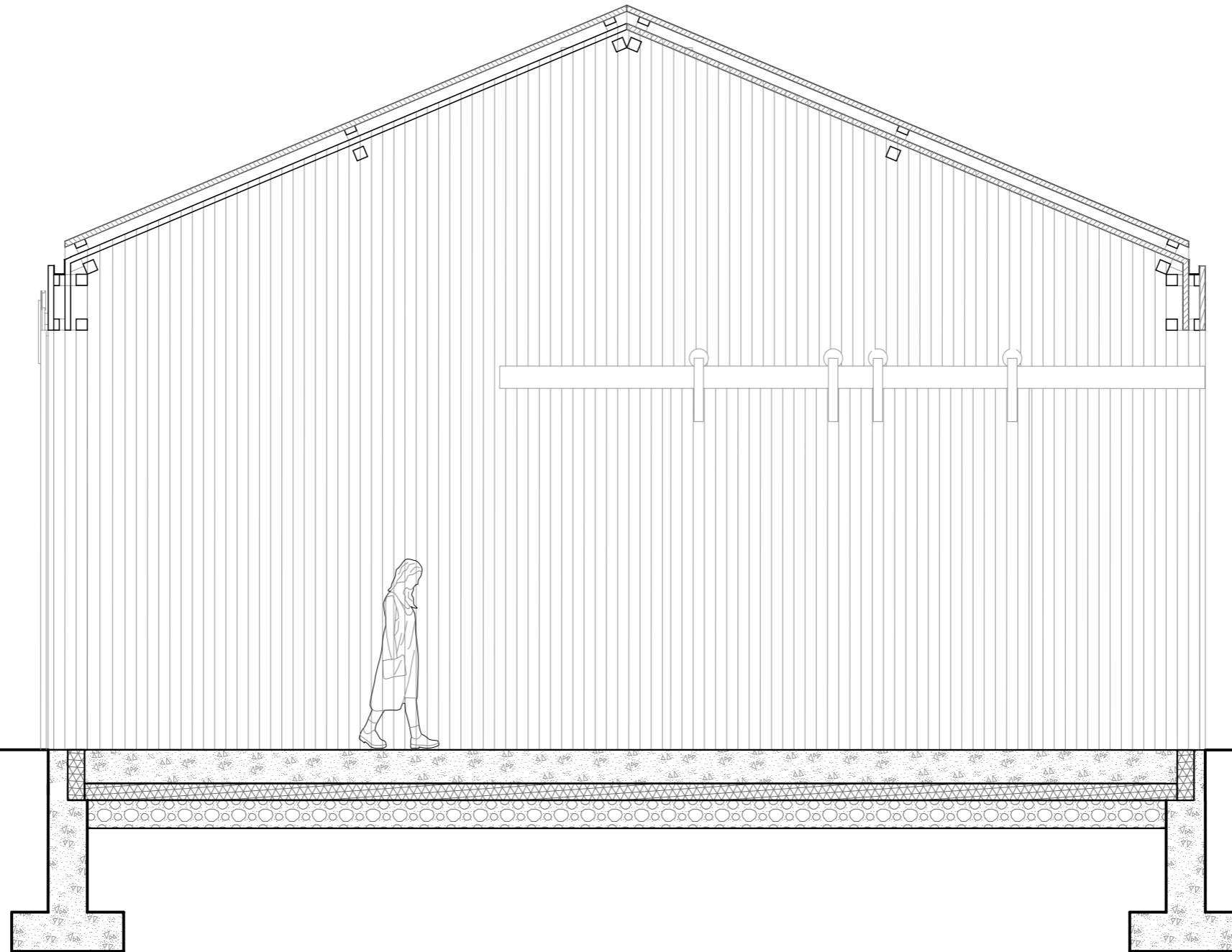
- 1- Outside area
- 2- WC
- 3- Storage
- 4- Boat sale
- 5- Metal workshop



The traditional boat house architecture is a variant of a larger typology, that is the long house. Indigenous to many cultures the long house is a true international typology. Lista is no exception the long house here have been used as barns boat houses and communal spaces. Even though its has simplistic form and structure its non the less rich in its own unique architecture language. Trusses sliding barn doors and continous streched spaces make the long house unique. The rythmic structure allows for many spatial configurations a room within a room, adjacent streched spaces and many different heirarchies can be offered here.

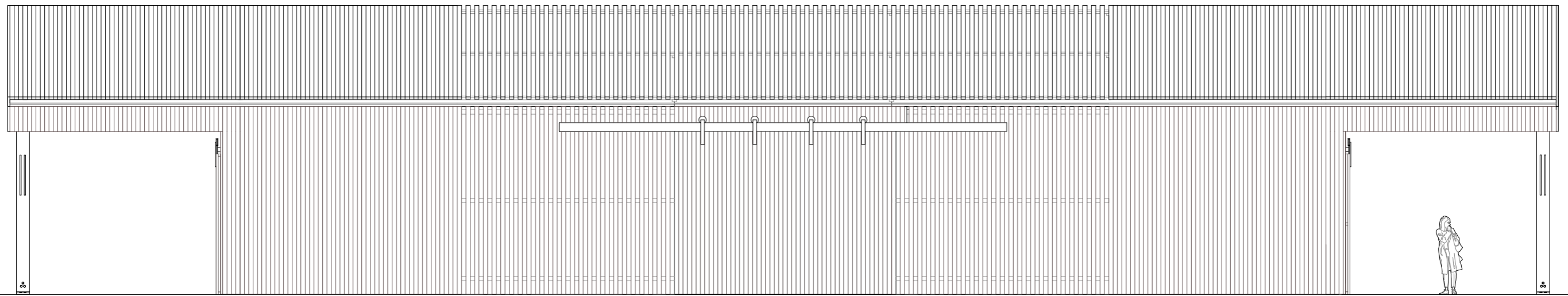
Storage
longitudinal section

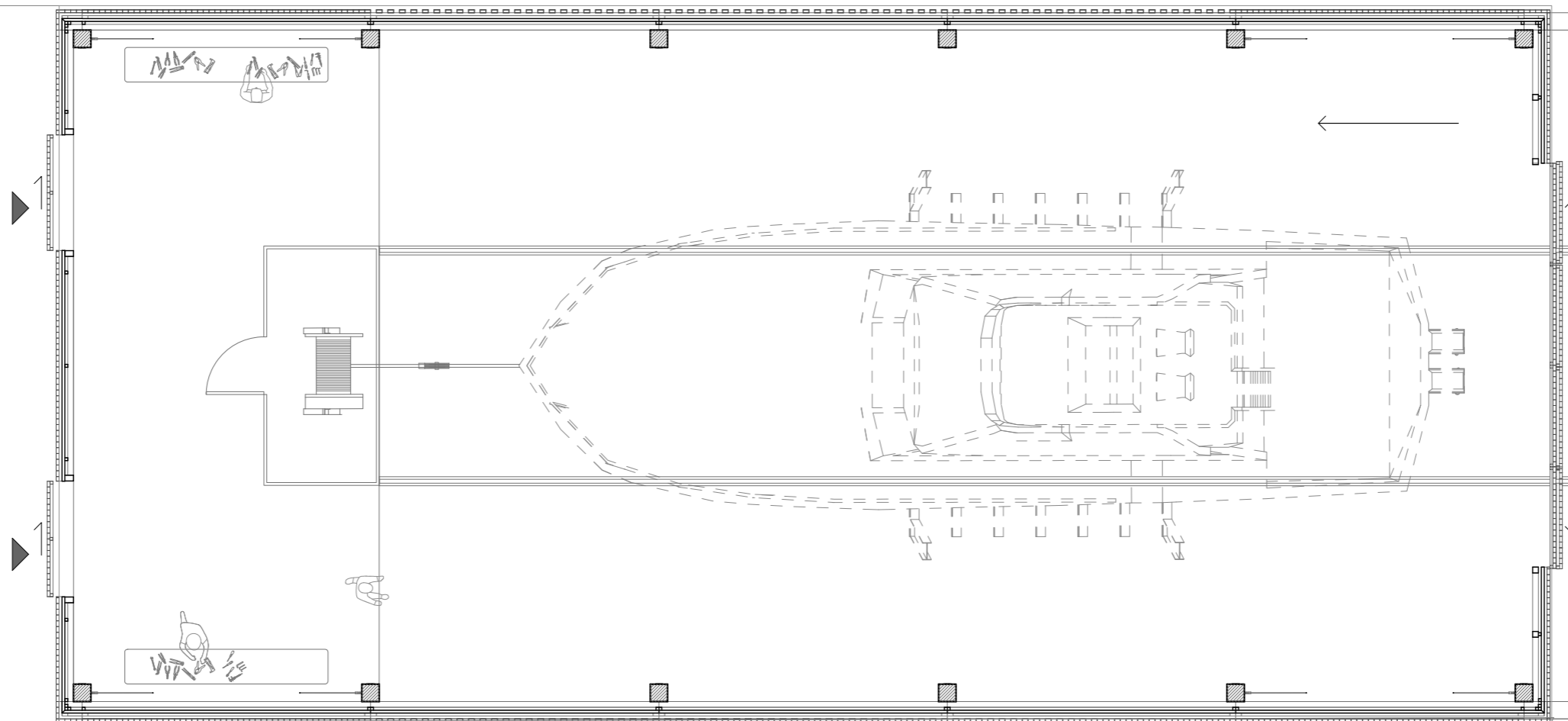
1:100



Storage facade section 1:50

The barn door is used often with the boat workshop typology.
The origin of this element originates from farming houses that utilized the long house.
It fulfills a pragmatic function but it is also a part of a very special architectural language.



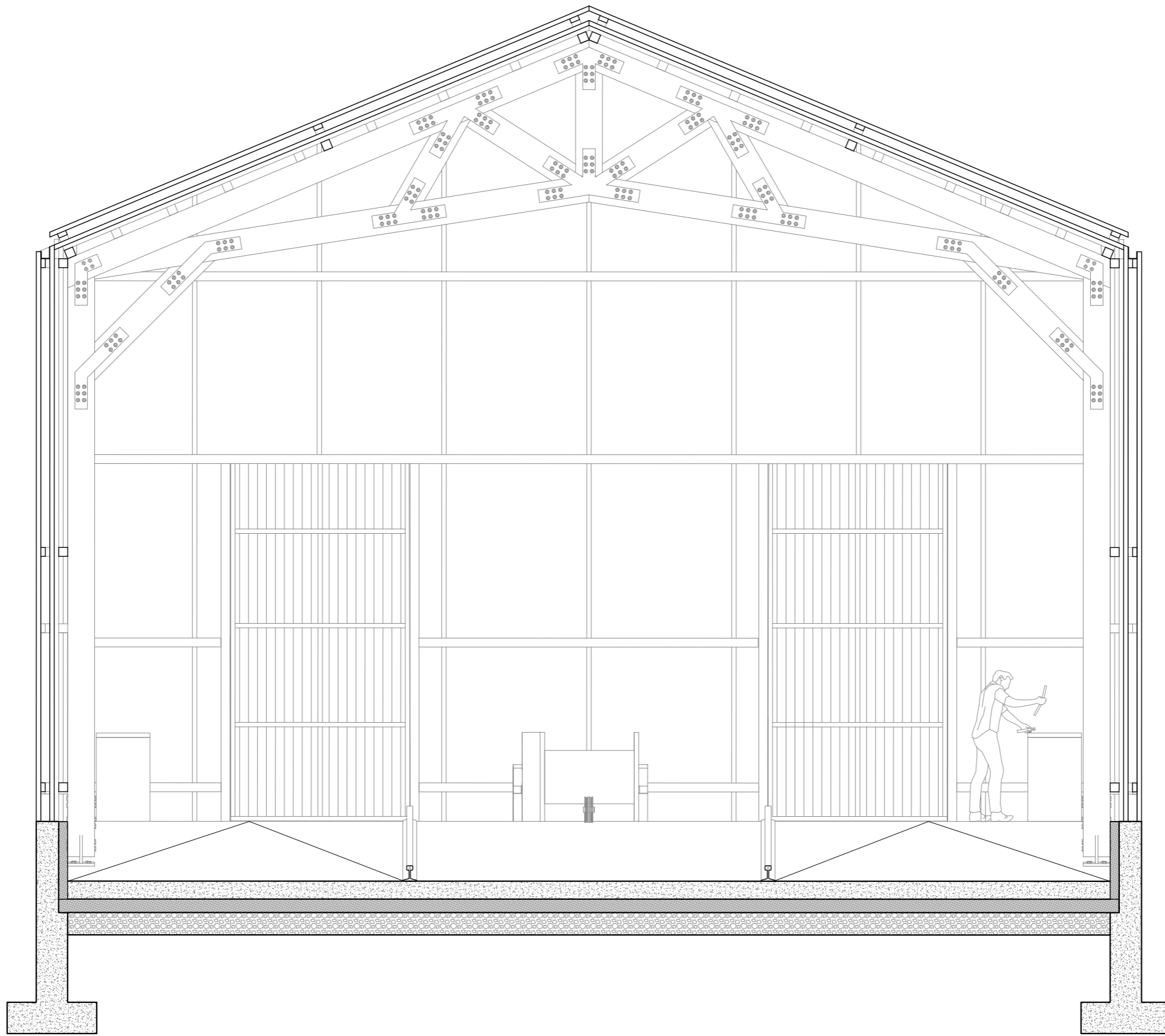


The large-Boat hall is the second added volume. It provides a space for the larger to be put on land so that work can be done on them. When borhaug was an active boat building space, the boat builders built boats of all sizes. With the slipway the project would offer the district a much needed space for boats to go on land for yearly inspection and repairs. With the slipway connected to a space for materials and workshops the repairs would not be compromised. This part of the program however has also a different wish, to bring back and repair the Lista boats that are still in use. In doing so the boat masters woul dget the chance to learn about the specificity of the Lista boat.

Large Boat hall Plan 1st

1:100

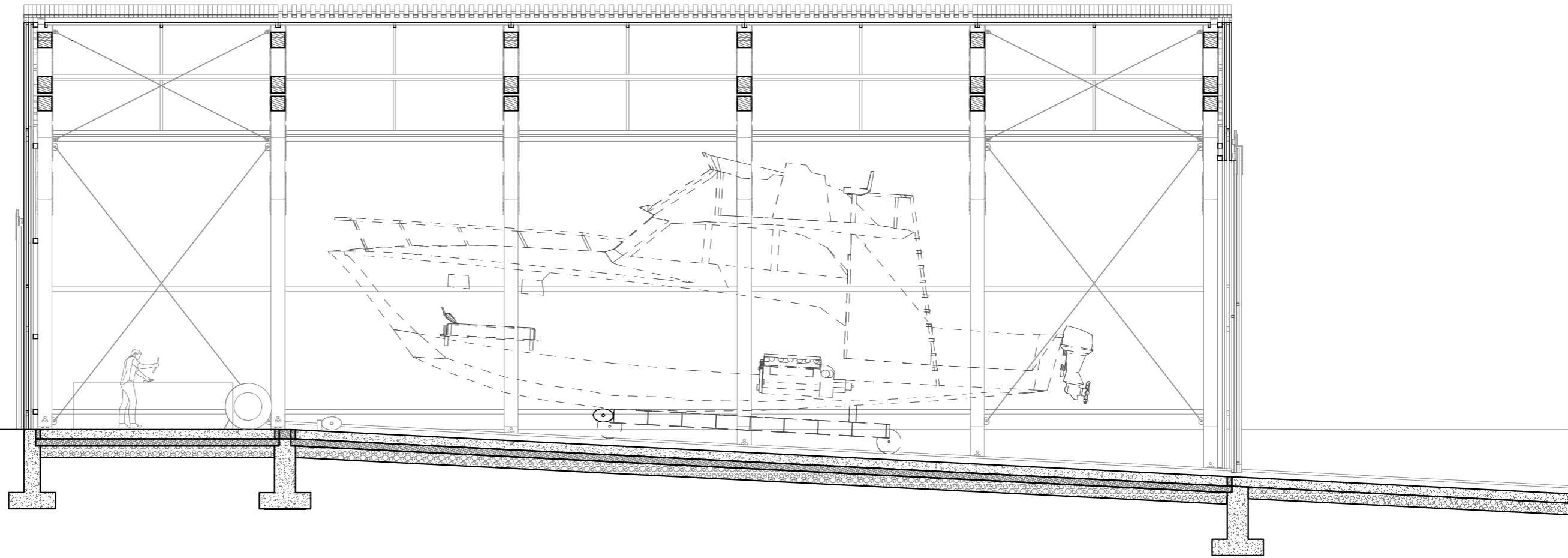




The hall is equipped with a pully and a boat cradle to drag the boats from the sea to land.
 The floor is inclined for the boats eventual launch back to the sea.
 The hall has a sisor king post wooden truss that allows for higher clearance that is needed for larger boats.

Large Boat Hall
 Cross Section

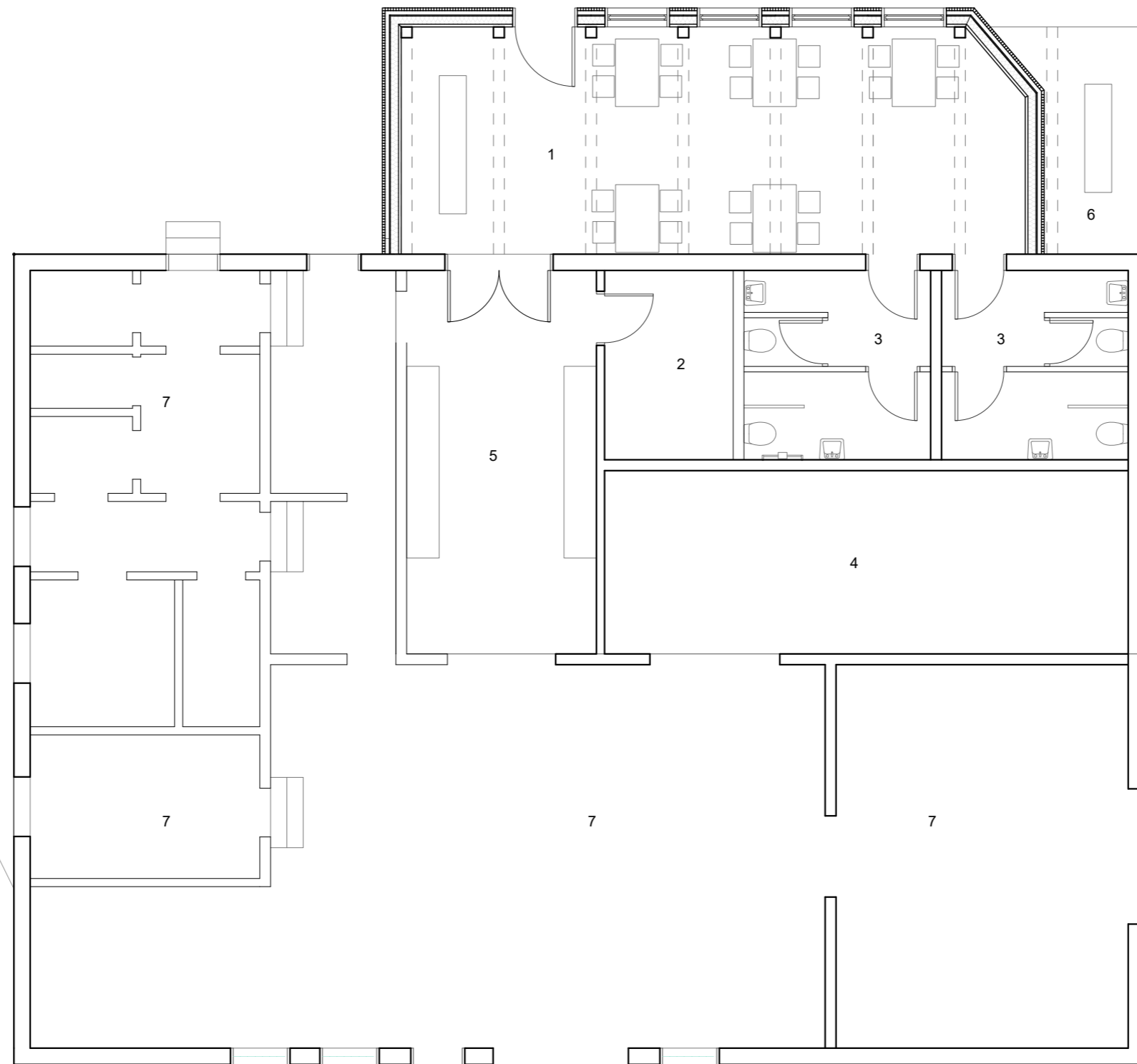
1:50



The boats can be stabilized with the boat cradle.
 When the boats are inside the boat masters would then use scaffolding to be able to get up and down the boat.
 The large boat hall can be used for a wide range of boat types and sizes.
 The project wishes that this would also bring in the Lista boats for repairs.
 The Lista boats that get repaired here have the unique opportunity to be repaired with the same local materials used under building.

Large-boat Hall
 longitudinal section

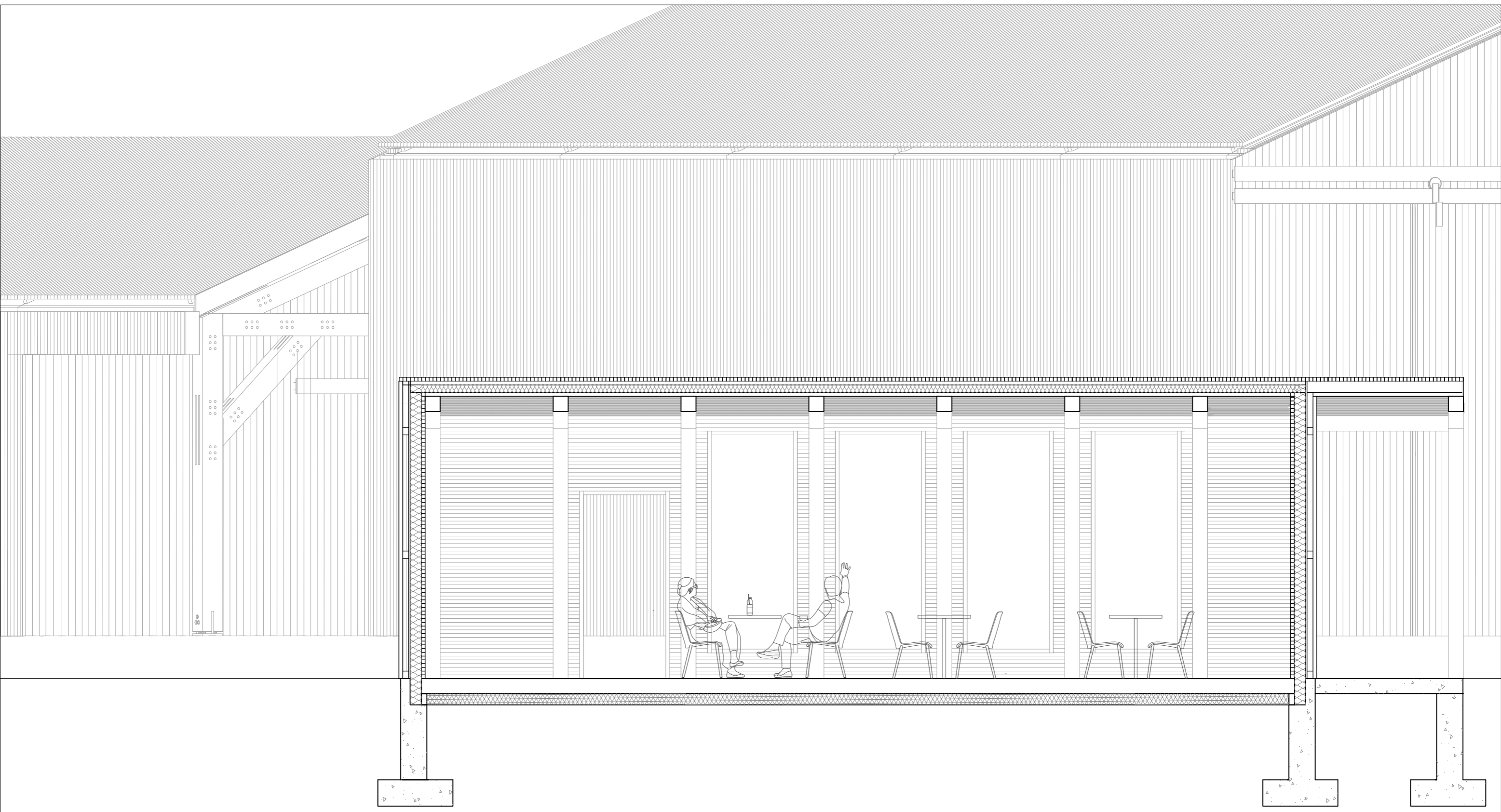
1:100



- 1- Reception
- 2- Freezer
- 3 - WC
- 4- Fridge
- 5- Kitchen
- 6- Tourist space
- 7- No interventions

Historically the fishermen of the village were the boat builders also. The project reunites these two parts with each other again.
 The reception of the proposal is a cafe where the locals can continue to buy thier fish they are however now part of the same space taking care of thier history.
 A small space is added outside for the fish tourist to prepare thier fish.





The fish shop gets a comparatively smaller intervention. The function of the space is to provide a cafe for the visitors of the project. By placing the reception here instead in the other volumes or an added volume on site is to merge these functions together making part of a whole.

Reception cafe	1:50

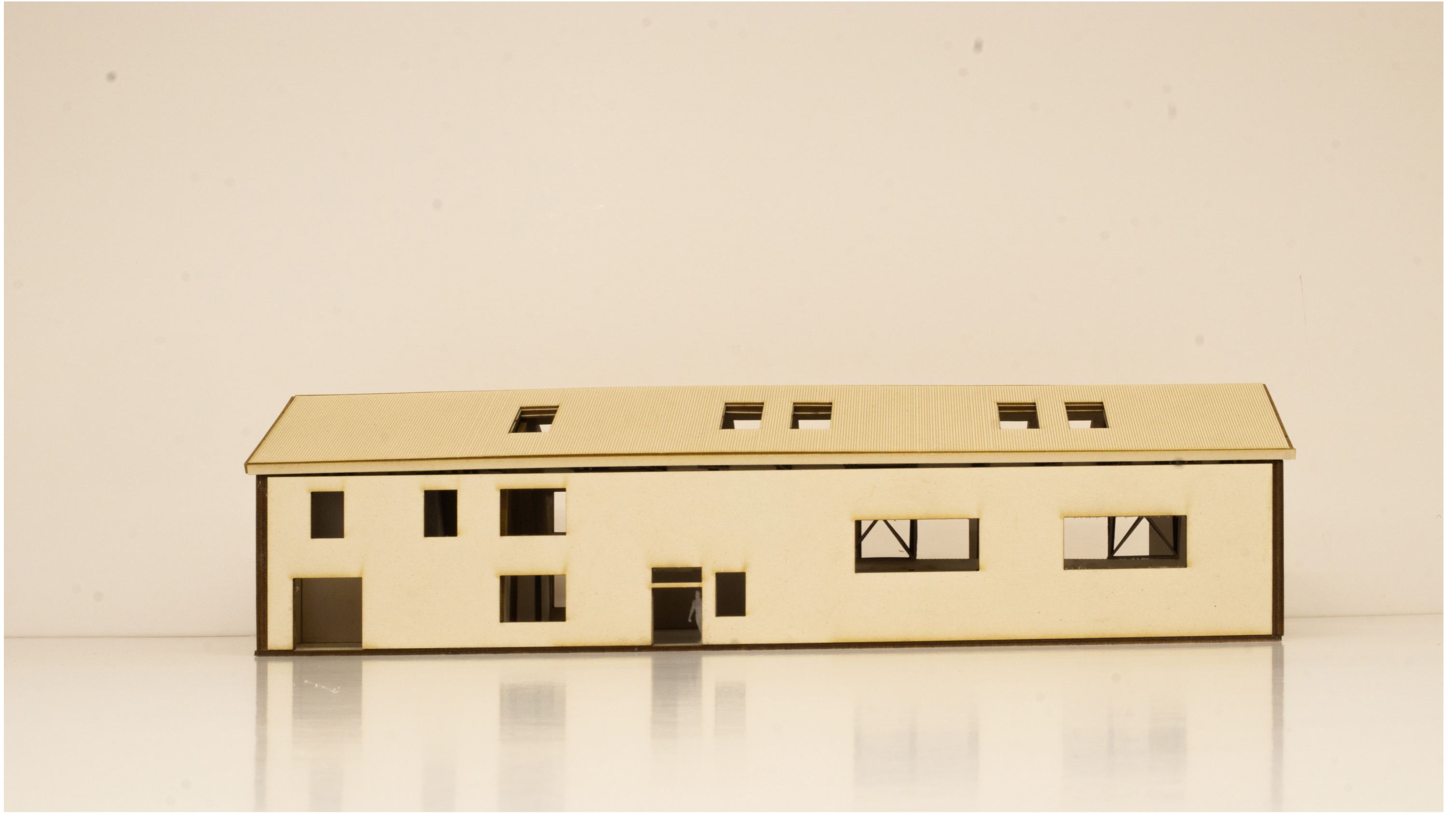
CHAPTER III

Model photos

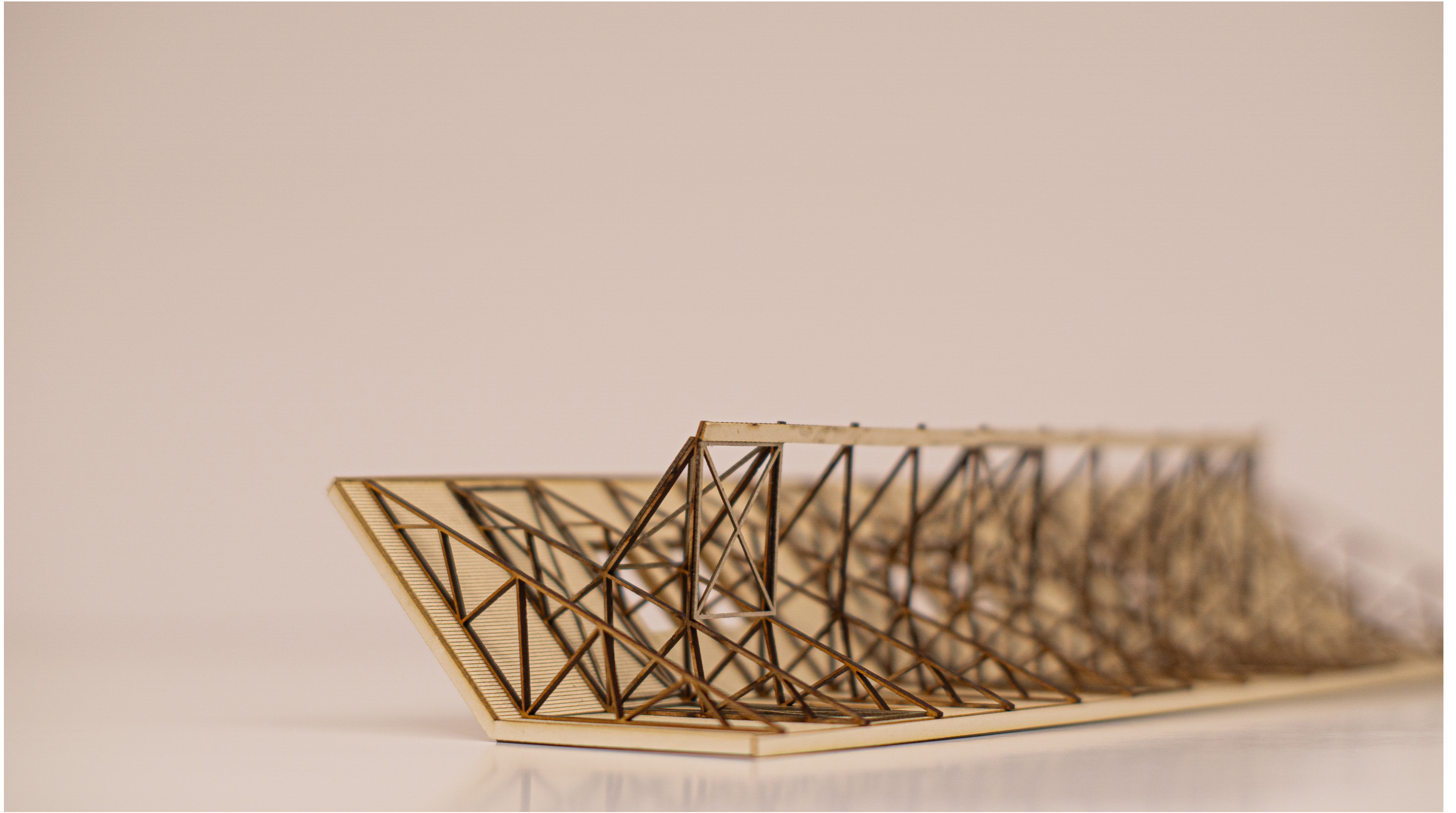




Buildings in site



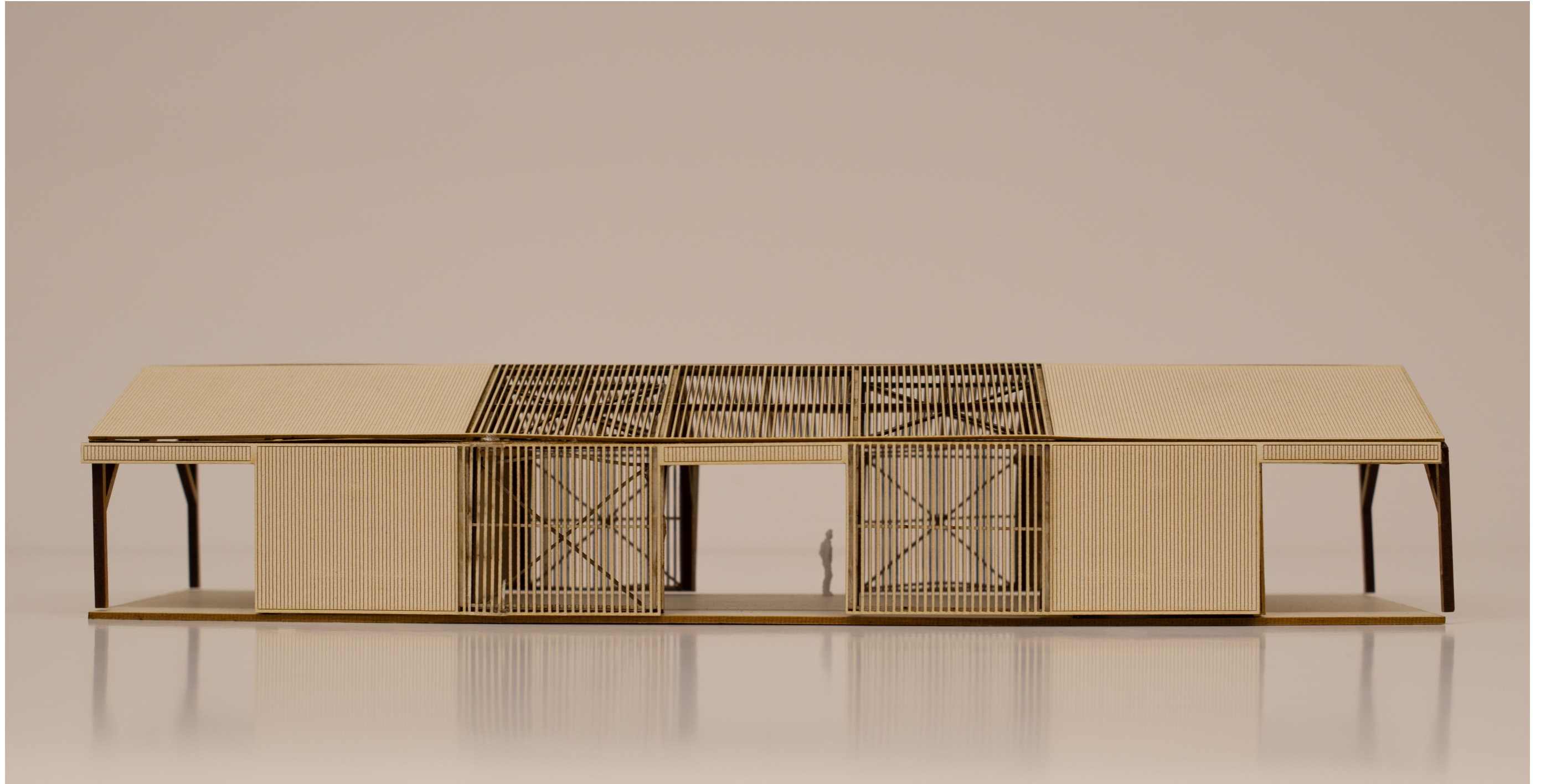
Small boats workshop



Small boats workshop roof



Small boats workshop





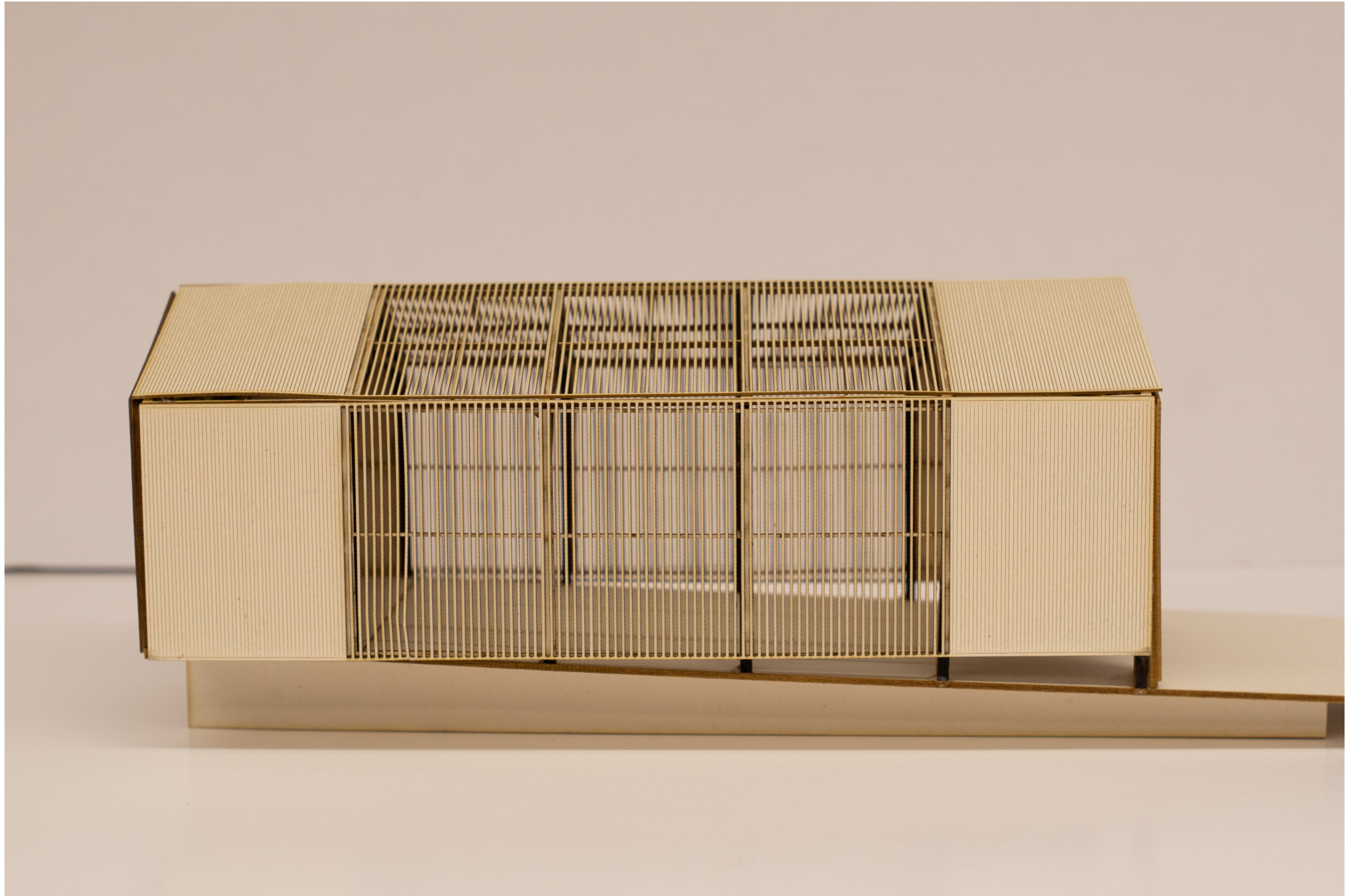
Storage and exhibition structure



Storage and exhibition entry



Storage and exhibition interior



Large boats hall and slipway



Large boat hall



Reception

Acknowledgments

I would like to thank

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My wife Marthine Spinnangr for her unlimited support.

References

Helland-Hansen, P. (2014) *Strandebarmaren Småbåtbygging i Hardanger*. Kapabel

