naturum Härön

A Contemporary Architectural Anchoring Of Bohuslän's Typology

Wilma Rönnäng

Master Thesis 2025

Chalmers School of Architecture

Department of Architecture & Civil Engineering

Examiner: Björn Gross

Supervisor: Catharina Dahl Palmér

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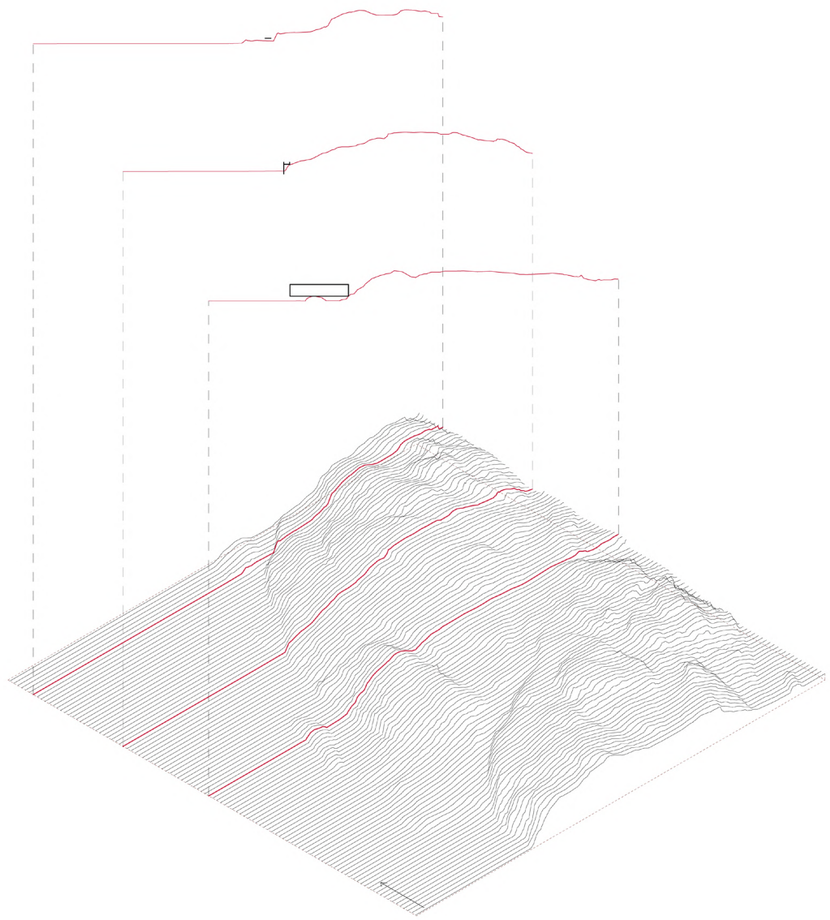


Abstract

Architecture creates a dialogue between nature and culture, where understanding and interpreting the site is fundamental. Through this interplay, contemporary architecture can strengthen a place's identity, interact with nature and communicate its history. This involves identifying characteristic elements both in building typologies and traditions as well as in the landscape and local climate.

The site explored in this thesis is located on the island of Härön, just off the coast of Tjörn in Bohuslän, Sweden. The majority of Härön is protected as a nature reserve. The aim of this master's thesis was to apply theories on how architecture can be rooted in place in a contemporary manner and to translate this into a design proposal for a Naturum, a visitor center for the nature reserve, including a separate kayak shelter. Central to the design is the exposure of timber framing, a traditional local timber technique historically used for barns (magasin). By anchoring the architecture in the site's history and building traditions, the thesis presents a proposal that communicates knowledge about the area's culture and nature, while also reflecting a conscious approach to climate awareness through its function, material choices and contextual adaptation.

The work was divided into two stages: research for design and research by design. The first phase focused on theory-based research, where Critical Regionalism and Genius Loci formed the foundation for an in-depth site analysis and the identification of Härön's identity. These theories also influenced the multiple site visits conducted on the island. To further understand the design and function of Naturum, site visits were made to existing Naturum buildings, and interviews were conducted with field specialists. Based on this theoretical foundation, an iterative design proposal was developed.

With a strong connection to place and history, the goal was to explore the balance between past and present. Architecture that respected its natural surroundings, both through its design and function as a Naturum. Anchored in the local context, the project was discussed in terms of how it contributes to strengthening the site's identity and bridging history with the present. The thesis contributes to a broader dialogue on how contemporary architecture can connect to history without becoming nostalgic.

Keywords:
Timber framing; Critical Regionalism; Naturum; Härön

Content

1 Introduction

1.1 Purpose

Increased knowledge about nature and the importance of preserving it can be achieved by simply getting out into the actual environment, creating an emotional connection with nature. The theory of Nature Connectedness (Branham, L., 2024) shows that people who have a relationship with nature tend to exhibit more environmentally friendly behaviour. Outdoor activities foster carefulness for our environment. In addition to the educational aspect of being in nature, human health also benefits from proximity to nature. According to the Public Health Agency of Sweden, being in nature promotes both physical and mental well-being.

Ecotourism, as defined by Clarkin, T., & Kähler, K. N. (2023) in Ecotourism: Pros and Cons (Salem Press Encyclopedia), is described as "Environmentally, socially, and culturally responsible recreational travel intended to preserve ecosystems and improve the well-being of local populations."

Tjörn and Orust Municipality mentions in its Detailed Comprehensive Plan that they aim to develop this type of tourism, where Härön and its surroundings are mentioned as one of the potential locations. Tourism focused on developing shared knowledge while safeguarding the strong traditions and cultural values connected to the archipelago. The goal is to strengthen local and regional identity and increase ecotourism. (Fördjupad översiktsplan för havet i Tjörns och Orusts kommun, 2024).

This thesis presents a proposal to support the goal of promoting ecotourism in the municipalities of Tjörn and Orust while strengthening local and regional identity. A Naturum and a kayak shelter at Härön would attract tourism and increase care for nature, both on land and at sea.

1.2 Thesis Questions and objectives

This Thesis proposes a Naturum, an information centre, with a focus on the fragile nature of the island Härön. Theoretically, the work will contribute to the discussion on how architecture can draw inspiration from historical building typologies without becoming either stylistic or nostalgic. Through theories such as Critical Regionalism and Genius Loci, the context and the place will be analysed and interpreted.

Practically, the work contributes knowledge on how traditional building techniques, such as timber framing structure, can be used in a contemporary manner.

Thesis Questions:

How can the traditional timber framing technique be interpreted and exposed in contemporary architecture?

How can characteristic tectonic elements of Bohuslän be translated into architecture without becoming nostalgic?

1.3 Delimitations

Geographically, the project is limited to Härön in Bohuslän. Studies of existing building topology are based on Bohuslän. The surrounding nature and landscape that are being studied are specific to the site, focusing on the rocky landscape and its connection to the sea.

The project is speculative and does not take into account eventual building regulations or coastal protection laws. Nor does it take into account whether a nature centre on Härön is economically viable. The cost aspect of the project are also not included.

1.4 Reading Instructions

The master's thesis is divided into four parts. The first part, Introduction, presents the aim of the study, research questions, methods, and delimitations. The second part, Theory and Background, includes the theoretical framework and discourse. It presents both theoretical and practical references. The third part, Design Proposal, covers both context and the design proposal. The context includes analysis of the site and identification of characteristics in the Bohuslän typology, as well as the contemporary interpretation and application of these in the design proposal. The fourth and final part consists of a reflection on how the study has addressed the research questions and contributed to the discussion.

1.5 Method

Research for/by design

The research is divided into two types of approaches to explore the aim and research question: research for design and research by design.

Research for design includes theory studies including built reference projects, site analysis combined with multiple site visits, and interviews.

The second phase, which is based on the methods mentioned above, involves research by design. By iterating in 2D and 3D, both drawings and models, with the goal of investigating the research questions.

Theory Studies

Literature studies on Towards a Critical Regionalism: Six Points for an Architecture of Resistance (Frampton, 1983), Genius Loci (Norberg-Schulz, 1984) and A Feeling of History (Zumthor, Lending, & Binet, 2018) form the foundation of the theories on which this work is based.

The reference projects studied have a central relation to place and history, the surrounding nature, and contemporary interpretations of traditional timber constructions.

Site Analysis

Information about the site's context, history, and building traditions are combined with analyses from site visits and finally compiled into a site analysis. Tools such as photographing, sketching and note-taking have been used.

Site Visits

Several site visits have been conducted to study the location, the landscape's topology, and its context. Additionally, visits to existing Naturums were carried out. These visits were conducted both as part of the research for design and throughout the design iterations.

Interviews

Semi-structured and qualitative interviews were conducted with experts in various fields connected to different aspects of the master thesis. These aspects included Naturum, timber framing, site specific heritage and local perspectives. The interviewees included a Naturum manager, an architect who has designed multiple Naturum buildings, a timber specialist, and the steward of Änga Gård on Härön.

Design Iterations

Design iterations built upon the foundation established in the previous steps of the method. Along the design process it was necessary to return to theory in order to fill knowledge gaps that arose. The design iterations finally resulted in a design proposal. Tools used in these iterations included hand sketches, simple working models, digital models and drawings, as well as visualisations.

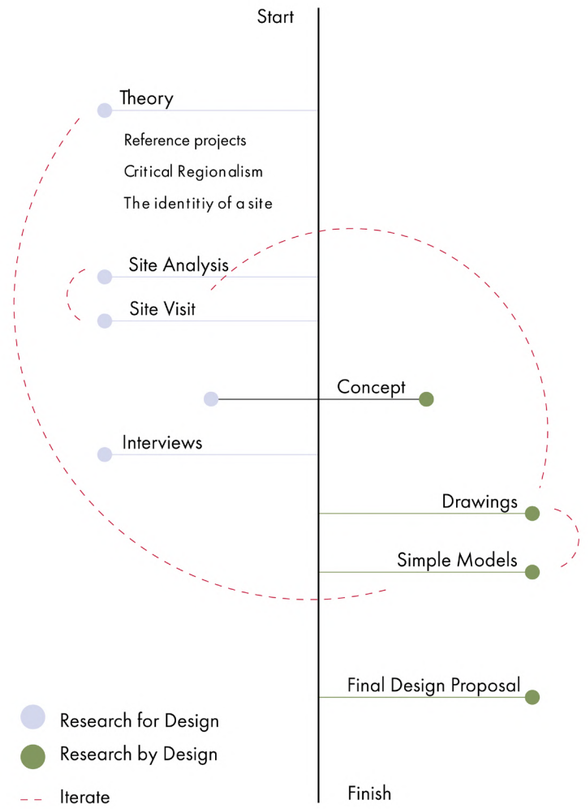


Diagram of the Method and Tools

2 Theory and Background

2.1 Academic References

2.1.1 Critical Regionalism

Critical Regionalism is a theory that emerged partly as a reaction to the 1980 Venice Biennale (Sveriges Arkitekter, 2020). The theme that year was "The Presence of the Past", an exploration of what it could mean to return to old architecture, to copy past styles. Kenneth Frampton disagreed with this approach and, in 1983, wrote "Towards a Critical Regionalism: Six Points for an Architecture of Resistance" as a response.

According to Frampton the distinction between Regionalism and Critical Regionalism is important. Regionalism is a theory that takes strong inspiration from historical elements of a region, local materials, and construction techniques. This is due to both because the materials are locally available and because they have been tested and adapted to the place over time. Regionalism can tend to copy historical elements without developing them into today's use. The relationship with local to vernacular architecture is significant, where vernacular architecture refers to buildings constructed without architectural intent.

Critical Regionalism is thus an evolution of Regionalism, combining the local and the global, being both rooted and influenced. Frampton describes it as more of an "arriére-garde" rather than the previous "avant-garde," meaning an attitude that strives for a balance between innovation and historical grounding.

The balance between nature and culture, which is architecture, is central. The ability to mediate between nature and architecture, to enhance the landscape rather than dominate it, is emphasised. Context is also crucial, and it is important to interpret and work from it.

Local climate and how the building is most effectively adapted to it are also key parameters. Designing based on the local climate includes strategies for natural ventilation, rainwater collection, and optimising natural light for both aesthetic and energy efficiency purposes.

Tectonics, an honesty in materials and construction, is central. The aim is for the construction to take on an artistic expression, a "structural poetic." Frampton also stresses that architecture should engage multiple senses, as the sensory experience of materials and their tactility highlights the culture and climate of the place and should therefore be a focus.

2.1.2 The Identity of a Place

The theory of "Genius Loci" (Norberg-Schulz, 1984), translated as the spirit or identity of a place, is a theory based on the character of a place and its the atmosphere. Closely related to this is Zumthor's book A Feeling of History (Zumthor et al., 2018). A Feeling of History presents a perspective on how architecture should relate to the history of a place.

The theory of Genus Loci is as mentioned based on the place and its meaning for architecture. Norberg-Schulz (1984) writes that "architecture means to visualise the genius loci, and the task of the architect is to create meaningful places, whereby he helps man to dwell" (p.5). Through architecture, the historical context of a place, which is constantly evolving, should be characterised to create meaningful spaces for people. In this context, a place means more than just a location or a simple description of a landscape. Poetic language, with its vivid expressions, may best describe a place, its space, and its character.

Peter Zumthor's approach to place and its significance, as described in A Feeling of History (2018), is deeply rooted in its history, in the memory of what the place once was and represented. It serves as a powerful source of inspiration grounded in context. That said, this inspiration should not be copied but rather adapted to the present. It emphasises a conceptual anchoring to the place, rather than a static or formal one, with the goal of creating enduring buildings, a sense of timelessness. Materials should be chosen, among other criteria, based on their ability to age well, their patina, and their tactile ability to convey an atmosphere grounded in time.

Together, these approaches provide an interesting view of the meaning of place in architecture. The place, in a more philosophical sense, where the two perspectives complement each other with insights into the spirit of place and its historical significance.

2.2 Reference Projects

2.2.1 Store Mosse Naturum

The project Store Mosse Naturum is designed by White Architects 2003. White Architects has designed several Naturum in Sweden, all related to their unique location. This Naturum is located in Store Mosse National Park in Småland, Sweden.

The building respects its surroundings, located at the edge of the forest, where the forest turns into bog, and acts as a gateway to the national park. Its volume mirrors the surrounding topography, remaining horizontal. The gable facing the bog is glazed, framing the landscape and bringing the exterior into focus within the interior. Adapting the building to nature is a central concept.

There is a strong historical connection to local materials and building typologies. Quoting the firm: "The intention was to design a building we can all relate to. A Småland barn in a modern interpretation!" ('Naturum Store Mosse | White Arkitekter', n.d.) Historically, industrial buildings (peat barns) were situated around the bog, built in wood and raised on piers (Caldenby et al., 2013). This contemporary interpretation of a peat barn is likewise elevated. The structure is challenging with only four supports, like a bridge.

The wooden structure is exposed, both externally and internally. It creates a generous space and is assembled with high precision. Its columns divide the floor plan into three longitudinal sections, with the central section being more solid than the outer ones.

It's a reference project due to the clear historical grounding together with a contemporary design, which are key elements in this master's work. Equally important is the ability to capture the identity of the place, the Genius Loci (Norberg-Schulz, 1984). The architecture respects the surrounding nature, creating a dialogue where the building does not dominate the natural environment.

Figure 1 >
Interior of Naturum Store Mosse. Photograph by Mikael Olsson (n.d), from White.

Figure 2 v
Exterior of Naturum Store Mosse. Photograph by Mikael Olsson (n.d), from White.

2.2.2 Höghult

The Höghult project is designed by Fabel Arkitektur 2020. The firm places great emphasis on the context of their projects: place, history, and site (FabelArkitektur, n.d.). Höghult showcases traditional local wooden construction techniques, reinterpreted in a contemporary way.

The project consists of two volumes of the same size, placed parallel with one meter between them, two traditional timber constructions with different expressions. One built with a solid timber structure, heavy and enclosed. Next to it, a structure in light timber framing structure that meets the ground gently and is fully glazed.

The tectonics, such as the wood-to-wood joints, are visible in every room, both in the interior and exterior. These connections and details are executed with great precision. An example of these details is how the windows are seamlessly integrated into the timber in the timber framing structure. These window attachments create a contemporary expression to the historically enclosed timber framing structure. A creative window mounting where a strong collaboration between contemporary architecture and craftsmanship becomes evident. The materials are honest: logs, timber, and tadelakt are exposed in their raw form.

While the scale and functions differ from the project in this master's thesis design proposal, the focus on showcasing traditional, local timber constructions and the emphasis on craftsmanship in the architecture are why it serves as a reference. The project is an example of Critical Regionalism, with a strong connection to history, place, and culture, interpreted in a contemporary way.

Figure 3 <
Höghult Timber Framing. Photograph by Mikael Olsson (n.d), from Fabel Arkitektur.

Figure 4 ^
Höghult, nominated for the 2024 Träpriset. Photograph by Emil Nordin (2024), from Svenskt Trä.

Figure 5 <
Timber Framing window detail. Photograph by Mikael Olsson (n.d), from Fabel Arkitektur.

2.2.3 Allmannajuvet

Architect Peter Zumthor's work demonstrates the importance of a close relationship with construction and craftsmanship. Precision in construction is always a central element, as is the significance of respecting the site's history. These aspects are clearly present in Zumthor's project, the Allmannajuvet Zinc Mine Museum, completed in 2016 along the Norwegian Scenic Route in Norway.

The project consists of three volumes: a museum, a café, and a service building, all connected by paths and stairways. Its purpose is to shed light on the mining activity that took place at the site in the 19th century and to make its memory accessible to visitors.

The approach to the project is based on deep analysis of the context, culture, and materials. The mine shafts were narrow with low ceiling height, not possible to stand upright, and this fact influenced the design. A humble attitude is reflected in all decisions, though not a poor one.

The theory regarding the site's historical identity is expressed partly through the use of zinc. For instance, the handles for all the volumes are made of roughly forged zinc, which is the first physical contact visitors have with the project. The black colour of the façade and interior symbolises human anxiety, representing the lives lost during the mine's operation. (Slessor, 2017)

It is a reference project based on its historical connection to the site, and the atmosphere is shaped by this history. The construction respects the surrounding nature. The rock is preserved, and the architecture is designed around stilts that lightly meet the ground. Light in appearance, but incredibly complex from a technical perspective.

Figure 6 <
Allmannajuvet Mining Café.
Photograph by Per Berntsen
(2016), from perberntsen.com.

Figure 7 >
Allmannajuvet Mining Gallery.
Photograph by Per Berntsen
(2016), from perberntsen.com

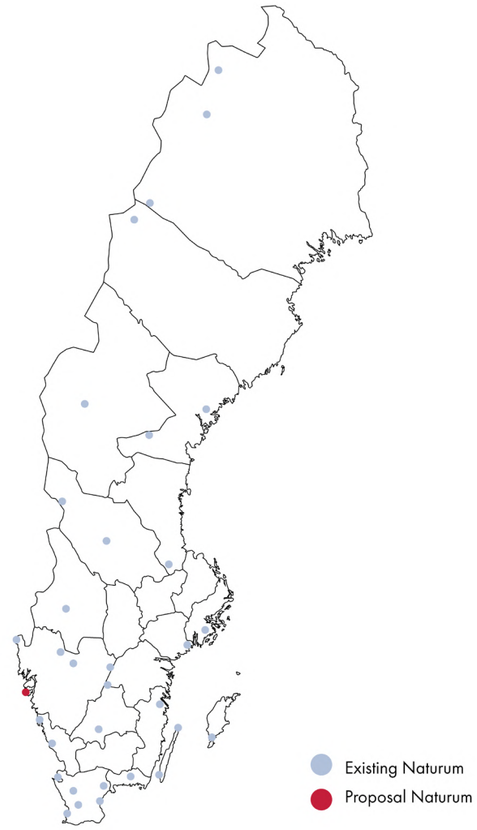
2.3 Naturum

Based on the Swedish Environmental Protection Agency's guidelines (Riktlinjer För Naturum, 2015), a Naturum serves as an entrance to a national park or a nature reserve. A building with the goal of inspiring visitors before they explore the surrounding nature. The entrance to the Naturum is free of charge, ensuring that everyone can access the building and the information it provides. The location should be in close proximity to an attractive natural area, national park, or nature reserve.

Naturum Hornborgasjön, designed by White Arkitekter, opened 1986 and was the first Naturum where great emphasis was placed on architecture. This project is based on three principles, which subsequent Naturum designs have followed implicitly. These unwritten principles are outlined below (Caldenby et al., 2013):

- Site-specific:
  The nature of the site should be communicated.
- Present ecology:
  Respect the site's natural environment. The ecological footprint should be as small as possible without compromising the architecture's ability to convey the values of nature.
- Contemporary architecture:
  "The building must be seen, must confidently take its place in the setting, communicate clearly and distinctly as a landmark, and in this way articulate the beauty of its surroundings." (p.11).

Today, there are 31 Naturum in Sweden, spread from Öresund in the south to Abisko in the north. All of them aim to educate and raise awareness about nature and the importance of preserving it. Through exhibitions and activities, knowledge and engagement regarding climate change are disseminated. The architecture helps to communicate the surrounding nature, as well as its cultural and historical context.



Geographical locations of Naturums in Sweden.

2.4 Timber Framing

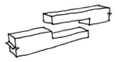
Until 1950, almost all of Sweden's agricultural buildings were constructed using post-and-beam construction, synonymous with timber framing (Stolpverk). The technique was efficient in terms of both material use and time. The amount of material required was reduced compared to the traditional log construction method. Additionally, it was faster to build a structural framework compared to log construction (Lassen, 2021).

There are several types of timber construction. In southern Sweden, traditional types include half-timbering (korsvirke), post-and-plank techniques (skiftesverk), and post-frame construction (stavverk), which are all types of timber framing structures. In central and northern Sweden, log constructions (liggtimmer) have been more used. (Lassen, 2021) Common to all timber framing structures, which differ from log construction, is the following definition: "All constructions where the load-bearing skeleton consists of square, two-side converted or round timber of dimensions four by four inches or bigger, and where the internal and external loads are transferred to the ground by a co-operation between vertical, horizontal and/or diagonally positioned timbers. (Lassen, 2014, p.12)."

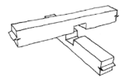
Timber framing constructions are built exclusively with wood. The joints between the timbers are either pure timber cut-out to lock each other or in combination with wooden pegs or wooden wedges/ hooks. The main types of joints are longitudinal joints and transverse joints. The transverse joints are divided into three sub-categories: corner joints, cross joints, and T-joints. (Lassen, 2021)

This historical building technique remains relevant today. It is a pedagogical method where the structure is easy to read, which also creates a sense of security within the building. The construction allows for spacious and flexible interiors, where the structure allows changes to the layout without interfering with the load-bearing framework. The craftsmanship creates beautiful details in the timber joints, and the material itself can be allowed to take centre stage and create a tactile quality in the architecture. Combining this traditional building technique with modern innovations makes it relevant today, allowing the craftsmanship to live on.

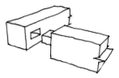
Figure 8 <
Timber frame and log structure.
Photograph by Mikael Olsson, (n.d), from FABEL Arkitektur.



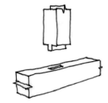
Longitudinal joint



Cross joint



Corner joint



T-joint

Figure 9 >
The illustrations show examples of timber joints. The top one belongs to the category of longitudinal joints, while the three below are transverse joints.

3 Design Proposal

3.1 Context

3.1.1 Härön Nature Reserve

Härön is an island located just outside the village of Kyrkesund on Tjörn. A small ferry takes you across the strait in five minutes. The eastern part of the island has the most buildings, where the location is sheltered and the strait to Tjörn is narrow. The rest of the island consists of a nature reserve covering a total of 707 hectares. Visitors can explore the reserve through trails that start from the village, with the ferry dock being central to the paths.

Härön features a beautiful archipelago landscape, dominated by bare rocks and heaths. Cattle graze on the outlying fields, and the heather is burned to maintain its vitality. In the valleys, the soil is richer, and agriculture has been practiced here since the early Middle Ages. Today, one farm, Gården Änga, continues to operate traditionally. Gården Änga was bequeathed to the Swedish Sea Rescue Society and later purchased by the Swedish Environmental Protection Agency in 1993. (Åshede, 2016)

The aim of the nature reserve includes preserving the operation of Gården Änga, one of the best-preserved farms on the west coast. The island's farmland has never been exposed to chemical pesticides or fertilizers but has instead been fertilized with seaweed or natural fertilizers. The biodiversity is thriving, as is the birdlife. (Åshede, 2016)

Härön has been inhabited intermittently since the 16th century. There's remains of siple stone dwllings from that time. These dwellings look like low stone walls where fishermen would set up simple, temporary shelters during the season. There are around 70 ancient remains on Härön. Throughout history, the island's inhabitants have engaged in both fishing and farming. The population has fluctuated greatly due to the abundance of herring. Today, most of the buildings on the island are summer homes (Åshede, 2016). Grain production for England was also significant. The island's grain warehouse, Magasinet, facing the strait, has a rich history, transitioning from a grain empire to a bathhouse, to a salting facility, to an agricultural trade, and is now converted into a restaurant and hotel. It is the only business currently operating on the island (Lind, 2002). The island holds a rich cultural history, along with diverse plant and animal life both on land and in the sea.

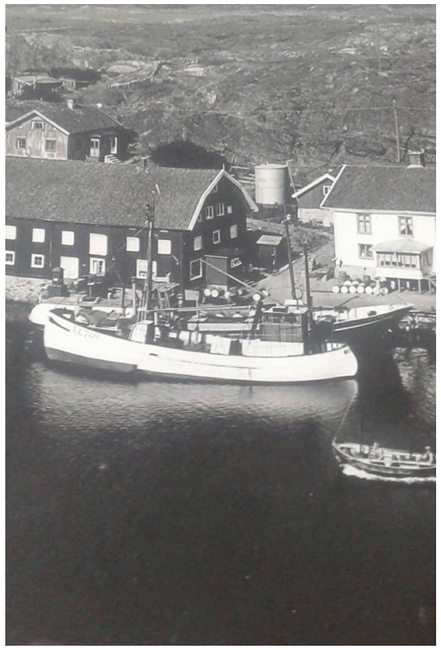


Figure 10 >
Magasinet. Photograph from Häröns historia (n.d)

Figure 11 v
Gården Änga. Photograph from Häröns historia (n.d)

3.1.2 The Site

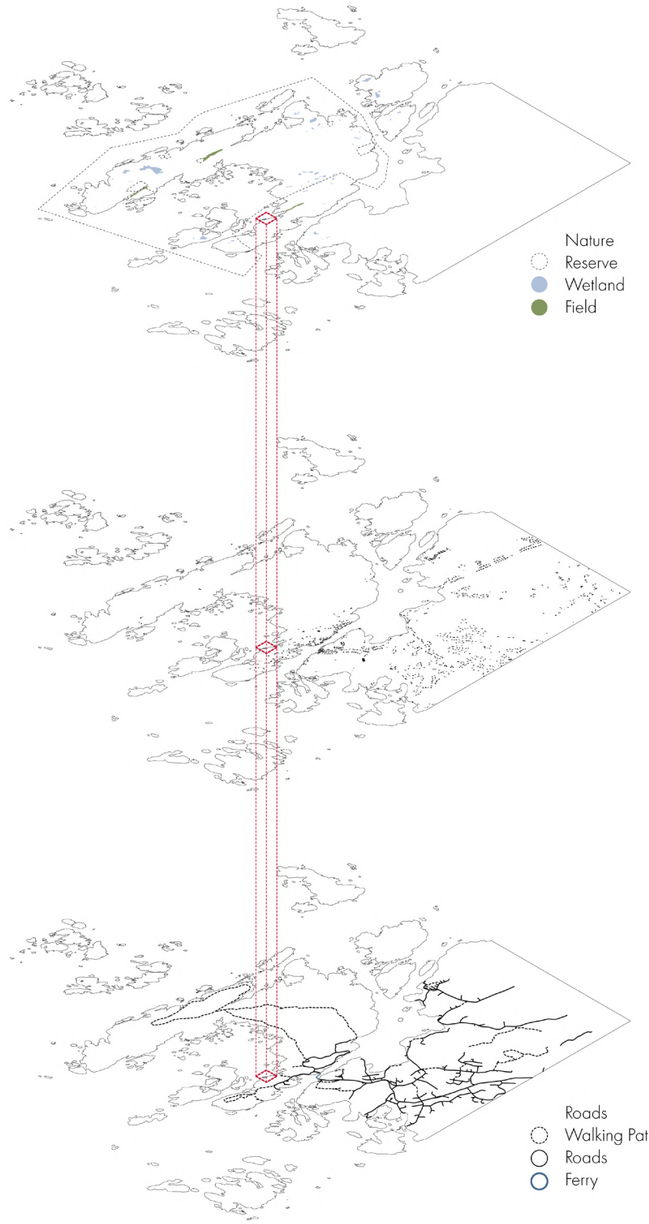
Most of Härön consists of a nature reserve. However, the village, situated between parts of the reserve, is not part of the protected area. The site for this thesis is located within this zone, between the preserved nature areas. The island's natural topography is varied and mosaic-like, with rocky landscapes interwoven with wetlands and fields.

The site is well connected to the small village. The buildings on the island are densely clustered on the eastern side, in a sheltered position facing the strait and the village of Kyrkesund on Tjörn. The proposal is situated near the village but oriented toward the bay, offering views of the nature reserve.

Härön is a car-free island, connected to Kyrkesund by ferry. The existing network of paved roads forms a loop around the village. By designing a boardwalk that links to the existing walking paths, the site for the proposal becomes accessible. The site is positioned between two of the island's hiking trails.

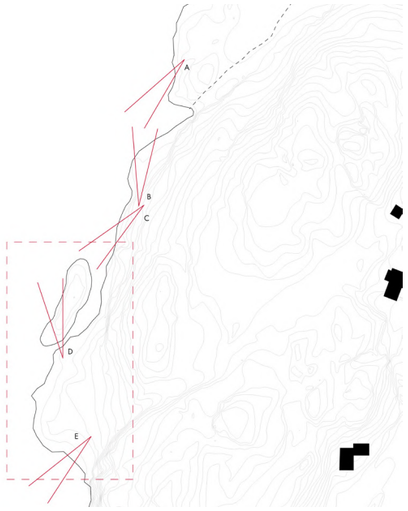
The site extends along the cliffs, where a boardwalk is to be designed, reaching out to a small islet and further into a bay. The islet is a rocky little island, located 6 meters from the shore. It stretches 40 meters in length, is 10 meters at its widest point, and rises 3 meters above the water surface.

Beyond the islet, the boardwalk continues into the bay til a area where a kayak shelter will be proposed. The idea is for the Naturum to provide kayak tours into the nature reserve, where this serve as a starting point. Likewise, visitors arriving by sea kayak can access the Naturum and stay overnight in the designated kayak shelter.



Contextual site diagram.

Map Härön
1:15 000



A. Facing southwest towards the site

B. Rocky landscape

Photographs from the Site.

C. The islet

D. View over the islet towards the north

E. Soutwest view from the bay

3.1.3 Identifying Typology

Härön's buildings and landscape are typical of the landscape of Bohuslän. The vernacular architecture consists of dwellings, boathouses, and barns for storage of either herring or grains.

The dwellings are 1 to 1.5 stories high, placed closely together with their long facade facing the water. The boathouses are positioned by the shoreline, often with their "feet" dipping into the sea. They are placed close to each other along the shoreline. The storage buildings are similar to the boathouses, but larger in scale, both in height and length. In contrast to the dwellings are these two types of buildings placed with their gable towards the sea.

A common feature among these types of buildings is their gabled roofs. Many with red tiles, while some boat houses and barns have corrugated metal roofs. The gabled roofs are highlighted by prominent eaves.

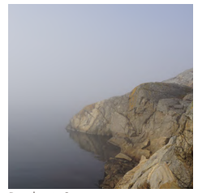
The vernacular architecture has symmetrical facades, the openings behave in orderly, repetitive relation. The degree of decoration distinguishes the dwellings from the other two types of buildings where the residences are richly decorated with decorative woodwork, "snickarglädje", in contrast to the other types.

The building materials are predominantly wood, with stone foundations. The houses are traditionally constructed using timber frames and clad with vertical board-and-batten siding. Boathouses and barns were historically uninsulated, timber-framed, and clad with vertical planks. The colour palette is varied yet cohesive, featuring Falu red, pale ochre, shades of blue, and white. Some wooden facades are left untreated, allowing the wood to weather naturally to a silvery grey. Black can be seen on the doors of the boathouses.

Gabled roofs + Eaves + Tiles

Stone + Wood

Stone Foundation



Rocks + Sea

Fields + Meadows

Heathlands

3.1.4 Translating Typology

Rooted in Critical Regionalism, the site's characteristic features have been translated into a contemporary language. Strongly and visibly anchored, the design proposal is firmly connected to its location without merely imitating what once was.

Like the traditional boathouses, the volume extends over the water, partially anchored to the rock, partially cantilevering over the sea. The volumes reflect how boathouses and warehouses are positioned along the Bohuslän coast.

The timber framing construction from the old warehouses has been preserved, yet the volume does not feature the distinctive gable roof. Instead, a gently sloping roof clad in corrugated metal replaces the traditional red roof tiles.

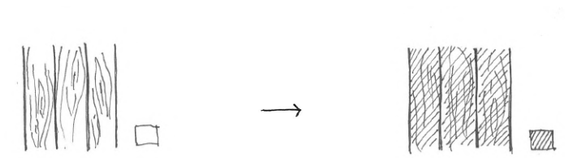
The seemingly unstable, stacked stone foundations of the boathouses have been reinterpreted as massive cast-in-place concrete supports, anchored to either the islet or the seabed. The meeting of materials between foundation and timber structure creates a clear contrast in expression, while also reinforcing the relationship between the two.

Finally, the charred wooden facade, Shou Sugi Ban, reflects the aged, untreated, and weathered facades of boathouses. The charred wood is highly resistant to the harsh coastal climate and a sustainable material choice. A contemporary architectural interpretation where the site's identity remains evident.

Siteplans of Bohuslän → Coastal Extension

Timber Framing + Gable Roof → Timber Framing + Mono-Pitched Roof

Stacked Stone Foundation → Concrete Supports



Weathered Wood → Charred Wood (Shou Sugi Ban)

Diagram translation

3.1.5 The Exhibition

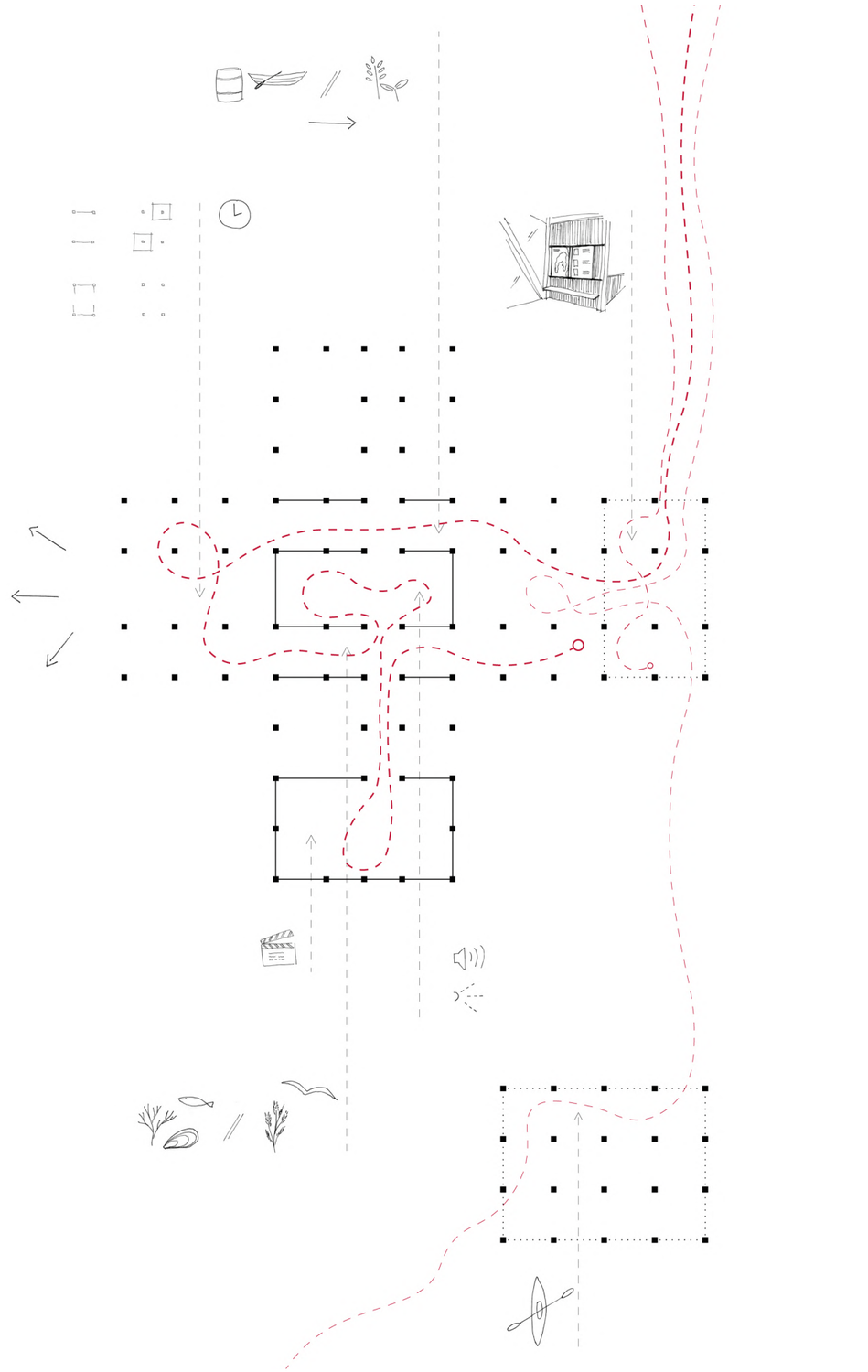
Naturum Härön will showcase both the fascinating nature and the rich culture found on and around the island. Through the strategic design of the architecture in parallel with the exhibition's layout, visitors are guided seamlessly through the various parts. The exhibition captures a wide range of perspectives, from the eye level of the smallest children, to the teenager, to the elderly lady with extensive prior knowledge. In a weather-protected area outside the entrance, informational panels present nature, culture, and trails, offering concise information for those passing by when the Naturum is closed.

The exhibition begins at the reception area, where the themes of nature and culture are separated into two alternative pathways. These passages inform visitors through reading panels. On the cultural side, the walls present a timeline and information about agriculture and fishing. In the nature-focused passage, attention is given to biodiversity in both flora and fauna, on land and in the sea.

Along these passages, an opening invites visitors into a space with exhibition areas connected to the themes of the two surrounding axes. One side of the room is dedicated to artifacts, while the other presents an interactive and playful area where young children can explore. From here, an axis leads toward the auditorium, a closed space designed for lectures and media presentations.

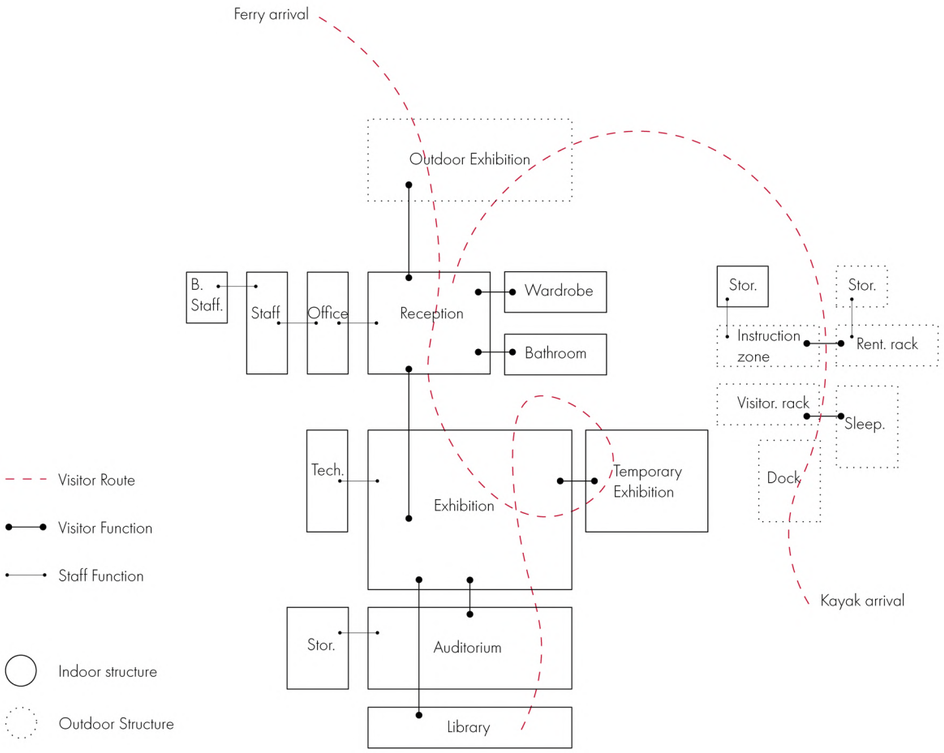
At the end of the passages, the volume opens up and cantilevers out over the sea. Visitors find themselves in a room that hovers three meters above the water, offering a 180-degree view of the nature reserve, sea, and land. It is a flexible space for temporary exhibitions, a requirement set by the Swedish Environmental Protection Agency (Riktlinjer för Naturum, 2015). Between the four timber columns, exhibitions can be arranged with great freedom, allowing for the creation of temporary spatial configurations.

The exhibition introduces the nature reserve as a protected area, shielded from the forces of nature. In contrast, visitors are invited to get closer to marine life through guided kayak tours, as a significant percent of the reserve consists of marine environments.



Exhibition overview map.

3.2 Program



Naturum

Outdoor Exhibition	30m²	Auditorium	40m²
Reception	30m²	Staff Room	9m²
Wardrobe	9m²	Office	9m²
Temporary Exhibition	60m²	Technical	9m²
Exhibition	80m²	Staff Bathroom	3m²
Library	19m²	Bathroom	9m²
Storage	10m²		
		Total	345m²

Kayak Shelter

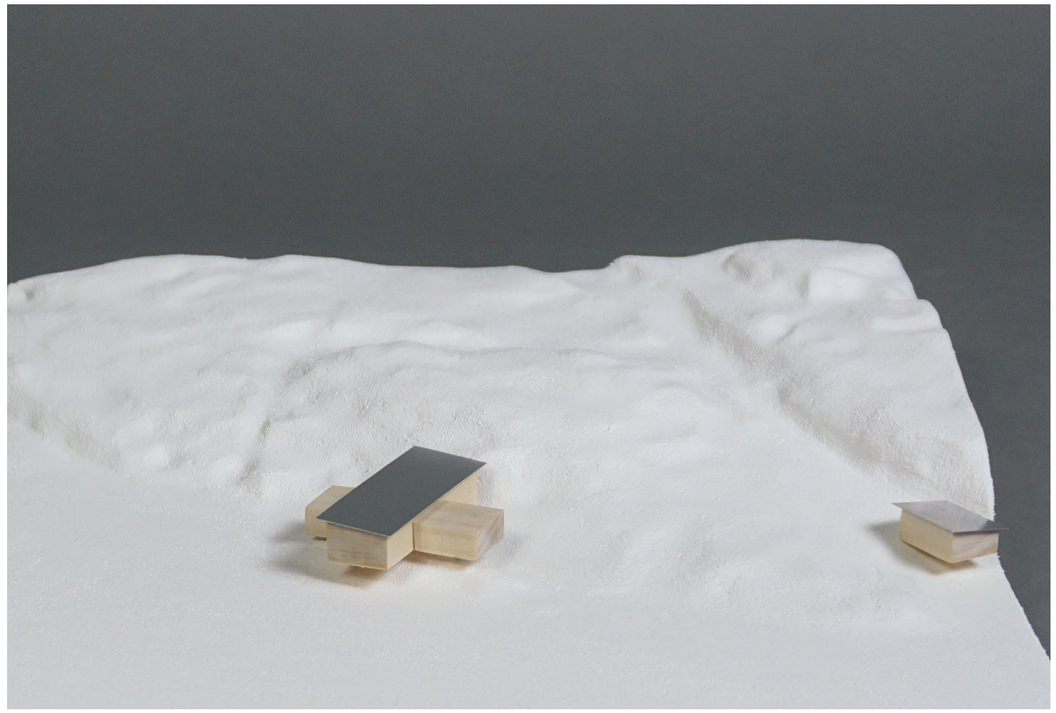
Visitor kayak rack	4m²
Rental kayak rack	4m²
Instruction zone	14m²
Outdoor Storage	2m²
Storage	3m²
Sleeping area	6m²
Total	65m²

Spatial program

1 Naturum
2 Kayak Shelter

Site Plan
1:1000

Site Model
1:500



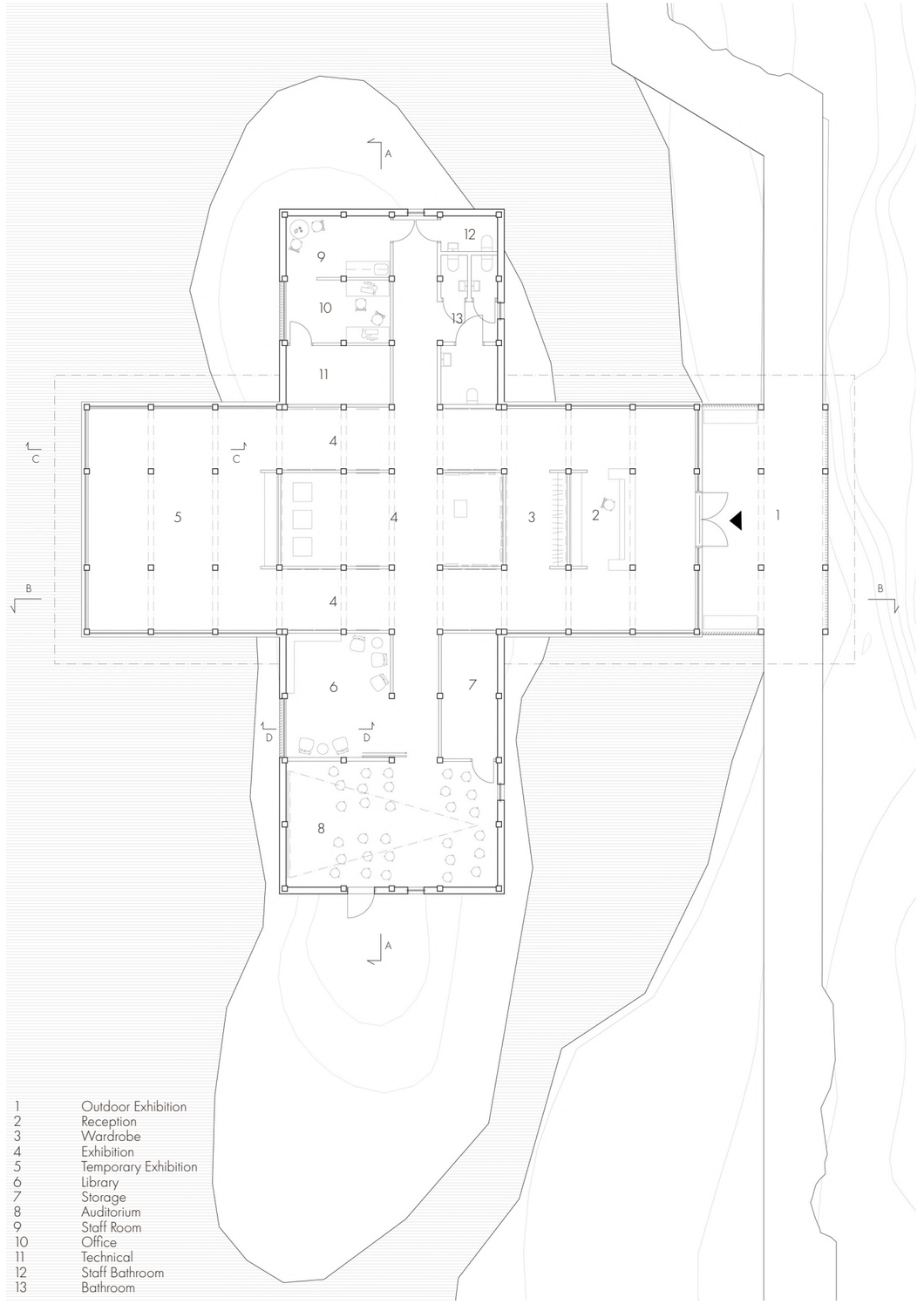
3.3 Naturum Härön

Visitors arriving by ferry reach the Naturum via a boardwalk anchored along the rock. From the boardwalk, a clear sightline invites visitors towards the Naturum and its reception, and after 100 meters, the exposed timber framing structure of the Naturum extends over the walkway. A weather-protected, semi-exterior space welcomes visitors. The roof extends outward, providing shelter from the rain. This space serves as a meeting place and an area for an outdoor exhibition that remains accessible even when the Naturum is closed.

Passing through the entrance doors, visitors step into a spacious foyer where the reception is centrally located. The generous ceiling height of four meters is accentuated by the exposed braces and partition walls that align with the braces, three meters of height. These partition walls break down the scale and divide the exhibition areas along axes. At the end of the axes, an exhibition hall for temporary exhibitions opens up, fully glazed towards the nature reserve. This part of the structure extends over the water, echoing traditional boathouses.

The library and auditorium are situated in the southern part of the building. Here, the ceiling height is lowered, creating a more intimate atmosphere. The auditorium is relatively enclosed, apart from two small square windows inspired by the small openings in traditional boathouses. In the adjacent library, a large square window is placed. An external timber slat screen creates varied views from within the space.

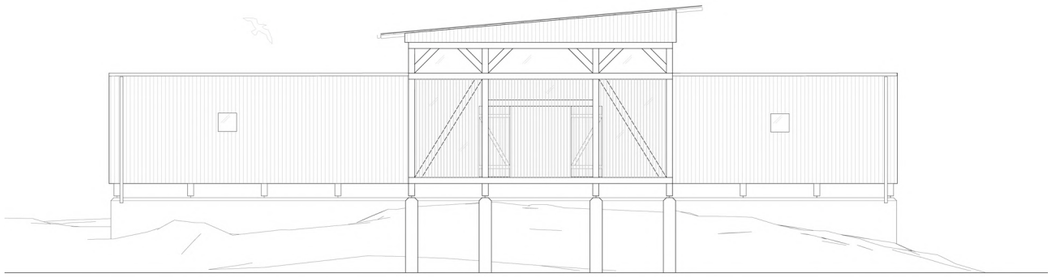
From this southern outdoor area, a third axis cuts through the volume, creating a sightline through the structure and towards the north. At the opposite end of this axis, staff areas and restrooms are grouped together.



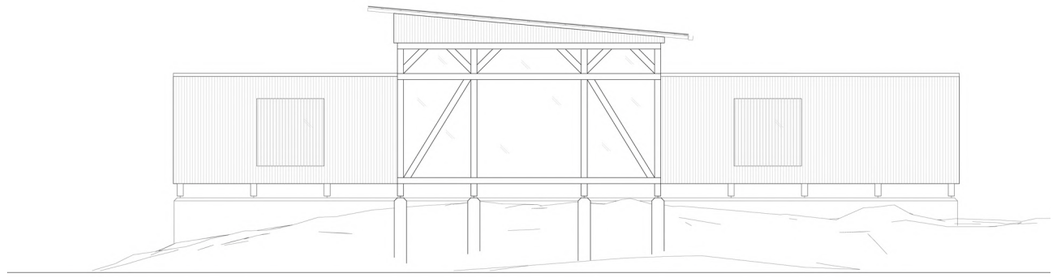
1 Outdoor Exhibition
2 Reception
3 Wardrobe
4 Exhibition
5 Temporary Exhibition
6 Library
7 Storage
8 Auditorium
9 Staff Room
10 Office
11 Technical
12 Staff Bathroom
13 Bathroom

Naturum Floor Plan
1:200

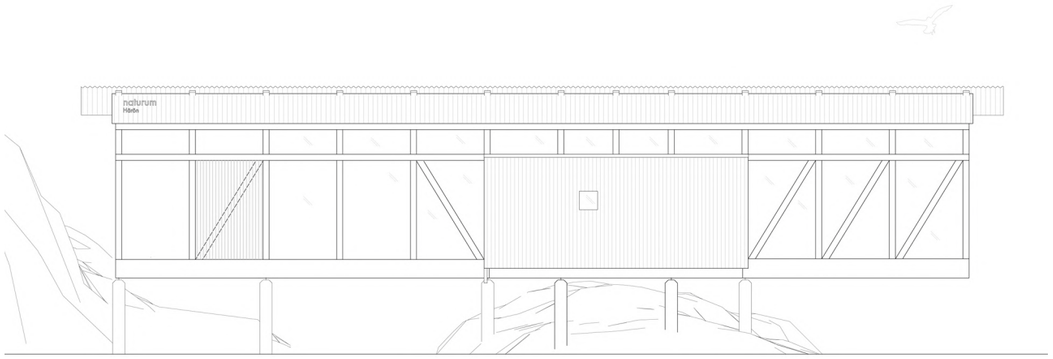
View towards the entrance of the Naturum.



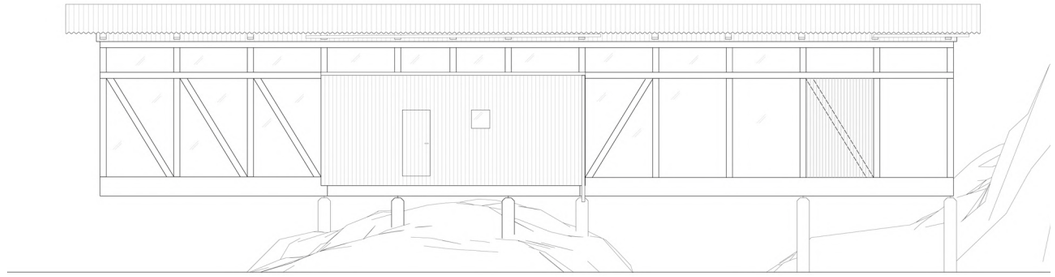
South East Elevation



North West Elevation



North East Elevation

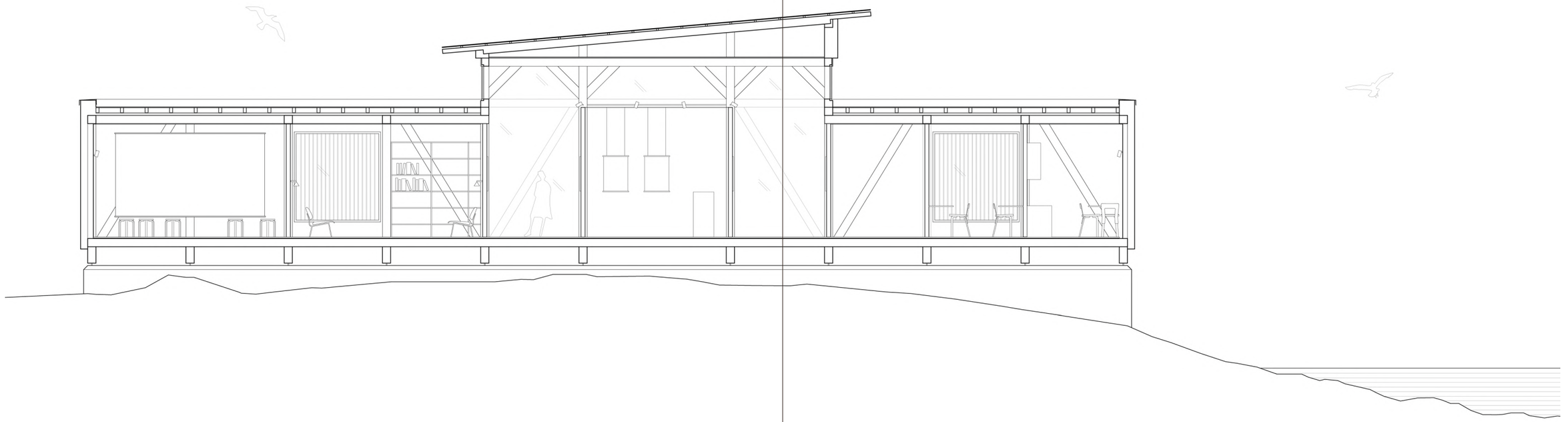


South West Elevation

Elevations Naturum
1:200

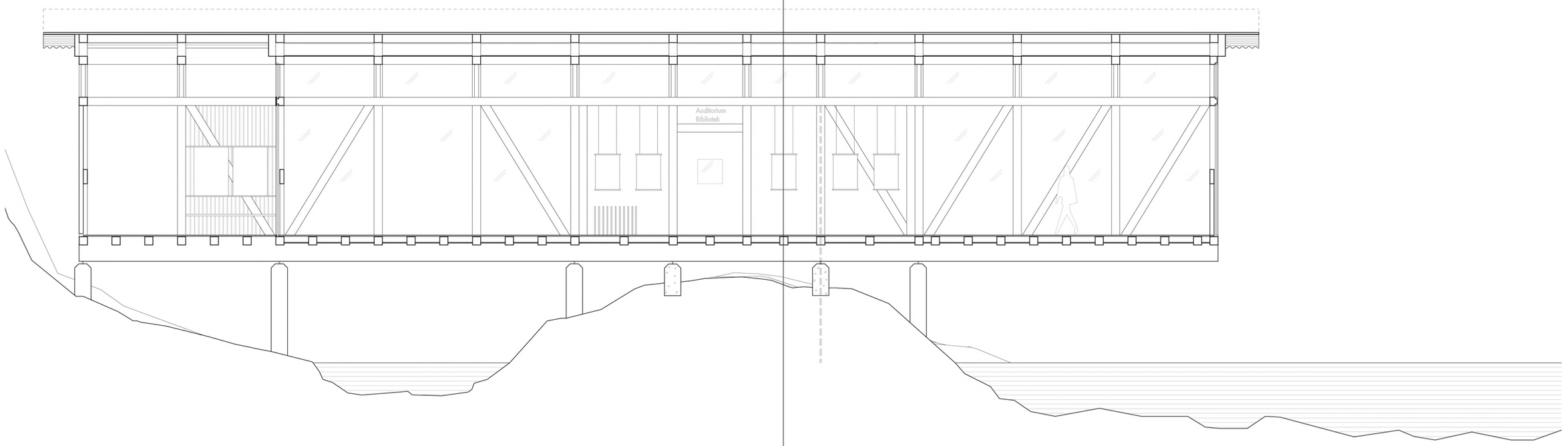
0 5 10m

View from the sea towards the Naturum.



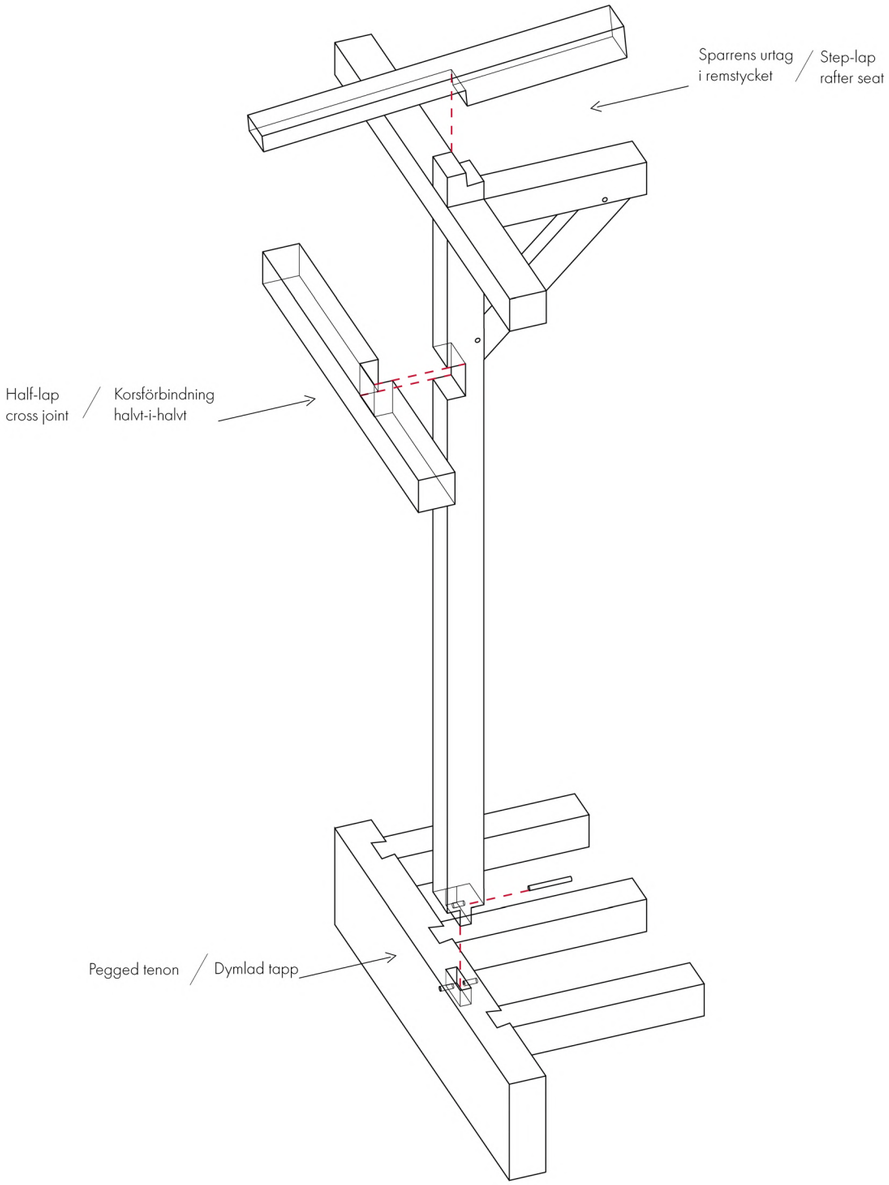
Section A-A
1:100

0 5m



Section B-B
1:100

0 5m



The timber post is joined to the glulam sill with a pegged tenon joint, a reinforced connection that improves the tension strength through the use of the peg.

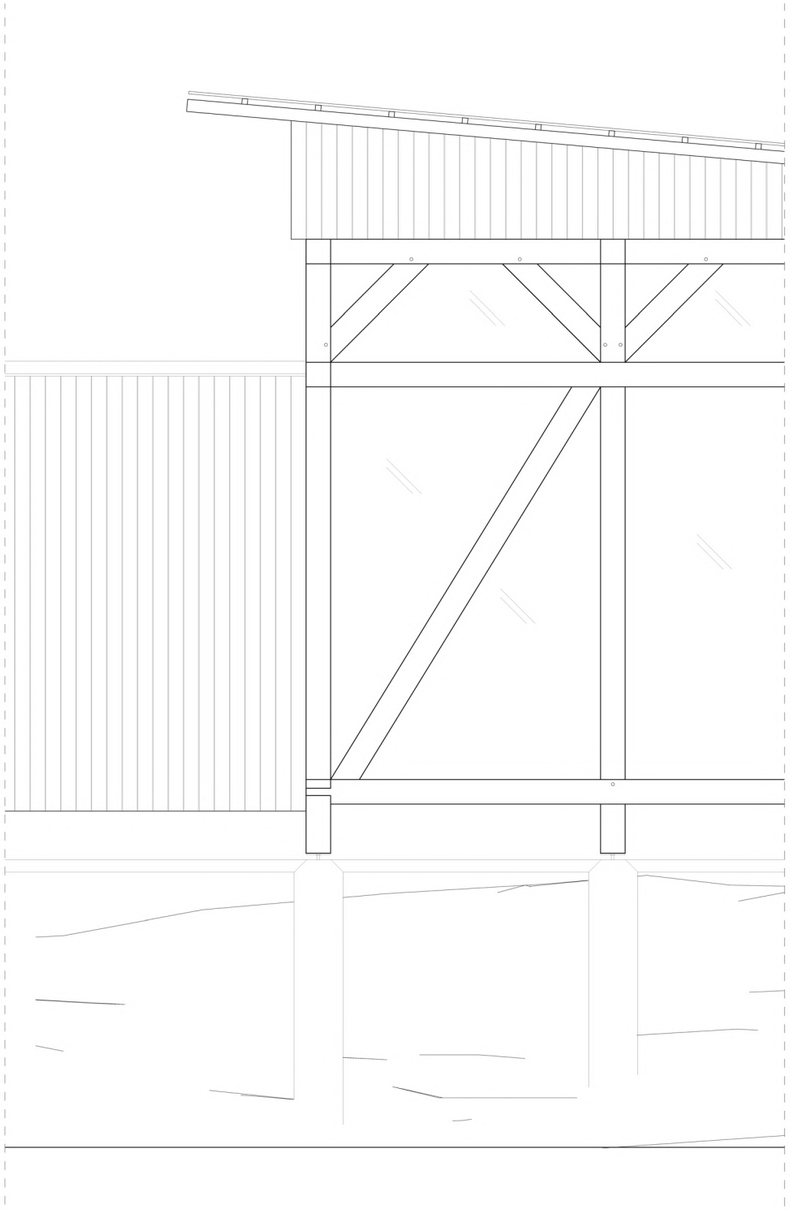
Higher up along the post, a girt (window beam) hooks in to provide support, both above and below. Both the post and the girt run seamlessly through a half-lap joint.

The rafter rests against the post in a step-lap rafter seat and continues outwards, with half its depth forming the eave.

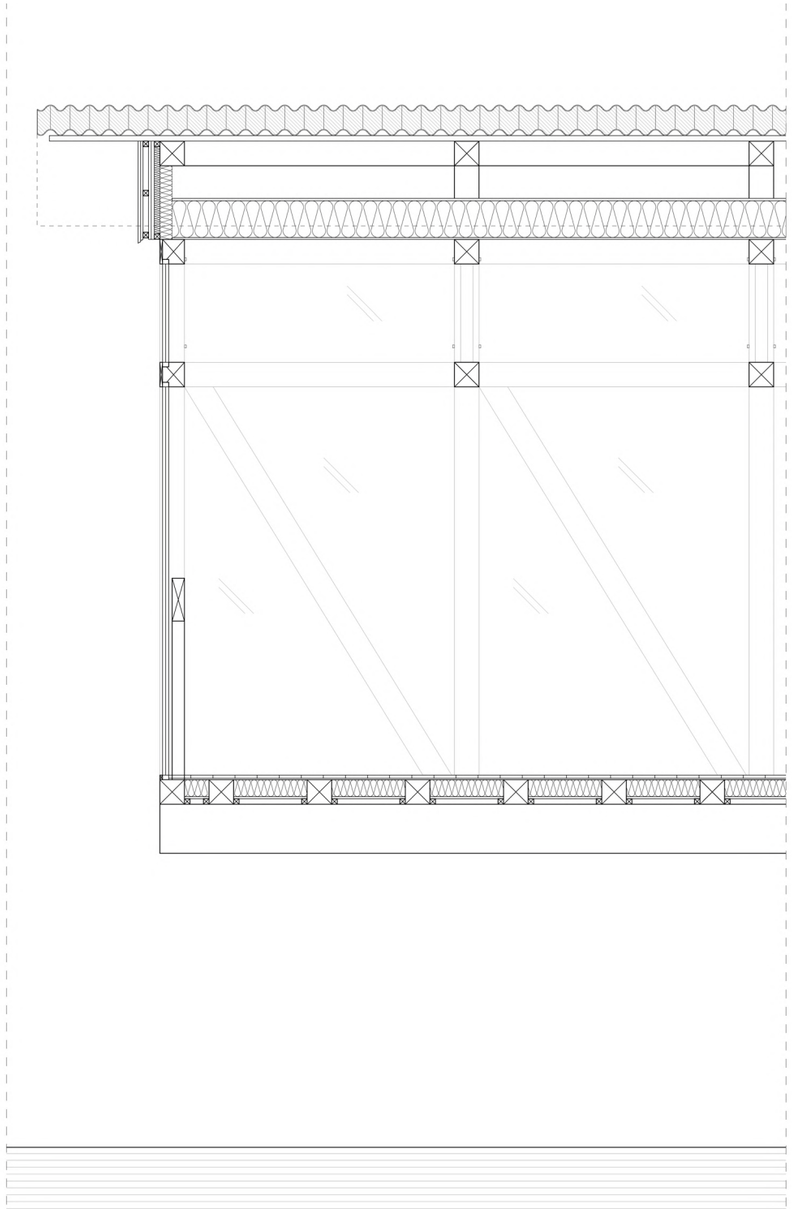
0 0.5 1.25m

Axonometric Timber Joinery
1:25

View from the reception along one of the exhibition axes towards the glazed temoporary exhibition area.



Detail Elevation and Section C-C
1:50



Roof

Sinus corr. zinc-magnesium, 51 profile height
45x45 batten, c/c 600
200x200 timber trusses, 200x100 at eaves, c/c 2400
Vapour-permeable roofing membrane
19 wood fibreboard
300 wood fibre insulation
Vapour control membrane
22 pine plywood (interior cladding)
200x200 exposed tie beam (hearthwood pine) c/c2400

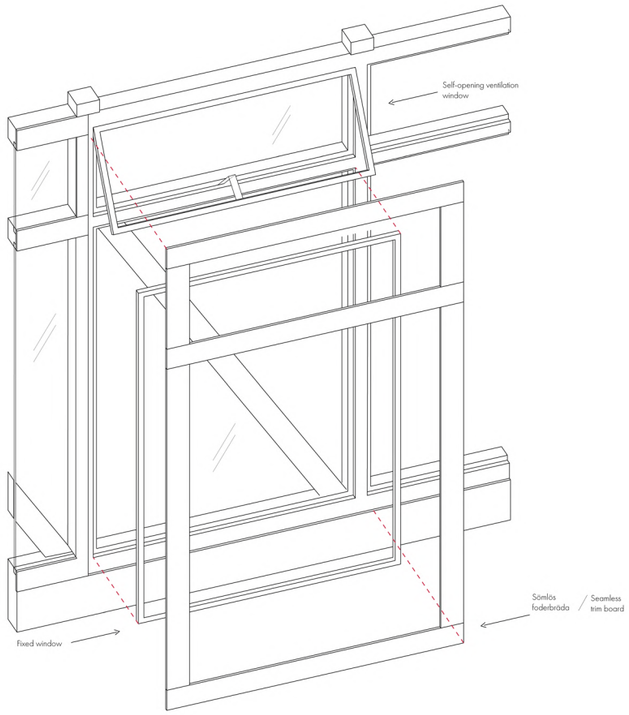
Wall above glazing

25x120 vertical charred spruce cladding
18 structural plywood
45x45 batten c/c 600
22 ventilated air gap
25 wood fibreboard (västkustskiva)
45 wood fibre insulation
100 wood fibre insulation
Vapour control membrane

Floor

Wind barrier (vapour-permeable)
18 bottom board
150 wood fibre insulation
Vapour control membrane
15 wood fibreboard
25x180 solid spruce floorboards

0 1 2 2.5m



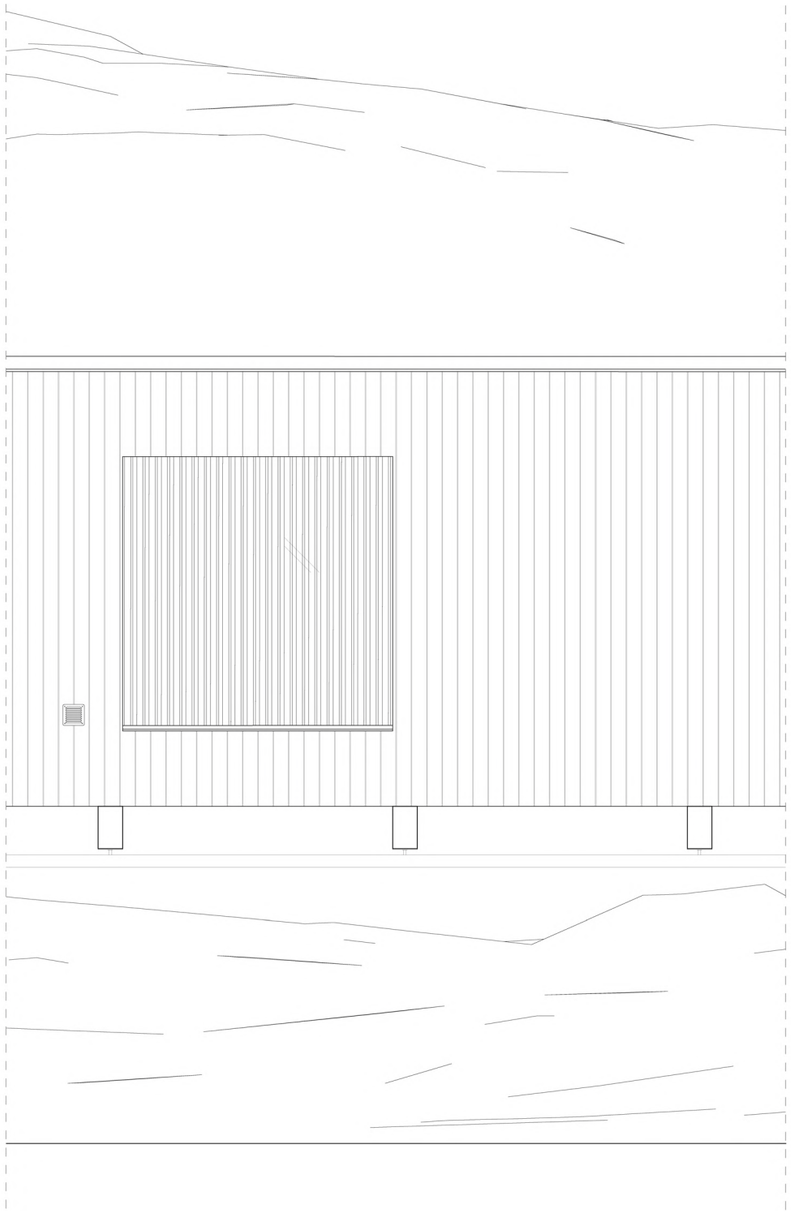
The window is seamlessly integrated through recesses in the sill, post, and girt. The frame is fitted into the opening and concealed with a cover board, creating the appearance of a continuous timber structure. The brace is positioned on the interior side of the glazed element.

Every other high-level window is automatically openable. When the indoor temperatures rise on sunny days, the windows open automatically to allow warm air to ventilate out. In extreme heat, two air pumps can assist in further cooling.

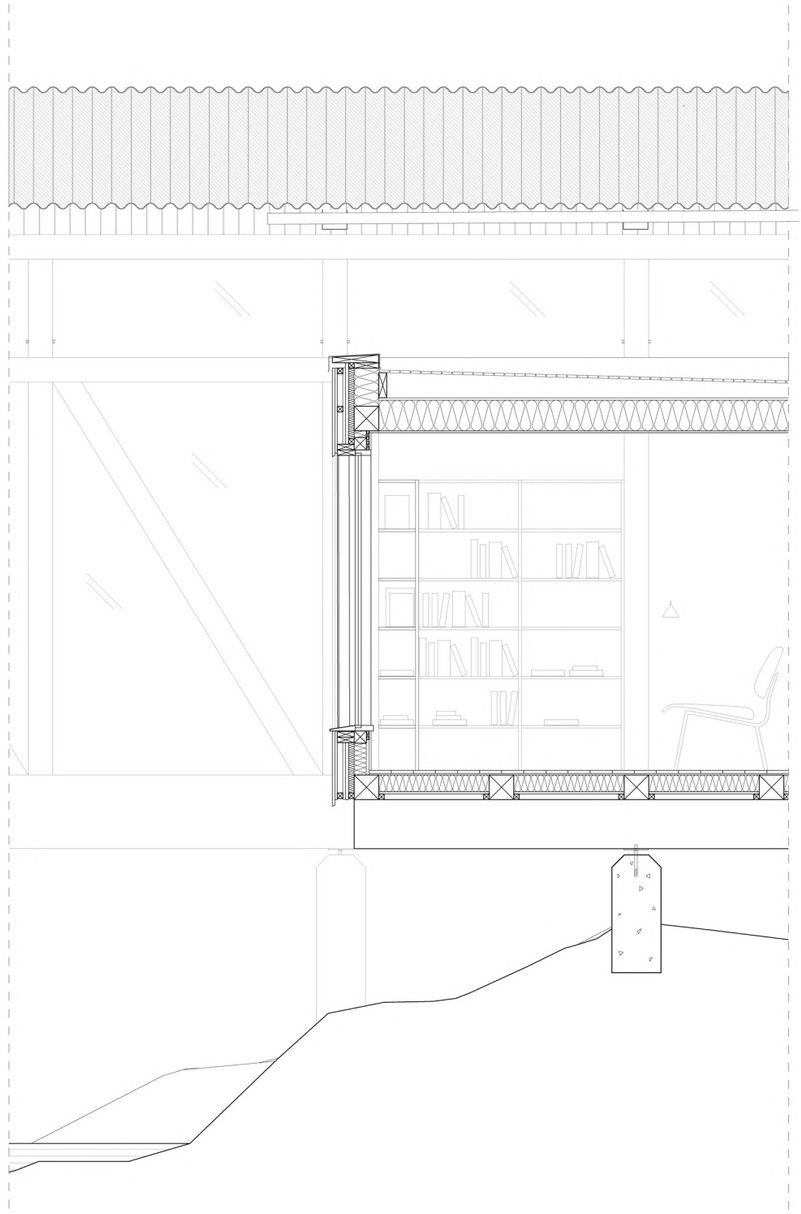
0 1 2 2.5m

Axonomtric Window Detail
1:50

View from the flexible exhibition space, overlooking the sea through the fully glazed facade.



Elevation and Section D-D
1:50



Roof

Bitumen roofing felt
Tongue and groove boards
Tapered roof beams, 1.5 °, c/c 1200
Roofing membrane (vapour-permeable)
19 wood fibreboard
250 wood fibre insulation between tie beam (hearthwood pine)
Vapour control membrane
22 pine plywood (interior cladding)

Wall

25x120 vertical charred spruce cladding
18 structural plywood
45x45 batten c/c 600
22 ventilated air gap
25 wood fibreboard (västkustskiva)
45 wood fibre insulation
100 wood fibre insulation
Vapour control membrane
22x70 fixing batten
22 pine plywood (interior cladding)

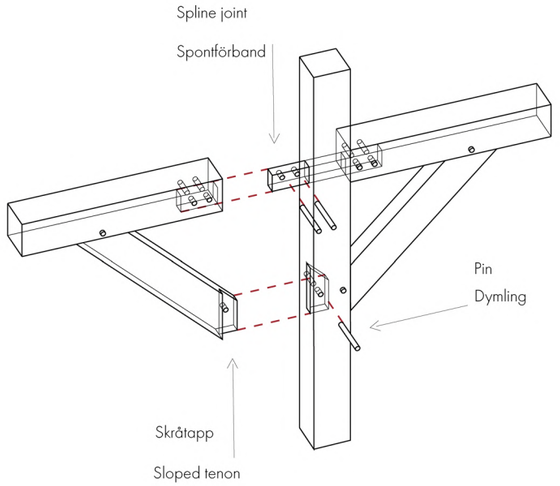
Floor

Wind barrier (vapour-permeable)
18 bottom board
150 wood fibre insulation
Vapour control membrane
15 wood fibreboard
25x180 solid spruce floorboards

0 1 2 2.5m

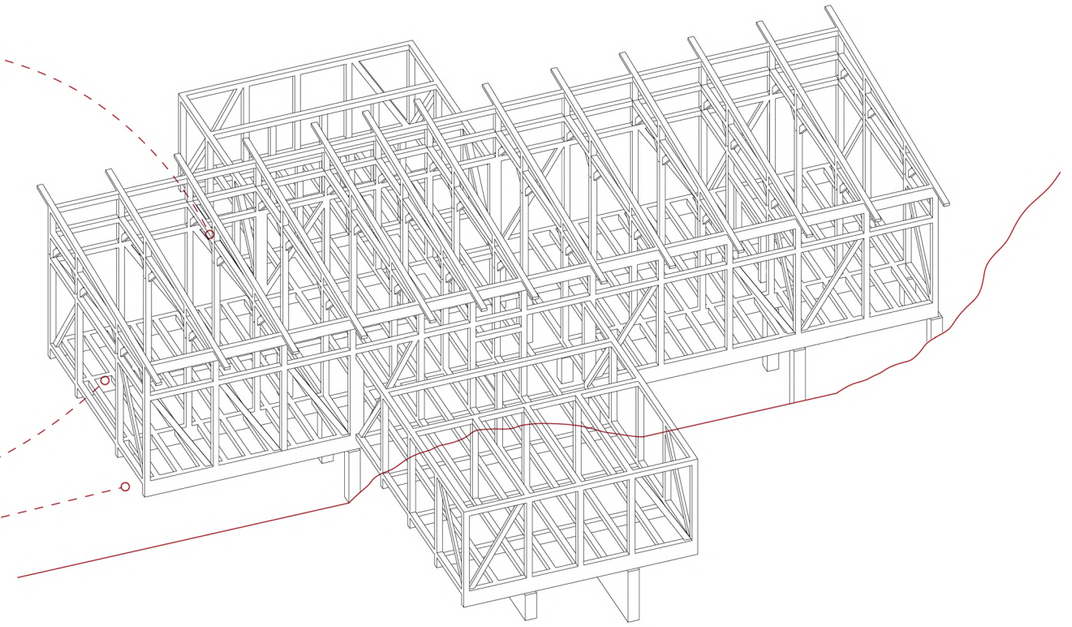
The view gradually opens up through the 30-degree angled timber slat screen positioned outside the window. The fixed slats provide solar shading throughout the day and cast patterned shadows in the interior.

A spatial sequence unfolds along the axis, framed by a rhythmic timber structure. Ceiling height and openness shift along the way, from the lower section, through the open exhibition space, to the more intimate volumes of the library and auditorium.



0 0.5 1.25m

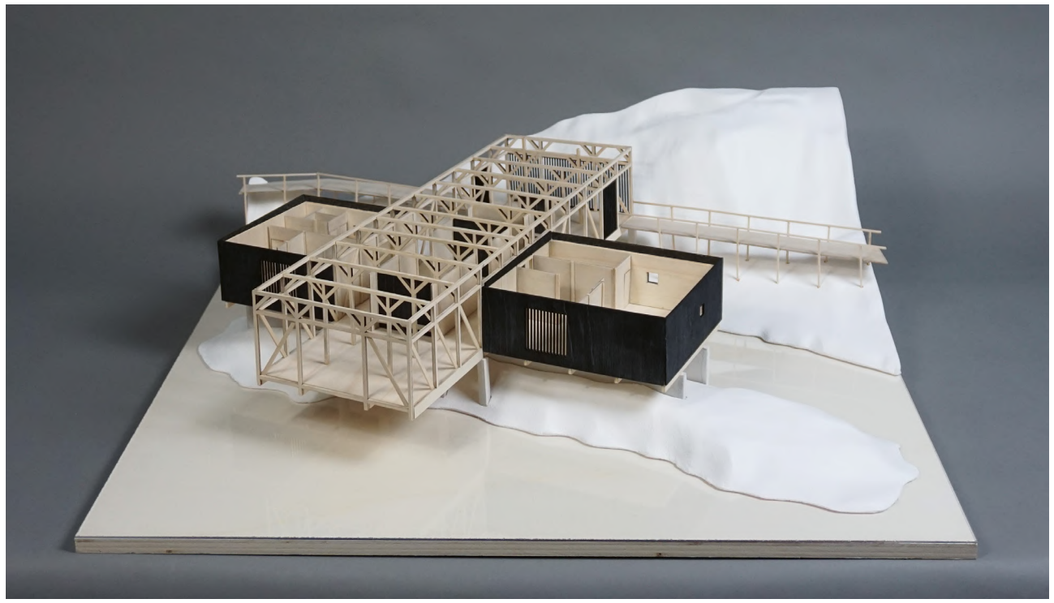
Timber Joinery
1:25



0 5 10m

Axonometric Structure
1:200

Naturum Model
1:50

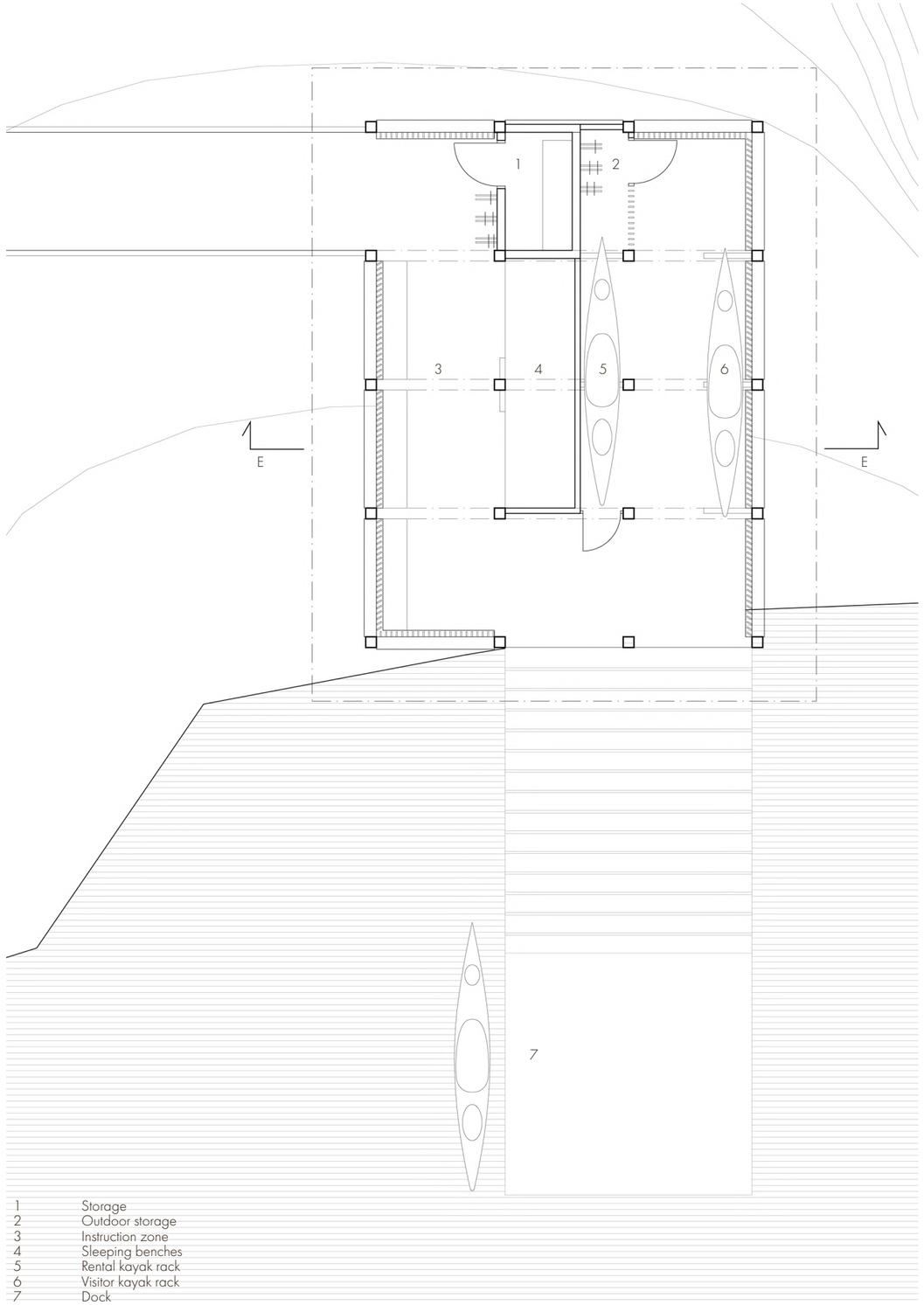


3.4 Kayak Shelter

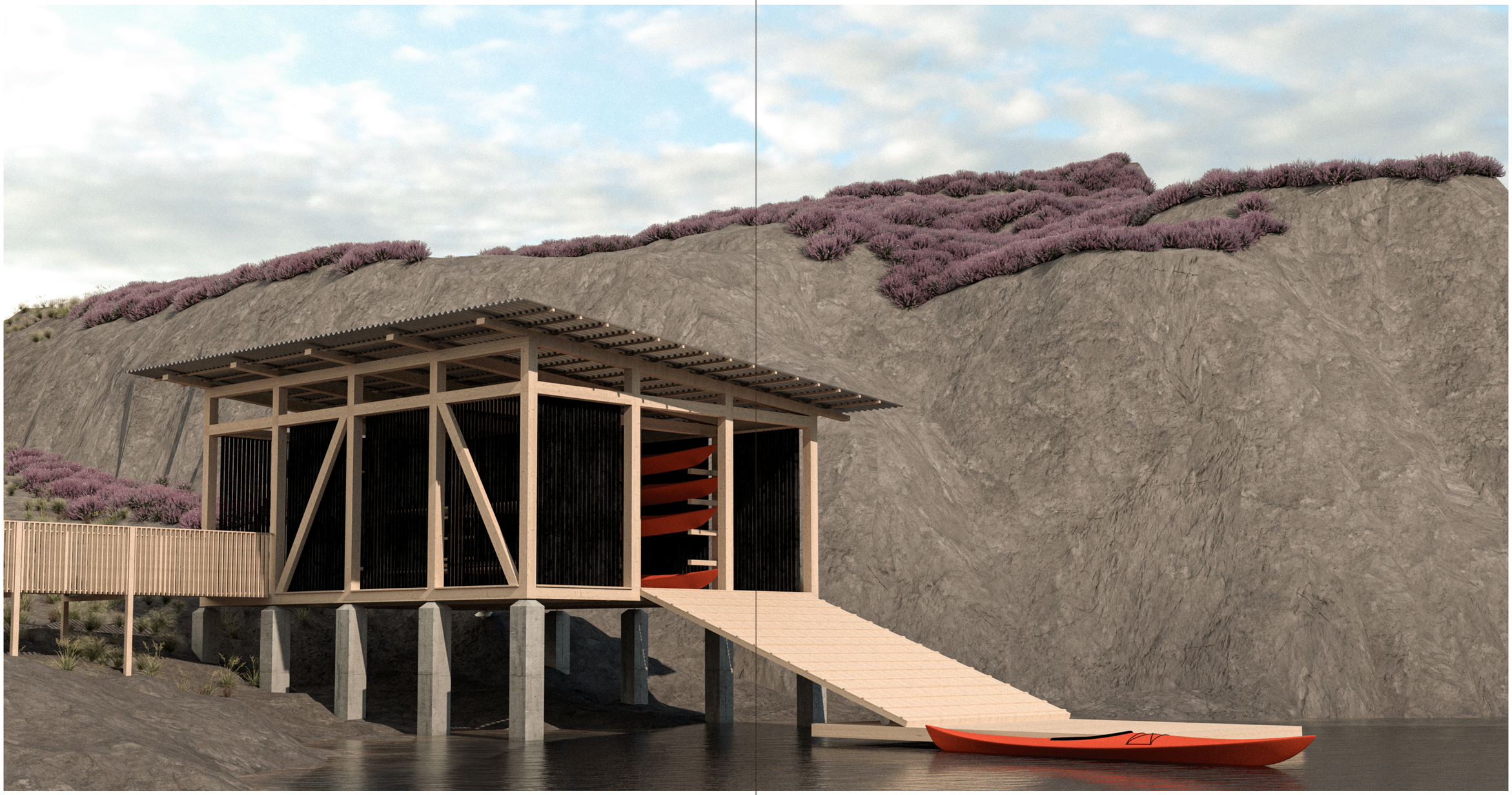
Beyond the Naturum, the boardwalk continues to a kayak shelter. From here, the Naturum can organize small guided kayak tours within the nature reserve, which also includes marine areas such as the bay and large parts surrounding Härön. Instructions and briefings before the tours can be held at the benches located by the entrance of the building.

Storage for equipment used during the guided tours is located in two storage rooms, one insulated and one uninsulated. The unisolated storage space is located next to the five rental kayak racks.

In addition to the guided tours, the kayak shelter offers good opportunities for ecotourism and welcomes hikers and kayakers to stay overnight. The sleeping platform is built at two levels and accommodates at least four people. Visitors arriving by kayak can store their kayaks under cover in dedicated kayak racks.



Kayak Shelter Floor Plan
1:100



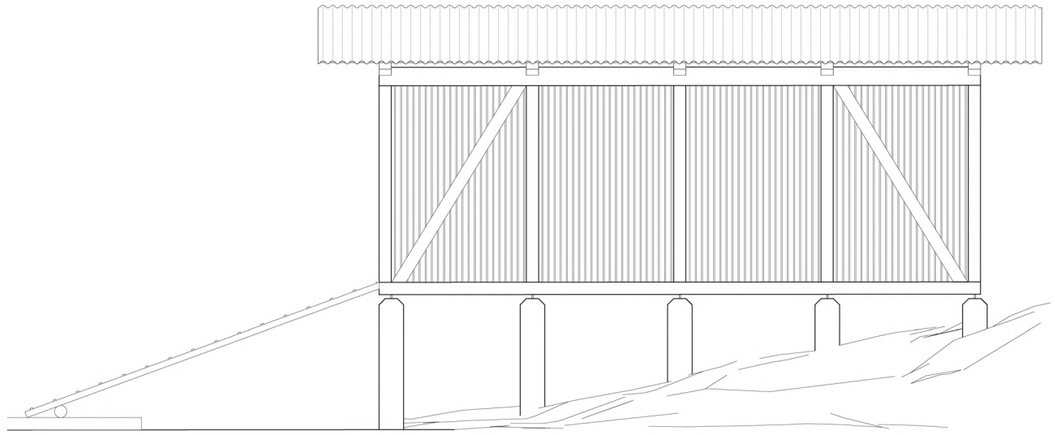
View from the sea towards the Kayak Shelter.

North Elevation

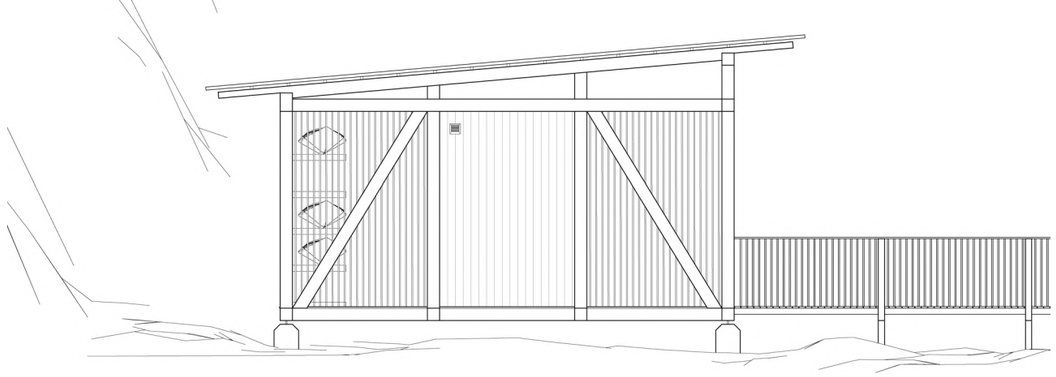
Elevation Kayak Shelter
1:100

0 5m

West Elevation



South Elevation



East Elevation

Elevations Kayak Shelter
1:100

0 5m

Section E-E
1:100

0 5m

View from the entrance to the kayak shelter. Instruction area to the right and overnight accommodation for kayakers and hikers to the left.

Kayak Shelter Model
1:50

Material samples from the project, shown at the exhibition.

4 Discussion

Throughout this project, I have come to understand the complexity of balancing past and present without falling into nostalgia. Identifying characteristic elements and reinterpreting them in a contemporary form is not a straightforward task. While the work is grounded in theories within the field, finding this balance remains a nuanced and layered process.

My personal connection to Bohuslän has been an asset in identifying regional characteristics. At the same time, this closeness introduces a risk of subjectivity. A broader investigation, for instance through interviews or questionnaires, could have strengthened the credibility of these interpretations.

In the design process, I consciously avoided reinterpreting the traditional boathouse. This typology, with its clustered, small-scale volumes along the coast and distinctive gable roof, is deeply tied to the identity of Bohuslän. By stepping away from these strong formal references, I likely avoided creating a pastiche. However, this deliberate distance may also have narrowed the design process and limited opportunities for a more open exploration of form.

Timber framing, a construction technique found in historical warehouses (magasin) in Bohuslän, is central to the project. This traditional method is based on precise wood-to-wood joinery and skilled craftsmanship. In the proposal, these joints are exposed as a tectonic expression. However, this presents a conflict with current standards for energy performance. To meet current insulation requirements, a thickness is needed that would either conceal the timber frame entirely or require an added external structure to carry the insulation. In this thesis, I have explored a middle ground, where the structure remains partially or fully visible, and the building envelope is insulated to a lower degree than the standard demands. The argument is that a Naturum can tolerate a more varied indoor climate, as visitors often wear outdoor clothing and windows can be opened when needed. This allows a culturally significant construction method to remain visible and relevant in contemporary architecture.

The chosen site is logistically challenging in terms of material transport. From that perspective, timber framing is well suited, allowing for smaller and more manageable components. However, timber frames perform well under compression but less so under tension, which has posed challenges in the design, especially where longer spans are required, and in the cantilevered section extending over the water. To achieve the architectural expression, a hybrid structure has been developed, balancing traditional building techniques with contemporary materials. Hearthwood pine timber is combined with glulam beams near the supports, as well as steel rods hidden in the two posts where the cantilevering section is anchored, fixed into the concrete wall and down into the rock.

Finally, I consider the design proposal to be an example of contemporary architecture rooted in its context. The project highlights traditional craftsmanship in a contemporary form, with clear elements inspired by the local context. This is achieved without becoming nostalgic or overly stylistic. In my view, the architectural language leans more towards the contemporary. Whether a so-called "balance" has been achieved, however, remains open to further discussion.

5 Reference List

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Figures

Figure 1: Olsson, M. (n.d.). *Interior of Store Mosse Naturum* [Photograph]. White. https://whitearkitekter.com/se/projekt/naturum-store-mosse/

Figure 2: Olsson, M. (n.d.). *Exterior of Store Mosse Naturum* [Photograph]. White. https://whitearkitekter.com/se/projekt/naturum-store-mosse/

Figure 3: Olsson, M. (n.d.). *Höghult Timber Framing* [Photograph]. FABEL Arkitektur. https://fabelarkitektur.se/

Figure 4: Nordin, E. (2024). *Höghult, nominated for the 2024 Träpriset* [Photograph]. Svenskt Trä. https://www.svensktttra.se/traarkitektur/trapriset/nominerade-2024/hooghult

Figure 5: Olsson, M. (n.d.). *Timber Framing window detail* [Photograph]. FABEL Arkitektur. https://fabelarkitektur.se/

Figure 6: Berntsen, P. (2016). *Allmannajuvet Mining Café* [Photograph]. https://www.perberntsen.com/_commercial/_pages/allmanna.php

Figure 7: Berntsen, P. (2016). *Allmannajuvet Mining Gallery* [Photograph]. https://www.perberntsen.com/_commercial/_pages/allmanna.php

Figure 8: Olsson, M. (n.d.). *Timber frame and log structure* [Photograph]. FABEL Arkitektur. https://fabelarkitektur.se/

Figure 10: Häröns historia. (n.d.). *Magasinet* [Photograph]. https://www.haronshistoria.se/

Figure 11: Häröns historia. (n.d.). *Gården Änga* [Photograph]. https://www.haronshistoria.se/

All non-refernced images are produced and owned by the author.

6 AI Appendix

The text in this thesis was originally written and formulated by the author. AI has been used to support the translation and grammatical refinement of the text into English, for linguistic purposes. The translation was critically reviewed and edited by the author to ensure accuracy, correct terminology and academic tone. No content was generated by AI.

7 Student Background

2023 - 2025
MSc - Architecture and Urban Design
Chalmers University of Technology
Gothenburg, Sweden

2024, spring
Erasmus Exchange
Instituto Superior Técnico
Lisbon, Portugal

2022 - 2023
Internship
Thorbjörnsson + Edgren Arkitekter
Gothenburg, Sweden

2019 - 2022
BSc - Architecture and Engineering
Chalmers University of Technology
Gothenburg, Sweden

Contact

Wilma Rönnäng
wilma.ronnang@gmail.com
0046 73 02 71 719

CHALMERS
UNIVERSITY OF TECHNOLOGY