

Window to Öresund

A New Cold Bathhouse for Landskrona

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Chalmers University of Technology
Tutor: Björn Gross
Examiner: Mikael Ekegren





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Master Thesis Spring 2020

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Department of Architecture & Civil Engineering

Building & Tectonics

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ABSTRACT

The aim of this master thesis is to create a proposal of a new cold bathhouse that can restore Landskrona's sea bathing culture and tradition, which was previously destroyed by the winter storm 'Sven' in December 2013. Landskrona is a seaside town located at the shores of Öresund, a straight between Sweden and Denmark in the province of Scania, south of Sweden. The previous bathhouse was built in 1877 and was the Landskrona's only proper site for sea bathing in the city centre. The nearest opportunity for sea bathing being at approximately 4km north of Landskrona's city centre. As the surrounding coastline is extremely shallow, one has to wade several hundred metres through the water in order to reach sufficient depth for swimming.

The method used in this project has been focused on research by design. I have conducted interviews to expose the specific characters that are sought after in a cold bathhouse in Landskrona and investigated the actual site and its surroundings. I have studied photographs of the previous old bathhouse and visited several other existing bathhouses in Scania. By numerous testing of sketches, 3D modelling and visualisations, I have identified the essential qualities of a bathhouse, developed and brought them together into a design proposal.

The result is a proposal of a new cold bathhouse for Landskrona, designed to be open to the general public and situated circa 130 metres north of the former bathhouse. The new cold bathhouse aims to bring back sea bathing opportunities to the heart of the city, while simultaneously creating a bridge between urban life and nature. The pier from the mainland to the bathhouse will contain opportunities for sauna, sea bathing, sunbathing, socialising, and enjoying the beautiful, panoramic view of Öresund.

ACKNOWLEDGEMENTS

Tack!

Handledare

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Minnesbanken, Landskrona Museum

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För allt stöd

Familjen

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INTRODUCTION

BACKGROUND

The purpose of this master thesis project has been to design a cold bathhouse in Landskrona city centre. Today there are only a couple of old pillars that remain from the old bathhouse with a temporary barrack structure and jetty that has been built until sufficient funding for a new structure can be provided. A cold bathhouse usually includes a sauna and nude seabathing opportunities that is used all year round. Cold bathhouses around Sweden are becoming increasingly more popular by all generations as a place for relaxation and escaping everyday stress.

The old cold bathhouse was regarded as one of the oldest preserved bathhouses in Sweden, thus providing its users with convenient access to the sea for swimming and cooling off after a sauna. The previous bathhouse was run by a sea bathing association called 'Doppingarna' with approximately 170 members before the winter storm, which required a yearly membership to use its facilities. The reason why the old bathhouse has not been rebuilt yet, is because it was not owned by the city municipality, in addition to 'Doppingarna' not getting enough insurance money after the storm to finance the rebuilding of the bathhouse.

The old cold bathhouse was considered to be one of Sweden's oldest cold bathhouses and many of Landskrona's residents had a personal relationship to it. Many older residents learnt as children to swim and took swimming lessons at the former cold bathhouse. A great number of people reminisce the old bathhouse and would like to see the sea bathing tradition restored in the city centre of Landskrona. The city centre of Landskrona is also expanding with new residential areas being built, which would most likely increase the interest of a cold bathhouse in the area. After contacting Landskrona municipality and the sea bathing association 'Doppingarna,' I realised that there was a shared dream of bringing back the cold bathhouse to Landskrona.

Disclaimer: I have visited Bjerreds Saltsjöbad, situated 25km south of Landskrona. The qualities that Bjerred's Saltsjöbad contributes to its site and environment is something I would like to bring to Landskrona. I also visited Båstads Kallbadhus in northwestern Scania to experience and develop an understanding of a cold bathhouse and its users during the winter months.

THESIS QUESTION

The main master thesis question is how to create a proposal of a new cold bathhouse that can strengthen the Landskrona's image as a seaside town and restore Landskrona's sea bathing heritage and tradition for future generations.

Other questions that have been examined are:

- How can a cold bathhouse become an urban sanctuary from everyday stress and create an environment of relaxation and tranquility for its users?
- How can the design proposal support other activities in the area and connect to its surroundings?
- How can the long pier leading to the cold bathhouse serve other functions?
- What kind of design and materials are sustainable for a construction exposed to rough weather, currents and waves?

AIM

The aim of this master thesis is to strengthen the image of Landskrona as a coastal city and create good conditions for sea bathing in the city centre. The cold bathhouse aims to be a place for socialising, relaxing with easy access to nature, in addition to a connection from the seaside to the heart of the city.

The new bathhouse proposal will be designed to be more accessible to the general public and not necessarily member exclusive. As cold bathhouses have rapidly increased in popularity throughout the region in the recent decade, my thesis investigation will result in discovering how a new cold bathhouse could strengthen the Landskrona's image as a seaside town and restore a part of its sea bathing heritage and tradition for future generations.

LIMITATIONS

I have chosen to limit myself within close proximity to the old cold bathhouse in Landskrona, which was destroyed in a winter storm in December 2013. The reason for this is to restore the cold bathhouse tradition and its heritage in order to encourage more people to take advantage of the sea bathing resources near the city centre. A new cold bathhouse has to be moved at least 130m north of the old site, as Öresund Dry Docks plan to expand the fairway into Landskrona harbour in order to allow harbour access to larger vessels. This is also for safety reasons as the old cold bathhouse was within dangerously close proximity to traffic, thus becoming a safety concern.

METHOD

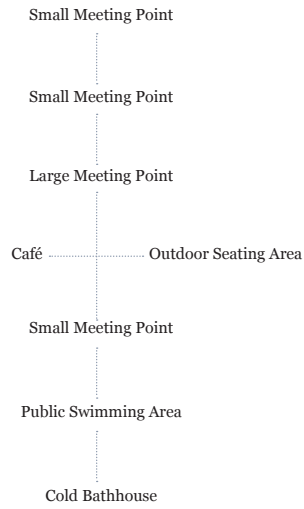
In order for me to understand the user requirements of sea bathers at a cold bathhouse, I visited cold bathhouses myself and conducted interviews. I had discussions with a couple of members from the sea bather association 'Doppingarna', visited Landskrona Museum archive collection and the public library in Landskrona, learning about the history of the old cold bathhouse and its sea bathing tradition and its place in Landskrona. I have also met with the city planning director at Landskrona's city planning office, discussing the possibilities of a new cold bathhouse in Landskrona and its future challenges. For reference projects and additional information concerning cold bathing, I collected information and material from the university library and internet sources.

To create a proposal of a new cold bathhouse I investigated the site discussed with the city planning director to reveal its potentials and obstacles. I studied the area surrounding the site. Research of suitable materials for constructions placed in the sea was conducted to get an understanding of different possibilities. I have identified essential qualities, developed and brought them together. Through iterations in sketches, digital drawings, and 3D modeling; different ideas were tested and developed resulting in a design proposal.

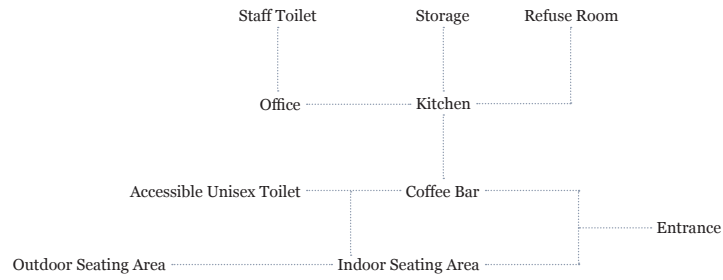
SPACE PROGRAMME

The Cold Bathhouse	Quantity	Square Metres (m ²)
Storage Room	1	7,3
Mechanical Room	1	5,7
Accessible Unisex Toilet	1	7,3
Refuse Room	1	5,7
Office	1	7,8
Kitchen	1	7,8
Coffee Bar	1	47,0
Reception/Foyer	1	79,3
Seating Area	1	49,1
Lounge	1	49,1
Sun Deck Mixed	1	68,5
Toilet Men	2	3,2
Shower Room Men	1	10,5
Sauna Men	1	22,9
Changing Room Men	1	45,5
Sun Deck Men	1	124,7
Toilet Women	2	3,2
Shower Room Women	1	10,5
Sauna Women	1	22,9
Changing Room Women	1	45,5
Sun Deck Women	1	124,7
Gross Floor Area:		837,3 m ²
Café	Quantity	Square Metres (m ²)
Storage Room	1	2,4
Staff Toilet	1	3,1
Accessible Unisex Toilet	1	5,0
Office	1	7,5
Hallway	1	12,1
Refuse Room	1	13,5
Kitchen	1	14,2
Coffee Bar	1	30,3
Outdoor Seating Area	1	38,9
Indoor Seating Area	1	79,3
Gross Floor Area:		248,8 m ²
Pier	Quantity	Square Metres (m ²)
Small Meeting Point	3	36,2
Large Meeting Point	1	76,8
Public Swimming Area	1	649,8
Pathway	1	1 390,7
Gross Floor Area:		2 218,5 m ²
Total Gross Floor Area:		3 304,6 m ²

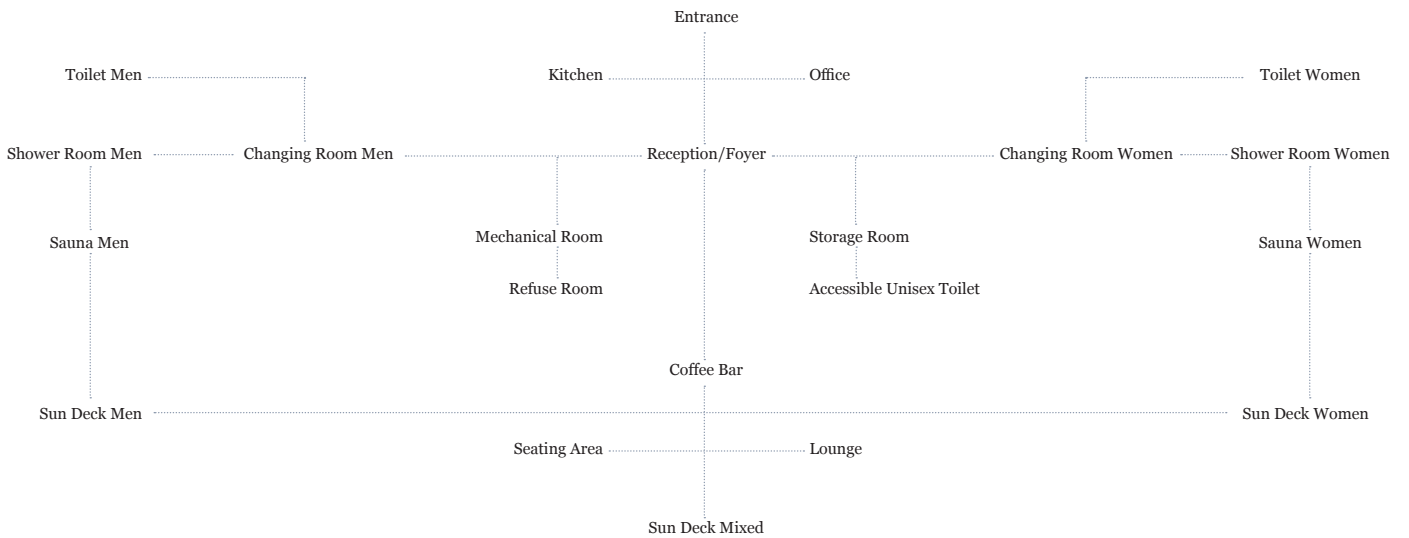
The Pier



Café



The Cold Bathhouse



SITE ANALYSIS

LANDSKRONA

Population of City Centre: 30 499 (2010)

Total Population: 45 286 (2018)

Area of City Centre: 12.09 km²

Area of Municipality: 141,02 km²



The chosen site for the cold bathhouse is located in the city of Landskrona. Landskrona is located by the south-western coast of Sweden in the province of Scania (Skåne), in the heart of the Öresund Region. Landskrona is a medium-sized town located within close proximity to larger cities such as Helsingborg, Lund and Malmö, thus becoming a convenient commuting town.

The King of Denmark, Erik VII of Pomerania, founded Landskrona in 1413 as a trading city primarily due to the site being the only naturally deep harbour in Öresund. This became an attempt to break the Hansa cities trade monopoly in the Nordic region. Landskrona eventually evolved into a fortified town with a naval base in the Swedish-Danish wars. Landskrona has to this day a rich and prosperous maritime history and industry, due to its strategic placement in Öresund.



Skåne / Scania



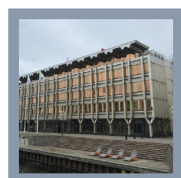
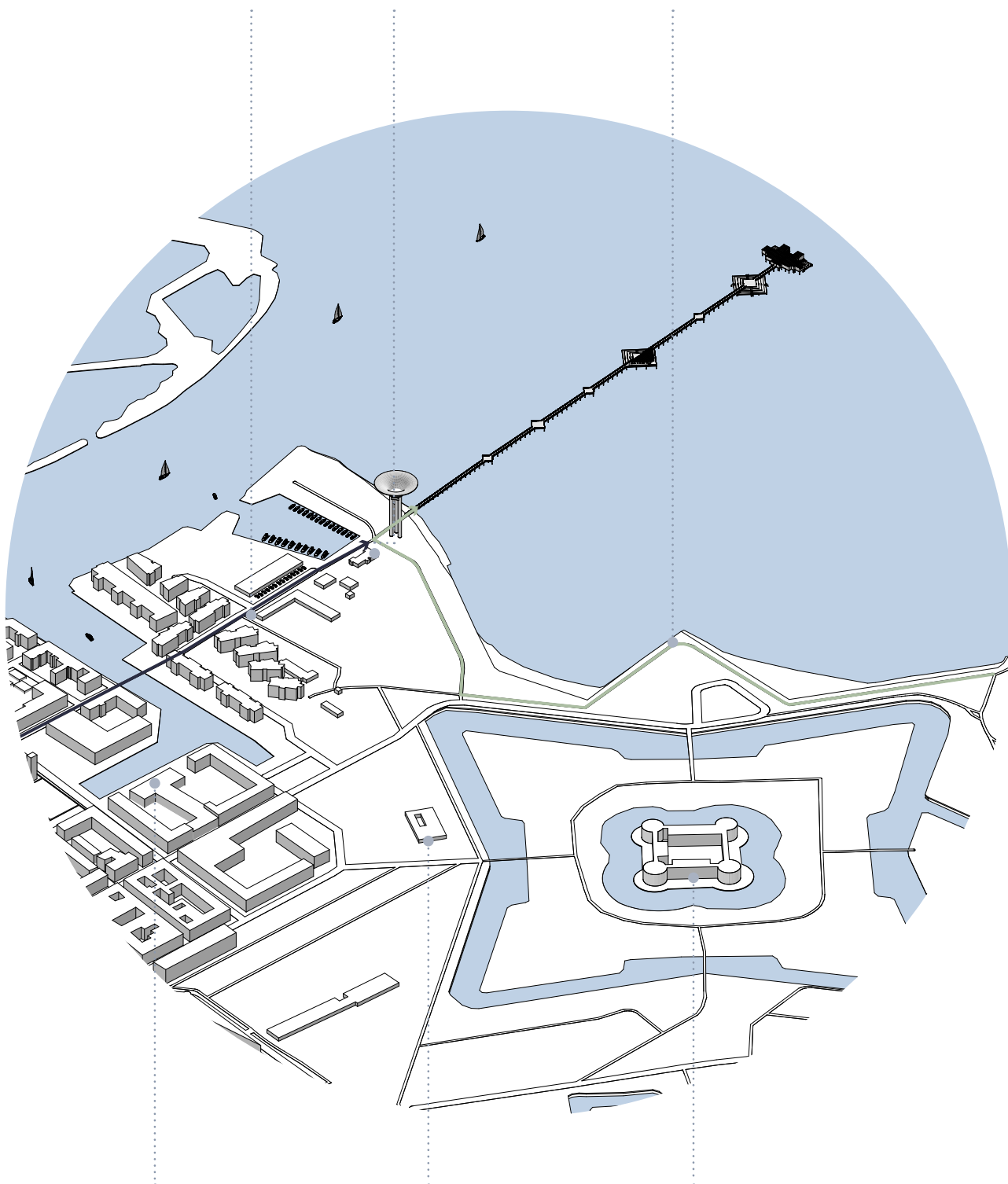
Citadellbadet



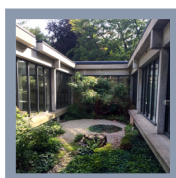
Restaurant Seglarpaviljongen



Beach Promenade Linjen



City Hall



Landskrona Konsthall



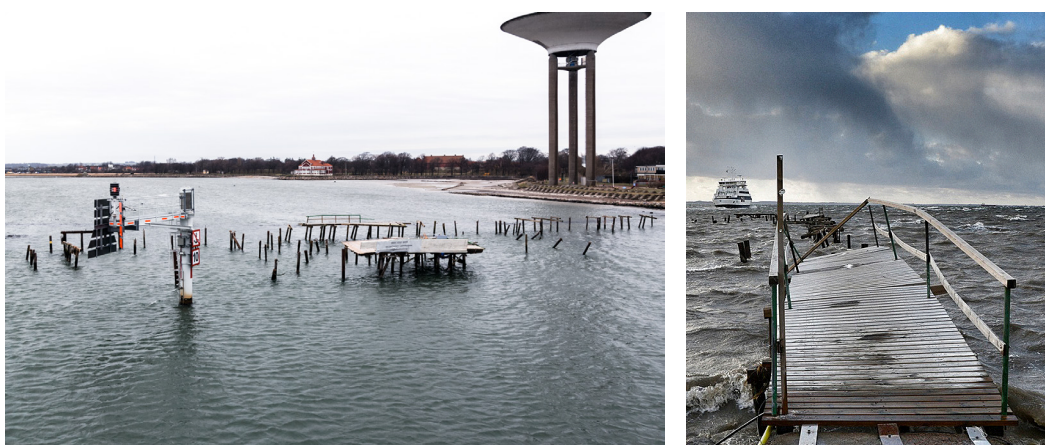
Landskrona Citadell

THE FORMER BATHHOUSE



The Former Bathhouse in its Heyday

The former bathhouse from 1877 was destroyed in the winter storm ‘Sven’ in December 2013. It was considered to be Sweden’s oldest remaining cold bathhouse, and was newly renovated from damages caused by a previous winter storm in 2011. The bathhouse was privately owned by a local sauna bathing association called ‘Doppingarna.’ The cold bathhouse was considered quintessential for Landskrona’s character and identity as a seaside town on the Swedish southwest coastline. It was regarded as a rather primitive bathhouse with no running water. The bathhouse contained a mixed sauna with separate hours for men and women, in addition to separate changing rooms, sun decks, and outdoor pools.



Structural Damage After the Storm

The storm’s blustering winds caused the water levels to rise by 1 metre with fierce waves that tore the bathhouse apart, causing irreparable damages. The former cold bathhouse was a timber structure making it more fragile and prone to damages and destruction from storms, thus making it a costly affair.


Municipality's proposed site

Public beach

LANDSKRONA
CITY
CENTRE

Site of old bathhouse

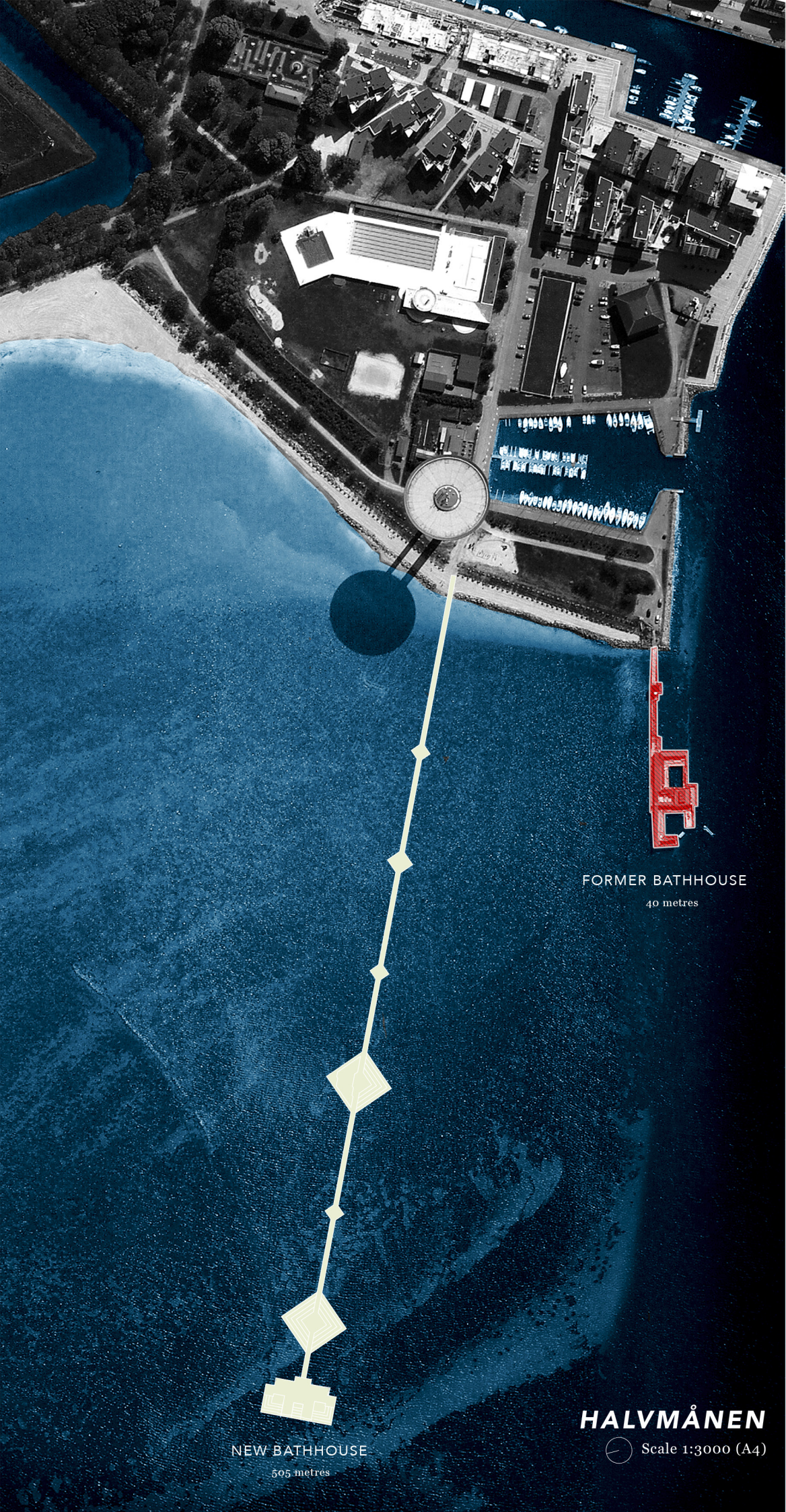
LANDSKRONA

Scale 1:17000 (A4) 



Doppingarna's temporary structure on the site of the former bathhouse after the storm.

In order to carry out the thesis investigation, a site has been chosen circa 130 metres north of the former bathhouse site. This is due to the old site being deemed as too dangerous and risky in regard to its close proximity to passing ships heading to and from Landskrona harbour. The new site would also become an extension of the existing street 'Badhusgatan', connecting the bathhouse to the city centre. The pier to the new cold bathhouse will be adjacent to the popular beach promenade 'Linjen', with its mile-long view across Öresund is one of Landskrona's most visited walking paths. The chosen site is also located in close proximity to other popular attractions and residential areas, thus making it more easily accessible to the general public. The new bathhouse must also be moved north so it will not be in the way of the Öresund Drydock's expansion of the sailing channel in order to receive larger vessels to Landskrona harbour. The photo above is taken from a ferry to Ven passing the old bathhouse site, illustrating the close and risky proximity of the old site to the sailing channel. Moving the bathhouse 130m north will give its users more privacy from passing vessels that previously sailed by with a distance between of approximately 40m.



FORMER BATHHOUSE

40 metres

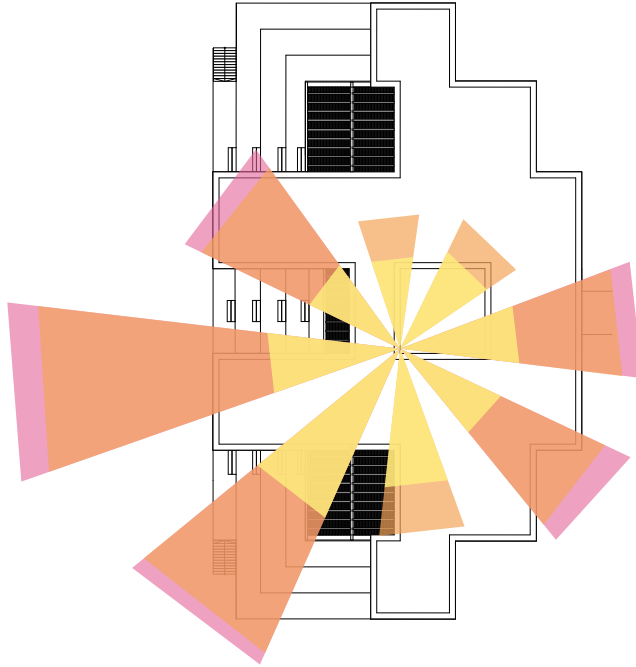
NEW BATHHOUSE

505 metres

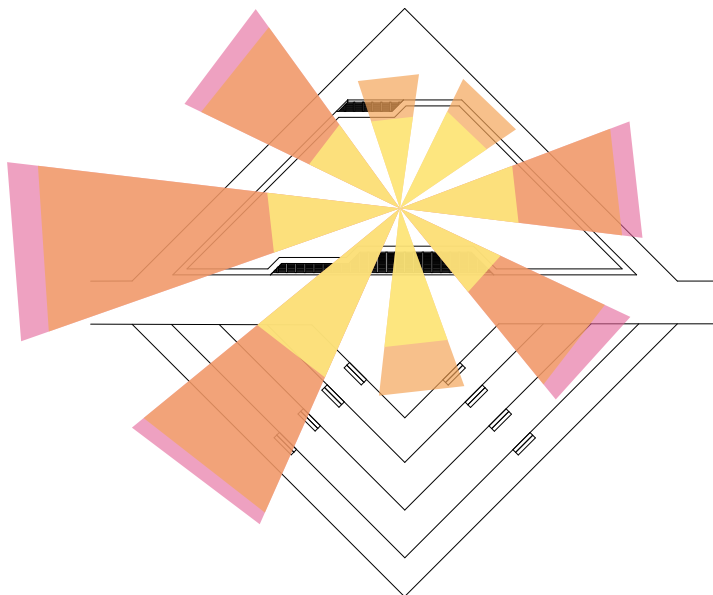
HALVMÅNEN

Scale 1:3000 (A4)

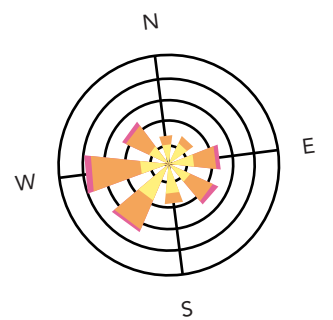
WIND ANALYSIS



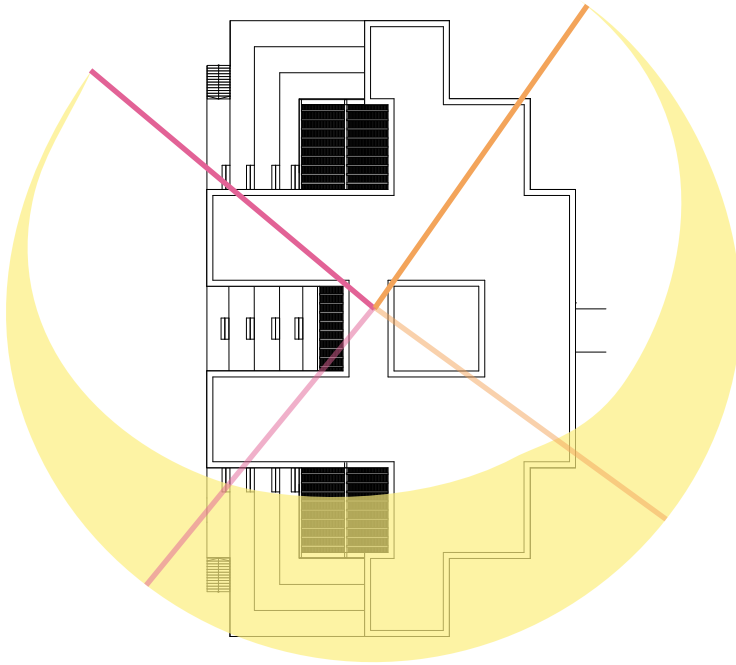
Cold Bathhouse



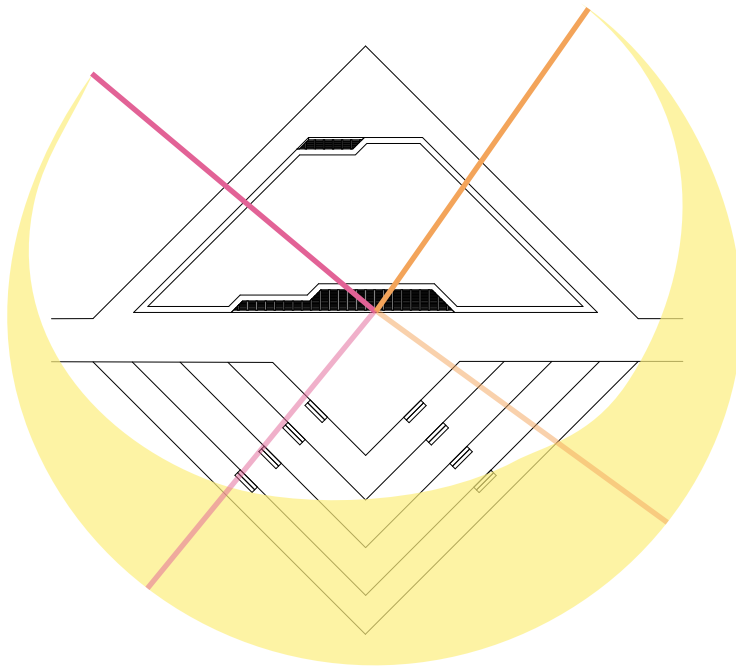
Café



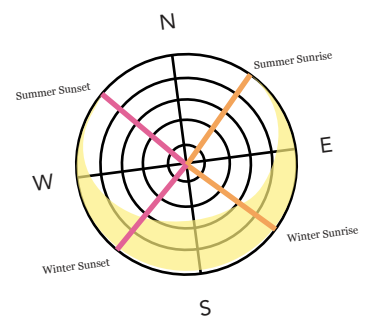
SUN ANALYSIS



Cold Bathhouse



Café



REFERENCES

BJERREDS SALTSJÖBAD



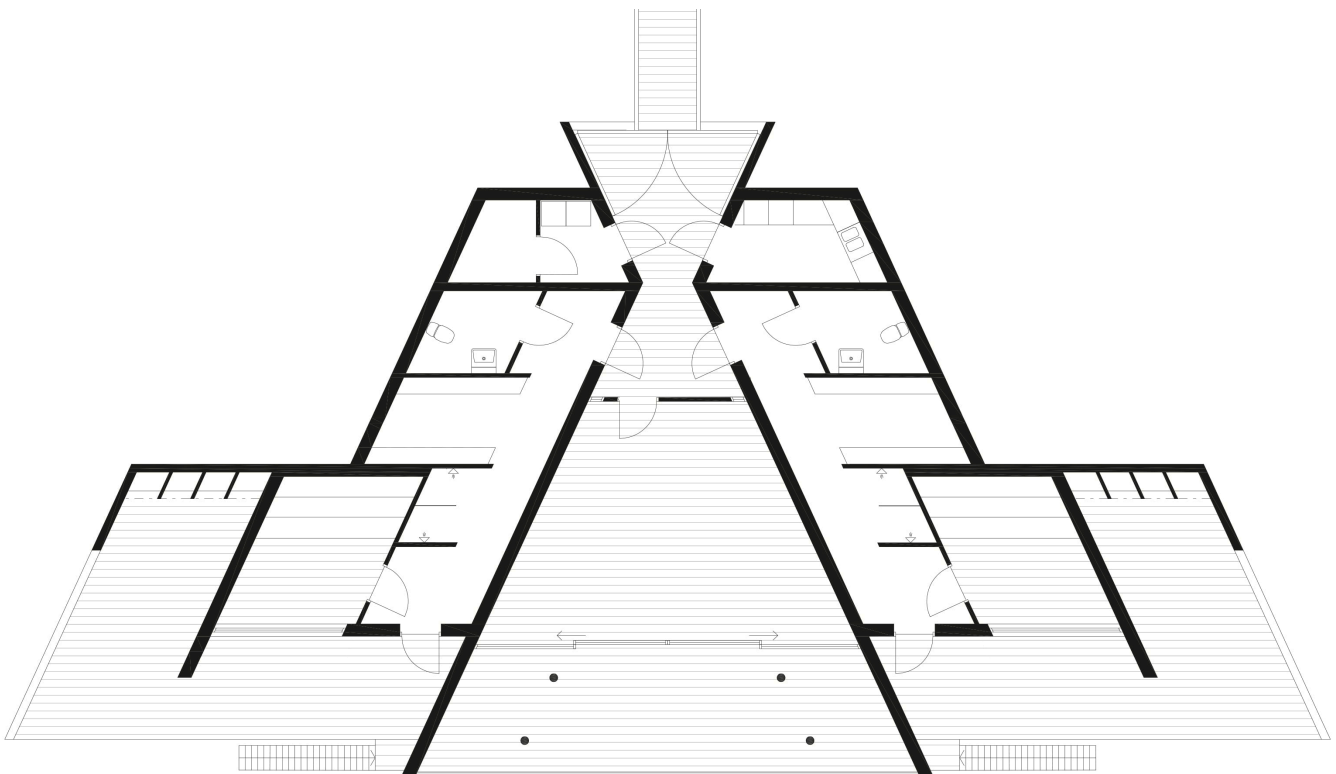
Bjerreds Saltsjöbad by *Oliver Lühr* is a cold bathhouse situated 25 km south of Landskrona. In Bjärred there has been a cold bath since the middle of the 19th century. In the winter of 1941, the bathhouse was destroyed in a winter storm. 50 years later, a private individual in Bjärred brought up the question of a new cold bathhouse that the discussion of a new bathhouse in the municipality begun. The cold bathhouse is open to both members and guests. Membership can be purchased when the restaurant is open.

It is a popular destination for visitors all year round thanks to its sauna, changing rooms, restaurant, conference, and public sea bathing opportunities. The bathhouse is based on simple design with nature that is reflected and emphasised. The structure's surroundings and simplicity are a fundamental idea for the design. The scale, space programme, length of the pier (500m), and its focus on nature and simplicity makes it a relevant precedent for this design proposal in Landskrona.

KARLSHAMNS KALLBADHUS



Karlshamns Kallbadhus by *White Arkitekter* is a bathhouse located in Blekinge in south-west Sweden. The structure itself is designed to maximise the view of the bay with terraces that receive as much sun exposure as possible. The structure opens up in a v-shape embracing the sea with no windows facing towards land. The layout also allows privacy for its users. The layout and orientation of this cold bathhouse makes it a relevant precedent for the proposal in Landskrona.

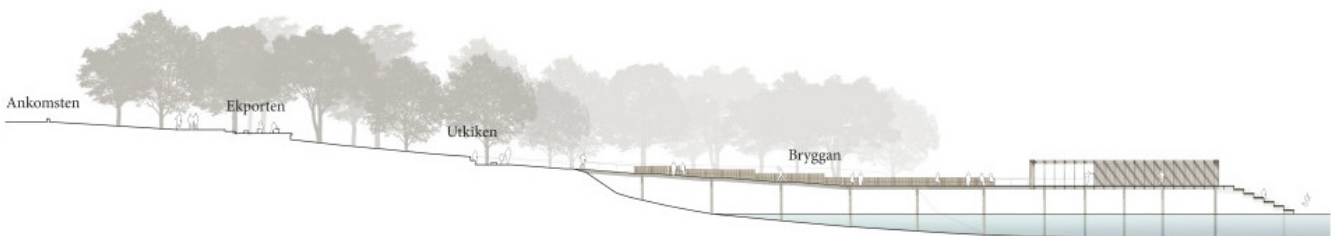


JÖNKÖPINGS KALLBADHUS

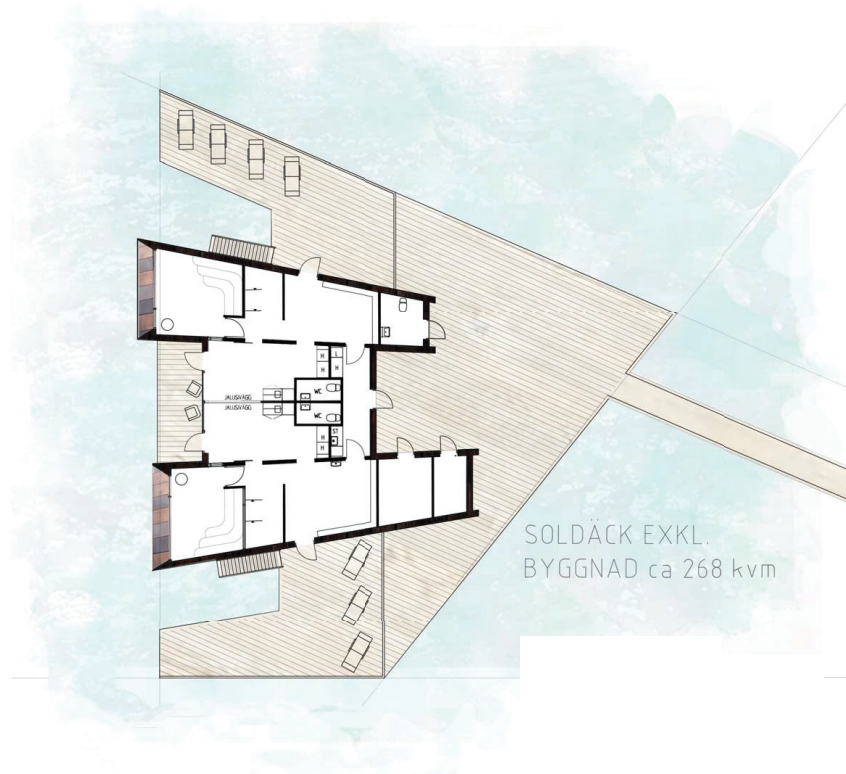


According to *White Arkitekter*, the design of this particular cold bathhouse adapts to the variation in light and darkness throughout the day, with spaces that are carefully placed and designed according to the different weather conditions in the light, temperature, views and feeling in order to create a contemplative bathing experience in the best possible way throughout the year. The cold bathhouse is intended for public use. By creating seating areas along the side of the pier, wind-protected viewpoints, barbeque possibilities and a playground in the immediate surroundings of the cold bathhouse, The aim is that everyone - whether or not one wants to use the cold bath - can enjoy and take part in both the building itself, including the water and its surroundings. The biggest challenge for the project is that Lake Vättern is quite wild. In the summertime it is subjected to strong winds and during the winter-time there can be a layer of ice of the water surface. The cold bathhouse will cover an area of approximately 400 sqm including terraces and more and will be situated 30 metres from the shore. There will be both a sauna for contemplation and one for social interaction, as well as a heated lounge area with sufficient space for families to use.

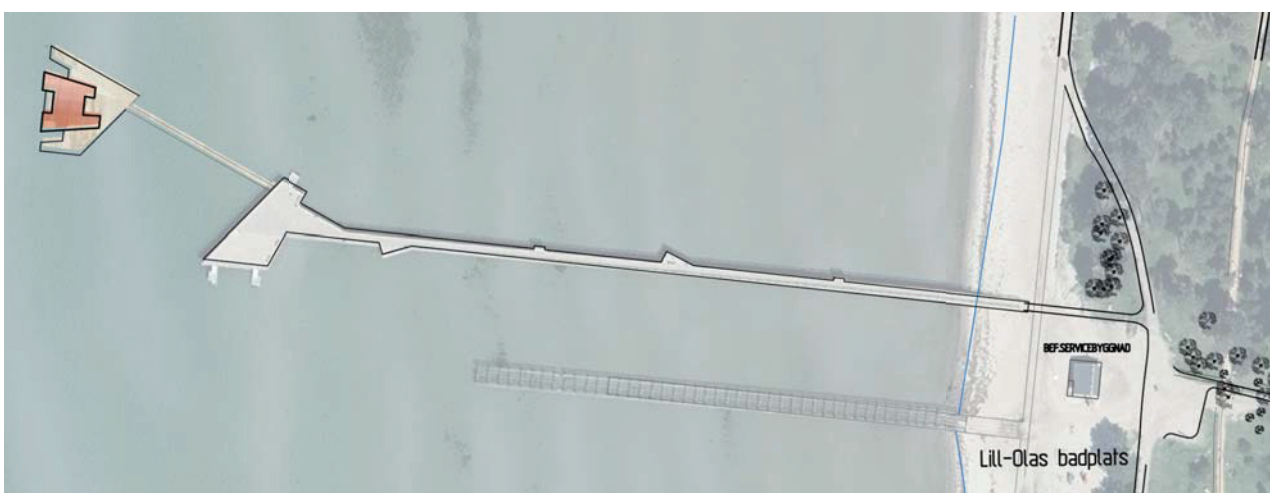
The sundeck with steps leading down to interact with the water, The extruded, timber clad railing to ensure more privacy, and the idea of a public structure that is not exclusively limited to bathers with viewpoints to enjoy the scenery, the heated lounge area studied and used as inspiration for the design proposal. Öresund and Lake Vättern are both exposed to harsh weather conditions with strong winds. Jönköpings Kallbadhus is situated 3m above the waterline to protect the structure from waves, which is also something that is considered for the proposal in Landskrona.



CURRENT DESIGN PROPOSAL FOR LANDSKRONA

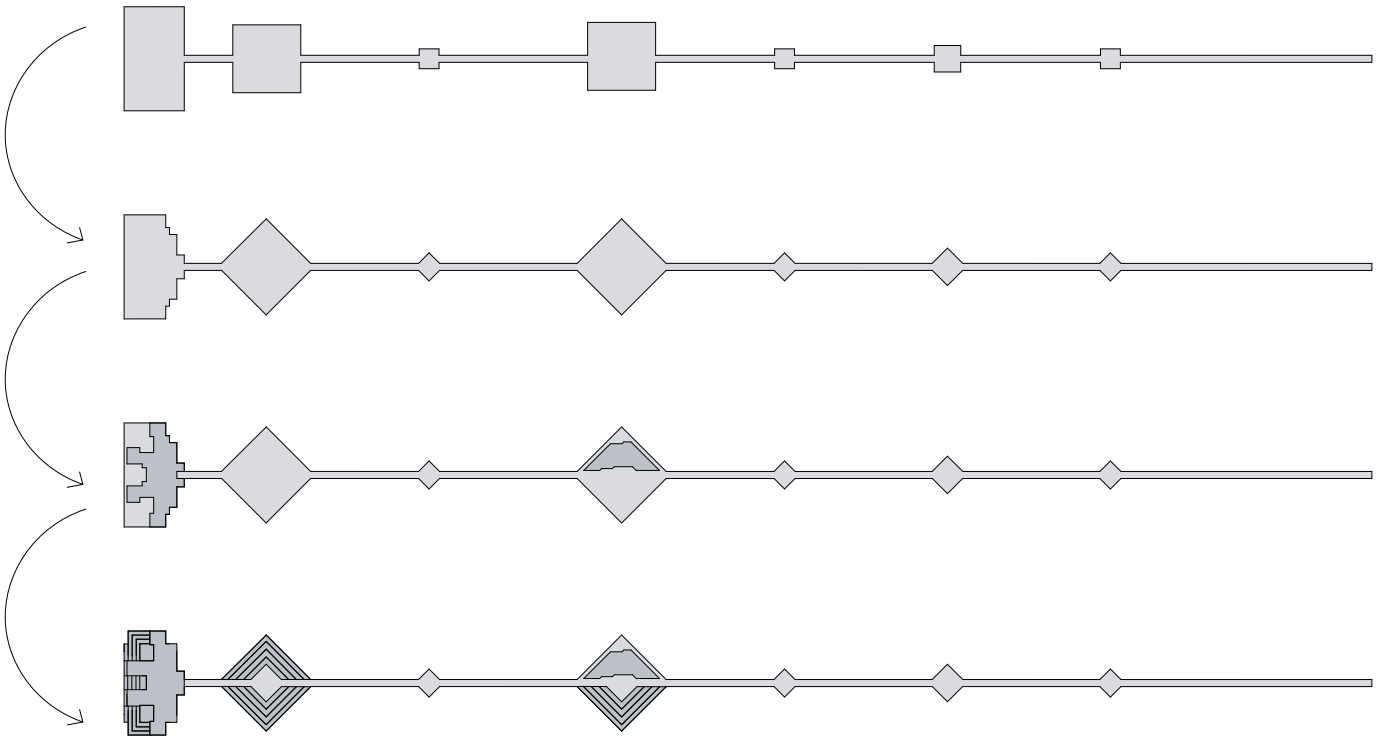
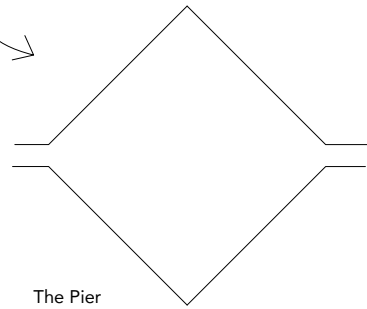
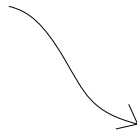
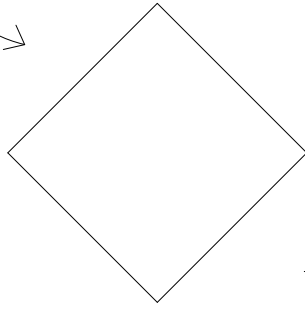
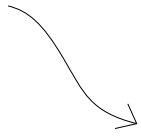
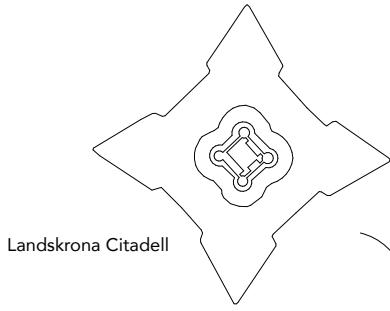


The cold bathhouse proposal by *Magasin A Arkitekter* for Landskrona, 5km north of the former bathhouse site, has a similar layout and space programme to Karlshamns Kallbadhus. The orientation, layout, and how the building itself deals with privacy have been studied and used as inspiration for the design proposal.



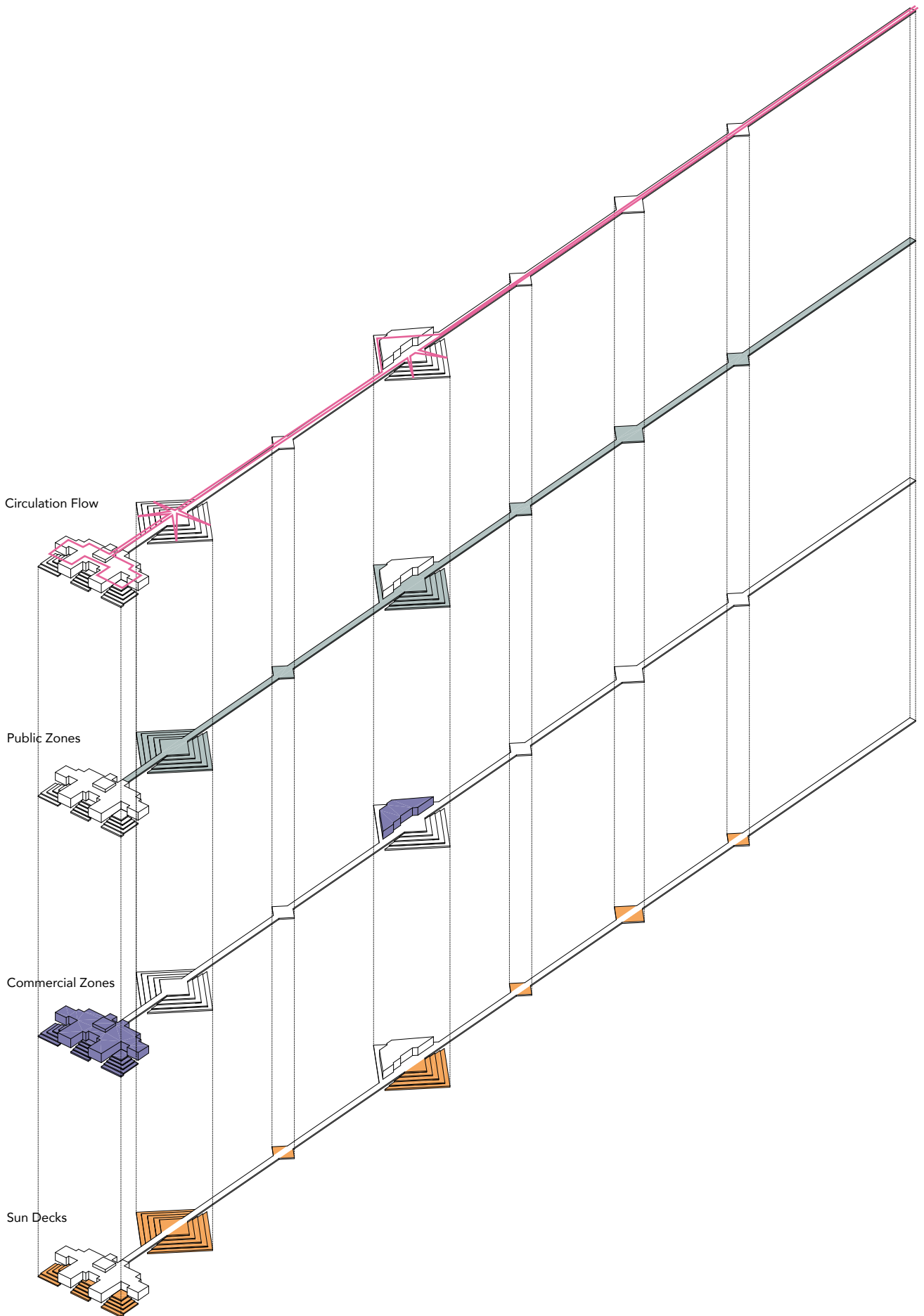
DESIGN CONCEPT

CONCEPT
Design Development



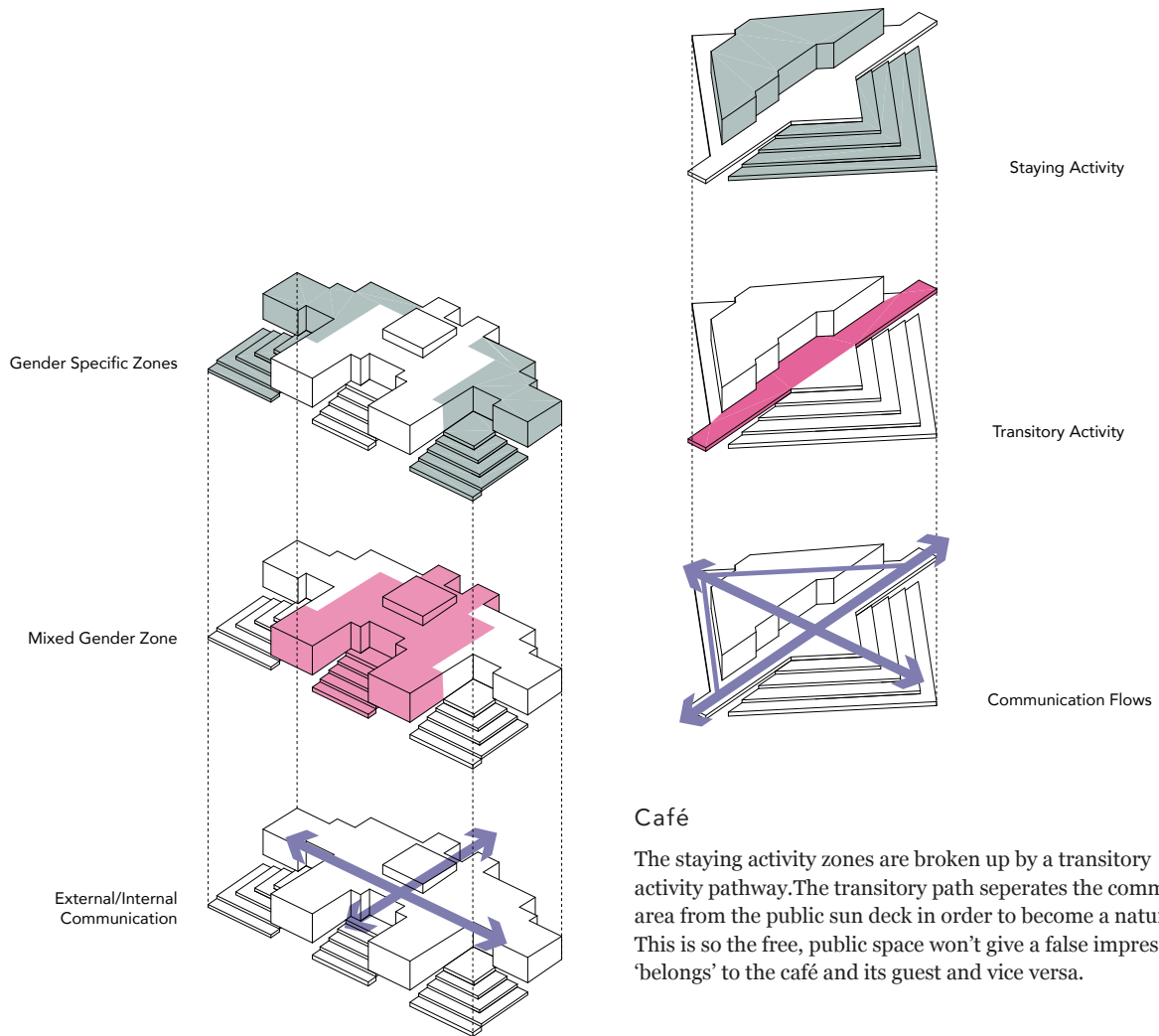
CONCEPT

Isometric Diagram of Different Zones



CONCEPT

Isometric Diagram of Communication Flows



Bathhouse

The gender specific zones are separated by a mixed common space. The mixed common space becomes a communication node where external and internal communication flows intersect. This makes it possible to access the respective saunas from the mixed gender zone to the outside, and then into the sauna without passing through changing rooms. This creates a possibility of having mixed sauna sessions at certain hours.

Café

The staying activity zones are broken up by a transitory activity pathway. The transitory path separates the commercial area from the public sun deck in order to become a natural division. This is so the free, public space won't give a false impression that it 'belongs' to the café and its guest and vice versa.

MATERIALITY



The bathhouse interior materials are the same as the exterior with the aim of blurring the boundaries between indoors and outdoors, in addition to exposed timber beams.

Summer house in Ljunghusen, Scania
by *Per Friberg*



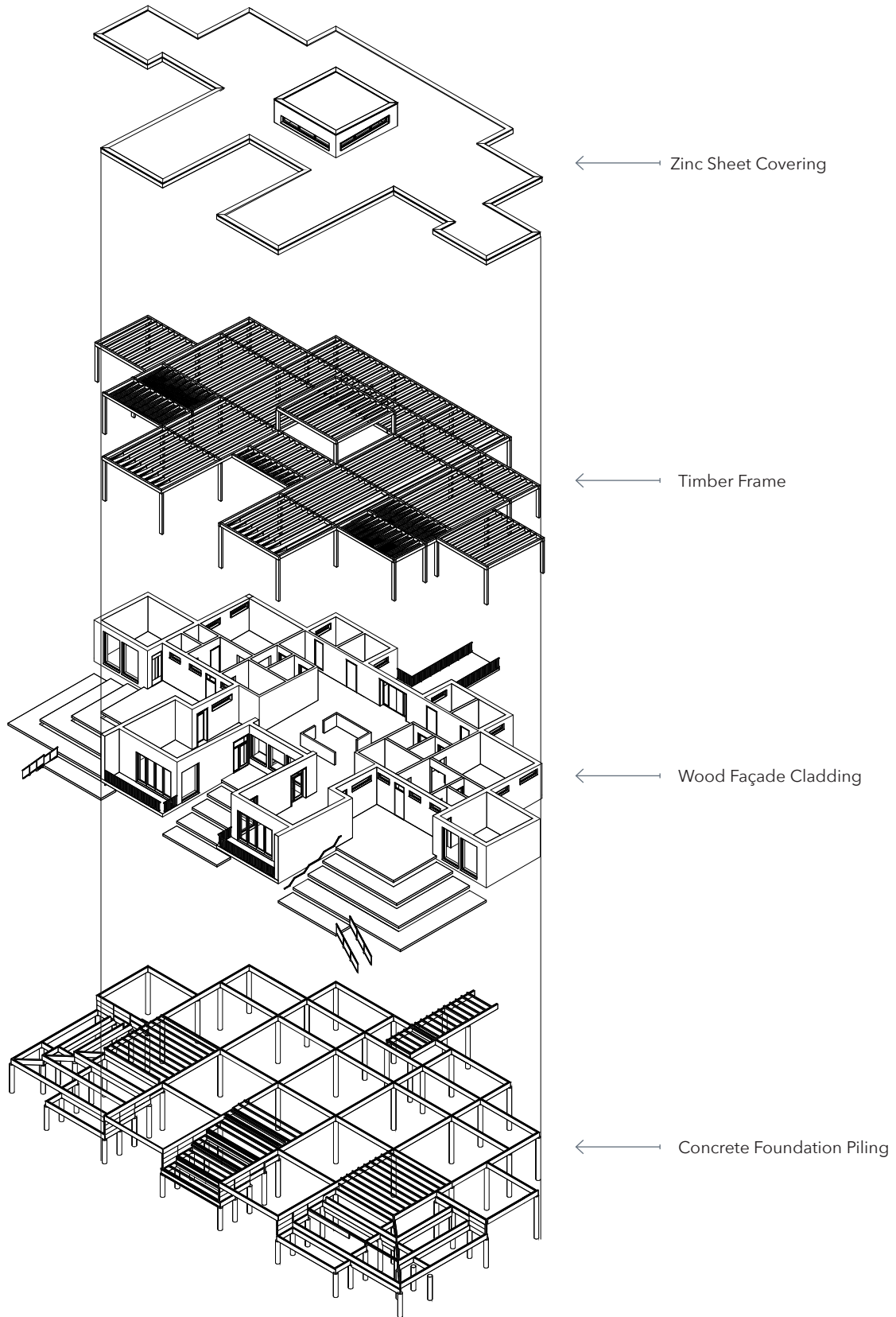
Larch clad kerto beams continuing outwards from the façade creates an external corridor and shade underneath.

Villa Bergman Werntoft in Ljunghusen, Scania
by *Johan Sundberg*



The façades of the structure and wooden deck are made from Siberian larch treated with a silicon-based sealant.

Summer house Sandyby in Tomelilla, Scania
by *Johan Sundberg*





Zinc Sheet Covering

- Highly cost effective
- Durable – will last 100 years or more
- Beautiful before and after patina process
- Energy efficient
- Eco-friendly
- Fire, insect, mold resistance
- Non-corrosive



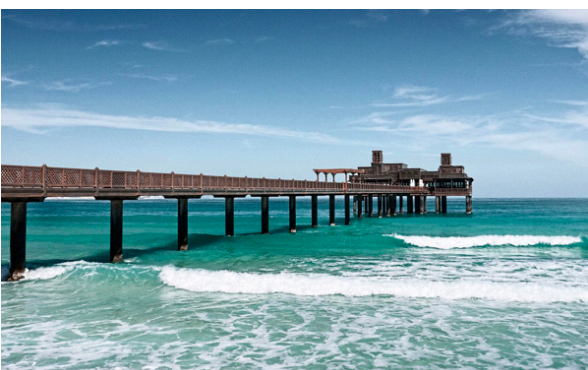
Timber Frame

- A very low carbon footprint is created when local timber resources are used
- The building process creates almost no waste
- Timber waste can be recycled



Wood Façade Cladding (Siberian Larch)

- Aesthetically beautiful
- Long lasting
- Naturally Durable
- Natural protection against rot and decay



Concrete Foundation Piling

- Sturdy and durable material
- No risk of damage from fungi and vermin

DESIGN PROPOSAL

SITE PLAN

Scale: 1:4000 (A4)

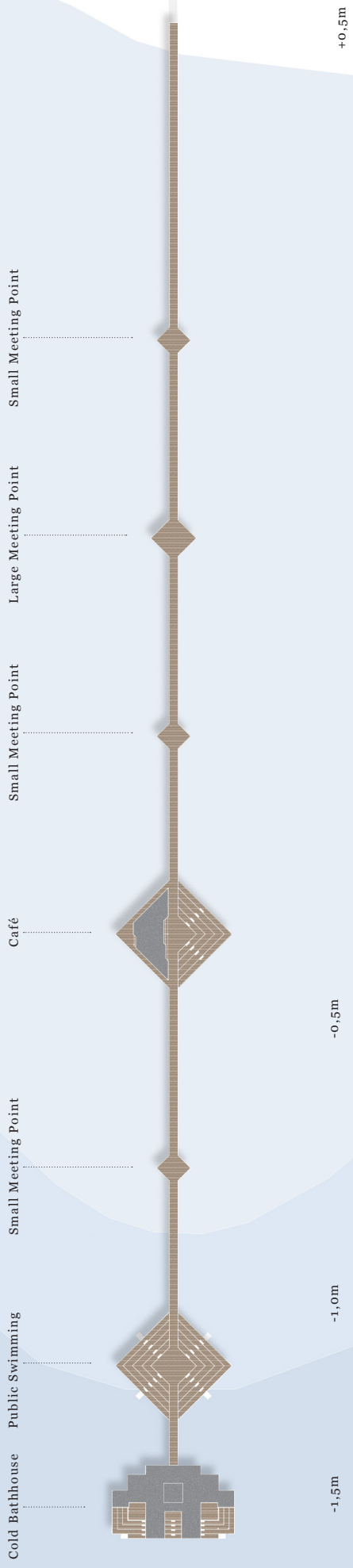


Scale 1:4000

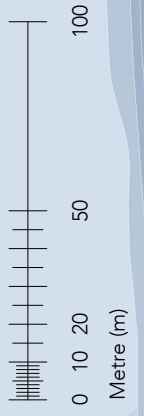


SITE PLAN

Scale 1:2000 (A4)



Scale 1:2000

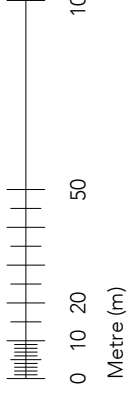


SITE ELEVATION

Scale: 1:2000 (A4)

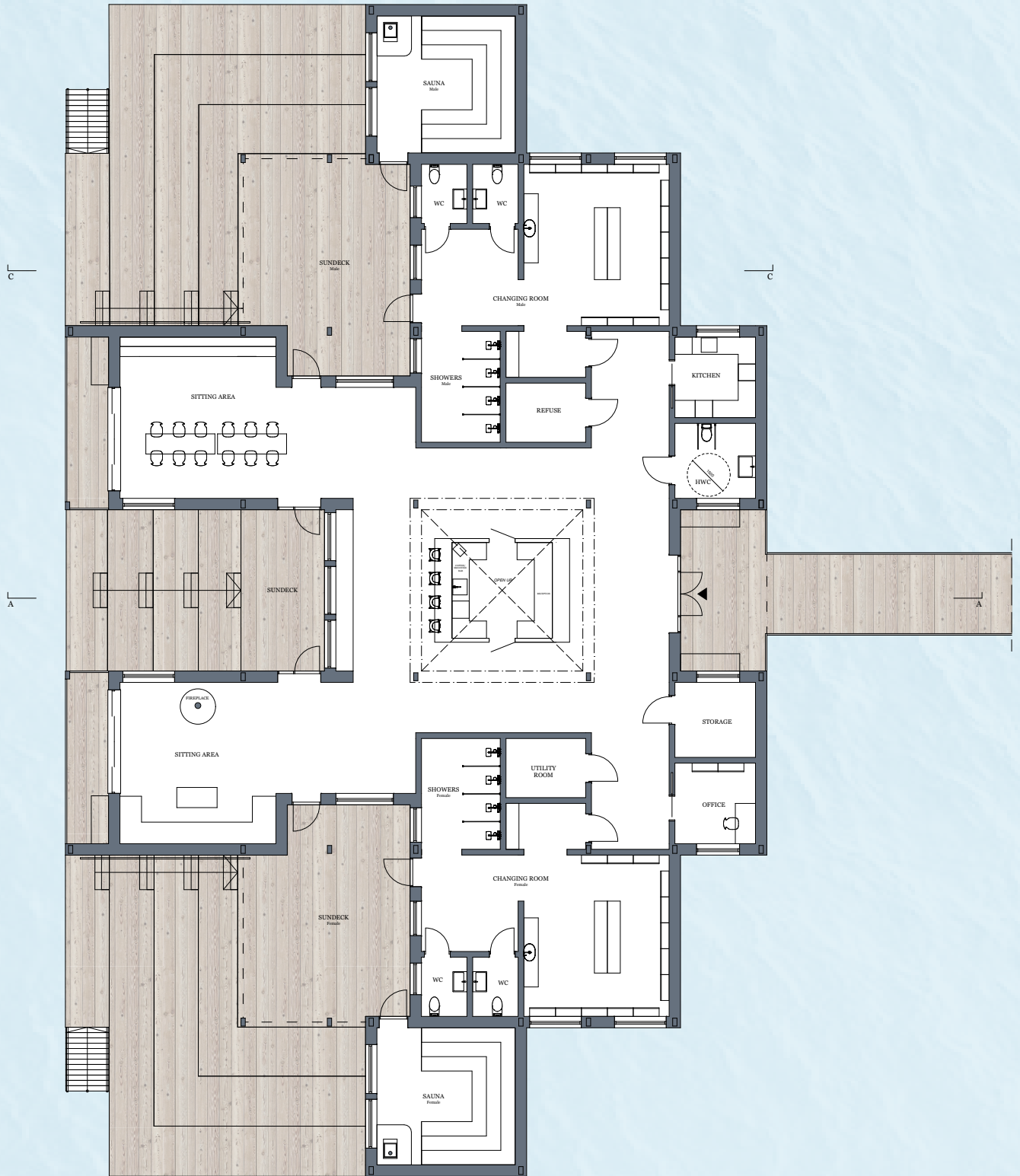


Scale 1:2000

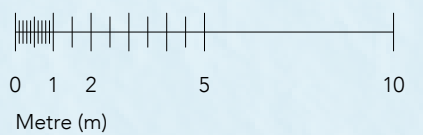


COLD BATHHOUSE

Plan - Ground floor
Scale 1:200 (A4)

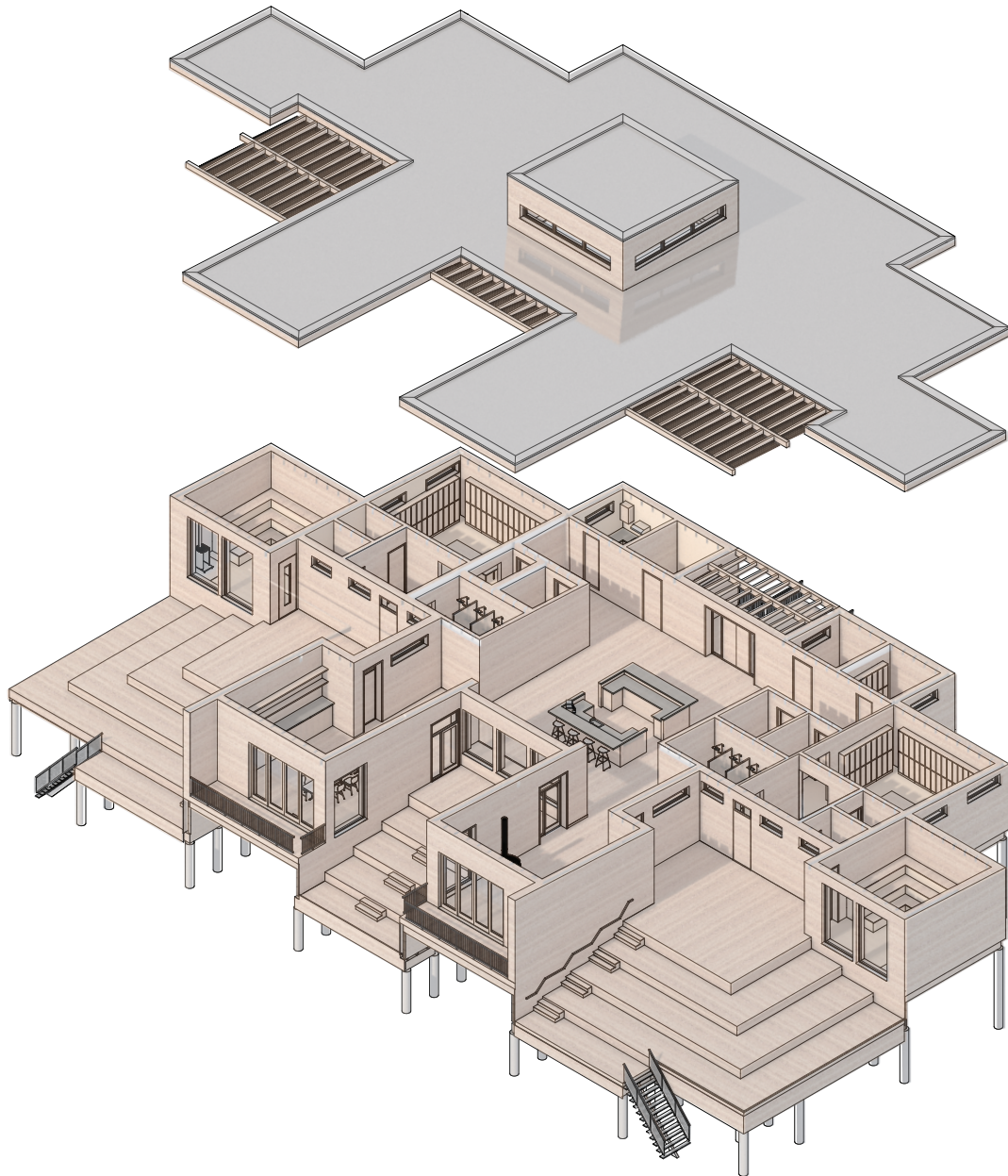


Scale 1:200



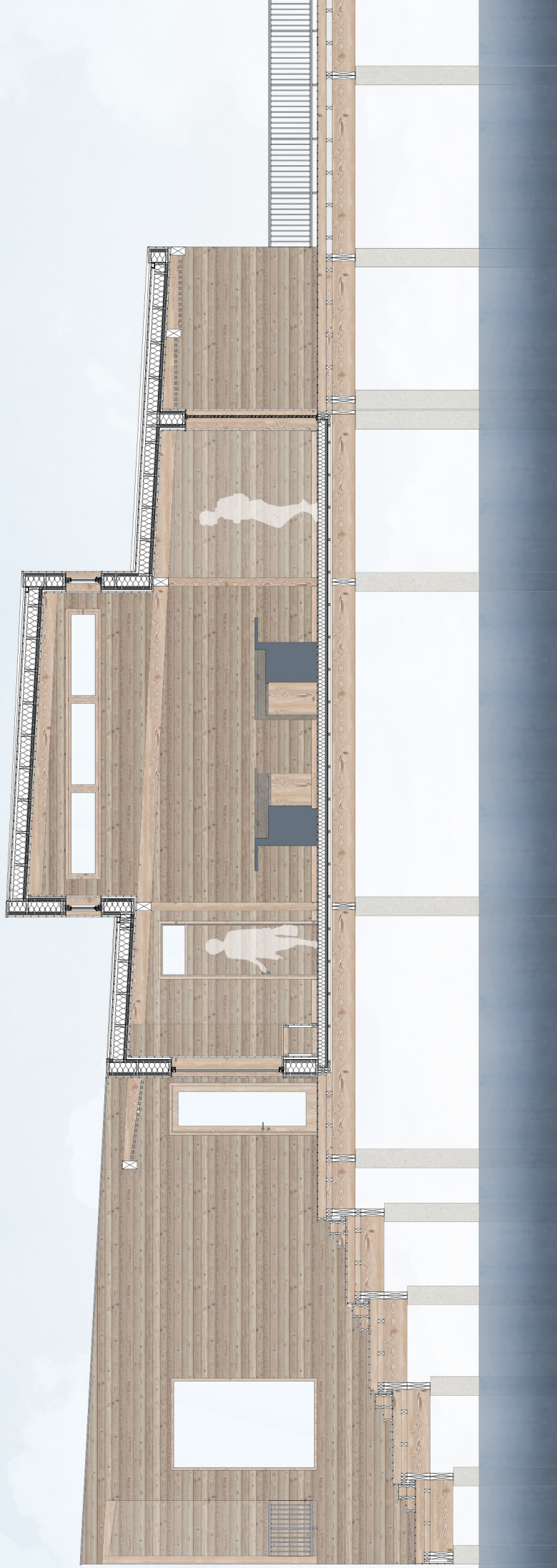
COLD BATHHOUSE

Exploded Isometric Illustration

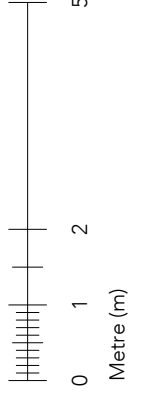


COLD BATHHOUSE

Section A
Scale 1:100 (A4)

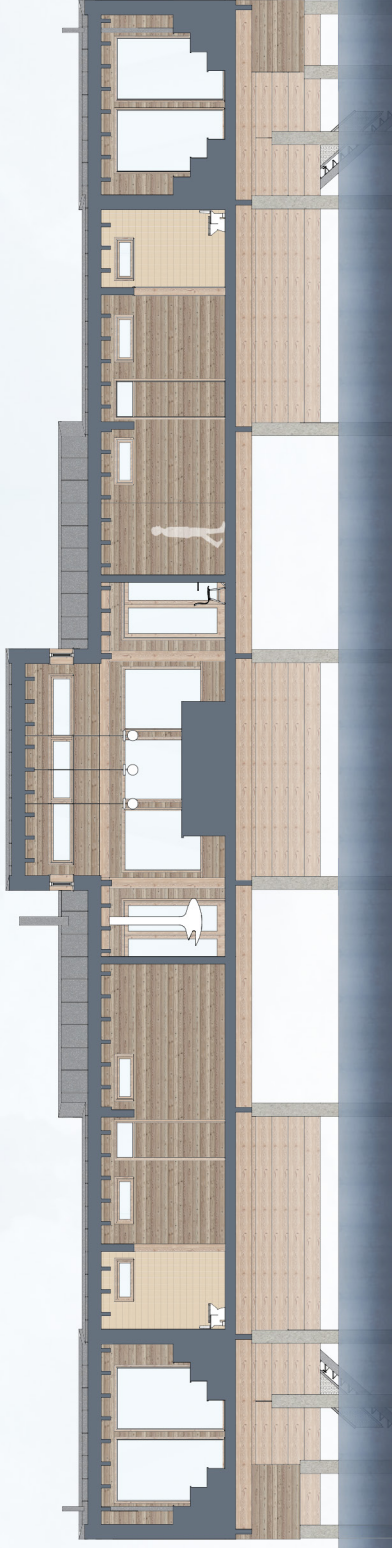


Scale 1:100

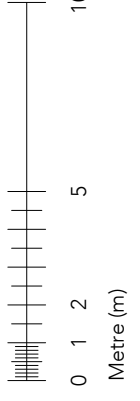


COLD BATHHOUSE

Section B
Scale 1:400 (A4)

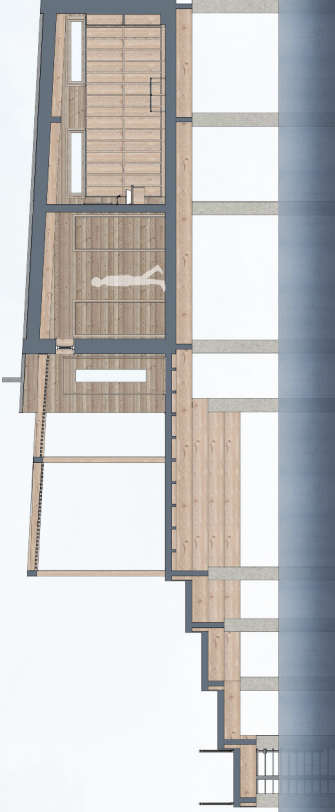


Scale 1:200

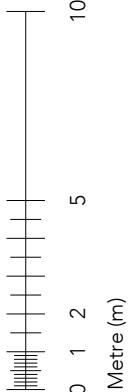


COLD BATHHOUSE

Section C
Scale 1:400 (A4)

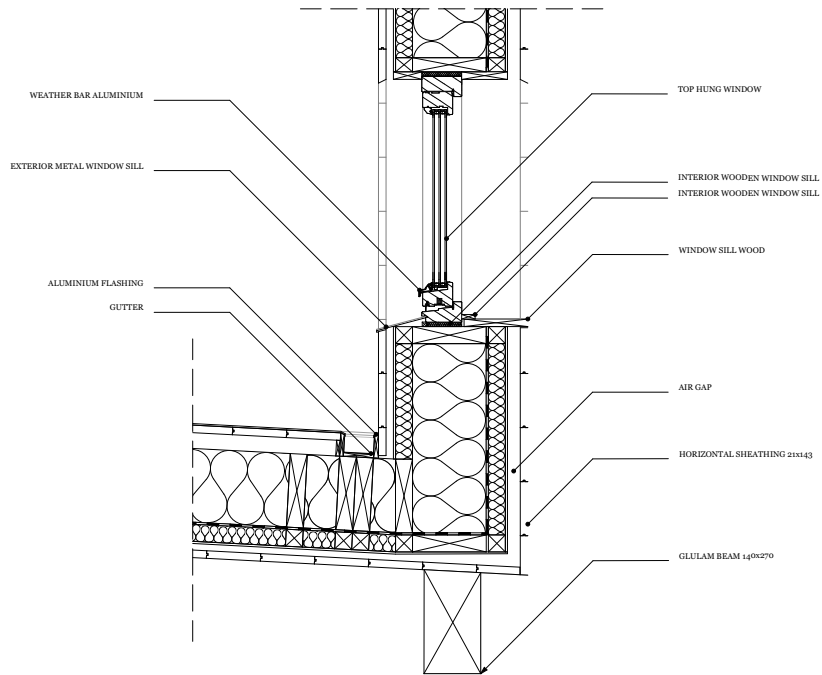
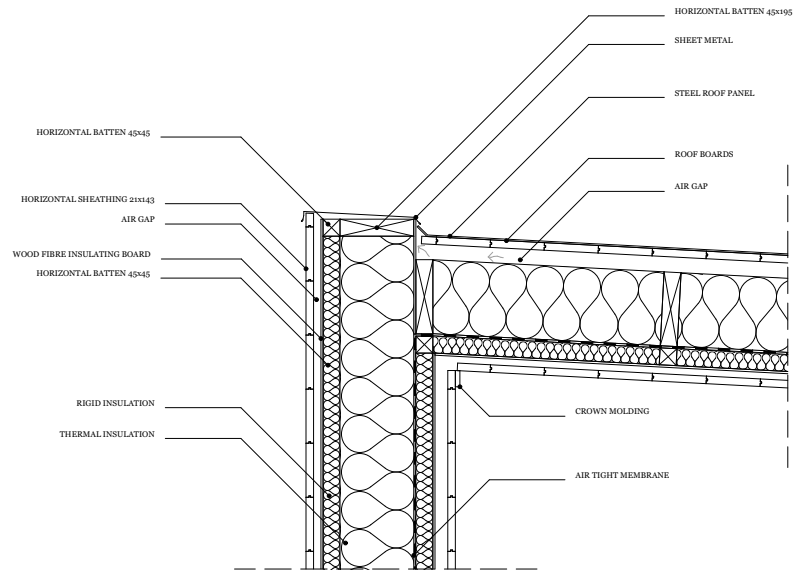


Scale 1:200

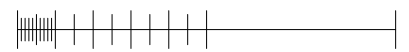


COLD BATHHOUSE

Detailed Section from Section A
Scale 1:20 (A4)



Scale 1:20



0 0,1

0,5

1

Metre (m)

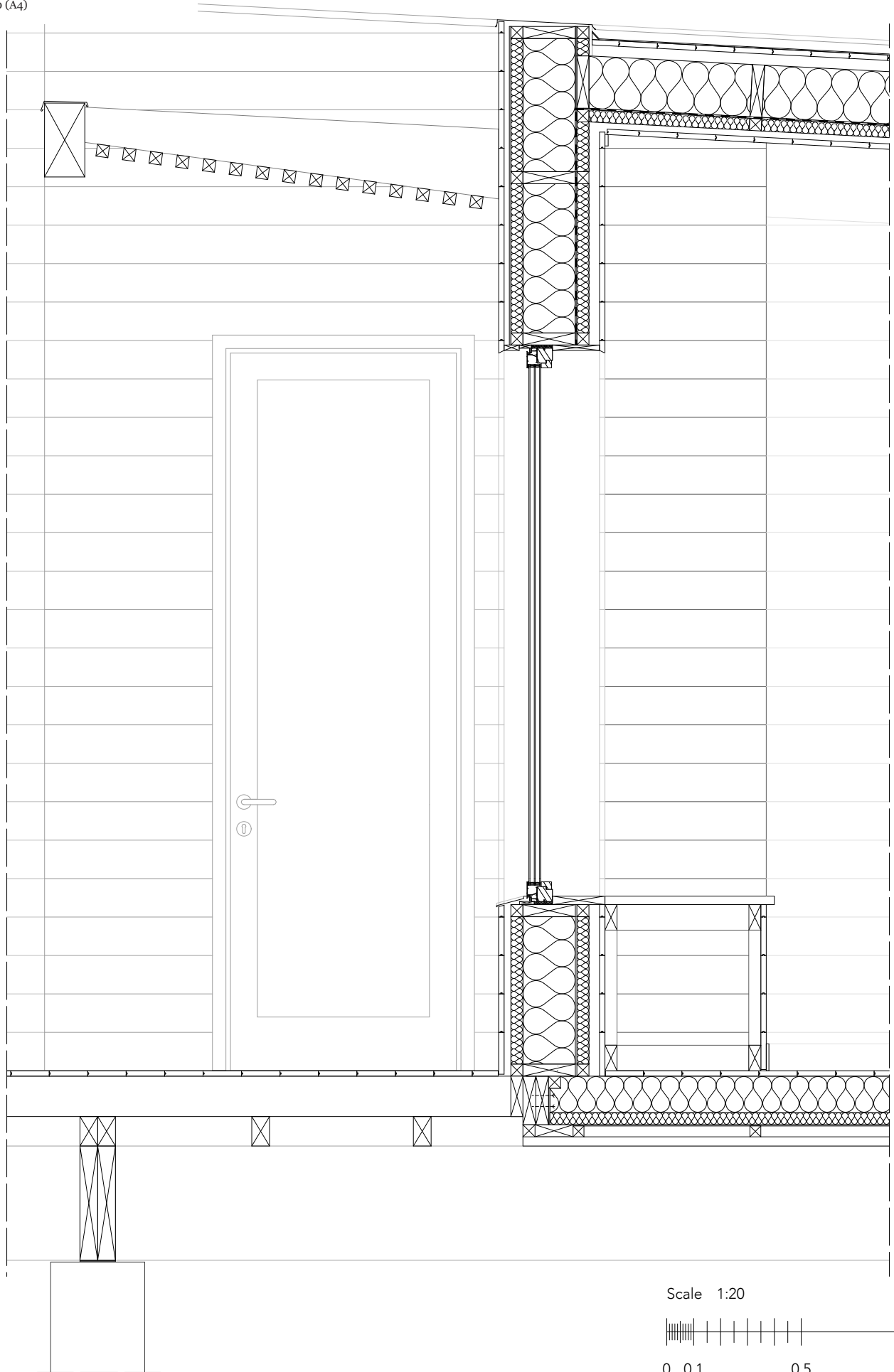
COLD BATHHOUSE

Façade Detail
Scale 1:20 (A4)

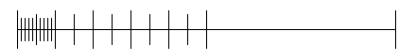


COLD BATHHOUSE

Detailed Section from Section A
Scale 1:20 (A4)



Scale 1:20



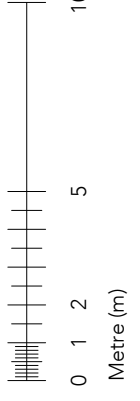
0 0,1 0,5 1
Metre (m)

COLD BATHHOUSE

West Elevation
Scale 1:200 (A4)

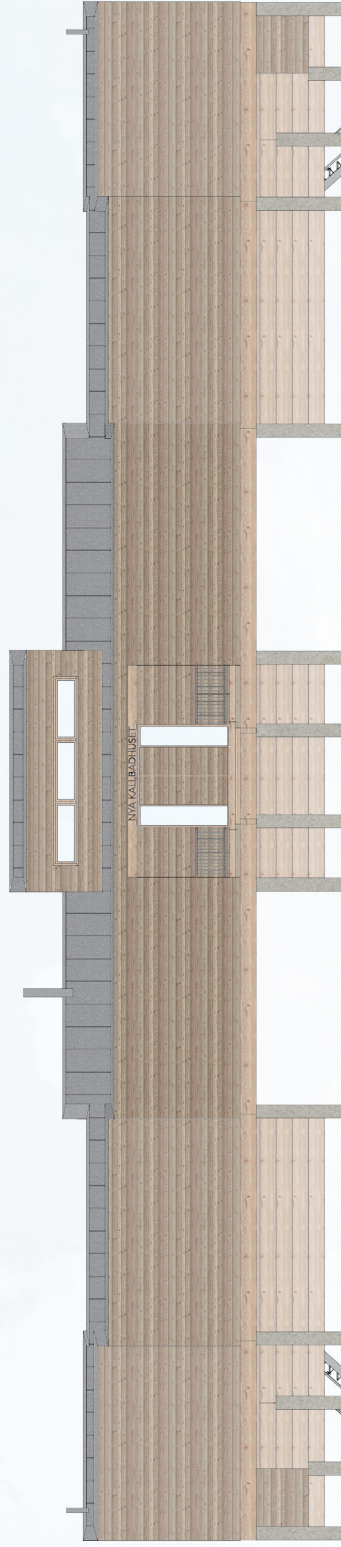


Scale 1:200

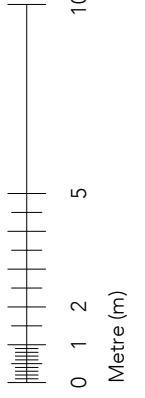


COLD BATHHOUSE

East Elevation
Scale 1:200 (A4)

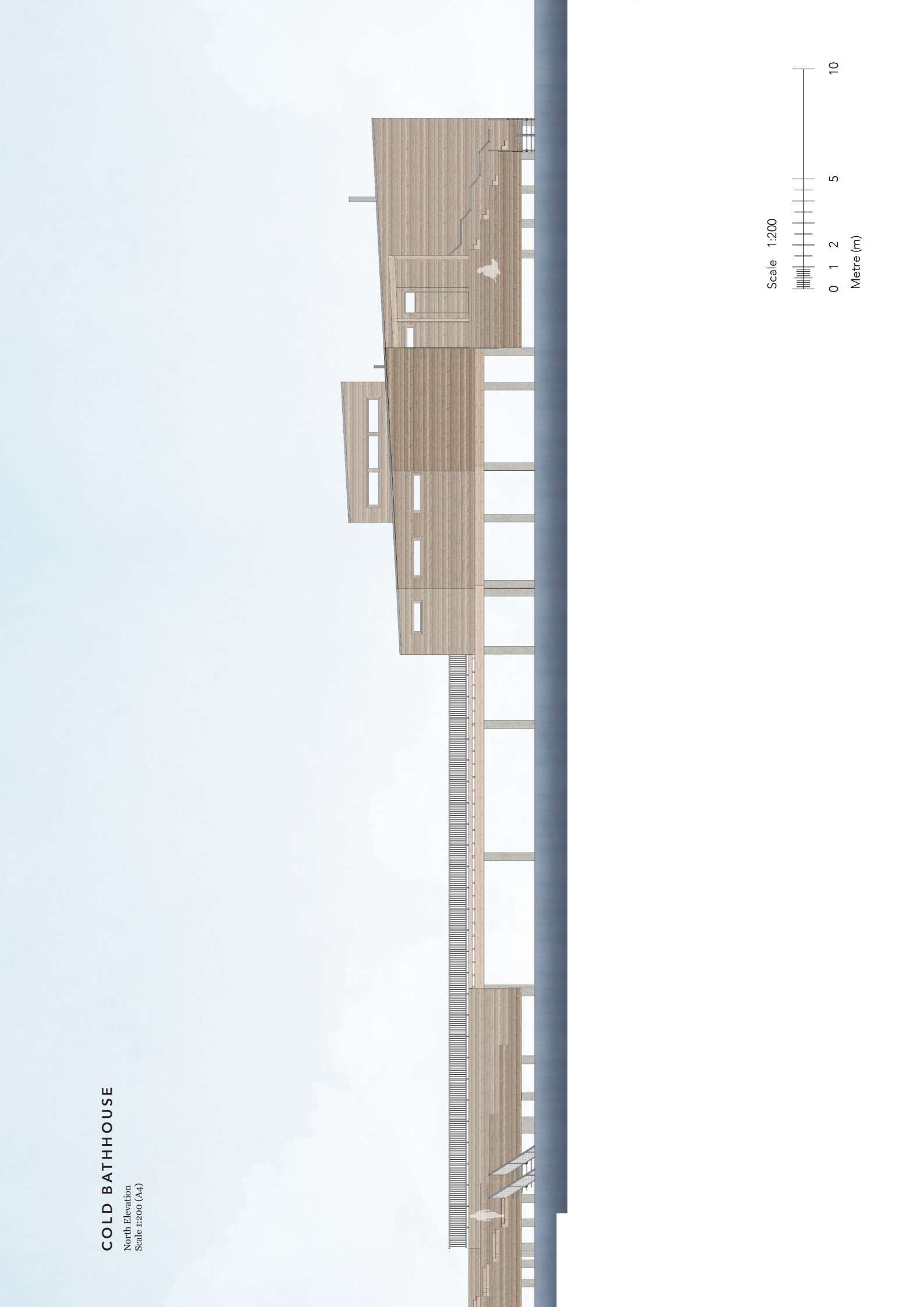


Scale 1:200

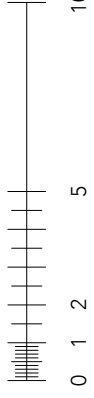


COLD BATHHOUSE

North Elevation
Scale: 1:200 (A4)



Scale 1:200



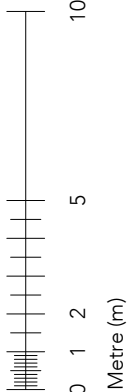
Metre (m)

COLD BATHHOUSE

South Elevation
Scale 1:200 (A4)

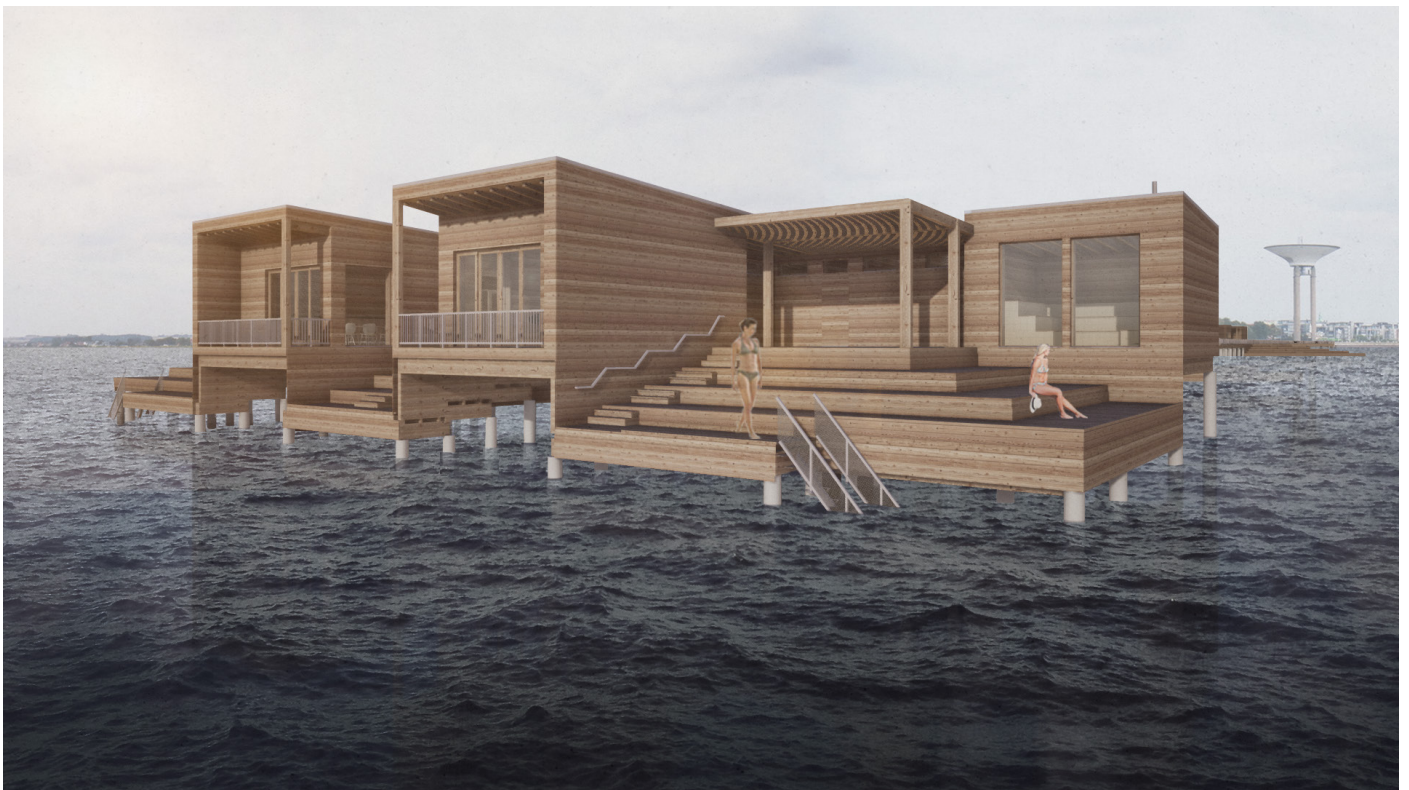


Scale 1:200



COLD BATHHOUSE

Exterior View



COLD BATHHOUSE

Interior View



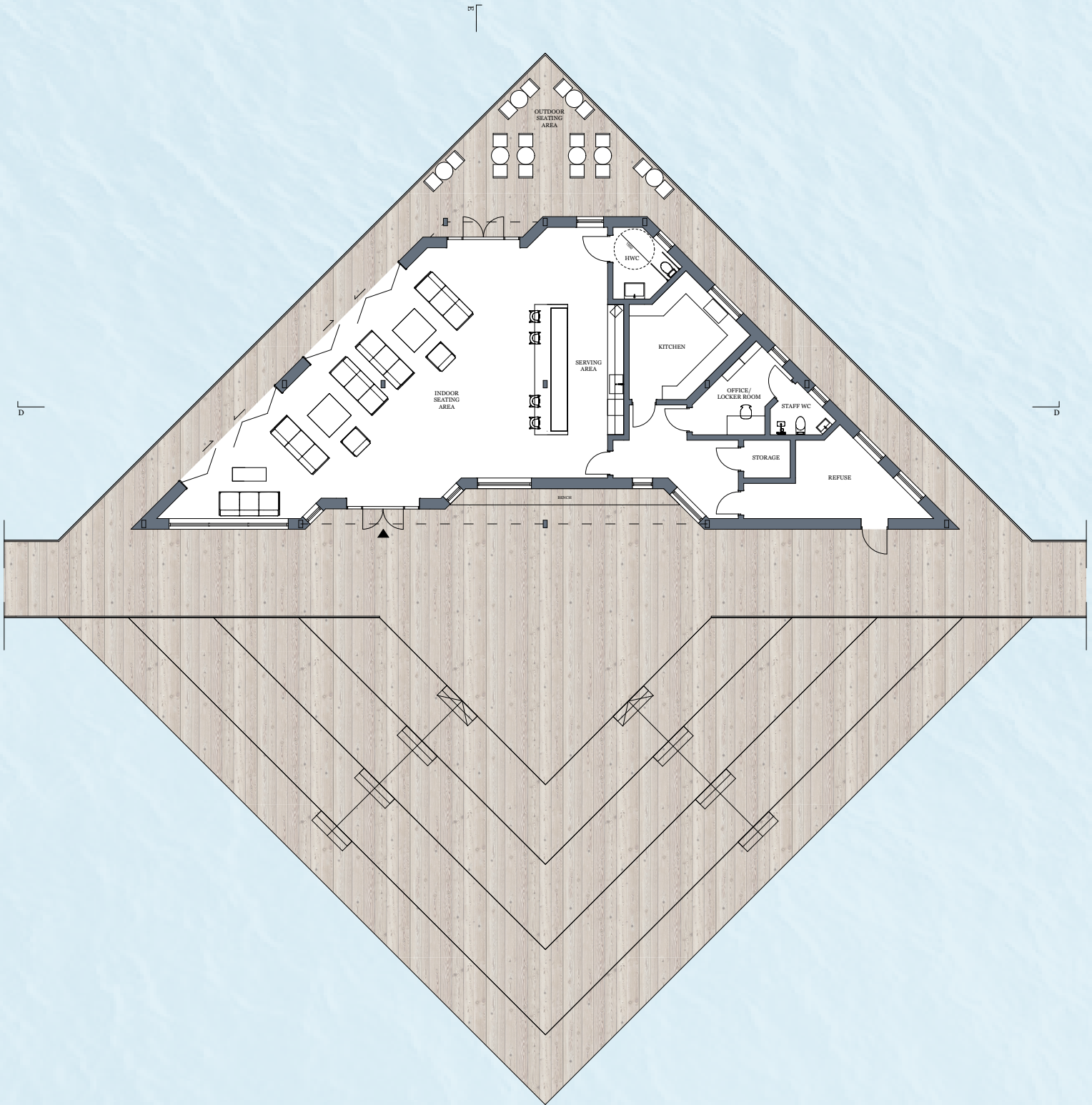
COLD BATHHOUSE

Entrance Situation

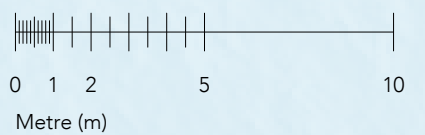


CAFÉ

Plan - Ground floor
Scale 1:200 (A4)



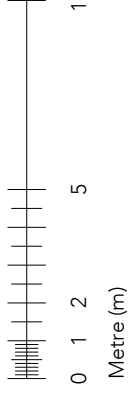
Scale 1:200



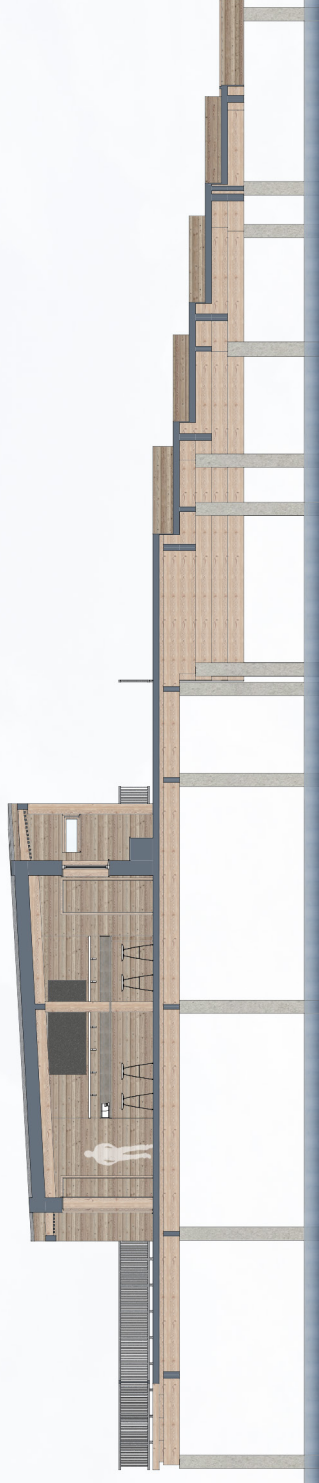
CAFÉ
Section D
Scale 1:400 (A4)



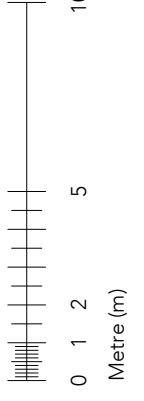
Scale 1:200



CAFÉ
Section E
Scale 1:400 (A4)



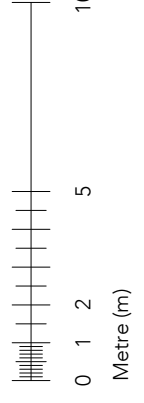
Scale 1:200



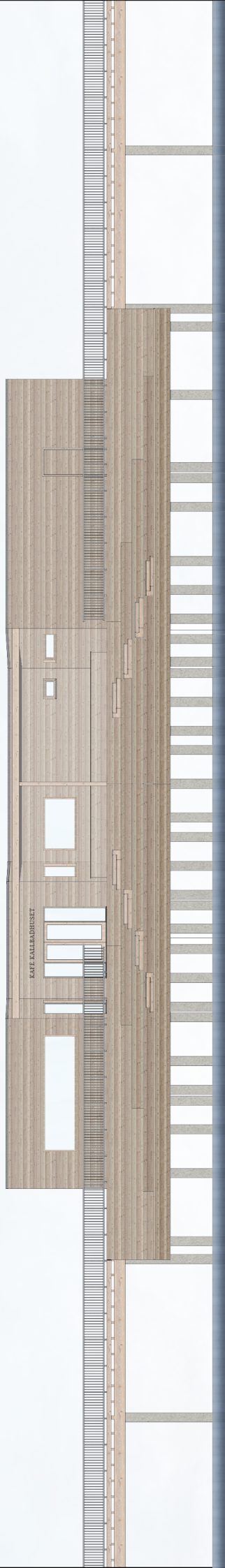
CAFÉ
North Elevation
Scale: 1:200 (A4)



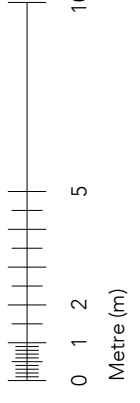
Scale 1:200



CAFÉ
South Elevation
Scale 1:200 (A4)



Scale 1:200



CAFÉ
Exterior View

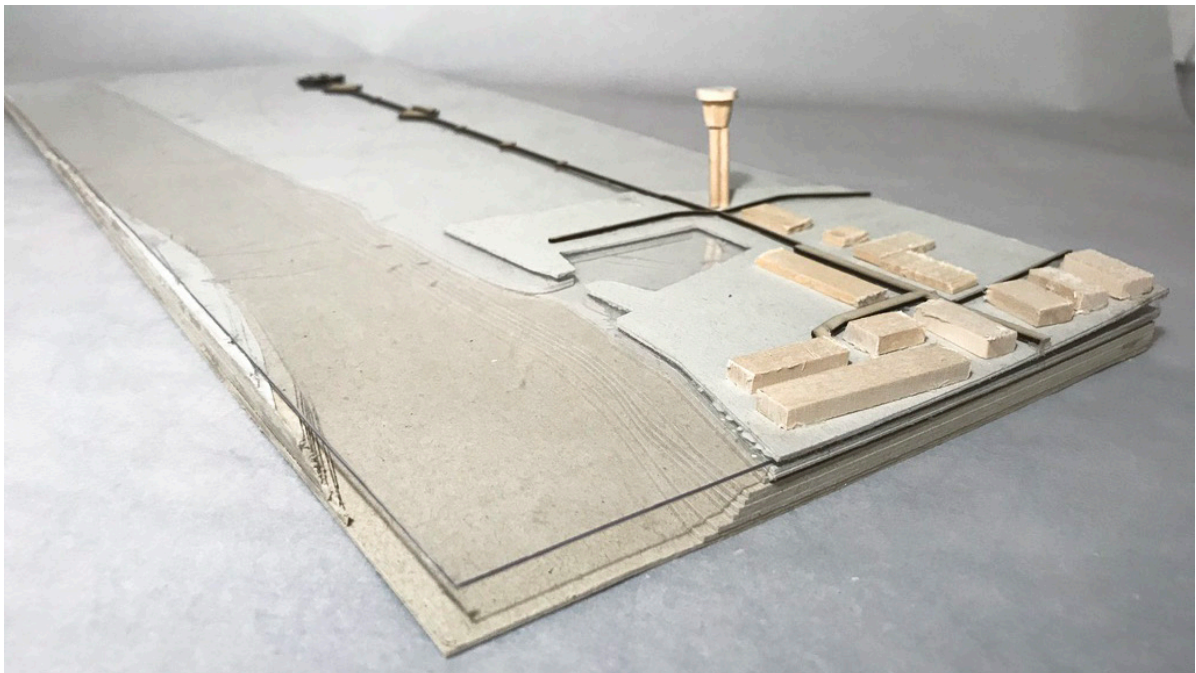


CAFÉ
Interior View



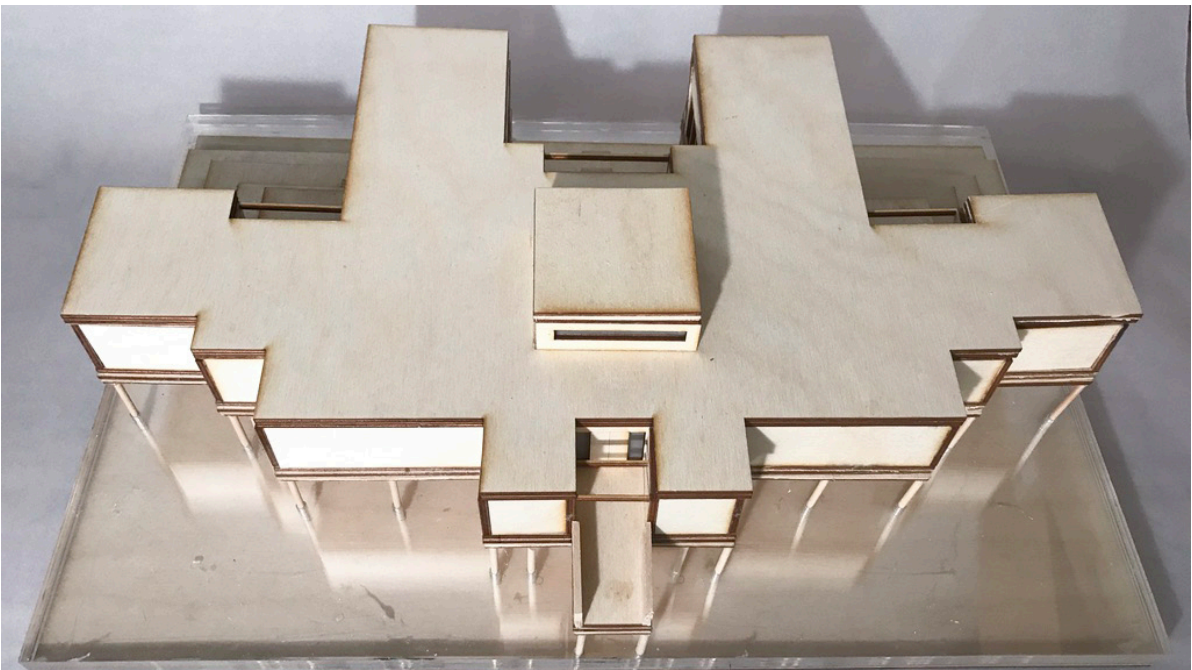
MODELS

SITE MODEL - SCALE 1:2000



Model made for Final Seminar

MODEL - SCALE 1:100



Model made for Final Seminar



Model made for Final Seminar

CONCLUSION

The outcome of this project is a design proposal of a cold bathhouse in the centre of Landskrona. This new retreat aims to bring back sea bathing opportunities to the heart of the city, while simultaneously creating a bridge between urban life and nature. The pier from the mainland to the bathhouse, will contain opportunities for sauna, sea bathing, sunbathing, socialising, and enjoying the beautiful, panoramic view of Öresund. There are commercial features such as the bathhouse and café, as well as features such as sun decks and a swimming area that is intended to be free of charge for the general public to take advantage of.

At the bathhouse, designed for public use and not member exclusive, includes gender specific saunas with the possibility to have mixed sauna sessions at certain times, showers, changing rooms and sun decks. In order to take advantage of and emphasise the beautiful sea view while simultaneously creating a private atmosphere, all windows are facing the sea away from land. The gender specific sun decks are placed in an angle of the structure to increase privacy for its users who are often completely nude. They consist of comfortable steps to sit on and avoid the need of additional furniture on the decks. There is also a mixed social area in between the gender specific areas for socialising and relaxation. In this space there is a common area with a fireplace, seating arrangements, coffee bar, and sun deck.

The materiality of the structure consists of materials that could age with patina, such as zinc roof coverings, larch façade cladding, and concrete pillars. The purpose is to have a minimal need of maintenance and endure weather. All cold bathhouses in Scania follow the architectural tradition of a timber façade cladding, and therefore felt like an obvious choice for this design proposal. The horizontal-oriented wood panels on the structure's façade is a nod to Landskrona's former bathhouse that also had this type of design feature. The structure's exterior and interior cladding, as well as the decks and pathway is of the same materiality, in order to blur out the boundaries between inside and outside. Besides requiring low maintenance, the façade cladding does not have a coat of paint. The purpose is to provide a natural, warm and healing feeling that mimics the effect of spending time outside in nature. Studies show that exposure to wood interior lowers blood pressure, heart rate and stress levels, and elicits feelings of warmth and comfort.

On the 484 metre long pathway leading up to the bathhouse there are several meeting points located along the pathway, where visitors also can sit down and enjoy the view, in addition to a public sea bathing area. There is also space for a cafeteria, which can be appreciated especially in the summer months and weekends when many people pass through the surrounding area.

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Window to Öresund

A New Cold Bathhouse for Landskrona



Sofia Leijonberg