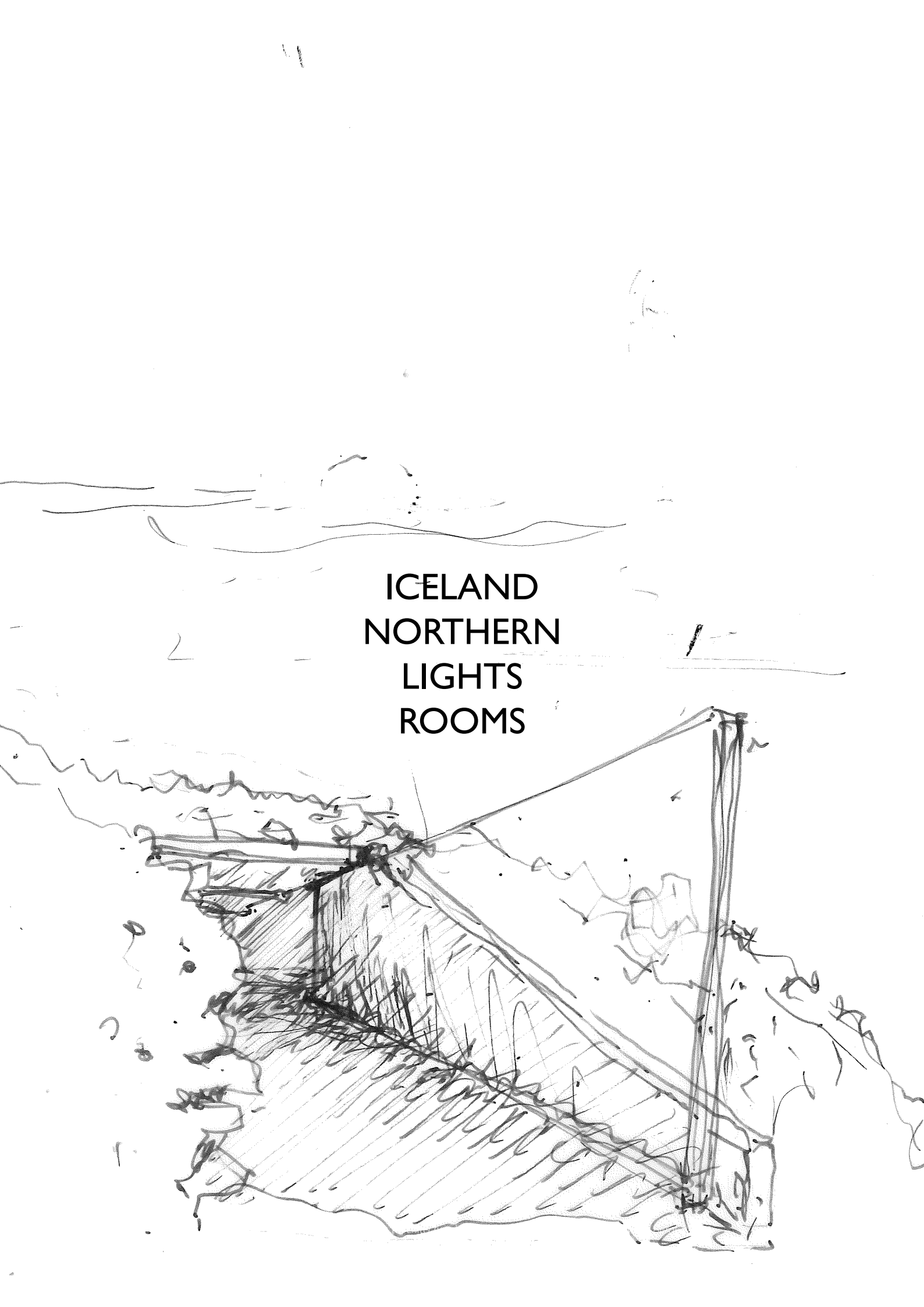
ICELAND
NORTHERN
LIGHTS
ROOMS



LUND
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ICELAND NORTHERN LIGHTS ROOMS

Investigation into the dialog between architecture and nature

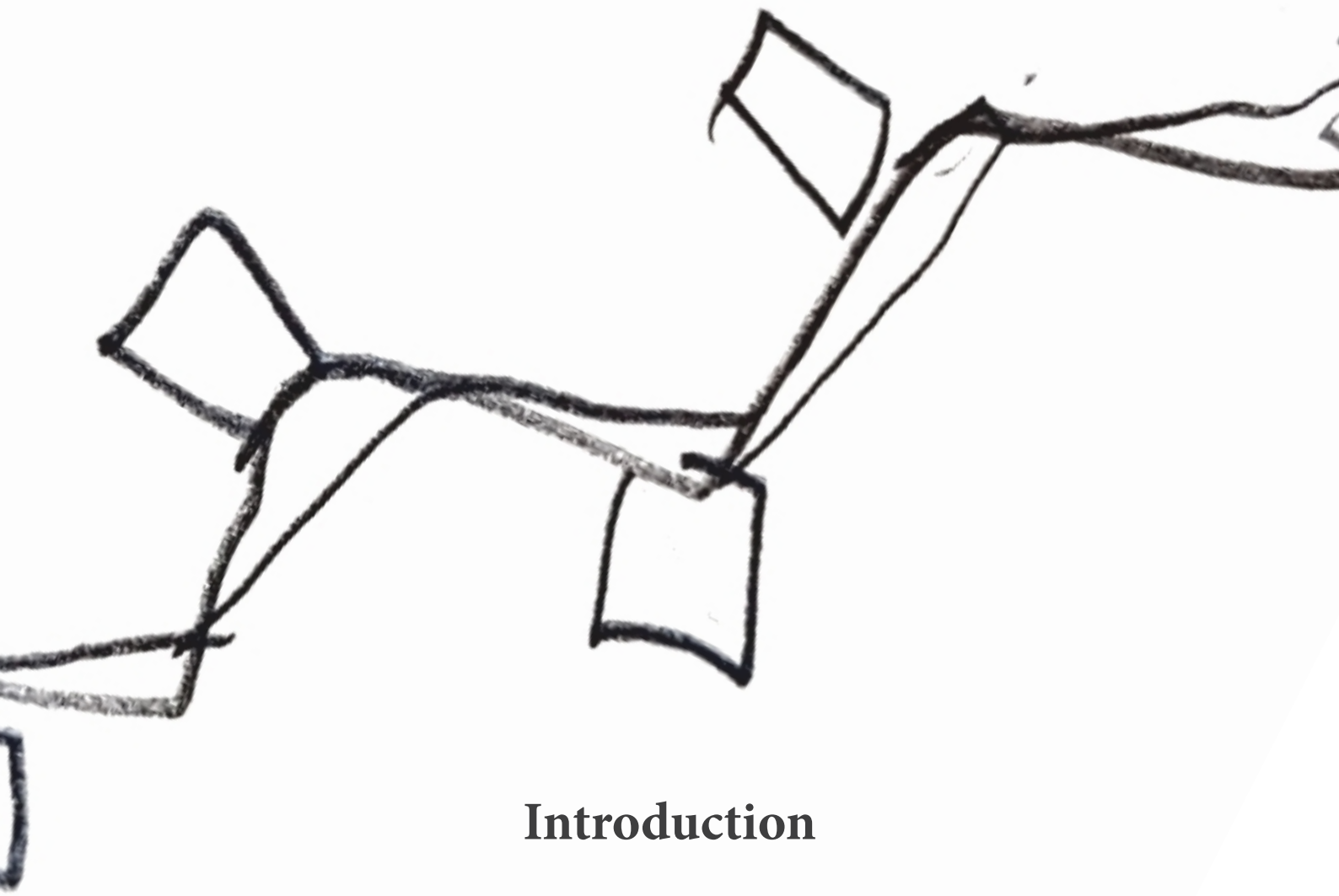
Abstract

This project proposes a design of dwelling for visitors and locals, who wants to enjoy one of earths beautiful phenomena, in this case the northern lights. The dwelling is located near the lake Mývatn. The framework is based on the theory of finding the common denominator between the natural elements and tectonics of architecture, by focusing on how we experience architecture in the relation and dialog with wild nature. By giving the audience most of the architectural qualities that built space can offer in the conversation with nature and its surroundings. The idea of the proposal is under the influence of being "Between earth and sky". Most of the travellers visit to enjoy the nature around Mývatn and to see the northern lights. Although, there should be ways to experience the nature by creating a certain atmosphere with the use of architectural approach.

figure 1 | Icelandic Turf house | 2011 | Turfhouse interior hallway, Hólar í Skagafjardarsýslu

Contents

Chapter: one



Introduction

figure 2 | Icelandic old Turf house | 2015 | Old building techniques built with earth

1.1 Motivation

Architecture has been changing drastically during the last century and has showed dramatic changes in the demand of how we experience architecture. With new technology and new ways to build, the atmosphere of the buildings sometimes fade away and become just a space, being its practical purpose and not much more. Architecture should be developed to ensure architectural quality, which can respond to the local context and human perception.

The motivation of the project is to give travellers in Iceland the opportunity to experience and enjoy a built space, which is in conversation with the nature around. By giving the audience most of the architectural qualities, the built space can offer a dialog with the nature and its surroundings.

The vision is to examine and challenge the general understanding of building in nature. In order to underline the central subject, the aim is to develop an iconic building that expresses a statement of direction in architecture with nature.

figure 3

figure 4

figure 5 | Pictures from Mývatns surroundings

Drawing 1 | Illustration of Icleand (dashed line represent road nr.1 around Iceland)

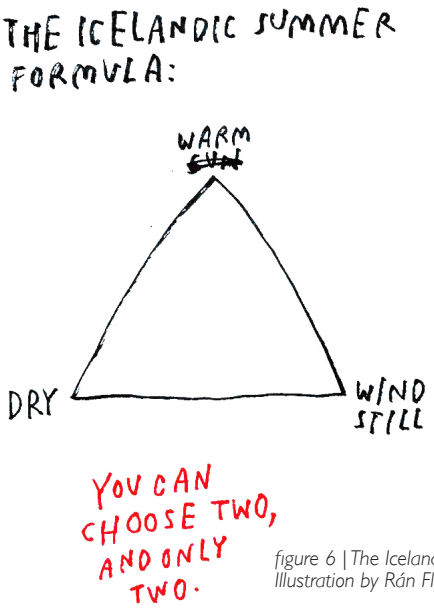


figure 6 | The Icelandic summer formula
Illustration by Rán Flygenring

1.2 Introduction

Iceland has a vast, wild landscape, with some of the most unique and incredible natural views in the world. Appropriately known as the land of fire and ice, Icelands volcanic fields blend seamlessly into gigantic glaciers and tumbling waterfalls. Iceland is also an ideal location to view the iconic Aurora Borealis, otherwise known as the northern lights.

In recent years, Icelands global image have gone from being a small and unknown island in the north to being a very popular island to visit. The country was hit hard by the global financial crisis, but has only recently recovered quite well. The recovering process is partly depending on the ever-growing popularity of international tourism. Although, Iceland is a small country and needs to be well prepared to be able to welcome the growing numbers of tourists, visiting the country. With these growing numbers of visitors to Iceland there has been a need for building up accommodations for all the travellers who wants to visit. With the accommodations there come other needs, like lavatories, visitor centers and dining options including the care of the fragile nature that visitors wants to see and experience. The country can expect to be looking up on big problems if nothing is done to avoid the destructions that the numbers of visitors are doing to the environment, even just by walking on the ground.
In some minds, architecture should not be harming the landscape that the nature offers. In other minds there is a way of highlighting the landscape and the environment with the tools that the architect can use and bring to another perspective for the viewer.

The goal of this project is to investigate how a creator can build in a dialog with nature, with a target of bringing the visitors mind to enjoy the natural elements around us. Most people use all five senses every day of their life. By trying to enable all these senses with the use of natural elements in the designing process, the result could offer unusual perspectives of architecture. For example by bringing water into a building rather than trying to keep it out, maybe by hearing the sound of dripping water or simply by sight.

For the Iceland Northern Lights Rooms architecture competition, participants are tasked with creating the concept for a guesthouse from which to view the northern lights. The guesthouse would need to be able to permanently accommodate its hosts as well as provide welcoming temporary accommodation for guests. This proposal will try to enable the senses and bring new perspectives to the visitors mind.

Building program

Guest zones

- Movable, detached guest rooms (different sizes)
- Dining area
- Kitchen
- Sauna (optional)
- Shower and WC

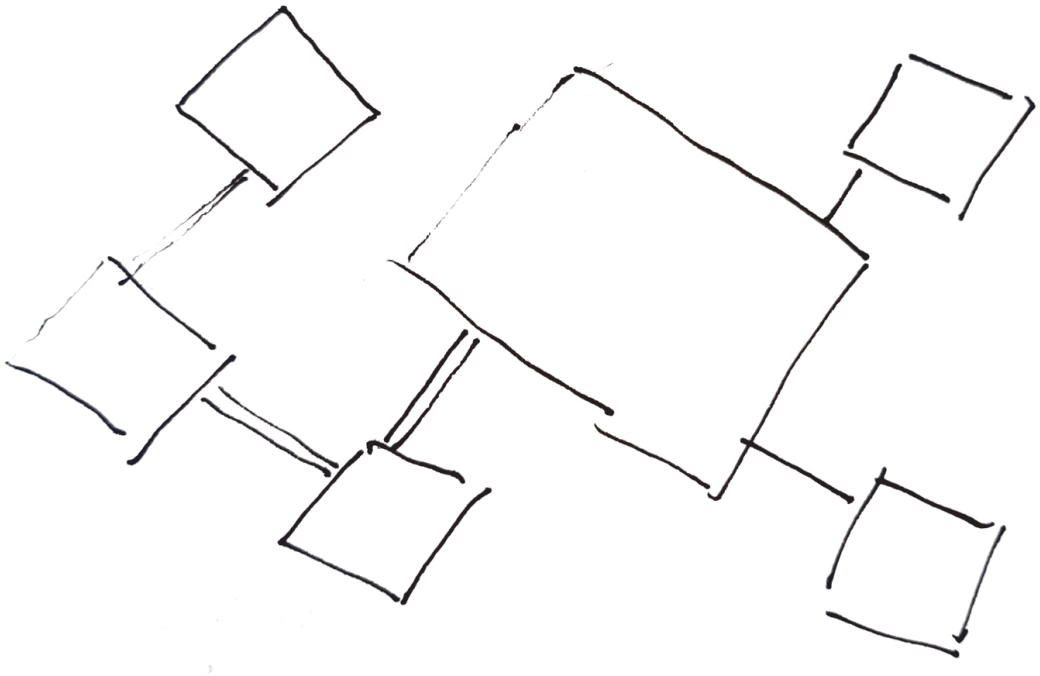
Private Zone

- Bedrooms
- Living room
- Bathroom
- Small kitchen
- Shower and WC

Additional features and facilities

- Terrace
- Barn for horses (most provide space up to 5 horses)

figure 7 | Iceland competition site | 2017 | Mývatn, view over lava field and north side of the competition site



Drawing 2 | Program study

1.3 Program

The investigation of the program will be conducted in the north part of Iceland through an architectural proposition. The proposal will explore the design of a guesthouse, which is suppose to be capable of accommodating up to 20 guests, as well as providing a permanent home for the hosts and their family.

The idea is to design a range of distinct and separate guest rooms, which range in size from single rooms to double rooms. The rooms must have the function of being moveable and easy to assemble and disassemble; with no permanent foundation and be able to be relocated as necessary.
The layout of each guest bedroom should be simple, providing guests with a bed and a skylight to enjoy watching the northern lights at night from their beds.

One part of the scheme is to design a dining area that would be able to host and serve all the visitors at once, providing enough room and facilities (a kitchen and serving facilities) for up to five invited staff members as well the hosts.

The hosts private accommodation can be connected to the guesthouse facilities, or entirely separate. However, there should be a clear and comfortable division between the two spaces. It should provide a bedroom, living room, bathroom and a small kitchen.

''The skin reads the texture, weight, density and temperature of matter. The surface of an old object, polished to perfection by the tool of the craftsman and the assiduous hands of its users, seduces the stroking of the hand. It is pleasurable to press a door handle shining from the thousands of hands that have entered the door before us; the clean shimmer of ageless wear has turned into an image of welcome and hospitality. The door handle is the handshake of the building.''

Juhani Pallasmaa | The eyes of the skin

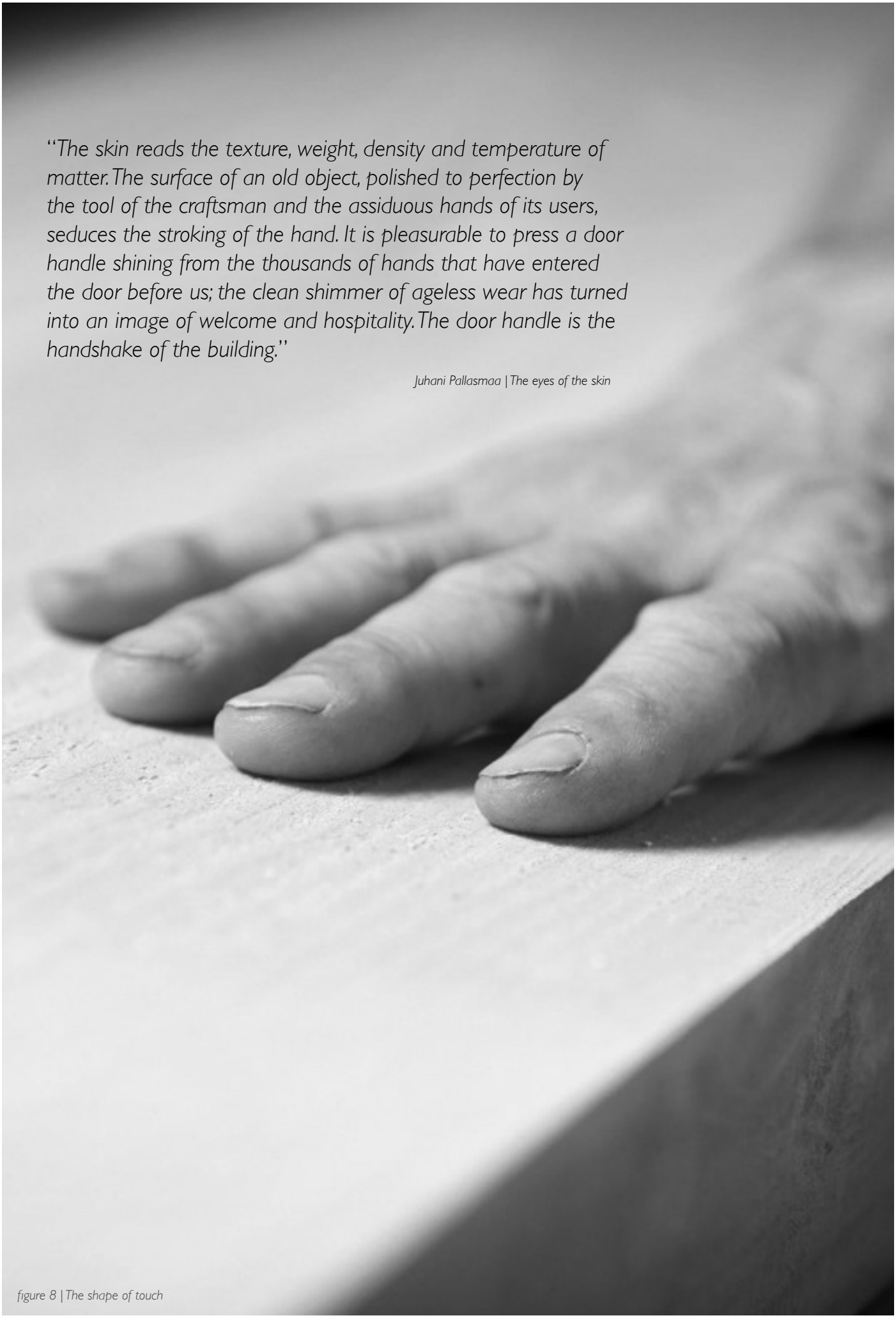
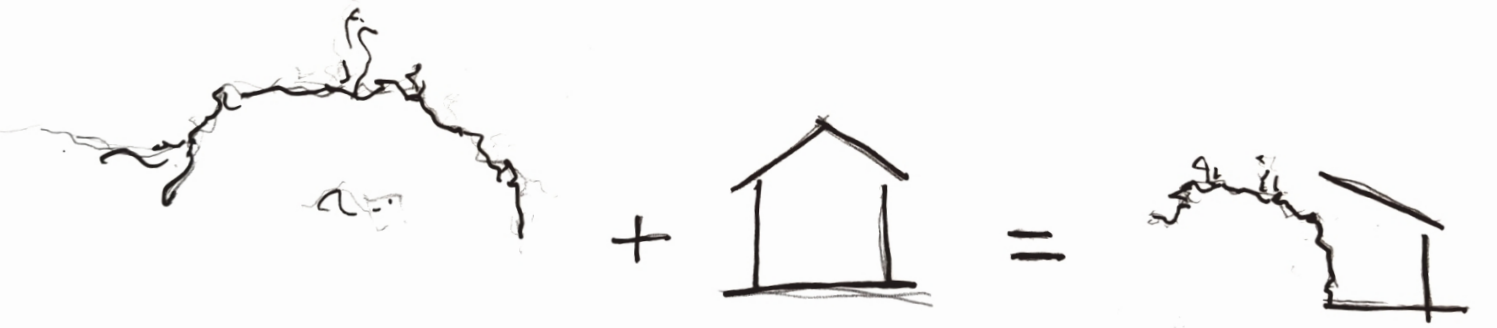


figure 8 | The shape of touch



Drawing 3 | Method diagram

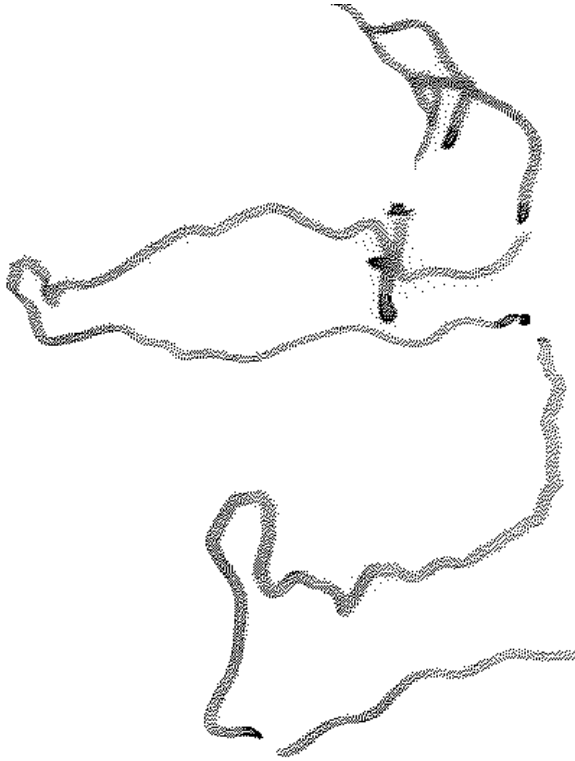
1.4 Methodology

Designing a human made structure into the untouched landscape is a complex matter; it can even be seen as a threat to the landscape and its surroundings. Architects responsibility is to understand the surrounded environment and come up with a solution that gives the structure a purpose and a location to build in. It is a difficult task to resolve and succeed with, without threatening the neighbor. Which in this case is the nature in its own form.

The aim of this research and project is to give the audience the experience and atmosphere that nature and built space can offer. By giving the visitor the opportunity to touch, feel, experience and enjoy the nature and space. As Juhani Pallasmaa said once: "architecture should express the world, not the maker".

When designing in such an extreme environment as Iceland has to offer, the architect is forced to do an analysis on how to build in an environment that can bring some new obstacles to the design process, like earthquakes, volcanic eruptions, weather conditions and long winters.

The process of form finding and problem solving will be handled with the various tools and knowledge that architects uses in their profession. The target is to use physical models in various scales to understand the site and the goal of the project, from starting point of sketching to the final outcome.

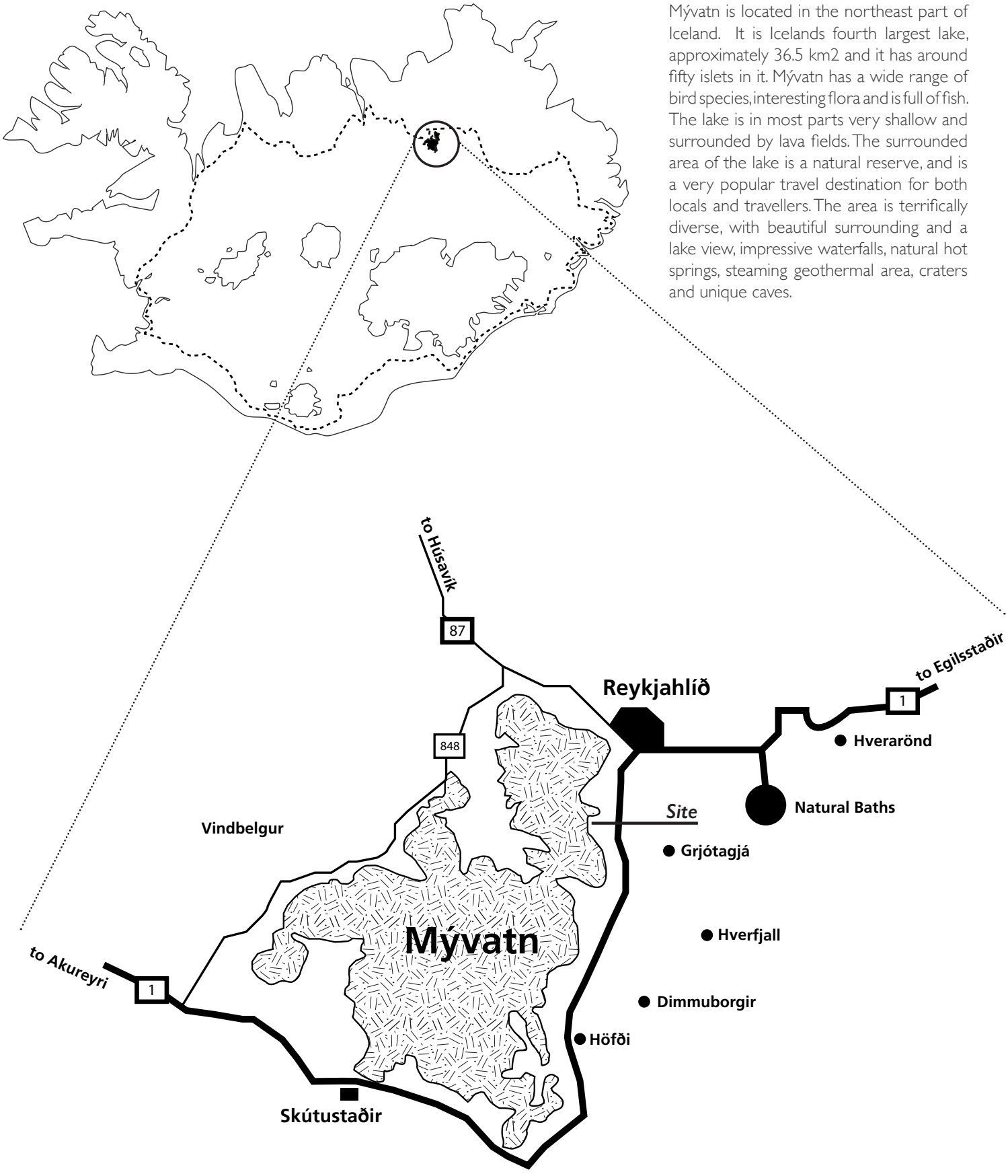


chapter:
two

Narrative

2.1 Mývatns region

Mývatn is located in the northeast part of Iceland. It is Icelands fourth largest lake, approximately 36.5 km2 and it has around fifty islets in it. Mývatn has a wide range of bird species, interesting flora and is full of fish. The lake is in most parts very shallow and surrounded by lava fields. The surrounded area of the lake is a natural reserve, and is a very popular travel destination for both locals and travellers. The area is terrifically diverse, with beautiful surrounding and a lake view, impressive waterfalls, natural hot springs, steaming geothermal area, craters and unique caves.



drawing 4 | Mývatns location in Iceland

There is only one small town on the east side of the lake called Reykjahlíð. From the main capital Reykjavík, it is a 6-8 hours drive to the small town Reykjahlíð by the lake Mývatn. Reykjahlíð offers the most basic services needed, like a bank, gas station, mini supermarket, health care, school, kindergarten, hotel and swimming pool. There is also cafés, restaurants, guesthouses, hotels and camping areas. Summer cabins are scattered along the lake and by some of the main attractions around the region of Mývatn.

figure 9 | Aerial photo of mývatns location

Surroundings

figure 10

Hverir

figure 11

Höfði

figure 12

Hverfjall

figure 13

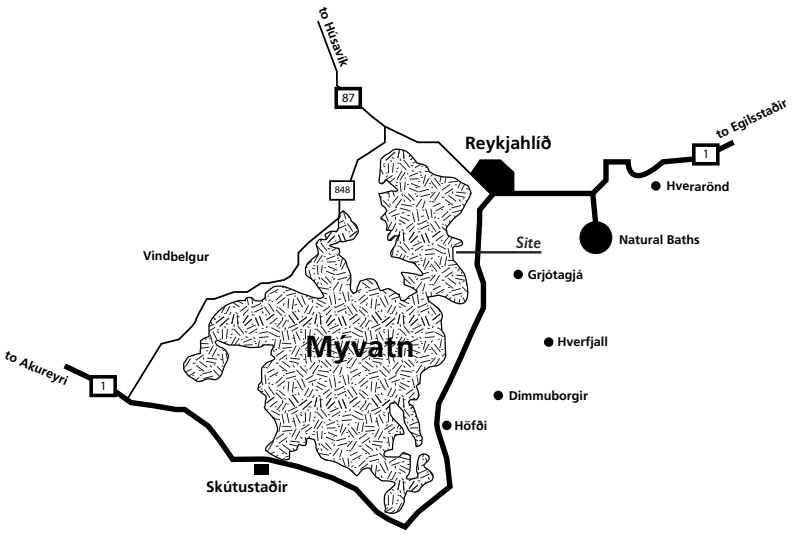
Dimmuborgir

figure 14

Natural baths

figure 15

Grjótagjá



drawing 5 | Location of attractions around mývatn

drawing 6 | Map of competition site

drawing 7 | Section A - A
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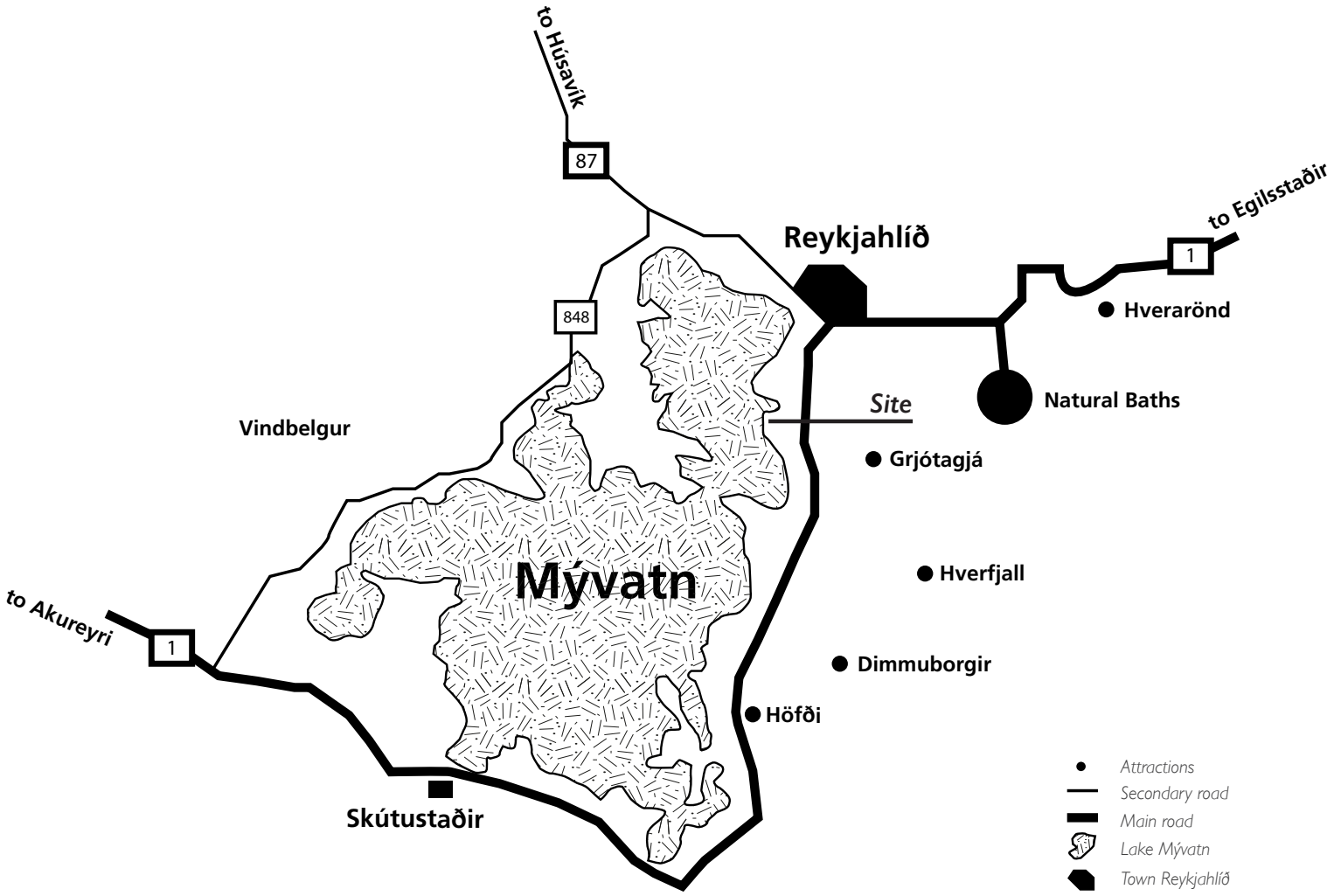


drawing 8 | Map of activities around site

2.1 Mývatns region

Mývatn has several interesting locations in the surrounding area. Some examples are the geothermal area of Námaskarð, the towering lava rocks at Dimmuborgir, caves surrounded by hot water and rocks, various volcanic craters and natural hot springs.

drawing 9 | Section B - B

figure 16

figure 17

figure 18

figure 19

figure 20

figure 21

figure 22

figure 23

2.2

The prevailing atmosphere of a place

This analysis is based upon a phenomenological study, investigating the atmosphere at the site and of the surroundings. Photographs of the local area will support the study. This is done by going through a visual memory of the site, analysing the street views in relation to the site.

When driving along from Egilsstaðir to Mývatn, which is a two hour drive, not much more than a black rocky desert can be seen (figure 16). When finally arriving at the municipality of Mývatn, it reminds of the environment on Mars. The ground surface is orange with steaming hot springs and boiling water is coming up from the ground. There is a smell, some people dislike it and say that it reminds of the smell of rotten eggs, those who like it describe it as the raw smell of nature and geothermal activity. Either way, the smell comes from the hot springs and the place is called Hverarönd. The stop is worth taking a picture before heading on the road again (figure 17).

After a short drive a spectacular view can be seen (figure 18). The view offers climbs of the lake Mývatn. When driving down the hill, some strange blue colored ponds seem to come closer (figure 19). The blue ponds are the nature baths at Mývatn, a popular tourist attraction. The next arrival is Reykjahlíð, which is the only town on the east side of the lake. Reykjahlíð is just a typical small town in Iceland (figure 20). In the heart of the town a clear and calm environment can be found (figure 21). After driving through Reykjahlíð, the composition site is near, it can be seen in a distance from the road with a shelter of dense birch vegetation in between the road and the site. The road to the site crosses through old lava fields (figure 22). Finally, figure 23 shows a part of the competition site.

figure 24 | fog over the lake on the eastern side

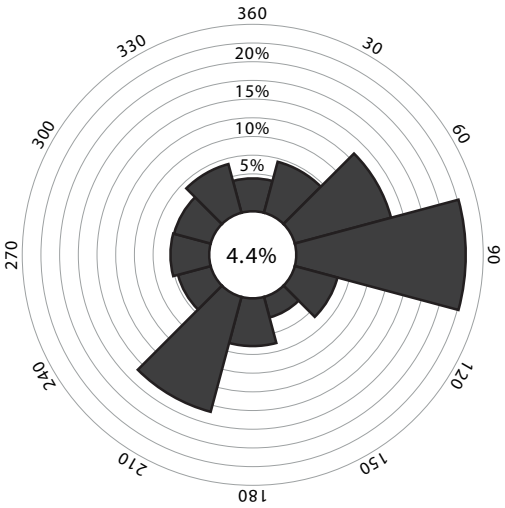
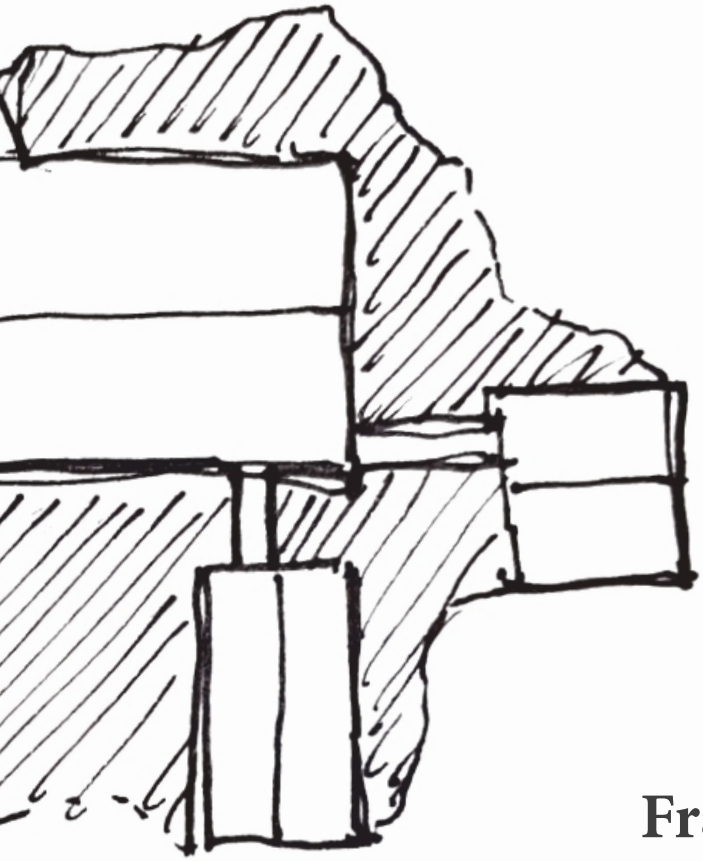


figure 25 | wind rose for Mývatn

2.3 Climate

Mývatnssveit is special in Iceland for its climate and has its natural reasons. Icelands largest glacier called Vatnajökull takes care of wiping all the moisture out of the southern winds, and the northern wind have lost the power when it reaches Mývatn. This causes the area to be one of the drier parts in Iceland, with less than 400 mm annual rainfall, but at the same time it is sunny. If there are dry periods in Iceland, the dryness can affect the vegetation and can be problematic for the growth. Without the spring water, this part of the country might be like a dark desert. Median temperatures are slightly lower than in lower-lying areas of the north, especially in the winter. The difference between maximum and minimum temperatures is quite large. Temperature can go over 20°C for a few days in the summer time, while the temperature at winter time goes down to -20°C and sometimes even -30°C. That happens just if the air is dry and still. Occasionally in extreme frosts there is frequently a fog over the lake on the eastern side, as the water is always infinite due to the inflow of hot spring water. The lake Mývatn has less snow in the wintertime compared to neighboring provinces near the sea.



Framework

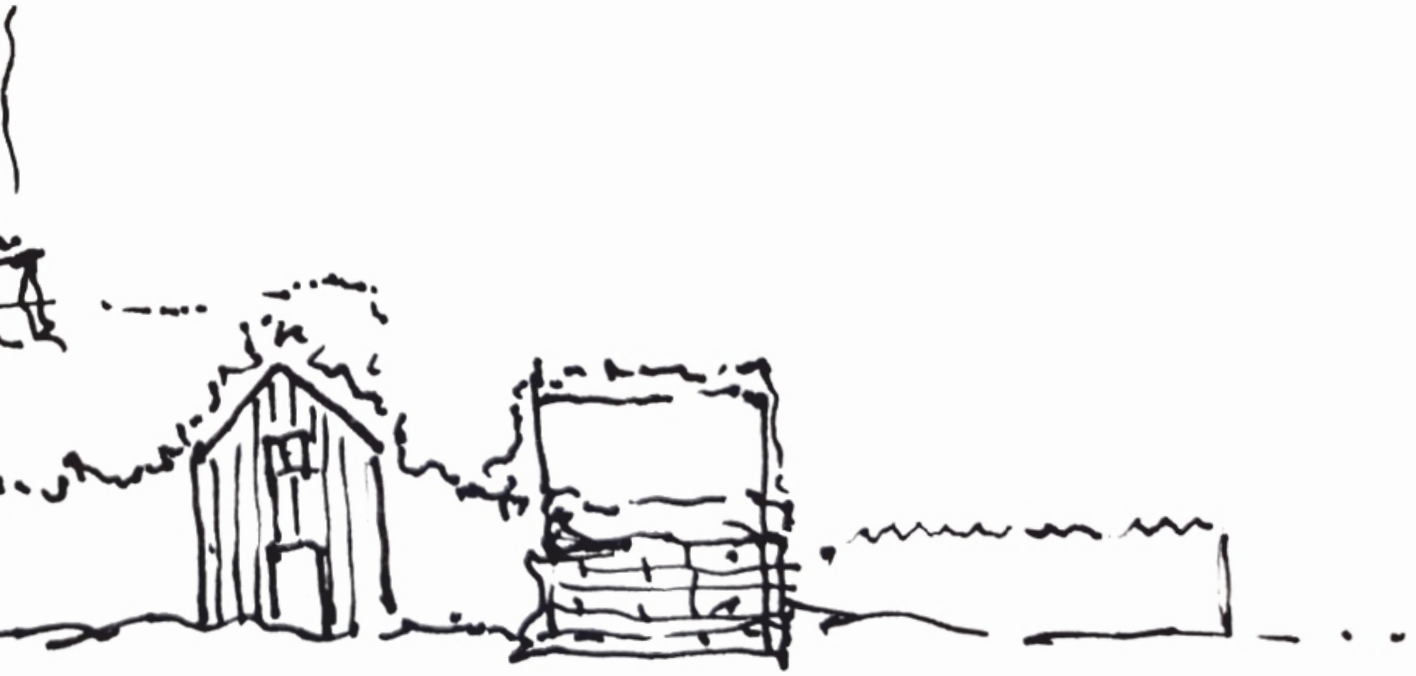


figure 26 | A old dramatic illustration of a Icelandic Turf house

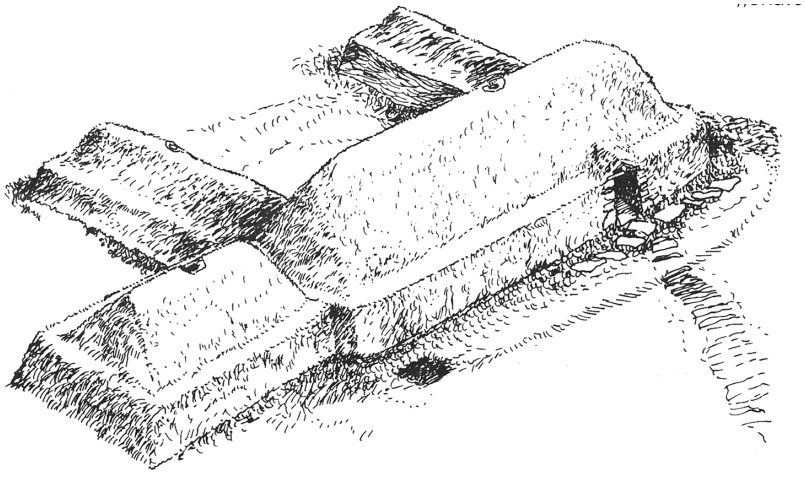
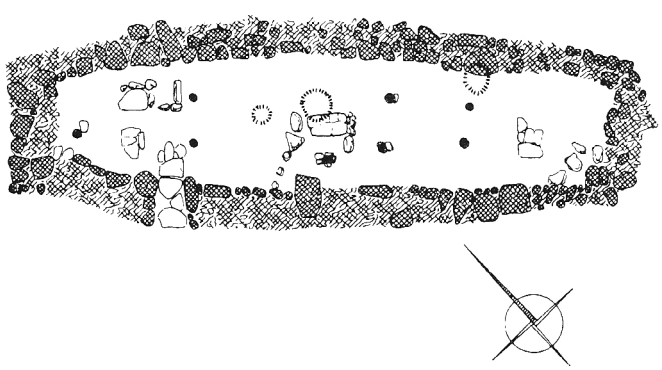


figure 27 | Illustration of the Turf house Stöng

3.1 Icelandic building tradition in the past

Looking into Icelandic building tradition and understanding the dwelling of your ancestors you have to go all the way back to where Icelanders built their houses out of earth and stone, the traditional Icelandic turf house. This is one of the first types of dwelling in Iceland. The method is to use only turf or a mix of turf and rocks for housing construction. In between these walls a wooden framework is constructed to hold the heavy turf roof. Most of the turf houses were made out of wood, turf and stone. Simply with the material that earth is made off.



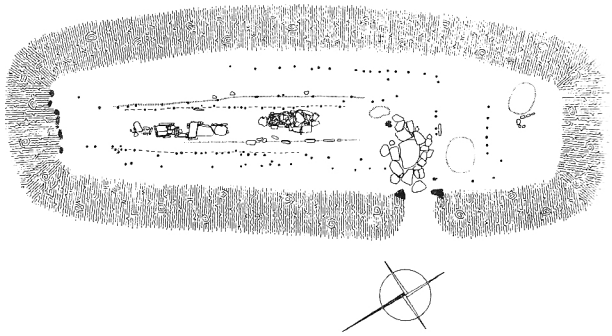


figure 28 | Plan drawing of first kind of turf house dwelling

In ancient history one of the first dwellings made out of turf were called "Skáli" which can be translated to dormitory or pavilion (figure 28). The turf houses only offered basic needs, like beds and an area to eat in, this was all in the same space in the turf houses. This type of building technique is well known around the North-Atlantic region during the Viking period. Buildings like this have been found around the island in different sizes, from 10 to 36 meters in length. It does not matter whether the building is big or small, regarding the similarity in the plan of this kind of turf houses.

After people became settled in Iceland, building tradition began to change by time. The first things that started to change were the layout of the turf houses. The plan started to expand and new rooms were revealed in multiple directions from the main hall. In the first cases the rooms were located rather randomly, but later with a more determined layout. These extensions show the first attempts by the settlers to adapt their houses to new circumstances and needs. At first there were just one building added to the plan, but while time passed by, more and more additions began to grow within the plans of the turf houses.

The floor plan of the turf house named Stöng (figure 29) shows that the layout of the building has changed and received a more specific form to the layout. The main change to the layout is that at the end of the hall, a living room has been added. Between these two rooms a door is introduced. At the back there are two rooms, one for food supplies and one that could be close to a bathroom.

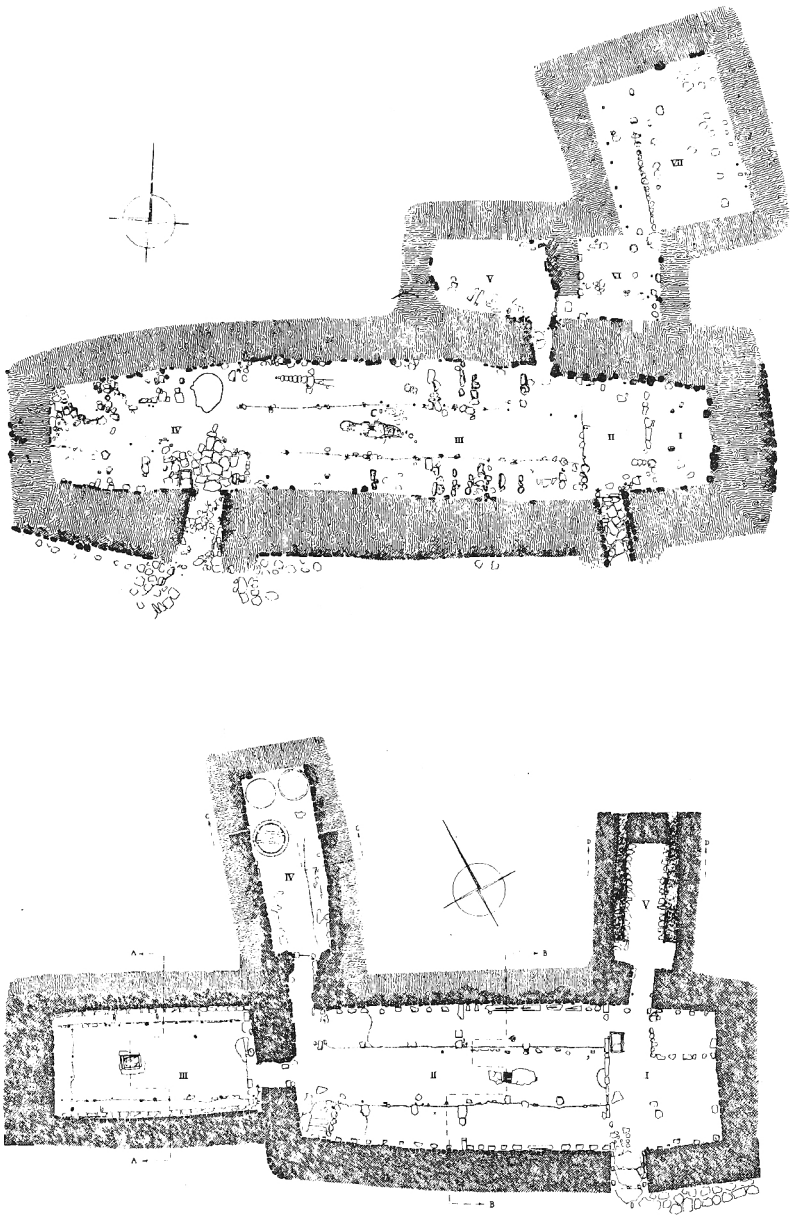


figure 29 | Plan drawing of the turf house Stöng

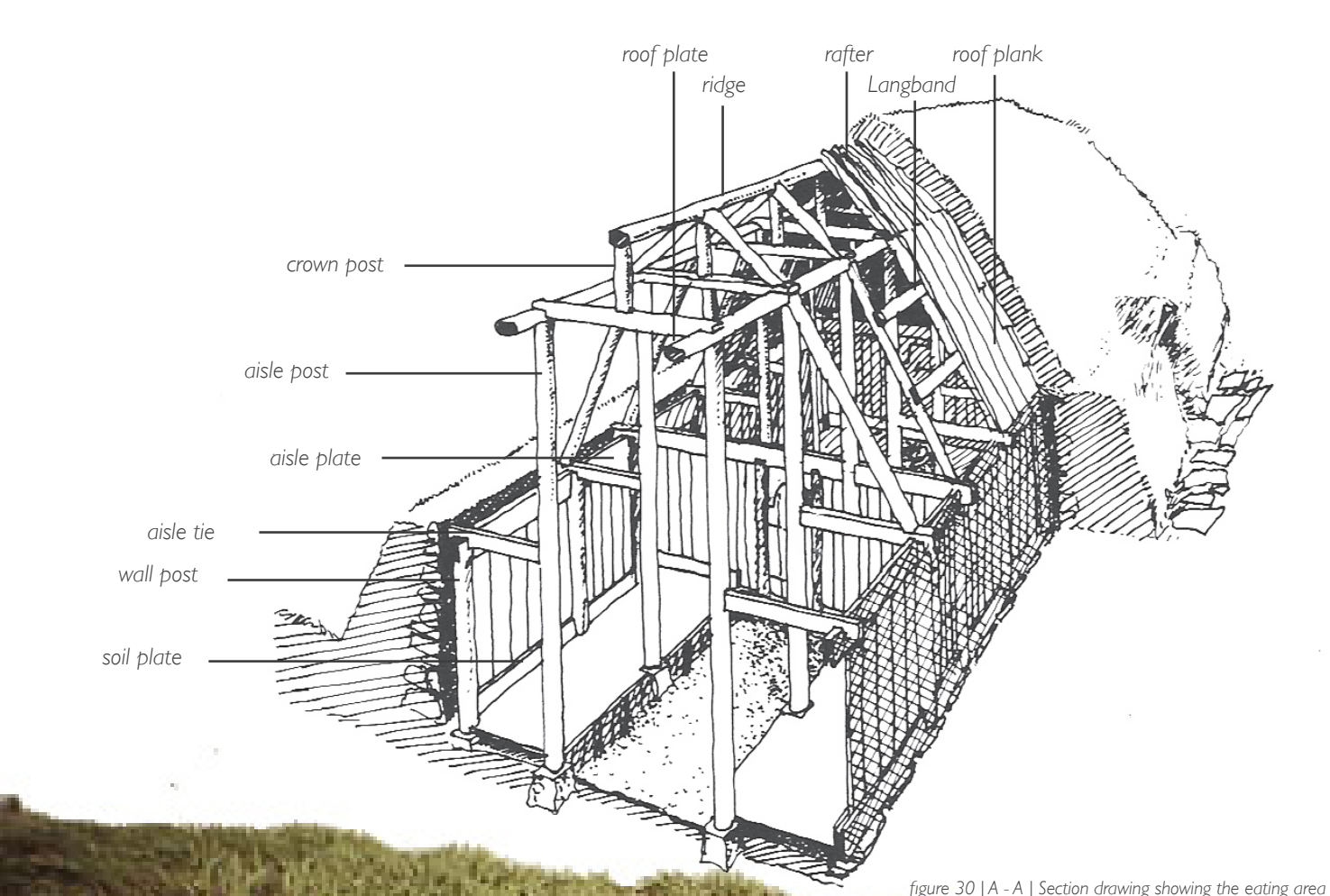


figure 30 | A - A | Section drawing showing the eating area

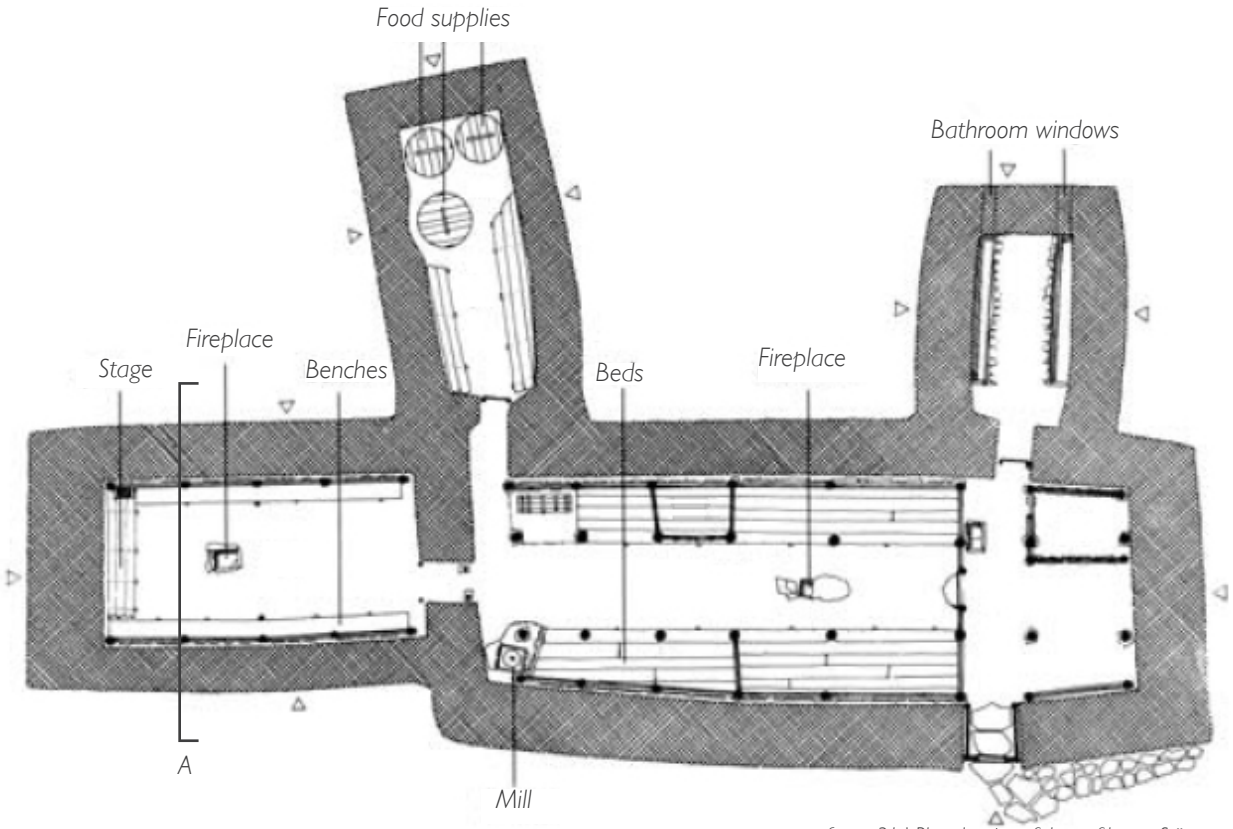


figure 31 | Plan drawing of the turf house Stöng

figure 32 | Photo showing one of turfhouse small windows

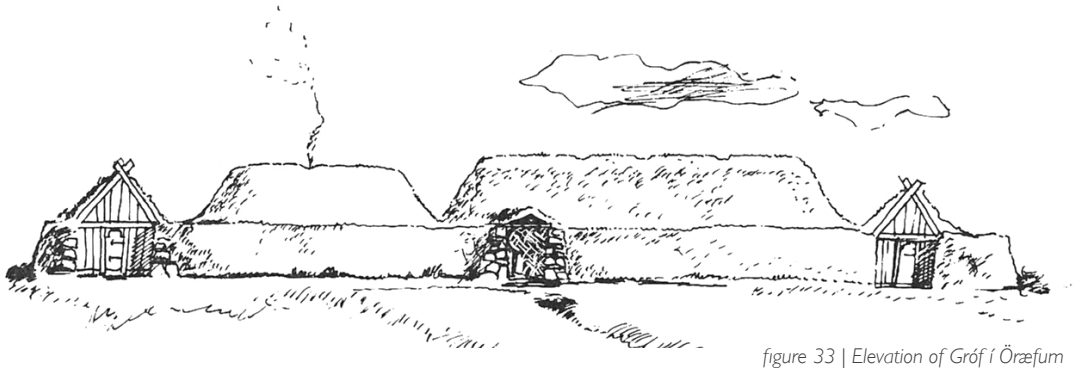
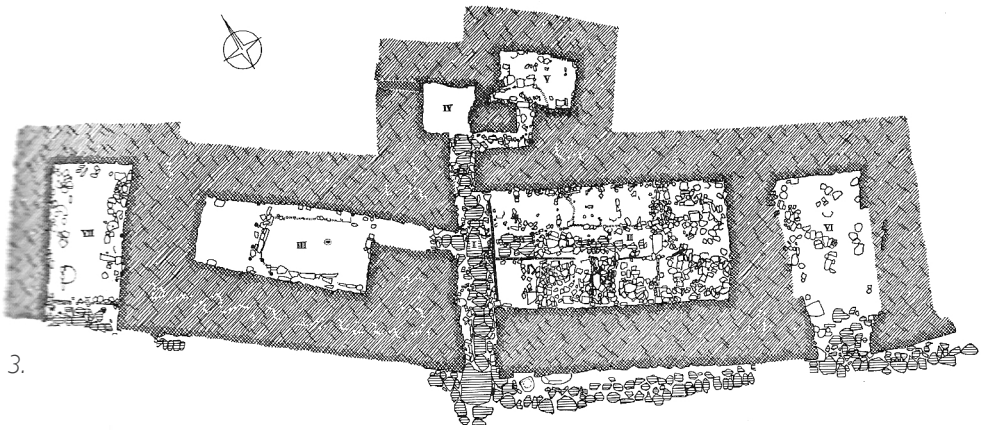
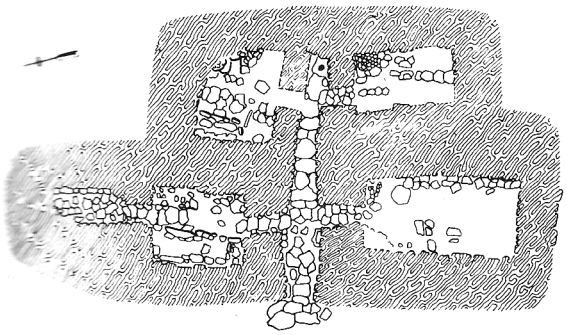


figure 33 | Elevation of Gróf í Öræfum



3.

figure 34 | Plan of Gróf í Öræfum



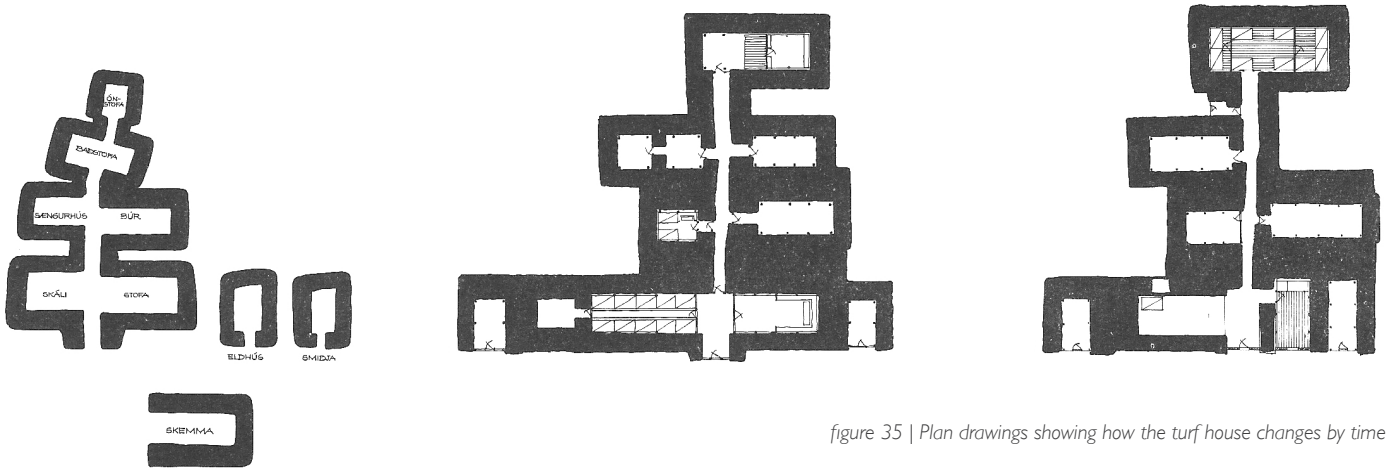


figure 35 | Plan drawings showing how the turf house changes by time

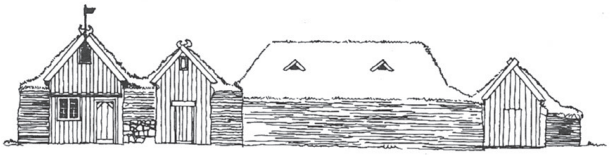


figure 36 | Elevation showing the new type "Burstabærinn"

figure 37 | Elevation of turf house

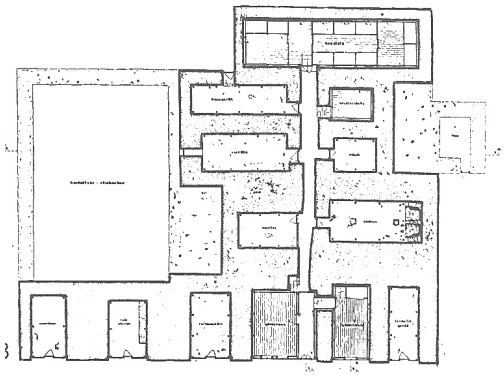


figure 38 | Plan showing new changes in plans of the turf houses

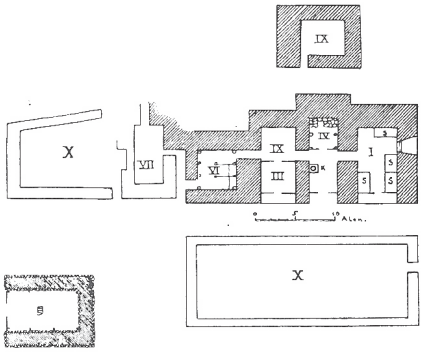


figure 39 | Plan showing the new way of planing

After a long time of no information of how building tradition was changing, the next clue came from the turf house Gróf í Öræfum (figure 34). If comparing it to Stöng, it is evident that it is a new type of turf house. The entrance to the house has been moved into the center and it divides the house into two parts. A kitchen and storage have been added to either side of the house. At the end of the hallway a room named Baðstofa serves the purpose of being both a living room and bedroom and is placed with a fireplace nearby. The fireplace is no longer in the main hall as it was in the older turf houses. This changed in housings, probably around year 1300 and may be due to social conditions, cold weather and rising fuel shortage.

Although the exterior of the turf house has remained rather unchanged the inner layout did not stay the same. The layout was constantly changing where rooms were serving different purpose according to the needs of the people at any given time. The main change is that the householders have moved their bedroom into baðstofan. The reason is that the room baðstofa was placed higher and further inside the house. That made the baðstofa the warmest place to dwell inside the house.

On the 18th century a dwelling with such a long hallway were unsuitable for living at that time. After people moved their bedroom into the living room the rooms in front of the house were no longer in use and the hallways were not used as much as they were before. A new type of turf houses were introduced, houses called Burstabær (figure 38) who revealed great new innovations in building technique. The houses are arranged side by side and they turn the facade to the outside sidewalk. On the 19th century those types of buildings were taking over and the old hallway type of turf houses were kept out of the way for the new. Fjósabaðhús (cowshed houses) were also introduced (figure 40). Baðstofan was now placed on top of the cowshed and the heat from the animals was used to warm up the air in the houses. This type of heating was thought to be good and the people accepted the bad smell from the animals rather than living in colder temperatures.

figure 40 | New way of living "Fjósabaðhús" (cowshed houses)

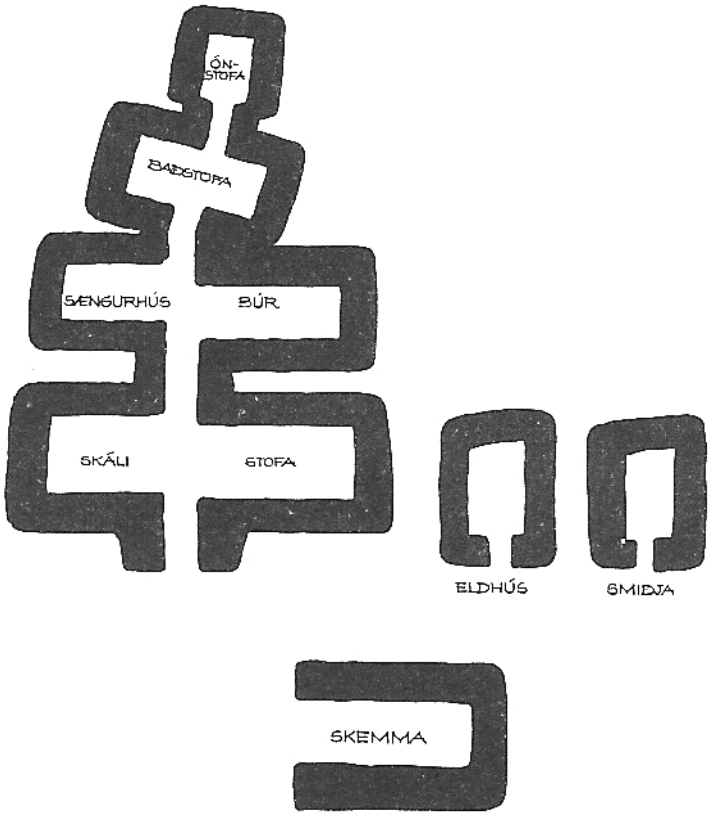


figure 41 | Turf house plan

3.2 Turf house conclusion

What to focus on from the turf house research is the fact that the layout of the turf houses where always changing because of new needs of the people living in them. If there was a need for a new room it was just built next to the existing room and connected by hallways. It was a structure that was ever growing without any limits.

What also raised the attention is the fact that under the turf, you could not only see multiple houses but also some kind of village under the turf.

The design proposal is influenced in some parts from the research of the turf house.

Reference projects

figure 42

figure 43

Högna Sigurðardóttir, Bakkaflöt 1, Reykjavík, Iceland, 1968.

"Building with landscape"

Oscar Niemeyer, Casa de Canoas, Rio de Janeiro, Brazil, 1951.

"blurring the lines between in- and outside space"

figure 44

Oscar Niemeyer, Casa de Canoas, Rio de Janeiro, Brazil, 1951.

"interplay of inside - outside"

figure 45

Sverre Fehn, Hedmark Museum, Hamar, Norway, 1967-2005.

"Interaction between new and old"

figure 46

Reima Pietilä, Mäntyniemi, Helsinki, Finland, 1987 (competition entry, 1984).

"Building with landscape and breaking up the typical building form"

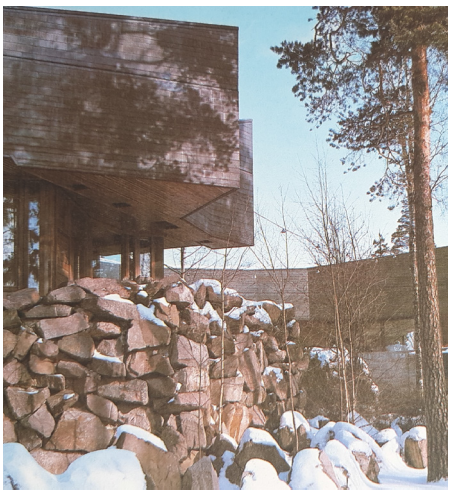


figure 47

Reima Pietilä, Dipoli Centre, Otaniemi, Finland, 1966 (competition entry, 1961).

"Building with landscape"

figure 48

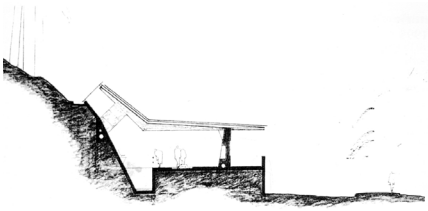


figure 49

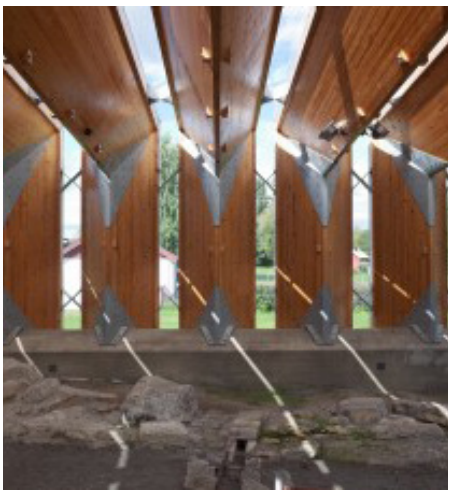


figure 50

Sverre Fehn, Competition Project for the Museum of Hydraulic Energy, Suldal, 1994-95.

"Way of enjoying and experiment the landscape with architecture"

3.13 Sverre Fehn, Hedmark Museum, Hamar, Norway, 1967-2005.

"detail of interplay between concrete and stone"

chapter: four

steel ro

into the

Project

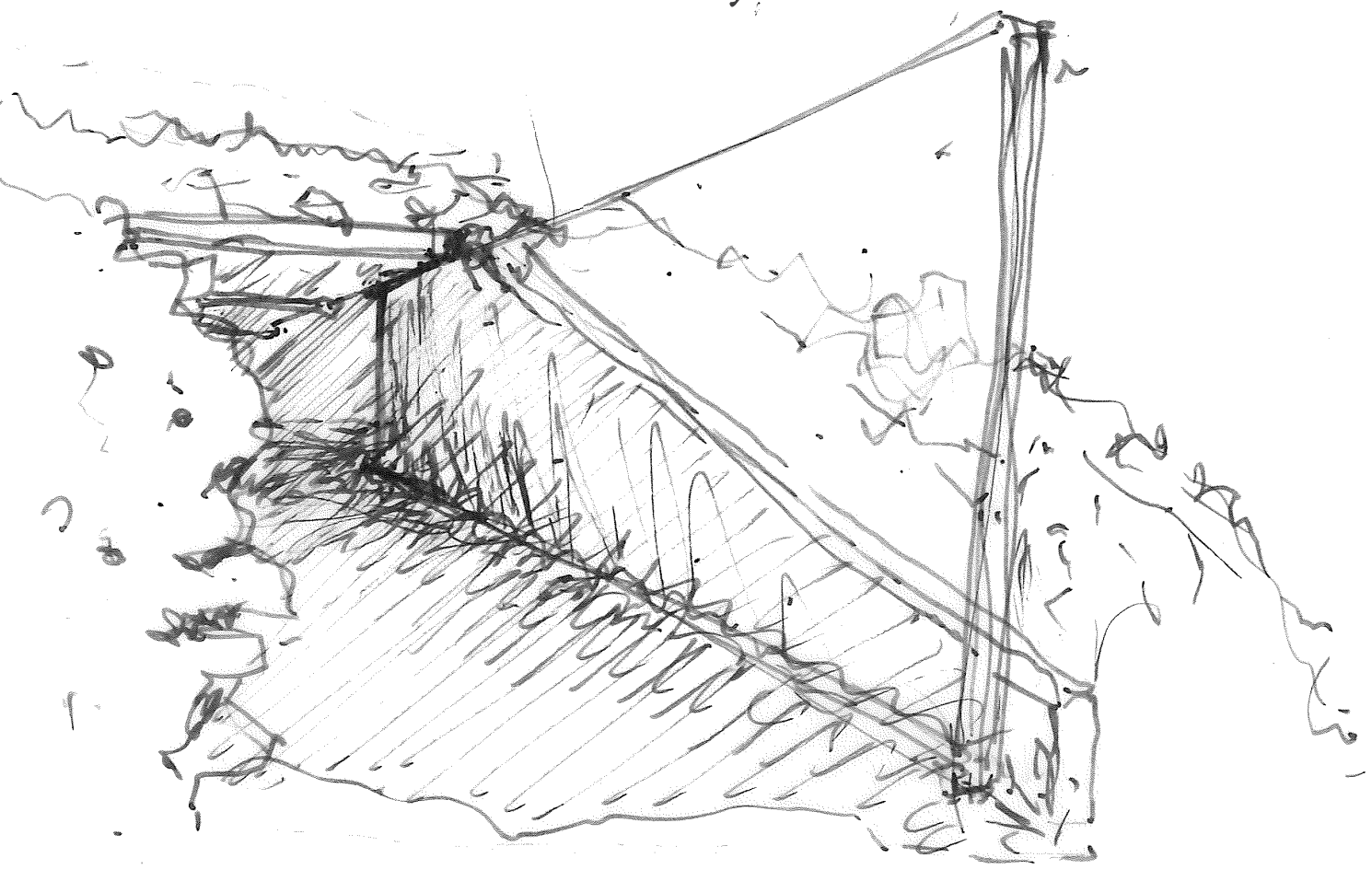
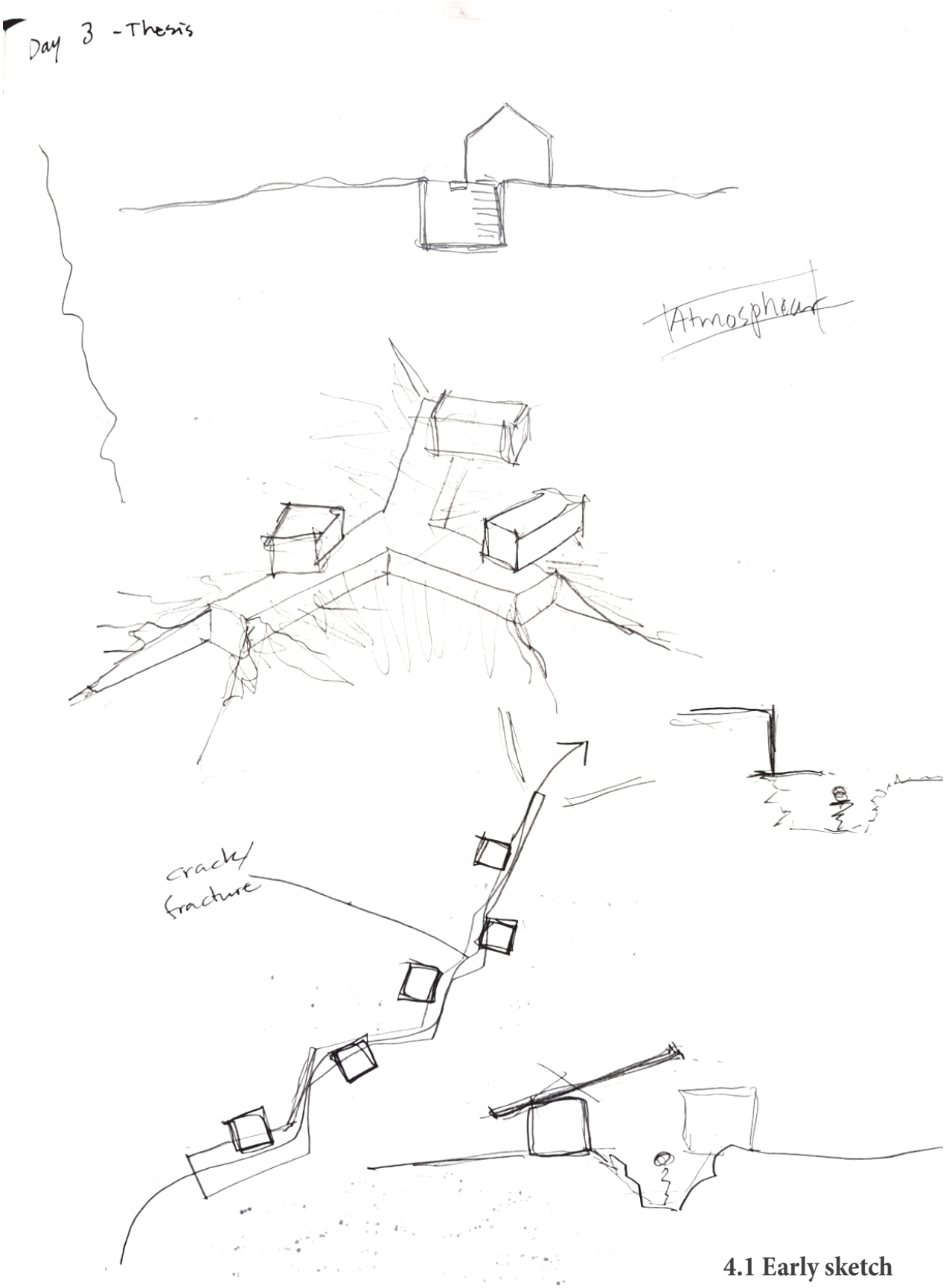


 figure 51 | Picture showing a crack in the rocky surface of the Mývatns area.

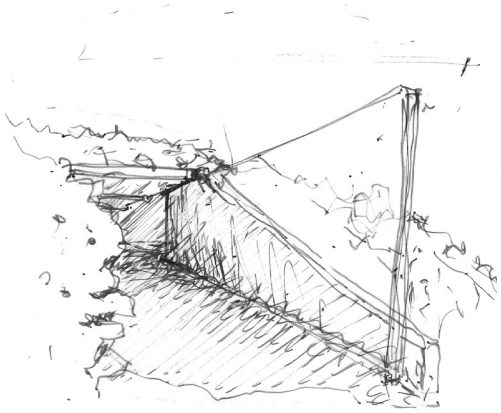


drawing 10 | Early sketch showing first ideas.

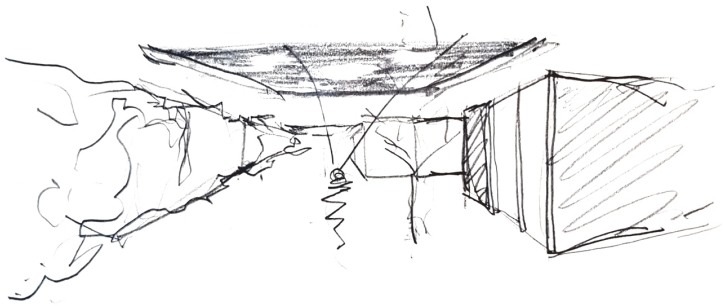
4.1 Early sketch

These drawings were made in the early stages of the research. They are sketched after some background work on the location; Mývatn. The region of Mývatn is close by where the tectonic plates meet and therefore the earth ground around the lake is submerged by cracks in the surrounding surface. That is the source of the ideas around these drawings.

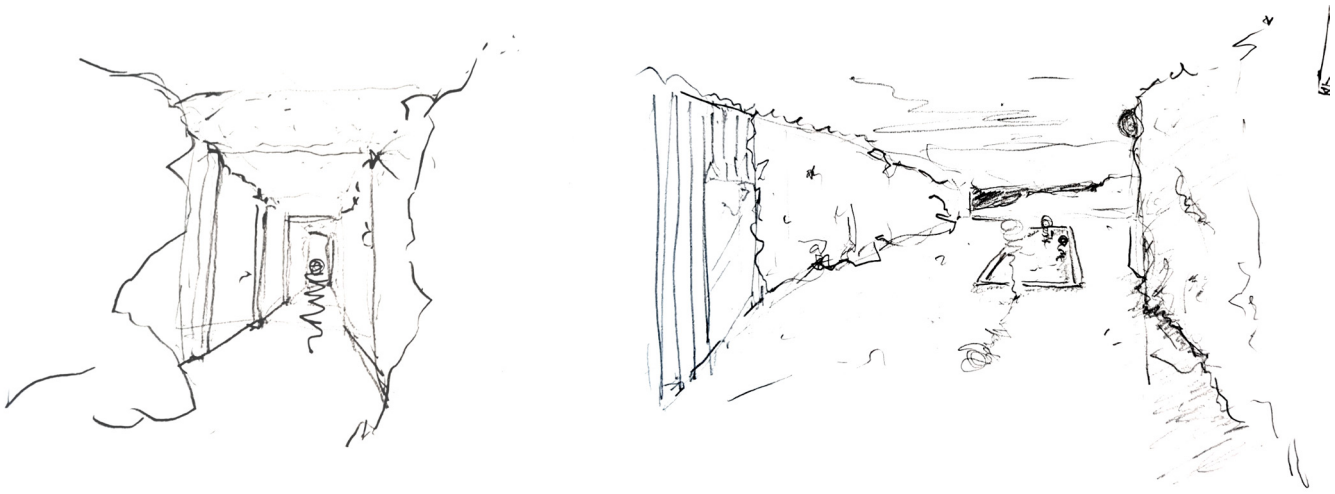
Circulation sequence idealogy



The entrance could underline the conversation between the nature and the built space.



By building in dialog with the environment and being surrounded by buildings and earth, it gives the ability to look up to the sky.



drawing 11 | Sketches of journey sequence

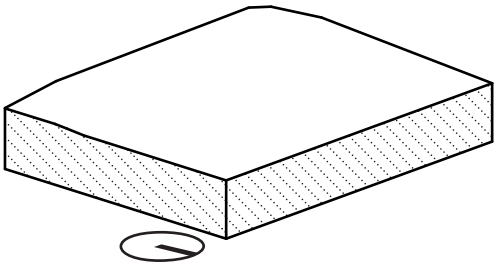
By creating a pathway from one destination to another with narrow pathways, it makes the location into a new experience.

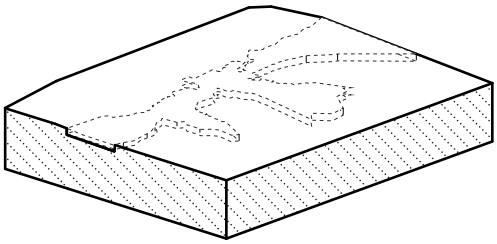
The end of the journey finishes with a view over the lake and gives the visitor a place to relax and enjoy the surrounding landscape.

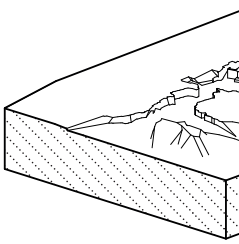
4.2 Early stage proposal

The idea of a place for the project is made by the thought of being an extension to the lava field on site. The picture of dark lava rock and green surface is taken into the design process, which has been a driving force in the decision making in the project.

drawing 12 | Early sketch of concept proposal



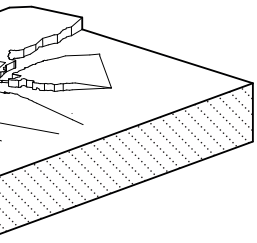


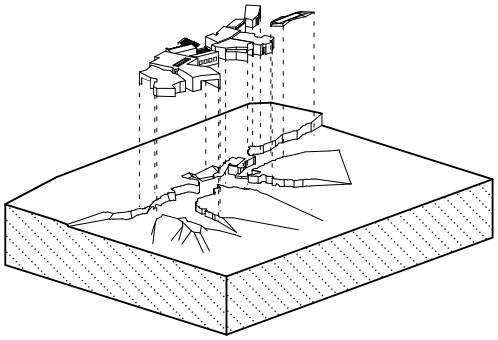


Intervention

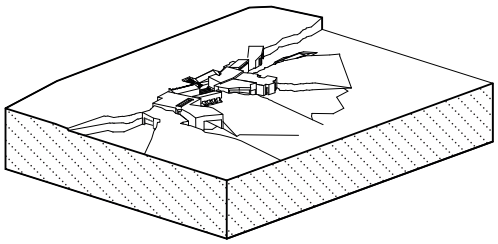
4.3 Concept strategy

The idea of going down into the ground with the built structure gives the visitor the opportunity to get in touch with the underground surface and experiencing the feeling of how it was living in an icelandic turfhouse. By keeping the rocky landscape exposed to the viewers, it opens up the possibility of looking closer into the grounds material. In addition to that, it gives shelter from the wind that is usually a part of everyday life in Iceland.





Addition

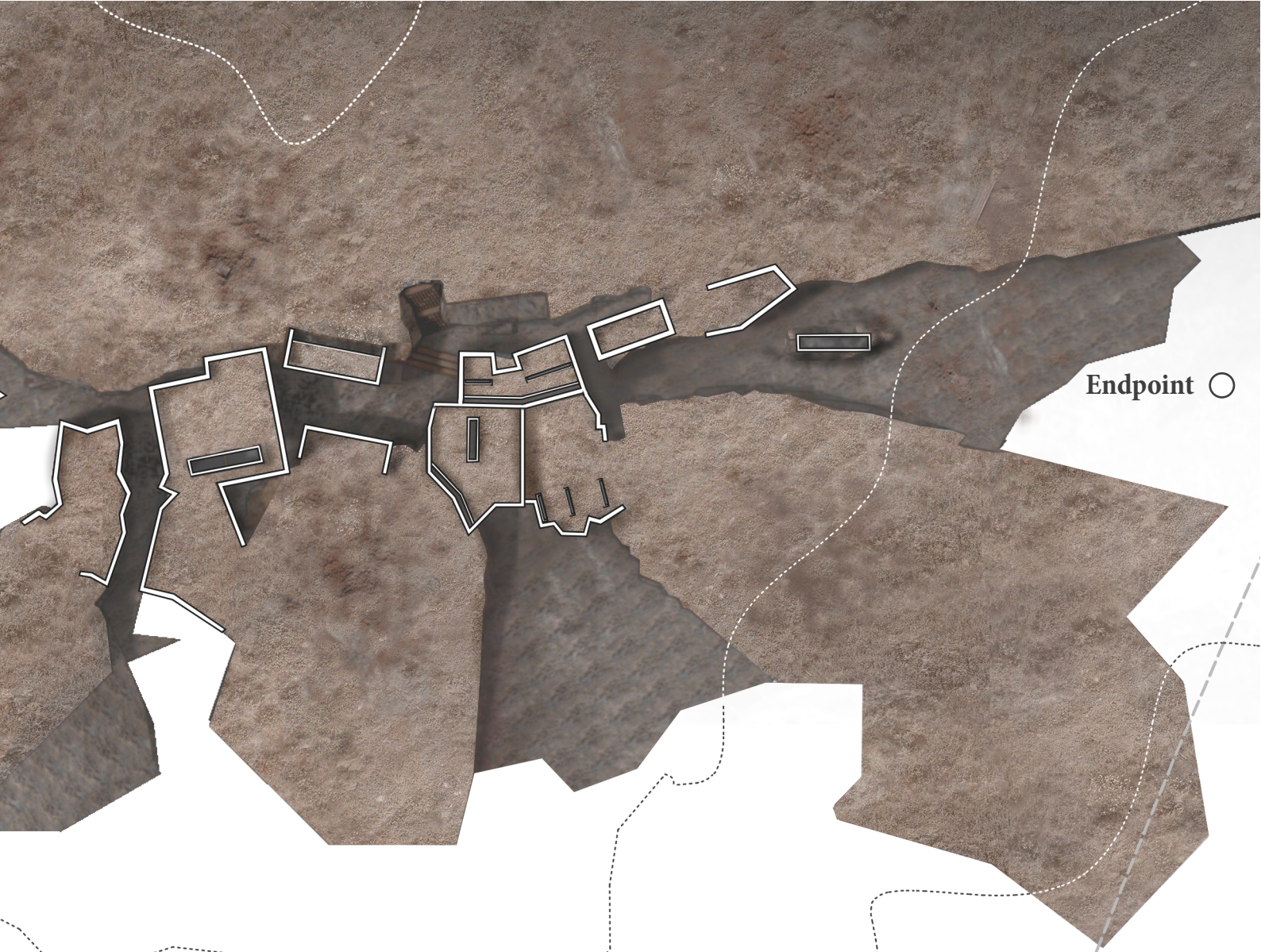


drawing 13 | Concept strategy diagram


Parking
Arrival

drawing 14 | Site plan 1:2000


Arrival



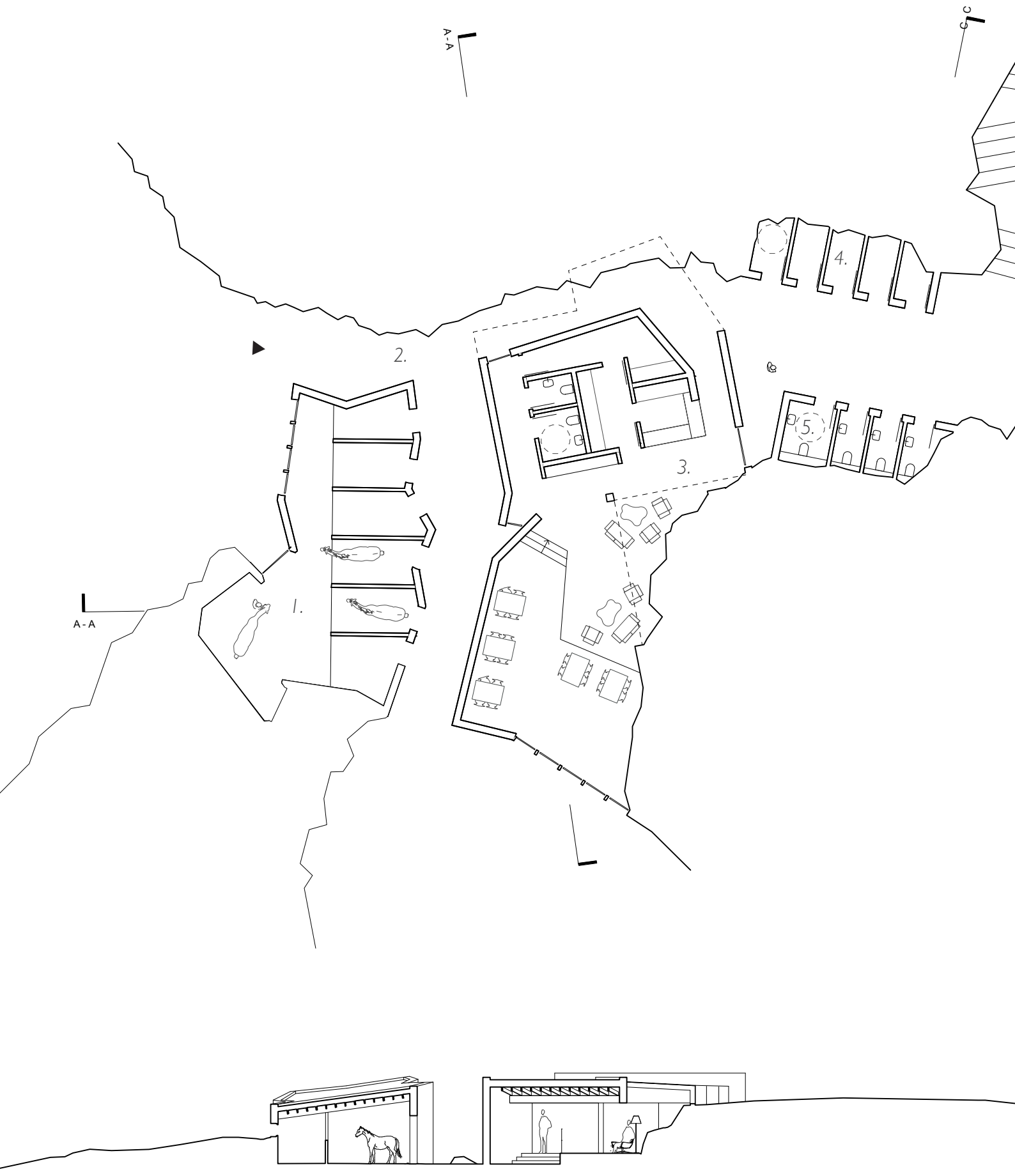
Water (Lake Mývatn)

Contour lines (2 meters)

Competition site barrier

drawing 15 | Site plan 1:500

drawing 16 | Visual showing the entrance to the Icelandic northern lights rooms


A-A
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1.
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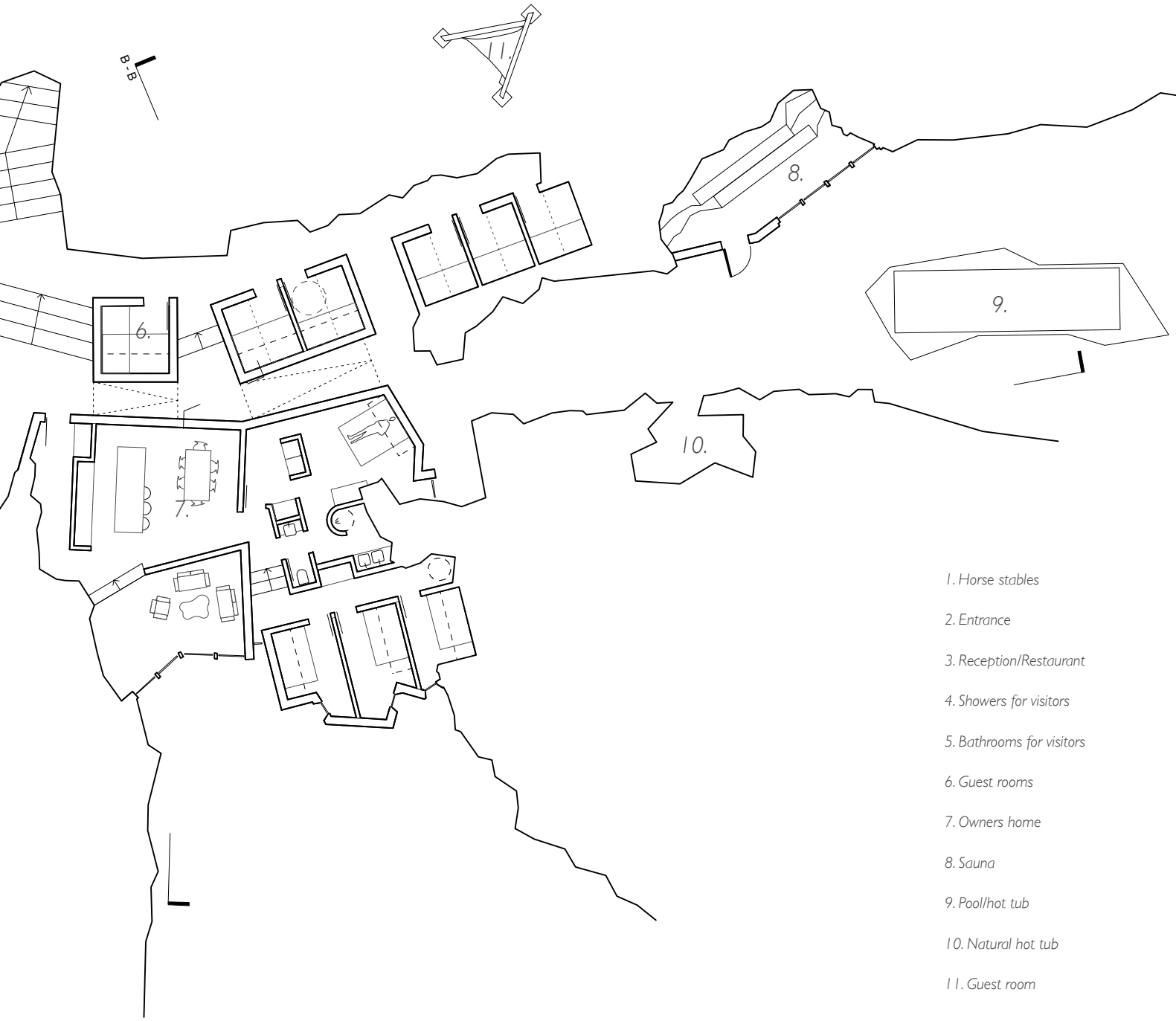


1. Horse stables

2. Entrance

3. Reception/Restaurant

4. Showers for visitors

5. Bathrooms for visitors

6. Guest rooms

7. Owners home

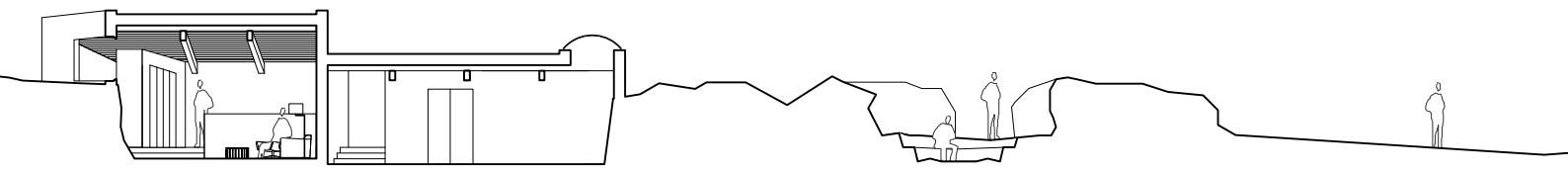
8. Sauna

9. Pool/hot tub

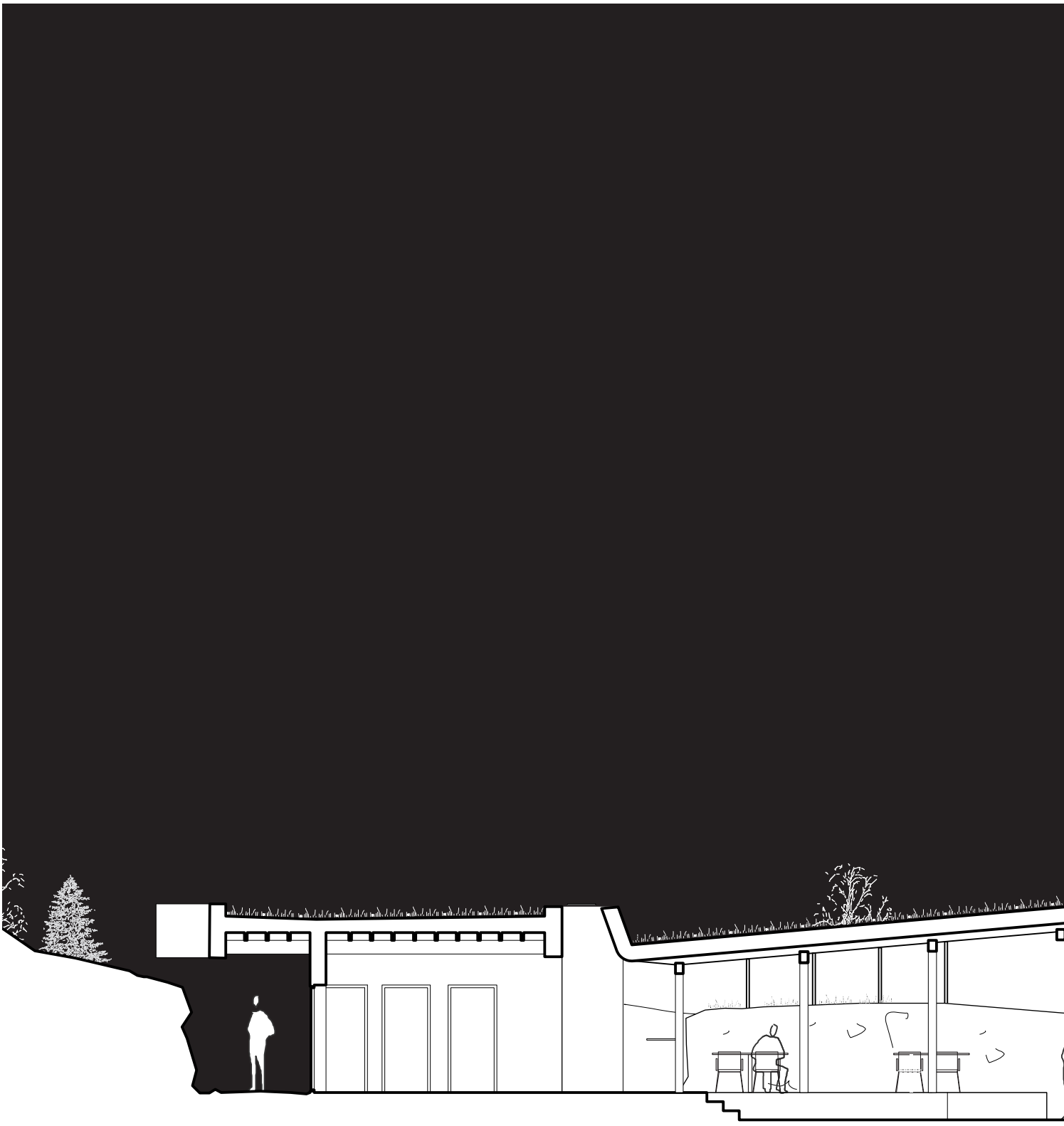
10. Natural hot tub

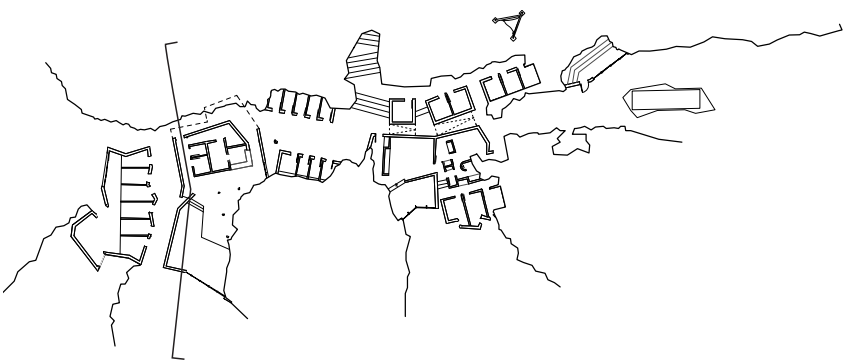
11. Guest room

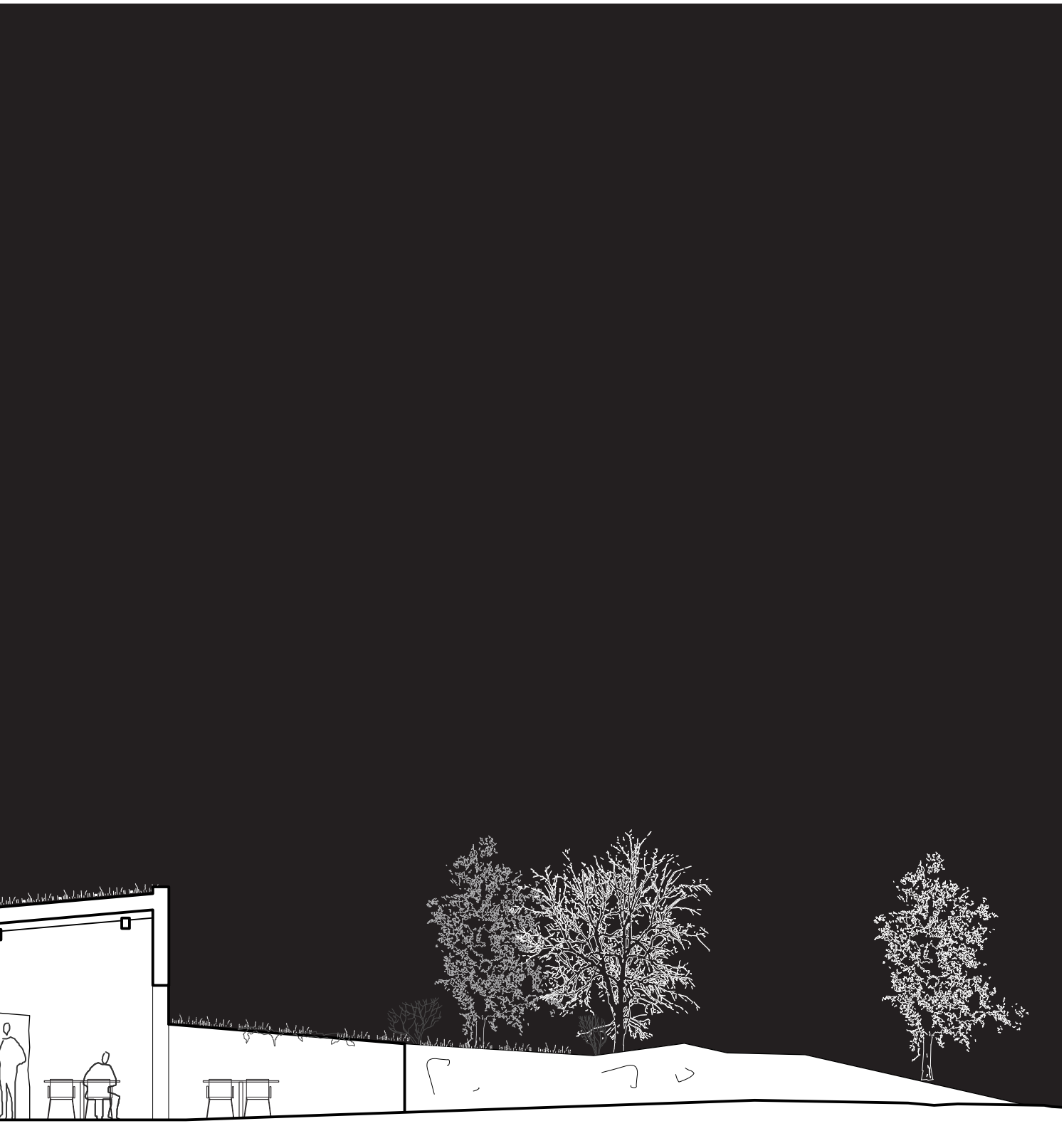
drawing 17 | Ground floor plan | 1:200



drawing 18 | Section A - A | 1:200

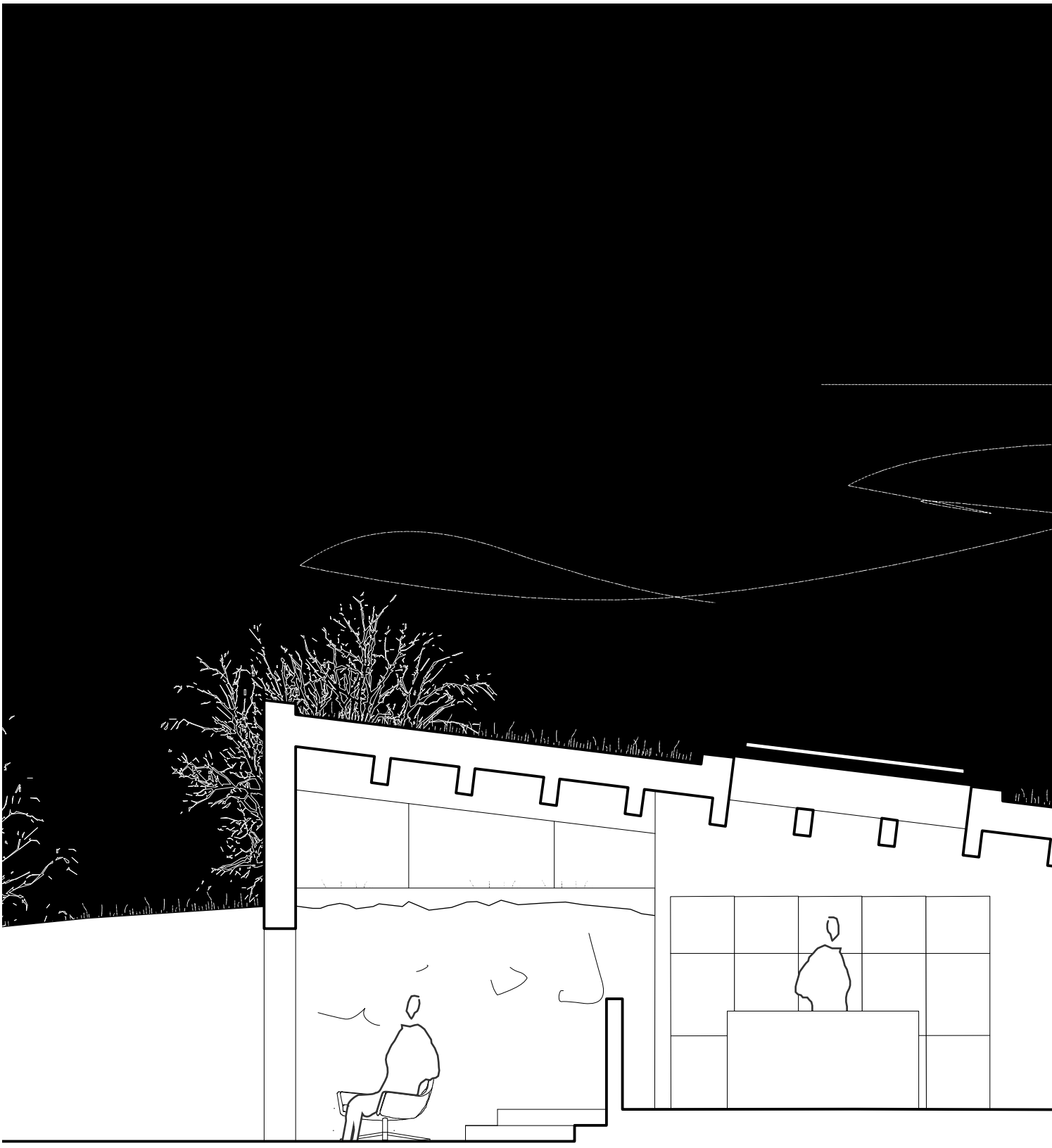


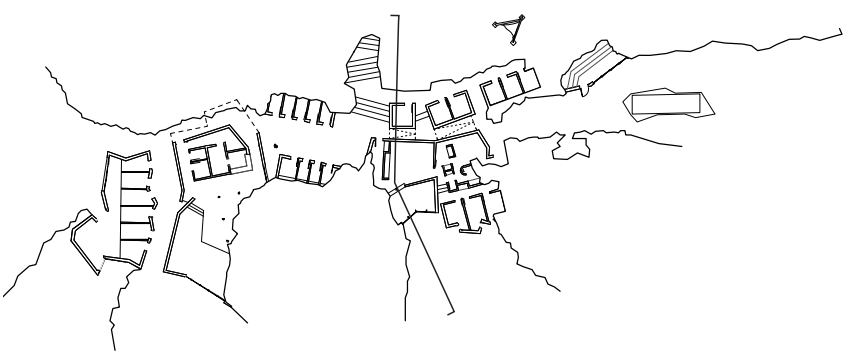




drawing 19 | Section B - B | Section through pathway entrance and reception/restaurant space | 1:100

drawing 20 | Visual showing the inside of the café and reception space

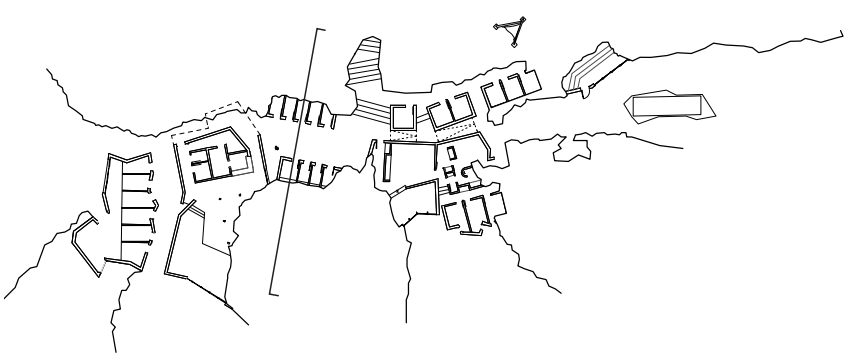


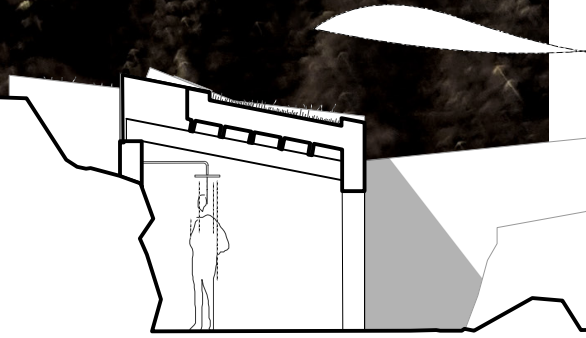


drawing 17 | Section C - C | Section through owners home, pathway and guestroom | 1:50

drawing 18 | Visual showing inside owners home

figure 52 | Physical section model of how building meets earth



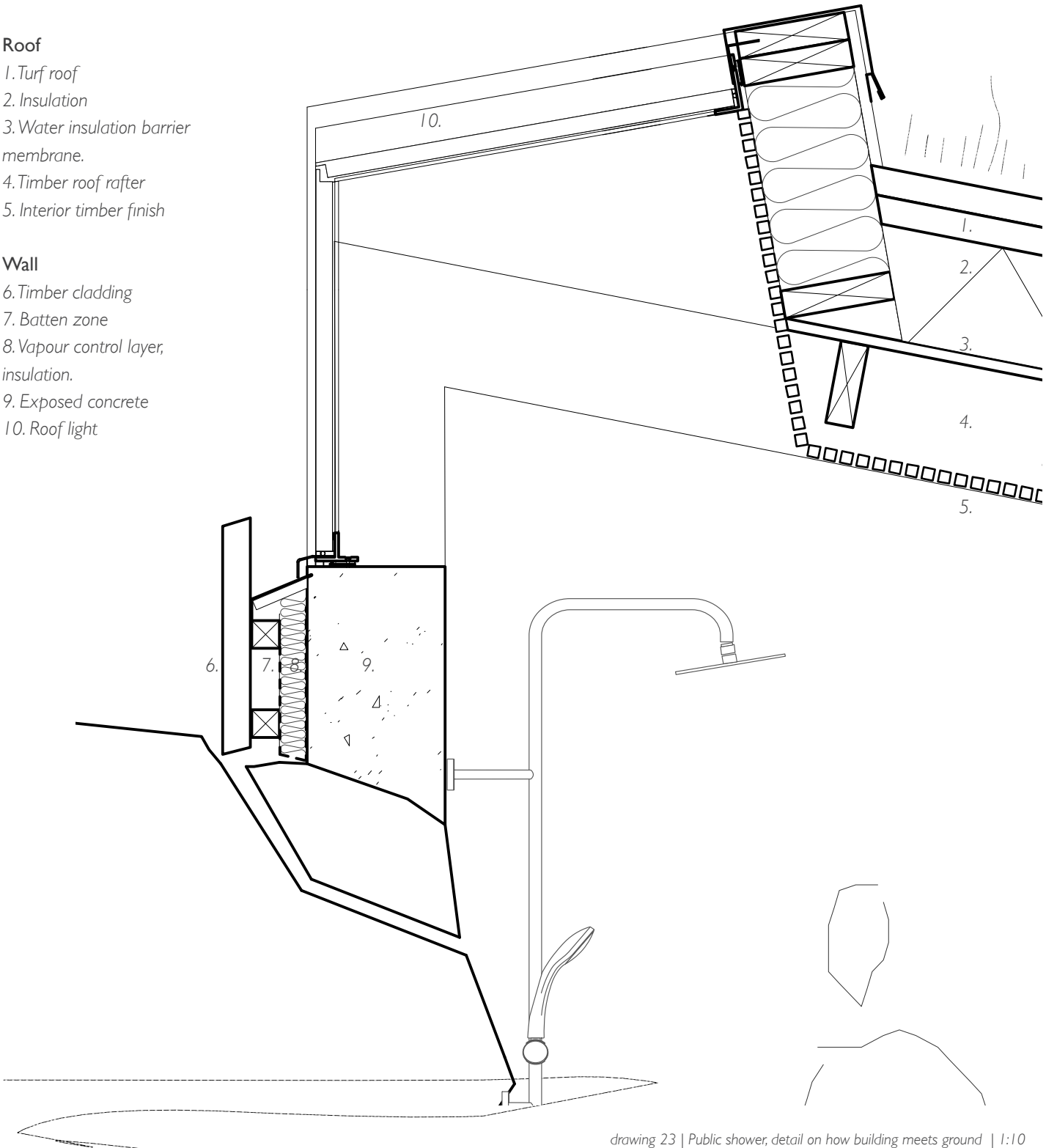


Roof

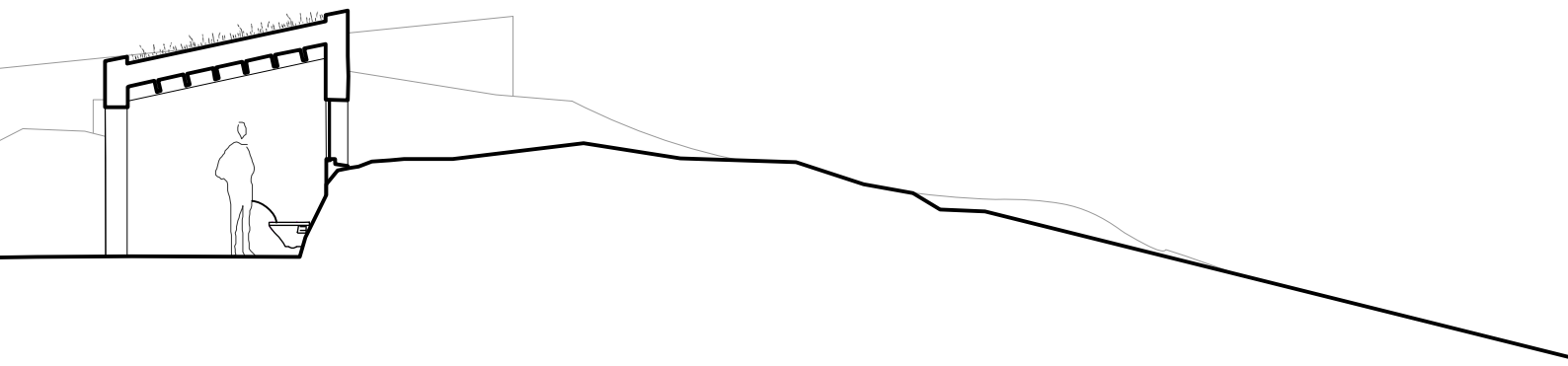
1. Turf roof
2. Insulation
3. Water insulation barrier membrane.
4. Timber roof rafter
5. Interior timber finish

Wall

6. Timber cladding
7. Batten zone
8. Vapour control layer, insulation.
9. Exposed concrete
10. Roof light



drawing 23 | Public shower, detail on how building meets ground | 1:10



drawing 24 | Section B - B | Section through showers and bathroom | 1:100

drawing 25 | Visual showing the projects "courtyard"

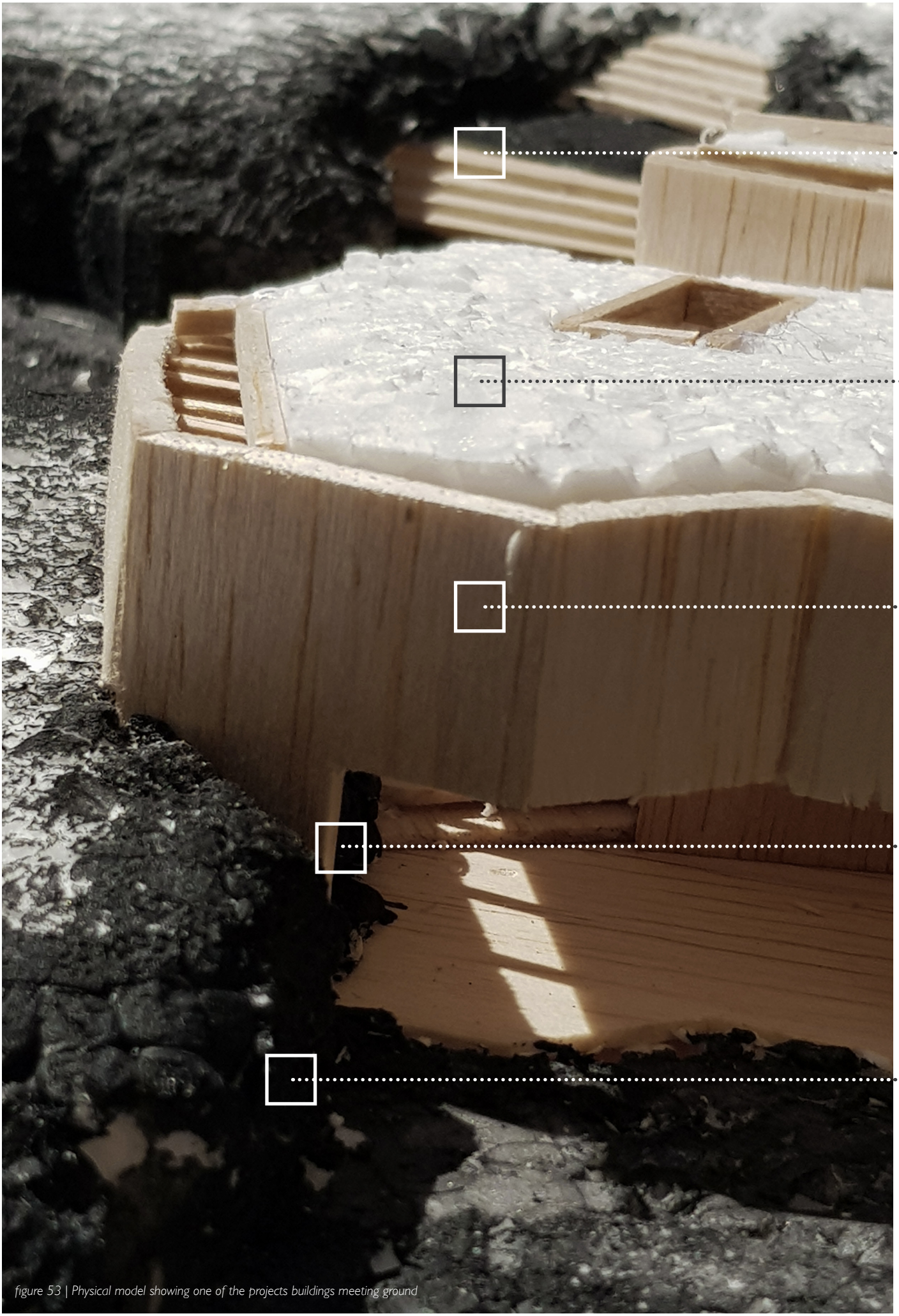


figure 53 | Physical model showing one of the projects buildings meeting ground

figure 54

Rusted metal industrial pavement with lattice tiles gives the nature a opportunity to grow within the floor and around it.

figure 55

Grass roofs gives a good insulation and brings the nature to the buildings.

figure 56

Carbonized Wood as a cladding to give the buildings a homogeneous appearance and rain projection.

figure 57

Corten steel finish around the windows

figure 58

Surrounded landscape consist of rocks and lava fields.

drawing 26 | Visual showing the pathway to the viewpoint and sauna

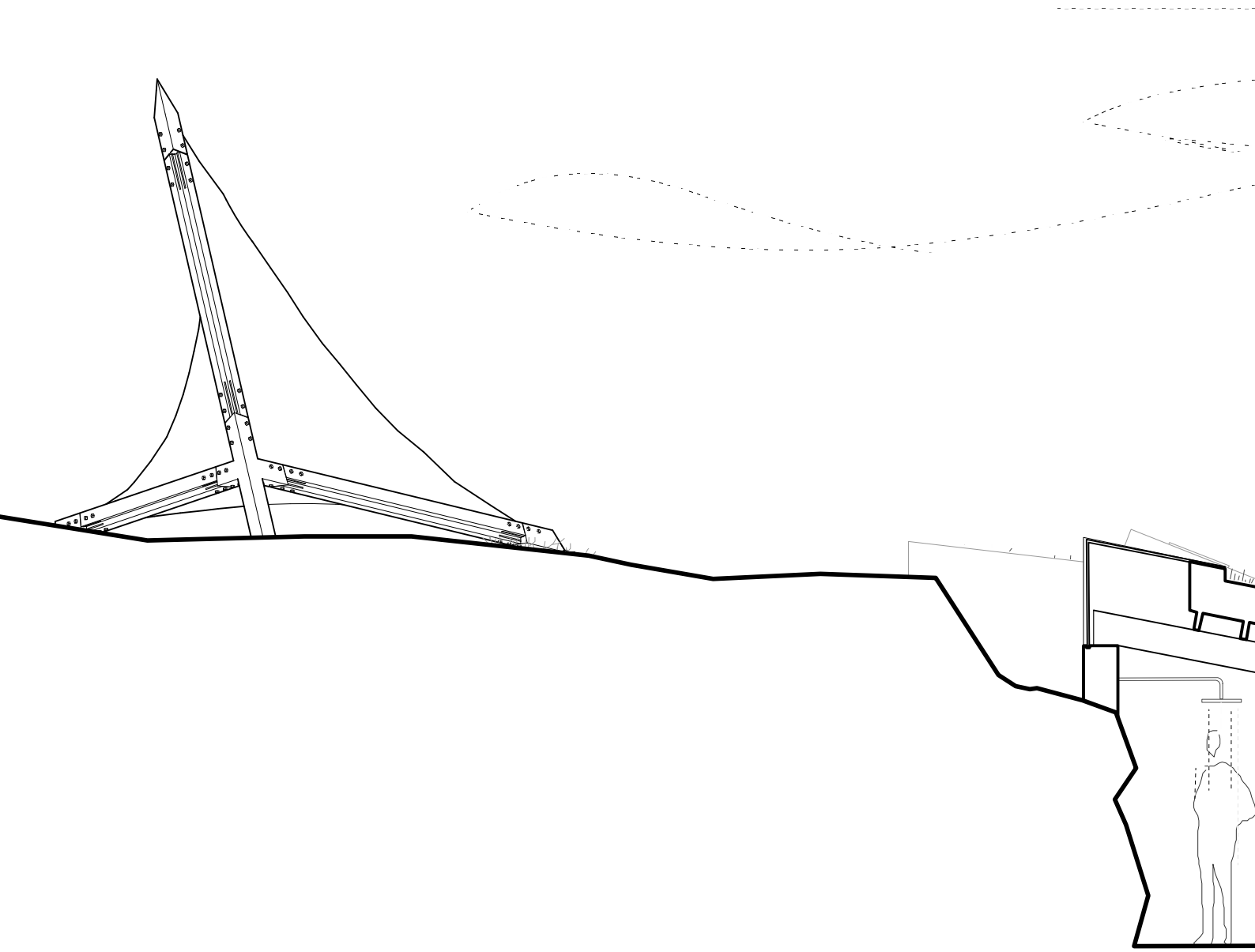
figure 59 | Physical models

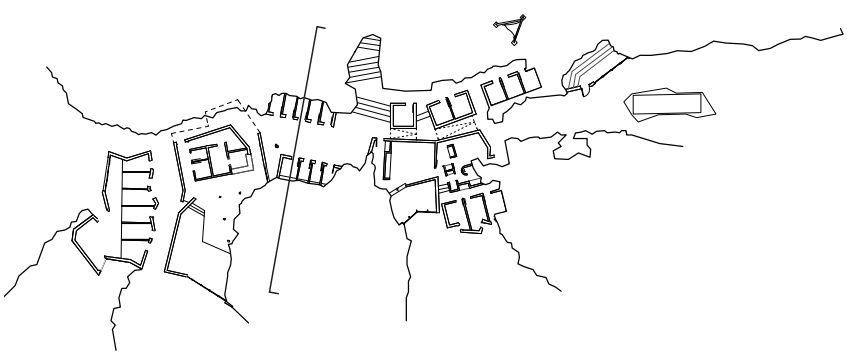
drawing 27 | Early sketch on the concept of a movable structure

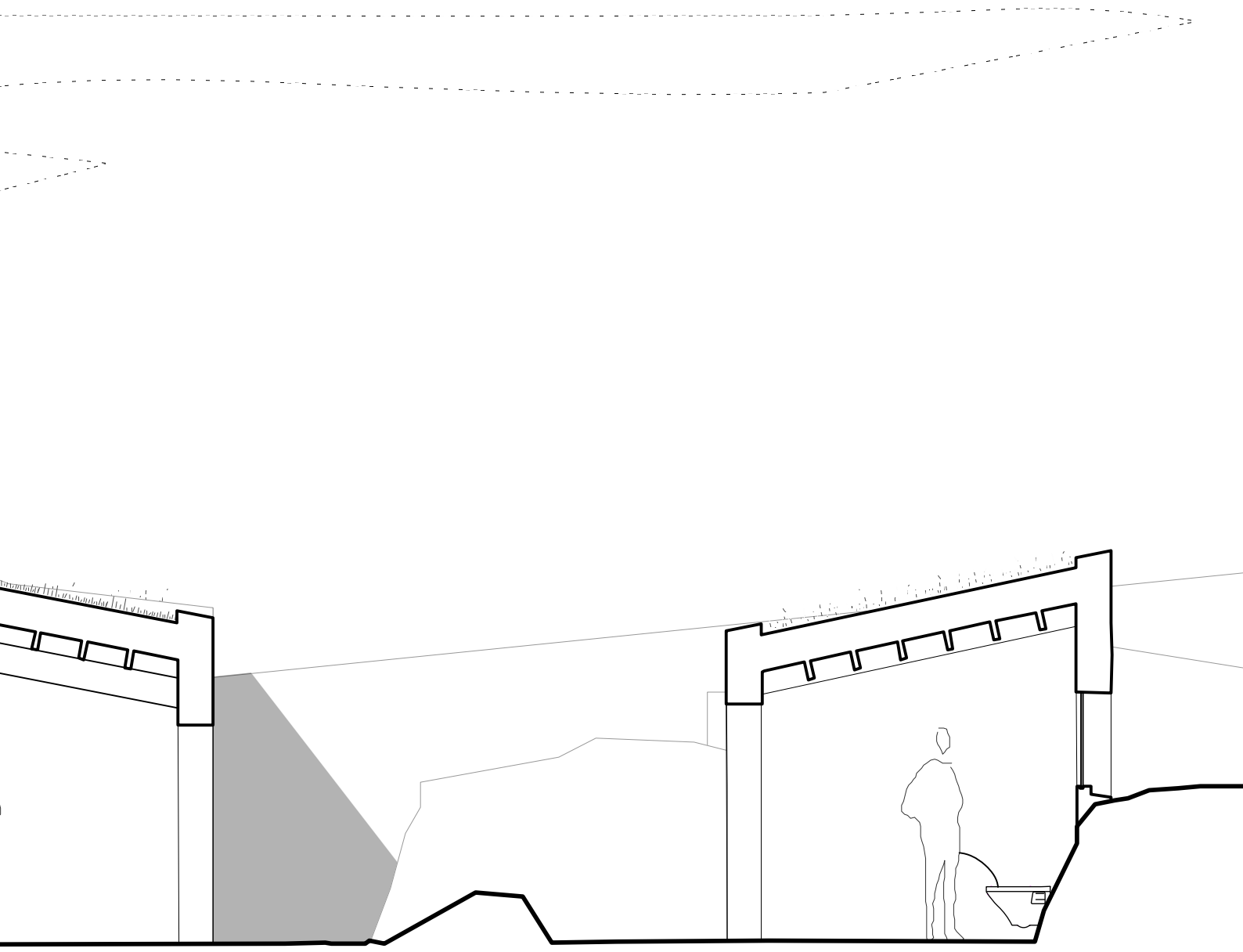
4.4 Experience the nature

It all started with the idea of designing a shelter or a room for the visitors to enjoy the nature phenomena, northern lights. Through the process of finding the right solution in the designing process, the dwelling always had to be movable. It had to be a structure that could be easy to assemble and perhaps moved to another location on site. By thinking of the structure of a tent the result wanted was easier to achieve. The aim was to give the explorer the best experience of enjoying the spectacles that northern lights can offer. When enjoying the northern lights, it is not the same watching them through a window compared with enjoying them outside in nature, surrounded by birdlife, wind and still cold air.

drawing 28 | A visual concept of a idea on how to enjoy the sky

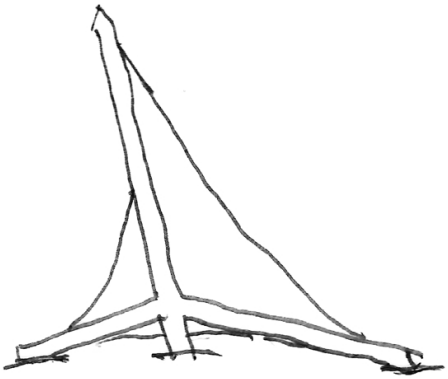


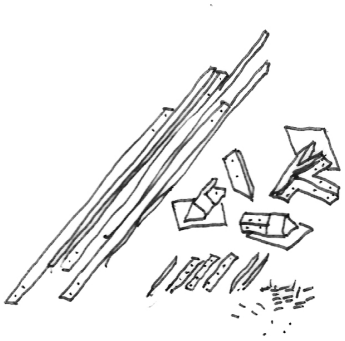


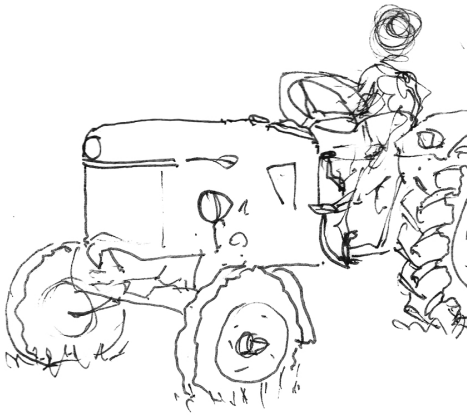


drawing 29 | Section showing the mobile tensile tent structure on site | 1:50

figure 60 | Physical models of a idea of a mobile rooms

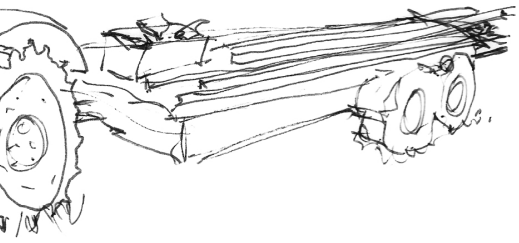


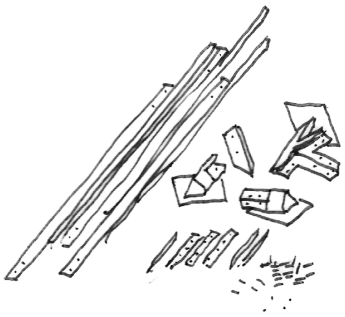


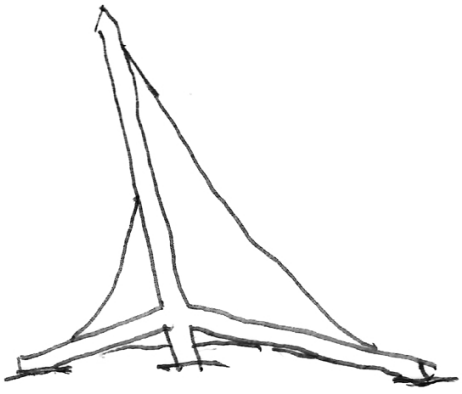


5.4 Movable structures

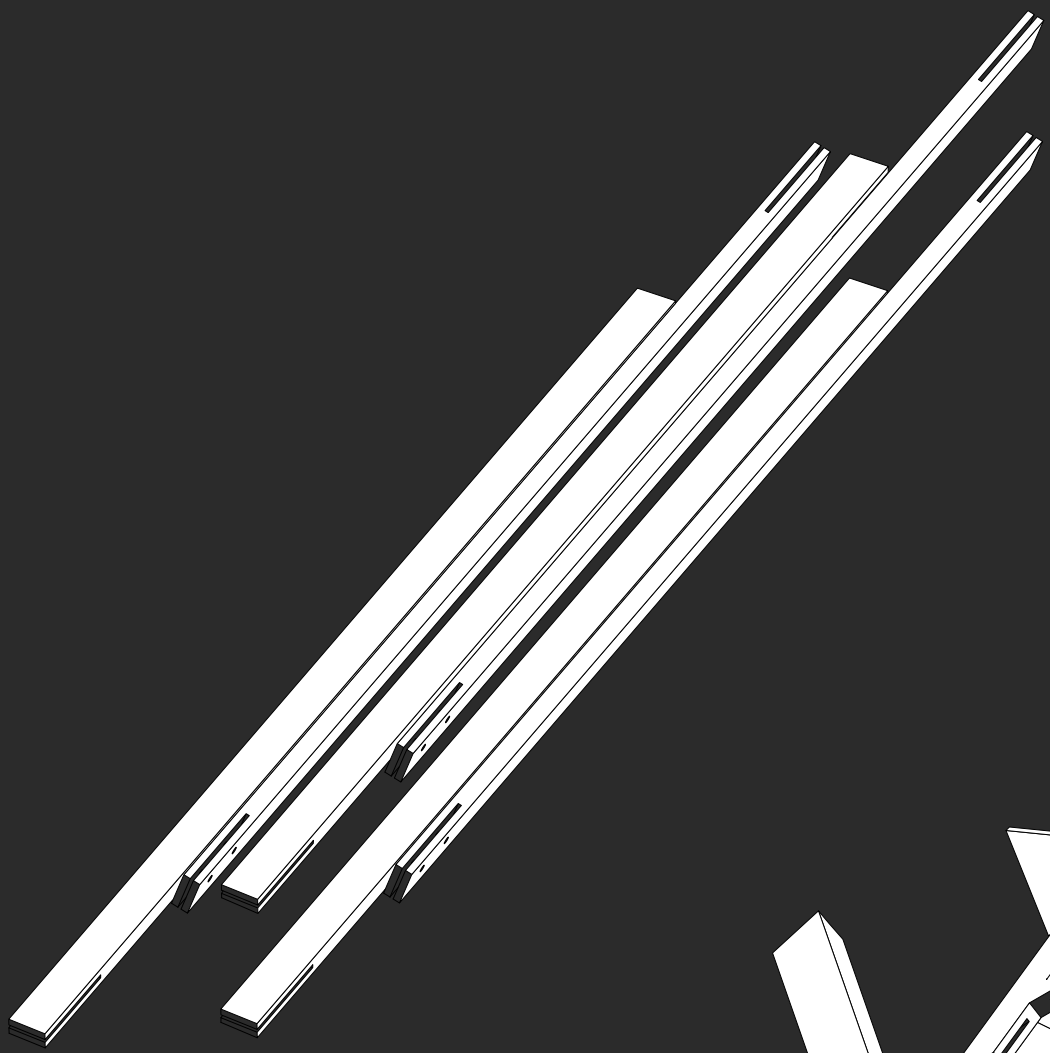
Due to the sensitive landscape around Mývatn nothing can be built within 100 meters from the lake Mývatn.
By finding a solution to a movable structure it opens up a way to stay closer to the water and change location without to much effort. The idea is that the structure can be taken down to parts, put on a vehicle and moved to another location.



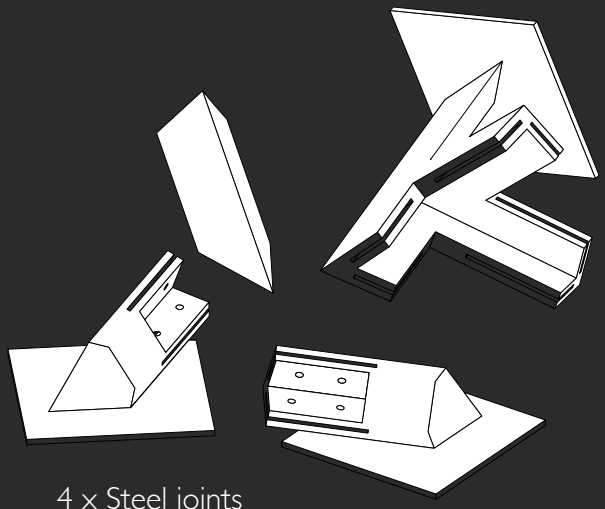




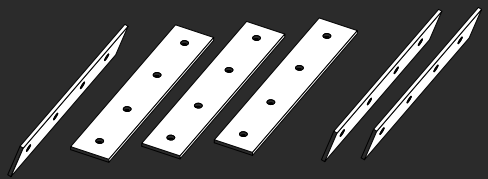
drawing 30 | Movable structure diagram



6 x timber logs



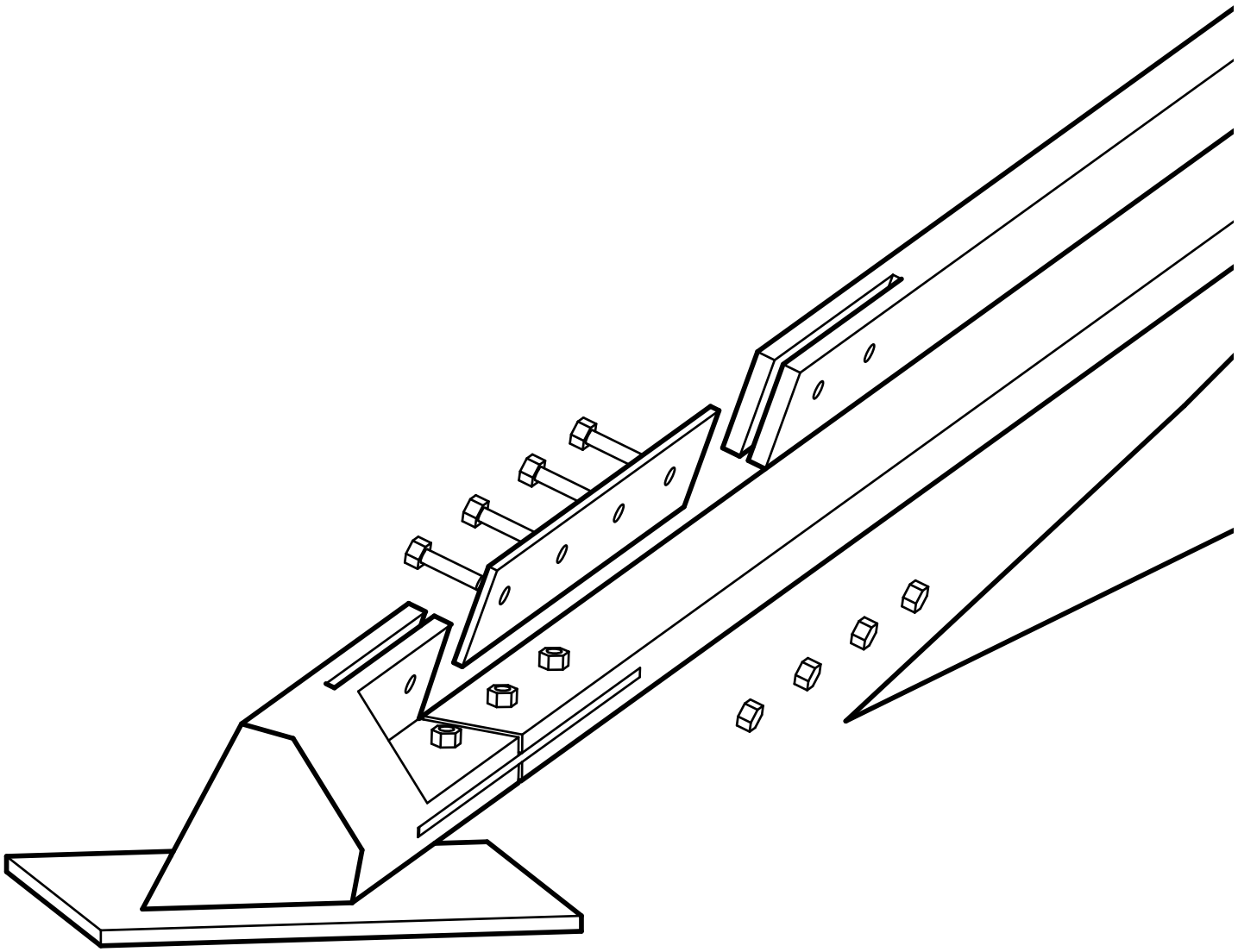
4 x Steel joints



6 x Steel plates for joints

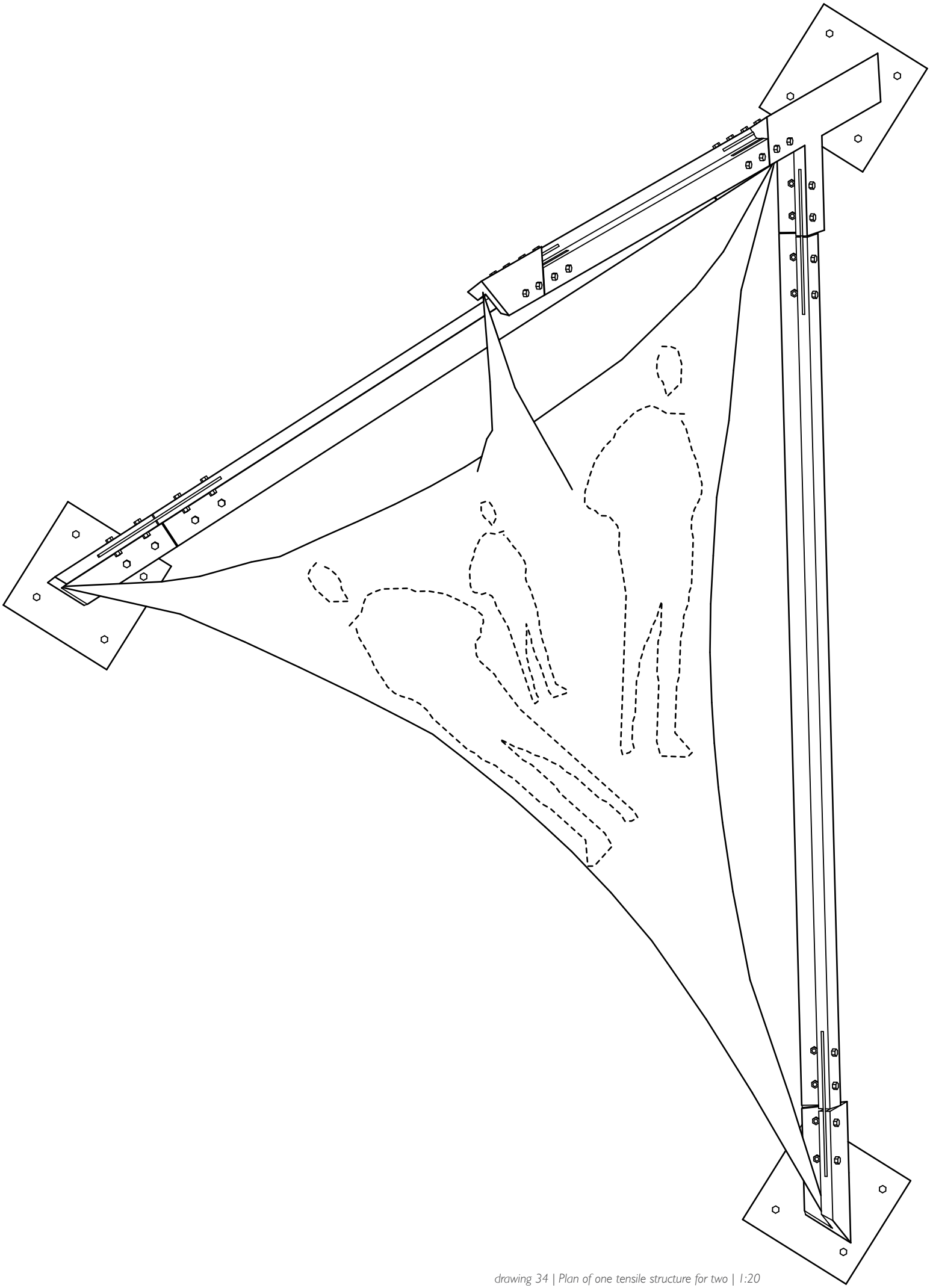
24 x bolts for assamble

drawing 31 | Parts for one tensile structure



drawing 32 | Tensile structure detail of how to assamble the structure elements

drawing 33 | Section showing the tensile structures on site | 1:100



drawing 34 | Plan of one tensile structure for two | 1:20

drawing 35 | Visual plan showing inside one structure | 1:20

5.1 Conclusions

After many attempts and experiments with designing with nature, questions are raised if the nature should just stay untouched in its natural environment. From that point of view the discovering of nature can help, offering the opportunity to live close to the materials of the earth and enjoy the nature.

When looking into architecture with the eyes of the audience, the audience is drawn to the idea of creating a sequence for the visitors to enjoy that highlights some of the natural elements with help of natural light sources. By approaching architecture with a poetic approach it follows the idea of creating a space with the goal of being a place of mystery and opens up a place for imagination of the mind. The feeling of the place and atmosphere is as important as the architecture created around it.

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52. Picture of physical model (own photo)

53. Picture of Physical model 1:100 (own photo)

54. - 58. Pictures of materials

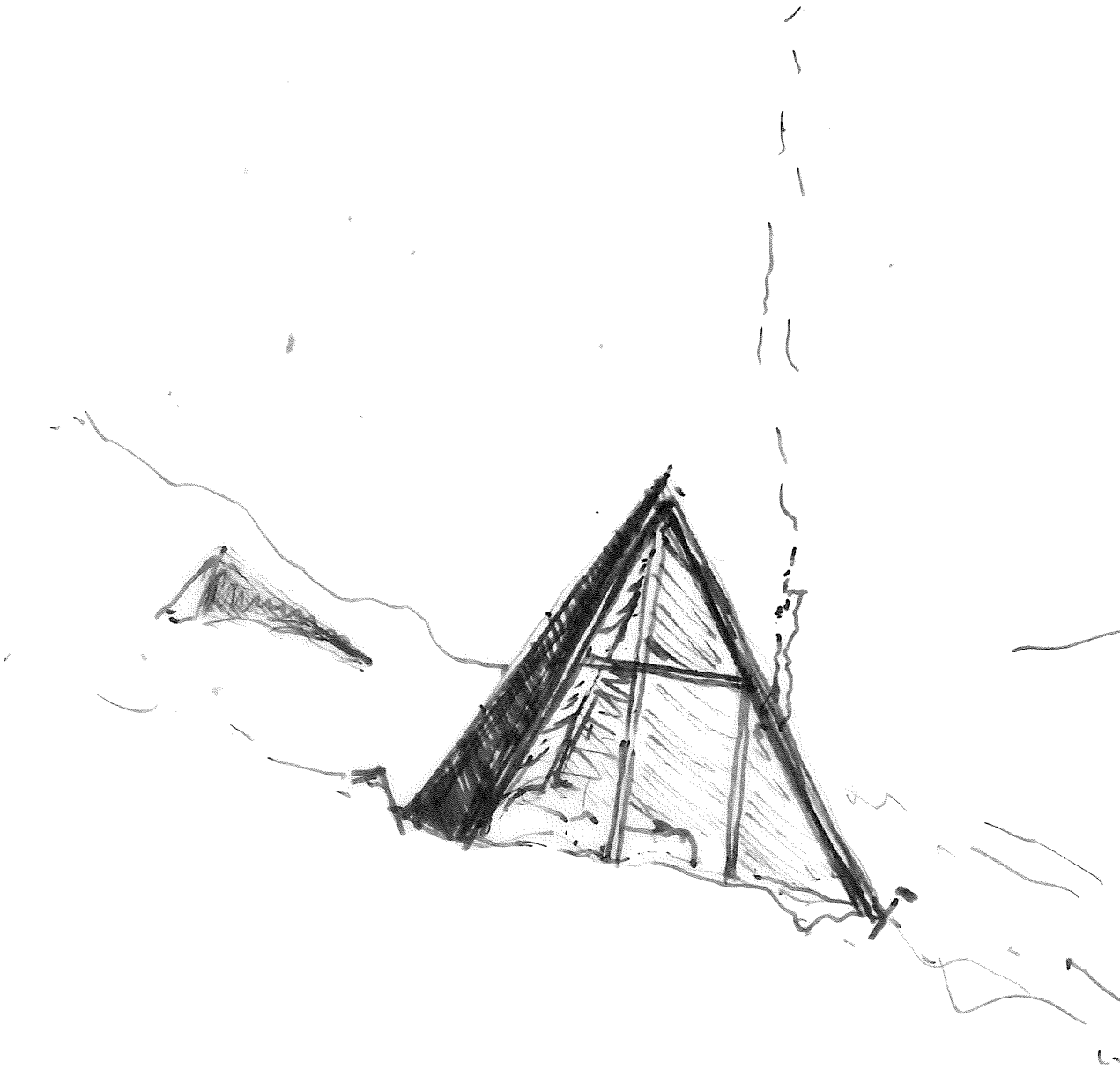
59. Pictures of physical model in the scale 1:100 (own photo)

60. Pictures of physical models in the scale 1:50 (own photo)

Drawings

1. Own illustration. Map of Iceland
2. Own illustration. Program study
3. Own Illustration, Method diagram
4. Own Illustration, Mývatns location in Iceland
5. Own Illustration, Location of attractions around mývatn
6. Own Illustration, Map of competition site
7. Own illustration, Section A-A
8. Own Illustration, Map of activities around site
9. Own Illustration, Section B-B
10. Own Illustration, Early sketch showing first ideas.
11. Own Illustration, Sketch of journey sequence
12. Own illustration, Early sketch of concept proposal.
13. Own Illustration, Concept strategy diagram.
14. Own Illustration, Site plan 1:2000
15. Own Illustration, Site plan 1:500
16. Own Illustration, Visual
17. Own Illustration, Ground floor plan 1:200
18. Own Illustration, Section A - A, 1;200
19. Own Illustration, Section B - B, 1:100
20. Own Illustration, Visual
21. Own Illustration, Section C - C, 1:50
22. Own Illustration, Visual
23, Own Illustration, Public Shower detail
24. Own Illustration, Section B - B, 1:100
25. Own Illustration, Visual
26. Own Illustration, Visual
27. Own Illustration, Early sketch of tensile structure
28. Own Illustration, Visual collage
29. Own Illustration, Section, 1:50
30. Own Illustration, movable structure diagram.
31. Own Illustration, Parts for one tensile structure
32. Own Illustration, Tensile structure detail.
33. Own Illustration, Section of tensile structures on site, 1:100
34. Own Illustration, Plan of one tensile structure. 1:20
35. Own Illustration, Visual plan showing inside one structure, 1:20
36. Own Illustration, Visual

.....thanks to family and friends



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