# Vestige of Stone

# Pavilion Stångehuvud

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Department of Architecture & Civil Engineering
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Thank you for your endless support My Starbrink, Lisa Johnsson, Sara Tuneld, Naima Callenberg & Ylva Flodin Malm

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Building & Tectonics 2021

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#### **Abstract**

Stångehuvud is a nature reserve in Lysekil where not only its nature, proximity to the sea and spectacular granite landscape is of importance. A predominant part of its identity is also related to human activity and intervention - the traces of sharp scars left in the granite from the stone industry as well as the spirit and persistence of a person who singlehandedly came to save the landscape for the generations to come. They all play a part in creating the collected identity of Stångehuvud, all part of how we perceive and value the site today.

Growing up in the small coastal town of Lysekil, I can see how my own identity in many was has been shaped by the surrounding landscapes. The strong salty winds, the coarse red granite and the open horizon of Stångehuvud becoming a multifaceted identity-bearer for many.

The idea behind this thesis grew from a personal fascination of the landscape and history of the site. From the anecdotes of the stonemasons of my own family, spending their days in the quarries of Stångehuvud, as well the alluring stories of the brave and persistent Calla Curman refusing to observe the fragmentations of the natural granite landscape. These historical and contemporary values created an interest in how architecture can be positioned in the perception and experience of a landscape. Containing and highlighting historical details, artefacts and stories while also becoming a contemporary meeting place where history, culture and landscape can intersect.

Through research by design, this thesis aims towards creating an understanding of the possibilities of the relationship between architecture and landscape by exploring the visible and invisible representations of architecture and tectonics.

The goal is to highlight the sometimes conflicting history of Stångehuvud - to raise awareness of the human interactions that came to shape, shatter and save the nature reserve. Through the addition of a museum pavilion and community space I aim to create a new platform for these stories to be shared, creating additional values to the experience of the nature reserve today.

#### **Keywords**

Stångehuvud, museum, local history, landscape

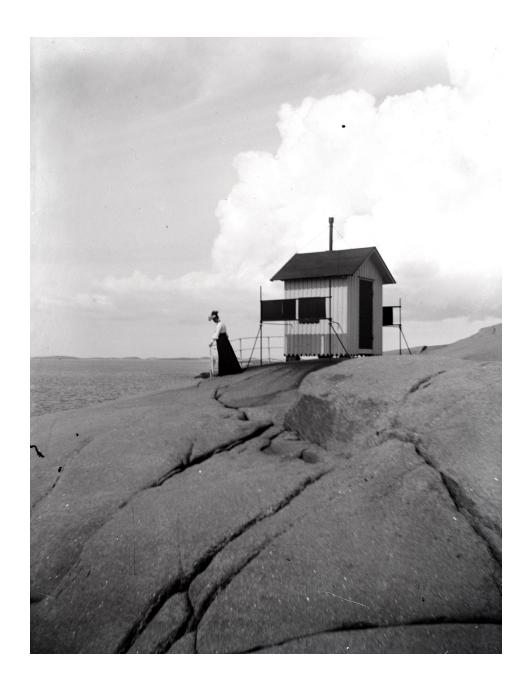


Figure 1: Fyren vid Stångehufud, Lysekil Hugo Hallgren, 1902 Image part of Public Domain

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## Student background

Olivia Malm Born in Lysekil, 1995

#### Education

#### **Architecture MSc**

Architecture and Urban Design, MPARC Chalmers University of Technology, 2019-

AUT164 Future visions for healthcare, housing and work 1

ARK641 Master's thesis preparation course 2

ARK636 Master's thesis preparation course 1

ARK137 Future visions for healthcare, housing and work 2

ARK595 History, theory & method 2

ARK079 Nordic Architecture

ARK123 Matter, space & structure 1

ARK650 Sustainable Development and the design professions

#### Architecture B.arch.

Chalmers University of Technology, 2015-2018

#### **Gender Studies, Introductory course**

University of Gothenburg, 2015

#### Social science programme

Campus Väst, Lysekil, 2010-2013

#### Practice

#### Internship

Tyréns Arkitekter, Eskilstuna 2017 Tyréns Arkitekter, Göteborg 2018-2019

#### **Project involvement**

Centre for Healthcare Architecture, Chalmers Tekniska Högskola 2019/20

#### **Discourse**

#### **Research question**

How can architecture function to enhance the experience of a nature reserve and its cultural values?

#### Sub-question:

How can one design a public building to enhance the historical, cultural and natural values of Stångehuvud?

#### Aim

The aim of this master's thesis is to investigate the intersection of landscape, culture and built form through a building proposal situated in a landscape with both cultural, natural and historical significance. With a predicted outcome of a museum pavilion with exhibition and community space, contributing to the preservation and presentation of local history, culture and identity.

#### Method

Initial research was focused on the history of the site as well as theoretical studies of the relationship between architecture and landscape. Through site analysis and studies of built references a collection of design strategies was formulated - a tool and a foundation utilised in the development of the design proposal, conducted through a research by design-method.

#### **Delimitations**

The main focus of this master's thesis project is a speculative proposal for a museum pavilion based on the natural and historical values of the nature reserve of Stångehuvud, Lysekil. Design strategies, building program and project site is estimated by the author based on the research presented in the chapters *Introduction* and *Framework*. Shoreline protection is not taken in consideration.

#### **Reading instructions**

#### INTRODUCTION

Describing the master's thesis main objectives, theoretical framework and background.

#### **FRAMEWORK**

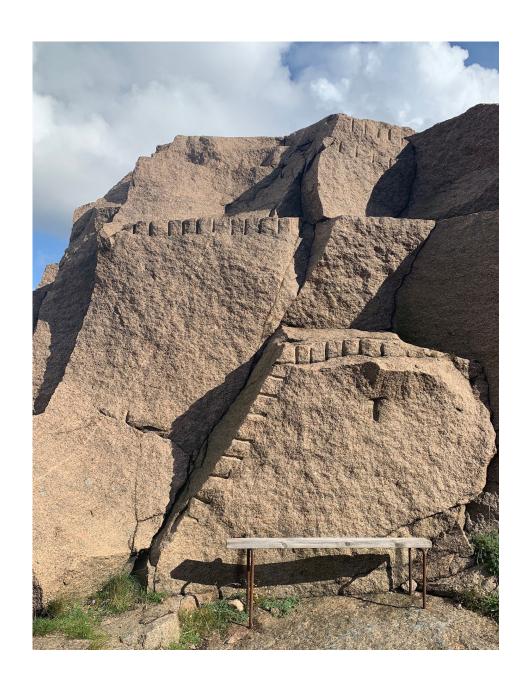
Consists of the analysis that frames the project; studies of built references, site and space program - resulting in a set of design strategies used further on.

#### **DESIGN PROPOSAL**

The drawings, perspectives and diagrams describing the thesis design proposal.

#### **EPILOGUE**

Including the concluding summary and reflection, bibliography as well as an appendix with full scale drawings.



Historical traces Olivia Malm, 2020

## **Background**

#### **Architecture & place**

The significance of the relationship between architecture and its surrounding landscape has been discussed, defined and re-defined through many theoretical practices. In a conversation between architects Peter Zumthor and Juhani Pallasmaa, presented in the exhibition "New Nordic - Architecture & Identity" (2012) at Louisiana Museum of Modern Art, Zumthor describes architecture's relation to place as "A tribute to the landscape" (Kjeldsen et al., 2012). This raises the question on how architecture can play a roll in creating and maintaining a link between a place and an individual. Linking the identities of the two, creating a strong bond that enhances the experience and establishes new levels of awareness on preconditions and values of a place.

In *Den osynliga arkitekturen* (1987) Finn Werne describes a place as something living, that you can get to know and that can act responding to the individual. How and if a place will respond is based on the previous knowledge and emotional connections between the particular place and the visitor. The same applies to buildings or spaces. Thereby previous memories and experiences of similar

places can be linked to a new one, enabling a place to respond to the individual and thereby deepen their bond.

#### **Identity & responding places**

Identity is a multifaceted term describing something both personal and internal, defining our relations to other individuals and groups as well as our relationships to places. Identity can be described as a constant sum of our experiences; our traditions, history, social connections and geography. It defines how we perceive and describe ourselves in mechanisms relating to the past, present and future. (Kjeldsen et al., 2012)

Finn Werne (1987) describes the bond created between the individual and a place using the terms *topophilia* and *cosmophilia*. A topophilic relation is created by an individual with a strong and continuous connection to a place. A cosmophilic relation however relates to the occasional and anonymous visitor, enjoying a short term visit without the engagement in real topics related to a site. Thereby you could say that individuals create different relationships to a place, leaning towards a *topophilic* or *cosmophilic* approach, based on their

perception of their own identity and how this in turn corresponds to the perceived identity of a place.

Creating architecture with a strong connection to the place, allowing the landscape to respond to the individual, could come to slowly erase the borders between the topophilic and cosmophilic visitors - unifying them in the experience of a responding landscape.

#### Weathering architecture

Described by Jonathan Hill (2012) in "Weather architecture", there is an importance in acknowledging the relation between weather and architecture. Seeing as the weather has the power of making architecture site-specific, combating globalisation by bringing attention to local changes of season and climate, creating buildings that coexists with their immediate environments. (Hill, 2012) Weather also makes architecture more ambiguous and open to interpretations and use.

"Just as the intermingling of natural and human forces creates the contemporary climate and weather, a building results from the relations between nature and culture that arise during its conception, construction and use"

Jonathan Hill (2012, p.321)

The exposure to weather also is a way to recognise the effects of time as well as the significance of natural forces of which architects have little control. A building is positioned as an object related to time, open (and exposed) to change during both conception, use and decay. (Hill, 2012) Using weather as a metaphor to understand time, the term weathering should not necessarily be seen as equivalent to decay. Instead it can be protective and stimulating, as the rust coating Corten steel, creating attention to the dynamic relation between life, time, change, landscape and architecture.

#### Nature / culture

Throughout the history of ideas in the western world, the companionship of the pair "nature and culture" has been both argued for as well as disputed. As argued by Caldenby in *Slash architecture* (2013) "Architecture as matter has one foot in the world of science, while architecture as space has its other foot in the world of mankind" (p. 15). Describing architecture as balancing on, or perhaps defining, the slash in the nature/culture-divide where architecture is nature's matter shaped into human space (Caldenby, 2013).



Figure 2: Skandia granit AB

Terje Fredh, 1964

Image part of Public Domain

"Building is a brutal confrontation between nature and culture, and in that confrontation one can find balance and beauty"

Sverre Fehn (Caldenby, 2013, p.15)

The term "slash-architecture" is described by Caldenby (2013) as bridging the nature/culture divide - making it inhabitable. Exploring what the two have in common, without rejecting the differences. Following the success of the Swedish Naturum, creating educational experiences in nature, Caldenby poses the question of why there are Naturum visitor centres, but not Kulturum visitors centres, broadening from on-site nature-focused heritage museums to include the culture of the city and society.

#### **Building & tectonics**

As defined by Werne in *Den osynliga arkitekturen* (1987), there is a double representation in architecture. First there is the visible architecture; the form and guise, based on our direct perception of the materials, walls, ceilings, openings and so on. Then there is the invisible architecture, created in our minds and given attributes and meaning based on feelings and spatial experiences. In the end it is the relation between these two perceptions, the visible and invisible,

where tectonic attributes can surround a visitor and come to establish an unconscious comprehension of space, structure and architecture (Werne, 1987).

#### **Pavilion Stångehuvud**

This thesis project aims to investigate the intersection of landscape, culture and built form through a design proposal, situated in a landscape with both cultural, natural and historical significance. Highlighting these values and creating a contemporary meaning and experience for both locals and visitors through a new exhibition and meeting space. Exploring how architecture and tectonics, by the use of visible and invisible representation, can contribute to strengthen the bond between landscape, local history, identity and people.



Figure 3: Engelbert på Stångehufud Hugo Hallengren, 1900 Image part of Public Domain

#### Situation & context

#### Lysekil - defined by the sea

In the province of Bohuslän on the west coast of Sweden we find the small town of Lysekil. Positioned on a peninsula, Lysekil is defined by the close contact with the sea and surrounded by a vast number of small islands. Bordering Gullmarn in the south, Swedens only threshold fjord, and Brofjorden in the north has put Lysekil in a favourable geographical position defining the historical and modern development of the town. (Bergman, 1982)

From the 1500s and forward multiple herring periods formed the development of Lysekil, the latest in the 19th century - establishing industries for fish preserving and tin manufacturing. Gullmarn being the southern border for the characteristic red Bohus granite created prerequisites for the stone industry to establish, quarrying and shipping granite from the early 1800s onwards. Simultaneously the tourist industry was initiated, with focus on the recreational values of the bath establishing Lysekil as seaside resort for the wealthy. Today Lysekil is mostly defined by the modern industry of oil refinery, marine biological research and tourism - all enabled by the contact to the open sea and deep fjords. (Bergman, 1982)

The largely popular area of Stångehuvud is closely connected to the local identity of Lysekil. Characterised by the red Bohus granite, the area became associated with the stone industry that was initiated in the 1840s, shattering the soft stone landscape. The area was later bought by Calla Curman (1850-1935) and donated as a "monument of nature" to be preserved as a recreational area and a nature reserve.



Position of Lysekil in Bohuslän, Sweden



Figure 4: Lysekil Scale 1:20 000 (A4)





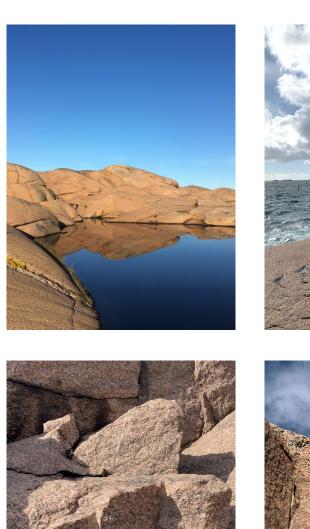
Lighthouse at Stångehuvud Olivia Malm, 2021

#### **Stångehuvud Nature Reserve**

Walking along Kuststigen walking trail, Stångehuvud provides a scenic route in a topographical landscape formed by the ice-ages. At first glance the barren landscape might seem bare and unfruitful, but over 260 plant species can be found in the reserve, finding their own ways to survive the seasons. Being positioned on the outmost point on the peninsula of Lysekil, Stångehuvud is heavily exposed to the changing weather over the year. Rainy, cold and stormy seasons in combination with

the majorly topographical character of the landscape, often affecting the accessibility to the nature reserve and its walking trails.

Being the most southern occurrence of Bohus granite, Stångehuvud provides a geologically varied landscape. The coarse-grained granite at Stångehuvud, given its red tint by potassium feldspar, became appreciated as a constructive material for its ability to endure the acidity of rain (Andersson, 1996).









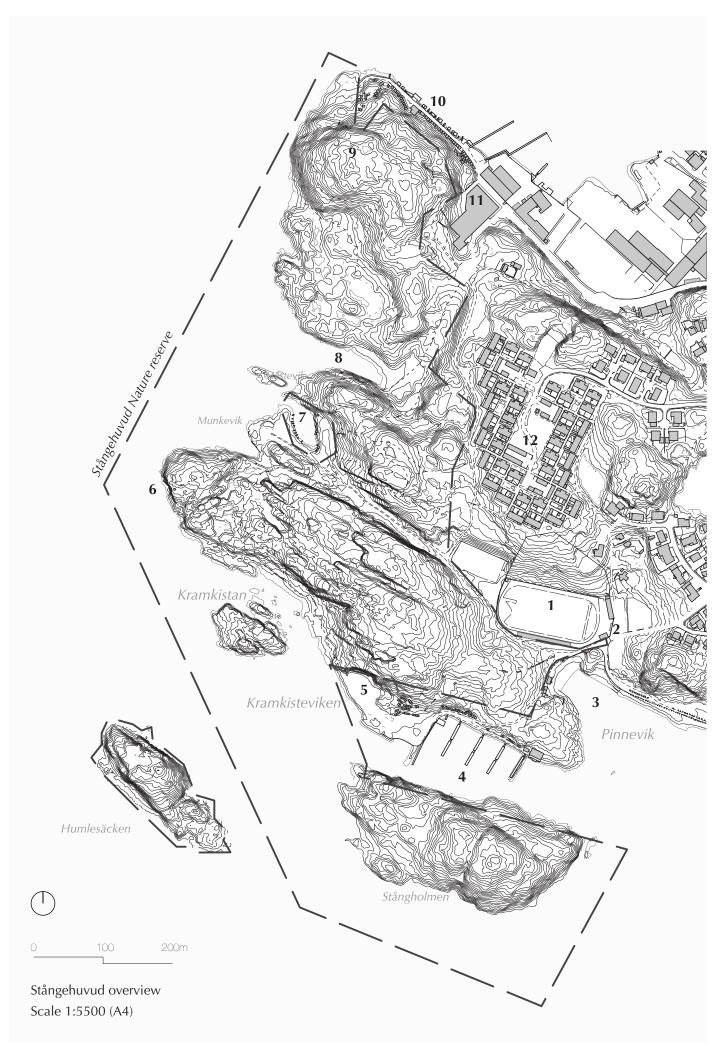
Stångehuvud Olivia Malm, 2020

#### **Towards the lighthouse**

Passing the small beach Pinnevik (3), reaching Stångholmesund (4) where the stone industry had one of its outposts. Today a marina, home to a canoe club and a popular bathing spot for the local kids - swimming across to Stångholmen and jumping from the high rocks. Entering the nature reserve from the south, via the stone stairs, one experiences a first view of the beautiful landscape. Often used as a location for ceremonial purposes of weddings or spreading of ashes. Continuing north towards the lighthouse (6), built in 1890, the remainders and effects of the stone industry is visible. In the northern bays of Munkevik, Hästevik and Galleberget (7-9) the quarries left the landscape shattered and fractured.

#### Stångehuvud

- 1. Gullmarsvallen football feild
- 2. Parkinglot
- 3. Pinnevik beach
- 4. Stångholmesund marina & boathouses
- 5. Proposed site
- 6. The Lighthouse
- 7. Munkevik marina & boathouses
- 8. Hästevik former industry dock
- 9. Galleberget former quarry
- 10. Rinkenäs marina & boathouses
- 11. Campus Väst highschool
- 12. Dona residential area



#### **Cultural-historical values**

#### Calla Curman

- saviour of Stångehuvud

During the fruitful years of the stone industry, granite from Stångehuvud was exported across the globe. From streets in Argentina to stairs by the Washington monument in Philadelphia. (Andersson, 1996) Simultaneously the tourist industry is initiated in Lysekil with focus on recreational baths and visits in nature. Calla Curman, together with her husband Carl Curman, is from 1878 and onwards one of the most influential summer residents. With husband Dr Carl Curman initiating the recreational bathing facilities in Lysekil with focus on the cold and warm baths.

Residing in Stockholm, Calla Curman is known as an eminent public debater, author, intellectual, philanthropist as well as member and founder of multiple organisations. With a persisting aim of creating spaces and contexts for gatherings with focus on intellectual exchange she was a founding member of the women organisation Sällskapet Nya Idun, with eminent and renowned members like Ellen Key, Anna Whitlock, Hanna Winge and Agda Montelius. Many namnes well known within the Swedish womens-right-movement of the late 1800s.

During Calla Curmans visits to Lysekil she grew increasingly devastated by the affects of the industry at Stångehuvud. With strong persistence she takes it upon herself to save the landscape. As the exports slowed down during WW1, she saw her chance. From 1916 she spends a small fortune buying 16 hectares of land, often meeting resistance leading to the use of decoys. With the final purchase in 1920 the unselfish act of Calla Curman is finalised. Ensuring the preservation of Stångehuvud for generations to come, Calla Curman donates the land to the Royal Academy of Science in 1925. Almost 60 years later in 1982 Stångehuvud is declared as a nature reserve. (Andersson, 1996)

#### **Stonemasons**

- community & politics

The history of the stone industry left not only leave traces in nature, but also in surrounding the societies. Research on the vast group of the stonemasons tells a fascinating story of strong communities, camaraderies and hard labour as well as radical politics, conflicts, culture and education. The community formed by this group created values, both materialised and intangible, that lives on not only though stories of ancestors but as coherent parts of the communities along the Bohus-coast today.

As described by Östlund et al. in *Granitindustri* (2008) the labour in the stone industry was hard and stonemasons immigrated to where work was found. Soon the mentality of the workforce grew strong,



Figure 5: Calla inspecting the shattered landscape
Hugo Hallgren, 1907
Image part of Public Domain



Figure 6: Demonstration meeting, Stångehuvud Hugo Hallgren, 1902 Image part of Public Domain

rooted in the co-operative manor of the centuries of fishing (vadlag) in Bohuslän. The working-culture of the stonemasons became a hotbed for the syndicalist "ung-socialism"-movement, expressed through the organisation of national trade unions as early as 1889. During the following years multiple conflicts disbursed with the trade unions demanding fair pay and work-rights. With strikes ending in lockouts, turmoil and violent conflicts between the workers and military, as during the Vinbräcka-conflict in 1908. (Östlund et al., 2008)

This strong community also came to have a leading roll in the democratisation of the society, with traces still evident today. By founding the Folkets Hus-movement in the small costal societies, the stonemasons and their families created a strong community. (Östlund et al., 2008) Building physical meeting-places where the community could have gatherings, discussing politics and democratic values, mediate knowledge and education through reading-groups and libraries; as well as to spread contemporary culture through movies, music, dance and celebration. Although the work in the stone industries in Bohuslän would come to cease, as a result of the world wars and economic depressions of the early 1900s, many of the democratic values and collective solidarity of the stonemasons would live on - becoming a part of the Swedish society of today.

#### **Intangible values**

The simultaneous growth of the stone industry and the tourism in Lysekil during the late 1800s spurred discussions and conflict between the locals and the tourists. The conflicting interests in the use of Stångehuvud was evident; as a recreational space in the eyes of the summer residents or as a source of livelihood for the local stone masons. Although the differences in socio-economic backgrounds are clear, research on the objectives and lives of these individuals presents similarities in the pursue of creating spaces and contexts for communal gatherings, activities and upholding of culture and identity.

Looking back at this discussion today, it becomes evident how much history and identity Stångehuvud bares for the town of Lysekil. While being heavily dependent on the stone industry for its development in the late 1800s, the introduction of the summer tourism gave new perspectives on the values of the natural landscape. Today the result of Calla Curmans persistence is evident. Bringing together both locals and tourists in valuing and appreciating the dramatic landscape of the nature reserve of Stångehuvud.



Figure 7: Recreation in Stångehuvud Hugo Hallgren, 1900 Image part of Public Domain

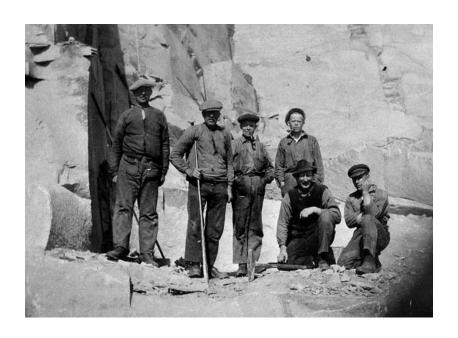


Figure 8: Stonemasons, Härnäset Unknown, 1924 Image part of Public Domain

## **Granite & stonemasonry**

The coarse-grained granite of Stångehuvud is constructed by the minerals feldspar, quartz and mica. Characterised by its red tint from the potassium feldspar and the black and silver glimmers of the mica. (Andersson, 1996) The coarseness of the granite can be seen visibly shifting texture in the landscape, from a bumpy and matt surface to a shiny and almost slippery. Pegmatite, a granite with larger crystals, can also be seen cutting thought the landscape. Creating shiny and light streaks in the granite, rejected as "katter" (cats) by the stonemasons who saw them as an unreliable obstacle.

The work of the stonemasons located out in the open was hard and often prone to accidents. The companionship of the blacksmith was indispensable, providing the tools necessary - hammers, chisels, rods, drills and wedges. Before the introduction of machinery and drills the labour of extracting the stone blocks

was made solely by hand. (Svidén, 2008) Working collaboratively to create deep holes in the granite using iron rods and sledgehammers, then using gunpowder and iron wedges to extract the blocks from the landscape. The stonemason was only paid for the final product and although highly skilled the failures during production, called "vargar" (wolves), was discarded and simply left on site.

The traces from the stone industry depicts a brutal confrontation between man and nature. While it's easy to discard these traces only as destructive and harmful, they portray the stories from a bygone era. The sharp wounds, discarded stone-blocks and rusty irons tell stories of when the granite was the livelihood and Stångehuvud the scene of the labor.



Figure 9: Stonemasons, Hunnebostrand
Viktor Lundgren, unknown year
Image part of Public Domain



Traces at Stångehuvud Olivia Malm, 2021

#### Reference studies

Skissernas Museum, Lund Elding Oscarson, 2017 Extension of museum building

The extension of 2017 is the latest addition in a line of prior extensions of Skissernas Museum, aiming to create a stronger position for the museum in the urban context (Statens fastighetsverk, 2017). As the winner of the Kasper Salin award in 2017 the building was praised for its precise and detailed architectural ambition, strengthening the bond to both the exhibition and the surrounding landscape.

The extension houses a foyer, shop, restaurant and a multi-purpose hall - projecting the slightly bent volumes into the adjacent park. Connecting to the diagonal movements of the landscape and releasing itself from the straight grid of the nearby street (Archdaily, 2017). Creating a pronounced first meeting with the visitor as well as a dynamic relation to its surroundings.

The spacious character of the foyer hall creates an intriguing first meeting with the interior spaces of the museum. A flexible space, that can be used for gre-

etings, gatherings as well as exhibitions, creating a new threshold between the museum and the park - the interior exhibitions and exterior urban life.

The corten-panel facade, with hidden attachments on a wooden construction, was chosen for its abilities to create dynamic relations to the existing red-brick and concrete buildings of the prior extensions. The window arrangements aim to reach an experience of transparency, without using large glass surface. Creating and highlighting selected views from inside-out as well as outside-in and through the building.

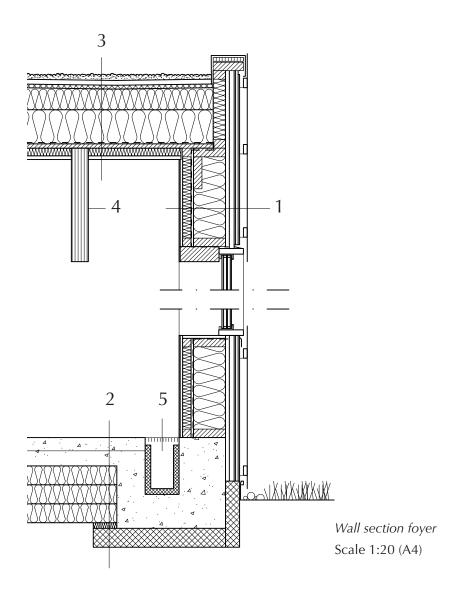
This project was used as a reference for its materiality and construction as well as its dynamic relation to its surroundings. Using angled volumes to create relations to existing movements through the park and urban landscape, as well as the use of maintenance free and weathering corten-steel on a wooden construction.







Figures 10-12: Skissernas Museum Åke E:son Lindman Used with permission



#### 1. WALL

Screen facade, Corten steel panels, gap joint Attachment profiles

Wind stopper

8 minteral board

25 steel profiles

20 mineral wool board

170 c60 wooden stud, mineral wool

12 construction plywood

Vapor barrier

45 wooden stud, curved to walls

12.5 gypsum board

6 birch plywood, glued

#### 2. GROUND

70 reinforced concrete, steel throwelled 80 reinforced concrete 300 rock wool

#### 3. ROOF

30 sedum roof

25 draining waterproof layer

20 hard mineral wool board, pitched

280-380 minteral wool, wedged

Vapor barrier

23 tounge-in-groove wood

Sound absorbent

#### 4. PLYWOOD BEAM

600x75 c1200 sunfeather pattern

#### 5. AIR SUPPLY

Drawing & information based on original material from Elding Oscarson Architects. Used with permission





Figures 13-14: Flyttfågelmuseet
Stefan Svenaeus
Used with permission

## Flyttfågelmuseet, Öland Jan Gezelius, 1961 Exhibition pavillion

Positioned in the nature reserve Ottenby. The pavilion was built to house an exhibition on migratory birds, later moved into a new adjacent Naturum. With a simple yet detailed construction the symmetric pavilion consists of one room with in- and outlooks through glass-slits between the walls. Functioning both as the exterior walls and interior exhibition screens creating a strong connection between landscape, space and exhibition.

The pavilion is today a part of the experience of a visit in the nature reserve, despite no longer housing a permanent exhibition (Allt på Öland, 2021). Used today as a flexible space for temporary use and exhibitions set in a beautiful landscape. This project is used as a reference for its long-term yet flexible use of a space - manifested through the experience of the relation between landscape and architecture.

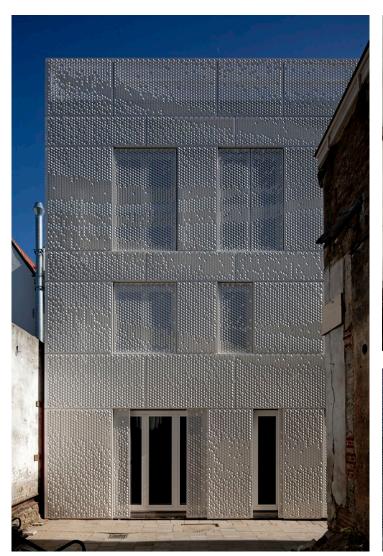
## Between the sheets, Amsterdam Abbink X de Haas & Chris Kabel, 2012 Residential building

This residential project was a collaboration between architecture studio Abbink X de Haas and dutch designer Chris Kabel. Positioned in the centre of Amsterdam within the historic textile-quarters (Fearson, 2012), the building is draped in a perforated facade - flowing like textile curtain.

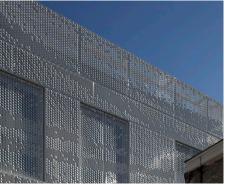
Using industrially produced aluminium sheets punched with hexagon shapes that are bent up or down - allowing the "pixels" to either catch light or cast shadow portraying a pixellated image of a curtain.

The white perforated panels also form shutters, covering the openings of the building. Placing the sliding shutter internally and integrated in the facade a slight depth-effect is created within the buildings sheer and textile outer skin.

This project was used as a reference for its ability to use perforation to create depth and contrast, portraying a textile surface and that can be used as a contrast to a solid metal surface. The integrated and internal sliding shutters also inspires in both its construction and appearance, creating a unique light-play enhancing the textile especially at night.







Figures 15-17: Between the sheets
Luuk Kramer
Used with permission

## Norwegian scenic routes Landscape meeting architecture

The Norwegian scenic routes is a praised project by The Norwegian Public Roads Administration, highlighting and promoting the experience of the Norwegian landscape through additions of architecture, art and design (Norwegian Scenic Routes, 2021). The additions range from larger visitors centres to smaller reststops and viewpoints, all with the aim of allowing architecture and design to interact and interplay with landscape. Strengthening the experience of the spectacular Norwegian landscape. Renowned Norwegian and international architects has contributed with their work, such as Snøhetta, Jensen & Skodvin and Peter Zumthor.

With varied designs, functions and programs all the structures of the scenic route-project works to incorporate design with the experience of landscapes. Enhancing characteristics such as panoramic views, materiality, shifting climate and weather, as well as historical values and the traditional Norwegian spirit.

For example the simple yet striking lanscape architecture of Kleivodden rest stop by Landskapsfabrikken AS and Inge Dahlman. Combining the solid materiality with a reflective polished surface of the stone benches to interplay with the view of the open horizon and the vast Arctic Ocean. Using design as a means to make experiences of landscape accessible while enhancing its natural values.

These projects was used as inspiring references for their aim of connecting architecture and art to the experience of a beautiful landscape. Through both large and small design-projects attracting visitors and tourism while also celebrating both local culture and natural values.



Figure 18: Reststop at Kleivodden, Norwegian Scenic Routes
Architect Inge Dahlman, Landskapsfabrikken
Per Ritzler / Statens vegvesen
Used with permission

## **Site analysis**

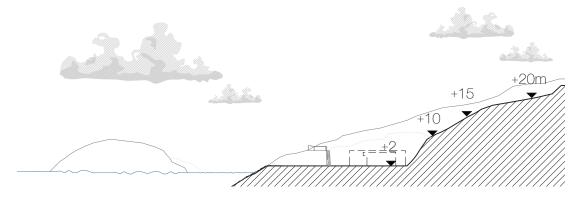
#### **Movement & visits**

The selected site has the potential to house a new building relating to both the nature and history of Stångehuvud. Positioned just outside of the reserve the site is today a non-programmed gravel plane, formerly used as a dock for the stone industry. Accessible via a paved road, and passed by all visitors to the nature reserve walking along Kuststigen. The area is also visited by locals for access to the marina, the boathouses (1) as well as the bathing spot (4).

#### **Building placement**

Inspired by the many square granite blocks left behind from the era of the stone industry, the building volume (7) is placed following the topography of the sharp edges of the high granite rocks as well as the movement passing by the site. Opening up towards the open horizon facing west, creating a strong bond to both the natural elements as well as the man-made traces of the granite landscape.

- 1. Boat houses
- 2. Boat storage
- 3. Preserved granite dock
- 4. Bathing ladder
- 5. Preserved granite rock
- 6. Stone rubble
- 7. Proposed building
- 8. Sealed WW2 shelters
- 9. Stone stairs



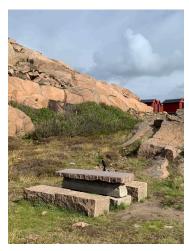
Site section A-A Scale 1:1000 (A4)



Proposed site today
Scale 1:1000 (A4)



Iron rods left in granite



Re-using granite



Granite dock from industry



Discarded sharp blocks



Boat houses in topography



Stone stairs & blocks

Olivia Malm, 2020

### **Terrain & landscape**

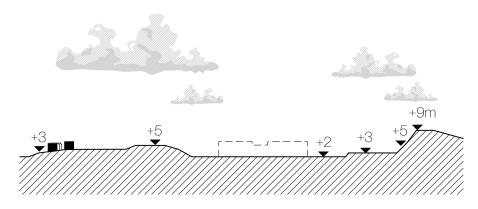
From what once was the soft and untouched granite rocks, like the ones found in the nature reserve, this site has been transformed and affected by the impact of mankind. Today, varying traces from this era can be found. From the preserved loading-dock (3) constructed of carefully shaped granite blocks, to the rusty iron rods left in the granite walls by the sealed shelters from World War II (8).

The landscape here is highly characterised by these visible traces, creating a contrasting homogeneity among the many different shapes and forms of the granite

found here. From the untouched granite rocks by the sea (5) to the discarded stone rubble (6), making the water as well as the beautiful view of the light house in the far distance unaccessible.

### Climate & weather

The site, as well as the nature reserve itself, is affected by the forces of the weather and climate over the year. Being positioned by the open sea, the salty and strong winds will often characterise a visit to the site - in one way highlighting the natural forces of the landscape.



Site section B-B Scale 1:1000 (A4)



Overview of project site





Project site

View towards west

Olivia Malm, 2021

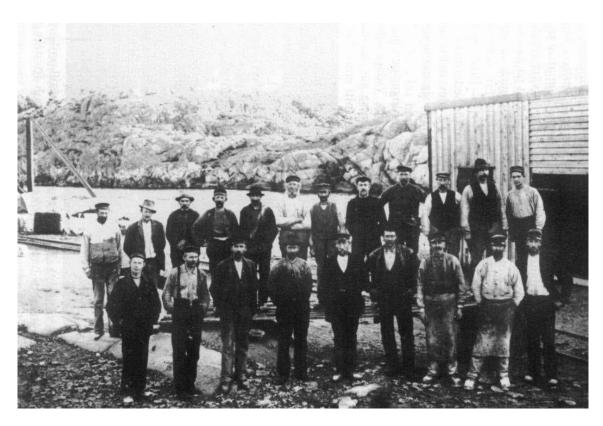


Figure 19: Stonemasons at Stångehuvud Unknown photographer, 1895

Image found during historic site-research, my grandmothers grandfather Simone Gabrielli (b. 1845 Tyrol, Italy) 3rd from the right on first row. Photo taken on project site, by the former loading dock (no. 5 siteplan).

## **Space program**

The nature reserve of Stångehuvud has acted as a collective place for centuries. Besides the natural qualities of the landscape, the act of meeting and joining forces has been a common theme for the human activities throughout the history of the site. The main aim of this project is to create a public building, highlighting the characteristics and history of Stångehuvud, creating a meeting place for both tourists and locals. Enhancing the experience of the visit in the nature reserve and unlocking the collective potentials of the site also today.

The program is aiming to create spaces where exhibition and community can meet, based on a plan-concept with free movements inspired by the openness of the nature reserve. Using movement to interweave the functions of the building, creating curiosity and meetings between people.

The entrance gallery, the central core and communication spaces, connects the main spaces and simultaneously displays a permanent exhibition portraying the history of the site.

The community gallery combines a community space with exhibition. A space for planned or spontaneous gatherings - for the locals to meet for a fika, sharing their stories with curious tourists visiting the exhibition.

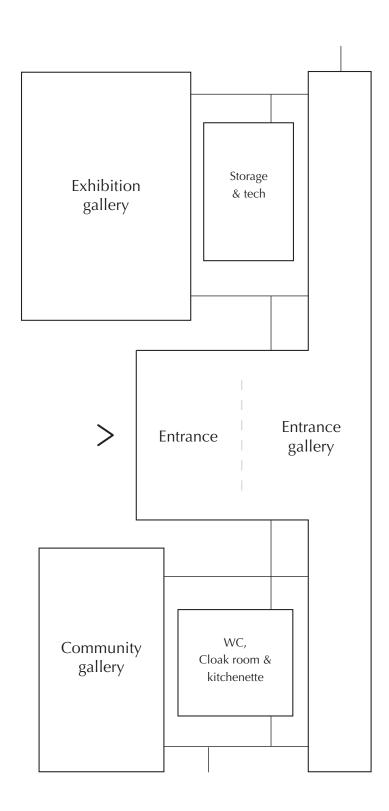
The exhibition gallery houses a space for temporary or permanent exhibitions to be experienced. This space can also be furnished for larger gatherings.

### **Pavilion Stångehuvud**

Tavilloli Stallgellavaa	
Entrance	$20 \text{ m}^2$
Entrance gallery	51.2 m <sup>2</sup>
Exhibition gallery	51.6 m <sup>2</sup>
Storage & technique	17.6 m <sup>2</sup>
Community gallery	$33 \text{ m}^2$
Cloak room	$5.2 \text{ m}^2$
Cleaning	$1.8 m^2$
WC Accessible	$5.2 \text{ m}^2$
WC	$2.9 \text{ m}^2$
Kitchenette	

 $265 \text{ m}^2$ 

**Total footprint** 



Space connection diagram

# **Design strategies**

## Portraying the identity of Stångehuvud

The proposed design strategies are based on the theoretical research, the site analysis as well as reference studies found in the chapter *Introduction* and *Framework*.

Developed dynamically during research and sketching with the aim to enhance the identity of Stångehuvud and portray an answer to the proposed research questions.

The strategies was used as a tool during the design process - motivating and framing the work as well as creating delimitations. They can also be seen as an introduction to the design proposal, mediating the aim of the project to the reader.

## BUILD ON THE CULTURE OF STÅNGEHUVUD - Building program

based on theoretical studies & site research

- **ENCOURAGE MEETINGS** with a building program inspired by the historical collective factors of Stångehuvud, highlighting importance of gatherings for both Calla Curman and the stonemason community.
- **EXHIBIT** historical and contemporary qualities of Stångehuvud through temporary and permanent exhibitions.
- **INTERSECT FUNCTIONS** of meetings and exhibition encourage meetings between locals and visitors, creating a topophilic bond between all visitors and the landscape (Werne, 1987)

### PORTRAY VESTIGES IN STONE - Exterior & form

based on studies of site, granite & stonemasonry

- **ACKNOWLEDGE** traces from human activity & stone industry by allowing them to inspire the design;
- **METHODS** of stonemasonry shaping the granite (sharp edges, drill holes & discarded granite blocks) to inspire a solid block-like building shape
- **TOOLS** of stonemasonry (rusting iron rods left in granite) inspiring use of exteriorly weathering Corten steel
- **GRANITE** characteristics (solid/broken, scarred/untouched, glimmering/rough) to inspire a solid yet dynamic exterior

### RECOGNIZE SITE-PREREQUISITES - Placement & materiality

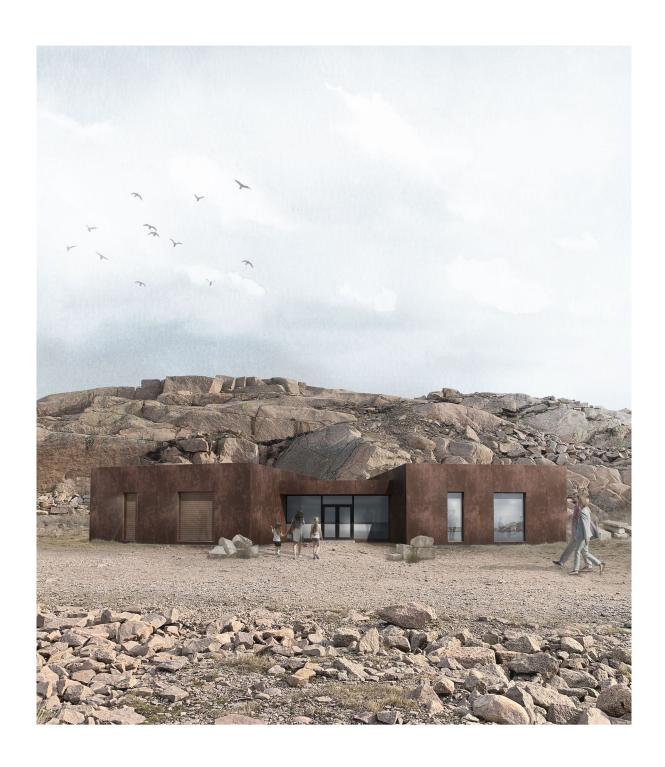
based on site analysis

- TOPOGRAPHY of project site become base for building placement
- CLIMATE & WEATHER creating need of protective exterior & materiality
- FREE MOVEMENTS in landscape of Stångehuvud inspiring sequences of space and to encourage movement in plan, intersecting functions of building

# Design proposal

# Pavilion Stångehuvud

Vestige of Stone



Exterior view

Arriving to Pavilion Stångehuvud - a building celebrating the past, present and future of the nature reserve of Stångehuvud. Exhibiting the historical, natural and cultural values encouraging visitors and locals to gather around the Vestiges of Stone.





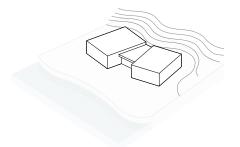
Volume studies at Stångehuvud

Finding inspiration in the discarded granite and on-site traces from the stone industry - adapting shape to topography and acknowledging traces of mankind.

### Introduction of

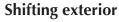
## **Building concept**

derived from design strategies



### **Solid volumes**

Inspired by discarded granite blocks left on site, two solid building-volumes are placed in relation to the topography & movements of the site, connected by a central entrance hall.





A protective layer of perforated Corten-shutters covers the openings. Allowing use, time, weather and season to affect the experience of the building - much like the factors affecting the experience of the landscape at Stångehuvud.



## Plan & movement

Inspired by the free movements of the nature reserve, the building plan interweaves spaces and functions of exhibition and community through movement around central cores.





Building & site Physical model 1:100





Perforated window shutters

The solid building volumes, inspired by discarded granite blocks left on site, are connected by a central entrance - glased on both sides creating views towards both the open sea and the granite wall behind.

The building is equipped with perforated window shutters, creating a protective yet dynamic layer contributing to the solid expression. Although when lit from inside creating a thin and textile-like vail, glimmering like the minerals of the granite.

The site is characterised by the many visible traces of the stone industry. Pavilion Stångehuvud is placed in relation to the sharp edges of the granite landscape, following the steep and high walls as well as the movement to and from the nature reserve. Opening up towards the visitor and creating a bond to the topography of the site.

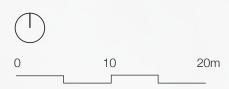
The site program combines high-lighting the existing character and unlocking new potential values for visits and recreation. Outdoor seating (3 & 9) and barbecue area (4) as well as a bathing- and sunbathing-spot (2) facing the view of the open sea, unlocks new potentials while keeping parts of the landscape as memories from the past.

The building is placed integrated in the level gravel plane of the landscape, kept as a testament of the history of the site together with a wild vegetation and the stone rubble facing the sea.

### Site plan

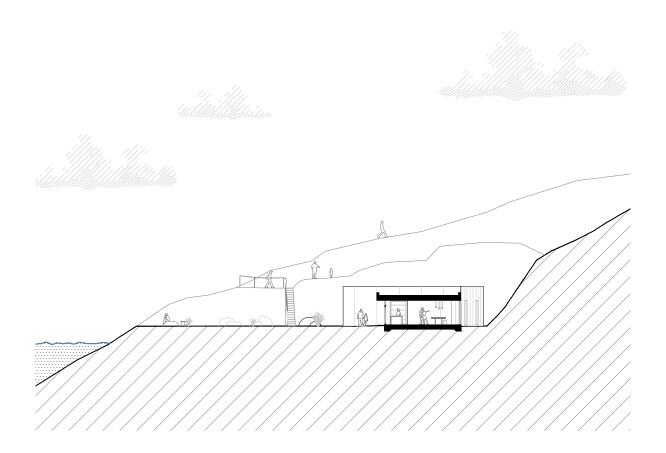
1:400 (A4)

- 1. Pavilion Stångehuvud
- 2. New bathing spot
- 3. Outdoor seating with granite table
- 4. Barbecue & seating area
- 5. Boat houses
- 6. Stone rubble
- 7. Sealed WW2 shelters
- 8. Stone stairs entering Stångehuvud
- 9. Benches

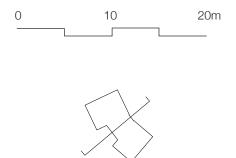






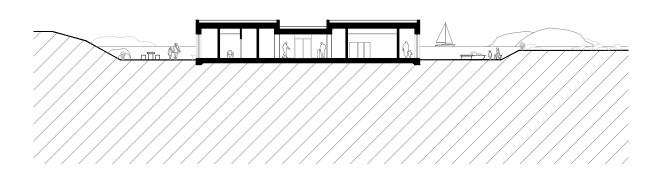


Site section A-A 1:400 (A4)

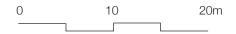








Site section B-B 1:400 (A4)





### **Building**

The two main building volumes are connected by the central entrance (1) and the Entrance Gallery (2). Inspired by the free movements of the nature reservethe layout of the plan with the rear axis of the Entrance Gallery (2) and two central cores (5 & 6) of the main galleries encourages an exploratory and free movement within the Pavilion. Interweaving the functions of the building through movement, encouraging meetings between visitors and enabling flexible use of the larger galleries (3 & 4).

A reception greets the visitor in the entrance, followed by the central space of the Entrance gallery (2) connecting the main spaces with the rear axis of the building - combining movement with outlooks towards the granite wall and a permanent exhibition of the historical values of Stångehuvud.

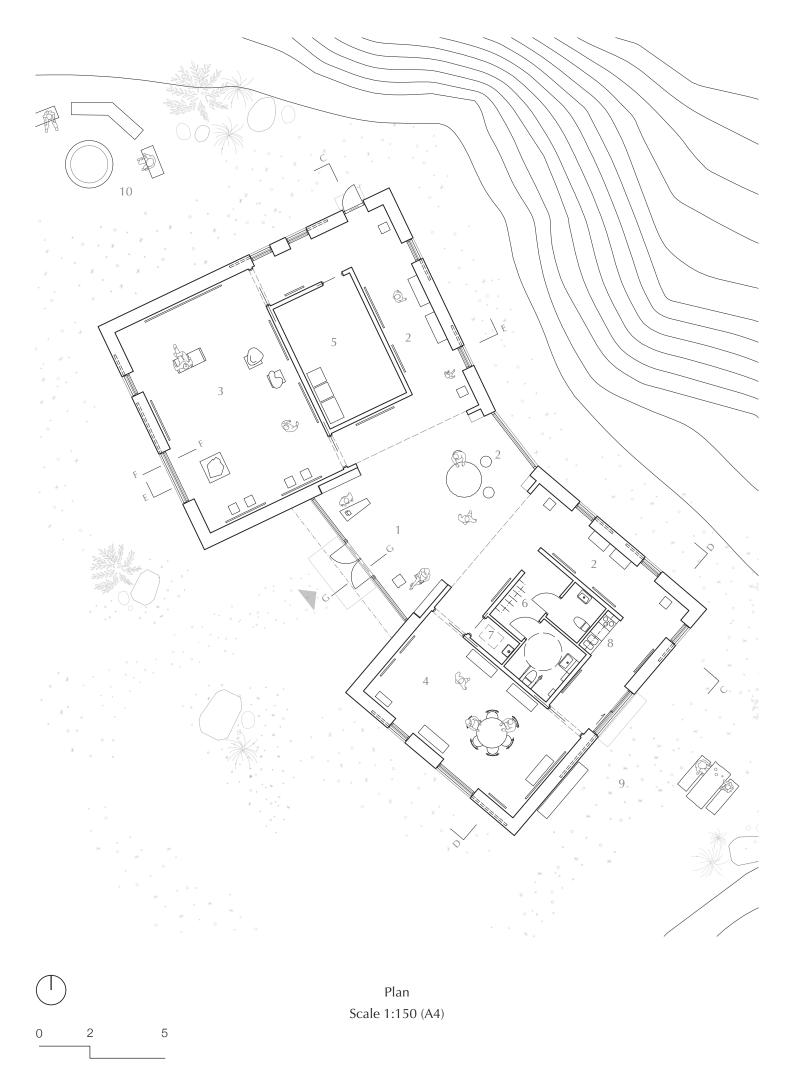
The northern volume, the Exhibition galley (3), consist of a larger space used for temporary exhibitions or gatherings. The southern volume with the Community gallery combines a permanent exhibition with a meeting space for both locals and visitors, celebrating the historical culture of Stångehuvud influenced by the gatherings of the stonemasons and

Calla Curman. A small kitchenette and the connection to the outer seating area provides opportunities for meetings over a fika.

The windows in the larger volumes are equipped with wall-integrated window shutters of a thin perforated corten screen, mounted on electric sliding shutters. Enabling a protective layer from weather and sun while creating a dynamic exterior and interior expression depending on time of day, season and weather. Inspired by the shifting experience of the nature reserve depending on the intangible factors of weather, season and time.

### **Pavilion Stångehuvud**

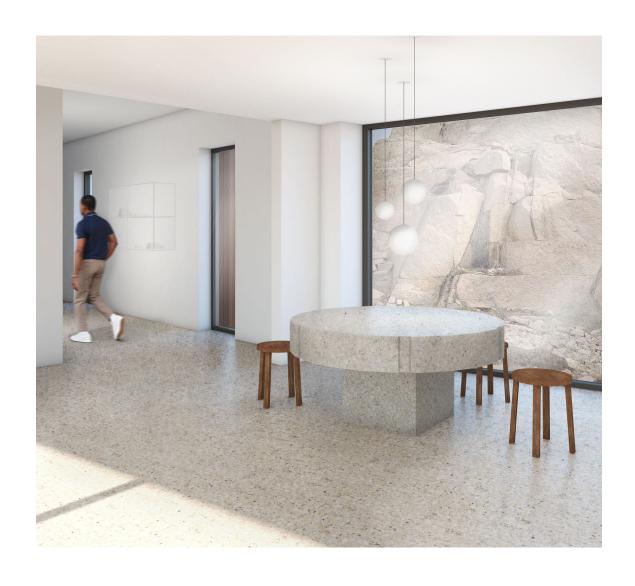
- 1. Entrance
- 2. Entrance gallery
- 3. Exhibition gallery
- 4. Community gallery
- 5. Storage & technique
- 6. Cloak room & toilets
- 7. Cleaning
- 8. Kitchenette
- 9. Outdoor seating
- 10. Seating & barbecue area



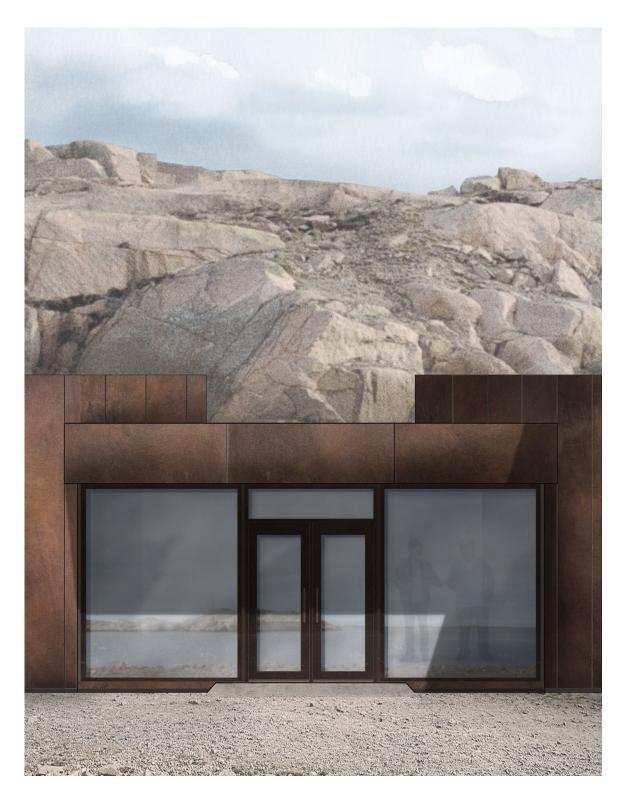
### **Entrance**

The central entrance greets the visitor with a reception, providing information on current exhibitions and activities. Interweaved with the reception is central core of the Entrance gallery, with its glazed outlooks towards the granite walls and its round granite table generating the heart of the building. A space that, just like the building itself, intersects movements as well as functions of exhibition and gatherings.

Re-purposing discarded granite for public seating and decoration is a tradition seen scattered around the town on Lysekil. The re-purposed round granite table of the entrance gallery is a remnant of the stone industry, originally found in the bay of Munkevik in the nature reserve, and becomes the focal point of the Entrance Gallery. Creating a meeting point during vernissages, exhibitions or gatherings - greeting visitors and a space for mingle. Celebrating both historical and contemporary handicraft, the table also becomes a solitaire art-piece while portraying the identity of Stångehuvud and encouraging the visitors to gather around the Vestiges of Stone.



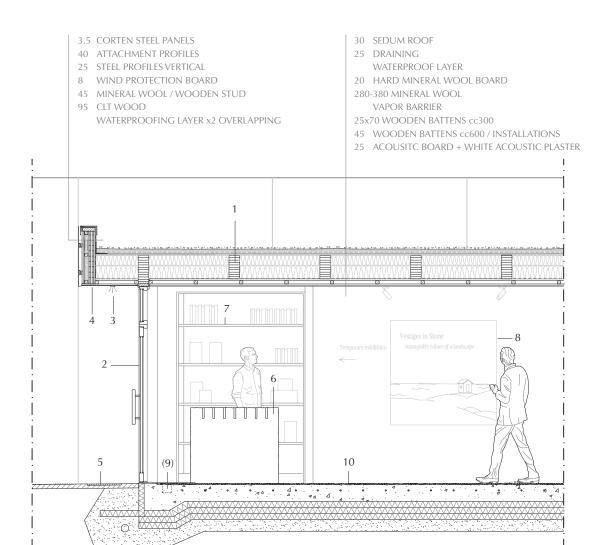
The Entrance Gallery



Elevation entrance Scale 1:50 (A4)

The glazed entrance welcomes the visitor, creating a weather-protected entry with the projecting roof that connects the two building volumes.

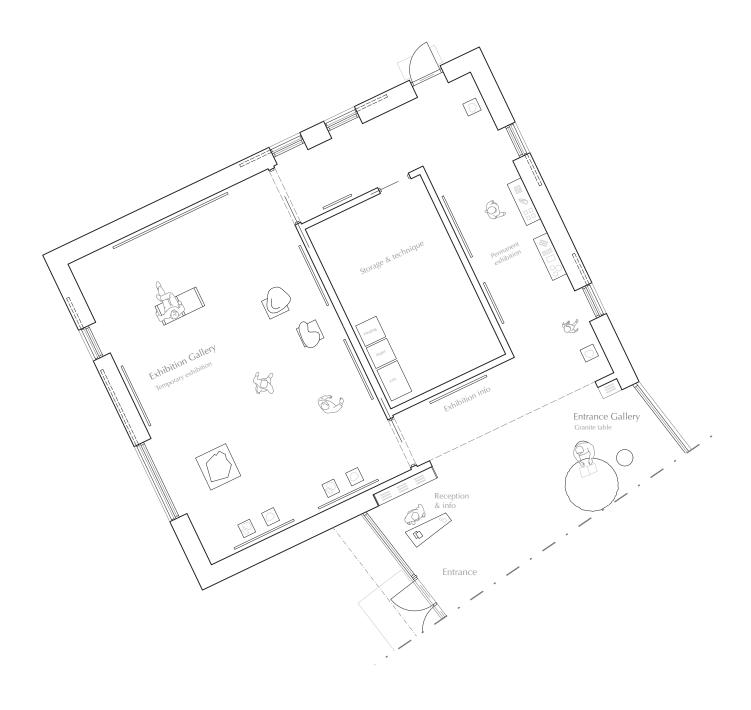
- 1. Glulam beam 140x315 cc1200
- 2. Entrance door black aluminium cladding
  - 3. Entrance lighting
  - 4. Corten steel cladding
- 5. Granite bush hammered, milled non-slip tracks and integrated entrance gratings
  - 6. Reception desk on-site granite block, polished top-surface
    - 7. Built in bookshelf ash wood
      - 8. Exhibition information
  - (9. Floor-integrated convection heater, only under windows)
    - 10. Cast-in-place terrazzo, chips of Bohus granite



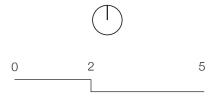
Section G-G, Entrance Scale 1:50 (A4)



Wall-integrated shelving units stores library-sources and the reception desk, of discarded granite with preserved drill-traces and a polished top surface, unifies historical and contemporary local stonemasonry.



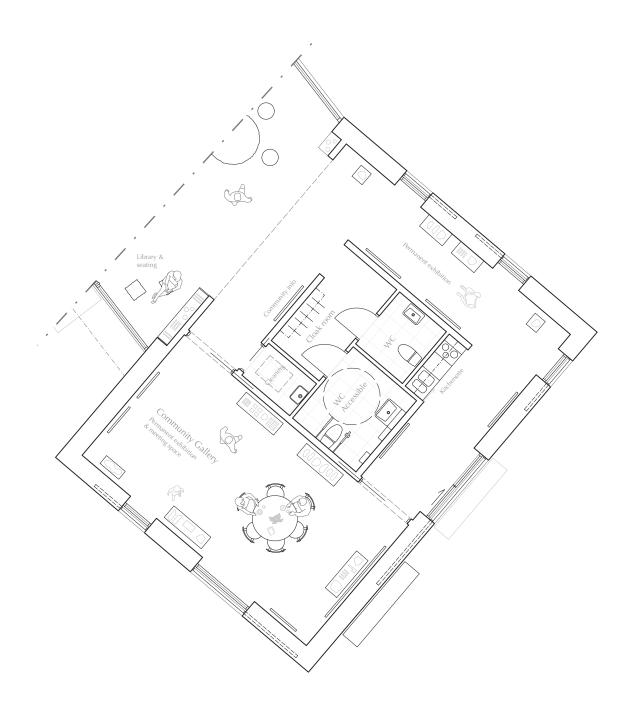
Exhibition gallery Scale 1:100 (A4)



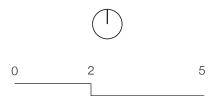


The Exhibition Gallery

Light interior materials allows the exhibitions to be in focus. A cast-in-place terrazzo flooring, composed by chips of the red Bohus Granite, creates a connection between the interior and exterior landscape - portraying the shifting shapes of granite found at Stångehuvud.



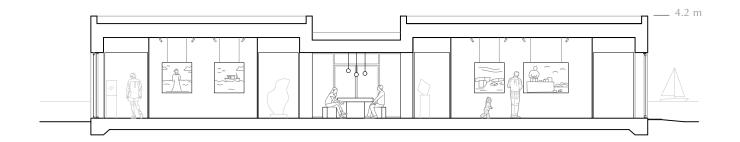
Community gallery Scale 1:100 (A4)





The Community Gallery

The community gallery creates a meeting place for locals and visitors, anchored in the active community of Lysekil. The community gallery combines a meeting space with permanent exhibitions, unifying visitors around the cultural and historical values of Stångehuvud.

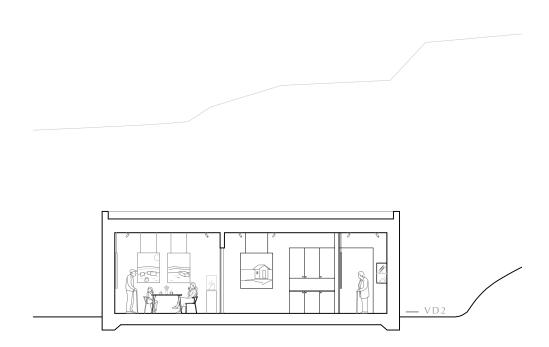


Section C-C Scale 1:150 (A4)



The axis of the entrance gallery connecting functions and spaces in combination with exhibition and outlooks.

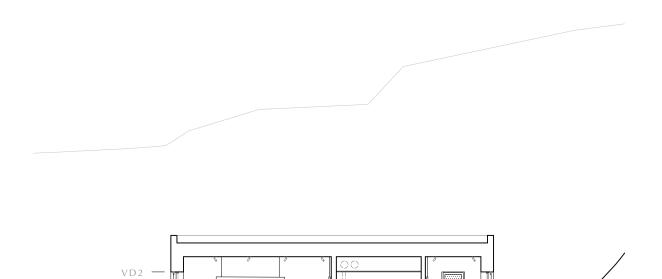




Section D-D Scale 1:150 (A4)









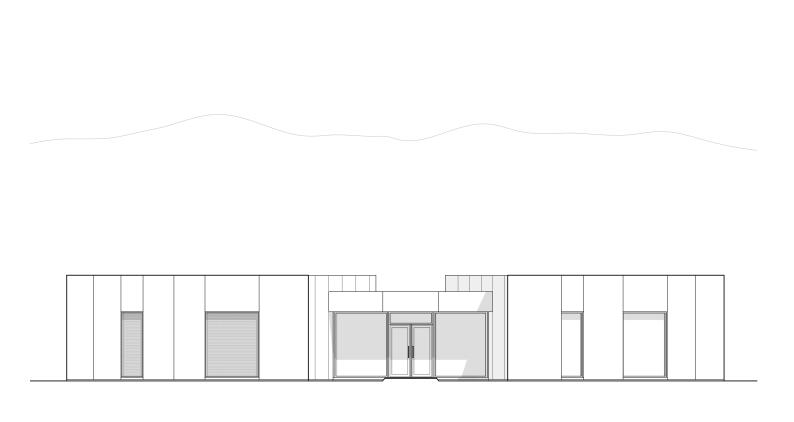






The Exhibition Gallery

The perforated sliding shutters provides a muted light and creates a shifting expression of solidity, encouraging a curiosity for movement through the building.



Elevation Southwest Scale 1:150 (A4)

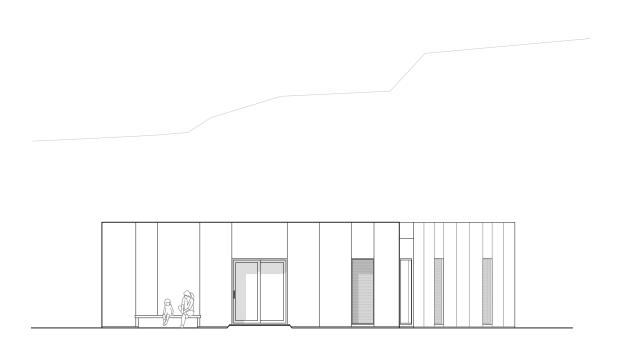




The exterior of the building is clad in corten panels, inspired by the traces of human kind in the landscape; the methods and tools used by the stonemasons.

The corten exterior has a subtle division with vertical gap-joints placed in relation to

the window-openings, creating large corten surfaces contributing to the solid appearance of the building. Exposed to the harsh and salty climate, the expression of the weathering Corten develops over time, creating a site-specific building shaped by intangible factors and anchored in the landscape.



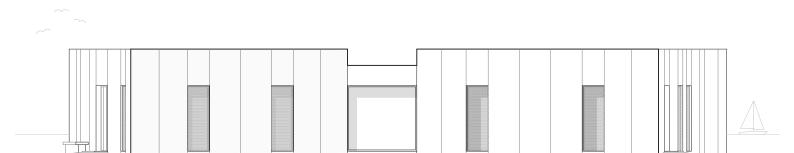
Elevation Southeast Scale 1:150 (A4)





The tall windows are carved out of the solids, much like the effects of drills and hammers of the stonemasonry. The windows are placed in relation to the inner cores and movements of the building, meeting the floor and creating a bond between the interior and exterior landscapes. Slim windows, inspired by the

drill-traces, face the granite wall (elevation northeast) providing outlooks as well as interior wall surface for the permanent exhibition.



Elevation Northeast Scale 1:150 (A4)







Elevation Northwest Scale 1:150 (A4)

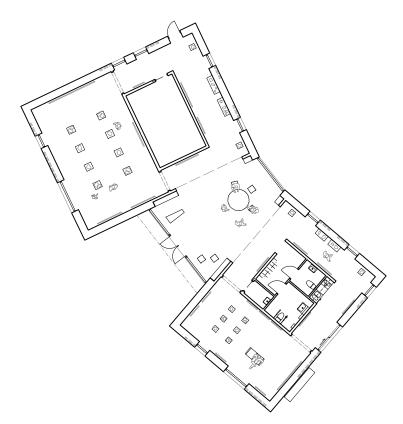




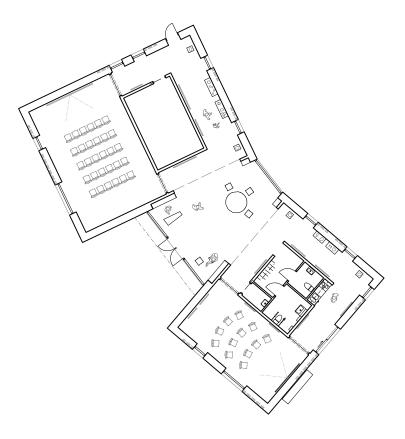
### Alternative furnishing & use

Scale 1:250 (A4)

The different gallery-spaces of the building provides possibilities for flexible use for temporary or permanent exhibitions as well as gatherings. Inhabiting the Entrance gallery and its rear axis with a permanent exhibition provides flexible use of the front spaces of the volumes, for example allowing temporary exhibitions (plan 1) or gatherings (plan 2) to inhabit the spaces.



Temporary exhibitions by local or invited artists in both galleries, the central entrance gallery a welcoming central space for mingle



Gatherings of differing sizes in both galleries - maybe a Sunday-night bookclub or a public lecture

### **Detail**

### Exterior & construction

The exterior corten-panels of the Pavilion is mounted with hidden attachments on vertical steel profiles, creating 8mm gap joints and a subtle division of the facade.

The solid expression of the building is also visible in the construction, creating a relation to the solid granite blocks and anchoring the tectonic approach in the landscape. The bearing exterior walls consists of a wooden construction and carries the roof beams with the help of the bearing CLT-walls of the central cores of the two volumes (no. 5 & 6 on *Plan 1:150*).

The sedum roof creates a sustainable solution for the local climate, and provides a green birds-eye view from high up in the granite topography. The building is placed in the landscape on a ground concrete slab, allowing the existing surrounding landscape of the granite gravel to remain.

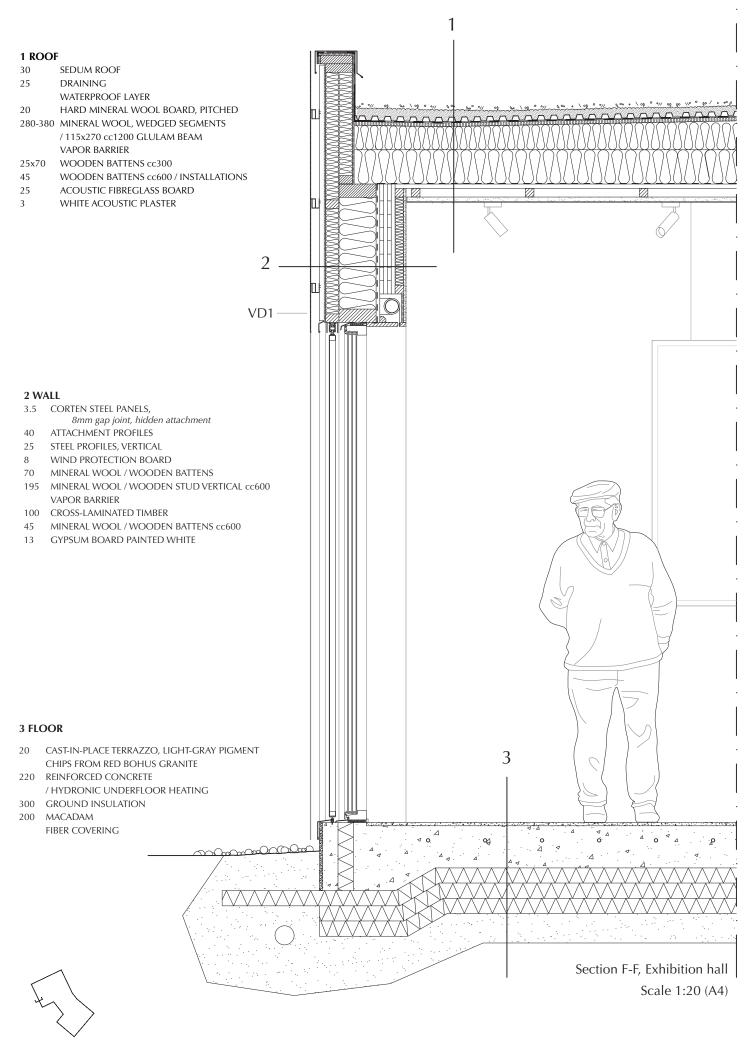
### Interior & sliding shutters

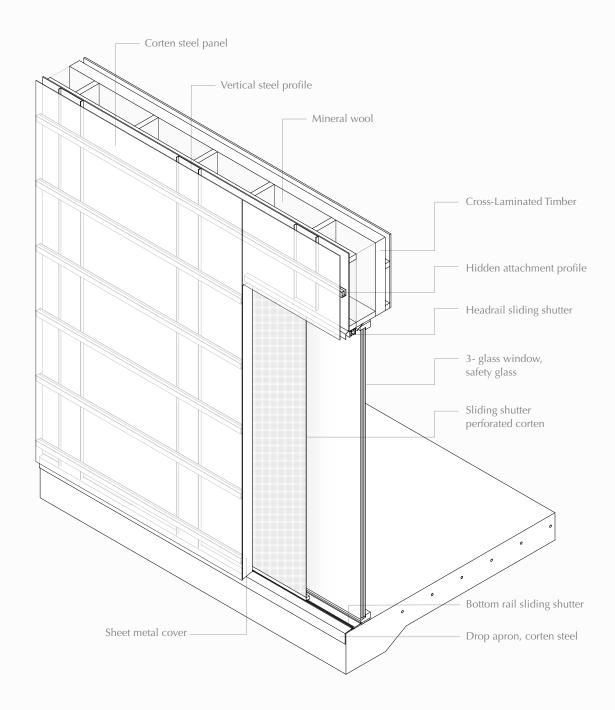
The neutral interior surfaces gives the exhibition and outlooks the main focus, while still interweaving inspiration from the landscape in the choice of material. The cast-in-place terrazzo flooring is tinted with a light-gray pigment and uses chips from on-site red Bohus granite. A durable flooring that creates a strong connection to the exterior landscape and becomes a celebration to the corse-grained red Bohus granite, charactrarised by its red tint and black and silver glimmers of mica.

The wall-integrated sliding shutters, easily controlled by an electric motor, creates dynamic possibilities of use. The perforated sheet is mounted on a metal frame, sliding on a head and bottom rail. With a high perforation and percentage of open area the sliding shutter provides a protective layer from weather and sun, while still allowing outlooks and a muted light to fill the rooms.

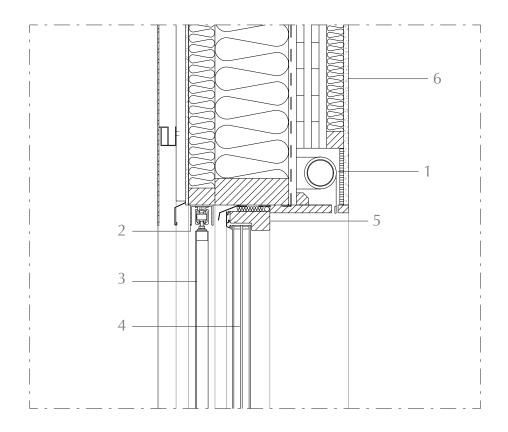


Elevation - Exhibition Gallery Scale 1:20 (A4)





*Isometric view*Wall & window

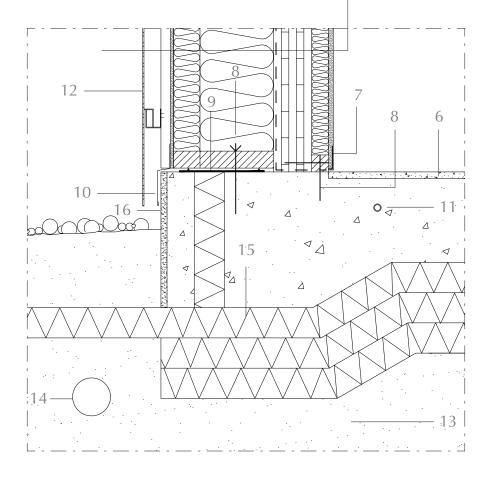


VD1 Window & sliding shutter Scale 1:10 (A4)

# **VD1 Window & sliding shutter**

- 1. Concealed blackout curtain Electric motor
- 2. Headrail Sliding Shutter Carrier profile with electric motor
- 3. Perforated Corten screen Round staggered pattern Perforation Ø 8mm, cc distance 13 mm Open area 46%
- 4. Fixed window 3-glass window, safety glass
- 5. Window frame Black aluminium cladding RAL 9005
- 6. Interior wall Gypsum board, wall putty & painted white

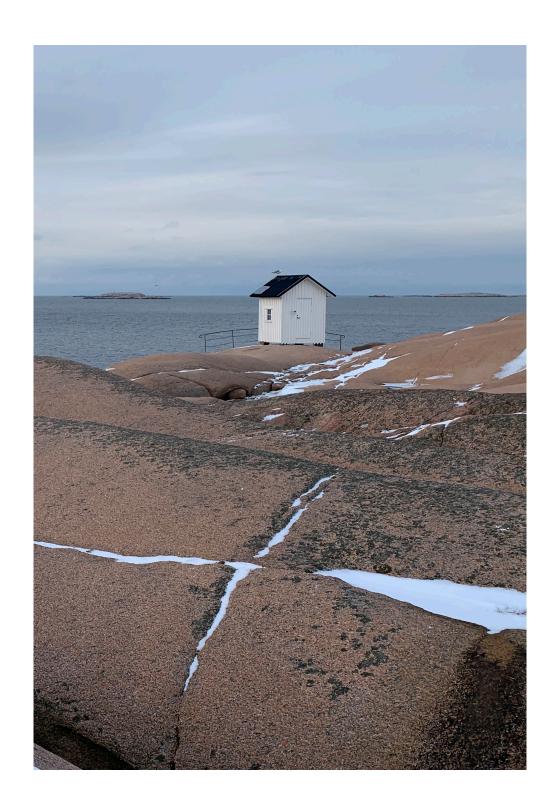
- 3.5 CORTEN STEEL PANEL
- 40 ATTACHMENT PROFILES
- 25 STEEL PROFILES VERTICAL
- 8 WIND PROTECTION BOARD
- 70 MINERAL WOOL / WOODEN BATTENS
- 195 MINERAL WOOL / WOODEN STUD cc600 VAPOR BARRIER
- 100 CROSS-LAMINATED TIMBER
- 45 MINERAL WOOL / WOODEN BATTENS cc600
- 13 GYPSUM BOARD WHITE

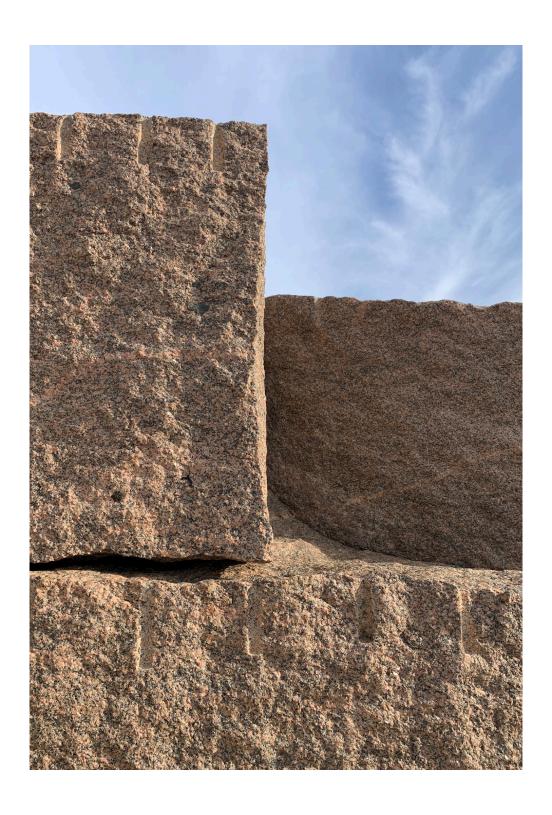


VD2 Ground & wall Scale 1:10 (A4)

## **VD2 Ground & wall**

- 6. Cast-in-place terrazzo light-gray pigment, chips from on-site Red Bohus Granite
- 7. Steel profile for wall-protection, integrated & covered with wall putty
- 8. Mounting hardware
- 9. Sill plate insulation
- 10. Drop apron in Corten steel
- 11. Hydronic underfloor heating
- 12. Corten steel panel
- 13. Macadam
- 14. Drainage
- 15. Ground insulation
- 16. Exterior plaster, painted black





# **Summary**

The leading topic of this master's thesis has been the relationship created between architecture and its surrounding landscape, exploring how architecture can contribute to enhance the experience of a nature reserve and its cultural values. The aim of Pavilion Stångehuvud has been to highlight the collected identity of the surrounding landscape, allowing both visible and invisible values of the site to influence the design. By recognising and finding influence in the traces of human activities that historically has shaped, shattered and saved the landscape - Pavilion Stångehuvud allows these stories to merge with the present-day experience of the nature. Inviting all visitors to a deeper understanding of the landscape and to gather around the vestiges of stone.

The initial theoretical studies laid a foundation for the understanding of how enhancing intangible values can become the key for linking a visitor to a site, anchoring the architecture in the landscape and portraying an answer to the thesis question. Using studies of Finn Werne, describing how landscapes responds to the topophilic and cosmophilic visitor (Werne, 1987), Pavilion Stångehuvud aims to enhance both the visible and invisible values of the site. By allowing these values to inspire and become the foundation for the design strategies of the project, a tectonic intent could become anchored in the cultural historical values of the site. Studies of built references portrayed tangible examples of methods for linking architecture and landscape. Projects of different scale and focus inspired the design through shape, construction, function and materiality.

Through studies of the human activities of Stångehuvud a portrait larger than that of the visible traces grew strong. Portraying a collective spirit of the landscape unifying Calla Curman and the community of stonemasons in the importance of gatherings and community. This inspired the function program of the Pavilion, combining community space with exhibition. With the aim of creating spaces for contemporary meetings between visitors and locals - surrounded by an exhibition of natural, historical and cultural values of Stångehuvud.

An important part of the design process was to also allow the sometimes brutal visible traces of the stone industry to influence the design, tectonics and materiality of the building. Acknowledging these traces in the landscape by studying the methods and tools of the stonemasons and the characteristics of the bohus granite. The discarded stone blocks inspiring the solid volumes, a weathering corten exterior linking to the rusting tools left in the landscape and the perforated window-coverings giving a dynamic expression; glimmering like the granite. Creating a connection between the buildings tectonics and the conflicting history of the stone industry that in many ways has shaped (and shattered) Stångehuvud, but remains an important part of its identity.

To position the building in the landscape,

site-studies and readings of Jonathan Hill's Weather architecture created an understanding for using the sites' prerequisites to influence the design. Recognising the shape and topography of the site, as well as invisible factors of weather, climate and movements. The shifting experience of visits to the nature reserve, depending on the intangible effects of weather, season and time, inspired interior and exterior qualities of the Pavilion. Interweaving the movements through the building with the function of the exhibition, and creating a dynamic yet protected exterior withstanding (and changing with) the forces of time and climate.

## Reflection

Reflecting upon the work and method of this masters thesis it in multiple ways portrays a personal journey. Where my connections to the site created specific prerequisites as well as unexpected findings (see fig. 19). A personal connection portraying one of many stories of Stångehuvud, in some ways inevitably influencing the direction and material presented in this masters thesis

Creating a connection between building, tectonics and landscape became a balancing act between sensitivity and motivation - where the findings in historical studies of the specific site gave motivation for a building to find its function, place and shape in the landscape. This design process made me realise the importance of allowing the multiple qualities

of the landscape to lead the way, using traces of human activity to bridge between landscape and architecture.

The work with this project has given me new insights to the bond created between landscape, visitor and architecture. Despite my previous connections, the deeper knowledge I have gained about Stångehuvud has given me a stronger understanding not only for the values of the site, but also for how architecture can be positioned in relation to these. Where the challenge is to first create a perception of the landscape, to develop tools for investigation and then create architecture that captures and portrays an understanding for the landscape mediating this to the visitor.

The basis of this thesis project poses a large question with no self-evident answer. The question of the relation created between architecture and landscape is and will always be a significant part of architecture practice.

My hopes are that this project can contribute to the preservation and presentation of the history and qualities of the site, highlighting the importance of both visible and invisible values. Where this thesis project portrays my reflections, strategies and thoughts on how architecture can contribute to enhance the experience of the nature reserve of Stångehuvud.

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### **Figures**

Site maps of Stångehuvud based on material from Lysekils Municipality, used with permission.

Figure 1: Hallgren, H. (1902). Fyren vid Stångehufud, Lysekil [Photograph]. Photo: Bohusläns Museum. Retrieved from https://digitaltmuseum.org/011014339361. Public Domain.

Figure 2: Fredh, T. (1964). Skandia granit AB [Photograph]. Photo: Bohusläns Museum. Retrieved from https://digitaltmuseum.org/011014344553. Public Domain.

Figure 3: Hallgren, H. (1900). *Engelbert på Stångehufud* [Photograph]. Photo: Bohusläns Museum. Retrieved from https://digitaltmuseum.org/011014340670. Public Domain.

Figure 4: *Lysekil*. Lantmäteriet. (n.d.). [Aerial photo]. Retrieved March 24, 2021, from https://minkarta.lantmateriet.se/ Reprinted with permission, FUK-license.

Figure 5: Hallgren, H. (1907). *Calla inspecting the shattered landscape* [Photograph]. Photo: Bohusläns Museum. Retrieved from https://digitaltmuseum.org/011014339175. Public Domain.

Figure 6: Hallgren, H. (1901). *Demonstration meeting, Stångehuvud* [Photograph]. Photo: Bohusläns Museum. Retrieved from https://digitaltmuseum.org/011014340293. Public Domain.

Figure 7: Hallgren, H. (1900). *Recreation in Stångehuvud* [Photograph]. Photo: Bohusläns Museum. Retrieved from htt-ps://digitaltmuseum.org/011014340669. Public Domain.

Figure 8: Unknown (1924). *Stonemasons, Härnäset* [Photograph]. Photo: Bohusläns Museum. Retrieved from https://digitaltmuseum.org/011014289443. Public Domain.

Figure 9: Lundgren, V. (unknown year). *Stonemasons, Hunnebostrand* [Photograph]. Photo: Bohusläns Museum. Retrieved from https://digitaltmuseum.org/011014489711. Public Domain.

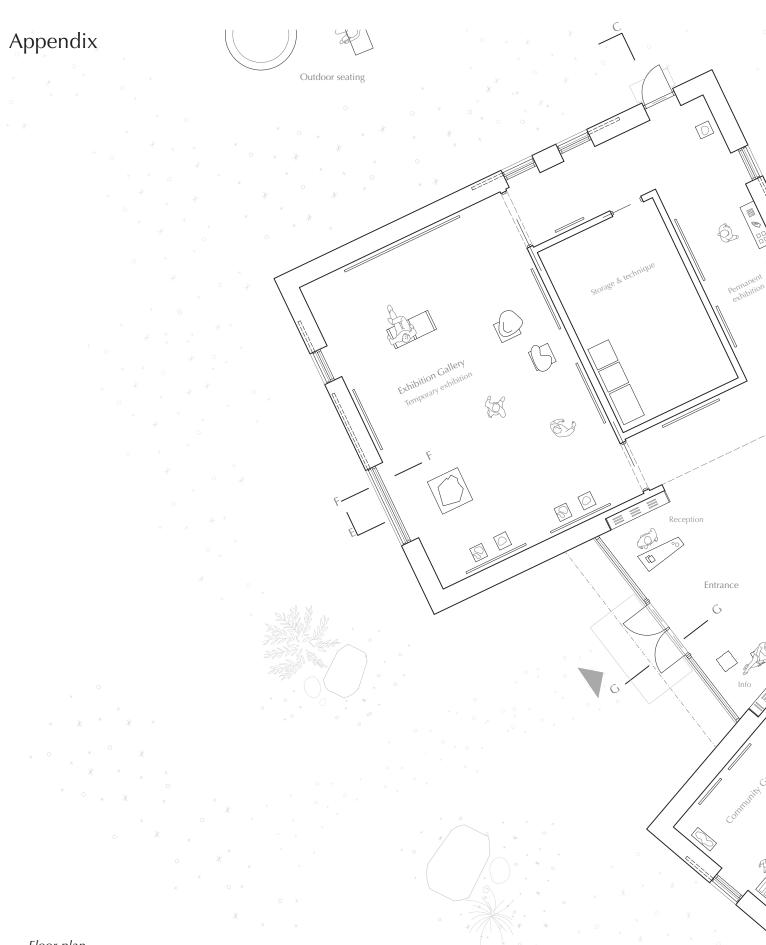
Figure 10-12: E:son Lindman, Å. (2017). *Skissernas Museum* [Photograph]. Photo: Åke E:son Lindman. Retrieved from http://lindmanphotography.com/?work=skissernas-museum-lund. Reprinted with permission.

Figure 13-14: Svenaeus, S. (2001). Flytt-fågelmuseet [Photograph]. Photo: Stefan Svenaeus. Retrieved from https://alltpaoland.se/platser/ottenby-gamla-flyttfagelmuseum. Reprinted with permission.

Figure 15-17: Kramer, L. (2012). *Between the sheets* [Photograph]. Photo: Luuk Kramer. Retrieved from https://luukkramer. nl/blauwlakenblok-nr-142. Reprinted with permission.

Figure 18: Ritzler, P. (2013). Reststop at Kleivodden, Norwegian Scenic Routes. [Photograph]. Photo: Per Ritzler / Statens vegvesen. Retrieved from http://foto.turistveg.no/turistveg/start/freephotos. Reprinted with permission.

Figure 19: Unknown (1895). Stonemasons at Stångehuvud [Photograph]. Retrieved from http://www.stangehuvud.se/Stenhuggare%201895.htm

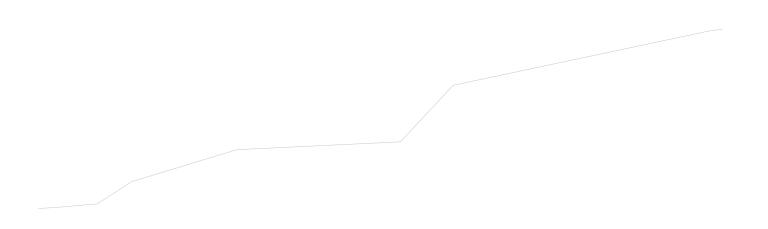


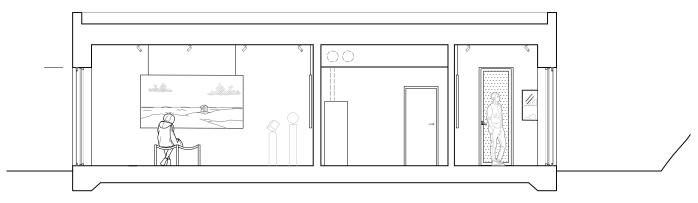
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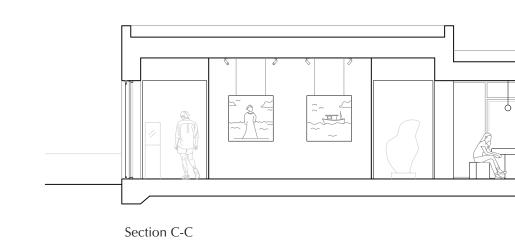








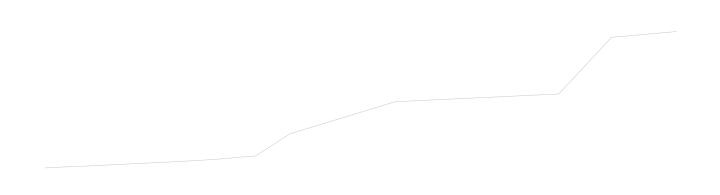
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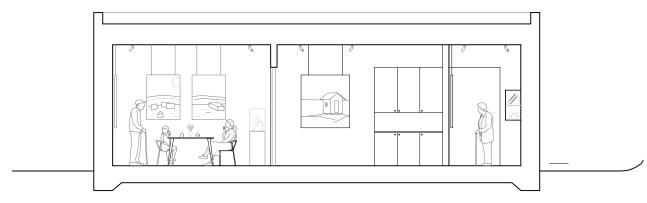


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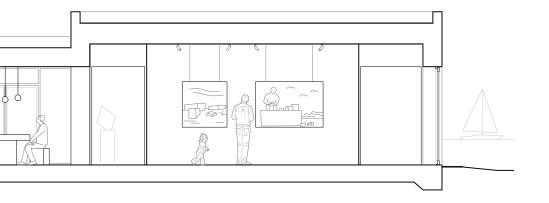
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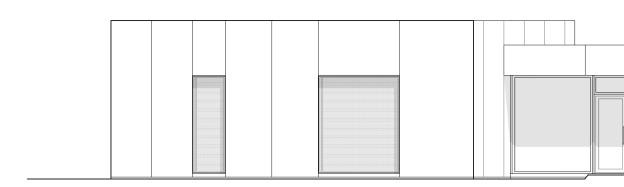
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Section D-D





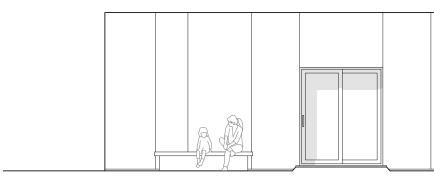
Elevation southwest



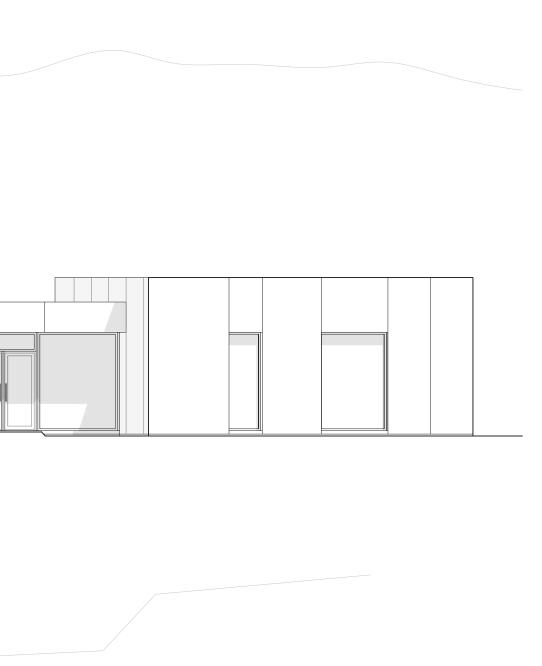


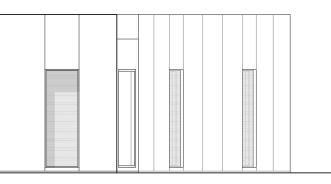
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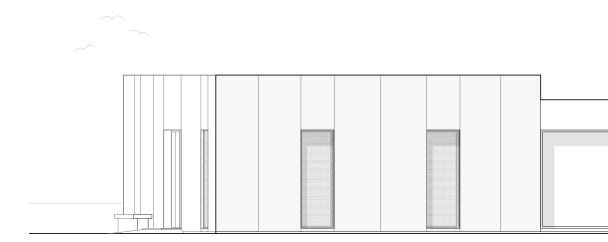




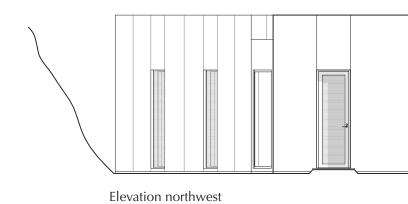
Elevation southeast







Elevation northeast



## Elevations

1:100 (A3, booklet spread)



