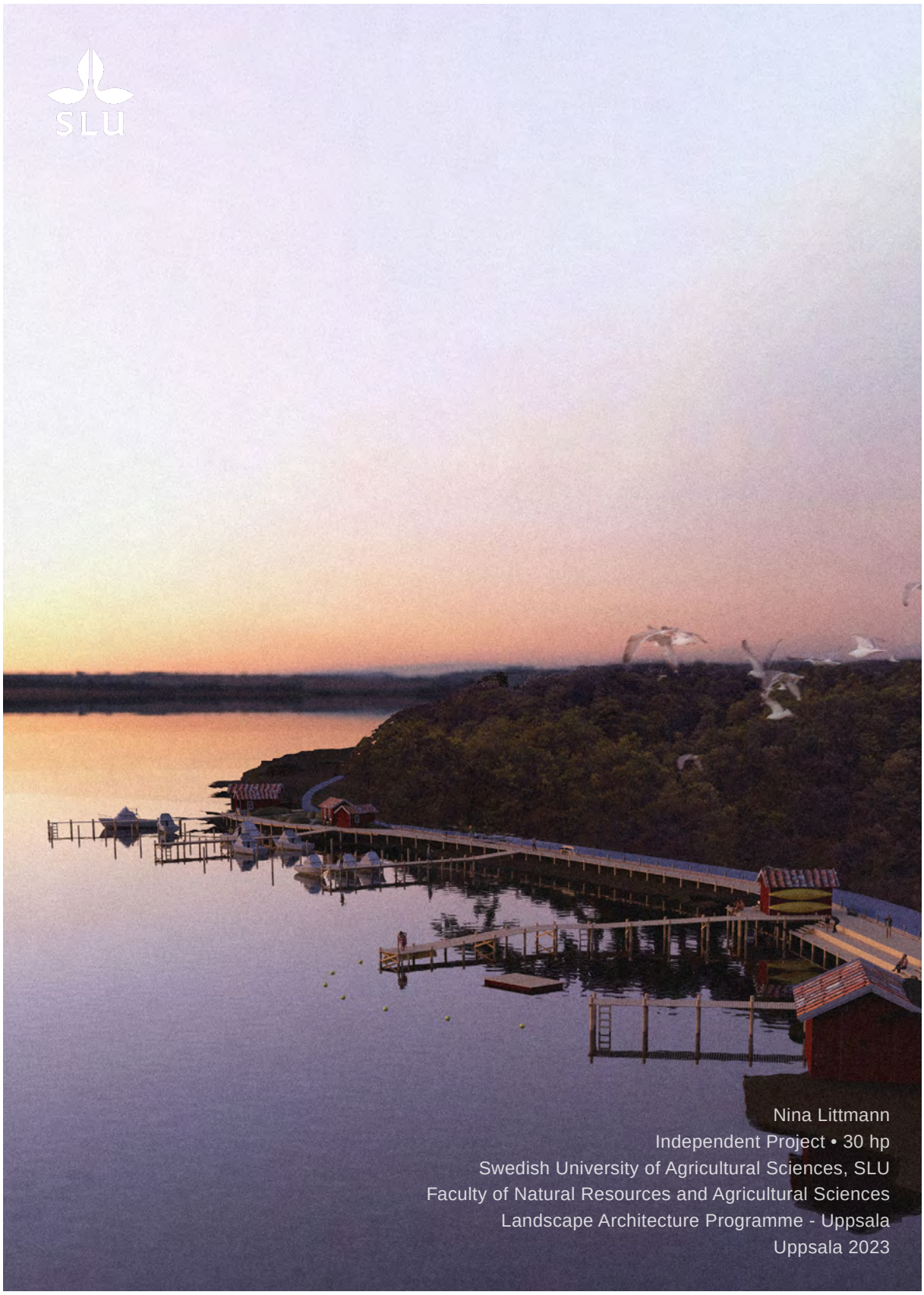

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Independent Project • 30 hp
Swedish University of Agricultural Sciences, SLU
Faculty of Natural Resources and Agricultural Sciences
Landscape Architecture Programme - Uppsala
Uppsala 2023

A SHED, A DOCK AND A BOAT

- a design proposal for a harbor in Bohuslän with focus on cultural heritage

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En sjöbod, en brygga och en båt
- ett gestaltningsförslag för en hamn i Bohuslän med fokus på kulturarv

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ABSTRACT

This thesis presents a design proposal for a new harbor in Bohuslän. The area holds high historical and aesthetic values. The project site has been proposed by the municipality for the development of a new harbor, to meet increasing demand for mooring in the area. The study aims to design a harbor that fits in with the existing building style of the area while the wishes of the residents are taken into account. The formulated research questions in this study have the objective of addressing three areas: the components of Bohuslän's cultural heritage, the integration of heritage-aspects of design, and the integration of the needs and desires of the residents into the design.

The theoretical foundation of this thesis is rooted in a modern perspective of heritage studies that emphasizes the cultural aspect of heritage. While it is associated with present-day heritage studies, this study recognizes the significance of tangible structures in cultural heritage and their role in shaping cultural identity and values. The project discusses the importance of considering the history and cultural heritage of an area in development projects. It highlights the maritime heritage of Bohuslän and how it has shaped the architecture of traditional fishing communities. The project also discusses the historical importance of harbors and sheds and their significance as heritage markers. Incorporating cultural heritage into landscape architecture is crucial for safeguarding a community's cultural identity and values. This not only adds to the aesthetic appeal of the landscape but also enhances its social importance for present and future generations.

The project was divided into three phases: pre-design, design, and post-design. In the pre-design phase, a document review of the *Översiktsplan 2030* (overview plan) was done to gain an understanding of the municipality's plans for Västbacken. The pre-design phase also included a concise history review and a survey to understand the cultural and environmental heritage and values of the target area, while site visits were conducted to observe and analyze the study site. The design process involved sketching various ideas and conceptual designs based on information gathered from the pre-design phase. In the last phase, the post-design phase, the project was evaluated and discussed.

The final design proposal includes a harbor consisting of wooden docks, fisherman sheds, and a boardwalk connecting everything. The harbor consists of three boat docks, with spaces for around 20-25 boats of different sizes, and two docks for recreation and swimming. The sheds can be adapted for different purposes, such as storage, saunas, or a kiosk. The new harbor is divided into two areas, a swimming- and recreational area with extra wide docks and a large number of places to sit, and a boat area. The design incorporates the wishes of the residents of the area, including storage sheds, mooring spaces for guests, and a kayak dock.

SAMMANFATTNING

EN SJÖBOD, EN BRYGGA OCH EN BÅT

- ett gestaltningsförslag för en hamn i Bohuslän med fokus på kulturarv

Bakgrunn

Projektets huvudsyfte är att gestalta ett hamnområde i Bohuslän. Den valda platsen, Västbacken i Tanums kommun, är en av de föreslagna platserna i kommunens översiktsplan. Västbacken är ett litet kustsamhälle beläget på en halvö i skärgårdens inre delar, skyddat från Skageraks hav av ett yttre lager av öar, och har en hög andel sommargäster. Tanums kommun präglas av servicenäringar, i synnerhet relaterat till turismen, men även naturvård och friluftsliv spelar en stor roll i områdets identitet. De traditionella fiskebyarna och sjöbodarna som finns längs kusten är en av de starkaste markörerna för regionens kulturarv, och hamnar har varit en integrerad del av livet längs denna kuststräcka i århundraden. Kommunen har stor efterfrågan på hamnar, men det är svårt att hitta lämpliga platser för nya hamnar på grund av de höga naturvärdena längs kommunens kust. Den föreslagna utformningen syftar till att optimera befintlig infrastruktur istället för att exploatera nya naturområden.

Syfte

Syftet är att utforma en hamn som passar in med den befintliga byggnadsstilen i området, som har högt historiskt och socialt värde. Vid utformning av en ny hamn i ett område med rik historia och kulturell betydelse är det viktigt att överväga hur den nya utvecklingen kommer att passa in i den befintliga miljön. Detta inkluderar att ta hänsyn till arkitektoniska stilar och byggmaterial som redan finns i området, samt de kulturella och historiska värden som samhället har.

Hamnen bör inte bara passa in med det kulturella och miljömässiga arvet, utan också vara lämplig för de människor som kommer att använda den. Som en del av detta är det också ett mål för detta projekt att undersöka hur en hamn kan utformas för att möta behoven hos olika människor. Hamnen kommer troligen att användas av många olika typer av människor, såsom barn, yrkesfiskare, personer med fritidsbåtar och folk som vill bada och sola.

Projektet syftar till att bevara områdets kulturella och estetiska värden, men samtidigt utveckla en hamn som uppfyller sociala och moderna krav.

Frågeställningar

1. Vilka är de element som utgör kulturarvet i Bohuslän, både materiella och immateriella?

2. Hur kan en ny hamn utformas i Västbacken, som bevarar områdets höga kulturella och estetiska värden som kommunen vill bevara samtidigt som den uppfyller moderna krav och passar in i den befintliga stilen i området?

3. Hur kan behoven och önskemålen från olika typer av människor integreras i utformningen av ett hamnområde som balanserar sociala kvaliteter med praktiska behov?

Teori

Projektet använder kulturarvsstudier som teoretiskt ramverk. Kulturarv syftar på element i en kultur eller samhälle som är ärvt från det förflutna, inklusive materiella element såsom fysiska strukturer och immateriella element såsom sedvänjor och traditioner. Den teoretiska ramen bygger på samtida syn på kulturarvsstudier, som fokuserar på kulturarv som en kulturell process snarare än bara objekt i sig själva. Det är dock viktigt att även betona de potentiella fördelarna med en praktiskt inriktad syn på kulturarv. Fysiska strukturer har en betydande roll i att forma kulturell identitet och värderingar. Kunskapen om vad som är karaktäristiskt för olika regioner och vilka aspekter som är värdefulla är avgörande vid planering och utveckling för att hitta rätt balans mellan att respektera arvet och omfamna framtida möjligheter.

En stor del av Bohusläns historia och kultur har formats av det maritima arvet. Den byggda miljön längs kusten består huvudsakligen av sjöbodar, bryggor och båtar och har formats av behovet av att skapa funktionella och effektiva arbetsutrymmen för fiskarna. Traditionella fiskesamhällen längs Bohusläns kust är viktiga kulturmarkörer och deras maritima kulturarv är symboliska för regionen.

Fig. 1. The three main structures of the tangible heritage

Metoder

Detta projekt använder en övergripande research by design-metodik (forskning genom design), som kombinerar element av både kvalitativ och kvantitativ forskning. Metodkapitlet är uppdelat i tre faser: fördesign (pre-design), design, och efterdesign (post-design). Under fördesignfasen samlade jag in relevant information för projektet. I designfasen arbetade jag med att designa förslag och förfinade dem baserat på feedback. I efterdesignfasen utvärderade jag resultatet av mitt designarbete och reflekterade över processen.

I fördesignfasen använde jag en flera olika metoder för att samla in data och förankra gestaltningsvalen. Denna fas inkluderade en kort historisk översikt och en enkät för att förstå det kulturella och miljömässiga arvet och värderingarna i området. Tre referensprojekt analyserades visuellt för att identifiera gemensamma designprinciper och element, och en enkät genomfördes för att samla in information om boendes uppfattningar och preferenser för den nya hamnen. Platsbesök och platsanalys utfördes också för att förstå platsen och landskapet. Den insamlade datan användes sedan för att stödja designbeslut.

Designfasen innefattade initialt skissande av olika idéer och konceptuell gestaltning, inte bara för att hitta en lösning på det aktuella problemet, utan också för att generera nya insikter och idéer. Denna skissprocess pågick under flera veckor, samtidigt som platsbesök och analys utfördes parallellt. I den efterföljande gestaltningsprocessen utvecklades en 3D-modell i Rhino, där större delen av detaljgestaltningen ägde rum.

Gestaltning

Gestaltningen tar inspiration från historiska hamnar i regionen och använder element som material, konstruktionsmetoder, ytbearbetning och placering i landskapet. Gestaltningen använder också element av immateriellt kulturarv, som att underlätta för det gemensamma utnyttjandet av området runt sjöbodarna och uppmuntra användningen av hamnarna och intilliggande sjöbodar för olika behov som reparation av utrustning och förvaring av utrustning.
Längs hamnen löper en spång för promenader längs vattnet. Några av de ursprungliga strukturerna i hamnen återanvänds i den nya gestaltningen. Området hade vissa befintliga kvaliteter som de stora stenblocken längs med vattnet, och ett staket som löpte längs vägen. Dessa bevaras både av miljöskäl och för att bevara inslag av områdets historia.

Den nya hamnen i Västbacken är utformad för att tillgodose invånarnas behov och önskemål och är uppdelad i två huvudområden: bad- och rekreationsområdet och båtområdet. Badområdet inkluderar två sjöbodar för omklädningsrum och förvaring, breda bryggor, terrasser och en flytande brygga för simning. Båtområdet har permanenta platser och gästhamnsplatser, samt förråd för gemensamt bruk, och kan rymma upp till 20-25 båtar. Gestaltningen inkluderar också sittmöjligheter, en kajakbrygga, en gångväg, blomsterbäddar, simbrygga, bord och en potentiell bastu. Planteringsgestaltningen inspireras av det unika utbudet av växter som finns i närheten av sjöbodar vid havet och inkluderar tre typer av buskar och två blandningar av marktäckande växter. Målet är att skapa en känsla av ålder och historia för sjöbodarna, som om de alltid funnits där. Gestaltningen har skapats baserat på feedback från invånarna i Västbacken för att säkerställa att den uppfyller deras behov och önskemål.

Fig. 2. An illustration of the finished project at sunset.

Diskussion och evaluering

I diskussionen diskuterar jag autenticitets- och hållbarhetsproblem och föreslår andra typer av lösningar för att balansera tradition och moderna krav. Återkopplingen från enkäten och dess påverkan för designprocessen diskuteras också. Den föreslagna gestaltningen har potential att erbjuda en lösning för hållbar och responsiv utveckling längs kusten, samtidigt som det historiska kulturarvet görs tillgängligt för kommande generationer. Diskussionen lyfter också fram behovet av ytterligare analys och utforskning av alternativa designlösningar.

A big thank you to my supervisor. I would
not have been able to do this without you!

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Part 1

INTRODUCTION

This thesis presents a design proposal for a new harbor in Bohuslän. The project site is located in the municipality of Tanum. The municipality has expressed the need for new harbors in their *Översiktsplan 2030*, and the chosen site for this project is one of their proposed sites. The area holds high historical and aesthetic values according to the municipality, and is a site of national interest for nature conservation and outdoor recreation (Tanums kommun 2017).

According to the municipality, the landscape in Bohuslän is unique. The traditional fishing villages and the boat houses that are found along the coast are one of the strongest markers of cultural heritage in the region. The colossal granite cliffs, the tightly packed fishing villages that peek out towards the ocean, the coherent colors in red and white, and the interaction with the landscape and the wind-swept climate, the landscape of Bohuslän is easily recognizable. A large part of the history and culture of Bohuslän has been shaped by its maritime heritage. Harbors have been an integral part of life along the coastline for centuries. Fishing, along with shipping, laid the foundation for the economy and the development that formed the coastal communities we have today (Tanums kulturnämnd 1984). The municipality has a long history of coast- and fishing-related industries, but as of the early 2020s, the municipality is dominated by service industries, particularly tourism (Tanums kommun 2017).

Tourism and summer residents make up a significant source of income for the municipality. This implies that a development that promotes the attractiveness of the area for summer residents is of a high priority. The municipality acknowledges the archipelago's national and international significance and considers it essential to provide convenient access to attract summer visitors. The archipelago's exceptional natural and cultural values make it an attractive location for summer residents and a significant contributor to the municipality's tourism revenue, emphasizing the need for its preservation. The municipality sees the development of harbors to keep up with demand as an important part of this (Tanums kommun 2017).

In the municipality, there is a great demand for harbors. However, it is difficult to find suitable locations for new harbors because of the high aesthetic values along the municipality's coast. The municipality states that new mooring should initially be added to existing harbors by optimizing the existing infrastructure, instead of exploiting new areas. In Tanum there are many existing harbors of different sizes. Some of these can potentially be expanded by supplementing with additional docks. The municipality has analyzed their existing harbors to find which ones are suitable for further development (Tanums kommun 2017). One of these harbors is Västbacken, which is the project site of this project.

Problem statement

The municipality of Tanum is facing a challenge in meeting the increasing demand for harbors. The challenge is to design a harbor that balances the conflicting interests of need for development to stay attractive, and to maintain the cultural heritage that makes the region attractive for tourists today. The development pressure in the coastal zone is high, and it is crucial to find a solution that facilitates different activities without conflicting with each other.

Aim

The primary objective is to create a harbor that complements the existing architecture of the region. This entails considering the current architectural styles and construction materials in the area, as well as the cultural and historical significance held by the community. By designing a harbor that seamlessly blends with the existing building style, the new development can be a harmonious addition to the area, rather than a contrast. The harbor must not only be in line with the cultural and environmental heritage, but also be suitable for its users. Thus, the project will explore how to design a harbor that meets the needs of various individuals, including children, fishermen, recreational boaters, and swimmers.

This project will present a design proposal which preserves the cultural and aesthetic values of the area, and maintains the historical readability of the site, while developing a harbor that meets social and modern requirements.

Research questions

I have formulated three research questions. The first addresses the pre-design phase and is needed to answer question two and three. The second question addresses the environmental aspect of the design, while the third addresses the social aspect of the design.

1. What are the elements that make up the cultural heritage in Bohuslän?

2. How can a new harbor be designed in Västbacken that preserves the high cultural and aesthetic values of the area that the municipality wants to save, while also meeting modern requirements and fitting in with the existing style of the area?

3. How can the needs and wishes of different types of people be integrated into the design of a harbor area which balances social qualities with practical needs?

Limitations

The thesis focuses on the designated site in Västbacken, which has been identified by the municipality as a promising location for the development of a new harbor. This particular site is well-suited for the project due to its manageable size and convenient accessibility, being situated on the mainland rather than one of the numerous surrounding islands. Furthermore, the area boasts a rich legacy of maritime activities and maintains a distinctive cultural ambiance that has been reasonably well conserved over time. Designing something fresh within a historical setting presents an intriguing and, at the same time, demanding design process.

The main focus of this thesis is on social aspects and the preservation of historically significant environments, although other important factors such as the impact of wind and waves on construction, ecological consequences of building near nature reserves, and challenges caused by rising sea levels will only be briefly explored during the design process in future studies. This decision is made to ensure the project is completed within the given timeframe. In a real-world scenario, obtaining a coastal protection dispensation and assessing Natura 2000 would be necessary, but as this project is theoretical, these considerations will be acknowledged but not implemented.

The thesis will only explore the role of cultural heritage in the design of the harbor and will not cover the entirety of heritage research. While broader heritage research is important, it is not the primary focus of the study.

In the history chapter, I have made a deliberate decision to narrow my focus to the historical aspects that are directly relevant to the coastline. This encompasses harbors, docks, fisherman sheds, and the shoreline itself. The region boasts a rich and diverse history, with numerous facets that could be explored. Undoubtedly, the cultural and historical significance of the area extends beyond the coastline and permeates the entire region. Nevertheless, considering the constraints of time, I have chosen to limit my analysis to the coastal history, as encompassing the history of the entire region would exceed the scope of this project.

Fig. 3. Västbackens placement in Sweden (© Google maps 2022)

SITE CONTEXT

The municipality of Tanum

The municipality of Tanumshede is located on the Swedish West coast in Bohuslän in the Västra Götaland region, right between Oslo and Gothenburg. The largest town is Tanumshede. The municipality has a varied landscape, with the Skagerrak coast to the west. Tanum has a long coastline towards Skagerrak; from Gerlesborg in the south to Galtö in the north. The municipality has 525 km of coastline, of which the land coast is 175 km and the islands' shoreline is 350 km. The municipality is 942 square km in size and has approximately 13,000 inhabitants (2022). The municipality has a long history of coast- and fishing related industries. As of the early 2020s, the municipality is dominated by service industries, particularly tourism. With its strategic placement by the coast, right between Oslo and Gothenburg the area attracts a large number of tourists (Tanums kommun 2022).

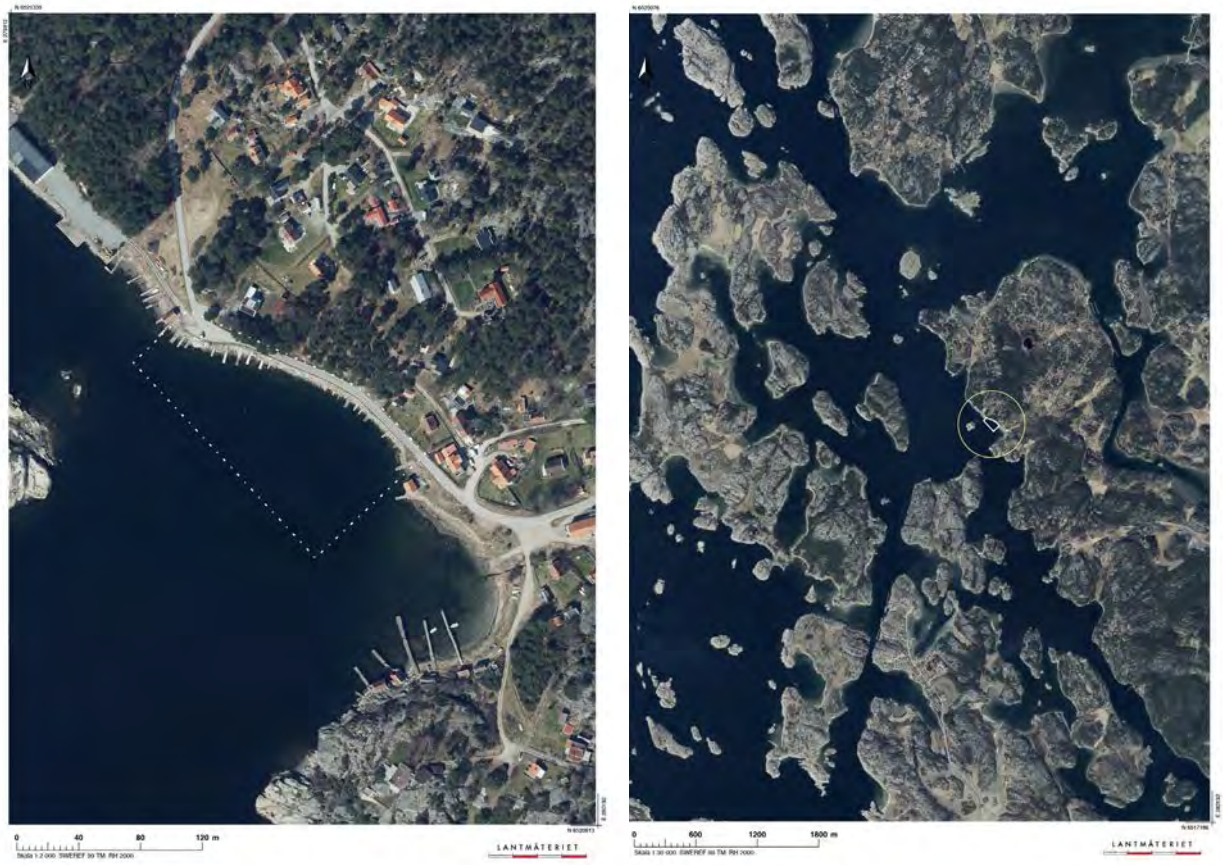


Fig. 4. Collage. Västbackens placement in the archipelago to the left, and the project site on the right.

The municipality of Tanum has a varied and rich natural and cultural environment. The marine environment with great species diversity is, together with other beautiful and valuable natural environments, distinctive for the municipality. As of 2022, there are 31 nature reserves in Tanum municipality, several of which are connected to the Tanum Coast and are managed by the West Coast Foundation. The northern part of the Tanum archipelago and the sea beyond are part of Sweden's first and only marine national park; Kosterhavets nationalpark (Tanums kommun 2022).

Västbacken

Västbacken is a small coastal community in the north-western part of the municipality. The site is located on a peninsula in the inner parts of the archipelago, protected from the Skagerak sea by an outer layer of islands. The peninsula has around 350 houses whereof a majority are summer residents. Västbacken is located on the south-western side of the peninsula by the entrance to Sannäsfjorden. Västbacken consists of around 10 houses, 15 docks and has the shape of a bay. In the north-western part of the harbor there is a large factory building that was previously used as a fishmeal factory. The business ran from 1940 to 1970.

Fig. 5. The municipality of Tanum.

Fig. 6. The project site to the left, and 50 meters south east of the project site to the right.

The project site

The project site consists of about half of the shoreline of the bay. Even though the rest of Västbacken and the adjacent areas in general consist of high natural and cultural values, the project site itself has been previously altered, and is in need of revitalization efforts in order to improve its condition. See figure x. The project site is directly connected to a road. The road was most likely constructed at the same time as the factory building in the 1940s. It is unclear when it was built due to the first aerial photos of the area being taken in 1960. The road is paved and backfilled out into the ocean with large square stone blocks. The edge towards the shore is edged with a guardrail, to prevent cars from driving into the water. There are semi-private docks there today, of varying condition. The municipality states that these should be coordinated. The docks are more or less directly connected on the road. There is no separate sidewalk, meaning people walk on the narrow road.

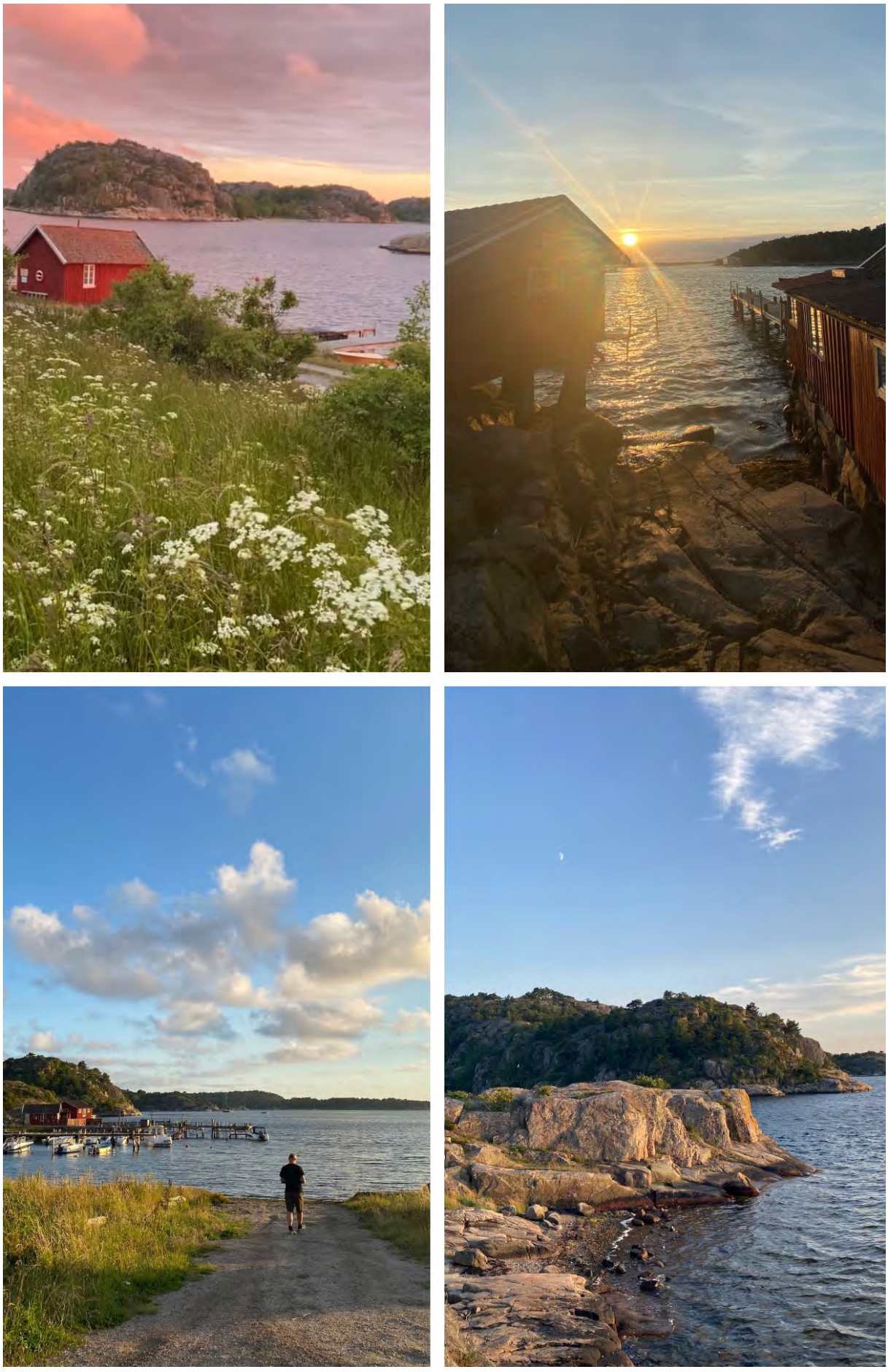


Fig. 7. Collage. Västbacken.

THEORETICAL FRAMEWORK

A short introduction to heritage studies

This project focuses on incorporating cultural heritage in a development project. Cultural heritage refers to customs, traditions, beliefs, and physical structures that have been handed down from previous generations. Over time, certain elements are selected to represent the culture, which are now referred to as cultural heritage. These elements have symbolic importance in identifying a particular region or community. Cultural heritage can be classified into two primary forms: tangible and intangible. Both forms are vital components of our collective memory and history and play a significant role in defining the identity of communities, as stated by Tengberg et al. (2012).

Tangible heritage refers to material objects, structures, architecture, and other physical aspects that can be observed and touched. It holds significance as it provides a tangible link to the past, enabling individuals to understand and appreciate their cultural heritage. Additionally, it often holds social and economic value due to its contribution to tourism. On the other hand, intangible heritage encompasses non-physical aspects such as spiritual practices, oral traditions, customs, and cuisine. This form of heritage is crucial as it conveys a community's values, beliefs, and cultural practices, facilitating the preservation of cultural traditions and promoting social cohesion. The preservation and transmission of intangible heritage to future generations supports cultural preservation and social integration (Tengberg et al. 2012).

The discourse in heritage studies

Within the realm of heritage studies, some topics and works have been extra influential in this project. My primary theoretical framework within the topic of heritage studies is based on a contemporary view on heritage studies, voiced by Waterton and Watson (2015) in their paper "Heritage as a Focus of Research: Past, Present and New Directions". Their argument is that the field of heritage studies has undergone significant changes over time. Initially, the focus was on object classification, conservation, and interpretation. However, now there is an emphasis on how objects are consumed and expressed as cultural, identity, and political notions. They are curious about investigating heritage as a cultural process and how it functions in that capacity. More simply stated: they look away from the traditional concern with objects themselves, and have moved on to a focus on how cultural heritage is constructed and experienced in contemporary society. They argue that while conventional objects of heritage are of interest only if

they present useful or revealing case studies, they are more interested in understanding heritage as a form of cultural practice. They state that there is a divide between those who explore heritage from perspectives based in operational practice and those who seek to understand heritage and its discourse as a form of cultural practice (Waterton & Watson 2015).

In this realm critical heritage studies are also included, as argued by Gentry & Smith (2019) in their paper “Critical heritage studies and the legacies of the late-twentieth century heritage canon”. Critical heritage studies focuses on the critique of traditional heritage studies for focusing on the wrong aspects of heritage, and promoting a sanitized and nostalgic view of the past. The main critiques revolve around the idea that heritage studies fail to acknowledge the complexities of history, particularly when it comes to controversial topics such as class division. The focus on preserving the past has been seen by some as a way of suppressing modernity and progress. Critics have argued that heritage studies can be exclusionary and can result in an oversimplified version of history which ignores the complexities of our past (Gentry & Smith 2019).

As evident from the preceding paragraphs, heritage studies have been subject to significant criticism, both historically and contemporarily. However, there is also a parallel tradition of more practically-oriented heritage studies that make use of both contemporary and older methods. This can be seen in the work of Riksantikvarieämbetet (2015), for example in their guide Plattform - Kulturhistorisk värdering och urval. This approach is less focused on right and wrong and more focused on how heritage studies can be useful today. It is crucial to understand that heritage studies can be approached in different ways, and although critical heritage studies have their value, they are not the only viewpoint. Thus, while it is essential to acknowledge the criticisms of conventional heritage studies, it is equally vital to acknowledge the advantages of a modern and more pragmatic approach.

Although identified with contemporary heritage studies, this project acknowledges the importance of physical structures in cultural heritage, recognizing that they play a significant role in shaping cultural identity and values. Beyond their material significance and aesthetic value, physical objects have a powerful hidden influence, shaping how we perceive our cultural heritage and its importance on our lives as mentioned by Waterton and Watson (2015).

When discussing the concept of heritage in relation to architecture the works of Kenneth Frampton have to be mentioned. Kenneth Frampton is a well-known architectural historian, critic, and professor. His work on regionalism in architecture is highly

regarded in the field (Nationalencyklopedin 2023). Frampton's essay "Towards a Critical Regionalism: Six Points for an Architecture of Resistance" (1999) argues that architecture should be responsive to cultural, social, and environmental contexts, rather than conforming to a universal style or ideology. Frampton advocates for a critical regionalism that values the unique characteristics of a place and its culture, resulting in architecture that is authentic and meaningful in its context. In his text he identifies elements that can guide the architecture, and help create modern yet authentic architecture that combines tradition with innovation. While his ideas have sparked debate and criticism, they are widely regarded as an important contribution to the discussion on architecture and culture (Caggiula 2023).

Authenticity

The concept of authenticity holds significant relevance in the discourse surrounding heritage and its connection to development. The concept of authenticity is commonly understood as the quality of being true and genuine, particularly in relation to cultural heritage. It is often contrasted with fakeness or falseness and is seen as more valuable the closer an object or experience is to its original state. However, authenticity is a complex and elusive concept with contradictory and contested meanings (Karlström 2015).

Karlström (2015) identifies three main perspectives on authenticity: materialist, performative, and constructivist. In Western societies, the materialist approach, which focuses on preserving the physical aspects of cultural heritage, is predominant. It values maintaining the original form and appearance of objects and considers proximity to the original as an indicator of authenticity. On the other hand, non-Western societies often adopt a performative view, emphasizing the active process of becoming authentic through embodied practice. In this perspective, authenticity is achieved through engaged participation and performances that give cultural objects or practices meaning. Lastly, the constructivist approach sees authenticity as socially constructed and subjective, shaped by negotiated meanings and contexts. It acknowledges diverse interpretations of authenticity based on cultural backgrounds and highlights the role of human agency (Karlström 2015).

These alternative approaches recognize the complex and ever-changing nature of authenticity. They focus on the performative aspects, subjective interpretations, and dynamic processes involved in the pursuit of authenticity. Instead of limiting authenticity to specific criteria, they propose a more inclusive definition that encompasses a wider range of experiences and expressions. Embracing these alternatives allows for a more flexible and inclusive approach to engaging with cultural heritage. It encourages the recognition and integration of diverse perspectives and values, leading to a deeper understanding of authenticity. These approaches challenge the traditional emphasis on material authenticity and the preservation of objects in their original state. Instead, they embrace the complexity and fluidity of authenticity, emphasizing its performative aspects, subjective interpretations, and dynamic processes. By broadening our understanding of authenticity, these approaches enable a more inclusive and flexible engagement with cultural heritage that accommodates diverse perspectives and values (Karlström 2015).

The importance of heritage knowledge in planning and development

The knowledge of what is characteristic for different regions, and which aspects are valuable, should be the basis for decisions on preservation and changes. This comprehension of what is valuable enables the recognition of valuable components that necessitate maintenance and informed decisions in regards to any alterations or improvements. The history of a region encompasses not only its tangible structures but also intangible facets, which are pivotal in upholding a sense of identity within a region (Tengberg et al. 2012). This knowledge is essential for comprehending the relationship between cultural heritage and development. While development initiatives may require alterations or destruction of existing structures, being mindful of what makes an area unique in terms of its architecture or landscape can ensure the preservation of these features while still allowing for necessary changes or improvements. Achieving the optimal outcome involves balancing the preservation of heritage and embracing future opportunities to benefit both current and future generations (Westerlind 1983).
History has shown that society constantly changes. The environment has been transformed in accordance with temporary needs and requirements, especially rapidly during the period of high economic growth. The settlement has developed under the influence of many different factors. The relationships between them are often complicated. However, knowledge of what has affected development makes it easier to understand what elements that make up the heritage and why (Westerlind 1983).

METHODS

This project uses a research by design methodology, which combines elements of both qualitative and quantitative research. The methodology, as proposed by Roggema (2016) in “Research by Design: Proposition for a Methodological Approach”, is an approach to research that involves conducting research through design activities. The core concept underlying this methodology is that design can function as a tool for inquiry, leading to a more comprehensive comprehension of intricate issues. This approach views the design process as an ongoing loop involving defining the problem, creating and testing solutions, and assessing outcomes. This iterative approach allows for the acquisition of new insights and knowledge through experiential and practical means. This methodology has been employed across various disciplines and can offer valuable solutions and insights for complex problems (Roggema 2016).

I have divided the project into three phases according to the methodology: pre-design, design, and post-design. In the first stage, the “pre-design”, I collected all the information needed to be able to answer my first research question and move on to the second stage. In the “design” stage I worked on the design proposal. In the “post-design” phase, I evaluated the outcomes and discussed the project. The following chapter explains my methodological process, divided into the first two phases of the project.

Methods phase 1: Pre-design

Document review - *Översiktsplan*

The project is based on a proposal from the municipality of Tanum’s *Översiktsplan 2030.* Therefore, the project commenced with a review of the *Översiktsplan 2030*. During the initial read, I focused on the chapter that discussed harbors (beginning on page 123), as it contained a suggestion to develop the harbor in Västbacken. I also read the remainder of the *Översiktsplan*, paying close attention to the municipality’s position on development in relation to cultural and environmental heritage, as well as recreation related to the ocean. To conduct this evaluation, I obtained a copy of the *Översiktsplan* from the Tanum municipality’s website. I carefully read the entire document, taking detailed notes on the sections pertinent to my research. My goal was to gain a comprehensive understanding of the municipality’s plans for Västbacken and their broader views on development in relation to cultural and environmental heritage, as well as recreation related to the ocean.

Sourcing the literature

The method used to review the literature for this project involved a thorough search of relevant sources. The primary sources of information were Google Scholar and Uppsala Universitetsbibliotek. To ensure a comprehensive search, multiple combinations of search terms were used, including heritage, cultural heritage, harbor, cultural and environmental values, the maritime history of Bohuslän, and the Swedish equivalent of these terms. I used the “Thieves” method to evaluate the academic literature for my research. The “Thieves” method is a systematic approach to critically evaluating academic literature, which involves analyzing the following seven aspects of a text: title, headings, introduction, every first line, visual and vocabulary, ending, and summarizing. The search was conducted with the aim of identifying studies and articles that focused on the intersection of heritage, harbors, and aesthetic values.

This resulted in two main papers that form the base of the theoretical entryway to the heritage component of the thesis. These are “Cultural ecosystem services provided by landscapes: Assessment of heritage values and identity” by Tengberg et al. (2012) and “Kustbebyggelseprojektet. Slutrapport skede 1 - Norra Bohuslän” by Westerlind & Westerlind (2011). At Uppsala Universitetsbibliotek, several books were found on the fishing heritage of Bohuslän, which served as a base for history revision. These include “Kustorter i Göteborgs och Bohus län : bebyggelsens tillväxt och framtid” by Westerlind (1983) and “Sjöbodar och magasin i Bohuslän” by Lind & Leandersson (2002).
Theoretical framework

The primary theoretical foundation for this project in the field of heritage studies is provided by Waterton and Watson’s (2015) work. Additionally,insights from Gentry and Smith’s (2019) critical heritage studies have been valuable in understanding the potential pitfalls of heritage studies. The theoretical framework presented in Riksantikvarieämbätet’s (2015) “Kulturmiljöanalys: En vägledning för användningen av DIVE-analys” has also been influential, even though the DIVE-analysis tool is not used in detail. The project’s approach to cultural heritage planning aligns with the underlying principles of the DIVE-analysis tool, particularly the “describe”component, which has been essential in reference projects.

Literature review - the history of the area

The history review provided a foundation for my design project and helped me to understand the context and heritage of the study site. The purpose of the review was to ensure that my design incorporated the cultural and historical significance of the site. The historical analysis will serve as a guide for the design process, ensuring that my work is informed by an understanding of the location's cultural and historical context. I studied the region's past throughout the history review to comprehend why it appears the way it does. I investigated the components, building methods, practical applications, and requirements that resulted in its current appearance.

The history review's findings indicated that the region's history of fishing and reliance on the ocean led to the most significant heritage markers. This includes traditional fishing towns, boats, and other man-made structures that have had an impact on the environment over time. The analysis revealed the close connection between the built environment and the local people's way of life and means of survival, highlighting the cultural significance of these landmarks to the site's history.

Visual analysis of reference projects

Three reference projects located in Bohuslän were analyzed and compared in order to identify common design principles and elements that are characteristic of the region. The purpose of this analysis is to utilize this information as a foundation for designing a new harbor that will blend in with the environment. To ensure a sufficient sample size for discovering common factors, it was determined that studying only three reference harbors would be necessary. Although I considered adding more references, the scope and resources of the study required a smaller number. The three harbors were chosen to represent the variety of architectural designs, construction materials, and other prevalent elements in the area, and were selected based on their accessibility, architectural significance, and historical importance. They are all considered typical of the region's architectural style.

The visual analysis was based on seven categories: construction style, building materials, color scheme, scale and proportion, relationship to the surrounding environment, and layout . These categories were selected because they felt relevant from what I needed to know to design a new harbor. The reference projects were visited physically to be able to analyze it visually. I also looked at aerial photos from lantmäteriet, where I also took most of the dimensions that are shown in the chapter

where the reference projects are presented. Photos were taken to be able to reference back to, and to use to explain the projects to the reader.

Survey

I conducted a survey among the inhabitants to gain insights into their wants and needs regarding the new harbor's design. The survey was chosen as an effective and easy method of data collection, ensuring measurable data on the opinions, perspectives, and choices of the target group - the local residents. The survey questions were carefully formulated to gather information on the locals' thoughts about the cultural and aesthetic worth of the area, as well as their preferences for the new harbor.

By utilizing the information provided by the survey, the design process will be guided to ensure that the new harbor satisfies at least some of the requirements and aspirations of the locals. The survey encompassed various aspects such as the respondents' connection to the area, their opinions on the municipality's wishes to develop the harbor, their thoughts on potential heritage markers for the region, their current usage of the harbor, and their needs and wishes for the utilization of the new harbor.

To reach a wide audience, the survey was posted in the area's Facebook group "Raftötångens vänner" and remained open for approximately two weeks. The collected answers from the survey were then compiled and used as valuable support for making informed design decisions regarding the new harbor.

Site visits and site analysis

I went on several site visits to gather the information about the research location, which could only be acquired through firsthand experience. The visits allowed me to fully understand the physical, cultural, and historical aspects of the site and consider design options. I took pictures to document my findings and provide a visual context for the project, as images help readers better understand the environment and built structures. During my first visit to the site, I focused on understanding it based on my prior research. Even though I had been there before the project started, I wanted to examine it more closely. This helped me learn about the context and history of the site.

On my second visit, I analyzed the landscape to identify its unique characteristics and design opportunities. I found areas that could be improved by considering factors such as preserving important views.

In order to assist my project, I performed a basic analysis of the site. This involved collecting data on the location, such as any obstacles, foliage, traffic, and the direction of the sun. Additionally, I observed the current use of the area and the equipment stored there. Due to the fact that the municipality had already selected the project site and it was predetermined that it would be a harbor facing the ocean, I conducted a simplified analysis. The site is narrow and surrounded on all sides, with over half of the area being a road that must remain accessible to vehicles. This made it unnecessary to conduct a comprehensive analysis of the entire landscape.

Site analysis

I did a simple site analysis to help inform my design project. I collected information about the location, including its barriers, vegetation, movement, and sun directions. I took note of the existing uses of the site like what kind of equipment was being stored in the area. With this information, I created a simple site analysis plan that will inform the design of the new harbor.

Due to the project's nature, a simpler analysis method was chosen instead of a more comprehensive one. The municipality had already chosen the project site, eliminating the need to consider its placement in the landscape. Additionally, the project's outcome was predetermined to be a harbor which inherently needs to face the ocean. The site is also constrained on all sides and is very narrow, with over half of the area being a road that must remain accessible by vehicles.

Fig. 8. Collage. The way I have observed and interacted with the project has been influenced by my personal starting place and perspective. My prior encounters, education, and hobbies have influenced how I approached the site and the areas I decided to concentrate on. In order to emphasize my individual presence and perspective within the project, as well as my roles as both an observer and participant, these photographs feature my own shadow inside the landscape.

Methods Phase 2: Design

The design process - sketching

During the sketching phase, data from the pre-design stage, including the literature review and survey, was utilized to create a design solution. The first step involved producing numerous ideas and conceptual designs, not only to resolve the issue but also to generate new ideas. This process took several weeks while conducting site visits and analysis simultaneously. The insights gained from this process were noted down to remember for the post-design phase. The most optimal design was then selected and transformed into a 3D model using Rhino.

3D modelling

I believe that using 3D modeling for a project offers multiple advantages. It facilitates a more thorough comprehension of spatial attributes that cannot be attained through solely 2D sketches. The addition of depth, scale, and diverse viewpoints enhances the overall understanding of the design. Additionally, I think that 3D modeling enhances visualization by encompassing textures, materials, and lighting effects into the model. This facilitates an enhanced visualization of the final outcome, offering a comprehensive preview of the design from various perspectives and angles.

In my opinion, the process of iterative design can be made more convenient by using 3D modeling software. This software enables effortless modification and enhancement of the design, facilitating the exploration of multiple iterations and ultimately culminating in an enhanced end product. Additionally, collaboration and communication are greatly enhanced by using 3D modeling, as it provides a tangible representation that is easier for team members to understand than traditional 2D sketches. Finally, 3D modeling software includes precise measurement tools and constraints that ensure technical accuracy and minimize errors.

Evaluating

The process of designing was iterative and involved going back and forth between designing, evaluating and refining. The solution was evaluated using the data collected during phase 1: pre-design, and feedback was gathered from peers and mentors. The design was refined until a final solution was achieved, as well as gaining new insights and understanding through the designing process as suggested by Roggema (2016).

The final design

The final design will be presented together with the text in the “design” chapter.
The design process will be elaborated in greater detail in the result chapter, as the process and result is tied together and needs to be presented together in order to be comprehensible.

Part 2

PHASE 1: PRE-DESIGN

CULTURAL HERITAGE IN BOHUSLÄN

The past and the present

Taking the history and cultural heritage of the location into account is essential during the planning of development projects. This step will ensure the preservation of the unique identity of the area and ensure that the heritage passed down can be accessed by future generations. To achieve this balance between progress and preservation, a comprehensive approach to development is necessary. This can be accomplished through efforts like conservation, restoration, and education, which promote the significance of heritage and its preservation (Tengberg et al. 2012).

According to Tengberg et al. (2012), in order to fully appreciate a location's cultural heritage, one must first understand its past. The circumstances surrounding the customs, and cultural practices that have shaped a place over time are explained by its history. Knowing the history enables us to observe how a location's cultural heritage has grown and changed. When it comes to recognizing the importance of cultural landmarks and artifacts, as well as their cultural, social, and economic relevance, a historical perspective can be helpful (Tengberg et al. 2012).

The maritime history of Bohuslän

A large part of the history and culture of Bohuslän have been shaped by its maritime heritage. Harbors have been an integral part of life along the coastline for centuries. Fishing, along with shipping, laid the foundation for the economy and the development that formed the coastal communities we have today (Hasslöf 1977). The fluctuation in the availability of herring has affected the lives of people in Bohuslän for thousands of years. Every few hundred years, herring would appear in enormous numbers, only to disappear just as suddenly a few decades later. The herring boom periods during the 18th and 19th centuries gave a boost to the economy in the region around Västbacken, although to a lesser extent than in southern Bohuslän. Local residents did, however, manage to accumulate a certain amount of capital during these herring periods, which affected the construction of new structures (Hasslöf 1977).

The architecture of traditional fishing communities was shaped by the need to create functional and efficient spaces for work with the fish and the ocean. The structures that were constructed were strategically placed in relation to the ocean and each other in order to maximize practicality. The built environment had to meet practical requirements, which meant that the aesthetic and function were closely intertwined and needed to be considered as a whole. The harbors along the coast are evidence of the area's heritage, and the traditional structures offer insight into how the fishing communities operated (Westerlind 1983).

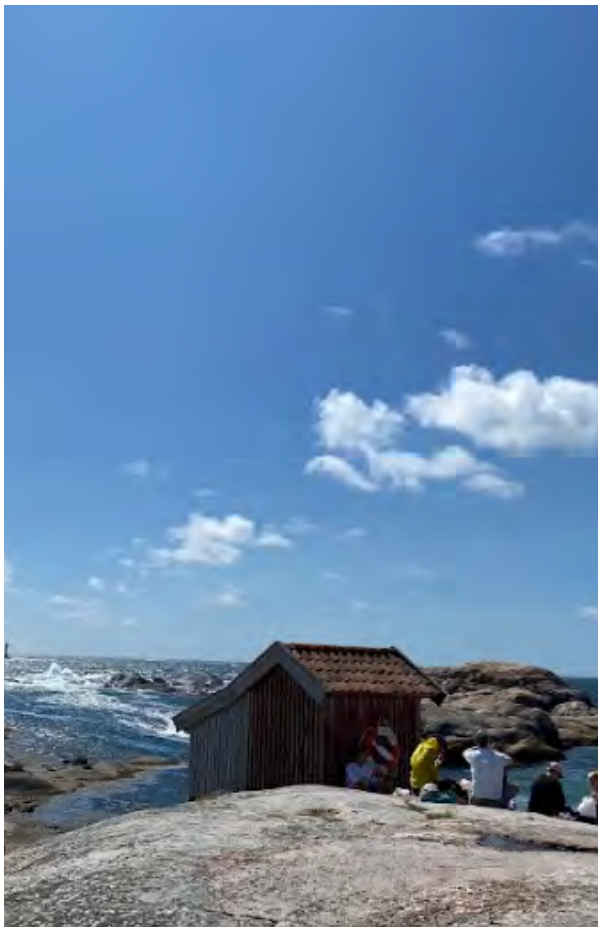
Another important aspect as to why the built environment in Bohulän looks the way it does, is the former building laws, or the lack thereof. There were no regulating building codes in Bohuslän up until the 1900s, meaning the settlements could develop completely freely. Into the 1900s, people used wooden poles to mark new house locations. If someone wanted to build, they would put poles on the ground in the shape of the house, and if no one had moved them after a few weeks, you could start building. The land around the structures was common. This meant that people would build where they found it the most practical, often close together by the water (Hasslöf 1977).

The historical importance of the harbor

According to Westerlind (1983) the lively harbor environment that accompanied the fishing communities can be compared to the vibrant street life in cities. The harbors were busy environments where whole communities came together to work. Drying racks, fishing gear, nets, tools, and boats formed a bustling environment. The harbors were functional working spaces where boats would be moored or set off, tools would be cleaned, rinsed and repaired, and catch would be unloaded, cleaned and prepared. A large part of the work was done outdoors or in the adjacent fishermans sheds (Strömblom 2013). The harbors were in use all year with scorching sun in the summers, and freezing winds in the winter (Westerlind 1983).

Harbors and sheds were often built from scrap wood or debris with windows and doors from older residential buildings. They were rarely of great economic value. Both sheds and docks were exposed to great stress from sun, wind, rain, snow, ice and salt water. The different wooden elements would be constantly maintained or replaced. Broken tile roofs would continuously be replaced (Westerlind 1983).

Fig. 9. Collage. The architectural style of sheds and docks in rural Bohuslän.



Even though new buildings have been added, the traditional architecture in Bohuslän has remained relatively unchanged over time. The built environment along the coast typically consists of fishermen sheds, docks, and boats. The residential houses were often built in more protected areas further ashore. The coastal environment still reflects this building principals today. Boats are still seen lined up along docks with weathered sheds in the background (Westerlind 1983).

Heritage in Bohuslän

As the literature about the history of Bohuslän has established, coastal areas have been characterized by their dependence on the ocean. A unique landscape has been created around them. Humanity has changed its environment to suit its activities. In coastal areas this includes building harbors and sheds, lighthouses and fishing villages. The sea is their primary economic resource and communication channel (De Madariaga & Del Hoyo 2019).

As time passes, certain aspects of our culture become synonymous with the culture itself. These aspects, now known as cultural heritage, act as symbols that represent a specific group or region. Coastal regions have traditionally relied on the ocean, leading to the development of a distinctive landscape. People have modified their surroundings to accommodate their needs, resulting in structures like harbors, lighthouses, and fishing villages in coastal areas. The ocean is their primary economic resource and an important part of everyday life. Therefore the coastal communities have elements related to fishing that act as clear heritage markers (De Madariaga & Del Hoyo 2019).

The strongest heritage marker in the coastal part of Bohuslän is likely to be the traditional fishing villages and the boat houses that are found along the coast. The villages in this region have a unique color and strong maritime culture, and they are an essential part of the local heritage. Their history is closely linked to fishing and seafaring, and the boat houses are especially notable as a representation of the area’s maritime heritage, according to Westerlind (1983). Boats and shellfish are another strong heritage marker of the region (Tanums kulturnämnd 1984).

Three main heritage structures

According to Westerlind (1983) there are three main structures that make up the tangible cultural heritage along the coast of Bohuslän. These are 1. the fishermans shed, 2. the dock, and 3. the boat.

Fig. 10. The three main structures of the tangible heritage.

1. The fisherman shed

The fisherman sheds are a characteristic feature of the region. Initially, these sheds were utilized for both working and storage purposes and were designed to be flexible in accommodating various tools and work types. They are significant symbols of the region's reliance on the ocean, and many of them are still in operation today. These sheds were typically situated near the boat and dock, and the surrounding land was considered communal property by the community. As a result, anyone could move freely between the houses and use the dock, regardless of ownership (Lind & Leandersson 2002). The sheds were typically uninsulated, as equipment were hung inside to dry (Hasslöf 1977). Outside, the roofs had ample overhangs that were utilized for storing fishing nets and lobster traps. In densely populated regions, sheds were frequently oriented with their gables facing the sea, whereas in less populated areas, the orientation of the sheds were commonly adapted to the surrounding landscape.

Temporary sheds were constructed to manage the catch during the herring booms, but they were frequently destroyed by storms or removed within a few years, according to Westerlind (1983). During the 17th century, sheds made of timber with seaweed or straw roofing were commonly found in various locations in the coastal archipelago. These boathouses continued to be prevalent until the end of the 18th century. However, the economic situation in the fishing communities of Bohuslän improved significantly in the 18th century due to the herring period. Consequently, the facades of the sheds were covered with panels and the roofing was replaced with brick. The paneling was also painted in the recognizable red color that we recognize today (Lind & Leandersson 2002).

Over the recent years a large number of fisherman sheds have been converted into guest cabins, leading to the privatization of the surrounding land and beach. In order to safeguard future access to land and water, the municipality is taking steps to reverse this trend. The municipality believes that new fishermen's sheds can have a positive impact on the environment if they are situated properly, preferably alongside existing sheds or boat houses. The demand for oceanfront buildings has changed over time, with people now requiring storage spaces for outdoor activities such as kayaking and diving, rather than just fishing equipment (Tanums hamnar 2020).

2. The dock

Docks play an important role in the coastal infrastructure. Fishermen would use the docks to prepare equipment and socialize between the sheds. The docks provided a direct connection between boats and sheds. Tools and equipment were transported daily between the boat and boathouse, which were often placed in direct connection with each other. Docks were commonly built as an extension of the shed, and sometimes each shed had its own dock, while communal docks were also common. Before the 20th century, access to protected mooring sites was a prerequisite for settlement along the coast (Hasslöf 1977).

The most commonly seen type of dock construction in traditional harbors in Bohuslän is the one that is constructed on vertical poles. This type of construction is uncomplicated and relatively inexpensive to install because minimal preparatory work is required. The dock is most suitable for locations that are sheltered and have a relatively soft ocean floor made up of sand, moraine, or clay. The ground in västbacken consists of bedrock, moraine, and post-glacial sand. To ensure the poles are stable, a "soil layer" of 2-10 meters depth is needed down to the bedrock. In locations where there is a solid sea bed,

either stone piles or timbered stone-filled vessels with a wooden boardwalk were utilized (Westerlind 1983).

3. The boat

Boats have always played a significant role in the coastal region due to their importance in transportation and fishing (Hasslöf 1977). The region commonly utilized wooden fishing boats that were both sturdy and lightweight, often constructed from pine or oak. These boats varied in size from 3,5 to 6 meters and could carry a crew of 2 to 4 people. Their round-bottomed, V-shaped hulls made them well-suited for fishing in rough waters. Outfitted with fishing lines and nets, the boats were primarily utilized for fishing purposes (Skanse & Claesson 1987).

As the number, size, and value of boats increased due to the use of engines, coastal communities needed government assistance to construct harbors with breakwaters and wharves to offer protection and docking. With the expansion of shipping, as well as an uptick in summer visitors and recreational sailors, there was a growing requirement for shelter and harbor space. Therefore, larger engineered harbors with protective piers and sturdy stone wharves were built in both large and medium-sized communities (Hasslöf 1977).

REFERENCE PROJECTS

I have analyzed three different reference harbors visually in order to gain inspiration and a starting point for the design of the new harbor. The three harbors are chosen for being typical traditional harbors in Bohuslän, and each consists of sheds, docks, and boats. The three reference projects are: Veddökilen, Västbacken (the south-eastern part), and Tjurpannan. I have analyzed the materials, dimensions, and layout of every harbor to find the elements that constitute a functional and aesthetically pleasing harbor. I have also measured the dimensions of various areas such as the space between two sheds, the width of docks, and the distance to the sea. These measurements were taken to serve as a reference for my design project and determine suitable distances for unrestricted movement while still maintaining the sense of space. I have looked at the vegetation in the area on a comprehensive level, but I have not done a complete inventory. The plants enumerated are a compilation of frequently occurring plants.

Veddökilen

Veddö is a popular area with swimming-friendly rocky and sandy beaches, beautiful viewpoints and several easy walking trails. The reference project is located in the bay between Veddö and the mainland. The area is relatively newly built, but has a traditional type of mooring where poles are used to tie up the boats, as opposed to y-bars which are standard today. The whole site is quite big, so I focused on two of the docks, as these are the most relevant for my project.

My main takeaway from this reference project is the extensive mooring system employed to secure the boats in place. This system comprises a row of poles strategically positioned between the docks, at a distance of 6 to 12 meters. The docks themselves surpasses the standard dimensions typically observed in the region.

Fig. 11. Collage. Veddökilen. From the top left to the right bottom: one of the docks with a row of poles, a small moored boat, a medium sized moored boat, a large moored boat.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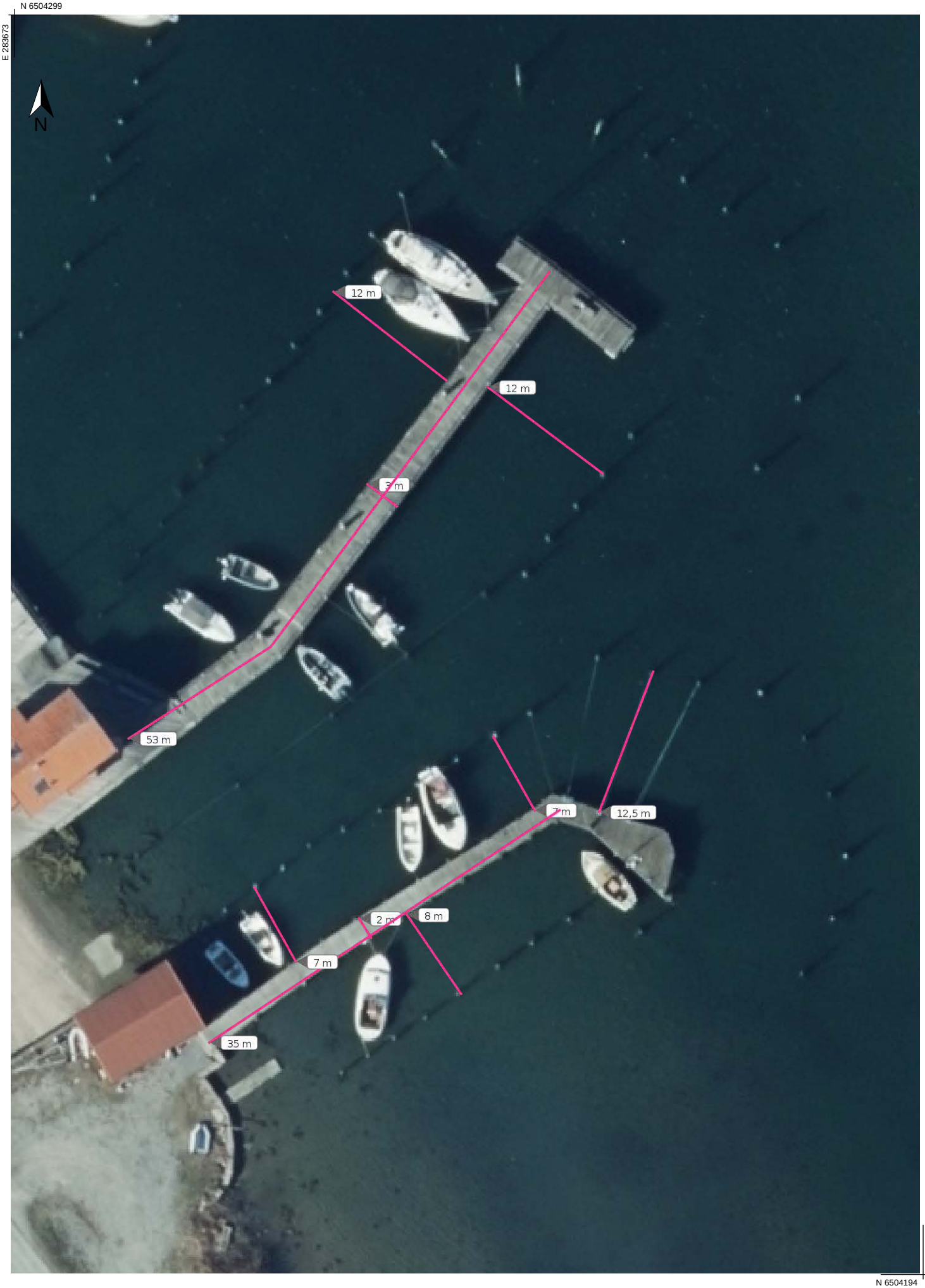

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LANTMÄTERIET

Västbacken (South-eastern part)

The harbor is situated in close proximity to the main project site, approximately 100 meters to the southeast within the same bay. The harbor consists of 4 sheds wedged between the cliffy bedrock and the ocean. Connected to the sheds are six docks in a row. Five of the six docks are relatively long, between 19 and 40 meters. The overall area of the harbor spans approximately 60 meters in length and 6 meters in width.

All the six docks are typical wooden docks. Three of them have a stacked stone foundation, while the other three are connected directly to the bedrock. Five out of six are built on poles, while the last one is shorter and floating connected to a wire connected to the bedrock. Half of the decking goes in a lengthwise direction, while the other half has crosswise decking. The decking is between 1.5 and 3 meters wide. The docks are around the same height compared to the water, around 1.2 meters above the water. The area feels relatively narrow. All the sheds are red with white details. Three of them are angled parallel to the waterline, while one has the gable end facing the water. A lot of equipment is stored in the area. Most of the equipment is stacked up against the walls of the sheds.

The vegetation in the area consists of cut grass along the path. Behind the docks towards land there is a thicket consisting of sloan, juniper, rowan, crataegus, and caprifolium. The beach is dominated by beach plants like beach ryegrass, carex, and a wide variety of flowering plants.

Fig. 12. Veddökilen. The map shows the dimensions of the area.

Fig. 13. Collage. Västbacken. From the top left to the right bottom: 1. One of the docks, 20 meters long. 2. The area seen as you walk into it. 3. Storage of equipment. 4. Västbacken seen from the road.

Fig. 14. Västbacken. The map shows the dimensions of the area.

LANTMÄTERIET

Tjurpannan

Tjurpannan is one of the most exposed parts of the mainland in the region. The dramatic storms of the North Sea during the spring and autumn has given the waters along this coast a bad reputation amongst seafarers. However, from the higher parts of the Reserve, visitors can enjoy impressive views of both land and sea. Many of the bays in the area are also great for fishing and swimming. The tough climate has shaped the landscape, with exposed bedrock dominating the area. The area is a nature reserve that was established in 1969 and covers an area of 490 ha.

The harbor consists of six sheds and three docks. Three sheds are situated higher up in the landscape, while the other three form a small square in the middle and are connected to the docks. Through the area runs a walking path in gravel that leads into the rest of the nature reserve. Due to the high foot traffic, the area experiences significant wear and tear. This passage runs between the sheds that are around 4 meters apart. The path runs between sheds that are approximately four meters apart, which provides enough space for walking while still creating a sense of being enclosed. The area that makes up the square is around 20 meters x 10 meters not including the docks. This is an appropriate size to feel intimate and protected from the wind.

The docks are around 10 meters in length, and there was one boat there when I was there. The foundations of the docks are made of stacked stone, most likely gathered in the area. All three docks are built on poles and the decking runs parallel to their length. The area surrounding the docks is cluttered with various equipment such as langoustine cages, fishing nets, and buoys. The arrangement of the equipment appears disorganized in some areas, almost resembling a garbage dump. However, certain parts of the area are better structured.

Fig. 15. Collage. Tjurpannan. The photos show the three sheds that make up the square. From the top left to the right bottom: the path through the area that leads into the nature reserve - notice the ground covering and the space between the sheds, dock and a boat, the area seen from above shows the placement in the landscape, and the space between the houses with a bench and a rose bush.


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N
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5 m
4 m
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LANTMÄTERIET

Although Tjurpannan is mostly barren and characterized by bedrock, the landscape between the sheds boasts a diverse range of vegetation. This includes various types of grasses, reeds, and flowers, as well as shrubs such as roses and sloe berries. Additionally, the area features perennials such as the yellow horned poppy, salt marsh rush, sea kale, strawberry clover, sea pea, sea rocket, and sea wormwood.

Fig. 16. Tjurpannan. The map shows the sheds and the dimensions between them.

ELEMENTS AND DETAILS DERIVED FROM THE REFERENCE PROJECTS

Based on the reference projects I have made a summary of the most used materials and how they are used. The reference materials are then going to influence the final design of the harbor. During my site visit, I observed that there are actually very few materials used to construct the harbors. The use of local materials such as wood and stone is prevalent, giving a local character to each built structure. These materials are readily available and durable, making them an important part of traditional building techniques, contributing to both functionality and aesthetics. The focus is on practicality, resulting in structures that are well-suited to the challenging environmental conditions. I have identified six significant elements that are common to all reference projects, including two materials (wood and stone), three built elements (paint, windows, and roofs), and vegetation.

Wood

The reference projects primarily use wood as their building material. The docks are mostly made of unpainted wood, which slowly weathers and turns gray over time. Likewise, the sheds and other structures also lose their color as they age, creating a seamless integration between the human-made and natural aspects of the environment. The docks consist of wood poles that support the structure and wooden planks that form the deck.

Stone

Granite is another common building material in the reference projects. The granite from Bohuslän is known for its appearance, with colors ranging from gray to pink, and is highly durable and resistant to weathering. Different types of granite are used for different purposes. Larger stone blocks are used for larger constructions like foundations for sheds and docks. Smaller stones are used for cobblestone and gravel. Bohuslän is rich in granite, and has a long history of quarrying and using granite in construction.

Fig. 17. Collage. Examples of materials and finishes. From top left to bottom right: a boardwalk adapted to the bedrock, granite blocks made into steps, decking cut to fit the bedrock, and red paint and storage of equipment.

Paint

The fisherman sheds in the reference projects are painted red, while the window frames and other details are painted white. Traditionally, distemper paint and linseed oil paint are the preferred choices, as they complement weathered wood and gracefully age without flaking, instead gradually fading over time. Selecting the right type of paint is crucial to maintain the authenticity of the traditional architecture. In the present day, there is a wide range of plastic paint options available. However, it's important to note that plastic paint tends to absorb more water than it releases, which can lead to moisture buildup and potential decay. In contrast, linseed oil paint has the ability to penetrate the wood, strengthening it against the effects of weathering (Sotenäs kommun 2002). Moreover, linseed oil paint imparts a vibrant and lively appearance to the surface, whereas plastic paint often lacks the same luster, resulting in a comparatively dull finish.

Windows

The windows in traditional sheds contribute to the overall appearance of the structure. The proportion and division of smaller panes, known as "sashes," are a factor in achieving the desired look. Although the original purpose of dividing the windows was to hold small panes of glass together, sheds without paned windows do not look authentic. Typically, the windows are rectangular in shape, divided into four or six squares, and are vertically oriented.

Roofs

While on my site visit, I noticed that roofs have a significant impact on the visual character of the coastal communities. The sight of a cluster of buildings with gable roofs covered in red tiles is a unique and visually appealing experience that defines the region. As previously mentioned, red tiles have traditionally been the most commonly used roofing material in northern Bohuslän, with single-cup bricks gaining popularity in the early 1800s (Hasslöf 1977).

Vegetation

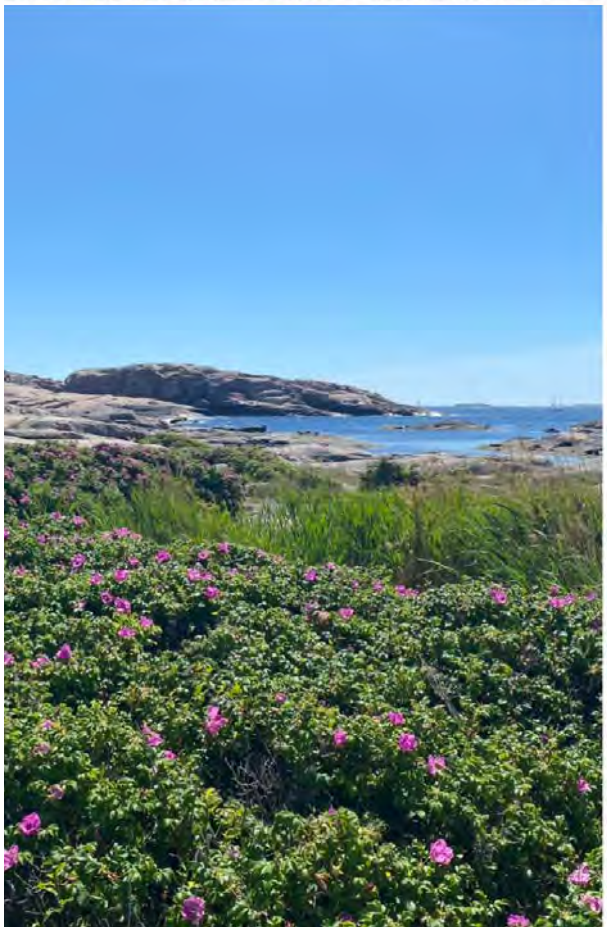
It is common to find relatively wild (unmanaged) vegetation around the sheds. The sheds and docks are often situated on a narrow strip of greenery between the ocean and the granite bedrock. The vegetation mostly consists of sloan, wild roses, beach plants, and different types of grass. The vegetation is often low to the ground due to the wind. Paths are usually trampled through the vegetation, and the paths are covered in natural gravel and stones.

A summary of dimensions

The dimensions for the new harbor are summarized from all the three reference projects. They are not claimed to be complete or perfectly correct, but simply provide a starting point for the design of the new harbor.

Board widths: 120 mm
Dock lengths: 10 - 40 meters
Dock widths: 1,5 - 3 meters
Dock heights: 1 - 2 meters above the water
Distance between poles: 2 - 3 meters

Shed heights: 2 - 3.6 meters
Shed widths: 2 - 4 meters
Shed lengths: 3 - 6 meters
Number of windows: 2 - 6
Panel widths: 120 mm
Distance between sheds in a group: 1,5 - 6 meters



SURVEY ANSWERS

The aim of the survey was to collect data regarding the attitudes and actions of individuals who frequent Västbacken. The survey inquired about the respondents ties to the area, frequency of visits, duration of their stays, possession of a personal boat dock in the area, and their position on the proposed development of the harbor. It was discovered that 75% of the participants had a vacation home in the area, while the rest had connections to someone who did. Among the survey respondents, the majority (40%) visited the harbor no more than once a month, employing the bay for leisure activities such as walking, swimming, kayaking, and enjoying the scenic views.

Many respondents were in favor of the development proposed for Västbacken (70%), but several had concerns about the potential increase in traffic. One person who owns a vacation home nearby had anxiety about the potential for the development to attract undesired visitors to the area. Though a considerable number of participants expressed their support for the proposed plan, others highlighted the significance of executing the development in a manner that considers the environment and the community.
To establish the proper number of boat mooring spots in the bay, respondents were requested to provide their opinions. Results revealed that 75% of participants considered an increase in mooring spots necessary. Most responses fell within the 20-50 range, with the most popular answers ranging from 20 to 30 spots. Around 25% of the respondents believed that there was no need for any new boat spots in Västbacken.

The majority of respondents preferred a traditional style harbor that blends in with the environment (63%) rather than a modern one with all the amenities. According to the survey results, 60% of respondents wanted more benches, a possibility to walk along the water, and a dock with a ladder to swim from. However, other options also received significant support. For example, 40% wanted kayaking docks and storage sheds for equipment. Additionally, 30% of respondents hoped for sun loungers, a large table for socializing, and places to sunbathe, walk, and sit on the docks. Other popular requests included more flowers, trash cans, toilets, sauna, a kiosk for ice cream, and a guest dock. Some respondents also mentioned water slides, diving towers, and storage as desired additions. It is worth noting that some respondents indicated that they did not feel that any changes were necessary and that the area should be left as it is.

Fig. 18. Collage. Examples of the vegetation typically found around sheds and docks. From left to right: 1. Flowering sloan blending in with the bedrock. 2. Grasses and a path through the sheds. 3. Rose bushes by the sea.

The following diagram shows two of the questions and their answers:

Table 1. “What amenities would you like Västbacken to have in the future?” The diagram shows that the most popular amenities are more benches, somewhere to take a walk, and a dock with a ladder for swimming.

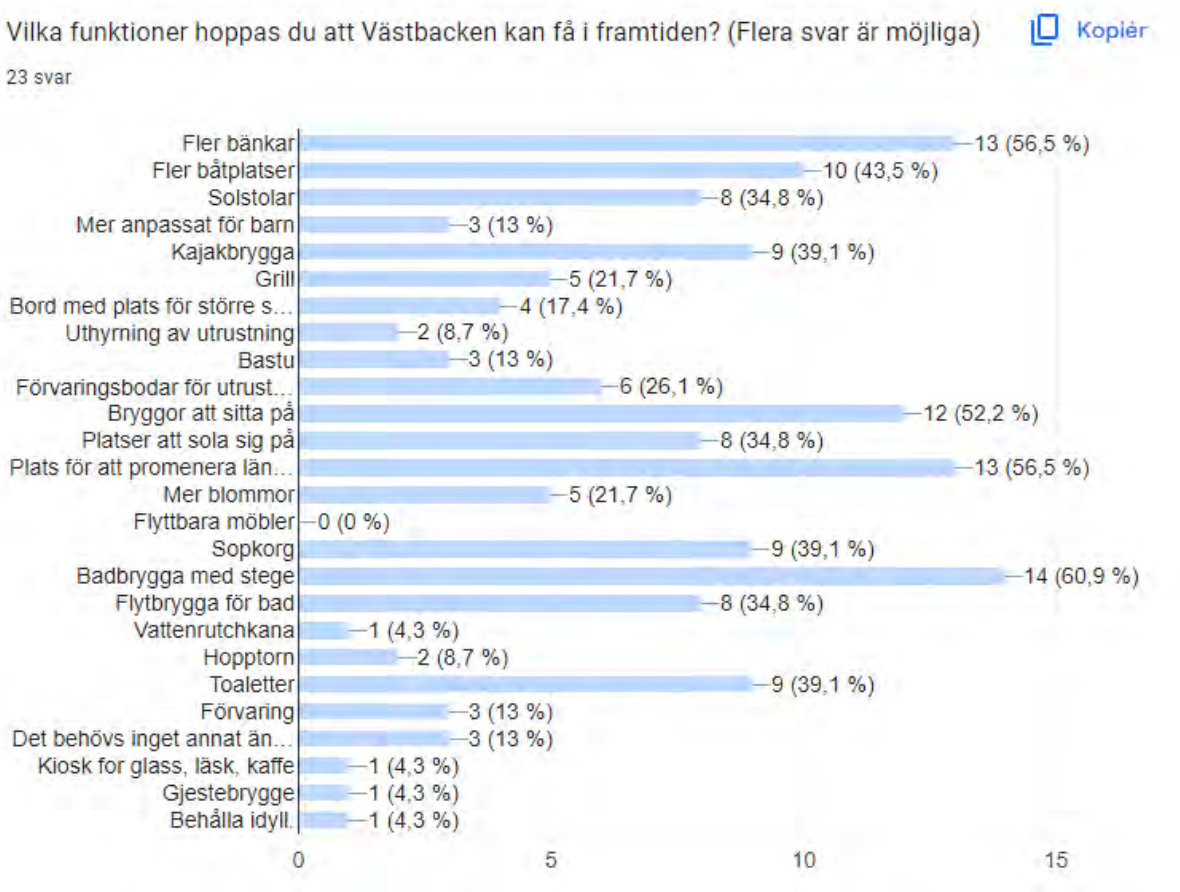
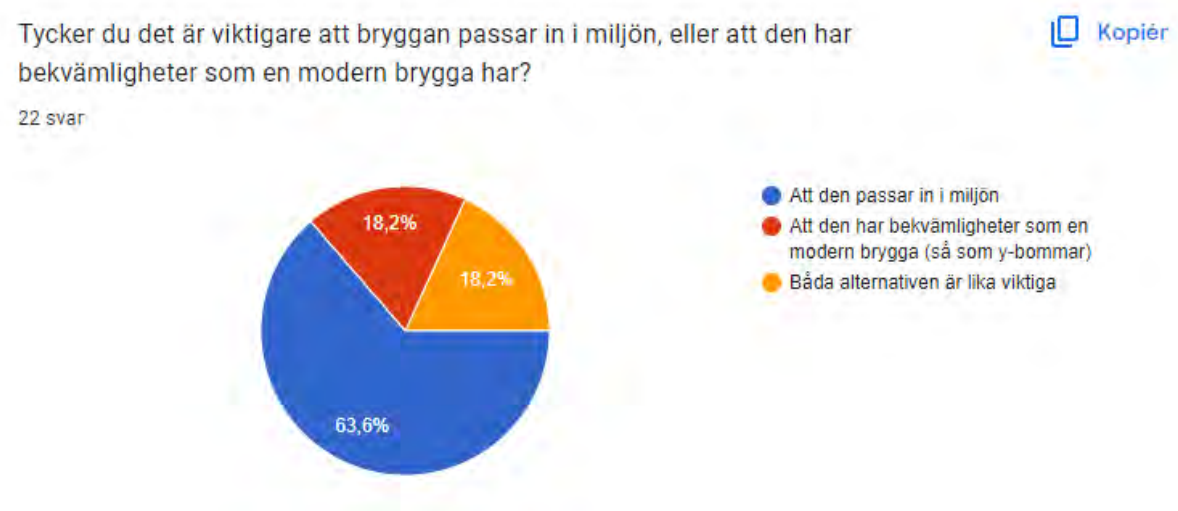


Table 2. “Do you think it is more important that the dock fits into the environment, or that it has modern amenities?” Fitting into the environment is blue, modern amenities are red, and both alternatives are equally important as yellow.



GUIDELINES LEADING INTO THE DESIGN PHASE

I have compiled the most important points from the pre-design research which will be incorporated into the design project. The first list includes topics from the overarching heritage review. The second part is more concrete guidelines related to how the new harbor should be designed, based on the survey and other findings.

Guidelines - overarching

Guidelines intangible factors

1. Recognize that the aesthetic and the function are inherently intertwined, and need to be considered as a whole in the design process.
2. Take into account Bohuslän's maritime heritage and history, where harbors have played a significant role in coastal life for many years and are closely related to the region's history of fishing and seafaring
3. Recognize the importance of the harbor as a living environment where whole communities came together
4. Understand the importance of heritage in Bohuslän, and how the coastal communities have elements related to fishing that act as heritage markers

Guidelines tangible factors

1. Understand the practical requirements of the communities today, as the built environment needs to respond to the practical requirements.
2. Take into account the traditional architecture of sheds and docks in rural Bohuslän, where structures were often built from scrap wood and practicality prioritizes over perfection
3. Consider the use of materials that are durable and can withstand the harsh weather conditions and stresses from sun, wind, rain, snow, ice and saltwater.
4. Consider the weather conditions effect on people, as the harbors were and can potentially be in use all year round

Fig. 19. Guideline number 8 related to social qualities: The gaps between the sheds act as a frame that enhances the view

Guidelines - design

These are some concrete guidelines of what I take with me from the pre-design phase into the design process. They are based on the history research and the reference projects. I have divided them into two categories; physical elements and social qualities.

Guidelines related to physical elements

1. The harbor should take inspiration from the built environment placement in relation to the landscape
2. Docks should be constructed in unpainted wood
3. Dock should be constructed on wooden poles
4. The dock should be a physical link between the shed and the boat
5. The dimensions of the docks should strive to be similar to the traditional measurements
6. Sheds should be located in small groups or in a row
7. Sheds should be painted “falu” red
8. Roofs should be covered in red roof tiles
9. The areas between the sheds do not only have to consist of docks. Stone and gravel are alternative materials
10. The area should have between 20-30 mooring spots

Guidelines related to social qualities

1. The space between the sheds should be accessible to the public
2. The space between the sheds should create pleasant in-between rooms that are sheltered from the elements
3. The docks and sheds should meet the needs of its users in terms of storage and workspace
4. In connection to the sheds, there should be places to sit and socialize
5. The harbor should have a practical purpose, not just an aesthetic one
6. The sun is both an asset and a challenge, and spots in the shadow is needed
7. People like to sit on the docks
8. The gaps between the sheds act as a frame that enhances the view

9. Proper storage solutions is necessary to avoid that the harbors feels littered or messy
10. The area should include more benches, somewhere to take a walk, and a dock with a ladder for swimming

Part 3

PHASE 2: DESIGN

The design proposal is based on the conclusions of both the literature studies and inspired by the reference projects. The proposal is visualized through an illustration plan, detail images, and perspective images. This chapter showcases the final design proposal, and shows the factors that led to the creation of the proposal, such as the site analysis, site inventory, and site visits and a short summary of the sketching process.

THE DESIGN PROCESS

This section outlines the process used to work towards the final design, which is presented in the next chapter. The design process has involved an iterative approach of sketching ideas, testing them on site, and gathering new information as the proposal has developed. The process began at the start of the project in February and has continued running alongside the text work until May.

Challenges

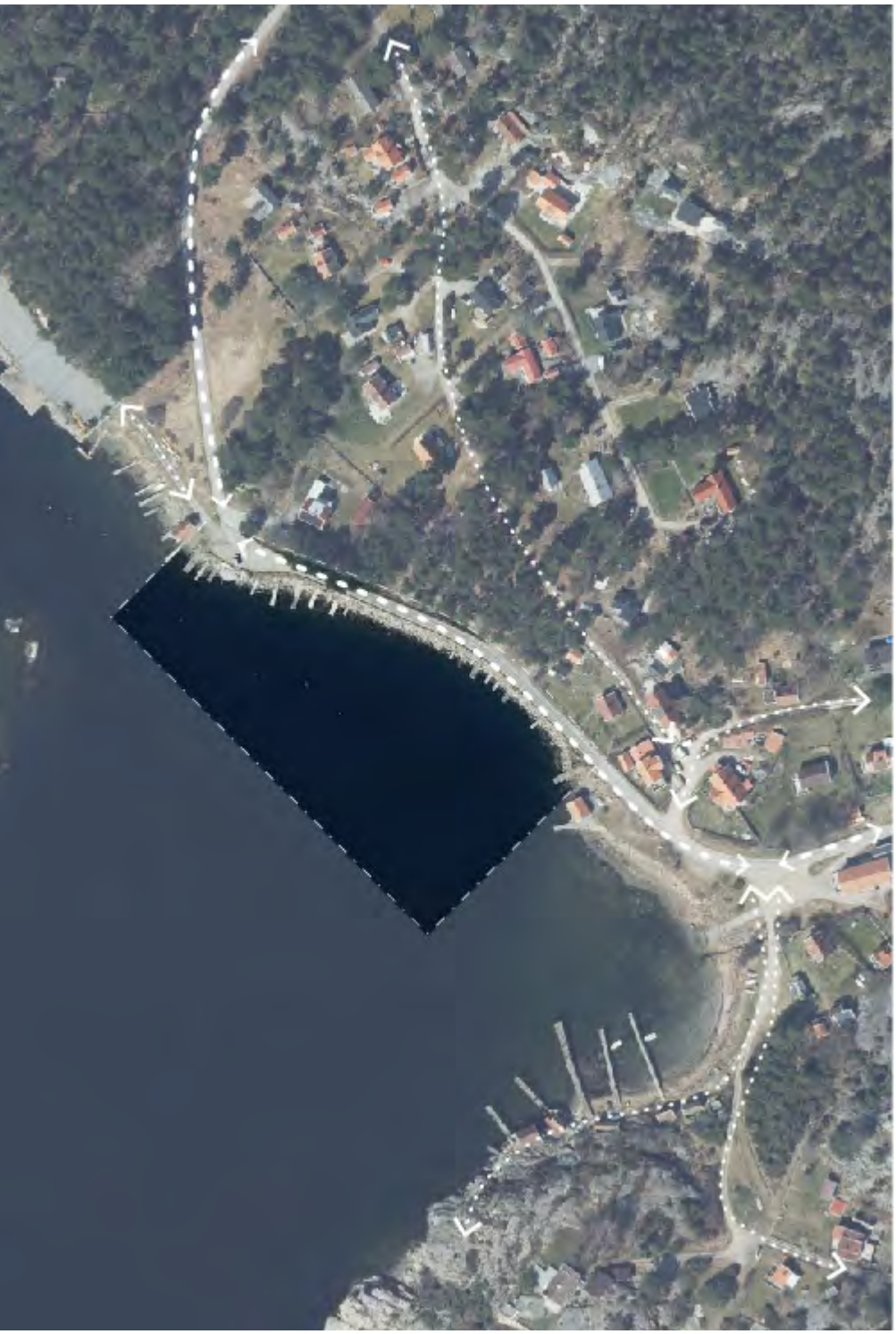
A major obstacle in developing this area is its elongated and narrow shape. The land between the road and water is a slim strip ranging from 6 to 10 meters. The site is bordered by private gardens and a steep hill, restricting expansion towards land. The harbor area is 200 meters long and the water depth varies from 0 to 10 meters. A steep slope made of large stone blocks runs along the road, separated by a low fence. The existing docks are connected to the stone blocks, requiring people to step over the fence to reach them. This height difference poses a challenge for accessibility.

Site analysis

The design process started by doing an initial site visit, where I also did a site analysis. During the site analysis, I focused on key aspects of the site such as barriers, sight lines, sun, and movement. The goal of the site analysis was to gain a deeper understanding of the conditions of the site that can inform my design proposal.

Key findings and observations from the site analysis included:

- Movement: The site can be reached from multiple directions. The road that runs along the harbor leads to a dead end, meaning the motoriced traffic is limited. The roads are popular walking paths.
- Sight lines: The site has sight lines that provide views of nearby islands, harbors, and the ocean itself. The design proposal would need to consider these sight lines and incorporate them into the proposal in a way that enhances the overall experience.



- Topography: The site is situated on a south facing slope, which indicates that the area is likely to get extra hot in the summer.
- Sun: The area gets sun for most of the day. The bay is facing south-west.
- Climate: The site experiences various types of weather during the year, indicating that the proposal must be able to adapt to these changes by including shading and shelter.
- Vegetation: The site is home to a variety of plant species. This presented an opportunity to incorporate native vegetation into the design proposal.

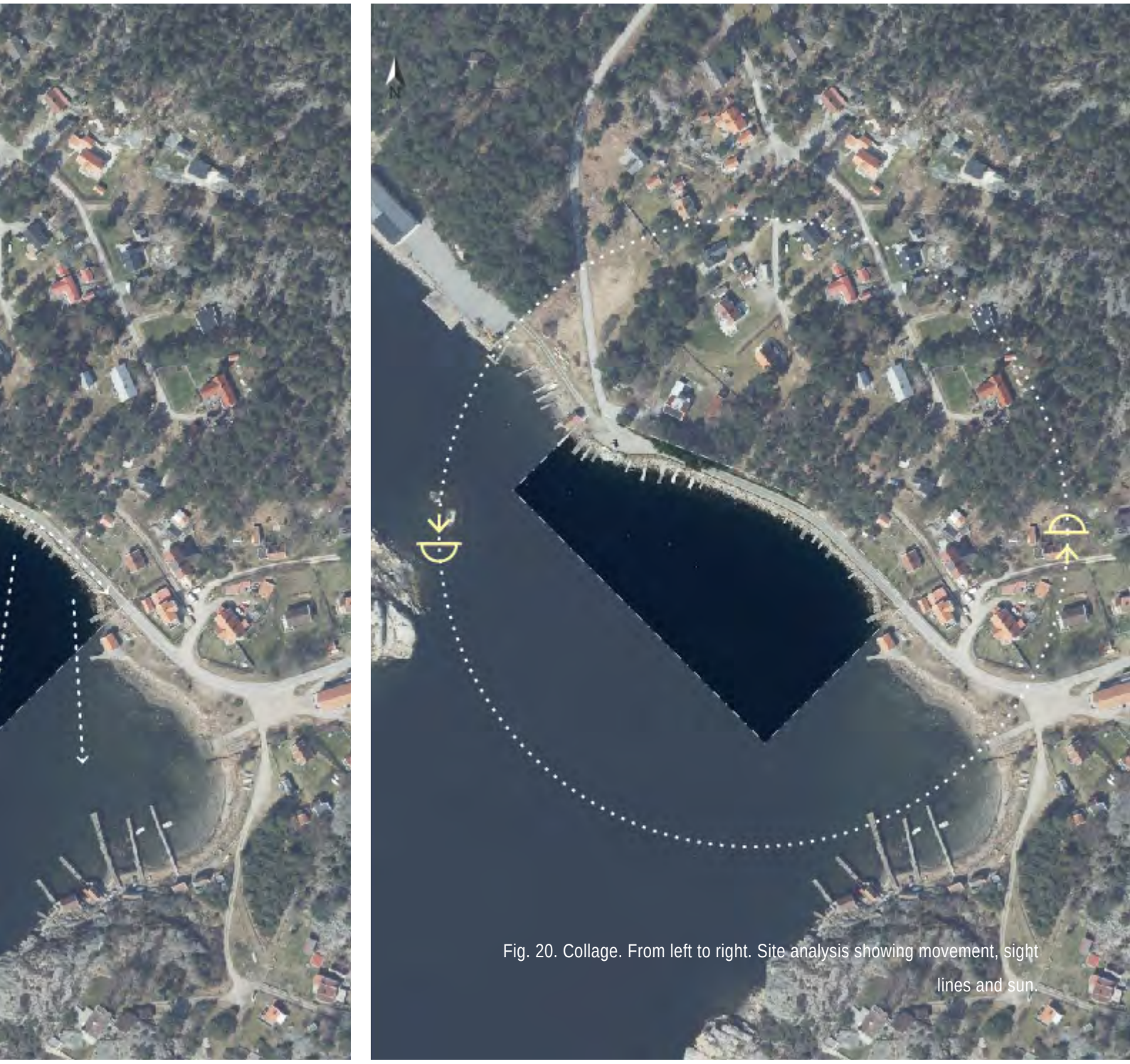


Fig. 20. Collage. From left to right. Site analysis showing movement, sight lines and sun.

Inventory

During my site visit and analysis, I made an inventory of the existing environment to assess what elements should be preserved. I have compiled a list of elements that I think are worth keeping to ensure that the new harbor design integrates seamlessly with the surrounding environment. These are the elements I want to keep and incorporate into my design:

- The road and the placement of it
- The stone poles that holds up the fence, but not the fence
- The height difference between the piles of stone blocks and the road
- The piles of stone blocks that goes into the water
- The foundation of the dock to the far right in the project area, and the beach next to it
- The beach next to the dock on the far left of the project site
- The area with vegetation to the far left in the project area
- The anchors that are found lying on different part of the area

Authenticity in the design process

The topic of authenticity has been with me throughout the design process. The design process is heavily influenced by a wish to create a project that is not a mere replica of the past. I try to avoid sacrificing authenticity for innovation or blindly follow tradition in my work. Instead, I strive to find a balance where the heritage of the region is highlighted while also accommodating the changing needs and tastes of the community. By blending these two worlds, the old and the new, I want to create a design that harmonizes with the cultural context while remaining current and adaptive. I believe that it is through this fusion that the project comes to life, capturing the essence of both tradition and innovation.

Fig. 21. Collage. Some of the elements that I have evaluated as worth incorporating into the new harbor. From left to right: The stone poles that hold up the fence, one of the anchors that are found laying in different parts of the area, the foundation of the dock to the far right in the project area, and a bench.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LANTMÄTERIET

THE SKETCHING PROCESS

Most of the “sketching” process has been done in Rhino. This has helped me visualize the project as I have designed it. The 3D data of the site were downloaded as LIDAR data from Lantmäteriet and then turned into a mesh from a point cloud. Designing in 3D has allowed me to view the site and its surroundings in three dimensions, helping me to make design choices that are in line with the landscape’s topography. This has been particularly important due to the significant variance in elevation between the docks and the sea. When designing from above these types of relations are hard to understand. It has also been important to keep things at a human scale, which is easier with moveable human figures. The digital model has been used in the same way as a physical 3d-model would have been used.

The design process in illustrations

The following section documents the evolution of the Rhino model over the course of the project. The first set of photos is from March 1st, when the initial idea was first being developed. Subsequent photos are marked with dates to give a sense of the timeline. The majority of the design process involved testing different solutions and keeping the ones that worked well. The photos above only focus on some aspects of the design; it would not be possible to document every design decision made during the entire process. During the first official site visit, most of the design changes occurred. At that point, due to the project’s emphasis on heritage and the site’s characteristics, I had a fairly well-defined idea of how the design would come together.

Fig. 22. *Programplan.* The new harbor is going to be divided into two main parts. The program shows the placement of the two areas on an overarching level, inside the site. The boat area is placed where the water is the deepest, and the recreational area is placed closest to the main crossroad. (White - road, yellow - boardwalk, blue - boat area, green - swim area)

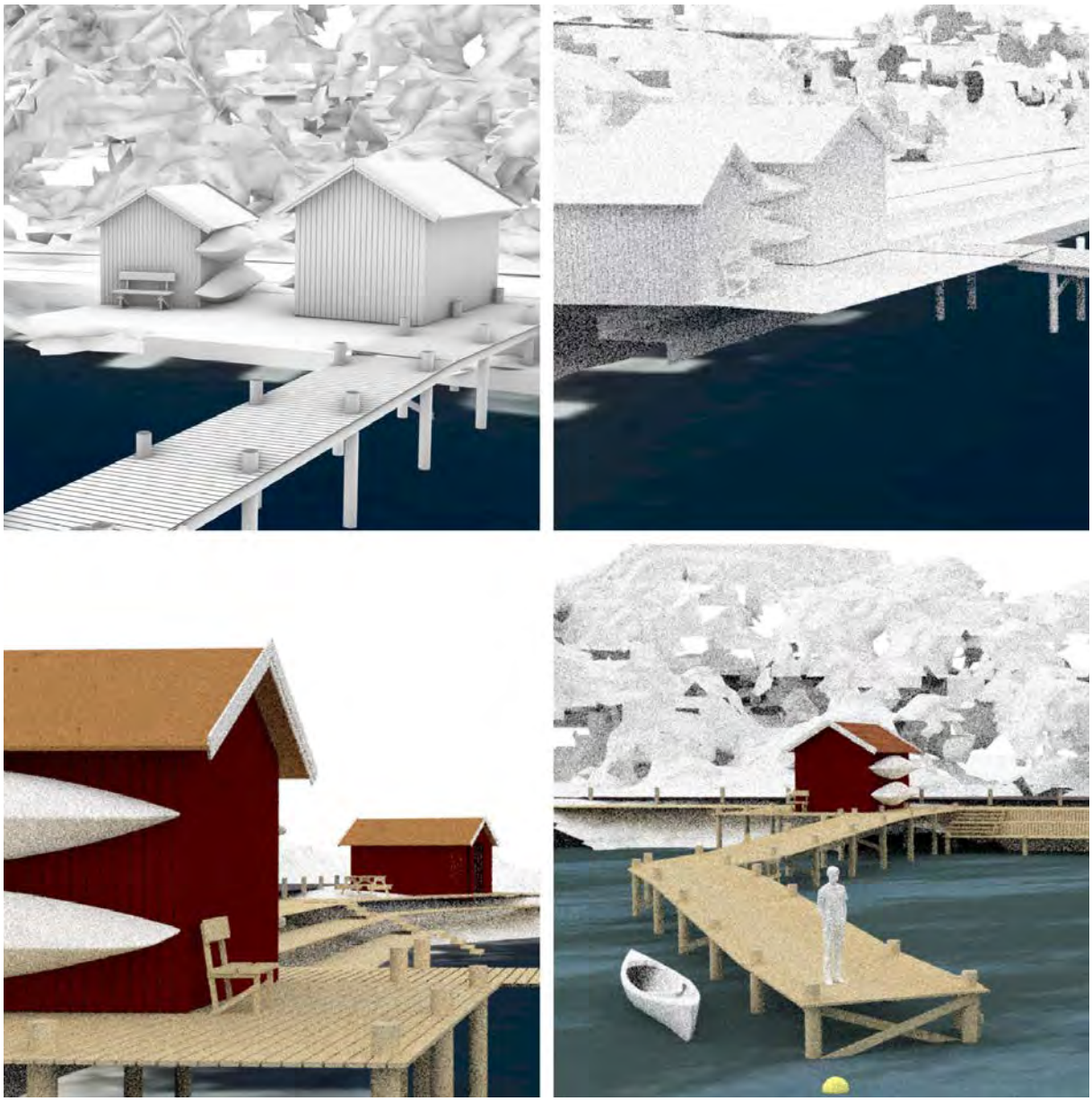

Fig. 23. Collage. The process of the kayak dock.

The kayak dock

The photos show the development of the kayak dock during the sketching process. The photos on the upper row shows the model as it looked on the 1st of march. This was right before my first official site visit. During the site visit I realized that it would take up too much space with two sheds in this location. I therefore decided to remove one of the two sheds, leaving just one. The photo on the bottom left is from the 17th of march, right after I got back from my site visit. I also added details like the wooden structure and poles. The photo on the bottom right is from the 23 of march, which is the final design. The dock is partly sloped in order to get down to the water, to be able to get in and out of the kayaks.

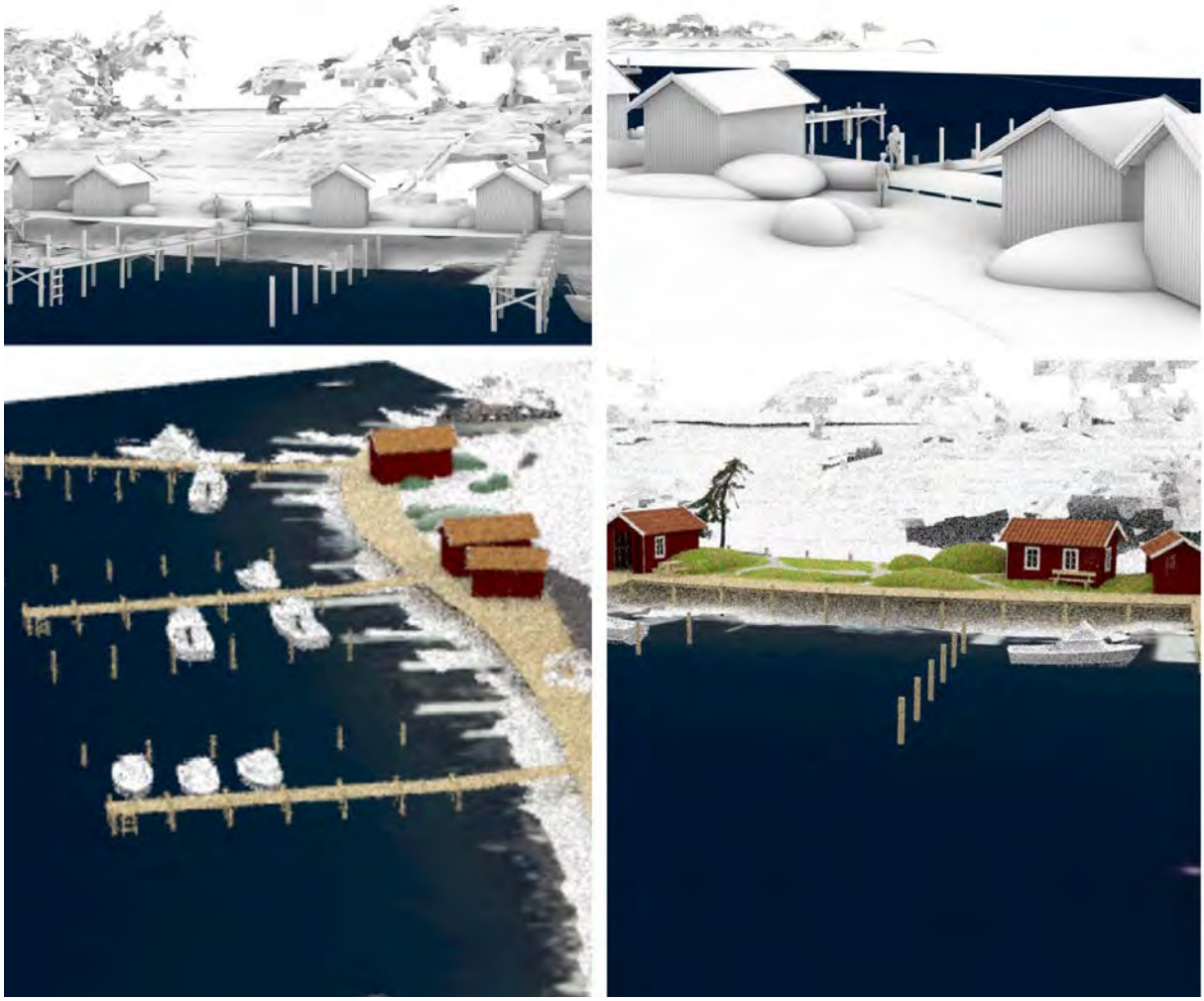

Fig. 24. Collage. The process of the boat area.

The boat area

The pictures above illustrate the boat area's evolution during the design phase. The top row of photos depicts the area before my initial site visit, where it was evident that I had overestimated the number of sheds that could fit in the area. Originally, I had planned for five sheds, but reduced it to three after visiting the site. The photo in the bottom left corner shows the three sheds, which were initially arranged in a row but later modified to create a sitting area in between. At first, I intended to have mooring on only one side of the docks. But, after receiving input from a peer, I altered my plan to have mooring on both sides. Consequently, I was able to decrease the number of docks from four to three while still having enough space for mooring.

Fig. 25. Collage. The process of the planting design.

The planting design

The pictures above depict the progression of the planting design. It was one of the final aspects I created, as I needed to make out the shape and size of the area beforehand. The photo in the upper left displays the area with five sheds, which offered minimal room for vegetation. However, after removing two of the sheds, the area suddenly had more space. The shrubs are represented by spheres. The site's topography remained mostly unchanged. Throughout the process, the shrubs were relocated to create spaces and enable movement through the area while providing access to the sheds. The objective was to position the shrubs where they could grow naturally, sheltered from the wind by the walls of the shed.

Fig. 26. The final proposal. The entire area is seen from the east towards west. The swim area in the front, and the boat area in the back. Between the two areas the boardwalk is seen along the existing road.

THE FINAL PROPOSAL

The following section introduces the final design proposal for the new harbor. It is designed to resemble a typical coastal settlement in Bohuslän, with wooden docks and red fisherman sheds along the bay. The objective of the design is to develop a harbor that is both practical and compliant with contemporary standards, while also blending in with the cultural and historical elements of the region. To accomplish this, the design takes inspiration from traditional docks in the area, utilizing features such as materials, construction techniques, surface finishes, and positioning in the landscape. Additionally, the design includes aspects of intangible heritage, such as promoting communal use of the areas surrounding the fisherman sheds and encouraging the use of the docks and sheds for various purposes such as repairing equipment and storing gear.

A wooden boardwalk runs alongside the harbor, providing a pleasant walking spot by the water. The redesigned harbor includes some of the site's old structures, such as stone blocks, dock foundations, and a stone fence, for sustainability reasons. It now has three docks that can accommodate boats of various sizes, making it more user-friendly and accessible to a larger group of people.

General design principles

Functionality

The spaces between the sheds are available to the public and provide a comfortable area that is protected from the elements. The docks and sheds meet the needs of their users, with seating and socializing areas nearby. Storage solutions have been put in place to prevent the harbor from becoming cluttered. The gaps between the sheds create a visual frame that enhances the view. The harbor's shape was influenced by the surrounding landscape and shoreline. In response to resident feedback, more benches, walking paths, a dock for swimming with a ladder, and additional sitting docks were added to the area.

A shed

The sheds are grouped together and painted in a traditional red color with red roof tiles, following the guidelines set by the municipality of Kungsbacka (Kungsbacka kommun 2002). The reason behind following guidelines from Kungsbacka municipality is that the municipality of Tanum lacks its own guidelines in this case. The maximum external dimensions of the sheds are 15 square meters, with two sizes available: 15 square meters (5m x 3m) and 8 square meters (4m x 2m), and heights ranging from 2.5 to 3.6 meters. The sheds feature a simple wood paneling, as typically seen in sheds in the area.

The sheds can be adaptable to various functions as needed. Based on the survey findings, people are interested in having sheds that can serve as both saunas and storage areas. Additionally, a respondent mentioned the possibility of using a shed as a kiosk to offer refreshments such as coffee, soft drinks, and ice cream. The sheds have the potential to be utilized to different needs.

A dock

The dock structures consist of unpainted wooden materials and are supported by wooden poles. They provide a physical connection between the shed and the boat and follow traditional measurements and design. The width of the docks varies between two and three meters, depending on the expected number of users. They are long enough to accommodate larger boats and offer a longer walking distance onto the water. The decking will be placed lengthwise, and the docks will be approximately 1.2 meters above the water.

And a boat

The harbor utilizes a traditional mooring system with a row of poles out in the water that are used to tie up the boats, between the dock and the poles. This system is similar to the one used in the Veddökilen reference project. The distance between the docks and the row of poles is 10 meters.

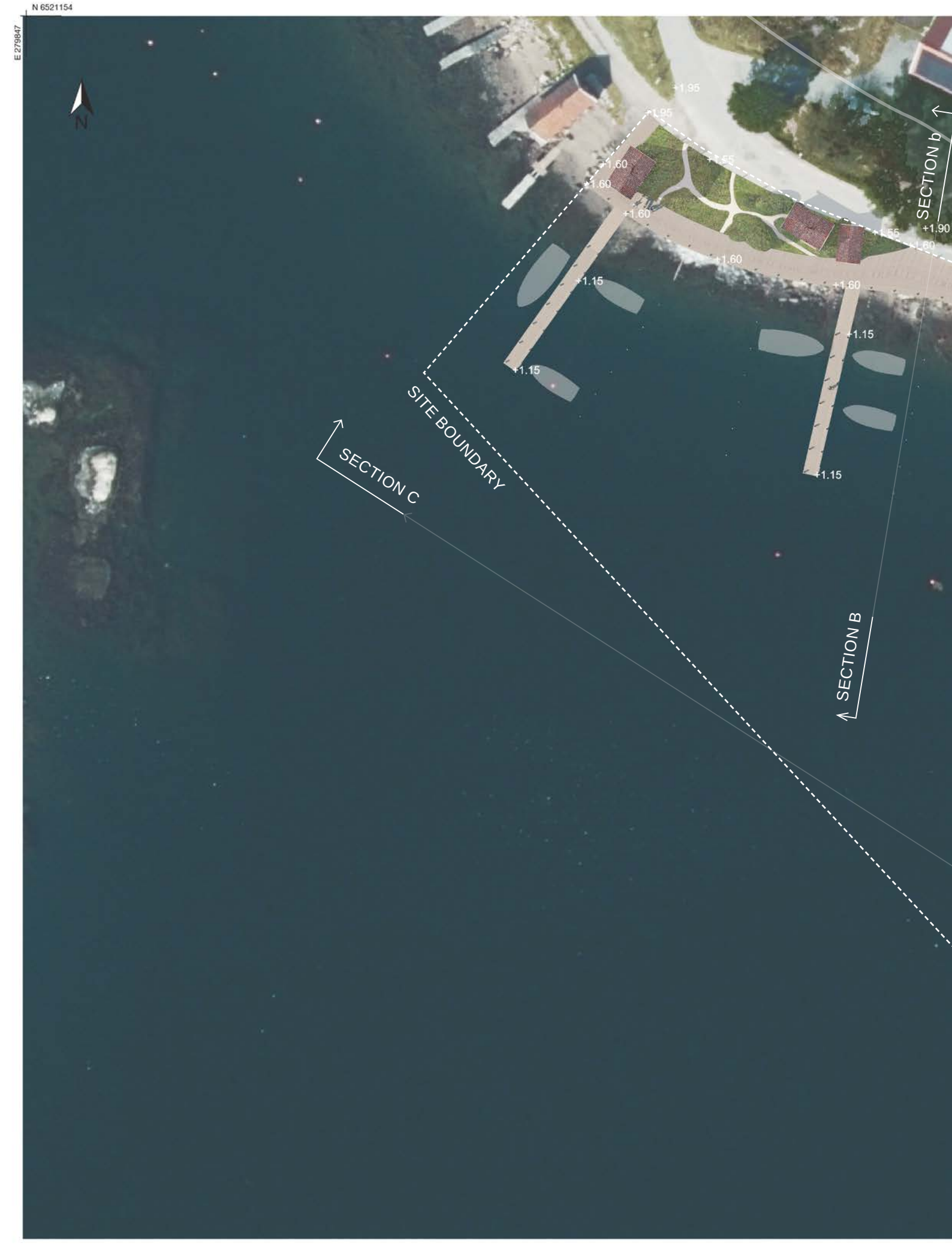
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Fig. 27. The site plan.

LANTMÄTERIET

The two main areas

The new harbor is divided into two main parts with a boardwalk that connects the two. The first section is intended for swimming and recreation, for water activities not related to boating. The second section is designated for boats.

1. The boat area

The harbor has been constructed to provide both permanent and temporary mooring spaces for boats of varying sizes. The storage sheds are meant to be used communally by boat owners in the harbor to optimize space. The harbor can hold 20-25 boats, depending on their size, which aligns with the residents' survey results. The docks are flexible and also have spaces for guests, in order to be as accommodating as possible.

2. The recreational area

This area features two sheds that can serve as changing rooms and recreational equipment storage areas, or spaces for relaxing and having lunch. The docks are extra wide to accommodate swimming, sunbathing, and walking, and there are many seating options available, including benches and stairs. The area also includes a floating dock, and the angled shape of the area creates a safe swimming space that is sheltered from boats. Terraces are placed along the area for sitting, with each terrace around a meter deep and 45 cm apart. One of the docks is specifically designed for kayaking, with a sloping edge for easy access, and a kayak storage shed.

Incorporating the wishes of the residents

During the development, the diverse requirements and wishes of the inhabitants were taken into account to ensure that their preferences and requests were met. The residents of the area expressed a need for more seating options near the harbor, so the design includes additional benches and terracing for lounging. A kayak dock has also been included for those who enjoy kayaking, and there are storage sheds provided for storing equipment. The majority of respondents utilized Västbacken to enjoy the view, so the design now includes a boardwalk by the water for residents to appreciate the harbor and surrounding area. The survey also revealed a desire for more greenery, which has been met with additional vegetation. A swimming dock with a ladder and a floating dock have been added for safe swimming, and large tables are available for bigger groups.

Design choices

There was a need to choose between practicality and tradition when making some design choices. The boardwalk in this project follows the curve of the shoreline, which is not typical for docks in the area. However, it’s common for docks to blend in with the surrounding landscape, which is why I designed it this way. Boardwalks or docks which run parallel to the shoreline are not often traditionally seen in this particular area, but have become a common feature in modern harbors in general. Another example is the terracing by the swim area that is not commonly found in traditional harbors, but is often used in modern designs.

As mentioned both earlier and later in this project, the goal is not to create an exact replica, but to be inspired by the traditional construction styles. Using the same wood and traditional construction techniques allows for modern design elements to blend in with the style that i am trying to obtain. The survey indicates a willingness to prioritize style over comfort, considering that 70% of respondents preferred a traditional dock over a more modern dock with a y-beam system.

Fig. 28. Plan - boat area. 1:300 A4.

Fig. 29. Plan - recreational area. 1:300 A4.

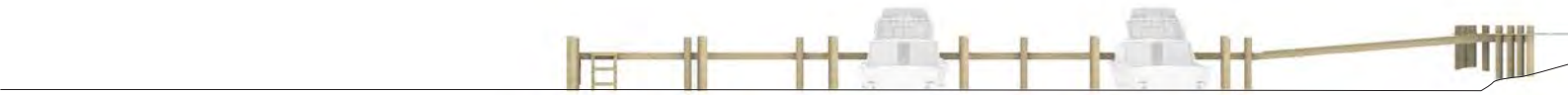

Fig.30. Section showing the kayak dock. A-a. 1:200 A3.

Fig. 31. Section showing one of the boat docks. B-b. 1:200 A3.

Fig. 32. Section showing the entire area seen from the ocean. C-c. 1:500 A3.

Fig. 33. This photo shows the recreational and swimming area. The kayak dock to the left.

Fig. 34. A majority of the respondents of the survey wanted a dock with a ladder to be able to go for a swim. They also wanted places to sit on the docks.

Fig. 35. On of the fisherman sheds. The illustration shows potential activities on the docks.

Fig. 36. The boat area as seen from the water.

Fig. 37. A perspective image of the boat area seen towards east. The planting area is seen to the left.

Planting design

By the boat area, the project site is comparatively wide leaving room for vegetation alongside the boardwalk. As mentioned in the previous chapter, the areas around traditional fisherman sheds are often quite green. According to Bohusläns flora (2011) there is an unique range of plants to be found in proximity to sheds by the sea. It is believed that many of the plants found growing wild along the coast of Bohuslän were introduced by foreign sailors and traders who visited the area during the great herring period and in the centuries that followed. The plants are mostly found along the road and gravel paths, along walls and in other smaller areas that have been left unused. The maritime climate and rich soil helped these plants to take root and flourish, and they can often be found growing in harbors and other areas where fishing gear are stored (Blomgren et al. 2011). This has inspired the planting design.

The planting design is relatively simple. It consists of a selection of three different types of shrubs, and two mixes of ground covering plants. A planting mix is a composition of different plants, as seed or plug plants, that get planted randomly inside an area. The use of planting mixes can simplify the planting process and ideally create a naturalistic feel as the vegetation grows. The goal of the planting design is to create a feeling of age and history for the sheds, as if they have always been there.

Through the vegetation simple gravel paths are distributed to accommodate for movement as analyzed on the site visit. These paths are meant to be walked on, and people are likely to create their own paths through the area. The paths and the vegetation around them are created to be able to move organically through time. This is one of the advantages of using mixes, where the vegetation spreads and changes around based on where they find the right growing conditions. Seating options are also provided for those who want to sit in proximity to the vegetation.

Shrubs

The selection of shrubs is representative of those commonly found in the region, and that are often observed around sheds along the coast. Among these species are Rosa rugosa, which blooms prolifically across the landscape during June and July, Prunus spinosa, which features cloudlike blooms in early spring and blue berries in the fall, and juniperus, which retains its evergreen foliage and obtains unique shapes as a result of wind exposure. The Rosa rugosa is a dilemma because it is both a natural part of these types of environments, but also rather invasive. The area is however blocked off on all sides by the road and the sea meaning the risk of spreading is lower.

The taller vegetation in the area is heavily influenced by the wind. Blomgren et al. (2011) states that the wind patterns in the wandering low-pressure systems bring in humid air from the sea, with strong western to south-western winds. This has a strong impact on the vegetation, where trees and bushes are wind-swept by the constant and salt-saturated winds. Sheltered areas like between sheds, are often filled with bush vegetation, reaching just up to the top of the roofs. Creeping forms of junipers and low-growing species are favored (Blomgren et al. 2011).

Ground vegetation

Inspired by the plant lists in Bohusläns flora (written by Blomgren et al. 2011), plants from conditions similar to the project site have been selected. These plants are well-suited to the local climate and soil, which offers several benefits such as better resistance to pests and diseases, and the ability to provide a habitat for local wildlife. The aim is to keep maintenance requirements minimal, similar to the upkeep of older sheds in the region.

The planting design for this project consists of two plant mixes, that are planted as shown below. The first mix is a mix inspired by typical fisherman shed vegetation. The second mix are native plants that are often found along roads by the sea. They are both developed from plant lists in Bohusläns flora. The plants are listed with their Swedish and scientific name as presented in Bohusläns flora (Blomgren et al. 2011).

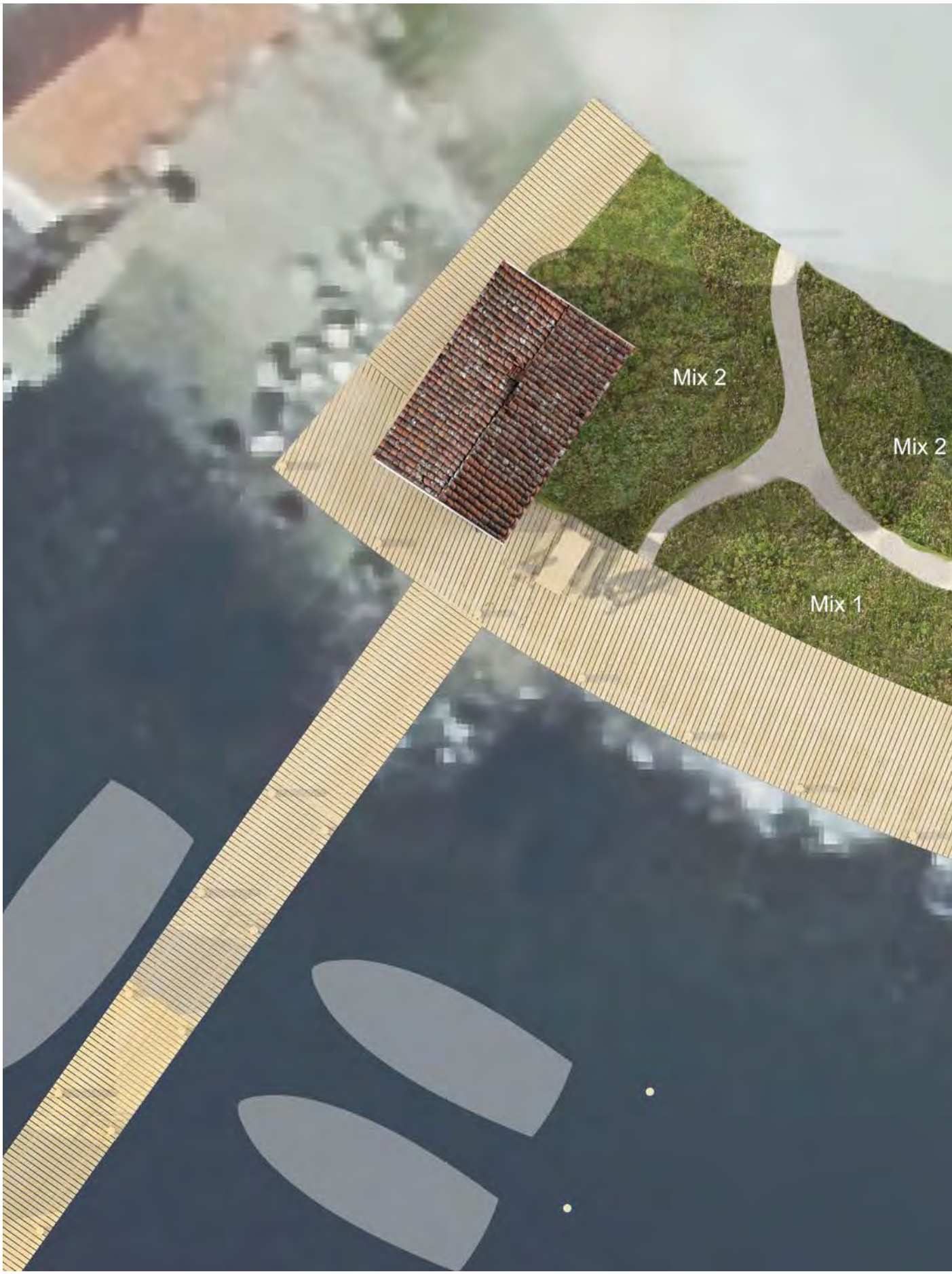
Mix 2
Mix 2
Mix 1

Fig. 38. Illustrations of the planting design from above, along with the docks next to it.

Mix 1:

- Blåeld - Echium vulgare
- Cikoria - Cichorium intybus
- Gatkrassing - Erodium ruderale
- Nunneört - Pseudofumaria lutea
- Hesperis - Hesperis matronalis
- Judaspenningar - Lunaria annua
- Kråkkrassing - Coronopus squamatus
- Löktrav - Alliaria petiolata
- Malört - Artemisia absinthium
- Murreva - Cymbalaria muralis
- Rödmalva - Malva sylvestris
- Silverarv - Cerastium tomentosum
- Skelört - Chelidonium majus
- Skär kattost - Malva neglecta
- Såpnejlika - Saponaria officinalis
- Vildpersilja - Aethusa cynapium
- Vårtörel - Euphorbia cyparissias

Mix 2:

- Blodnäva - Geranium sanguineum
- Borstsäv - Solepis setacea
- Gulkämpar - Plantago maritima
- Gullviva - Primula veris
- Gulmåra - Galium verum
- Kungsljus - Verbascum thapsus
- Rödkämpar - Plantago media
- Småborre - Agrimonia eupatoria
- Stor ängssyra - Rumex thyrsitiorus
- Strandråg - Leymus arenius
- Stånds - Senecio jacobaea
- Sötbjörnbär - Rubus plicatus
- Trift - Armeria maritima
- Väddklint - Centaurea scabiosa
- Åkervädd - Knautia arvensis
- Ängshavre - Helictotrichon pratense

Fig. 39. Collage. Inspiration behind the planting mixes.

Conclusion design proposal

To sum up, the harbor design suggested has been influenced by the maritime heritage of Bohuslän and includes both tangible and intangible elements to create a functional and attractive environment. The design prioritizes authenticity over imitation and takes into account practical requirements and harsh weather conditions while maintaining the traditional architecture of sheds and docks. The design caters to the needs of its users by providing ample storage, workspace, and communal spaces, and also includes public amenities such as benches, walkways, and swimming docks to accommodate the needs of the local community.

I have made efforts to incorporate intangible heritage by taking into account current and future traditions that may become intangible heritage. During the design process, I came to the realization that the connection and usage of the ocean play a crucial role in intangible heritage, regardless of any changes from previous practices. I perceive the harbor as a type of intangible heritage as it represents the traditions and customs linked to the enjoyment and utilization of the sea.


TJURPANNAN
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Part 4

PHASE 3: POST-DESIGN

DISCUSSION

The purpose of this thesis was to create a design for a new harbor in Västbacken that would protect the area's aesthetic and cultural features, while still addressing the needs of the local community. This chapter discusses the findings of the research and analysis conducted throughout the project and evaluates how well the proposed design meets the initial goals and research questions.

Authenticity

Designing something that is inspired by historical architecture can be challenging. It requires finding a balance between maintaining tradition and incorporating innovation. There is always a risk of creating a replica that lacks authenticity. In order to prevent this, I have attempted to incorporate both physical and cultural aspects of the region's heritage, such as traditional architecture and the current desires of the inhabitants, such as a swimming ladder. My goal is for the project to honor the region's history while also serving the modern needs of the community. The harbor's conversion into a recreational space is proof of the region's progress over the years. This helps to make it a living heritage that continues to shape the identity of the community. Evolving its original purpose ensures that the harbor remains a functional part of the community and a connection to its past.

Other possible design solutions

The challenge in designing this harbor has been to balance staying true to traditional building styles while still meeting modern requirements. In making design choices, I have prioritized meeting modern usability requirements when necessary. For example, I lowered the docks to make it easier for modern recreational boats to access the harbor. While this deviates from traditional style, it was a necessary modification to ensure the harbor is accessible to a wider range of boaters. Similarly, I incorporated sitting stairs by the swimming area, which is not typically found in traditional harbors. Although this added visual weight to the construction, it was important for me to add a level of comfort for the harbor users. In order to improve the functionality of the stairs, I ensured that they

had a closed back for people to lean on whilst admiring the scenery. I made these design decisions with the aim of finding a balance between preserving the traditional style, while also making it comfortable.

It is important to reflect on what could have been done differently during the design process. In this case, I prioritized modern usability requirements while still trying to maintain the traditional style of the area. However, there may have been other design solutions that could have better balanced these considerations. For example, I could have explored more modern design options that still fit within the natural environment. A modern dock could potentially have included elements from the tangible and intangible heritage as well, though likely in a less straightforward way. This could potentially have provided a better option for the functionality requirements. It is also possible that other design solutions might have also allowed for new design features that weren't initially considered.

Sustainability

Any new development should ideally be designed with sustainability in mind. However, for the purposes of this project, I chose to focus on social and historical values firstly. I recognize that this decision may be seen as a limitation, as ecological and environmental considerations are crucial for sustainable development. A more extensive examination of the ecological impacts of constructing near a nature reserve and the threat of rising sea levels could offer valuable insights for future research. It is essential to conduct a thorough analysis of the ecological aspects to mitigate disruptions to the marine ecosystem. It is worth noting that traditional dock-building methods have a lesser impact on the environment than contemporary harbors. The project also uses locally-sourced, renewable materials such as wood and stone that would reduce transportation emissions. Taking this into consideration, I believe that this project still demonstrates a commitment to minimizing the environmental impact of the development.

Insights from Community Feedback

The fact that most respondents have a personal connection to the area, either through owning a nearby holiday home or visiting regularly, indicates a strong emotional bond with the locality. This attachment is likely shaped by various factors, such as family history, cherished memories, and a deep appreciation for the natural surroundings. Another noteworthy finding is that the harbor experiences seasonal usage, with a

majority of respondents utilizing it primarily during the summer months. This valuable insight can inform decision-making regarding the selection and quantity of amenities to be provided, as well as potential modifications to the harbor infrastructure. Given the anticipated higher usage during the summer, amenities such as sun loungers and kayak racks are expected to be in demand. Conversely, during the winter months, storage facilities and a sauna would likely hold greater importance. The survey also emphasizes the significance of considering the potential impacts of any development plans on the local community. While there is support for the municipality's proposal, concerns regarding increased traffic and unwanted visitors have been raised. These concerns likely stem from a desire to preserve the area's tranquil and natural environment, as well as concerns related to the safety of narrow roads.

Interestingly, the survey revealed a preference for traditional design over modern design, with respondents valuing a dock that fits into the environment rather than one with modern amenities. This information could be useful in guiding any design choices made in the development plan. The preference for traditional styling over modern design suggests that the residents value the aesthetic character of the area and wish to preserve its unique charm. This preference may be influenced by a desire to maintain a connection to the area's history and cultural heritage.

Balancing Design Objectives with Community Feedback

Considering the opinions and preferences of the local community is important, but determining the appropriate level of importance compared to professional expertise and sustainability concerns is debatable. Some argue against giving too much weight to public opinion when designing public spaces, citing architects' expertise and the public's potential lack of understanding of design costs. Additionally, sustainability concerns may not align with local preferences. However, there are valid reasons to consider public opinion, such as ensuring long-term support for public projects through public satisfaction.

Ethical dilemmas

As the designer of this project, I am conscious of the perspectives that have shaped my approach. While my own experiences of spending summers here in a picturesque setting have certainly influenced my design choices, I also recognize that this may cater to a specific group of people seeking a romanticized version of Bohuslän. The use of sunset

photos in my project may further reinforce this perspective. It is important to recognize that there are additional parties involved in this project, such as the permanent residents of the area who may have dissimilar objectives. Specifically, certain individuals may prioritize a conventional aesthetic, not necessarily for cultural or historical significance, but rather for the purpose of tourism. It is also worth noting that tourism is a vital industry in this region, with many Norwegian visitors seeking out the Swedish coastal charm of this area. As a landscape architect, I aim to find a balance between the ethical dilemmas that effect the project, while still being aware of my own preconceived perceptions of what Bohuslän is and should be.

Does the design meet the goals of the project?

I assess that the research questions for the project were successfully answered, as the study examined the tangible and intangible aspects of cultural heritage in Bohuslän. The project also addressed the challenge of designing a new harbor in Västbacken that met modern requirements while preserving the area's high environmental and cultural values. The project considered the needs and wishes of different types of people to balance social qualities with practical needs. The resulting harbor design fits well with the surrounding environment and maintains the traditional construction style while incorporating relevant social qualities for a practical and sustainable solution. Although there may be alternative solutions, the achieved outcomes provide answers to the research questions. I hope that the project can be part of angling future planning efforts towards sustainable and responsive coastal development, that makes the historical cultural heritage available for future generations.

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