A place-making proposal for Karlholm strand based on a planning ethic, community development ideals and landscape aesthetics

Md Ratin

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Abstract

The subject scope of this thesis is about built structure in the landscape close to the water in a specific place, Karlholm, in the municipality of Tierp, Sweden. Karlholm Strand is one of many places in Sweden where there is no shoreline protection. Because of this, there is a current plan by a developer, which can lead to hamper the access to the shore for the public.

There is generally low building activity within the Tierp municipality and especially in the Karlholm strand as it used to be a factory area. Because there was a need for a project in this old factory area which recently got bankrupted, municipality authority allowed this project which can set an example for the other shoreline development in Sweden where there is no shoreline protection.

A large housing project was proposed for the area. On the surface, the proposal looked good, but after a deeper reading, it was understood that it is being made without thinking about the current residences in the area, the history of the area, the local culture, and community development. For this reason, I wanted to investigate the development of the project based on ethical considerations while designing in the shoreline, the practices that make a place, community development, and landscape aesthetics. In this thesis I further investigate the proposed plan of the housing area and produce an alternative plan based on the surrounding landscape, a theoretical framework of the above-mentioned points, SymbioCity approach with different study tools like, interviewing the locals, analysing the site, case study, and sketching.

Keywords: Aesthetics, Community, Ethics, Housing, Karlholm, Place-making, Shoreline

Preface

Because of spending a large amount of time in Dhaka, the capital city of Bangladesh, I had an idea that the cities are full of the concrete building. Coming to Sweden, the one thing which really surprises me first was the green spaces, water bodies, and overall nature area in the city of Stockholm and Uppsala, where both nature and concrete structures can live together. During summer people can go take a swim or sunbathe in the lakes, rivers, or shores. People can run or take a walk-in nature. It was great to know that there is a rule called shoreline protection where people cannot build buildings close to the waterbody so that people can have access to it. In my country, Bangladesh, where people can build houses close to the waterbody, just those people can enjoy the place as it becomes private only for those people.

In my third course at SLU, Uppsala, `Roles and methods for landscape architecture in comprehensive planning,` Where Andrew Butler and Sylvia Dovlén introduced me to different kinds of theory regarding placemaking, community development, planning ethics, and more. I got to learn not only about these topics but also their relationship with planning. Apart from writing essays and seminar reports, one of the main tasks of this course was to develop a comprehensive plan for Tierp municipality. With my group, I started working with a general search of the Tierp municipality, where I got to know a different aspect of the area, like the ironworks factory, the castles, drag racing, Viking history, and more. Then I came across a specific project, Karlholm Strand project near Karlholmsbruk. When I read about this project, I was little shocked by the images I saw online because the initial idea I had for Sweden suddenly became questionable. New residential houses are being built very close to the shoreline, denying access to the shore for the public. From this point, I started my research and later found this interesting to write in two of my courses and later doing my master´s thesis with this project.

On a fine February winter morning in 2020, the whole group members of the course and teachers of the `Roles and methods for landscape architecture in comprehensive planning` course started our journey towards Tierp to see some specific sites to get some on-hand ideas. Karlholmstrand was one of the sites where we stopped. The development of the site was going on, and everyone was in shock to see the houses which were being built so close to the shore where people will not be able to go apart from the residences of those houses. Then we saw the masterplan where just a few spaces were allocated for the public. The whole beautiful shore area was being privatized. We had a discussion session with the municipal architect where we got to know about the LIS, without shoreline protection rule. Why it was happening. One of the reasons behind this project being built was the people of Karlholm who at first thought that it is the best which can happen here in the old factory area. Then, I thought this project needed to be studied more in details.

Popular science summary.

Karlholm strand is situated in the Uppland county where there is a history of iron mils. When in 1930s, the iron mills fall in Karlholm Strand, a new era started in Karlholm Strand with board factory. Board factory had a history of almost 75 years. A big company like IKEA was part of this factory for almost ten years. When they moved to other countries, this factory faced a hard time, and eventually, in 2012, it had to close. Overnight many people lost their job. A developer bought the area and wanted to turn it to a residential area. On paper, this project looked promising. When I started to get to know about this project, many points were there, which raised some questions. Place-making, planning ethics, aesthetics were a few of them. So, I started studying further.

The theory of community development was analysed with a connection of the Karlholm strand. It was understood that physical connection could be made by connecting something on-site, and social ones can be done by involving rescuing networks between people and places (Selman, 2012). The factory area can be served the on-site position. People have seen this place for generations and involving people here when they will create a connection with the new people with the area will create more connection with the place. For this topic, I have come across aesthetic creation theory which says that we can build around the old things without destroying them. It can serve both aesthetic topic and community development. The purpose of keeping the old thing which will create a connection with the people, it will say about this place, how it was, how it has been over the past years. It will tell its own stories. Just like the New York Highline project, where old train tracks were conserved, and a new urban park was designed on it. There is already a group working towards the development of Karlholm Strand, who made a square with the help of the local people, mayor, and EU. They can be included in making the new square and connect both old and new square.

While studying this project development, I realised that the basis of community participation and co-creation of place-making was missing here. This led me to the research of the development of the placemaking point of this project. If we compare traditional planning with the current planning approach of creating a `sense of place´ by analysing the form and architecture of places, it is understood that it is a rigid approach because this is not in accord with the view of the places where there is social and cultural complexity (Røe, 2014). There will be a different class of people in the area which need to be included as it can lead to the development of a gated community. The gated community is a sort of development where there is a restriction in access to privileged forms of housing. This raises questions in having to do with gating in general in the public areas and between different sections of

the society. Giving access to the nature area, provide urban spaces for all should be a big priority while designing a big project like this.

There is no shoreline protection in this project area, which lead the developer to build structures just beside the water, which lead to the restriction of access to the shoreline. There is almost a 3.2 km area where most of the spaces will be exclusively for the people who are going to buy those villas and row houses. There will be a great view from those houses, and those residents will have private shore spaces, but what about the general people of the area? The people of Karlholm Strand? This led to the questions of planning ethics. Should we just ignore the common right of accessing the nature area by the people of Sweden and built structure there? This is the place where planning ethics need to come and should say that we should not do the kind of development where the general people´s rights can be in question. The planners need to come with different ideas to solve this situation than making this kind of planning decision.

After analysing these topics, I moved to the next step of working with different tools, which can, together with this theoretical knowledge, led to the result of an alternative proposal for this area. As a tool, the SymbioCity approach was used, which is being used in the different municipalities in Sweden and in different countries to solve urban problems where People are put on the centre to derive the design development. After this, Interviews were done both online and in-person at the site with some questions to know what they think about the current project development and as well as what they expect from this project. The same set of questions with some additional questions were to do the interview of a municipal authority to get his input about this project. Different kinds of programs were derived from interviewing them, and also, they were later connected with the points from the SymbioCity approach.

A case study of Hammarby Sjöstad´s old and new plan and Gävle project was studied in order to know about how projects were done in the shoreline. It was found that where there was access in the shorelines in Hammarby Sjöstad´s old development, the community was more open as people could easily come and go. But in the new development of Hammarby Sjöstad, it has become a gated community. Gävle project was studied to know what kind of measure is taken to address the sea level rising issue.

Site observation was done by going there physically and get on-site data and pictures. It helped to get to know about the surrounding site. It helped to know what kind of houses are there. The in-between spaces of the houses play an important role in community development. Some boathouses are there in the area, which helped me to introduce them to the project. The historical buildings in the site surrounding and also the factory area helped to visualise the future of the Karlholm Strand. The sketches later helped to get to know more about the historical building

more as different forms, its transformation over time, and eventually, the demolition of the building was studied.

After going through all this methodology, a guideline was made, and then different options for the alternative proposals were made to reach the final result where spaces for both new and old residents were designed with keeping in place-making, aesthetic creation theory was used to design an urban park on the roof of the old buildings while keeping the façade of the buildings intact like old times. Different urban functions were incorporated inside those buildings. The Square area was introduced while creating a connection with the old square. Spaces were designed in a way that they can be changed over time, while local people can come and contribute to the design process. Local artists can work on different kinds of spaces, like in the roof garden, in the English garden, in parks, nature areas, shorelines, and in the squares. Shoreline access is insured with four different themes. From the initial 1000 housing proposed by the developer, 490 houses were proposed in the new development by introducing more areas for the parks, squares, trees, and in-between plots. This will help to create more spaces for the community development and give more green areas while keeping the density in a number that can be served by the infrastructures which are going to be built in the area.

There is 109 area in Sweden like this Karlholm Strand where there is no shoreline protection. The current development should not be an example that can be repeated a second time in those other places. I hope that this thesis can break the comfortably numb situation and authority will think differently about the current and future projects like this.

Acknowledgements

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Abbreviations

CBC	Common benefit company
NGO	Non-governmental organization
EU	European Union
LIS	Landsbygdsutveckling i strandnära (Rural development near the beach)
SALAR	Swedish Association of Local Authorities and Regions
SIM	Svenska industriminnesföreningen (The Swedish Industrial Heritage Association)
SLU	Swedish University of Agricultural Sciences
TICCIH	The International Committee for the Conservation of the Industrial Heritage

1. Introduction

1.1 History of Karlholm Strand

Karlholm strand is situated along the Uppland coastal area in the Tierp municipality in Uppsala County (Figure 1). In Uppland, there was all the fundamental natural accumulation for iron production. Like Ore could be collected from Dannemora. There were forests to collect charcoal and hydropower from the water channels, which could be used to blast furnaces and smithies. For these reasons, there were almost thirty ironwork mills functioned back in the days in this area (Figure 2).

These mills were used to call `Walloon mills` as the Walloon professionals were the people who worked in the iron production. The Walloons people came to Sweden from Wallonia, which was present-day Belgium. The Walloons were hired to Sweden by some provident business leaders, mainly by Louis De Geer. A large part of the production was exported, mainly to England. The Walloon smithy continued from the early 17th century until the 20th century. (Vallonbruk I Uppland, n.d.).

Figure 1: Showing the location of the Karlholm strand which is in the northern part of Tierp municipality and south-east of Gävle (Google map, 2021).

Figure 2: The red dots in the map show the location of the Vallonbruks in Uppland (Om Vallonbruken, n.d.).

There is a brief history written on a billboard with an area map of the area at the Karlholm Strand´s square (Figure 3). From this written history and some other sources like their official site karlholm.nu, it was known that Karlholm is an embellished society from ironwork and working-class society whose opulence was historically founded on ironwork handling, which began way back in the 1730s when iron was Sweden's largest export commodity. However, the construction of the mill was started in 1727 when the owner of Lövstabruk, Carles De Geer bought the area to extend his vision for iron mills. He wanted to take leverage of the forest assets around this area. During the year 1739, Carles De Geer organised a school for teaching the children in the mill area. It was almost 100 years before obligatory schooling was started in Sweden (Forsblom, 2009).

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In 1879, a new method called Lancashire forging replaced Walloon forging. In 1880, a large new forge was ready to get in production. By this time, the steam engines had also been introduced in the mills (Vallonbruk I Uppland, n.d.).

Figure 3: History about Karlholmsbruk and Vallonbruk in the billboard at Karlholm Strand square (Vallonbruk I Uppland, n.d.).

The iron-making era ended with the closing down of the mill in 1931. A new chapter was started by Karlit AB and its subsidiary Kadax AB, as they erected a factory and started production of processing the wood residues from the forest industry in 1937. There were many companies part of this factory (figure 4) over the years but the significant one was in 1995, when IKEA became part of this factory as a 25% owner and later became full owner. IKEA was part of this factory from 1995 till 2004. Ikea left in 2004 (Forsblom, 2009), but the production for the Ikea continued. They were manufacturing complete sets of furniture. Futon Hermes was one of them. But eventually, they also moved to other places for production, and by that Karlit was in deep trouble. The factory got bankrupted in 2012, and overnight many people lost their job. The land value of the surrounding area also dropped with the ending of the factory.

A private developer bought the old factory area by the water at low price in the auction in 2013 (Moreno, 2021). The Swedish shoreline protection regulation did not apply where the factory had been. A new detail plan has been adopted for a residential development with buildings very close to the water.
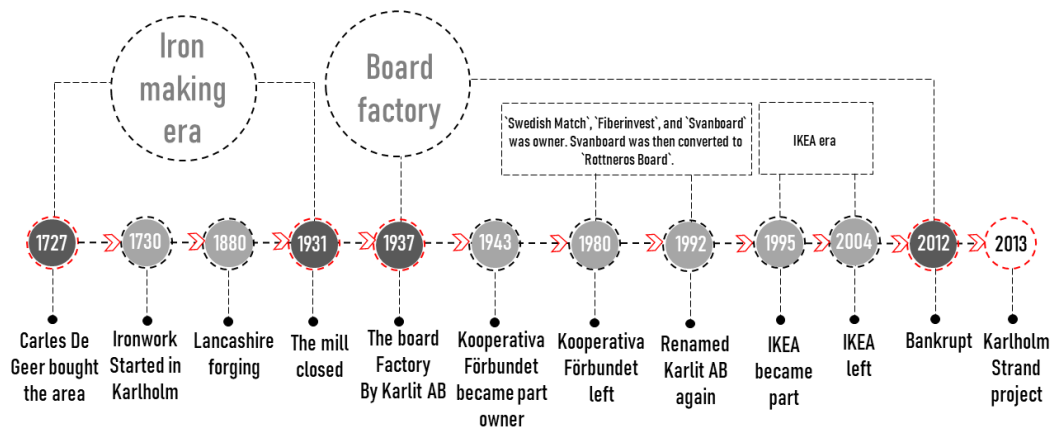
Figure 4: History timeline of Karlholm mills and its area based on the study (Author, 2021).

The Swedish shoreline protection is there to protect the shoreline and ensure access to the natural shoreline for all the people as it is `Allemansrätten` - Everyman's right to access nature. From 2009, the municipalities got the power to point out countryside development in coastal areas to attract more investors (Landsbyggsutveckling i Strandnära, LIS) where it is easier to build buildings next to the water. Tierp municipality in Uppsala used this opportunity of exception to the law for shoreline protection and pointed out Karlholms Strand to be a LIS area (Larsson, 2019).

1.2 Problem statement

The current masterplan, which is available on the Karlholmstrand.se (Figure 5) website, is mostly focused on the residences and boat storage facility. According to the developer, Karlholm is going to have an exhilarating future. The old industrial area is being altered at a speedy pace to turn this space into a thrilling, easily reachable, and attractive area. The area will be for housing, holiday homes, various activities, recreation, service, a boat garage, and a new marina.

By studying the plan, it was understood that the green area is segregated. There are greens patches, and one smaller park there in the masterplan. There is a position for school here, but eventually, no school was designed later in the detailed plan. There is no healthcare facility, community centre, a day-care centre for the future residents. The alleys down to the shoreline, there is no continuous walkway or green nature park by the sea. Most of the residences are close to the shoreline area with private boat parking, which will be good for the residents with boats, but this design approach is creating a problem for public access to the shoreline. Nature is being privatized here. This design approach will attract one specific sector of residents. If there are no shoreline protection, should we not think about the current community who could have access the shorelines? This has led to the question of planning ethics.
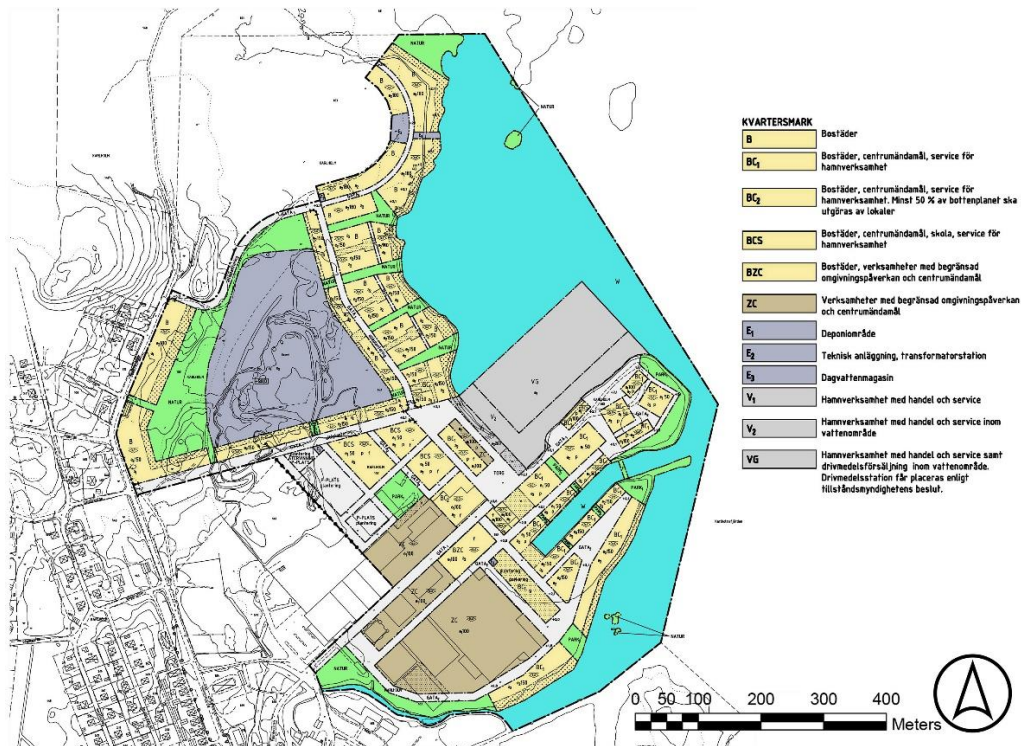
Figure 5: Current detail plan which is being followed for building permits of Karlholm strand project (Tierp, 2020a).

The harbour will be in the centre of the planning, which is being considered as a hidden and surprising gem for Karlholm strand. This area will have its first marina, where the port will be four meters in depth. This will work as a provision between Öregrund and Gävle. This port will have additional services like fuel, ramp, and lift for picking up boats. But has the detail plan process got the view and inclusion of the local people? What they want? A survey or interview can reveal what the local people think about this place.

The main factory building was demolished where the new square and new residences are proposed. Few of the southern buildings from the old factory area was renovated to work as the boat storage area. From the history of Karlholm strand it is evident that, this factory area has been used by people for generations. Even after the demolition of the factory area, the people of Karlholm Strand have formed a group and working in different places within their area. They even made a square all by themselves (Hjort, 2014). So how this community could be used to develop the area?

In the northwest part, the waste soil is being treated and stored. This is a big area which need to be researched further to see what can be done in this big area.

There are no plans on the blue and green structure as from the plan it is evident that the main focus was on the residences and adjacent shore for boat parking.

The detail plan say that it has opened the sea to the people, but when reviewing the plan, it is seen that it will be just for the people who will buy those plots. This

3.2km long beach will be for the new residents, not for the public or old Karlholm residents who live nearby. Apart from this square, restaurant, gym facility, a small portion at the north; the whole area will be accessed by only the people who own those plots.

From the above-mentioned points it is evident that, when the developer bought the site and started to make big plans for Karlholm strand, the detail plan process did not consider issues like the history of the site, place-making, community, and planning ethics.

1.3 Aim of the thesis

The aim of the thesis is to develop a place-making proposal for Karlholm strand based on a planning ethic, founded in community development ideals and landscape aesthetics.

For this thesis project, there is a scope of working with the factory area, which was demolished by the developer, the reason behind working with this area is to make a connection with the existing villagers and newcomers to ensure community development where both groups could enthusiastically work towards ensuring a healthy and liveable community for their current and future generations. It will work with the history of the site to make people connected with the new development. The Shoreline design needed to be analysed to ensure access to the shoreside for all the people as this site does not have any shoreline protection.
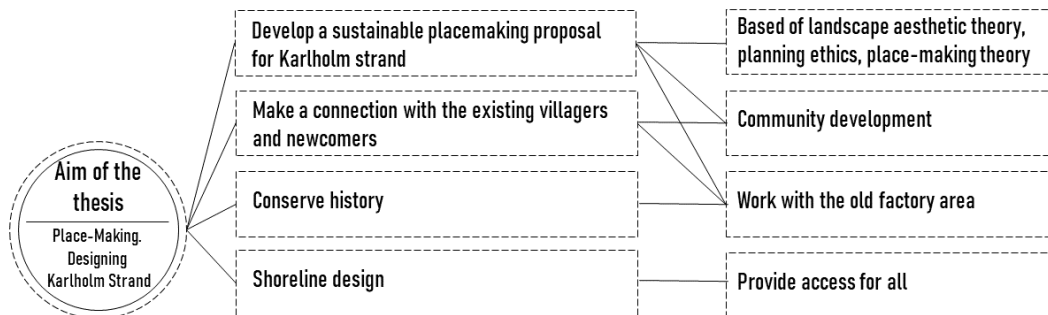
Figure 6: The diagram shows the methods which were used to reach a design proposal (Author, 2021).

1.4 Research questions – Place-making proposal for Karlholm strand

Based on the aim of the thesis, which is to develop a place-making proposal for Karlholm strand, I have developed 4 (four) questions to reach the aim. They are,

1) How can aesthetic and community drive a project like this which has a long history of its own?
2) How to accommodate access to the shoreline in a project like this where there is no shoreline protection?
3) What kind of design approach and safety need to be applied while designing residences in the shoreline?
4) How to improve the use of the old factory area to connect the local people with the past and the new residents moving in the community?

2. Methodology

By using both inductive and deductive approaches wherein in inductive approach, the interview and observation of the site through site visit and sketches lead to a rational point, and it was done from a precise reflection to a broader generalization of my research topics. In the deductive approach, different literary and documents were researched; for the design approach, SymbioCity approach was used. SymbioCity approach was used as it has been using here in Sweden´s municipalities for designing cities and towns where the tools cover a different sector of planning. Interviews were done with the locals and municipal authorities.
Based on the aim and four research questions, these four points of the method were used to reach the aim and answer the research questions.

1) After doing literature studies, relevant theories like, aesthetic creation theory which can help to conserve the long history of Karlholm strand, planning ethic points while designing, and SymbioCity design approach to make a design proposal.
2) A study of the ethical considerations in the shoreline designs, the arguments for neglecting the shoreline protection by the Tierp municipality.
3) Cases are used to understand issues which are relevant in Swedish shoreline development and sea level rising.
4) Interview the municipality authority, local people, future residents, and the developer to know what they visualize about the future will form a basis for

this project and studying community development theory and existing community.

To reach the aim of doing a place-making proposal for Karlholm strand, three main themes were identified. They were aesthetics, community, and planning ethical considerations while designing in the shoreline. There was a theoretical study on those points. The existing condition of Karlholm strand was compared with these points. SymbioCity approach is central in this study and the methods which has been used here are the tools to assist this approach.

In the case study, Hammarby Sjöstad´s old and new development and also Gävle project was studied with comparing with the situation of Karlholm strand.

As the site has a long history of factory area, sketches were done to know about the spaces which can be used to generate the spaces where people will know about the past and can get a sense of what has been here for a long time.

Site observation was done to know what has been going on the site and also the surrounding area, to get to know about what kind of residences, public functions, roads, and more are there.

For the collection of the data, both primary and secondary data collection techniques were used. As for the primary data sources, site studies, online and on-site survey questionnaires, and sketches through observations were used. For the secondary data source, they were collected through different literature, different government documents, informal interviews from the newspaper articles, blogs, and social media posts were used.

2.1 Theoretical Framework of Aesthetics, Community development, Place-making, and Planning ethics

The study of this thesis is concentrated on the theme of aesthetics, community development, place-making, and planning ethics. Different definitions and documentation were studied within these themes, which were relevant to the aim of this thesis. Chapter 3, 4 and 5 covered the theoretical framework. Chapter 3 covered Community development and aesthetic creation theory, Chapter 4 covered place-making, and chapter 5 covered planning ethic.

The history of Karlholm strand were studied to connect it with aesthetic creation theory. Through the study, it was realised that there was a connection between community development and aesthetic creation theory. That is why community development was studied with aesthetic creation theory. For place-making, theories related to place-making were studied to connect with the existing situation of Karlholm Strand. Planning ethic was studied in order to know what kind of development could be done in the places where there is no shoreline protection.

The theory points which were used here are mostly from the study of the `Landscape architecture for sustainable urbanisation (LASU)` course. The data was collected from various sources where both secondary and primary data sources were used. In the process of data collection, various data materials like theory, literature, books, research documents from the private sector and government. Few of the government documents were in Swedish, which I had to translate through google translator. Apart from these there were some other sources like newspaper articles, maps, images, videos, interviews, social group posts, etc which were used in this thesis. Two essay writing materials that I had done during the study of two theory courses were used in the writing of the theory framework part. In the previous two theory courses, these points were taught, and I had also written two essays on these topics, which are attached in `Appendix 2`.

2.2 SymbioCity approach

For the SymbioCity approach, an urban design office name Urbanwork, from Stockholm was consulted to get to know more about this process in more detail.

SymbioCity approach is central in this study and the methods which has been used here are the tools to assist this approach. As all the methods are connected with SymbioCity, to understand this approach easily and to know the project in details, theoretical framework was discussed before SymbioCity approach.

The reason behind using the SymbioCity approach (Ranhagen and Groth, 2012) for this research is, it is both a comprehensive and broad approach to sustainable urban development. This way, the urban challenges are moulded into opportunities. Also, SKL International and the Swedish Association of Local Authorities and Regions (SALAR) use this SymbioCity approach to help local, regional, and national administrations around the world, where they help to plan and build both sustainable and inclusive cities. The SymbioCity administers both a theoretical approach and a practical methodology which addresses the urban challenges mentioned in the New Urban Agenda and the Global Development Goals 11.

The cities should be for all people and not for a specifically targeted section of society. To establish a sustainable and inclusive city, voices from different sectors must be heard. Then they should be incorporated in the planning and development operation. This approach does listen to local stakeholders and adapt to their context, needs, and interests. This eventually benefits in developing tailor-made local capacities, institutions, and processes. This also empowers local ownership, which eventually has a long-lasting outcome.

Figure 7: Diagram of conceptual model of SymbioCity approach (Ranhagen and Groth, 2012).

A conceptual model (figure 7) lays the theoretical base for SymbioCity approach (Ranhagen and Groth, 2012). This conceptual model is combined with sustainable urban development. The model shows the environmental, socio-cultural, economic, spatial, institutional and systems dimensions of sustainable urban development where the people are the centre of this model.

Apart from the conceptual model, there is a six-stage iterative journey (figure 8) is an essential part of the SymbioCity approach. The six-stage working process can comply with triumphant local conditions. It can also comply at different levels like the region, the city, the city district, the neighbourhood, or a single block. This six-stage process can be used to re-valuate city plans in order to administer strategic orientations for sustainability, to carry out existing plans, or to diagnose necessary institutional, organisational and managerial adjustment.
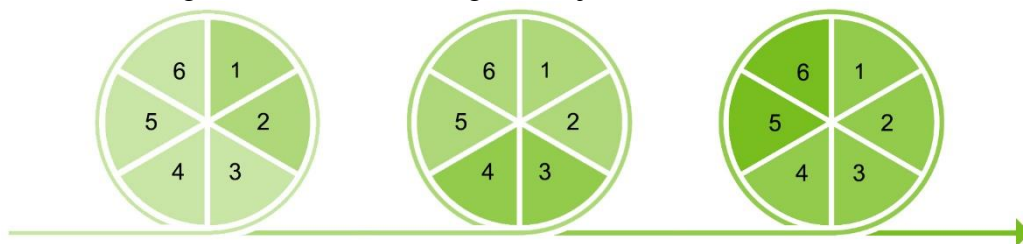
Figure 8: Diagram of six-stage iterative journey of SymbioCity approach (Ranhagen and Groth, 2012).

2.3 Interviews

It is in the Swedish legislation that the local people shall be included in the planning process, and the SymbioCity approach also put emphasis on the local people being part of the planning as it is an important step in the design process so that they can feel included, and this place does not feel alienated to them. In this covid situation, arranging a design workshop was a difficult task, and with time constrain, I had to do most of the interviews online. But during the site visit, I was fortunate enough to get a few people´s interviews. There was total 18 people participated on online interview, and 4 people during on site interview. The main targeted people were the local people of Karlholm Strand. Both online and onsite interviews helped me to get their opinion about the project in general, what their vision is for this project, what they want to see in the future. For the interview, I articulated some interview questions for both local people and municipal authorities. There were some common questions for both of them, and there were some different ones to know more in detail about different perspectives. Total 18 (eighteen) local people participated in the online survey; during the site visit, 4 (four) people participated in the survey and discussion, and one person from municipal authority participated in it through email.

Interviews collected from social media like Facebook, different blog posts, and newspaper articles were used in this thesis also.

2.4 Study of reference projects close to seashore.

The case study part of analysis was an important part of getting an understanding of the situation in Sweden in terms of waterfront development and how sea level rise is being thought in the projects which are being built close to the sea.

In the Hammarby Sjöstad´s old and new development, where the old one was developed in the 1980s, and the new one in the late 2000s was studied to know how the waterfront development, building height, and density was thought in these two developments. Gävle project was studied as Karlholm strand is close to Gävle, Gävle strand documents for sea rise was studied to know what kind of measure was used in this project to design in the shorelines.

2.5 Site observations

Site observations were done through a physical site visit of the thesis area for 4 times and desk top analysis of climatic affects. The purpose of site observations was to know the site more in detail on hand and also to get familiar with the site surrounding. Different aspects of the site and its surrounding emerged through the

site visit. Spending time there, get to talk with people, eating at the local restaurant, walking on the sites, and surrounding helped to perceive the site in more depth.

Climatic data like the wind direction, sun path diagram also studied by collecting information from relevant websites.

I have documented the site surrounding by taking pictures on mobile, taking notes on notebook, and talking with local people.

2.6 Sketching: Experience the history of the factory site by sketching.

Sketching always helped in the previous courses to know things more in detail. In the studio course of LASU, sketches helped to get to know the project, the site, and the programs. For starting the design, I wanted to go through the history of Karlholm, what kind of spaces had been there, what kind of forms were generated over the years. For that, I collected some reference pictures and made sketches from those. The intention was to find out some details by sketching. From an image, it is hard to make focus on one thing. Sketching can take time, but by doing so, it can be understood thoroughly. While designing the alternate proposal, it helped me to bring back some of the old factors which were there in the Karlholm Strand area. The sketches were done at home from the historical pictures and videos available on internet.

3. Community development with history and landscape aesthetics considerations

3.1 Current community of Karlholm Strand

From the rural development department, every year, there is an award for local development by the rural minister, and in 2014 that award was given to the `idea and development group` in Karlholm. The award was given to them because, after 2012, Karlholm was going through a crisis, but the local people came forward together to face it. They developed their old factory square as a community (Figure 9). With the help of EU money and backup from the Tierp municipality, they were able to lay 800 square meters of paving stones all by themselves. From the mayor to the young people, pensioners, local football team, local arts, everyone came forward to make their own square and discuss the future, which consists of a cafe, microbrewery, and to increase tourism in the area. Their old pride, the factory is gone as the old factory building is demolished and the whole area is visioned as a residential and boat storage area, and the paving is the new symbol of the future without industry. They have tried to turn this crisis into an opportunity. They have recognized that the development of the area can be done by the Karlholm strand´s inhabitants' own people (Hjort, 2014).

Figure 9: 800 square meters of Karlholm square is built by the community development group at Karlholm mill square (Author, 2020).

When the developer bought the factory area to develop it, everyone started thinking about a bright future. During a discussion with the municipal authority, they revealed that people from Karlholm were looking forward to the project as they thought this project would increase their land value and it will change the whole landscape of the area. Even though the infrastructures which are needed for an additional 2500 people are not there. The public infrastructures like kindergarten, school, college, health facility for these additional inhabitants is yet to be built. These need to develop gradually over time. Even the municipal authority thinks it can cause problems If suddenly there is this big number of people coming to this place. The municipal authority also think 1000 people is a more realistic number in this area for now. The total inhabitants of the Tierp municipality are around 20,000, and in this small area, they are trying to add one-eighth people of the whole municipality and more than double of inhabitants who are already there in Karlholm. The current number of inhabitants of this area is around 1200. In figure 10, it can be seen that over the last 60 years, there has no prominent development in the residential area. Even after the closing of the factory, it is still the same.
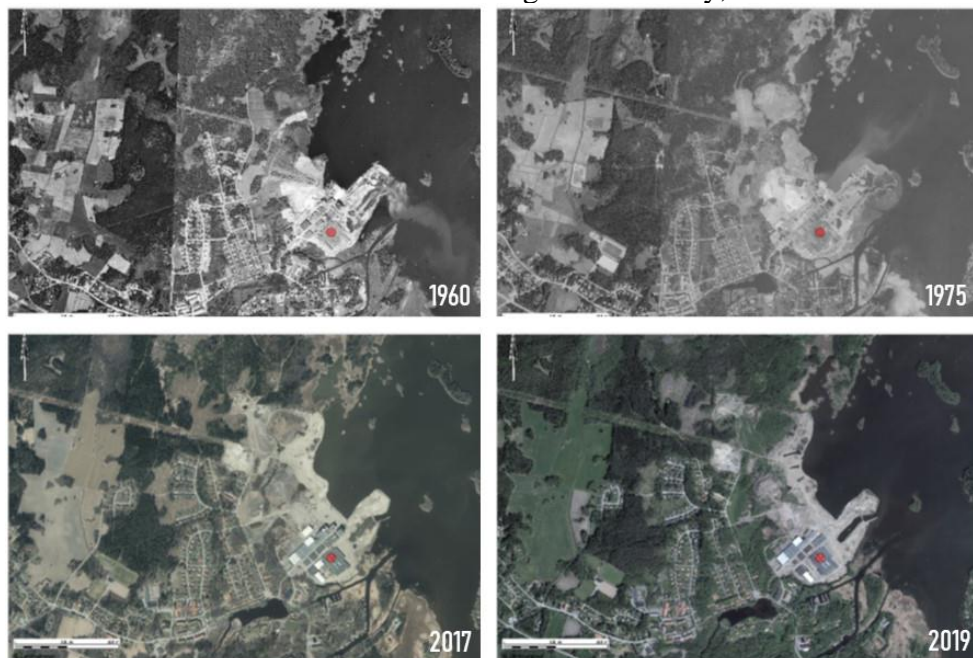
Figure 10: Historical map of Karlholm strand where the development of residential area has been in almost same situation over last 60 years (lantmäteriet, 2021).

But the developer of this project has a different idea and perception of the development of this place as he is not thinking about old factory area or not giving access to the shoreline for the existing community. From the project website in Karlholmstrand.se, it can be seen that there are beautiful renders and project picture display that the developer is making something different than what is there in the Karlholm area.

Paul Selman, who is Emeritus Professor of Landscape at the University of Sheffield, has published much research on the landscape, environmental

management, and sustainable development, thinks that a cooperative goal of policy and planning is to reconnect landscapes in a bracket of physical and social ways. The physical connection can be made by connecting something on-site, and social ones can be done by involving rescuing networks between people and places (Selman, 2012). As aesthetic creation theory also talks about keeping something on-site, that is why it was studied further and then connect with the community.

3.2 Aesthetic creation theory

Zangwill´s aesthetic creation theory of art gives an understanding of aesthetics that goes beyond the term `aesthetics`. His theory strengthened the essential role of aesthetics for a prosperous practice of landscape architecture. According to Rudi van Etteger, Ian H. Thompson & Vera Vicenzotti (2016), the designers should have insight into a project where certain aesthetic properties depend on the certain non-aesthetical property of a project, for example practical or ecological ones. In the New York Highline project, it is seen that the historically existing train tracks are still there without being serving any functional use, but this adds to the idiosyncratic quality of the project in an aesthetical way. The designers could have got rid of the train lines and made a park that is elevated or a park on the ground, but they had chosen to keep the historically existing property and added more value to the landscape (Rudi van Etteger, Ian H. Thompson & Vera Vicenzotti, 2016). The landscape is just not scenery, and it is more than this. It is an organization of different natural and social subsystems where its assets evolve from compelling relationships between these subsystems.

Figure 11: Old Karlholm factory building (Sahlberg, 2019).

The historical heritage of the iron-making era from the 1730s and onwards is very strong in Karlholm. When the iron-making era came to a stop, the industrial heritage continued with the Karlit board factory (Figure 11). It has been there since the 1937. It is not that vintage comparing to other buildings like Lancashire smithy house, but according to the local inhabitants and municipal authority, it is one of the significant industrial heritage of Karlholm. The first thing the developer has done after buying this land was demolishing the factory to develop it into a `modern seaside residential area` which they published on their website karlholmstrand.se. The kind of aesthetically rich landscape which could have been built here by keeping a historical factory, as they did with `New York Highline`. The connection

which could have been made through involving people and place to generate a landscape for its people, the factory building it is gone now but there are still some storage areas left. There is an importance of history and heritage in our civil society that should not be undervalued. As human beings, we have an inherent need to maintain a connection with our past, both as a collective and as an individual person (Botta and Maria Ramos, 2016).

3.3 Connection between community development and aesthetic creation theory

As Selman (2012) pointed out that the physical connection can be made by connecting something on-site, and from aesthetic creation theory´s example of New York High Line project where they kept the old rail line, here in Karlholm Strand the old thing which were there were factory and storage buildings. The storage buildings are still there but the developer is converting them into boat parking and residences.

As it was already seen that the community came together to develop the factory square, then why did they not protest against demolishing the factory? A local resident with his brother, owner of a gas station for 36 years in Karlholm has hopes of new development on Karlholm strand. They have tried to sell their property. There had been talking with some stakeholders for the property, but it always got stuck with the bank. The bank saw no value in their property. They were not convinced that this property could have some business opportunities in the future. Like them, many other inhabitants were facing the same problem. Both of them loved the old factory area and wanted something around that. But it was not possible. Now they are looking forward to the Karlholm strand project being a success as they think this project can bring value to their property. Both these brother think that Karlholm´s pride day of the factory is gone; they need to think about something else in the future, such as tourism. That is why they are in full support of the project as the current developer was the only one who came forward to develop this area (Fröberg, 2015).

But the developer has a vision of having a certain class of people in this area. During the conversation, he mentioned that people want to see nature; they want to be close even from inside their house. According to Duncan and Duncan´s (2001), there is an aesthetic recognition of landscapes and the fascination to protect nature in Bedford which act as the reaffirmation of elite class identities. Comparing with this point with the developers' point, the developer´s vision of aesthetics relates to the elite class´s point of view. He thinks landscapes can be a proprietorship that can perform an important character in the achievement of elite social identities. This sort of social characteristic can be accomplished and cultivated by protecting and appreciating the beauty of places. If we go up the scale of wealth in a community,

the owners of the property apprehend to have more authority over their property (Duncan and Duncan, 2001). When contacting a potential buyer of this new development of housing, she mentioned, `*Why should not people be allowed to live in the houses closer to the shore? I am going to buy this house with my hard-earned money, so why should not I use the shoreline for myself which is my property? Policymakers and government think we should not and still, they are taking a large amount of money from us. I want to have my resources on my doorstep, and I want to control it. Yes, I have a basic philosophical difference with the policy here, but I am not causing any problem. I want to live there in my last few years enjoying the sea*`.

This political association and view also involved key incompatibility between quality-of-life of the potential migrants in a place and environmentalist politicians, policymakers. Although exurban conservatives are influenced to see some personal gains in special policies to shield the landscape (Walker and Fortmann, 2003). This kind of worldview is problematic as it will make the public spaces that are for all the people of Sweden by obstructing the people´s rights. It will also lead to the exclusion and individualization of societal life. This is going to be what Duncan and Duncan (2001) mentioned in their study of Bedford, where the residents take gratification in their property as well as its appraisal build upon governing the aesthetic and spatial convention of the whole community. They like to reckon that the control of land grants them the amend and obligation to yield a town's landscape as a comprehensible aspect, a visual creation, or an exclusive "work".

The development of Karlholm is also going in this direction where the residents will have their property in a way where general people will not have access to the shoreline area, it will be just for the residents. Here Duncan and Duncan have mentioned the problem of the Bedford community by analysing their exclusionary boundary drawing through aesthetics. Such aestheticization has a negative result. When the traditional land-use economy meets new aesthetically based landscape consumption, nurtures conflicts over landscape ownership and landscape in general, it creates segregation and inequality. Aesthetic values are occasionally seen by local decision-makers as a positive value. They weigh it more than other issues they have an obligation over as they make trade-offs between aesthetics and other areas such as social justice, safety, economic gain, or convenience (Duncan and Duncan, 2004).

The developer and future residents surely have enthusiasm in recognizing the production of landscape and space-making, and all the thousands of cultural mechanisms and politics that go into making it. Do we really care about this kind of development where we are destroying the landscape? All this thinking is the reason for the destruction of the landscape. They are destructions of real physical places. These kinds of destructive thinking constantly need to be contested (Mitchell, 2003).

4. Place-making in the shoreline development

Swedish post-welfare housing policy had introduced a market for the privileged end of social groups, where the private developers could provide exclusive housing forms which were new to Sweden. The people who bought in this top position had the broaden option, choice, and expression of the style of living. In this way, housing was mainly marketed to the group of the middle and upper-middle classes who could bear to buy a new house. Only 27% of the total Swedish population belongs to this group of people (Boverket, 2014a).

Here in Karlholm Strand, the developer has cleaned up the whole industrial area, demolished the old factory premise, renovated several premises, which are approximately 5000 square meters to make 1000 houses around the shore. The very evidence that the basis of community participation and co-creation place-making was so abruptly missing here in this development, led to the investigation of the formation of placemaking of developers and planners in this project.

In today´s planning situation, there is cultural intricacy. Not just this, governance and entrepreneurial policies also create difficulty to reach social welfare and sustainability in making places. Generally, while design a place, the investigation of places has been executed by architects and planners. They have done this by concentrating on physical structure (Røe, 2014). Placemaking in this perspective was an expression without accomplishment. Many planning consultancies and architects used aesthetics of place as a polity option to show their expert-based analysis for placemaking. Because of the employment of plans grounded on such analyses, many towns and villages around the world were reformed by the experts. The planning architects had gained status as expressing rich signs and forms which connect with the cultural perception in a way that is not only important economically but also politically. Comparing to traditional planning, creating a `sense of place´ by analysing the form and architecture of places and towns is a kind of a rigid approach (Røe, 2014). This approach formed a stronger emphasis on aesthetics and architectural heritage. This was not in harmony with the progressive view of the places as there is social and cultural complexity, and there are different interests in different parts of a town and community.

Figure 12: Render image of the houses in the shoreline and a view of the sea from inside the newly built houses in Karlholm strand (Högberg, 2020).

Here in the Karlholm strand, the developer is going after the aesthetics where they are showing eye-catching render to lure people into buying it by making sense of place, which is totally different than what is there now. They are using the sea view inside the residential buildings and boatyards adjacent to the houses (Figure 12) to give people something which is hardly possible in Sweden because of the shoreline protection. If we compare this with Lefebvre's (1991) (see Røe, 2014) depiction of space and placemaking, they may be suspects of the form of 'symbolic violence'. They were totally ignoring the opinion of people who live and breathe there. Despite recognizing the emotion and desire of a place, the experts found it hard to decode this into a conceptualized arrangement. Dislodgment of emotional and humane aspects of areas is a significant let-down in planning (Twedwr-Jones, 2011. see Røe, 2014). If these design principles are eliminated, the place may lose its individuality, which will eventually be consequential in 'loss of place' (Norberg-Schulz, 1980. see Røe, 2014). The developer saw the opportunity to develop something unique as it offers great opportunities to take advantage of the attractive location of 3.2 kilometres of beach strip without shoreline protection and a beautiful archipelago with the opportunity for boats to enter a marina. There is no such site that exists between Gävle and Öregrund.

The housing development in Sweden is enduring a subtle cultural and ideological change. It is going towards a more elitist perception of housing and privilege. If we see the development of luxurious housing in Västra Hamnen in

Malmö and Hammarby Sjöstad in Stockholm, where developers were predetermined to captivate the wealthier class who would end up living there and will pay local taxes, which will eventually help the municipality. The kind of choice, inclination, and interpretation of lifestyle have changed for those who invested in this upper rank of society. Housing for this elite group is becoming a statement of individuality and style. This kind of demonstration of luxury is a new circumstance in Sweden. This sort of development where there is a restriction in access to privileged forms of housing raises questions in having to do with gating in general in the public areas and between different sections of the society

(Grundström and Molina, 2016). As Duncan and Duncan (2004) have mentioned in their book `The landscape for privilege`, there were social splits in Bedford between the new upper-middle-class residents and an old working-class where the landscape played a crucial role. Also, if it is shown a gratification towards landscapes and a wish to shield local history and nature, it can perform as a delicate but highly compelling instrument of exclusion and reaffirmation of class identity. As compared to these examples and housing cooperatives, it was seen that the private entrepreneurs are ineptitude to include a different social group of people; based on this, there is a big question mark not only over placemaking but also over community development in this area.

5. Ethical considerations for shoreline design

The poet Selander (1936, see Qviström, 2010) claimed that the landscape is for the well-being of the communities of Sweden. He wrote, `No-one owns the Swedish landscape or Swedish nature, not even if he owns every field for miles around, this truth needs to be repeated until it becomes self-evident`. We need to perceive and conduct landscape and nature as common values, and for this repercussion, we need spatial planning (Qviström, 2010). When Rachel Carson published the book `Silent Spring` in 1962 about the catastrophic effect of buildings on the natural habitat (Carson, 1962), with the whole world, Sweden also reacted to this topic. Nature was adopted in the Swedish constitution. They comprehended nature reserves, shoreline protection and made the `Environmental Protection Agency`. According to this Nature Conservation Act (1964: 822), `Nature constitutes a national asset that must be protected and cared for. It is accessible to everyone according to the right of public access. Everyone should show consideration and caution in their dealings with nature` (Naturvårdslag, 1964). Shoreline protection and rural development both are in the Sustainable Development Goals set by the United Nations in 2016. The shoreline protection is part of goal 14. The part of goal mark out that the shorelines need to have protection as shorelines are exceedingly affected by human actions. On the other hand, urban and rural development are marled out in goal 11 where it stakes that there is a need of regulating the

accelerated urbanization and to stop the rural evacuation (United Nations n. d.). But rural development in the protected shoreline areas recently got part of a new law where it was designated to make rules different from other shorelines to make the rural countryside more pleasing with different construction development. From 2009, the municipalities got the power to point out such countryside development in coastal areas to attract more investors (Landsbyggsutveckling i Strandnära, LIS) where it is easier to build buildings next to the water and maintain coastal protection to a certain extent. Usually, the protected coastal area is 100m to 300m (Boverket, 2018). Tierp municipal used this LIS tool and decided to add the Karlholm shore area under the rural development area and removed the shoreline protection. But this can cause problems with free access to nature. Miljöbalken wanted this protection of nature in order to ensure free access to nature for all people in Sweden (Miljöbalken, 1998:08, ch. 7, § 15).

Figure 13: Current picture of the new houses which have been built close to the water (Author, 2020). Figure 14: Boverket drawing showing to give a free passage in nature (Boverket, 2018).

Does no protection mean one should build the houses inside or close to the sea? Does it mean apart from the people who will live on those buildings will not be able to enjoy nature? If we see the images here in figure 13, the houses are being built close to the sea. When the comments of the future buyers of these houses were read on social media (Grundin, 2020), they were happy that they could have a great view of the sea from their houses, and they would love to buy it. People connected with the project mentioned, the first nine built houses are already sold. So, should these buildings be built like this, or could the developer still have left a space that could give free access to the people? Which is shown in figure 14 by Boverket, maybe not 100m but at least enough space that people can still enjoy nature and at the same time ensure privacy and view? This is the time where planning ethics comes into action. Planning ethics indicate to the assimilation of ideas from the fields of planning and moral philosophy. Planning ethic is expected to interpret the fact that planners and planning can be improved from integrating ideas from moral philosophy into planning thought and professional ventures (Smelser and Baltes, 2002).

When the developer shows a dream to the future people living there and the people who are already there, everyone forgets these points like access to the shoreline, which is going to hamper in the future. According to Metzger, it is hard to find a pure and unmanipulated planning process anywhere in the world. The planner should take an obligation for the ramification of their action and think about planning ethics (Metzger, 2013). According to the developer, this area can be developed for boat life. The people who will live here can easily access the sea and use boats to enjoy their hobby and the nature surrounding their houses. He is thinking all about the people who are going to live there. Thinking about the people from other parts of Karlholm who want to roam around nature is clearly absent here.

A question can be asked if the municipal authority and locals should have waited more time to look for someone who has a vision connecting with the history of the Karlholm and carry forward it. They could have just cleared the factory premise area where there is polluted soil and develop the area as people here in Karlholm Strand has seen this place for generations. They could have looked for other models that consider the welfare of society and the environment. According to the municipal authority, considering the polluted soil and water surrounding the area which needs treatment and will take time to develop, this was the most feasible plan to go forward.

6. Analysis and finding from methodology

After formulating the study methodologies, studies were done on those points of `aesthetic creation theory, community development, place-making, and planning ethics`, Here, I am presenting the analysis and finding from the methodology used in this thesis. The main findings are used later to generate a guideline for the result which is an alternative design proposal for Karlholm Strand.

The SymbioCity approach was a broad design tool that covered different aspects at the same time. Different things overlapped in this section. The analysis from the online and on-stie survey helped to create a connection between the people's vision of this site, their experience of the physical and social space in this area. It helped to formulate programs needed for this specific site and connect with SymbioCity approach points. The analysis of the site observations was used for an overview analysis of the existing site and its surrounding area.

After analysing the data of the methodologies discussed above, final guidelines and an alternative proposal will be illustrated through conceptual maps, sections, and sketches in the result section.

The analysis from the methodologies is below.

6.1 Analysing the findings from Theoretical Framework.

Community development and Aesthetic creation theory: While studying the theory, it was understood that community development and the aesthetic creation theory go hand in hand as to create a social connection and make a community development, it was understood to involve and create a network between the people and the place. The place which is there is the factory. According to Zangwill´s aesthetic creation theory, we can use this old factory area, just like the New York Highline, to create space that will serve both aesthetic creation theory and the community that will relate to this point. The developer´s idea is to add one specific class of people, which comparing with the study of Duncan and Duncan´s (2001) Bedford, can create a gated community. So, to make it not a future gated community, different social groups of people need to be included and thought throughout the design process. For the existing and coming people, the idea is to conserve the old factory area, which will act as a binding factor for the new and old residents.

According to the municipal authority, the number of people which is going to come needs to be reduced as there is no added infrastructure like schools, hospitals, day-care centre and more. These need to develop over time. A large number of people in a short span of time coming to a place can hamper the adjustment of these infrastructures.

The NGOs, local groups, and the local people are also working for the development of their area. They should be included to make this factory area into a vibrant urban area. `The Idea and development group´ have already made a square in the area with the help of the mayor and local people, and they can be included in the future square development and creating urban spaces too. There are spaces around the old square, which can be related to the new one in the developed area to create a journey where people going through old and new spaces at the same time to know about the history and the current situation.

Place-making: For place-making, the experts have found it hard to decode the emotion and desire of a city and spaces. The experts are making beautiful spaces without thinking about the different social groups of people. The experts are more into the form and architecture of places, and this is a rigid approach that need to be moved away from. In the projects, the developers included people in the initial discussion stage, but while implementing the design, the experts always go with the form and space.

In Sweden, it is going towards an elitist perception of housing. It is for the privileged class of people, which is becoming a statement of Swedish individuality and style. This kind of space and placemaking is thought to be a form of symbolic violence that need to be moved away from. If we are thinking about one specific class of people, just like the Bedford project (Duncan and Duncan, 2001), Karlholm Strand will be a gated community. To get away from this, it is needed to think about every class of people, provide spaces and housing for all so that people from every class can come to a place and form a community. For this, it is needed to create a different type of housing, to give options for people to choose.

The emotional and human aspects of areas need to be added not only during the planning process but also in the output too (Twedwr-Jones, 2011. see Røe, 2014). These aspects can add to individuality to a place. If we can show respect to the landscape, protect the local history and nature, it can ultimately add individuality to a place. Again, for this place, the local history is the factory area, the landscape and nature are the shorelines which need to be protected.

Ethical considerations while designing in the shoreline: Sweden´s nature is for all, and it has been echoed through a different section of people and laws throughout history. To protect nature, Sweden issued the shoreline protection rule, which is in action. But from 2009, 109 shorelines in the whole of Sweden were revoked from

this rule where development can be done close to the shoreline. Planning ethics can play an important role here as this kind of development can lead to a situation where people can not have access to the shoreline. Just like the Karlholm Strand project, where this thing is happening. Houses are being built so close to the shore that people apart from the residents will not have access to the shoreline. The planner should take responsibility here to decide how far the built structure can be developed so that both shoreline access and the project itself can be a successful one. The outcome of the planning ethics is to give access to the shoreline for the current residents and generate different activities. Nature is for all; even if the shoreline protection is not there, it should not be a point that can create this issue. To design in this area, planning ethic should be considered.

6.2 Analysis the SymbioCity approach

The theoretical base for the SymbioCity project is founded on the conceptual model. And the practical methodology is formed by the six-step working process with associated entry points and tools.

6.2.1 Conceptual model of SymbioCity approach

A Conceptual model (figure 15) is the base of the theoretical base for the SymbioCity.

Figure 15: Diagram of conceptual model of SymbioCity approach (Ranhagen and Groth, 2012).

Based on the conceptual model, I had made my own model which is related to my project.

People: People are the centre of this model. Special priorities are given to gender equality and pro-poor viewpoint. As for this project, people are also in the centre, but I have added one more element in the centre, Sea, as not only the aesthetics and community but also the shoreline access for the public is important for this project. Though the people, shoreline, public activities will be working as a combined centre for my model. Also, I wanted to add different kinds of activity on the shoreline so that it can create a connection between new and old residents of the area.

Figure 16: Diagram of `People` and its connection with different points based on the conceptual model of SymbioCity (Author, 2021).
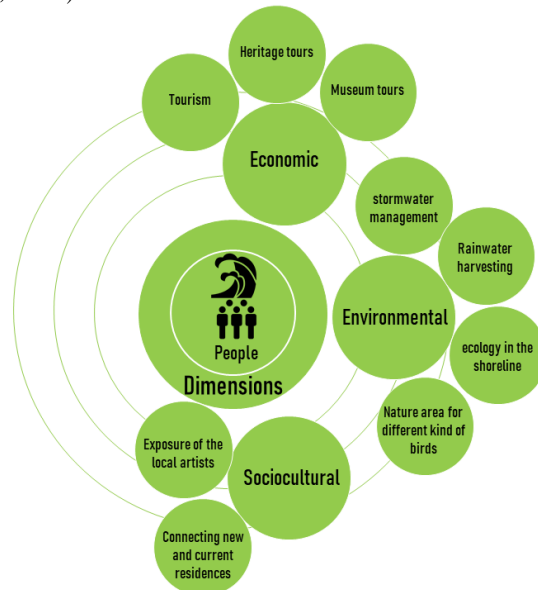
Figure 17: Diagram of `Dimensions` and its connection with different points based on the conceptual model of SymbioCity (Author, 2021).

Dimensions: A city´s obligation is to safeguard the health, safety, comfort, and quality of life of all occupants. And for this, it is important to look after the urban sustainability of the city´s environmental, economic, and sociocultural dimensions. The environmental factor here is addressed through having ecology in the shoreline, having nature area so that different species can create their inhabitant, stormwater management where the rainwater can collect through the roof of the building and

can be used for a different activity like watering the plants, washing cars and more. The economic sector is addressed through having tourism, having boat parking, where people will come through the archipelago, heritage, and museum tours. Sociocultural factors will be covered through the connection of both these points and creating a platform for local artists to have more exposure.
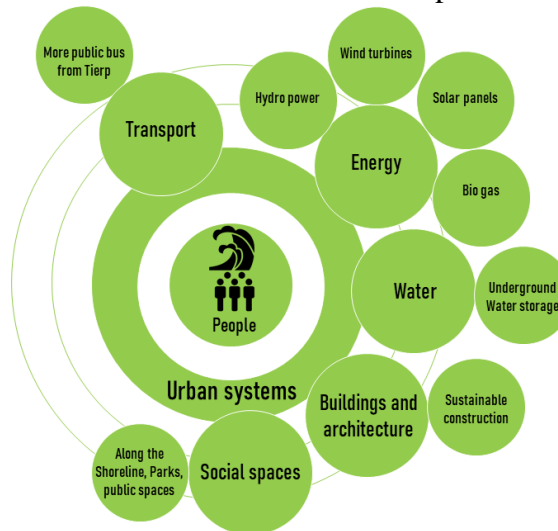

Figure 18: Diagram of `Urban systems` and its connection with different points based on the conceptual model of SymbioCity (Author, 2021).

Urban systems: There is a need for harmony between the urban systems and structures that we use in our everyday life. Those urban systems and structures are water, energy, waste, transport and traffic, buildings and architecture, information technology, and social spaces. The building forms of this project can incorporate solar panels so that they can generate power for different use. The waste can be stored and then use to create biogas which Uppsala municipality has been doing as a source of fuel for public transport. Rainwater collection can be stored underground for different usage.
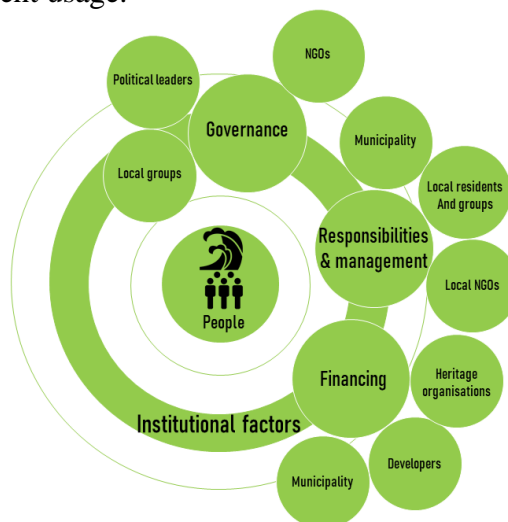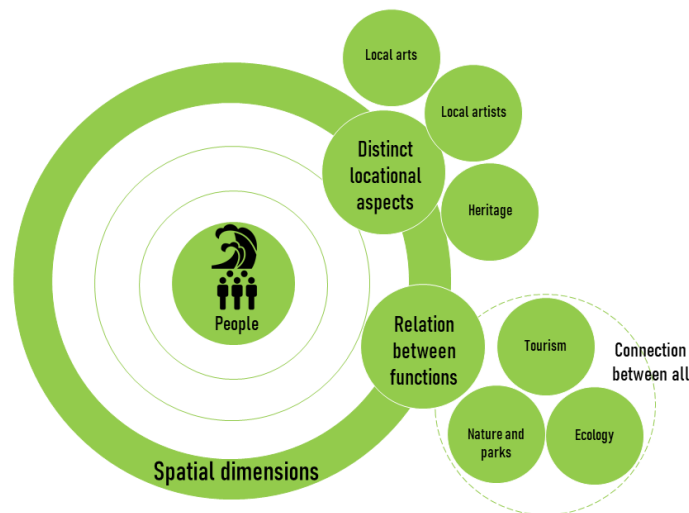

Figure 19: Diagram of `Institutional factors` and its connection with different points based on the conceptual model of SymbioCity (Author, 2021).

Institutional factors: For creating processes and sustainable results, the institutional framework should be adequate and transparent. Those institutional factors include management, distribution of responsibilities, and internal and external linkages, legislation, financing, urban governance, and political leadership. There are different NGOs working in the area. The local people also have formed a group where they have built the square. They should be included in the development process of this project; the local people should be invited to address more issues than just raising the value of their plots and business so that this project can be for all the people, not just one targeted future residents. Municipal authority can take some initiative to raise voice for this project where it will be for the people of whole Karlholm, not just this specific site owners. If the municipal authorities, the local people, and the developer come together to see this project for the whole municipality, it will reach a position where the people of Karlholm can say it is their project.

Figure 20: Diagram of `Spatial dimensions` and its connection with different points based on the conceptual model of SymbioCity (Author, 2021).

Spatial dimensions: It is important to understand the correlation between different functions, for that the spatial dimension incorporates distinct locational aspects of urban sustainability. The functions regarding this concern are the urban and regional built and natural environment, the distribution, location of urban functions, and the provision of services in urban systems. The functions and decisions which has been taken in this process are interconnected. Like the public spaces, which will have a connection with nature and parks, ecology, and tourism. It is important that the decisions are interconnected so that they can work as a whole and not as a separate individual function.
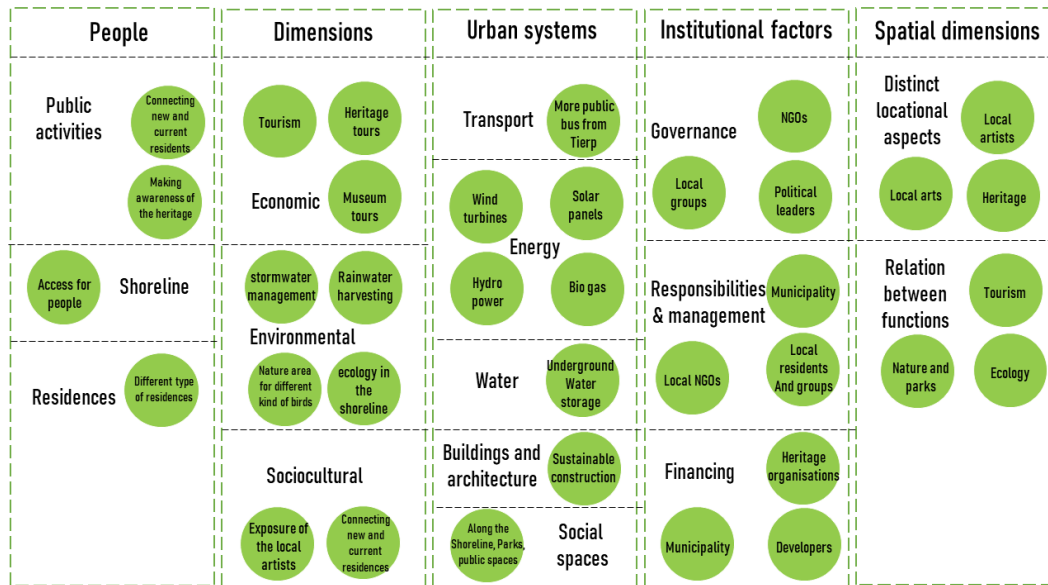
Figure 21: Summary of different points based on the conceptual model of SymbioCity (Author, 2021).

6.2.2 A six-stage iterative journey of SymbioCity approach

The SymbioCity cyclical working procedure involves three loops (figure 22) where each of the loops focuses on two steps. It is a good idea to keep an eye on previous steps in each loop. It can generally be updated and improved during consecutive steps. The six SymbioCity process steps can be seen as a cycle too, which can be worked through in a series of constant loops.

Figure 22: Diagram of cynical return steps of six-stage iterative journey of SymbioCity approach (Ranhagen and Groth, 2012).

An important feature of the SymbioCity process is repetition, like a cyclical return and improving previous steps. While the process steps are following in a logical order, it can also 'loop back' and develop earlier steps further during later steps. For this thesis study, steps from 1 to 4 was possible. Step 5 and 6 can be done in future with the result part of this thesis.

1. Define and organize the process: The accomplishment of any project depends on good planning and organisation. An organisational intention should illustrate their activities, interrelationships, and all relevant stakeholders. People should forge an integral part of this organisational plan, with major consideration to gender-sensitive and pro-poor perspectives. As I am questioning the masterplan by the developer here, where the shoreline is exclusively for the owner of the plots and public spaces are so few, it is needed to be addressed in a way so that people can understand what they will miss in the long run of this project: the connection between different people. The municipal authorities need to understand this important factor so that they take some initiatives where different organizational representatives can come together to make this project for all.

2. Diagnose current conditions: Local conditions need to be mapped in order to determine the needs, problems, challenges, and opportunities. The position of the most disadvantaged groups should be in the spotlight. To flourish the assets, positive features are also important to incorporate in this situation. For developing compelling and integrated solutions, the reason behind the problems should be diagnosed. Tourism is a factor that needs to be addressed in this project. The local artists and local businesses need to give special mention so that it can work as a whole with different functions. The public spaces in this new project will add public participation to make this area not just a private residence project.

3. Specify objectives, indicators, and targets: It is important to articulate the spirit of the city´s future without pre-judging definitive proposals and solutions. To draft measurable intention, targets and indicators need to be drawn up. Objectives must be based on the initial diagnosis, and it can be either qualitative or quantitative. Different project functions were thought out on this project. The main objective is to propose an alternative proposal, and for that, different kinds of study of theories, functions, design decisions have been studied. The indicators will be when the public will use this area according to their own needs, own time, own way. The ecological factors need to incorporate when different birds will create their home, and different kinds of trees create biodiversity. The targeted groups are the people who already live there and the people who are going to move to this new area.

4. Develop alternative proposals: The urban situations can be complex and often have various solutions to one problem, so alternative proposals need to be explored. To make a solution relevant both in the short and long term, it is needed that the alternatives are flexible. They can focus on harmony between different urban systems. The proposed solution should avert environmental problems or at least ease them. The shorelines can have different activity zones, the parks and nature can have different options. The renovated storage area can serve different functions

where different alternatives can be proposed. On the storage area´s roof, an urban roof park can be designed, or it can be like what it is now. With time it can be constructed. The demolished factory area can have an underground museum, or it can be on the ground. Different options for residences need to be carried out to see which option can be best suited in the context.

5. Analyse impacts: Different sections of the urban systems like the economic, social, environmental, and spatial impacts of the alternative proposals should be weighted as a basis for informed decision-making. In developing integrated and innovative proposals, impact analysis is an essential step. This is also an important aspect of sustainability reviews. The roof park or the underground museum can be costly. As the roof garden will need new construction, and the underground museum can be costly because of the water close to the site. How the construction is carried out needs to be analysed so that any construction raw material cannot spoil the water.

6. Implementation and follow-up: The final proposal can highlight one preferred alternative solution from many, or they can be combined into several options. Harmony between different systems is important for enhancing the effects of the planning process and on the aspect of the built environment. As different kinds of functions will be there, the harmony between these functions of the final design needs to be set open for the locals to give feedback. The design should be adaptable with time as different problems and will raise in the future.

6.3 Analysing the Interviews of the local people and municipal authority.

Total 18 (eighteen) local people participated in the online survey, during site visit 4 (four) people participated in the survey and discussion, and one person from municipal authority participated in it through email. Few of the answers were merged as there were few similar kinds of answers. The answers are there in Appendix 1. After every answer, I have summarised both municipal authority person´s and local people´s answers for further design decisions, which are discussed here. These were 10 (ten) common questions that were asked to the municipal authority and local peoples. And they are:

1) *How do you think the 290 years of historical factory premises can be preserved for the future generation and inhabitants of Karlholm strand?*

The municipal authority´s answer was that they are keeping faith in the things which are already there and, on the project, when it will finish getting more people. But apart from the future residents, the municipal planner is not saying how we can attract more people to come and learn about this project. On the other hand, the

local people are thinking about creating different functions within the project area, like hotels or museums. During the survey, one mentioned a hotel like the `Steam hotel` in Vasteras, Sweden. This hotel, located on the shore of Lake Malaren, was originally a steam power plant. It was revitalized from an old industrial site to a destination site. The beauty of this hotel and spa is that the remodel embraced the history of the building. The steam hotel was protected from tearing down by the County and the county museum. The municipality was then pushed to find a use for the old industrial building instead of tearing it down. The Tierp municipality could have done the same with Karlholm Strand, but they did not.

With this project, different public functions can be added which can serve both local and tourist, can generate local economy, and at the same time will say a lot about this historical area.

2) *What kind of functions and spaces need in Karlholm strand project to connect the new residents and old working-class residents?*

The municipal authority and local people have talked about almost the same kind of functions like stores which are needed for food, restaurants, pubs. But the park to connect the old and new was the different one. During the site visit, when it was mentioned, the local people think it can be a park, or it can be the two squares connecting with a museum with public functions. When I mentioned the New York Highline project, they were thinking about the financial factor, which is hard now, but when more people will come to this area and pay taxes, there can be a budget in the future. They think it is something which can add more economic value in the area as it can attract more tourists.

3) *How do you want to use the shoreline in Karlholm and how do you want to reach the waters in the Baltic Sea?*

The municipal authority and local people think that people will want to use the boat to go to the sea. People can rent boats if there is a possibility for that. Different activities can be done on the shorelines like BBQ, Sunbathing, and Kids play zone. When discussed having different theme option on a different part like a zone for entertainment or culture, they thought that it could give a diverse feel on the area where people can enjoy different parts in a different time, but they would want to use the shore uninterrupted so that they can roam freely.

4) *How do you vision the future of Karlholm strand?*

Both municipal authority and local people have mentioned the link between Karlholm and Gävle as people commute from Karlholm to Gävle for study and jobs. During interview, one local mentioned that the Karlholm strand should connect with the adjacent community and the Tierp town. To be a success, it should provide a transportation plan to and from the city. Though when more people will be there, a more public bus will function between the main city and Karlholm. They also

think that it should be a mixed-use area. Providing housing, retail, restaurants, adequate parking, green spaces, and access to the seashore and other adjacent natural environments. With housing not just for the senior, but also for the people who are trying to move to the places from the small town or city as the covid situation has made people work from home. Energy efficiency one of the points came which need to be addressed while designing. Also, stormwater management will help better use of the water in the area as no such functions are there now.

5) *Which public amenities (School, day-care, Hospital) should be added in the masterplan of Karlholm Strand?*

The school was mentioned by municipal authority, and local people as more than a thousand people will move to this project area which will need school. For the kids, there will be a need for a Day-care centre. There is a need for a health care centre too. There is already a park in the masterplan but having more parks and nature area will add ecological factor with biodiversity in the area.

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6) *What kind of housing do you think is needed in this part of Tierp municipality? (ex. Villa, Rent house, student housing)*

There will be different kinds of housing in the project, but from local people, one option was found which is interesting, the houses for young people and houses for retired elders. During the discussion, one mentioned that they would like to see small heigh buildings closer to the sea and higher rented buildings away from the sea. They also think that if there is less housing, there will be need of less parking place which eventually ensure more green area.

7) *If not the current masterplan, what can be the alternative of the Karlholm strand area?*

Both municipal authority and local people think that tourism can play a big factor here. During the discussion, some people mentioned that they would like to provide a more comprehensive pedestrian circulation plan, less density, less apartment so that there are more green spaces. They would like to have more community gathering spaces.

8) *Apart from housing, which functions do you think needed in this site?*

As the project is being seen as a residential development, this question was asked so that different kinds of functions can be generated from the discussion of both municipal authority and local people. As earlier mentioned about people working from home moving to smaller places, especially the IT people. If there is working space for IT where local people can come and discuss with same minded people can generate a community engagement. Apart from these, the common answers were the Stores, public amenities, urban functions like community centre, outdoor gym.

9) *Factory worked as an economy generator, it gave job opportunity for the people living in Karlholm, now it is gone, what can be next as the economy generator and job opportunity for the local people?*

Both municipal authority and local people think that jobs are needed to be brought in or created by the people moving in. IT sector and other work sectors allowing "working from home" is now generated with the pandemic situation and should be used by Karlholm Strand as an opportunity to reach people from outside Tierp. There is a trend for people wanting to move out of cities. Also, different IT firms can come and make an IT village.

10) *There are many houses in the masterplan of this project which will stop public from enjoying the shoreline as it will be exclusively for the residents of those houses, what do you think about this?*

Municipal authority thinks that the shoreline was not accessible in the past, so there is no need to have full access as they will have little to no access now. But the local people are thinking; it will be a problem; they want to enjoy the shoreline. They expected that in the current masterplan the developer would give some setback from the residences so that they can roam around the shore. During a discussion, a local person mentioned that there is a clear intention from the developer to make this a boating community with docks adjacent to their homes. This is ok as part of the plan, but the plan should include a circulation plan that provides a certain percentage of land for residence and visitors to be able to view and walk along the shore.

These questions were only asked to the municipal authority:
1) *What was the aim for the municipality and what they expect from this Karlholm Strand project?*

This questioned was asked to see what the reason behind this project were. The initial intention which they had is clearly praiseworthy. But the question remained about what kind of residential area and how tourists will use the places. As from the previous answer, it can be understood that they did not think through with more questions regarding this project which was needed to make this a place where the people from current and new residents will come to a common platform to engage in a different activity and give more access towards the whole area to make it more open for all.

2) *What were the feedback from the locals about this project?*

From the early study, it was understood that people were thinking about raising the value of their property, so when they were presented with this project, they thought about it positively. But the way this project is currently shaping has raised concern among them, which they could not understand from paper and the presentation.

3) As per report, the specific site was sold for 275,000 SEK in the auction, what was the reason behind selling this site this cheap?

Could they wait for more for better payment and some other developer to take this project? Certainly yes. But they could not wait as the site was sitting there with nothing. There were people waiting from Karlholm Strand to see a change in their area.

4) Developer is aiming to make 1000 houses, which will add 2500 to that site, what do you think about this possibility? As a municipality architect, what do you think is the feasible number of houses and people to accommodate this site?

The municipal authority also thinks that 1000 houses are not a good number. They think that 500 is more feasible number. Lesser houses mean more spaces for the green, which can be designed as park and nature areas. There will be a less hard surface for parking which will contribute towards having lesser heat. These spaces can use as public spaces.

5) The developer has broken the law in handling waste, the county has an overall responsibility for detail planning in the region. They shall by law stop any detail plan that has not included a convincing implementation according for example to the environmental act. Did municipality think about stopping this project or looking for alternative option to develop this site?

From the report (Irefalk, 2018) it was seen that the developer had broken the law, not during the planning stage but later. But municipal authority is sitting here comfortably numb as the work is going on.

These questions were only asked to the local people:

6) What do you think about the new masterplan of Karlholm strand?

During the discussion, one participant showed concern with the masterplan as the participant think that it appears that it was designed in a vacuum. Has the city of Tierp and the developers considered the integration of the adjacent community? Can their current infrastructure accommodate the new community? And if not, what mediation actions have been taken to make sure the existing community absorbs the needs for the new development. When they saw this project on Facebook, they just saw the renders, but with time they understand that this project is for a specific sector of people. Some people have raised concerns about the success of this project. But they want this project to be a successful one by answering those concerns so that this can be a good example for future development.

7) What would you like to add in this masterplan?

They have raised concerns with the density. If there is half the housing, then it will help to have more nature around the project area. Different kinds of parks can be

there to generate activity in a different part of the area. They want the museum to store the history; they want more playgrounds for kids and dogs.

8) If get chance, would you like to buy houses in this project and why?

If there is a change in the masterplan, they will come and buy in this area. One participant thinks that if there is change and it works in a good way, and generate local economy, he will not move out from Karlholm and will try to do something here.

9) Would you like to get access to the shoreline?

They all would like to have the access, but the masterplan will give access to a certain portion of the project which needs to be reassessed. To make feel more inclusive with the design, not just the involvement of them in the planning process will work, the project needs to provide spaces where they will feel themselves.

After summarizing all the answers from the local people, and Municipal authority, the main points can be summarized as `Tourism`, `Shoreline access´, `Energy´, `Stormwater management´, `Residences´, `Public amenities´, `Nature & Parks´, `Urban functions´, and `Landscape ecology´. These nine points are shown below in diagrams by connecting with the conceptual model of the SymbioCity points.

Figure 23: Diagram of `Tourism` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.
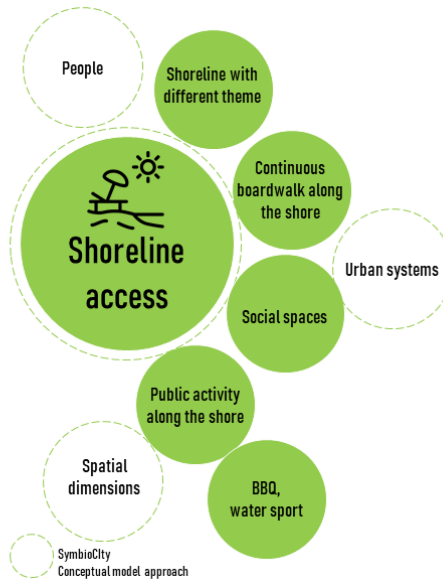
Figure 24: Diagram of `Shoreline access` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.
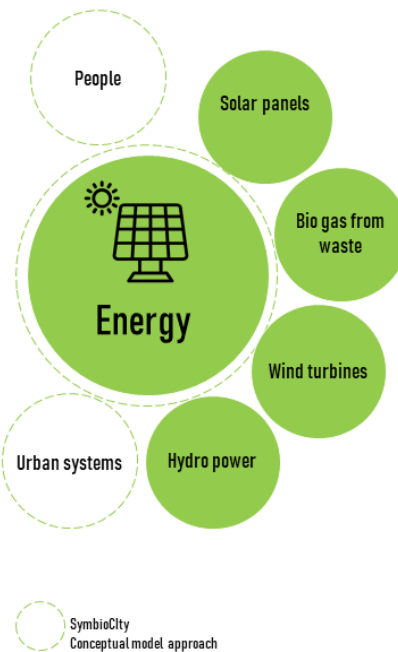
Figure 25: Diagram of `Energy` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.
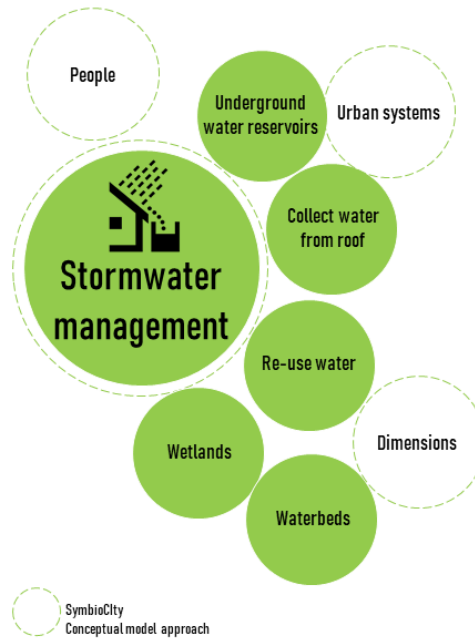
Figure 26: Diagram of `Stormwater management` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.
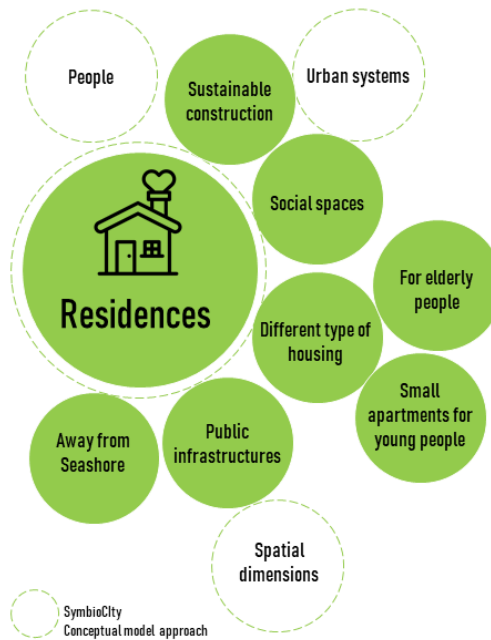
Figure 27: Diagram of `Residences` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.
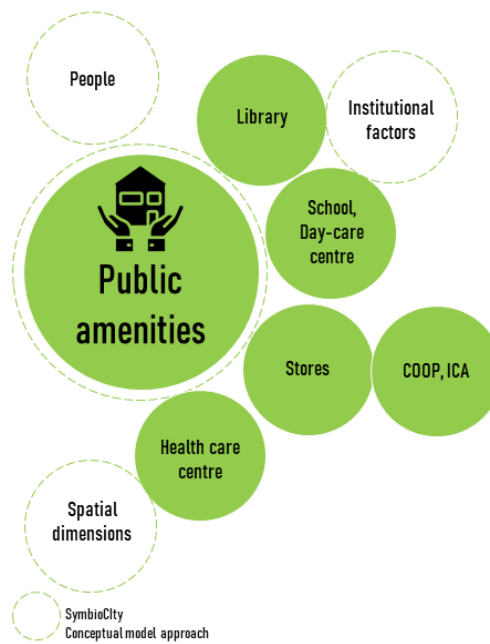
Figure 28: Diagram of `Public amenities` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com

Figure 29: Diagram of `Nature & Parks` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.
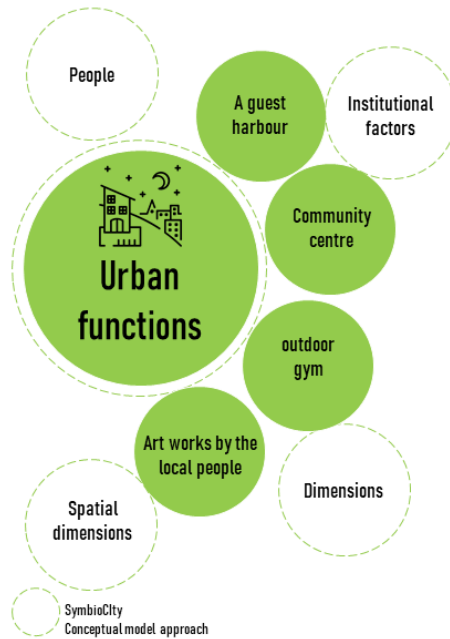
Figure 30: Diagram of `Urban functions` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.
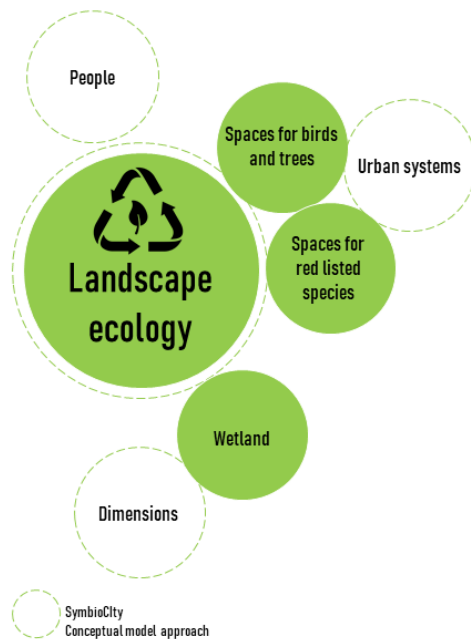
Figure 31: Diagram of `Landscape ecology` and its connection with different points based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.

Based on all the interviews and connecting them with the conceptual model of SymbioCity approach, this model was made which shows what is needed in this area from local people and municipal authorities' point of view.
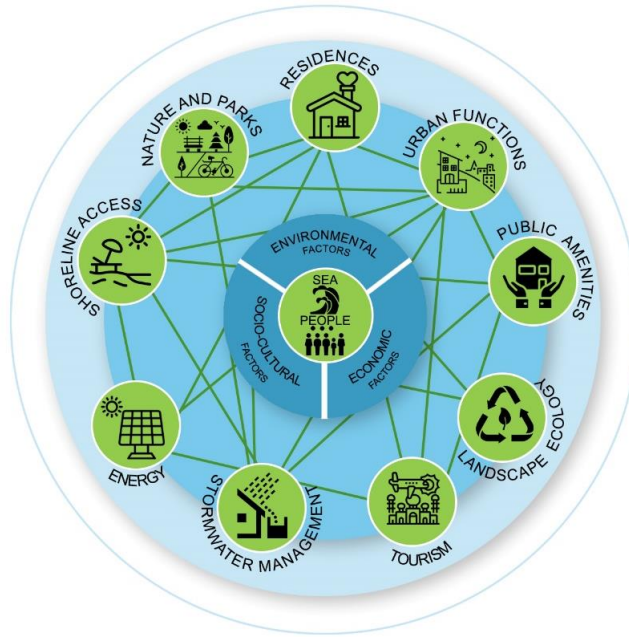
Figure 32: SymbioCity conceptual model for the design of Karlholm based on the interviews and literature survey (Author, 2021), icon: thenounproject.com.

6.4 Analysing the study of reference projects close to seashore.

6.4.1 Analysing old and new development of Hammarby Sjöstad

The Hammarby lake, in Swedish it is called "Hammarby Sjö", is in the south-eastern part of Stockholm city. This lake divided the Södermalm island from the Nacka area and Södermalm´s south area. Over the years, this lake has long been the element that parted the outskirt of the city and the adjacent green area. The green area now is called `Nacka Nature Reserve´(Ericson & Bodén, 2002).

Because of the industrial development in the area, residential areas were also developed over the years. Hammarby Sjöstad was developed in two phases. The first phase during 1978-80 and the other one later in the 2000s when there was a demand for residential housing after 1992. This location was contemplated as a very suitable place for residential development because of its situation close to the city centre (Vestbro, 2004).

Figure 33: Northern part of Hammarby Sjöstad which was designed in 1978 (Stadsbyggnadskontor, 1978).

The reason behind Studying these two phases is, in the northern part, the old Hammarby Sjöstad has large spaces in front of the buildings, which is being used as both green and walkable areas. The dark green colour specifies the spaces for parks; the light green colour specifies the spaces where no building can be built (figure 33). There is a clear distance between the water and the building with a park. People can have easy access around the green area and waterside, which can be used both for social gathering and enjoying the nature area. The proportion of the built and green spaces are more on the greener side.

Now, if we see the southern part of the plan, which was later developed in the late 2000s, the main approach by the Stockholm City Planning Administration was to re-use and convert the old industrial sites and other brownfield sites in the area into an alluring mixed-use area where there will be attractive parks and green spaces for the residents. This project tried to take sustainable development to a new level (Background – Hammarby Sjöstad 2.0, n.d.).

Figure 34: Southern part plan of Hammarby Sjöstad which was made in the late 2000s. (Stockholm stad, 2017)
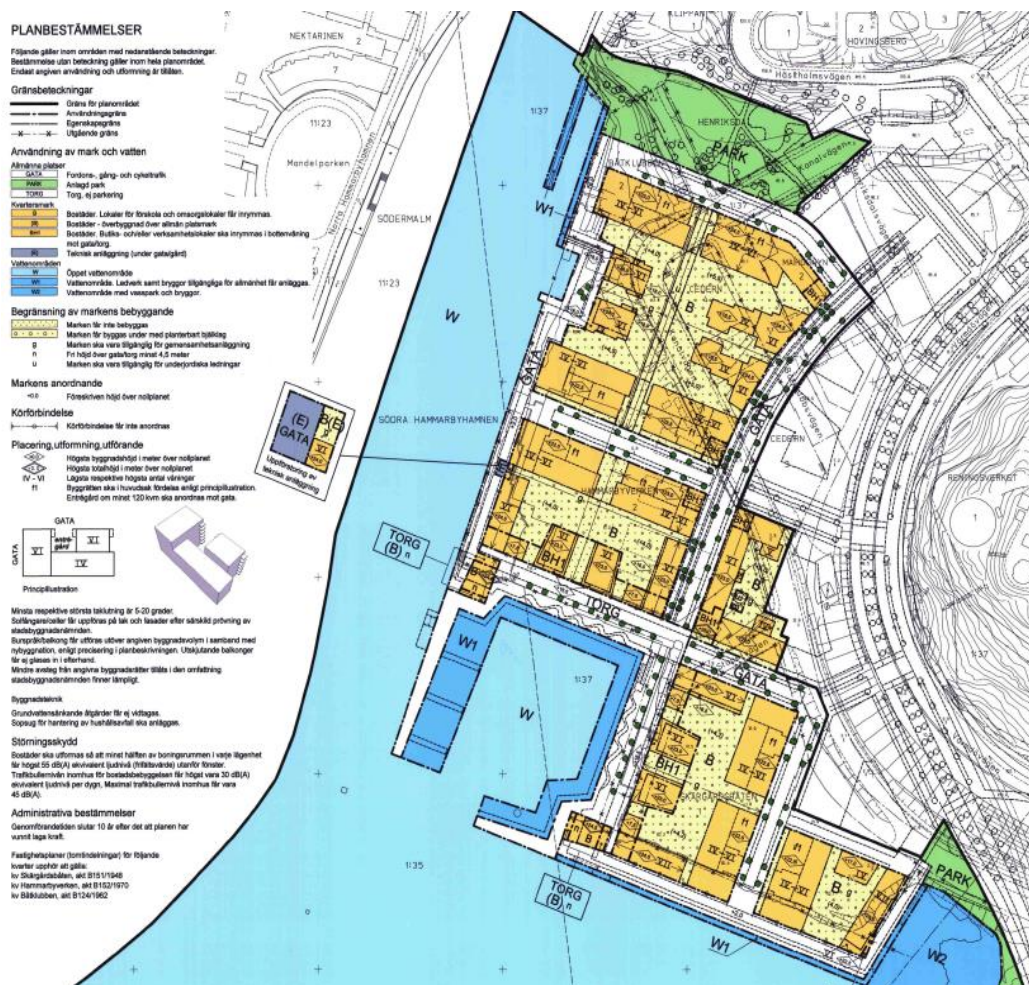
In all the documents and websites, they tried to show what kind of sustainable development was incorporated in this project. From waste management, water efficiency, renewable energy, green buildings, and more. But when visiting the site and studying the maps, it can be seen that this project does not provide ample spaces in front of most of the buildings, does not have greenery along the waterway like the old part. Even on the eastern side, there are no walkable paths because of the buildings. In the top part (figure 34), there are just two parks which are serving the green purpose without having anything in between the building and along the water.
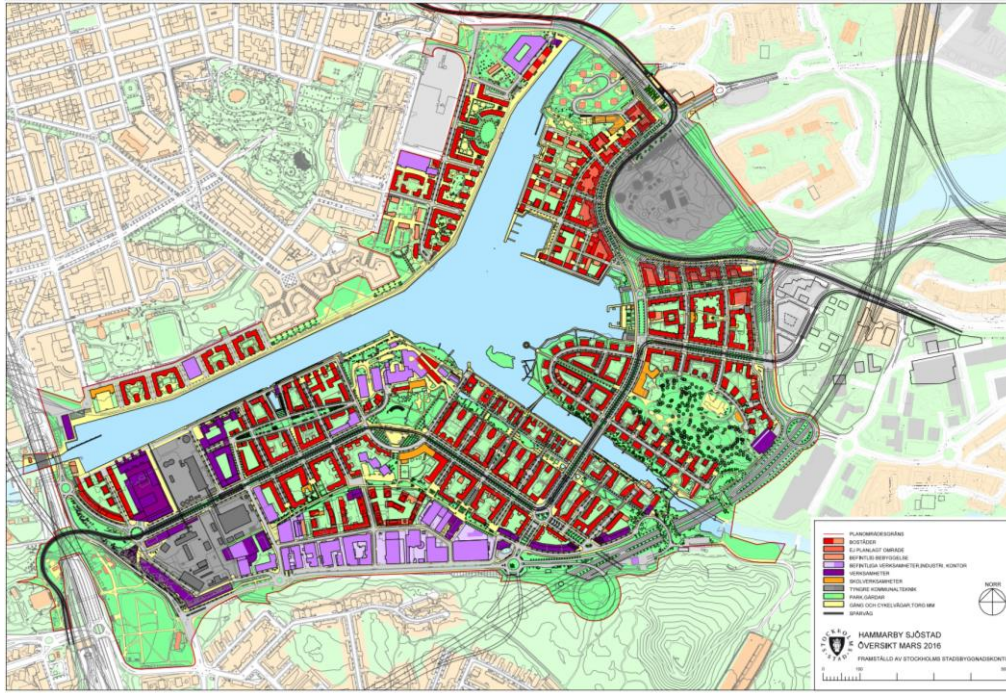
Figure 35: Hammarby Sjöstad 2.0 development in the late 2000s which lasted till 2012 (Stockholm stad, 2016)

Figure 36: 1. Situation before intervention. 2. Plot subdivision and ownership after redevelopment. 3.Masterplan prescriptions for the building envelopes. 4.Final state (Firley and Grön, 2013).

The original program for the Hamarby Sjöstad recommended a density of 2,0 as the floor area ratio limit. The planners were successful in keeping the limit of 2,0 floor area ratio in the first parts of the development, including Sickla Udde.

The later parts of Hammarby Sjöstad have a much higher floor area ratio, and the difference in density is obvious (figure 35). Over the years, there was more development in the southern side in different phases. Four maps (figure 36) showing that over time the spaces in the more southern side had got green spaces in between the building, and yet not along the water. This approach is creating spaces for the privately-owned people who live in those apartments. This is creating a restriction, and this kind of privileged form of housing create gating in the public areas and between different sections of the society (Grundström and Molina, 2016). For 'Sweden's gated community', Kållberg and Sandquist (2008) wrote that it is both tragic and unfortunate societal development to have this kind of housing. So, to stop Karlholm Strand project from becoming a gated community, there should be spaces in the area which can provide spaces for all, not just the people who will live on those houses.

6.4.2 Analysing the sea-level rising and Gävle strand project decisions.

It was seen that in the last century, global sea levels have increased by almost 0.2 meters (Church et al. 2013). The temperature in the world's oceans is rising, and this is one of the reasons behind increasing global sea levels. Because of this, the water is expanding. Sea level have risen briskly in the last two decades (Shepherd and Nowicki, 2017). According to a study by Sweet et al. (2017), where they have made a prediction report till the year 2200. In the report, they are saying that the global sea level will rise 2.5 meters in 2100, 4.3 meters in 2150, and in 2200 an alarming number, 9.7 meters. These synopses understandably show that there is a high risk of too much sea level rises in the future.

In the different parts of the world, the sea level rises occur differently. It reckons on in some measure of the world's oceans act differently in different places and because of the ground height. Sweden has been doing land uplifting for a long time. Experts are thinking that the Land uplift is going to progress at about the same rate as it has been going (Lantmateriet, 2017). For this thesis study, I am taking reference from a Gävle study as Gävle is closer to my project study site than it is Uppsala or Stockholm.

According to Lantmäteriet (Lantmateriet, 2017), The land uplifting In the Gävle area is about 0.75 centimetre per year or 75 centimetre in 100 years. If the global sea-level rise happens faster than this land uplifting, it will result in a local sea-level rise in the Gävle area (Lansstyrelsen Gävleborg, 2018). For the project of `New buildings along with Gavleåns outlet in Gävle municipality`, the municipality with some external companies have studied some scenarios and made some assumptions about what can be done in the Gävle when there will be a rise in sea level. In today´s guideline, they are saying that the foundation is 2.0 meters above average water level where the ground floor of the building is not used for rooms as it can be

flooded. Compared to this guideline, they have added 0.5 meters, which is now 2.5. They have proposed an embankment of 2.5m where will provide 1 meter of extra protection against flood (Ibid). This is envisioned as aesthetically appealing, and people can pass through it and yet closable if needed.

The Baltic Sea level in the middle part of Sweden can be different. It ranges at a maximum of approximately 2 meters comparing to the north, and sometimes between approximately -0.5 to +1,5 in relation to normal (+-0) (Fredriksson, Tajvidi, Hanson and Larson, 2016). According to the current masterplan, the project site is +2,0m from sea level. So, according to this study, Karlholm Strand projects buildings can be more +0.5m from the existing level so that in the next 100 years there're will be no issues with the sea level rising with this project.

6.5 Analysing site observations

Site visit was done to gain on site experience, essence, and to get familiar with the surrounding area. The site visits were done in the late winter season, Thursday, March 18, 2021. I was there in the early autumn last year (2020) when things were going slow because of the covid situation. There was total four site visits done.

Desk top analysis work like wind direction and sun path studies were done too.

Figure 37: Karlholm strand project area, Edited: Author (Lantmäteriet, 2021).

The site location of the newly developed area is on the eastern side of Karlholm (figure 37). The study areas showed here were divided into 5 parts area. These areas were divided based on the places which I visited first. There have some overlapped

places, but the places here are shown are like the way I have visited the site. In each part, there are 6 main places selected to show here in this analysis part.
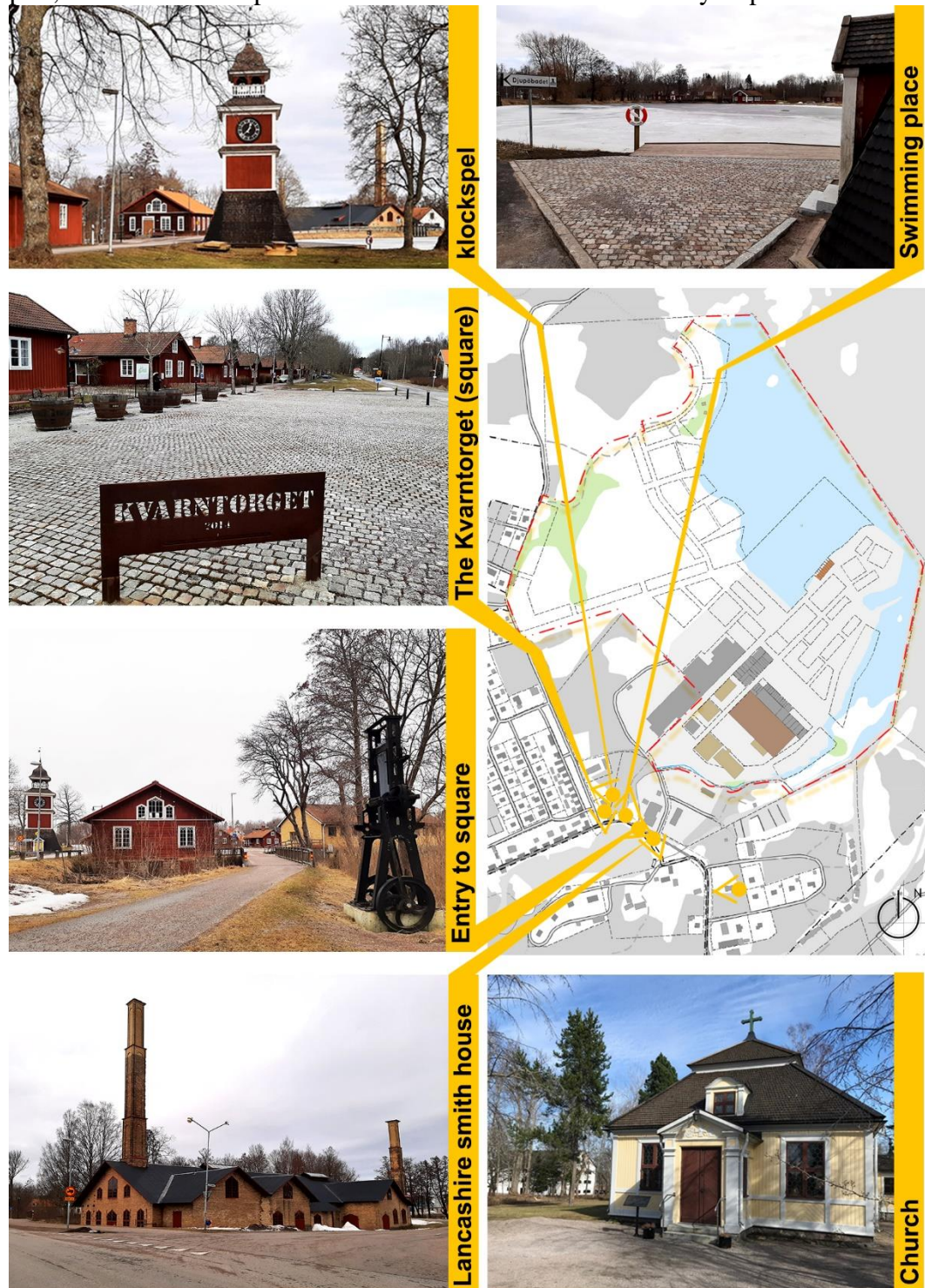
Figure 38: Surrounding of Karlholm strand area 1- Surrounding the square area (Author, 2021).

(Area 1, figure 38) When I got down, the first thing one will see the Clock (klockspel) and the entry to the square. The kvarntorget (square) which is designed by the `Idea and development group` in Karlholm. It can be reached through a wooden bridge. The square has some stand-in lights and very much open towards

the clock tower and river, in the other direction towards the Norrgatan. There is a steel texture bord with kvantorget written on it.

The wooden `Klockspel`, the clock tower can be easily seen as it works as a landmark of this area. The bottom half of the tower is black, and the top in red colour. There is a clock, but currently, it is not working. When contacted with the local people they were saying that it used to work, but this needs to be corrected.

The `swimming place` is just beside the clock tower. There is a deck that is also made by the `idea and development group` which was done at the end of 2020. According to their Facebook page, new decks are being created around the water where people from Karlholm working as a community.

At the southern part of the square, there is ´Lancashire smith house´. This is one of the most prominent industrial monuments in the country from the time of iron handling. This building is part of The Swedish Industrial Heritage Association (SIM). SIM is an NGO that was established in 1989 and is committed to research, documentation, evaluation, and protection of industrial heritage in Sweden. SIM also represents Sweden in `The International Committee for the Conservation of the Industrial Heritage (TICCIH)`. Between the years of 1727–1728, the owner of Lövstabruk, Charles de Geer, built an ironworks mill in Karlholm. With time this mill becomes a full-scale mill and during 1748, it was replaced by a hammer for sheet metal forging. In 1808, the sheet metal smithy was closed, and the bar iron smithy started. Until the year 1879, all the production was steered in the form of Walloon forging (Sim, n.d.). The following year, in 1880, it was replaced by Lancashire forging when the entire old Walloon smithy was dismantled, and the Lancashire smithy was built in its place. There were initially three Lancashire hearths, which were later expanded to six (Ibid).

In 1899, the Lancashire smithy was modernized. In 1895, a turbine was built. The working operation of this smithy lasted till 1932, the hearths and pieces of equipment's were for no use. The gutter was then demolished after 1941. Other than this, no major alteration of this project has taken place. The buildings were later used as bathhouses and fire stations. The mill and smithy are now owned by Tierp municipality. In recent years, they have done extensive renovations by collaboration with SIM. The Lancashire smooth house is very well conserved both externally and internally with almost completely preserved mechanical equipment (Lancashiresmedjan i Karlholms bruk, n.d.).

In the more southern part, there is a `Church`. The Karlholmsbruk church was finished in 1737. Just like the smith house, it was also made by Charles De Geer. In late 1890, the chapel went through a considerable transformation when the church was moved from its original location, immediately north of the mansion, to its current location a few hundred meters away on the other side of the road (Svenskakyrkan, 2020). A thorough renovation was carried out then, which gave the church its current appearance. In 1981, Karlholms Bruks AB handed over the

church to Västlands parish. The church has a wooden frame and exterior walls clad with yellow-painted wood panelling with Gray-white mouldings (Karlholms kyrka, n.d.).
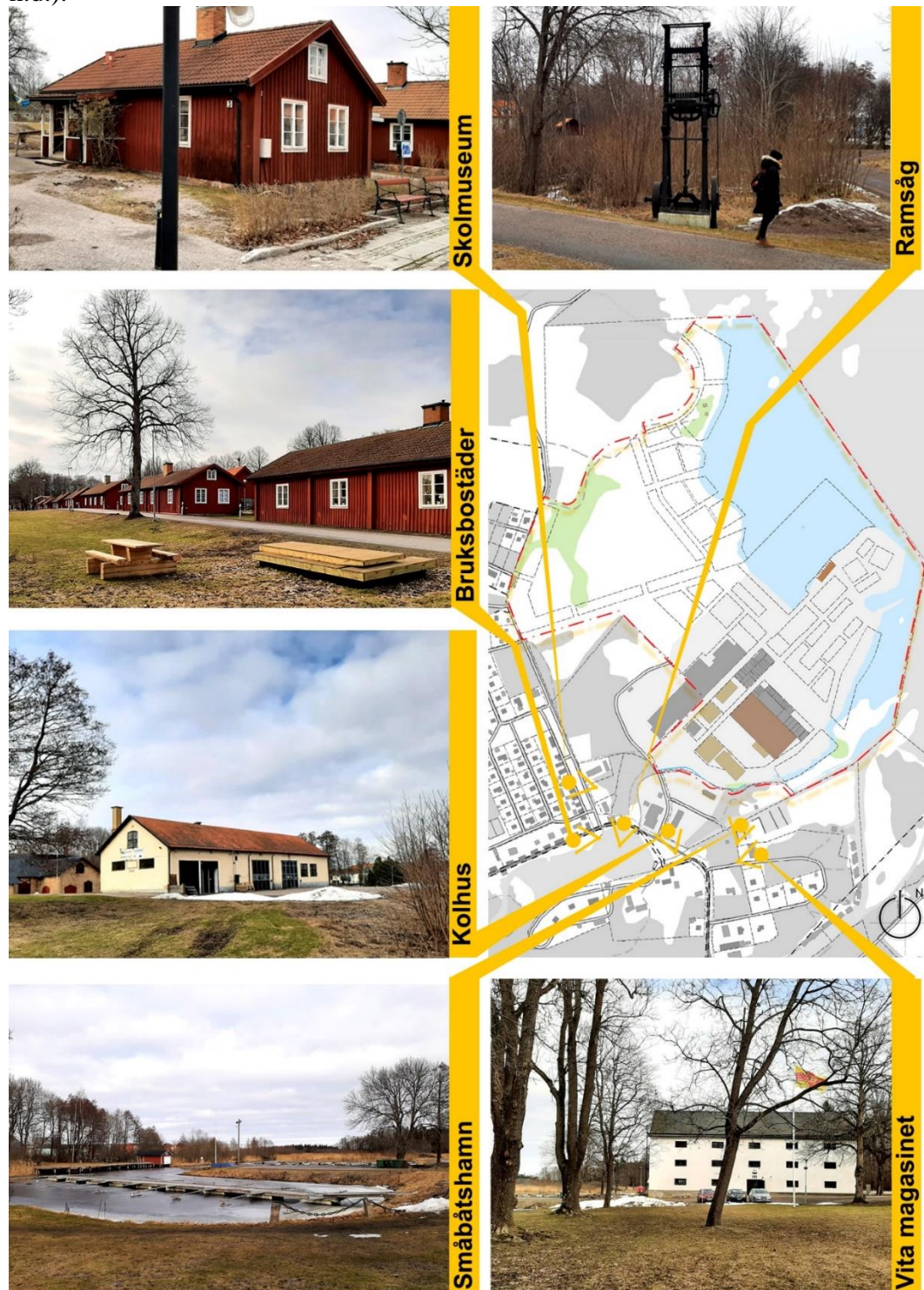
Figure 39: Surrounding of Karlholm strand area 2 – Areas along the roads (Author, 2021).

(Area 2, figure 39) Between the Lancashire smith house and Church, there is `Vita Magasinet`, The large, whitewashed stone building dates back from 1823.

The distribution of grain, malt, beer, etc. took place from this building which was part of the benefits in kind for the mill's employees back then. This building is today owned by Västland parish and serves as the Church House (Tierp, 2020b).

In front of the Vita Magasinet, there is `Småbåtshamn`, boats can park here which come from the sea as this place is connected with the main sea through a small water channel. This place can be reached through Lancashire road which is connected with the Karlholmstrand project area.

Just at the opposite side of `Lancashire smith house`, there is `Kolhus`. This is part of the smith house, but currently, there is Lancashirevägen road going in between these two buildings.

Between the square and Lancashire smith house, there is `Ramsåg`, the frame saw is black in colour and is made of iron. It was made in 1875 (Sim, n.d.) just before the current Lancashire smith house.

An industrial village where natural resources are managed is called a "bruk 'in Swedish and `Brukbostäder` or the workers' housing is situated both at the eastern and western side of the square and clock tower along the waterbody, Norrgatan and `John Lundberg` road. The picturesque, red-coloured worker´s houses were built around the year 1750 (Tierp, 2020b). In the housing yard, there are also cellars and storage sheds. There is also the old school building, which today function as a school museum.

When there was a new school in the Karlholm area in 1976, Tierpsbyggen, which managed the old mill buildings in Karlholm, appointed people to make a new school museum. `Skolmuseum` is situated in the north-west of the current square. The museum reflects the years 1840 to 2000 within addition to several textbooks on the school's various subjects, laboratory objects, apparatus, student work, a poster store, postcards from the town, and a number of photos of students at work during the early days of the old school (Dahlberg, 2012).
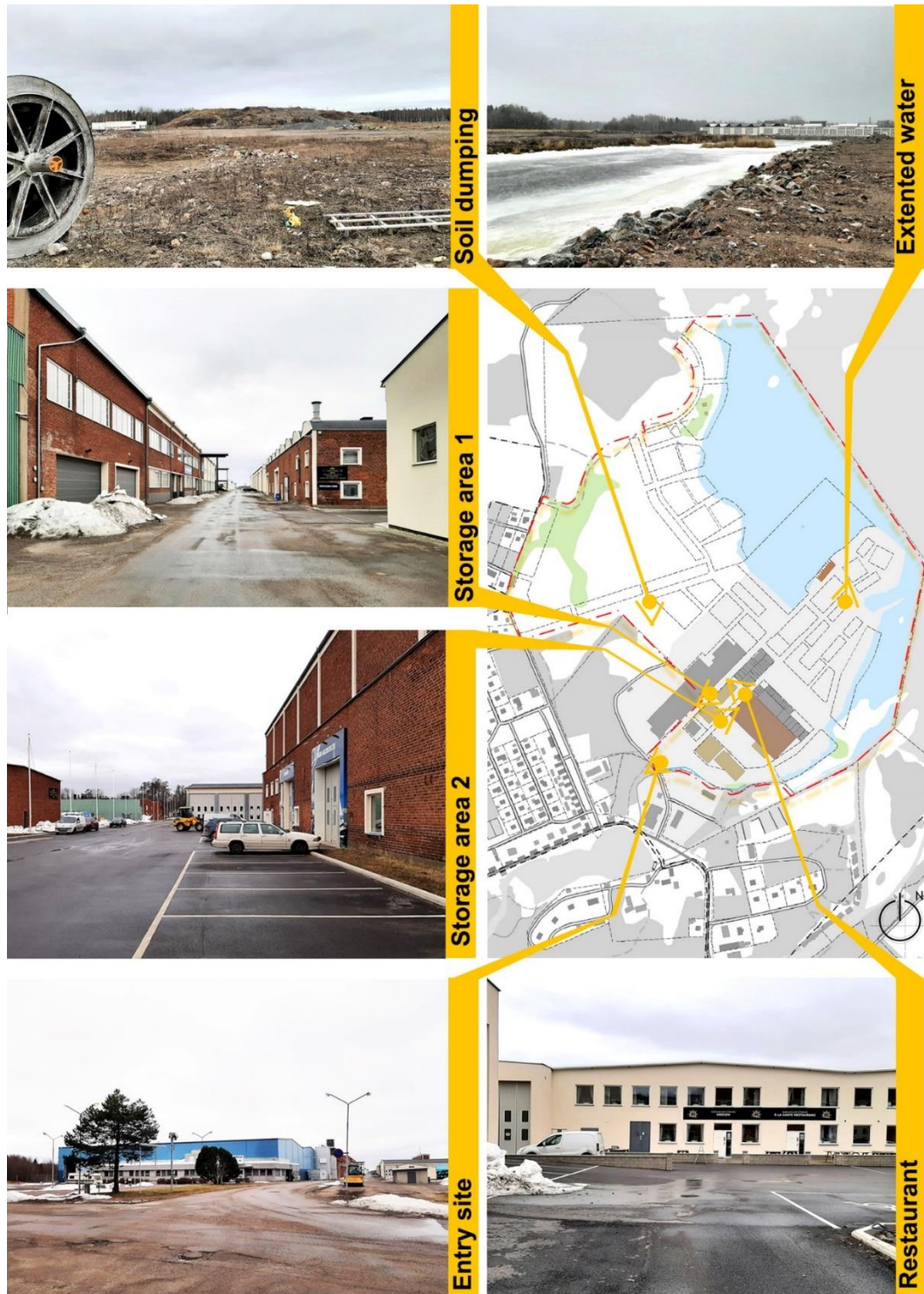
Figure 40: Surrounding of Karlholm strand area 3 - Inside project area (Author, 2021).

(Area 3, figure 40) After entering the site through Lancashire Road, the main `Entry site` was seen where the renovated old buildings can be seen with different machinery working in full swing. By going straight, the `Storage area 1` is seen where the office building for the storage area and storage for boats are there. On the right side of storage area 1, there is the new `Restaurant`. `Storage area 2` is situated

just beside the restaurant. These spaces are not just for boats, but they can be rented for general storage for goods.

Figure 41: Surrounding of Karlholm strand area 4 - Inside project area (Author, 2021).

As the site was contaminated, the soil needed to change. On the northern side of the project, there is a `Soil dumping` area which is still in the process to make the

soil usable. After completing the process, there will be residences and green area around this big soil chunk.

A new `Extended water` channel is created which is connected with the northern sea. Residences are being planned along the extended water.

(Area 4, figure 41) At the end of the extended water channel, there is `Storage area 3`, where office spaces and goods storage can be rented. Also, a gym is being planned there. There is still one `Old building façade` beside the storage area 3. The big board factory which was demolished was situated there. At the `Old factory space`, the cleaning of the project site still going on. Parking and a new square are being planned there. As already mentioned, the shoreline is getting private with this masterplan which is already evident in the one complete row house. There are currently 9 apartments, where people have already moved in. `Private spaces` is there along the sea where general people cannot go to the shoreside. Further north, there is a dock area, from where boats can be carried to the storage area. Renting houses are being planned there.

(Area 5, figure 42) At the south of the Karlholmsbruk, there is `Tämnarån river`. This river is almost 60 km long and is connected with the sea just beside the project site. Along the river, there are some `New boathouses´ which are now up for sale. There are some storage areas for the fishing utensils and things related to boats along with those boat houses and some storage structures which can be seen in ´Storage area´ is along the Lancashire Road water channel. Going farther down the river, there are some old `Boat houses` which are being in use now. Some of them have sheds where few boats were seen parked adjacent to the boathouses in ´Boat sheds´ image. There are some old boathouses where `Ruin of a boat house` can be seen.

After visiting the site and talking with people it was felt that there is a lack of public transport. But with people moving in, UL, the public transport company can take some initiative to have more frequent busses between Tierp town and Karlholm.

There is already an industrial heritage building that is well managed by the Tierp municipality and SIM. The renovated old buildings, which are there now as storage building, these buildings have the possibility of converting them into different functions.

There is a lack of public functions like Library, Old-age homes, School, Day-care centre, General store products.

The pile of contaminated soil place can be an adequate place for creating different functions.

Figure 42: Surrounding of Karlholm strand area 5 - Around Tämnarån river (Lena Steffner, 2021).

Almost 3.2 km area of the shoreline is there, which can be accessed by boat. There is a school in the eastern part, but there is no school or day-care centre close to the developed area. Apart from this old industrial area, the whole area is a residential area. There is one big primary road going through the side of

the current square (Figure 43). The project can be accessed through a secondary road. On the northern side, there are roads which are not in good condition but can be constructed to use as a connecting road with the project area. Cycle, tractor roads are on the northeastern side. There is a church on the south side close to the project. There is a small ditch/steam in the southern part. Most of the open spaces of this area are Coniferous and mixed forest green areas (figure 44).

Figure 43: Karlholm strand area property map divided into road map, zoning map and land area map to get better understanding of the area´s road and existing structures, Edited: Author (Lantmäteriet, 2021).
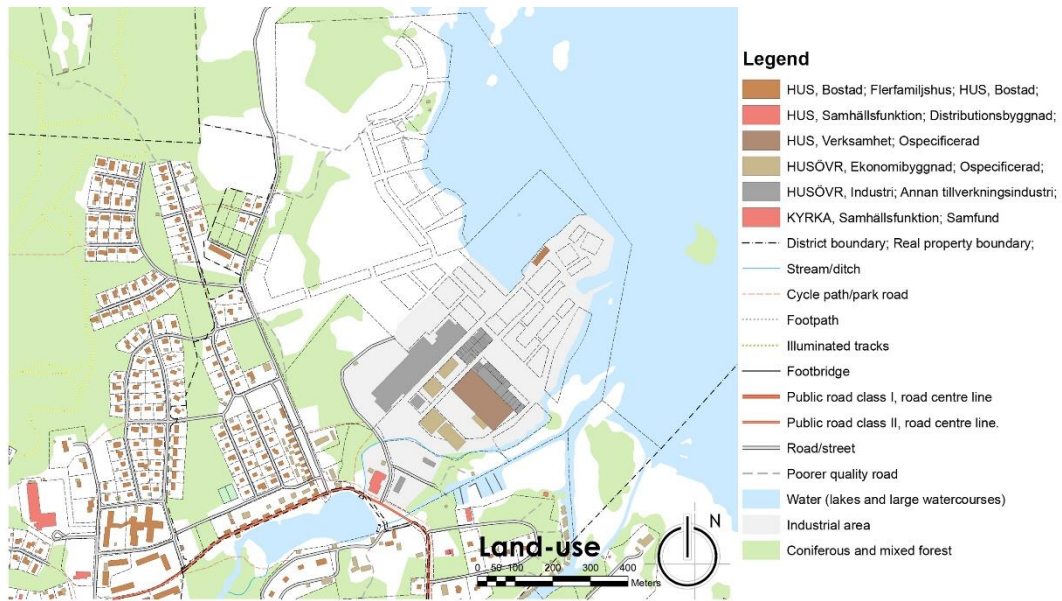
Figure 44: Karlholm strand area property map, Edited: Author (Lantmäteriet, 2021).

One of the concern of residences in this area was the coldness from the wind. For that I visited ventusky.com where the wind direction can be accessed. From there I collected the wind direction for all the months (Figure 45).
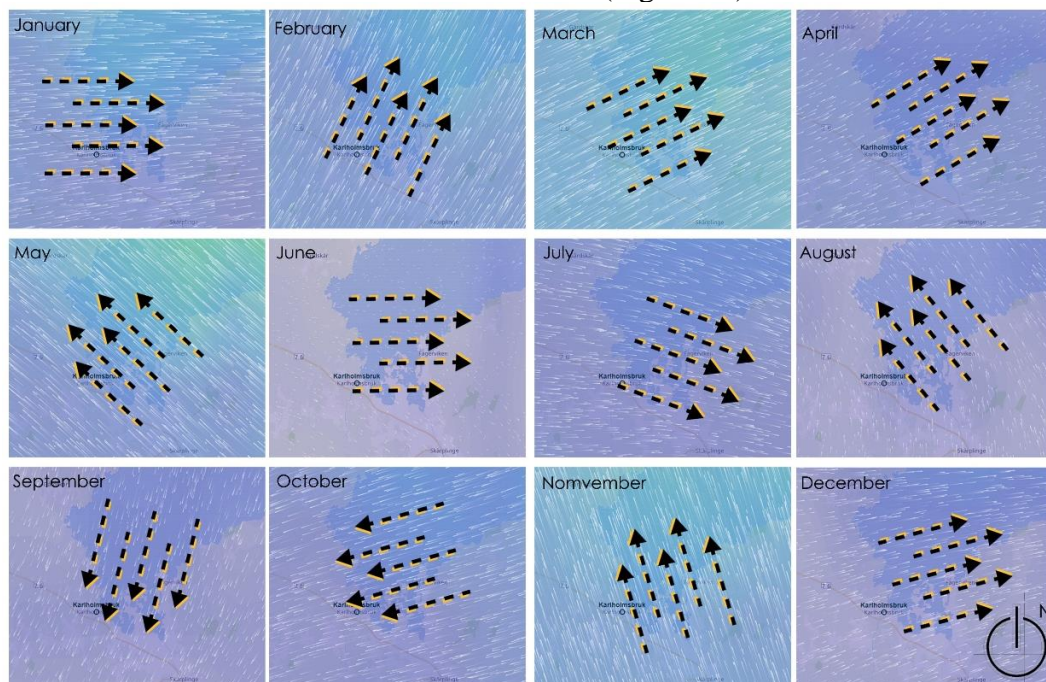
Figure 45: Wind direction at Karlholm strand, Edited: Author (Ventusky, 2021).

This data was further applied on the site to get to know, especially from which direction the wind is coming, and which function will affect more (figure 46). From the North Seaside, the wind is coming only during the month of September. Most of the time, the wind is coming from the West, South, and East side. There is some

nature on those sides. So, if I want to put the residences on the northern sides, the southern wind needs to be handled.

Park on the south part will be exposed to the sun (Figure 47). This will help to figure out where the solar panel could be installed and the places to avoid. This also help to know which areas can be developed to provide shade for user comfort.
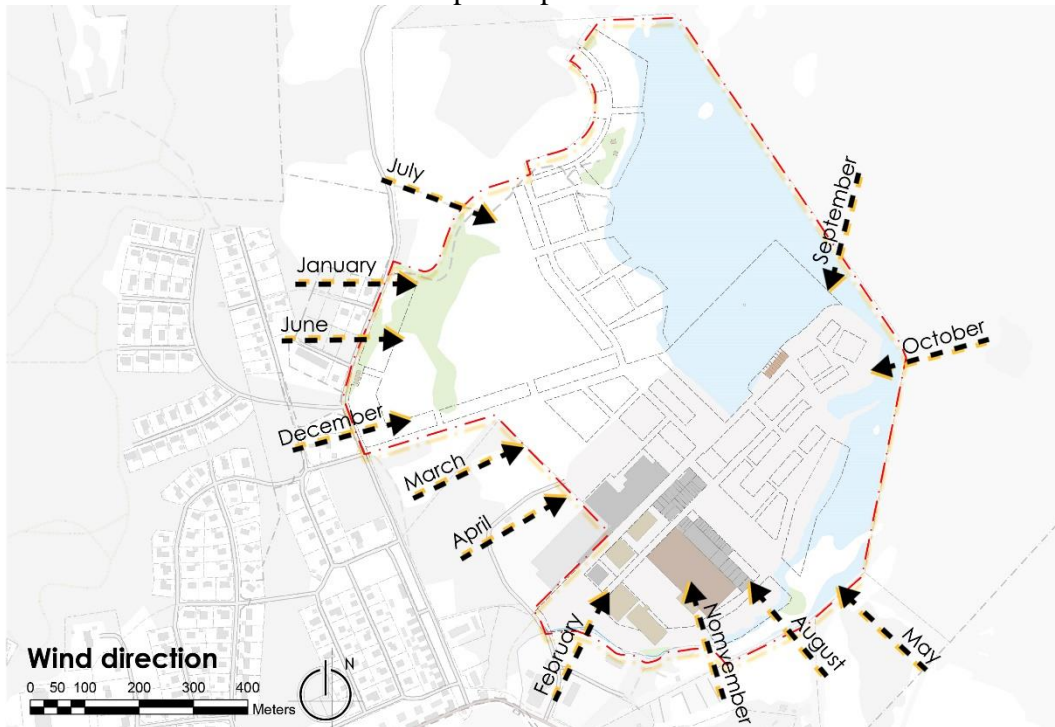
Figure 46: Wind direction of the Karlholm strand project, Edited: Author (Lantmäteriet, 2021).
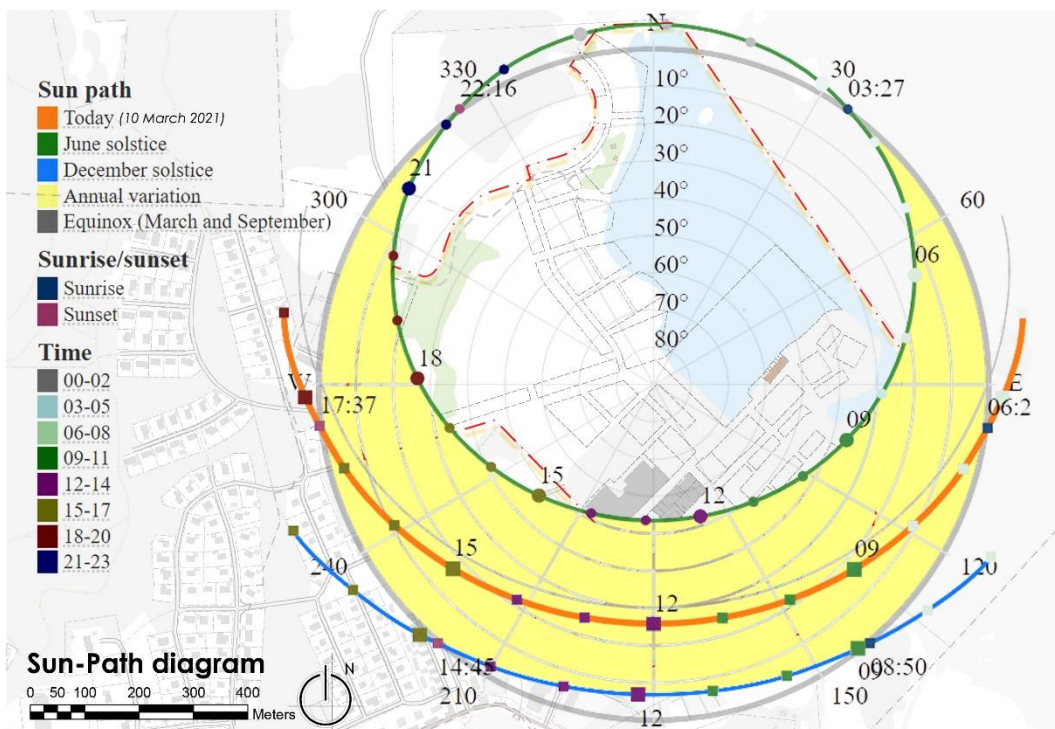
Figure 47: Sun-path diagram on the site, Edited: Author (Gaisma.com, 2021).

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Figure 48: Main two access point with viewpoints of the surrounding, Edited: Author (Lantmäteriet, 2021).

There is two main access point of this project, one through the old factory area and another from Norrgatan (Figure 48). After coming through these two points, there are potential six viewpoints that can be developed as public spaces. Out of those six viewpoints, five are towards the shore, and one is towards the extended water, which is connected with the sea.

6.6 Analysing the sketches: experiencing the historic factory site by sketching.

During 1960s, the Karlholmsbruk was working full time using workers in different shifts (IoU Karlholmsbruk, 2014), (figure 49) this image was created from a video of the factory which they had made in 1960 which is also available in Karlholmstrand.se. From this image it is evident that, the shoreline was not accessible for public as it was used by the factory. The raw materials were collected on the shore which were carried by boats. Using machinery, the tree chunks were taken inside for further process. Also, in the right side of the image it can be seen that the raw materials were temporarily stored. As the factory was working at its full swing, there was a need of large outdoor spaces for both storing and sending produced items to its destination.

One of the important factors from this image is, the main factory building is higher than the surrounding buildings.
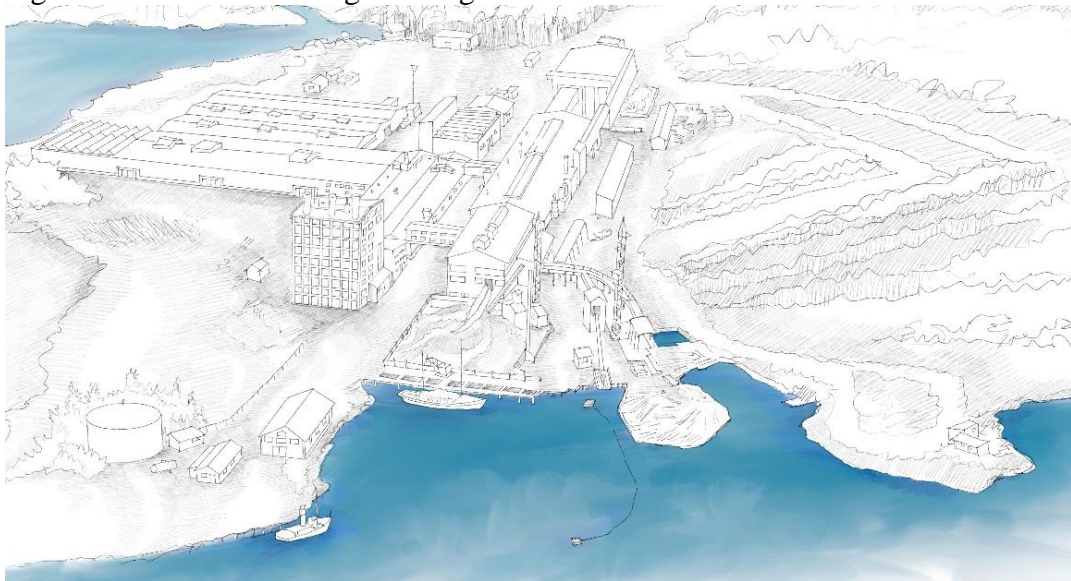
Figure 49: Sketch of Karlholmsbruk in 1960, Sketch: Author (IoU Karlholmsbruk, 2014)

Figure 50: Sketch of Karlholmsbruk in early 2000s with added modern technology, Sketch: Author (Sahlberg, 2017).

In the early 1960s, the factory was working with technology which did not need to overpower the form of the buildings, but with time and introduction of new technology new things started to add in the project (figure 50). Different shape and forms started to be added with the buildings, some new things also got added with time.
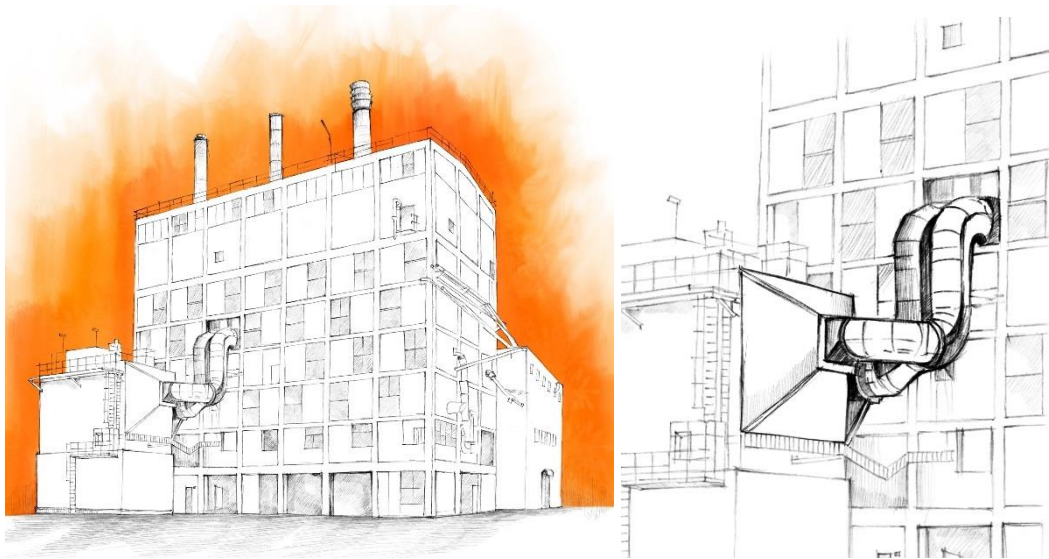
Figure 51: Sketch of destroyed Karlholmsbruk building and the added form for production, Sketch: Author (Sahlberg, 2017).
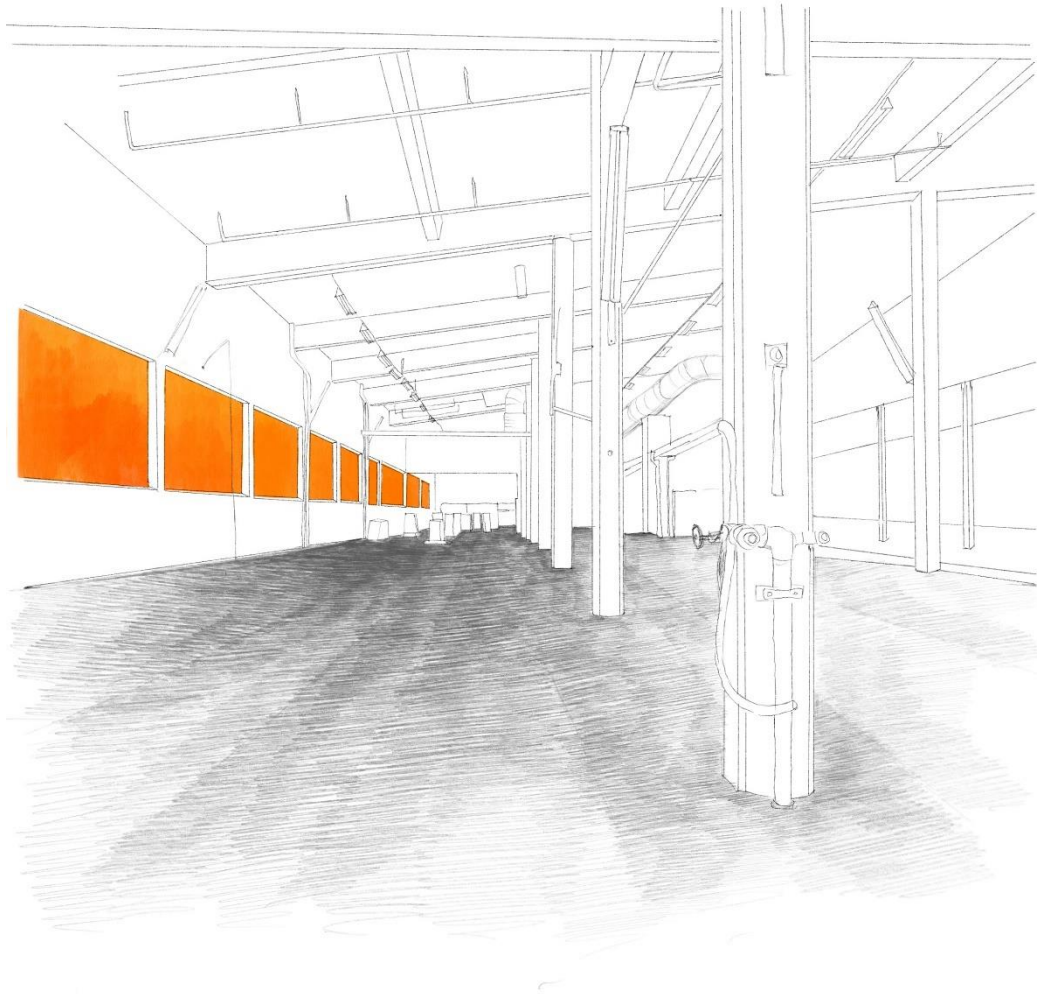
Figure 52: Interior sketch of storage building which had liner continuous space, Sketch: Author (Sahlberg, 2017).

If I focus on the building which was destroyed first for the sake of development, it can be seen that this building had changed over time also, in the 1960s, there were just the building form, but before the demolition this building was reformed with modern technology for the production (figure 51).

The interior spaces of the storage units were linear (figure 52). In the wider side there is a large span, for this stell columns were needed in the middle of the room. Because of windows on the wall, and roof windows, the space was naturally lighted. This building was refurbished to accommodate different functions, they will rent and sell for business purposes like business premises, office premises, and garages for the boat which can work from Karlholm Strand. The renovated rooms have new doors, all walls and ceilings are plastered and painted. The new rooms have a toilet, shower, kitchenette.

Figure 53: Sketch of the early stage of demolition of the factory building, Sketch: Author (Sahlberg, 2017).

When they started to demolish the large factory buildings, the inner structure started to come out (figure 53), the long structures were like the skeleton, there used to be both horizontal and vertical lines, but with time, only the verticals one was hardly standing there.

Figure 54: Interior space sketch of the demolished factory building which had high ceiling space, Sketch: Author (Sahlberg, 2017).

The interior space of the demolished building (figure 54) is different than the one which was preserved. This one has higher roof because of the functionality of this building. Because of the vertical and horizonal structure of this building, there was a frame created towards the sea.
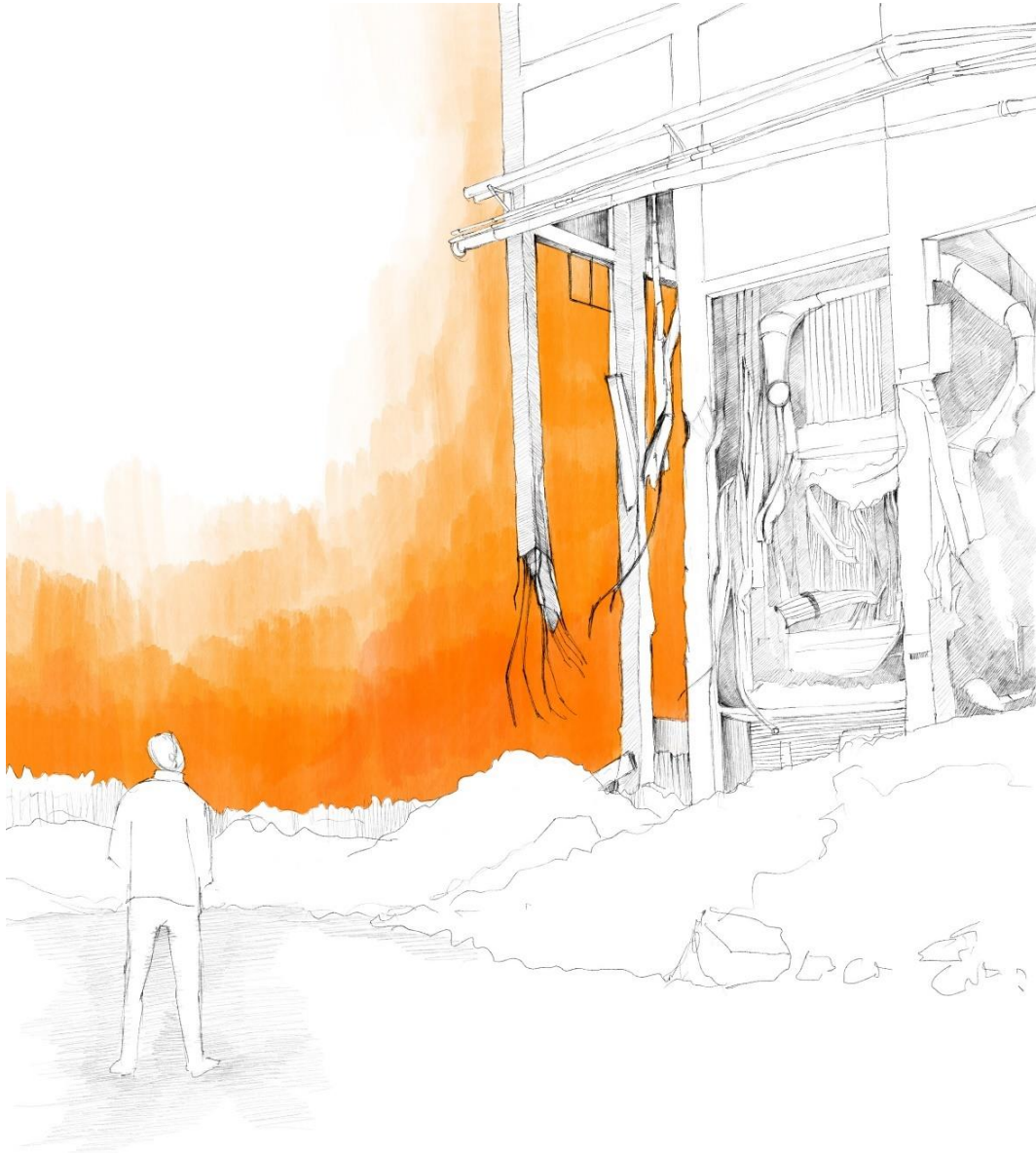
Figure 55: Sketch of the demolished factory building skeleton, Sketch: Author (Sahlberg, 2017).

With further demolition of the factory, the interior structure and the complex functioning elements can be seen (figure 55). They are very big in size, the rods inside the concrete column started to come out also. The sizes of these functioning elements were the reason behind the large interior spaces.
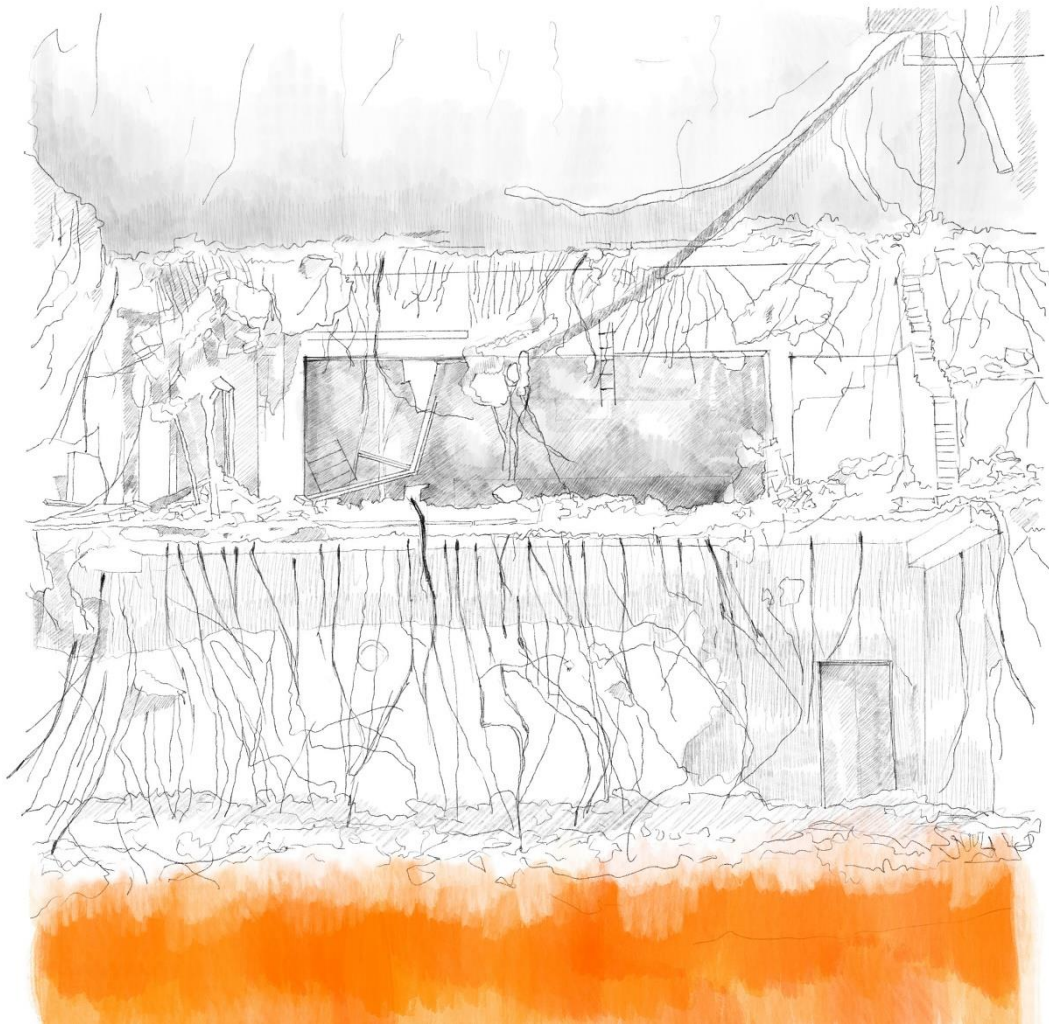
Figure 56: Sketch of the façade of the demolished factory building skeleton, Sketch: Author (Sahlberg, 2017).

Almost at the end, the whole building was down. The concrete was all over the place on the ground, the rods were coming through all over the building (figure 56).

From this journey of the history where this factory space was on full working condition, to the development with technology and at the end the demolition, I was thinking about how things have changed over last six decades. This area has a history of more than 290 years where generations of people worked there. As municipal authority mentioned that there are NGO´s who are working to keep the culture and history of the old factory alive and in the public school system of the municipality every class gets to learn about one historical part of the municipality every year, Karlholm is one of these. I realised that they would get to know about this history only on books or people will get to know about this place from the historical photos. So, why not still preserve what is there, like the storage areas shown in the site observation, the shoreline and design something which will give them the feeling of the space which they could have enjoyed after it was closed? I

think it is better to know it by physically being in a place rather than just see them in pictures.

7. Guidelines and design development

Based on all the study of different methodologies, some guidelines are formed to reach the result of proposing an alternative place-making plan for Karlholm strand.
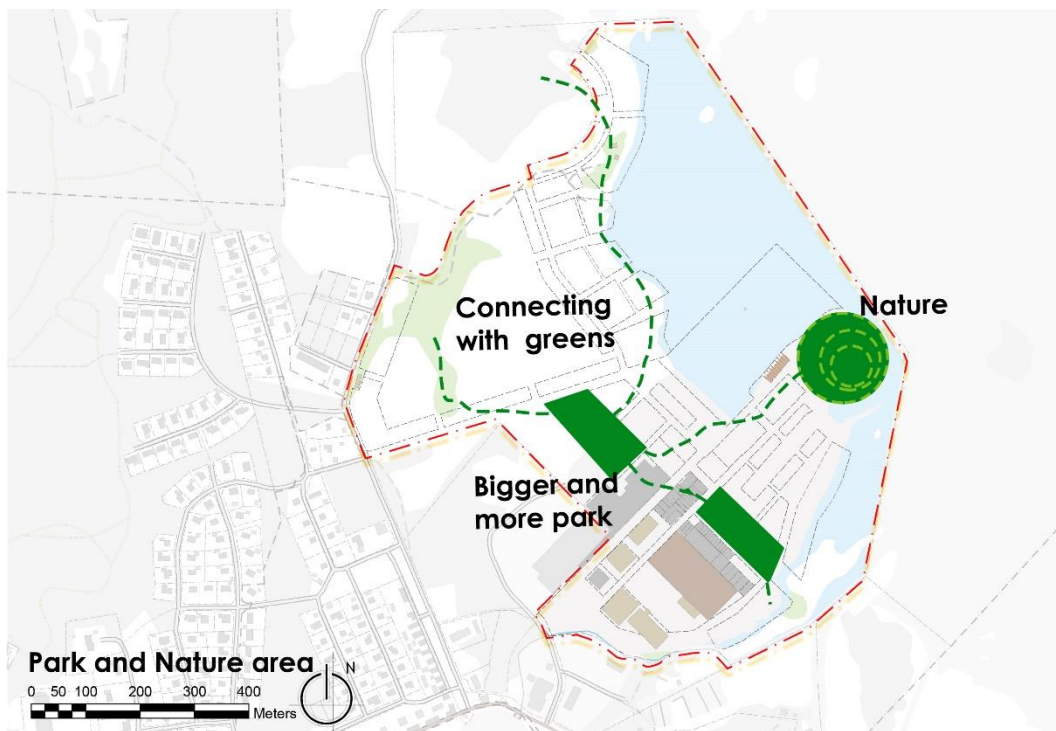
Figure 57: Proposal of park area, Edited: Author (Lantmäteriet, 2021).

There is a proposal for a small park (Figure 57), but if I make this park bigger, add one more park area in the south-east side, and one nature area which will be full of tress, then it can handle the wind and add more green in the project area which the local people wanted during the interviews.
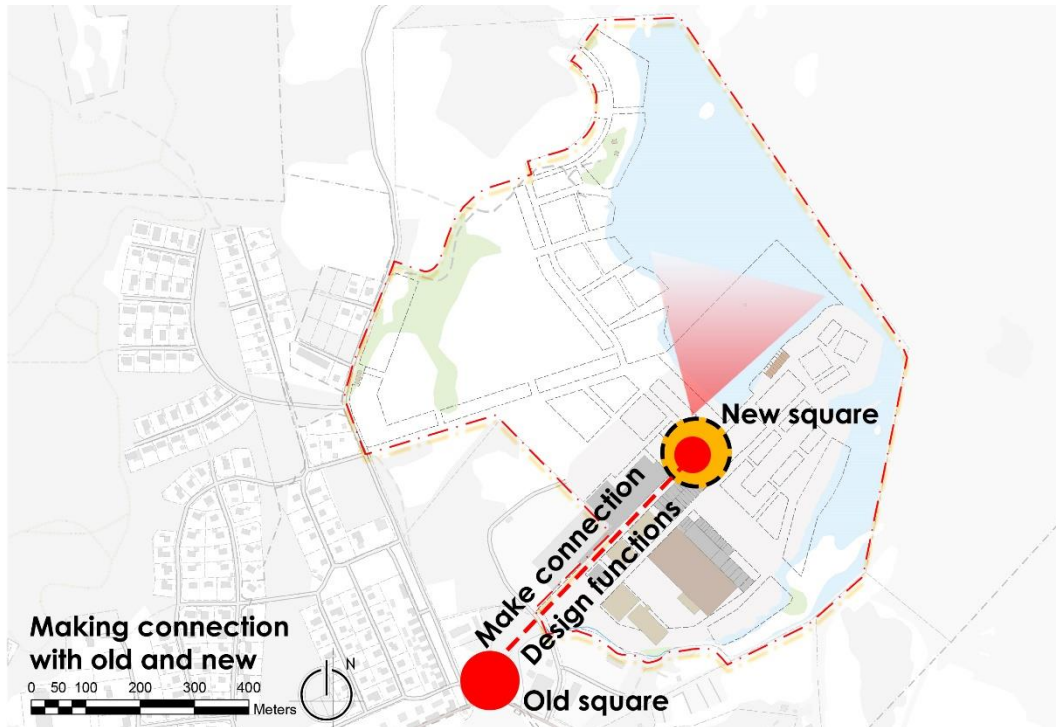
Figure 58: Connecting the old square with the new square, Edited: Author (Lantmäteriet, 2021).

The new square was developed by the local people to show their unity. As there will be one more square closer to the shore, it will be interesting to connect the old square with the new one. By doing so, people can easily move through these spaces, will get to know about the current square, and reach the new square (Figure 58). There is a big area between these two squares. In this area, there are the old factory buildings which were being renovated. To connect the squares, there will be a need for some design functions. This is where the use of aesthetic creation theory can be applied. The old buildings can have an elevated roof garden inspired from the New York High Line (Figure 59), which will ensure more green area, will contribute towards the ecology and biodiversity also. This elevated garden can give a wider view of the shore. The old factory buildings can be used as a restaurant, a community centre which will be open for all, gym facility, day-care centre, rentable office spaces, pubs, some indoor gardens which will be connected with the roof garden, a museum which will accommodate history of the area, some guided tour can be arranged for the tourists. Through all these functions, both on the ground and elevated garden, both the square will be connected.

Figure 59: Elevated Garden on the roof of the old factory building to connect the two squares, Edited: Author (Lantmäteriet, 2021).
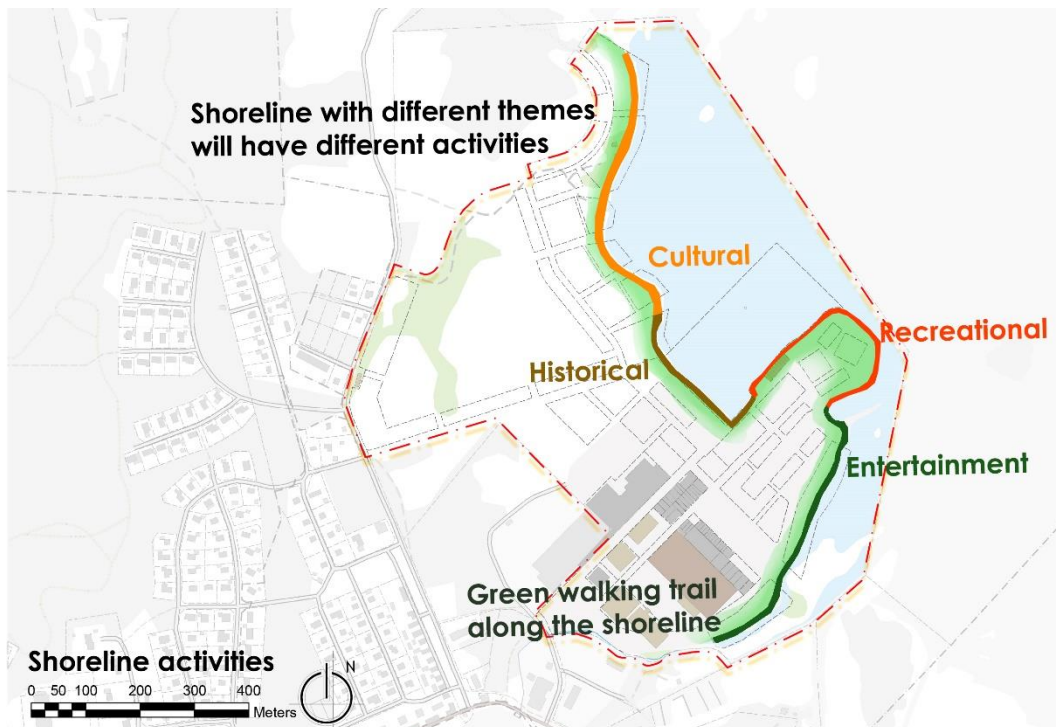
Figure 60: Four different theme-based activity area around the shorelines, Edited: Author (Lantmäteriet, 2021).

From the interview, it was understood that people want to enjoy the shoreline; they want a walking trail and different activities on the shoreline. For that, I am thinking

about doing 4 different theme-based shorelines (figure 60). One with a cultural theme based where different kind of cultural programs and activities can be done connected with Karlholm. One with a recreational theme where different kinds of recreational activities like playing games and play area for kids. Another one with an entertainment zone where people can dance, party, sing. And the last one is historical, where historical elements from Karlholmsbruk can be put for the people to get know about its history in the shoreline. These 4 different kinds of theme will attract different people at different times of the day, or people can enjoy more than one theme. Different kind of function will attract more people to come to the shore, which will ensure an easier connection between the old residents who did not have access to this shore and the new residences who will move there.
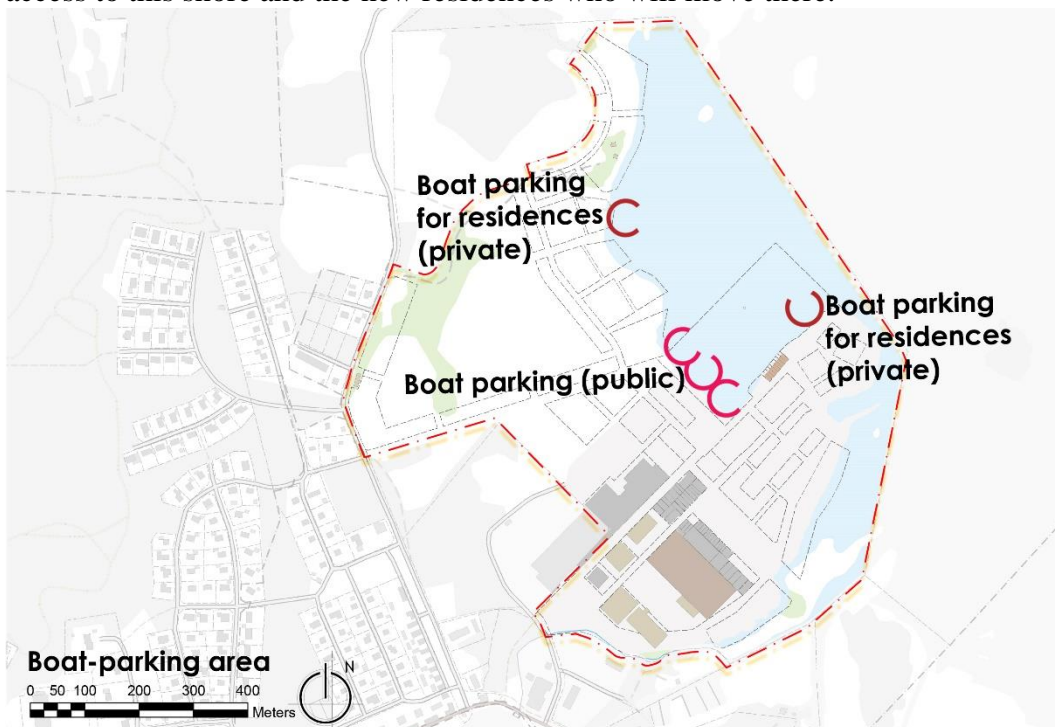
Figure 61: Boat parking area around the shorelines, Edited: Author (Lantmäteriet, 2021).

There can have boat parking in three different places (figure 61). In the northern part, the boat parking can be the private one so as the north-eastern boat parking. The middle one can be rented and used by the tourists who will come through the sea. Tourism can be a huge possibility in this area, so boat renting can be introduced, which will generate local income.

The houses can be scattered through the area, which will not create any problem with the access to the shorelines for the public. The people who will own the boats and living there can easily dock their boats in the northern boat parking area and walk to their houses. Or the people who will live in the southern or western part of the project can use the boat parking closer to the squares.
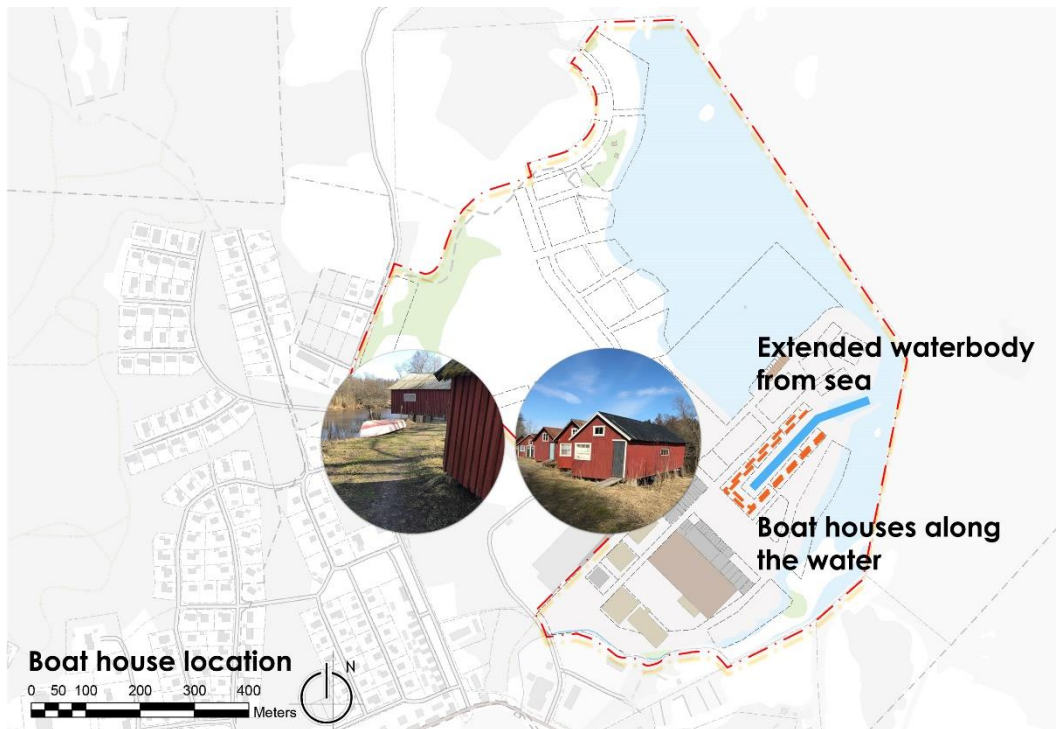
Figure 62: Boat house along the extended waterbody from the sea, Edited: Author (Lantmäteriet, 2021).
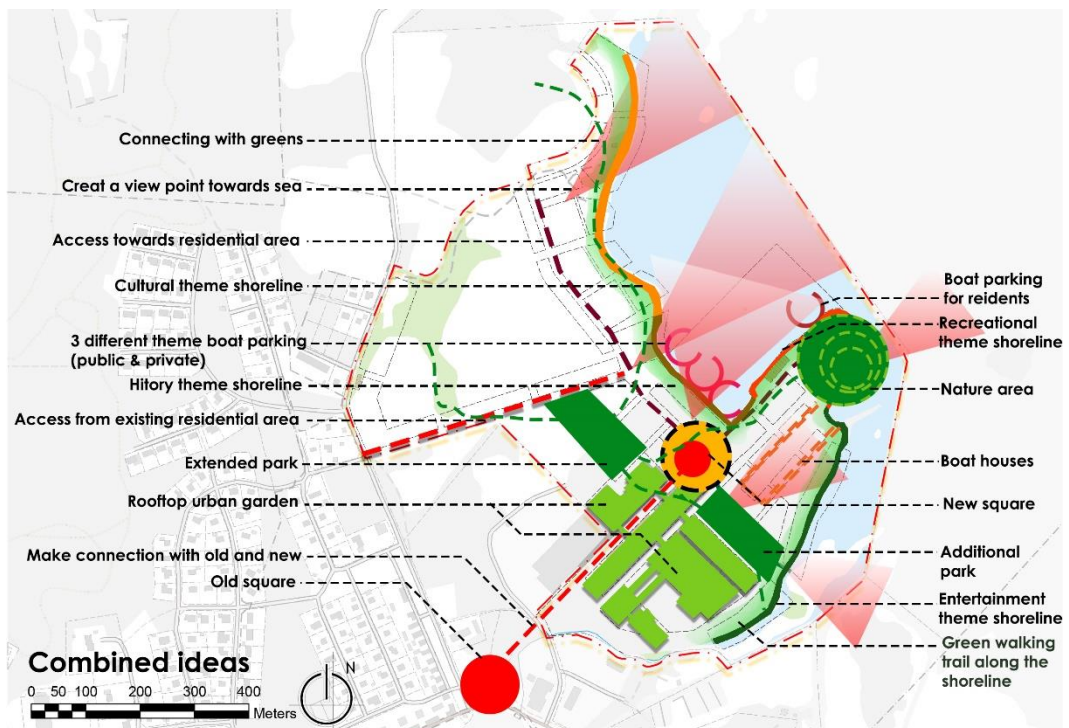
Figure 63: Combined all the design ideas, Edited: Author (Lantmäteriet, 2021).

There is an extended waterbody coming inside the project area, which can be used for boathouses in the area (Figure 62). As for the boathouses, I am planning to have houses on the upper floor, and on the lower floor, there will be boat parking. The boat house here is inspired from the boat houses which were found during site visit. All these thinking is combined into one (Figure 63) where the planning ethics is followed, the view from the local people is considered, the shoreline will be open for the public to enjoy for the first time, more green spaces by having lesser houses and more green area, places for community development, and more.

8. Result: Design proposal

To generate a final proposal, few alternate proposals were brainstormed. This is because different proposal could be visioned based on the study of this thesis, and it can help to know different aspects and options of the study.

8.1 Alternate proposal options for Karlholm Strand.

Based on the theoretical study of the planning practice´s tradition and history, aesthetic creation theory, community development, planning on the shoreline, planning ethics, place-making, and case study, I got some points which then further developed with SymbioCity approach and interviews from the local and municipal authority. Studying the proposed masterplan revealed what is lacking, which is again connected with the above-mentioned points. Site observations and sketches helped to get to know the site in depth. Guidelines and design development helped to narrow down what can be done in this site in the design part. One diagram was made (figure 72) with all the considerations, but then there were 6 options made, and from those 6 options, one schematic plan is proposed here. These plans can be thought of as a continuous design process or just different options as a master plan. All these plans have some main focus like some were focused on tourism or public activities.
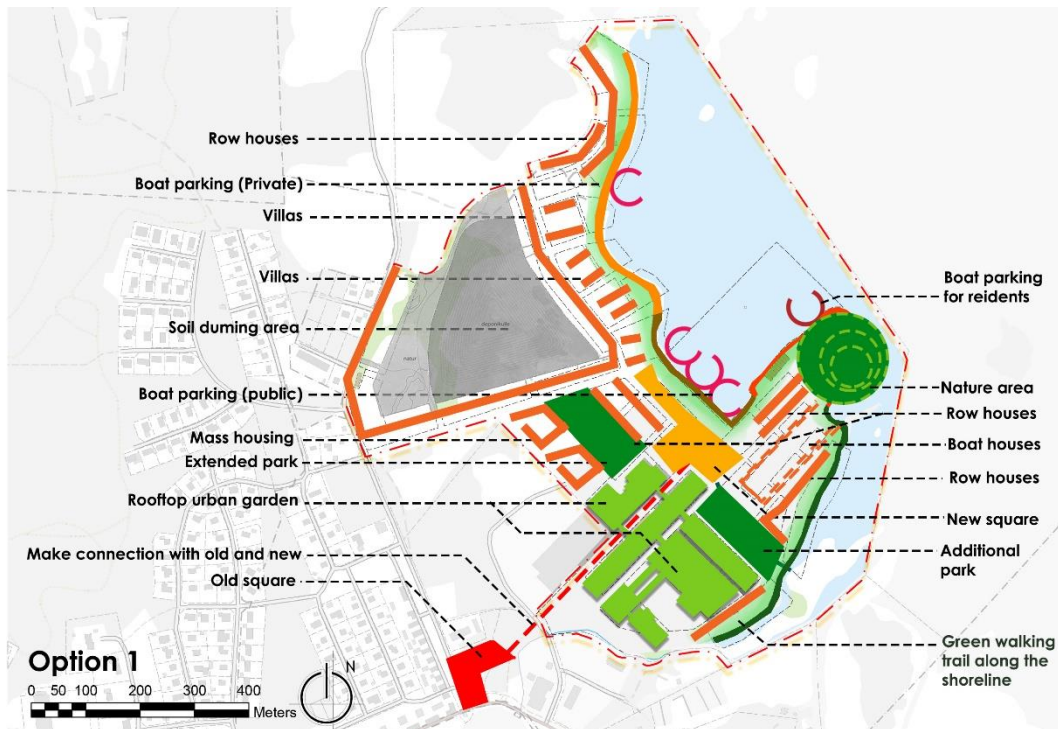
Figure 64: Design idea: Option 1; Focus on tourism and boat parking areas, Edited: Author (Lantmäteriet, 2021).

In this design option 1 (figure 64), the focus was on tourism. Tourism in terms of boats coming to the area. The whole front area of new square was visioned as boat parking place.
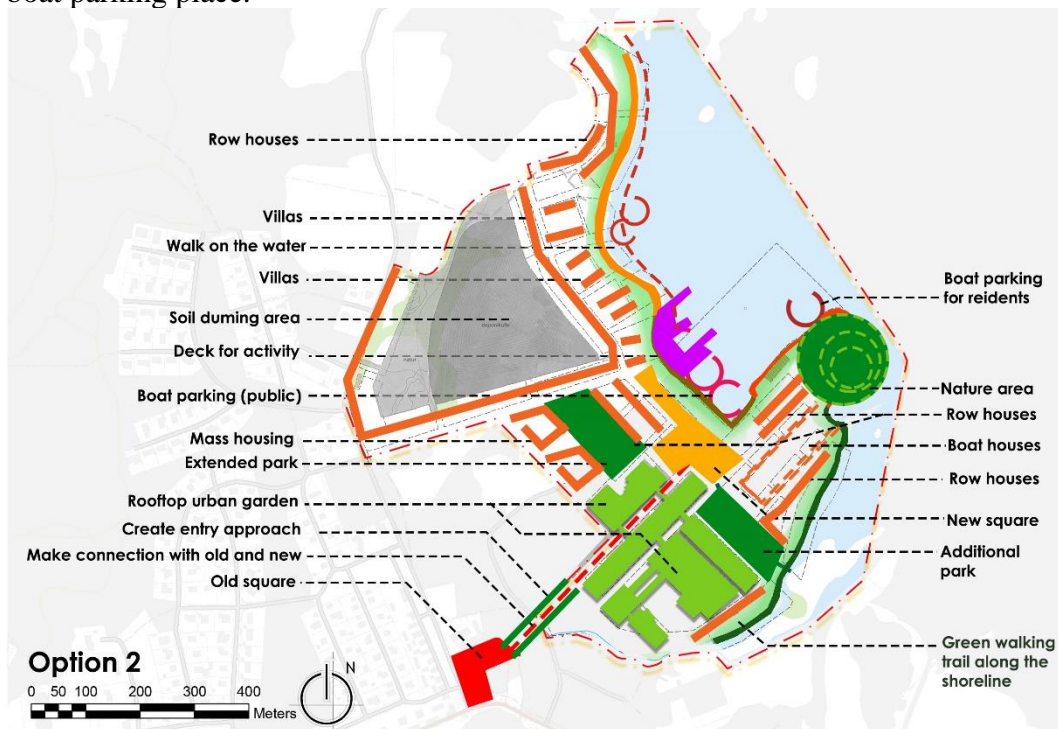
Figure 65: Design idea: Option 2: Focus on Tourism and public functions on the shoreline, Edited: Author (Lantmäteriet, 2021).

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In the option 2 (figure 65), apart from the tourism, public function is also thought beside the boat parking area.

Row houses -------
Villas -------
Villas -------
Soil duming area -------
Boat parking (public) -------
Mass housing -------
Extended park -------
No rooftop urban garden -------
Have different urban function inside
Old square -------

Boat parking for reidents -------
Nature area -------
Row houses -------
Boat houses -------
Row houses -------
New square -------
Additional park -------
Green walking trail along the shoreline -------

Option 3

0 50 100   200   300   400
Meters

N
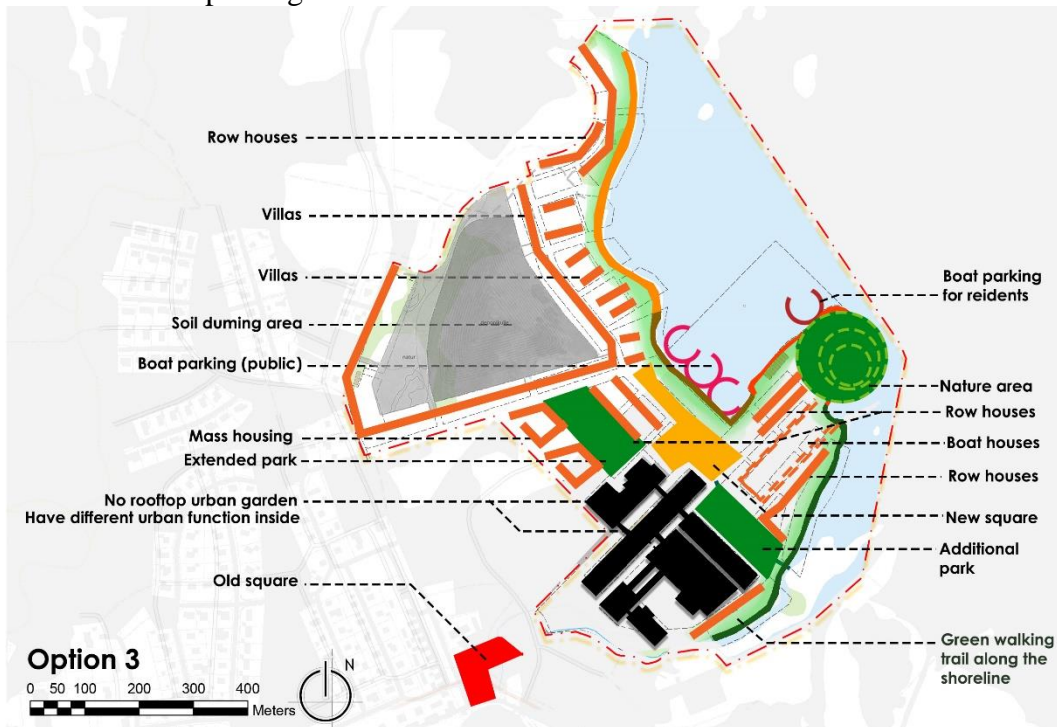
Figure 66: Design idea: Option 3: Think about the economic points of not making urban garden on the roof, Edited: Author (Lantmäteriet, 2021).

In option 3 (figure 66), the whole factory area is thought without roof urban garden by considering economic factors.

Row houses -------
Villas -------
Villas -------
Soil duming area -------
Boat parking (public) -------
Mass housing -------
Extended park -------
Rooftop urban garden -------
Urban forrest -------
Old square -------

Boat parking for reidents -------
Nature area -------
Row houses -------
Boat houses -------
Row houses -------
New square -------
Additional park -------
Green walking trail along the shoreline -------

Option 4

0 50 100   200   300   400
Meters

N
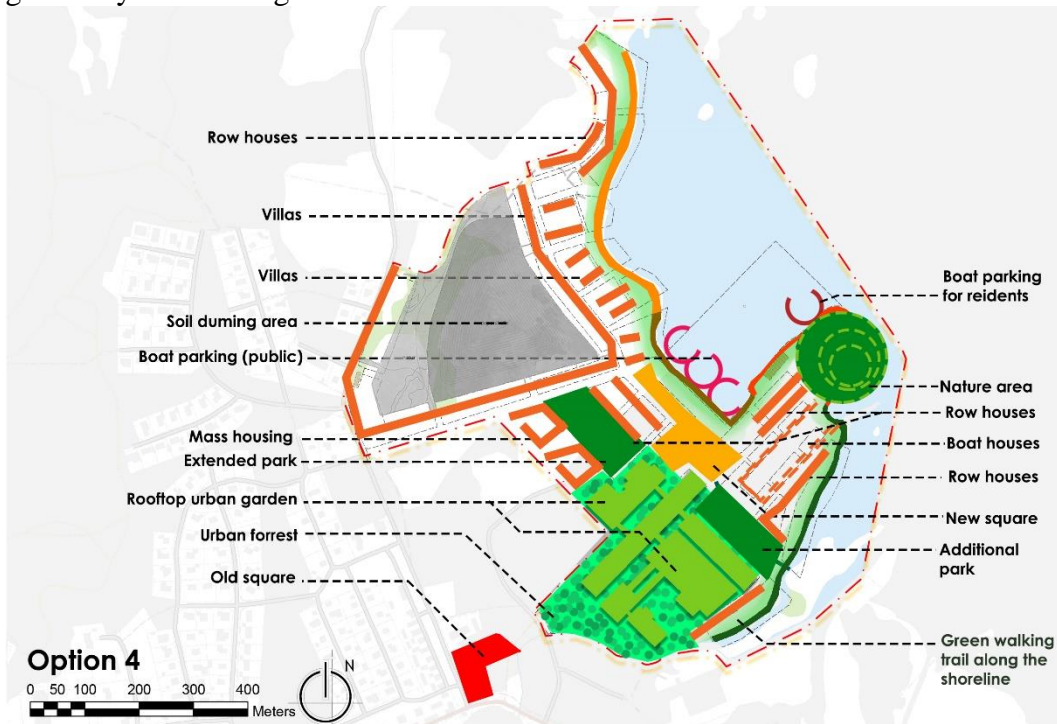
Figure 67: Design idea: Option 4: Create additional green area around the factory, Edited: Author (Lantmäteriet, 2021).

In option 4 (figure 67), the whole factory area is visioned as inside a forest to give it a vintage look.
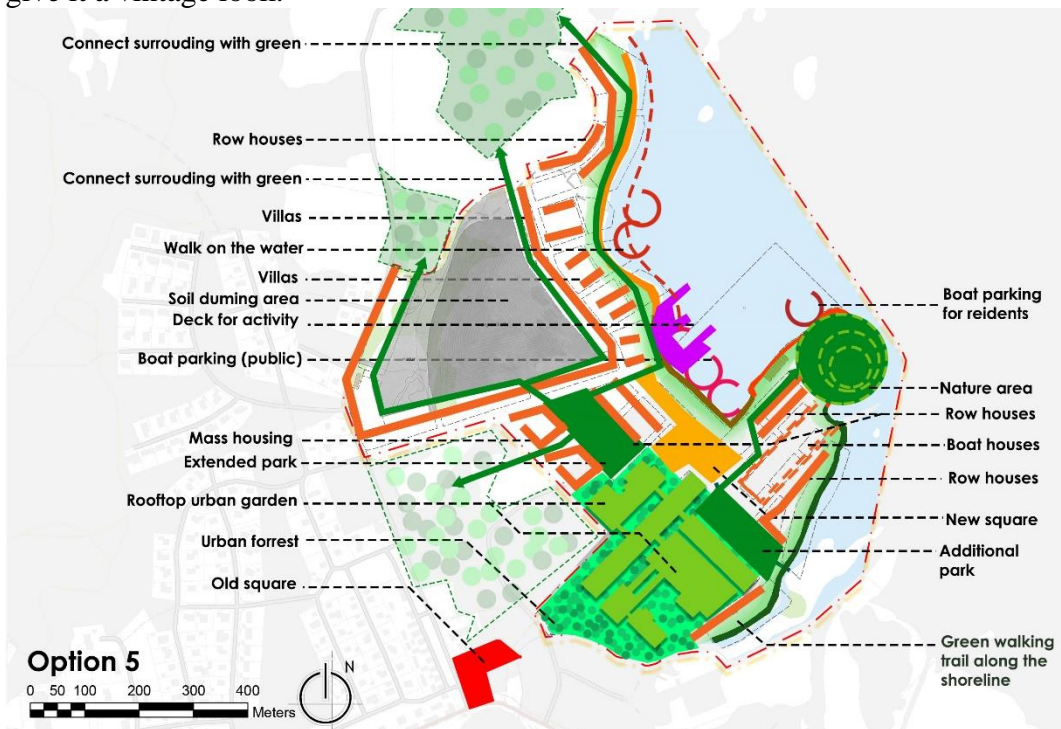
Figure 68: Design idea: Option 5: Extend the green area and connect with the surrounding green, Edited: Author (Lantmäteriet, 2021).

In option 5 (figure 68), the park green was extended to the surrounding green area.
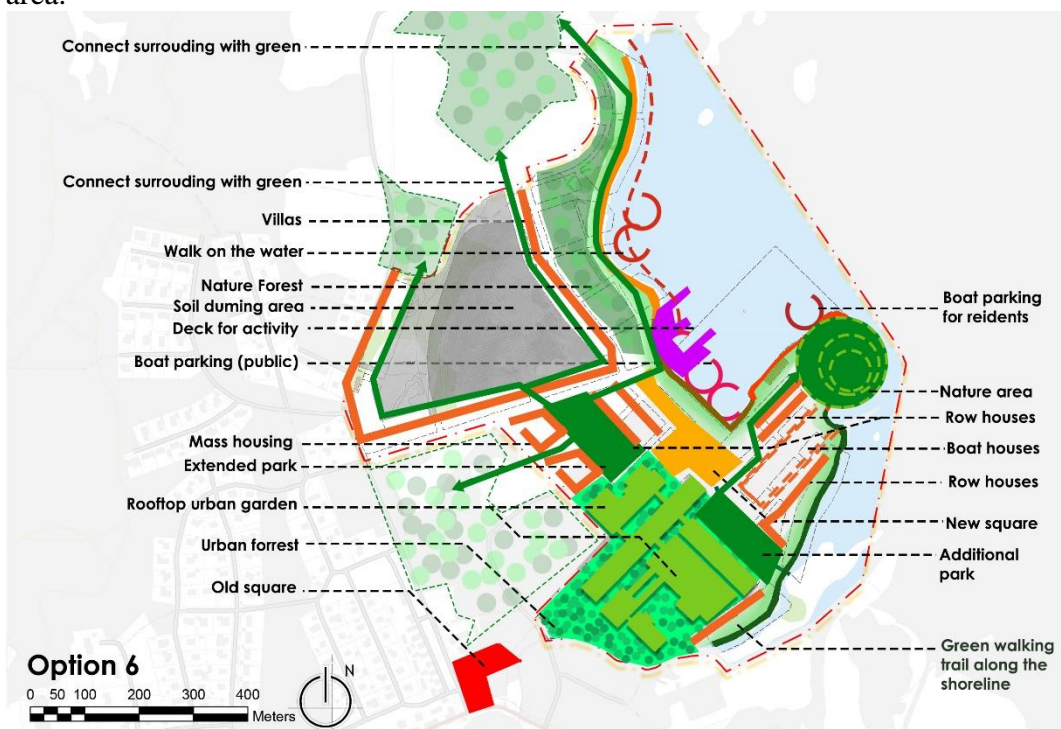
Figure 69: Design idea: Option 6; Instead of more houses, greener in the north side, Edited: Author (Lantmäteriet, 2021).

In option 6 (figure 69), more green areas were envisioned in expense of residences in the north side.

Figure 70: Final schematic plan; Incorporation all the 6 options into one. by Author (2021).

In the final schematic plan (figure 70), all the six options were comprised into one plan which letter developed as more detail schematic masterplan.

8.2 Final proposal of Karlholm strand
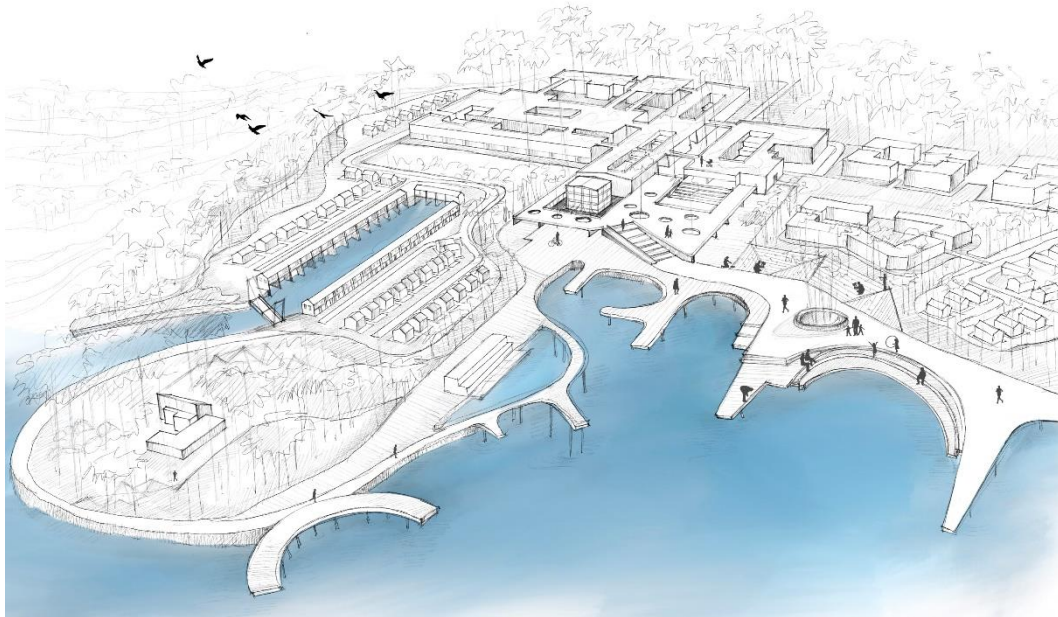
Figure 71: Overall view of the factory area with shoreline activity, nature area, museum, and urban roof garden by Author (2021).

After brainstorming different options for the final plan, a final proposal was made by comprising all the options into one, which reflects the aim of the thesis of proposing an alternative plan in Karlholm Strand based on community development, aesthetic creation theory, place-making, and planning ethics. In figure 71, one part of the design can be seen. The main masterplan is a little complex; that is why in this chapter, before showing the masterplan, 5 (five) main parts of the masterplan were zoomed in, and sections were created to show different functions and activity in the proposed area based on all the methodologies which have been used in this thesis.
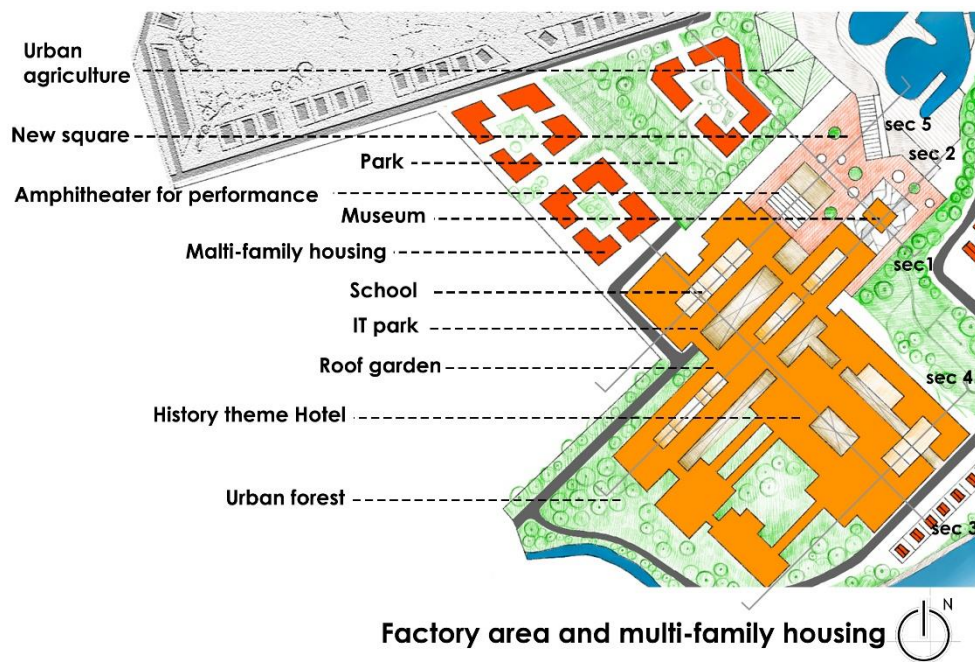
Figure 72: Zoom in plan of the factory area and surrounding multi-family housing area, by Author (2021).

In the factory area, there are IT park, school, hotel, park, community centre, and museum & restaurants (figure 72). The whole old factory area is visioned as inside a forest. New trees will be planted in the whole factory area. The roof garden (figure 73), where the locals can come and grow their own vegetables and fruits. As the roof will be a green roof with different trees and shrubs, there is a possibility to use it as an ecological roof garden also to promote ecology and biodiversity. The roof garden idea came from the New York High Line project idea where they created elevated garden.

The roof plan here is an open design plan; the locals can decide what they think is best for them and then adapt according to it. The local groups, NGOs, and municipality can come and help with the development (chapter 6.2). When the local people come and work together to plan something, they will be connected easily, and the idea is that it will help the community to bond over the works. The rain and snow water will be collected from this roof. The water will later use in watering the plants, in the household works, or washing the vehicles.
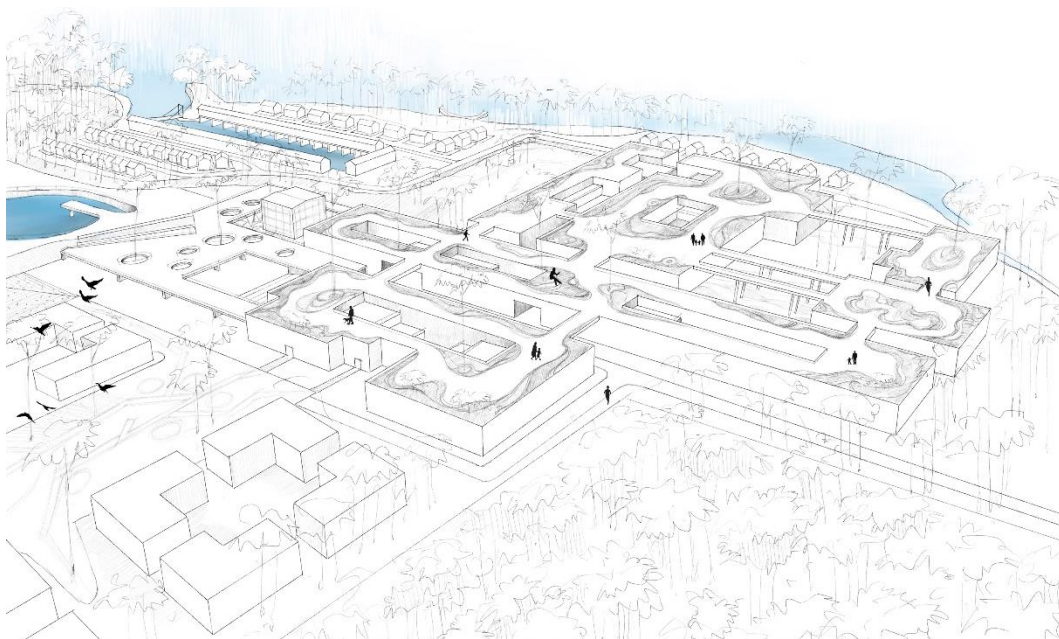
Figure 73: Roof urban garden on the factory where community development is focused, by Author (2021).

Spatial dimensions

Urban functions

Institutional factors

Tourism

Aesthetic Creation theory

Community development

- Museum based on old factory
- New Karlholm Strand square
- Performing centre for local artists
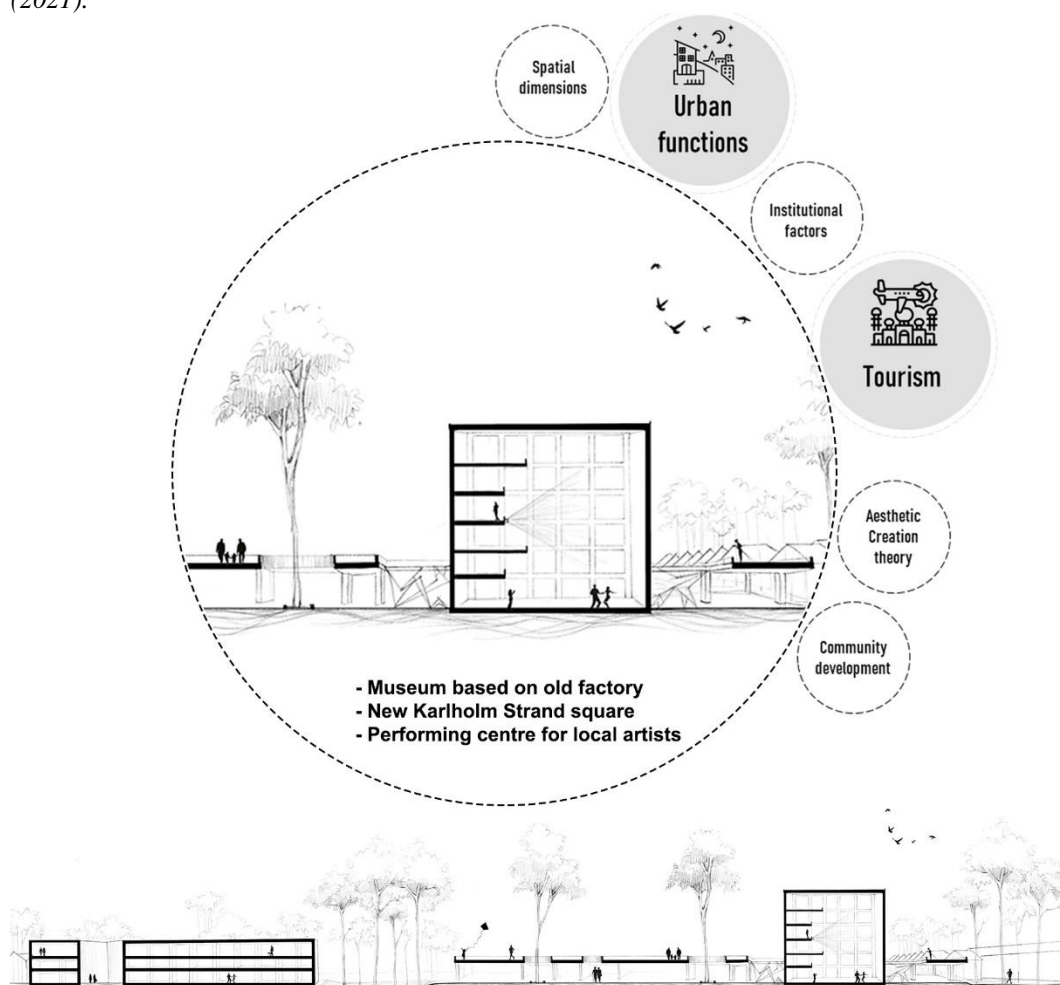
Figure 74: Section 1- through multi-family housing, new square, and factory museum, by Author (2021)
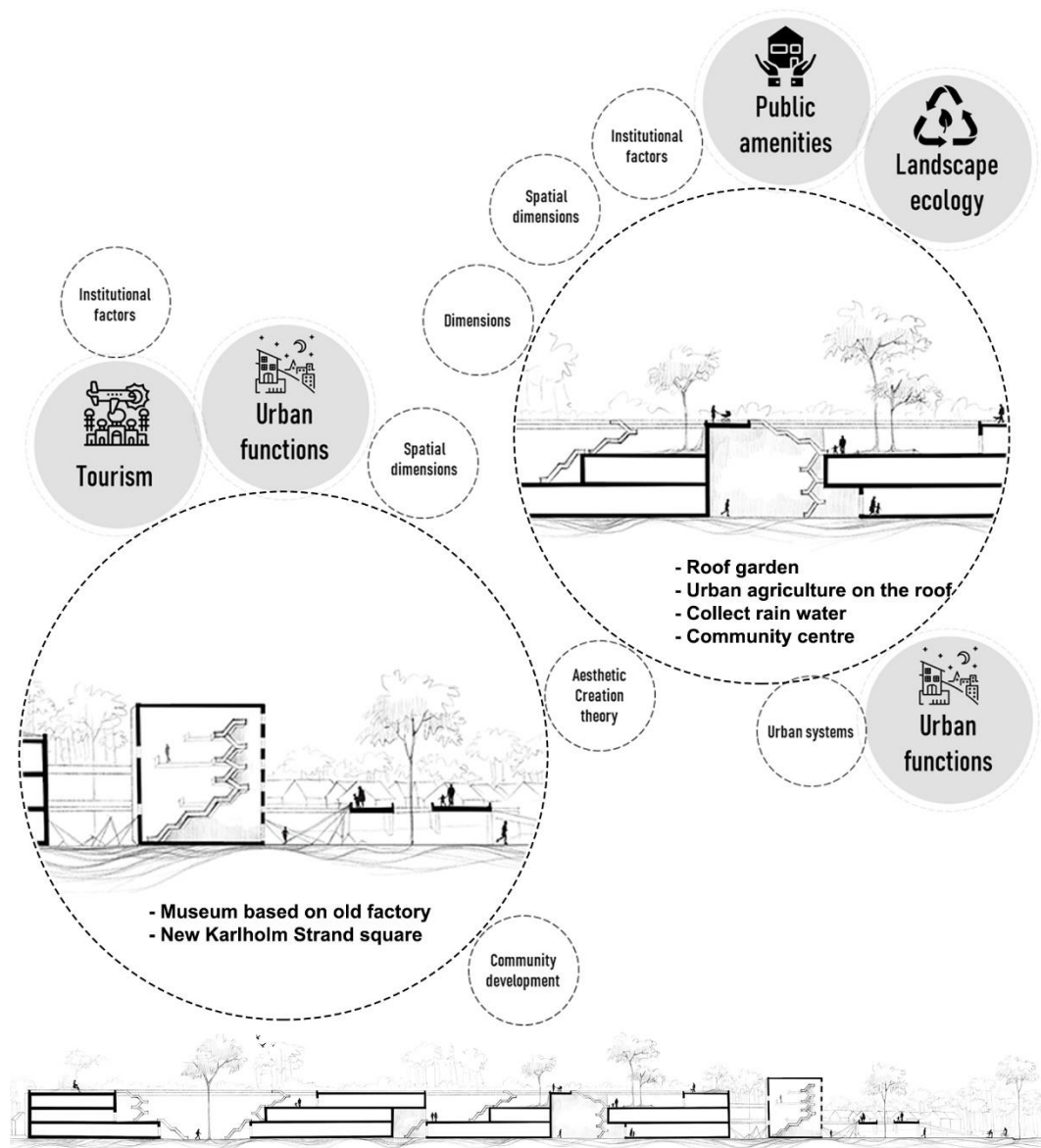
Figure 75: Section 2- through school, IT park, and factory museum, by Author (2021).

In the square area, there will be a new museum which will be like the old factory which was demolished. This one will be smaller and surrounding by rods and concrete material arts to visualise what it went through throughout history (figure 74 and 75) (chapter 6.6). The new museum will have pictures from different time eras of Karlholm strand, historical monuments, as well as art and cultural product which can be collected from the local artists. One side of the interior of the museum can be used as a projection wall to show videos of the Karlholm strand (figure 74). Overall, the museum will represent both historical elements and today's elements of Karlholm.
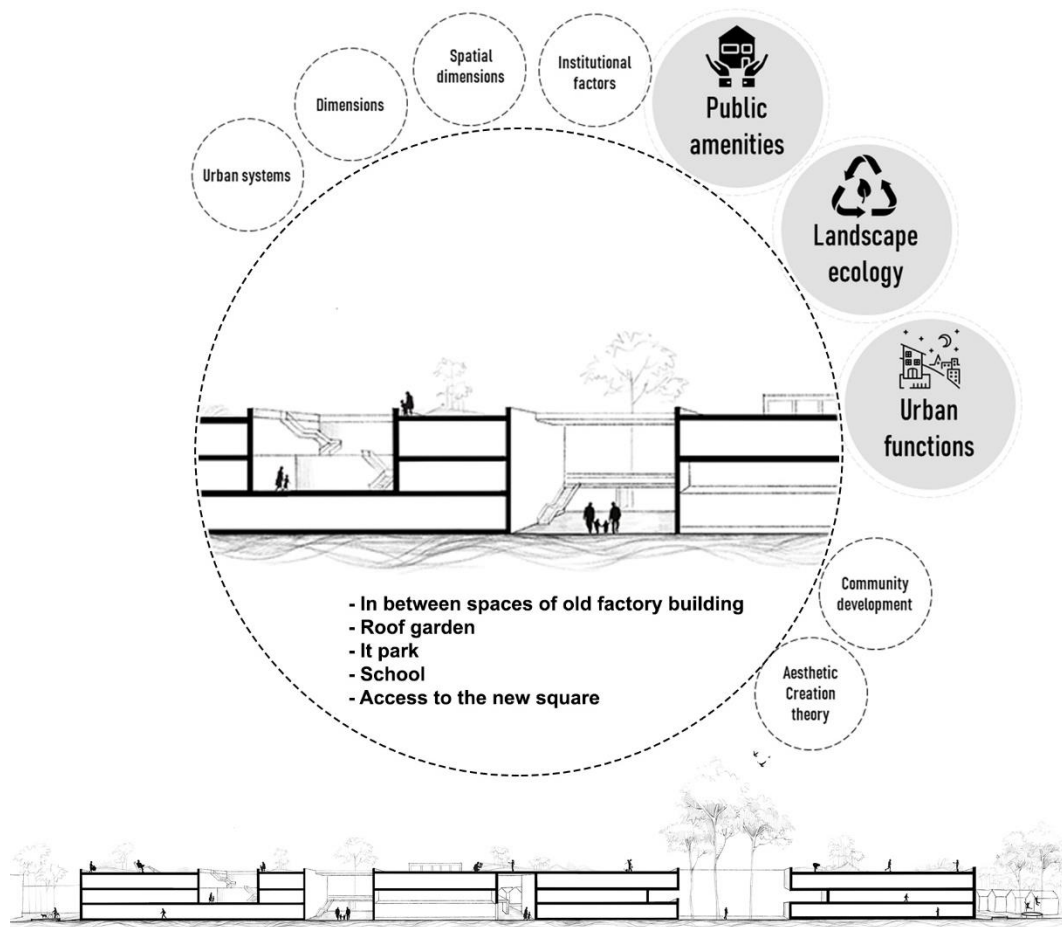
Figure 76: Section 3- through factory buildings where different urban functions will be incorporated with time, by Author (2021).

The in-between spaces of the factory buildings (figure 76 and 77) will be used as urban functions like the IT park, stores, school, play area (chapter 6.3).

There will be a need for stores like COOP, ICA to serve the residents in the project area. It can also serve the surrounding area.

The school is close to the park and urban roof garden, where the students can play and learn about trees, animals, insects, and more about ecological and biodiversity factors. The urban agricultural space in the square will allow them to interact with different people. As the museum is close to the school and the school building itself in the old factory building, the students will get to know about the history of the Karlholm Strand easily.

The in-between spaces will be used to reach the new square. The current square and new square will be connected, and these in-between spaces will work as a threshold of current and new squares. As the factory building will retain its original façade (chapter 6.1), people will get to experience the old times to reach the new time development of Karlholm strand.
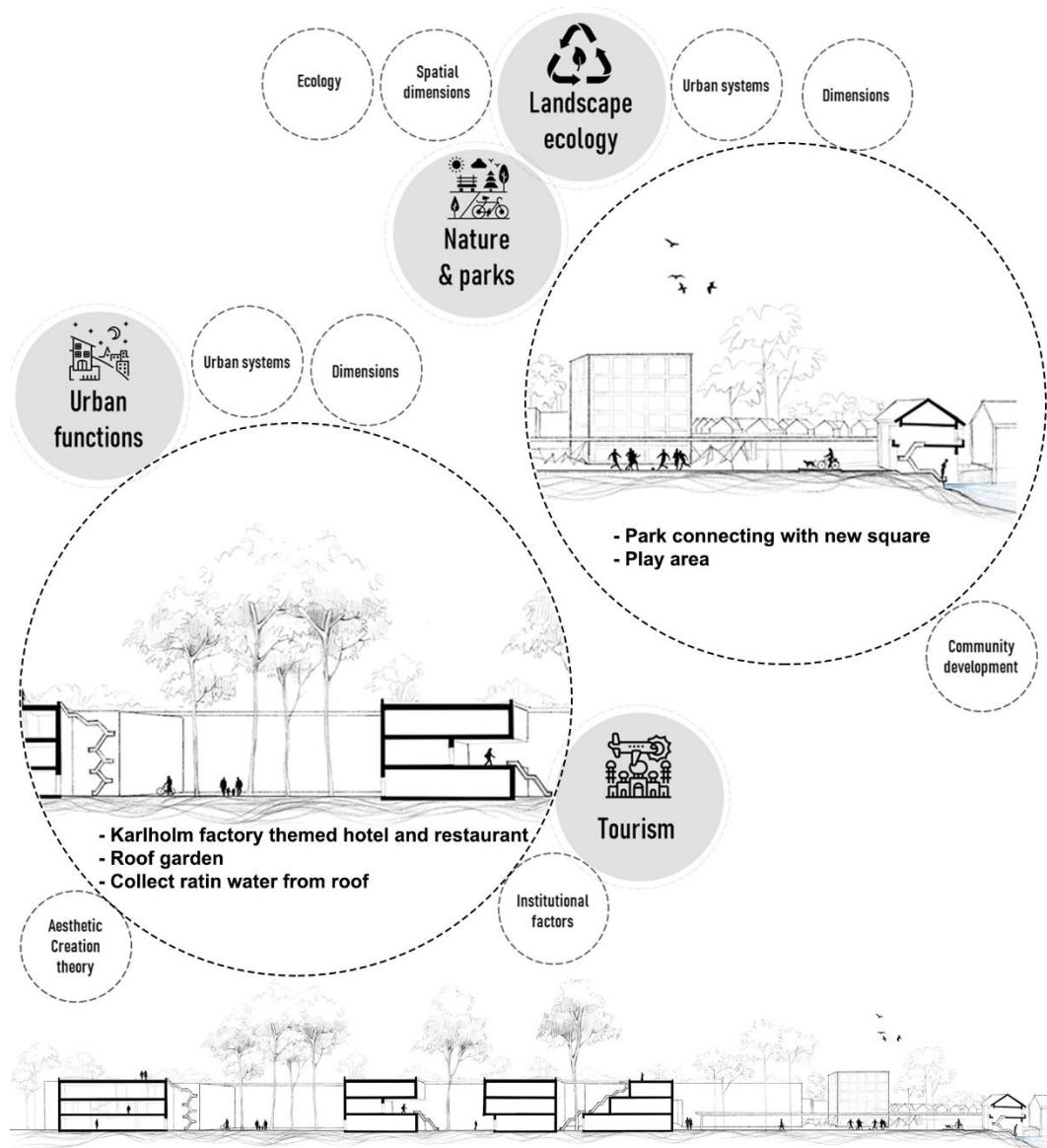
Figure 77: Section 4- through hotel, IT park and boat houses, by Author (2021).

The restaurant and museum (figure 77) both will be Karlholm strand history theme. The interior of the building will be adjusted and renovated to have a hotel and restaurant. But the essence of the old factory building (chapter 6.6) will work as a driving force while renovating.

To create a transparent threshold between the residences and the factory building, there is a park and tree area. It was done to create privacy with the public and private functions. At the same time, it will ensure easy access to these spaces for both the people who are visiting this area and the residents of this area. When the residents and people from the surrounding area going to use the same place, there will be a possibility of community development (chapter 6.1).
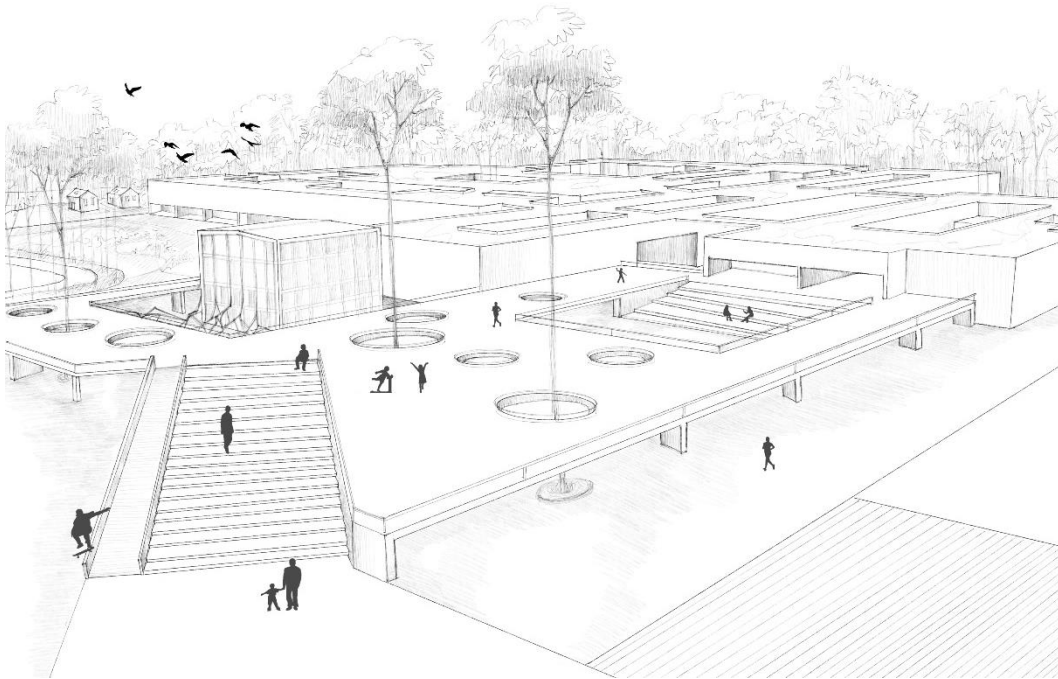
Figure 78: View of the new square and factory museum and rood garden where aesthetic creation theory was used, by Author (2021).

The square will be elevated from the ground (figure 78) to ensure view of the shore from different levels, and this will create spaces between them which can be used as a play area, gathering, performing arts. For performances, an amphitheatre is also connected with the square which can serve both the levels of the square (figure 79 and 80). By having different kind of activity in the area and not having residences around the shore and giving access to the shore for public. Every kind of people will come here. they will have something to do and enjoy the spaces (chapter 6.1). The more activity there is, there is more chance of communication between people.

Figure 79: View of new square and amphitheatre for community development, by Author (2021).

Shoreline access

Urban systems

Spatial dimensions

Urban functions

Urban systems

Dimensions

- Shoreline for the public
- Different themed shoreline
- Boat tourism

Planning ethics

Institutional factors

Tourism

- Collect water roof the urban roof
- Performing place for local artists

Community development
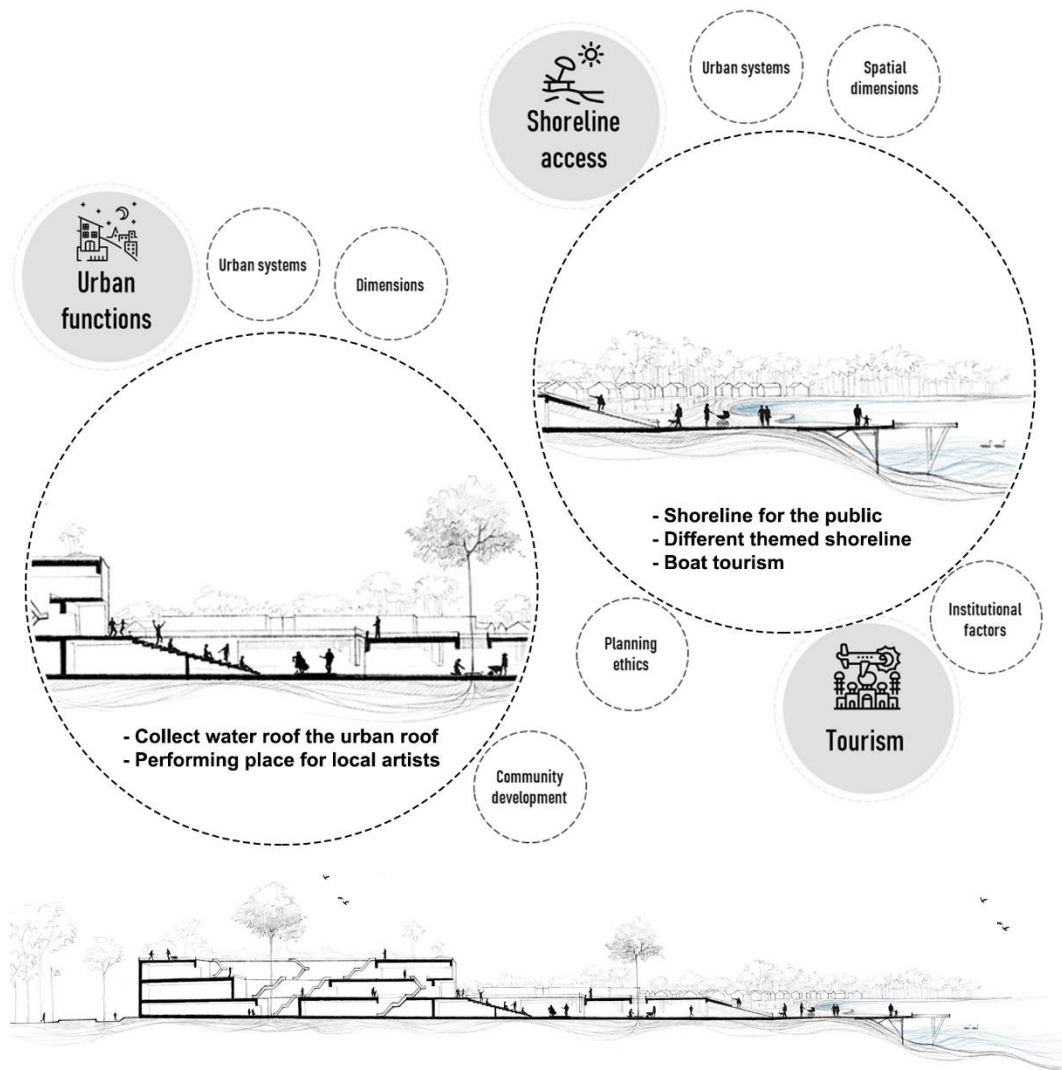
Figure 80: Section through amphitheatre showing different activities, by Author (2021).

Nature area

Boat houses

Single family houses with possibility to outhouse in the backyard

Extended water from the sea

Sec 6

N
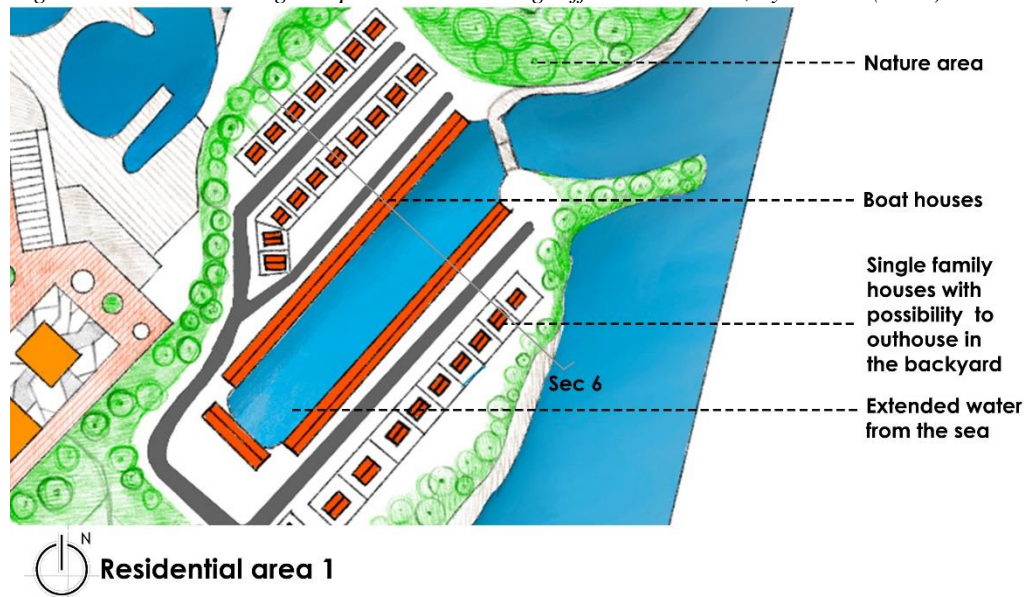
Residential area 1

Figure 81: Zoom in plan of the boat house area, by Author (2021).

In residential area 1 (figure 81) along the shoreline, boathouses are introduced by creating a water channel connecting the sea (chapter 6.5). There will be a wooden bridge (figure 82) which can be operated mechanically to ensure passages for both people and boats along the shore. The single-family housing will have both back-yard and front-yard connecting with their neighbours and the boathouses will have boat parking on the ground floor while houses on the upper floor (figure 83).

Figure 82: View of the boat house area and surrounding nature based on site observation, by Author (2021).
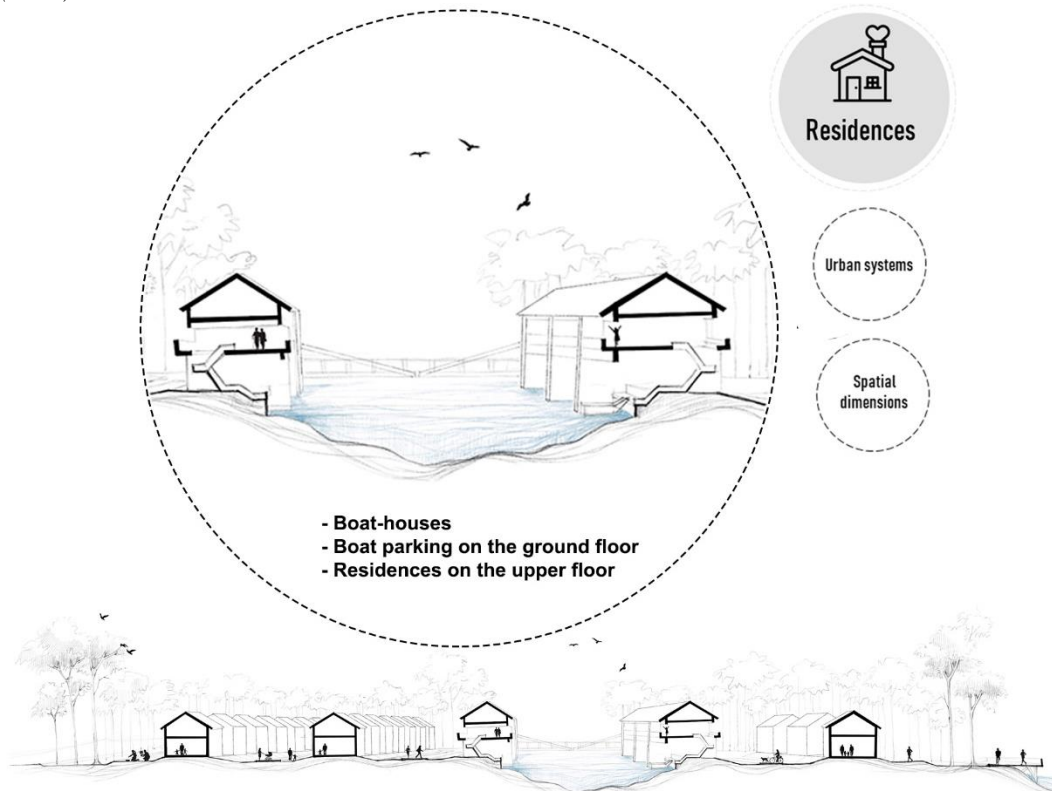
Figure 83: Section 6- through single family housing and boat houses, by Author (2021).

Figure 84: Zoom in plan of the residences along the shoreline, by Author (2021).

In residential area 2 (figure 84), both multi-family housing and single-family housing is provided so that every kind of housing has a sea view. The houses will have a solar panel which can be used for electricity, a rainwater collector in the roof to collect the water for future use, and a channel to collect wastes for creating biogas. There is a distance between residences and shore to ensure access to the shoreline by everyone (chapter 6.1). There is a park close to the residences which can be used as a play area, walking, running, cultural centre, and more (chapter 6.3).

Figure 85: View of the residential area along the shoreline where planning ethics was used, by Author (2021).

There are nature areas between the single-family houses and along the shoreline, which is extended further with the surrounding nature areas. Residents will share the nature area, and they can plant fruits and vegetables, and the kids can play there

(Figure 85 and 86). As residents will be coming together to work in this nature area, they will share work and the outcome product of this work which will help to build a stronger community (chapter 6.1). The nature area will work as a threshold between the different theme shorelines. As there will be people coming in the shorelines, this nature area can work as privacy too. But people from these residences can easily reach shore through nature.

After considering the sea level rising, the houses are proposed 0.5 meters above the current soil level (chapter 6.4). In figure 95 and 96, it can be seen that the houses are raised and accessed by a ramp to ensure universal accessibility. It is proposed that the local materials are used while building these residences so that the local economy can be increased, and this will save time also.

These single-family residences are proposed as one and half storied buildings. The upper floor, which will work as a half-storied building, will help to narrow down the height of the building close to the sea (chapter 6.4).
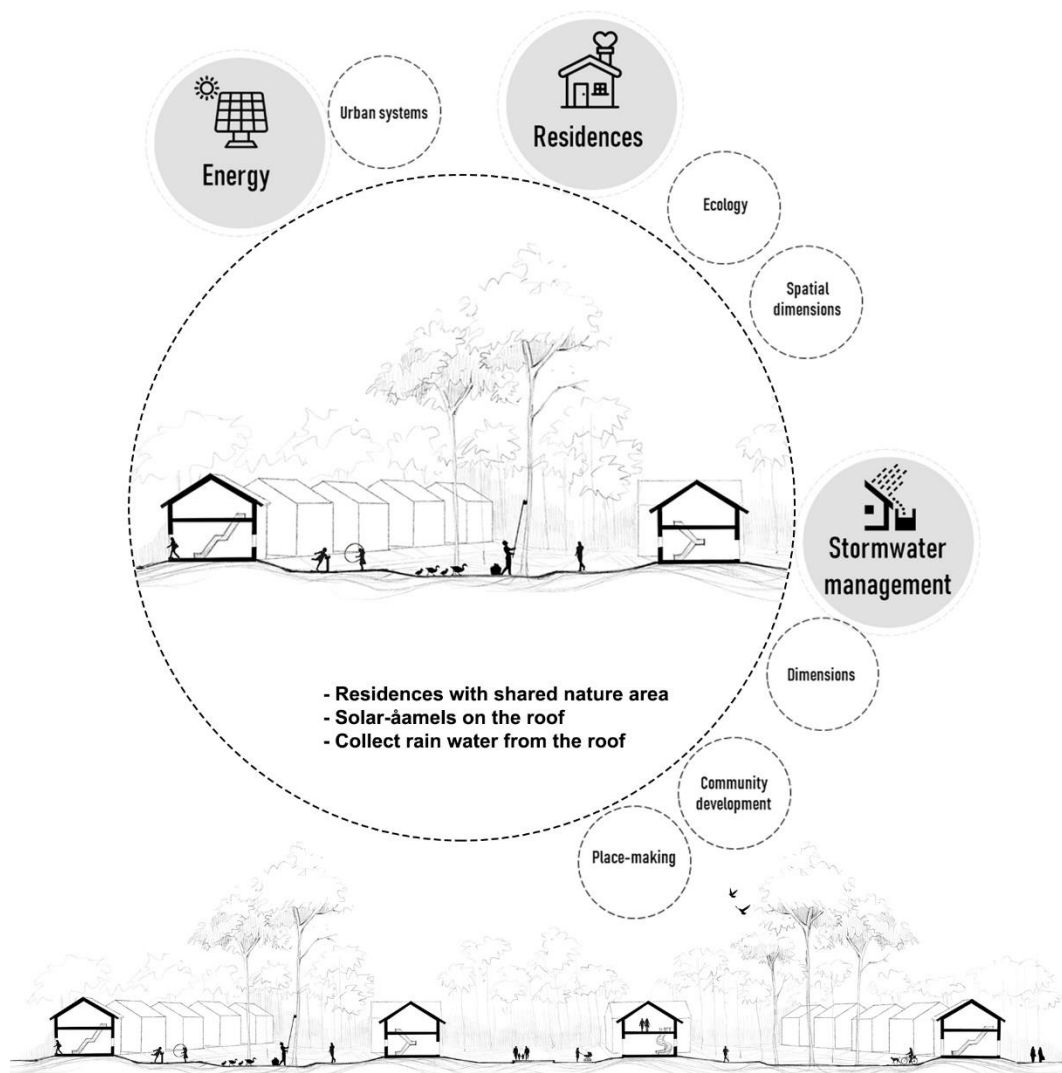
Figure 86: Section 7- through single-family housing showing in between spaces of the houses, by Author (2021).
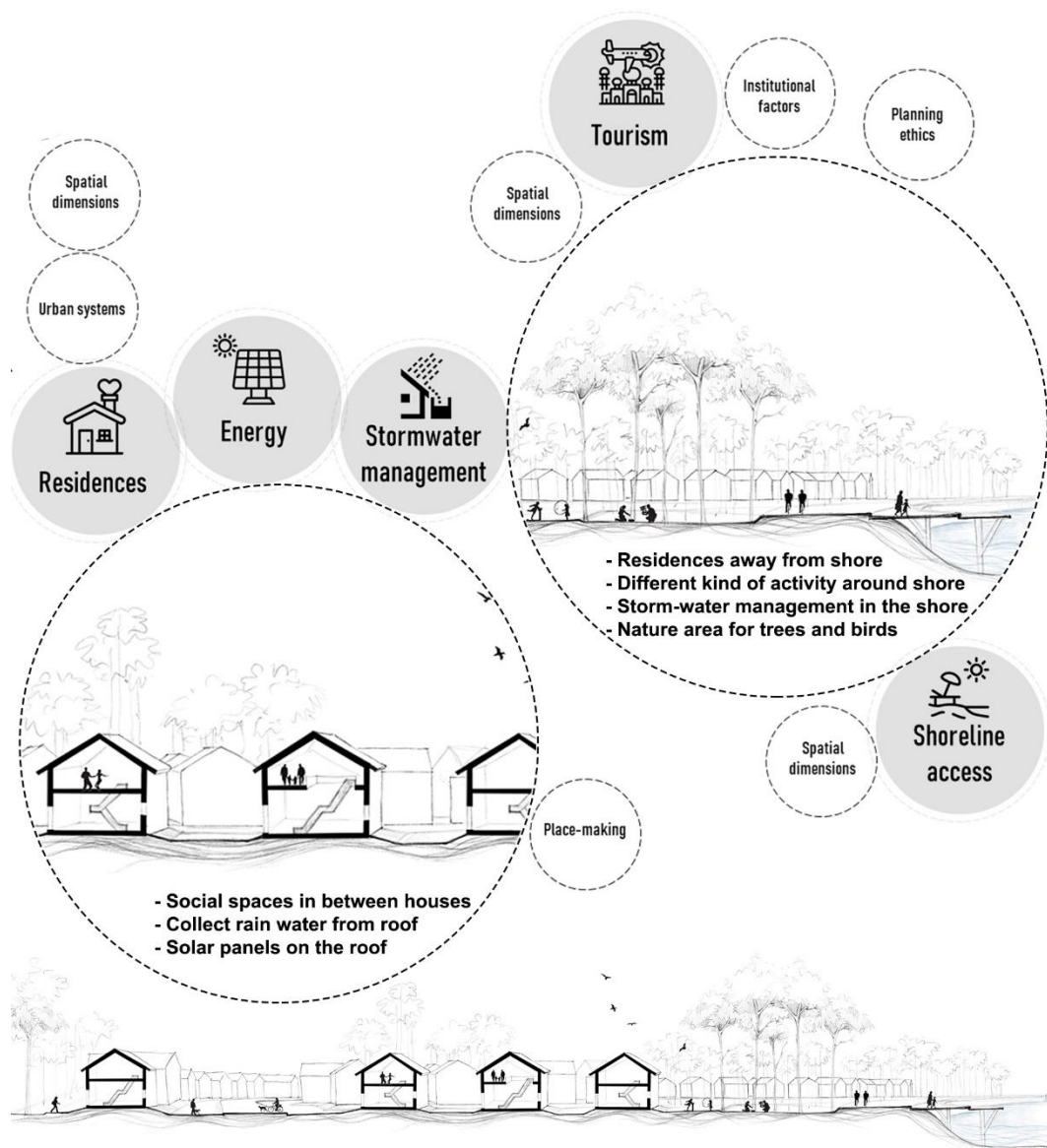
Figure 87: Section 8- through single-family housing and shore, by Author (2021).

The nature area will create a threshold between the shoreline activity and the resident's activity (figure 87). The nature area will work as a stormwater management system also. The water can get purified before going to the sea.

There are spaces between the single-family housing, which can be used as a workplace or parking space for the boats or cars. There can be so many types of houses with backyard and outhouses (backhouses) which people can choose according to their need.

The nature area will contribute to the ecology factor as this place will have different kind of trees and shrubs which will attract birds and animals.
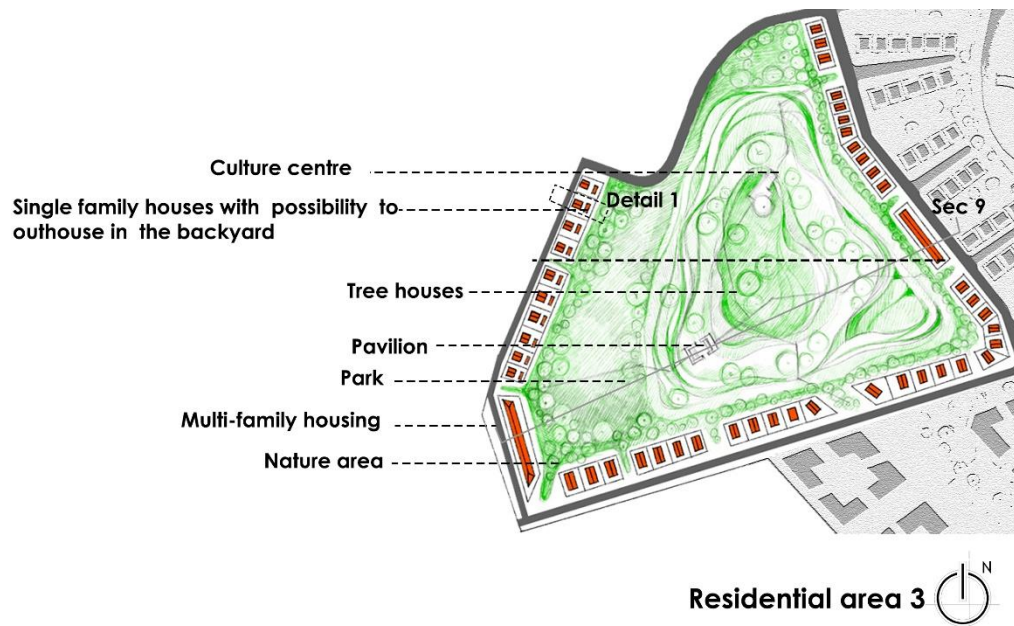
Figure 88: Zoom in plan of residences away from shore, by Author (2021).
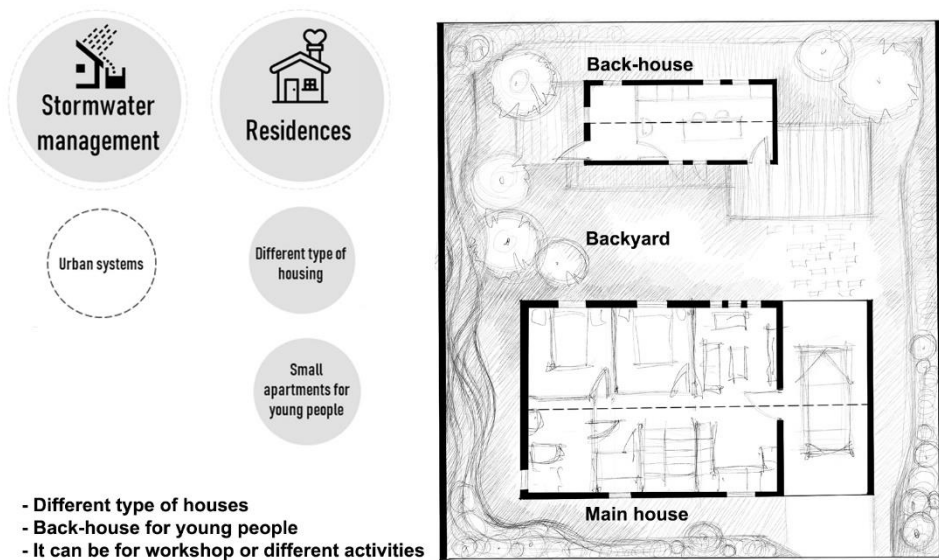
Figure 89: Detail 1 – Single family residences with back-house (outhouse), by Author (2021).
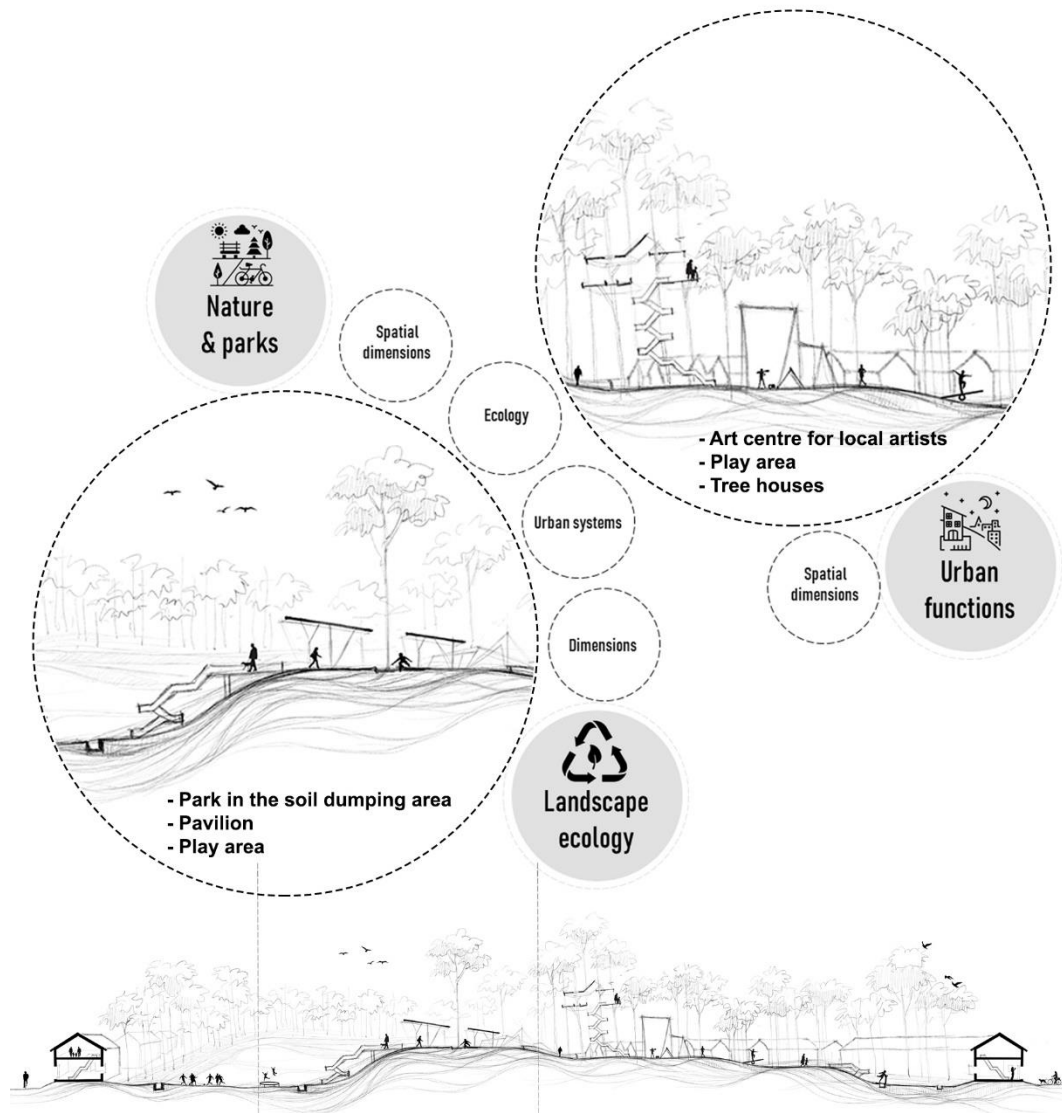
Figure 90: Section 9- through single-family housing and park, by Author (2021).

The residential area 3 (figure 88), there is also both multi-family housing and single-family housing. The multi-family housing can be two and a half storied. They are away from the sea.

In detail 1 (figure 89), there is a detailed example of single-family housing with a possibility of a backhouse. Nowadays, people want to do different kinds of work from home, and they want a different type of houses (chapter 6.3). This backhouse can serve the young people and the people who do some arts or sculpture or any kind of work which need a workshop.

There is a soil dumping area in between them, where an English park can be designed in the future. In the park, there is a pavilion (figure 90), tree houses, culture centre. In the nature park area, kids can play and enjoy the arts. They can relate to the cultural centre and the park. These two residential areas are proposed so that

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different kind of housing can be possible, close to the shore and away from the shore.

Figure 91: View of the residential area 2 and 3 where planning ethics and place-making is used, by Author (2021).

Houses close to the shore are single-family houses, and the multifamily houses are away from the shore (figure 91). Though there are multi-family houses beside factory building, they left spaces in front of them.

Culture center in the nature

Labels: Bird houses, Culture centre, Spaces for local arts, Patth for watlking, Nature area, Sec 10
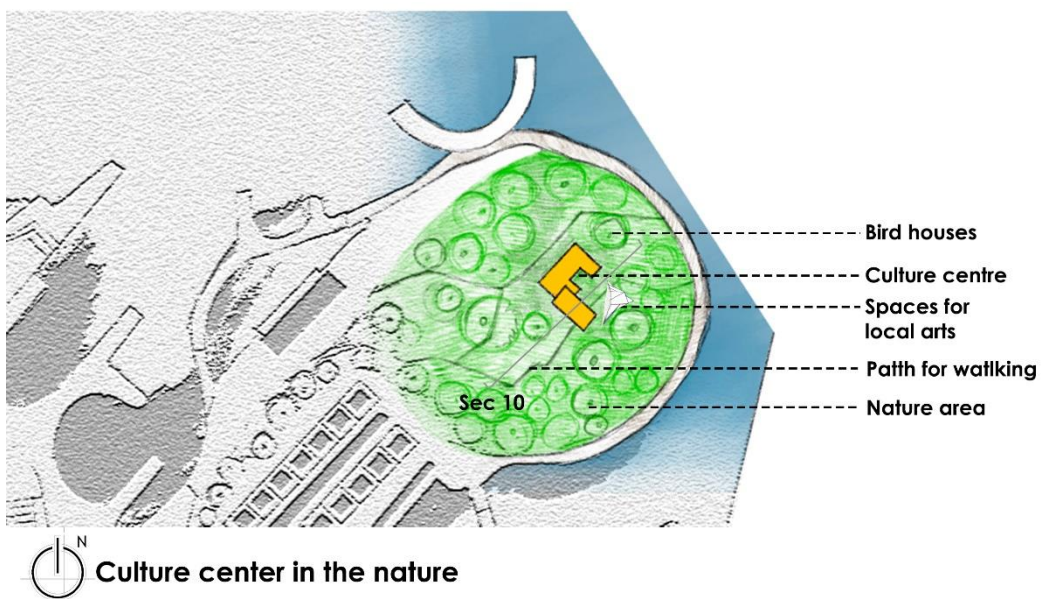
Figure 92: Zoom in plan of the nature area, by Author (2021).

On the northeast side, a culture centre is proposed in nature (figure 92). The culture centre can be for educational purposes of the tree and bird species. This area can work as a birdhouse place (figure 93). Different kinds of art and sculpture can be put there by the local artists to create more activity among the visitors. Because of having a different kind of tree and birds, it will contribute to the ecological factor of the area and will increase biodiversity. When people coming through the sea and park their boats, they can come through this natural area and enjoy the nature centre with arts by local people. The pathway in nature can be a place where local artists install their arts.
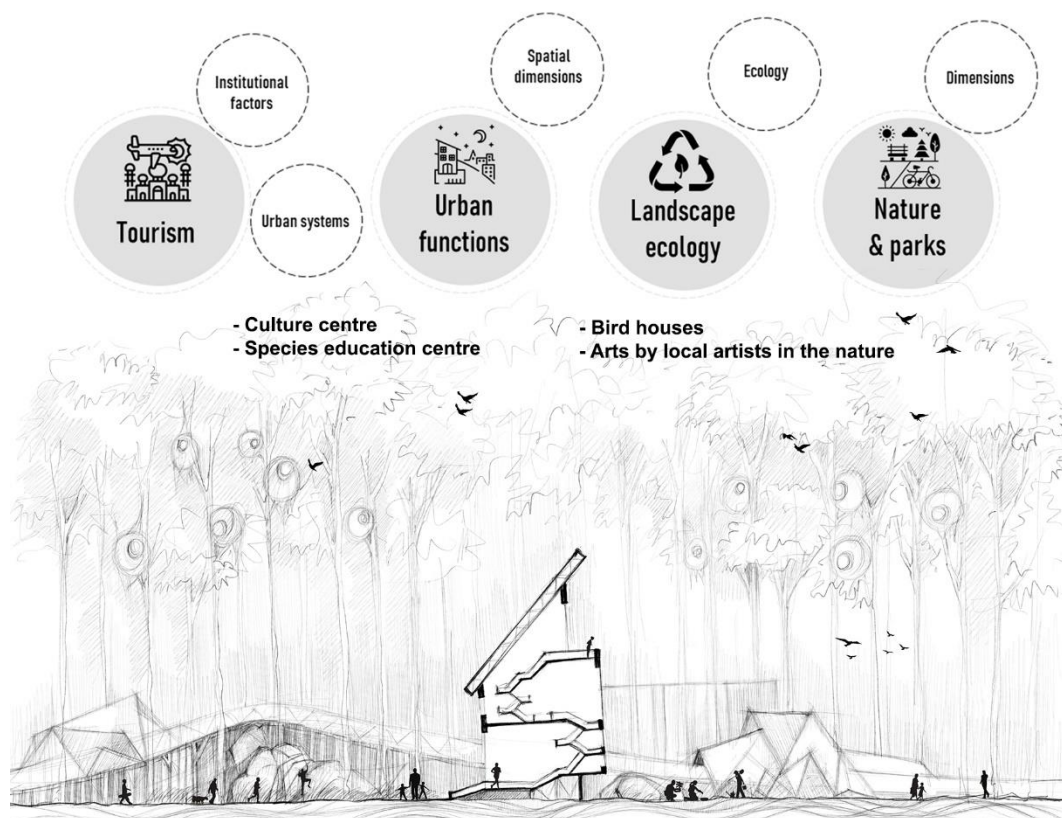
Figure 93: Section 10- through culture centre, by Author (2021).

Comprising these all 5 main areas, the schematic masterplan of the Karlholm strand is made (figure 94). On the south side, there is the current square. There are spaces around the current square that can be used to extend the square, make it bigger, and connect with the factory area, which will lead towards the new square. The current square can have some urban functions and stores, souvenir shops, and more. When people visiting the area and get down from the bus or coming by car, they will first come to the current square, get to know the surrounding, and then continue towards the new square.

Sea is also part of the project area where windmill and hydropower can be constructed to get electricity.

The masterplan reflect how there can be place-making project by community development, creating spaces and opportunity of different type of activity, aesthetic

creation theory help to preserve the old factory which will help to connect the root with the current residents in the area, through planning ethics the residences were proposed away from shoreline, place-making helped to create space for different kind of activity and for different kind of people, by using SymbioCity approach and interview, it helped to know what kind of functions need to be there, what kind of approach can be taken while planning, how different people and organisation can help to develop this area, what people want, case studies helped to implement parks and think about sea level rising while planning the houses, current masterplan helped to know that the study materials of this thesis was ignored, site observation helped to know what is there and what lacked, and this helped to propose the boathouses in the area, sketches of the historical images and the interior spaces helped to propose areas similar to that, or people can at least get to experience what was once there through this proposed plan. Figure 94 is the result of this thesis study where all the above-mentioned things were considered.

Figure 94: Schematic masterplan - place-making project alternative at Karlholm strand, by Author (2021).

9. Discussion

The aim of the thesis was to develop a sustainable placemaking proposal for the Karlholm strand. For that, different theories were studied. The history of the planning tradition in Sweden gave an idea about what has been going on and how government authority, developers, and local people can come together to design an approach. Landscape aesthetic theory helped to get an overview of how aesthetics can be present in an old factory where different aspect natural and social aspects can be incorporated while making an urban place. Community development study helped to know that connecting roots will always help people to get connected with a place. If the factory area can be developed in a way where the old factory elements are preserved, they can feel connected with the new project. New residents will get to know about the project, and at the same time, they will get to connect with the current residents, which will eventually help towards community development. The shoreline protection rule was not there, and studying planning ethics helped to see that sometimes, for the betterment of the place and give access to the public, some ethical points need to be considered while planning. Tierp municipality that have the planning monopoly and the county that reviews all plans have the power to build close to the water, but planning ethics need to be applied while planning as they need to think about not just the user of the houses but the community who are there in the area. Hammarby Sjöstad study helped to understand that a gated community will always serve one class of people. To stop this project from being a gated community, access to nature and shore areas needed a thought over. Gävle strand project helped to know about the sea level rise and what kind of measurements need to be applied while designing residences on the shores.

9.1 A place for current and future residents

For this thesis project, I wanted to work with the factory area, and the above-mentioned pointed helped to make a connection with the existing villagers and newcomers to create social sustainability where both groups could enthusiastically work towards ensuring a healthy and liveable community for their current and future generations.

I wanted to make a square in the demolished factory area. Interviews with the local people showed that it would work with the history of the site to make people connected with the new development.

I wanted to include different sustainable landscape elements, like how the blue and green structure will be implemented in this new developed residential area like how the rainwater will be carried to the sea, what kind of rain beds and stormwater treatment needs, how the roads and road site trees need to be implemented, what kind of green area with different scale in the designed project to ensure ecology and biodiversity in the shoreline.

Based on these points, 6 different options (figure 95) were created before selecting the final one. These six different ideas had their own strength and weakness. It was understood that each of the six options had its own strength if I combine all of them the outcome can accommodate all the strengths from the six options into one.

Figure 95: All six options based on all the study, by Author (2021).

In the first option, the focus was more on tourism and boat parking areas. Just in the front of the new square, all the boat parking was planned. This can help the people who are coming through the sea and the residents who are living in the area to park their boats. Tourism of boats and other public functions like a museum, hotels are incorporated in the old factory area. But the problem is that people will just see boats from the square. That is why in the second option, decks for public activity are introduced, which can solve the weakness from the first option. Decks are visioned along the boat parking area. In the third option, the economic factor about creating a green roof on the top of the old factory, the building was thought about. It is a big area, and the cost will be high. But this option goes against the aesthetic creation theory. In the fourth option, the factory area is visioned inside a forest, more trees and green around the factory area, which will give this old factory

a vintage vibe. Creating new trees will take time around the factory area. However, the development will take time, and there are not many trees on the site. There are green areas and trees around the project site. In the fifth option, the surrounding green areas are tried connecting with the designed new green areas of the project. There are two parks, nature in the north-east and green along the shorelines, which then extends to create a connection with the surrounding areas. When I thought about greener areas, in the sixth option, the thought was that it could be greener by excluding a whole residential area on the north side. This led to fewer residences in the whole project.

The final scheme, which led to the final schematic planning of this area, has tried to incorporate all these issues into one where community development can be possible through connecting their roots, the factory area. The big main building was demolished, but in the new plan, a small-scale old factory will work as a museum. The surrounding of the factory area is visioned as the destroyed spaces by adding rods and concrete, which was studied during the study of sketches. There will have enough spaces on the roof and in the square for peoples in the area to come and contribute to designing, planting trees, selling local products, and more can be added through discussion in the future.

The roof garden is going to be costly, but this can be done over time. One of the main issues of rain and snow water in this place. The idea is to collect the water from this big roof area and use it later for different activities like watering the plants, washing vehicles, or even for household works. The roof garden can become a farming garden for the locals to produce vegetables and fruits. While keeping the roof garden, the façade of this old building will be kept as it was in the past.

There are now four hundred and eighty apartments with villas, row houses, and multifamily houses. Small size apartments can be designed on those buildings to give an option for local young people. By decreasing the houses, more spaces for green are possible now, and shoreline access is possible. Planning ethic was considered while planning this area as both the residents of the project area and the surrounding area can easily access the shore.

9.2 Strength and limitation of the study

The study of this thesis indicates the perspective of development in shoreline with different tools, landscape design, planning guidelines, theory understanding to reach a proposal.

Different tools helped to know different aspects of a project. For this project, the SymbioCity approach helped to know how to tackle and organize the complex nature of a big project like this. Interviews helped to know how people´s views had changed over time about the same project. People and authorities had to play comfortably numb of the situation, but things need to change, people´s voices need

to be heard, and interviewing helped to know those voices. Sketching and site observation helped to get to know about the site, which could be possible just by seeing some images of the site. They helped great times in the final design result part. The theory part helped to firm the statements of different aspects from the research of other experts on these points.

This study gives a vision beyond this specific site of Karlholm Strand. While designing in the future in the shoreline or in the historical site, these study points should be considered while designing. The tools and study points can help to narrow down the things which need to be done to develop such sites.

One of the important parts of the SymbioCity approach is to review the final plan. The final plan is needed to be presented to the people, take feedback, and then go back to design phase one to incorporate those feedbacks. Because of lack of time in the research, this part was not possible to be done.

There is a general lack of research and information regarding how things are done around the shoreline development in Sweden. This is a new phenomenon that needs to be studied more. Here Hammarby Sjöstad was studied as a case study, in terms of scale and placement, it does not go with Karlholm Strand. But I wanted to see what has been going on in Sweden with residential development close to the water.

There was total 22 people interviewed, which can be less in number comparing to the total number of people who are there in the Karlholm Strand area. Covid's situation did not help this either. Still, the people of Karlholm really came forward in the online and on-site interview which showed that they care about this development. The county key person as well as the developer could not be reached. Their point of view could have added some more dimension in this study.

There is a need for further study of what kind of trees and shrubs need to be planted in the roof and in the nature area.

The local artists need to be consulted while implementing the arts in the square area and in the nature area. For this thesis study, they were not contacted to give their opinion of the area from a artist´s perspective.

Different kind of shoreline was mentioned in the proposed plan, but not many details regarding those points were given which need further study.

For the energy part, how the biogas will be collected and stored need to be studied. There is a need for a further study of implementing windmill and hydropower stations in the sea area.

As a result, the proposal, there is not much clear indication of how the urban spaces are going to be used. The idea is to present this project to the local people and let them do workshops about what they want in this place. During this thesis writing, it was not possible to do.

9.3 Conclusion

The site was sold on an auction because there was no other option. The proposal by the developer looked good on paper. The local people were hoping for a project on this site that can change their situation, and the municipal authority did not include a program stage in the planning process according to the Swedish planning and building act that could have reached out with surveys and interviews to local people, organizations, and other stakeholders to form a basis for the detail plan proposal. While studying this project from different points while comparing it with the current development, I learned that there is more to a project than what it meets the eye. Issues like keeping the history of a site, the local tradition and culture, and shoreline activity for the public never thought out in the developer´s proposal. There was a lack of design sensitivity and more on showing fancy renders and spaces, which at a first glance seems interesting. By going deep inside the project, it is evident that the soul of a place is missing. The place-making was clearly absent. The design was more on a plot basis where the residents of the specific plot will get all the facilities. By ensuring only access to the shoreline by the owner of the residents, the detail plan clearly lacked planning ethics. The nature of Sweden is for all the people; it should not be a restricted property. While planning in a situation like this, planning ethics should be common-sense, which can be used to create access to nature. It took time in the past to make it a law not to do projects besides water; this should not come back to destroy the beauty of a place like Karlholm Strand.

It can be seen that there is a cultural and ideological change in Sweden, which is indicated through new and more aristocracy conceptions of housing where a certain class of people is benefited. Comparing with the situation of the global geography of residential capitalism, Sweden is establishing 'un-Swedish' residential values, like the different lifestyle living and gating community (Grundström and Molina, 2016). According to Grundström and Molina (2016), this kind of development creates a significant cultural change in the very perception of residence. They also acknowledged this as a disastrous development because housing is one of the critical structures in support of a basic human need.

This is one of 109 sites in Sweden where there is no shoreline protection. Waterside development clearly has demand among people. If this project becomes a benchmark for future development in those other places, then community development, tradition and culture of a place, and nature area access will be in danger.

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Appendix 1

The questions and answers from the Municipal authority and the local people.

1) *How do you think the 290 years of historical factory premises can be preserved for the future generation and inhabitants of Karlholm strand?*

Municipal authority: I think information and spreading of knowledge about the history and values is the most important factor. By the exploitation of the Karlholm strand the area will get more inhabitants and more tourists, which in turn will lead to more people getting this knowledge and understanding. Today there are NGO´s working to keep the culture and history of the old factory alive, which helps a lot. In the public-school system of the municipality every class gets to learn about one historical part of the municipality every year, Karlholm is one of these.

Local people: Create a museum, Guided tour of Karlholm, restaurant theme of Karlholmsbruk, heritage and boat tourism, Hotel.

2) *What kind of functions and spaces need in Karlholm strand project to connect the new residents and old working-class residents?*

Municipal authority: Natural lanes and walkways that in a clear way links the old and new areas together. Another important factor is reasons to visit the different parts, like stores, restaurants, pubs, and cafés. Karlholm is a small town, and the distance is not far, I believe the intermingling between the different parts is natural. The developer of Karlholm strand has also been open and inclusive of the residentials of Karlholm.

Local people: Restaurant, shops, marina, association activities, Kid's playground for all, A park to walk in as a bridge between the two times, Community centre open to all, Small local shops for food like ICA or COOP.

3) *How do you want to use the shoreline in Karlholm and how do you want to reach the waters in the Baltic Sea?*

Municipal authority: There is a section of shoreline which is open to public. People can use boats to go to the Baltic sea.

Local people: For different activity like walking and running, BBQ, Sunbathing, Different activity in different part of the shoreline. Rent boats to go to the sea.

4) *How do you vision the future of Karlholm strand?*

Municipal authority: My vision of Karlholm strand is a living, active and beautiful area that will get new residents, tourists, and summer homeowners to the municipality. My vision is also a living small boat harbour, that will give more life to the coast side and act like a link between Gävle in the north and Öregrund in the south.

Local People: I think it will be good but then it needs to be roads and better infrastructure; It needs to be possible for boats to re-fuel and be able to come into the shore and visit a guest harbour with good facilities; If done right it will bring life to the whole community, if done wrong it will be an almost gated community: As a part of the whole community and hopefully not "gated" as rumours say; A place where you want to live, a secure place, an oasis paradise. Still doubtful - "could be them and us"; If well developed, it could become a lively town where families with kids who work in Gävle, more senior people that like the life by the water and have an easy access to the daily needs would want to live. Energy efficient Karlholm.

5) *Which public amenities (School, day-care, Hospital) should be added in the masterplan of Karlholm Strand?*

Municipal authority: In the plan there are areas for schools. But in the old part of Karlholm there are a school, with the possibility to take in more pupils (ofc not infinite). So, the need for a new school party depends on the demographic that will move to Karlholm strand and ofc the numbers of houses.

Local People: Make some parks; Day-care centre and public transport. Better Public communication through transport; School; Community centre functions; Gym; Health care centre; Library.

6) *What kind of housing do you think is needed in this part of Tierp municipality? (ex. Villa, Rent house, student housing)*

Municipal authority: I think we will see a mix of types of housing, villas, town houses and rent houses. I do not believe there will be student housing in the area, the distance to colleges and universities is too long.

Local people: A secure place for the senior people, Cheap smaller apartments for our young local kids, and the same for our retired elders. Condominiums, House which are not only for rich people.

7) *If not the current masterplan, what can be the alternative of the Karlholm strand area?*

Municipal authority: Considering the location at the seaside it would probably be something along the line of tourism.

Local People: Harbour for yachts. A natural shoreline. A big area for recreation like a park with outdoor gym, tennis etc. Something that incorporates all in the village; Just parks and shoreline walk places with tourism.

8) *Apart from housing, which functions do you think needed in this site?*

Municipal authority: I think an important part of the area is a living harbour and tourism. To make this possible I believe cafés, pubs, restaurants, and different kinds of services towards boats is important. Stores, schools etc. could of course contribute to the service of the area, but in my opinion a strong tourism will contribute greatly to the area.

Local People: Some type of food shops and marine activity. Offices for IT sector. Restaurants, day care and service house for seniors, restaurants, spa, hotel.

9) *Factory worked as an economy generator, it gave job opportunity for the people living in Karlholm, now it is gone, what can be next as the economy generator and job opportunity for the local people?*

Municipal authority: In my opinion the tourism and service sectors will offer some work, though they will be more season and weather reliant. Apart from that, I think the digitalisation makes it possible for people to work at distance (even more then now).

Local People: Tourism - rental of water sport items. More works in summer by the harbour; IT firms.

10) *There are many houses in the masterplan of this project which will stop public from enjoying the shoreline as it will be exclusively for the residents of those houses, what do you think about this?*

Municipal authority: During the long history of industry and factory there was off limit for the public. The plan contains a lot of public spaces and compared to the old industry the coast is more available than ever.

Local People: I think this is partly the only main reason for people with healthy finances to make such an investment. It will be only for them; I do not think it is that big of a problem because we who live here do not "enjoy" the shoreline from where Karlholm strand is being built. It would have been great to use it; It is going to be an area that invite for segregation; This will ruin all the possibilities this area has.

These questions were only asked to the municipal authority:

11) *What was the aim for the municipality and what they expect from this Karlholm Strand project?*

Municipal authority: The aim is for Karlholm strand is for the old industrial area evolve in to an attractive residential and tourist area.

12) *What were the feedback from the locals about this project?*

Municipal authority: In general, the locals have been positive. During the planning process there where open meetings where all locals where invited. Many of the inhabitants of Karlholm were happy about the prospect of the project to bring back life, after the of the bankruptcy of the Karlit factory.

13) *As per report, the specific site was sold for 275,000 SEK in the auction, what was the reason behind selling this site this cheap?*

Municipal authority: The municipality had nothing to do with the auction. The price of 275.000 SEK was the highest bid and therefore it was sold at that price.

14) *Developer is aiming to make 1000 houses, which will add 2500 to that site, what do you think about this possibility? As a municipality architect, what do you think is the feasible number of houses and people to accommodate this site?*

Municipal authority: Yes, the developer has his sight on about 1000 houses. My best guess is about 500 houses, since I believe the potential buyers wants a bit bigger apartments and yards.

15) *The developer has broken the law in handling waste, the county has an overall responsibility for detail planning in the region. They shall by law stop any detail plan that has not included a convincing implementation according for example to the environmental act. Did municipality think about stopping this project or looking for alternative option to develop this site?*

From the report (Irefalk, 2018) it was seen that the owner had broken law, not during the planning stage but later. But municipal authority is sitting here comfortably numb as the work is going on.

These questions were only asked to the local people:

16) *What do you think about the new masterplan of Karlholm strand?*

Local People: Looks good but needs to be more included to the old area of Karlholm. It was communicated well on Facebook, but I still wonder if it will succeed. I like it and think it is Great that someone is doing something. Good for the high-income inhabitants, bad for the rest of us; It seems to me that this is a private housing complex to attract the boating community and possibly a winter apartment for people who live in the surrounding Archipelagos.

17) *What would you like to add in this masterplan?*

Local people: More nature, more trees for the birds. A museum to store the history; Playground for kids and dogs; Redesign the density of the dwellings and the circulation of the development. Parking, driving, walking.

18) *If get chance, would you like to buy houses in this project and why?*

Local people: If there are more public amenities I will. I think this project can add value to the area. People will come and it will generate more revenue which will eventually attract more people; Small houses for young people will attract local young also.

19) *Would you like to get access to the shoreline?*

Local people: I would love to enjoy the area as a free citizen; Need a nature trail so that I can run. Would love to do sunbathing in the summer, go for a swim, do BBQ with friends and family.

Appendix 2

1- Title: Critical investigation of the development of housing in the seashore area in Tierp municipality: Karlholm strand project.
   Essay Submission for - LK0330 - Roles and methods for landscape architecture in Comprehensive planning,
   24 March 2020

2- Analysing the place-making, community development with landscape aesthetics and planning ethics of the housing development in Tierp: Karlholm strand project.
   Essay - LK0345 - Landscape planning in theory and practice,
   23 October 2020