

WAREHOUSES

An adaptive re-use project
for the old warehouses at
Frihamnen, Gothenburg.
The sense of place in
harbour areas.

Gothenburg, Sweden.



Politecnico di Torino
Master's Thesis in the Master's
Program Architecture for
Sustainable Design

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A Gianluca, que es mi compañero de viaje.
A Pablo y Mario, que me inspiran.
A Sara, que me da color y esperanza.*

*Problem
Setting*

1.

“It is the lack of consistency, not only in a physical sense, but also in relation to the continuity in time, the lack which affects social structures and cultural differences. It is not only about maintaining the character of the urban environment, but also for the continuity of the city’s identity, which is an important value, requiring the strengthening in the booming world”.

New Athens Charter

In New Athens Charter (ECTP-CEU, 2003) the European Council of Spatial Planners attempted to identify the basic problem of existing cities, especially in port cities. The culture, the economy and the way of life of the inhabitants of these cities are strongly linked to the ports and industrial areas that saw them grow. Thanks to the expansion of technology and industry, these areas have lived for centuries constant modifications that have been moving away from the urban centers. Nowadays, waterfront of old docks, waterside areas, ports and shipyards are becoming areas of the world's largest ongoing revitalization projects. In such context, many harbour cities around the world are undergoing changes in their urban morphology due to the advancement of technology and the disappearance of industrial zones near the city center (Smith and García Ferrari, 2012).

These processes of transformation linked to post-industrialization give the possibility to new urban proposals, bringing with them complex objectives. These urban reintegration projects must be able to take on the new city's social and urban landscapes with their needs and, at the same time, embrace precedent problems that remain unsolved in today's cities.

For this reason, we are at a key time in which we must intervene in a sustainable way and conscious of the characteristics

of these post-industrial landscapes (Höfer, 1998). By doing such interventions, it would be possible to offer solutions to the new social and environmental needs of the contemporary city.

Both policy and academia have fundamentally oriented the concept of sustainability towards its environmental and economic aspects, without going deeply into its social dimension according to the principles of social equity and inclusion (Lupala, 2014). Social sustainability is usually superficially underrated as the "weakest pillar" of sustainability (Lehtonen, 2004)

The case study of the thesis is located in the city of Gothenburg, Sweden. In 2010, the authorities of Gothenburg drove an initiative that promoted urban redevelopment with the recovery of spaces with an industrial past. Besides undergoing changes in its urban structure with the creation of new districts in post-industrial areas (Vision Älvstaden, 2012), such city has experienced in recent years an increase in immigration and social inequality (Igerud, 2012), bringing changes also to its social structure. Therefore, new issues have emerged in the city's political agenda such as housing deficit, housing segregation and the consequences that come with it.

As a matter of fact, while Gothenburg is branding (Karavatzis, 2004) itself as a sustainable city, through initiatives such as RiverCity Gothenburg Vision (Vision Älvstaden, 2012), that promote the compact city as an ideal urban development model, it remains uncertain to what extent the ongoing development can effectively contribute to an improvement of urban social sustainability and social inclusion. The big question of how the newly developed districts will be built up may lead to two possible future scenarios. One scenario would imply that these new neighbourhoods will offer an opportunity to draw a true social mix offering apartments for a wide range of incomes, thus reducing the housing segregation and housing deficit at the same time. Another less optimistic scenario considers that new developments will occur in the form of standardized districts. In that case, the newly built neighbourhoods will be shaped as the showcase of promotion of the city for the new elites, which offer apartments to a small part of society and left without access to a large majority.

One of the RiverCity vision's key projects is Frihamnen (Soneryd and Lindh, 2018), which has both a central location within the city and a lot of potential for design interventions thanks to its unique morphology. The qualities of Frihamnen have been noticed by the municipality, which has envisaged that around 15.000 ([http://alvstaden.goteborg.](http://alvstaden.goteborg.se/vara-delomraden/frihamnen/)

[se/vara-delomraden/frihamnen/](http://alvstaden.goteborg.se/vara-delomraden/frihamnen/)) people will take up residence on it, with the same number working in the area.

The thesis will propose an alternative approach for Frihamnen, which will be tested and applied into two old warehouses located in the area, that the municipality will partly demolish as part of for the development plan of Frihamnen.

Through the design project for the warehouses, the thesis is expected to deal with the following research question:

**How could design-based
regeneration of buildings
contribute to an enhancement
of social inclusion without
forgetting the identity of the
local context?**



Im. 1.1: "A new port is being built, 1965". Taken from: <https://www.portofgothenburg.com/>

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Methodology

2.

In this chapter, it will be illustrate the methods used in the research work to establish the outcomes for the case study project. The general approach for the thesis has been Research for design (Hanington & Martin, 2012), which is doing research as a part of doing design, in order to learn specific information about the context for which the design is made.



Fig. 2.1: Design informed by research (adapted from <https://www.interaction-design.org>)

The structure of the research has been divided in different parts where different methods were used. Firstly, an extensive literature research has been done in order to have a clear picture of the city of Gothenburg, where the case study is located, regarding its history and its urban development process and the social aspects related to it. Furthermore, stakeholder interviews were conducted with two relevant stakeholders from the City

Planning Office, to better understand both their urban strategies and the goals are expecting to reach through the urbanization of Frihamnen. The interviews took place on 19 April 2018 at the planning office of the municipality located in Frihamnen and were semi-structured.

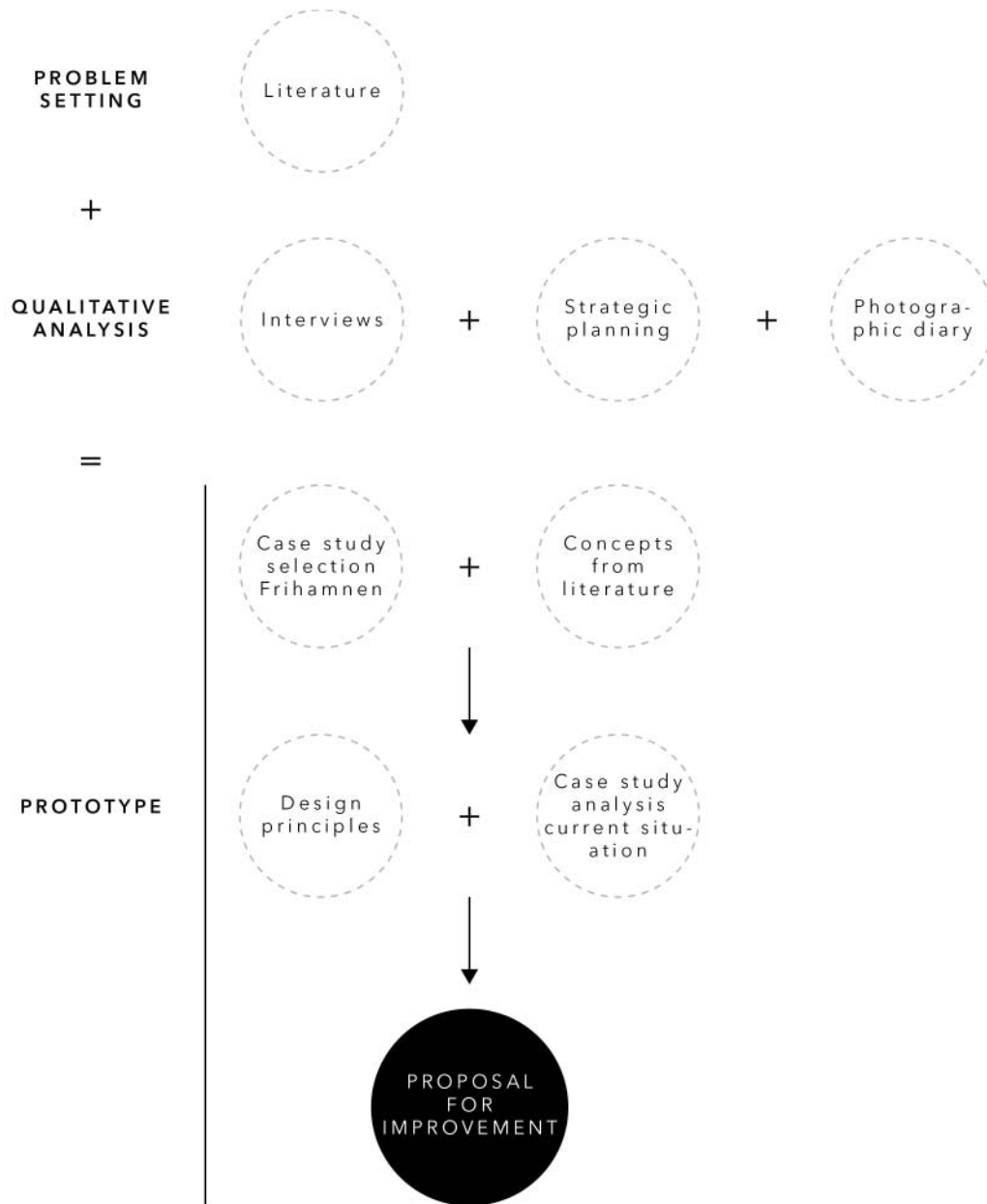


Fig. 2.2 : Methods and design process

The criteria for the selection of the interviewee were the following:

- Involvement in the RiverCity vision's project
- Availability

The content analysis of both interviews and planning document is executed in a directed way (Hsieh and Shannon, 2005), as the following themes are selected a priori to connect with the thesis goals: sustainability (with its different nuances, being the social dimension particularly important) and identity of the local context.

Additionally, a photographic diary was developed by walking along the coastline of Göta river for three days. The photographic diary based on travelling transect theory (Kanstrup et al. 2014; Mahiri, 1998), has allowed understanding the areas along the river and the way these landscapes are changing due to the displacement of the industrial port towards the west. Furthermore, thanks to this method of discover landscapes by using a practical instrument such as photography; it has been possible to identify the site qualities of Frihamnen and channel them towards a new program for the case study project that will be conscious of the identity of the area.

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*Qualitative
Analysis of*

*Multiple
Resources*

3.

*I. Qualitative
content analysis of
interviews*

3.

The interviews are analysed below according to the main themes and sub-themes reflecting the research question of this thesis. Their structure is visualized in the figure below.

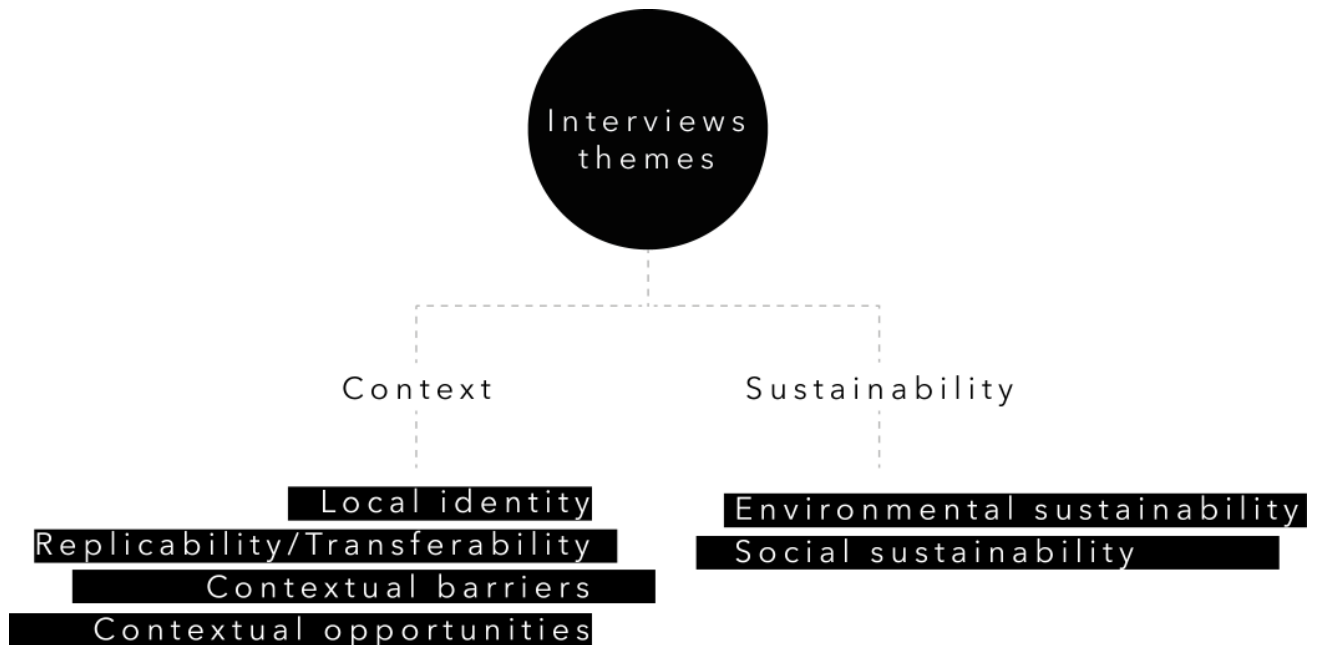


Fig.3.l.1: Interviews themes.

CONTEXT

Sub-theme: LOCAL IDENTITY

According to the interviewees, Frihamnen is a privileged area to carry out a challenge of urban reintegration thanks to its advantageous location near the city center with an infrastructure of urban communication around and with waterfronts to the south. However, a project of requalification of an area like Frihamnen demands an organic relationship between the place and the city, restoring to the community spaces abandoned by the industry with great landscape and urban potential.

“Frihamnen is the region closest to the historical city center of Gothenburg and where the population center has moved. So here, we want to build dense in our city and a new city park. According to that, we have started the park before to build the space organically, layering from what is in Frihamnen now and how can we add and use that to create space that will bring the history and the citizens with it. We want to create an area that will still have a connection to history”.

Sub-theme: REPLICABILITY & TRANSFERABILITY TO OTHER CONTEXTS

The interviewees touched on the dichotomy between the local context and the transferability of ideas as best practices. The problem of the integration of industrial heritage and its territory in the urban fabric of cities has led in numerous European projects a global and repetitive solution, where residents are reduced to be just viewers in the play of creating an attractive city. These new projects, rather than be sensitive to the local and unique characteristics of each city and each culture are standardized the world over.

“We think one way of handling local needs is to listen and involved local groups within the planning process”.

Sub-theme: CONTEXTUAL BARRIERS

Over the years, a communication infrastructure has been created around the post-industrial zone that limits the visual and physical connections and creates difficulties for the affluence of the public in the area. Another important challenge facing the waterfront regeneration projects is to eliminate these barriers to create new urban dynamics, offering new dialogues between the adjacent areas.

“We are repurposing an area where earlier we had the trains, cars and cargo coming here. Now we have people coming and that change requires different needs of connections [...] We are getting a new bridge that will be lower and easier to cross and there will be a new tram station that will bring closer, and more related the two parts of the river. However, the most important objective we have is to connect Kville, which it is on the other side of Lundbyleden, with Frihamnen”.

Sub-theme: CONTEXTUAL OPPORTUNITIES

The interviewees consider that public space is an explosion of options that generates numerous ways of living it. In this way, a universal space is no longer a valid option for the complex society in which we live and the presence of the collective must integrate the unique individual.

“[...] we established that the presence of water in the park would be one of the main characteristics of it, we should build in the water and any water space should have specific functions and assets”.

“Is about finding different functions that can work together and how to create spaces that will attract different kinds of people that could interact”.



Im.3.1.2: Lipstick, 2018

SUSTAINABILITY

Sub-theme: ENVIRONMENTAL SUSTAINABILITY

One of the main objectives of the regeneration of post-industrial areas which emerged in the interviews is the densification of urban territory. Through the densification of the territory, growing cities minimize investment in infrastructure, energy consumption and the reduction of emissions from private vehicle traffic. Therefore, this type of growth has meant the introduction of a broader idea of environmental sustainability to develop these sensitive areas.

“We want to focus on social and cultural sustainability because we think we have too little tools to work with. Nowadays environmental strategies are done everywhere but social and cultural sustainability is still not being considered”.

Sub-theme: SOCIAL SUSTAINABILITY

Social sustainability emerges in the interviews as a question connected to quality of life but also in terms of dialogue and understanding the aspirations of local residents. Nowadays architecture is also a process of communication. One of the proposals to discover new uses to areas that are in the process of evolution, and that helps to better understand what are the wishes of the people who will inhabit the space, are the temporary projects. Through projects such as the sauna and the playground for children, we can establish a direct dialogue between the developers and the community. On the same wavelength, but from a residential perspective, one of the most defined parts of the project for Frihamnen are the so-called “temporary houses”, elaborated as a temporary housing solution to establish a social mix in Kvillepiren.

“Our thought was that a temporary neighborhood having three different social groups (refugees, students and corporate workers) living together would let meet different people and create a social mix with a large community spaces connected to the residences and the public space”.



Im.3.I.3: The sauna, 2018

*II. Qualitative
content analysis of
strategic planning*

3.

There has been collected the strategies for the urban development according to the RiverCity Gothenburg Project Group (2012) document. Thus, the main issues dealt with in the document are Context

and Sustainability and their related are sub-themes such as Identity, Driving forces, Location, Connectivity, Social Sustainability and Inclusion, Mixed City and Economic and Environmental Sustainability.

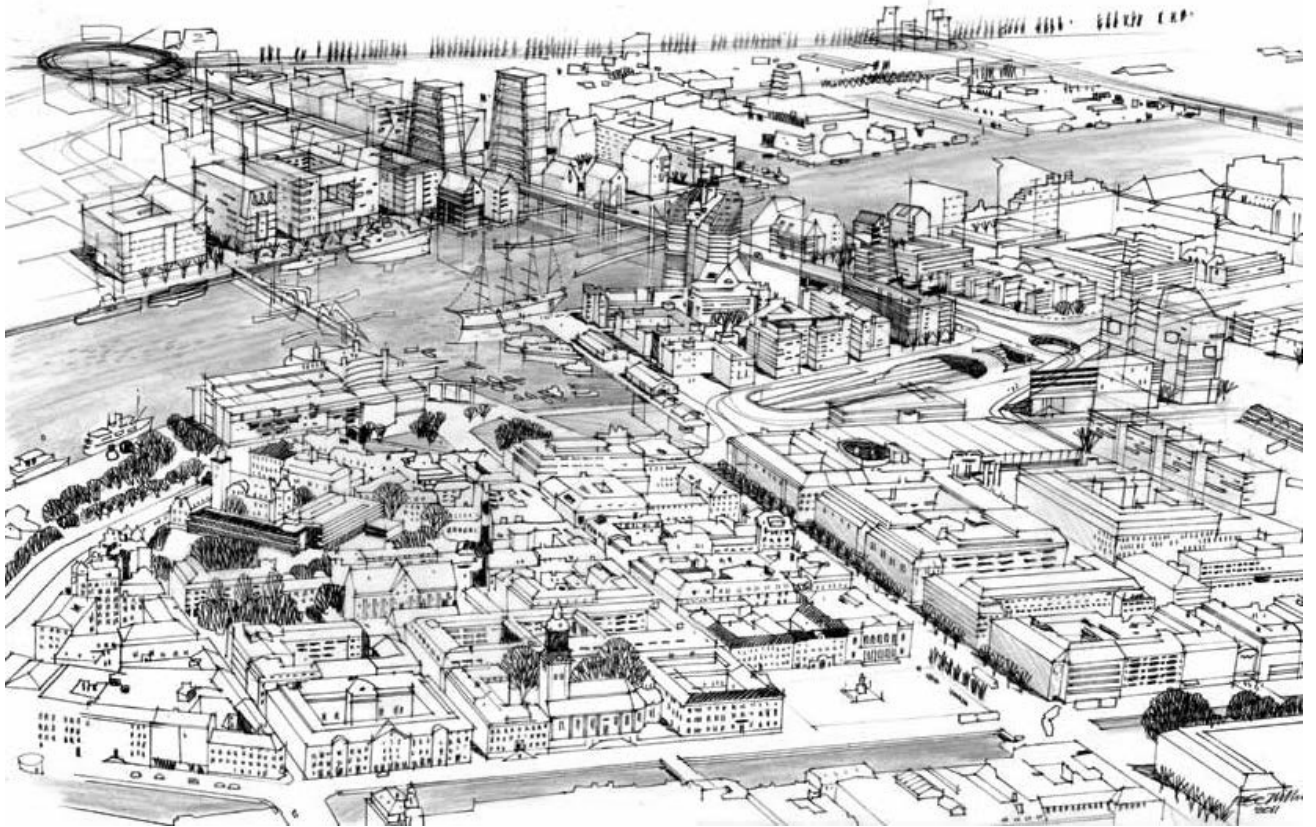


Fig. 3.II.1: "A new port is being built, 1965". Taken from: <https://www.portgothenburg.com/>

CONTEXT

Sub-theme: IDENTITY

“The identity of the city is to a large extent defined by the river, the history of the city within the moat, the industrial legacy and the cultural diversity. These are strengths that future development of the city should rely on”. p. 8

“The river and the water add personality to the area. Shipping and port activities give the area a distinct character and at the same time reflect the rich history of the city”. p. 9

Sub-theme: DRIVING FORCES

“RiverCity Gothenburg can contribute to releasing the driving forces of Gothenburg”. p. 8

“Capitalise on the strengths that are already established in the city: large companies, strong clusters and strong collaboration between the city authority, academia and industry” p. 30

“Culture is one of the driving forces” p. 30

Sub-theme:
LOCATION

“The large area covered by RiverCity Gothenburg, over four square kilometres, is in the very heart of the region and will be easily accessible from a large part of West Sweden”. p. 9

“An attractive and sustainable regional centre”. p. 10

Sub-theme:
CONNECTIVITY

“RiverCity Gothenburg should connect the city with strategic links across the river” p. 16

SUSTAINABILITY

Sub-theme: SOCIAL SUSTAINABILITY & INCLUSION

“RiverCity Gothenburg is inclusive. A meeting place for everyone, regardless of age and background”. p. 6

“Socially mixed housing creates a varied city life”. p. 14

“A socially mixed population should be promoted by varying the range of housing through different forms of tenancy and size”. p. 14

“In RiverCity Gothenburg, we will create meeting places for all weathers, seasons and times of the day and night”. They are expected to be “accessible and usable for everyone.” p. 14

“Pedestrian-friendly environments with intimacy, safety and variation will be promoted throughout RiverCity Gothenburg”. p. 17

“Work from a child’s perspective and listen to children’s thoughts”. p. 18

Sub-theme: COMPACT/DENSE/MIXED CITY

“RiverCity Gothenburg has been built around the principles of the compact city”. p. 6.

“A compact city creates the conditions for a wide range of services, workplaces, culture and recreation. It provides a basis for good public transport and contributes to a city that is very much active for most of the day and night” p. 34.

Sub-theme:
ECONOMIC SUSTAINABILITY & ECONOMIC DEVELOPMENT

"The inherent character and qualities of the city are crucial to driving the expansion of this knowledge economy forward - an economy that also includes the events, tourism and creative sectors". pp. 8-9

"A basic assumption is that the larger and denser a region is, the better the conditions are to develop a strong diversified economy". p. 10

"Gather and release the forces that exist to make the economic development of the region" and "stimulate development towards an increasingly diversified and robust economy" p. 28

"Reinforce diversity by supporting the creation of a mixture of enterprises" p. 35

Sub-theme:
ENVIRONMENTAL SUSTAINABILITY & ADAPTABILITY

"RiverCity Gothenburg is green. Good access to renewable energy, attractive public transport and interconnected paths for pedestrians and cyclists make it easier to live sustainably". p. 6

"The vegetation in the area should contribute to creating a healthy urban environment with stabilized temperatures, wind protection, good air quality and low noise levels". p. 23

"Use, test and promote the development of renewable energy" p. 25

"Allow solar cells to be placed on the facades and roofs". P. 25

"The district heating system can be supplemented with buildings that store heat". P. 25

"Use climate adaptation as a driving force" through "the best available knowledge and climate change adaptations and innovations". P. 26

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III. Travelling transect

3.

APPROPIATING SITE **QUALITIES**
IN THE GOTHENBURG URBAN
LANDSCAPE

Travelling transect

A methodology to discover and understand places

“Within urban development planners and designers all too often dismiss existing site features and build up sites anew, which is resource-intensive and unsustainable in regard to social and ecological systems. To counter this tacitly accepted concept and pave the way for a resource-saving and respectful practice, it is proposed to promote an alternative understanding of design as a translation of that what already exists on a site, based on contemporary site theories. This means to look both at the concepts of design and of heritage in a new way. The question is then, how to identify and communicate site values, be they material, immaterial or dynamic, as a basis for a sustainable development of urban

landscapes? The travelling transect is a method for appropriating site qualities through deep fieldwork-based empirical inquiry and evaluation that becomes part of the conceptual design act”.

(Diedrich, 2015)

The travelling transect is one of the methodologies of qualitative analysis used in the thesis to achieve a broad knowledge of the characteristics of the city and its relationship with Frihamnen. The aim of this chapter has been to practice this method of approaching the territory of Gothenburg and especially in its coastline, trying to capture the dynamics of harbour transformation areas which are directly related (by proximity) and indirect (by growth pattern, relationship with the port and water) to the project area, Frihamnen.

Gothenburgsect

A photograph is a small part of space and, at the same time, of time (Sontag, 1973).

Since its creation, photography has served as an instrument to analyze fragments of history, a vehicle through which captured realities enter our memory (de Solà-Morales, 1995). That is why the flat representation that gives us the picture facilitates our imagination to understand moments described by the photographer and then our imaginary triggers a visual construction of a space, a time and without any doubt, a certain identity.

In the Gothenburgsect, I have transected the Gothenburg coastline with a main practical instrument: the photography, taken as a tool to capture and read the places I visited.

Through photography, I reconstructed my interpretation of the specific reality of Gothenburg coastline and its development over time. I compare my individual vision of the sites with old pictures taken from another photograph. The comparison between those two visions, the past and the present, let the door open for a future photograph interpretation, to reinforce the idea of a constantly changing landscape that the era of post-industrialism is bringing in many harbour cities everywhere in the world.

During the first stops of the itinerary, I realized that only photography could not capture completely the space atmosphere so I added film recording as an instrument.

In the videos, I captured noises, colours, movement and images of the different areas.

Water narratives



NOLERED

SYRHÅLA

SÖRRED

ARENDALE HARBOUR

SKARVIK HARBOUR

HALVRSÅNG

SKANDIA HARBOUR

ANDALEN

SKEPPSTADSHOLMEN

T

ÄLVSBOG HARBOUR

GÖTA ÄLV

TOR HARBOUR

KÅRINGBERGET

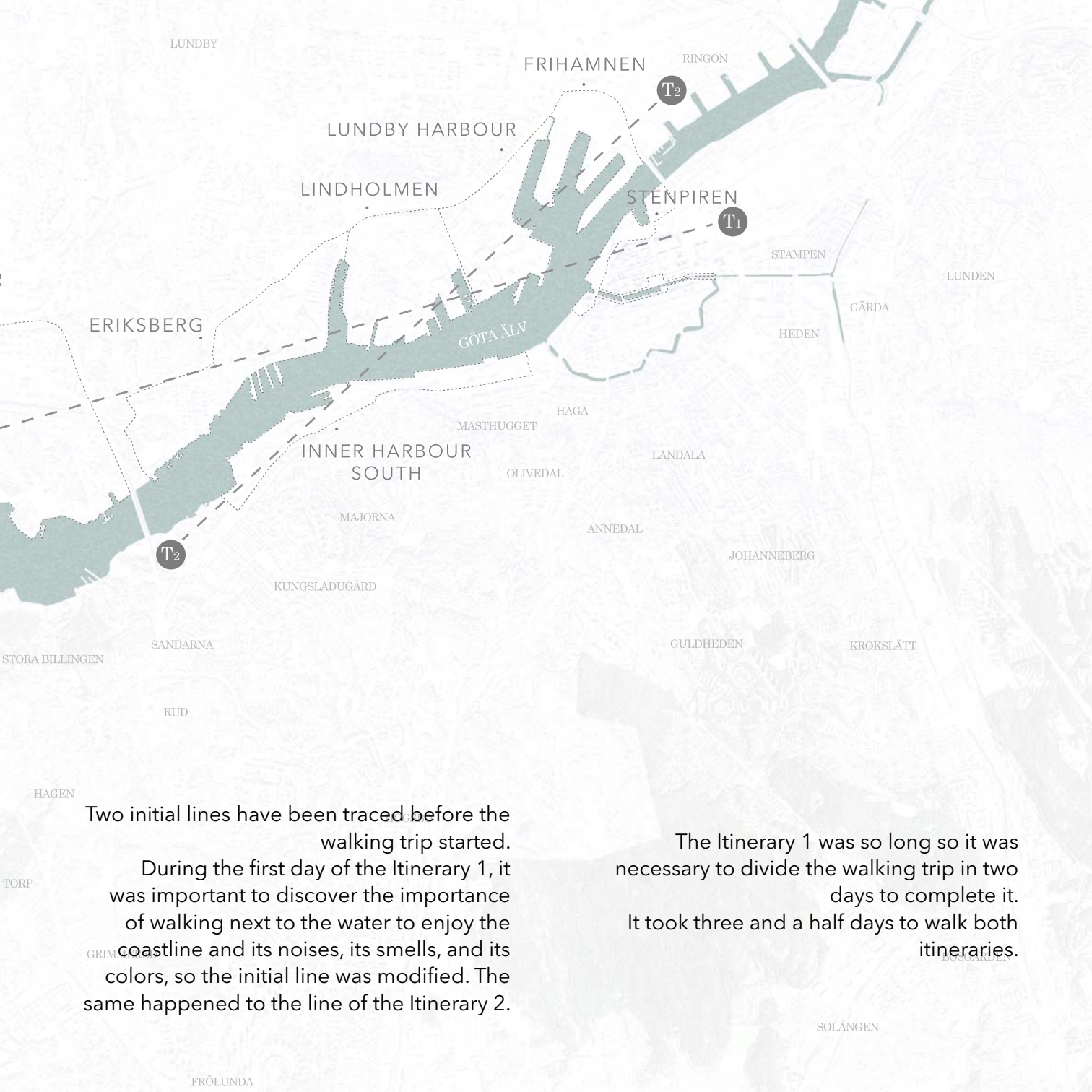
LÅNGEDRAG

TRÅNERED

VÄSSINGSÖ

KATTEGAT

FISKEBÄCK



Two initial lines have been traced before the walking trip started. During the first day of the Itinerary 1, it was important to discover the importance of walking next to the water to enjoy the coastline and its noises, its smells, and its colors, so the initial line was modified. The same happened to the line of the Itinerary 2.

The Itinerary 1 was so long so it was necessary to divide the walking trip in two days to complete it. It took three and a half days to walk both itineraries.

ITINERARY T₁

to Rune Lighthouse

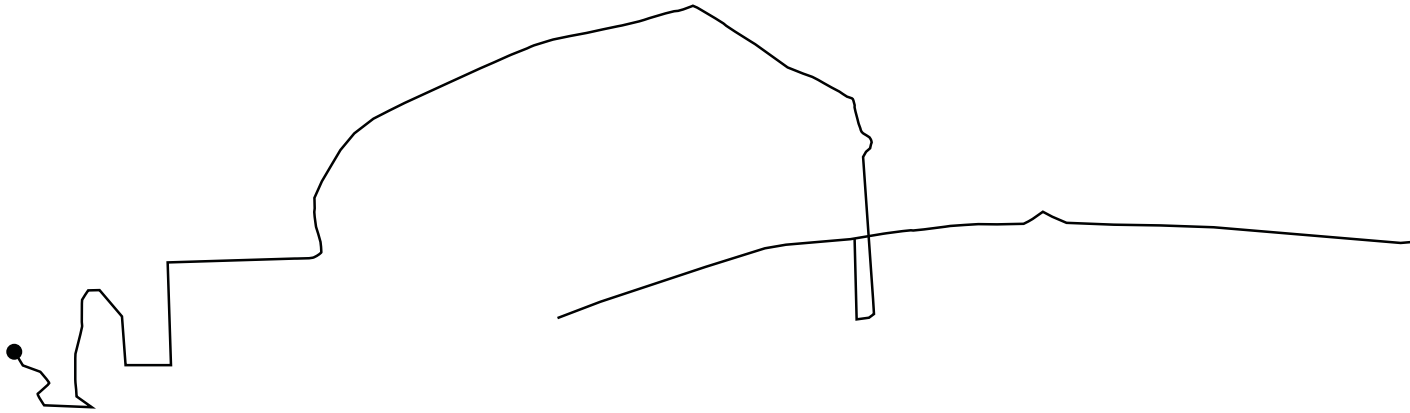
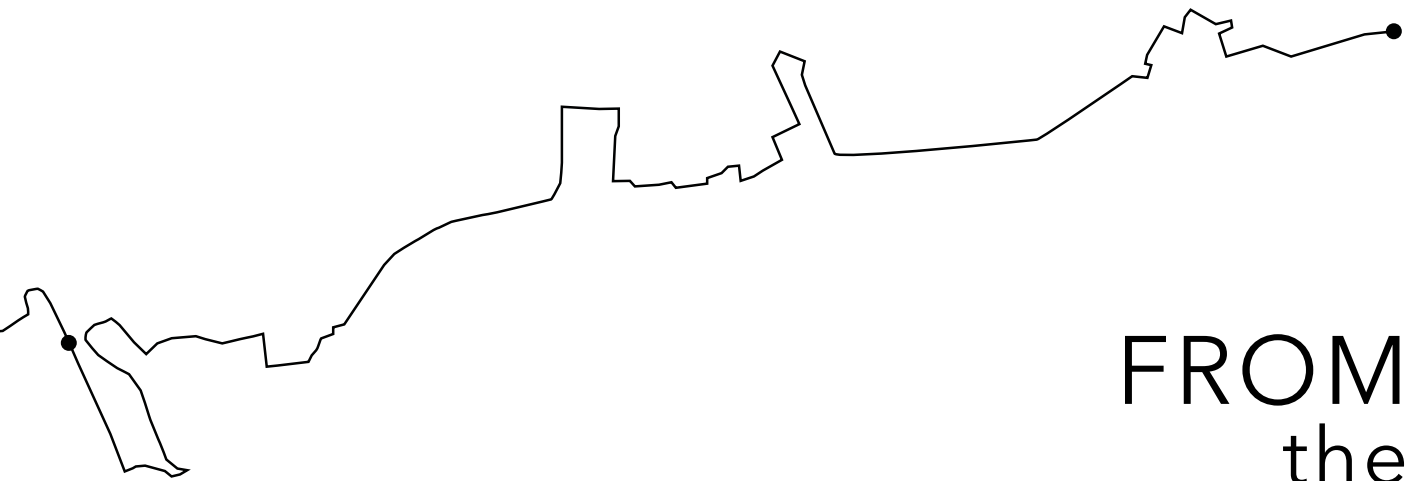


Fig. 3.III.2: Marta Mares Guijarro, 2018



FROM
the
Centralstationen

ITINERARY T₁



Fig. 3.III.3: map modified from Google Maps, 2018



LUNDBY

TINGSTAD

FRIHAMNEN

RINGÖN

LUNDBY HARBOUR

LINDHOLMEN

STENPIREN

STAMPEN

GÄRDA

ERIKSBERG

GÖTA ÄLV

HEDEN

HAGA

MASTHUGGET

INNER HARBOUR
SOUTH

LANDALA

OLIVEDAL

MAJORNA

ANNEDAL

JOHANNEBERG

KUNGLADUGÄRD

SANDARNA

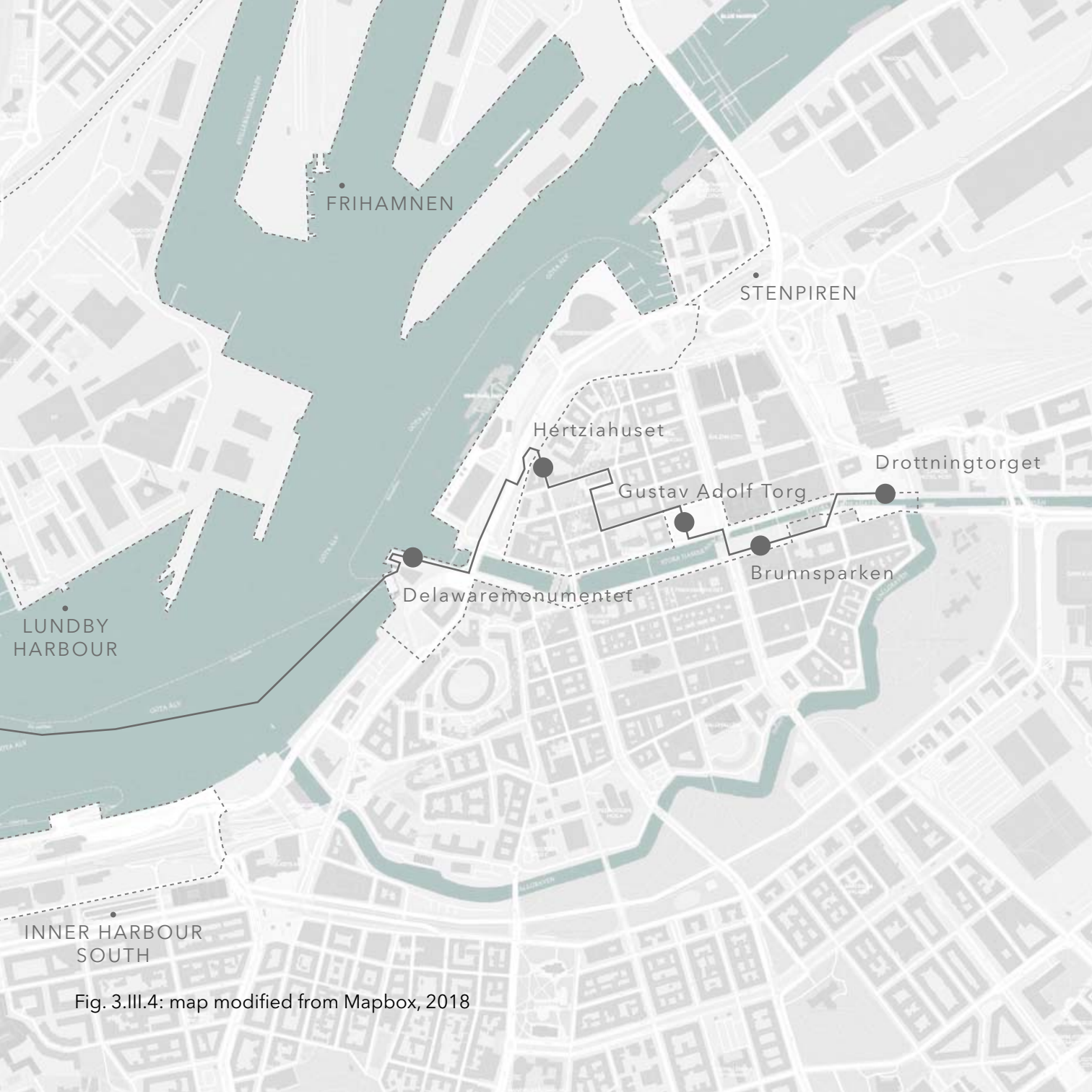
GULDHEDEN

KROKSLÄTT

INGEN

RUD

The yellow line indicates the path that it was done during the first two days of the travelling transect. In this, it is possible to see that walking through the coastline after the bridge was overpassed was no longer possible, so the landscape and the atmosphere considerably changed.



FRIHAMNEN

STENPIREN

Hertziahuset

Gustav Adolf Torg

Drottningtorget

Delawaremonumentet

Brunnsparken

LUNDBY
HARBOUR

INNER HARBOUR
SOUTH

Fig. 3.III.4: map modified from Mapbox, 2018

The city center canals and Stenpiren

The first area I walked in was the city center because it was the first part of the city where the first harbour areas were built.

There are 18th and 19th-century buildings, canals and squares where the first generations of Gothenburg people started the strong connection with water and maritime trade.

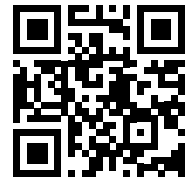
The old pictures show the intense maritime trade and industry that was located in the core of the city but nowadays, the city center

has become an area in which many people meet and the squares are the summer scenario of it. There are restaurant and cafeterias on each corner, people sitting on the square benches or going up and down the trams and buses.

Many tourists visit the city center that is no longer the center of the maritime trade but still offers an atmosphere with a reminiscence of an old harbour.



Im. 3.III.1: "Stora Hamnen seen from Brunnsparken, 1850". Taken from <https://www.portofgothenburg.com/>



Brunnsparken video

IMAGES FROM THE PAST



Im. 3.III. 2: "Stenpiren, 1920". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 3: "Stenpirens abbreviation. The stone arrows were shortened, so that the fairway would not be too narrow when Götaverket received new dolls, 1972". Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE PRESENT



Im. 3.III. 4: The walking trip started from the Drottningtorget. The first building I saw was the Centralstationen; it is the main railway station in Gothenburg so there were many people coming in and out of it.



Im. 3.III. 5: View of one of the old canals of the city at Drottningtorget. Some bridges span the canal and people stop to take a look of the queue of ducks crossing the canal through the water.



Im 3.III. 6: View of the Brunnsparken trees decorated with colorful flags. One minute is enough to feel that Brunnsparken still be one of the main squares in the city. You can smell the ice-cream and the "churros" made in the two kiosks, listen to the creak of the tracks

when the trams arrive at their stop, the water of the fountain that comes out of the fountain and splashes the tourists who rest on its steps and the growling of the seagulls fighting with the pigeons for breadcrumbs.



Hertziahuset video

Im. 3.III. 7: View of one streetlight with maritime decorations at the Gustaf Adolf Torg.





Im. 3.III. 8: View of the domes of the Hertziahuset.
This building was built in 1902 and presides the river's coastline. At this point in the walk, I started to see the river and its relation to the city.



Im. 3.III. 9: Detail of Stora Bommens bridge.
I tried to see the coastline but there was a building site on the street so I could not see the river until I arrived at the bridge.



Im. 3.III. 10: View of Lundby harbour from the Stora Bommens bridge.



Im. 3.III. 11: Detail of Delawaremonumentet.
I was waiting for the boat to Lindholmen at Stenpiren. Some seagulls were flying in the sky, big and small boats were navigating on the river and

I saw some people trying to canoeing between them. The strong wind and the sound of the waves hitting the pier made me feel in a harbour city.



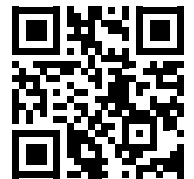
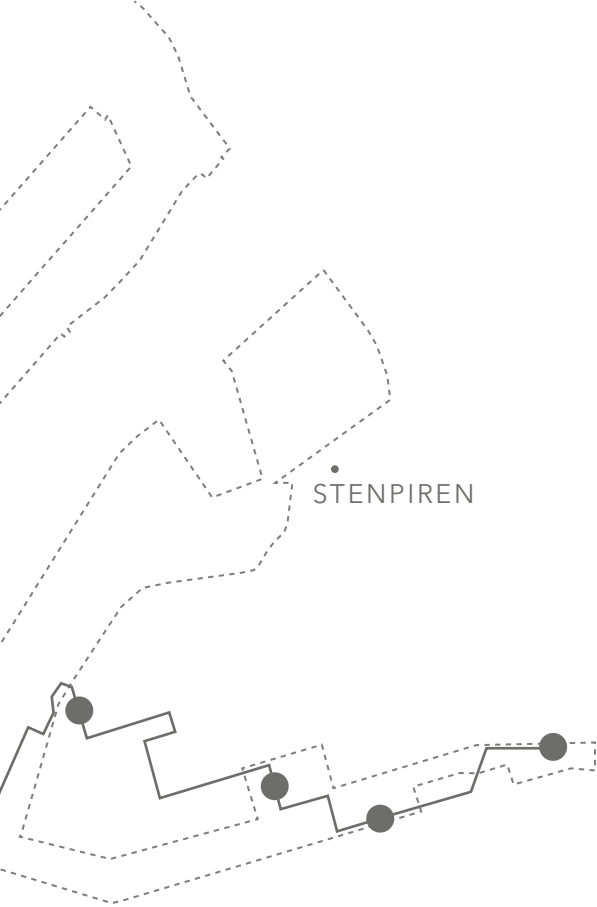
Fig. 3.III. 5: map modified from Mapbox, 2018

Lindholmen

Located between Sannegårdshamnen and Frihamnen in the island of Hisingen, Lindholmen became industrialized during the mid-1850s.

During the second world war, Lindholmen was converted into a large quayside warehouse and for 50 years it was used as ocean-vessels harbour that carried cars and general cargo (Portofgothenburg, 2018).

During the past few years, the area has been redeveloped into a science and education center. This new use uses has completely changed the character of the area and nowadays it is difficult to identify it as an old harbour. There are new offices buildings everywhere and parkings lots along the coastline but no history trace of the place.



Lindholmen's pier video

IMAGES FROM THE PAST



Im. 3.III. 12: "View of Lidholm harbour taken from Ramberget, 1968". Taken from <https://www.portofgothenburg.com/>





Im. 3.III. 13: "View of Lidholmshamnen, 1975". Taken from <https://www.portofgothenburg.com/>



IMAGES FROM
THE PRESENT

Im. 3.III. 14: Detail of Kuggen façade.
When I arrived at Lindholmstornet, the first building I saw was the red façade of
Kuggen hidden between two buildings.



Im. 3.III. 15: Parking lot on the coastline.

This part of the coast is intended for car parking and some plants are starting to conquer the most privileged part of it, near to the river.



Lindholmen video

Im. 3.III. 16: Yellow and pink flowers on the harbour concrete.



Im. 3.III. 17: Old rusty chain.

Walking along the coast, I found many old rusty pieces from the old harbour that have remained near the water.



Im. 3.III. 18: View of the Inner Harbour South from Lindholmen coast. Twelve concrete blocks emerged from the water.



Im. 3.III. 19: Sunbathing on Lindholmen.



Im. 3.III. 20: The wall in front of the rock.

The south-west part of Lindholmen was a residential area with brick buildings. I followed the coastline through a calm street with parked bicycles and few pedestrians.



End of the first day

Old ferry dock
Hisingen-Masthugget

Eriksberg crane

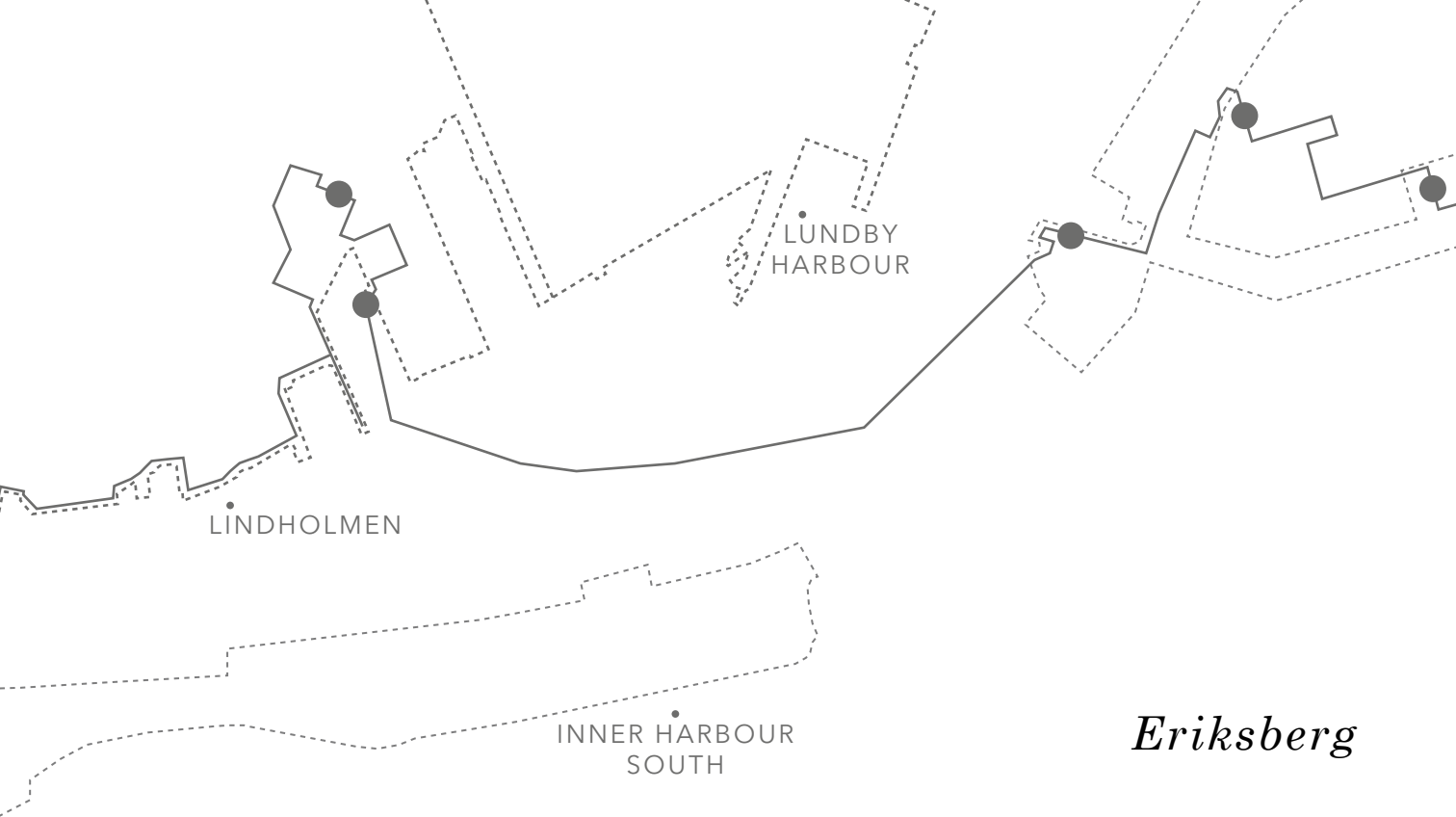
Lighthouse
Göteborgsgrund

ERIKSBERG

Vindarnas tempel

SKARVIK
HARBOUR

Fig. 3.III. 6: map modified from Mapbox, 2018



Eriksberg

After the construction of Lindholmen, the harbour still needed more coast to grow and expand its limits. Sannegårdshamnen was completed in 1914. Sannegårdshamnen has been the biggest port for the import of coal and coke of the city. During the 1950s and 1960s, Eriksberg was the most profitable shipyard in the country (Portofgothenburg, 2018) but during the 1970s there was a shipyard crisis and the Eriksberg shipyard was forced to close down in 1979.

Nowadays the City of Gothenburg owns the area and Eriksberg has become a residential district as part of the redevelopment of Norra Älvstranden.

As we can see on the pictures, the atmosphere has been transformed in a short period of time and just the old Eriksberg crane left as a landmark reflects the harbour past of it.



Im. 3.III. 21: "View of Sannegårdshamnen from Ramberget, 1977". Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE PAST



Im. 3.III.22: "The Norwegian pallet boat "Rogaland" unloads in Sannegårdshamnen, 1978". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 23: "Tire conveyor for the tile from shipside to terminal surface. The tile was used to cook with or to be chopped into pulp. Come from either South America or Georgia in the United States, 1978". Taken from <https://www.portofgothenburg.com/>

Im. 3.III. 24: "Wood chips aboard a boat at the ferry terminal at Färjenäs, 1978".
Taken from <https://www.portofgothenburg.com/>





Im. 3.III. 25: Detail of Vindarnas temple. I continued my walk crossing the bridge that divides Lindholmen to Eriksberg and I saw in the distance an old ruin or that was I thought in the first place...



Im. 3.III. 26: Detail of Vindarnas temple.

IMAGES FROM THE PRESENT



Im. 3.III. 27: Detail of
Eriksberg crane.

Im. 3.III. 28: Detail of Eriksberg crane.
An old structure from the shipbuilding past seemed to me like a triumphal arch of the area that showed its own past with pride.





Im. 3.III. 29: Detail of water with an old structure.



Im. 3.III. 30: Detail of a playground.



Im. 3.III. 31: A forest on Eriksberg.
I couldn't follow the coastline
because there were building sites
so I deviated from my walk.



Im. 3.III. 32: View of Inner Harbour
South from the old ferry dock of
Hisingen-Masthugget.



Im. 3.III. 33: View of the Skarvik Harbour and its chimneys.

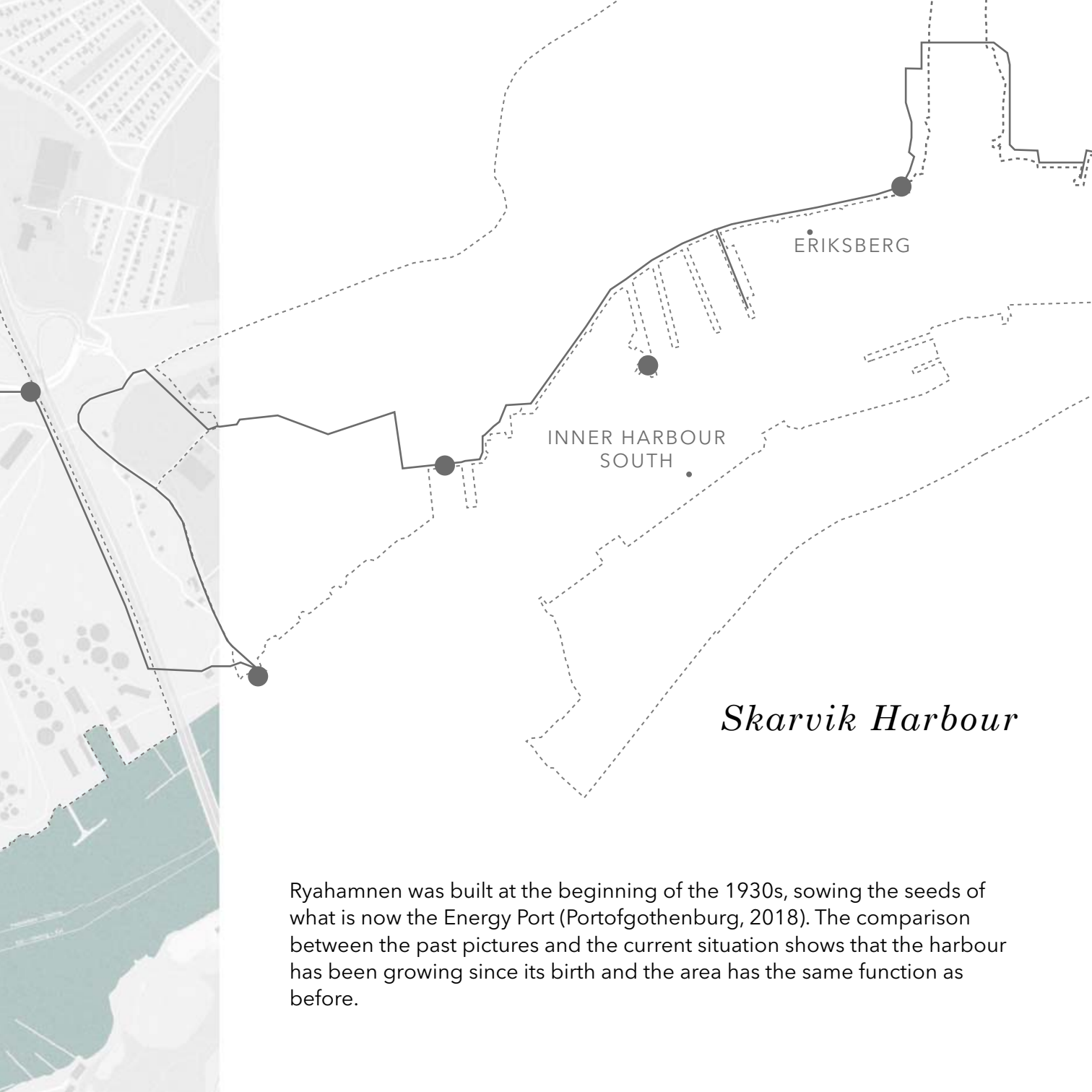
This is the last picture of the first-day walk. At this point, the landscape had become industrialized and I couldn't find any trace of the coastline. I followed the Älvsborg bridge line because the coast was fenced and I took the bus to come back home.



•
SKANDIA
HARBOUR

•
SKARVIK
HARBOUR

Fig. 3.III. 7: map modified from Mapbox, 2018



ERIKSBERG

INNER HARBOUR
SOUTH

Skarvik Harbour

Ryhamnen was built at the beginning of the 1930s, sowing the seeds of what is now the Energy Port (Portofgothenburg, 2018). The comparison between the past pictures and the current situation shows that the harbour has been growing since its birth and the area has the same function as before.

IMAGES OF THE PAST



Im. 3.III. 34: "Cisternas of Ryahamnens, 1937". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 35: "Residential platform for offshore operations. The platform was called Safe Astoria and was built on the Arendalsvarvet but a bit was tested in the harbor, 1976".

Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 36: "163,000 deadweight tonnes unloading at berth 519, 1992". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 37: "M / T "Arafura Sea" helps to berth 519 in Skarvik harbour of four tugs, 2001". Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE PRESENT

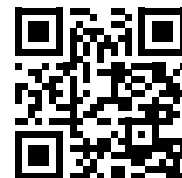


Im. 3.III. 38: View of the energy port chimneys.
This is the first picture of the second day of the walk. I deviated from my walk many times during

the second day because there were fences everywhere and it wasn't possible to see the coast until the end of the itinerary.



Im. 3.III. 39: I walked along the bicycle path near the railroad track.



Skarvik harbour video

Im.3.III. 40: Detail of the energy port tubes on the ground.



Im. 3.III. 41: View of the Skarvik harbour landmark.

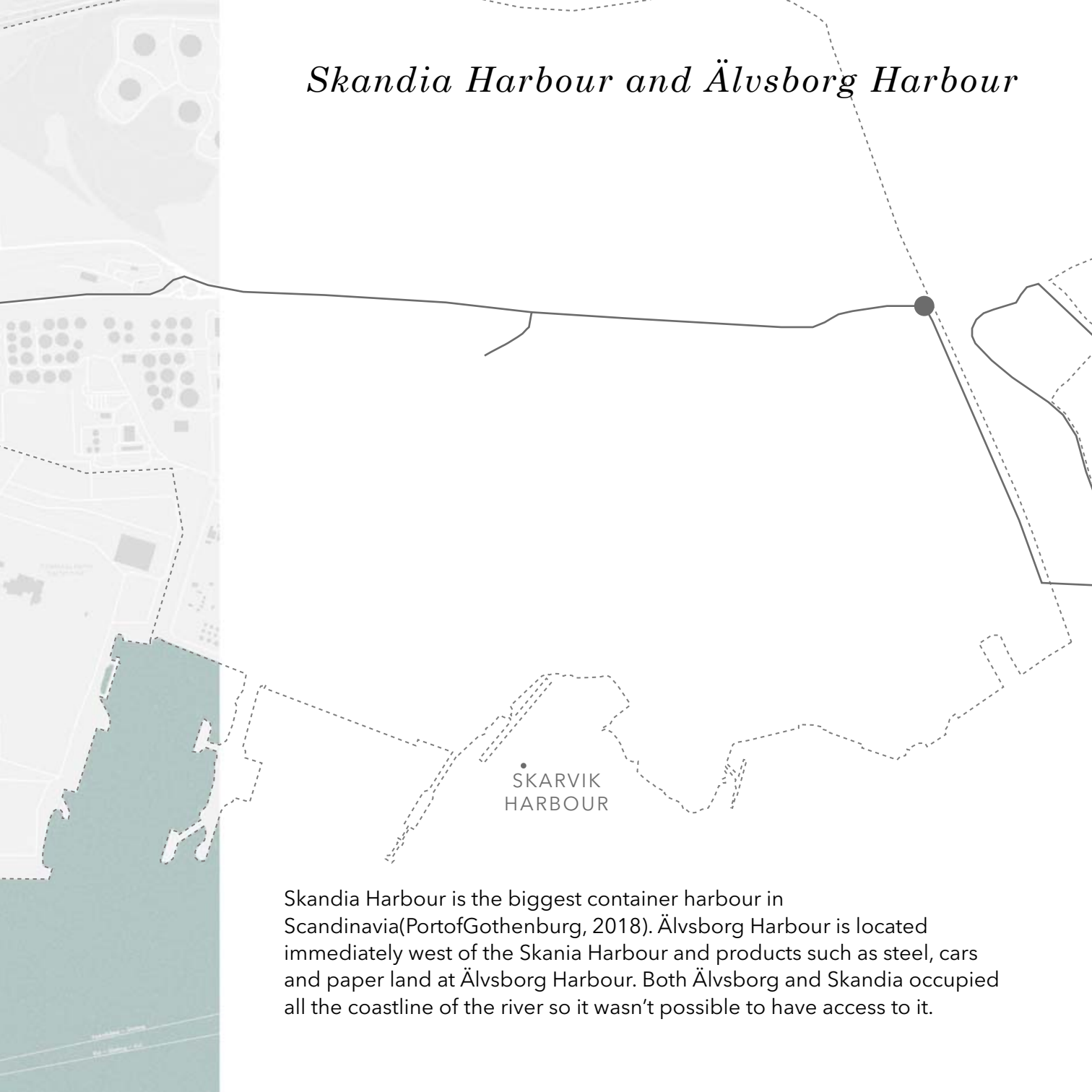


Im. 3.III. 42: View of the cisterns.



Fig. 3.III. 8: map modified from Mapbox, 2018

Skandia Harbour and Älvsborg Harbour



SKARVIK
HARBOUR

Skandia Harbour is the biggest container harbour in Scandinavia (Port of Gothenburg, 2018). Älvsborg Harbour is located immediately west of the Skandia Harbour and products such as steel, cars and paper land at Älvsborg Harbour. Both Älvsborg and Skandia occupied all the coastline of the river so it wasn't possible to have access to it.



Im. 3.III. 43: "A new port is being built - Skandia Harbor, 1965" Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE PAST



Im. 3.III. 44: "ACL ships from the United States add and drop down the ramp in Skandia Harbor in 1984. Atlantic Companion, the first boat in the third-generation ACL vessel that was put into service. Premiäranlöpet. Still in traffic, 1984". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 45: "Älvsborgs harbour from above, 1970".
Taken from <https://www.portofgothenburg.com/>



Skandia harbour video

Im. 3.III. 46: "Roro Vessel lifts down its ramp in Älvsborgshamnen, 1984". Taken from <https://www.portofgothenburg.com/>



IMAGES FROM THE PRESENT



Im. 3.III. 47: Detail of containers

I was at the container terminal; there were mountains of containers on both sides of the road I was walking through and I started hearing industrial noises.



Im. 3.III. 48: Detail of construction wastes.



Älvsborg harbour video
Im. 3.III. 49: View of the rail road track.

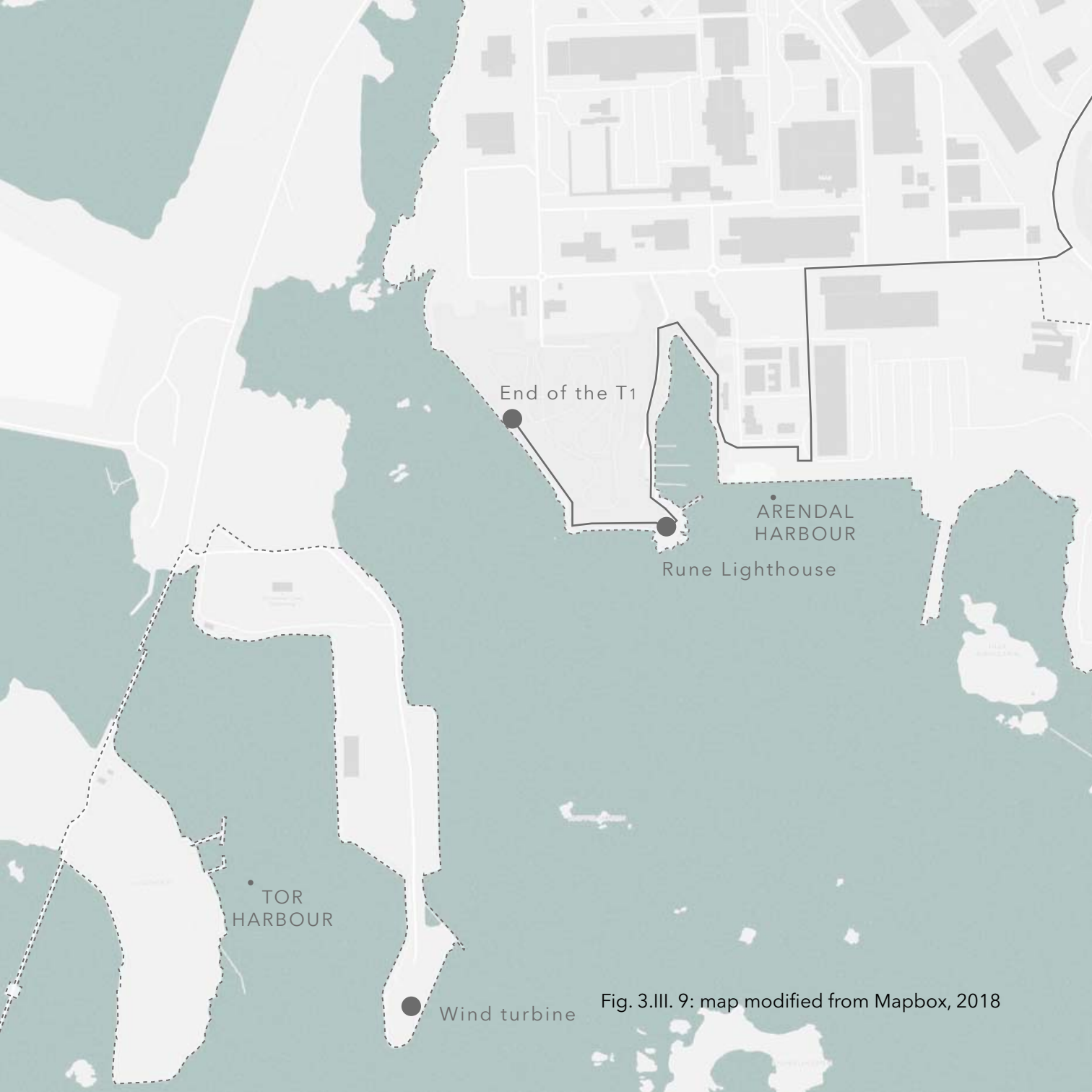




Im. 3.III. 50: Detail of a traffic signal.



Im. 3.III. 51: At this point, I couldn't keep walking because there was a fence on the street. One security man pointed me the direction I must get to arrive to Arendal terminal.



End of the T1

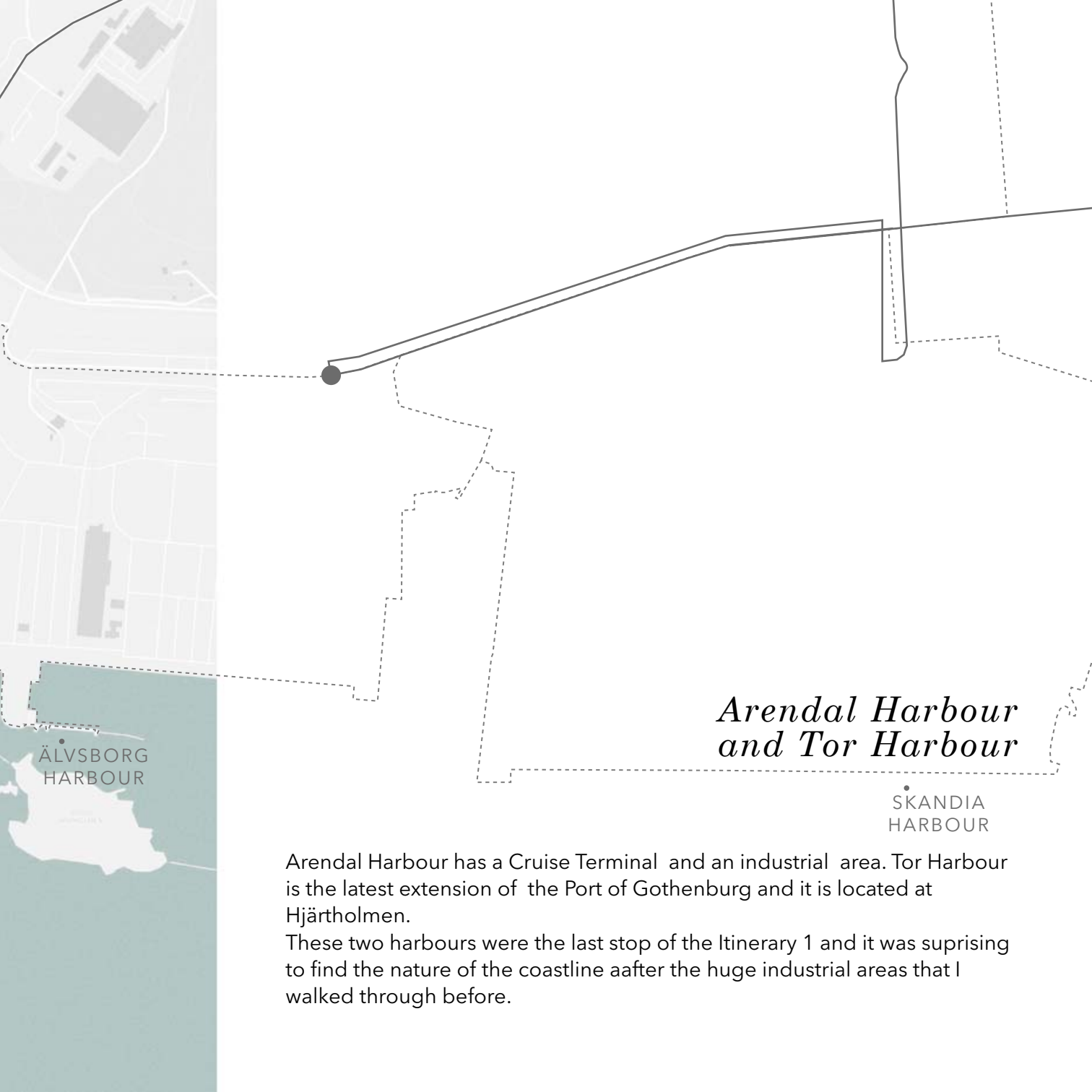
ARENDAL
HARBOUR

Rune Lighthouse

TOR
HARBOUR

Wind turbine

Fig. 3.III. 9: map modified from Mapbox, 2018



Arendal Harbour and Tor Harbour

ÄLVSBERG
HARBOUR

SKANDIA
HARBOUR

Arendal Harbour has a Cruise Terminal and an industrial area. Tor Harbour is the latest extension of the Port of Gothenburg and it is located at Hjärtholmen.

These two harbours were the last stop of the Itinerary 1 and it was surprising to find the nature of the coastline after the huge industrial areas that I walked through before.



Im. 3.III. 52: "Tall ships race in Gothenburg Harbor, 1977". Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE PAST



Im. 3.III. 53: "Mud pump station in Torsviken with their own barges Rubb and Stubb, 1966". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 54: "The tanker in the center, Elisabeth Fernström, stands because the pilot has gone wrong..1968". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 55: "Tankers add to Torshammen by tugboats during winter, 1970". Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE PRESENT



Im. 3.III. 56: View of Arendal Harbour.

I arrived at the end of the first itinerary after a long walk without seeing the coast.



Im. 3.III. 57: View of men fishing in Arendal Harbour.



Im. 3.III. 58: View of the Måsholmen park near the Volvo Museum.



Arendal harbour video

Im. 3.III. 59: I could follow the coastline to reach the Rune Lighthouse.



Im. 3.III. 60: View of the south coast of Gothenburg from Arendal Harbour.



Im. 3.III. 61: View of Rune Lighthouse.

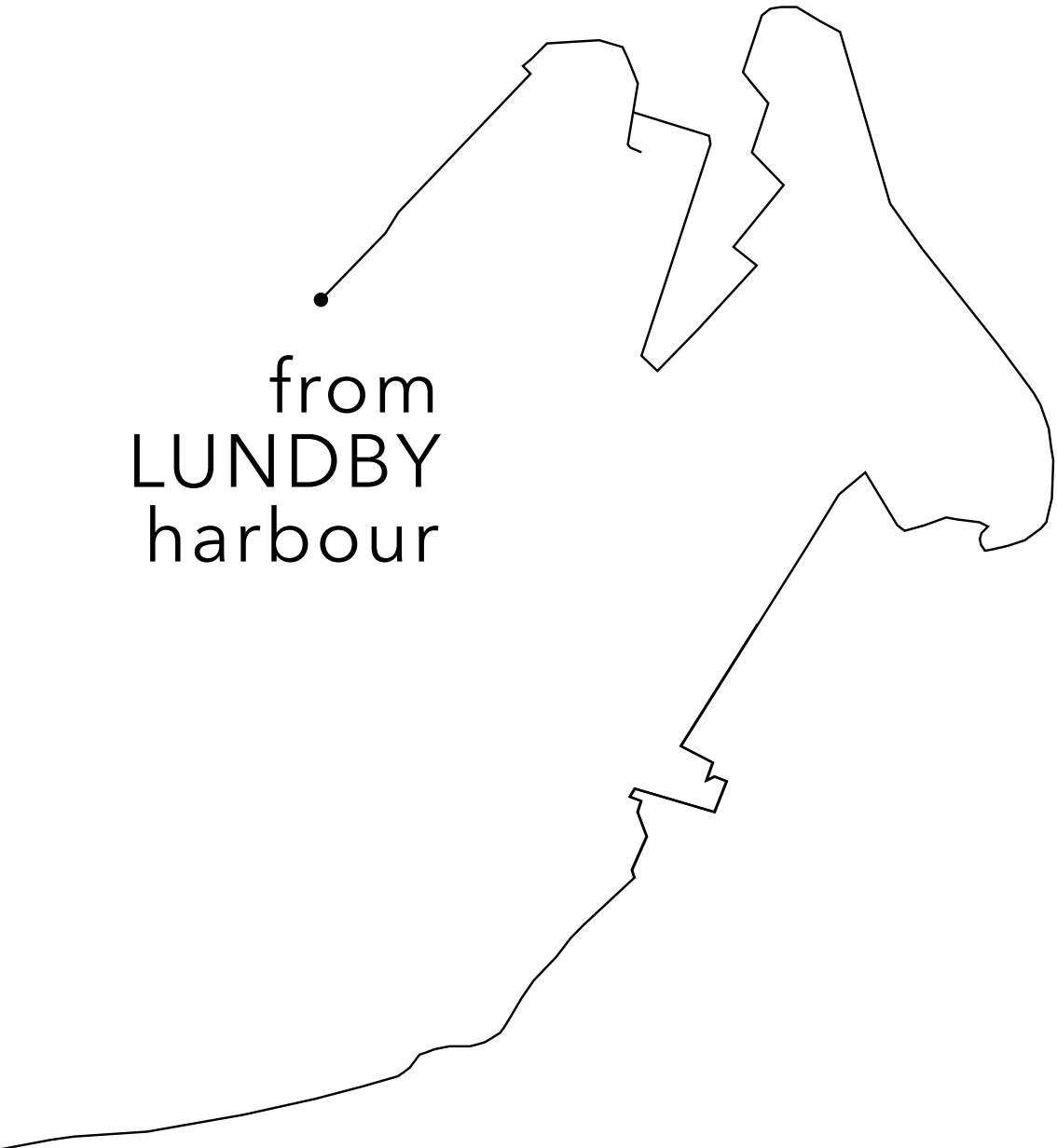


Im. 3.III. 62: View of Tor Harbour.

ITINERARY T₂

Fig. 3.III. 10: Marta Mares Guijarro, 2018





from
LUNDBY
harbour

to Sjömanstornet

ITINERARY T₂

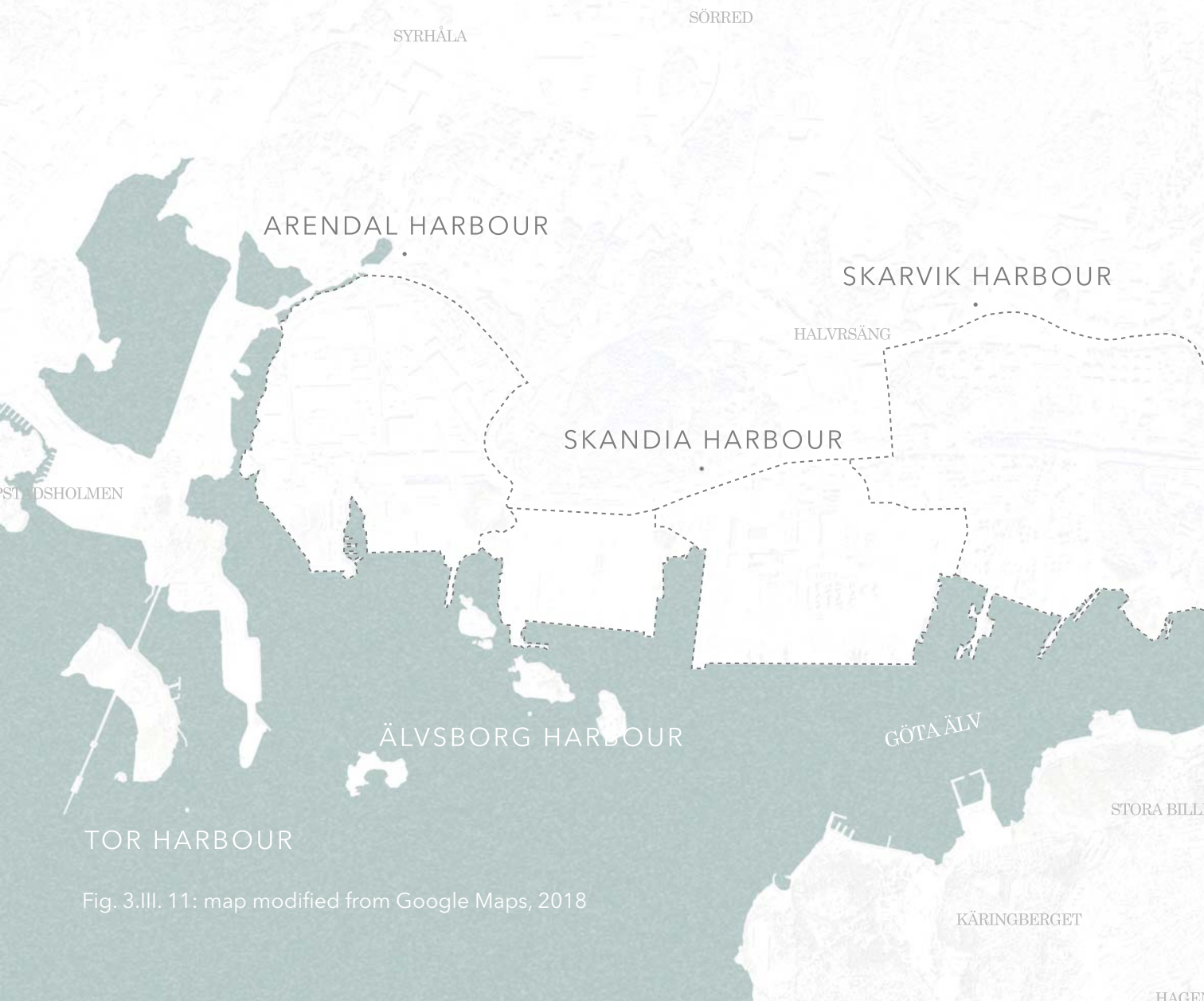
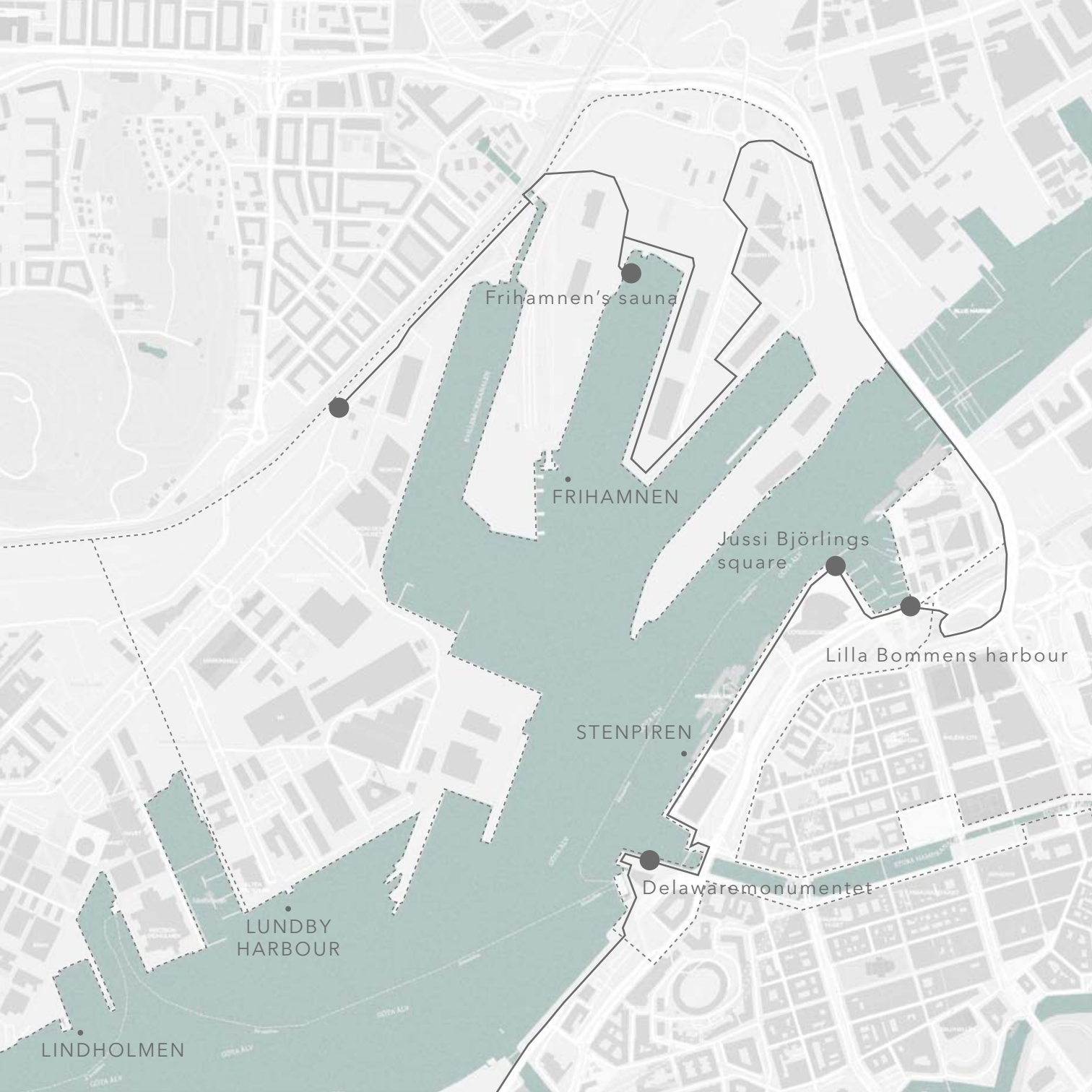


Fig. 3.III. 11: map modified from Google Maps, 2018



The yellow line indicates the path that it was done during the third and a half days of the travelling transect.



Frihamnen's sauna

FRIHAMNEN

Jussi Björlings square

Lilla Bommens harbour

STENPIREN

Delawaremonumentet

LUNDBY HARBOUR

LINDHOLMEN

Lunby harbour and Frihamnen

The first of the new port areas was Lundbyhamnen, which was officially opened in 1951 (PortofGothenburg, 2018). Nowadays it has been transformed into a residential area and a center high-tech enterprises and education.

Today, at Frihamnen a new residential district is being built (PortofGothenburg, 2018).





Im. 3.III. 63: "Harbor workers load cellulose in freight wagons in Lundby Harbor, 1964". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 64: "Lundby harbour from above, 1978".
Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE
PAST



Im. 3.III. 65: "Two children look out over the Frihamnen, 1949". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 66: "Winter in Frihamnen. Crane brake appears in the foreground, 1968". Taken from <https://www.portofgothenburg.com/>

IMAGES FROM THE PRESENT



Im. 3.III. 67: View of an abandoned area near
Frihamnen.



Im. 3.III. 68: View of Lundby harbour from the ferry.



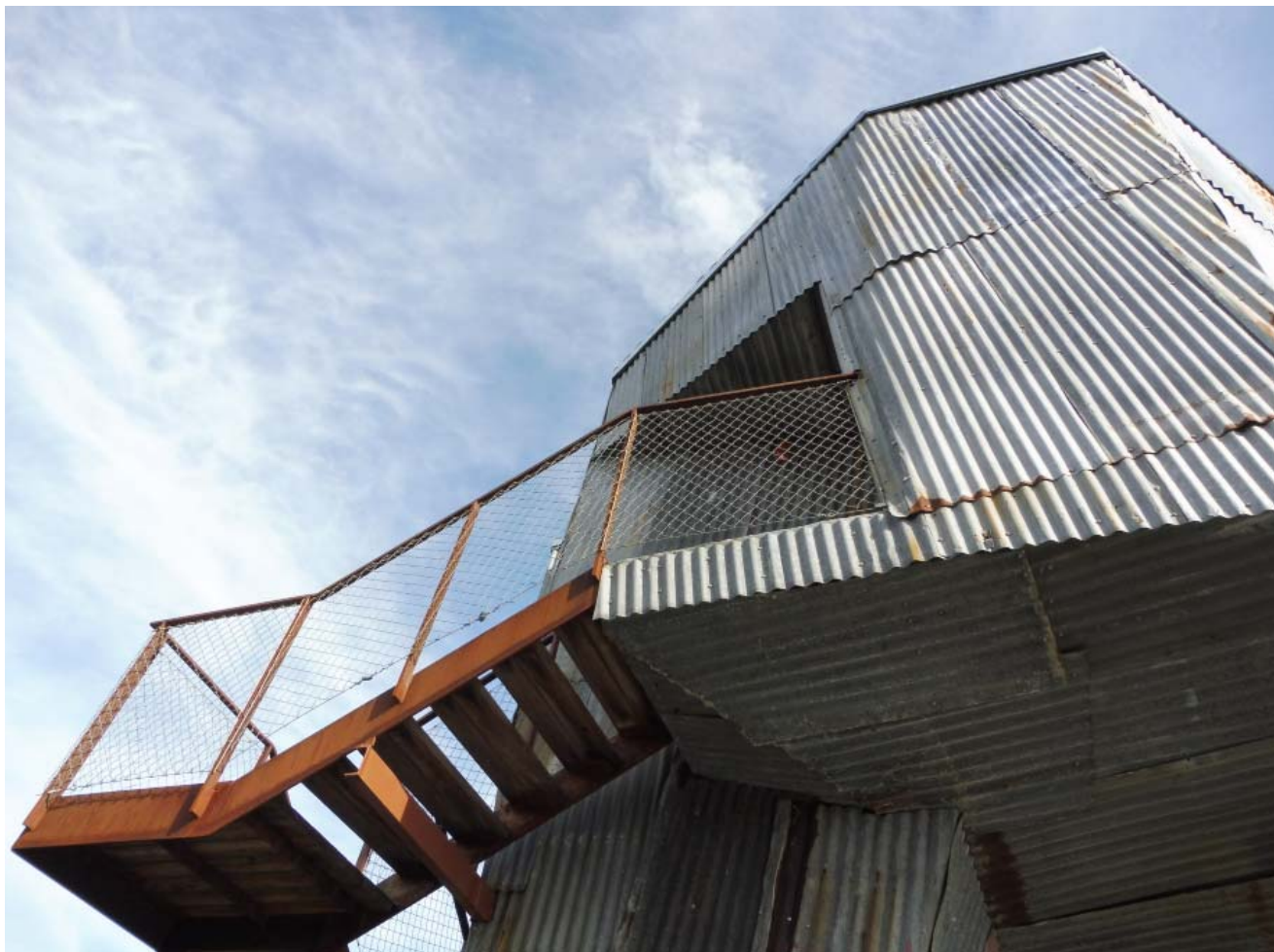
Im. 3.III. 69: Detail of Frihamnen.



Frihamnen video

Im. 3.III. 70: View of the Frihamnen swimming pool.





Im. 3.III. 71: View of the Frihamnen sauna.



Fig. 3.III. 13: map modified from Mapbox, 2018



Inner Harbour South

Inner Harbor south is one of the areas of the harbour that still remains active within the city. It has several cruise terminals extended along the entire south coast of the river and the fishing port.

IMAGES FROM THE PAST



Im. 3.III. 72: "Carpenter handling at berth 32, Masthuggskajen. In the background, Magazine 6 appears, 1920". Taken from <https://www.portofgothenburg.com/>



Im. 3.III. 73: "Sessan Line and Stena Line are located in Majnabbe just before Stena Line bought the Sessan Line, 1982". Taken from <https://www.portofgothenburg.com/>



Im.3.III.74: View of industrial buildings near the Roselund ferry terminal.

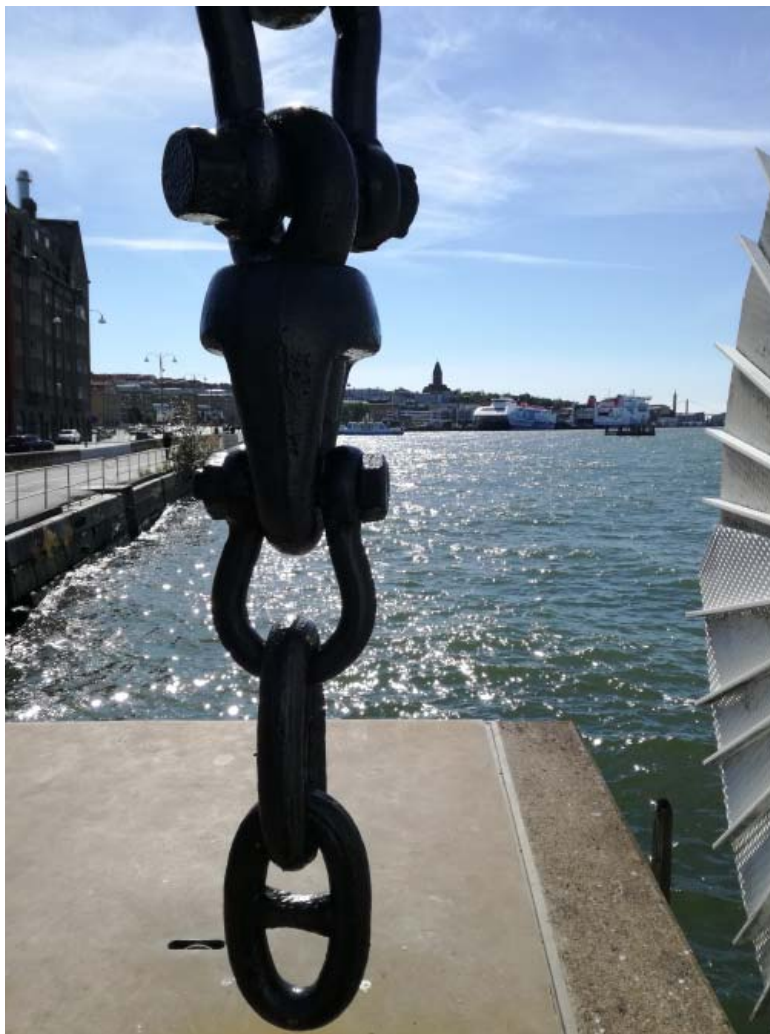
Im. 3.III. 75: Detail of a traffic signal. Behind the fences, it's possible to see the Lindholmen residential area.



IMAGES FROM THE PRESENT

Im. 3.III. 76: View of the building site fences at the coastline. Behind the fences, it's possible to see the Lunby harbour cranes structures.





Im. 3.III. 77: Detail of a ship chain. From this point, it was possible to see the cruise ships docked at the Stena Line terminal.

Im. 3.III. 78: Detail of the Fishing harbour door.



Im. 3.III. 79: I arrived to "Sjömanstornet", the statue of a seaman wife that says goodbye to her husband. This was the end of the second itinerary.



C oncluding remarks

The industrial harbour has moved through the west of Göta Älv over time so I decided to start the walking trip from the first harbours of Gothenburg. I walked through the west to follow the path of the industrial harbour and thanks to that, it was possible to recognize the specificities of the changing coastline of Gothenburg and the way the harbour print has affected its landscape.

The areas I transected after the core of the city were Lindholmen and Eriksberg. These two districts have been raised as a result of redevelopment projects of old harbour areas but, they have become the typology of luxury housing neighbourhoods and business ensembles that could not respond to the real social needs that the city is requiring. However, I felt that in some way, these new districts have maintained the legacy with its harbour past and its strong connection with water and Eriksberg old crane is an example of this legacy.

Continuing towards the west, I noticed that the industrial port was strongly separated from the city by the road that crosses the Älvsborg bridge; I did not find quality public

space and it was impossible to follow the coastline until the end of the journey. I noticed something similar during the second itinerary when all the terminals in the Inner Harbor South prevented me from accessing the coast and the closest I got to the water was on a large highway with cars travelling at high speeds. Today, the industrial port environment has no place in the city limits but, to move away from the industrial port of Gothenburg, does not mean to bring it closer to another urban nucleus, avoiding a problem in the city thanks to others suffering it? There would be no other way to adapt the port to the territory so that city and industry could live close together?

To conclude, the all walking trip along the river has allowed me to observe the problems of incompatibility between city and industry and that the new residential neighbourhoods in post-industrial areas must offer housing solutions for people with different economic situations, and thereby achieve a mixed and fair neighbourhood.

References

These concluding remarks have guided the next chapters research to establish the guidelines for a more valuable and conscious redevelopment for Frihamnen. Observing the development dynamics of the coastline areas and their connection to their own past and identity, it has been able to establish objectives and design principles for the design project of the at Frihamnen.

Lee, G. and Diedrich, L. "Transareal excursions into landscapes of fragility and endurance: a contemporary interpretation of Alexander von Humboldt's mobile science"

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Context

4.

*I. Gothenburg city
through history*

4.

A FORTIFIED SETTLEMENT

17th Century

The concept of ideal city emerged in the 15th and 16th centuries promoted by a wide range of Italian architects and represented also in paintings of that period attributed to different artists such as Piero della Francesca or Francesco di Giorgio Martini (Russano, 2012; Kruft, 1990). Such utopian designs were based on clear geometries of streets and blocks combined with an important role given to walls and defensibility. In Scandinavia, the ideal city concept was absorbed and shaped into the creation of Gothenburg, which obtain royal privileges in 1607. Inspired by the Dutch cities, it was located on the Hisingen island and occupied an area which corresponds to the current Färjestaden. Such town did not have a long life and was primarily the place of residents for merchants and migrants with Dutch origin, having Dutch as its official language. The Swedish king at that time was Karl IX and he guaranteed special privileges to the Dutch in terms of ad-hoc customs rates, reduced taxes and religion. Such privileges were given as Sweden could benefit, in return, from the Dutch expertise in terms of fortification, land reclamation and trade links.

This first urban settlement was subsequently destroyed by the Danish army after a few year. Therefore, in 1619 Gothenburg was

rebuilt in the area south of the Göta River, nowadays designated as Otterhällan. This newly urbanized area obtained the city status by the Swedish king in 1621, which is considered the birth year of Gothenburg. The new settlement was built taking advantage of the Dutch competence in fortification and urbanization of marshy zones. It had a baroque style mixed with some Dutch Renaissance nuances, structured around an orthogonal and hierarchical street pattern. This urban pattern was enriched with some genuinely Dutch features including the presence of mounds, canals and the use of straight flanked bastions in fortification. Gothenburg developed in prosperity along the 17th century surrounded by its city walls. A unique characteristic of this city were its stone-built docks, created one year after its foundation in the area named as Stora Hamnkanalen. The port acquired increasingly more importance for trade which connected it to a range of activities occurring in the market squares and warehouses of the city.

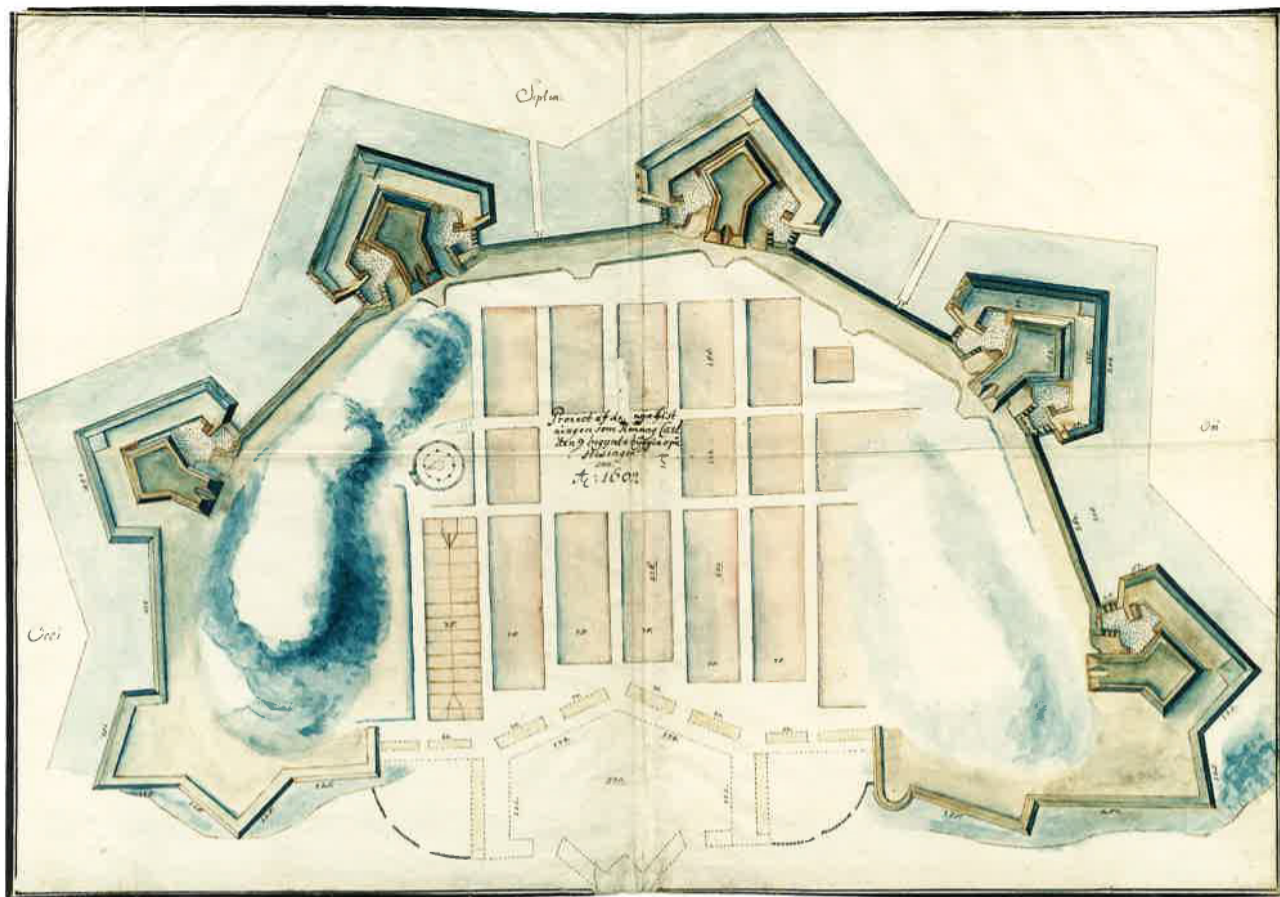


Fig. 4.I.1: "Gothenburg was founded as a strong lock for Göta älv and the narrow country strip that was Sweden's only contact with the North Sea and was planned as an international trading city with a large Dutch population. The epicultural plan for the first Gothenburg at Hisingen 1608 in a copy from 1609".

Taken from Den svenska staden: planering och gestaltning - från medeltid till industrialism. Thomas Hall, Katarina Dunér.

THE ERA OF THE MERCANTILISM

18th Century

In the 18th century Gothenburg increased its military protection and emerged as an economic hub both locally thanks to the Göta River and internationally connected both to Europe and the world. The international connections became particularly important after the Swedish East India Company was created in 1731. Following this event, trade with Asian countries increased along with European commercial relationships with cities such as Amsterdam, London and Hamburg. Gothenburg's harbour was also the starting point of outbound trips towards North America.

The city became denser and its population accounted for more than 10.000 inhabitants becoming the second city of the country after Stockholm. The local merchants tended to inhabit the areas close to the harbour and the canals, constructing two-storey houses made of wood and stone.

Fig. 4.1.2: map of Gothenburg, 1790. Taken from Regionarkivet

AN EXPANDING TOWN

19th Century

Fortifications started to become unnecessary if not obsolete in the 19th century, so that in 1806 Gothenburg started its process of becoming an open city and some years after, especially between 1840 and 1870, the city underwent new development and new public buildings were built up together with the creation of new squares and parks.

While in 1813 the Swedish East Indian Company was closed (Port of Gothenburg, 2018), the textile and engineering industry offered the opportunity of opening new markets. Simultaneously, the import of coal and coke fuels started as they were used for steam engines. Chemical industries flourished too. The industrial revolution affected Gothenburg as many other city transforming its appearance and urban landscape.

One of the consequences of the industrial revolution was the use of larger steam powered ships that required an expansion or replacement of the older docks with new ones along the banks of the Göta River. In fact, the present port started its construction in 1840. New industrial harbours replaced the older and smaller ones, and in the 1840's began the construction of the current

port, following the need for a larger and deeper harbour. (Port of Gothenburg, 2018). Between 1888 and 1902 ships sailed to the ocean from the newly constructed Masthuggskajen. Maritime business became more decentralized and such process had an impact on the structure and identity of the harbour.

Even considering the popularity of Gothenburg as an outbound port for emigrants, the amount of people travelling to the US from Sweden was relatively reduced (Port of Gothenburg, 2018). The majority of people tended to sail first towards England and from there they took the ships travelling from Liverpool to New York.

Fig. 4.1.3: map of Gothenburg, 1880. Taken from Regionarkivet

Handkoll af Götting
af den Kongelige Landmæssing og Kartograf
af Johan Wulffsgaardens & Sønnes
af Kjøbenhavn
1880

Skala
1:100,000

Legende

Blå	Bygninger
Rød	Græs
Grøn	Skove
Hvid	Veje
Svart	Jernbaner
Gul	Gravsteder
Blå	Floder
Blå	Limfjorde
Blå	Skibe
Blå	Skibe



AN INTERNATIONAL PORT

20th Century

During the 1900s, Gothenburg continued to grow and the island of Hisingen became part of the city when neighborhoods such as Lindholmen, Lundby, Brämaregården and Rambergsstaden were built. To connect Hisingen with the rest of the city, two bridges were built across the Göta River, which were Götaälvbron (1939) and Älvsborgsbron (1966). With an efficient infrastructure and a successful ship building industry, Gothenburg developed into Scandinavia's most important port for exports.

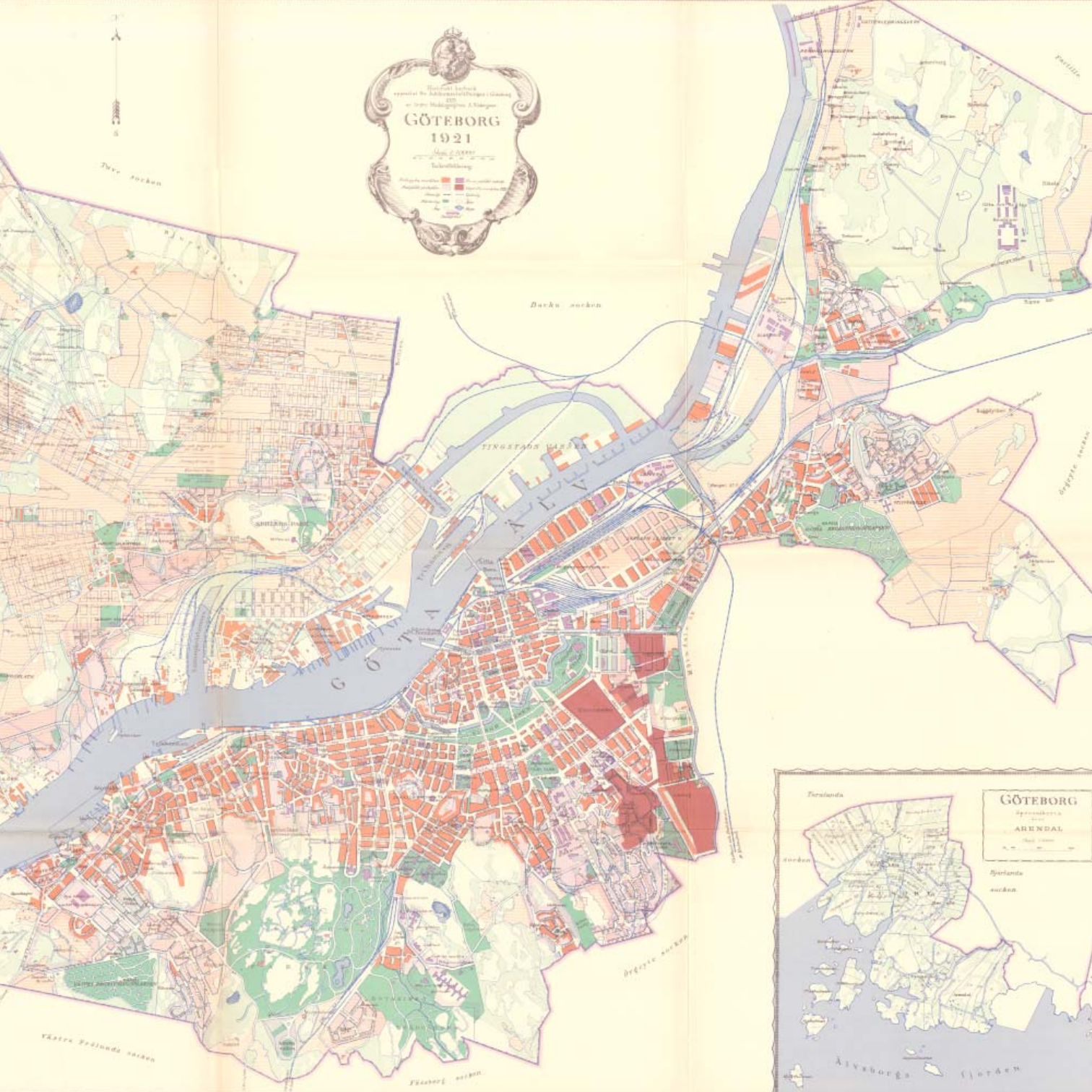
In the early 1910s, Swedish American Line was founded and the first ship sailed directly to New York. Nevertheless, after the last wave of Swedish emigrations in 1923, the company became an exclusive cruise line. In 1922 it was inaugurated the first "Free Port" where it was possible to bring goods ashore "free" and it was called Frihamnen. Ten years later, the city built the first energy port Ryahamnen.

The World War II brought less international trade but more ships and industrial production to the city. At the end of the 1960, the shipbuilding industry started losing its competitive edge and the main shipbuilders disappeared almost

entirely from the city's business horizon. Nevertheless, the shipyards continued expanding and that caused an acute crisis that forced the state to take control of the large Swedish builders. During this century, two more factors marked a new step in the globalization and relocation of port areas. The first was the consolidation of air transport, which led to the rapid disappearance of passenger shipping lines, and the emergence of intermodal transport thanks to the container brought the port closer to major transport infrastructures and with it, the relocation and definitive rupture of the port with the city. At the end of the 1970s took place the next big expansion of the Port of Gothenburg and the new Älvsborg Harbour started operating in 1978.

Fig. 4.1.4: map of Gothenburg, 1921. Taken from Regionarkivet

Statens allmogets
 tryckeri för tekniska teckningar (statens)
 och Sjö- och Handelsbyråns tryckeri
GÖTEBORG
 1921
 Skala 1:50,000
 Teknisk teckning



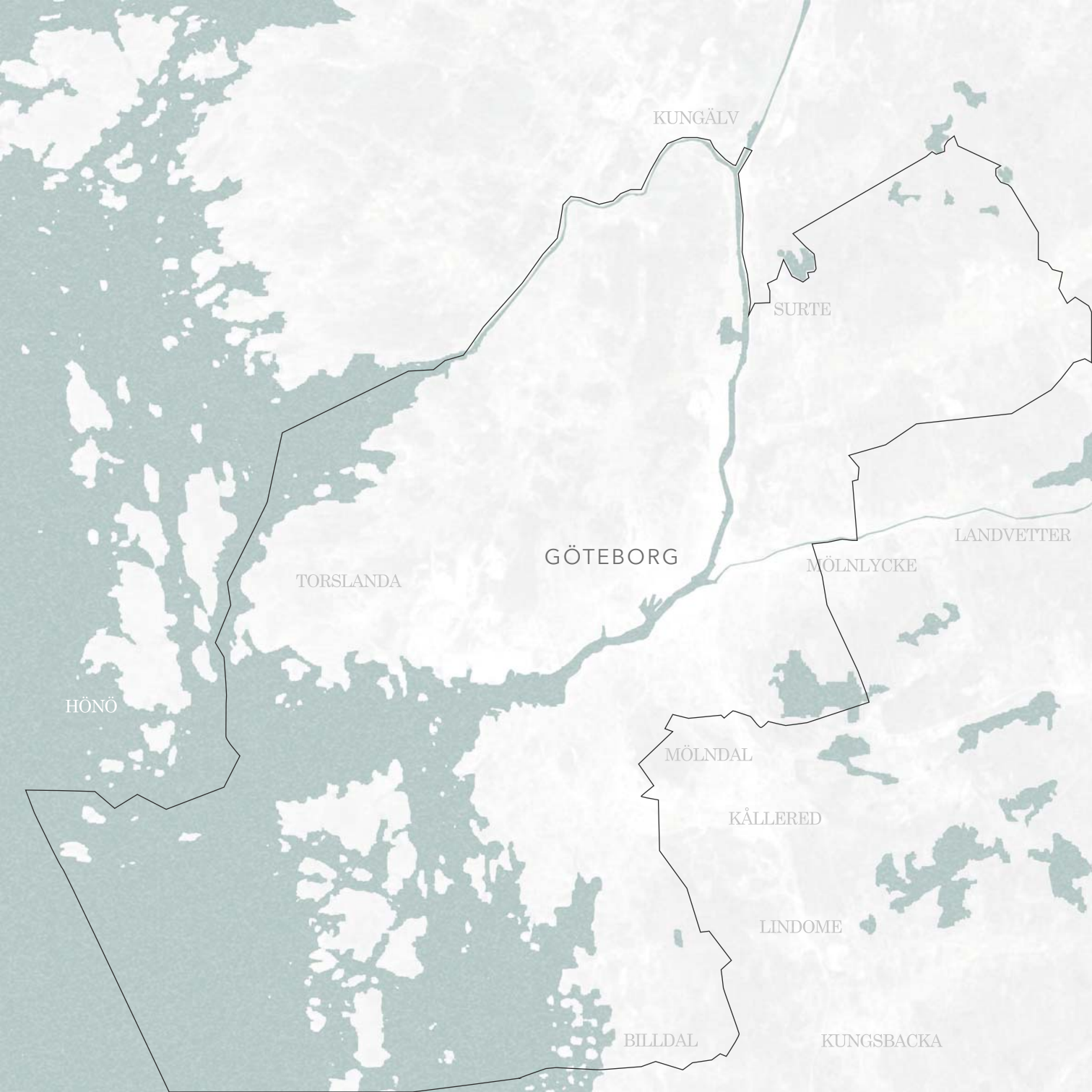
A NEW DEVELOPMENT PROCESS

Last decade of the 20th Century until today

The post-industrialization (Höfer, 1998) era that was experienced by numerous cities in the world, leading to a simultaneous relocation of activities and a reshaping of the port waterfronts, also affected Gothenburg. Towards the end of the 20th century, in Hisingen, north of the city center, the Eriksberg area underwent a process of regeneration. At the beginning of the 21st century, and more intensively in its second decade, the local authority launched a process of waterfront renovation and retrofitting under the name of Rivercity Vision (Vision Älvstaden, 2012).

Almost simultaneously, in 2010, the Port of Gothenburg experienced a process of business reorganization. While its land, docks and infrastructures are still owned by the local authority, everyday activities are managed by private businesses (Port of Gothenburg, 2018).

Fig. 4.I.5: map modified from Google Maps, 2018.



KUNGÄLV

SURTE

LANDVETTER

GÖTEBORG

MÖLNLYCKE

TORSHANDA

HÖÖNÖ

MÖLNÅDAL

KÅLLERÖD

LINDOME

KUNGSBACKA

BILLDAL

Nowadays, the large maritime trading centers are undergoing a post-industrial (Targ, 1976) transformation process in which the urban fabric of the city needs to conquer again the port and its waterfront (Loures, 2015). This desire to re-integrate the port landscape in the city is complicated because of the relationship between both identities is currently discontinuous and confusing.

The city of Gothenburg since its birth has been and continues to be the scene of numerous commercial exchanges thanks to its growing maritime industry (Port of Gothenburg, 2018).

This has allowed it to host so many cultures, from the most distant to the neighboring

ones, which for generations have deposited economic and cultural wealth, helping the evolution and growth of the city as a whole. Despite the fact that the urban and port identity have lived together for hundreds of years, numerous technological and economic aspects have influenced the incompatibility of both identities and have caused a rupture difficult to solve.

Through the study of the history of Gothenburg and its port (Port of Gothenburg, 2018), it is possible to determine certain evolutionary guidelines that allow establishing a historical framework for the new refunctionalization projects of post-industrial areas such as Frihamnen (Vision Älvstaden, 2012).



C

oncluding remarks

Thanks to this, a common thread is established between the urban approaches of the past and the new forms of urbanization, both motivated by the growing population that has characterized the city for centuries. The current urbanization and densification process (OECD, 2012) is not meant to conquer territory beyond the city wall, but rather, to revitalize and compact the morphology of the city, through sustainable and creative urban regeneration strategies. It is about acting punctually, locally, looking for a positive discontinuity capable of introducing improvements and extending them through contagion (Pagani, 2015).

However, a project of requalification of an area like Frihamnen requires an organic (International New Town Institute, 2010) relationship between the urban and architectural scale, giving new life to the community spaces abandoned by the industry with great landscape and urban potential.



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II. RiverCity Vision

4.

OPEN TO THE WORLD

The Frihamnen project is part of RiverCity Gothenburg project, which is the largest urban development project currently going on in the Nordic countries (Göteborg Stad, 2017a). RiverCity Gothenburg includes seven districts, including Frihamnen, which are all located next to the river. The municipality requested a holistic perspective in the development of the whole RiverCity area and therefore the RiverCity Gothenburg vision was developed in 2010 and approved by the municipal council in October 2012 (RiverCity Gothenburg Project Group, 2012). The vision has long-term basis for the redevelopment of the districts. Furthermore, the initiative should contribute to the development of the strengths and challenges identified in Gothenburg. The identified strengths in the city were diversity, the water and driving forces, while the challenges were segregation, climate change and a changed economy (RiverCity Gothenburg Project Group, 2012).

It was regarded as important to create a vision which reflects as many perspectives as possible and which is deeply rooted within the municipality (RiverCity Gothenburg Project Group, 2012). In the mean time, lot of resources were used to do citizen dialogues and workshops with experts from different

fields. The summary of the vision is based on the three sustainability pillars and can be seen in the Fig.1.

Moreover, there were developed four strategies to reach and clarify the vision. Three of them aim to explain how the vision can be accomplished (see Fig.2) and the fourth aim to simplify the realization of the vision (Göteborg Stad, 2017b). The realization strategy is about using the RiverCity as a test arena with temporary arrangements, communicate active openness and develop an effective way to work (RiverCity Gothenburg Project Group, 2012).

Fig. 4.II.1: Summary of the vision for RiverCity Gothenburg (RiverCity Gothenburg Project Group, 2012).

OPEN TO
THE WORLD

Including
(social)
Meeting places for
everyone which are
flexible and
developed over time

Green
(environmental)
Use the closeness to
the water, renewable
energy, attractive
mobility

Dynamic
(economical)
Businesses and
cultural lives should
be developed in
parallel to enhance
and inspire each
other

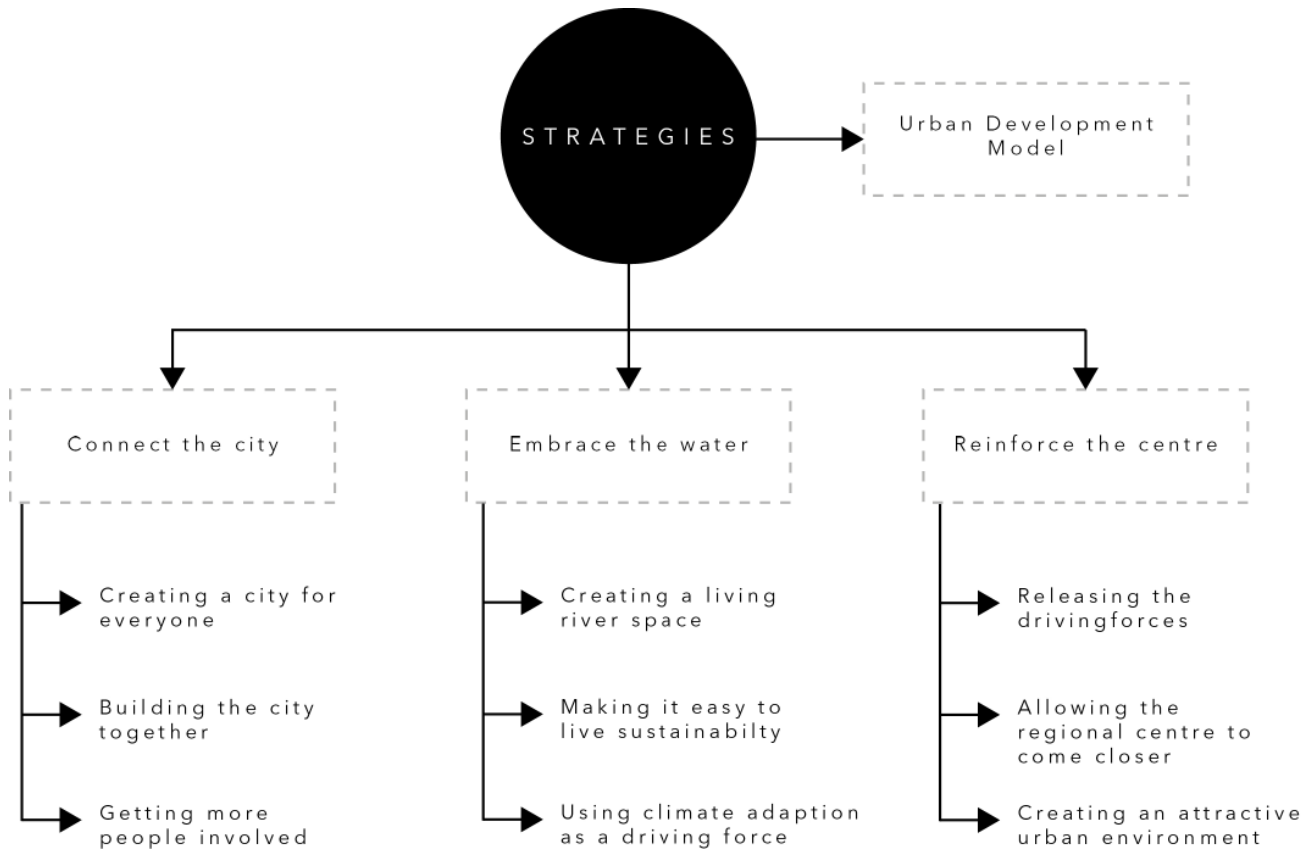


Fig. 4.II.2: The working strategies for the RiverCity Gothenburg project (RiverCity Gothenburg Project Group, 2012).

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III. Frihamnen

4.

THE INDUSTRIAL PAST OF FRIHAMNEN

At the end of the 19th century, the need to establish a free port was promulgated by August Herzt, one of the city's wholesale distributors, who argued that Gothenburg had one of Europe's best locations for a free port and it was a necessity to compete with other shipping cities in Northern Europe. In the free port, it was no necessary to pay customs duties until the goods left again.

The proposal for the new port was discussed for years but in 1922, the city of Gothenburg decided to extend the central port and finally inaugurated its free port. Frihamnen ("Free Port") is located on the coast of Hisingen and has three docks: Kville Pier, Northern Frihamnen Pier and South Frihamnen Pier, also known as "the Banana Dock". For a long time, the merchandise ships unloaded millions of bananas for later distribution throughout the country and later Frihamnen became a cruise terminal until 2017 (Port of Gothenburg, 2018).

Over the years, Frihamnen has become a place where the memory of the past prevails over the present (Solà Morales, 1995). Nowadays it is an inhospitable zone to which its vital function has been extracted turning it into a strange space away from the social and economic structures of

the city. However, its industrial past offers advantages to new projects for the reuse of post-industrial areas, opening new horizons for urban-scale design.



Im. 4.III.1: "Metal pallets landing on the balcony of the Magasin 113 in the Frihamnen, 1979". Taken from: <http://alvstaden.goteborg.se/vara-delomraden/frihamnen/>

THE FUTURE OF FRIHAMNEN

In 2010, the authorities of Gothenburg created River City Vision, an initiative that promotes sustainable urban development with the recovery of spaces with an industrial past, among which is Frihamnen. The area, owned by the public developer Älvstranden Utvecklings AB, covers almost 30 hectares (Dahl, 2016). The municipality has envisaged that around 15.000 people will live at Frihamnen, with the same number working in the area (Göteborg Stad and Älvstranden Utveckling AB 2015).

Thanks to its advantageous location near the city center with waterfronts to the south and with an infrastructure of communication around, Frihamnen becomes a privileged area to carry out original design interventions that can add to Gothenburg's distinctive identity, but also offer lucrative investments in real estate and for new businesses (Cuff and Dahl, 2015).

The objectives of the urban transformation of the area will:

- be developed Frihamnen into a dense inner-city area in central Gothenburg;
- connect the city across the river;
- open up Gothenburg to the world;
- interconnect with surrounding urban

districts;

- be inclusive in character;
- tackle the challenge of rising water levels while retaining the area's appearance;
- feature a carefully planned network of meeting places;
- provide green space in close proximity to the water at Jubileumsparken;
- be a test-bed for modern mobility.

(Göteborg Stad and Älvstranden Utveckling AB 2015)

There are still no definitive urban plans for Frihamnen, but different proposals are being considered at the city planning office (Fig. 2, Fig. 3, Fig. 4 and Fig. 5). As can be seen in Fig. 2, Fig. 3 and Fig. 4 the will be partially demolished in order to integrate them to the new urban plan of Frihamnen and become, in the four proposals, part of private offices.

In the next chapter, the thesis will propose an alternative urban integration of the that tries to keep the identity of the buildings through two alternative uses (affordable housing and sailing and carpentry school).

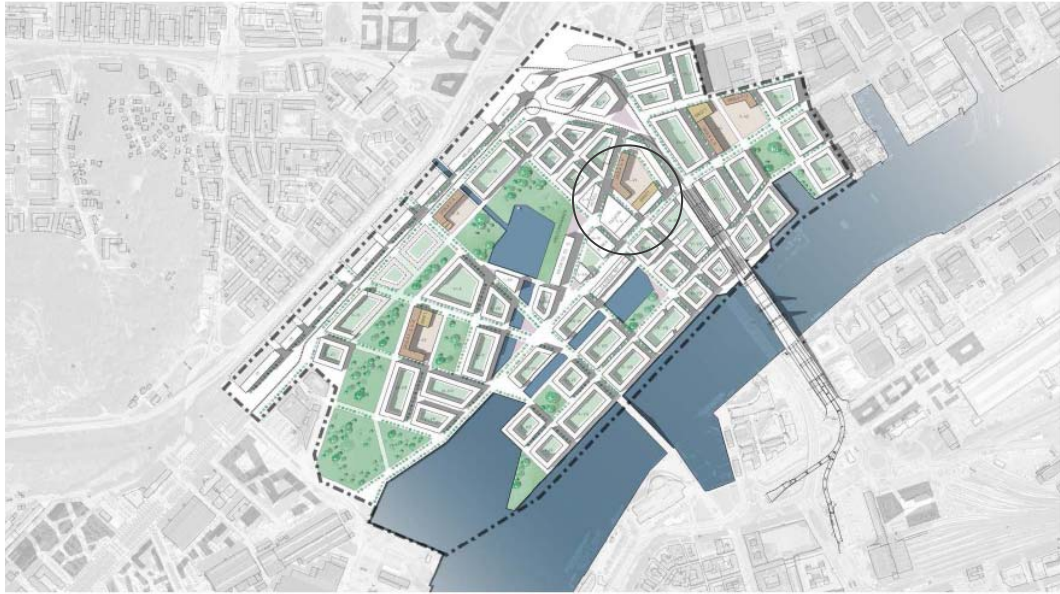


Fig. 4.III.2: Proposal A from White Arkitekter2

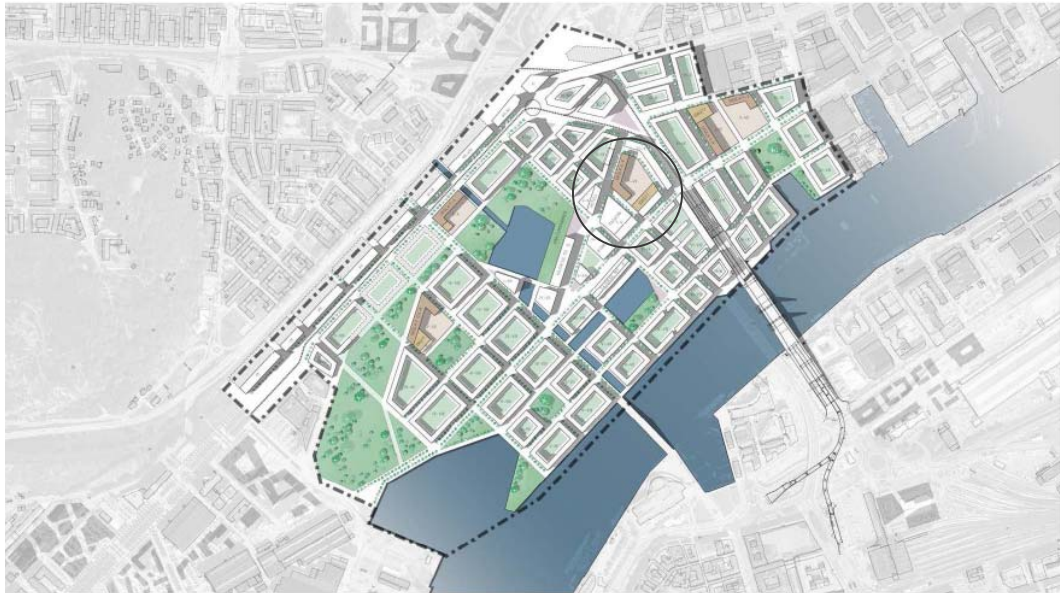


Fig. 4.III.3: Proposal B from White Arkitekter



Fig. 4.III.4: Proposal from Stadsbyggnadskontoret (City Planning Office)



Fig. 4.III.5: Proposal from Älvstranden Utvecklings AB (Riverfront Development)



Fig. 4.III.6: Rendering of the proposal of Frihamnen. Taken from: <http://alvstaden.goteborg.se/vara-delomraden/frihamnen/>



Fig. 4.III.7: Rendering of the proposal of Frihamnen. Taken from: <http://alvstaden.goteborg.se/vara-delomraden/frihamnen/>

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Warehouses

5.

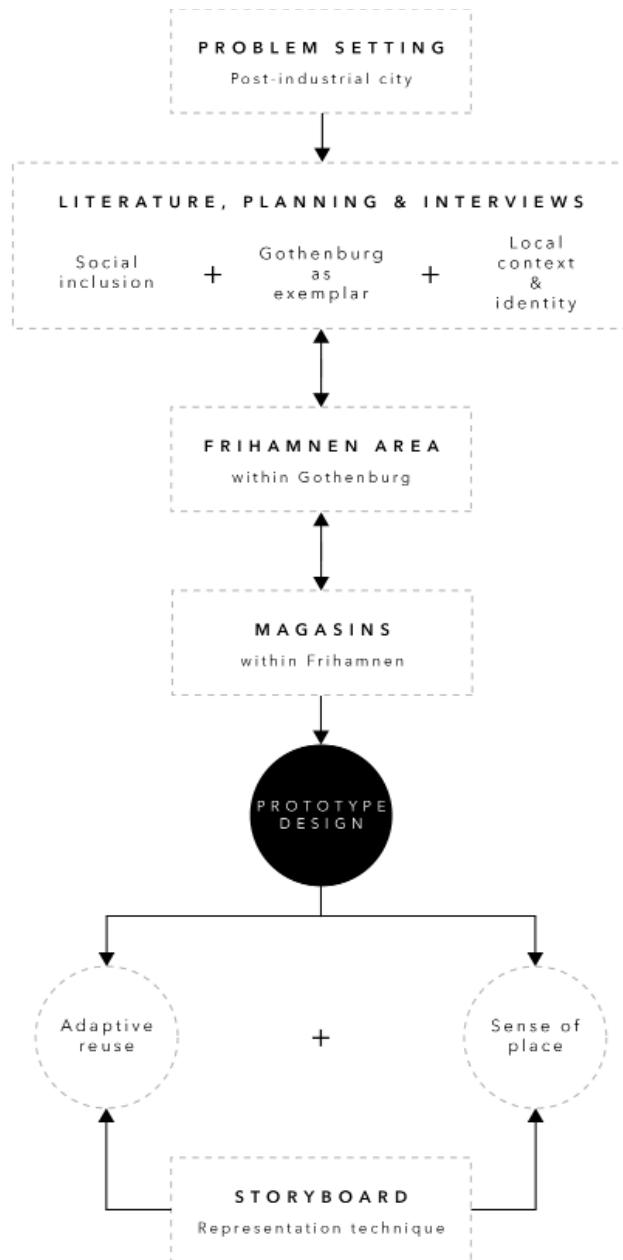


Fig. 5.1: Development structure of design process



Im. 5.1: Colours of Frihamnen, 2018.

I. Design criteria & objectives

5.

DESIGN CRITERIA

The design project of the Warehouses is based on the remarkable themes identified on Chapter 3, due to the qualitative analysis

of interviews, strategic planning and travelling transect.

The remarkable themes can be seen in Fig.1.

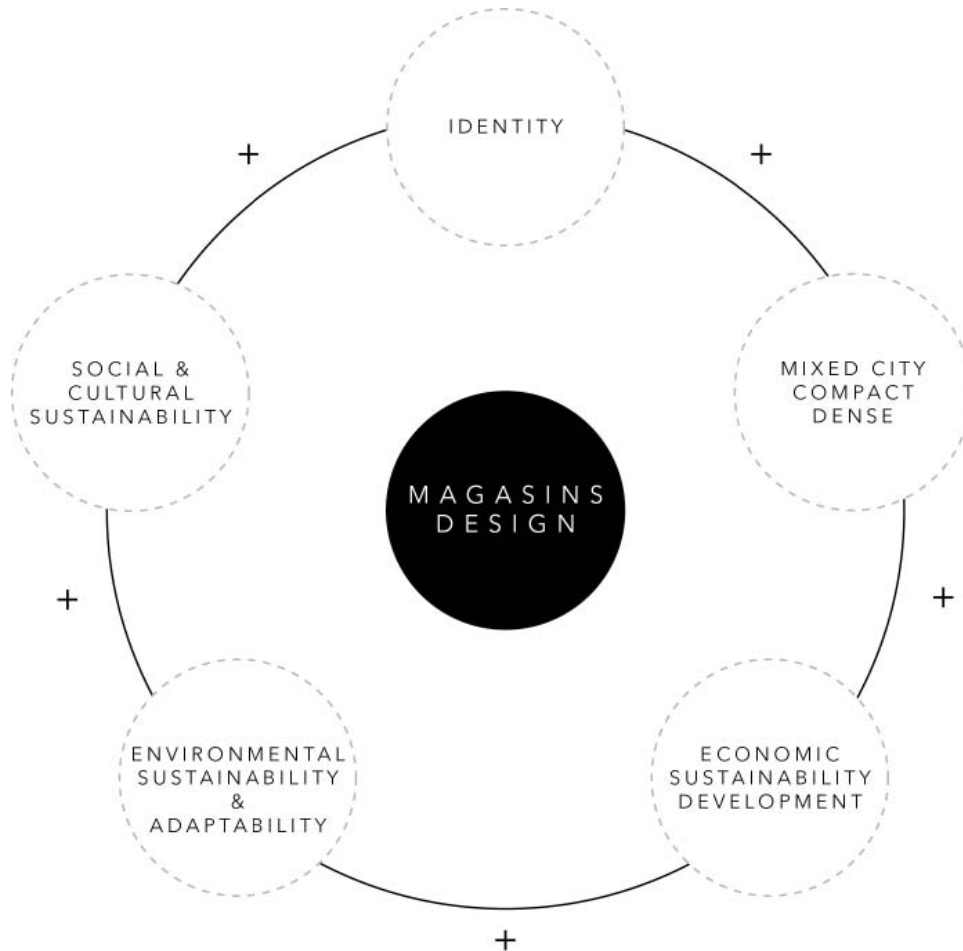


Fig. 5.l.1: Design criteria of the design

OBJECTIVES OF THE DESIGN

IDENTITY

- To offer new **uses** that reflect a strong relationship with the regeneration plan of Frihamnen, the building itself and the **history** of the place.

- To design an adaptive reuse project that will rise the **sense of place**, adding a new meaning to the maritime **heritage** of Frihamnen.

“The river and the water add personality to the area. Shipping and port activities give the area a distinct character and at the same time reflect the rich history of the city”. (RiverCity Gothenburg Project Group, 2012).

MIXED CITY, COMPACT & DENSE

- To **densify** the territory by rising two floors the existing building.

- To create a compact building due to the **combination** of different uses.

“A compact city creates the conditions for a wide range of services, workplaces, culture and recreation. It provides a basis for good public transport and contributes to a city that is very much active for most of the day and night” (RiverCity Gothenburg Project Group, 2012).

ECONOMIC SUSTAINABILITY

- By establishing different uses it will be possible to **attract** different investors and enterprises in the building and its surroundings.

“Reinforce **diversity** by supporting the creation of a mixture of enterprises”
(RiverCity Gothenburg Project Group, 2012).

SOCIAL & CULTURAL SUSTAINABILITY

- By building a different range of housing a varied city life will be created.

- By combining different uses there will be a **socially mixed** population in the building.

- By establishing a mix of **meeting places** can be created an atmosphere for social interaction.

“RiverCity Gothenburg is inclusive. A meeting place for everyone, regardless of age and background”. (RiverCity Gothenburg Project Group, 2012).

ENVIRONMENTAL SUSTAINABILITY & ADAPTABILITY

- By **reusing** an old space and building upon it can be saved new soil and construction materials.

- By choosing **local** materials and sources can be reduced both the supply chain costs and the environmental costs.

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II. Current situation

5.

LOCATION WITHIN FRIHAMNEN

During the next years, it will be built the new bridge (Hisingbron) that will connect the island of Hisingen with the south part of Gothenburg . Thanks to the new Hisingbron, it will be easier to establish fluent communication between the north-west and the south-east part of the city.

Frihamnen is the Hisingen closest area to the city center which is why it has to be an attractive area to both sides of the city.

The Warehouses are spread over an area of 7.240 square meters within Frihamnen. As can be seen on the Im. 5.II.1, the are closed to the future location of the Jubilee Park and the pier.

Fig. 5.II.1: Map Frihamnen's current situation. It is remarkable the central position of the , near to the future park of Frihamnen (Jubileumsparken) and to the water.





Lundby Homogatan

Jubileumsparken

Halmar Brantingsgatan

RINGÖN

Norra Frihamnspiren

Hisingsbron

Göta Älv

GULLVERGSSVASS

FRIHAMNEN

LILLA BOMMEN
HARBOUR

Göta Älvbron

Södra Frihamnspiren

Göta Älv

STENPIREN

Façades Warehouse D

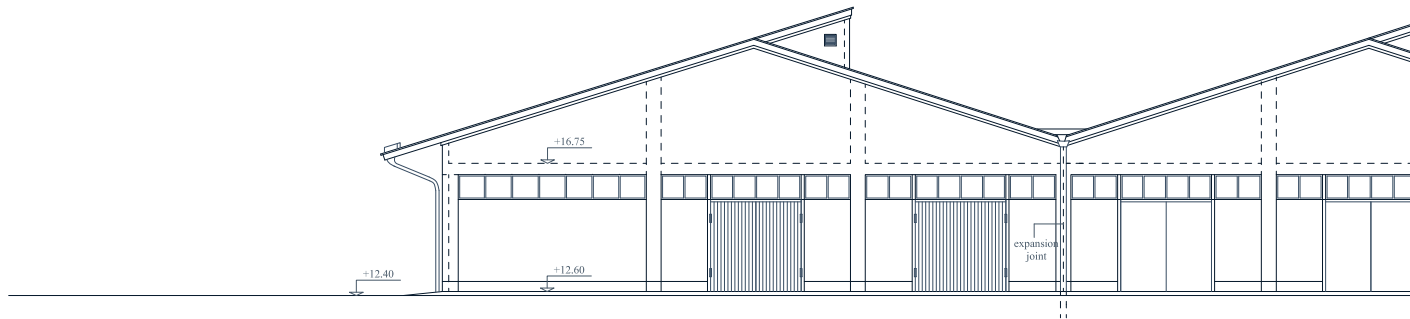


Fig. 5. II. 4: Warehouse D - South-East Façade

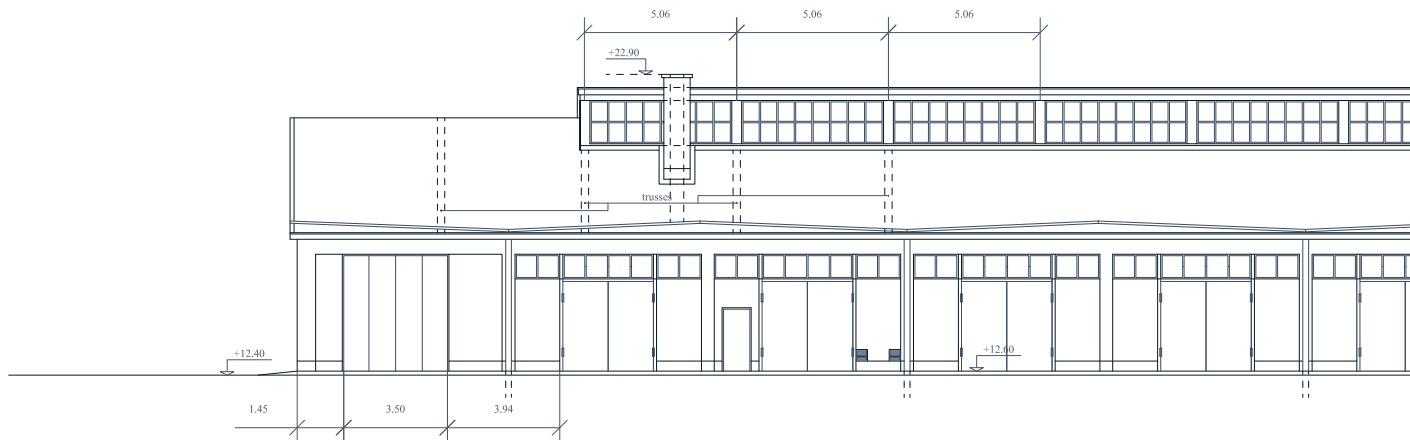
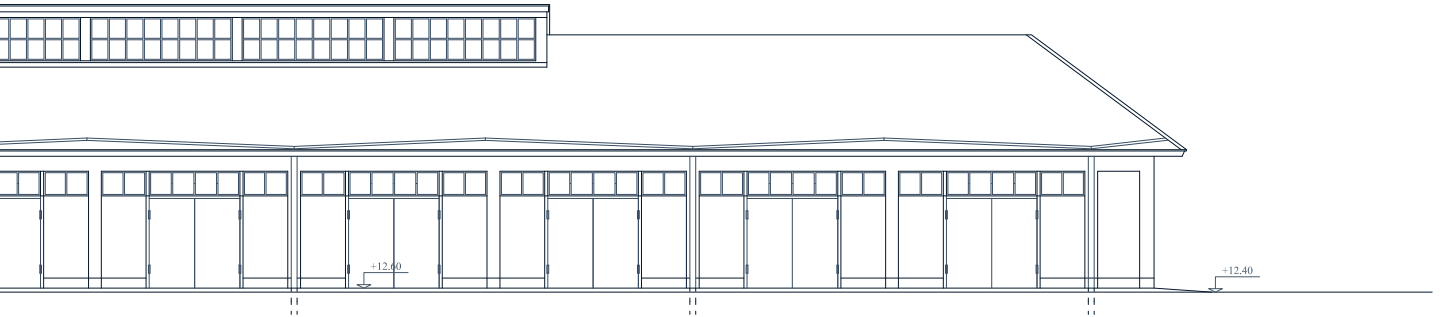
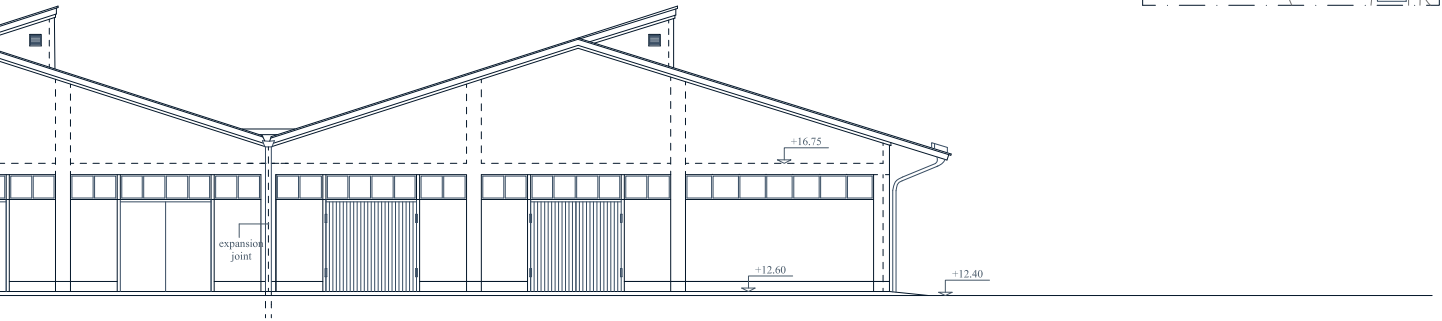
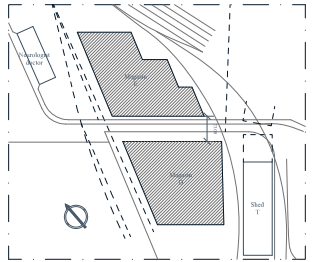


Fig. 5. II. 5: Warehouse D - North-East Façade



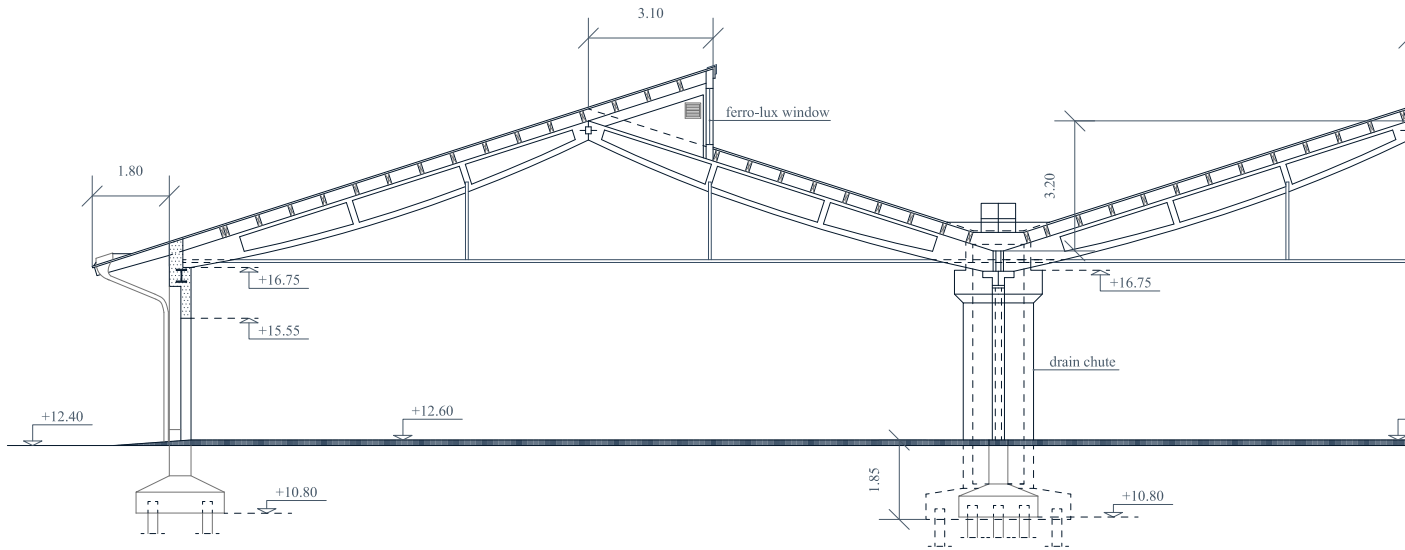
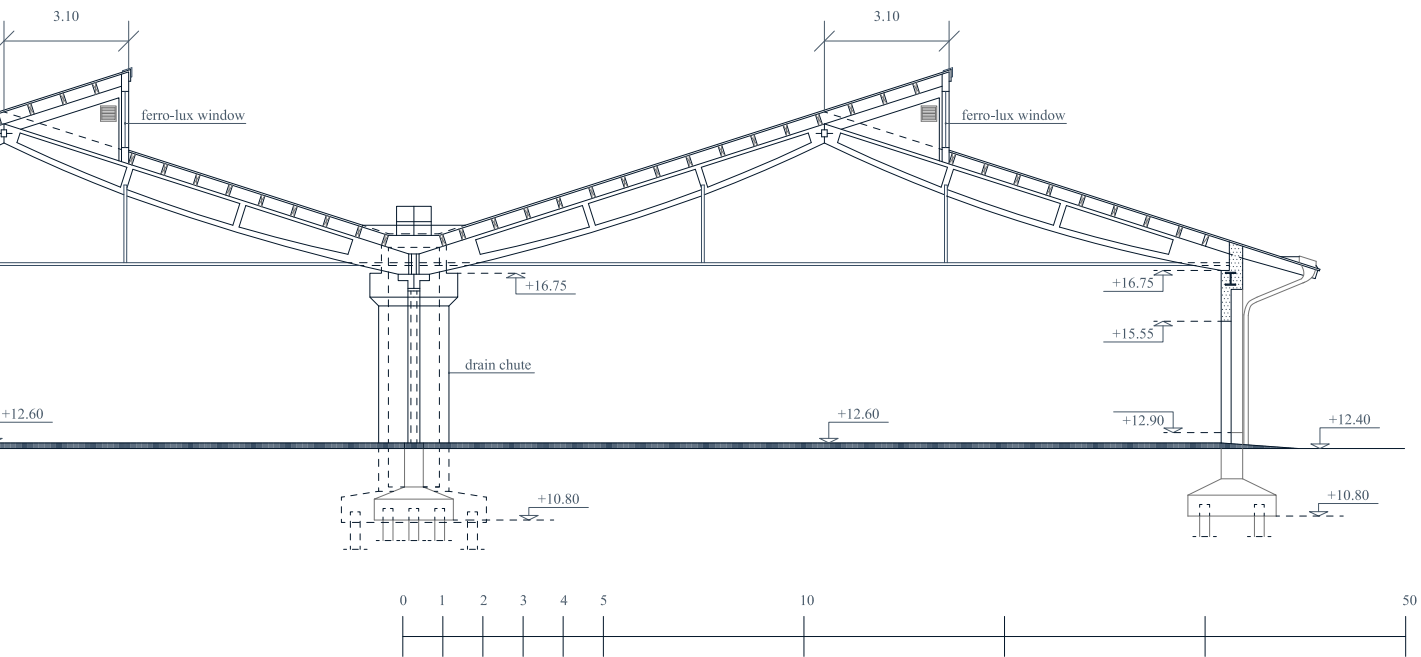


Fig. 5. II. 6: Warehouse D - Section SS'



Façades Warehouse E

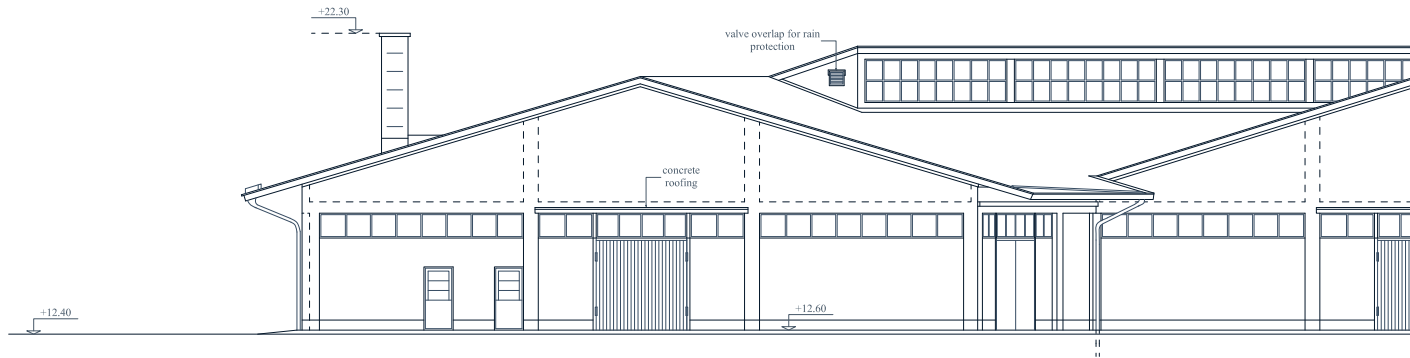


Fig. 5. II. 7: Warehouse E - South-East Façade

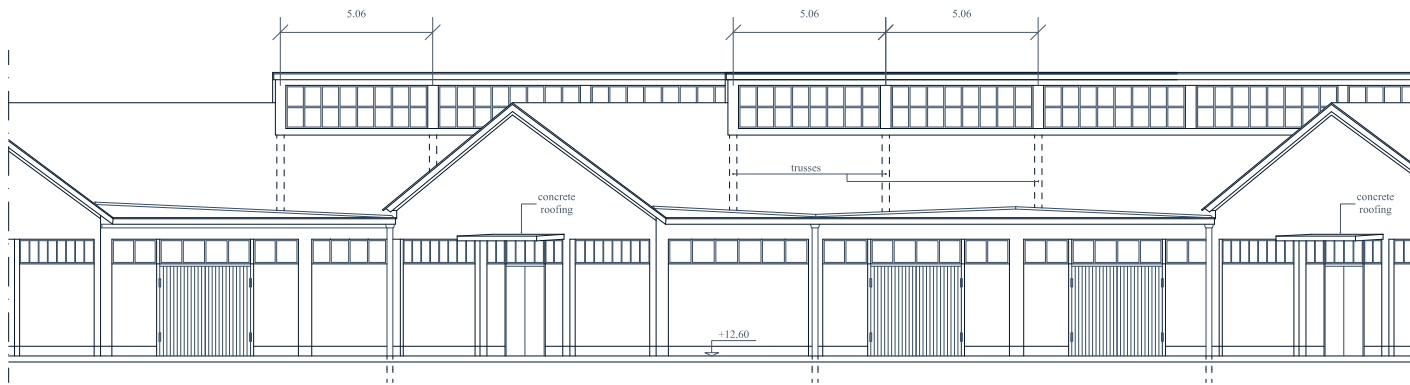
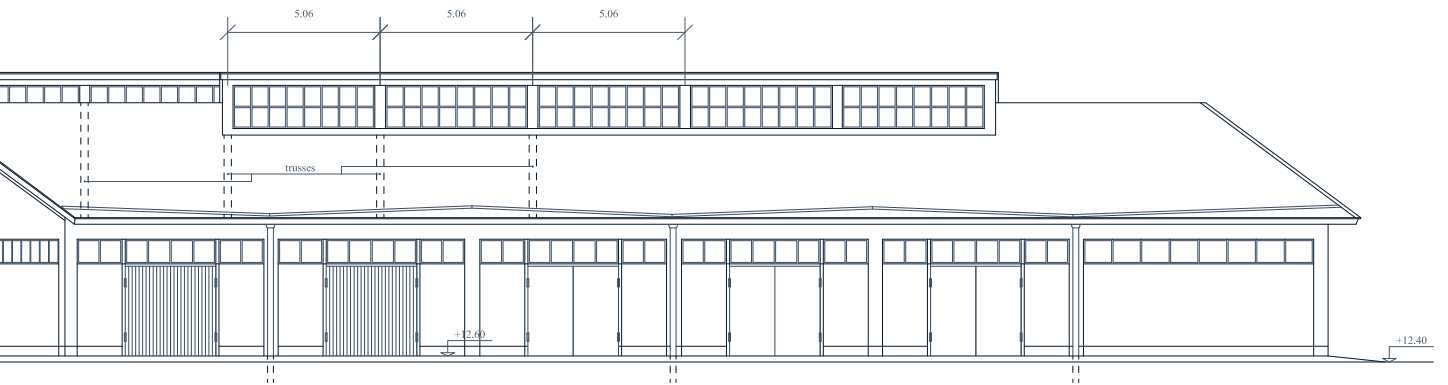
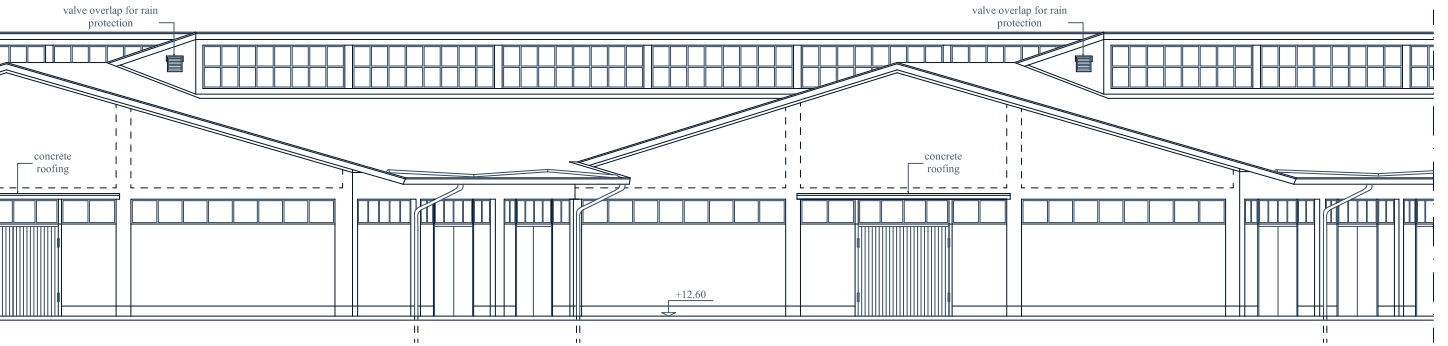
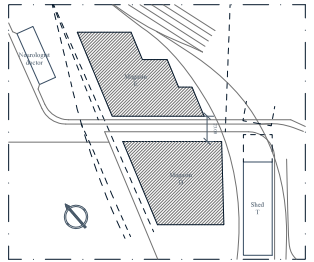


Fig. 5. II. 8: Warehouse E - North-East Façade





Im. 5.II.1: Warehouse D, 2018



Im. 5.II.2: Warehouse D, 2018



Im. 5.II.3: Warehouse E, 2018



Im. 5.II.4: Warehouse D, 2018



Im. 5.II.5: Warehouse E, 2018



Im. 5.II.6: Warehouse E, 2018

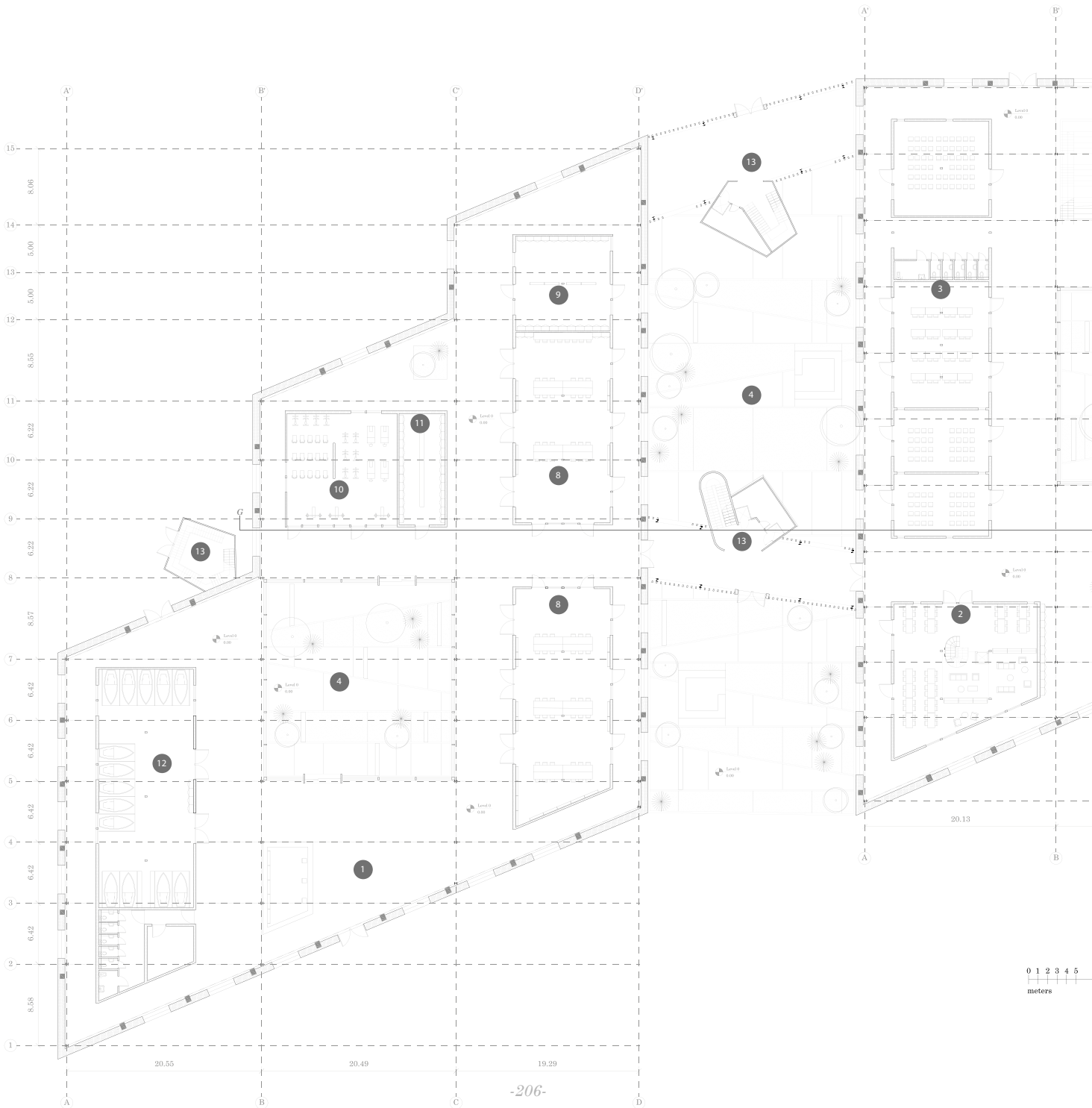
*III. Sailing school
& Carpentry Atelier
and
Affordable Housing*

5.



Fig. 5.III.1: 3d VIEW of the Warehouses located at Frihamnen's current situation.





SAILING SCHOOL & CARPENTRY ATELIER

The Sailing School and Carpentry Atelier is being located on the ground floor of the Warehouses and is being divided into two main areas; Warehouse D will be destined for classrooms, library, administration department, meeting area, kitchen and living room. Thus, Warehouse E will be divided into carpentry rooms, tools and wood storage, gym, locker rooms and dinghy storage.

Moreover, to adapt both Warehouses to their new function, it has been necessary to modify the existing structure by introducing new constructive elements that will define the school.

Firstly, there has been added to the existing walls layers of insulating material and new finishing materials to their vertical planes; the external plane has been covered with treated wood and the internal plane has been modified by adding a white plaster layer.

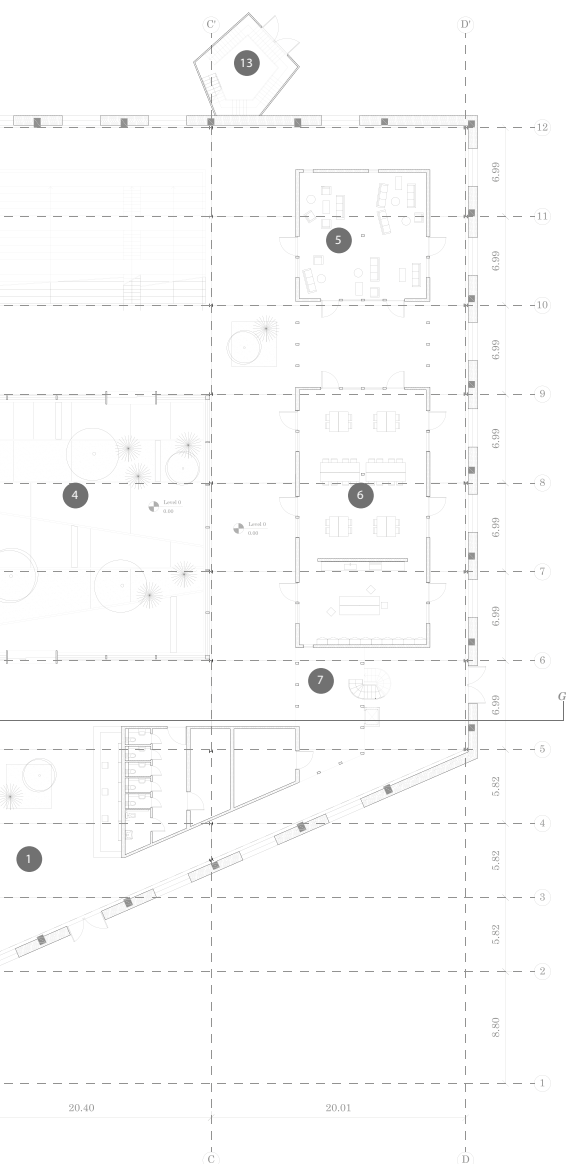
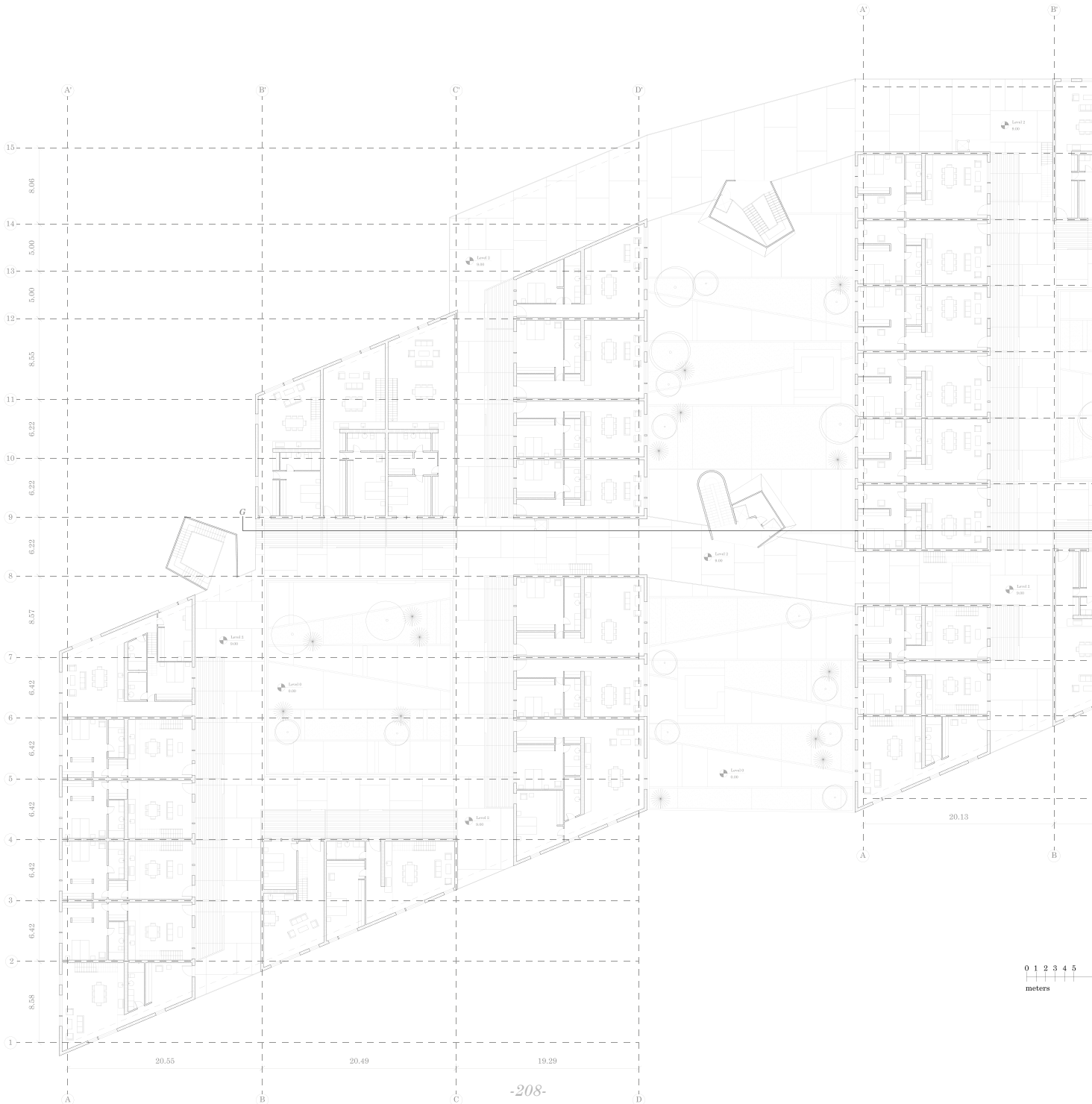


Fig. 5.III.2: GROUND FLOOR

LEGEND

- | | |
|---------------|---------------------------------|
| 1 Reception | 7 Access to administrative area |
| 2 Library | 8 Carpentry rooms |
| 3 Classrooms | 9 Storage |
| 4 Patio | 10 Gymnasium |
| 5 Living room | 11 Locker room |
| 6 Dining room | 12 Dinghy storage |
| | 13 Access to residential area |



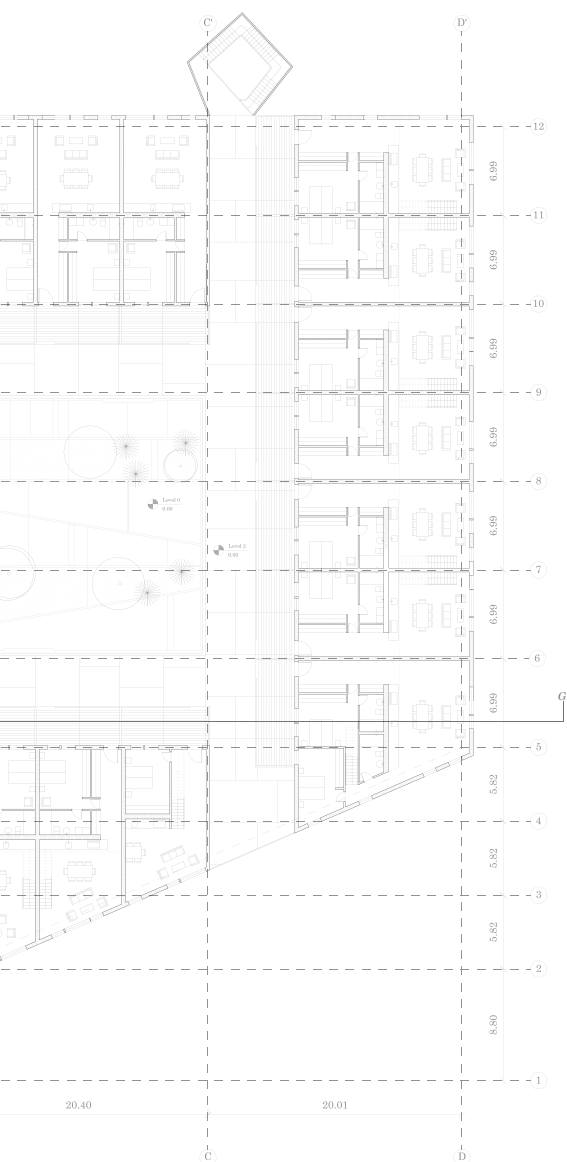


Fig. 5.III.3: FIRST FLOOR

Secondly, to have natural light in the school and to have a visual connection between indoor and outdoor spaces, the old doors of the Warehouse have been substituted with fixed windows and glass doors entrances.

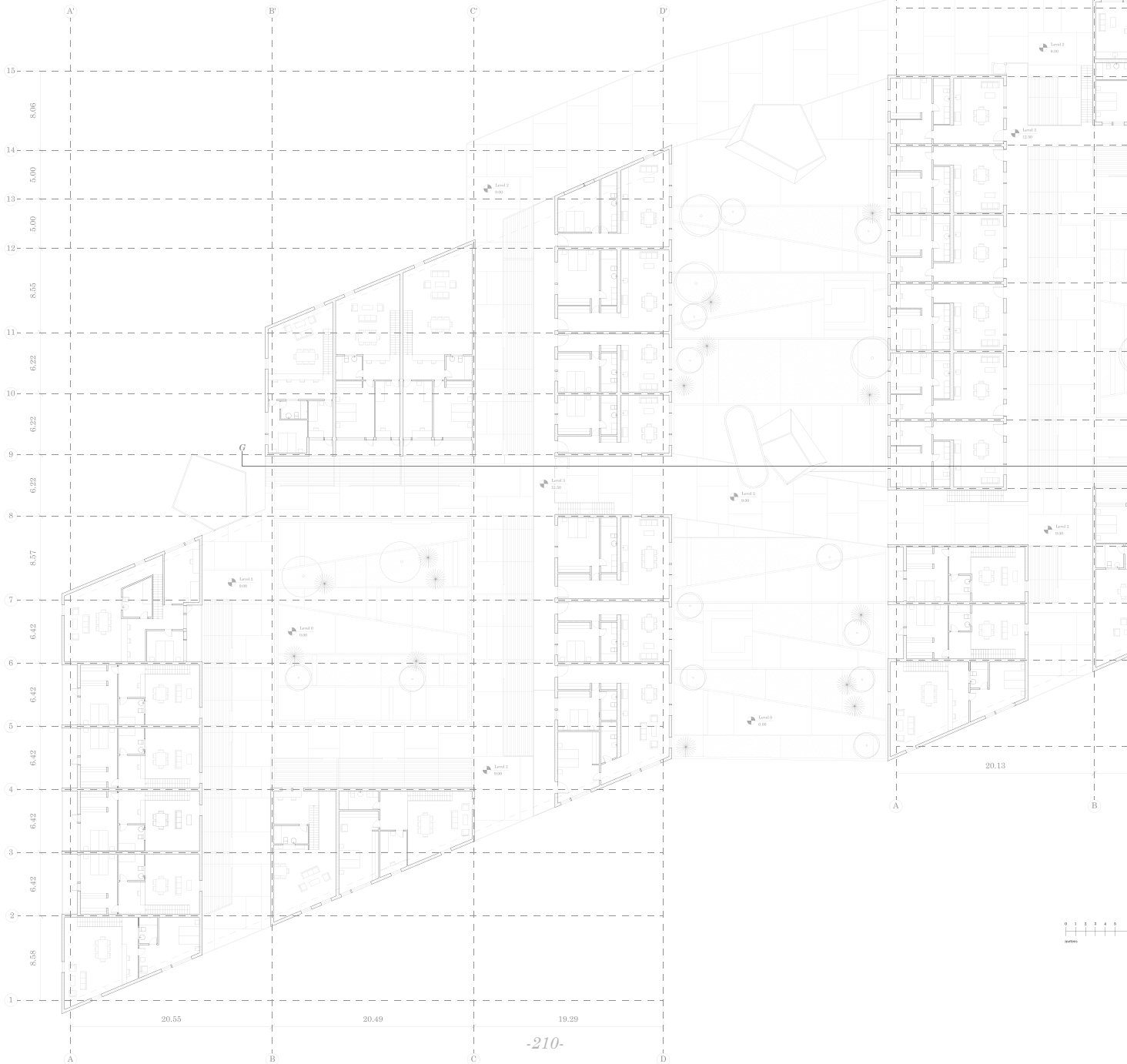
Thirdly, to support the upon floors of the affordable housing, a new steam structure composed of pillars and reticular beams has been located within the Warehouse. Due to that constructive choice, the indoor space of both buildings is covered with a unique ceiling that let the users understand the whole space as one.

Finally, due to a patio in the middle of the two buildings, each Warehouse will delight of a private outdoor area.

AFFORDABLE HOUSING

The affordable housing is being located in the two upper floors of the Warehouses. There are different sizes of apartments and outdoor spaces to share and be in community.

The affordable housing is being built with XLAM structural walls and roofs. The external part of the walls and the roofs are covered with white metal sheets, that contrast with the ground floor façade covered with black wood.



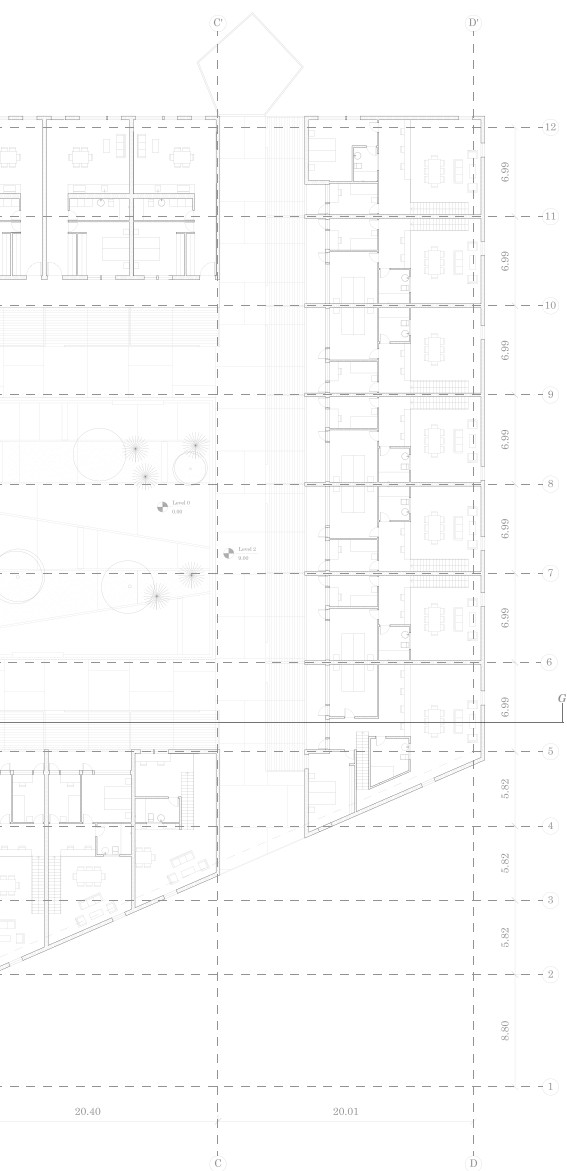


Fig. 5.III.4: SECOND FLOOR

APARTMENT A (60-110 sqm)

- 1 bedroom
- 1 bathroom
- 1 open space with kitchen
- 1 studio space

number of apartments = **33**

APARTMENT B (120 sqm)

- 2 bedrooms
- 2 bathrooms
- 1 open space with kitchen
- 1 studio space

number of apartments = **9**

APARTMENT C (170 sqm)

- 3 bedrooms
- 2 bathrooms
- 1 open space with kitchen
- 1 studio space

number of apartments = **12**

APARTMENT D (200 sqm)

- 4 bedrooms
- 3 bathrooms
- 1 open space with kitchen
- 1 studio space

number of apartments = **2**

Number of apartments = 56



Fig. 5.III.5: WEST-SOUTH FAÇADE



Fig. 5.III.6: NORTH-EAST FAÇADE



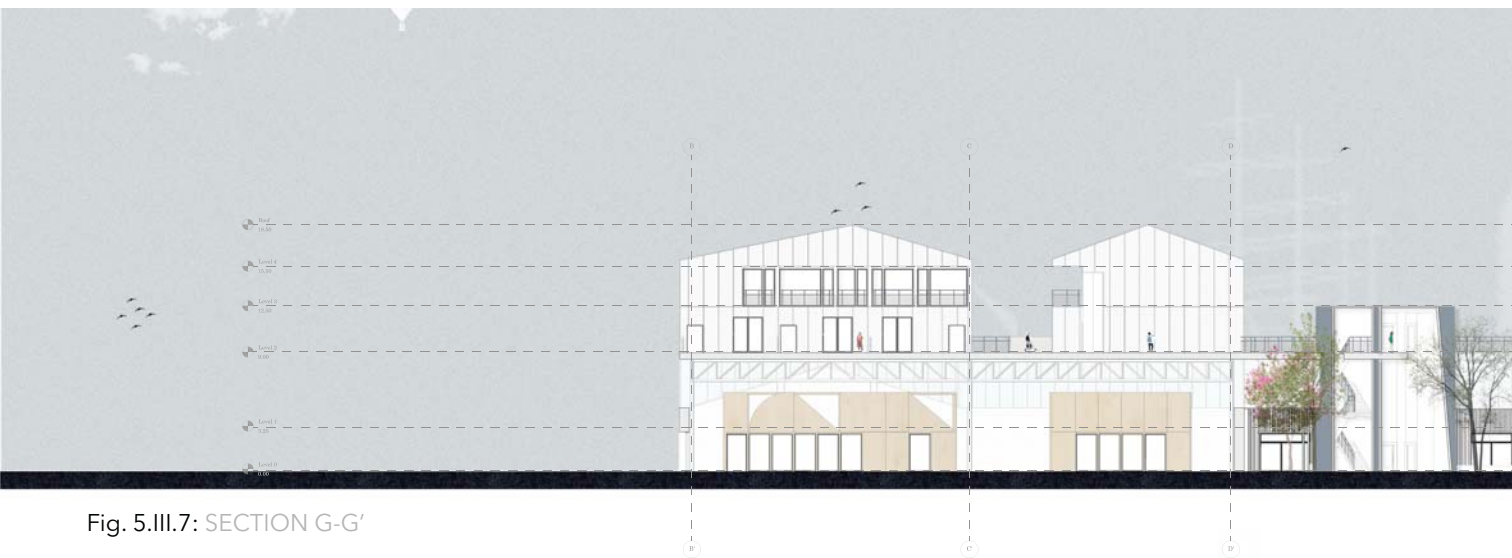


Fig. 5.III.7: SECTION G-G'



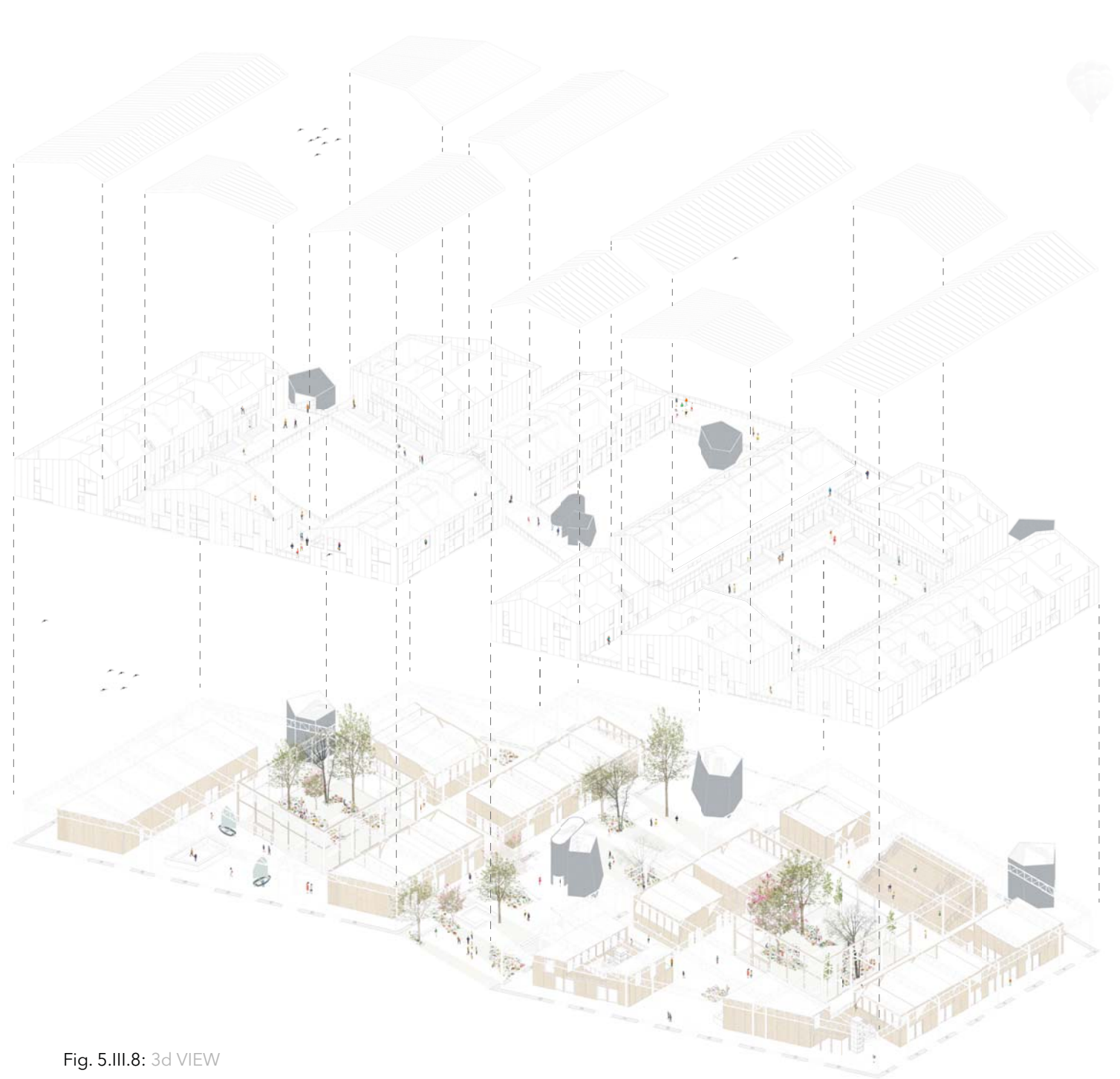


Fig. 5.III.8: 3d VIEW

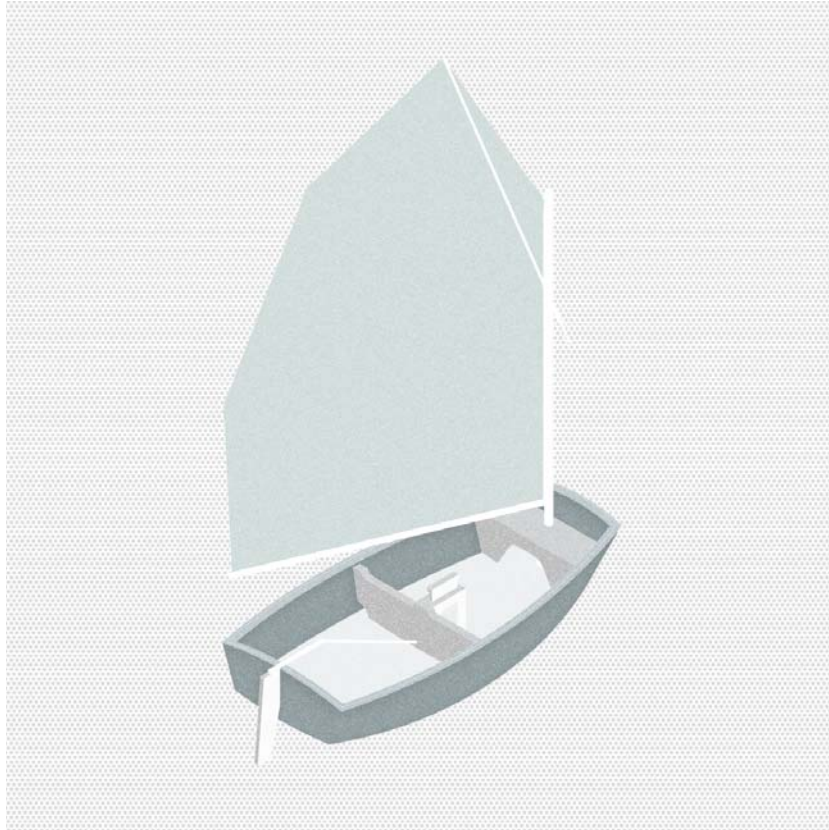


Fig. 5.III.9: Dinghy Optimistic

IV. Storyboard

5.

NARRATIVE THINKING

In this chapter, it has been used a Storyboard method as a representation technique to perceive the project through a social dimension and cinematic vision, in which a character narrates the space and the feelings that it produces. To contextualized the character in the building, it has been done the plan floor and two 3d views of the apartment where he would live (Fig. 5.IV.1, Fig. 5.IV.2. and Fig. 5.IV.3). It has been chosen as one of the standard size apartment according to the needs of the character.

The storyboard can be applied to engage the audience and encourage a critical, empathic and democratic attitude (Gerards, S and De Bleeckere,S, 2014). It also might be reflexive and performative -in real time or retrospectively (Spiller, 2014,p.84). This technique tells a story through a series of pictures (Glebas, 2009,p.6).

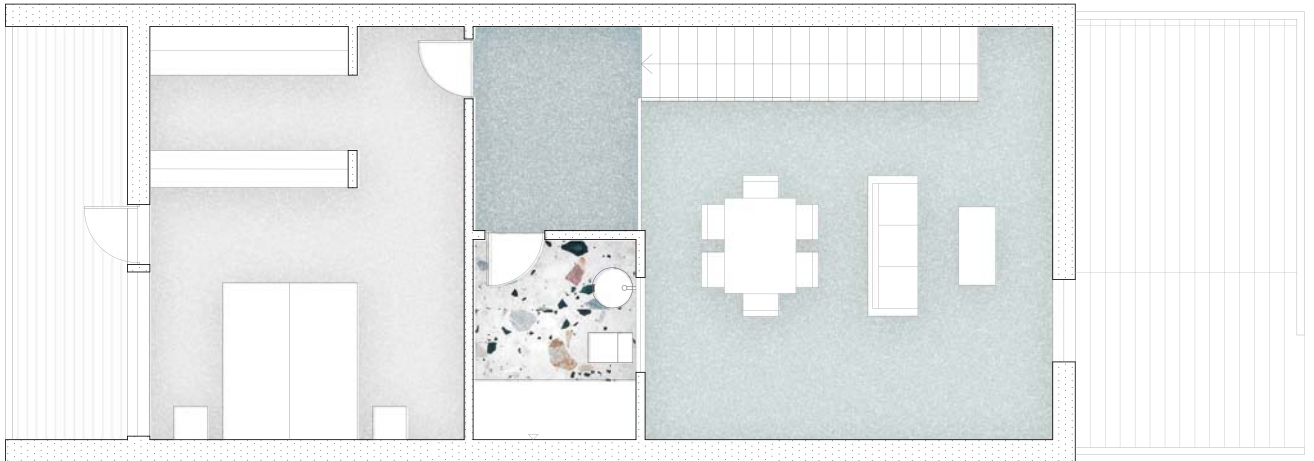
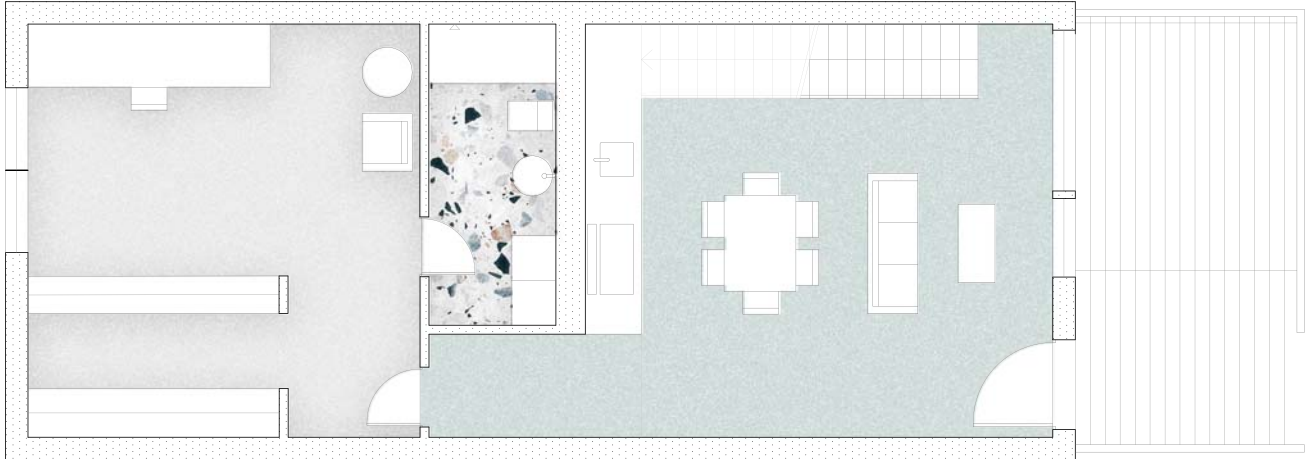


Fig. 5.IV.1: Plan Floor Apartment A (100sqm)

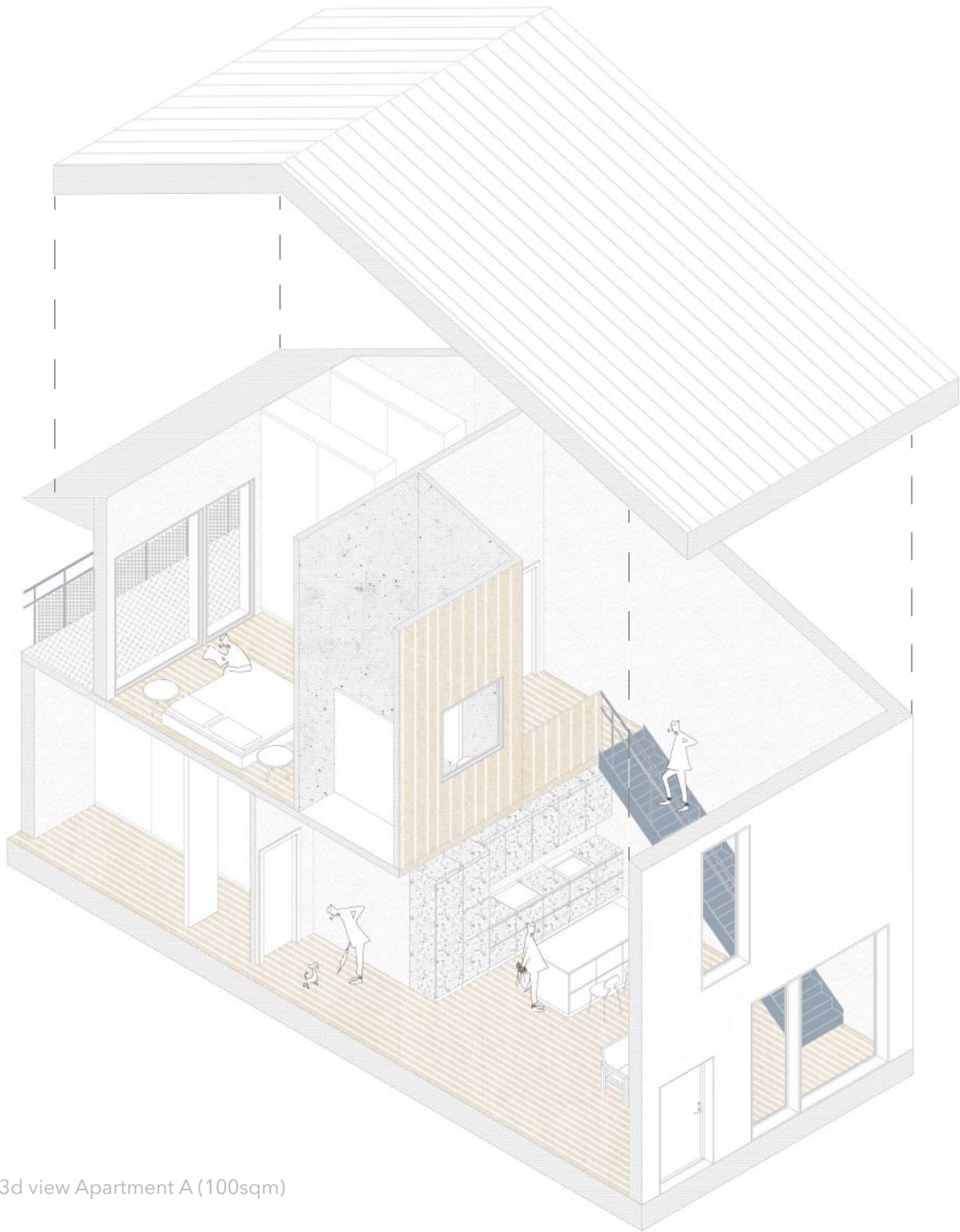


Fig. 5.IV.2: 3d view Apartment A (100sqm)

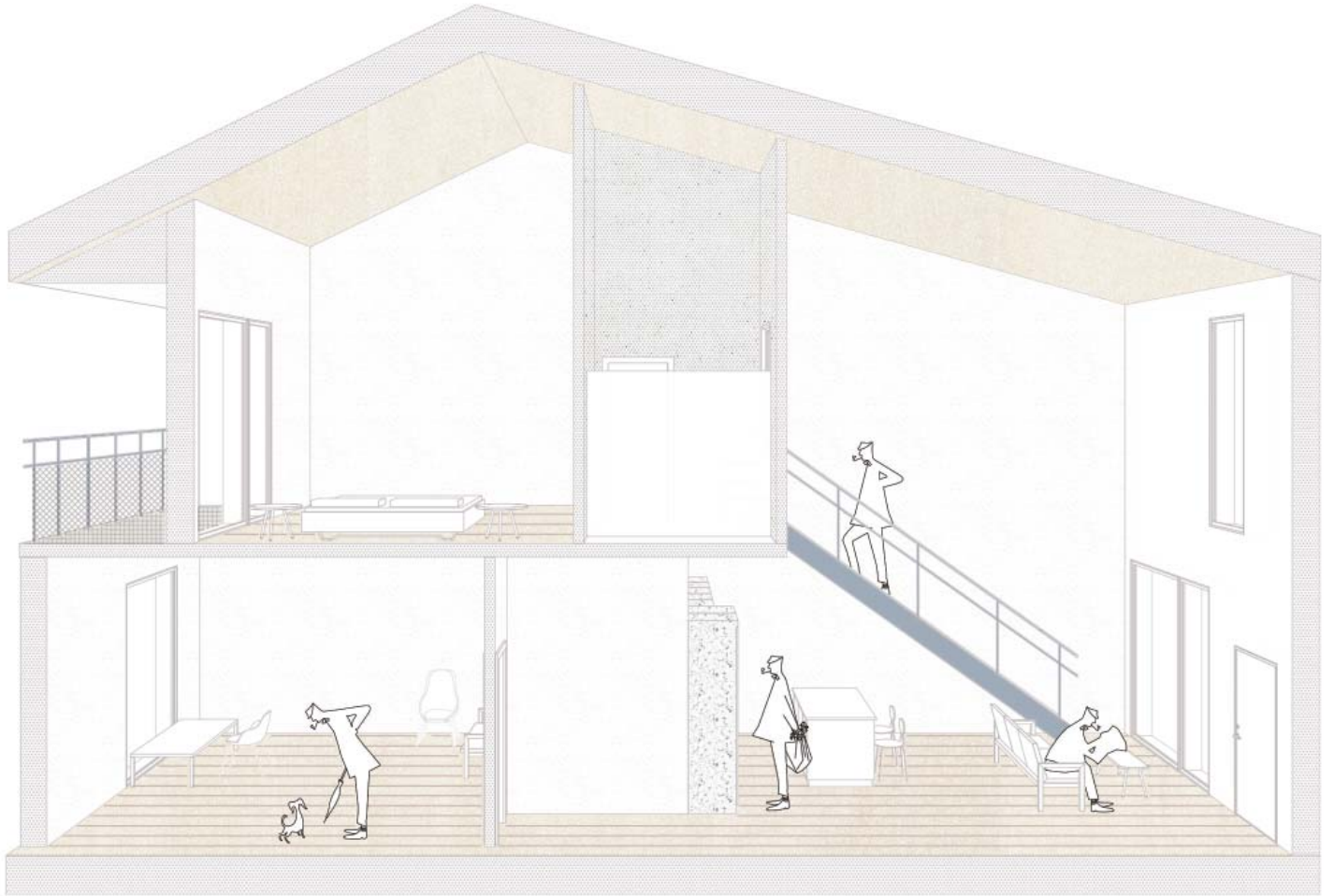


Fig. 5.IV.3: Section Apartment A

This little story takes place takes place in the building where I live and where I work, in this way readers can understand the space in which I live. I am a teacher in the sailing school of the old warehouses in Frihamnen, Gothenburg, and I live with my dog in one of the apartments on the upper floors.

Today is Wednesday and as every Wednesday, I get up in the morning on the second floor of my apartment. After entering the bathroom that is next to my bedroom, I go downstairs and have breakfast in the dining room. Today is a sunny day and the whole space is illuminated thanks to the light that enters through the windows of the façade. My dog waits for breakfast near the kitchen...

- SCENE A -



After leaving home, I like to observe how the trees in the schoolyard are shaken by the wind that comes from the river. From this position, I can appreciate the volumes of the apartments of my neighbors and through the big windows of the patio, I also see the reticular structure that supports them...

- SCENE B -



I have gone downstairs that take me to the ground floor and I have entered into the School. Before starting to teach, I usually sit on the podium between the classrooms and the dining room, while my dog walks among the small gardens. From this higher position, it is easy to understand how the spaces are distributed between the large corridors that look like streets ...

- SCENE C -



My favorite moment of the day is after lunch, I usually pick up a chair and sit between the wooden volumes to read. The metal pillars and the cement floor give an industrial aesthetic to the school. However, the pinewood of the internal spaces offers welcoming spaces...

- SCENE D -



After work, my dog and I like to go for a walk along the river. From the patios on the ground floor, we can see how the blue volumes of the stairs and lifts stand out between the two warehouses, and how they contrast between the apartments white facades and the dark wood of the Sailing School...

- SCENE E -



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Conclusion

6.



Im. 5.2: Magasin 113, 2018.

"We live in a time in which the human condition suffers deep shocks. Modern man is on the way to losing the knowledge of values and the meaning of relationships. This ignorance of the essential realities is extremely serious because it leads us infallibly to the transgression of the fundamental laws of human equilibrium".

Igor Stravinski

One of the essential realities that are being lost and to which we could associate these words of the Russian musician is the concept of cultural identity. Nowadays, society is moving away from the sense of reality through a process of uprooting based on the impossibility of locating itself, of assuming its interiority as an identity (Solà Morales, 1995) or as Juhanni Pallasmaa would say, the inability to unite the self with the world. This process of dis-belonging threatens the foundations of the human and social equilibrium as a group of individuals that interact, and vanishes in the contemporary individuality.

The creative process in architecture is a chain of discoveries and unknowns, where the first link investigates the identity of the place. This identity represents the continuity of culture and life that this place has accumulated for generations. Like the loose fragments of rocks and minerals that form the sedimented sand on the seabed, the identity of the place includes thousands of aesthetic and social characteristics deposited over time, which the architectural project must embrace, giving the inherited landscape new qualities and meanings.

The concept of identity is linked to tradition, understood as the continuity of culture through the new projects of each generation, a process that gives rise to the sense of belonging to a society. A

conscious project of the local culture and its characteristics reinforces the sense of the real and contributes to the coordination of landscapes in the city.

After having analysed the history of the city and its port (Chapter 4.I), the main objectives of the Frihamnen's urban regeneration (Chapter 3.I, Chapter 3.II) and the assembling of new neighborhoods that are located along the coastline of the river Älv (Chapter 3.III), it has been possible to create a critical framework of context on which to set objectives and criteria complementary to those already proposed by the authorities of Gothenburg. These criteria were drawn before the design phase, and they have given shape and function to the adaptive reuse project of Warehouses.

Therefore, the main goal of this thesis has been to propose a concept of urban regeneration that responds to the social and ecological problems of the city of Gothenburg, paying special attention to the identity of the place.

Thanks to its new function and aesthetic, the industrial heritage receives a new life and will not remain as a symbol of the past to which the context no longer corresponds, but it will be able to reintegrate itself into the future urban morphology that will surround it. The Warehouses project proposes in a single architectural solution two different

functions; and by joining them, they would achieve the revitalization and densification of the territory.

The Warehouses will be a prototype in which new spaces of interaction between different users will be established, to combine the identity of the place and the need to propose more affordable housing in the city of Gothenburg, thus recovering historical uses of Frihamnen and combining them with the social needs of the present. This new life of the Warehouses, would achieve a historical continuity within Frihamnen, reinforcing the sense of belonging and putting a focus on cultural and social sustainability.

To conclude, it could be said that through sustainable and creative urban regeneration strategies it will be possible to give new life to spaces abandoned by the industry, giving uses that are generated by and for social interaction.

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“The ancients built Valdrada on the shores of a lake, with houses all verandas one above the other, and high streets whose railed parapets look out over the water. Thus the traveler, arriving, sees two cities; one erect above the lake, and the other reflected, upside down. Nothing exists or happens in the one Valdrada that the other Valdrada does not repeat, because the city was so constructed that its every point would be reflected in its mirror, and the Valdrada down in the water contains not only all the flutings and juttings of the façades that rise above the lake, but also the rooms’ interiors with ceilings and floors, the perspective of the halls, the mirrors of the wardrobes.

Valdrada’s inhabitants know that each of their actions is, at once, that action and its mirror-image, which possesses the special dignity of images, and this awareness prevents them from succumbing for a single moment to chance and forgetfulness. Even when lovers twist their naked bodies, skin against skin, seeking the position that will give one the most pleasure in the other, even when murderers plunge the knife into the black veins of the neck and more clotted blood pours out the more they press the blade that slips between the tendons, it is not so much their copulating or murdering that matters as the copulating or murdering of the images, limpid and cold in the mirror.

At times the mirror increases a thing's value, at times denies it. Not everything that seems valuable above the mirror maintains its force when mirrored. The twin cities are not equal, because nothing that exists or happens in Valdrada is symmetrical: every face and gesture is answered, from the mirror, by a face and gesture inverted, point by point. The two Valdradas live for each other, their eyes interlocked, but there is no love between them."

Valdrada city, from "Invisible Cities" by Italo Calvino; is the first of "cities and eyes".

Translation by Daniele Perrone

