

LAYERS

ALTERATION OF VAGNSVERKSTADEN
FROM INDUSTRIAL HALL TO HOTEL

MASTER'S THESIS AT CHALMERS ARCHITECTURE
ARCHITECTURE AND URBAN DESIGN
KLARA JUTÉUS • 4 JUNE 2015

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LAYERS
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FROM INDUSTRIAL HALL TO HOTEL
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ABSTRACT

The main part of this thesis is a design proposal for a hotel, situated in an old industrial building in Varvsstaden, Malmö. However, the design is based on research on alteration and completed by a critical analysis of the development plans for the site.

Varvsstaden is the new name for the former Kockums shipyard, an industrial site that is being transformed from private property to public district. The area has a rich culture-historical heritage and most of the buildings have been classified but only some will be preserved. Therefore, the whole structure will change drastically, obstructing the readability of the area's history. Is there a way to avoid this tabula rasa and encourage a more successive change?

To keep more of the old, it must become useful again. The approach chosen to transform the existing building in this project is alteration. It is a term that refers to interventional work aiming to change an existing building into something new, not into something it used to be. The goal is to use the qualities of the host building and add new elements as a second layer. That way, the intended and the existing creates a unity without being merged.

Vagnsverkstaden, a vast and low machine hall, represents a challenging typology. Its deep structure is not immediately suitable for one of the functions highest in demand – habitation. Housing and hotels need a more shallow and small-scale structure with enough daylight and external connections. To achieve that, I have been working with apertures in walls and ceiling – windows, atria and clerestory windows. These new elements both provide daylight and help furnish the vast space. The result of this thesis shows that other buildings of the same typology could be altered to host completely new functions, including habitation.

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INTRODUCTION

BACKGROUND

Many towns have industrial sites that take up precious space, rather often in the city centre. As the industries are being phased out or relocated from central to peripheral locations, the question of how to use the industrial premises arises. Problems such as polluted land, buildings in bad condition and vast, cut off areas can make the transformation difficult. On the other hand, the central locations and rich culture-historical values offer rare possibilities. In the strive for sustainable development of urban areas, the re-use of existing buildings is one of many important factors for success.

PURPOSE

The former shipyard Kockums in Malmö, now called Varvsstaden, is the case study of this thesis. It serves as an example of many similar sites, both in Sweden and abroad. The purpose of this thesis is to show how Varvsstaden can be transformed from private to public and from past to present. To show the potential of the site, in particular the remaining old buildings, I also suggest an alteration of a building called Vagnsverkstaden. The theme alteration is important in this case, as it refers to interventional work to a building. It should be understood differently than both restoration and renovation, which are more concerned with questions of authenticity and less forward-looking. The qualities and characteristics of the host building are nevertheless important and the goal of the alteration is to combine the old and the new so that they set off each other.

QUESTIONS

One important theme in this thesis is that of balance between old and new. Some questions to guide the work are:

- Which are the qualities and characteristics of the building and the site?
- What do I need to add to support the new function?
- How do I differentiate the new from the old?
- Which strategies would encourage a successive, thoughtful change of the area?

METHOD

I have been using the initial research on alteration as a foundation for more explorative work in the design phase. Five approaches to work on existing buildings are exemplified by five reference projects that help describe each one of them in a tangible way. I aimed at placing my work in the *collage* category, since I think it corresponds best to the strive mentioned before of creating a balance between old and new.

READING INSTRUCTIONS

The format of the report is portrait A4, with a few inserts in landscape A3. Please consider this if printing. When reading the document digitally, two page view with cover page is advised for best readability.

ALTERATION A BALANCING ACT

WHY ALTERATION

Alteration is a way to work with existing buildings and structures, changing them in different ways and for different reasons. The current interest in alteration in the architectural discourse is due to the fact that the architectural practice is increasingly occupied with projects that relate to the existing. Some buildings, monuments, are preserved as exemplars from the past, usually without function. But most buildings that become obsolete face the question: replace or alter? which means they must be adjusted in some way to retain their right to exist. The reasons to save buildings are multiple: sustainability, historical or contextual readability, economical, practical... The reasons they need to be altered are equally numerous: to accommodate new uses, to improve accessibility or thermal qualities, to replace obsolete elements or systems, to adapt to new regulations...

In his book *On Altering Architecture*, Fred Scott distinguishes alteration from restoration as aiming to re-occupy rather than to empty buildings. "Restoration aims to complete a building, while alteration is progressive and more like a rehearsal for a completed building."¹ Other contemporary theorists agree that there is an important difference between alteration and similar terms such as conservation, preservation, reuse, renovation and transformation. For Tim Anstey and Catharina Gabrielsson, as written in the introduction to an issue of *Nordic Journal of Architecture* on Alteration, alteration is not as prescriptive as preservation or conservation. "And just as alteration escapes the limit of form implied in transformation, it escapes the limit of use implied in reuse, of newness implied in renovation... In all these avoidances, alteration avoids being restricted by deep structures in architectural discourse that finally pertain to definitions of the architectural work and to authorship."² What they say is not that alteration opposes these latter terms but that it includes all of them. However, the words conservation and restoration are used slightly differently and I define them as follows: conservation is to keep something in its current state, restoration is to reconstruct something in a former state and alteration is to change something into a new or future state.

WHAT THEY SAY

The current discourse on alteration, conservation and restoration is still influenced by two architects of the nineteenth century: John Ruskin and Eugène-Emmanuel Viollet-le-Duc. Thordis Arrhenius writes in *The Fragile Monument*, that usually Ruskin gets to represent a more antiquarian approach to the monument, where all its history must be included in its preservation, while Viollet-le-Duc stands for the rational school that wants to achieve a unity of style through reconstruction.³ At the core of the debate is the question of authenticity: "restoration threatened the authenticity of the monument on the one hand; on the other, the absence of restoration threatened its very being".⁴ Scott means there is no way to achieve authenticity, or at least that we must abandon the search for an original condition: "As the original condition of the building is lost

1 Scott, 2008, p. 175-176

2 Anstey, 2012, p. 9

3 Arrhenius, 2012, p. 50

4 Arrhenius, 2012, p. 48

from the moment of its inception, works of restoration are imaginative, or a matter of judgement if a more sober description is required".⁵

For Charles Bloszies, author of the book *Old Buildings, New Designs*, the repurposing of old buildings is an important part of the sustainability movement. He also thinks that a mix of new and old architecture leads to a desirable diversity. "Without change, cities will stagnate, but with too much change, urban character will be lost. The best balance leads to cultural diversity—one major reason people live in cities."⁶ I would say this balance is the essence of alteration. It is not about keeping buildings as monuments of the past but about letting them live in a new age. That way, both individual buildings and the city as a whole may contain historical layers that represent their development. But what kind of changes are accepted? Bloszies calls attention to a situation where the strong feelings about preservation make projects that include new visible elements controversial, this in its turn leading to many poorly designed compromises.⁷

HOW TO DO IT

To Scott, the first step of alteration is to get to know the building. "No work of restoration should be attempted without knowing all that there is to know of the host building, materially, spatially, historically, archaeologically, anecdotally. Even then any such restorative work will be arbitrary, that is needing judgement and imagination as well as learning to be carried through. All investigative and analytical work will only take you to this threshold where decisions are needed."⁸ One such decision is what attitude to assume towards the original style. For Bloszies, a successful alteration design needs a recognizable degree of contrast between new and old. "It need not be extreme—differentiation is the key."⁹ Scott and Bloszies both bring forward the fact that current and recent architectural styles have been short-lived compared to the classical ones. "The pace at which these architectural styles changed historically parallels the rate of civilization's evolution in general. [...] Today, style designations have little meaning, current works do not fit into an easily recognizable stylistic pattern, and contemporary architectural design attitudes are anything but static."¹⁰ They also agree that a contemporary style is hard to distinguish and Scott questions an established idea: "if every intervention needs to be in a contemporary style, as suggested by William Morris. [...] The admonition relies on there being a single contemporaneous style, established beyond counter, and it falters in the absence of such a condition."¹¹

Bloszies uses examples he finds successful to illustrate how alteration should be done while Scott writes more about the execution of it. As mentioned before, the first step is to get to know the building. That can be done by "stripping back", removing degraded parts and actually break the building down to a ruin. This is a way to analyse the building. "The ruin allows privileged views from previously inaccessible viewpoints, and from these it offers a fresh explanation of itself. A building in this respect may show itself in a way only previously available as drawings, or other depictions, sometimes

5 Scott, 2008, p. 167

6 Bloszies, 2011, p. 34

7 Bloszies, 2011, p. 25

8 Scott, 2008, p. 123

9 Bloszies, 2011, p. 12

10 Bloszies, 2011, p. 40-41

11 Scott, 2008, p. 168-169

making evident the plan and section within the structure.”¹² The second step is “making good”, taking care of the parts that were broken. How should that be done without destroying the original fabric of the structure? To stabilize a fragmented structure, an armature is a support that is commonly used in art as well as in architecture. It helps maintain spatial relationships in an honest manner, by indicating that something is missing. It should make no claims beyond its clear purposes, it should be without style. Even Ruskin accepted the prop or crutch as a legitimate means of conserving a structure. “Take proper care of your monuments, and you will not need to restore them. [...] [B]ind it together with iron where it loosens; stay it with timber where it declines; do not care about the unsightliness of the aid; better a crutch than a lost limb.”¹³

When it comes to the alteration design, Scott compares it to the composition of a collage. The goal is to make disparate elements, the intended and the existing, work together while maintaining their own identity. He does not believe that alteration is a means for enlarging a building but should be contained roughly within the volume of the host building. However, the roof has been the site of more extreme interventions, and Scott admits that such work may have interesting consequences. “So at the outset, let it be said that caution should accompany any enthusiasm prompted by what has been written herein, but equally courage also.”¹⁴

DIFFERENT APPROACHES

Alteration could be called a balancing act. A successful project takes advantage of the qualities and characteristics of the host building and lets old and new parts cooperate to create a whole, while maintaining their own identity. Five reference projects will illustrate slightly different approaches to the subject. I have given each approach a different name to describe their characteristics: mannerism, patch-up, collage, plastic surgery and paraphrastic.

Mannerism is used to describe a project where alterations are made in a style or spirit similar to that of the host building. *Patch-up* means that reparations and necessary additions are made “without style”, to honestly indicate that something is missing. *Collage* illustrates a project with an apparent contrast between old and new. *Plastic surgery* is used to describe a project on the verge of being “pure architecture” with only a trace of the old left in the new design. *Paraphrastic* comes even closer to “pure architecture” since it only uses the shape, structure or idea of the host building as its starting point.

12 Scott, 2008, p. 96

13 Ruskin, 1979, p. 186

14 Scott, 2008, p. 145



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© Michael (2013) *Duisburg Innenhafen*

MANNERISM

“In architectural terms the addition blends with the existing building, but without weakening the independence of either.”¹

Landesarchiv NRW, Duisburg, O&O Baukunst

¹ Dezeen, 2013



© SPK / David Chipperfield Architects, photo Joerg von Bruchhausen

PATCH-UP

"All the gaps in the existing structure were filled in without competing with its brightness or surface. The restoration and repair of the existing elements of the building were driven by the idea that the spatial context and materiality of the original structure should be emphasised – the contemporary reflects the lost but without imitating it."¹

Neues Museum, Berlin, David Chipperfield Architects

¹ David Chipperfield Architects, 2009



© Hufton+Crow

COLLAGE

"BuckleyGrayYeoman's approach at Fashion Street was one of preservation rather than restoration, setting out to create interaction between the old and the new."¹
Fashion Street, London, BuckleyGrayYeoman

1 Buckley Gray Yeoman, 2011



PLASTIC SURGERY

"In order to conceive and insert the new architectural components of the CaixaForum, we began with a surgical operation, separating and removing the base and the parts of the building no longer needed."¹

Caixaforum, Madrid, Herzog & de Meuron

¹ Herzog & de Meuron, 2008



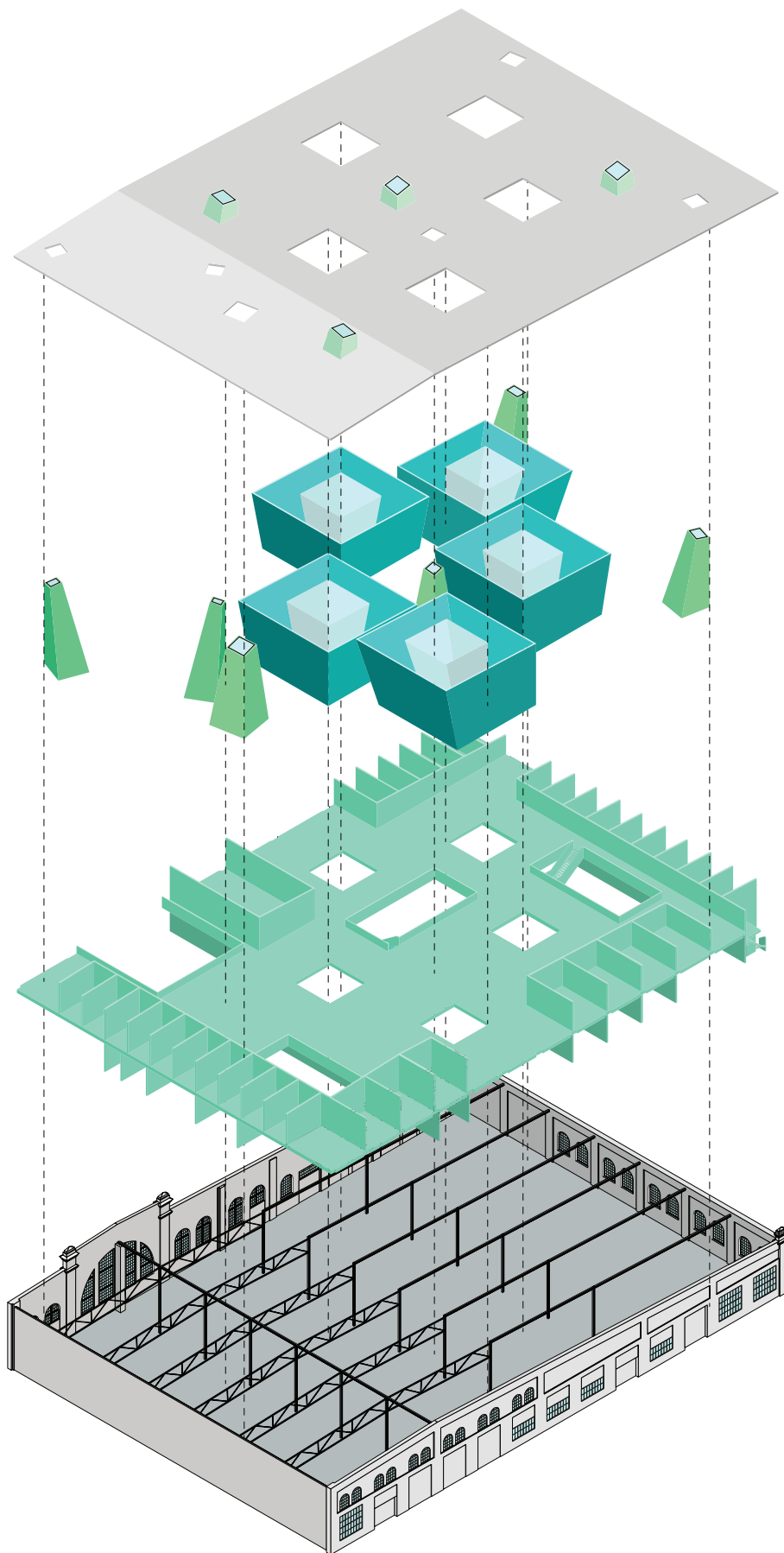
© Óscar Miguel Ares Álvarez

PARAPHRASTIC

“We wanted to reference the local style of architecture, but abstract it by wrapping the entire building with a single material.”¹

Centro de Interpretación de la Resina, Traspinedo, Óscar Miguel Ares Álvarez

¹ Dezeen, 2014



ALTERATION OF VAGNSVERKSTADEN FROM INDUSTRIAL HALL TO HOTEL

PAST TO PRESENT

Varvsstaden is the new name for the former Kockums shipyard, centrally located in Malmö. Like many other industrial sites in central locations, it occupies an attractive piece of land. But the transformation from private property to public district has begun as the industries are currently being phased out.

TOO MUCH TOO SOON

Kockums have been present in the area since 1870, but a few of the remaining buildings are even older than that. Development throughout this period has led to a diverse environment with a rich culture-historical heritage. Most of the buildings have been classified but only the ones deemed indispensable will be preserved. Therefore, the whole structure will change drastically, obstructing the readability of the area's history. Is there a way to avoid this tabula rasa and encourage a more successive change?

ALTERATION

If buildings are replaced gradually, the structure of the area is naturally preserved. Buildings that are unused and will be demolished could be used temporarily, but to be kept permanently they must become useful again. The approach chosen to transform the existing building in this project is alteration. It is a term that refers to interventional work aiming to change an existing building into something new, not into something that it used to be. It is more forward-looking and less concerned with questions of authenticity than restoration and conservation. The goal of an alteration is to use the qualities of the host building and add new elements as a second layer. That way, the intended and the existing creates a unity without being merged with each other.

LAYERS

Older buildings usually contain several layers from previous, more or less deliberate changes. Each of these layers contribute to the understanding of the building's history. Likewise, a city that develops successively, will contain layers from different epochs. Naturally, some things must disappear to give room for novelties, but one should think twice before erasing a complete structure. On the scale of a building, one must consider whether or not to remove "ugly" parts from previous alterations.

CHANGE OF SCALE

Vagnsverkstaden, the host building in this project, is being transformed into a hotel. It is a vast and low machine hall that represents a challenging typology. Its deep structure is not immediately suitable for the kind of functions that are highest in demand – habitation. Housing and hotels need a more shallow and small-scale structure with enough daylight and external connections. One of the greatest challenges in this project has been to create many partitions without losing the sense of the building as a whole. The additions are objects that house specific functions and also furnish the open space to provide room for general and varying functions.



Vagnsverkstaden's north facade



Buildings south of Vagnsverkstaden



Vagnsverkstaden's south facade



Building east of Vagnsverkstaden



Vagnsverkstaden's east facade



Buildings east of Vagnsverkstaden



Buildings south of Vagnsverkstaden



View between buildings in north-west



Overhead cranes west of Vagnsverkstaden



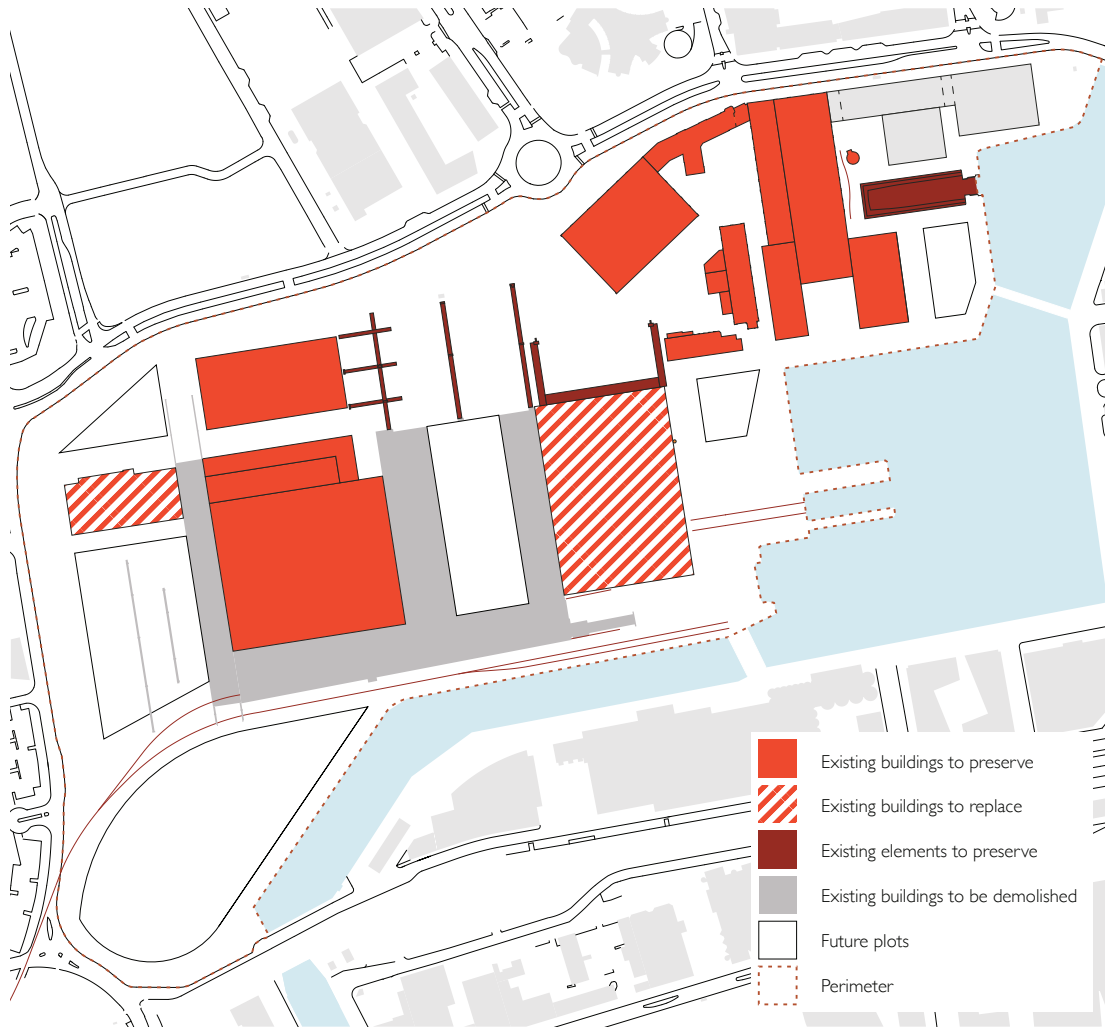
Old dock in north-west



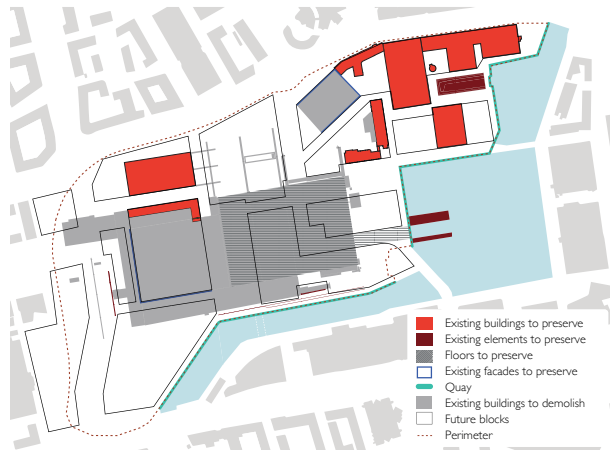
Rails at the south-west end of the site



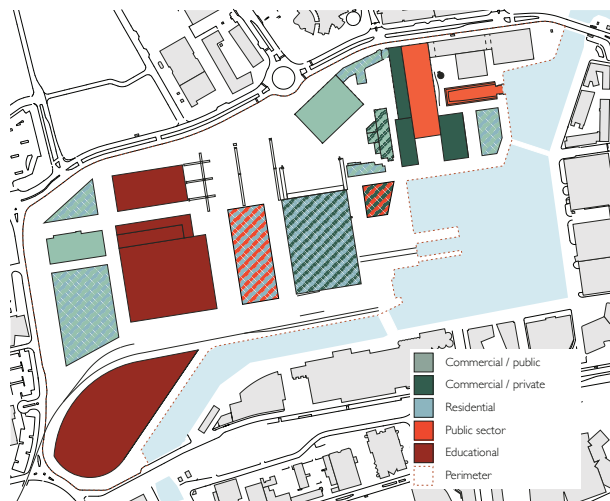
Building facing the water in south



Strategic plan – preservation 1:5000



Strategical plan from official development act



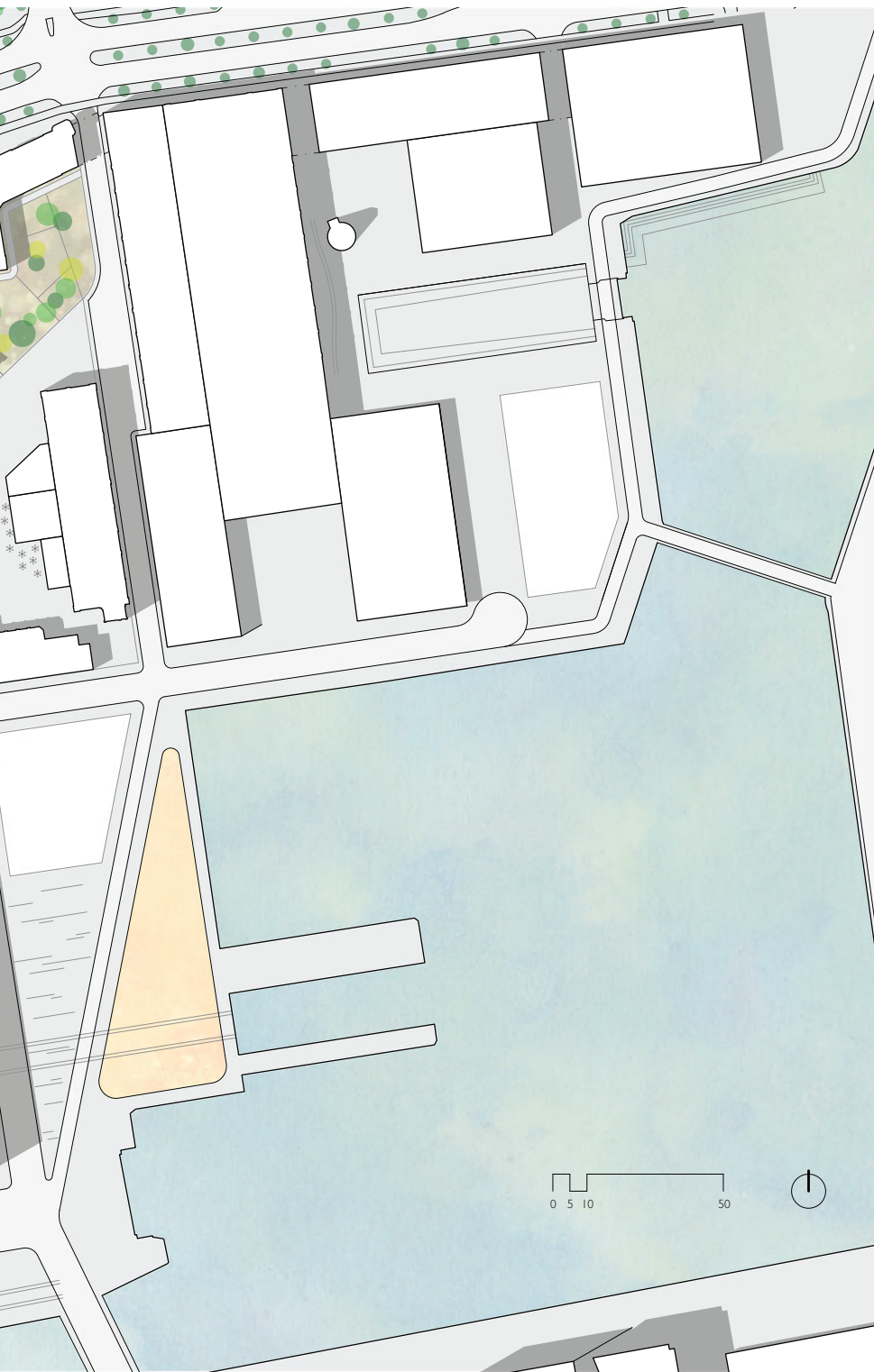
Strategical plan – program 1:10000

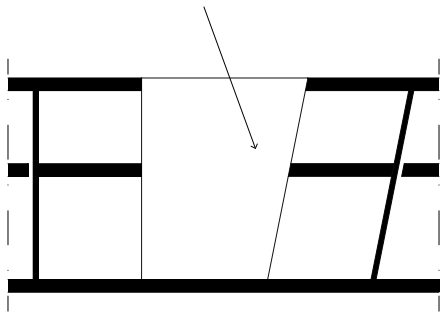
TRANSFORMATION OF VARVSSTADEN

Former development of the area has been gradual, creating a manifold environment. The character of the place is not tied to a specific moment, neither is it limited to the exterior of the buildings. Volumes, interiors, structures and elements such as rails are equally important to tell the story of this old shipyard. An official report has classified most of the buildings and it states that the industrial heritage is an important and valuable part of Varvsstaden. Despite this, the strategical plan for the area suggests that only some buildings will be preserved. In certain cases, such as for Vagnsverkstaden, the preservation is limited to the facades. To avoid these contradictions, this thesis proposes an alternative strategy for the area, one that tries to encourage a progressive transformation.

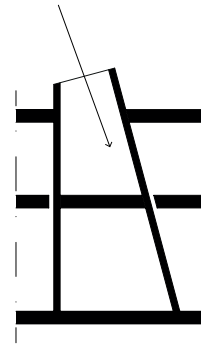


Site plan 1:2000

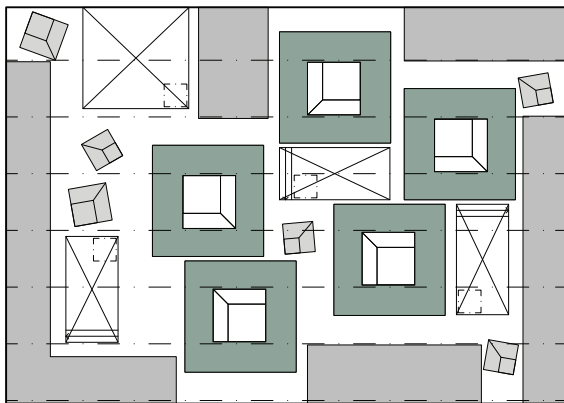




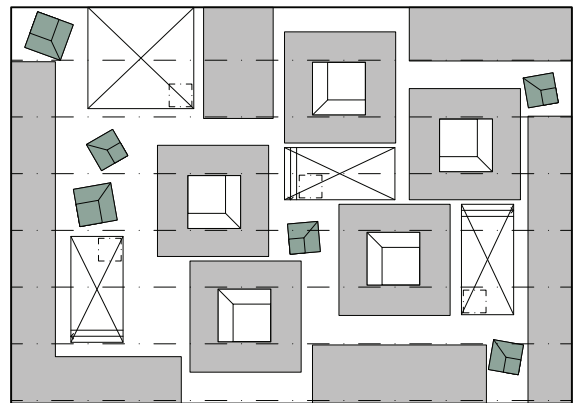
Reversed cones with atria surrounded by private rooms. The rooms have private bathrooms and windows facing the atrium.



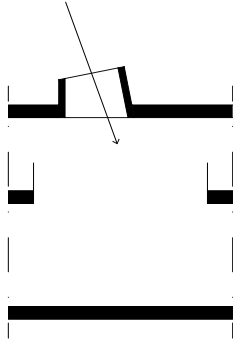
Cones with private rooms lit by clerestory windows on the upper floor and dark service spaces on the lower floor.



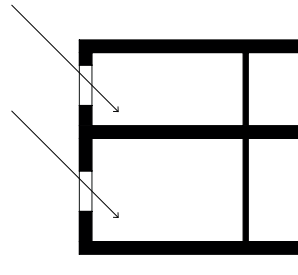
The reversed cones are placed between the roof trusses.



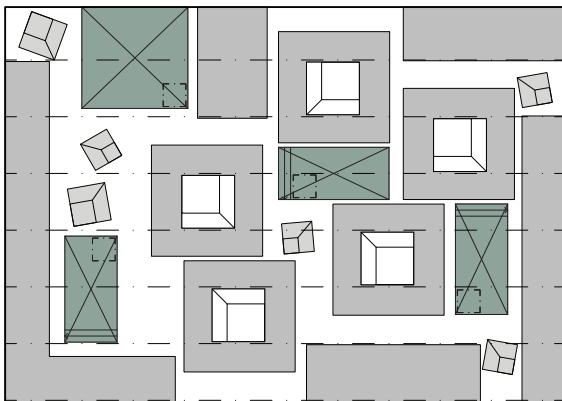
The cones are placed between the roof trusses and rotated to act as eye-catchers in the open space.



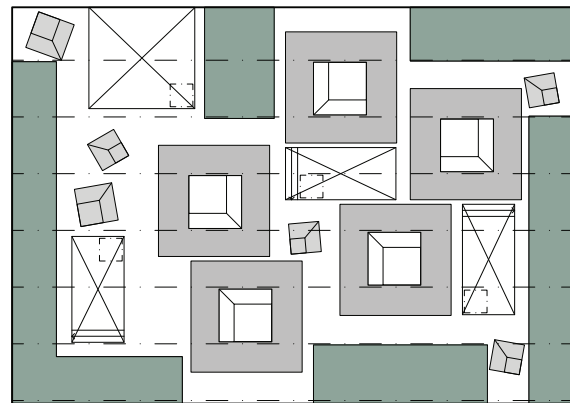
Voids in the new floor slab create connections between the floors and allow for the original volume to be perceived. Lanterns are placed above the voids.



Additional rooms are placed along the facade, lit by either old or new windows. The rooms have private bathrooms and views to the surroundings.

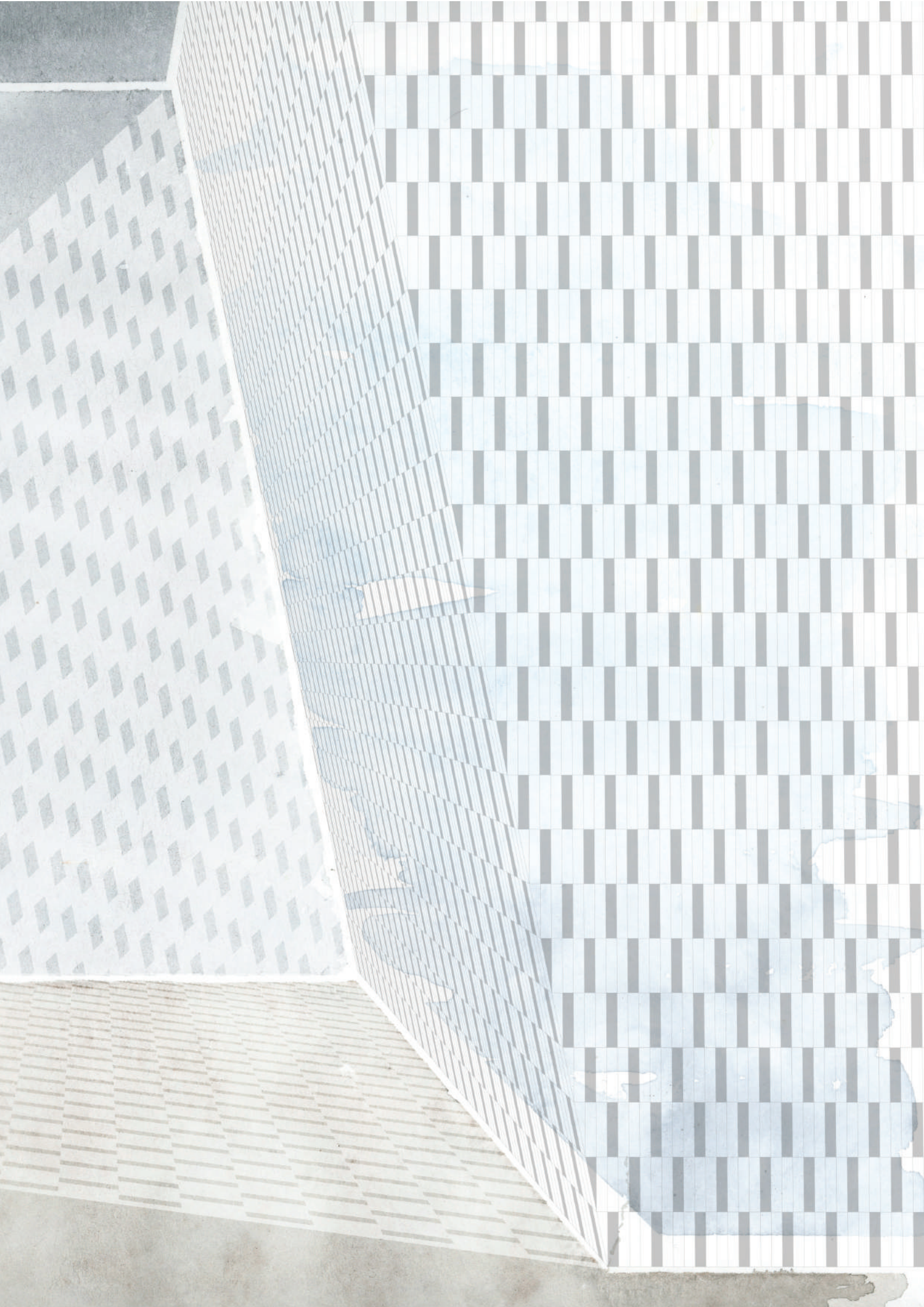


Voids in the floor slab retain the volume

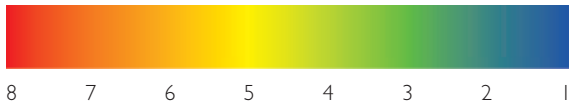


Rooms are only placed along the facade where no other element uses the space.



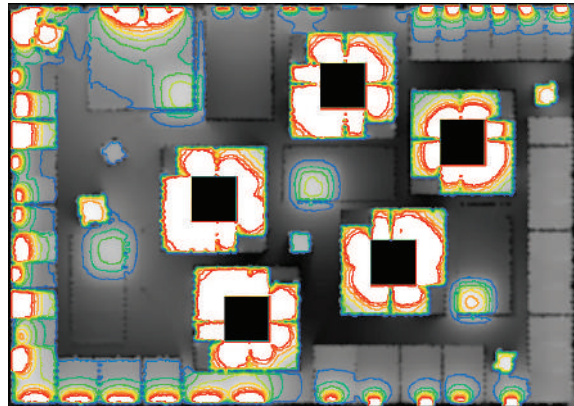




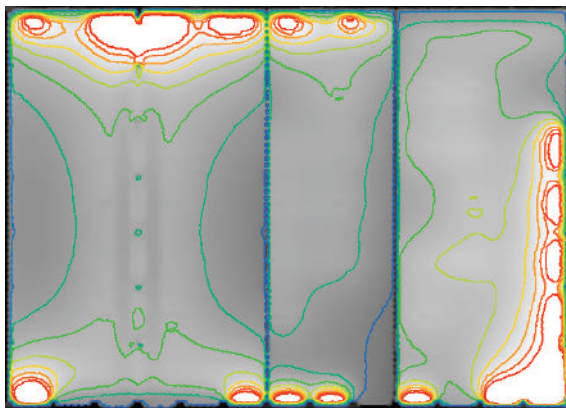


Daylight Factor is a ratio that represents the amount of illumination available indoors relative to the illumination present outdoors at the same time under overcast skies, in this case the 21 september.

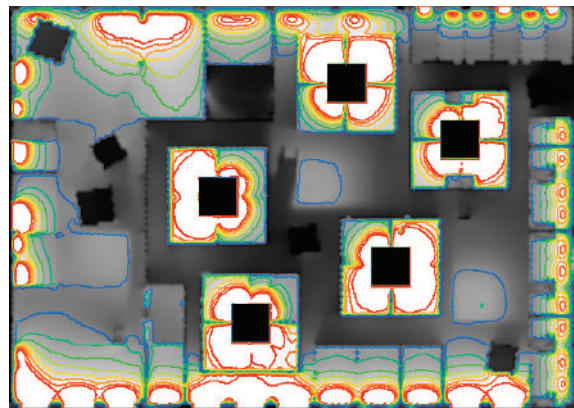
Under 2 – artificial lighting will be required.
 Between 2 and 5 – artificial lighting may be in use for part of the time.
 Over 5 – artificial lighting generally not required except at dawn and dusk.



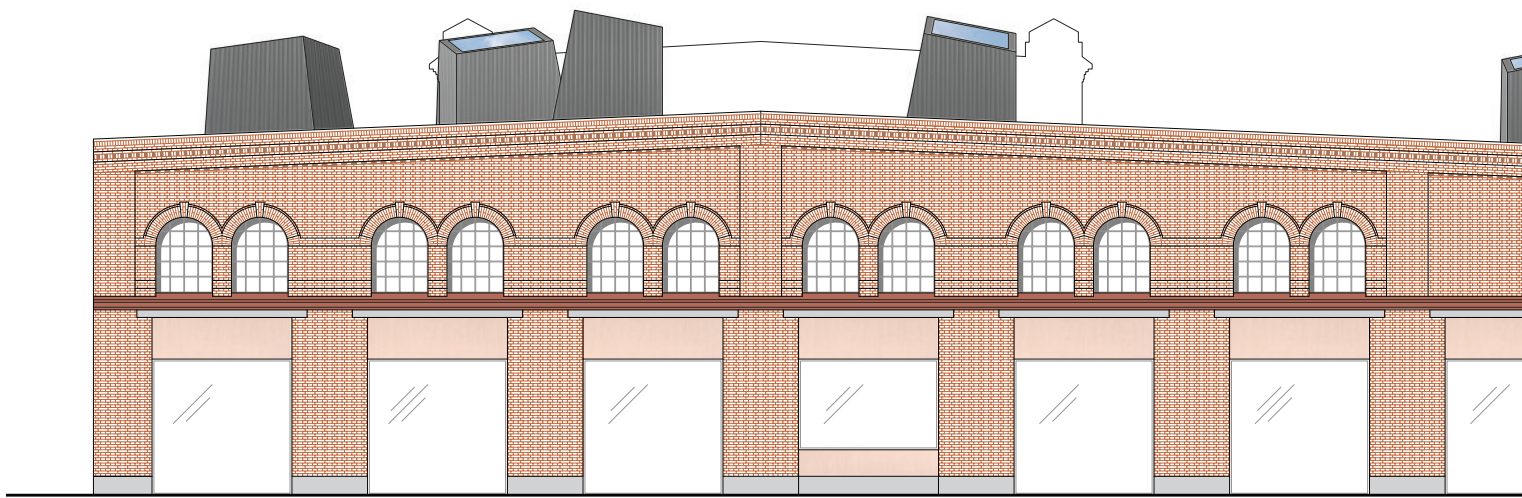
Lighting study of design proposal
second floor



Lighting study of existing building

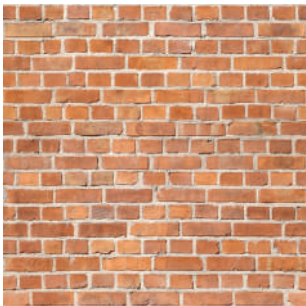


Lighting study of design proposal
first floor



South facade 1:200

EXISTING MATERIALS



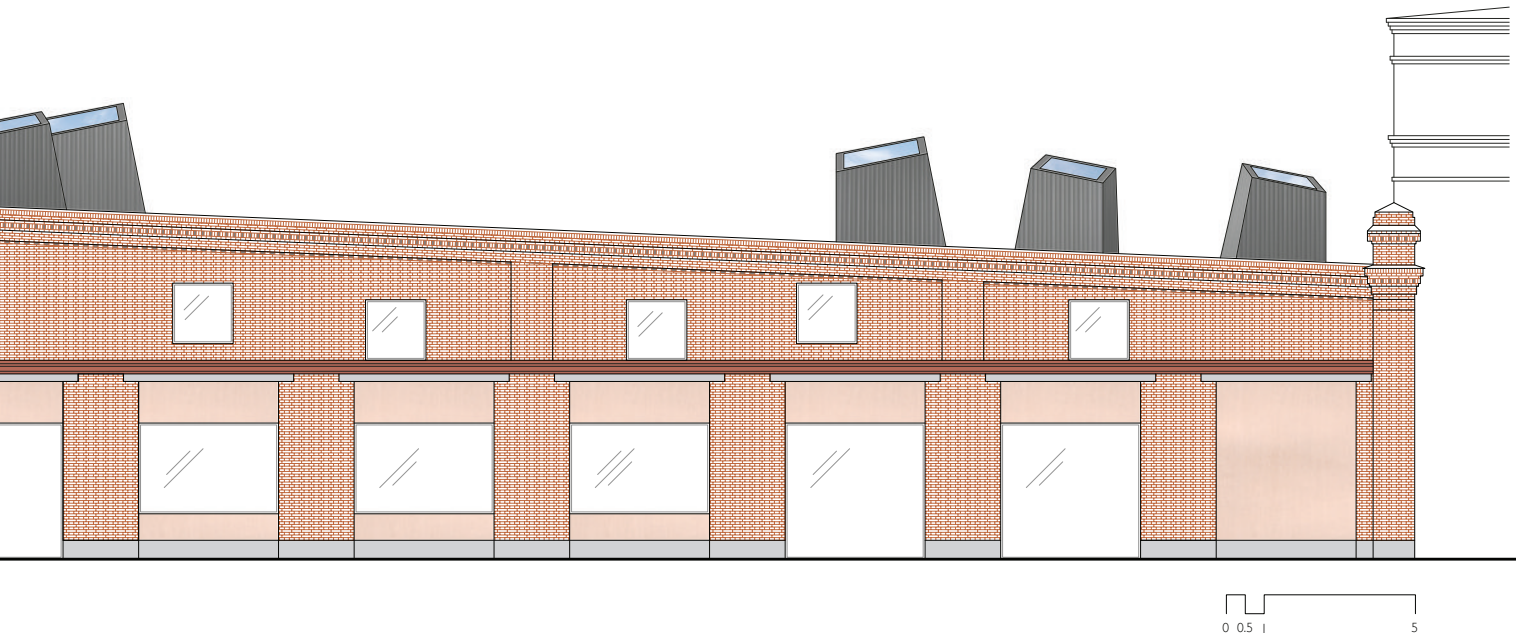
Facade: red brick



Floor: concrete



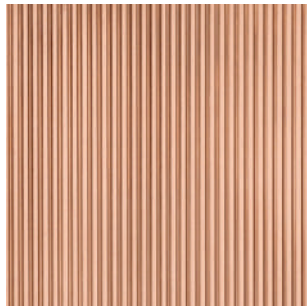
Structure: steel



ADDED MATERIALS



Blocked windows: copper sheets



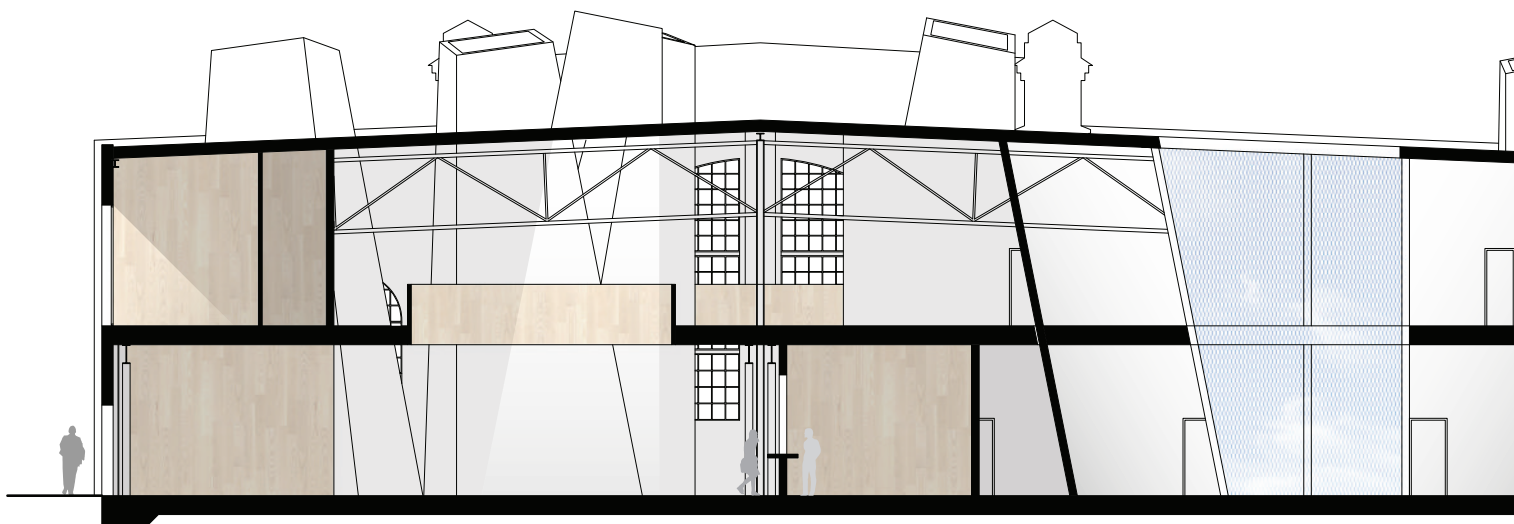
West facade: sinus wave copper



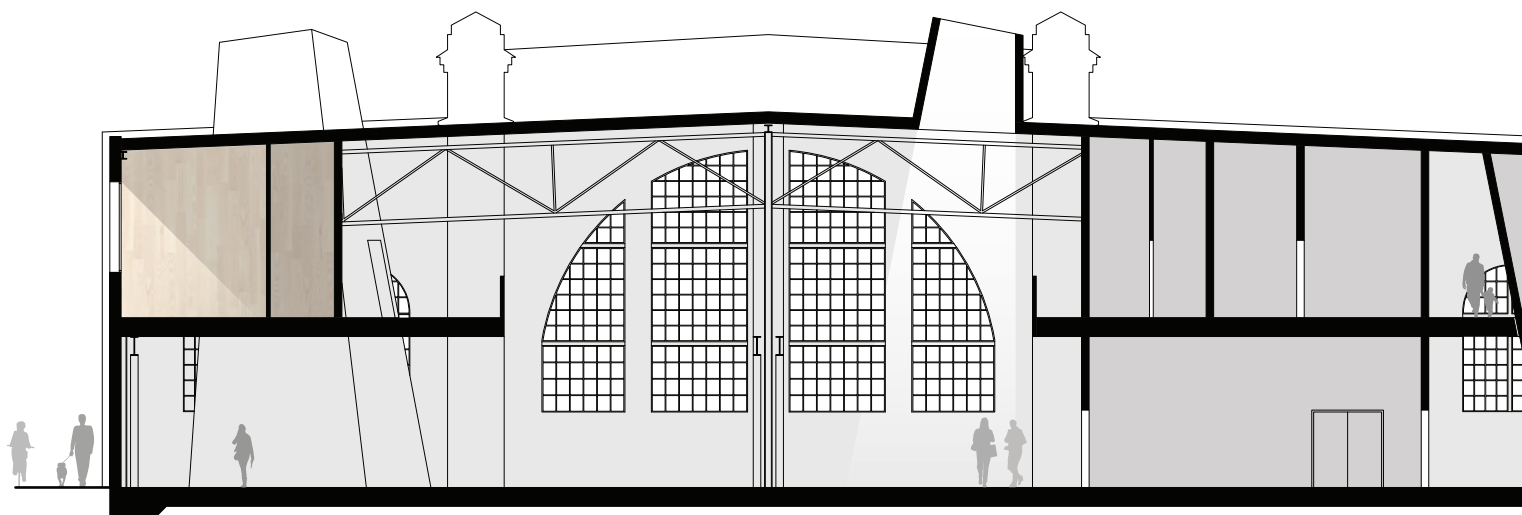
Floor slab and straight walls: ash wood



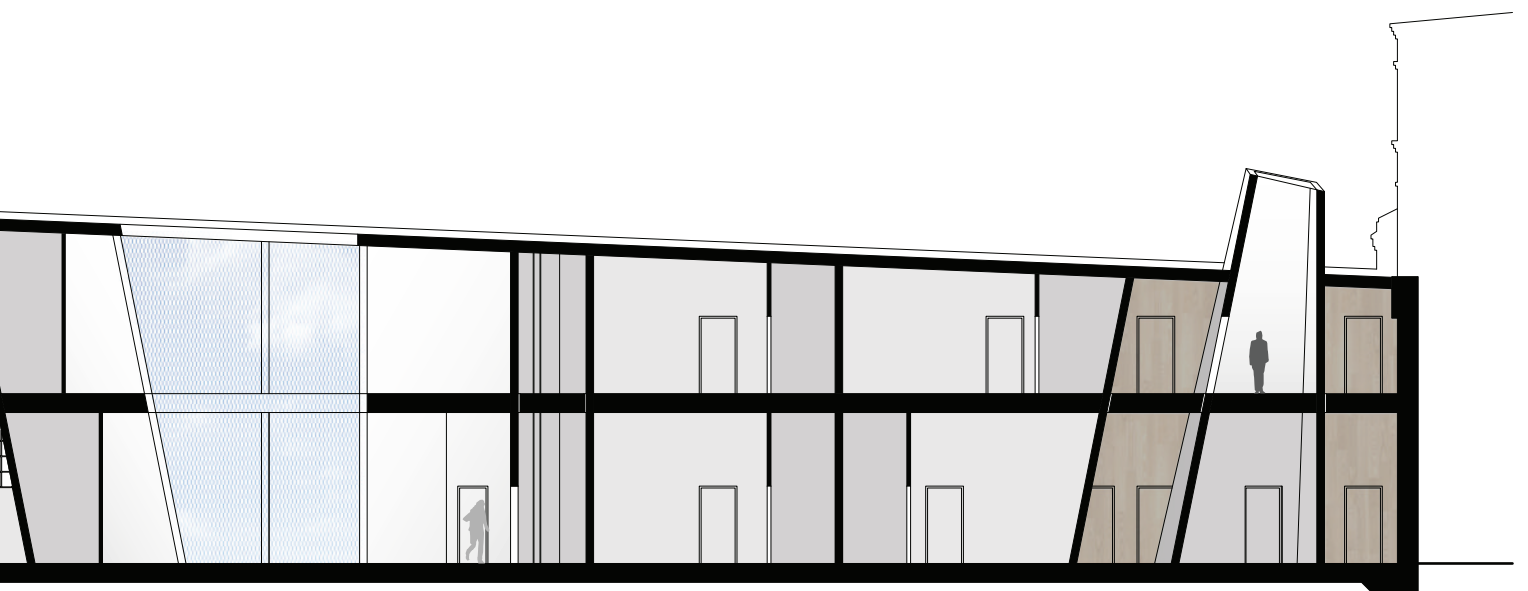
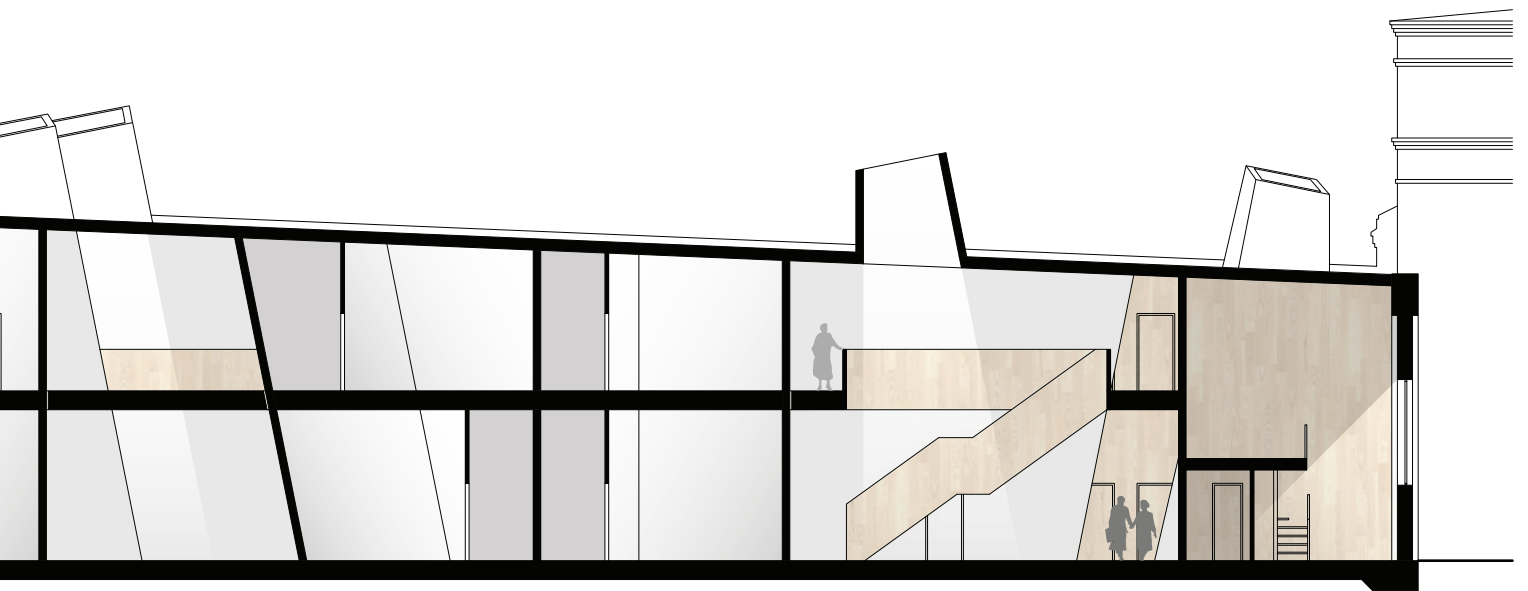
Cone walls: white glass



Section A-A 1:200



Section B-B 1:200



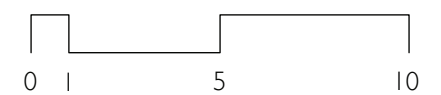
0 0.5 1 5

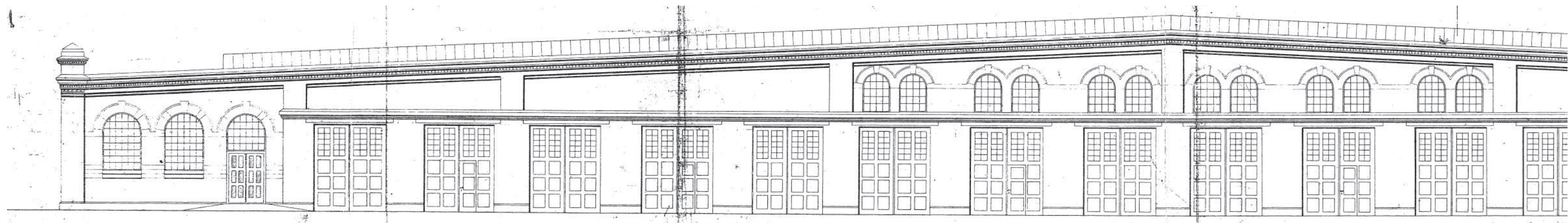




Second floor plan 1:200

< First floor plan 1:200

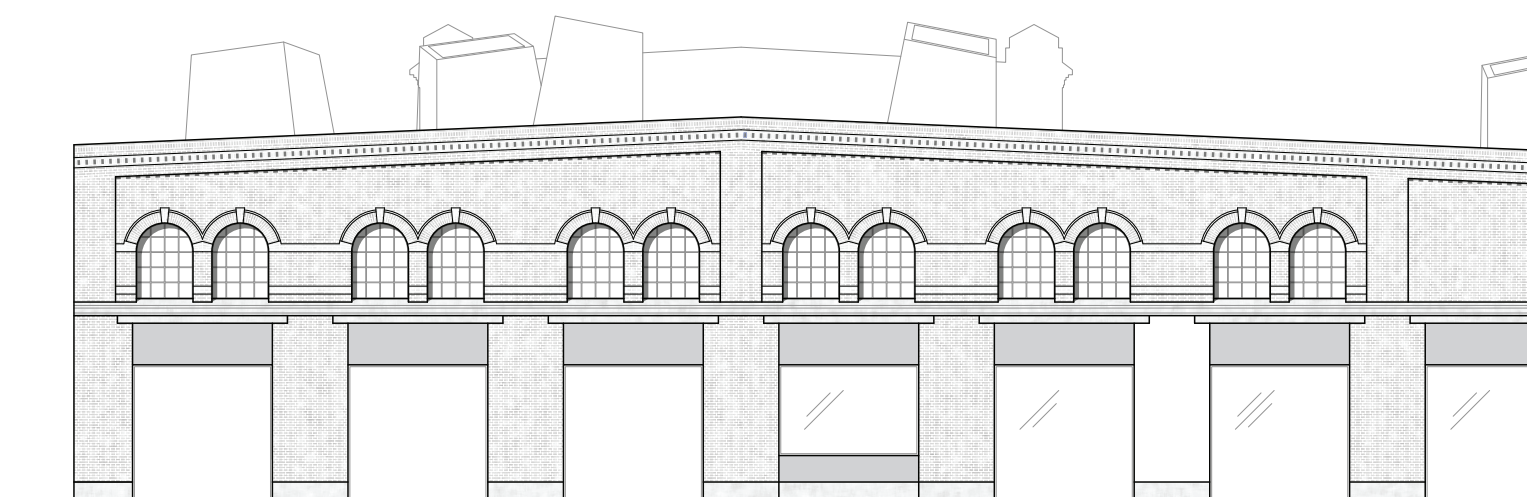




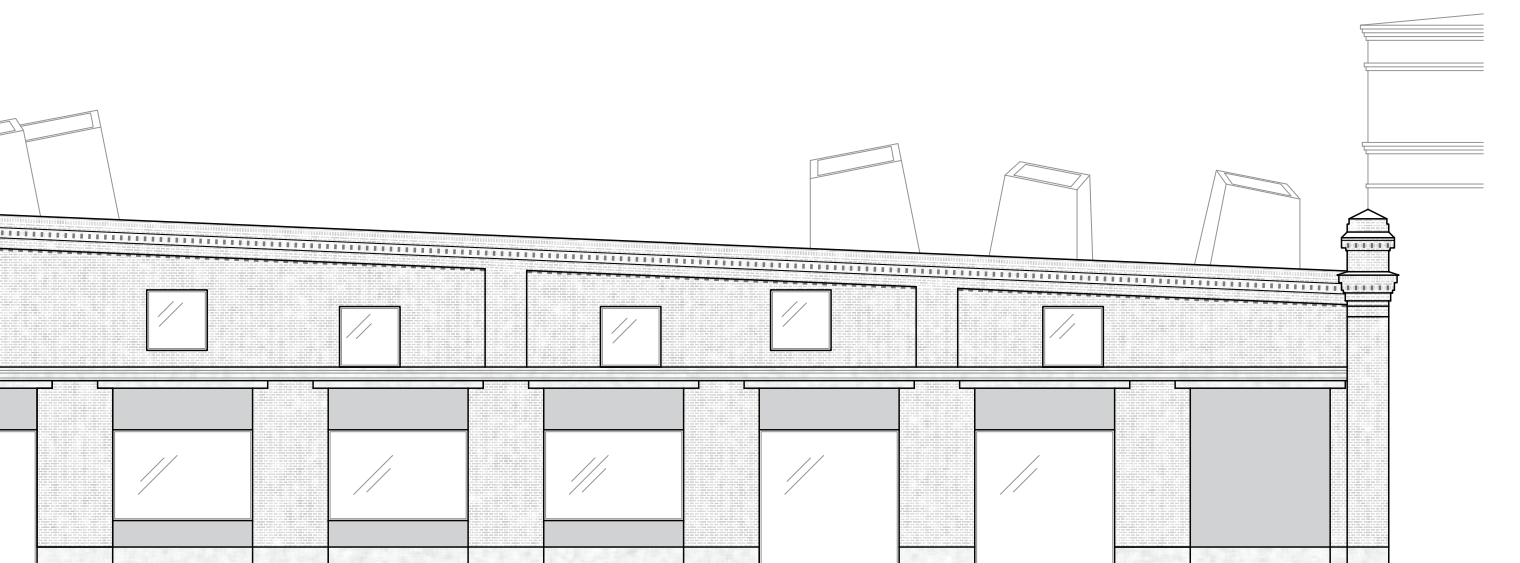
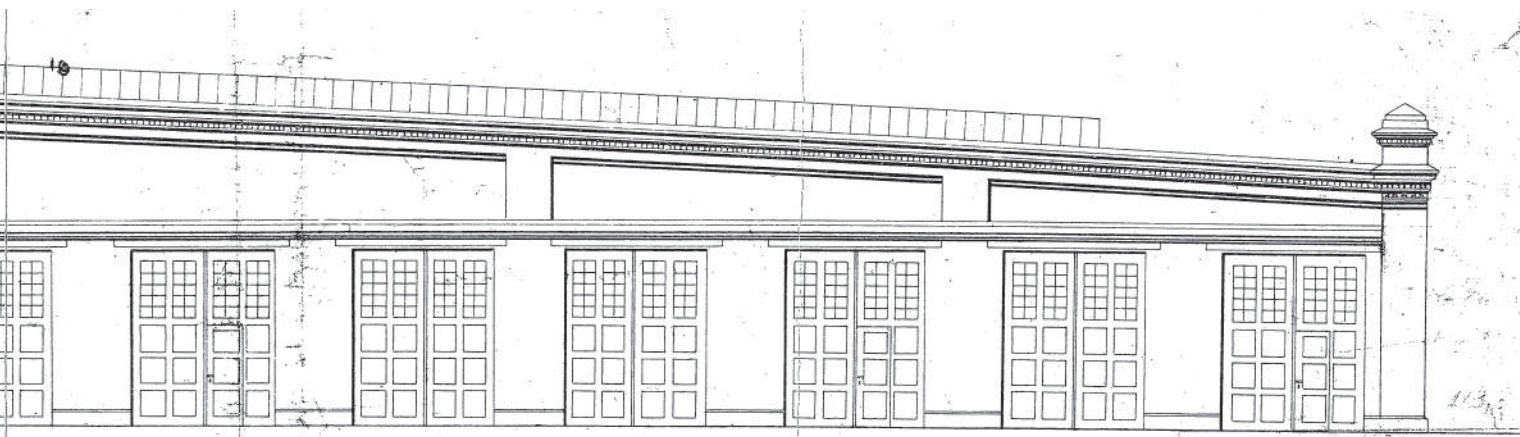
South facade 1:200 • Drawing from 1912

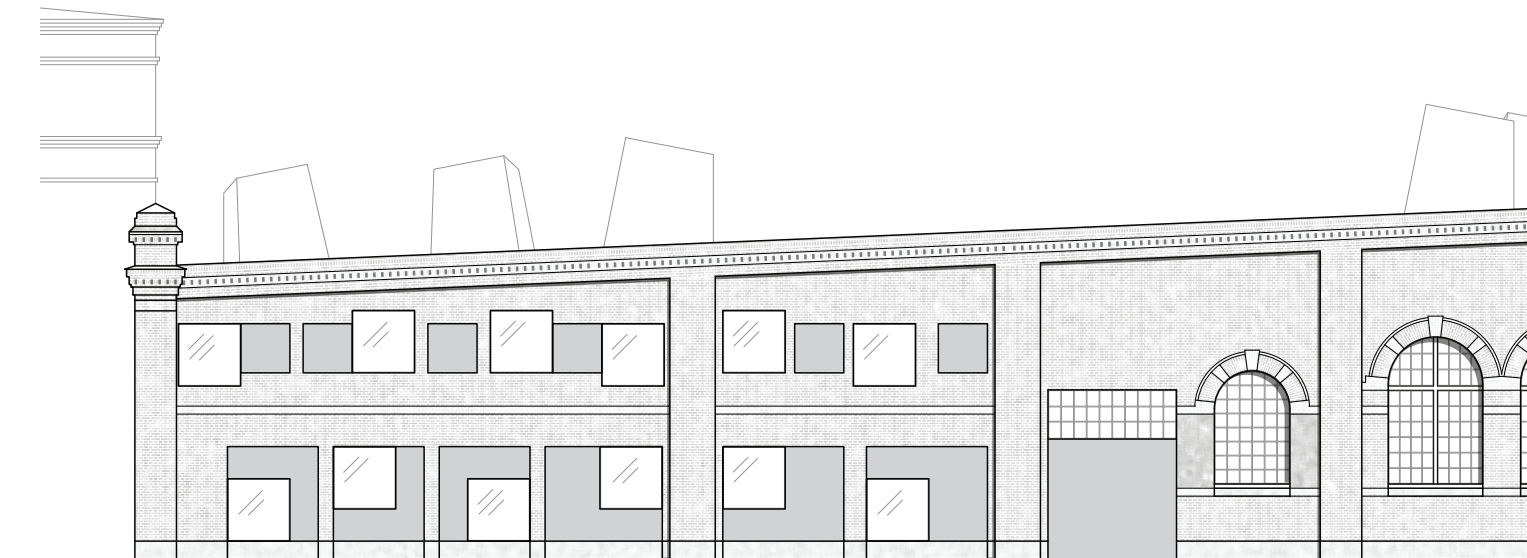
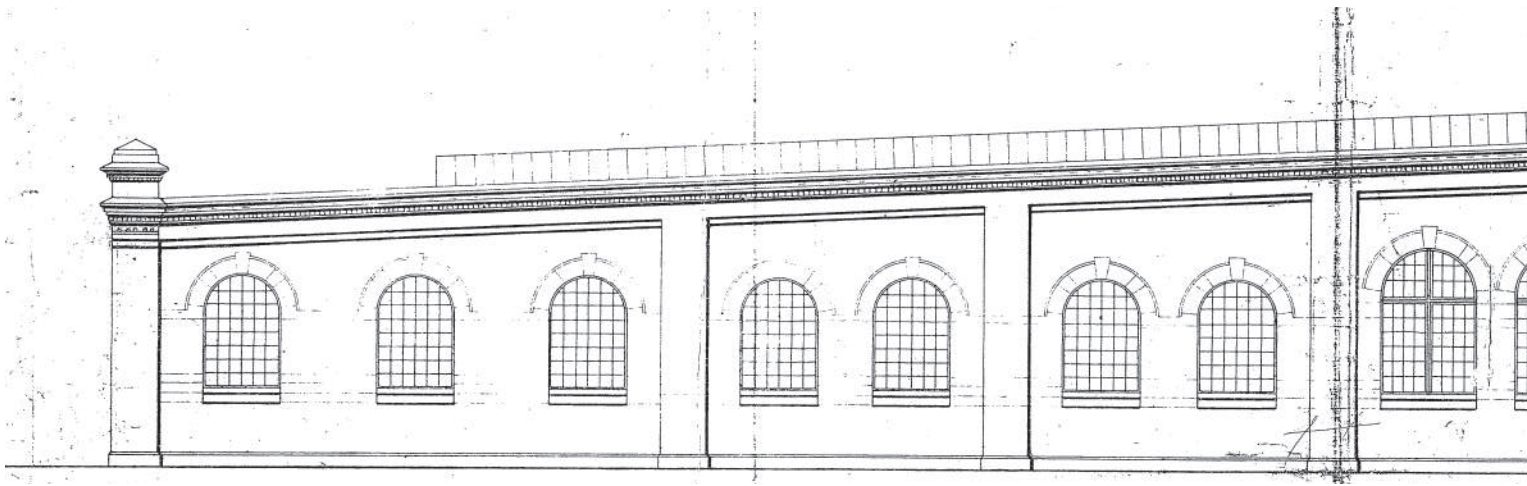


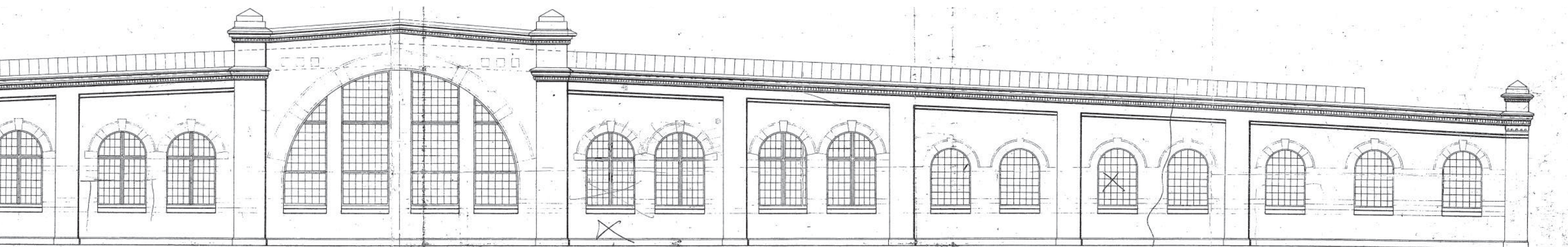
South facade 1:200 • Drawing from 1974



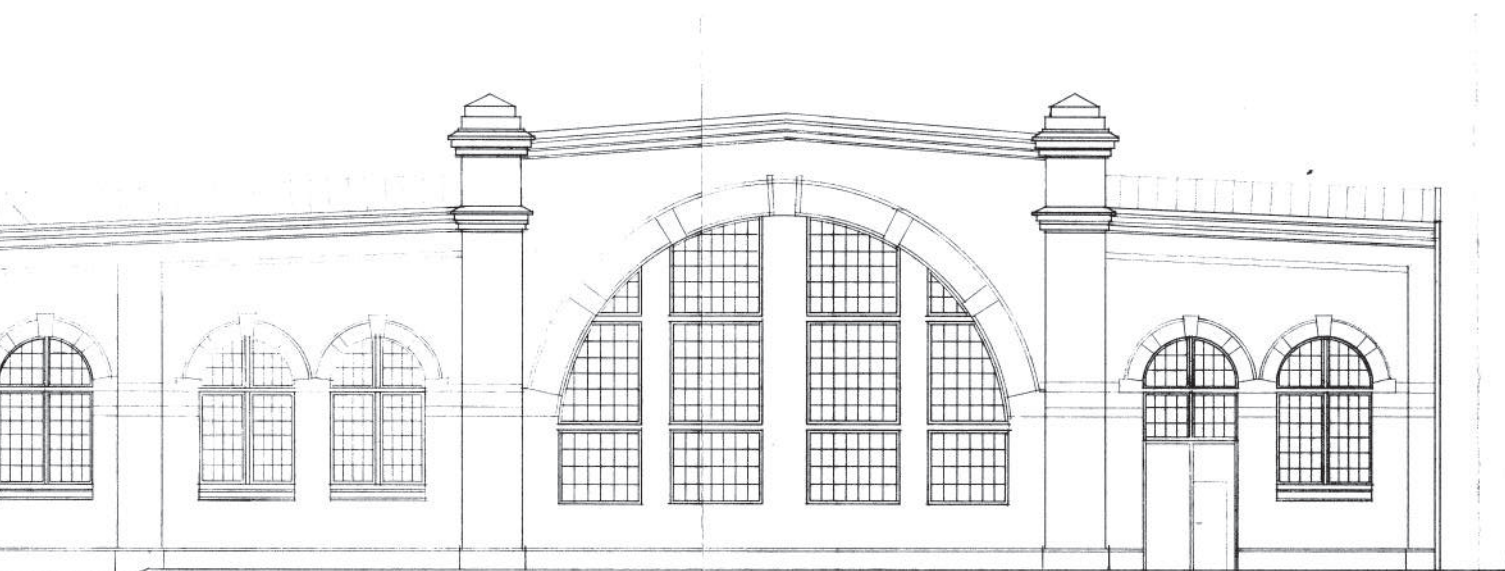
South facade 1:200



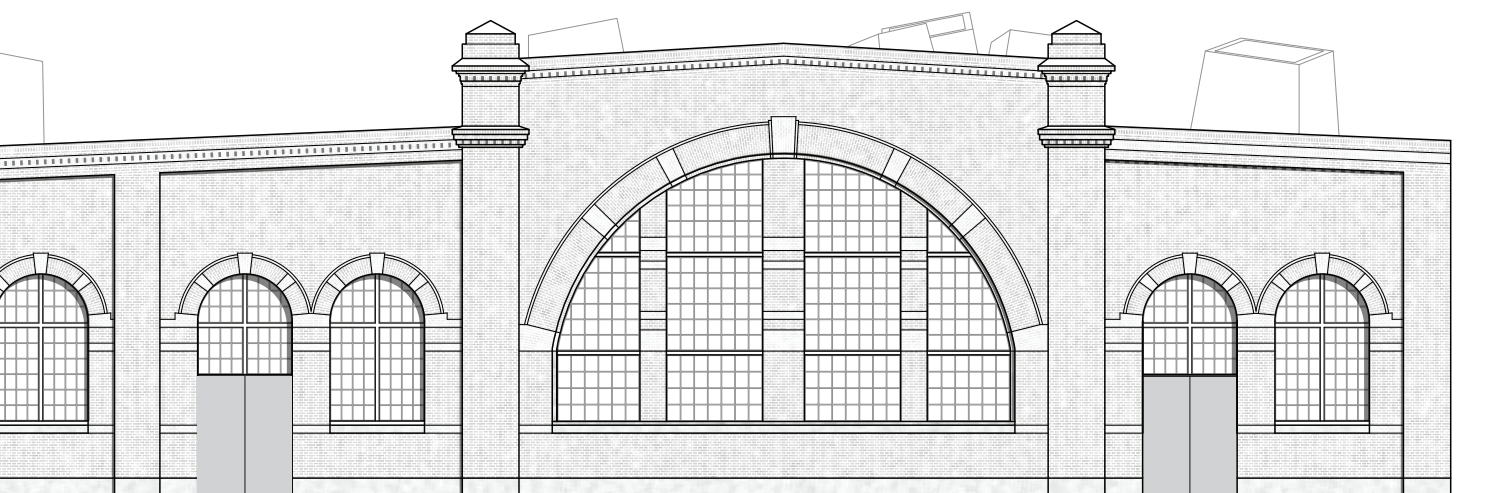




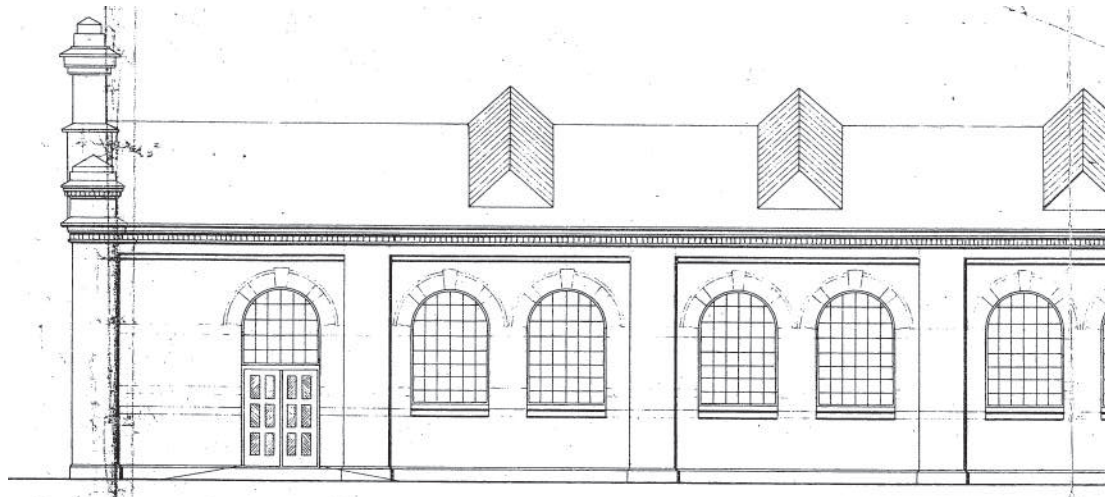
North facade 1:200 • Drawing from 1912



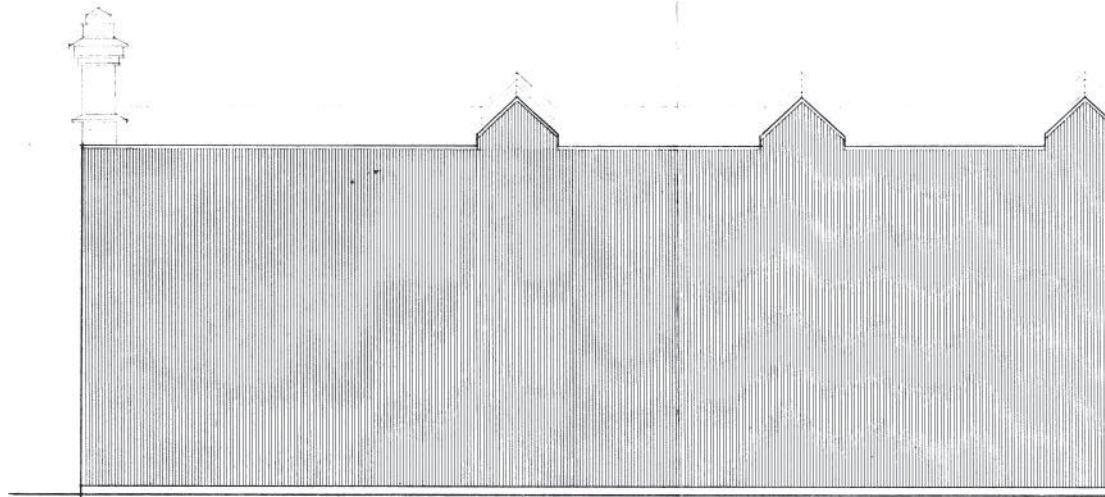
North facade 1:200 • Drawing from 1974



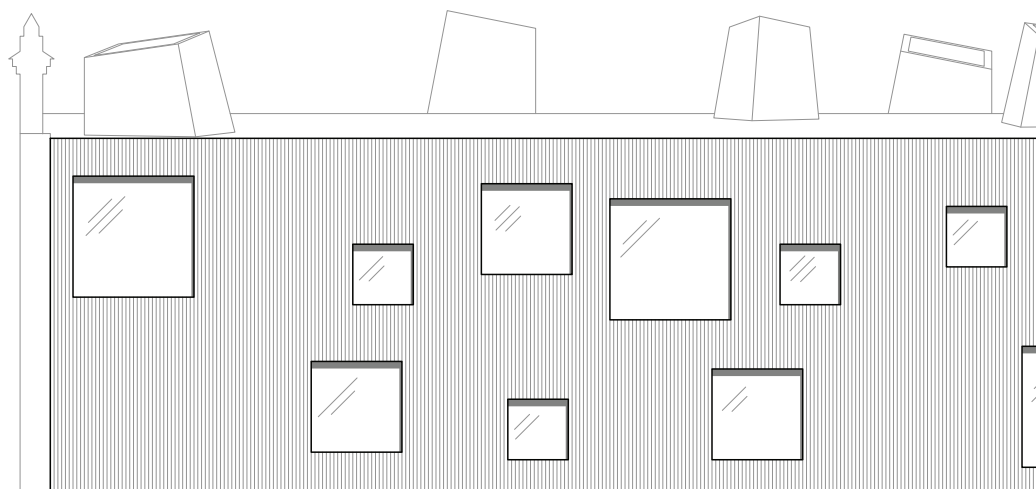
North facade 1:200



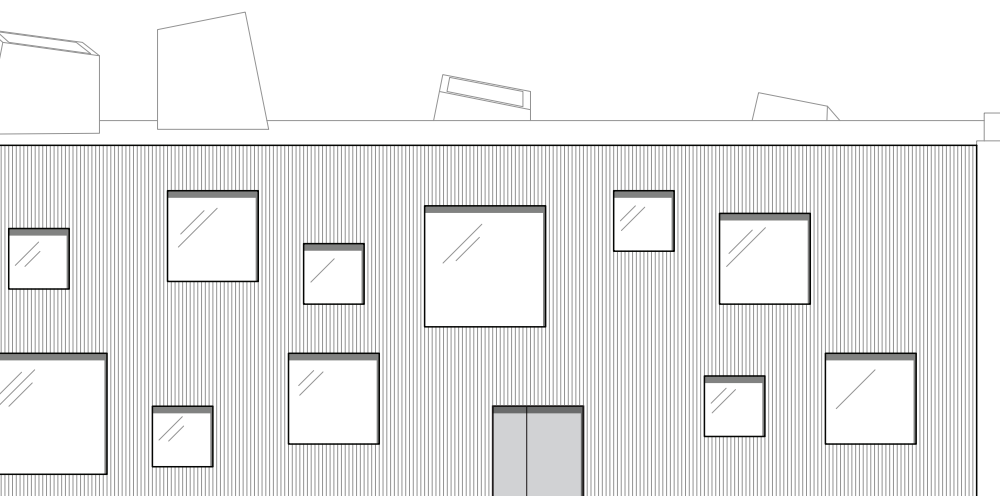
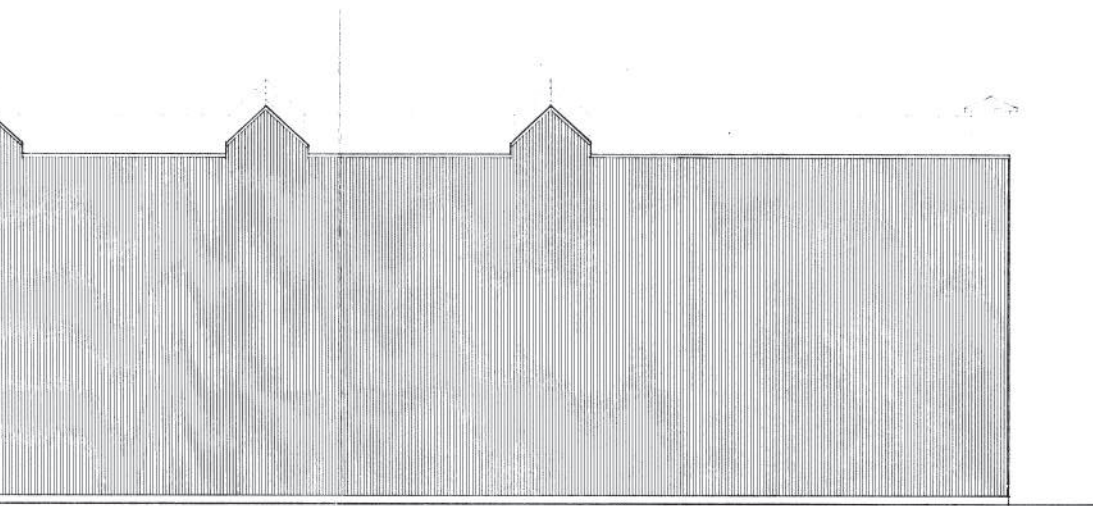
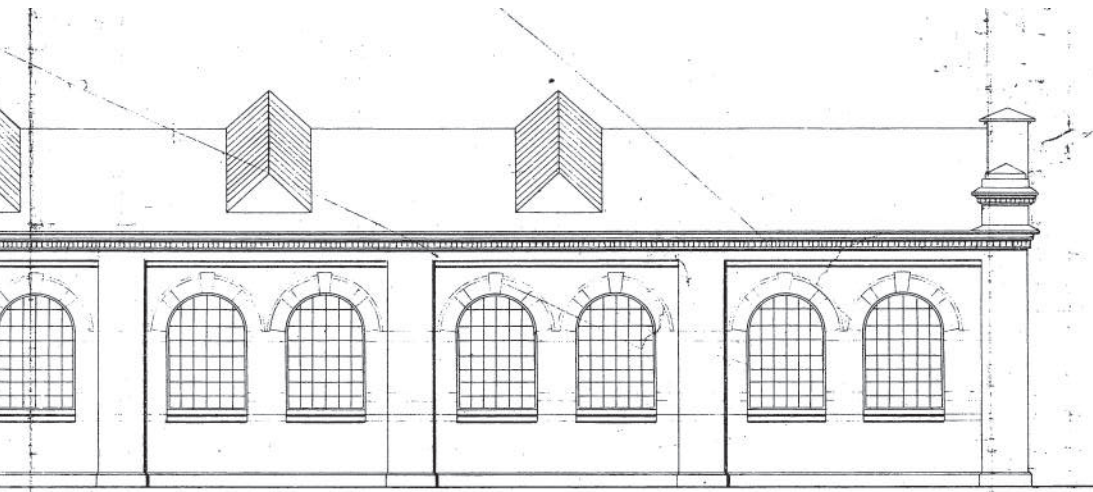
South facade 1:200 • Drawing from 1912

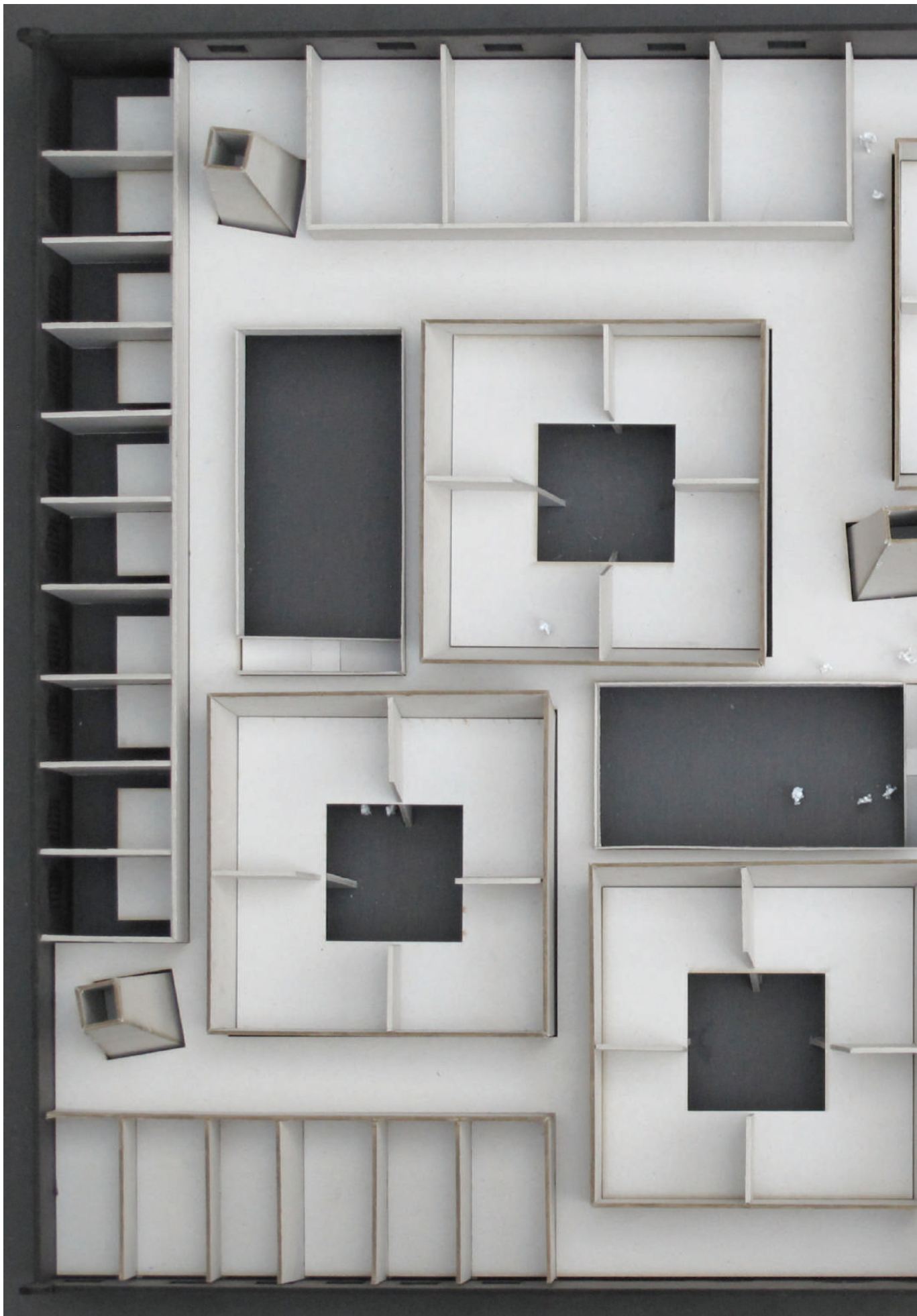


South facade 1:200 • Drawing from 1974



South facade 1:200







CONCLUSION

The thesis work turned out to be focused on a specific challenge within the theme of alteration – the change of scale in the building. When many similar buildings are being transformed, it is unlikely to be able to use all of them for programs that fit into the existing structure. Not every industrial hall can be a museum, library, school or other cultural institution. To find economical sustainability in the transformation of an area, certain buildings must be of commercial interest. The result of this thesis shows a possible strategy to use large-scale buildings even for programs that doesn't initially seem to fit in. Consequently more buildings can be preserved, contributing not only to ecological, but economical and social sustainability also. Through alteration, both individual buildings and the area where they stand can display layers of their history that increase recognition, readability and sense of place.

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ILLUSTRATIONS

- Page 05: Michael (2013) *Duisburg Innenhafen*. [Photography] <https://www.flickr.com/photos/photo64/9086634154/>. [16 June 2015].
- Page 06: von Bruchhausen, J. [Photography] SPK / David Chipperfield Architects.
- Page 07: Hufton+Crow. *Fashion Street*. [Photography].
- Page 09 (figure 1 and 2): Ares Álvarez, Ó. M. [Photography] Óscar Miguel Ares Álvarez.
- Page 30-35: Drawings from 1912 and 1974 by courtesy of PEAB.

All other illustrations: Jutéus, K. (2015).

