

# Maskinhallen

**Rehabilitation  
in the exhisting  
fabric.**

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Spatial Design - Spring 2023

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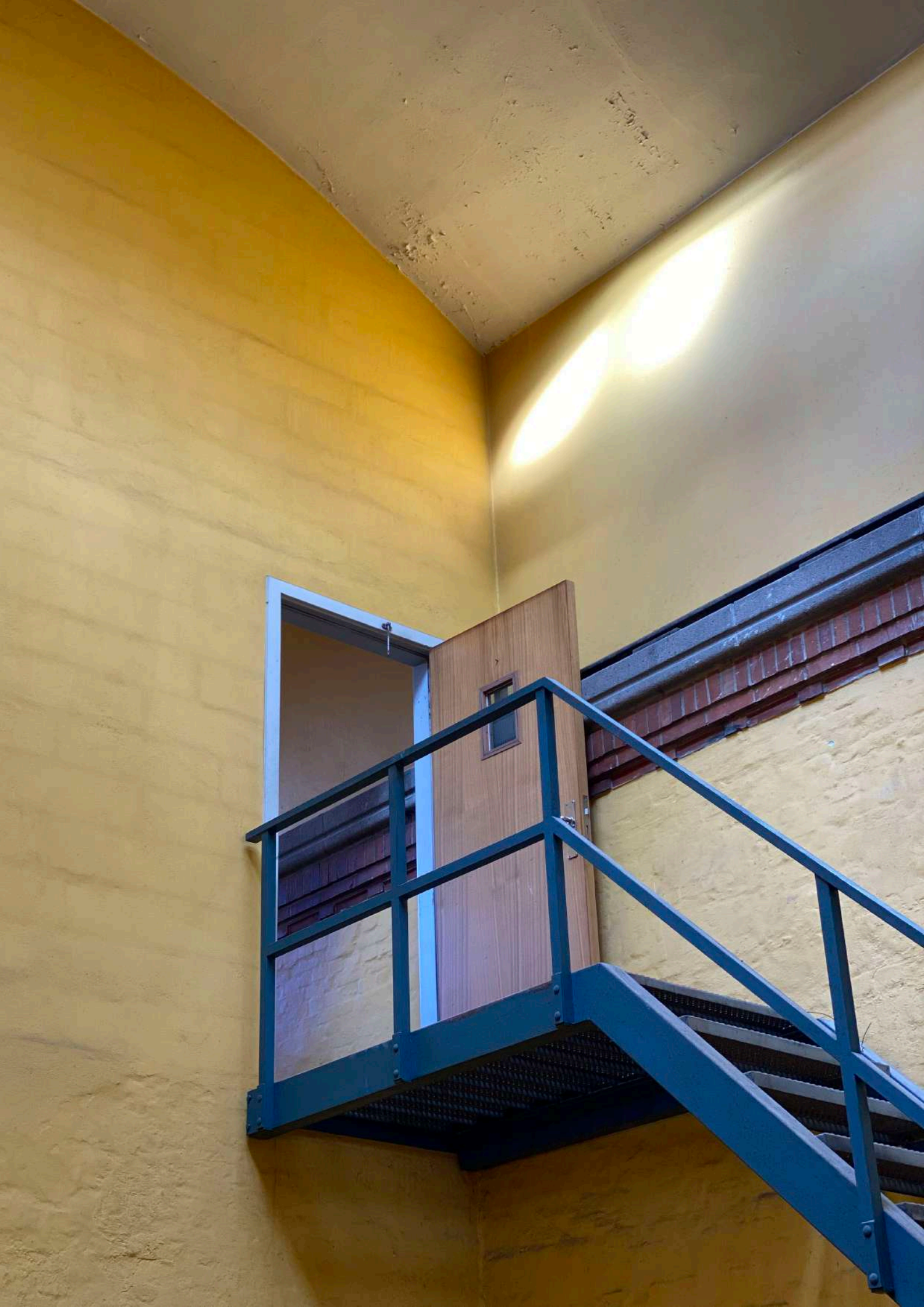














**Transformation of a former lighth  
and heat supplier building into a  
Social & Cultural house**

# **Maskinhallen**

**Rehabilitation  
in the existing fabric.**



## Acknowledgements

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AXIOM TO GRIND

Vice  
Is nice  
But a little virtue  
Won't hurt you.



# Abstract

Maskinhallen existed for 66 years as a light and heat supplier and gradually became a place of exchange and meeting. Throughout time, the building kept its character, even if only a third of the building is used today. By pushing the doors out of the “beast” as our tutor likes to call it, we found an authentic and powerful building where the machine should be restarted.

Located in Copenhagen in the district of Sundholm, the area was initially built in 1905 as a forced labour facility. Surrounded by a moat, Sundholm was created as an autonomous city. Nowadays, the place is connected to greater Copenhagen and is run by the Social Administration in the Municipality of Copenhagen. They offer accommodation and care services for socially vulnerable people who live in homelessness, in addiction and/or have mental problems.

Because of the unique background and memories of the place, we found a common interest in discovering the stories behind the walls. In the middle of the district stands the Maskinhallen building where a beautiful wood carving ceiling and a 15-meter-high industrial room are hidden from the public. The potential is immense, first from the spatial qualities that we have just mentioned and secondly from the strategic situation of the building in the area that could become a catalyst for the future development of Sundholm.

Therefore, our project aims to transform the Maskinhallen building into a social and cultural house. With the aim of opening the building to a large public in order to make it more visible and include different communities to make the building alive again.

It has been very clear and important from the beginning of the project to include the people who are living and occupying the space in our process. We spent a lot of time on the site, conducting interviews, fieldwork and workshops to have a better understanding of the users' points of view. Therefore, our design derives from the dialogue between the users and our practice as spatial designers. We decided to develop the project around the spatial thresholds, the transitory spaces where we believed the people would meet and start the new story of Sundholm.



# Introduction

In the Northern part of Amager, the district of Sundholm is located between the old Amagerbrogade and the new district of Grønjordssøen. Delimited by the two original large gates, the district is identifiable from Sundomlsvej and Amagerfælledvej by its aesthetics of bricks and limestone detailing. At the beginning of the 1980s, the moat that surrounded the area was removed, and the gentrification of Sundholm started. Today, we can walk, bike and drive around the institution's buildings, cross a school and or meet artists and designers at Frabrikken.

As foreigners in Copenhagen, we have an interest in learning about the culture and history of the city. Through our studies in Spatial Design, we found a common interest in working with human interactions in relation to their surroundings. We discovered Sundholm for the first time in October 2022, and since then we decided to start our 3rd semester project focusing on the analysis of the area and pursuing the research for our thesis project.

Even if Sundholm starts to open more activities for years, the commune is still looking for new ideas and projects for the future development of the neighbourhood. During our interviews with Stine, who oversees the management of the vulnerable institutions, we realized that the commune is facing challenges: “How can we open more the district to the rest of the city?” “How can we make it more attractive?”, “How can we make sure that the vulnerable people are also included in this opening?”

Strong from its historical context, Sundholm is still perceived as a marginalized area, where drugs and alcoholic people are hanging around. From this very complex context and following our conversation with Stine and other people from institutions and associations in Sundholm we realized that real needs and projects are asking to be developed in the area. A challenge, that we quickly imagine ourselves being part of.

Our first encounter with the Maskinhallen building was during a walk through the area, by trying to get inside the building we met Lars Lindegaard, who is the director of the circus performance company Glimt. We entered the vestibule room where we could observe the beautiful wooden carving ceiling well preserved. As the majority of the buildings in Sundholm, it is difficult to guess what is happening inside. The windows on the facades are high and from the street level, it is impossible to see the inside. After a lot of participation in cultural events, communal dinners and long discussions with the stakeholders, we decided to focus our thesis project on the transformation of the Maskinhallen.



Figure 8.  
Sundholm School field, 1914



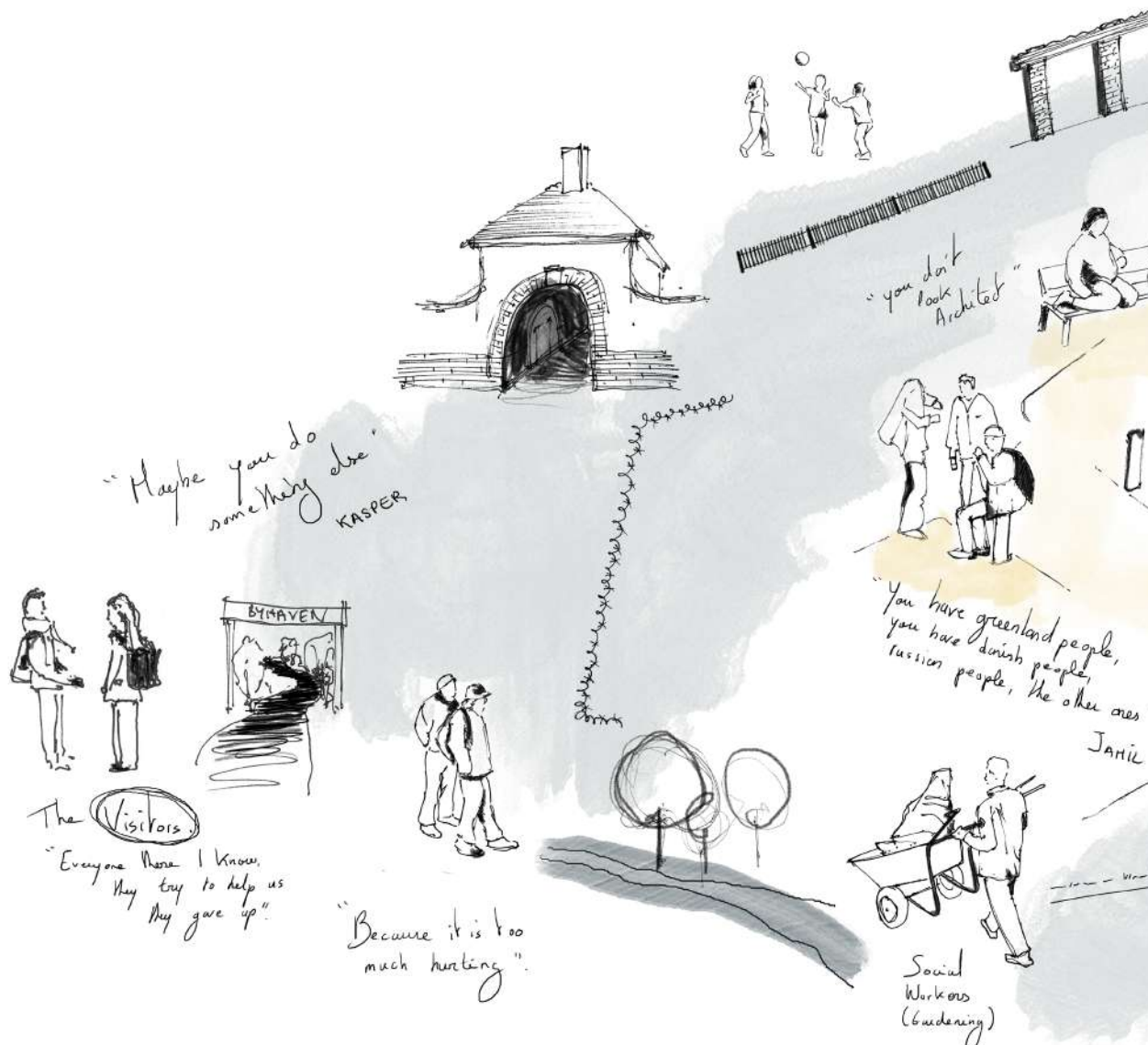


# Background

Through our 3rd semester project, we decided to start working with the district of Sundholm where we focused on the analysis of the spatial and social boundaries to get a better understanding of the district organization. We conducted an anthropological work, where we met people from the association house, Sundholm 8. They found a particular interest in our investigation, where two external people are analyzing the neighbourhood with new eyes. Therefore, our project allowed them to become more familiar with the entire Sundholm community.

Through participatory observations and qualitative interviews with the users, we generated 10 maps and visualizations to register different aspects of the community concluding with a prospective intervention in the public space.

Our interest and fascination for the Sundholm neighborhood convince us to continue our investigation for the thesis project. Moreover, the trust and connection that we get from the stakeholders encourage us to pursue the development of our research in the continuation of what we already started.





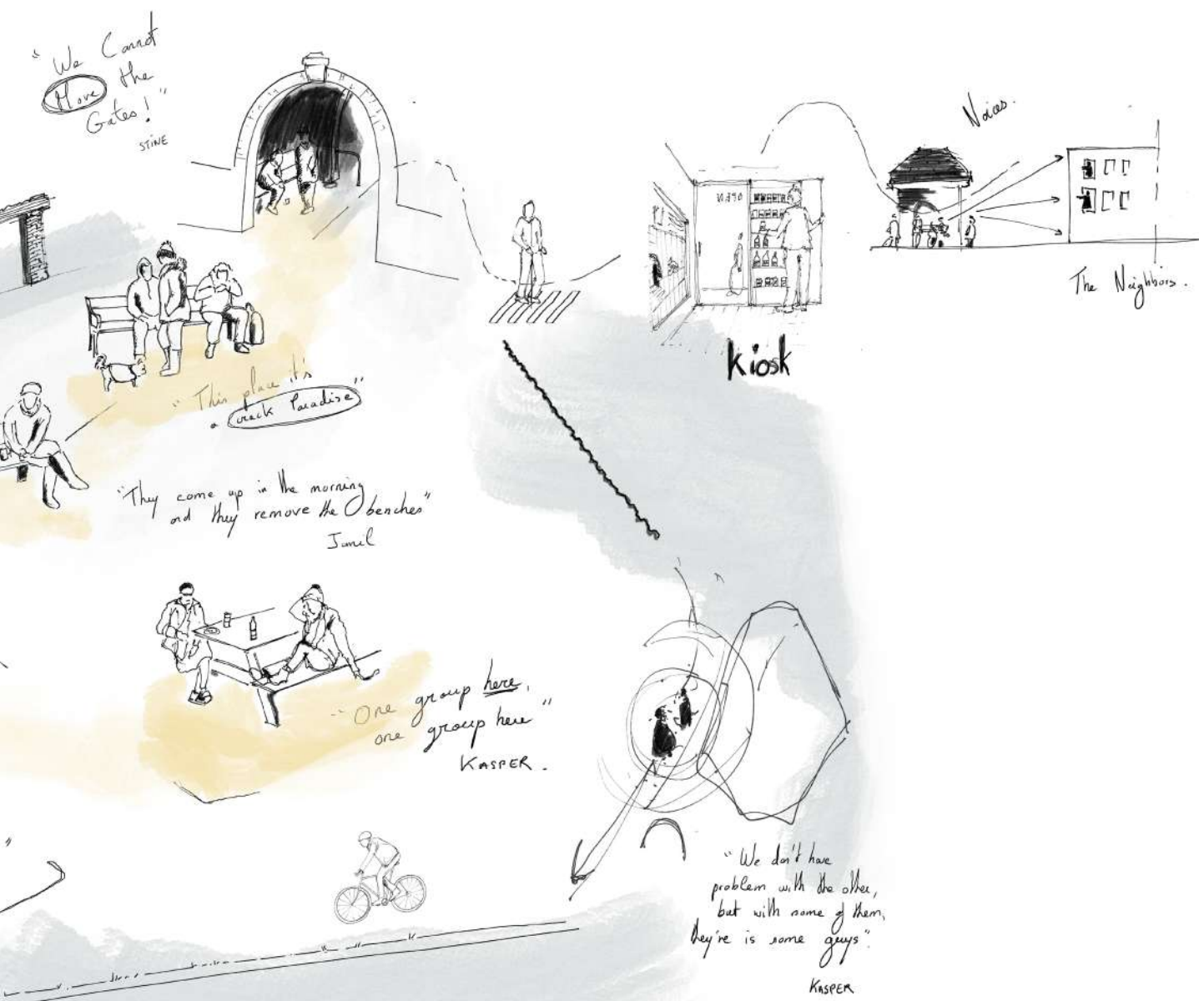


Figure 9.  
Anthropological drawing, 3rd semester, December 2022



# Thesis Statement

**The project is a transformation of the existing building Maskinhallen built in 1907 into a social and cultural house in the neighbourhood of Sundholm.**

**It aims to contribute to positive development and encourage inclusive social relations for the local community. By preserving the collective social memory of the neighbourhood, the Maskinhallen building will serve as an architectural framework where the new interventions and alterations focus to enhance the historical heritage of the building.**

What role does the architectural framework of the Maskinhallen building play in facilitating inclusive social relations and community engagement within the Sundholm neighbourhood?

How can the existing building host social and cultural events while enhancing the historical aspect of the Maskinhallen?

How can a social/cultural house promote inclusive relations in the local community?





Figure 10. Hand drawing of the project staement



# Overall Objectives

Sundholm, located in Amagerbrø, primarily serves as an institutional centre providing healthcare services and reinsertion activities for vulnerable people. Given the concentration of facilities catering to the needs of vulnerable people within this specific area, what lies ahead for the future of Sundholm?

Through our interviews, it became apparent that the municipality intends to encourage greater integration between the district and the surrounding neighbourhood. The goal is to create connections and promote inclusivity among diverse groups of people using the complex area of Sundholm. How can the district become an integral part of the city? How can new activities facilitate the mixing of different social groups within this community?

Moreover, we could observe during our interviews a lack of spaces dedicated to social and cultural activities, as well as communal areas for the local community to gather. This thesis project presents an opportunity to cast a fresh perspective on Sundholm, addressing these gaps and proposing innovative solutions to meet the needs of the area.



## **The UN Goals**

### **8. Decent work and economic growth**

Sustainable economic growth will require societies to create conditions that allow people to have quality jobs that stimulate the economy while not harming the environment. Job opportunities and decent working conditions are also required for the whole population. (Extract from UN's Sustainability Goals).

Vulnerable People have difficulty reincorporating into society especially finding a job. Maskinhallen could be a space to generate job opportunities following a program that adjusts to their schedules and in a familiar area.

### **10. Reduced inequalities**

The built environment can act as an amplifier and enforcer of inequalities. To reduce inequalities, planning and building must prioritise design that ensures inclusion and accessibility for all, including citizens that are marginalised, at risk or living with a disability. (Extract from UN's Sustainability Goals)

Maskinhallen has a strategic location at the core of the neighbourhood between shelter buildings and Amager Fælled School with the potential to be used as a meeting point for social events including the different communities in the area.

### **11. Sustainable cities and communities**

Urban design can contribute to including all citizens through spatial organization and designs that reduce risks of intimidation. Consideration of the needs of marginalized and disenfranchised citizens should be included from the early stages of planning, and all levels of stakeholders should be involved in the process. (Extract from UN's Sustainability Goals)

Sundholm has been a shelter for vulnerable people for more than 100 years. Once an alienated community, today it is in the middle of the city where different communities coexist in the neighbourhood. Buildings and activities should evolve to promote a more inclusive society for all levels of stakeholders.

### **12. Responsible consumption and production**

Designing for a long lifetime, steady maintenance and keeping what we already have, by careful adaptation of existing buildings, are keys to sustainable consumption in the built environment. (Extract from UN's Sustainability Goals)

Maskinhallen is the former machine room of Sundholm neighbourhood. Nowadays the building is divided into three sections and only one is used as a multipurpose room for social events. The rest of the building could be transformed to optimize the space and enhance the architectural features of the historical building.



# Method

As the project seeks to encourage social and spatial relations in the Maskinhallen building, anthropological fieldwork and site registration are conducted. Moreover, with the desire to include different communities in our project/process, we had to establish work tools allowing us to communicate with the design, and architecture fields and with the stakeholders on site.

## **Personal engagement**

By spending time in Sundholm, we realized that different approaches are needed to reach the users. To understand all the different activities and functions that compose Sundholm and establish a close relationship with the users, we decided to participate in community life (monthly meetings, food sharing, volunteering, communal dinners, etc.). This strategy allowed us to work closely with some of the users, and as we will see later in the process influenced our design.

## **Physical model**

From the beginning of the project, we built-up a 1/50 physical model of the entire building in cardboard. The physical process model helps us to facilitate design exploration and iteration. As a non-fixed tool, all the elements of the model can be disassembled, modified and tested. As a living process object, is also a way to communicate with different users. The model provides a tangible and visual representation of a design concept, a sense of space making it easier for the stakeholders to understand and visualize the project.

## **Registration of existing**

Protecting the cultural heritage of the building is part of our framework. Maskinhallen building holds a significant historical, cultural and architectural value that we would like to preserve. Therefore, the first step in our analysis of the building was the registration of the existing tectonic. It allows us to study and understand the evolution of the architectural elements during the time, the construction techniques and the materials used. As a result, we composed an inventory drawing showing significant elements in order to summarize the Maskinhallen identity that we aim to enhance and explore. We will detail the inventory technique in our process later in this report and see how it influences our design proposal.

## **Our collaboration(S)**

Antonio has a BA in product design and Blanche has a BA in interior architecture. After working together during the 2nd semester on the rehabilitation of a former power station building into a public bath, we decided to pursue our collaboration for the 3rd and thesis semester. Antonio has a sense of detail on a smaller scale whereas Blanche has a global overview of the spatial design strategy. Working in a group allowed us to confront and challenge our ideas and to learn from each other's practice. Through our collaboration, we develop skills in cross-disciplinary communication, we learn to appreciate different viewpoints and enhance our teamwork abilities. We decided to design together without dividing the work to challenge each part of the project. These skills are valuable not only for the thesis project but also for future collaborations in multidisciplinary design environments.





Figure 11. Props of the physical 1/50 model





Figure 12. Site visit: hand drawing analysis of the setting.



Rehabilitation of the former  
Cooperative Pau i Justícia  
Poblenou, Barcelona

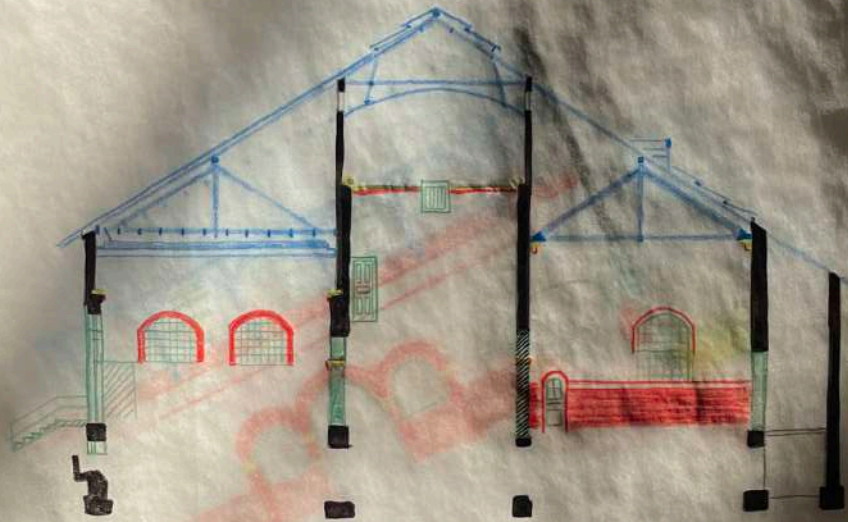


Figure 13. Building analysis, hand drawing



# **SITE CONTEXT**

**26      A CITY INSIDE THE CITY  
FROM FORCE LABOR TO SOCIAL WORK  
CONCLUSION**

**28      STAKEHOLDERS**

**30      MASKINHALLEN  
LOCAL LANDMARK  
BUILDING DNA  
COLOR PALETTE  
ATMOSPHERE**

**38      SUNDHOLM 8**





Figure 14. Entrance door, aquarelle



# Site Context

## **A City Inside a City**

Over time, Sundholm has developed from being a city on the edge of the city to becoming a small city within the city (Figure). Until 1950, it was only possible to get in and out of the district through two gates facing each other, Sundholmsvej and Amager Faeledvej. A three-meter-deep moat encircled Sundholm surrounded by a wire fence. The gate was initially created when the earth was dug to fill up the area before construction, but it kept the residents inside. The gate buildings are still preserved and contribute to an explicit limitation between Sundholm and its surroundings.

## **From forced labour to social work and association life**

Upon its completion in 1908, Sundholm was largely self-sufficient, owning its laundry, kitchen, weaving mill, crematorium, hospital and mortuary. Sundholm has been, and still is, a network of interconnected functions. The connections overlap crosswise.

From the start, the institution consisted of 22 buildings that housed rooms, workshops, and service buildings. The central road, Ahorn Allé, divided the institution into two parts. Farthest to the east was the prison. To the north, the large engine house (Maskinhallen) supplied light and heat to Sundholm and the two schools next door. Today, the layout remains the same, with a total of 35 buildings composed of Sundholm (Figure).

In 1960, the name of the place was changed to a welfare home, but the forced labour did not end until 1976. Sundholm was closed down as a collective social institution in the year 2000, and today the area contains associational life and various social institutions for addicts, people with mental disorders and the homeless.

## **Conclusion**

It was important for us to understand the functioning of the area before starting our research. The Maskinhallen building played a significant role in the working of the area during that time. Therefore, our project aims to keep this strong identity and importance that the building had in the past for its inhabitants. As a central piece of the neighbourhood, the new social and cultural centre will supply not any more light and heat but social life for the local community.





Figure 15 to 19. Forced laborers, Sundholm, 1907 to 1914

Figure 20 to 24. Sundholm Institutions & Schools, 2023





1929

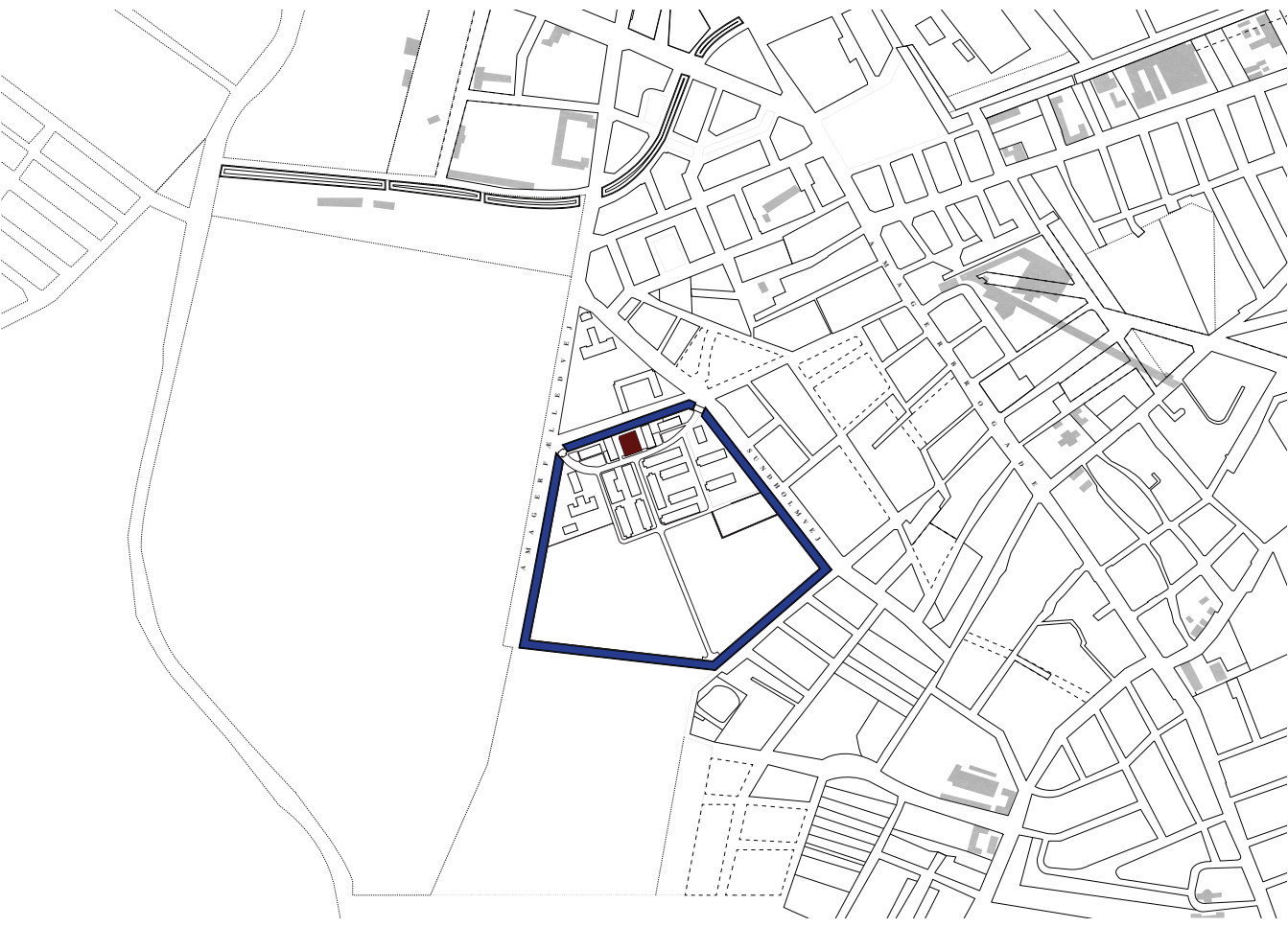


Figure 25. Map from 1929



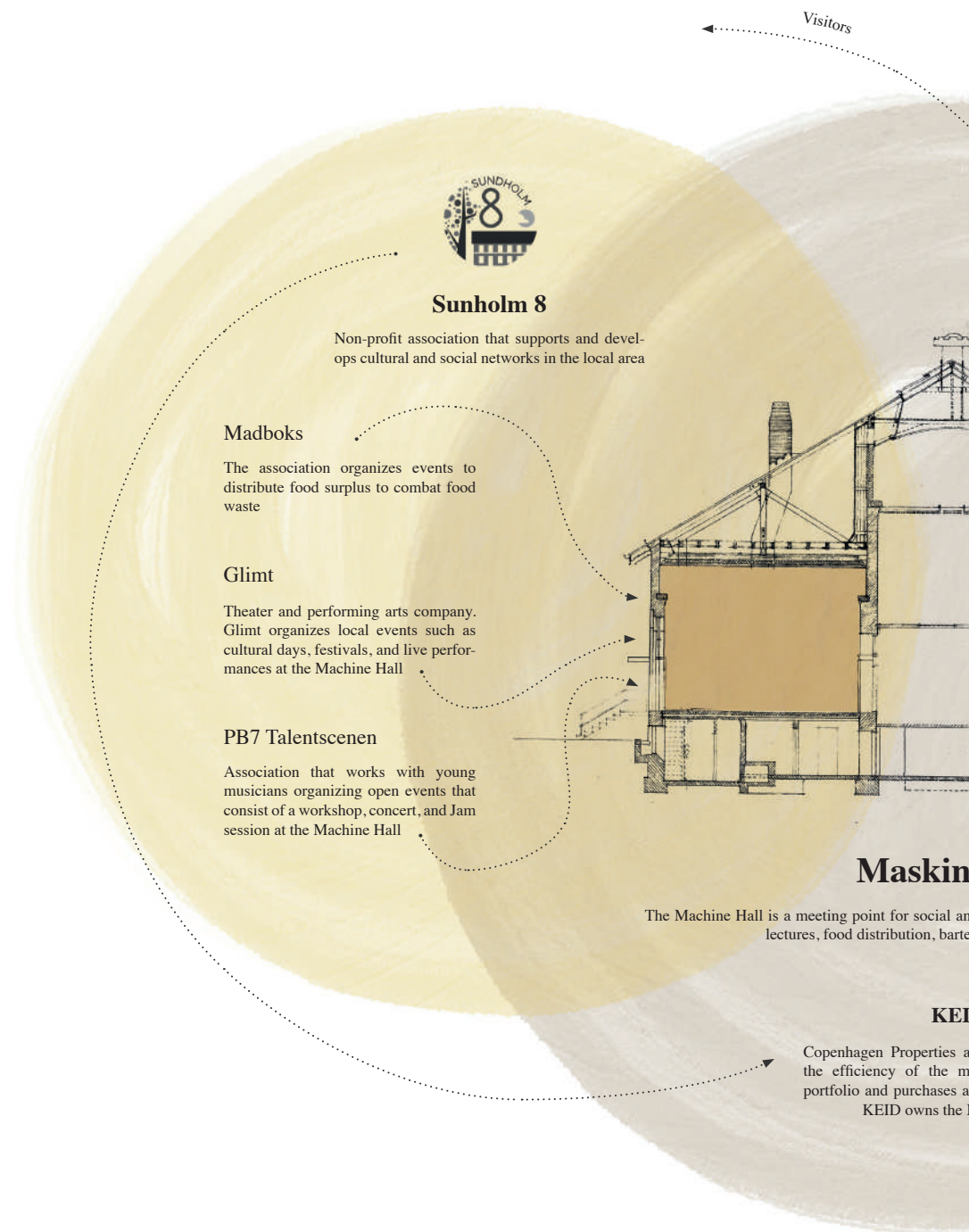
2023



Figure 26. Map from 2023

# Stakeholders

The stakeholders' diagram was a significant tool for us in the analysis and for the comprehension of the functioning of the Maskinhallen with its surroundings. It helps us to identify the different people, groups and organizations that have an interest and or are connected to the building. This includes the local communities, the commune members, the vulnerable people, the visitors, etc. Moreover, the diagram helps us to represent the stakeholder relationships and interactions between them and allows us to be more aware and accurate about the future use/users of the building.





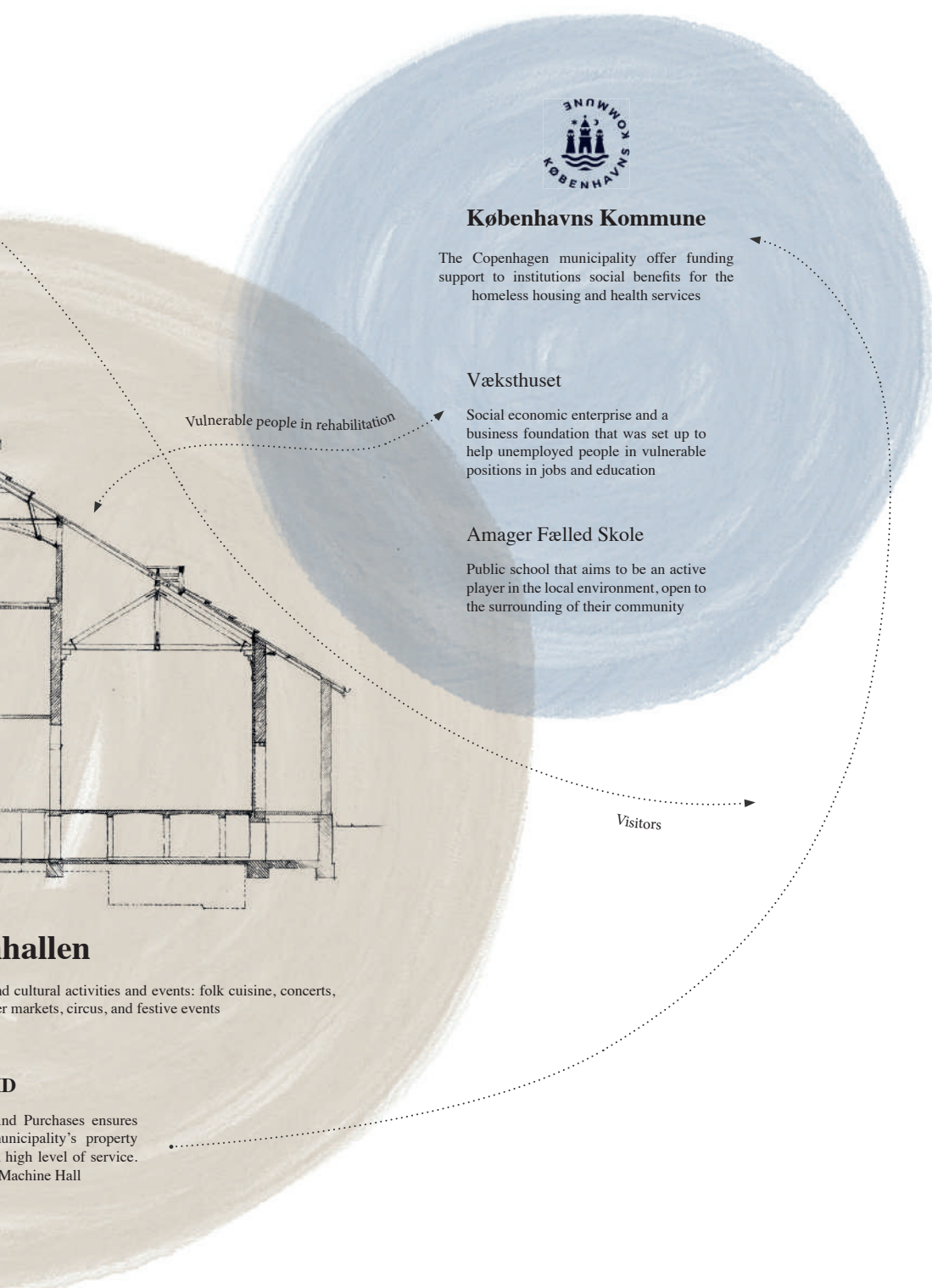


Figure 27. Stakeholders diagram

# Maskinhallen

Emil Gustav Vilhelm Jørgensen was a Danish architect in charge of the design of the entire asylum of Sundholm. The architect is known for his notable work in the national romantic style, such as the church of the Deaf in Copenhagen. As a form of art nouveau, romantic architecture often expressed progressive social and political ideals through reformed domestic architecture. The style can also be seen as a reaction to industrialism but also as a continuation of historicism. In the neighbourhood of Sundholm, the use of bricks (mostly red) to granite (from Bornholm) green wooden doors and sculptural ornaments expressed the regional feeling of the movement through the materials creating the district identity.

The Maskinhallen building was built in 1907 as part of the asylum construction of Sundholm. Throughout history, the building has been used for various activities. As we mentioned above, the building was originally a heat and light supplier for Sundholm and Amager Fælled School. In the 80s a part of the building was used as a canteen for the workers, where they served only a traditional Danish sandwich, the Smørrebrød. Today, the Maskinhallen is divided into three parts: A vestibule room that is used for cultural activities, the centre of the building remains empty, and the third room is a private climbing club located in the north part of the building.

## Local landmark

The location of the Maskinhallen building is at the core of the neighborhood. The building stands out from the rest of the institutional buildings by the square shape, the large façades of 30m long and 15m height creating a landmark in the area. The building was an important building for the functioning of the micro-city of Sundholm when the asylum was still working.

## Building DNA

The industrial building is classified as a conservation value 3, which, by virtue of its architecture, cultural history and craftsmanship, is an outstanding example of their kind. The outside aspect of the fourth façade square building is drawn by different brick typologies and a various range of windows. In the inside, the bricks remain the main materials on the walls. The industrial past of the building is still very present with metallic structures and high ceiling spaces. On the vestibule we can observe a wooden carving ceiling and an original kitchen attached to the vestibule was used for the canteen. The architectural aspect of the building relates to his history between machinery language and hosting canteen.



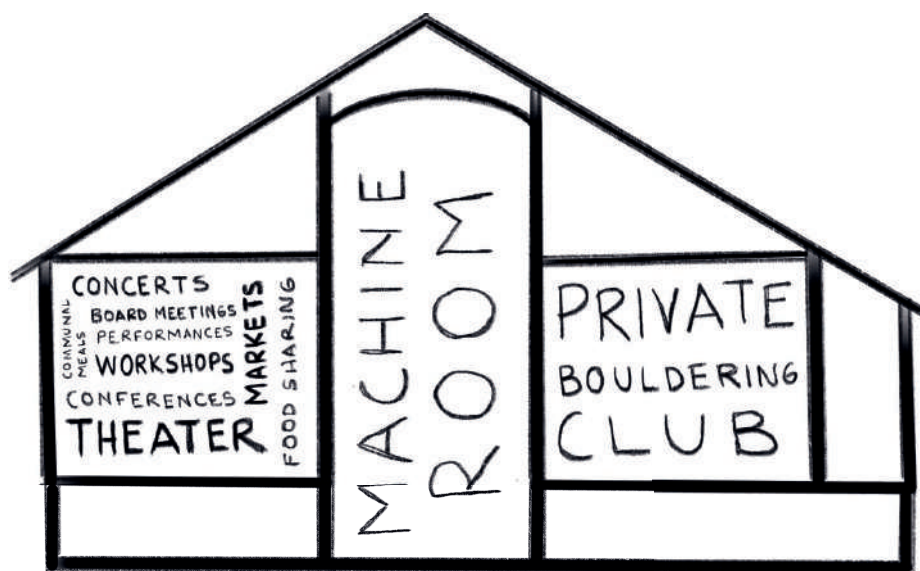


Figure 28. Existing activities in Maskinhallen

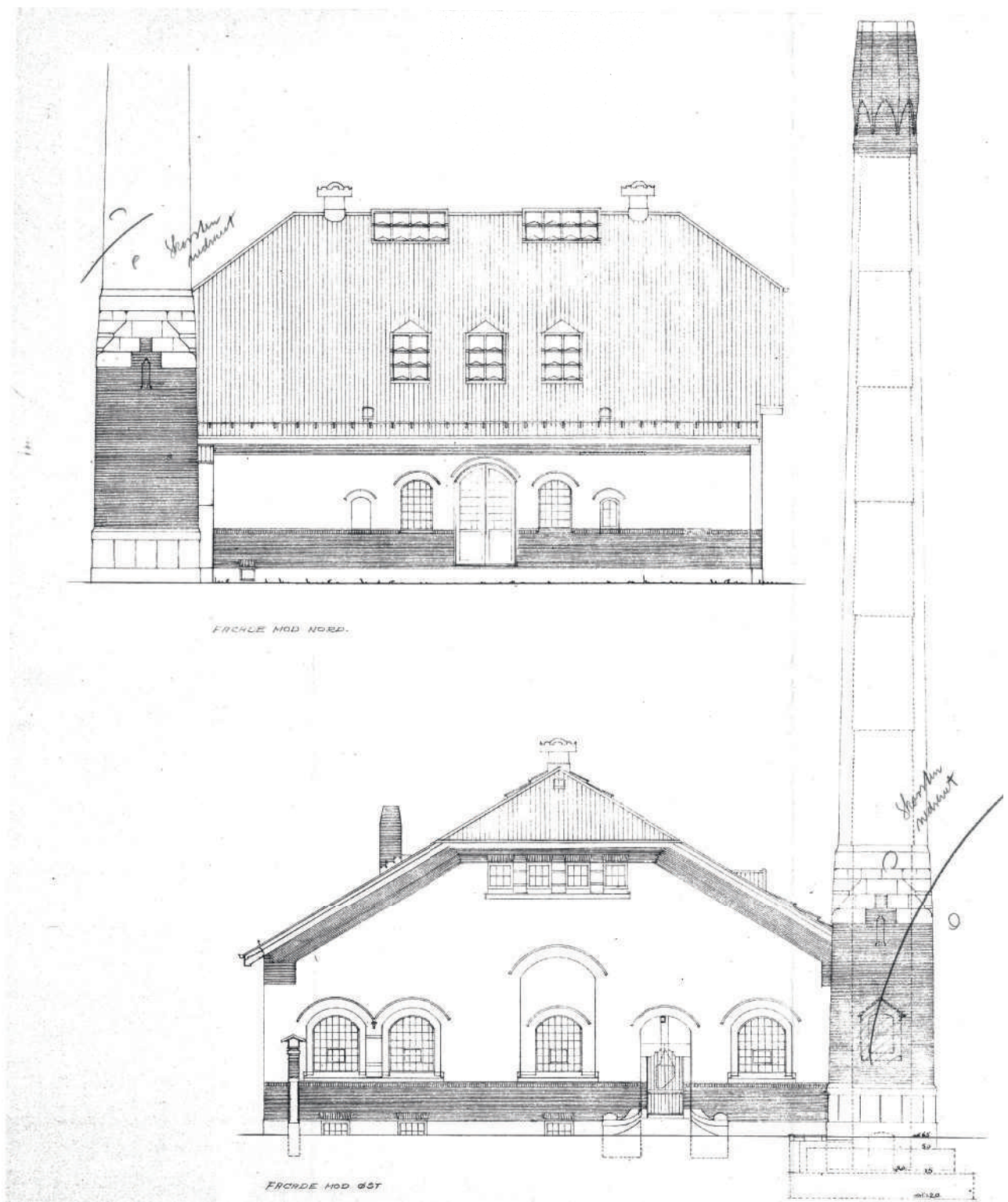


Figure 28. Original façades drawings, 1976





## **Colour Palette**

Four colours create the identity of Sundholm. These colours characterize likewise the rest of the district, the Maskinhallen building.

The main colour is yellow from the chalk plaster that recovers the bricks in most of the facades. The red of the original's bricks, marks on the façade the horizontal lines of the buildings located on the bottom and on the top of the façades. The technics are used likewise inside, creating a geometry and a rhythm to the walls. The red bricks are also used as arches, to emphasize the openings. Dark green is used on the carpentry of the openings, contrasting with the light yellow on the façades. The colour is adding a theatrical aspect to the entrances as we can see in the picture n°. P.21. Moreover, the character of the façades is implemented by ornamentations in limestones. At the bottom of the building, the limestones make the link between the limits of the building and the street.

## **Atmosphere**

As we step into the building, the memories of its past use come flooding back. The machine rooms, with their unique atmosphere, evoke a sense of nostalgia and history that is palpable. The emotional charge and heritage embedded within the building are so important that we understood that our future alterations or changes had to be approached with care and sensitivity. In addition, the beautiful contrast between the national romanticism aspect of the building with the industrial aesthetic gives the place a unique mix of styles specific to the Maskinhallen.



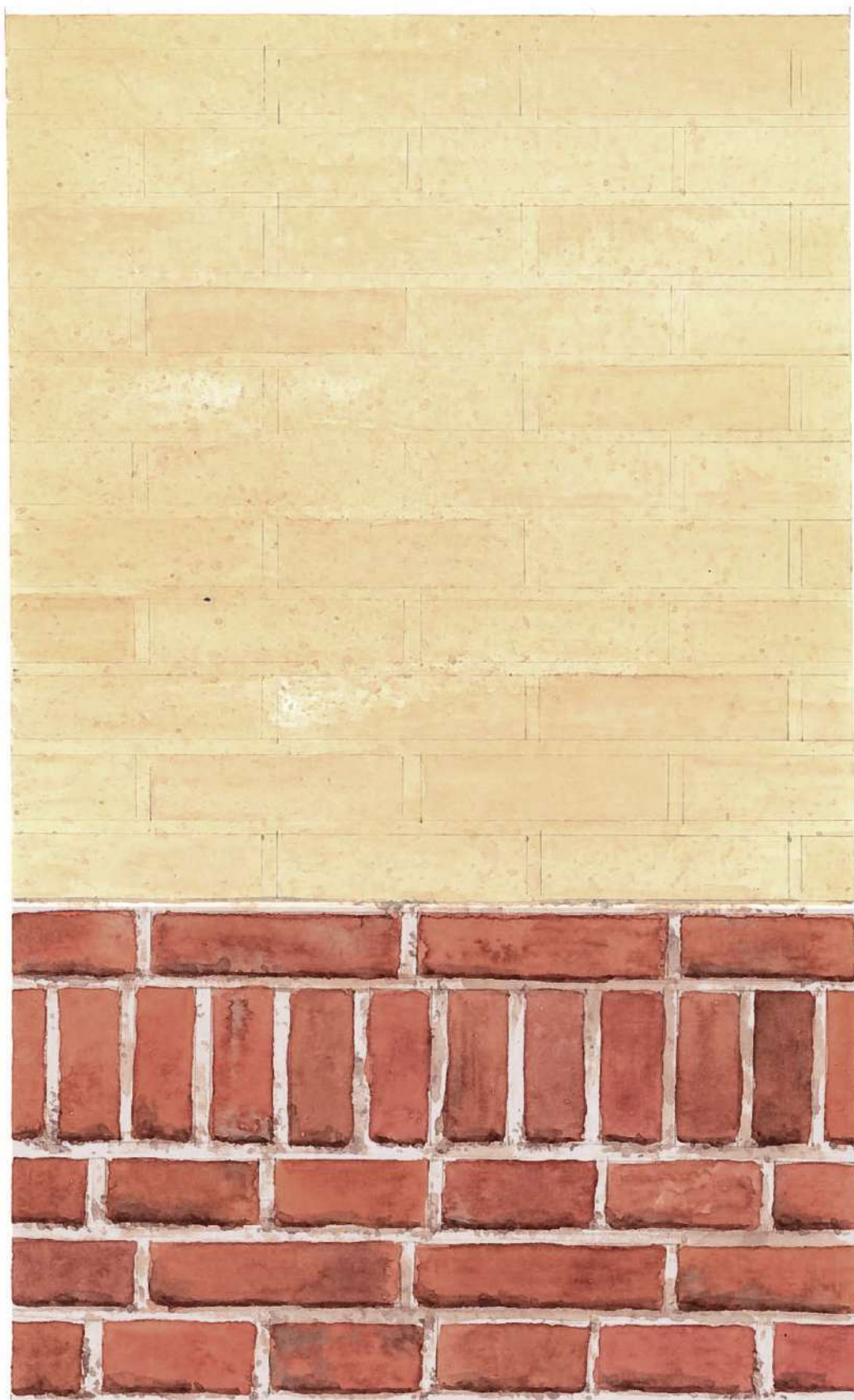


Figure 29. Aquarelle detail of the bricks





038

Figure 31. Original wooden carving ceiling, 2023





Figure 32. Maskinhallen Staircase, 2023





Figure 32. Machine Room, 2023





# Sundholm 8

Sundholm 8 is a non-profit association created in 2015 that supports and develops cultural and social networks in the local area. The house of the association is located in Sundholm, where the secretariat is, and all the members have meeting rooms. As part of the association house, the Maskinhallen is rented to the commune (KEID) as a place for hosting events. Today only the vestibule room is used, allowing up to 100 people to use the 160 m<sup>2</sup> space. A bar and a professional kitchen are also available.

Today, over 50 associations are members of Sundholm 8 and some of them are using regularly the Maskinhallen. Among them the theatre company Glimt invite people for communal dinner and enjoy circus performance, Madbox Amager organized food sharing and Pb7 the talent scene where young people in vulnerable situations can learn music and participate in jam sessions.

In order to receive the funds from the commune, Sundholm 8 had to provide:

- A space for theatre performance and rehearsal
- Social inclusive events
- Hosting a minimum of 50 events per year

The program implemented by Sundholm 8 is used for us as a base in our program. As we have been working closely with them since the 3rd-semester project, we decided to take Sundholm 8, entirely part of our program. Today, the number of associations and activities keeps growing and it appears very clear that Sundholm 8 is missing space to host everyone. Our program will allow using the Maskinhallen building to its totality and Sundholm 8 to host all their events comfortably.

As mentioned in the method part, it was important for us to participate in different events in order to look closely at the needs and to create links, sharing dialogues with the users. What do Glimt circus performances need to do to hang the performers? How many tables are needed for the communal dinners? How are they organizing the space for this or these specific events? How do the different communities share the space? These observations allowed us to be more accurate in our design and precise in terms of function and needs. During our 3rd semester project, we had the opportunity to present our research in front of the commune board members. It was a unique occasion for us to test our practice in front of professionals. Today, the commune is following closely our project for the future of Maskinhallen and we had the chance to present our findings to the commune at the beginning of April.

Figure 34 to 39. Sundholm 8, currents activities, 2020-2023

Meetings: Monthly meetings with the institutes, conferences, etc.  
Cultural events: Show performances, concerts, circus workshop,  
jam session, christmas market, etc.  
Social: Clothing swap, food sharing, dinners, etc.







# RESEARCH FRAMING

- 46      **SPATIAL & SOCIAL THRESHOLDS**
  - SPATIAL INCLUSION
  - SOCIAL INCLUSION
  - SOCIAL STORIES
  
- 26      **SOCIAL & CULTURAL SPACE**
  - PERMANENT PROGRAM
  - FLEXIBLE PROGRAM
  - SCENARIOS
  
- 28      **TRANSFORMATION OF  
DANISH HERITAGE**
  - ADAPTATIVE REUSE
  - SUBTRACTION & ADDITION
  - LIGHT STUDY
  
- 38      **SUM-UP ON RESEARCH**





# Research Framing / Spatial & social thresholds

## **Spatial Inclusion**

Located between the Amager Fælled Skole on one side and the institution buildings on the other, the Maskinhallen building makes the transition between communities. Through our anthropological work we could observe a division of the territories and by consequence of people. Even if different communities share the same area, there is no sharing space. The physical boundaries created by multiple layers of fences make the separation clear. Thus, it appears evident that the Maskinhallen is a strategic point to allow different communities to meet and then offer Sundholm the opportunity to be part of the large district of Amagerbrø.

## **Social Inclusion**

Moreover, the project aims to be part of the re-insertion program for the vulnerable people living in the institution's buildings to re-integrate into society and for the school to be aware of existing social issues. The spatial transition aspect of the Maskinhallen will allow the vulnerable people in rehabilitation, able to connect with different communities and lead them to break their social and spatial boundaries. One of the objectives of the project is to create a place where vulnerable people could participate in the daily functioning of the centre and gain self-esteem and confidence. The centre has become a space for social transition.

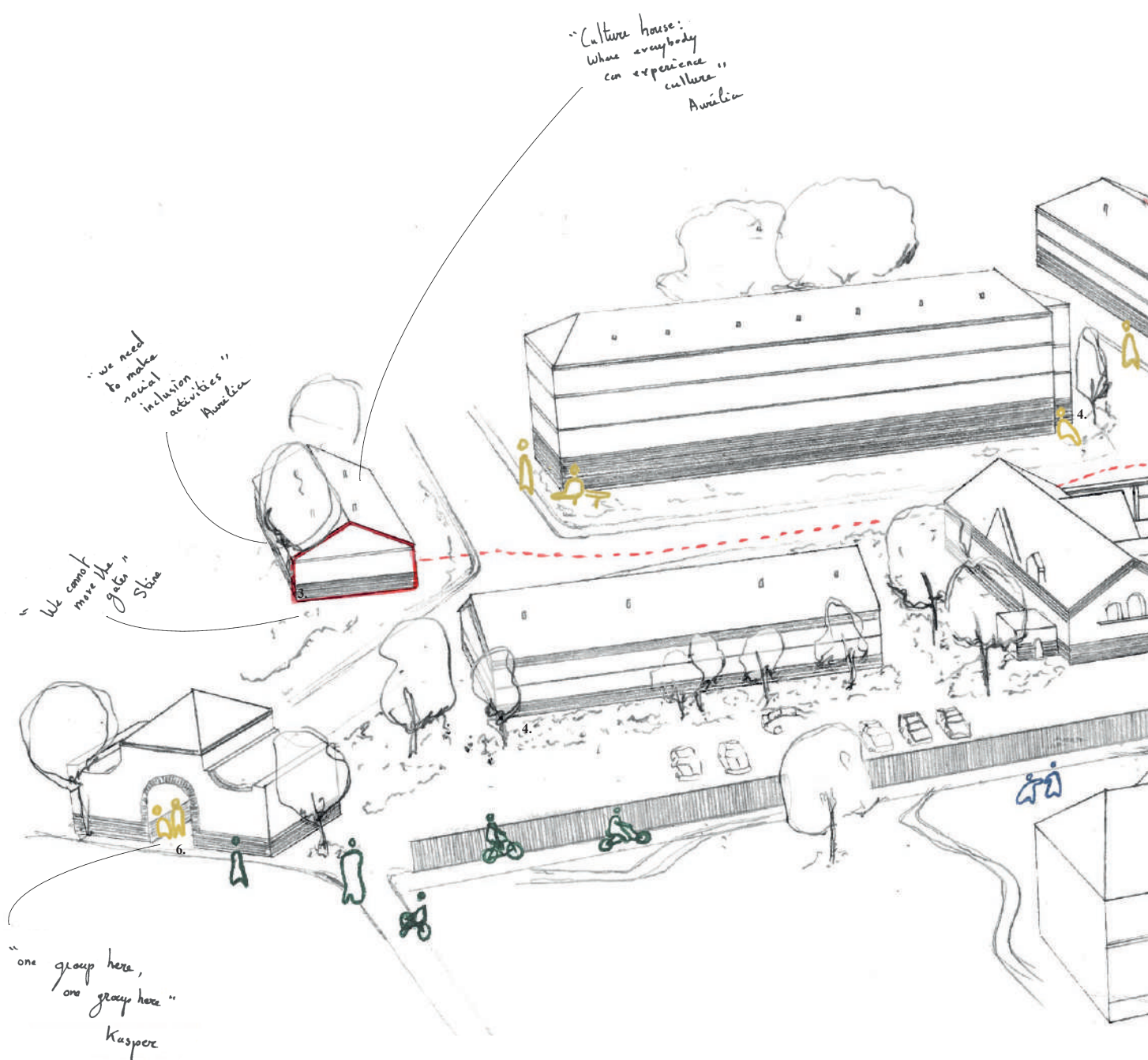
## **Social Stories**

In the book "The Practice of everyday life", Michel de Certeau talks about space and place and plays with stories and narratives as guides through space. In chapter IX, "Spatial stories", he argues that stories also mark out boundaries. He explores the renewed power of narrative in marking out boundaries that "have the function of founding and articulating spaces." It means that by creating a "theatre of action", stories establish space by narrating where and how boundaries exist and what it means to be in and out of here and there. In other words, the stories become a tool to organize and understand space and place.



**Spatial Inclusion + Social Inclusion**  
**=**  
**New stories**

A place for culture, performance and shared thoughts and stories – however ritualized the ceremony of a theatre of performances may be – a domestic, democratic, comfortable place, where we all feel welcome as citizens, the protagonists of our stories.



Children

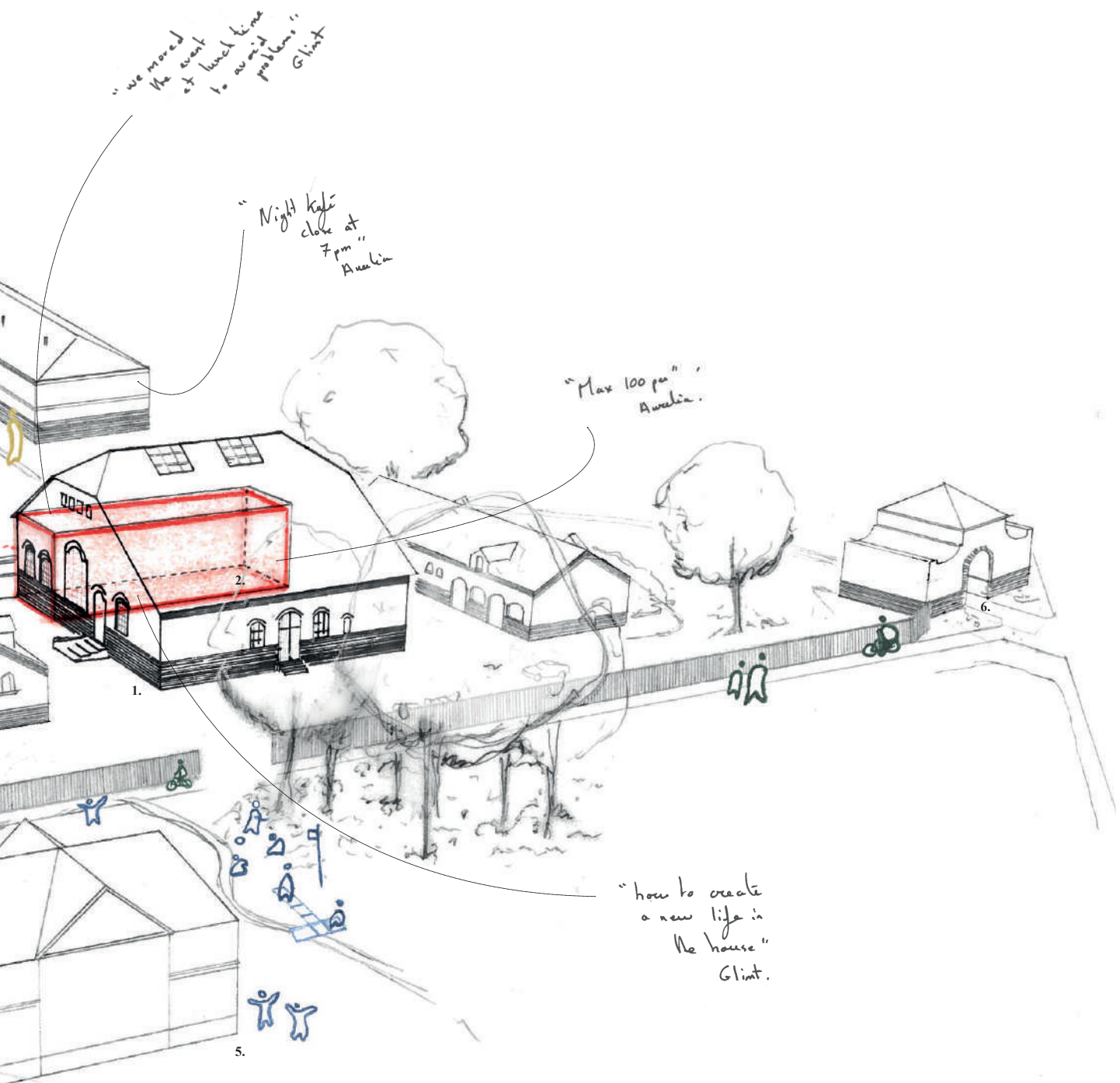


Sundholm 8 Associations



Vulnerable People





1. Maskinhallen
2. Vestibule Room
3. Sundholm 8 offices
4. Institution buildings
5. Amager Fælled Skole
6. Entrance Gates

Figure 41. Anthropological hand drawing

# Research Framing / Social & Cultural space

The project transformed the Maskinhallen into a Social and Culture house that provides the space for social inclusion activities dedicated to the local community and visitors. The objective of the program is a way to experience culture and bring the different local communities together. Therefore, the program will be divided into two parts: A permanent program as a cafe that allows people to come every day to Maskinhallen, and a flexible program of cultural events organized by Sundholm 8. The program will lead the design into open possibilities where the different activities can be mixed. We believe that the Maskinhallen can be a place for meetings where people will create new stories.

## **Permanent Program: KAFÉ**

One part of the building will be dedicated to a social café. To remind the historical program of the Maskinhallen, the café will be also used as a cantine where you can drink coffee and eat smørrebrød. The café will be open during the day to allow a large audience to come and in the evenings when special events will take place. As part of our wishes to make the cultural centre more inclusive, the café will be managed only by workers who are part of the Trade Union.

## **Flexible program: Culture House**

Promoting culture for everyone is one of the important parts of the program. Supervised and organized by Sundholm 8, social and cultural events will be implemented in our program. The core of the culture house will be dedicated to production facilities and a stage place for performing arts. Moreover, some of the rooms will have the possibility to host activities organized by Sundholm 8 such as food sharing, clothes swap, etc. We believed in a design where different activities and communities can take place in the same place, and therefore create a cultural life in Sundholm.

On the right page, a picture of the Dynamo, a stage & workspace for circus and physical performing arts in Odense. Dynamo is the only circus house for artists and performers to have the chance to rehearse and perform in Denmark. During our interviews with GliMt, we realized that there is no house or support from the government dedicated to circuses in Copenhagen. Maskinhallen has the potential to host this future culture space that promotes performing arts and creates a community and audience for it.

After long discussions with Camilla and Lars from the Glimt company, we realised that the Maskinhallen will not host a traditional theatre but a more experimental place for new creative possibilities. As we mentioned earlier, the building has its own character and can be adapted for installations, performances, markets, etc. The Maskinhallen will serve as a stage where the performances interact with the architectural elements and spatial characteristics. The Maskinhallen itself becomes an integral part of the stage, influencing the audience's perception and engagement with the performances.



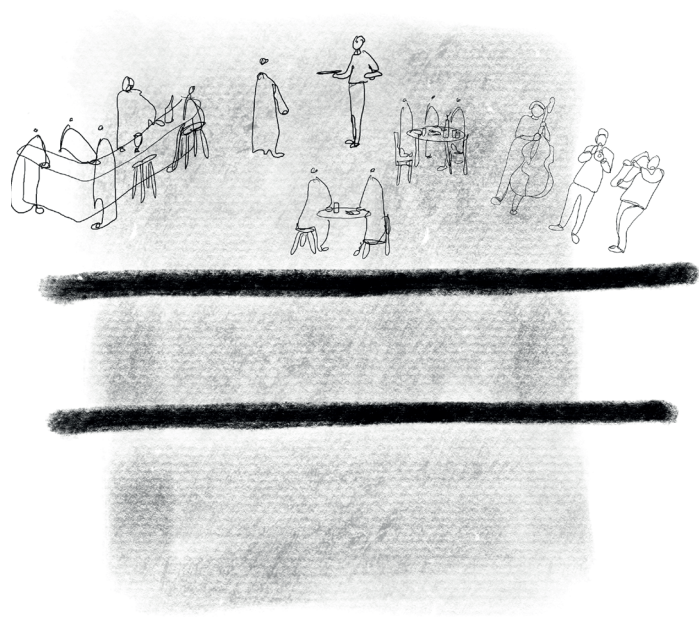


Figure 42. Dynamo, workspace, Odense



Figure 43. Maskinhallen , Glimt performance

Iteration for future scénarios



1

café

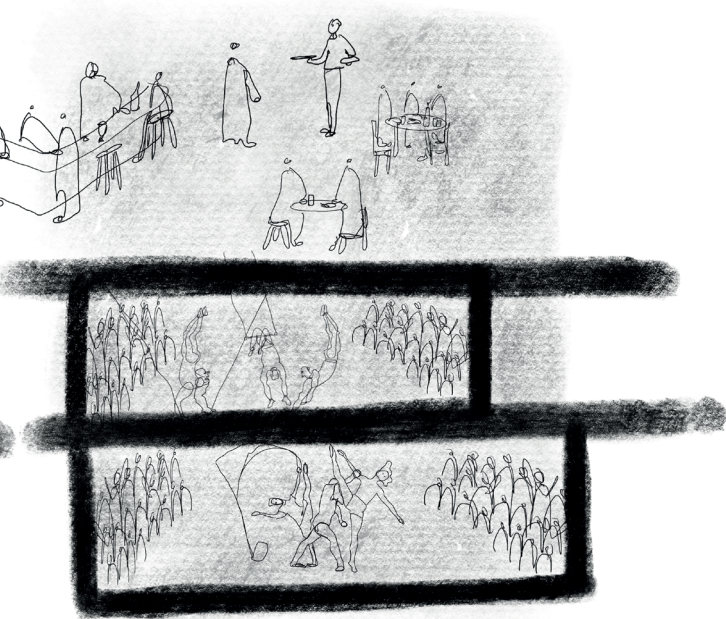


2

café

circus performances



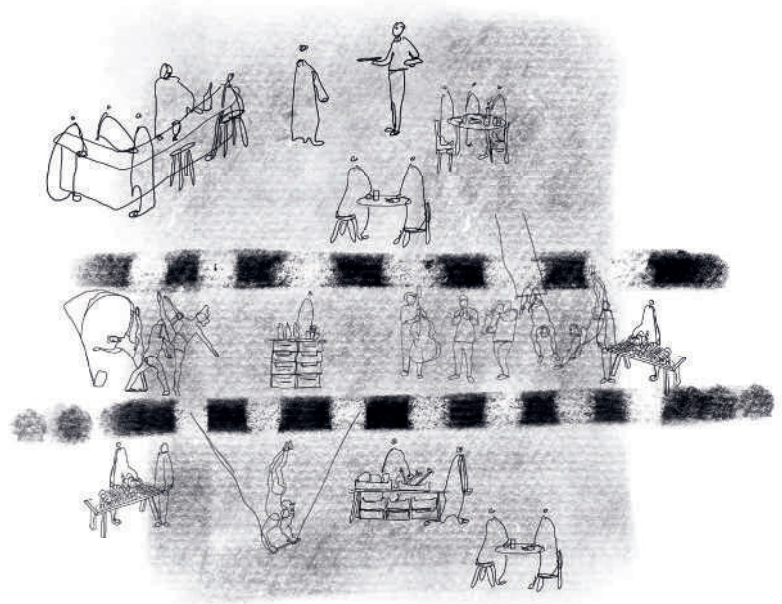


3

café

circus performances

theater



4

communal kitchen

café

food sharing

performances

Figure 44. Scenarios, hand drawings

# Research Framing / Transformation of danish heritage

## **Adaptative Reuse**

As spatial designers, we believe that the future of architecture and design should be part of a transformation and reuse strategy. We also think that working with the existing building is today imperative for economic and ecological futures perspectives. We aim to use local materials and enhance local production as much as we can in the creative process and the development of the project.

We are thinking about the transformation process where the boundaries between the existing and the project are blurred. By enhancing and respecting what is already there, our proposition will allow the public to look at the different layers of history that the Maskinhallen is composed of. The implementation of the new program respects acknowledges and enhances the character of the host structure. Therefore, we can ask, how can the project adapt to the new needs of the community by preserving the existing architectural qualities of the building.

### **Existing architectural qualities that we aim to preserve:**

- **The Complex circulation = Spatial choreography**
- **The contrast of languages Industrial Vs Danish National Romanticism**
- **Diversity of existing openings**

Moreover, the Adaptive Reuse of the Existing Structure of Maskinhallen will be transformed into a social and cultural house and make use of unique architectural features to enhance the building experience. The project retains the building's character and history, adding a layer of context and storytelling to the new use.

## **Subtraction and Addition**

As the aim of the project is to adapt the new uses to the existing building, we believed that it was necessary to develop a strategy that can be applied during the process of our design. The strategy will be based on the concept of subtraction and addition, allowing us to adapt to new circulations, new openings and new lights and therefore create new spatial qualities. Moreover, this strategy enables us to enhance the existing by deleting a part of it. A strategy that can also be identifiable from the visitors. We will develop during our process where, how and why we decided to subtract and add some parts of the building.





Figure 45. Subtraction of volumes from the existing building of Maskinhalen, model



Figure 46.  
Pastoor van Ars Church, The Hague, Netherlands. 1969, Aldo Van Eyck  
Addition and subtraction of volumes.

Analytical registration drawing

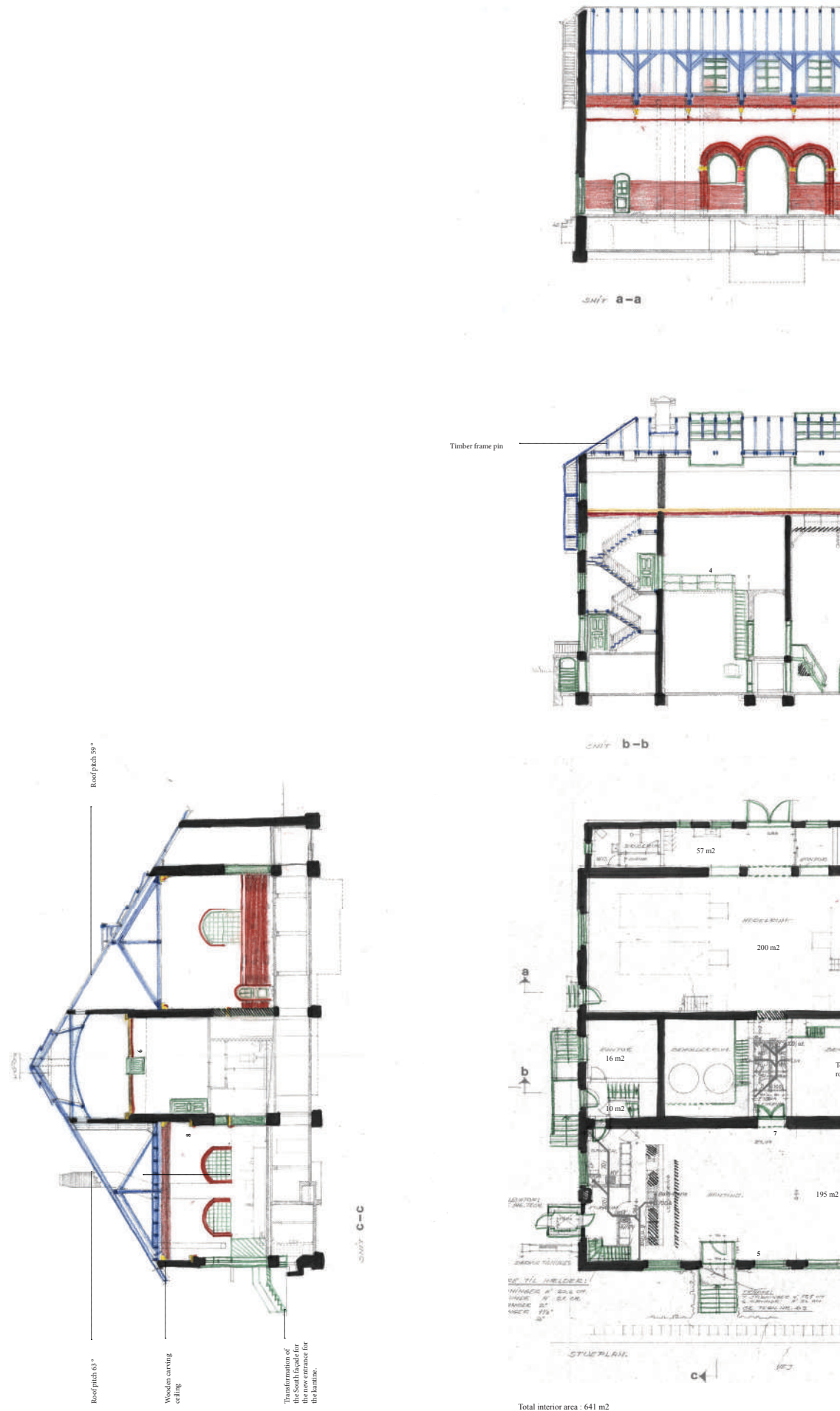
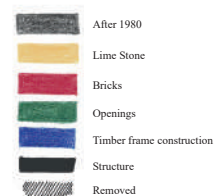
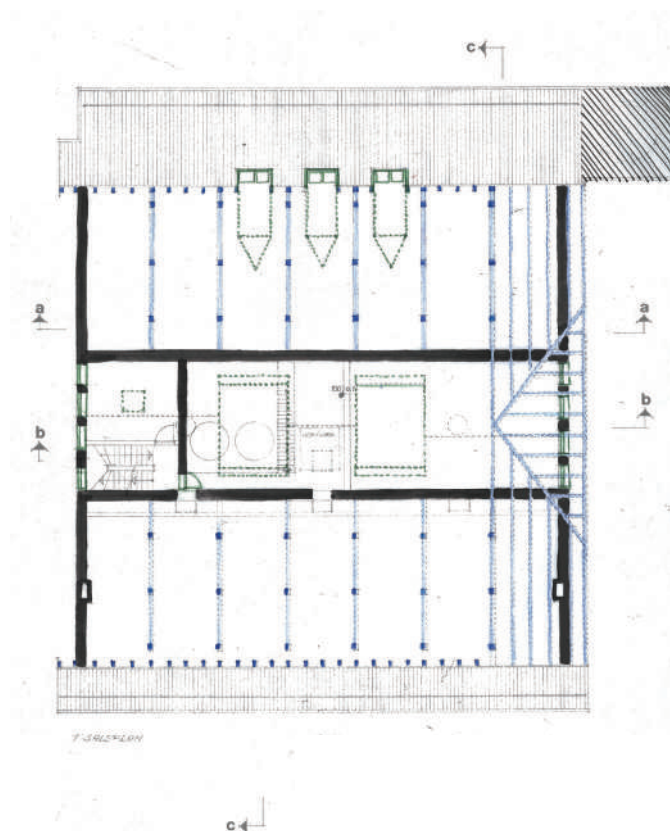
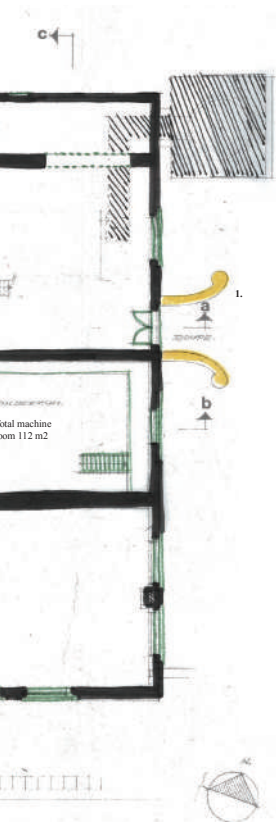
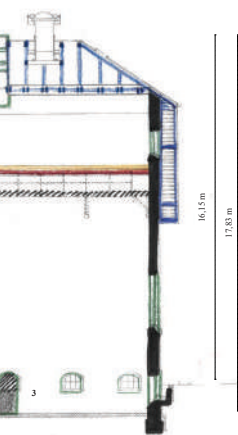
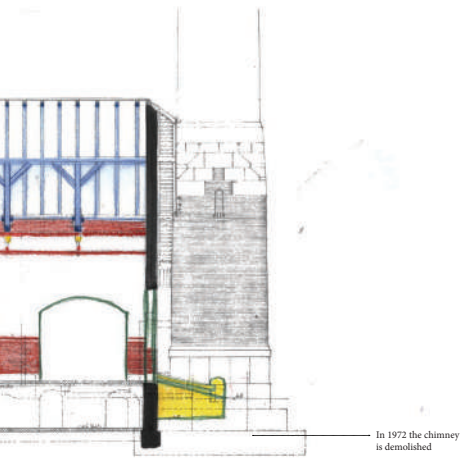


Figure 47. Registration hand drawing





## Light Study

With our 1/50 physical model, we developed a light study in the light lab of the school where we could simulate the natural light of the sun, based on the geographic location. We also tried to introduce artificial light sources. The study allows us to understand how natural and artificial light interacts with buildings and space. We observed the distribution of natural light in the existing different rooms, and we could look at how the sun is moving from one room to another depending on the time. We could identify a clear segmentation of the tree rooms, where each of them is exposed to subtle light. The limitation of the light is influenced by the rigid layout of the building. Therefore, can we allow more natural light to enter the building by connecting the rooms? Can the light be a connector between the rooms and activities?

Figure 48. Light lab, model 1/50





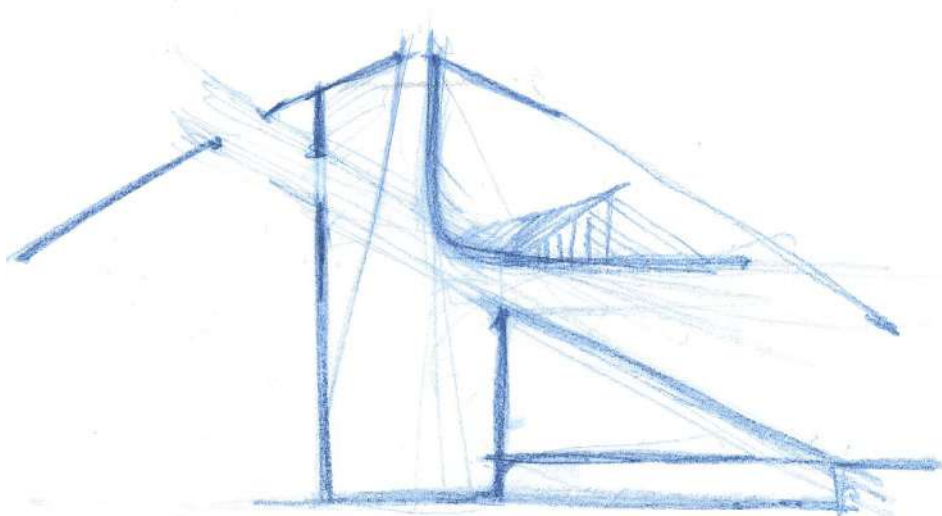


Figure 49 & 50. existing light study hand drawings  
 Figure 51. Iteration drawing of how can the light be connected to the rooms



Figure 52. Natural light analysis, model 1/50





Figure 53. Natural light analysis, 1/50



Figure 54. Artificial light analysis. 1/50





Figure 55. Artificial light analysis, 1/50

# Sum-up on research

## 1. Spatial & Social Thresholds

- Creating shared spaces to promote interaction and social inclusion.
- The Maskinhallen building serves as a transition point between different communities.

## 2. Social & Cultural Space

- The Maskinhallen is transformed into a Social and Culture house.
- Introducing a permanent café and flexible program of cultural events.
- Promoting inclusivity by involving the vulnerable people from the Trade Union in working at the café.
- Providing production facilities and stage space for performing arts.

## 3. Transformation of Danish Heritage

- Applying adaptive reuse to preserve the existing building and enhance its architectural qualities.
- The design strategy involves subtraction and addition to adapt to new needs and create spatial qualities.
- The light study observed a clear segmentation of rooms and explored the possibility of using light as a connector between rooms and activities.

To conclude, the changes in the design aim to promote social inclusion, create cultural and performance spaces, preserve the existing building's heritage and adapt to new needs. These modifications enhance the functionality, aesthetics, and overall experience of the Maskinhallen building.





Figure 56. Inert street in front of the East facade of the Maskin-  
hallen

## **DESIGN FOCUS**

- 70 FROM A STATIC BUILDING  
TO A PLACE IN MOVEMENT**
- 72 DOORS & OPENINGS  
WALLS AS A STAGE**





Figure 57. Method, model 1/50 and plan drawing

# Design Focus

## **From a static building to a place in movement**

The research framing enables us to identify the key challenges within the building that need to be addressed for its transformation into a social and cultural house. The primary issue revolves around the fixed circulation of the current structure. While the existing circulation layout reflects the building's past function, it does not align with the desired flexibility we aim to incorporate into the project. Therefore, it becomes essential to reevaluate and reimagine the circulation system to better accommodate the new uses and enhance the overall adaptability of the space.

It became clear to us that the essence of the entire project lies within the interplay between walls - the spatial thresholds that delineate the building from its neighbourhood and the boundaries between individual rooms. As a result, our design will focus on these spatial thresholds.

To address this, we have decided to approach the design in two distinct parts. Firstly, we will focus on the entrance door and the scenario that will serve as a means to connect and invite the community into the building. This element will play a pivotal role in bridging the gap between the exterior and interior, creating a welcoming and inclusive transition space.

On the other hand, we will focus on the in-between walls that facilitate connections between the rooms and subsequently accommodate various activities. These walls will act as the element through which the flow of movement and interaction will take place, enabling seamless integration of different functions within the building.

By reimagining and enhancing these spatial thresholds, we aim to create a design that encourages connectivity and transforms the building into a cohesive and vibrant space for the community.



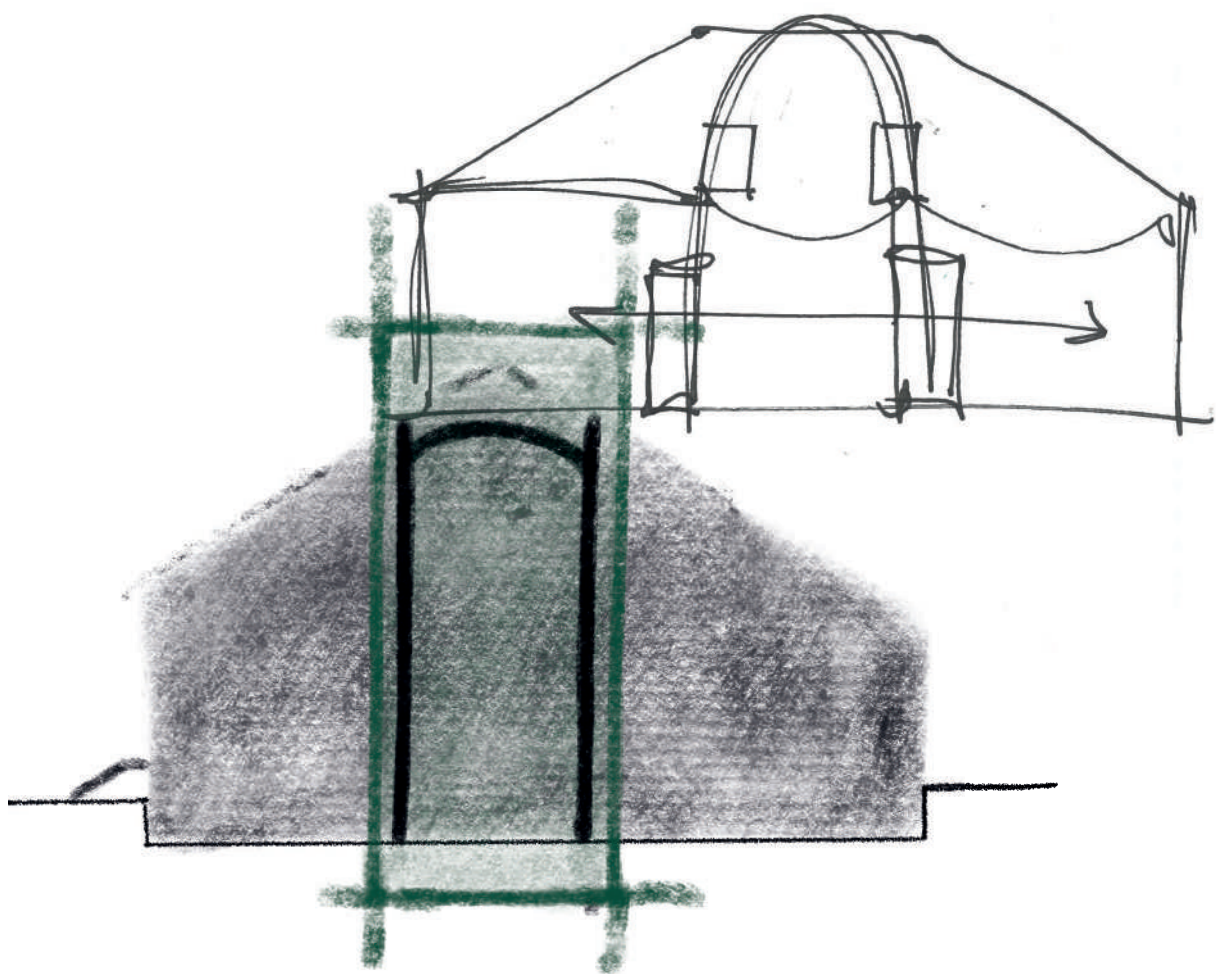


Figure 58. Design Focus, spatial thresholds, hand drawing

## Doors

In order to create these transition and threshold spaces we chose to design door separation. The door marks the transition from one space to another, creating a threshold that separates and connects the different rooms. It represents a physical and symbolic boundary between the public and private, interior and exterior, or even different states of being. It holds the power to invite or restrict entry, shaping our perception and experience of a space. In other words, it appears clear that to support the heavy and complex program for the future Maskinhallen, the transition elements needed to be solid and robust, inclusive and allowing flexibility. In addition, as we are working with large and high rooms, we needed to design a tool that can serve as isolation and soundproofing.

Moreover, the doors have a sense of human scale. Through the act of passing through a door, we can evoke emotions, create a sense of arrival or departure, and invite curiosity about what lies ahead. They are meant to be interacted with, providing a tangible and tactile experience as we open and close them.

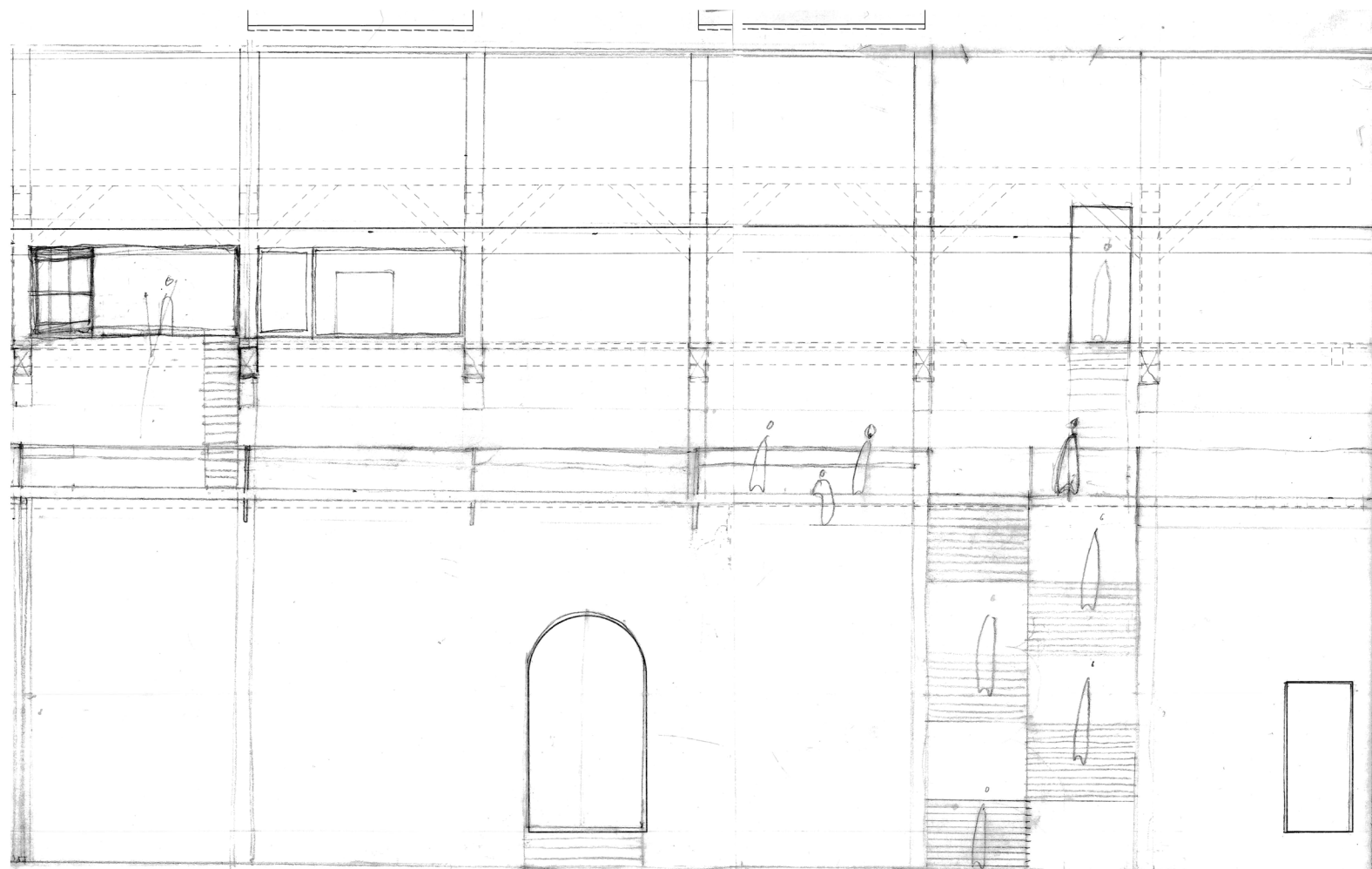
## The wall as a stage

As we are transforming an existing building into a social and cultural house, we needed to think about how our design can translate all the life around the project. The concept of a wall as a stage explores the transformative potential of architectural elements to serve as interaction surfaces. The non-fixed aspect of the project resides in the fact that we are imagining everything can happen everywhere, as the existing complex circulation creates the spatial Doors

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# PROCESS

76      **INVENTORY**

78      **SPATIAL STRATEGY &  
ORGANIZATION**

80      **ZOOM ON THE ENTRANCE**  
**SOCIAL AND SPATIAL THRESHOLDS**  
**SUBTRACTION & ADDITION**  
**MATERIALITY & DETAILING**

**ZOOM ON THE IN-BETWEEN WALLS**  
**SOCIAL AND SPATIAL THRESHOLDS**  
**SUBTRACTION & ADDITION**  
**MATERIALITY & DETAILING**





Figure 62. Model process props 1/50

# Inventory

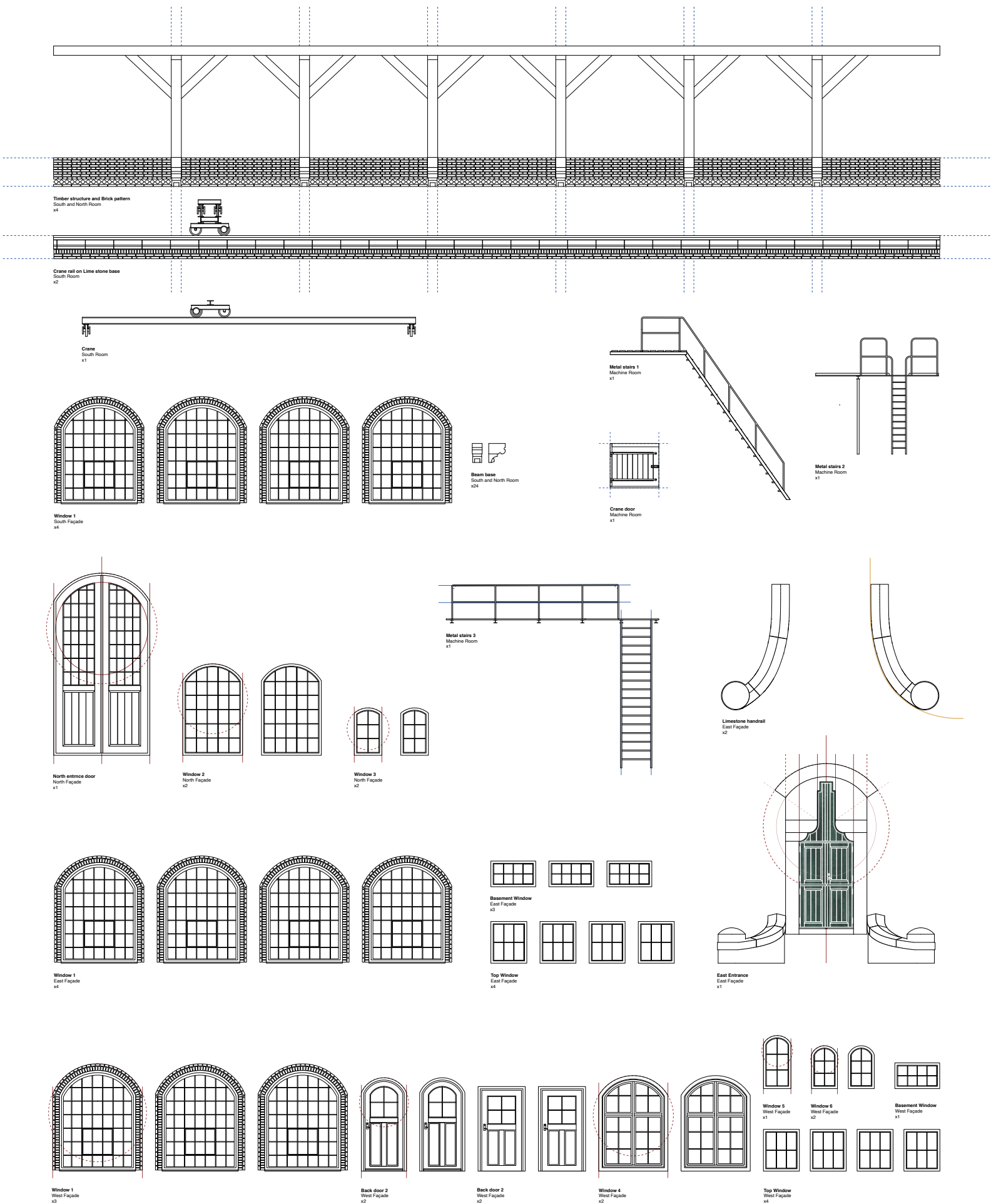
In the initial phase of our research, our focus was on analyzing and comprehending the existing elements of the Maskinhallen building, which were composed of a mix of national romanticism and industrial heritage features. Classified as a value n°3 structure, it became clear that our ability to modify the original structures and features was limited. During our first visit to the site, we were greatly impressed by the design, arrangement, and composition of these elements. Recognizing the importance of preserving and enhancing these unique features, we made a conscious decision to incorporate them into our design, thus ensuring a significant connection to the history of Maskinhallen.

To establish a close relationship with these elements and gain a deeper understanding of their characteristics such as shapes, original geometry, composition, colours, and materials, we embarked on a process of collecting and documenting them. This inventory served as a means to integrate the elements into our project, marking the beginning of the design process even before any formal designs were conceived.

As we proceeded with the design of new spatial elements, it became evident that we could draw upon our knowledge of the existing elements to inform our iterations. For instance, when creating the entrance sequence, we developed a ramp that followed the curved form of the original limestone elements. Furthermore, other examples include the incorporation of metal detailing inspired by the former machinery platform's metal profiles, thus establishing a visual connection between the past and present iterations of Maskinhallen.

By embracing the existing elements, understanding their essence, and translating that knowledge into our design process, we aim to maintain a strong link to Maskinhallen's history while revitalizing the space for new use. This approach ensures that these elements remain integral to the new iteration of Maskinhallen, preserving its unique identity and heritage.





# Zoom on the entrance

## **Social & Spatial Thresholds : The new entrance strategy**

During our 3rd semester, we conducted a study of the boundaries that exist between the territories in Sundholm. We observed that the southern part of the district was primarily dedicated to vulnerable people, while the northern part was primarily occupied by the school. The Maskinhallen building acted as a transitional space, creating a filter between these territories.

Presently, the main entrance to the building is located on the southern facade, leading directly to the vestibule room. However, this entrance situation sometimes generates tension when some vulnerable people come into contact with ongoing events. To address this issue, associations have resorted to closing the doors and installing physical curtains to prevent the intrusion of vulnerable people under drugs or alcohol. Through these experiences, we realized that the entrance strategy would be a significant focal point of our project. How can we preserve the territories of the vulnerable people? How can different communities coexist within the same space?

The Maskinhallen building is framed by two long brick buildings on either side, which form two inactive streets that connect different territories. We recognized an opportunity to transform these streets into filters and establish a new entrance for the building on the right side. To demarcate the boundary between the building and Sundholmsvej, we envisioned a partially open, original brick wall that would separate the spaces while allowing gazes to pass through. The new entrance will facilitate the connection between both sides of the building and create a welcoming space for all communities involved. It will serve as a point of convergence, enabling diverse groups to enter and engage with the interior of the building.



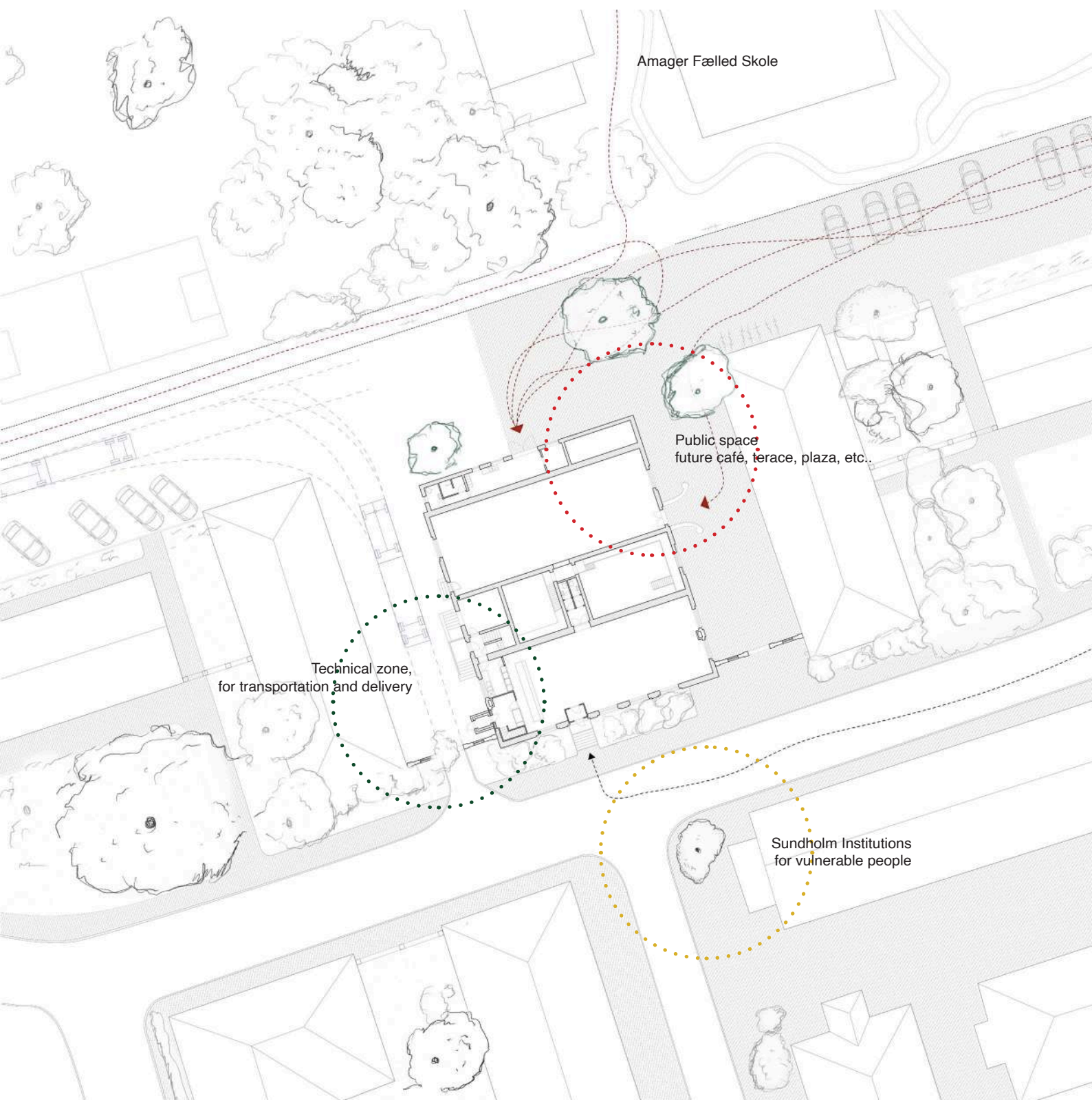


Figure 63. Plan drawing, new entrance strategy

## **Subtraction & Addition: Merging the new with the old**

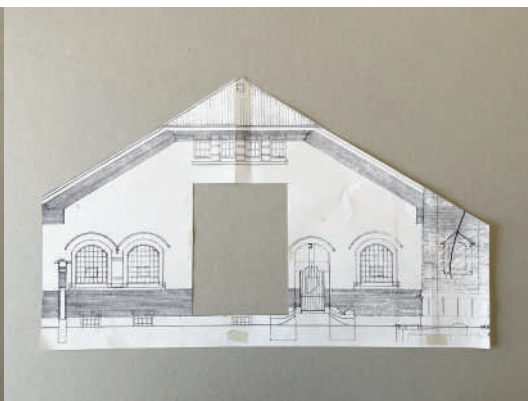
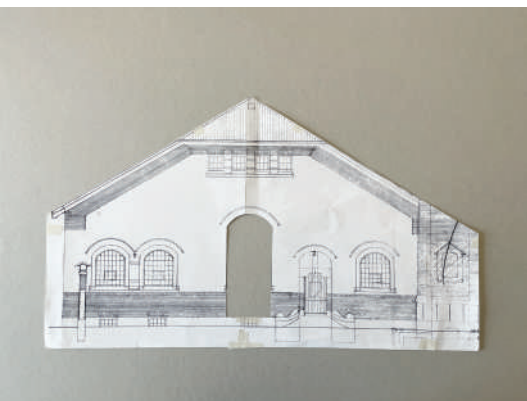
For the design of the entrance, we aimed to create a spatial moment that would contribute to the overall architectural character and expression of the building. During all our studies, we used the 1/50 physical model and we started to subtract the East façade. Initially, we followed the original shapes and marks of the façade (Figure), but we soon realized that the entrance needed to provide a stronger contrast to the existing doors and windows.

By pushing in the main entrance doors, we were able to establish a patio that we envisioned as the entrance gate that is demarcating the district. This spatial threshold serves as a catalyst for community interaction in various situations and events. By creating an inert courtyard, we aimed to integrate vulnerable people into the project. Through discussions with them, we discovered their discomfort with being enclosed in a space with a large number of people and noise. Therefore, we provided multiple possibilities for them to engage, from the street to the wall gate, and ultimately to the patio, allowing them to participate in the activities according to their comfort level and preferences.

The entrance doors themselves hold a commanding presence, signifying the importance of what lies beyond. The subtle recess of the main entrance doors creates an intriguing effect, piquing the curiosity of visitors.

Strategically, we positioned the permanent café near the street life of the project. We sought to highlight one of the characters' existing elements of Maskinhallen, the wooden door, which carries historical significance. By recessing the entrance further inside, we accentuated the presence of the wooden door and chose it as the entrance to the café. Connected to it, a terrace was designed to enrich the creation of a public plaza. By incorporating corners and shaded areas, we established more intimate spaces while simultaneously connecting different territories. As noted in the inventory phase, the shape of the terrace follows the curve of the existing limestone element, ensuring a seamless transition from the outside to the inside.





1



2



3

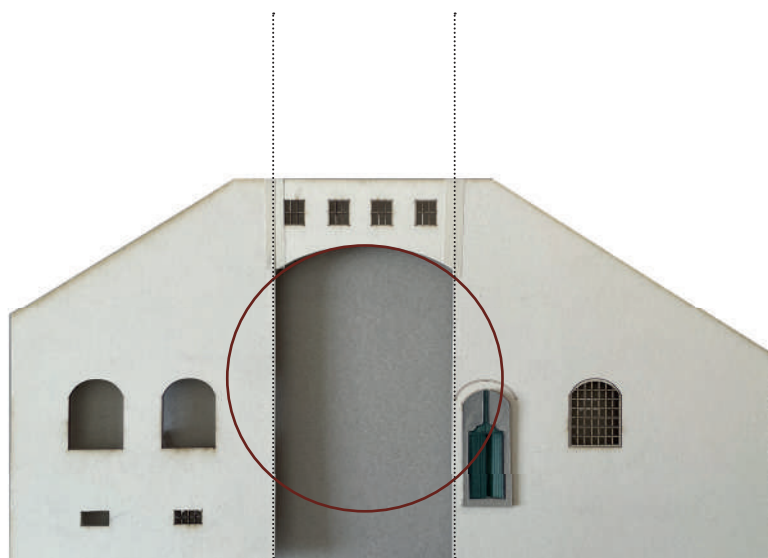






Figure 71. Entrance process, view from the sundholmsvej, model  
1/50







Figure 73. Entrance scenario process, model 1/50



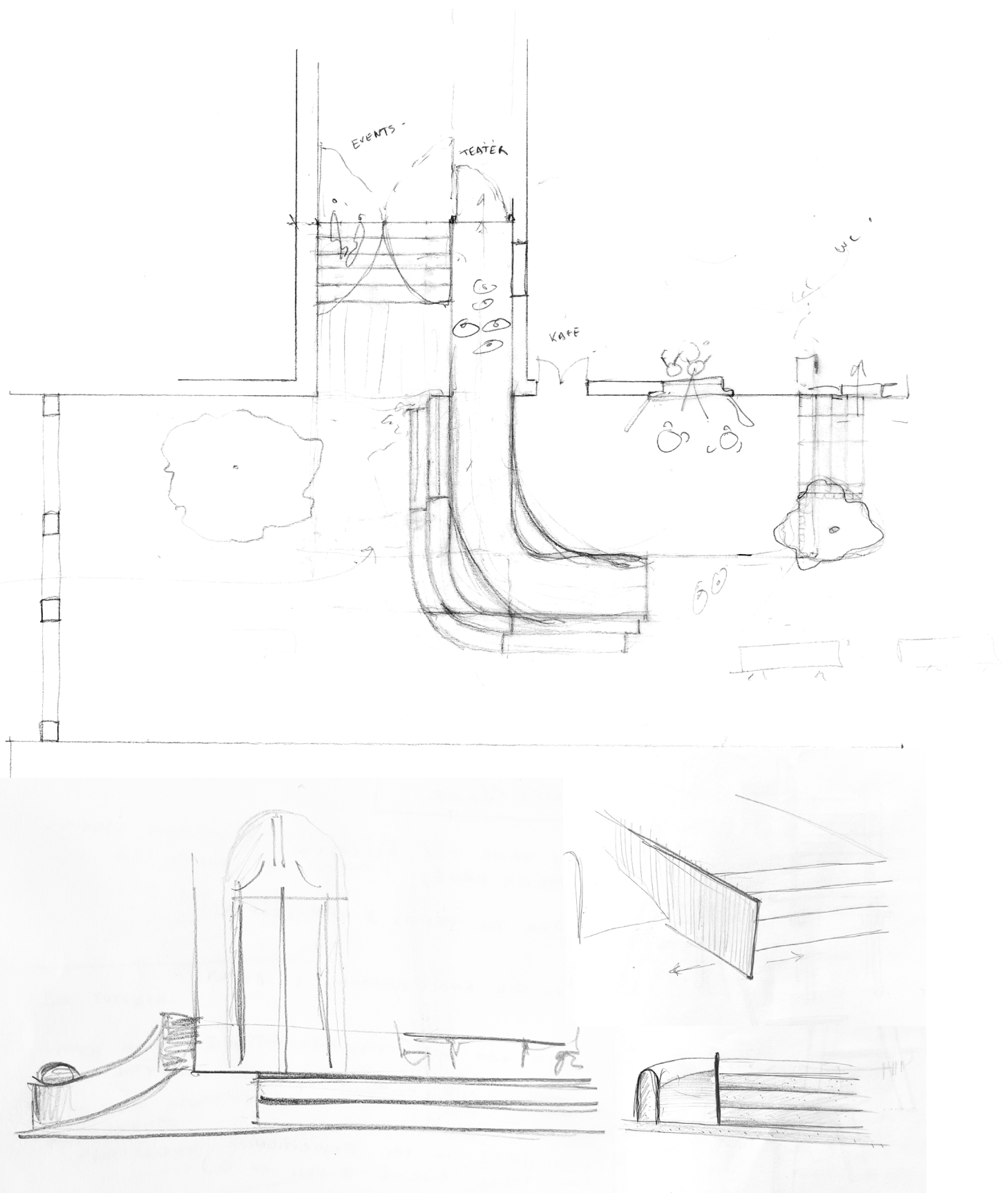


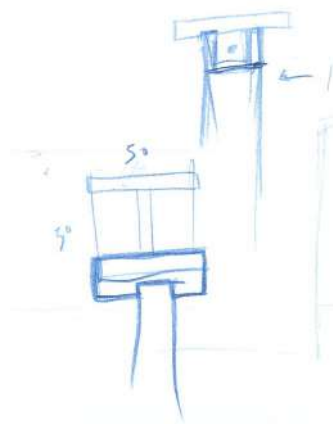
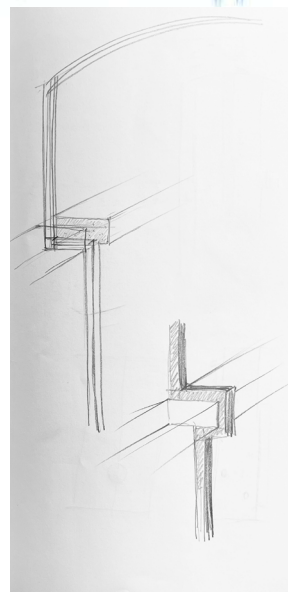
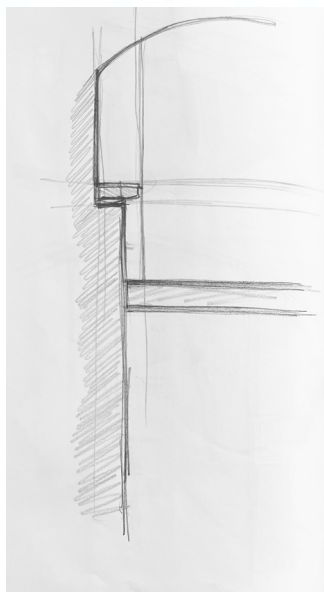
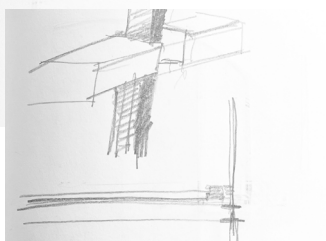
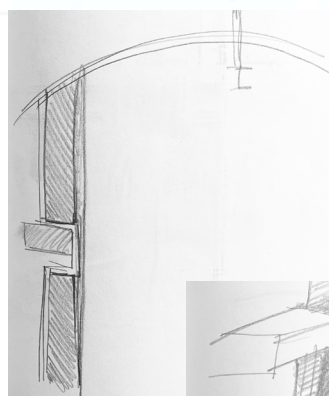
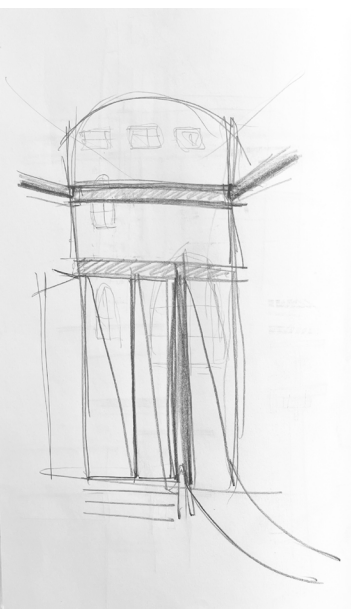
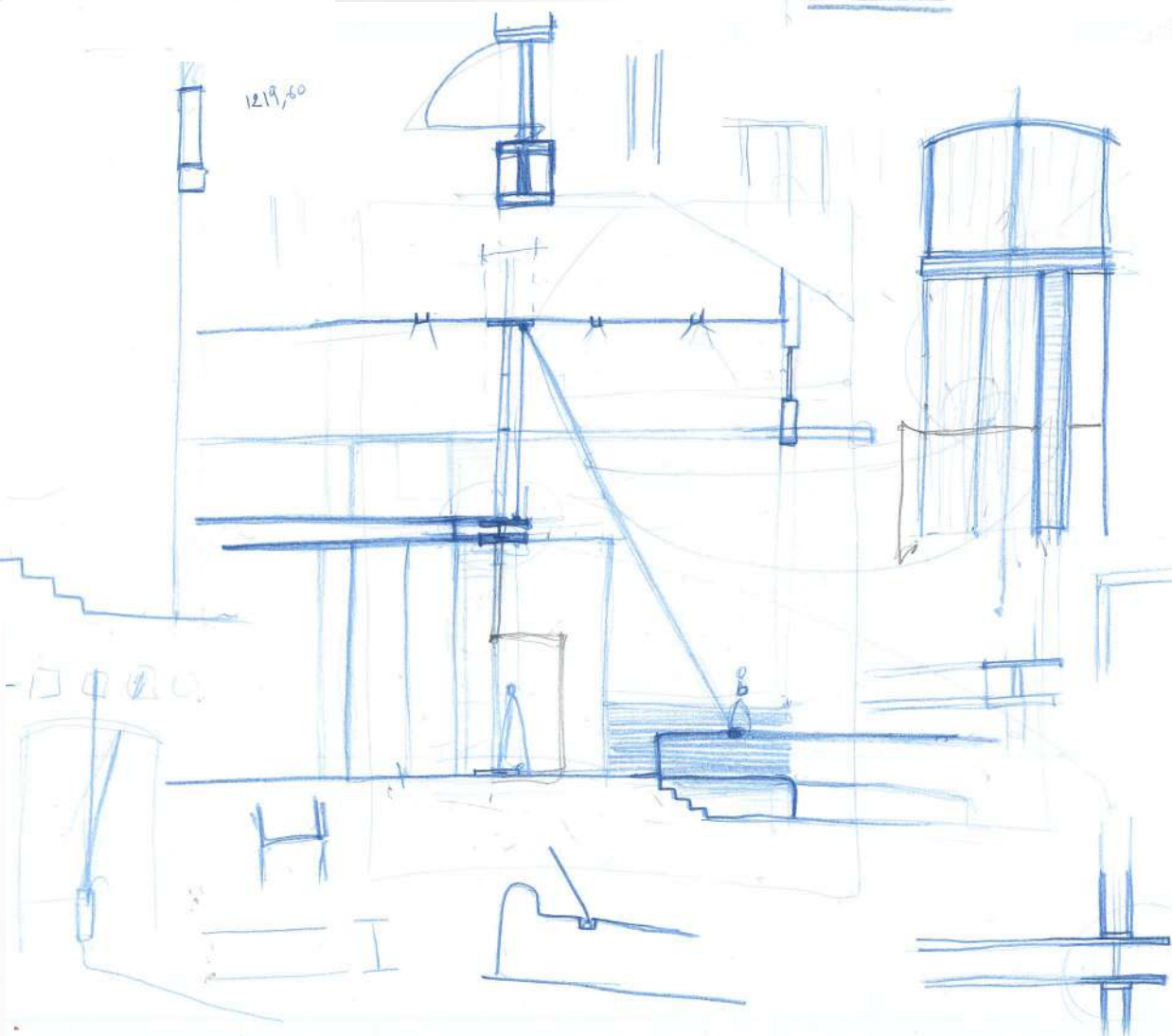
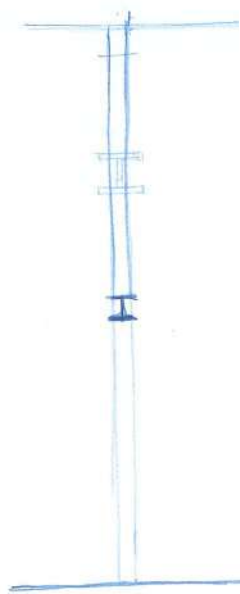
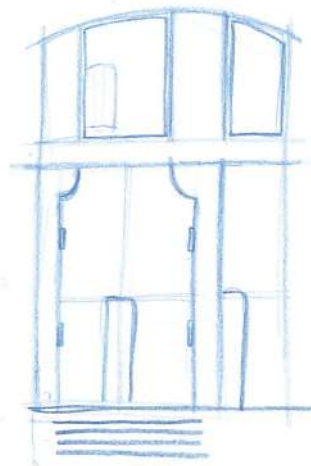
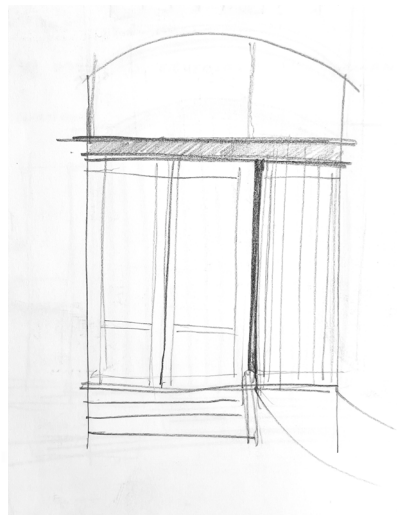
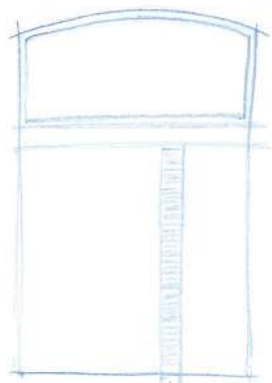
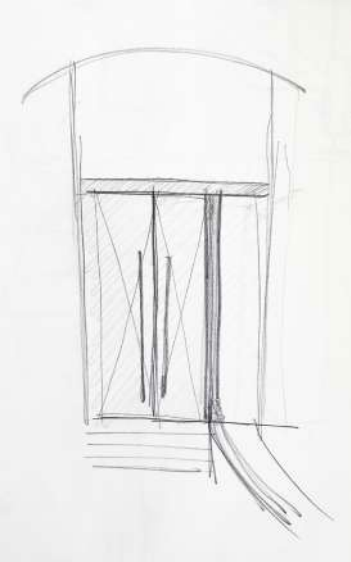
Figure 74 to 77. Hand sketches entrance & terrace

## Materiality & Detailing

Currently, at the stage of detailing and material selection, we would like to provide you with a glimpse into our thoughts and prospective choices for the design of the entrance. Our primary objective is to maintain the overall harmony of the building's geometry while incorporating elements that evoke the historical heritage of the Maskinhallen. Moreover, we intend for the entrance to serve as a robust gateway that captivates visitors from the outside. By drawing inspiration from the industrial past, we seek to enhance the presence of the machine room behind the doors, creating a sense of immensity that entices those who approach.

The design of the entrance door extends beyond its physical form. It encompasses considerations such as materials, ornamentation, and detailing, all of which contribute to reflecting the style, cultural influences, and historical context of the building. We aim to carefully select materials that not only exhibit durability and longevity but also possess aesthetic qualities that align with the overall design intent.





# Zoom on the in-between walls

## Social & Spatial Thresholds: To more flexibilities

In our project, the distribution of rooms and the flexibility for future events is achieved through the design of spatial thresholds and separation doors. These elements serve as more than just transitions between spaces; they act as scenic elements that define distinct areas or scenes within the overall space. By utilizing our 1/50 physical model, we sought to explore how we could incorporate flexibility while preserving the significant structure and composition of the existing walls.

The in-between walls go beyond their functional role and become integral to the theatrical experience. They serve as a stage, setting the backdrop for performances and creating a dynamic interplay between performers, props, and the architectural environment. In early April, we had the opportunity to collaborate with the circus company Glimt, who were conducting rehearsals in the Maskinhallen at that time. Therefore, it was for us the opportunity to organize a half-day workshop with them, bringing along our physical model and plan drawings. During this workshop, we gained valuable insights into certain technical aspects that we had overlooked.

One important realization was the need to incorporate elements within our design that would allow for the suspension of ropes and strings from the floor, walls, and ceilings. This discovery opened exciting possibilities for further experimentation and design refinement, particularly in relation to the doors. Additionally, through discussions with the performers, we explored the optimal positioning in relation to the walls, enabling choreographed movements that could dynamically interact with the surfaces. This engagement added depth and visual interest to the overall performance, enhancing the theatrical experience within the space.

Figure 79 to 81. Workshop with Camilla & Lars from Glimt







120m2

wonder  
place  
120m2

① keeping the existing beam  
independent structures  
② steel frame  
circular  
wood: cross laminated timber

all lights  
in one panel

Rolling desk.  
- black base / white base

Common  
line here?



## Subtraction & Addition: Merging the new with the old

The design of the two walls was one of the most significant challenges of the project, as we had to navigate the existing structure on both sides, which served different functions (figure p.92). Our physical model proved invaluable in understanding the intricate compositions of the walls and guiding our decision-making process.

During our design research, we explored two potential strategies for opening the walls. The first involved creating a distinct, separate structure within the wall by cutting a defined shape. The second option, which we ultimately chose, was a more subtle approach, involving careful subtraction of certain sections of the wall. Our objective was not to completely remove a part of the building but rather to carve into it, revealing and accentuating its existing details. Moreover, we were creating openings of approximately 7 meters in height, we sought the expertise of an engineer to determine the precise positioning of potential metal beams required to support the existing structure.

Designing a wall specifically as a stage for performances required us to consider various factors such as structural stability, choice of materials, and aesthetic qualities. Architectural elements like niches and alcoves were incorporated into the wall design to accommodate props, lighting fixtures, and other performance-related elements. In this way, the wall seamlessly integrated with the overall architectural design, enhancing the spatial experience.

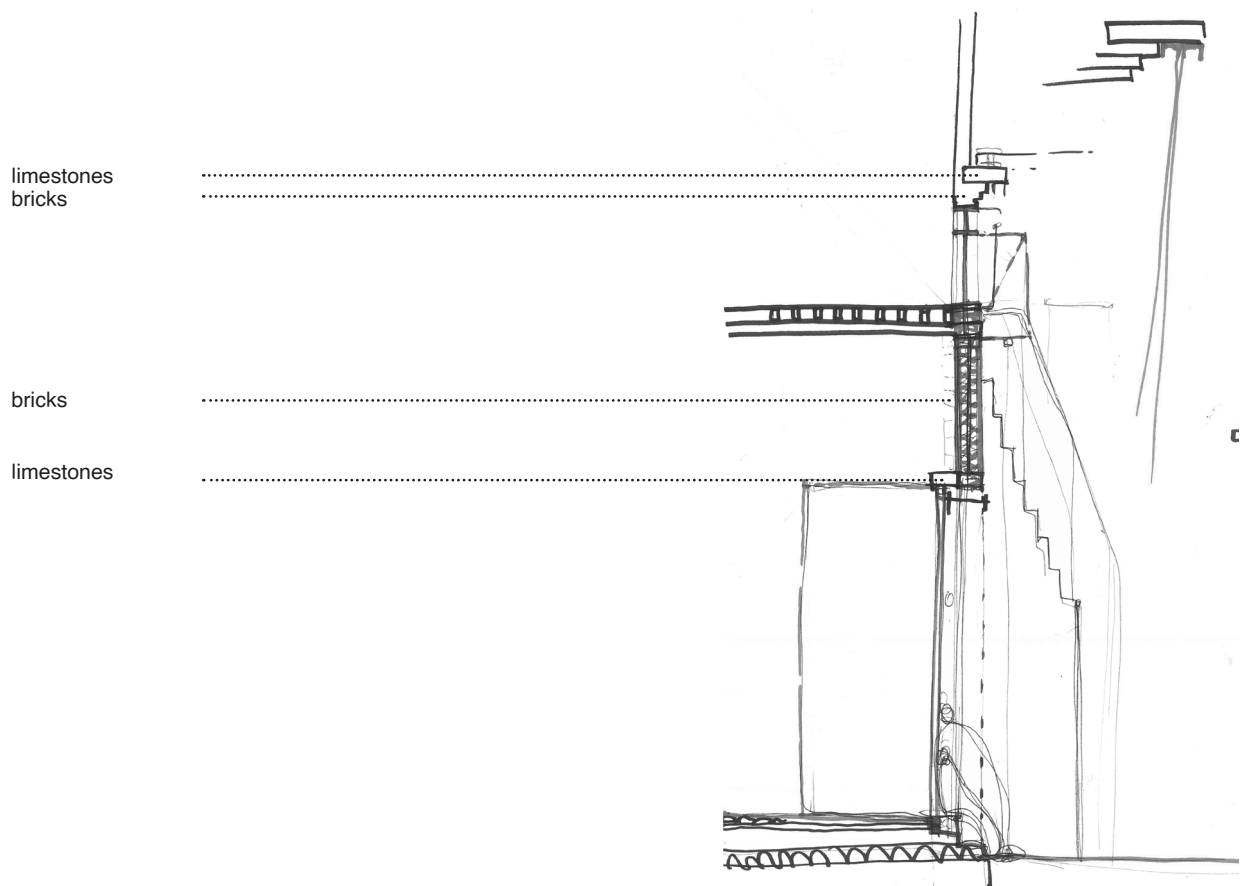
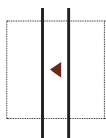
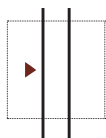
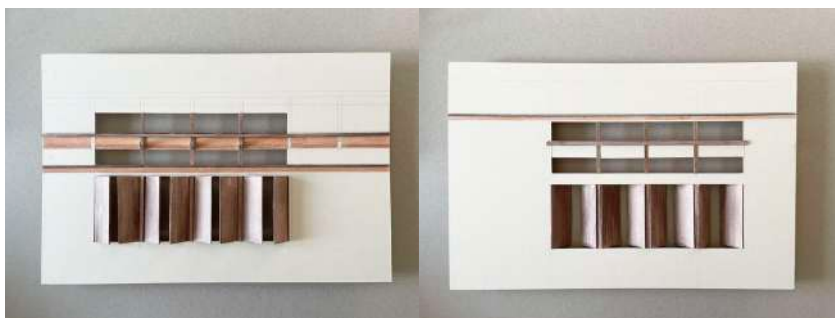


Figure 82. Section detail of the wall  
Figure 83 to 92. Process model 1/50



Left wall  
Connecting the machine room  
to the future rehearsal & theatre



Right wall  
Connecting the machine room  
to the future cantine & café







Figure 93. The vestibule room, wall detail





Figure 94. The machine room

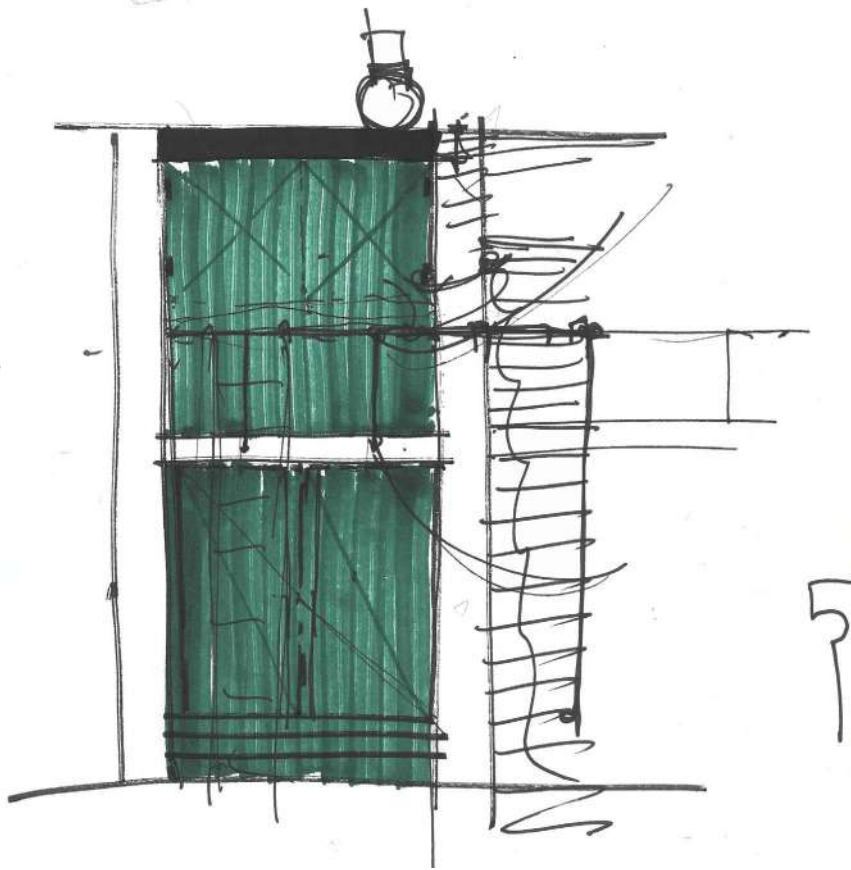
## **Materiality & Detailing**

The composition of the in-between walls incorporates various materials to create a compelling aesthetic. For the door panels, we have selected pine wood as the primary material. This choice not only adds warmth and inviting but also retains the existing carpentry. The contemporary shape of the opening finds its coherence by linking the materiality with the existing elements. To further accentuate the industrial heritage, we envision using metal steel for the handrails and supports, providing a solid framework for performers to hang their equipment during performances.

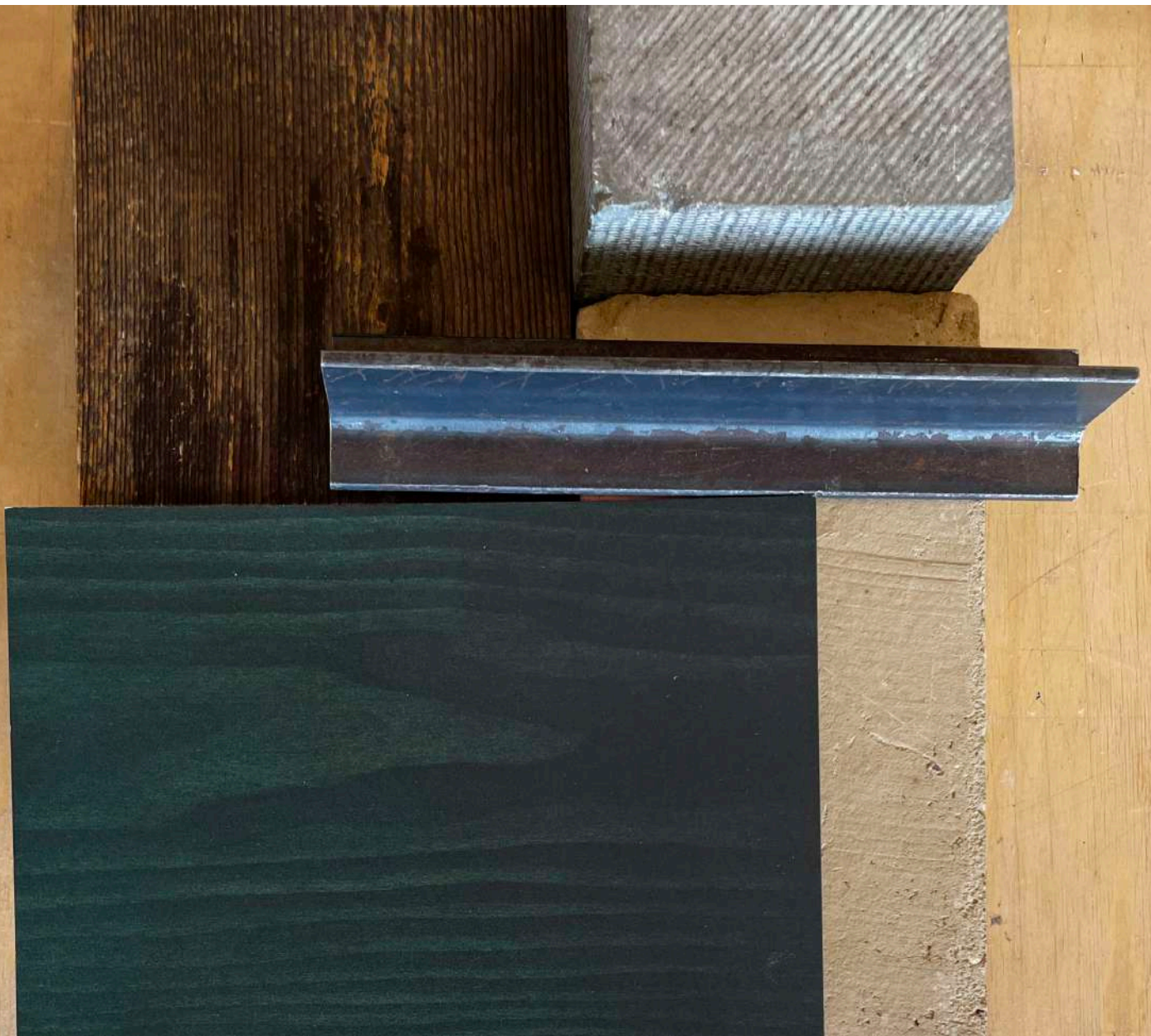
By combining these distinct materials, we create a visual contrast that enhances the overall composition. The richness of the wood panels stands in juxtaposition with the exposed brick, limestone, and metallic elements that define the existing structure of the Maskinhallen. This intentional contrast adds depth and texture to the space, highlighting the dialogue between the contemporary design interventions and the building's original architectural features. The result is a harmonious blend of materials that pays tribute to the past while embracing the present and future of space.

Furthermore, in order to enhance the contrast of our new intervention while incorporating the historical aspect into our design, we made the decision to utilize the original colour known as "Sundholm Green" for the wooden panels. This green can be found on the entrance café door as well as on the facades of numerous buildings in Sundholm. By incorporating this colour, we aim to infuse a contemporary touch into the project while paying homage to the area's heritage.





Door entrance on East facade



# Spatial strategy & organization

To meet the requirements of the program, our spatial planning needed to incorporate both fixed and flexible elements. The fixed program consists of the café, while the flexible program encompasses the communal kitchen, as well as spaces for theatre, performances, and cultural events.

In order to preserve the existing qualities of the building, we decided to maintain the layout of the three rooms. However, we thought to introduce subtle modifications that would still have a distinct character and effectively accommodate the new changes. This approach allowed us to find a balance between preserving the building's original charm and adapting it for its new functions.

One particular space that caught our attention was the former industrial machine room with its impressive 15-meter-high ceiling. Recognizing its immense potential as a multi-purpose area, we imagine transforming it into a versatile space for performances and various events. Its generous height provides an excellent opportunity to create a captivating atmosphere for artistic expression.

After engaging in extensive discussions with the social and cultural associations in Sundholm, we identified the need to separate the café from the communal kitchen for the future functioning of Maskinhallen. The café would be managed by vulnerable people in social reintegration, while the kitchen would be utilized by different associations affiliated with Sundholm 8. By creating two distinct entities, we aimed to enhance the flexibility of their respective uses. The café could operate daily, while the communal kitchen could be utilized based on the event calendar.

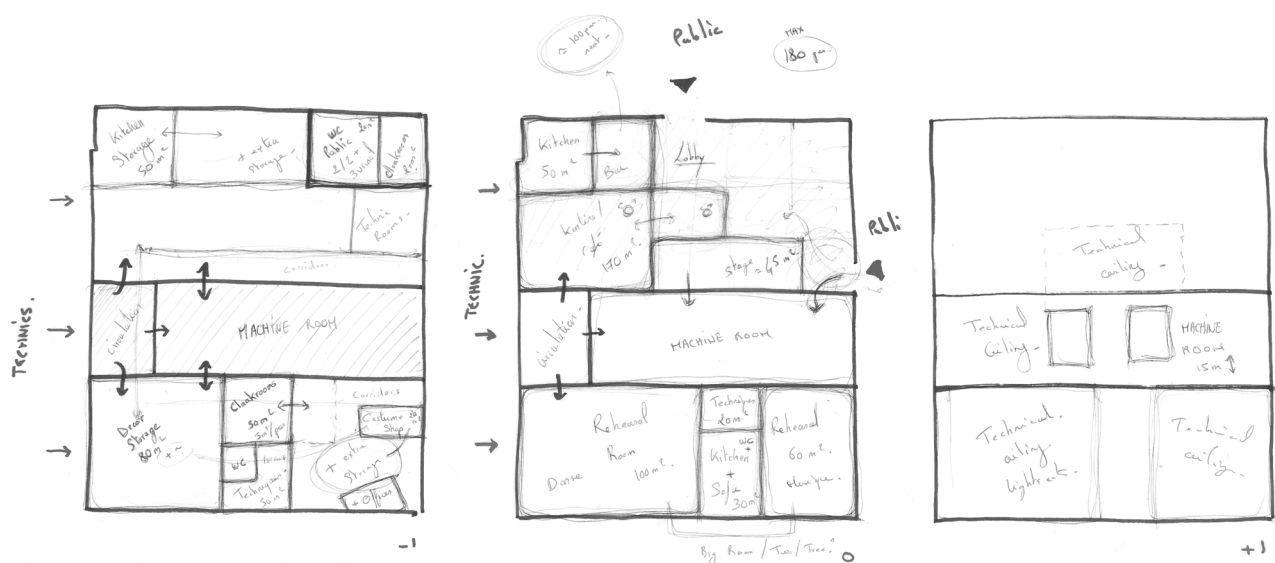


Figure 64. Plan strategy and planning



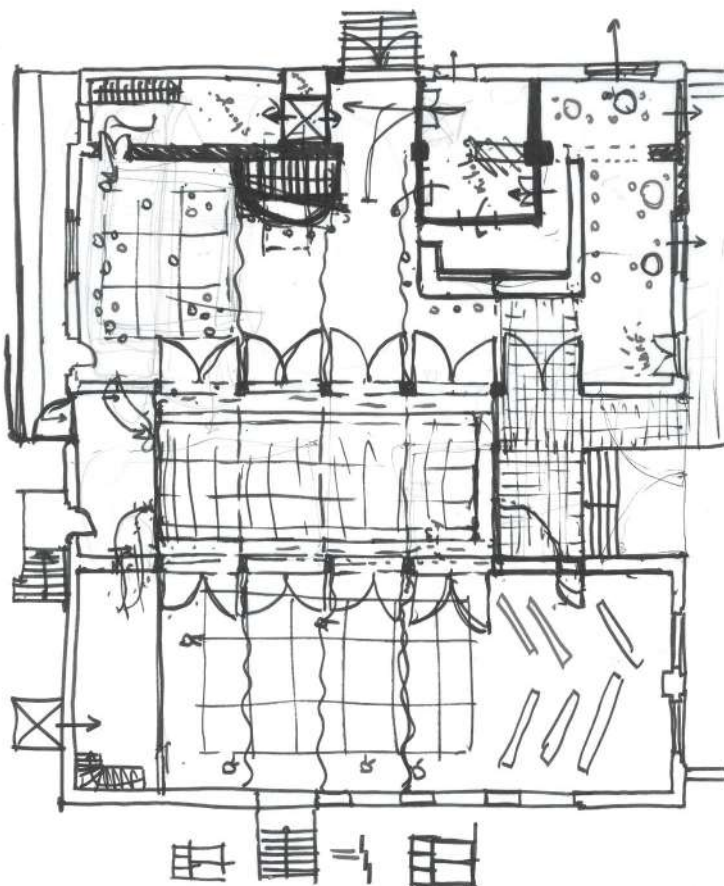
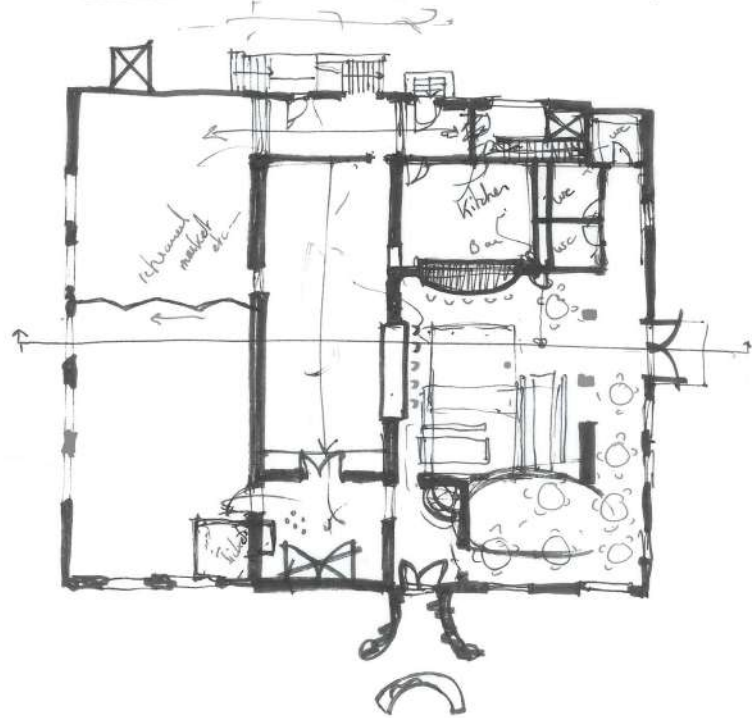
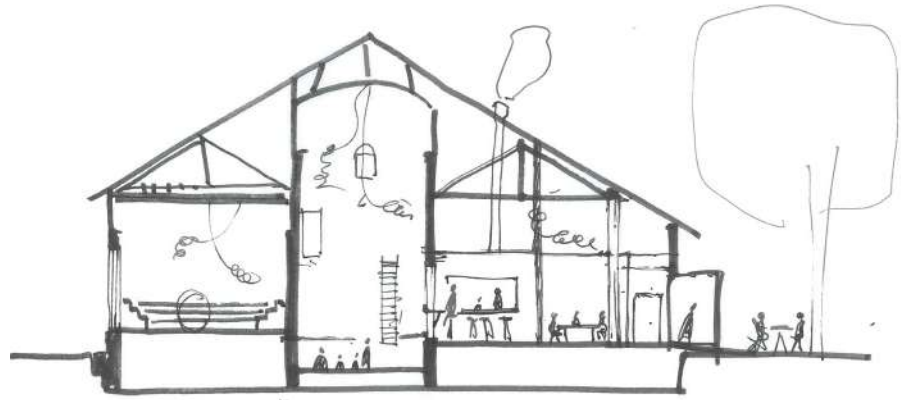


Figure 63. Sketch drawing first organisation plan  
 Figure 64. Sketch drawing spatial organisation

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# Futher Research

The former Stable building behind the Maskinhallen is used nowadays as a wood workshop as part of the rehabilitation program for vulnerable people. Throughout our visit to the site, we observe some of the furniture that has been produced in the workshop. Our tutor Tom told us how common it was for Copenhagen residents to have in their home furniture and built-in cabinets produced in Sundholm. This has inspired us to connect the next-door workshop and the Maskinhallen to strengthen the community and another strategy to include vulnerable people in the program. We develop formal proposals of furniture inspired by our observations of what they produce at the workshop mimicking some of the simple wooden construction.



Figure 64. Existing benches



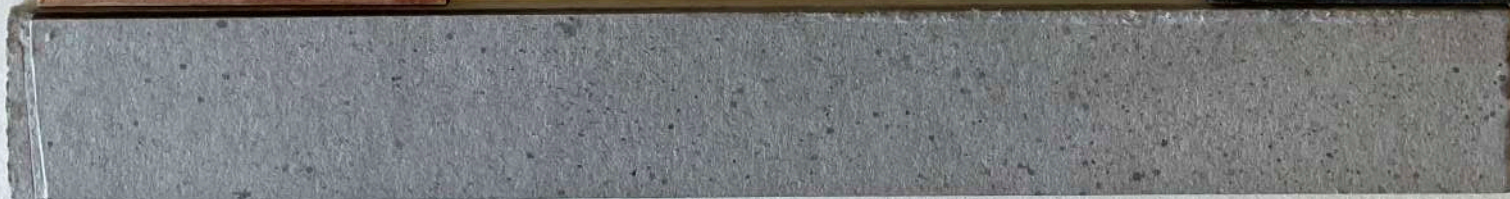
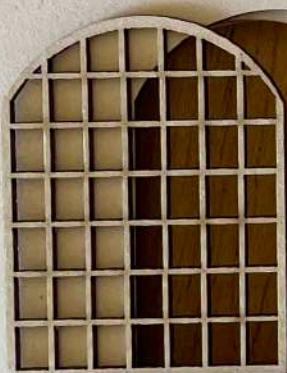
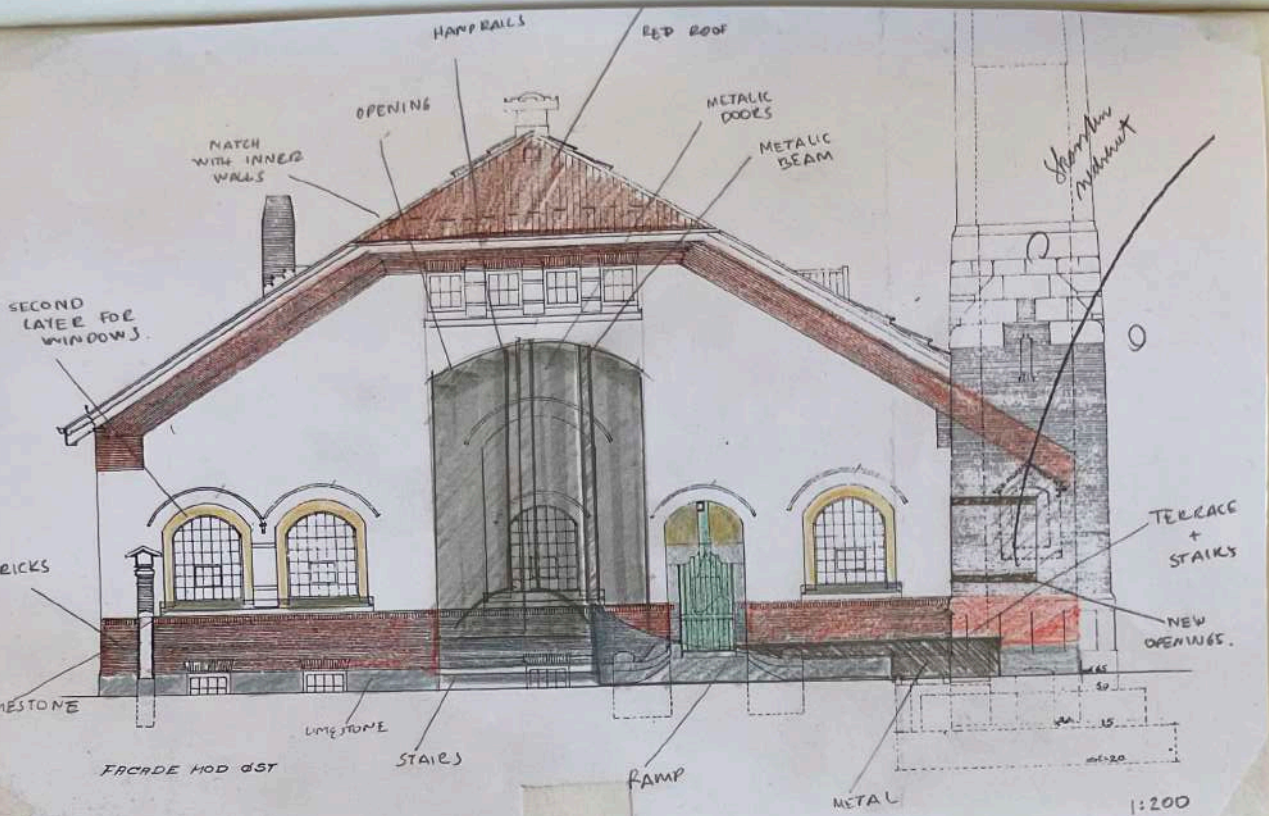


Figure 66. Sketch drawing furnitures

# Next steps

As mentioned previously, we are currently in the phase of refining the main design focus and making final decisions. This crucial stage involves specifying details of the project, ensuring that every aspect aligns with our vision and objectives. We are carefully considering various factors such as functionality, aesthetics, and feasibility to ensure that our design is not only visually appealing but also practical and achievable.







# Reflexion & Conclusion

One of the most captivating aspects of our project was the profound connection we forged with the various stakeholders involved. This connection brought about a transformative shift in our approach and perspective. We view the project as a living entity, constantly in motion and evolving. It is imbued with the rich diversity of stories from its inhabitants, making the Maskinhallen building a dynamic theatre of possibilities and narratives.

The inherent resilience of the building enables it to embrace future interactions, confrontations, and frictions. It serves as a platform where diverse communities can engage in a meaningful dialogue, transcending any perceived boundaries or differences. Our objective is to foster a sense of unity and collaboration among these communities, celebrating their unique perspectives and enabling them to shape the collective narrative of space.

By embracing the flexibility of the project, we are trying to create an environment that encourages continuous growth, adaptation, and the co-creation of new stories. The Maskinhallen building becomes a catalyst for connection, understanding, and shared experiences, amplifying the voices of its inhabitants and leaving a lasting impact on the community it serves.





# Bibliography













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