ARCHITECTURE AND THE CHOCOLATE FACTORY

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Department of Architecture and Civil Engineering

Supervisior: Mikael Ekegren
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CHALMERS
UNIVERSITY OF TECHNOLOGY

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Master's Programme of Architecture and Urban Design (MPARC)
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ABSTRACT

The Latin word for the cocoa tree Theobroma Cacao could directly translate to Cacao - “food of the gods”. Cocoa, which is the main ingredient of chocolate, was from the beginning considered a luxury product. Today it is seen as more of an everyday feature, but the picture of it being a treat giving pleasure has not disappeared. In 1901, the chocolate company Cloetta decided to build their new factory outside of Linköping in between the two watercourses Göta Kanal and Motala Ström. The natural river Motala Ström provided electricity, while the man made Göta Kanal functioned for carrying goods. While the factory expanded over the years, the small community later to be known as Ljungsbro started to grow. Cloetta had a big responsibility in the development of Ljungsbro and the chocolate company even employed an architect who designed buildings in the society under Cloetta’s management. The architecture reflects a great belief in the future, with hope for the factory and the community to grow bigger.

Cloetta is known for famous chocolate products such as Kexchoklad and Plopp and is recognized as one of the oldest chocolate producers in the Nordic context. Today the factory hosts a small outlet shop in the basement which is the only public area of the factory. With the nearby location to the tourist destination Göta kanal together with the richness of the company history, there is potential of making an addition to the society’s tourist attractions. This thesis therefore aims to create a proposal for a new visitor center for the speculative client Cloetta in Ljungsbro. A chocolate visitor center puts a need for a proposal being designed with playfulness and curiosity. Through analysing built and theoretical references, the thesis aims to investigate how to use sequences as a method of composing movement and spatial experiences. The thesis also treats experimenting with different architectural tools for achieving a dramaturgy in the created spaces.

TABLE OF CONTENTS

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AIM

The purpose of the thesis is to create a design proposal for a new visitor center for the speculative client Cloetta located in Ljungsbro. Given the chosen site, a small community, yet with a history of building public buildings projecting great belief in the society and its future, the design of the visitor center should project the same confidence.

Although, the theme of the visitor center, puts a need for a proposal being designed with playfulness and curiosity. Therefore, the thesis aims to investigate architecture on how it is experienced. Through working with directing the movement of the visitor, the thesis strives to achieve a design proposal that gives the visitor a spatial experience with a clear progression. To steer the visitor and develop the dramaturgy of the building and its exhibitions, different architectural tools have been experimented aiming to create a clear space sequence to tell a story.

RESEARCH QUESTION

How do you design a building with the aim of directing the movement in order to tell a story?

SUB-QUESTION

What kind of architectural tools can be used to steer the movement of a visitor?

METHODOLOGY

This thesis has a research by design approach. Built references of similar typology have been analysed to get a bigger understanding of room sequences, scale and the experience of a building. Theoretical references about architecture and dramaturgy have been read in order to support answering the research questions.

Together with the previously mentioned framework, the work takes a starting point in the history of Cloetta and Ljungsbro and literature about this has been read. Material as the Municipality of Linköpings master plan of Ljungsbro and Berg (translated from Swedish) from 2015 has also been taken in consideration. The design proposal was shaped simultaneously with the analysis work.

DELIMITATION

The main focus of the project has been on the design and the development of architectural qualities of the building. Cloetta does not have any official plans for building a new visitor center in Ljungsbro, which means this work can be considered a speculative design proposal. Therefore, the economic aspect of developing the proposal is not considered to the same extent. Although, the Municipality of Linköping has mentioned a visitor center for Cloetta in their master plan report from 2015 as a potential future scenario. In the report a potential site is also mentioned. The thesis includes a separate site analysis with the conclusion of choosing a site which deviates from the municipality's proposed location. The chosen site for the thesis is also taking deviation from the beach protection that prevails around the Göta Kanal area.

The thesis will not treat the aspect of the variation of flow of people during different seasons. Due to the location nearby Göta Kanal which is a highly visited tourist destination during summer, the thesis will focus on how you can create an extended experience during this season. It's likely to assume that the visitor center will not be having the same amount of visitors during the winter season. The thesis will therefore not in the same extent treat how the building is used during that time of the year.

KEYWORDS

Cloetta, experience based, public architecture, architectural dramaturgy, chocolate, historical context, tourism

I.

CONTEXT

CACAO AND CLOETTA

The Latin word for the cocoa tree Theobroma Cacao could directly translate to Cacao - “food of the gods”. Cocoa, which is the main ingredient of chocolate, was first domesticated around 5300 years ago in equatorial South America. In the Aztecs Empire cacao was always present with the gods and at burial of the dead a pottery containing cocoa based beverages was often placed in the tomb for a better journey to the afterlife. In the Maya civilization, the pods and nibs of the cacao were considered so valuable that it was used as a currency, meanwhile in the elite, it was common to make beverages of the valuable nibs since it was believed that the cacao had spiritual qualities.

In 1502 Christopher Columbus brought cacao to the western world, but it was first approximately 30 years later, when the bean was experimented with together with sugar and vanilla that the product started to become popular. Still it was only consumed as a beverage and was considered to be a luxury product.

In 1847 in Bristol, UK, the company Josef Fry & Sons started to produce chocolate pralines by mixing cacao butter, sugar and cacao, which is to be seen as the origin of the modern chocolate bar. 15 years later, in 1862, the Swiss brothers Bernhard, Christoffer and Nutin Cloetta founded Brøderna Cloetta A/S in Copenhagen. The factory produced chocolate and candy and was sold in a small shop nearby the factory. The chocolate was a great success and famous for its superior quality.

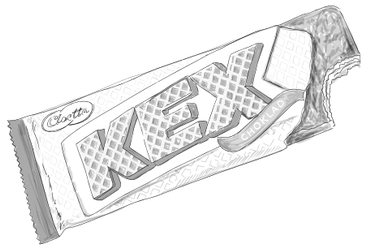
In 1873, the company opened up their first factory in Sweden located in Malmö. The company continued to expand and in 1901 they moved the factory together with a number of employees and their families to the more or less uninhabited, but strategically placed, Ljungsbro.

Today Cloetta hosts factories in eight countries, all in Europe, and its main market is in the Scandinavian countries, the Netherlands, Germany and the UK. In addition to the production of chocolate the company also produces candy and nut products. Some of their most popular products are Kexchoklad, Plopp, Center, Ahlgrens bilar, All Sorts, Juleskum and Malaco Gott & Blandat.

Juleskum is a foam candy product popular for Christmas. It is flavoured with strawberry and was launched during the 1960's. Every year, the average Swede consumes 30 pieces per person.

All sorts (Swedish: Engelsk konfekt) is a licorice product first launched by the english company Basett & Co. The Cloetta brand Malaco is the Swedish distributor for the candy that is known to be strongly liked or disliked.

Ahlgren's Bilar came into being when trying to recreate the popular American marshmallow. The result was not what aimed for, but instead a candy with a shape that resembled the french sports car Bugatti. Today the candy is famous for its slogan “the best-selling car of the world” (translated from Swedish).



Kexchoklad is a chocolate filled waffle covered in a layer of milk chocolate. In 2006 approxomatly 30 million 60 g chocolate bars were sold in Sweden, making it the best-selling candy product in the country, a title it has had since 1976.

Center was first introduced on the market during the 1940's and is a popular product of Cloetta. Its original shape is a chocolate cylinder filled with toffee, but today the product is also accessible as a chocolate bar.

LJUNGSBRO

In between the two watercourses Göta Kanal och Motala Ström outside of Linköping, the chocolate company Cloetta decided to establish their new factory in 1901. Motala Ström, which is a natural river, could provide electricity while the man made Göta Kanal could be used for carrying goods such as cocoa and sugar. The location would later be known as the small industrial community Ljungsbro which Cloetta had a great contribution in establishing. Since then, the factory has been extended several times and is now known as one of the oldest chocolate factories in the nordic context. In the 1940's, the company made a big expansion with a new main building for the factory. The entrance of the extension was a foyer with golden mosaique with a candy store that invited the public audience into the world of Cloetta. Today those rooms are closed for public visitors and used as office spaces. Instead the factory hosts a small outlet shop in the basement, the former laundry room, which is the only area of the factory that is public today.

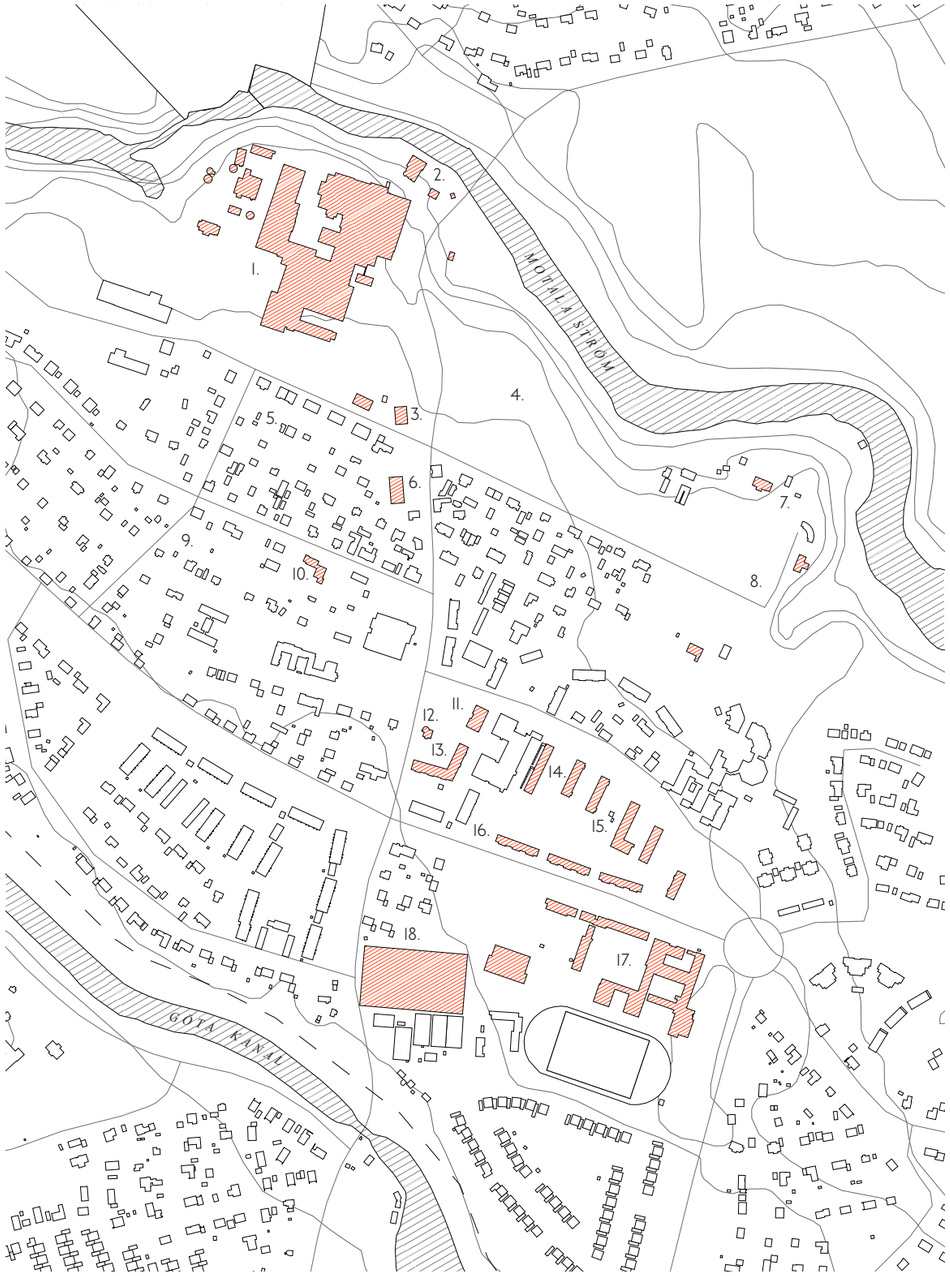
When Ljungsbro society was first planned, the company management had ambitions for it to be an airy and healthy garden city. Fruit gardens, parks and gardens were built and the buildings were planned being adjusted to the nature around them. In the 1940's Cloetta had its own in-house architect who was responsible for building a new Town Hall, a main center building and several workmen's dwellings, among other projects. Until the 1970's, Ljungsbro functioned as its own municipality but is today a part of Linköping's Municipality. There are approximately 7000 inhabitants that live in Ljungsbro today.

A BRICK SOCIETY

Post World War II Cloetta was a growing company with a thriving business.The factory grew and in line with that so did the society. Cloetta donated land where to build a public school, they enraged entertainment such as a cinema, and paid for street lights and a water work within the society.

The architect Henry Fraenkel was employed by Cloetta during the 1940's - 1960's to design the factory's and many of the society's extensions. He designed buildings with high architectural values and chose materials with great contemplation. The keywords were quality and function. He often worked with brick and limestone in the facades, and for the entrances he chose marble and well designed stairs. One of his arguments for working with expensive but sustainable materials was that he took into account what the values of a well-built home does for the well-being - and thereby for the work results. The outcome of his work in the society are well designed buildings that could as well be placed in a more urban context. His buildings are, yet today, 70-80 years later, well-preserved and express a great belief in the future for the small society.

Entrance to the workmen's dwellings at Accra-, Arriba- and Javagården. Above the doors are reliefs in concrete, illustrating the harvest of cacao.



LJUNGSBRO OVERVIEW SCALE 1:5000

CLOETTA BUILDINGS

		ARCHITECT
1.	Cloetta Factory (1901-1964)	*1964's extension by Henry Fraenkel*
2.	Miller house (18th century)	
3.	Post Office (1930) and Bank (1939)	*Post Office by Axel Brunnskog*
4.	Factory Orchard (1901)	
5.	Home-Croft Dwellings (1905-)	
6.	School (1906)	*Janne Lundin*
7.	Factory Manager Villa (1902)	
8.	Factory Manager Villas (1927,1934)	*Axel Brunnskog*
9.	Workermen's Dwellings (1917)	*Erik Fant*
10.	Doctor's Office and Housing (1943)	*Henry Fraenkel*
11.	Town Hall, Library (1947)	*Henry Fraenkel*
12.	Bus Station (1953)	*Unknown, likely Henry Fraenkel*
13.	Theobroma Center Building (1951)	*Henry Fraenkel*
14.	Evagården Female Workmen's Dwellings (1941)	*Gunnar Pleijel*
15.	Olofgården, Annagården Workmen's Dwellings (1951, 1956)	
16.	Accra-, Arriba and Javagården (1945-1946)	*Henry Fraenkel*
17.	New School (1942)	
18.	Cloettavallen Sports Recreation Area (1927)	

THE FACTORY 1901 - 1964

The factory building has a long history of remodelling and expansion since the establishment in 1901. Therefore, the factory today is a mix and match cluster with several annual rings and expressions. The part from 1935 is a four to five story high brick building with yellow plaster. The facade is strict with repetitive windows. Horizontally it is the same type of windows that strengthen the horizontal lines, but each story has its one type of window, making the vertical lines the weaker ones.

The main entrance building from 1964 is designed by Cloettas in-house architect, Henry Fraenkel. The entrance in glass is squeezed in between to volumes, similar to one-another, yet unique. The two volumes differ in height and length, but both are designed with an elongated grid, placing repetitiv windows within. The northern volume, the higher but shorter one, is framed in concrete and in the grid a grooved light yellow steel, making it brighter to its shorter and longer sister, framed with dark yellow brick and with a dark yellow grooved steel in the grid. The glass entrance feels light and clearly marked in between and pushed back from the two volumes. A grand stair leads you to the entrance hall framed with flags, making the situation feel joyful yet serious.

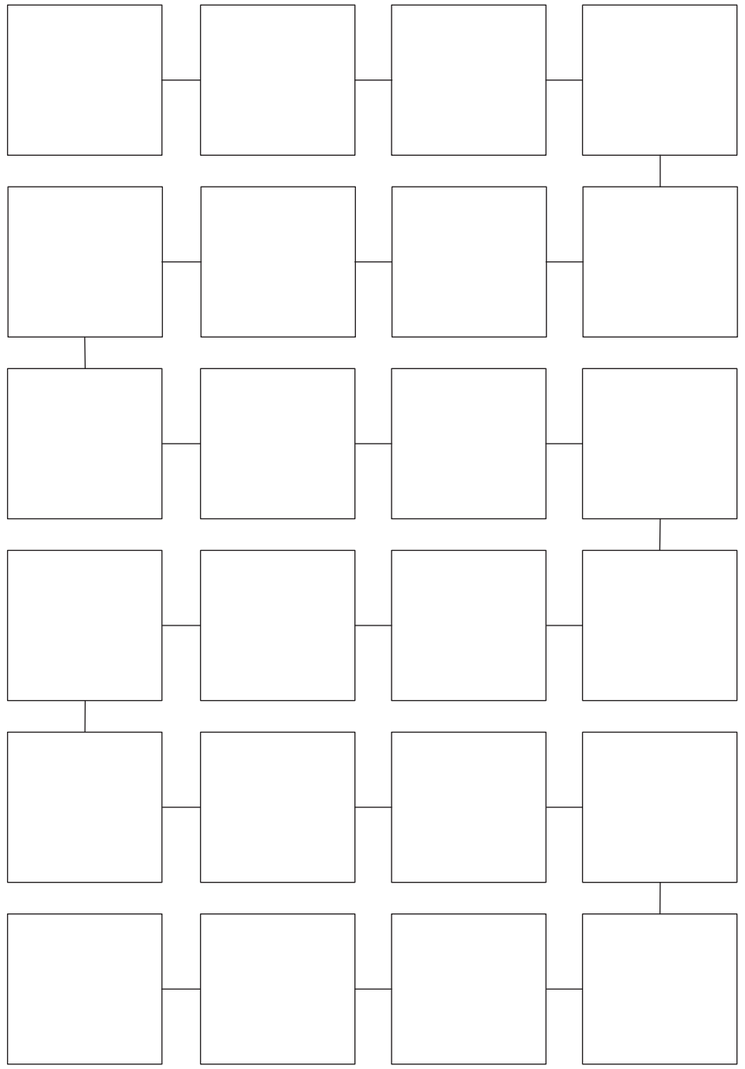
LJUNGSBRO LIBRARY, HENRY FRAENKEL, 1947

The noble library (originally built as a town hall) is a well-balanced light brick building with a clear framework. For starters there is an actual framework of limestone that structures the facade. Within each limestone grid is a centred small window well proportioned to its frame. To bring light to the open library hall, big windows break the repetitive pattern of small windows. This deviation from the frame helps the observer to sort out what part of the building that is for the hall of books and education and what's for administrative purposes.

The entrance, also centred on the west facade, is marked with an indentation in the building, a floating stair leading up to it and finally a door and windows framed with oak.
On top of the rectangular building is a slightly angled hip roof of copper. On the top edge of the rectangular shape, a watch, forcing the facade and roof to break their horizontal lines. Facing south three dormer windows with a rounded roof, placed perfectly in the limestone grid, bringing yet another round shape to the otherwise straight building.

2.

ROOM SEQUENCES



THEORETICAL REFERENCES

To be able to find tools for analysing buildings in order to define the experience of space, theoretical sources were read. The thesis aims to investigate how you can design a building using directing movement as a design tool resulting in a clear beginning and end. Therefore, the theoretical references handle topics such as using sequences as a method of composition and dramaturgy in architecture.

SEQUENCES IN ARCHITECTURE

Carla Molinari, 2018

"You might think that architecture, as a fine art, operates only for the eye, but it should work primarily - and this aspect has received little attention - in relation to the human body movement. When, in the dance, we move according to certain rules, we have a good feeling and we should be able to create similar sensations in a person we drive blindfolded through a well-built home."

Adrian Forty, Words and buildings - A vocabulary of modern Architecture, 2000.

Adrian Forty, Words and buildings - A vocabulary of modern Architecture, 2000.

Architecture is not just the solid building and its elements itself, but a combination of the static volume and human movement through and along the building (Molinari, 2018). How the movement is arranged within and around the building is crucial to the experience of the architecture.

In the article "Montage and Architecture", written by Sergei M. Eisenstein between 1937-1940 and published posthumously, cinema and architecture are considered as two arts related by the practice of composing space and time. Though "kinematic" is translated to an arrangement of moving objects in front of a fixed observer, "architectural" is considered an assembly of visual phenomenon arranged along a path defined by the movement of the viewer (Molinari, 2018).

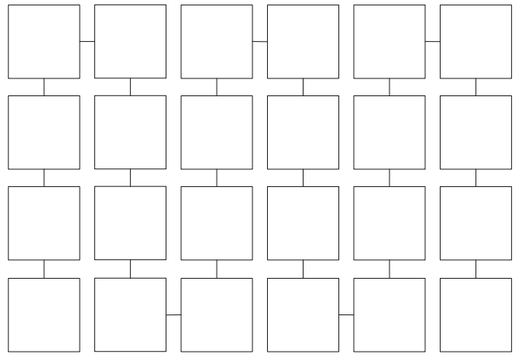
To reach an answer to our thesis question, designing by directing movement, the sequence of space is key. With the human movement as a first reference of the architectural experience, it's all about how we lead the visitor through the building. The design is a result of composing the sequence of spaces and the goal with the design is to create a unified experience.

THE DRAMA OF SPACE

Holger Kleine, 2018

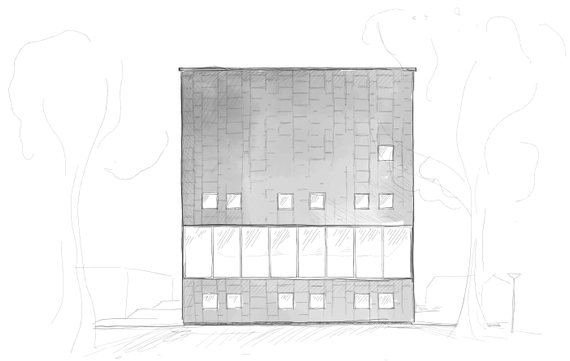
In the book the Drama of Space, the architect Holger Kleine analyzes the dramaturgy of several buildings starting from five key questions; "How does it arouse our curiosity?", "How does it keep our attention?", "How does it reach a satisfying conclusion?", "How does it maintain a sense of inner coherence? and "How does it kindle a desire to repeat the experience?". The analysis is divided in four phases placed in a specific order; sequences of surfaces, formation of rooms, sequences of rooms and spatial configurations. Each of this chapter is later divided into several categories which analyse different components of the building's composition. (Kleine, 2018)

In the chapter about room sequences, the buildings are analysed in for instance its proportions, encouraging movements (to stimulate onward movement), discouraging movements, outshining of rooms and the building's loops and endpoints. Other aspects that are analysed are the building's extent of being inviting and enticing, the formation of letting in light, colours and views. (Kleine, 2018) To encourage onward movement is an important aspect answering the main question of this thesis and is something that was kept in mind while understanding the chosen references.



BUILT REFERENCES

Learning about the dramaturgy of architecture it was important to study concrete examples in order to apply the ideas. The specific buildings to be analysed was decided when the volume of the building was set in order to understand how you can work with directing the movement through the same volume typology.

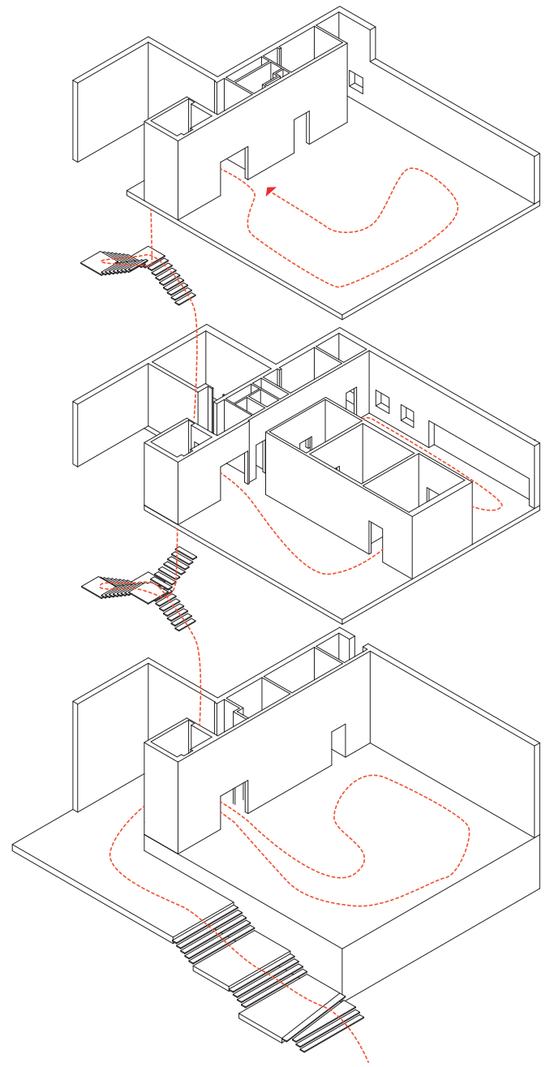


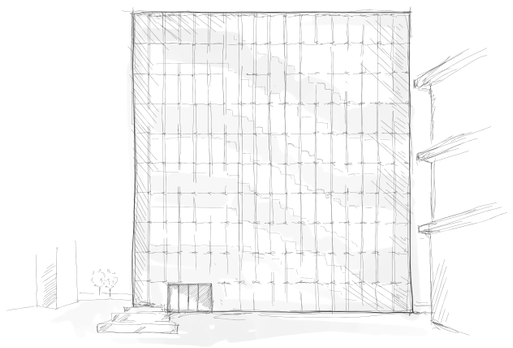
REFERENCE BUILDING

Tham & Videgård, Kalmar Museum of Art, 2008

In 2004, the Swedish architectural office Tham & Videgård won the open international competition about designing the new Kalmar Museum of Art, an extension to a current restaurant pavilion located close to the Castle of Kalmar. The concept was called Platform which refers to the open exhibition spaces with a large bearing span to achieve maximum flexibility. The building was inaugurated in 2008.

The architects describe the movement through the building by the words “walk up into the greenery of the trees with a series of spatial experiences’ ’. The main vertical movement through the building consists of a staircase placed outside of the box volume. While moving through the building you experience several framed views over the Castle of Kalmar, the city and the lake. The building contains two large exhibition halls, one on the first floor and one on the top floor, which can be described to be separated by the second floor containing a workshop area divided into several rooms.



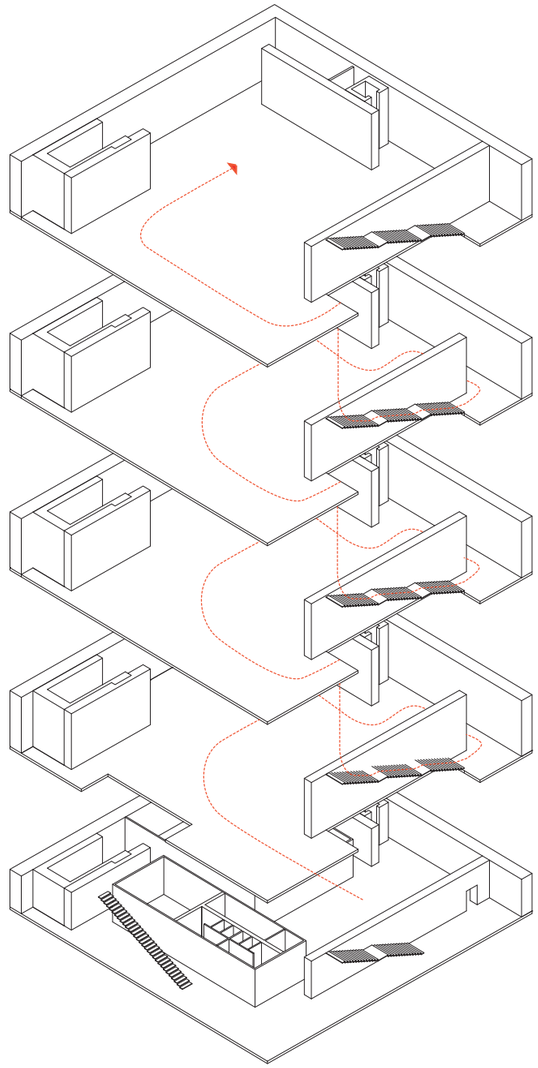


REFERENCE BUILDING

Peter Zumthor, Kunsthaus Bregenz, 1997

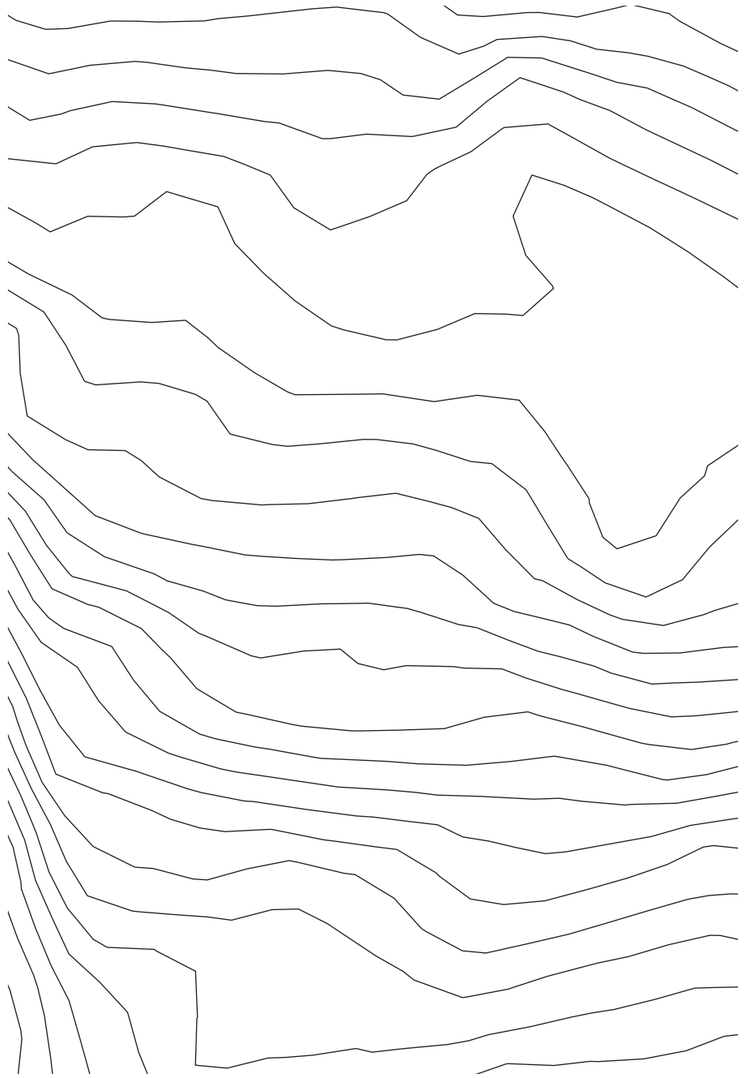
Standing outside Kunsthaus Bregenz, Austria, you can easily spot the long stairs behind semi-transparent glass, leading visitors up along the facade in Zumtor's art museum from 1997. Three concrete walls within the building support the structure and frees the facade from load-bearing functions. In the room between the bearing structure and the glass panels, Zumtor hid two vertical communications and showcased one - the long stair. The exhibition spaces are open and give the Kunsthaus the ability to change its exhibition spaces to accommodate a wide range of international contemporary art.

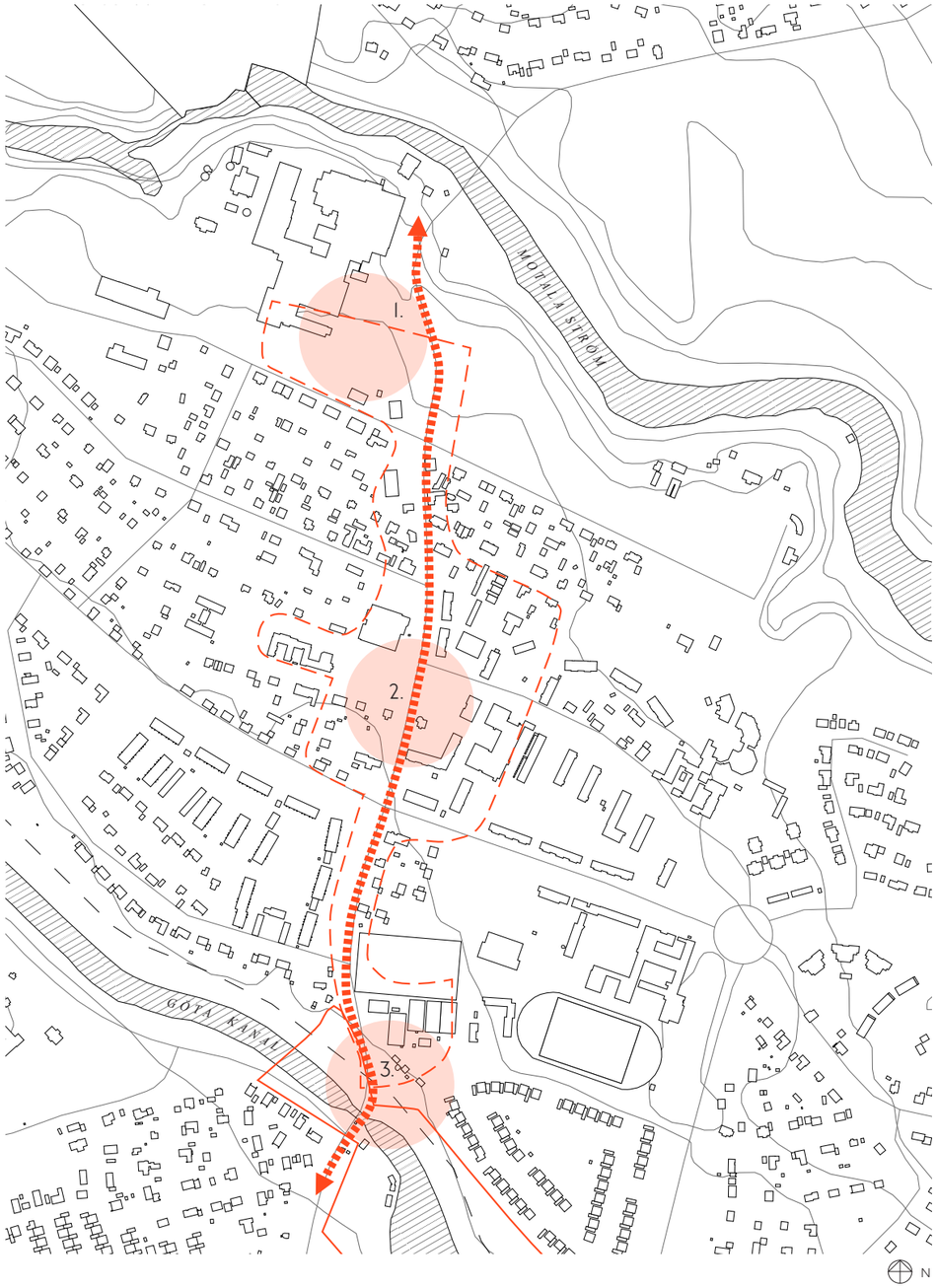
As a visitor you enter on the ground floor. Restrooms and conference rooms are found on the underground floor, the exhibitions are located on the top three floors. When entering the first exhibition floor you move in a circular movement, before reaching the stair to the floor above. The circular movement continues on all the exhibition levels. At the top floor, a room bathing in light, both from the translucent facade but also ceiling, you go back to the ground floor either by the stairs you've used on your way up or by the public elevator.



3.

SITE





LJUNGSBRO OVERVIEW SCALE 1:5000

SITE ANALYSIS

In 2015, the municipality of Linköping developed a new master plan of Ljungsbro and Berg. Selected parts of their analysis are pointed out. In the master plan report of Ljungsbro and Berg (2015), the municipality has mentioned a visitor center in close relation to the factory as a possible future scenario for Cloetta to develop their business. At the same time, the municipality is pointing out the Göta Kanal area for future development for recreation and tourism.

Main path

Central area, existing buildings are supplemented

Area close to Göta Kanal are developed for recreation and tourism

1. The factory

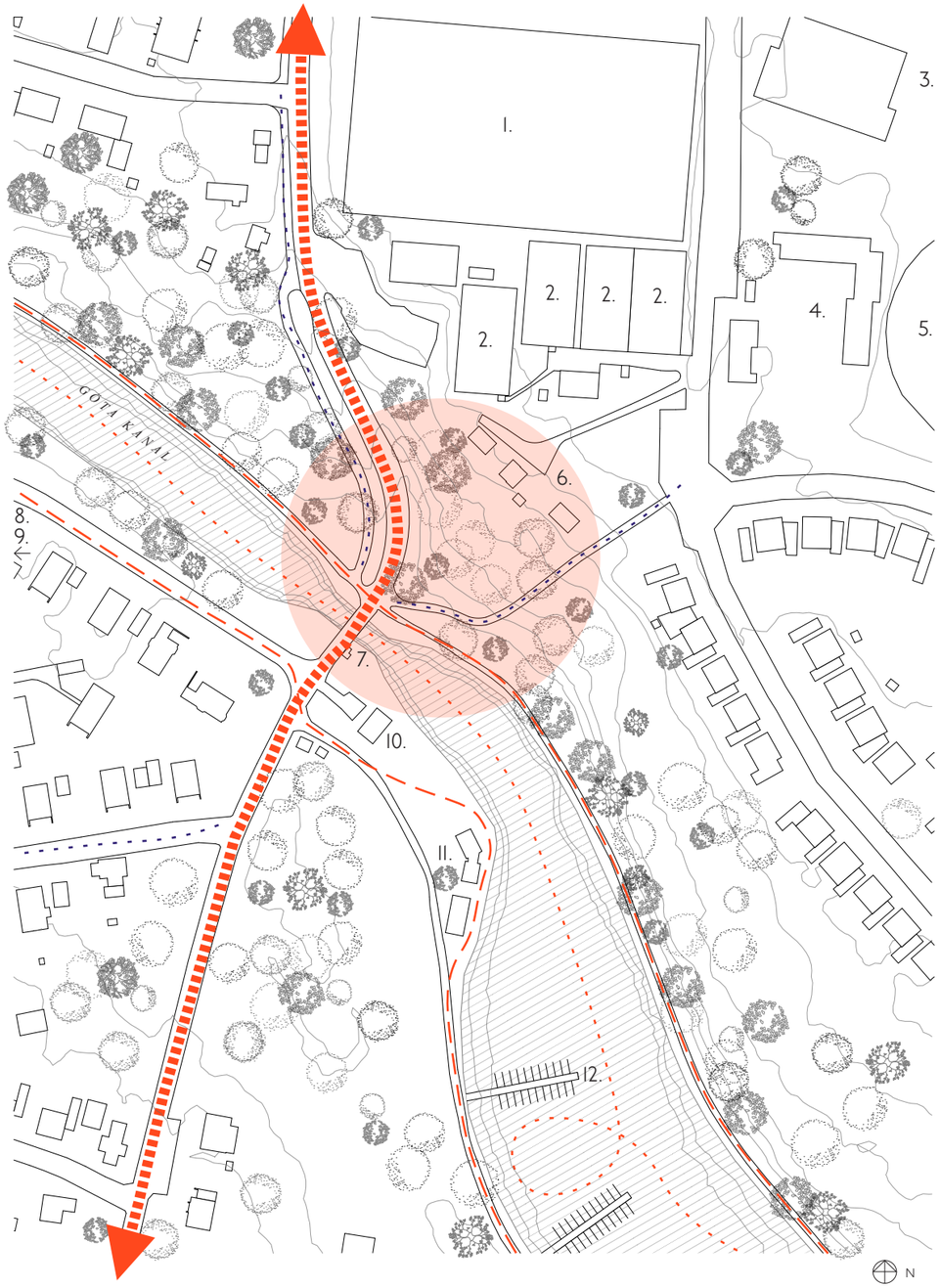
2. Node for public transport

Ljungsbro is a small society with no great distances within. Yet both the factory and Göta Kanal are disconnected to the central parts of Ljungsbro. There is no visual connection to either of them, and the public activities are all gathered within a radius of 130 metres, leaving the paths to both the factory and Göta Kanal unactivated.

During summer, Göta Kanal Area is a well visited tourist destination, but when travelling on or along the canal it is easy to miss that you are going through a society. Even though Ljungsbro has one double lock, a small horizontal lift bridge and one of Sweden's few aqueducts, the public life is far off from the canal so the society makes no real impact on the passing tourists. The canal area feels disconnected to Ljungsbro central area, both because of that the canal area is located topographically on a higher point than the city center, but also that the path connecting the two is unactivated.

The factory is placed on the shore of Motala Ström, so to place the proposal on the shore of Göta Kanal is not only strategically smart to take advantage of the natural flow of tourists, but also a symbolic gesture to the two historical watercourses supporting Cloetta.

3. Chosen location for the proposal



SITE OVERVIEW SCALE 1:2000

SITE ANALYSIS

Today the chosen site is a vague junction. Car traffic going in and out of the society, meeting bikers and boat tourists travelling Göta Kanal, locals taking a sunday stroll in the area, or kids taking a shortcut across the site to reach school or the public swimming pool. The recreation is mixed with activated people and people chilling in the sun with an ice cream.The site is differing in height, leaning upwards to the canal area located in the south. The total difference in height is approximately five metres. The site vegetation is varied and mostly low except for the alley trees in shifting species located along the canal. The alley trees root systems are functioning for stabilising the canal walls and are not to be removed for structural and cultural reasons.

Around the site it's mainly residential areas, built around the 70s, but also an exercise area with a football field and tennis courts and across the canal a small marina. On the other side of the water from the site, there are three small buildings, brought up by Cloetta when they established in the area. Those buildings today contain facilities to the small marina, such as toilets, and a café. The marina is mainly used after six pm, when the sea locks along Göta Kanal closes for the night, leaving the boat tourists to lay anchor. Some lay anchor during the day for a break or to go grocery shopping in the city center, but a more eventful area around the marina could make more people eager to stop for a visit.

Proposed location for proposal

Main path

Recreation area

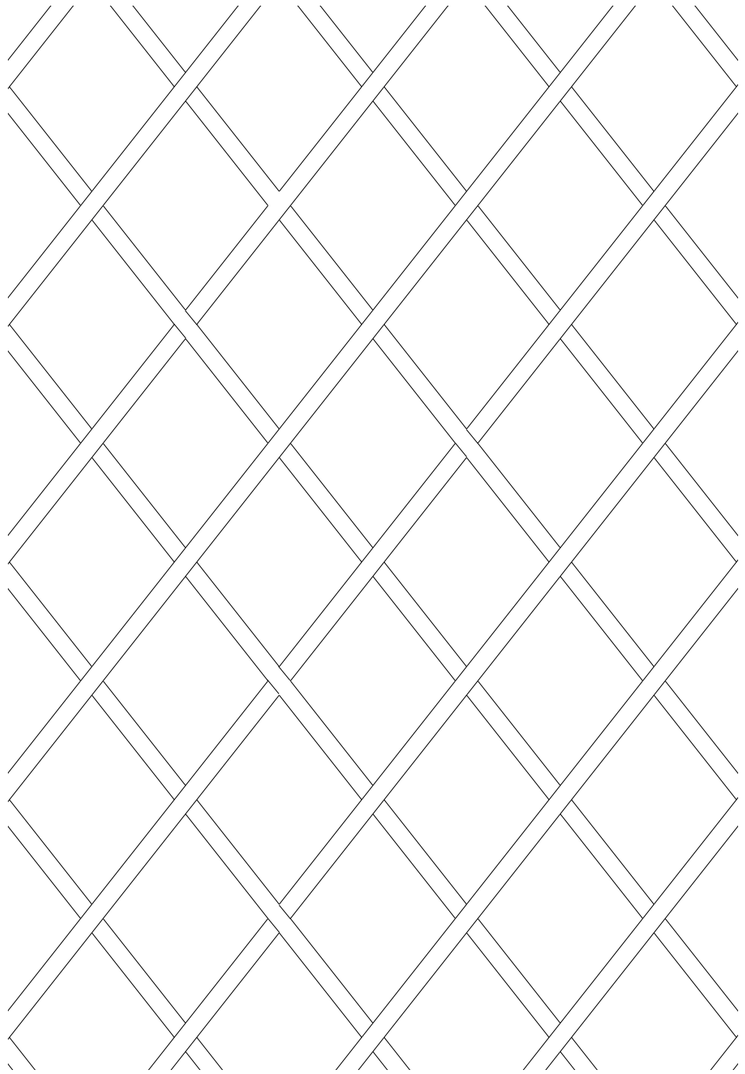
Boat tourism

Local paths

1. Cloettavallen (soccer field)
2. Tennis court
3. School
4. Youth recreation center
5. Athletics tracks
6. Scout houses
7. Malfors bridge
8. "Folkets Park"
9. Hostel
10. "Brovaktarhuset"
11. Coffee and ice cream shop
12. Small marina

4.

PROPOSAL

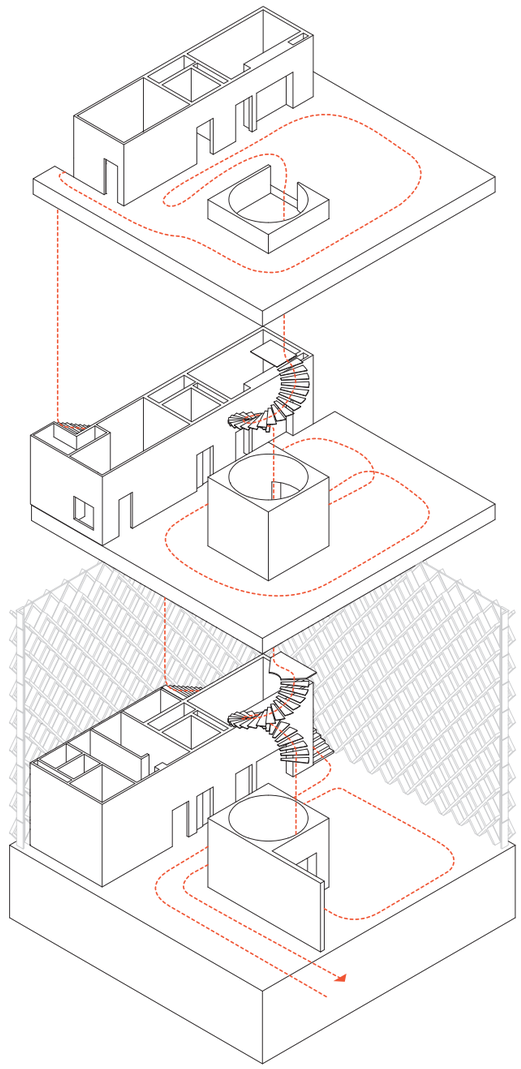


CONCEPT

The site for the proposed visitor center, at the shore of Göta Kanal, was chosen as a strategic move to take advantage of the natural flow of tourists travelling along the water, but also as a symbolic gesture to highlight the importance Göta Kanal had when Cloetta decided to move its business to Ljungsbro. The topography slopes approximately five metres, with the highest point along the canal in the south. The situation around the building, with many paths crossing the site and with a lot of vegetation, the typology “house in park” was chosen. This to achieve a more informal setting for creating the proposal. To avoid great height differences around the building a small footprint was chosen. Working with a cubic-shape and placing the programme of the building vertically, visitors are able to come up to a top floor where they can enjoy the view of the canal, which is not possible in the area today. Due to the sloping topography, and the aim to create an entrance floor in level with the shore of the canal, the basement floor is a souterrain level, where more private functions are located, hidden from the public areas above.

To highlight the entrance, and to make it visible for visitors approaching the building, both from north and south, one part of the volume, towards south and west, is extruded. To avoid interrupting the cubic shape the facade still continues down like a curtain with two openings. Moving through the building, the aim is that the visitors experience the building successively to resemble storytelling. The conceptual idea is that the visitor will be encouraged to move seamlessly through the building without having to turn around. In that order the building has one staircase leading the visitors up from the entrance level directly to the top floor, and one spiral staircase leading the visitor downwards. It was important that the experience of the vertical movements differed in order to achieve a richer experience. Another idea is that the plan layout is designed to not reveal the next room sequence.

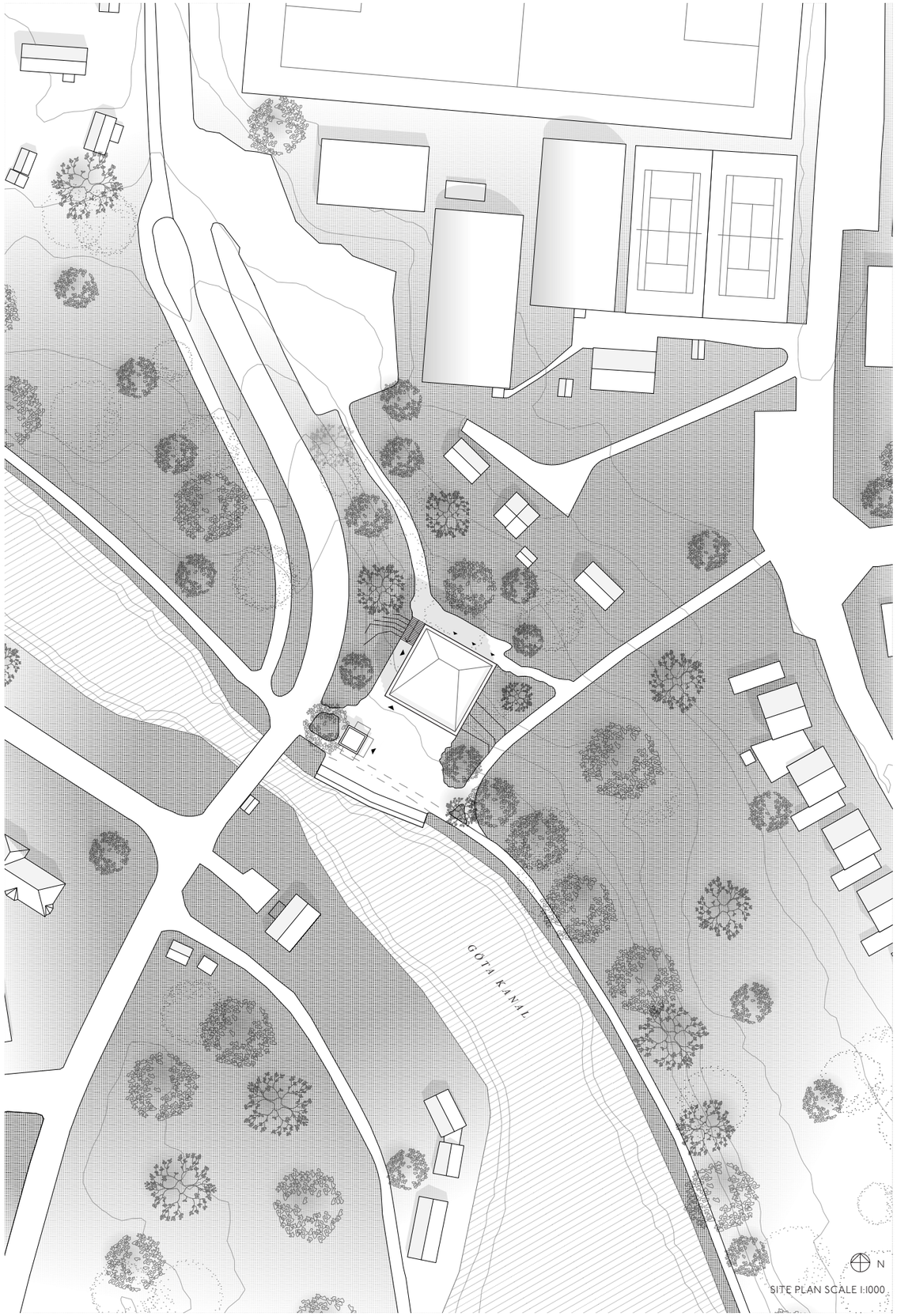
The building’s expression is inspired by one of the most famous products of Cloetta, Kexchoklad, whose pattern is clearly associated with the brand. The pattern is a repetitive romb shape which also forms the load-bearing construction of the building. The idea is hinting that the exterior constitutes the wrapping paper of a candy bar, while the interior and the experience of the building equalises eating the candy bar. Within the building the visitors should experience the joy candy gives to both children and adults.



PROPOSAL

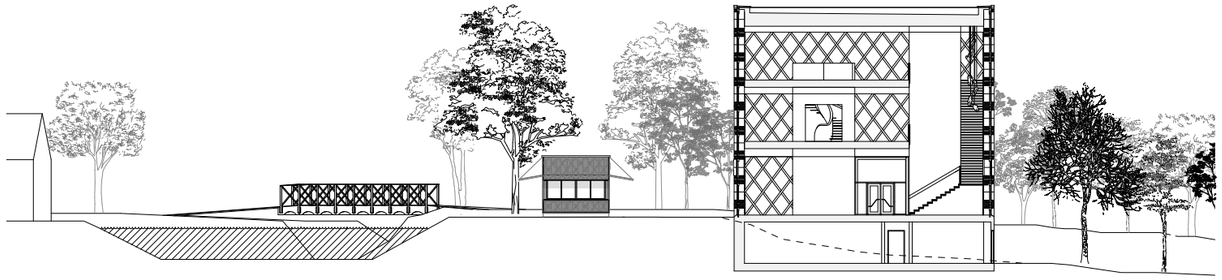
The entrance to the Cloetta visitor center starts outside, stepping on to a small gravel square located right next to the canal. The main building is located north of the canal, slightly pushed back, while the smaller kiosk is located in the east right below one of the tree alleys' grand trees. The outside area has multiple spots where you can sit but does still leave room for movement for the pedestrians and bicyclists. The space is meant to be a place for recreation, both for visitors of the building and for those who are just passing by.

The building is entered walking through an arcade, a space created through extruding a part of the volume. The building's interior is entered to the right, immediately viewing the reception. To the left, facilities such as bathrooms and wardrobes are kept. Walking towards the reception, the visitor will spot the two story long staircase, located along the facade, taking the visitor up to the third floor and the exhibition areas. The third floor consists of a great exhibition hall with views out over the Göta kanal area. The intention of the visitors movement is to move along the facades, ending up in the centrally located staircase moving downwards through the building. Taking the stairs down to the second floor, another exhibition hall is entered. The second floor is similar to the third floor in its layout, but does also contain staff areas hidden from the public. The movement of the user is intended to be similar as on the third floor. After moving around the floor, experiencing the exhibition, visitors end up in the same staircase going downwards to again reach the entrance level. The downwards staircase is hidden for those entering the building so the movement down to the entrance level is not revealed beforehand. Stepping out of the staircase, the visitor ends up in the museum/candy shop and the movement and the story of the building ties together where it once started. The visitors leave the building through the arcade, directing the movement towards the kiosk. The site's prerequisites gave opportunities to create a souterrain basement level, containing functions as storage areas, technical areas and waste rooms.

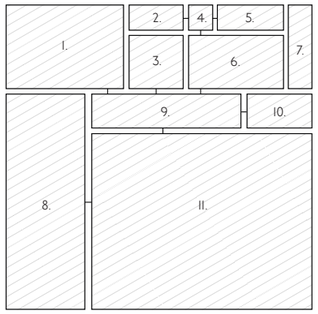


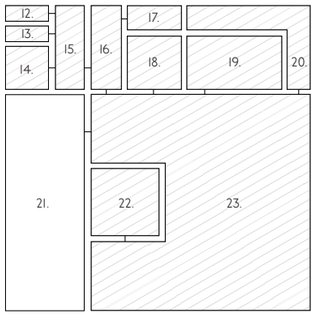
Visitors enter the building through an arcade.

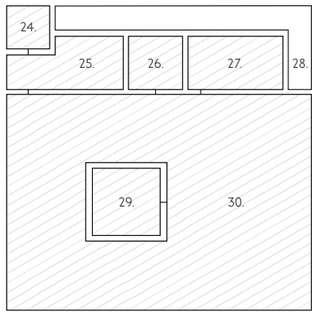
SITE PLAN SCALE I:400

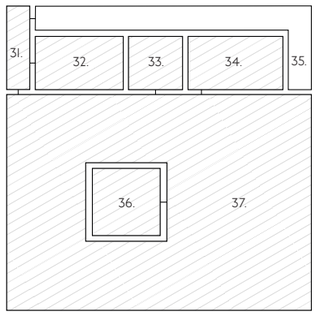


SECTION A - A SCALE I:400







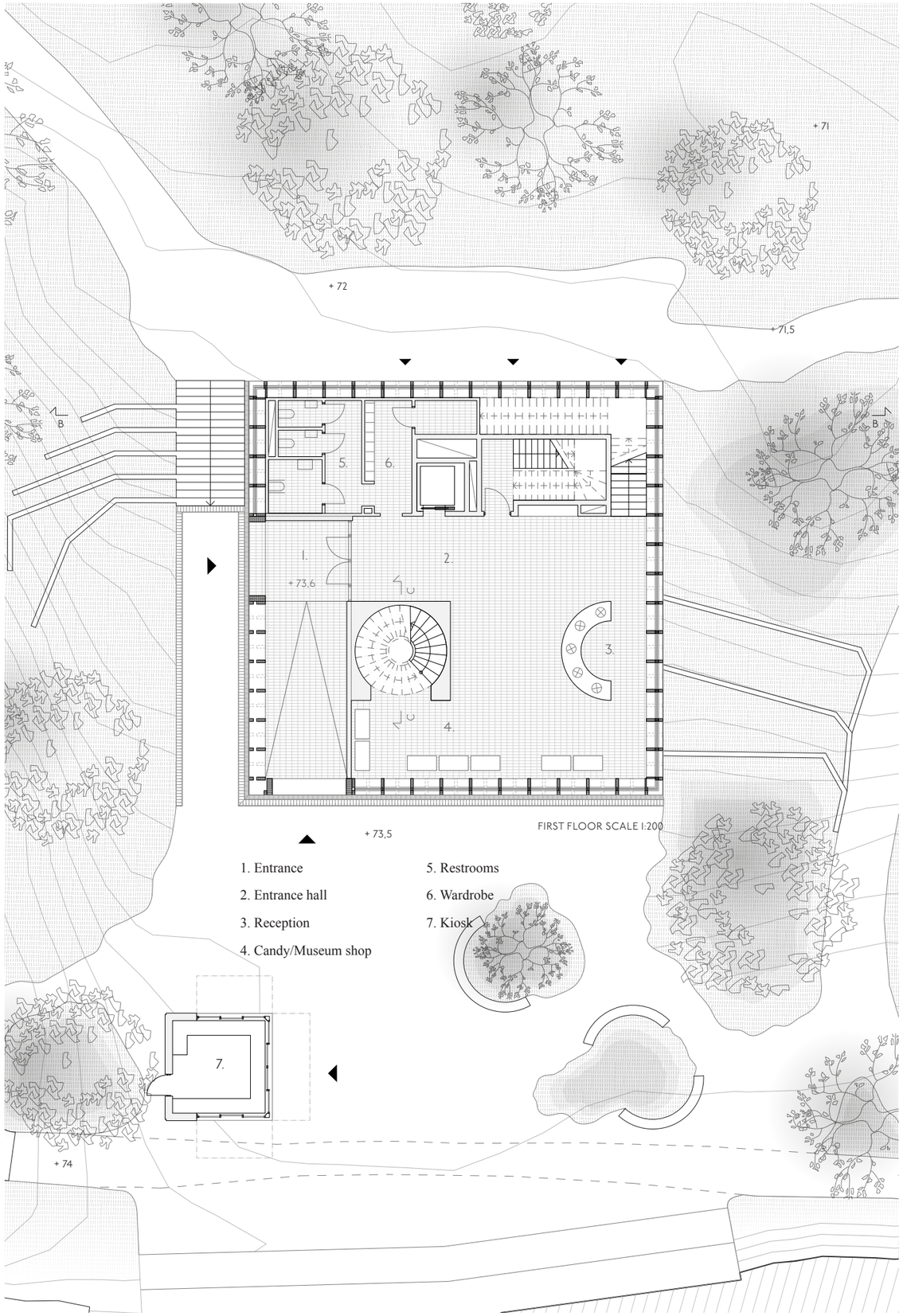


	BASEMENT	*Sqm*
1.	Waste Room	*27*
2.	Storage	*4*
3.	Elevator	*4*
4.	Communicaton Space	*3*
5.	Storage	*5*
6.	Evacuation Staircase	*13*
7.	Technical Space	*7*
8.	Storage / Technical Space	*40*
9.	Communicaton Space	*17*
10.	Storage	*5*
11.	Storage / Technical Space	*98*
	Total:	287

	ENTRANCE FLOOR	
12.-13.	WC	*2 (4)*
14.	RWC	*5*
15.	Pre Room WC	*7*
16.	Warderobe / Lockers	*9*
17.	Cleaning Storage	*3*
18.	Elevator	*4*
19.	Evacuation Staircase	*13*
20.	Staircase	*15*
21.	Outdoor Foyer	*(40)*
22.	Staircase	*17*
23.	Entrance Hall / Candy Shop / Reception	*112*
	Total:	247

	SECOND FLOOR	
24.	Staff RWC/D	*5*
25.	Staff Area	*16*
26.	Elevator	*4*
27.	Evacuation Staircase	*13*
28.	Staircase	(23)
29.	Staircase	*17*
30.	Exhibition Area	*149*
	Total:	287 *(264)*

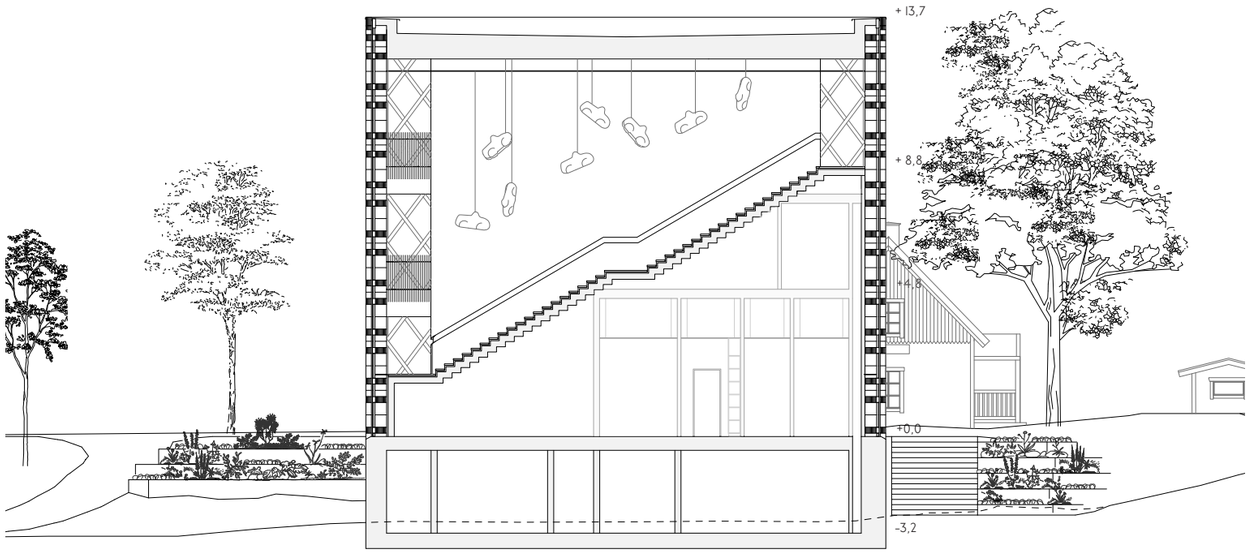
	THIRD FLOOR	
31.	Communication Space	*7*
32.	Technical Space	*14*
33.	Elevator	*4*
34.	Evacuation Staircase	*13*
35.	Staircase	*(25)*
36.	Staircase	*17*
37.	Exhibition Area	*149*
	Total:	287 *(262)*
	Main total:	1108



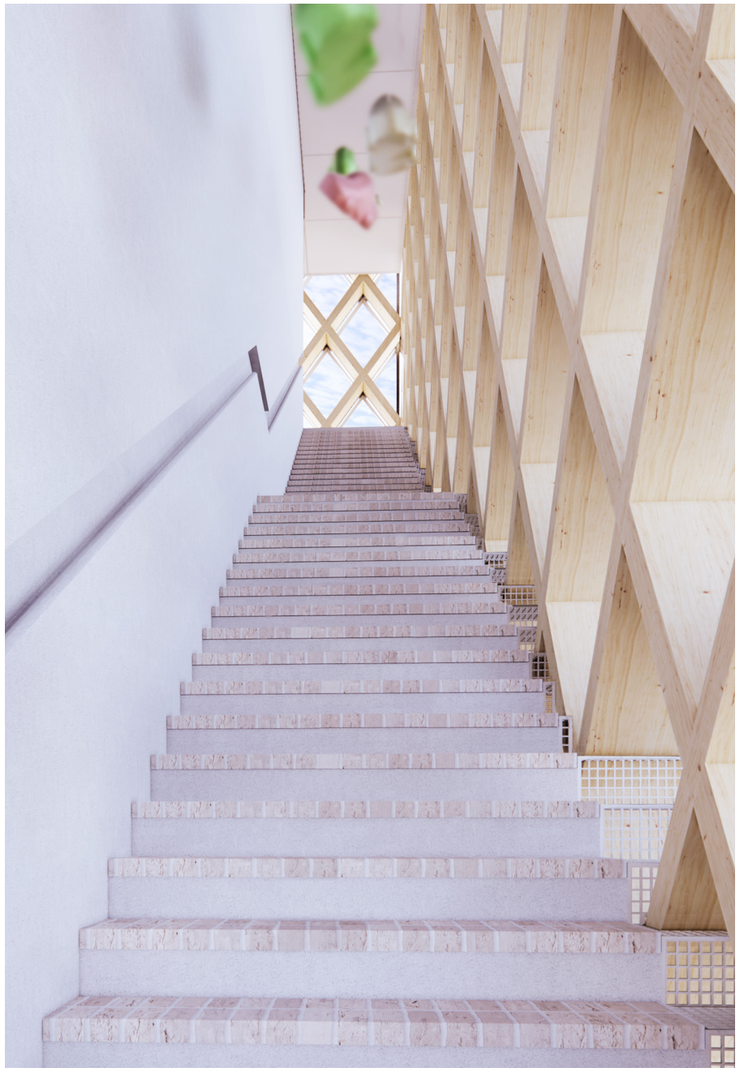
FIRST FLOOR SCALE 1:200

1. Entrance
2. Entrance hall
3. Reception
4. Candy/Museum shop
5. Restrooms
6. Wardrobe
7. Kiosk

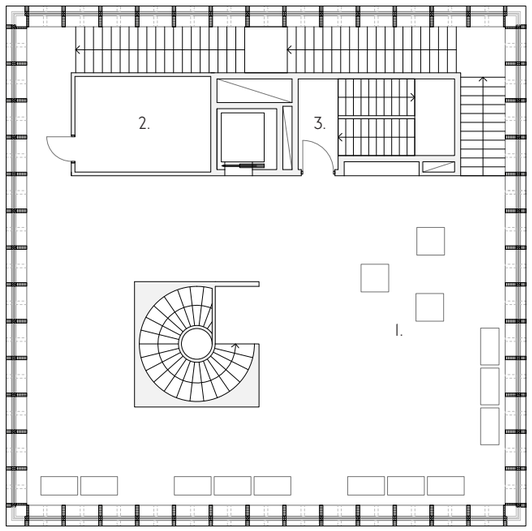
View over entrance floor and the reception.



SECTION B – B SCALE 1:200



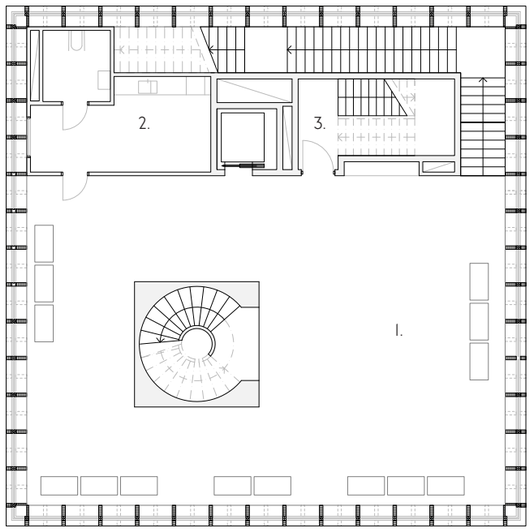
The long stair, leading visitors from the enterence floor to the topfloor along the facade.



THIRD FLOOR SCALE 1:200

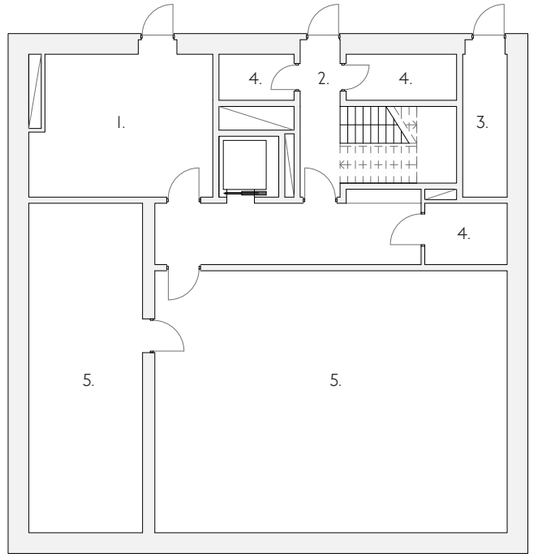
1. Exhibition hall
2. Technical area
3. Emergency exit

View over third floor. The wall of the spiral staircase is lowered to let the light flow in.



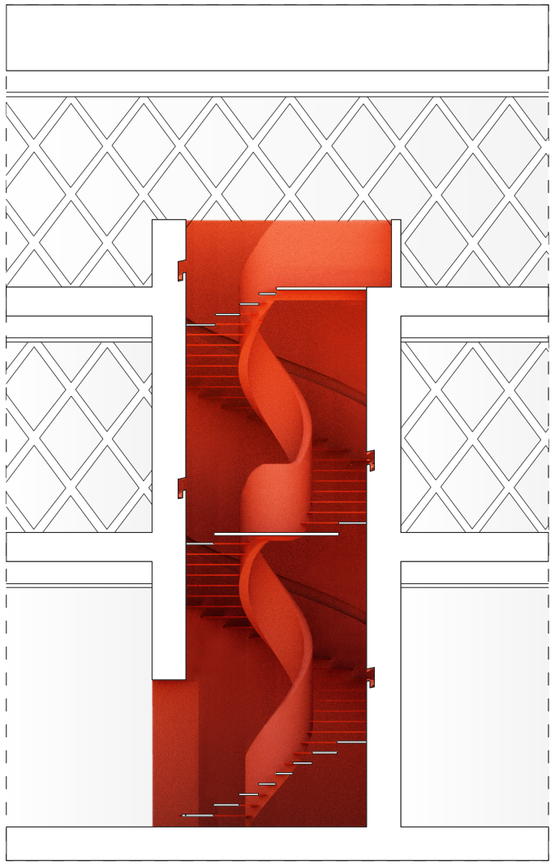
SECOND FLOOR SCALE 1:200

1. Exhibition hall
2. Staff space
3. Emergency exit



BASEMENT SCALE 1:200

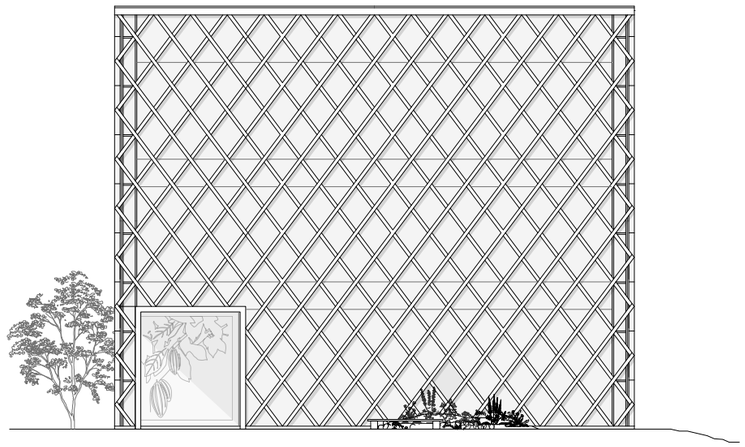
1. Waste room
2. Emergency exit
3. Technical area
4. Storage
5. Storage/Technical area



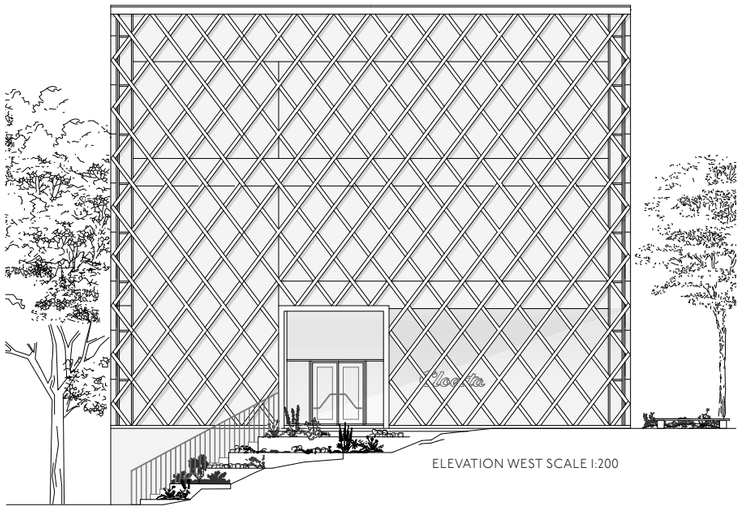
SECTION C-C SCALE 1:100

View over the second floor. The glulam grid creates a lightplay over the floor.

ELEVATIONS



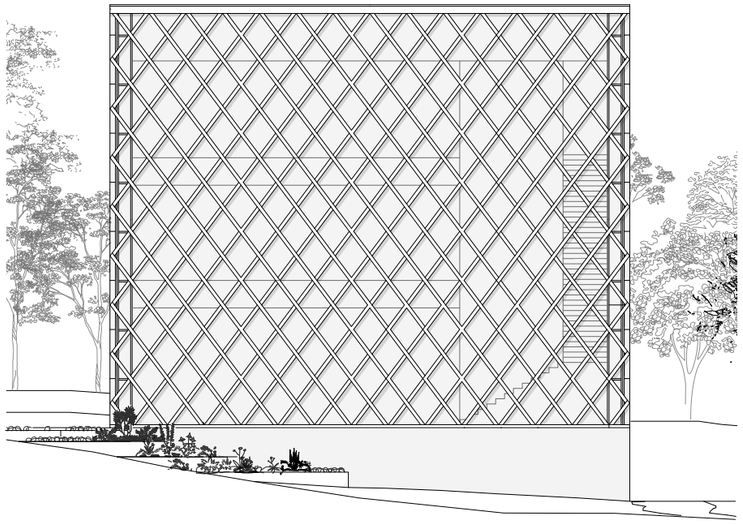
ELEVATION SOUTH SCALE 1:200



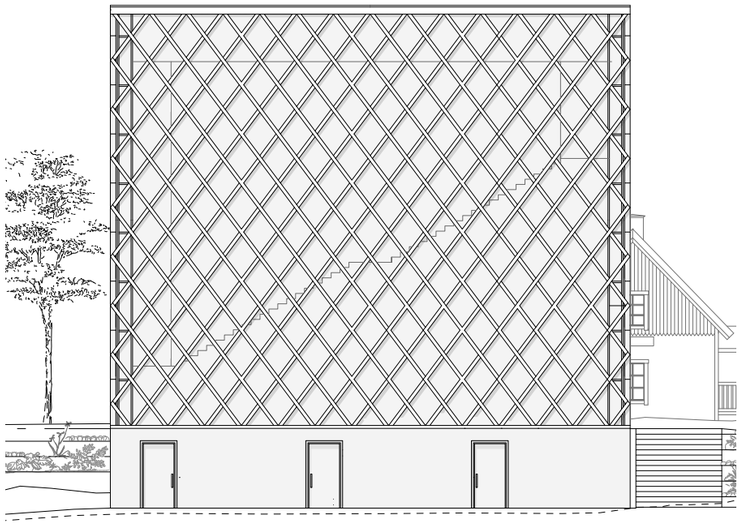
ELEVATION WEST SCALE 1:200

The semi transparent facade gives a hint about what is hidden inside.

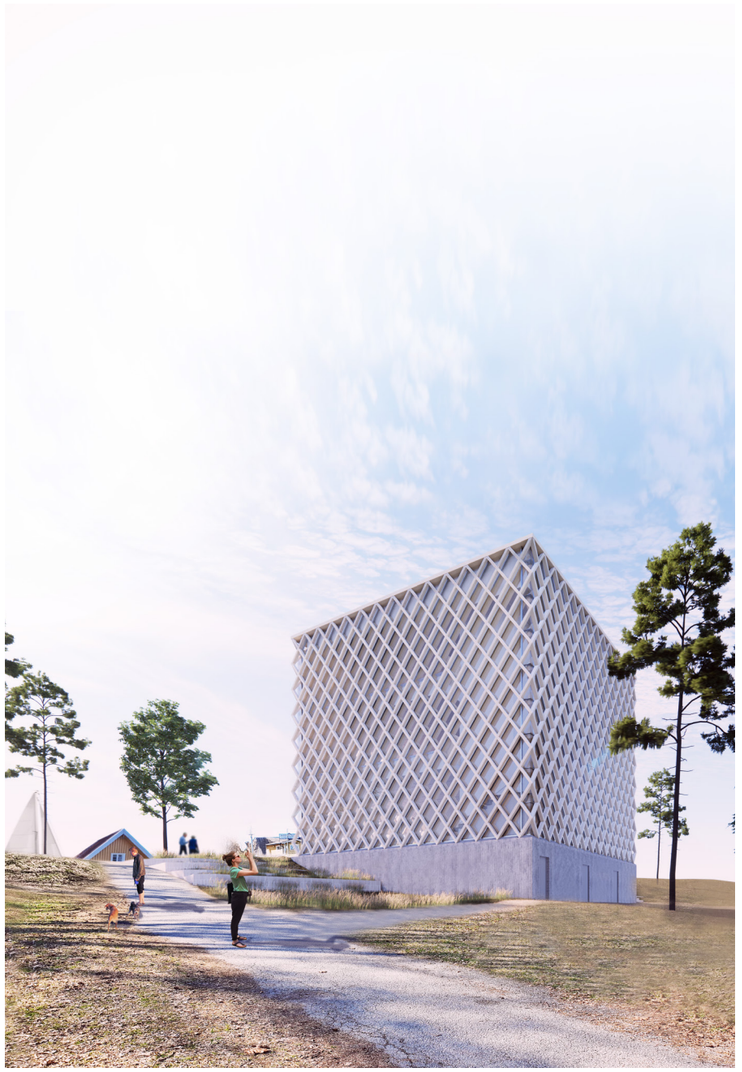
ELEVATIONS



ELEVATION EAST SCALE 1:200



ELEVATION NORTH SCALE 1:200

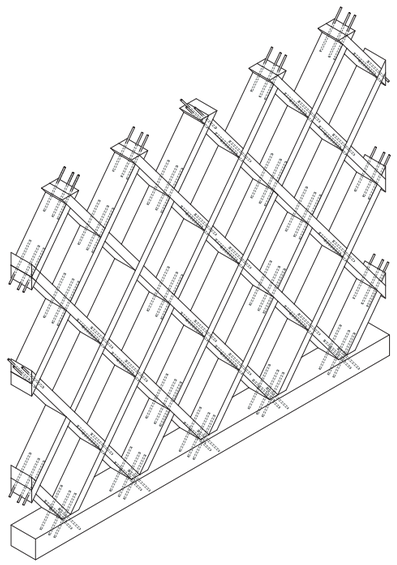


Souterrain level visible from North.

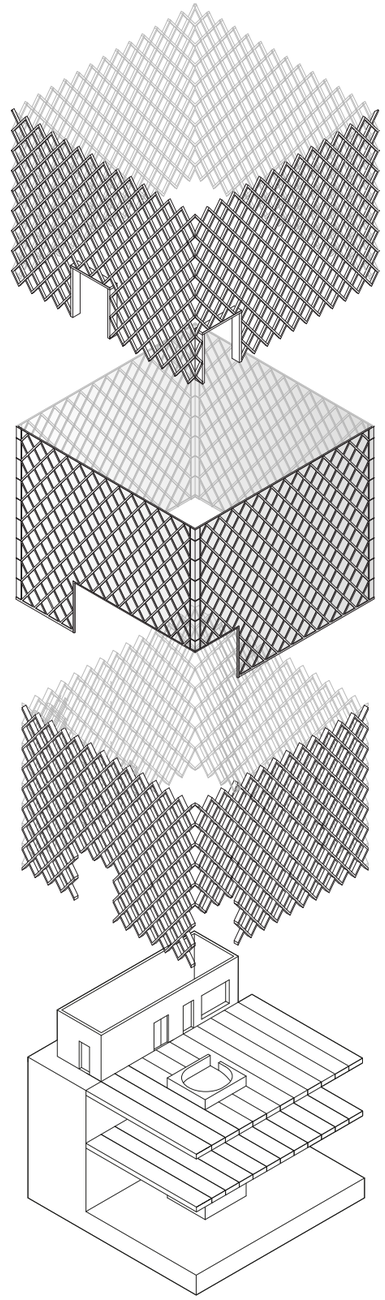
CONSTRUCTION AND DETAIL

The supporting system of the building starts in the facade which consists of three layers. First, a bearing glulam romb shaped grid structure, second, a curtain wall system of glass and lastly a second exterior romb shaped grid structure. The grid system creates a light play in the entrance arcade and the interior rooms which simultaneously works as a sun protection. A concrete block is placed in the northern part of the building in order to fixate the building's stability. The technical areas and other functions are placed in the block achieving grand halls for the exhibition areas. A second concrete block is located more in the middle of the building which encloses the downwards moving staircase. That second block leaves the CLT console slabs to span a maximum of approximately 10 metres. The building stands on a concrete foundation, moulded against wooden boards. The roof is hidden behind the facade and is leaning towards the northern concrete shaft to be able to lead the water down through it.

The chosen materials are robust in order to sustain for a long time, inspired from the thoughts of Cloetta's chief architect Henry Frankel. The wooden construction is chosen as a reminder to Fraenkel's ideas of building time specifically while it allows the design to express the construction freely. The solid ground floor brick flooring is meant to be a hint towards the many brick buildings in the society. A number of the other material choices such as walls and ceilings are chosen to be more discreet in order to give room for displaying the bearing glulam structure, while the inner walls of the staircase and seating niches are given a pop of colour to connect back to the playful theme. The third and second floor have wood block flooring.



CONSTRUCTION OVERVIEW



Wooden Raster Outdoor

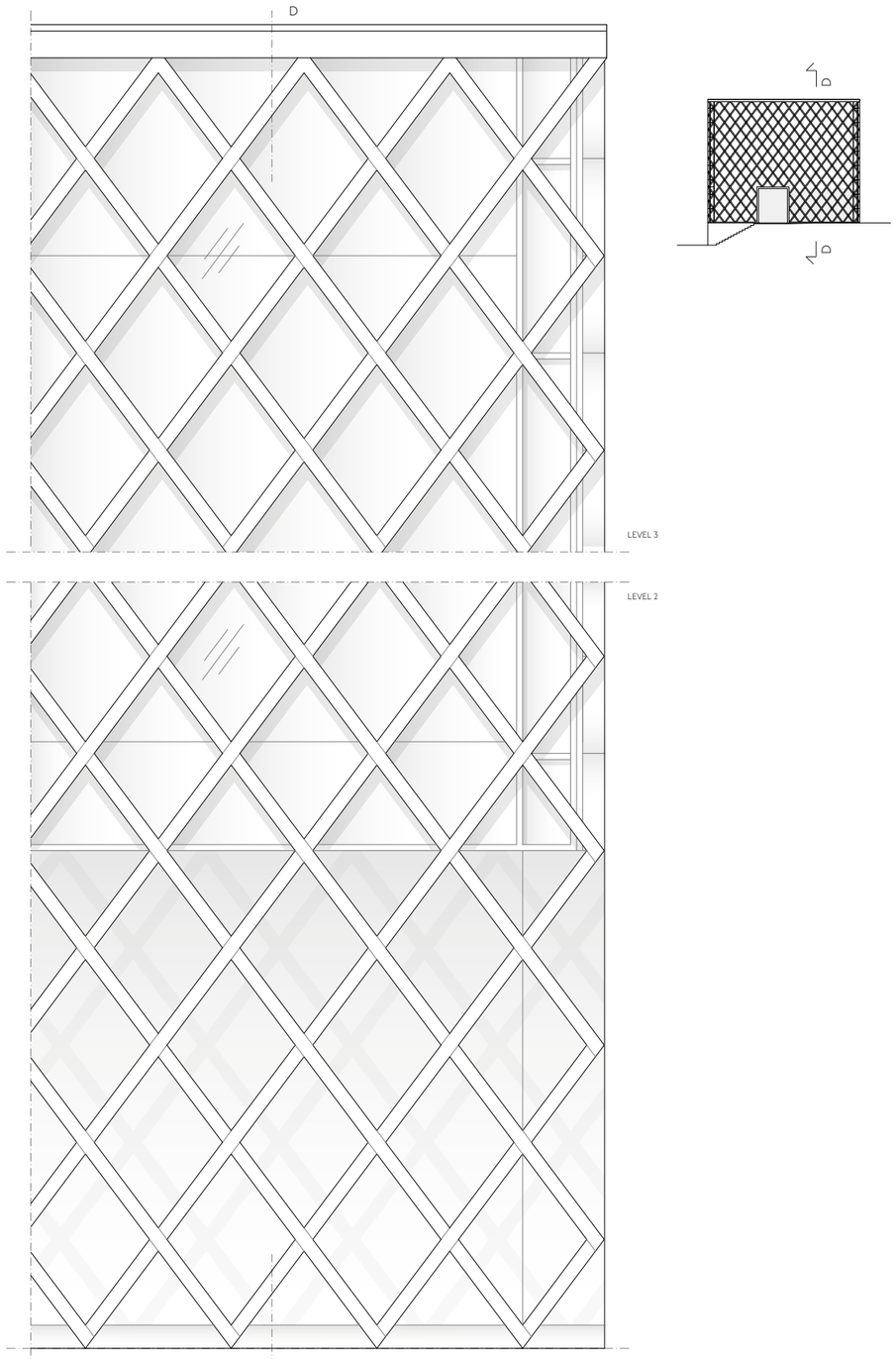
Curtain Wall System

Glulam Raster Construction

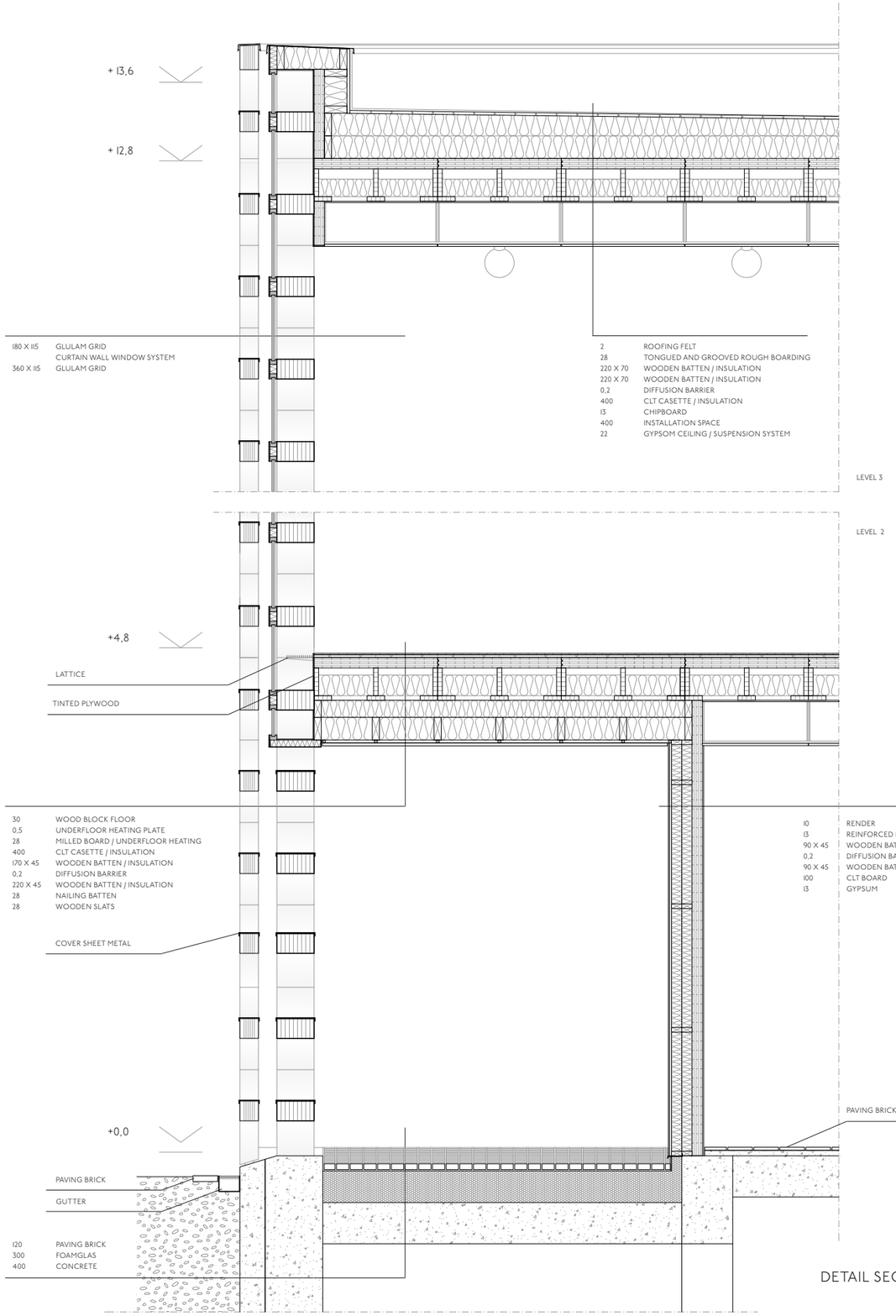
Glulam Grid Slabs

Concrete Shaft

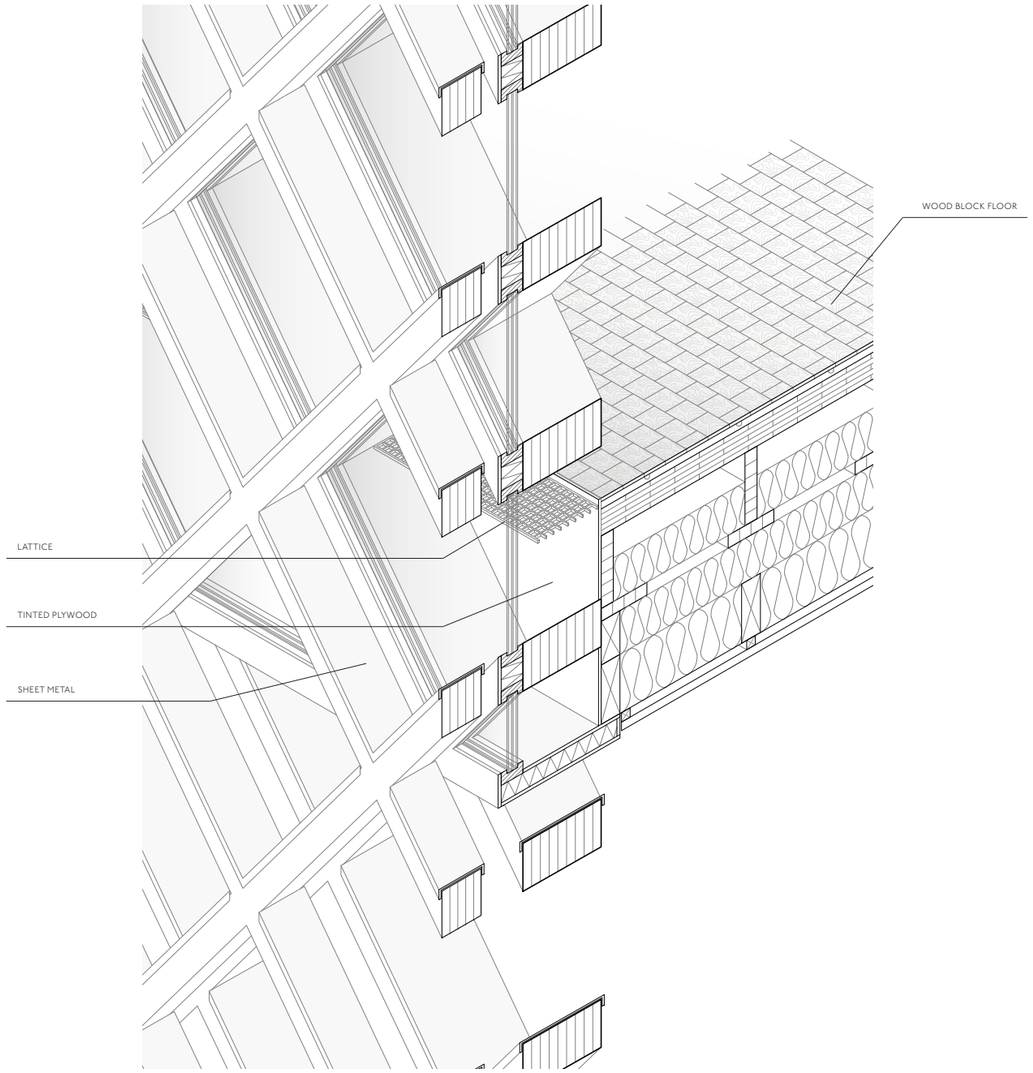
Concrete Foundation



FACADE SECTION ELEVATION
SCALE 1:50

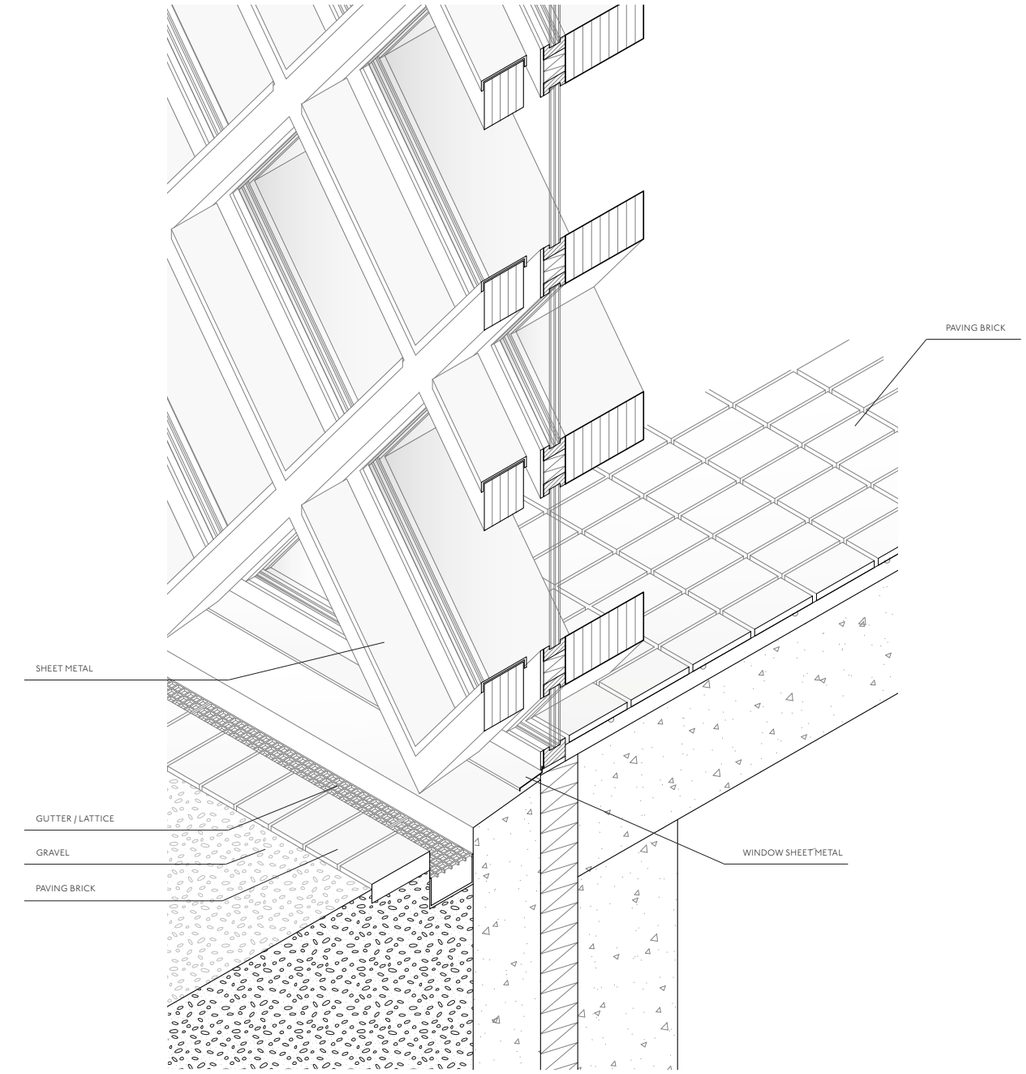


DETAIL SECTION D-D
SCALE 1:50



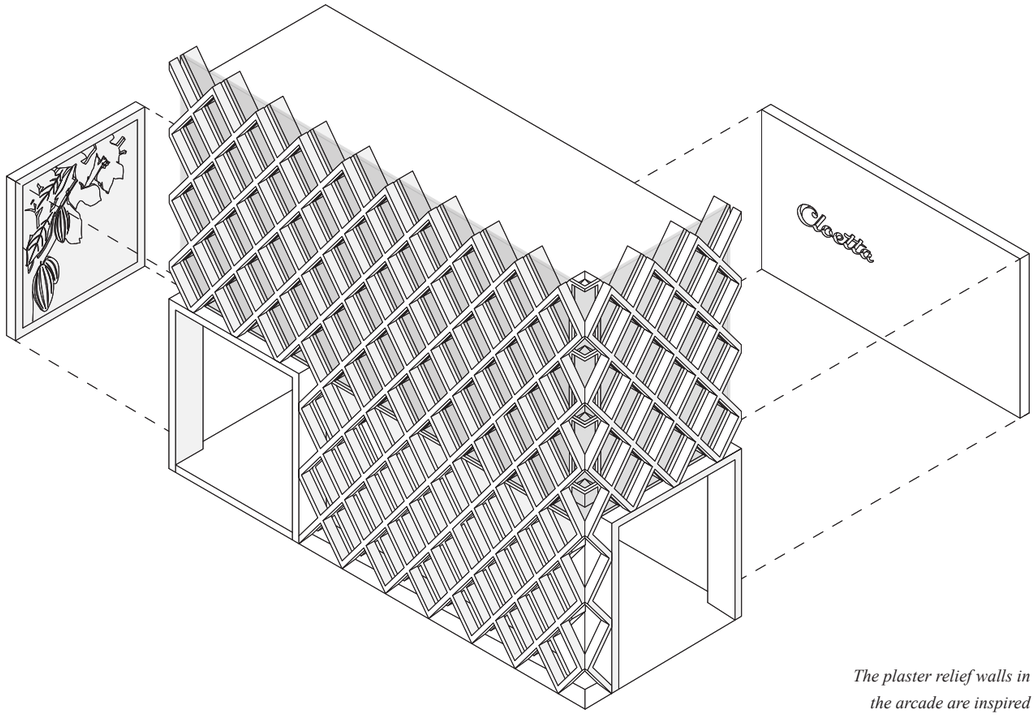
ISONOMETRIC DETAIL SECTION 1:20

Western Facade, Slabs / Grid Intersection



ISONOMETRIC DETAIL SECTION 1:20

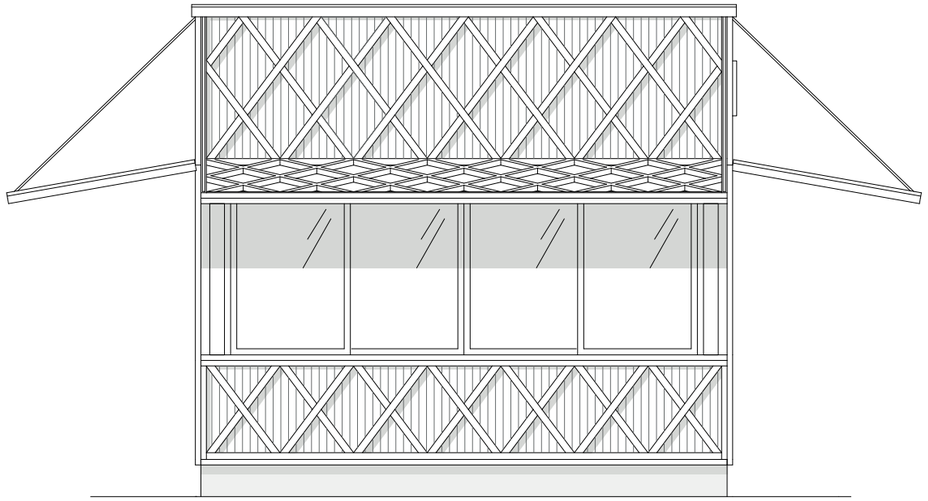
Southern Facade, Ground Intersection



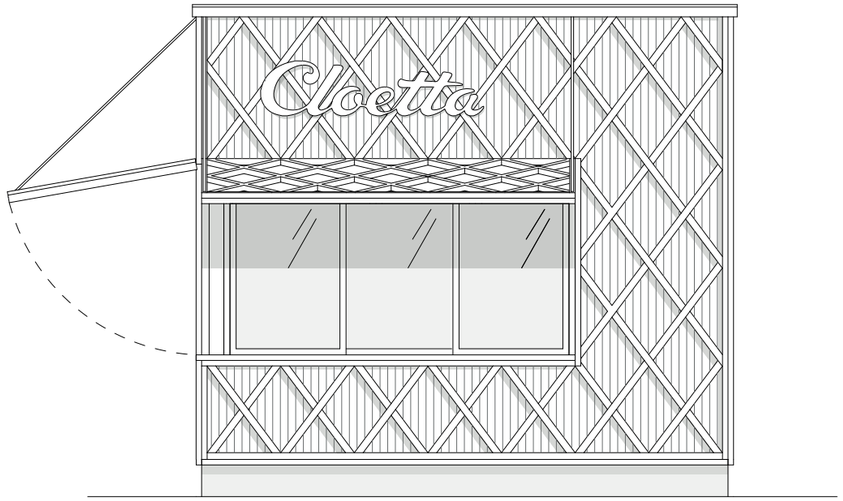
The plaster relief walls in the arcade are inspired from the reliefs above the workmen's dwellings entrance doors.

Exiting the building through the arcade with a view towards the kiosk and the in front recreational area.

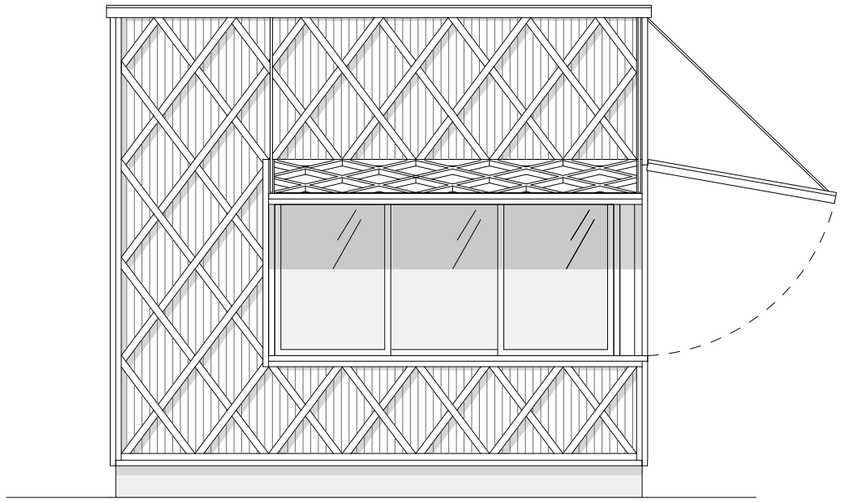
View over the building, the area outside of it, Göta Kanal and the kiosk.



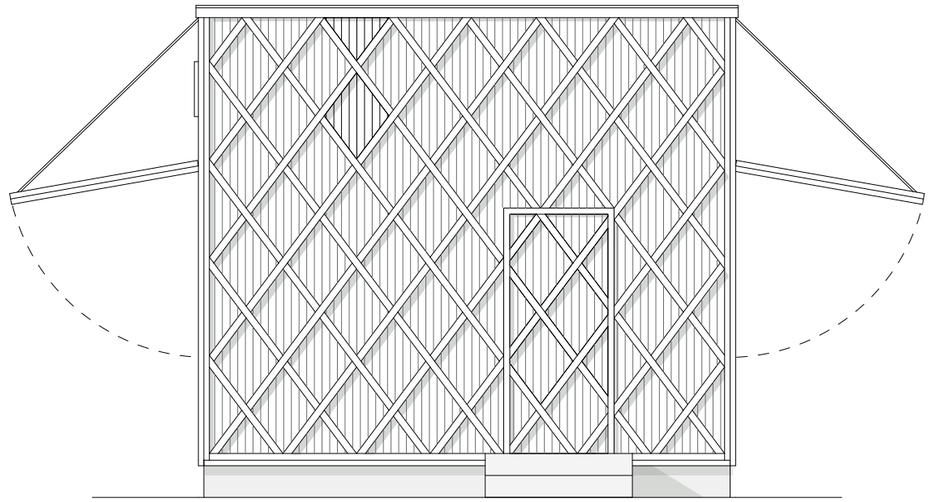
ELEVATION EAST SCALE 1:50



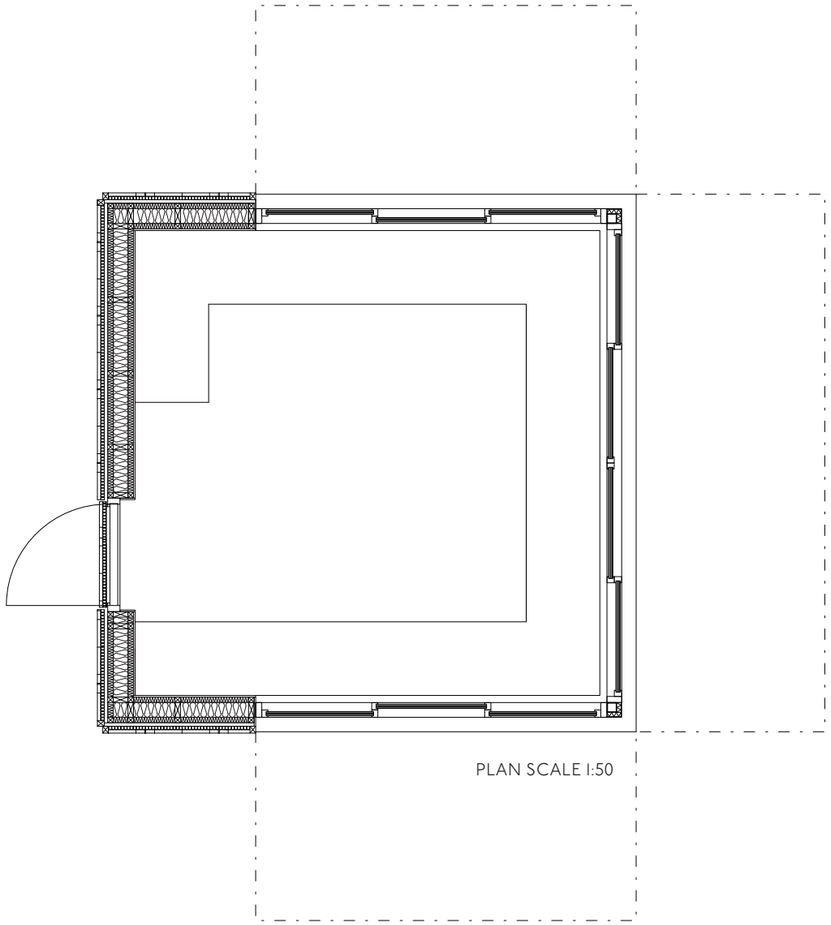
ELEVATION NORTH SCALE 1:50



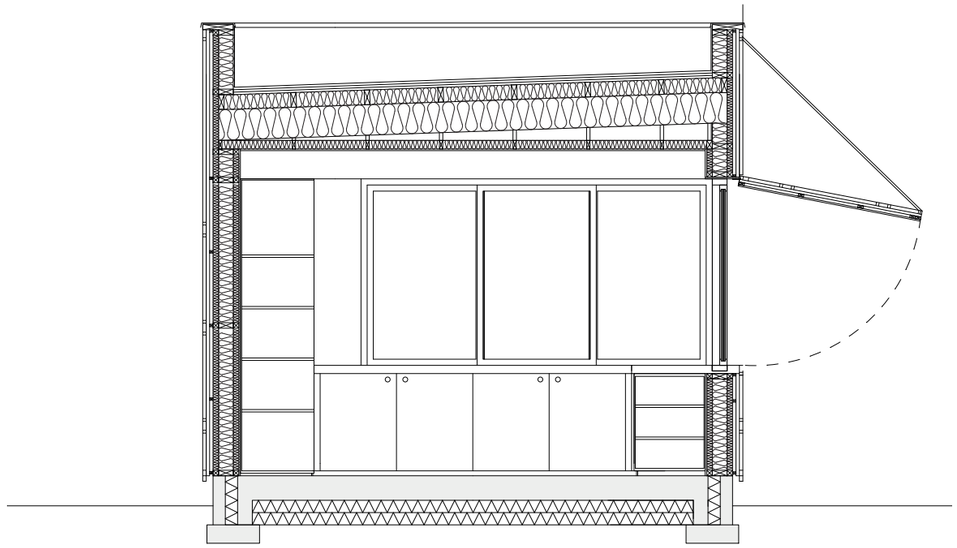
ELEVATION SOUTH SCALE 1:50



ELEVATION WEST SCALE 1:50



PLAN SCALE 1:50



SECTION E-E SCALE 1:50

View over the recreational area in front of the building.

DISCUSSION

When the research question “How do you design a building with the aim of directing the movement in order to tell a story” was formulated, it was important to define specific limits in order to be able to answer the question. When analysing built references within the same typology of the proposed design set volume, the buildings intentions on how the user should move upwards through the stories in the buildings could clearly be read, but it was noticed that the user is supposed to move downwards using the same vertical elements. In order to create an architectural story with a clear beginning and end, it was important to create a building with separate vertical elements to give the user a clear way forward without having to return when experiencing the building. Another important aspect creating the design proposal was to work with the dramaturgy of the building in order to create a richer experience for the user. Combining the idea of having a clear way of how you move through the building and enhancing the building’s dramaturgy, the design of the vertical shafts was decided to be shifted between the movements upwards and downwards in order to reinforce the experience of the user. The movement upwards is created through a long stair with an open view out over the landscape, while the movement downwards is a spiral staircase within a closed space.

In order to reach the aim of having one uninterrupted movement in a building with a vertical layout, it gave the consequence of having three staircases in total. For instance, to follow the concept idea the design benefited from having the staircase intended to move upwards and to not land on the second floor, meaning a third staircase needed to be introduced to be able to meet the fire requirements, which demanded a greater part of the total area.

In addition to working with the separate vertical shafts, another tool that was incorporated in the proposal was to not work with the design in order to not reveal what is coming next walking through the building. Designing the entrance floor, it especially became important. The entrance floor is visited twice during a visit and is where the story of the building ties together. When a user is entering the building, the first thing that is noticed is the reception desk. It is first when the user moves towards the desk the upwards staircase will be introduced. The movement of the user will therefore be to walk to the desk and then use the staircase that is visible from standing there. The user will not when entering the building notice the downwards staircase, which is hidden behind the wall the user walks next to. A third tool that was used in designing the proposal was to place the public functions in the light areas and the private functions in the dark. This was done to give clarity to the visitor on where to move.

The project aimed to create a visitor center for a speculative client, Cloetta, which also is expressed through the design of the building. Learning about Cloettas history, it is understood that the company had a great belief in the future of the factory and the small community of Ljungsbro. This is shown in the Cloetta buildings’ grand designs, choices of materials and a great belief in developing a central area for the inhabitants’ favour. The buildings brought up by Cloetta are also reflecting a very time specific design. Creating the design proposal, it was important to express a design clearly linked to the Cloetta brand, which gave the idea for the proposal’s construction and exterior. It was also important to create something related to a modern way of building to be able to continue the story of developing Ljungsbro with a spirit of the future as an homage to Cloetta’s and Ljungsbro forward drive during the mid 20th century.

REFERENCES

BUILDINGS

Tham & Videgård, *Kalmar Museum of Arts* (2008)
https://www.thamvidegard.se/work/public/kalmar-museum-of-art/ (Collected 2022-03-08)

Zumthor, P. *Kunsthaus Bregenz* (1997)
https://www.kunsthaus-bregenz.at/about-us/architecture/?L=1 (Collected 2022-03-05)

LITERATURE

Christoffersson, K. (editor) (2012), Cloetta 150 år, Ljungsbro: Cloetta

Cloetta (1948), Theobroma Cacao, Utgiven i anledning av Cloettas
75-årsjubileum, Ljungsbro: Cloetta

Hård, H. Business Development Manager for project stores, Cloetta AB,
Interview 2021

Kleine, H. (2018) The Drama of Space - Spatial Sequences and Compositions in Architecture (transl. Julian Resenberger), Berlin: Dormakaba

Miljö- och samhällsbyggnadsförvaltningen, Linköpings kommun (2015) Översiktsplanen för Ljungsbro och Berg, Linköping: Linköpings kommun

Molinari, C. (2018) Sequences in architecture. How to use cinema to design the experience of space and time (translated) Diap Print / Dottorato, 4 . Quodlibet, Macerata (Italy).

Morgansdotter, C. (editor) (2007), Chokladstaden Ljungsbro - Bland bönor och tegel,
Linköping: Östergötlands länsmuseum

LINKS

Swahn, J-O. (25th october 2002), *Chokladens historia*. Populär Historia.
https://popularhistoria.se/vardagsliv/mat-dryck/chokladens-historia

Cloetta AB. (n.d.) *Varumärken och Produkter.*
https://www.cloetta.se/varumarken-och-produkter/ (*Collected 2022-06-10*)

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