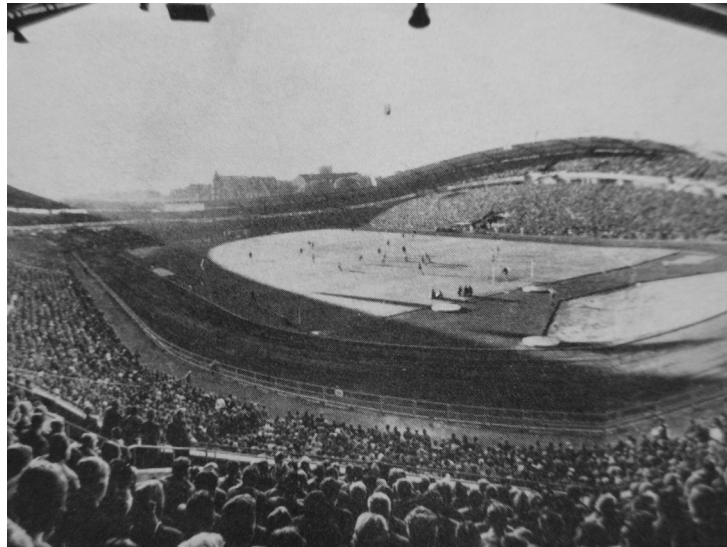


# In Memory Of

Recollection through architectural elements



JOHANNES TSAGARAKIS

CHALMERS SCHOOL OF ARCHITECTURE  
DEPARTMENT OF ARCHITECTURE AND CIVIL ENGINEERING  
MASTER THESIS ARCHITECTURE AND URBAN DESIGN  
MATTER SPACE STRUCTURE  
EXAMINER: MORTEN LUND  
TUTOR: JONAS CARLSSON







**CHALMERS**  
UNIVERSITY OF TECHNOLOGY

2019

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# ABSTRACT

The purpose of the thesis is to with regards to the values created through collective memory, develop a new life for Nya Ullevi. With a new program the memory and value that the building has accumulated over time will not only be maintained, but also amplified.

Many times buildings have a longer lifespan than economical, social and cultural eras. In many cases these eras last around half a century, while buildings have a much longer life. Other times buildings follow the cycle of the circumstances that enables their existence, economies change, and so does our systems of cultural values. The programmatic change that a building goes through can have many different characteristics, like: successful, unsuccessful, cheap, costly, seamless, abrupt, intended, unintended and so on.

The continued existence of Nya Ullevi in the current form is not economically, nor socially sustainable. The number of days a year it can hold a program is not enough considering its location and icon status. Ullevi lives to a large extent on nostalgia, which is a double edged sword that can do both good and bad at the same time. On one hand it can hold memory

and value over time, and on the other hand it can conserve what would be better off being developed and changed. The citizens of Gothenburg remember with joy all the glorious events that through history have taken place in Ullevi, the collective memories of these events is what prevents Ullevi from changing.

A proposal will be developed through research by design. The design proposal will take a physical shape through investigations with a theoretical starting point, production of text and narrative.

The result will be a proposal that will illustrate the programmatic plasticity of the built environment in general, and Nya Ullevi in particular. It will show that architecture as a field has the toolkits to deal these type of problems.

There are ways to successfully transform an iconic structure that is loaded with collective memory, and defined by nostalgia. The value that the structure has accumulated over time can by architectural interventions be both maintained and amplified.



# STUDENT BACKGROUND

Johannes Tsagarakis has a bachelor from Chalmers University of Technology and has since continued within the masters program MPARC with courses within the studios Material and Detail and Matter Space Structure. Some practical experience within the field of architecture has been gathered between the years of studies.

The subject of the thesis was chosen with regard to an interest in architecture theory and the written word combined with the interest of the city of Gothenburg and its specific relation to nostalgia within the field of architecture. There has also been an interest for some time in the paradoxical aspects of creation of value in architecture in general, and in architectural elements in particular.



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# INTRODUCTION

The purpose of the thesis is to investigate the relationship of a building and the memory of that building. If architecture has the toolkits to deal with these types of questions there is a lot to gain in areas of conflict when it comes to major transformations in regards to memory and value in architecture.

The main questions are how the memory of a building is being maintained, and whether that memory can even be strengthened and amplified. What specific elements of a building or geometry can be carriers of memory, and how can those parameters be manipulated in order to test and manipulate the memory.

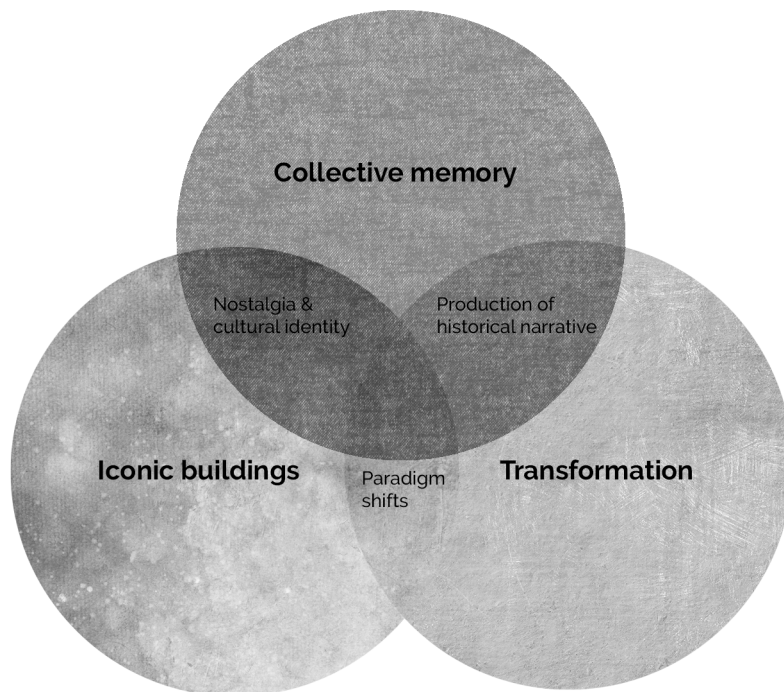
The thesis is situated in a discussion between the fields of collective memory, iconic buildings, and transformation. This is a field that is identified as being on the rise and increasingly gaining legitimacy.

The Method used is research by design. In an playful and almost intuitive way new methods are tried. Investigating how the memory of architecture elements work, and where they

end. Manipulation of material, shape and geometry is being tried to test and illustrate the plasticity of the memory.

Some of the main literature references include Elements by Rem Koolhaas. A series of books that illustrates how historical, economical and cultural mechanisms have an impact on development of different architectural elements, and often a foretell of whats to come. Another important literature reference is How Buildings Learn, by Stewart Brand. It is a text that investigates what makes some building age well, and keep developing, while others fall apart and decay. The literature has been used as inspiration on ways to think about development and changes that buildings go through.

The main delimitations are everything outside of massing and the architectural elements themselves. Therefore the work does not looking deeper into the context of the city and how a building relates to the city. In order to achieve depth and quality the focus was on some of the specific elements of the original building.



# DISCOURSE

The Thesis is situated in a theoretical discourse between the field Collective memory, Iconic buildings, and transformation, in this case referring to both structural and programmatic transformation.

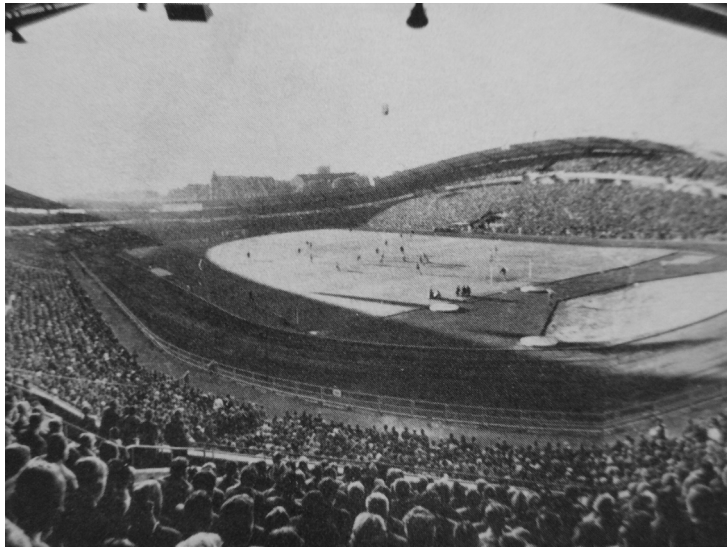
Between the fields of collective memory and Iconic buildings there is a field that is identified as Nostalgia and cultural identity. This refers to the the memory that groups, for example the inhabitants of a city tie and connect to specific buildings. The cultural identity is constantly being revised and updated, this is a direct consequence of the collective memory being plastic in its character.

There is also a sub field between Collective memory and Transformation identified as Production of historical narrative. This refers to the the fact that there is often a

transformation, or at least a major event involved in the creation collective memory.

The third sub field is labeled Paradigm shifts and is located between Transformation and Iconic buildings. This refers to the fact that often when a iconic building goes through some sort of transformation, weather it has a structural och programmatic character, is often connected to a major paradigm shift of some kind. It may for example mark the shift of an economical, religious, or cultural era, that enable of even forces the building to change.

When combining these different fields, there is an intersection, which deals with the transformation of an iconic building with respect to the collective memory.



# THE PRISONER

Once upon a time there was a city with many people. One day the people decided to build a great building. It was a state of the art building. All the best constructors worked on it and people came from all over the world to study and admire it. The people of the city had many wonderful games and gatherings in the building. Together they made beautiful memories, and everyone loved it. The Boss sang for them, and everyone loved him. When they thought about the building it made them proud of the city. Thus the people, the city and the building were all connected.

Time passed. The city changed and so did the rest of the world. But not the building. It stayed the same. There were not that many games and gatherings in the building anymore, but the people kept minding the building. Whenever the paint started peeling, they painted it. Whenever the concrete cracked, they fixed it. They really loved the building. Sometimes, if only a couple of days a year, all

the people of the city would come together in the building. Shoulder to shoulder they would sing their favorite songs, with their favorite singer, about their favorite city in the world. If only to remind themselves of how great their city was.

The building became more and more empty, and by each year that passed there were fewer days that the people visited the building. It was not that they forgot it, there was just no reason for them to go there. With the fear of destroying all the beautiful memories that they had made together in the building, the people eventually didn't even dare to touch the building. It was as if their best moments were a part of the buildings steel beams, their memories capsulated in its concrete. They had made the building a part of them, but at the same time it had become a prisoner. Unable to escape, it was forever trapped in the memory of its own greatness.



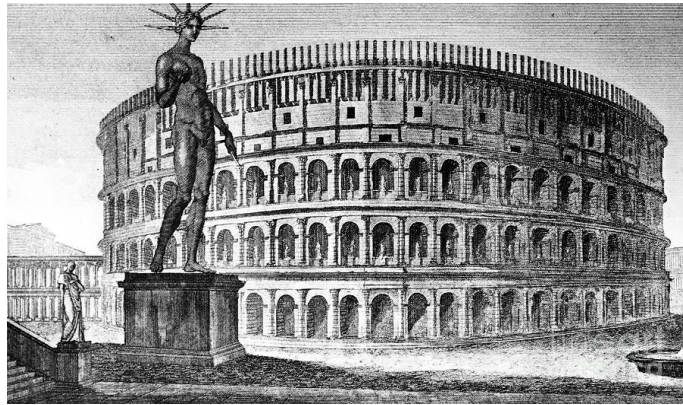
# THE BETSY ROSS HOUSE

About 150 years ago the Americans were searching for a war hero to turn into a female icon. One of them went under the name Lydia Darragh, the other one was Betsy Ross. Darragh worked as a spy during the revolution, Ross sewed American flags and it is possible that she sewed the very first. However Darragh's house was demolished and replaced by a hotel, while the house that Ross might have lived in during a short period was left standing. This meant that in a row of houses that have all been demolished and replaced a seemingly random house has not only been preserved but also elevated to sacred status. The conclusion is that architecture does not

only preserve memory and history but is also the creator of such. The active choice that was done to write Ross into the history books instead of Darragh was based on the fact that there was no architecture that could be directly connected to Darragh's person, due to that her house had been replaced by a hotel. In a movement of patriotism that reached nearly religious status she had no temple to be worshipped in, so she was forgotten by history. On the other hand, the building that reputedly had been the home of Betsy Ross now has half a million visitors a year.

*Stewart, How Buildings Learn, p 97*







# THE GIANTS

Under emperor Vespasian reign in ancient Rome began the construction of the Flavian amphitheater. Today we know it by the name Colosseum. This is due to the fact that during antiquity the plane in front of the amphitheater was occupied by a colossal bronze statue measuring over 30 meters in height, portraying the emperor Nero. After his death it was converted to portray the Roman sun god Sol by placing a sun-ray crown on his head. Eventually it was turned into a portrayal of the currently ruling emperor Commodus as Hercules, by replacing the head of the statue. The statue has since then been lost to history, one theory is that it was destroyed during the Sack of Rome in 410, while other sources claim it was still standing in the Middle Ages. The remains of the masonry pedestal, once covered with marble, were removed in 1936. Today all that remains of the Colossus is a square marking in the ground, indicating where the giant once stood.

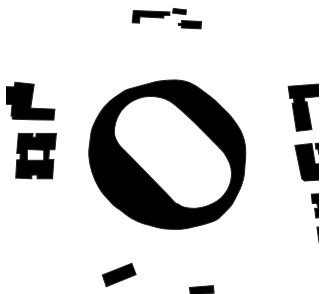
Around 2000 years later, In 2011 a 400 kilo bronze statue was erected on the plane outside of Nya Ullevi. Its name is Ingo - the Champ. It is portraying the legendary boxer Ingmar Johansson (1932-2009) who's success and legacy is tightly tied to the stadium. This is where the legendary fight took place when Johansson beat Eddie Machen in 1958 in front of 53,216 spectators, which still to this day

holds the record for sports event at Ullevi. The win paved the way to Johanssons match against champion Floyd Patterson in Yankee Stadium. The win over Patterson in New York City made Johansson world heavyweight champion. He returned to his home city of Gothenburg as a winner, in a helicopter, landing in Nya Ullevi to a cheering crowd of 20,000 people.

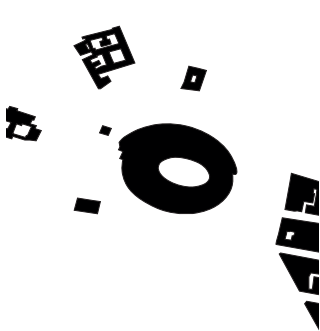
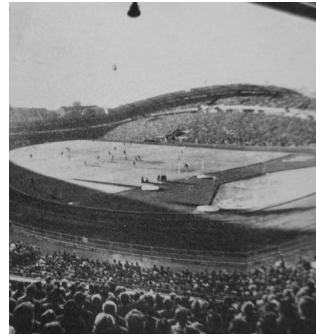
Nobody really knows what happened to the Colossus of Nero. It got consumed by history, perhaps it fell victim to metal scavengers or got melted and casted into cannons in medieval Europe. It is safe to assume that it got turned into something that the people of that time felt there was a bigger need for. It might have gotten a new sacred status in a new shape. Perhaps it was turned into baldachins. In medieval Rome there was nothing more sacred than churches.

In the same way that nobody really knows what happened to the Colossus of Nero, nobody really knows what the future holds for Ingo - the Champ. For now it tells us of his story, our story. It helps us keep in in our memory, But perhaps it too one day will be melted down to, lets say ornamentation for housing. Something that we at that time will feel a bigger need for. In the end, in Gothenburg, what is more sacred than housing?

# References



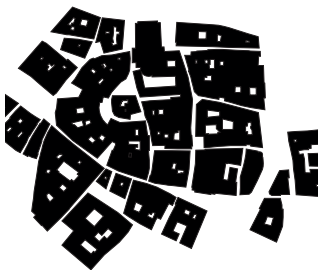
*Nya Ulevi in current form*



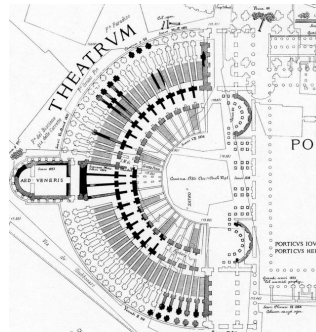
*Name: Colosseum  
Location: Rome  
Currently: Archeological monument  
Former: Roman Amphitheater*



*Unique in its capability to maintain form, this monumental carrier of historical and architectural memory has lasted through history and several programmatic changes. Some of the programs being a theater, a chapel for religious worship, a wool factory, a important figure for the modern national state, a important tourist and national monument.*



*Name: Theatre of Pompey  
Location: Rome  
Currently: City neighborhood  
Former: Theater*



*Traces of the Roman theater are still visible in the fabric of the city. The new city blocks stretch out into city, blurring the lines of history and present.*



*Name: Piazza del Campo  
Location: Siena  
Currently: Square  
Former: Greek theater*



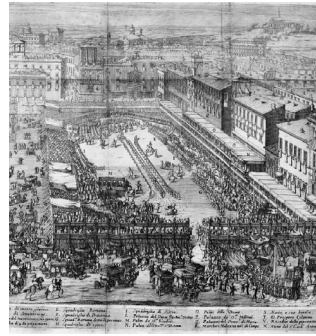
*Located in the intersection of the three ancient cities that eventually became the medieval city of Siena. A compromise that eventually became a central place of meeting with a heavy symbolic and political role.*



## References



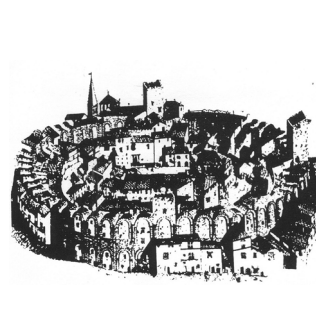
Name: Piazza Navona  
Location: Rome  
Currently: Square  
Former: Stadium



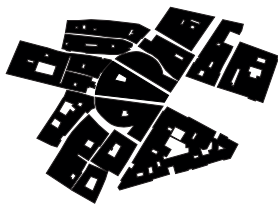
The space of the ancient greek stadium is still fully visible in the city. The buildings have been replaced several times trough history and the floor of the stadium is about four meters below the existing square. Several levels exist under their each specific time, holding their own architectural memory trough history. The original form is strictly kept trough laws of jurisprudence, management and administration trough history.



Name: Piazza dell' Anfiteatro  
Location: Lucca  
Currently: Square  
Former: Roman Amphitheater



The shape of the ancient roman amphitheater has been preserved to this day. The original floor of the theater is about four meters below the current ground level. In the 1800s the inside space was cleared of buildings to create the open square that it is today, illustrating the change over time, and the ability to return to a historical state trough the power of narrative. At a certain spot the structure has extended aligning with a nearby street.

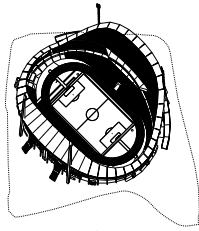


Name: Roman Amphitheater of Florence  
Location: Florence  
Currently: City neighborhood  
Former: Roman Amphitheater

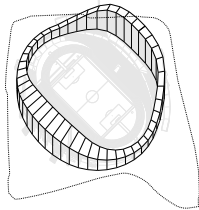


The roman amphitheater was located to the east of the roman city outside of city walls. Until this day the oval shape of the roman amphitheater has been preserved. However cuts have been made trough the structure to produce new city streets.

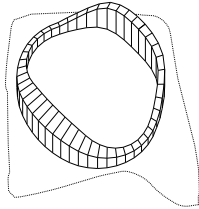
# Massing Strategies



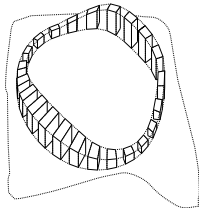
Nya Ulevi in current form



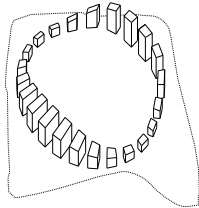
*New massing is derived from existing roof sections. Maintaining both pitch and angle.*



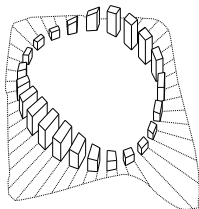
Massing 1.0



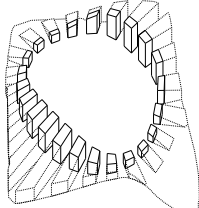
Every other section is removed, creating volumes with appropriate thickness for further development.



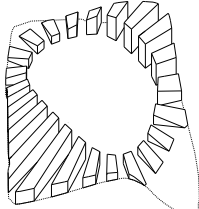
Massing 2.0



Section geometry is extended to plot outline to maximize plot use.

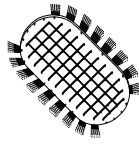


Massing is extended according to new geometry.

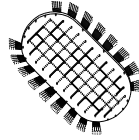


Massing 3.0

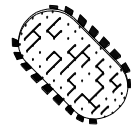
# Memorial Logic



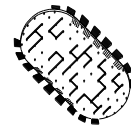
*Memorial park starting point*



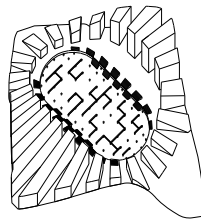
*Stair sections are partly removed, bringing the stairs closer to the memorial park. Selected beams are also removed, creating opportunity for programming of memorial park.*



*New situation*

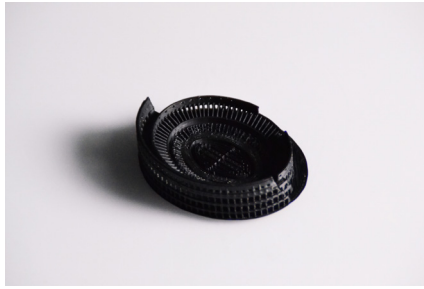


*Old stair sections are complemented with new ones leading down to and giving access to memorial park.*



*Project starting point*

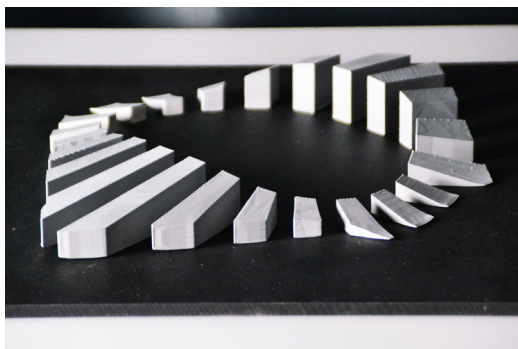
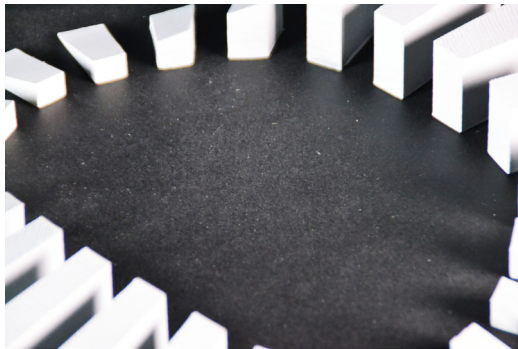
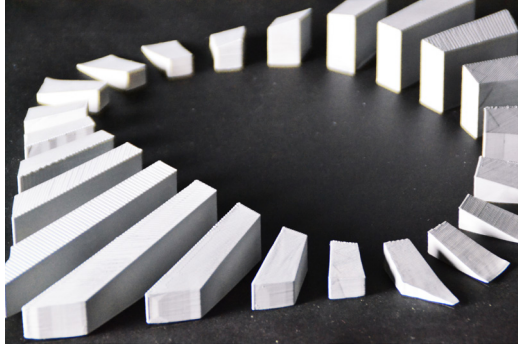
Massing models 1:2000



Massing models 1:2000

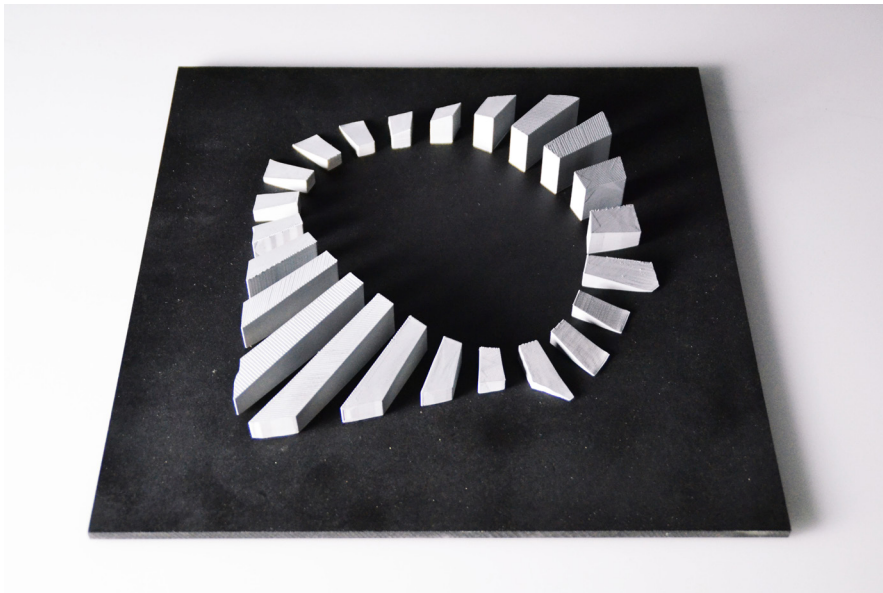


Massing model 1:1000

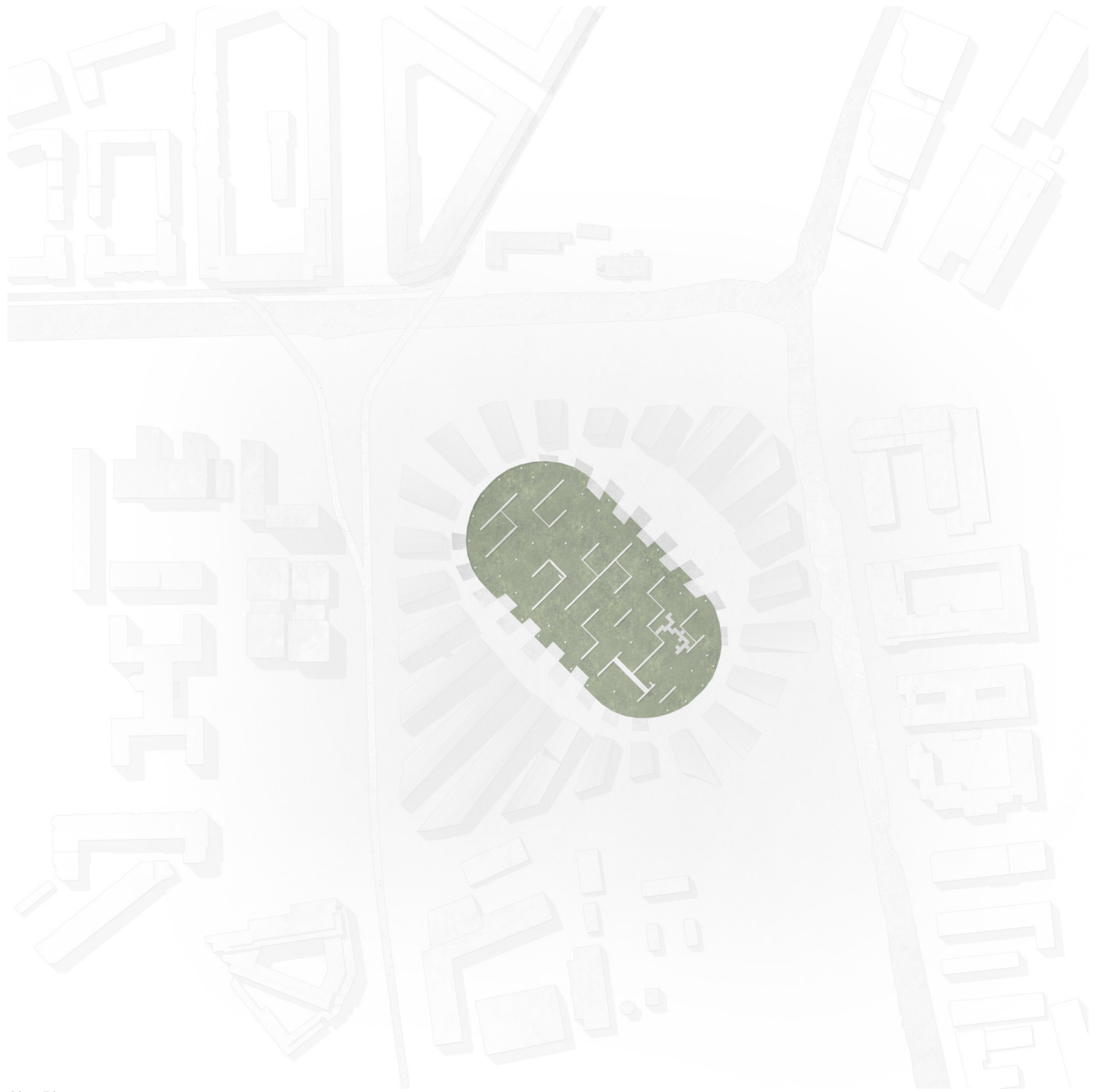




Massing model 1:1000

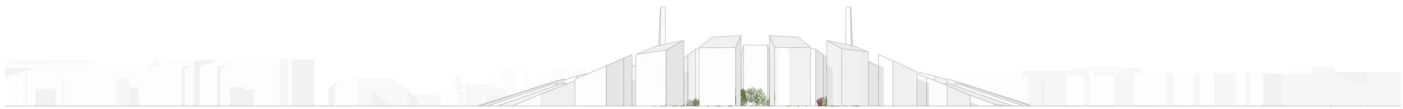


# Site Plan



Site Plan 1:4000

# Site Elevation

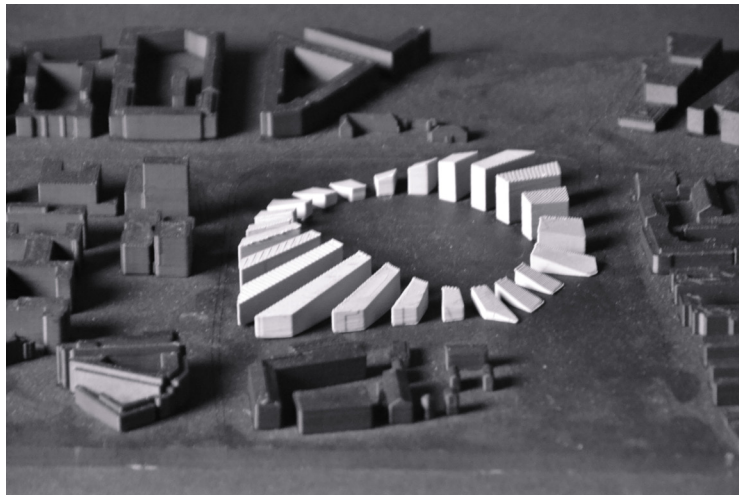
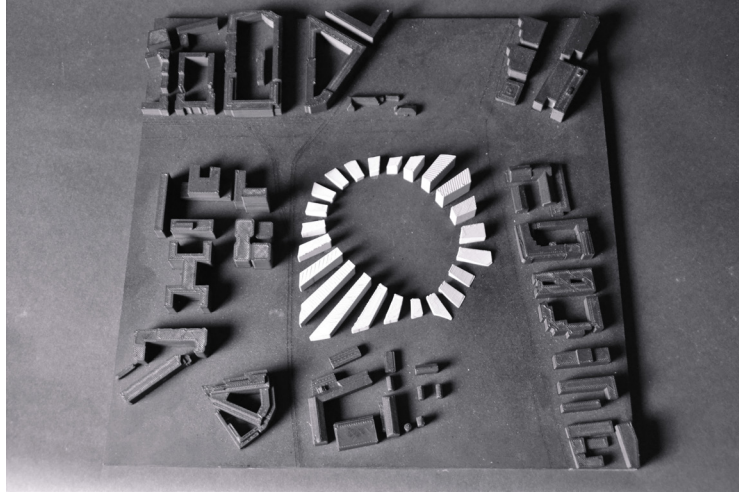


Site Elevation 1:4000

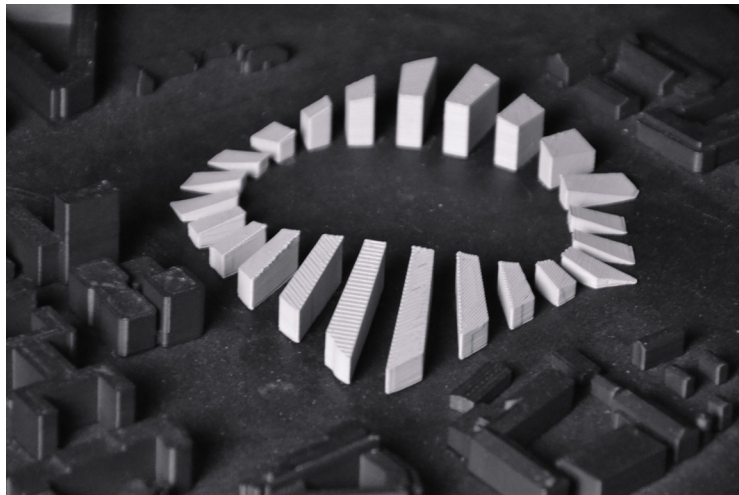
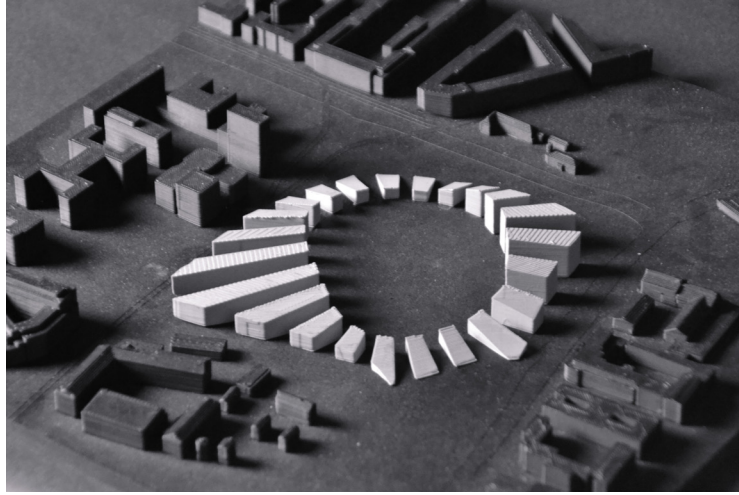


Site Elevation 1:4000

Site plan model 1:2000



Site plan model 1:2000



# Material Properties





## Material Properties

When looking at the site specific materials and elements there is a mixture of everything, both high and low. There is junk materials mixed with bronze, but mostly low status materials. There is a sense of temporality, that everything is decaying and at the same time there are lots of additions. However its highly iconic and recognizable in the details and materials. Layer is built upon layer. Buildings within the building with their own

architectural properties. There are restaurants with linoleum floors and bars with plywood. Maybe we can call it Junkspace. The question inevitably pops up: How can all this junkyness combined be so important for our identity, almost sacred? What is the memory tied to? The key is all these elements that we normally don't think about, but subconscious link to the building.

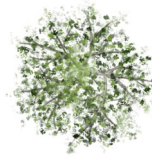
# Flora: Trees

5 yrs

10 yrs

15 yrs

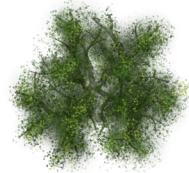
Trees



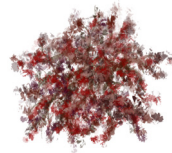
Eng: White birch  
Latin: *Betula pubescens*  
Swe: Glasbjörk



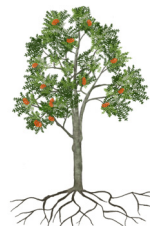
Eng: Populus tremula  
Latin: Aspen  
Swe: Asp



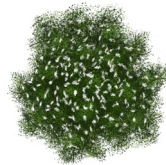
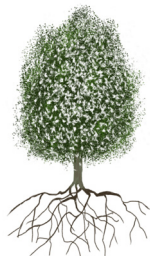
Eng: Silver birch  
Latin: *Betula pendula*  
Swe: Vårtbjörk



Eng: Palmate maple  
Latin: *Acer palmatum*  
Swe: Japansk lönn



Eng: Rowan  
Latin: *Sorbus aucuparia*  
Swe: Rönn



Eng: Bird cherry  
Latin: *Prunus Padus*  
Swe: Hägg



# Flora: Shrubs & Grass

## Shrubs



Eng: Crab apple  
Latin: Malus Sylvestris  
Swe: Vildpappel



Eng: Hawthorn  
Latin: Crataegus  
Swe: Hagtorn



Eng: Osier  
Latin: Salix Viminalis  
Swe: Korgvide

## Grass



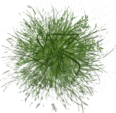
Eng: Pampas grass  
Latin: Cortaderia selloana  
Swe: Pampasgräs



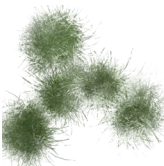
Eng: Big blue stem  
Latin: Andropogon gerardii  
Swe: Andropogon gerardii



Eng: Agrostis  
Latin: Agrostis  
Swe: Vengräs

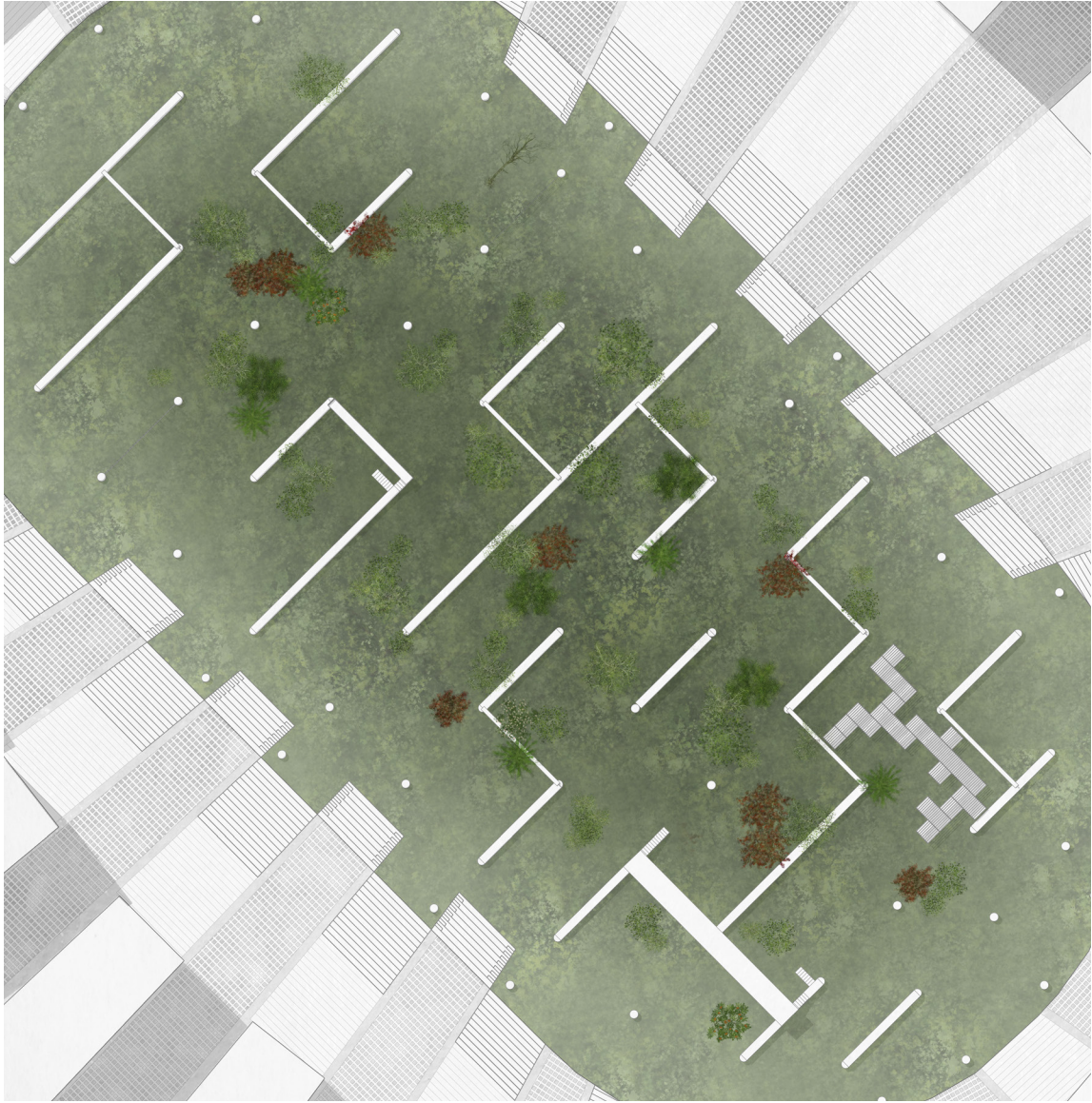


Eng: Poa annua  
Latin: Poa annua  
Swe: Vitgröe gräs

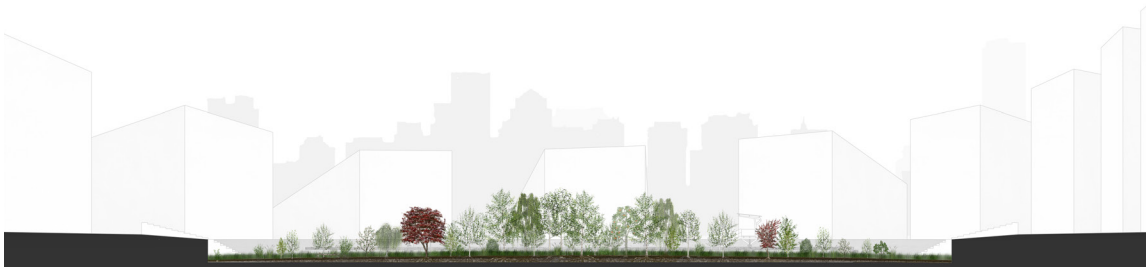


Eng: Red fescue  
Latin: Festuca rubra  
Swe: Rödsvingel

# Memorial Park



Plan 1:1000



Elevation 1:1000

## Memorial Park

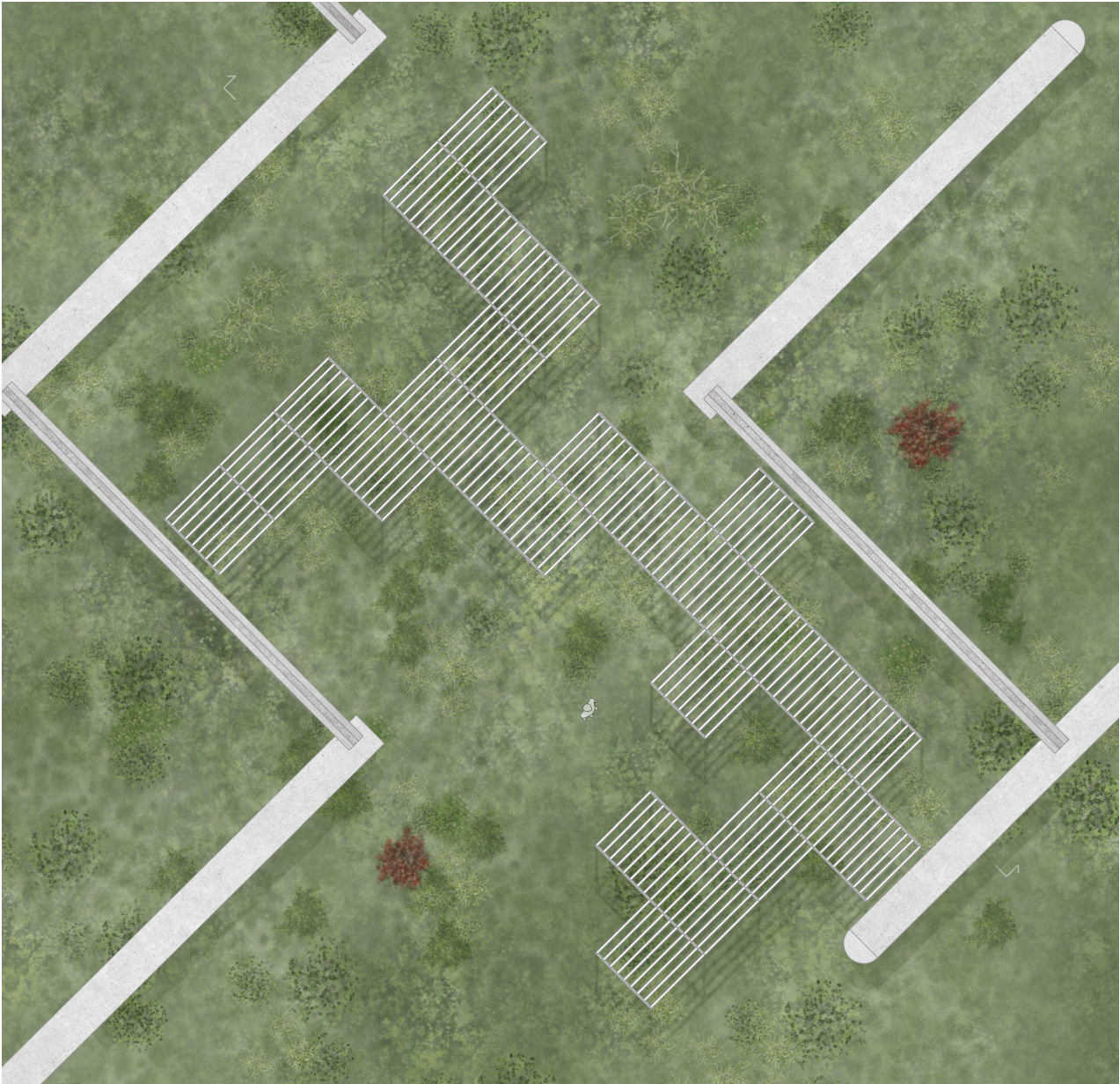
The memorial park is in the former arena. The slab is removed exposing the underlying structural system three meters below. The removal of beams creates a system of spaces. Soil is added to enable plants and trees to grow freely and uncontrolled among the concrete pillars and beams. The soil is thickest in the middle (1m,) which allows for larger trees here

over time. Further away from the middle the soil thins out which in turn limits the size of the maximum possible tree growth.

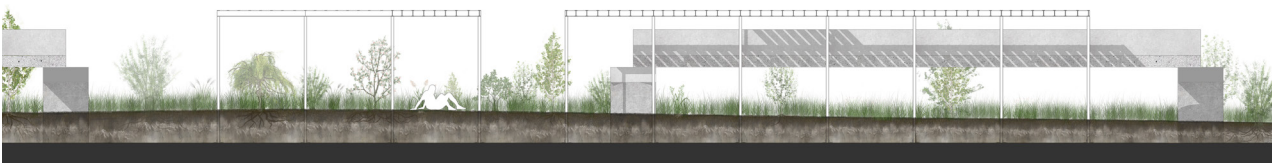
The memorial park is always accessible and answers to the question about lack of accessibility. Bringing Ullevi closer to the people of the city.



# Beams



Plan 1:200



Section 1:200

## Beams

The starting point is the aluminum beams. They are one of the first things you see after you have entered. They are additions to prevent people from jumping in. There is fluorescent lights because it's dark. Some of the beams are crooked and bent because people apparently tried to break in. The architectural ambition is low.

When organized differently they are allowed to stand out and their potential is highlighted. Using the same structural principle, which speaks a lot in its own simplicity. There are pillars, upside down primary T-beams and

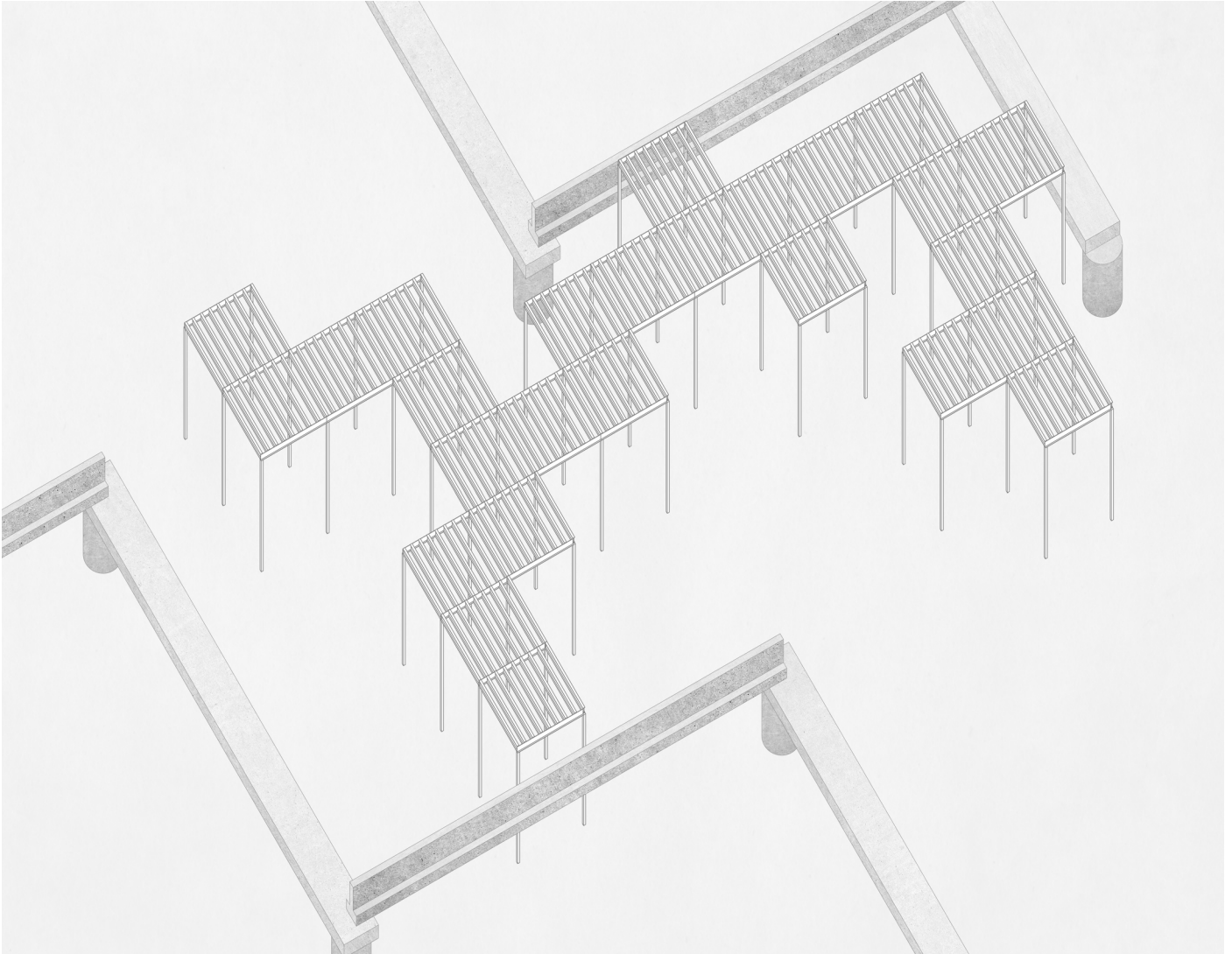
secondary I-beams on top of them.

When given the context of the memorial park this becomes something new. Organized against the wild nature and in the light. It relates to the existing structure, tho it is free standing and not in physical contact.

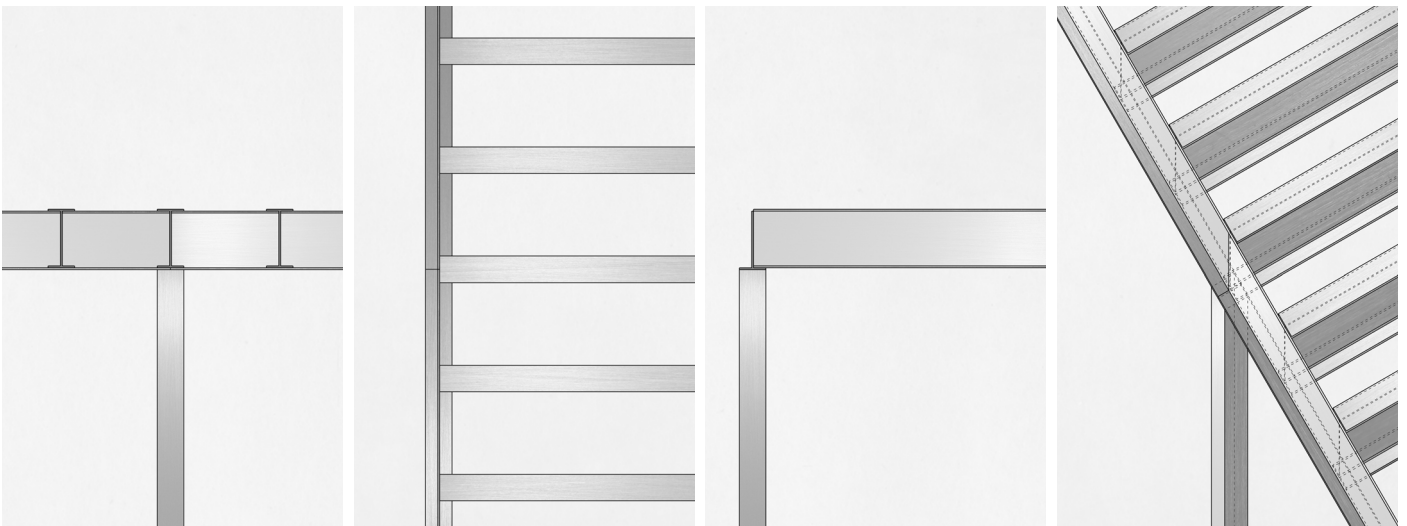
You are able to move freely under it, shadows will be cast on the leafs. Shrubs grow under it and eventually trees will grow through it. Eventually the vegetation will swallow it and it will be a ruin in itself.



# Beams

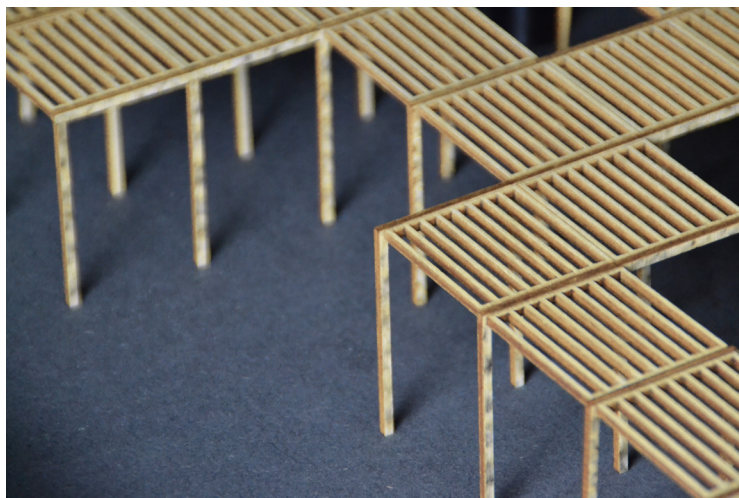
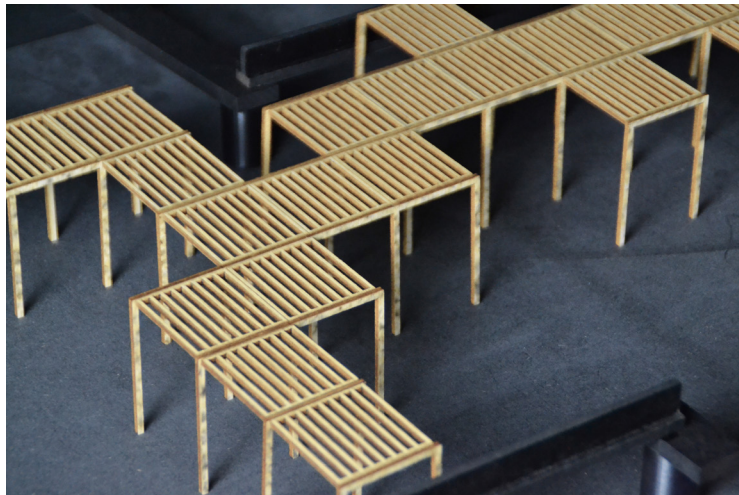


Axo 1:200



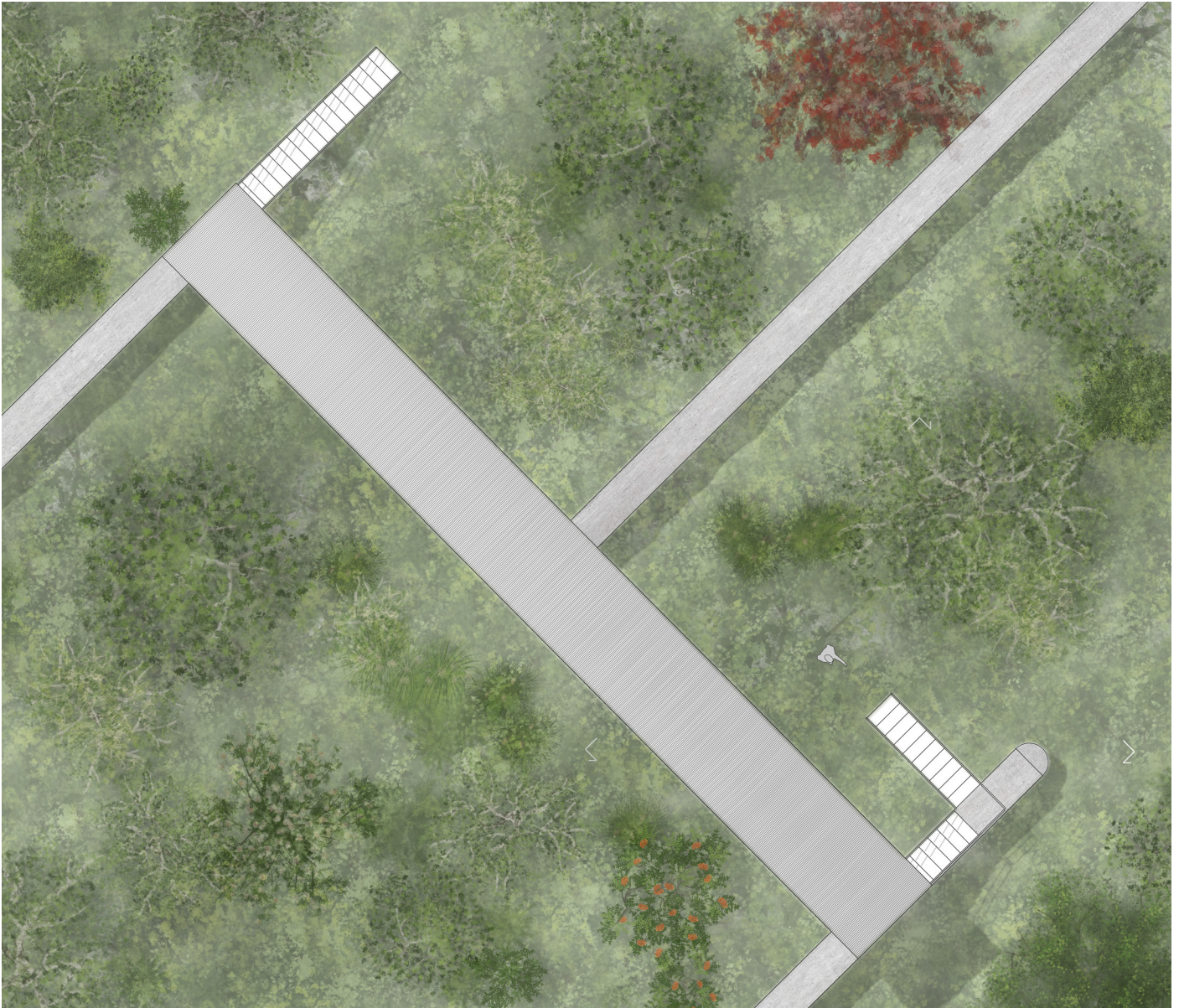
Details 1:20

# Beams





# Pylon



Plan 1:200



Elevation 1:200



Elevation 1:200

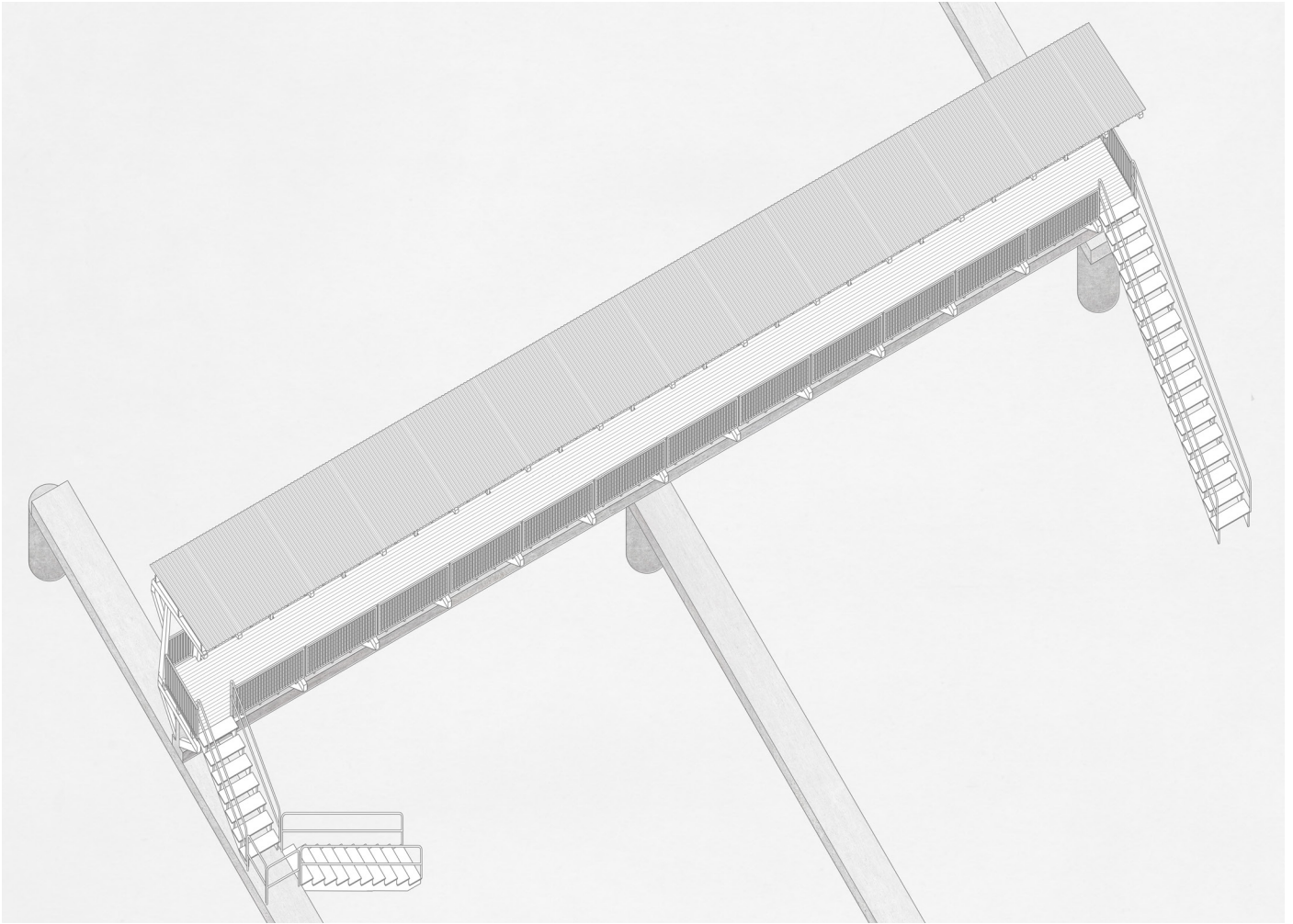


# Pylon

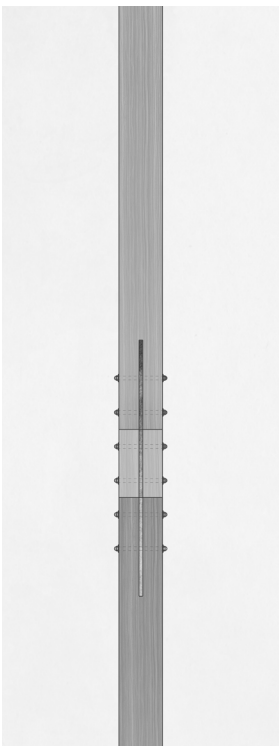
A wood structure with a play on the geometry and proportions of the pylons, keeping the same structural principle. A recognizable shape and a way to move in the park. There is an ambition to clearly distinguish between the existing elements and the new ones. The question inevitably pops up of how does one artificially, in contrast to organically,

create a ruin? By juxtaposing the heavy concrete elements next to a light organic wooden structure their inherent properties are emphasized. Making them stand out. The old looks ancient when placed next to something new. The heavy looks massive next to something light.

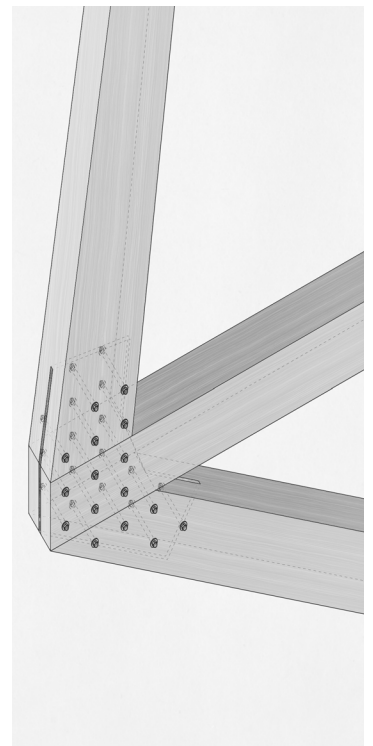
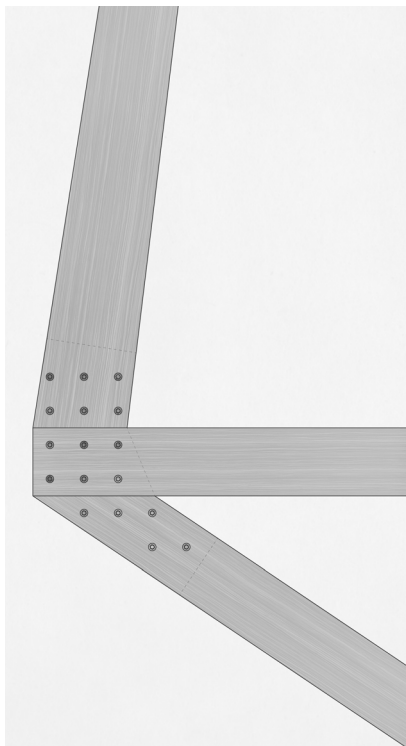
# Pylon



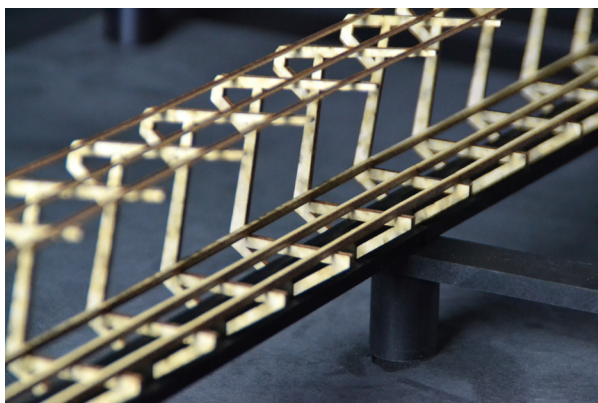
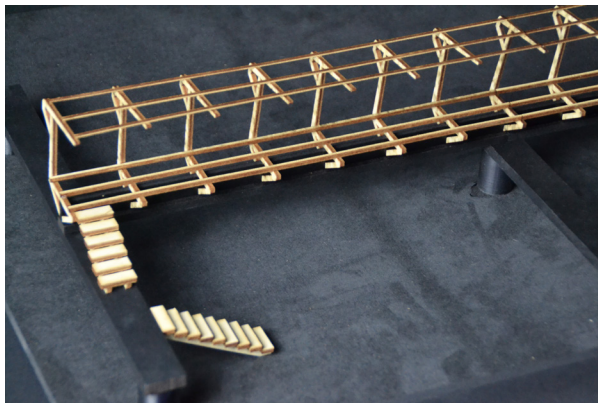
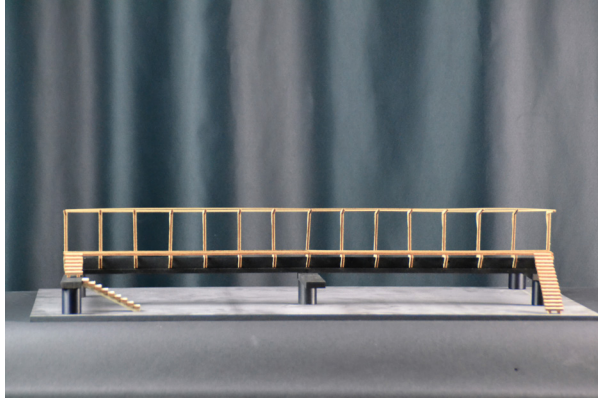
Axo 1:200



Details 1:20

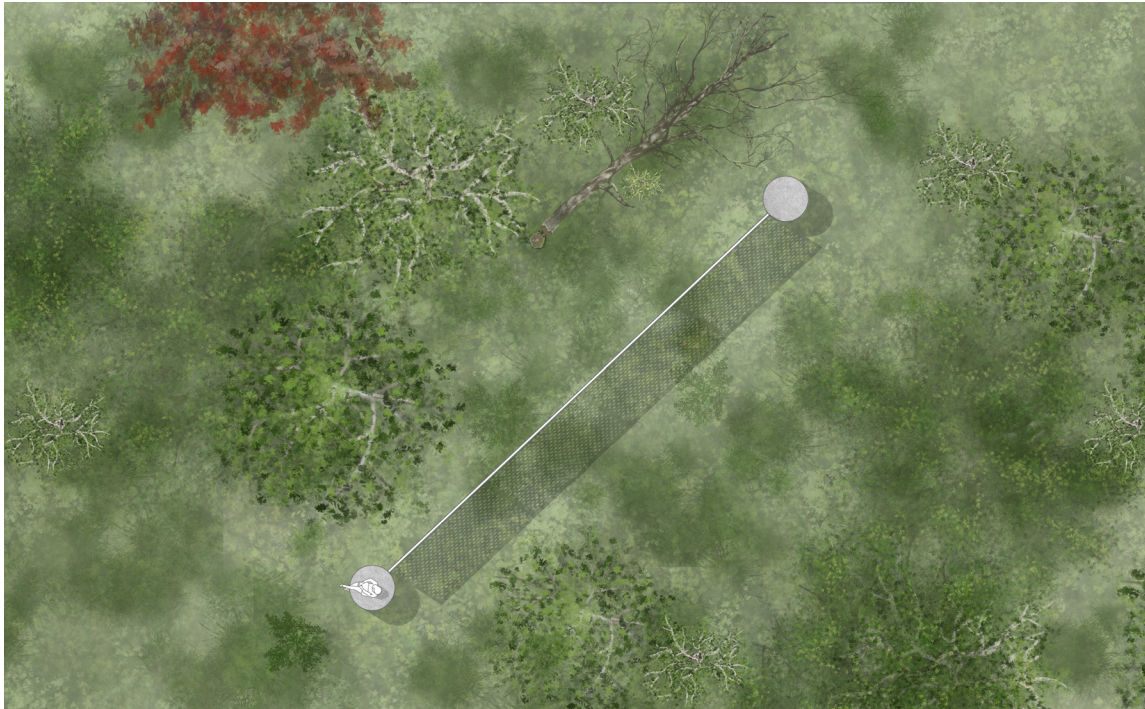
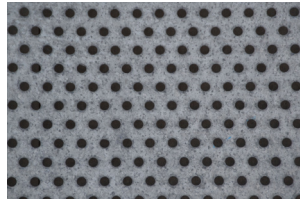


# Pylon

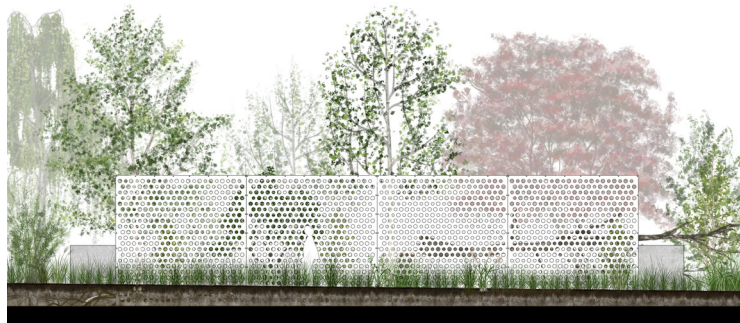




# Panel



Plan 1200



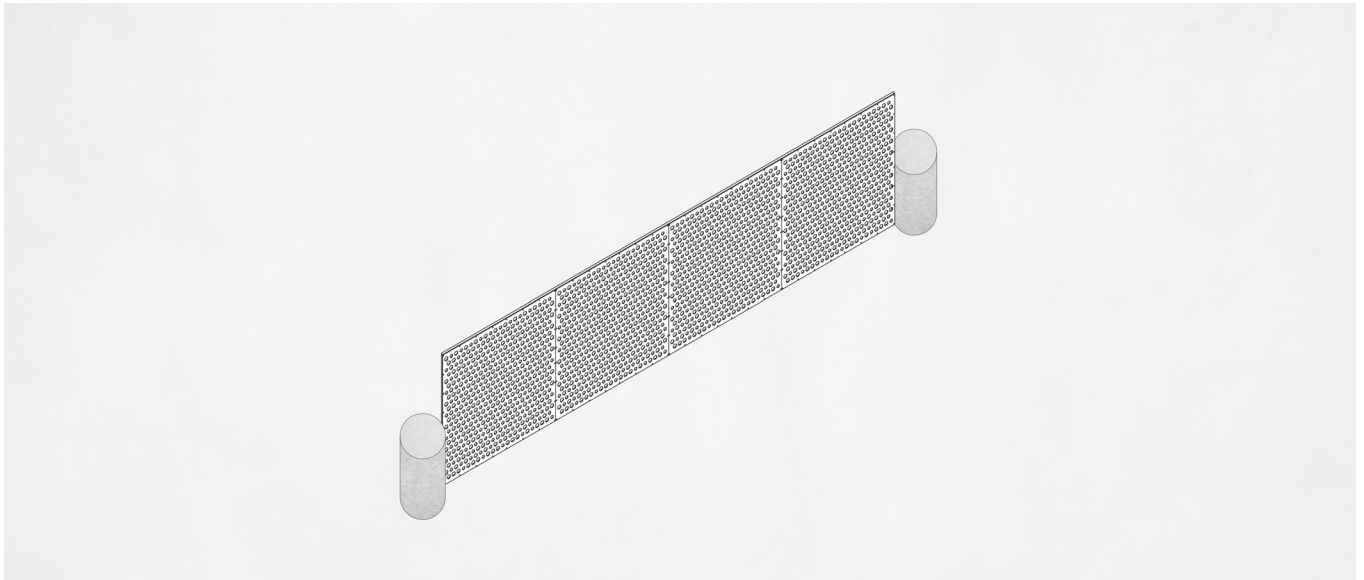
Elevation 1200

## Panel

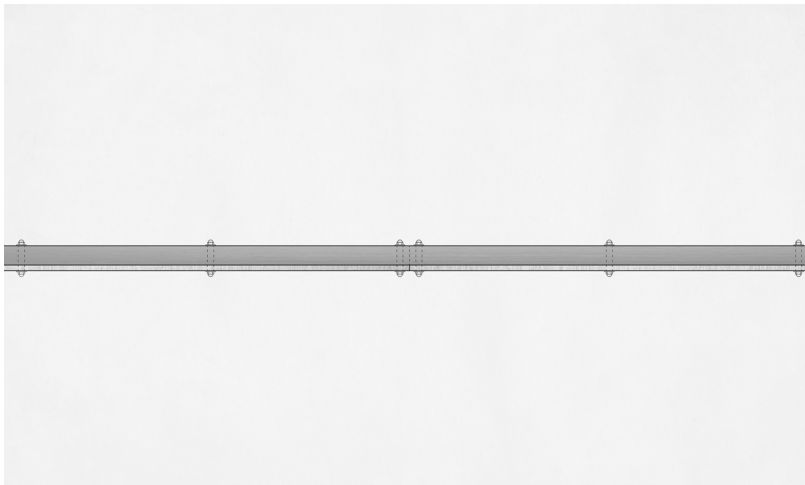
The perforated plate panels are carelessly attached to a metal frame. It is probably an early CNC technique with random patterns of larger and smaller holes, done in a fast and sloppy manner. The intervention is a not very beautiful element that is rescaled and lifted out of context, manipulated in scale and in focus. It is located between two existing pillars, thus also submitting to existing conditions.

The objective is to find the essence in the element, something beautiful. When standing alone among the trees it stands out. You can peak trough. The simple structural principle is maintained, yet refined. It suddenly has a notable thickness, noticeable to the human eye. It goes from mundane to monumental. From generic to unique.

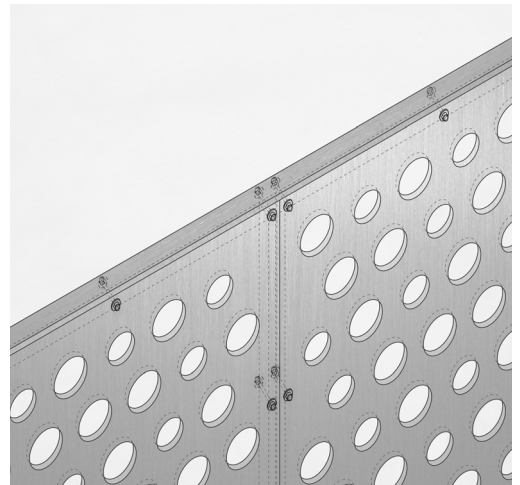
# Panel



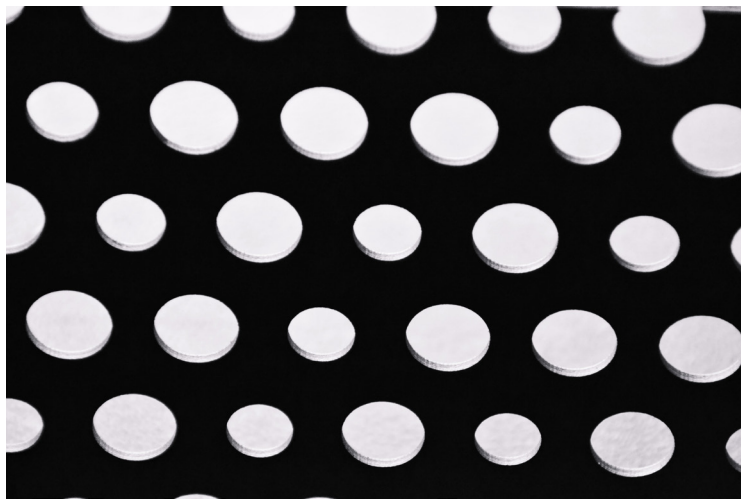
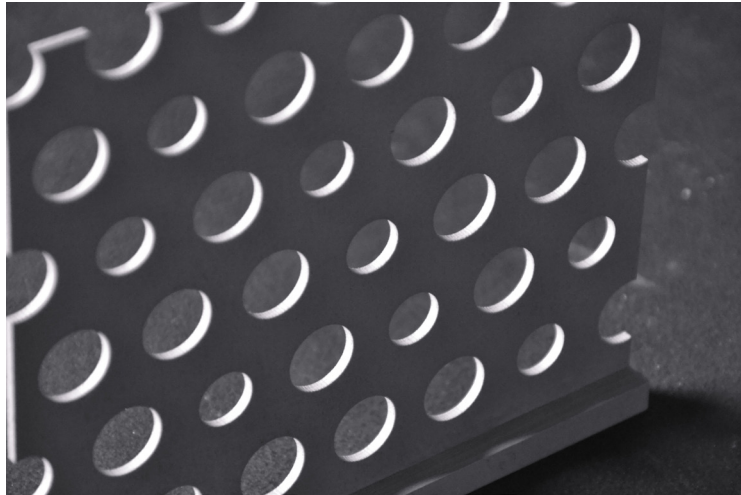
Axo 1:200



Details 1:20

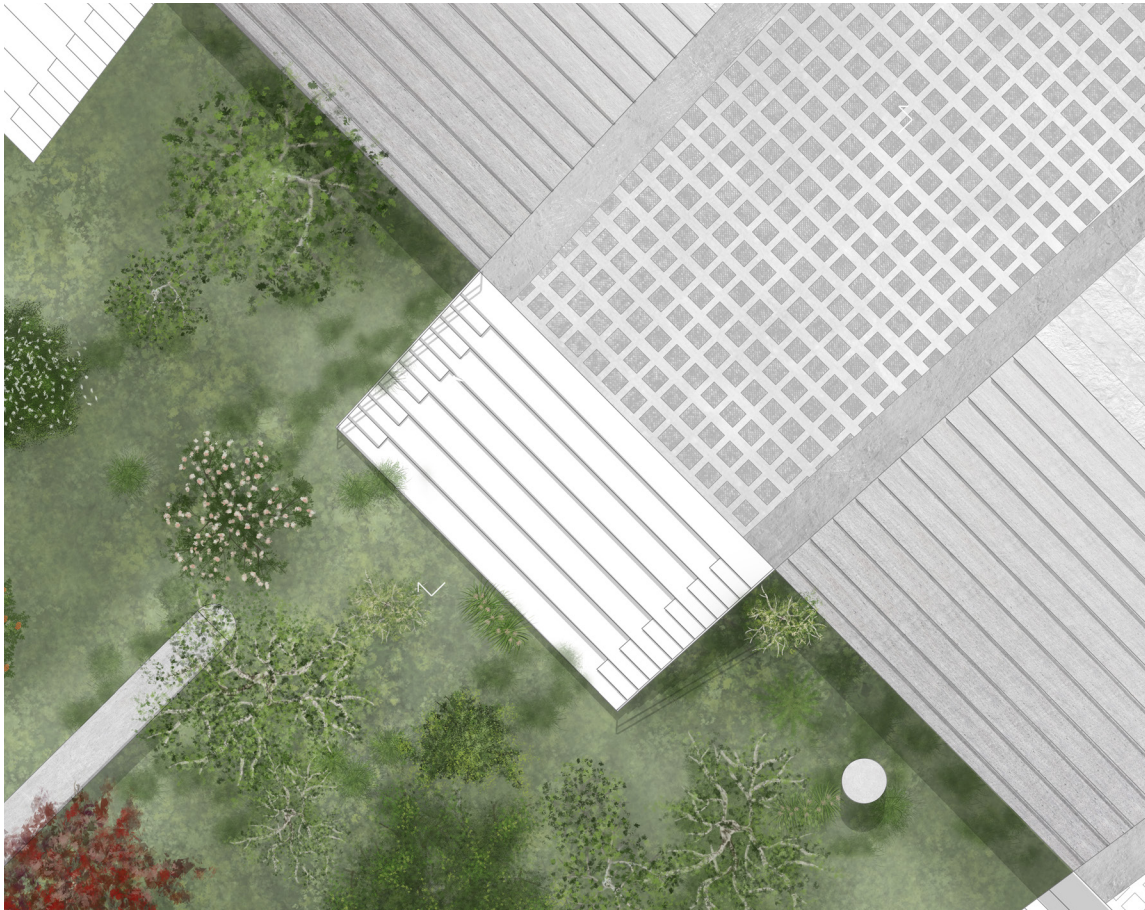


# Panel

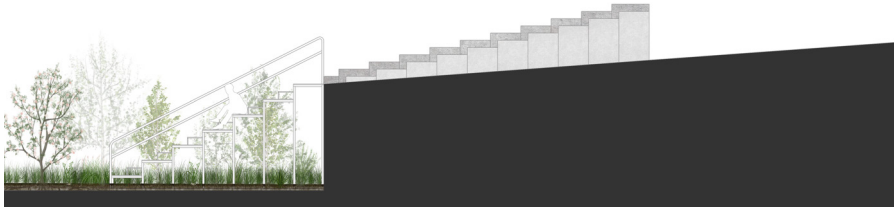




Stair



Plan 1:200



Section 1:200

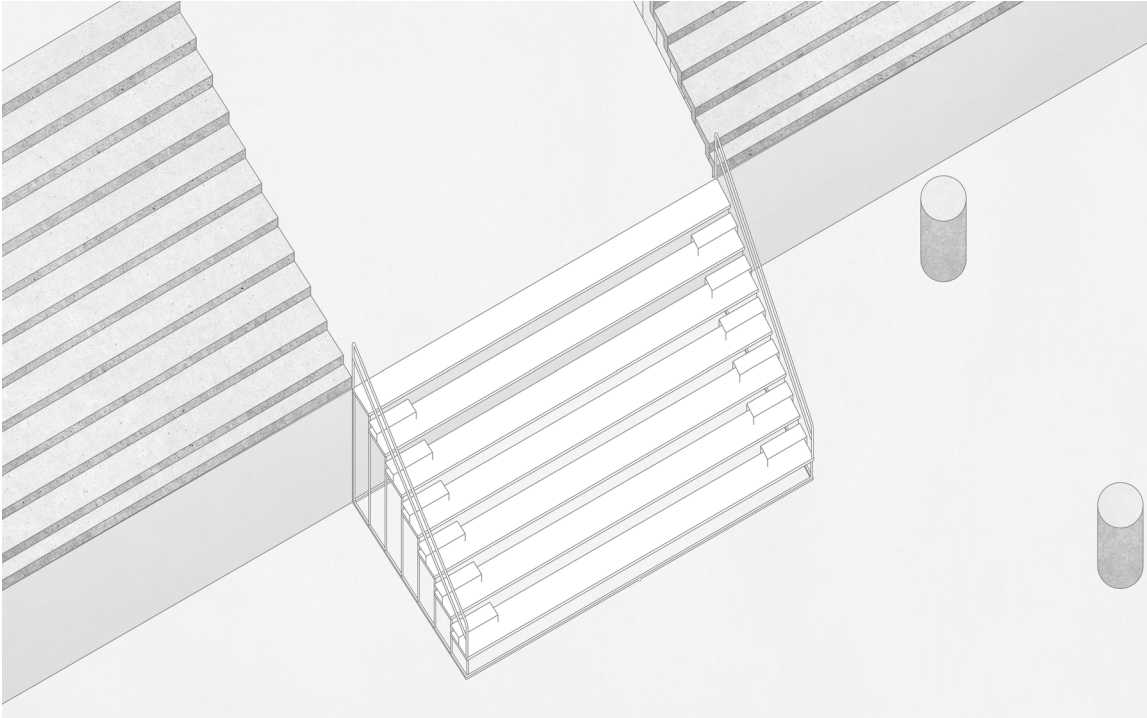
## Stair

The lower part of the old stair is kept as a direct fragment of the old building. The structural principle is illuminated by offsetting the supports and exposing the edge of the elements in an attempt to be pedagogical, revealing and inviting. The new stair is in contrast to the old one a light steel structure. The step height is taken from the now gone upper stairs. This way the physical experience when walking in them is identical to the

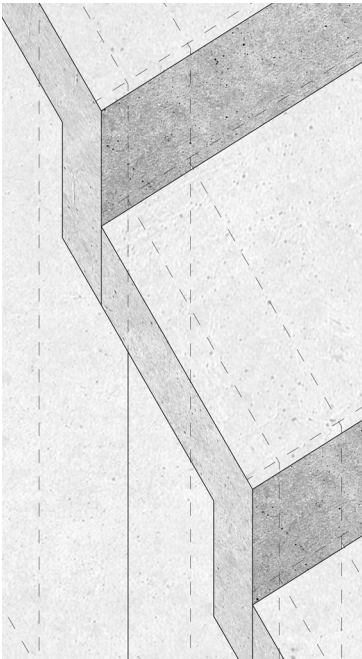
ones gone. A "ghost experience in the thigh muscles" making a comment that "maybe the body remembers things that the mind can not?"

In a way the monumentality of the elements are enhanced when the new additions have a sense of temporality. When placed next to each other you get a sense that they are running on different life spans.

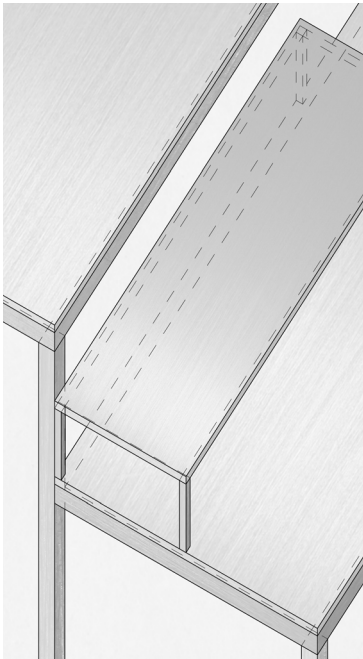
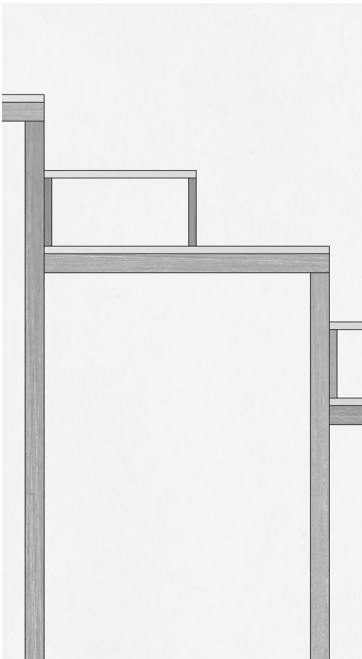
Stair



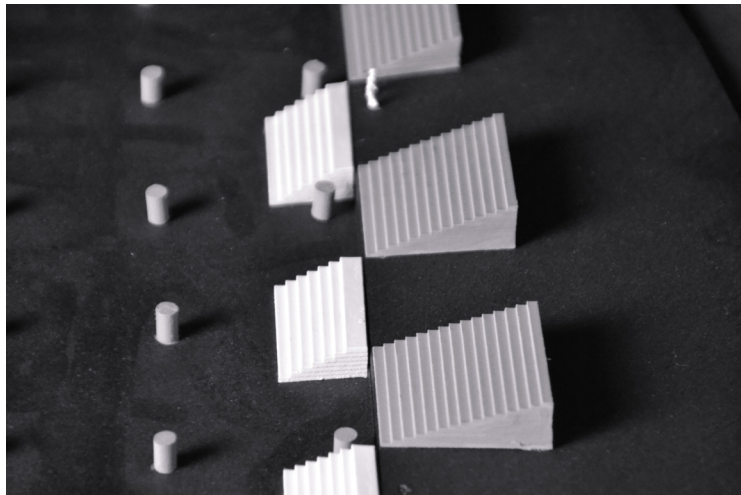
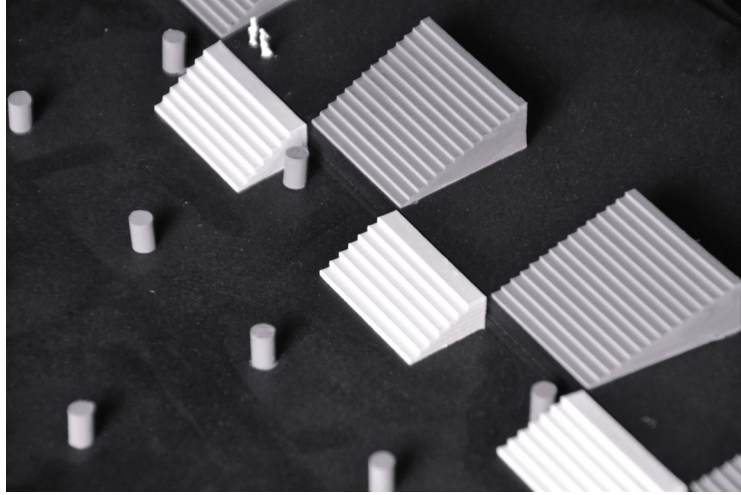
Axo 1:200



Details 1:20



# Stair

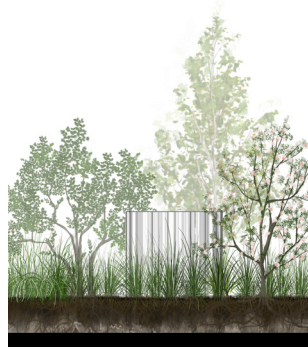




# Pillars



Elevation 1:100



Elevation 1:100



Elevation 1:100



Elevation 1:100



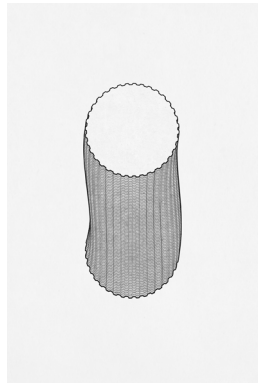
Elevation 1:100

## Pillars

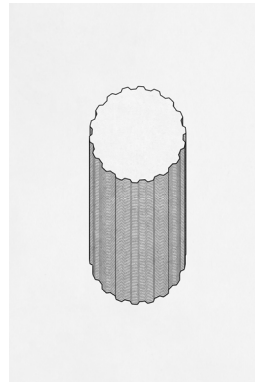
The pillars are slightly manipulated and twisted. When twisted their original purpose, the structural, is questioned and the element acquires sculptural properties. They become independent objects. They are treated with known geometries in different scales. Cut in different ways, in an effort to find out how much

can be changed and still keep the element recognizable. Where does the memory of the old end? The discovery is a method of adding ornamentation to a modernist building element. Asking the question whether ornamentation is legit when using relevant geometry.

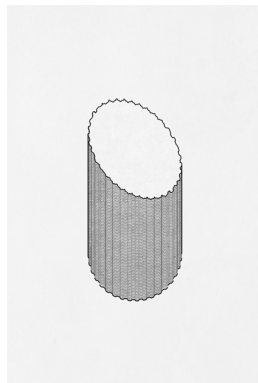
# Pillars



Axo 1:100



Axo 1:100



Axo 1:100



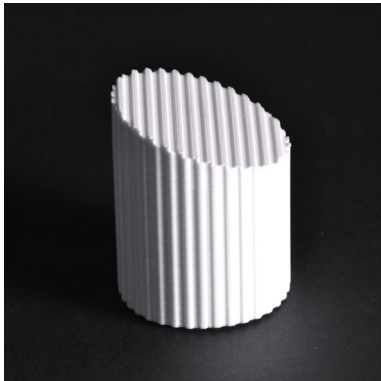
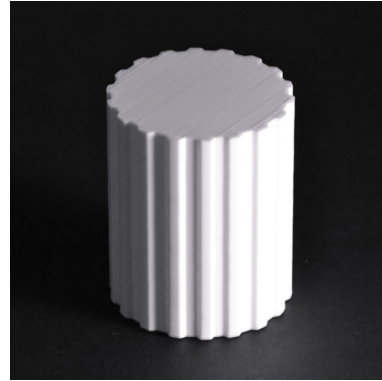
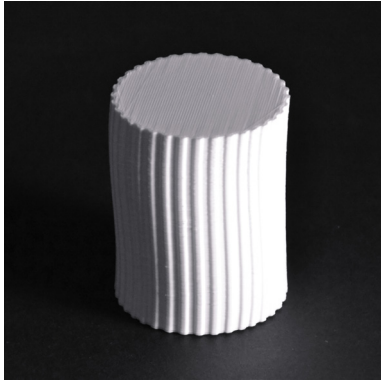
Axo 1:100



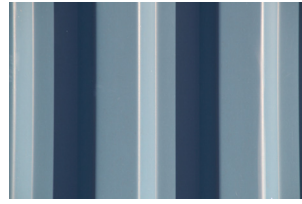
Axo 1:100



# Pillars



# Wall



Elevation 1:200

## Wall

The typical corrugated steel is used for casting a concrete wall. Pigmentation is used to further move the material away from its origin state. Manipulation of the shape in both scale and geometry reveals hidden qualities within the shape. Illustrating that something that mundane, static and low status has the ability to be vivid and dynamic. It can come alive but still trigger memories of its origin material and building. The four different material concrete casts are done in:

Geometry in scale 1:1

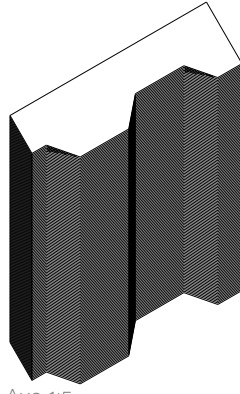
Geometry in scale 1:10

Manipulated control points create a shadow play and life.

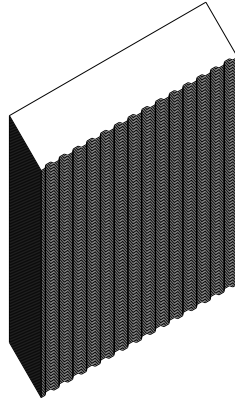
Geometry applied to a pillar surface 1:1

Since the pylons are imprinted with the texture of the wood they were cast against, this method is not even alien to the original building.

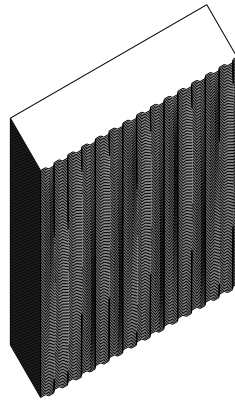
# Wall



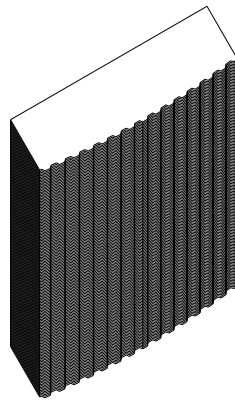
Axo 15



Axo 15

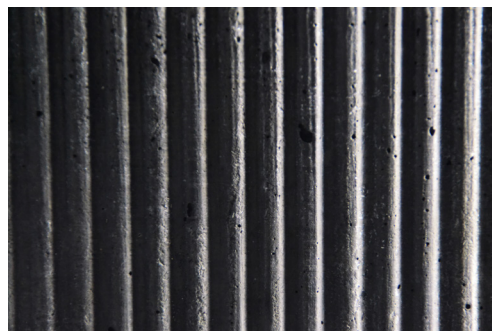
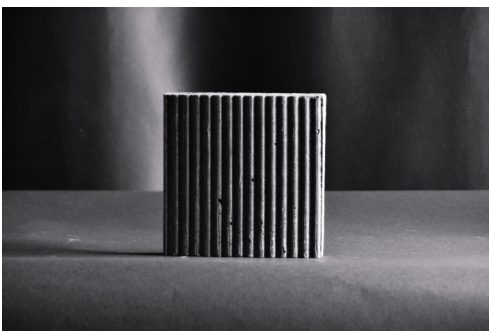
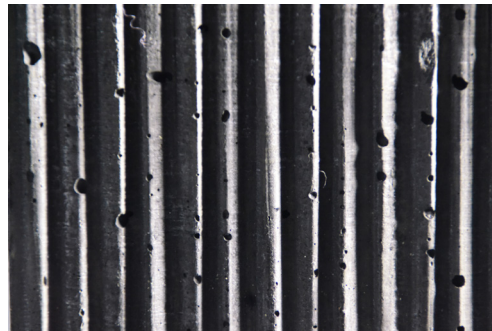
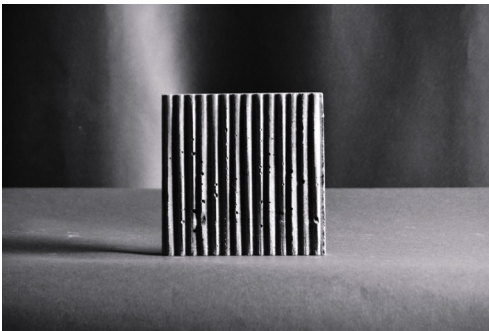
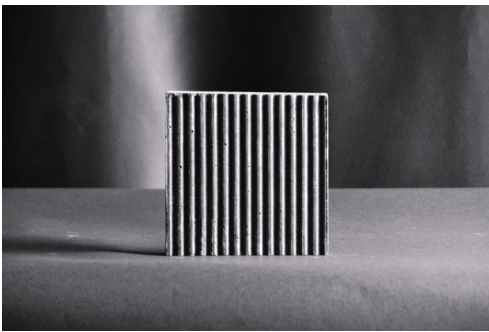
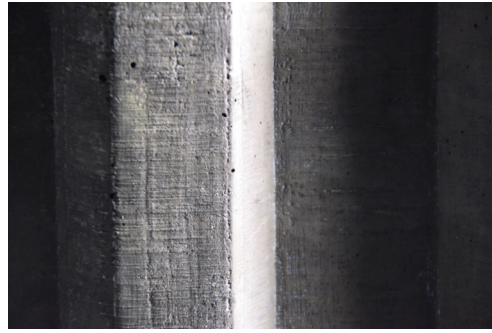
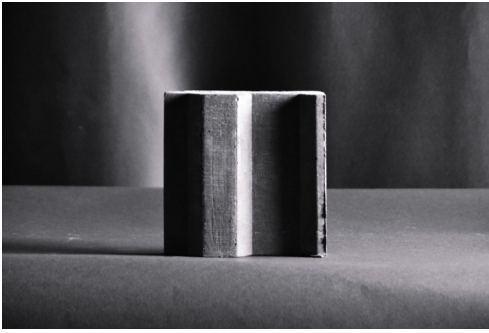


Axo 15



Axo 15

Wall





# DISCUSSION

The thesis investigates and illustrates a series of ways of dealing with the question of how to maintain and amplify the memory of a building that no longer exist. Answering the question of where the memory of an iconic building lives. Looking for and identifying qualities in existing junk-elements that despite their individual low status and low architectural ambition have the potential and capability to carry the memory of a building that is gone. This is done by manipulating them, lifting them into the spotlight and show hidden potential qualities of beauty and association. Solving the problem of maintaining the memory of a building that no longer exist.

Through the approach of the memorial park a suggestion of a new type of reference memorial system is introduced. An ever changing reference system that has the capability to replace the existing event based one. A container and creator of future

memories within the intellectual boundaries of the existing building.

Through a development of new, playful, and intuitive methods the memory is tested through architectural interventions in an effort to find the core of the memory, question it, and stretch the memory to find out where it ends. By juxtaposing and exaggerating the architectural properties of both material, organization, and geometry of the architecture in question, the specificity can be amplified, aiding the recollection through memory.

By defining methods and putting words to a process that is usually carried out intuitively in the design, bringing awareness to the actions of architects and designers. By defining this specific activity in the practice of architecture it can be attributed to the field of architecture and the role of the architect, expanding and nuancing the territory of the architect.





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