The spring

A place of fertile ground and growth

The spring

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Preface

Transform is the keyword for the situation we are in. The climate is changing and we do to. Our needs change every day, and we like the change. We like the transformation, because that is life. We search for goals. Goals that help us to become something we always wanted to be.

This year was all about learning and evolving and I enjoyed every minute of it. Even the lows with all that happened in the world and around us I tried to make the most of this year. I found my self as a student that is slowly transforming in something that looks like an architect. I learned to trust myself and my decisions and followed my fascinations.

This book became a journal, a collection of my memories, thoughts and designs. It has been a journey. And you will see that though out this booklet. In addition to this booklet I have written a story that explains the coversation between me and the project.

The project 'The Spring' is not only a search to master the science and art of making space, but also to search for the poetics of space. Architecture is more than making room for people, it forms people and how they live. With this project i tried to study the changes we can make to solve the problems of to day and the future.

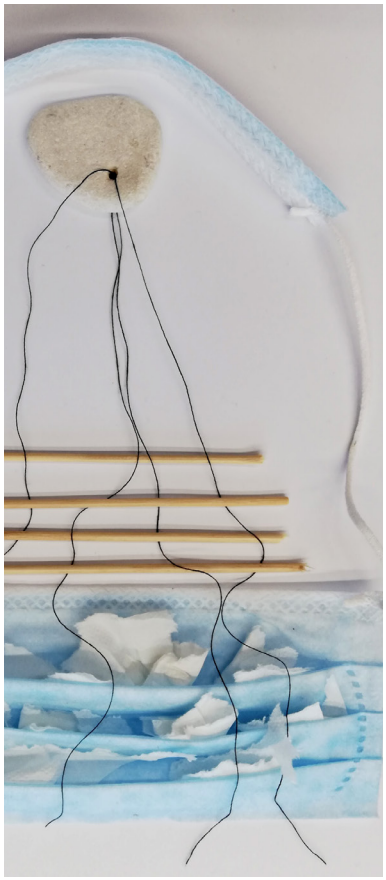
The journey starts.

Wearing a mask to be someone else. A mask to get closer to yourself.
Sometime a spiritual guide or just a moment of joy.

A way to protect yourself from the outside world or to protect the world from you. Were it to become a part of the world or to come closer to another.

Made of fabric, metals, stones, wood or any material you prefer. Make it personal. Make it fascinating. Make it into something extra. Something beautiful. Something powerful.

A long existing ritual that has captivate the world today, but can develop in a transformation of tomorrow.



Index

1. Introduction

1.1 Nijmegen

Nijmegen is the oldest city of The Netherlands and is located along the river 'Waal' and next to the border of Germany.

Nijmegen is a unique city. Because of its age, topography and the people that live there. In Nijmegen you can see traces of the past. Not only the far history is visible but also the impact of world war II are felt.

The city is reacting to the local components and this creates an integrate city structure. To unfold the treasures and layers of Nijmegen a field research was done. In chapter four all the layers and elements that make the site will be explained.

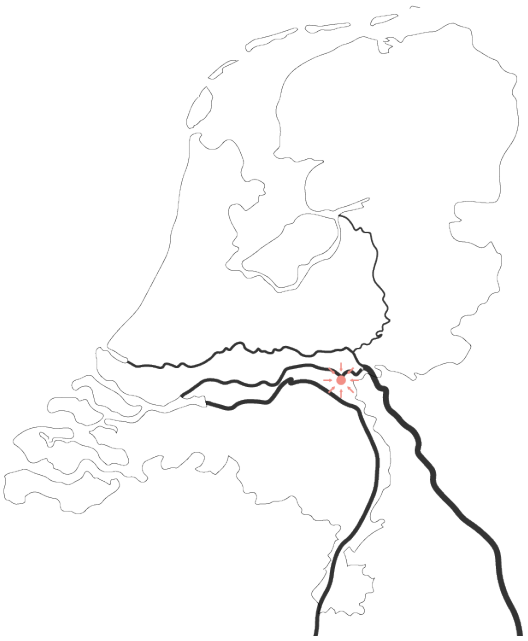


Figure 1 : Location of Nijmegen

1.2 The Molenpoort mall

This project has a more specific site and that is the area around the Molenpoort mall (figure 3). This area is part of the old core of Nijmegen, but it fails to really connect to the rest of the city and its people. In the past city walls made a clear distinction between in and outside the city. Since the walls are broken down this clear transition doesn't exist anymore. Now a path, a flow, a continuation of elements has to lead you into the city of Nijmegen. What ones was an entrance with a gate is now an introduction of the inner-city. With a lack of porosity you will not wonder around, but walk just straight ahead, till you will arrive at the big market square. Thus walk past the site without even wondering around.

The mall is a very big building what is now not answering the demands of today. The municipality of Nijmegen has already plans to tear down the building and transform this area to a better place than that it is right now. But before demolishing everything There should be looked carefully for elements that can be saved and are worth saving. In Chapter five the site with its problems and values will be explained.

Figure 2: Recent (2020) map of Nijmegen. With the Molenpoort marked.

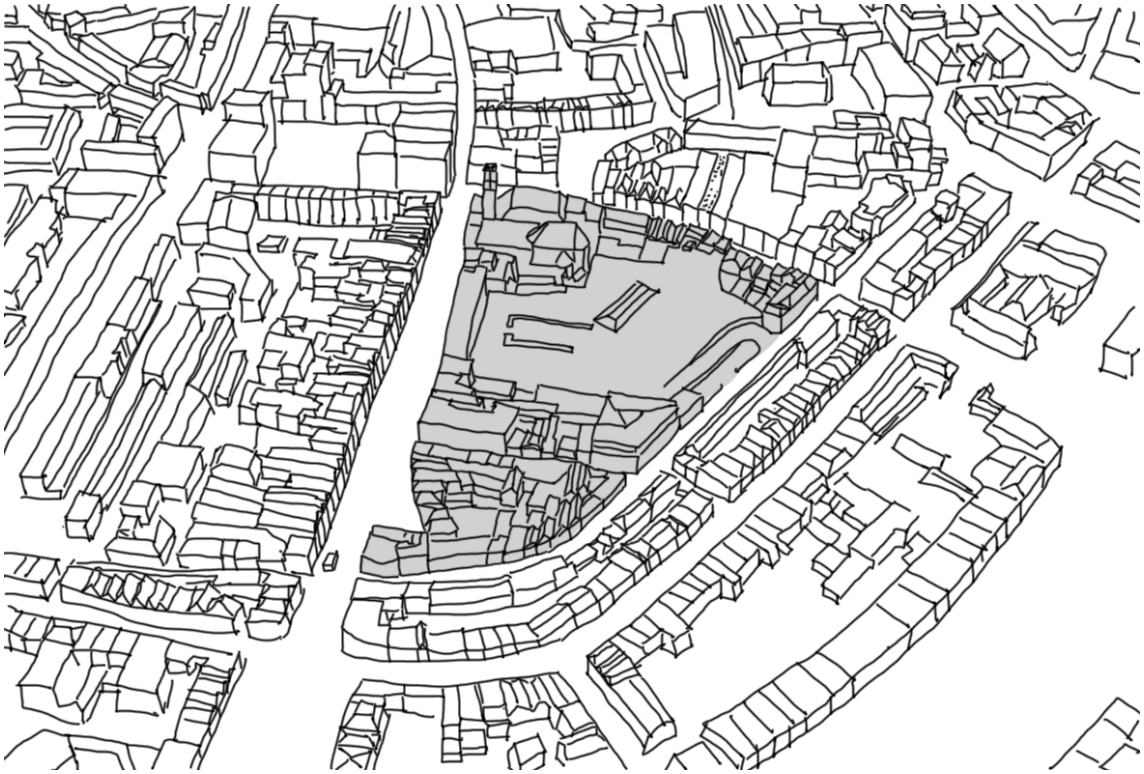


Figure 3 : Bird view of the Molenpoort area

1.3 The Route

To find out how to transform the Molenpoort. A starting point and an end goal was needed. A fascination that could lead me to questions. The fascination of 'water' in my case. The river became my starting point and the water connected all the different layers with each other. Water worked in this project as a metaphor of interconnection. It stands symbol for the flow. The flow of people, of spaces. I use watery language to explain intimacy, purity and vulnerability.
In the beginning Iv was sailing a boat floating and following the meandering and the wind. More to the end I tried to become the water and image its look on things. Water is the leading narrative, that led me to the sea.

The main question that will be answered in this research follows; "How can the mall be transformed into a place of intimacy, purity and vulnerability, with empathy towards all the layers of Nijmegen?" . A new design should become part of the collective memory of Nijmegen. It should add and reveal layers. Building a new identity with identity that is already existing. To find an answer to the main question the following questions should first be answered:

The theory of water, imagination, elements and bricolage will be explained in chapters two and three. Chapter four will describe and reveal the layers of nijmegen in text and images. Followed by chapter five that will show the analysis of the site more specifically and conclude the problems. In Chapter six the design of the urban plan will be shown. Chapter seven will explain the project definition. The aim of the project. In Chapter eight is a story in words and images about 'the spring'. Its is a conversation between me and the project about the problems and the solutions of to day. It will explain the project and take you with my journey. Chapter nine will show the project in detail. It will go into all the plans, sections, materiality and spaces inside. In the last chapter I will conclude, discuss and reflect on my research and design.

- How can the poetry (of water) play a role in architecture?
- How to treat the existing elements and when is something valued to be kept?
- What are the layers of Nijmegen and the layers of the Molenpoort?
- What makes Nijmegen so Unique?
- How to design public space that is intimate and useful for the people in Nijmegen?
- How to solve the problem of housing in Nijmegen, in the Netherlands or even in Europe?
- How to design a hybrid building, that can house individuals and also serve the community?

1.4 The method

I structured the two semesters within five phases; the feet, the head, the hands, the hart and the body.

The feet stand for the field work. Analysing the site. Using methods as filming, photographing, tracing, drawing and creating maps like a nolli map.

The head, is about finding and creating the base of the project. During this period i found my fascination. Also the base of the urban plan developed. During this period reading was done. Readings of Gaston Bachelard “Waters and Dreams” and “The poetics of space”. But also readings about public space, for example the research of Jan Gehl and Camillo Sitte. In a group of four students we did a research on the public spaces in Nijmegen and used the results in a new design of the urban plan. The design was based on the research of Camillo Sitte and connected to all our different fascination. Techniques as sketching and model making where used the most.

After the head I started to work more alone and created a framework of words. I wrote about the poetry of water and the connection between architecture. Next to this I wrote a essay with as topic “Bricolage in the modern society”. During ‘the hands’ and ‘the hart’ I researched by design. Using models to determine the form of the building. I went quickly into the computer and build the model in there. Sketching, drawing, writing and reading developed parallel next to the design.

In the last period I worked with my hands eyes and words. The hands have made physical models, the eyes perspectives and words to structure and explain the project. This period is used to create the story and reconnect with research that has been done. Explain connections and make the connection visible in visualisations. Convincing every one of the qualities of ‘The Spring”.

Figure 4:
Imagination can transform anything. Form a street into a canal and stairs turning into waterfalls. Symbolising the flow of people.

2. Theory of poetics

2.1 Imagination of water

The imagination of water. Imagination is a major power of the human nature. Imagination is the ability of producing images. The imagination separate us from the past as well as from the reality, but it faces the future (Bachelard, 1953). It is a wandering of the mind, what could be. It is a system of the mind to adapt yourself to the present and the future. Gaston Bachelard tries to unravel the mind and especially the 'daydreams'. In his book "The poetics of space" he does this with the metaphor of 'the house'. In his book "Water and Dreams" he does this with water.

Why water, you could ask. Why not fire, earth or air? My choice of water is grounded in the poetry of this element. The flow, the freedom, the strength and the endlessness is what my fascination is about. Rivers, lakes, streams and the seas have always been important to me. To wander and meander in my own thoughts.

We think with water. We use watery language and metaphors. Those metaphors help to express a wide range of concepts and experiences. Gaston Bachelard calls it *"the material imagination"* (Bachelard, 1983). It means that water brings a strong an carried repertoire of emotional, cultural and sensual associations to its role as metaphor (C. Chen, J. MacLeod, and A. Neimanis; 2013).

Gaston Bachelard explains that in water you can recognize a type of intimacy that is very different from those suggested by the "depth" of fire and rocks. Water is a special type of imagination.

"It involves a type of destiny. An essential destiny that endlessly changes the substance of the being."
(Bachelard, 1943, p.6).

An image of water tells more than a thousand words. Water reveals, and reflects (Bachelard,1943). Water is a matter of relation and connection. We are surrounded with water and exist of water. It flows between and within our bodies, across space and though time. Water gathers stories about history, identity and it collects memories. (Strouet, 1983)

"The material imagination" explains this. *The material imagination* is part of the theory of *bricolage*. Bricolage has everything to do with imagination. It is about dealing with the thing you have at hand and craft. Crafting of those 'things' into something that can help or comfort you. For example tools, furniture or a shelter. If bricolage is dealing with the things you have at hand, imagination is energy that drives this.

In every design is a bit of bricolage. Panagiotis Louridas concludes that; ***"Bricolage is the creation of structure out of events"*** (Louridas, 1999). It is the primitive foundation of thought. It is a life process that explains the transition from nature to culture and doesn't have a form (Scalbert, July 2011). The book of Daniel Defoe shows this most primitive illustration of bricolage. The main character Robinson Crusoe is wrecked on a island and has to build everything with only the things that are on the island. He designs his shelter, makes his own tools and eventually make the island his.

The two theories both describing the primitiveness of thoughts. Water is what wrecked Robinson in the first place, but also saved him. It gave him destiny. Water is what Robinson drove to thinking and seeing beyond.

"The lake of pool of stagnant water stops us near its bank. It says to our will; you shall go no further; you should go back to looking at distant things at the beyond."
– J. Strouet (1983)

Robinsons tries to find order on his island. He tries to find use of the things

he has at hand and he becomes a natural force that is part of the island. He is afraid of what nature can bring him, nevertheless he tries to work with it as much as possible. He is being the designer, the builder and the inhabitant of his creations (Scalbert, July 2011). His story is about surviving and that drives our minds to its limits. For architect the situation is different, but it tell us that we can try to rethink our design and go beyond.

To life in a society that has everything it is not difficult to deal with what we have. That's why I don't want to project the theme of bricolage on the (re-) use of materials, but on the process of thinking. The process of design. In Chapter three I will go more in depth about this topic.

Water will be a source of inspiration for this project. The site will maybe not literally flushed with water, but the design and the routing will trigger the imagination of the flow of water. Water should be all over the place. The image and poetry go very well together so with that in mind I made the composition of the volumes, the façades and the routing through the building.

2.2 The poetics of a house

Next to reading "Water and Dreams"of Bachelard, I also read the "Poetics of Space". A book where he is taking the reader on a journey of the daydream and uses the intimate spaces of our homes as ideal metaphors. He touches upon the topic of the house and its rooms; cellars and attics; drawers, chests, wardrobes; nests and shells; nooks and corners. For Bachelard no space is to small to become part of your thoughts and dreams. He writes that the house shelters not us physically but also our dreams. In the following passage out his book Bachelard explains the importance of the house.

"The house we were born in is more than an embodiment of home, it is also an embodiment of dreams. Each one of its nooks and corners was a resting-place for daydreaming. And often the resting-place particularized the daydream. Our habits of a particular daydream were acquired there. The house, the bedroom, the garret in which we were alone, furnished the framework for an interminable dream, one that poetry alone, though the creation of a poetic work, could succeed in achieving completely." (Bachelard, 1964, p.37)

Gaston explains the house by two principles. The first one is that the house is imagined as a vertical being. (Bachelard, 1964) *"It rises upward. It differentiates itself in terms of its verticality. It is one of the appeals to our consciousness of verticality."* (Bachelard, 1964, p.39) The second principle is that the house is a concentrated being and it appeals to our consciousness of centrality. (Bachelard, 1964)

The verticality of the house is causing polarisation between the upper part and the lower parts of the house. This results in spaces with differences in character, for example the cellar and the attic.

The roof is a rational element in

contrast with the irrationality of the cellar. We can 'read' the roof. It is clear that the roof is sheltering us from rain, wind and sun. Next to that we can learn something about the climate the house is in of the slope of the roof. For the spaces that are near to the roof Bachelard writes;

"Up near the roof all our thoughts are clear. In the attic it is a pleasure to see the bare rafters of the strong framework. Here we participate in the carpenter's solid geometry."(Bachelard, 1964, p.39)

The cellar doesn't really have a clear function, so is more irrational. Thereby it has a more dark character and Gaston writes that when we dream in the cellar; "we are in harmony with the irrationality of the depths." (Bachelard, 1964, p.39)

We need spaces to house our memories and dreams. But what happens if you life in only one room. What happens if you don't have that cellar or attic. Today a lot of people life in apartments or studio's and don't have those spaces. Bachelard addresses also this problem and makes the comparison of small apartments with boxes. He refers to the city of Paris and that in the modern city we don't really have houses anymore. Now I don't think that this is totally accurate for the city of Nijmegen, but I see the importance of understanding the differences between a 'real' house and an apartment or studio.

People that live in small apartments don't have the verticality as a house and don't have space surrounding there 'box'. Modern apartment buildings don't have roots, nor a cellar like a house does. Even though from outside it looks like we have a lot of verticality in the city, we mostly experience it horizontally. The elevator is one of the reasons that we experience this horizontality (Bachelard, 1964). We don't climb the stairs anymore. We don't experience the way up to the sky. This causes that 'the boxes' that are not really grounded and a lack of depth and layering of spaces.

The apartments are mostly placed on one floor. Thereby lacking in distinguishing and classifying the levels of intimacy. Because of the growth of the population, the housing crisis and the increasing wish to live in the city, we are building into the sky. And to build a affordable home for people one solution is to make small boxes and stake them on top of each other. So that for little money you can have your own house.

This is happening today more than ever. Student flats consisting of all separate boxes. No space like a cellar nor the connection with the roof. No separate rooms or doors to close, to give privacy and intimacy. No nooks or corners to dream away.

When designing new housing it is important to address the verticality. Even if it is not possible to do that inside the houses, it is I think a possibility to create polarisation on the scale of the building. Grounding the building and its houses to the site. Giving people, doors, stairs, nooks and corners, cellars and an attics to dream.

To achieve this a lot of attention should be given to the route, the flow inside the building. To imagine how you would want to life and think of ways to create spaces and routes through the buildings so that the elevator will become an extra way to move vertically through the building rather than it being the primary routing.

To create more layering in privacy you can create space where people can take ownership of. This can be a shared space, so that people living in boxes can overflow into these spaces and meet their neighbours, share a meal and have the possibility to become part of something bigger than their own box.

3. Bricolage and the modern society

SUMMERY
Whereas 'DIY' evokes the idea of a child on the dining table, is bricolage more about the primitive drive that causes you to deal/design with the things you have at hand. It is about being the designer, the builder and the inhabitant of your creations. It is the primitive foundation of thought. It is a life process that explains the transition from nature to culture and doesn't have a form.

The meaning of bricolage in architecture differs when you are designing in different context. The context is not only about form, but politics and the economy are playing an important role too. For architects that live and work in a rich and thriving countries, being a bricoleur is a choice. In a less thriving/poor country it is the way they have to live. If an architect has, and makes the choice to design like a bricoleur, the architecture gets an extra layer of meaning.

In my opinion the 'theory of bricolage' is not about the re-use of a material, but about reintegrating elements of the existing with a new design. The argumentation to keep those elements should have a deeper meaning than only for the sake of re-use.

If you talk about elements in architecture, interpretation is of big importance. You have to make clear what is essential or characteristic of the site. You need to know the 'genius loci', the spirit of the place. With this knowledge you could argue why something is an element and what is not. A material can become an important element, but an element doesn't have to be a material.

Designing like a bricoleur is for me rethinking your actions, thinking about the aging of the building and the need that is changing every day.

Figure 5: Drawing of Robbinson when he goes over his fench to reach his shelter. Source: https://www.heritage-history.com

3.1 Introduction

It is probably familiar to all of us, when you were a child you would sit with your mom or dad at the dining table and would play with the paper and the scissors for hours. Sometimes you had new material like coloured paper, but most of the time you would use paper waist to create a small piece of art. This is called 'DIY' (do it yourself) in English and in French it is called 'bricolage'. It is of course something that children do in their free time, but bricolage is all around us.

When you talk about bricolage, Robinson Crusoë is a great example. The story of Robinson is written by Daniel Defoe (1659-1731). The story is based on the adventures of Alexander Selkirk, who voluntarily lived on a deserted island for some years. Robinson is shipwrecked and lives for 28 years on a deserted island. Only the last four years he has company of the so called "Friday". The central theme of this book is the battle of the individual against the force of nature, but it is also about living totally free and exist without any ties. The first theme explains bricolage in its purest form

and the second shows the difficulty with implementing it in the present.

When Robinson arrives at, later called, his island. He tries to find order. He tries to find use of the things he has around him. At the moment he arrives he became a natural force that was part of the island. He is afraid what nature will bring him and designs a shelter. In that shelter he takes refuges when it is needed, stores and orders all his belongings and makes a home for himself. He is being the designer, the builder and the inhabitant of his creations (Scalbert, July 2011). His story is about surviving and that drives his mind to its limits.

Robinsons imagination was not limited. He saw different possibilities with the materials and objects that he could find on his island. Bricolage is about experiencing new possibilities of materials and objects. With a emphasis on the experience of it all.

Bricolage can become part of architecture. Or at least as a theory. But what does this theme mean in the department of architecture? And how can you incorporate it in your design? In every design is a bit of bricolage. What I already discussed in chapter 2, bricolage is the primitive foundation of thoughts. It is a life process that explains the transition from nature to culture and doesn't have a form (Scalbert, July 2011). But what makes the difference between creating order in chaos and making bricolage architecture?

The world is trying to shift towards a more environmental friendly and green society. The theme of bricolage fits that quite well, but that is maybe its risk. Of course giving a new purpose to element is better for the environment, but is it than still bricolage or is it part of up-cycling/re-use/recycling? Or are those ineffable connected? I will try to explain this connection and how the context of society play a part in this.

First I will discuss the importance of the context of the meaning of bricolage. To discuss the relation of re-use and bricolage I have to explain the difference between an element and a material. After this explanation I will continue with the relation between re-use and bricolage and how they differ from each other. At last I will conclude how you can work as a bricoleur in architecture in the modern society we live in.

3.2 Importance of context

Robinson lived on a deserted island, for an architect the situation is on multiple aspects totally different. But mostly on the context. The context of Robinsons island was relatively simple compared to the context where an architect has to design with. Especially when the site is located within a city center. An architect has to consider the existing man-man layers above the layers of nature. Robinson only had to consider the layer of nature. We as architects have to take a position on the existing layers of architecture and Robinson could just do what he needed to do to survive.

The meaning of bricolage in architecture differs when you are designing in total different context. The context is not only about form, but politics and the economy are also playing a role. This is because the meaning of bricolage can change. For Robinson it was a way of surviving, but for architects that live in a rich and thriving country, it is more about choice.

There is no need to bricolage, you can demolish everything and build a new design with every material you prefer to use. Of course it still has to be paid by the client, so there are limits, but because of the existing infrastructure, materials are not that expensive. The resources are relatively close by if you live for example in the Netherlands.

So there is no immediate need to bricolage.

In a less rich or even poor country this is totally different. When you have to design a building with a really small budget, you will use as much as possible what is already at the site. There is no infrastructure to get all the materials you want or there is simply not enough money to transport any material. The only option is than to use local materials. As a designer you have to be creative with the situation and think smart about the budget and make use of elements/materials of the existing.

using the 'theory of bricolage', because it is your only option. In the western countries, we have less constrains and way more freedom of choice if you talk about materials and building options. Bricolage becomes less a necessity but a privilege.

Because of the choice to design bricolage architecture, it will add an extra layer of meaning. The designer chose to keep elements instead of demolishing them. Those elements are valued by the designer and that is the reason why they are kept. In a lot of cases it will not be (directly) about saving money, but about creating more depth in a design.

3.3 Material and elements

To explain what a material is, is not so difficult. Material is physical and is something you need to make or build things (Oxford languages). Material starts as raw material and can develop by craft into a new material that has different specifics. A material has different stages. Take for example wool. From the raw wool we can make yarn. From the yarn we can make fabric and from that fabric we can create clothes.

The description of an element is; "an essential or characteristic part of something abstract"(Oxford languages). The four base elements for example; Earth, fire, air and water. Or in the chemistry, an elements is a substance that cannot be broken down into other substances by chemical means and methods (Cambridge dictionary).
In architecture it is difficult to define when for example a brick is the element or the material. It depends on what scale you look at something and sometimes the material can become the element. Take for example the brick. If you look at only one wall made of brick, the brick is the material and the important element. If you look at the scale of a house that is not totally made of brick the wall and the floors can become elements and brick becomes the material of the façade. When the overall material of the house is brick, than you could say that the brick is still an important element of the house. On a even bigger scale, the scale of the city the structure of roads and the history of it becomes essential elements. The brick is than only a material of houses and/or roads. It depends on the material culture of the city, if the brick is still an element at that scale. When (almost) the whole city is built in brick, you could argue that brick has become an element of the city.

So if you talk about elements in architecture interpretation is of big importance. You have to make clear what is essential or characteristic of the site. You need to know the 'genius loci', the spirit of the place. With this knowledge you could argue why something is an element and what is not.

3.5 Re-use and bricolage

Re-use of materials is important for the environment we are living in. We as designers have to think of a design that has low impact on the site and the

rest of the world. Re-using material is one part of it, and overlaps with the theme of bricolage in architecture, but I think they differ in the argumentation behind the choice of keeping elements of the existing. At first I think that the theory of bricolage is not about the re-use of a material, but about reintegrating elements of the existing with a new design. The argumentation to keep those elements should have a deeper meaning than only for the sake of re-use. Those elements should add an extra layer, like I argue in chapter 2.

It should tell a story and be part of the design. Visibility plays than an important role. If you pulverise concrete and re-use that in the new structure, you will not feel, see or experience this. So the argumentation to do this is reducing the CO2 emission and by not being a bricoleur.

To design like a bricoleur you have to save elements of the existing, because they are worth saving. They will be key elements of the design that can be experienced by the viewer or the inhabitant. In addition to this, you could see bricolage as a theory of mind. It is about the process of thinking.

Probably when you design in those situations, you wouldn't even think of Finding the characteristics of the site. Exploring and interrogating elements and finding the means of them in the present and in the future.

3.6 Architect vs. bricoleur

As a bricoleur you have to explore all the elements, layers and information about the site and the context. You have to define the genius loci. When you have clear in mind what is important and what isn't you can create a design that will add an extra layer. An layer that says something about the past, the present and be of use in the future.

Next to reintegrating elements is, bricolage can be about making architecture that will last. Not only thinking of absorbing the past, but creating new elements that will become part of the characteristics of the site. By being clear why you want to keep something, you can try to design those elements. Designing like a bricoleur is about rethinking your actions, thinking about the aging of the building and the need that is changing every day.

As last designing like a bricoleur is about connecting different scales, subjects and field with each other. You have to become an historian, urbanist, geologist, anthropologist and of course be an architect. You have to find the connections and create something with all this information. By making models and drawings you can create a design made by your hand. Give it a touch of yourself, giving it a more humane interpretation.

As an architect you have to understand the building not only from 2d images but seeing the whole picture, in 3d. Bricolage is about using craft. This can be interpreted as drawing, woodworking or something else. But in the present time we have something new. Crafting with technology. We are not primitive anymore and have a lot of machines that help us. Make our thought more precise. We can build inside our computer. We can walk through our buildings before the foundation is pored. So why do we, as architects still make physical models? What do they add? It is something that is difficult to describe. But imperfection and mistakes can result in even better idea's. Most architects can probably relate to the feeling of holding your building. Holding it right in front of you and peaking through the windows. Seeing the space you create with pieces of wood, cardboard, foam and a little paint.

In the virtual world you miss out several senses that can be of help when you develop you building. You can not

really hold the building, and don't feel and smell the material.

To conclude, a bricoleur makes use of what is at hand. Nowadays that is almost everything. Including technologies like VR. Nevertheless we should not forget that we have to trigger all our senses and use the physical world to achieve that. There should be a right balance between them, and it is up to us to find out what balance works best for us.

"Denkend aan Holland zie
ik brede rivieren traag door
oneindig laagland gaan..."

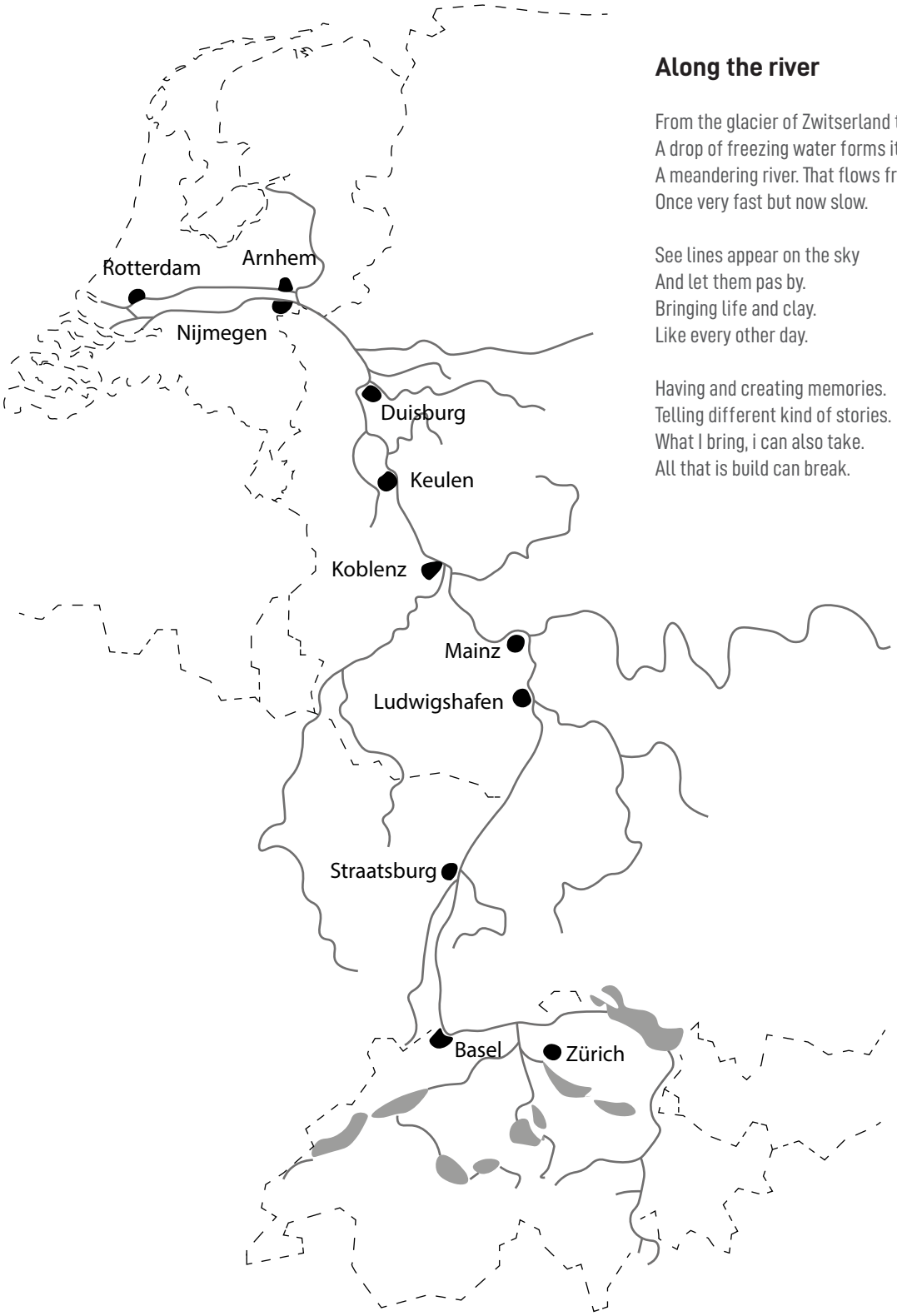
"...In alle gewesten wordt de
stem van het water met zijn
eeuwige ramper gevreesd en
gehoord."

Thinking of Holland is see wide
rivers slowly flow into a never-
ending lowland..."

... In every region the voice of
the water is heard with his
eternal disasters feared and
heard.

- Hendrik Marsman-

English translation by F. Ruijs



Along the river

From the glacier of Zwitserland to the sea.
A drop of freezing water forms itself into me.
A meandering river. That flows from high to low.
Once very fast but now slow.

See lines appear on the sky
And let them pas by.
Bringing life and clay.
Like every other day.

Having and creating memories.
Telling different kind of stories.
What I bring, i can also take.
All that is build can break.

Figure 6: Map and poem of the Journey of the river. Drawn and written by Fleurtje Ruijs.

Figure 7: Story of the river.

4. Layers of Nijmgen

Nijmegen is a result of many layers. The layers are all interconnected and flow over into one other. I started from the layers in the past and continued towards a view for the future. For my project a couple of layers are very important.

Figure 8: Painting of the Holleweg from Willem Carel Nakken in 1860. © Museum Het Valkhof

4.1 History of Nijmegen

Nature is detailed and designed till the last detail and we people use all its resources and creations. By looking closely you can find connections between what has been given by nature and the man-made culture/ environment.

Figure 9: Photograph of the Molenpoort (translated: "Mill gate") and the city wall. Source: Archive of Nijmegen.

Nijmegen is the oldest city of The Netherlands and is located along the river 'Waal'. This river is the continuation of the well-known 'Rhine'. This city will be used as the site of the project. As a result of the location along the river and the hills, Nijmegen was founded. The hills in combination with the river created an advantageous location, that was used by the Romans. Because of the height, they had a good overview of the land behind the Waal and were protected from flooding. The river worked as a strategic barrier for outsiders and created the opportunity and safety to trade.

Since the Roman times the city of Nijmegen has grown. In the first medieval centuries the city centre is formed as we now still can see. The city and its walls have been expanded couple of times. Between 1525-1875 the city densified, but didn't grow that much. This was caused by the city walls. Because of safety issues, they weren't allowed to demolish the walls. Around 1900 the city is permitted to tear them down. From that time the city grows rapidly (figure 10).

Not only you can still find traces of the Roman times, also the world war II left its traces. Big part of inner city was destroyed. And a lot of old buildings were lost. They had chosen to keep the main road structure as it was and from that they reconstructed the city. This causes a wide range of architecture out of different periods of time.

The old urban fabric in Nijmegen is formed by following the topography that river and ice ones have created. You could say that Nijmegen has organically grown in the past (figure 10). The city grew when they needed more space. They didn't really plan city expansions how we should do that today. There is no ridges grid in Nijmegen because they follow the topography of the land. Every building block and every street is because of that unique in form.

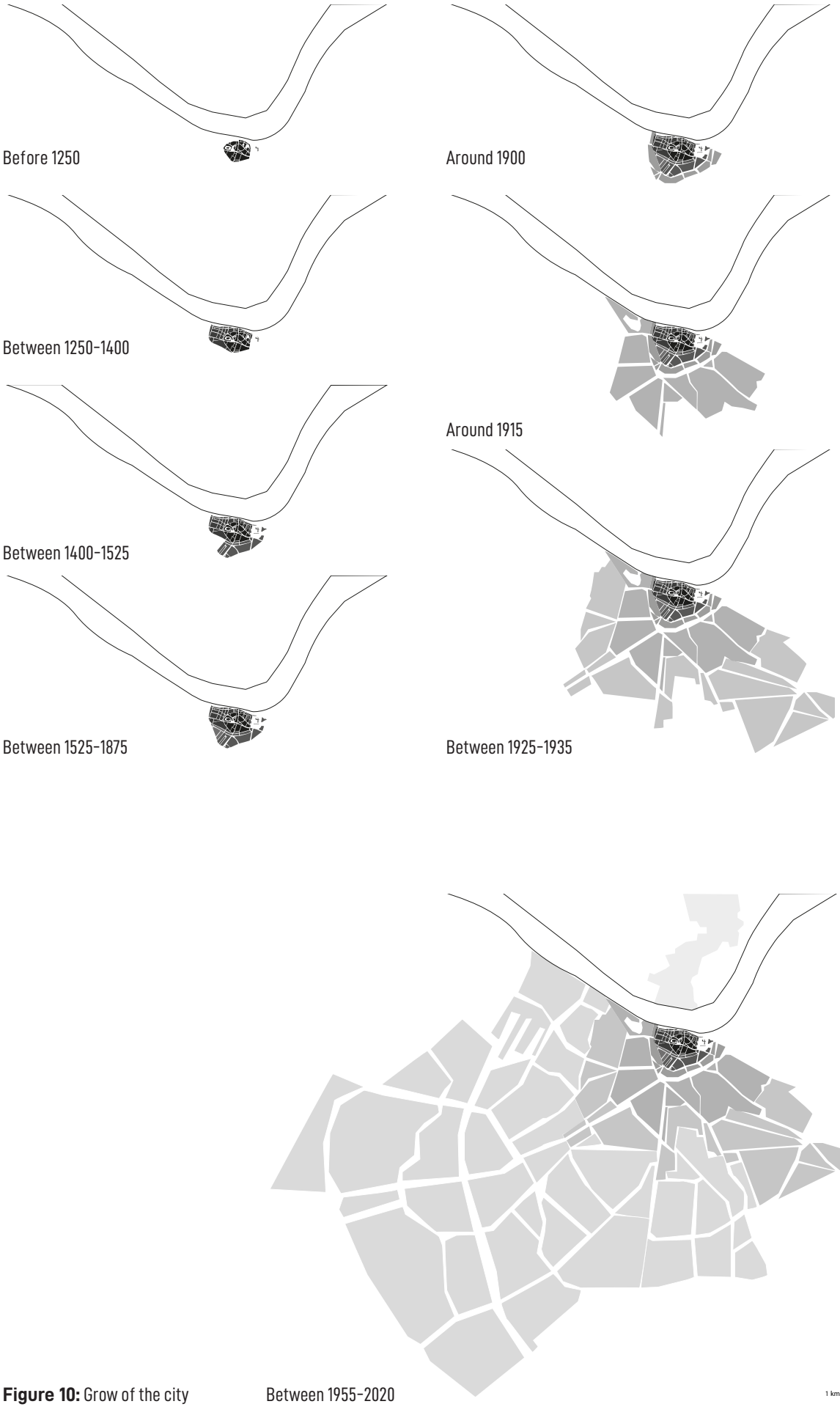


Figure 10: Grow of the city

4.2 Layers of nature

This chapter talks about the history of the soil and the history of the topography around Nijmegen. To find out the past we looked at the early stages of the Netherlands. The research start 25 million years ago and end eventually in the present. The river plays an important role in telling this part of the story, so that will be the leading narrative of this chapter.

Rivers and ice

The history of the Waal and therefore the history of the Netherlands is important to understand the development of growth of the city of Nijmegen. To find out the past, we looked at the early stages of the Netherlands. The research start 25 million years ago and end eventually in the present. The river plays an important role in telling this part of the story, so that will be the leading narrative.

Twenty-five million years ago (figure 11) the Netherlands did not exist as we know today. The rivers that we now know as 'Rhine' and 'Maas' were ones combined into one big river. Next to this river another river flowed in the north of the Netherlands. This river was called Eridanos. Those two rivers brought a lot of soil and stones with them. After millions of years the sediment resulted in the grow of land. Seven thousand years ago (figure 12) there is a beginning of the Netherlands as we know it today.

A big part of the reason why the rivers flow in the way they are flowing are the hills in the Netherlands. Those hills didn't form the way the alps where formed, but were caused by a glacier period. The world knows a lot of glacier periods but in the Saalian period the ice reached the Netherlands. The ice grew more and more (figure 13) and eventually covered the half of the Netherlands. Because of the weight of the ice the land was pushed away and that formed small hills, moraines (figure 14).The hills blocked the river to go straight to the north of the Netherlands. Water will always find its way and thus turned left.

Figure 11: Situation 25 million years ago, with two main rivers.

Figure 12: Situation 7 thousand years ago. There is no river anymore in the north and the big river in the south is split up.

Figure 13 and 14: Period of glaciers (Saalien period). The ice grew and grew and pushed the sand away. This created the hills in the northen and middel part of The Neterlands

Figure 15: Three images of an imagination of how the rivers/streams ones have flown, based on the topography of Nijmegen.

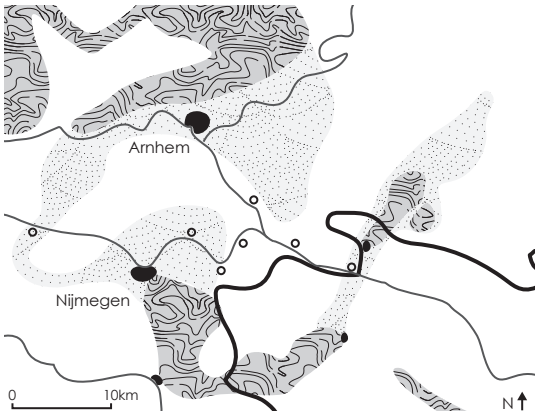


Figure 16 : Situation of soil and topography in the area around Nijmegen and the brick factories in the past.

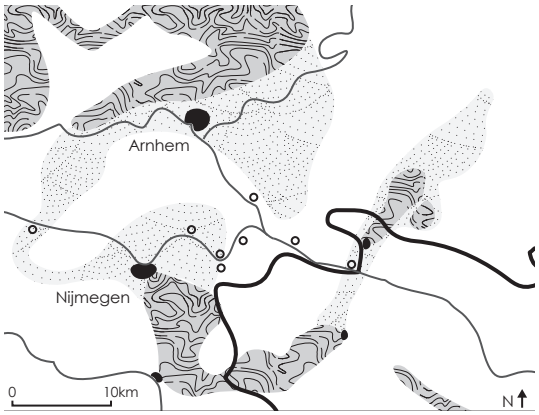


Figure 17 : Situation of soil and topography in the area around Nijmegen and the location of the factory that still exist.

Source: https://mijngelderland.nl/inhoud/verhalen/de-gelderse-baksteenindustrie

From rivers to roads

The city of Nijmegen lies on a plain of sand that was flushed away from the moraines that lie more to the south (figure 15). Ice and also rain water flowed downward into the river. This caused small gullies. Those gullies became small valleys. Those valleys became useful for building roads. The use of those roads started already during the Roman Empire. The valleys or gullies have been of a big influence for the arrangement of building in Nijmegen. Some examples of roads that where ones valleys are; Grotestraat, Houtstraat and the Hezelstraat.

In the images on the left side you see my imagination on how the rain and melting water flushed down into the river. In total there are seven hills. If you look more closely to the topography of the city you also the influence of the humans that changed the topography to a more fitting one. For example, they raised the quay to prevent flooding.

From rivers to stone

Next to that water formed the base of the city, the river brings a lot of soil and nutrition's with them. Hereby the soil around the rivers are very fertile. Even more important, the river delivers clay. This clay is what can be used in the production of bricks.

Around 1900 there were in only Gelderland already 7 brick factories (figure 16), with more than 100 workers. At the factories there was a production of two types of bricks. Bricks for erecting a building (metselstenen) and bricks that had the purpose for pavement, cellars, wells, locks and fortresses (klinkers). Those 'klinkers' are totally sintered and have a perfectly dense fracture surface. Not all sorts of clay is suitable to make 'klinkers', but the clay around the rivers is particularly suitable.

Because of the abundance of bricks in the Netherlands, they are well represented in the cities. And Nijmegen is one of them. There even is still a (working) brick factory close by. The location of this factory can you see in figure 17.

Figure 18:

1 Brick factory "de Bunswaard", in Beuningen (near Nijmegen). Made in 1989. Source: © Paul van Galen, Rijksdienst voor Cultureel Erfgoed, CC-BY-SA

2 Bird view of the brick factory "De Bouwkamp I and II) near Nijmegen. Made in 1960. Source: Fotocollectie Regionaal Archief Nijmegen (F60011)

3 Bird view of the brick factory "De Ooij" near Nijmegen. Made in 1960. Source: Fotocollectie Regionaal Archief Nijmegen (F60013)

The brick

Once travelled so far.
Taken by the water, finally calmed down.
Sunken and left out,
Now part of the ground.

Noise is coming towards me,
Chaos again appears.
From land I raise above,
Now traveling but not like before.

Muddy hands are grabbing me,
Crafting me in form.
Heat is everywhere,
Making me into something more.

Never knew I could be like this,
Hard and strong.
Colours that makes that everyone,
Feels warm.

Nothing is holding me,
No rain, wind, water or snow.
What ones brought me here,
Is now a goal.

Never knew I could be like this,
A shield against a storm.
A face that is looking out for you,
And creates a place like home.

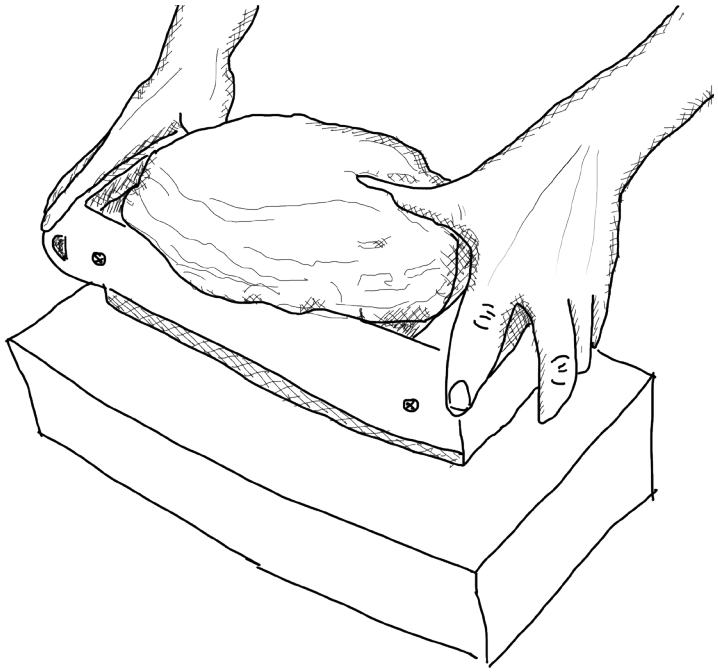


Figure 18: Poem and drawing by F. Ruijs

5. Topos and typologies

For this chapter, I will go more in-depth in different areas in Nijmegen. The four areas we are addressing are:

1. The spine (Molenstraat, Bruerstraat, Grotestraat),
2. Parking on the rooftop of the Molenpoort mall,
3. The are surrounding the Stevenskerk,
4. Marikenstraat,
5. The area of the Valkhof.

For every area, we made a nolli map. This shows the structure of the public and private spheres in the city.

In addition to the original black and white map, the introduced grey layer explains the importance of time for public spaces. On top of the 'man-made' structure, the topography can be seen. By combining those layers in one image you are able to extract three-dimensional information.

Next to a short explanation of the streets also a couple of images are added to show the influence of the height differences and how you perceive it.

* The Nolli maps are a group effort; Aleksandra Wróbel, Hannah Namuth, Hejia Jin, Xiaoyue Shi


Molenstraat


Bruerstraat

Molenstraat is the first part of 'the spine' which marks one of the main communication axes through the old town - from the roundabout Keizer Karelplein to the river Waal in the north. It has mainly a commercial function, with residential units above the ground floor. The street is on a slight slope towards the river. The street gives priority to pedestrians, however, it is also the main route for delivery trucks for the old city. The access is regulated at the entrance of the street. Some of its most important landmarks are entrance points to the Molenpoort shopping mall and a Petrus Canisiuskerk with a prominent facade.

*

The church's porch meets the inclination of the street by stairs which gradually bring both levels together to a ramp which gives accessibility to the disabled.


*

To differentiate church space from the public realm different floor treatments has been applied as depicted in the drawing below.

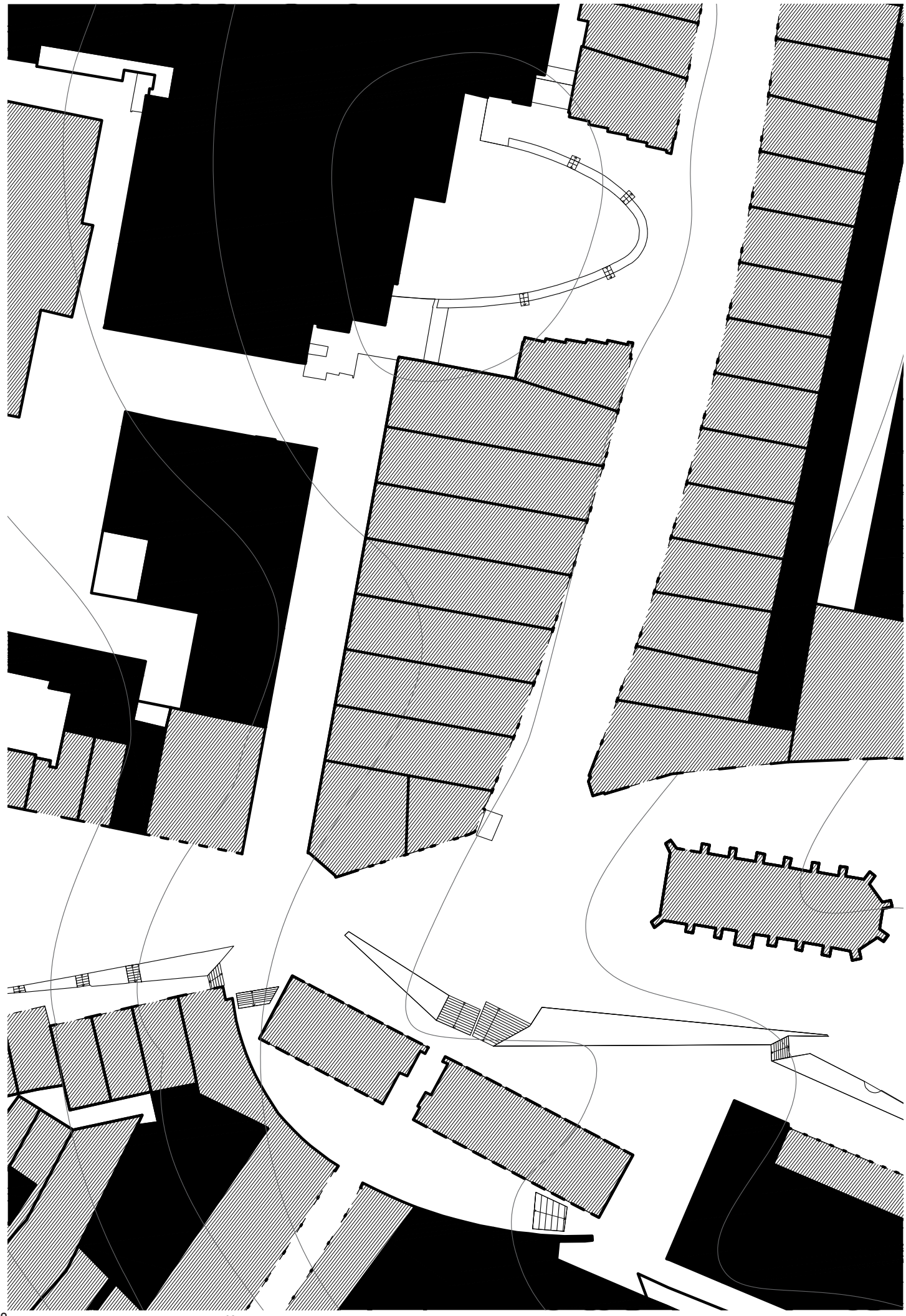
Bruerstraat is a narrow continuation of the Molenstraat; it has a commercial function at the ground floor and residential one on the upper levels. Because of the proximity of building blocks all the advertising signs and shopwindows have a more prominent effect on the passerby.


*

View of the **Grotestraat** from the Bruerstraat towards the river Waal. Here the spine continues through the residential block and despite it is the main road to the river, the street has more quite atmosphere with less engaging elements.

*** Photographed by Alexandra Wróble**


Grotestraat

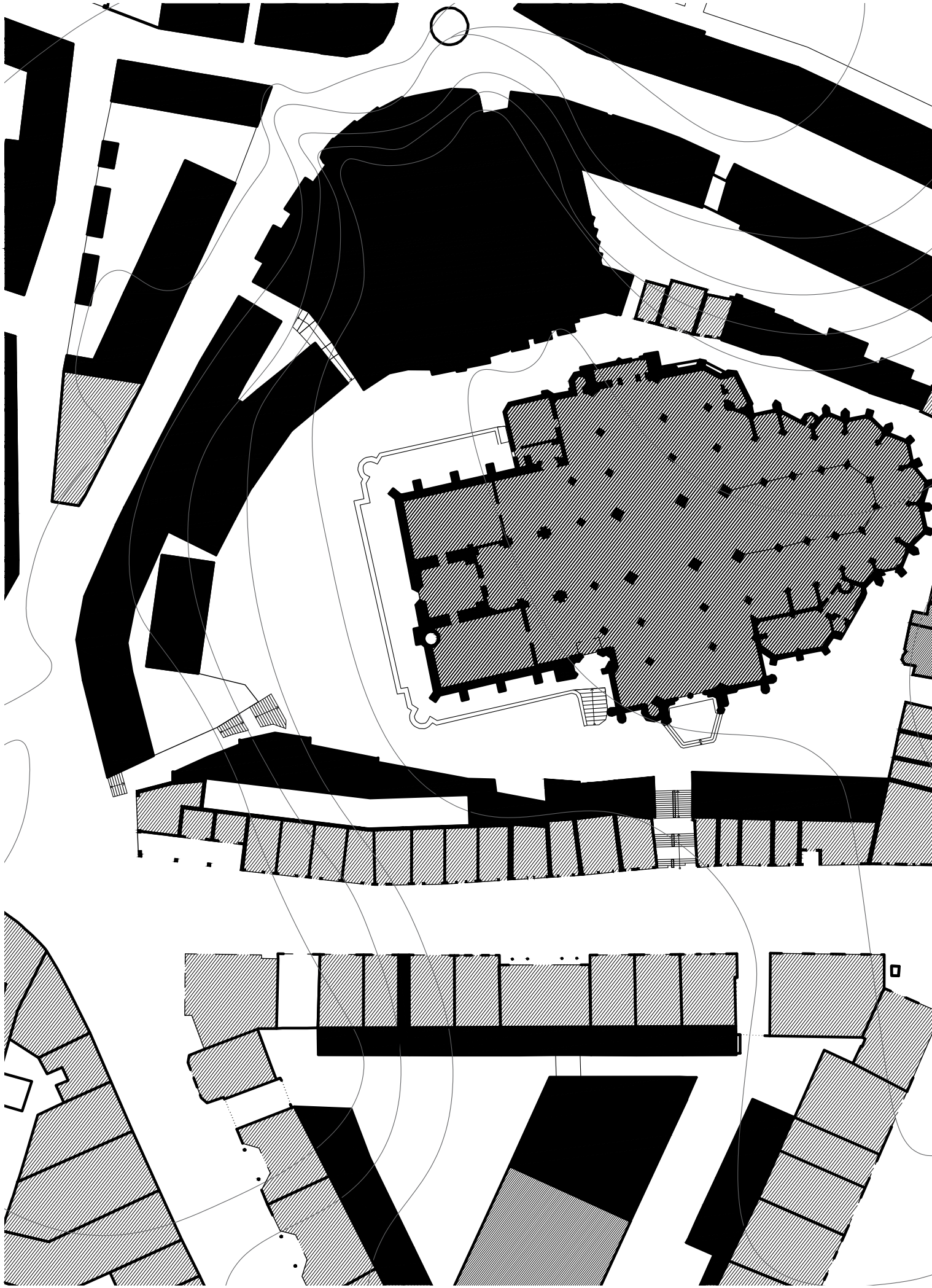


The topography is to perceive in the streets of Nijmegen. Sometimes, it seems invisible, but when you look more closely you see that the horizon is higher or lower than in other Dutch cities. In some parts, you look over the city and sometimes you are surrounded by the buildings. The shape and the amount of sky are changing when you walk through the city, which gives Nijmegen a unique skyline.

The roads can sometimes hide the differences in height, but the stairs reveal it clearly. The amount of steps gives the viewer already a lot more feeling for the heigh. Next to the function of bridging the height differences, stairs have sometimes a public function. The number of stairs that are perceived as public space is unique to Nijmegen giving it a different urban value than other Dutch cities.

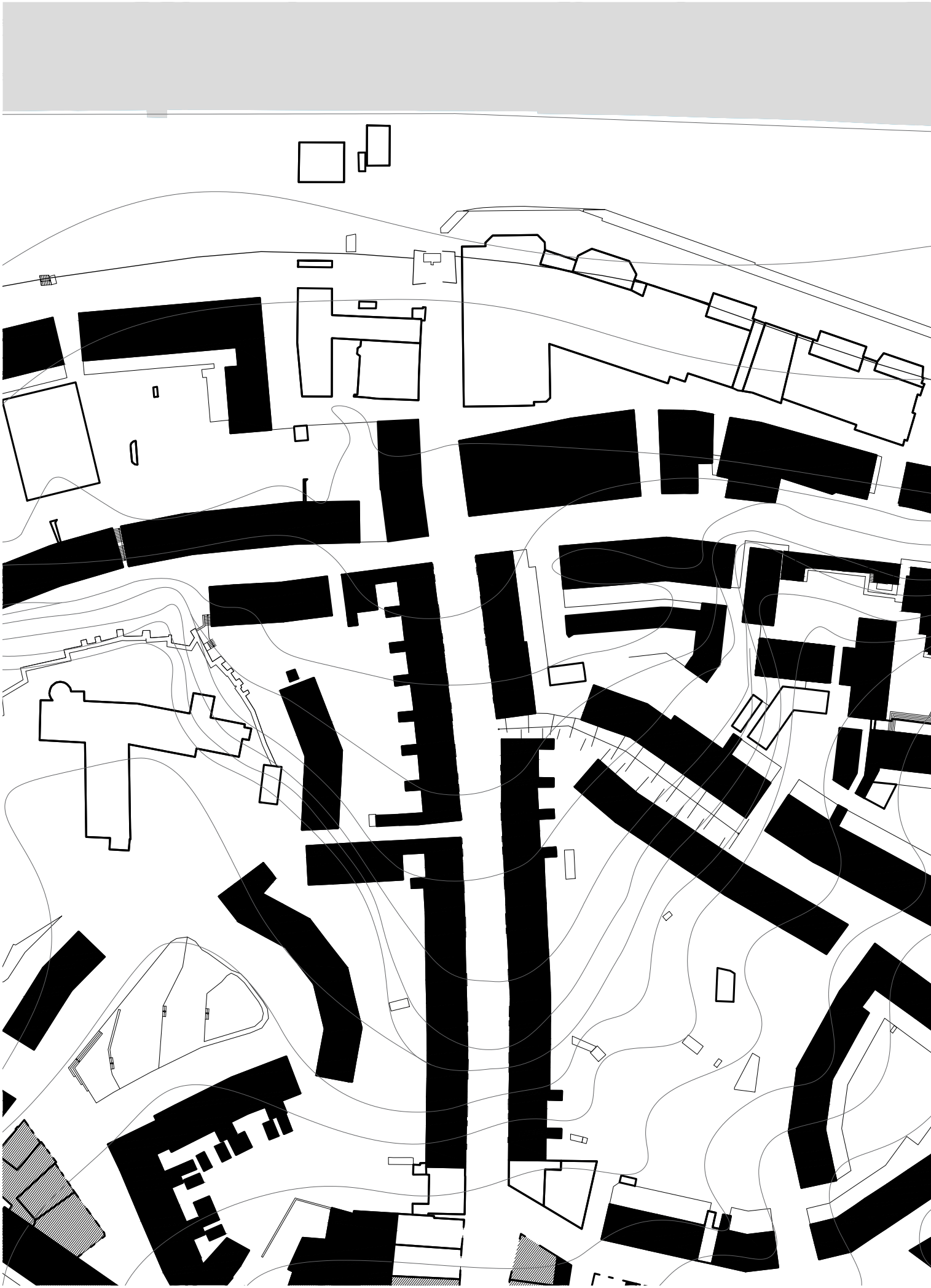
The stairs in Nijmegen also create thresholds. The stairs add a layer of accessibility to the city and lead to a richness in layers between 'very public' and 'private' spheres. The use of brick in different patterns makes these thresholds even more prominent. By changing the materiality of the pavement there are subtle changes in the functions in the spaces of Nijmegen.

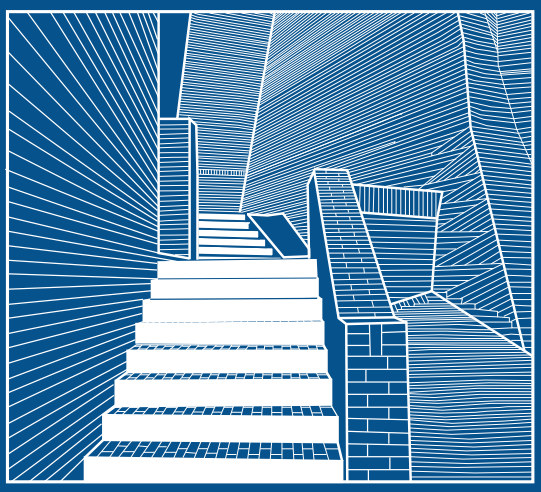
*** Photographed by Xiaoyue Shi**

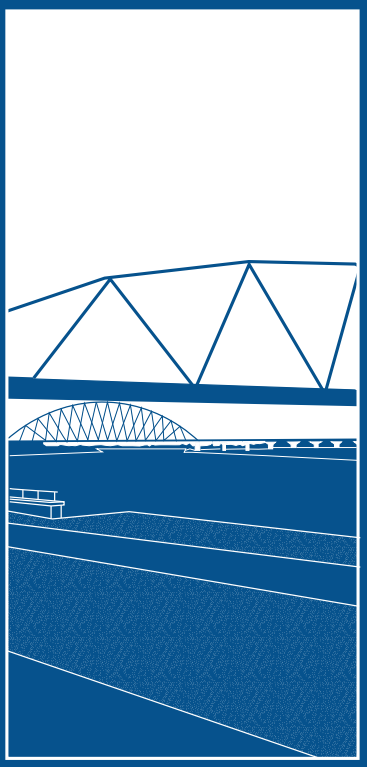


Photographed by Xiaoyue Shi

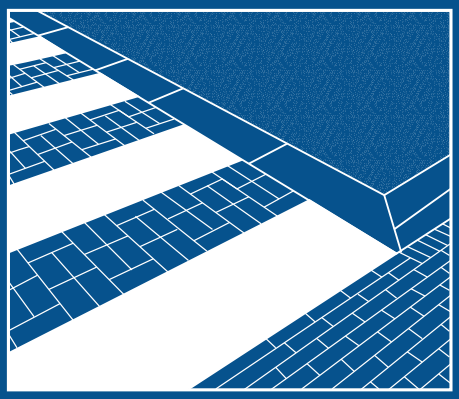
Photographed by Xiaoyue Shi

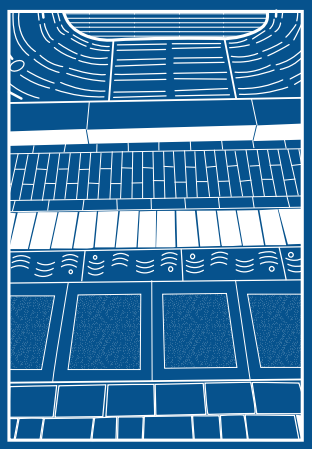






Climbing Nijmegen





Stairs

The stairs in Nijmegen accentuates the differences in height in the inner-city. It creates extra thresholds and creates a structure and layeredness between the public and the private spheres in the inner-city. The stairs creating a rhythm and a pattern and causes a different feeling of space. It has influence of the flow and the accessibility of places. The stair gives the possibility to go up and down and is a different kind of flow. The accessibility changed because the stairs shelter spaces of the public.

The extra ground level

Because of the heights there are different building typologies existing in Nijmegen. The ‘extra ground level’ is an example of that. Project examples that have this extra ground level are the Mariekenstraat and the parking garage on top of the Molenpoort. This extra layer creates opportunities to see the city in a different perspective. You have the feeling of being on top of the city and high buildings become low(er). You see the skyline and the roofscape not from a distance, but you are within the line of roofs.

A downside is that you can feel disconnected. You are not part anymore of the ‘real’ ground floor. The feeling of a dead-end. This is for example happening at the parking lot above the Molenpoort. In the Mariekenstraat this is not the case. You can see the other ground floor and chose were to walk. The typology of the Mariekenstraat also give the feeling of walking along a canal and in the Moenenstraat you can have the feeling of walking through a canyon or valley. And if you have a strong imagination some stairs could be seen as waterfalls.

Reseach of public spaces in Nijmgen, In collaboration with Atty Poelma, Alejandra Ferrera and Hannah Namuth

6. The art of good public space

Camillo Sitte

In his book he describes and explains multiple rules to make a good public space. The most important rules for a new design of the molenpoort was that a square is an enclosed entity (Sitte, 1965). To create this enclosement you have to look carefully at the traffic flows and the proportion of the square with the buildings around it.

The square was in the past important to get light and air in the city, but now it has a bigger function for the people. To give this space to the people you should keep the square free of obstacles. Like status or fountains. Those are better to be placed along the edges of the square.

Intimate spaces

We did a wide research to find out what a the differences between public spaces are. What makes them good and what should you not do. We did this for the public spaces in Nijmegen, but also for spaces all over the world. The conclusion of this research was that an intimate, enclosed, public square fit in Nijmegen. The proportions of the buildings around the square should be heigh and dens enough to create this feeling of enclosement.

7. Urban problem statement

Shopping loop

Around the site and even with-in the site shopping is a very present program. Molenpoort is the only shopping mall in the city, but it is not that much in use. A lot of shopping spaces are empty at the moment. The parking garage on top of the shopping mall is of importance for the mall it self and also for the people that want to park very close to the city centre. The entrance is at the Tweedewal straat. This street is a very busy street for being in the city centre. A lot car traffic is going through the street and speed up. This is the only street within the site where the cars are aloud.

The Molenpoort mall is not functioning anymore. The need for shopping is decreasing and will probably decrease even more. The building of the molenpoort is really big and causes a lack of porosity in the building block.

Connectivity and porosity

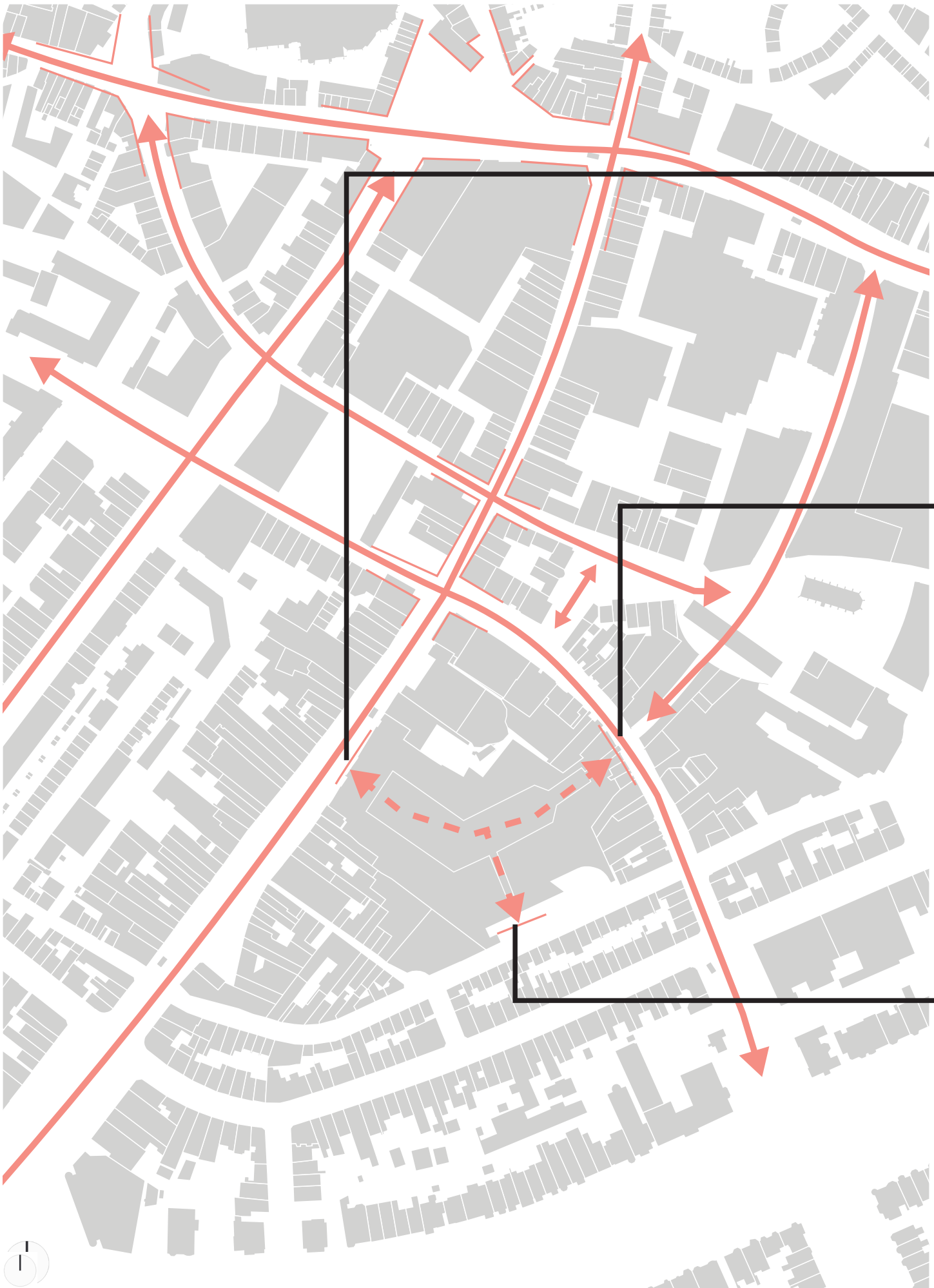
The area of the Molenpoort is not well connected to the inner city of Nijmegen. This is caused because of the lack of porosity and connectivity. The Molenpoort has a passage, but because of the thresholds to go inside, it is not working well. Nobody is using this connection. Once inside the mall you are easily disorientated, because of the interior layout. The exits are not clear and you have no idea where you would end.

The mall is taking almost all the air outside the city block and there is no public space for people to stay. The mall is out of proportion and for a new design will be split in smaller buildings. Creating a new road network that is connecting on the existing. Next to this some of the layers, for example the old church will become the center piece of the public space.

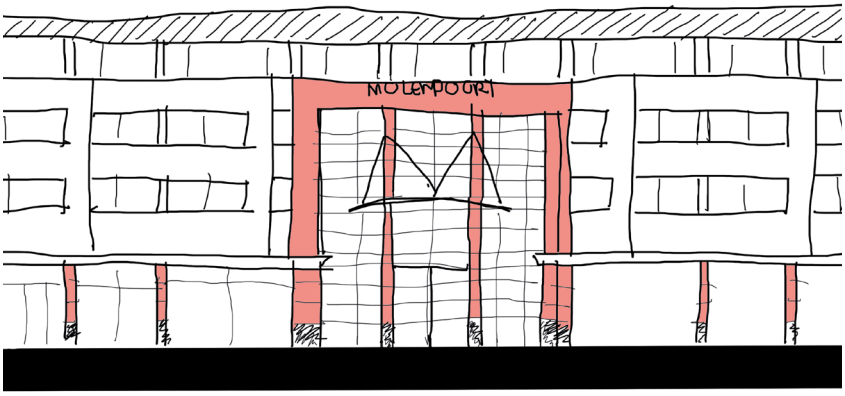
Non-food retail

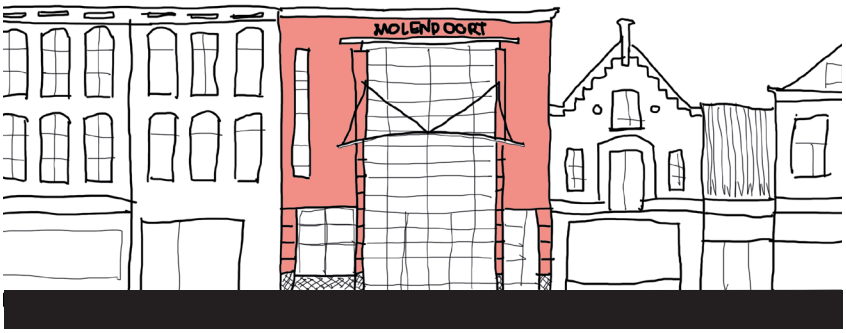
Food/drinks retail

Vacant spaces

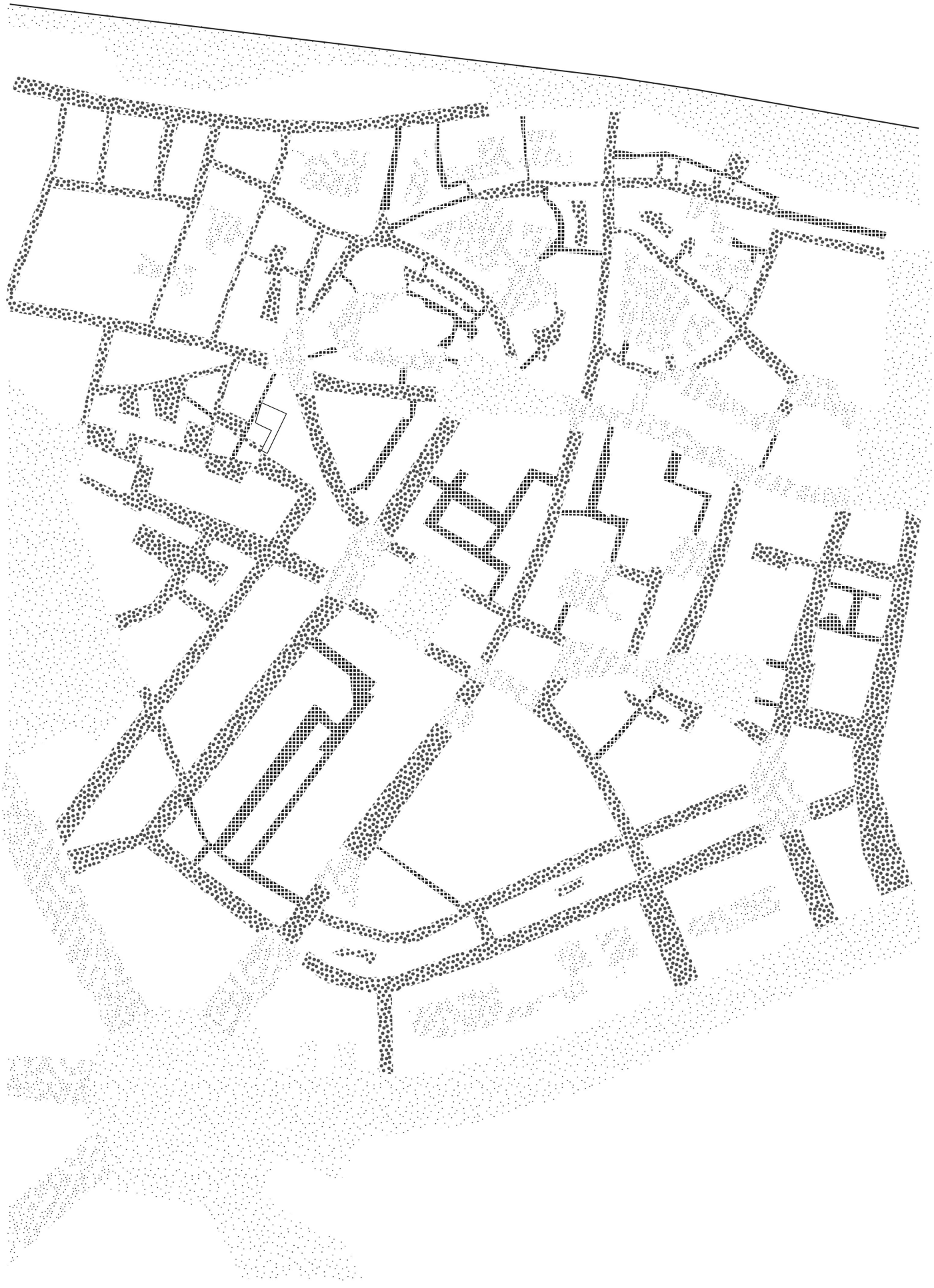


Connectivity and porosity

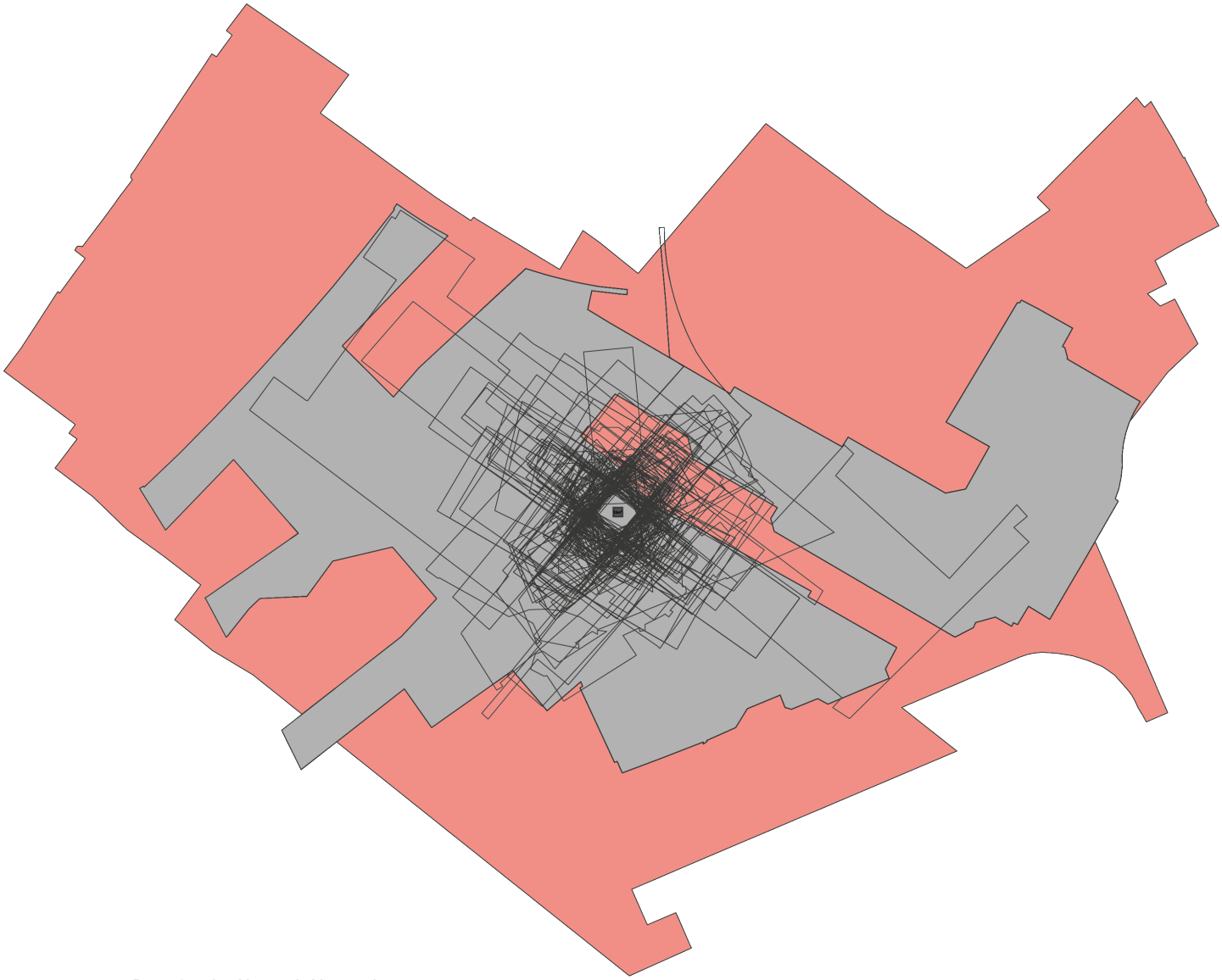

MOLENPOORT


MOLENDOORT

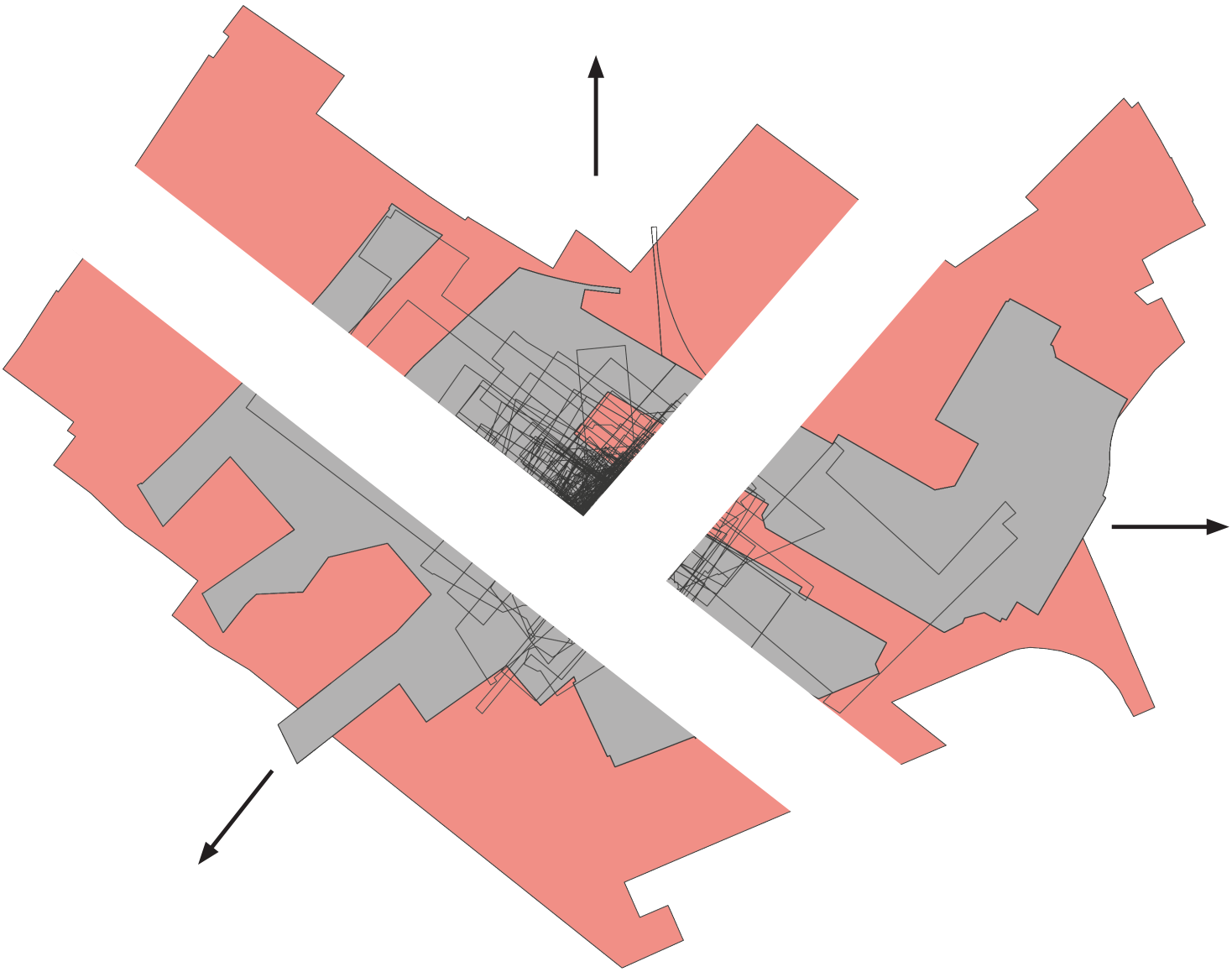

MOLENPOORT



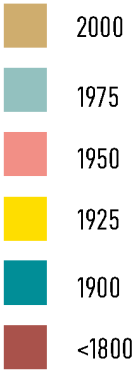
"From the strictness formed by the past, towards a more meandering future"



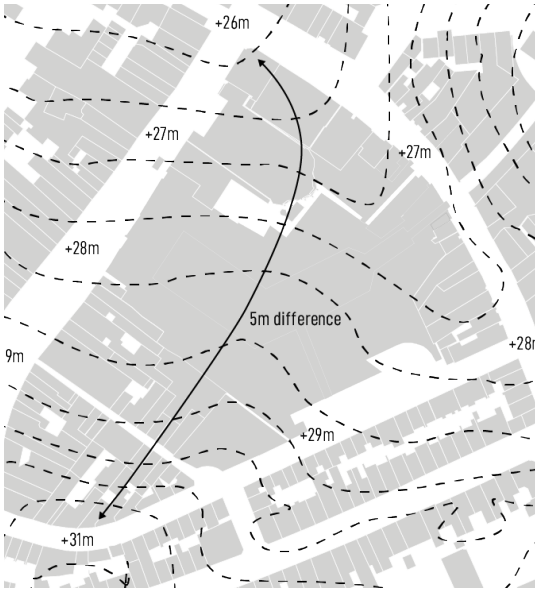
Drawing by Hannah Namuth



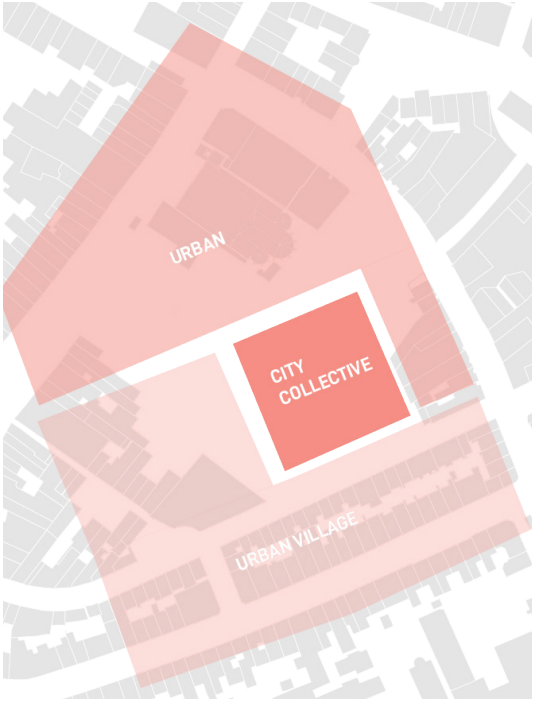
Building age


2000
1975
1950
1925
1900
<1800

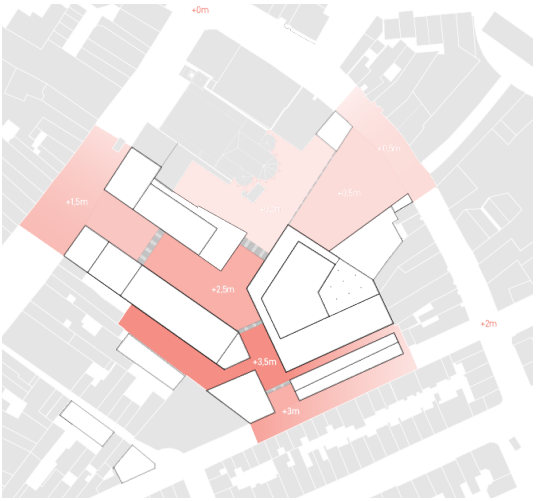
Design principles



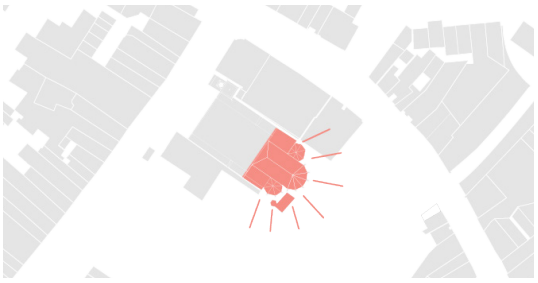
Using the height differences to make more thresholds and show case what Nijmegen makes unique.



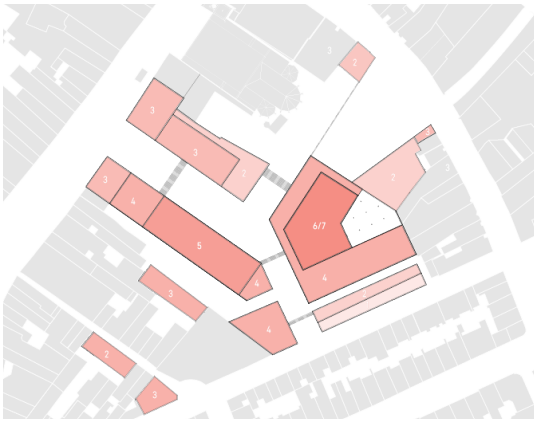
Having a gradation between public and the more private areas.



Creating more thresholds than that there exist, with stairs and ramps.



Opening up the church, revealing a layer of history



Connecting with the height of the surrounding buildings. And creating more density in the middle of the city block.

Partly demolish the molenpoort and reuse as much structure as possible.

8. Urban design

For a new urban design there is more space created for green. Not only on ground level, but also the roof are covered with green. If this is not the case than there are solar panel. The roofs that are accessible are green and the upper roofs are covered in solar panels. The main project has a lot of roof that is accessible and doesn't have enough space left for the solar panels to cover the need of electricity. The urban plan is in that way designed that in total there will be enough electricity. So on the other building there will be more panels added to compensate for the lacking panels of my main project.

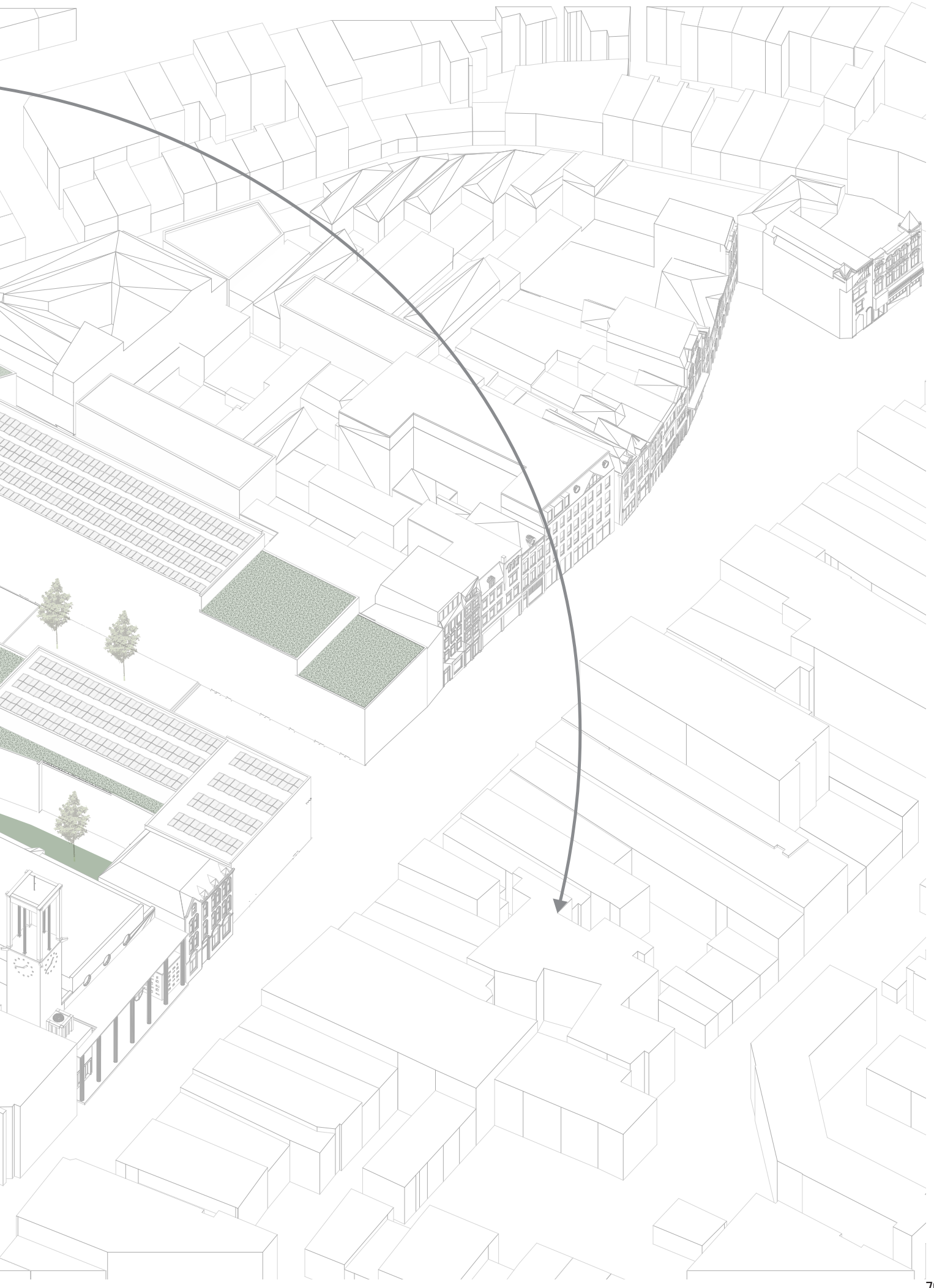
The flow of people and spaces are the most important for this urban design. With the placement of the new buildings two squares are made. For the big square a high building is required. Because how this building is connected to the square, it is suit for a public function. To not get a to big or empty space the main building is overlapping the garden next to the church. Causing a more intimate and second public space.

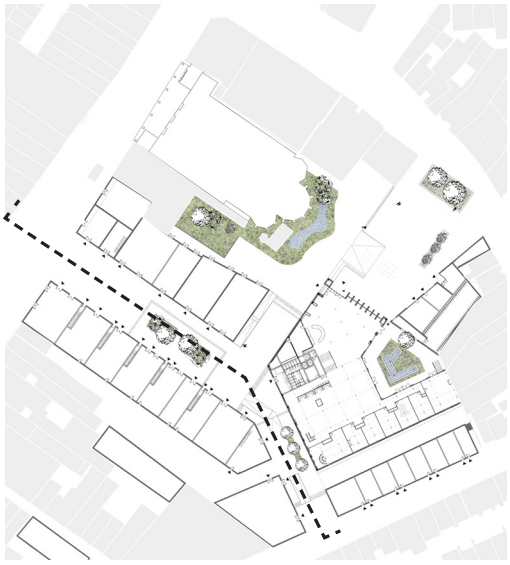
To keep the profile of the Ziekerstaat, to fill in the square and to green the square I placed two big planters. One next to the Ziekerstraat creating a entrance to the square. One creating a threshold between the square and commercial area next to the square.

For warm days there are fountains, sunken in the pavement. Giving something extra to the square, but not disrupting the functionality/flexibility of the square.

On the next pages the urban plan is shown in plan, a 3d bird view and a section. In chapter 12 is the visualisation of the urban plan.


II
I






Molenstraat
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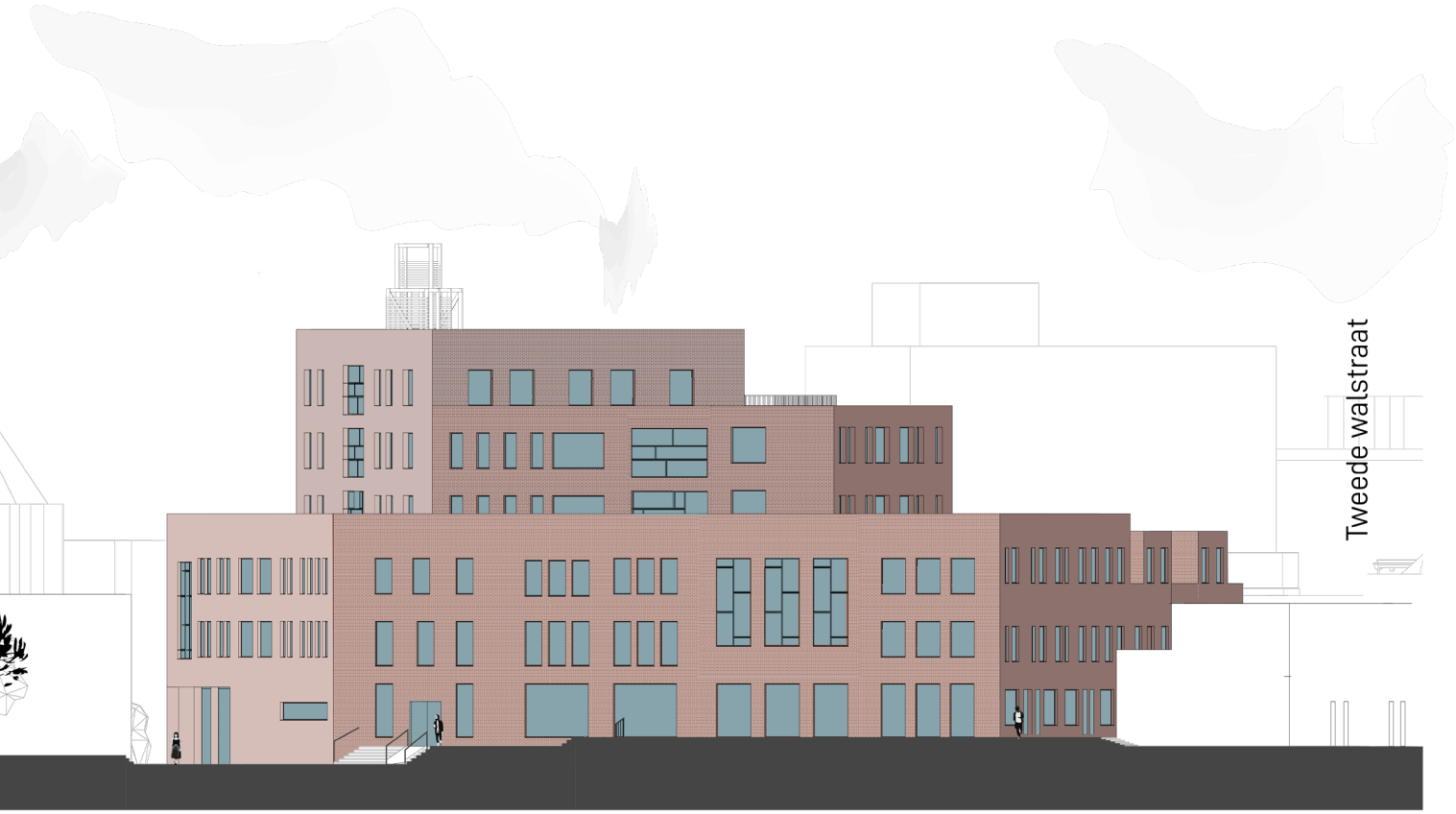
M



Urban section

Figure : “Bridging the gap”

9. Building bridges

I want to make a stepping stone for the people that have difficulties to find their own place. That don't have the right resources yet, or are just unable to find an affordable house because of the housing shortage.

Next to this I want to create a learning, working and relaxing environment. For the people that will live in or nearby the location, but also that it will become a livingroom for everybody. And above I will create temporally housing. In the form of co-living and studio living.

In The Netherlands but also in the rest of the world, finding a house can be difficult. The housing shortage pushes the prices of the house sky high and this causes trouble for people that want to find an affordable house. The biggest problem right now in the housing market is that young people that are just starting their jobs or want to move to their first house don't have places to go. Their income is average but with that you will not get a loan to buy a house and you get paid to much to get a house in the social market.

The flow of the people is missing. Students that want to move on from there student house just don't have the option. So if they live in a private rental they can just stay there, but keeping a spot occupied for a student. For those there should be an option to make this step.

The idea of a shared concept is that you don't have everything all by yourself. You will have a small kitchen, a bathroom, and a space to live/sleep. This will make the house affordable, but next to your own house you will get more. Shared spaces what you can use. For example an larger kitchen, a playground or workout space. You will share the washing machines collectively, so that not everybody has to pay for their own. The co-living create opportunities to give people a living area what they otherwise will not have get. Extra's like a big roof garden and terrace with a view all over the city, a movie room and a guest room that you can rent per night or week.

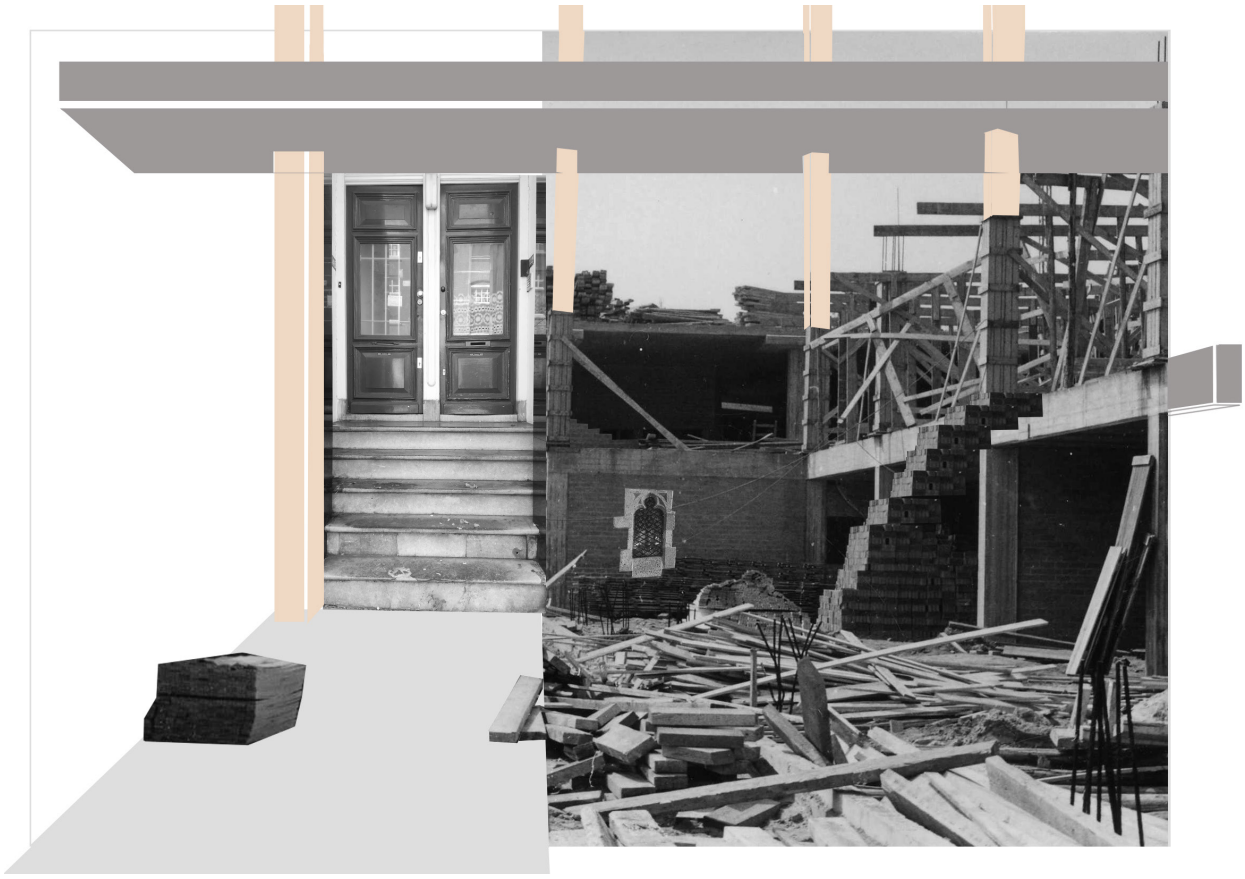
The co-living is all about diversity, so in this design are a lot of different typologies of houses. You have the town houses. That can be used for families or 5 to 6 people that want to live together. The biggest typology of housing is the studio. The studio has everything in one room. The sizes of those studio's differ. Some are around the 50m2 and some are less than 30m2. The studio is mostly designed for people that live alone, but the bigger studios are also fitting for a couple. There are also apartments that go up to 4 bedrooms. Those can same as the town houses be rent by families or a group of people. In between those to typologies there are also multiple apartments that have one separated bedroom or two. These are focused on housing a couple or a small family or for two friends.

As you can notice I do not want to exclude a group of people that can be fitting for this co-living project. Most of the time we think of young people, but I also image that an older couple can scale down in a building like this. Or a single parent. The concept of co-housing is not only to create a affordable housing. But also the..

10. Project design

First I became a designer, and at last placed myself in the role of the inhabitant and became the builder. The phase of the design consistent out of small steps. The biggest steps I will shortly describe in this chapter.

The collage illustrate my start of this research. The urban plan was already done, and the ‘real’ design was about to start. It tells the story of how I handled the reuse of the molenpoort and how I saw my proces s. Like a construction site. Having the plan, the idea, and ‘only’ having to build it.

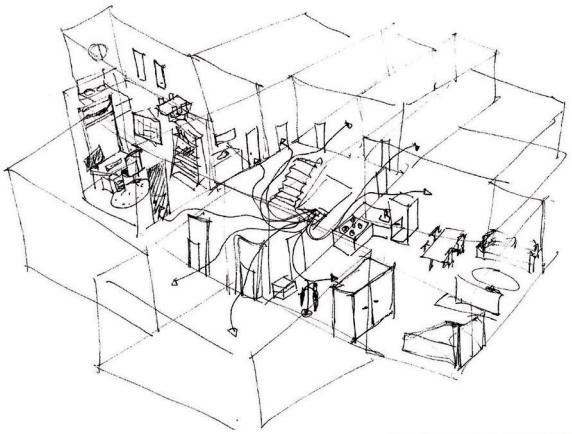


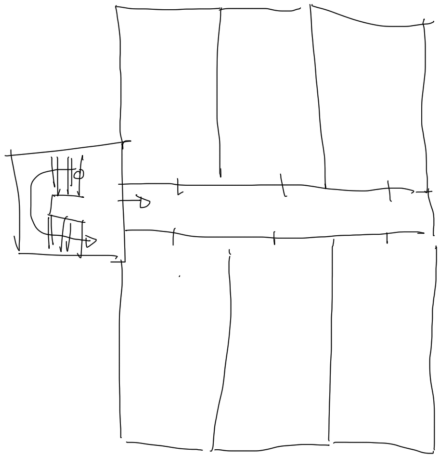
6.1 Routing

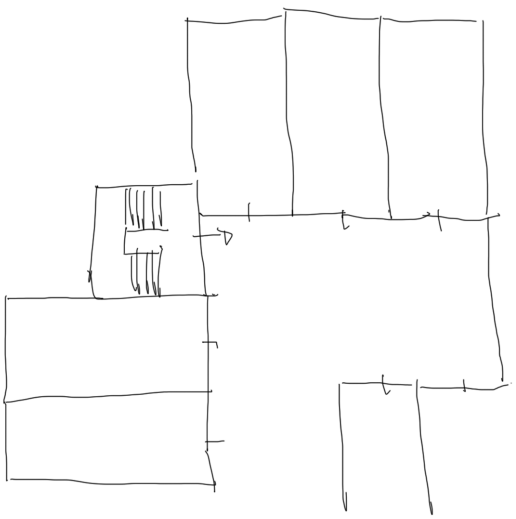
In the chapter of theories I explained the importance of verticality. The routing inside the building will than be of most importance. To make this happen there will be a secondary routing. A routing with stairs. This routing will not become a corridor, but a shared space. The houses will surround these spaces. In this shared space I imagine that people take ownership of those areas. Change the area's to there needs.

To give them this space, there will be shared kitchens and some extra functions. That people would never have if they would live in a 'normal' apartment building.

In the section the project will be subdivided into families. Those layers are connected with stairs and voids.





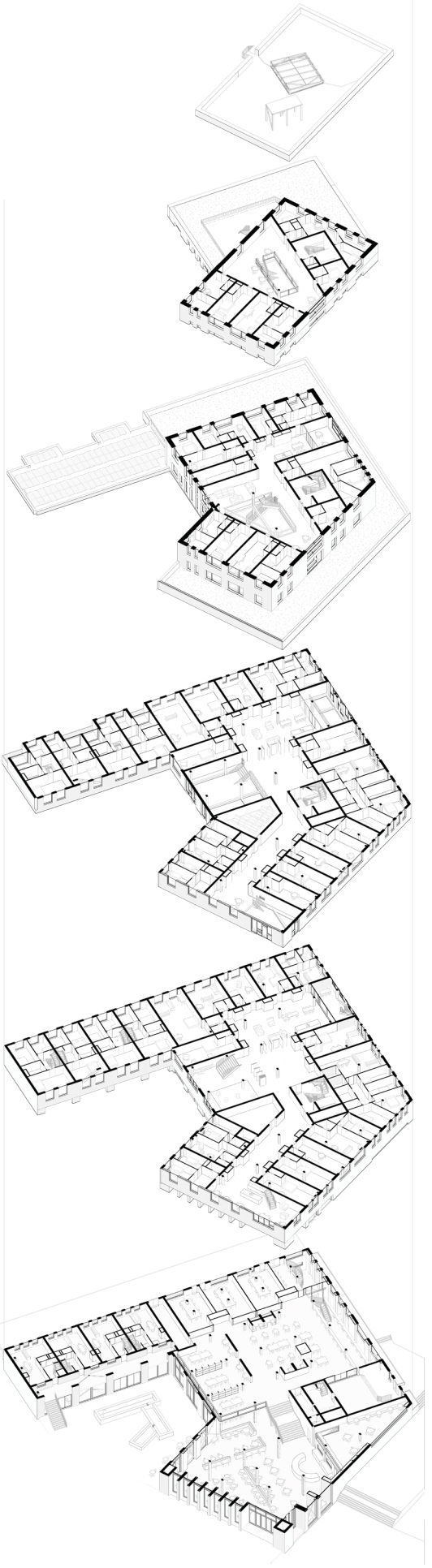


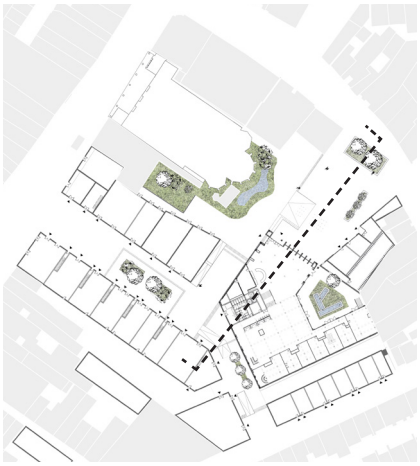
6.2 Floor plans

04/05/06 **Family 2: Appartments and studio's and guest rooms**

02/03 **Family 1: Appartments, studio's, movie room and laundry room**

01 **Co-working entrances town houses**
00 **Restaurant and co-working**





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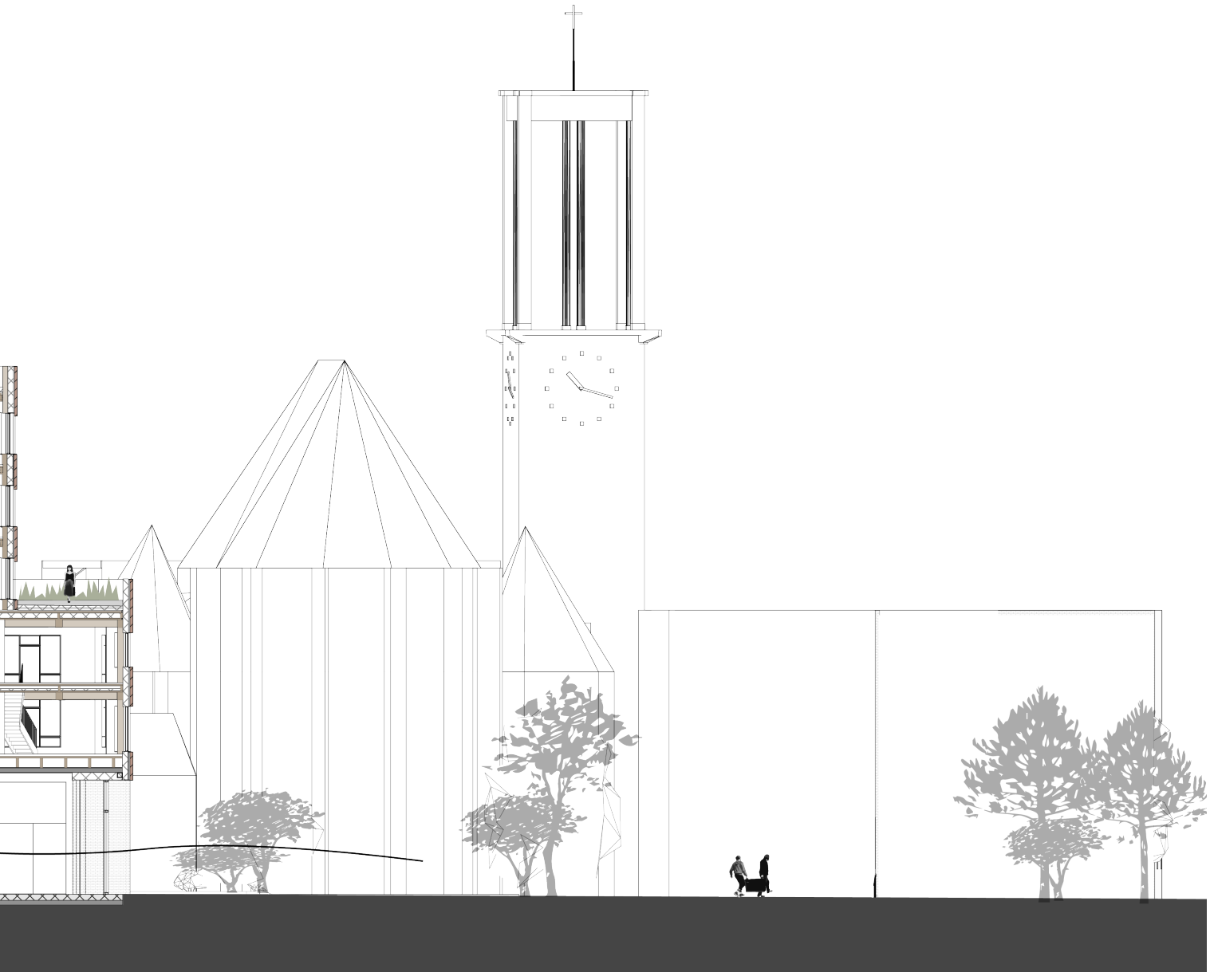
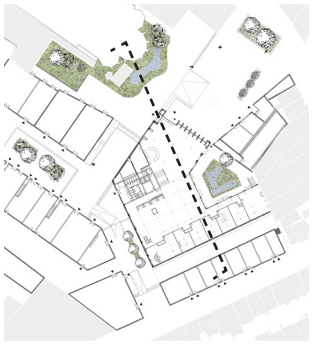
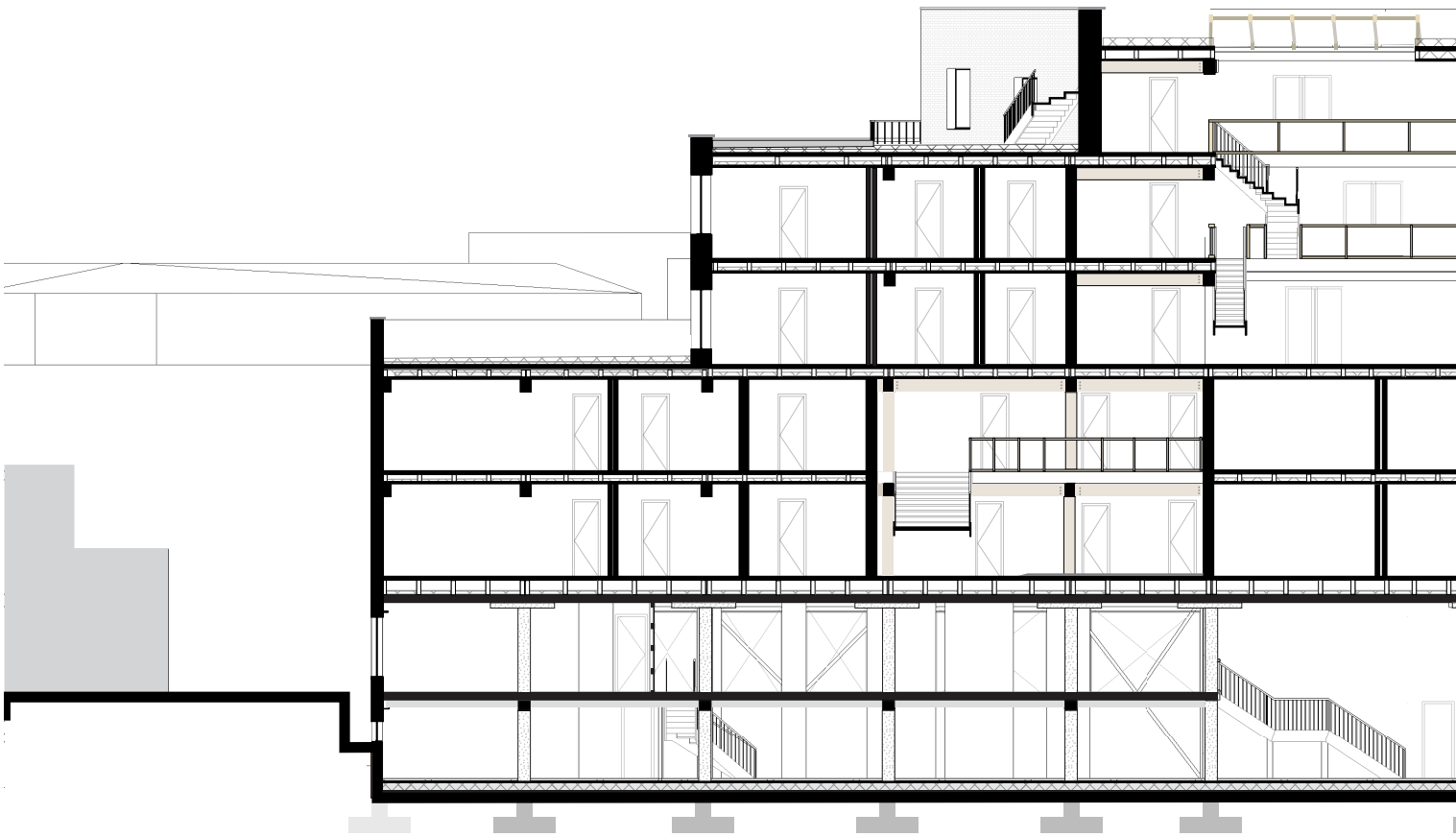


Section A





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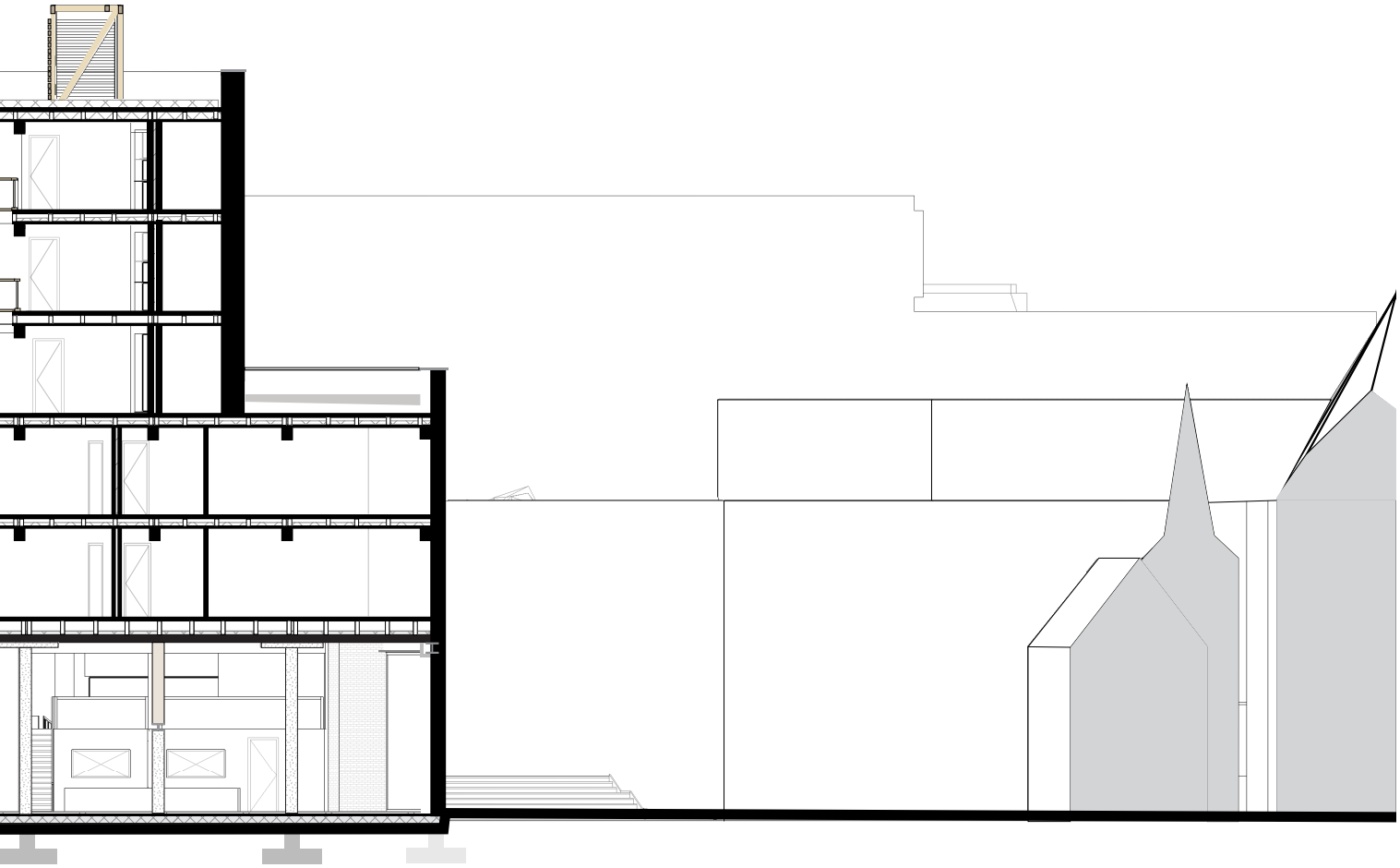
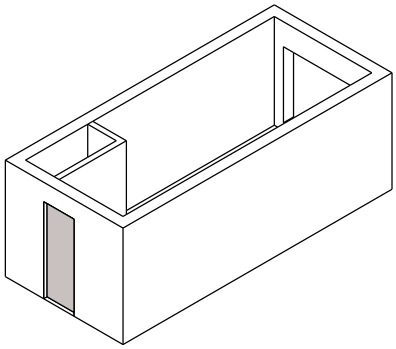
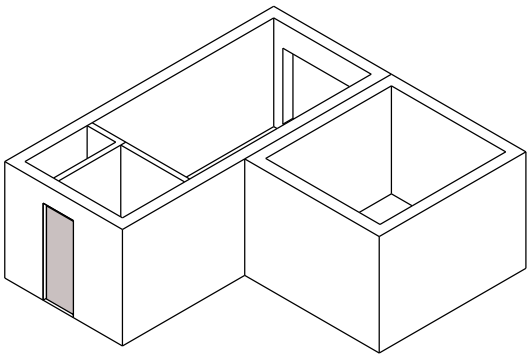


Section B_Routing



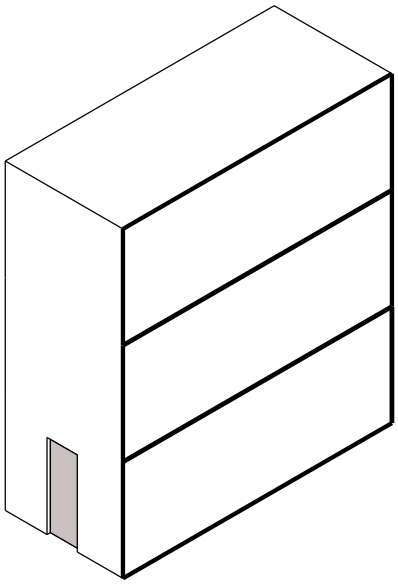
20 - 50m²

1-bed/livingroom



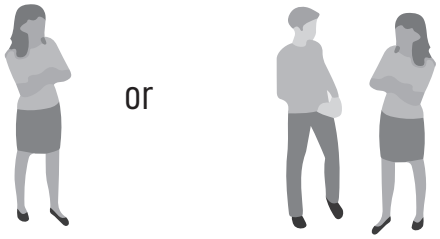
50-140m²

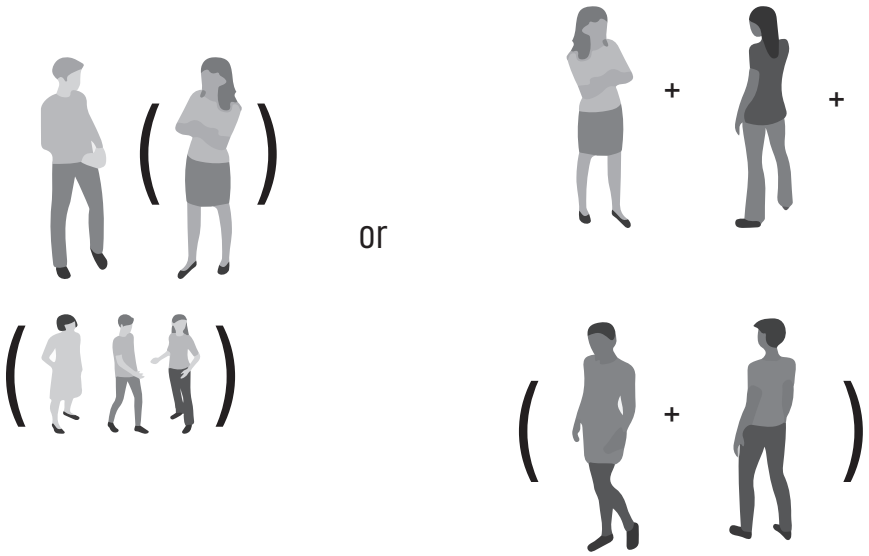
living/kitchen
1-4 bedrooms



175m²

living/kitchen
6 bedrooms
2,5 baths


or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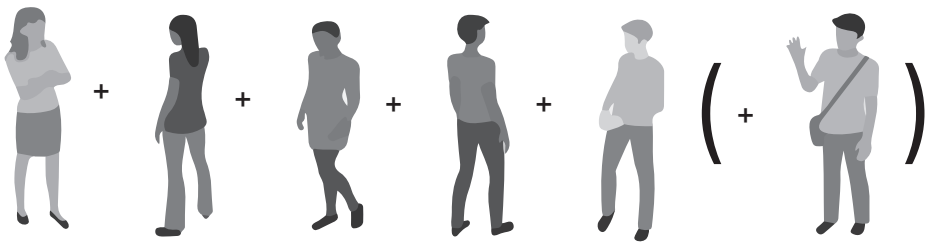
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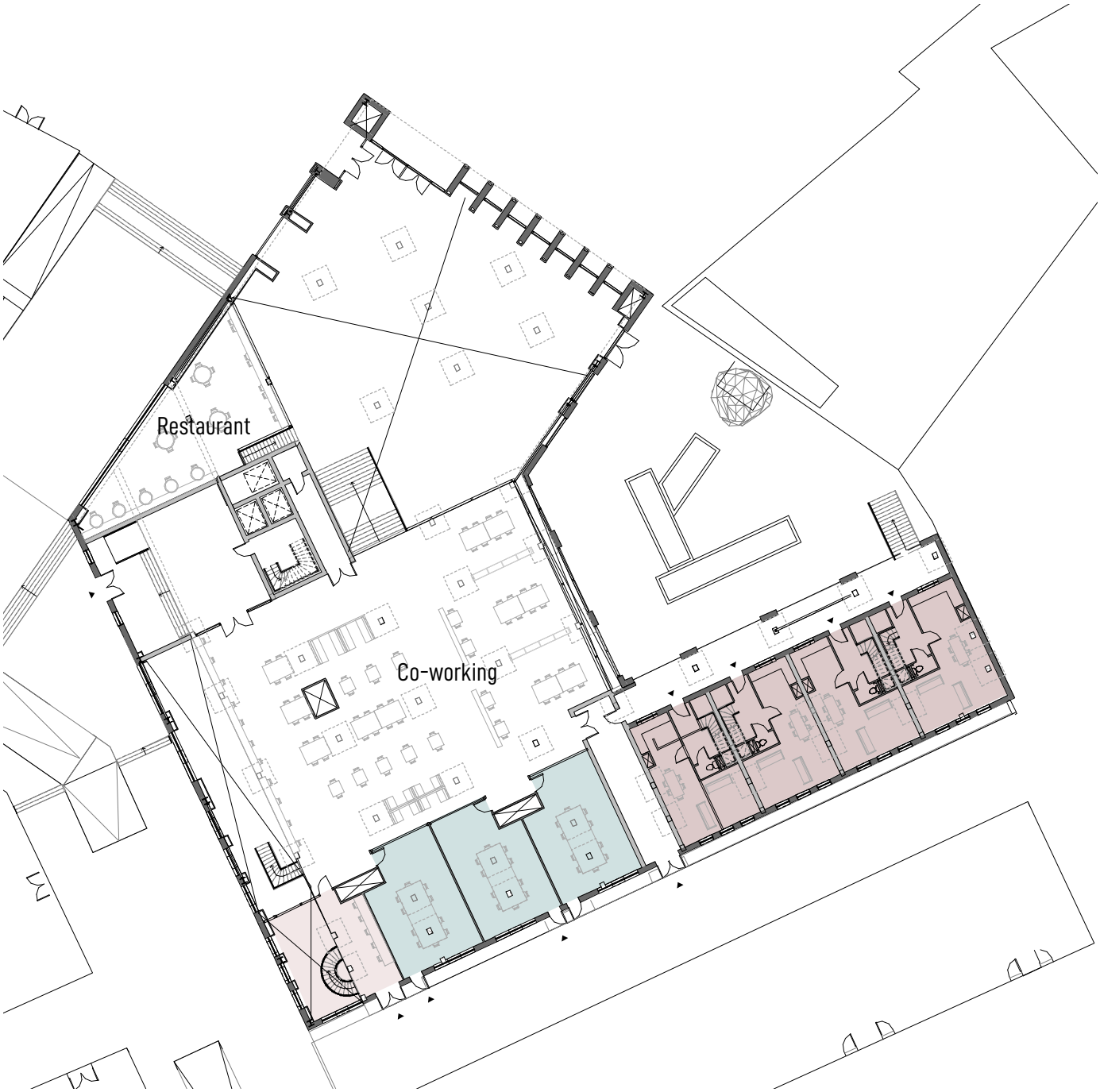
0 10m



01

Meeting rooms

Model and pc room

Workshop spaces

Technical space

02

0 10m

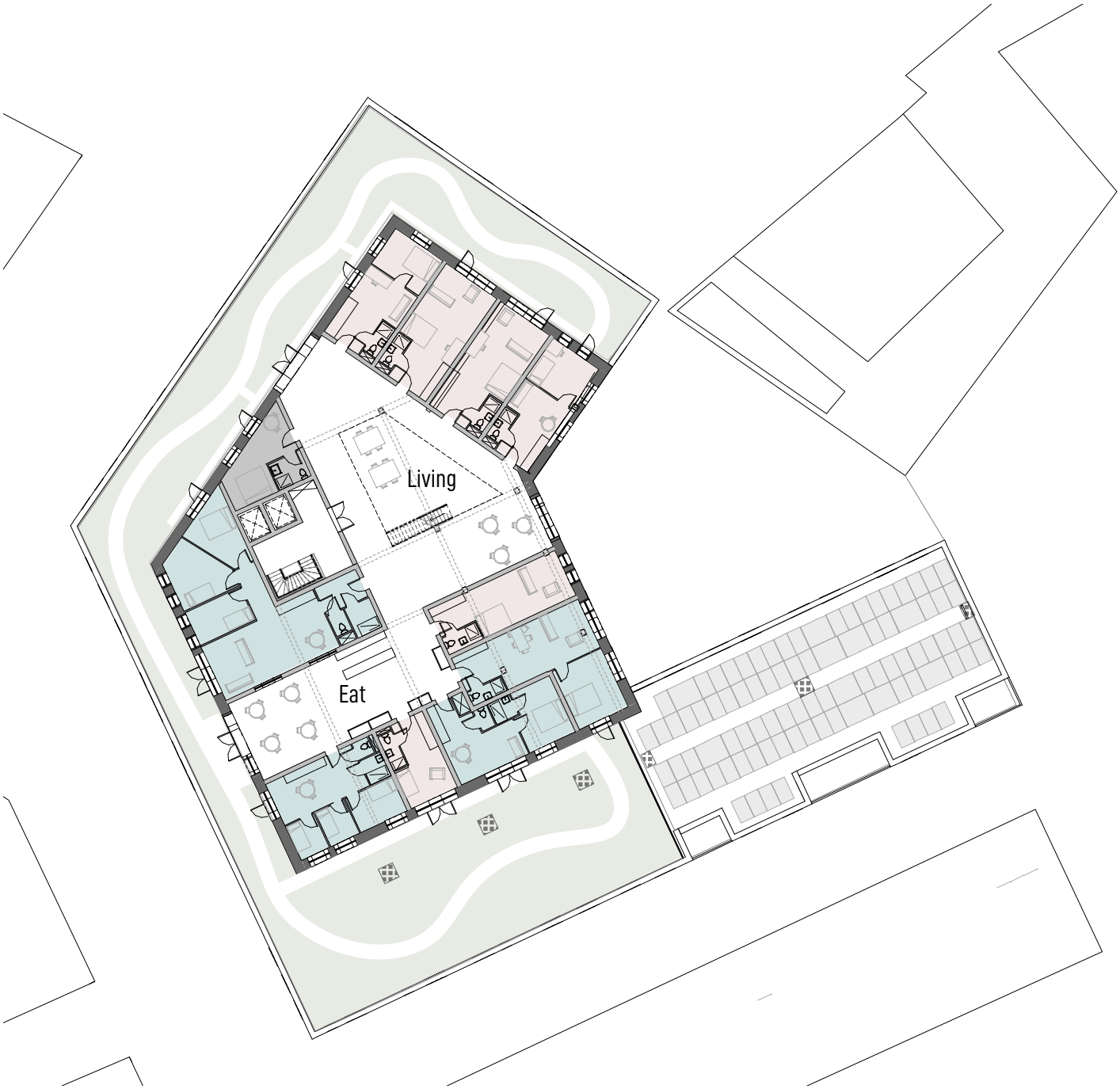
03

Shared room

Townhouses

Apartments

Studio's



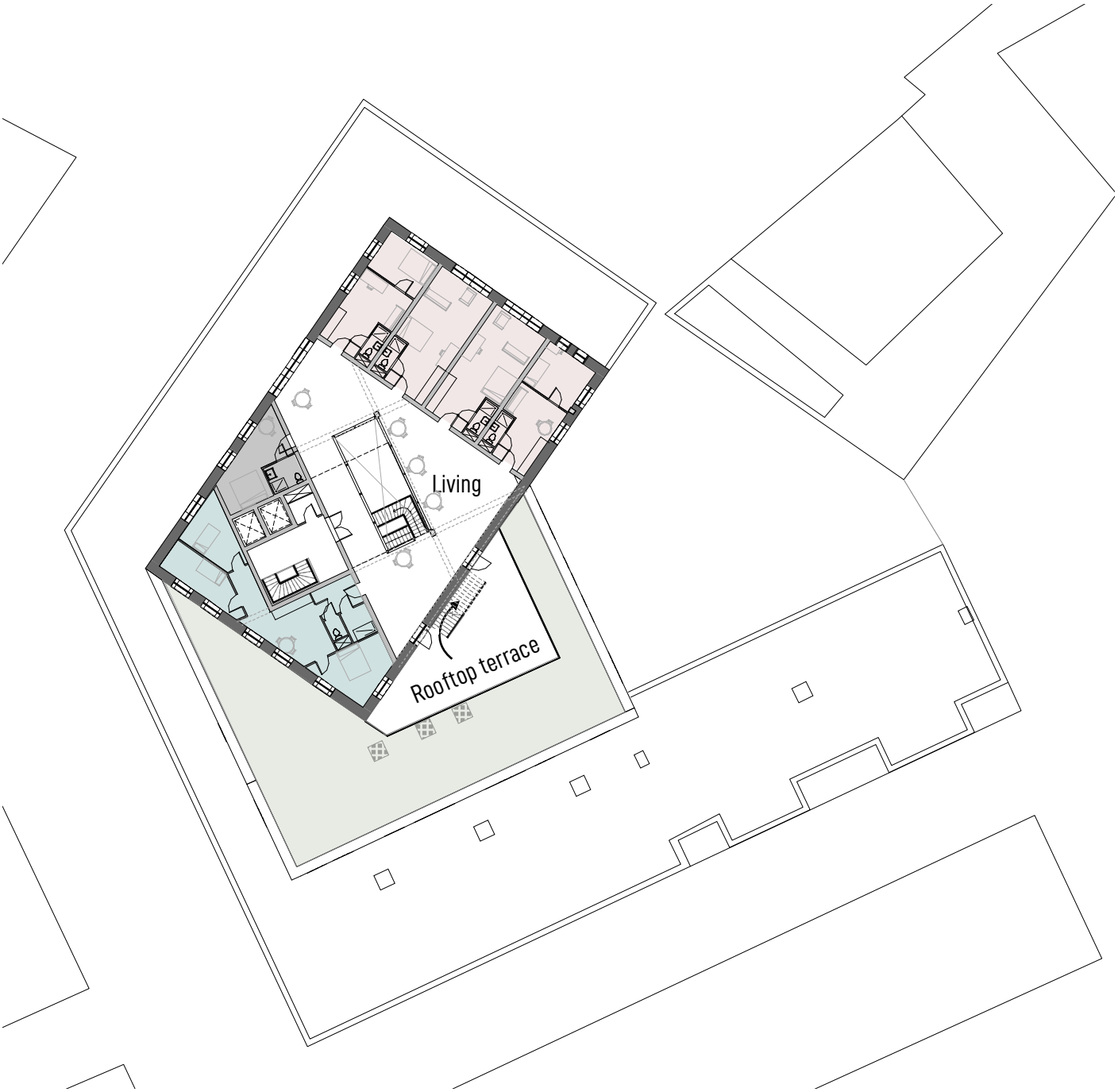
04

05

Guest room

Apartments

Studio's



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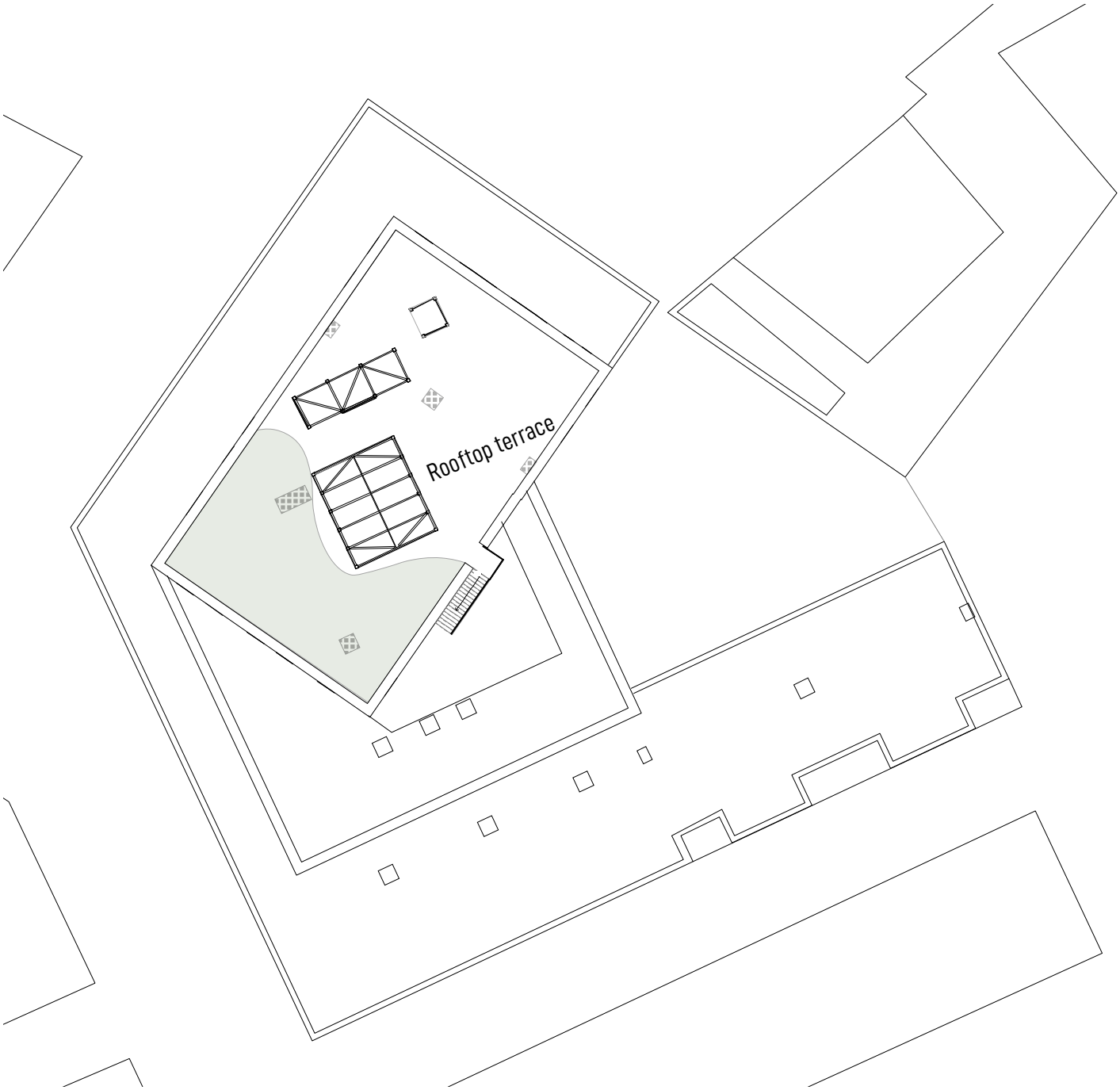


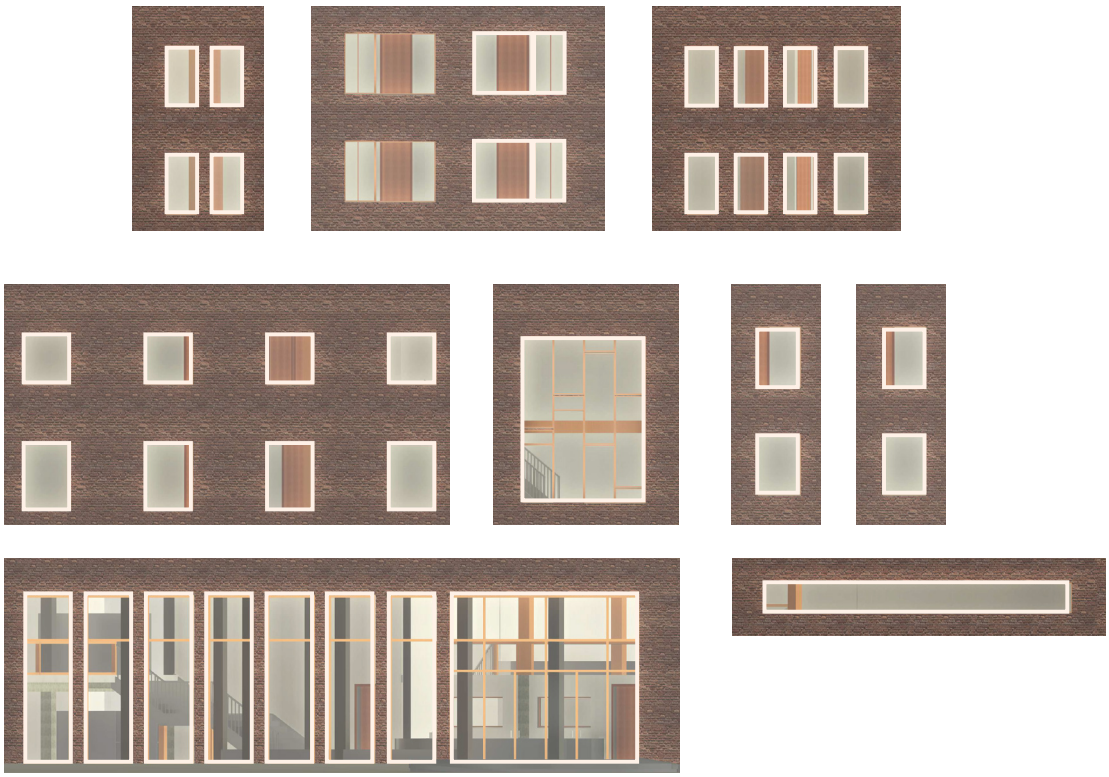
07

Guest room

Apartments

Studio's

11. Façades and details

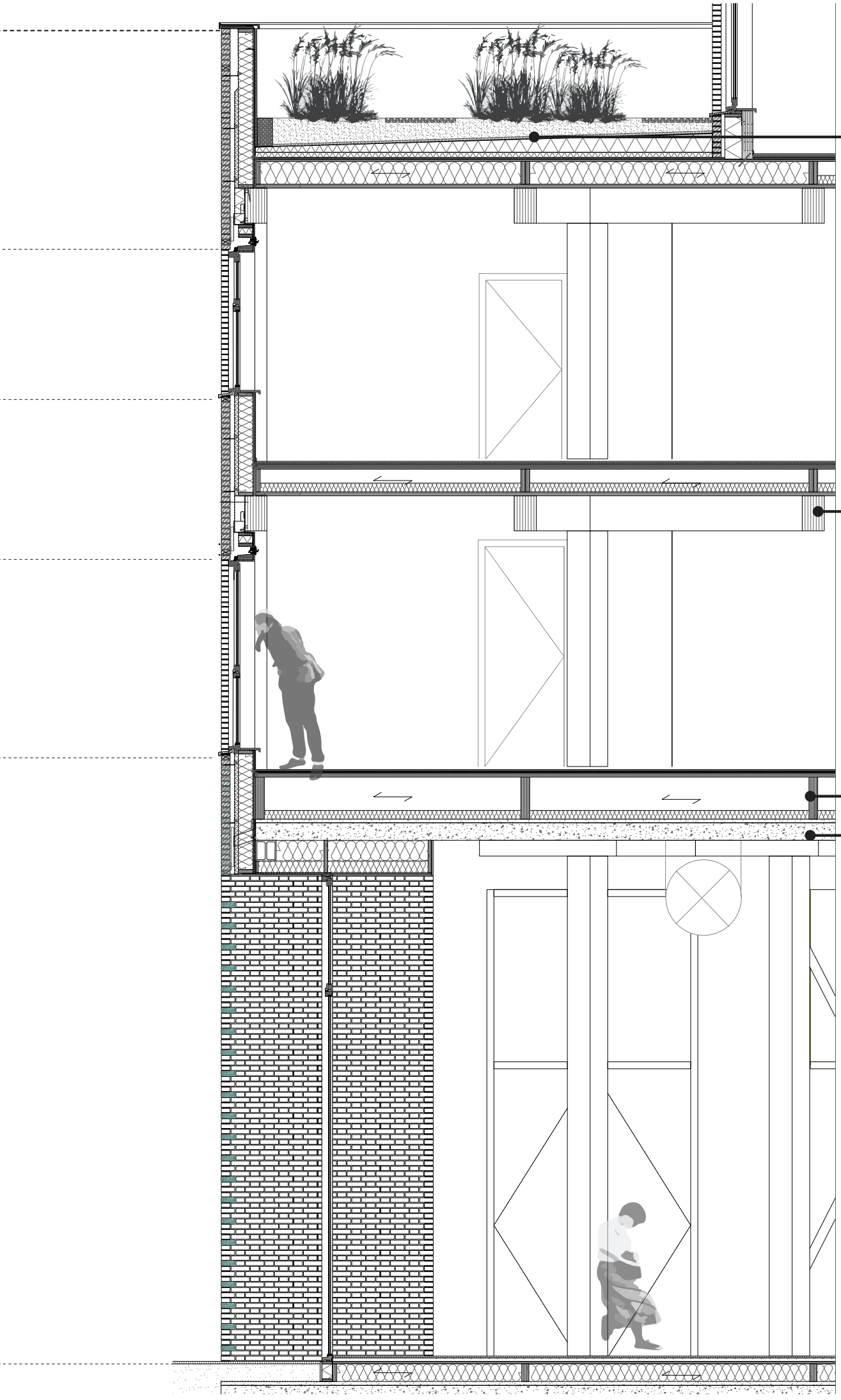


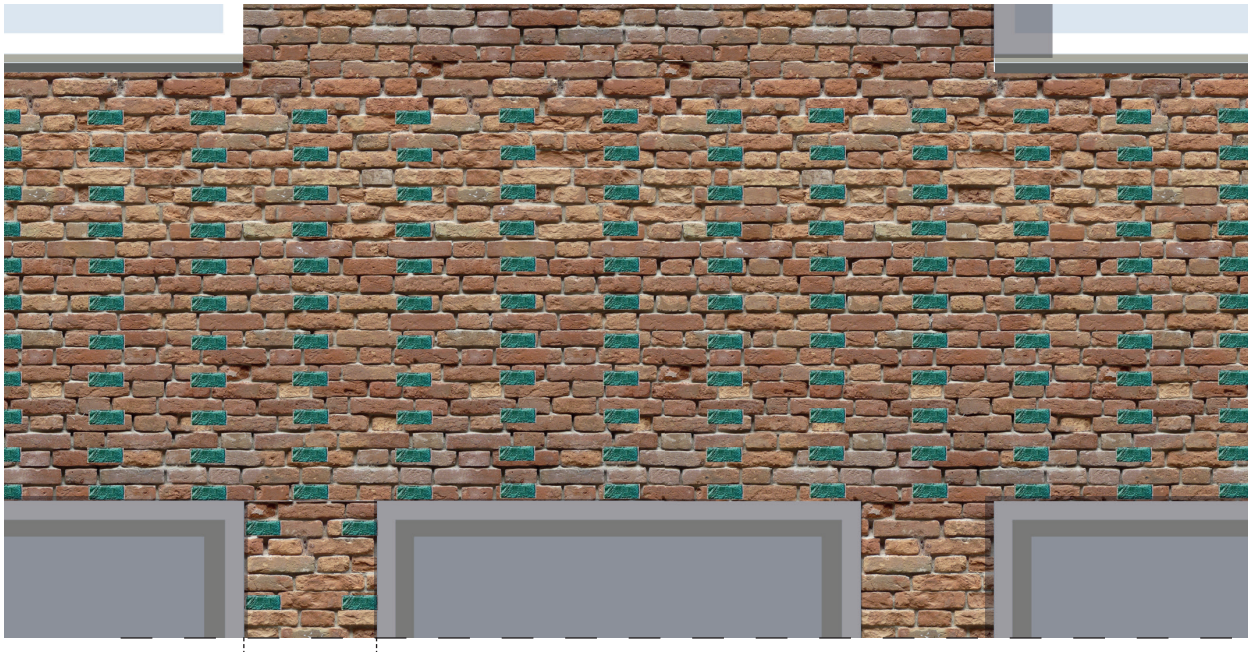
Concept facade

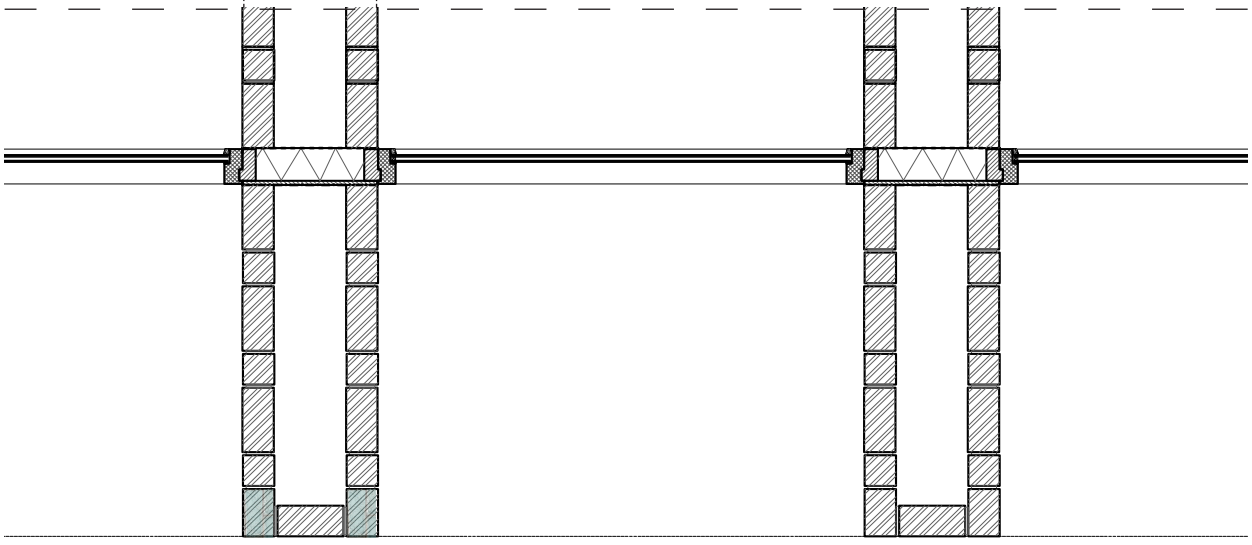
Front elevation

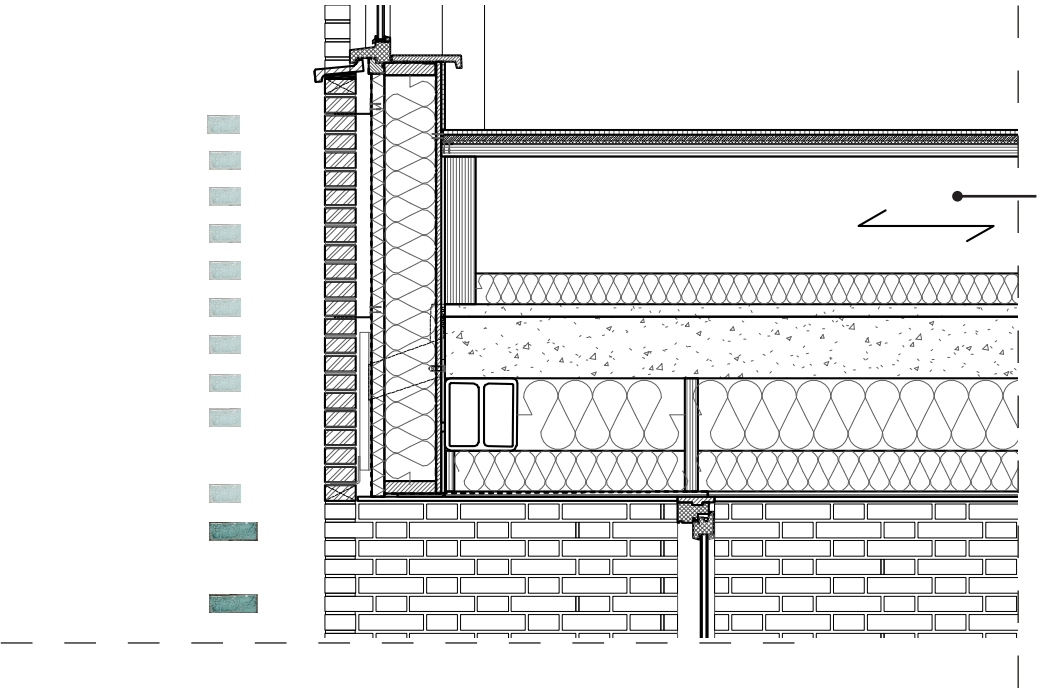
Side elevation

Backside elevation


Green roof
New wooden structure
Space for sewer system/
air ducts
Existing concrete structure



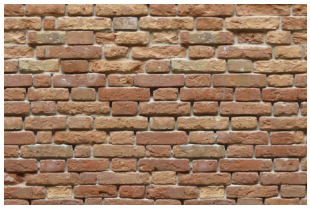




6mm cork finish
2x 12mm fiber plaster
12 mm glass wool
40 mm clt
480x100mm laminated beams
100mm glasswool

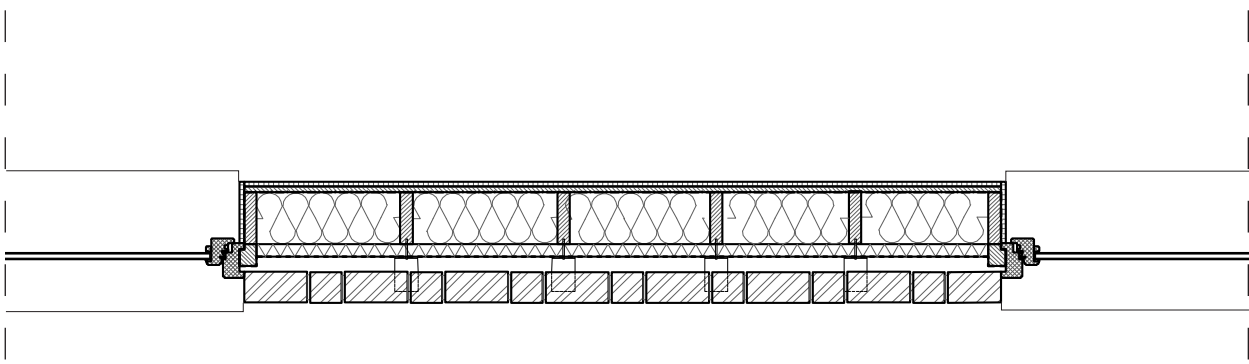
Glazed bricks

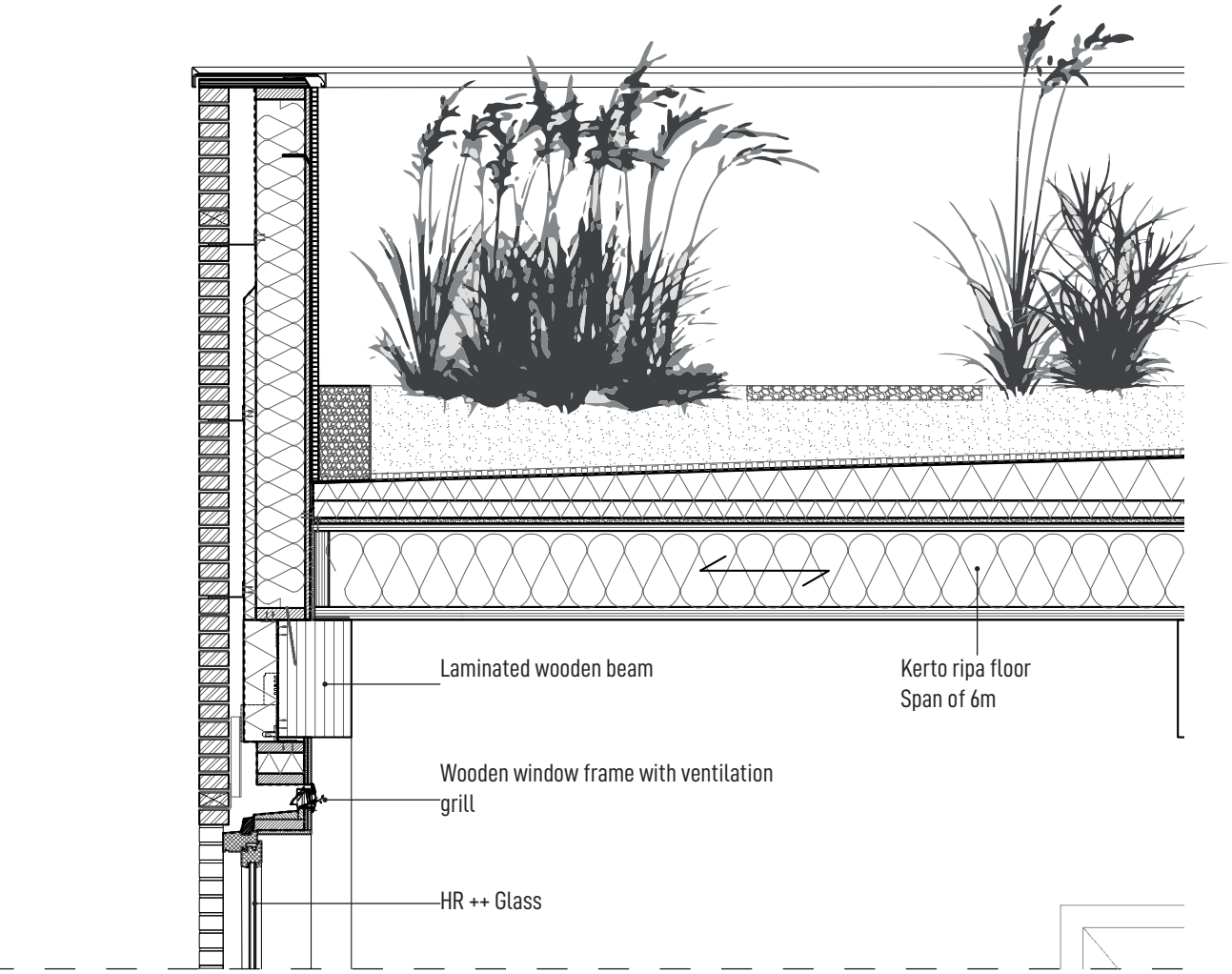
+



Reused brick

Facade in detail





Facade in detail

12. Being a builder

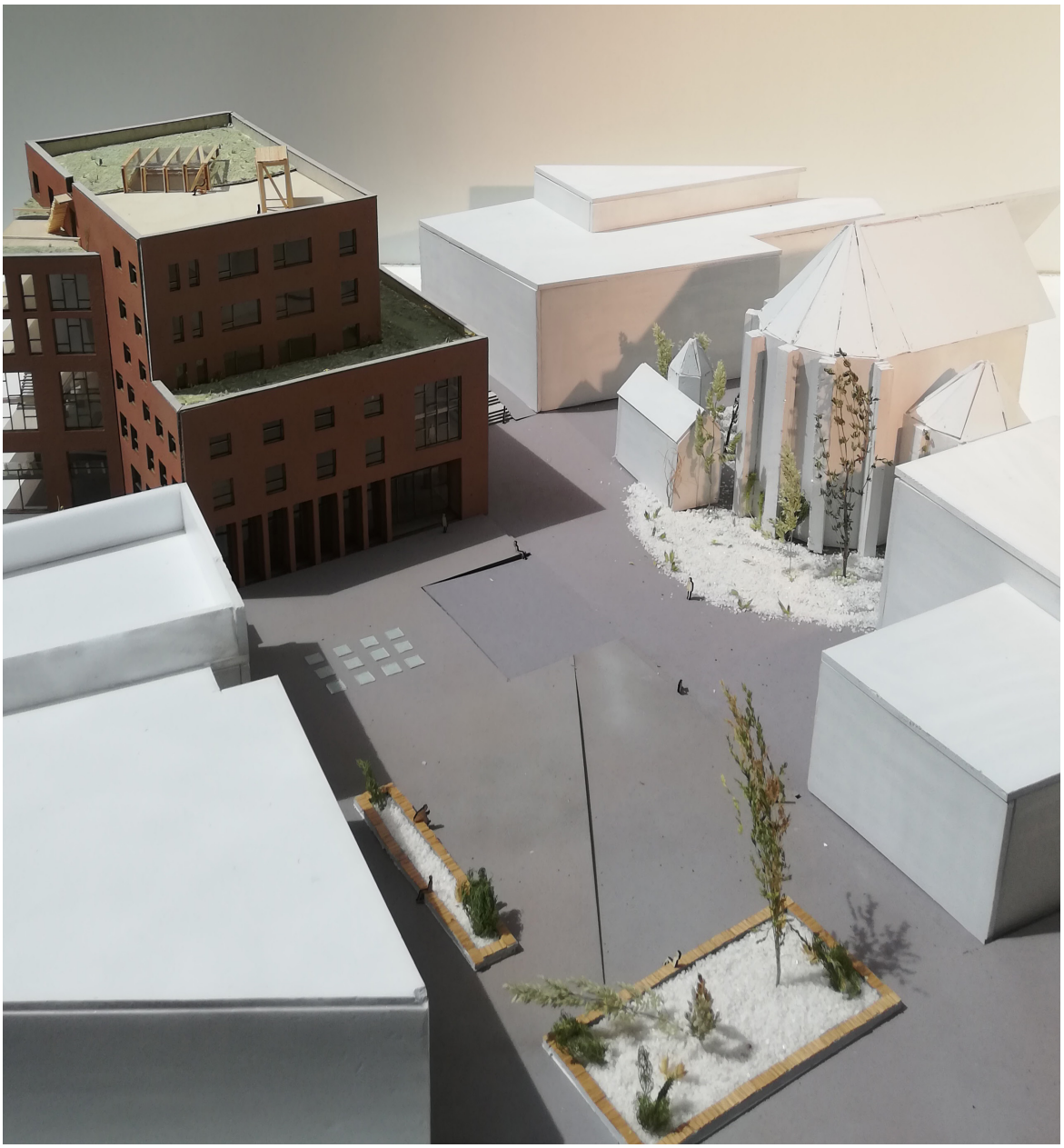
Screens and frames

Screens and frames,
That is how we see the world today.
Screens and frames,
That is how you see me today.

A barrier for creativity and connectivity,
Once so simple becomes a task.
The camera is becoming our eyes,
Reality is becoming virtual

To create possibilities we have to go beyond the frame.

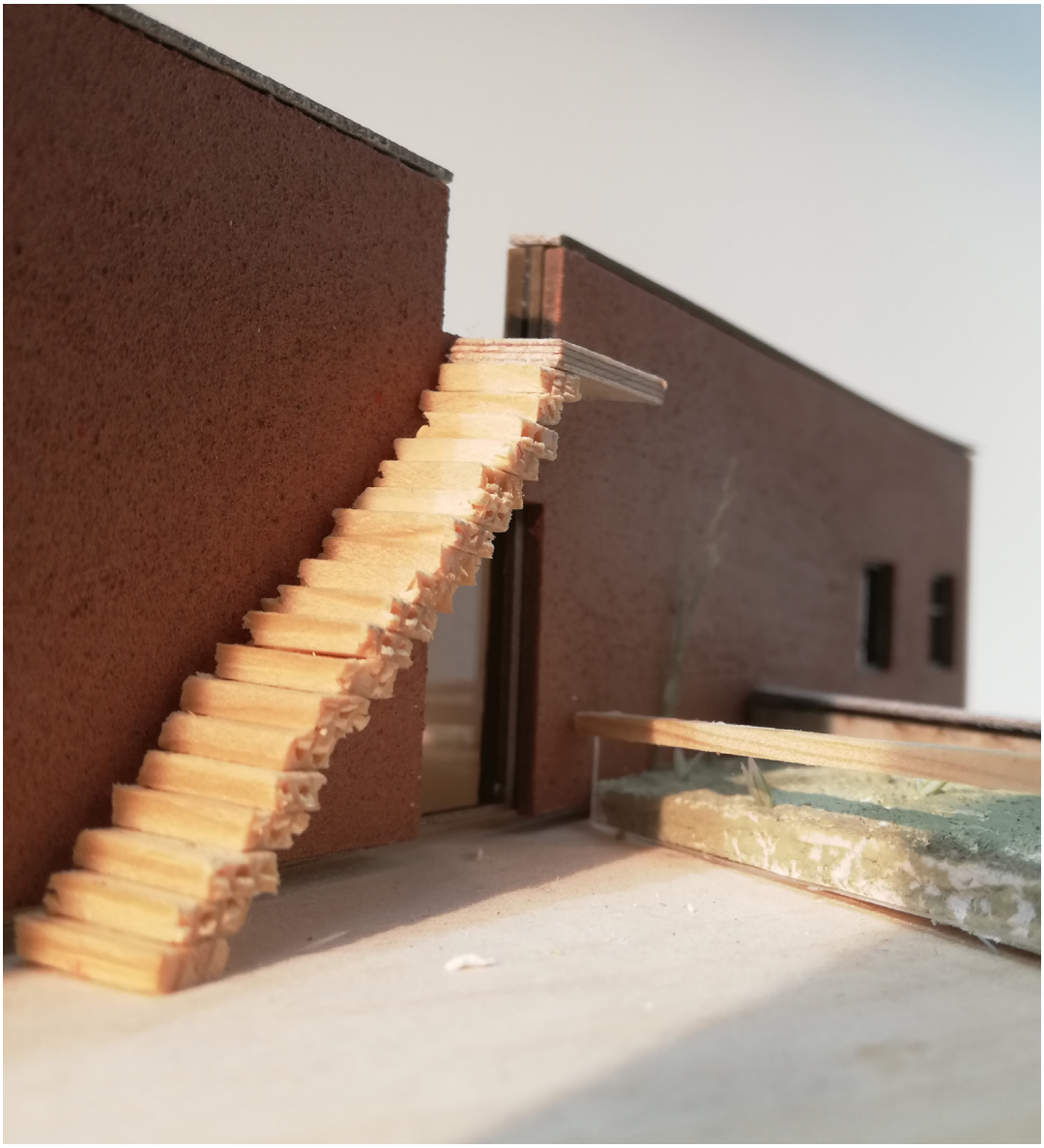
-By F. Ruijs

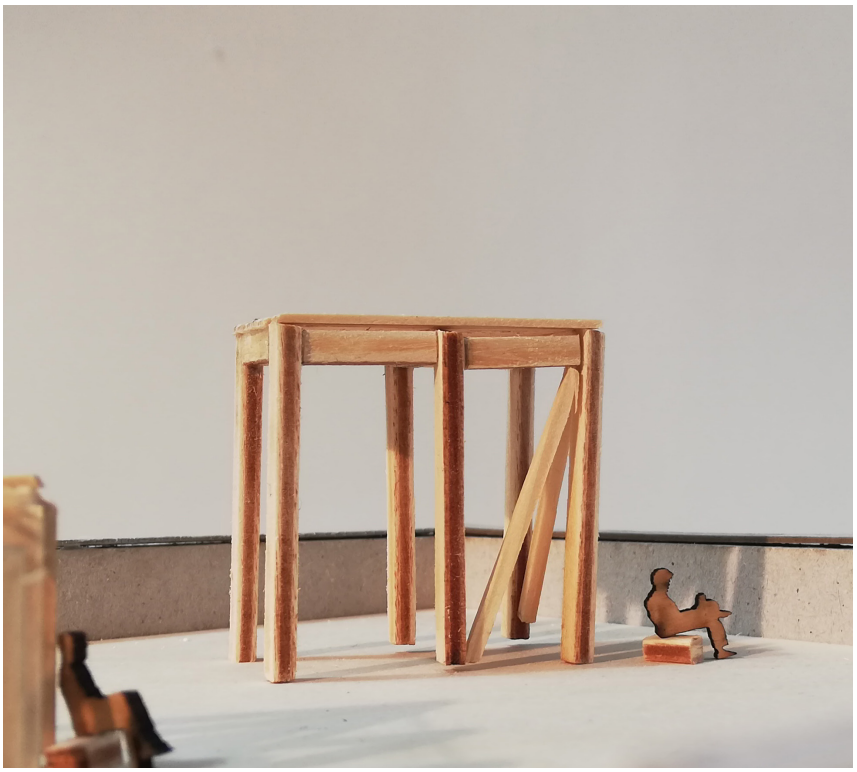


View from garden to the spring

Inner garden

The silence nook or a place in the sun. The smell of coffee and a good book. Buzzing bees or chatter. Choices you can make. Doors, Stairs every time a different path. Different people. From high to low, creating a flow. Becomming part of something big, but feeling like it is small. Transistion to personalize. Your spot. Your window. Your door. A sense of belonging. Only a base the rest of the character is up to you. Like water, always finding your way.





“The lake or pool or stagnant water stops us near its bank. It says to our will: you shall go no further you should go back to looking at distant thigs, at the beyond. While you were wandering, something here was already looking on. The lake is a large tranquil eye. The lake takes all of light and makes a world out of it. Through it, the world is already contemplated, already represented.”

~Gaston Bachelard “Waters and Dreams” p.37

13. Reflection

For this last year I wanted to push myself to learn more and develop my research and design skills as much as possible. I saw this year as a chance to design without holding back. So far I have succeeded in doing that and intend to continue until the end of this journey.

The topic of the studio 'bricolage' has helped me to find my own path and fits me more than I would have thought at the beginning of this studio. It gave me a different look on sustainability and the way we design. I learned that sustainability can lay right in front of us. It is about using what was already there and make it into something new. It is about rethinking materials, and seeing the different opportunities they hold.

To design a building as a bricoleur, one should work with your hands and with what is at hand. Each project is unique and needs to be treated as such, in our case we worked on the Molenpoort mall in Nijmegen. I did use a big part of the Molenpoort structure, but due to the low ceilings it was a difficult task to create spacious rooms out of it. We concluded after researching the site that density is needed and fitting. That is why I added more floors to the existing layer. Because of all the new, the old is more hidden. I see the old and the new as layers. By combining them they will both get more meaning. From the outside you are not able to notice the reuse of the structure. Once inside that hidden part is revealed.

I structured the semesters within five phases; the feet, the head, the hands, the hart and the body. The feet are the metaphor for the field research. Looking back, I see that those weeks of research are an important key in how my project has developed. My scope of research was the theme of 'topos and typology'. Even though the groupwork was not always working smoothly we managed to collect a wide array of research. The research went through all the scales and gave a very rich base to continue with. Our movie of Nijmegen "Climbing Nijmegen" was really a success and is still a source of inspiration.

In the second part of this year I developed 'the head' of my project. In this period there was an connection between the research with a new group and my personal research. With four students we made an urban proposal, by sitting around the table and sketching for hours. We did mass studies and researched and analysed public spaces. Eventually we designed an urban area that worked for everybody. Next to this we did a personal research. The river already had my attention and I started this research by reading the book of Gaston Bachelard "Waters and dreams". I reconnected my personal interest to the urban plan and made it into one fitting story about flow and intimacy.

In the third period, the hand, the idea was to go into the architecture and all its practices. To make models, feel materials and create a sense of the project. I built some models, but because of the lack of opportunity in my house to make big models I mainly worked by using my computer. A downside of this technique is that you are held back because the difficulty of modelling it in the computer. With sketching over the digital model I solved this problem.

A benefit of having the computer model ready in an early stage, was that I could walk around my project quite soon. Even before P2 I already used it to get a good sense of the building and the urban plan. After P2 it helped me to grasp the size of the project and to determine the challenges of the design.

In my research proposal I write about wanting to visit co-living projects as part of my research. Unfortunately I was unable to do this, due to difficulties with covid-19. I analysed multiple projects, however only on paper. Looking back I think visiting a project would have been a good addition to my research, but I also see that the freedom by not seeing other projects has given me unique plans.

The period of the hand and heart was all about researching by design. At first this was about the general outline of the building, then the floor plans and section of the project. Searching for the main concepts and narrative of the building. After the main forms and plans were set the challenge of the façade arose. I think designing the façade is the most difficult part of the design phase. It will become the face of the building with its own personality. I tried to reflect the main characteristics of the inside and underlying concepts to the façades. Diversity, depth and layeredness as first concept and collectiveness and openness as second. Eventually with the input of design-tutors, and my research about façades I came to a design and I am pleased with how the façade succeeded to reflect these characteristics of the building.

For the façades, but also for every step in my design the tutors helped me with the journey. At some points in the process I needed a little push, but more often I just wanted to talk about my developments and gain some more ideas or get feedback on the problems in the project. It is at some point hard to distance yourself from the project. The tutors helped me to see the flaws, darlings I had to kill and most of all gave me a lot of inspiration to continue.

For building technology the tutoring was more based on questions and finding the right answers. To make a detail you have to be almost done with your façades. Because I was changing my façades still a lot the details didn't really evolve like they should. Once the façade were more fixed, Jelke helped me understand the façades and how I can construct my vision of it. From this I learned a lot and that helped me to give the building the final touch.

Next to the tutoring once a week, I stayed in touch with the group of people who I designed the urban plan with. We tried to talk every week. To explain our process, talk about problems that occurred and gain some extra inspiration and idea's. This worked as an extra boost during the week and helped to work at home.

Within total a square meter of 7800m^2 the project is big and therefore not completely designed till the last detail. Most of my time went to the floor plans and the façades. The shared spaces, restaurant and co-working areas are considerable interior projects on their own. For p4 I made a draft for the interior to show that the spaces work, but I didn't have the time to design the furniture or the casework.

In these coming weeks I will finalise the project. It will be the last phase of the five, the body. I will take the feedback from p4 and make the last small changes to the project. It will be about making the project speak

and show how I imagine the project is going to be. It will be about making the story complete and concrete. I don't want to stop designing but really try to make the small adjustments if I think they are needed. I can imagine that the interior can still be develop further during the time in between p4 and p5.

The body will be a design task on itself. I will make the storyline visual which will be a (graphic) story in the form of a booklet. It will become a section of the project and its research. Complementary to this more 2D visualisation a physical model will be created. Showing the real section and explain the connection of the more poetic story towards the architecture.

During this process I learned many things, about new themes of architecture. I have also gained new insights about reuse, sustainability, material culture. Most of all I have seen myself grow. I am not always happy with the results of every project. I wasn't really confident about my work and easily influenced by the things my colleagues were doing. This year I really tried to stay faithful to myself. It was freeing and for the first time it really worked, therefore I am proud. I know that I still have the last period in front of me, but the project is really becoming something I hoped for it to become, and I can look back at with pride.

14. Literature

- Bachelard, G. (1943) *Waters and Dreams; An Essay on the Imagination of Matter.* Paris: Librairie Jose Corti.
- Bachelard, G. (1958) *The Poetics of Space.* Paris: Presses Universitaires de France.
- Camillo, S. (1965) City planning according to artistic principles. New York: Columbia university Studies in art history and archaeology.
- Chen C. ; MacLeod J. ; Neimanis A. (2013) *Thinking with water.* Montreal & Kingston, London, Ithaca: McGill-Queen's University Press 2013
- Louridasc, P. (October, 1999) *Design as Bricolage: Anthropology Meets Design Thinking*. Elsevier Science Ltd. Published in Design Studies Vol 20, No 6 , pp 517{535.
- Scalbert, I. (July, 2011) *The Architect as Bricoleur.* Source: Candide. Published by: Actar, Barcelona/New York on behalf of Candide. Journal for Architectural Knowledge No. 04, pp. 69-88.
- Strouet J. H. (1983) *Waters and Dreams; An Essay on the Imagination of Matter.* Dallas: he Pegasus Foundation.
- Willems, J. (1977) *Groot Rijn boek*. Bussum: Unieboek B.V.