

**LEFT-OVER SPACES  
ARCHITECTURE  
SPORTS & PLAY  
REVITALIZING  
INDUSTRIAL QUARTER  
MAASTRICHT**

**RESEARCH REPORT**

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## TABLE OF CONTENTS

<b>INTRODUCTION</b>	<b>4</b>
PROBLEM STATEMENT	5
<b>SPORTS &amp; PLAY IN THE CITY</b>	<b>6</b>
SPORTS & PLAY IN MAASTRICHT	6
1. PLAYGROUND FORT WILLEM	11
2. DE GRIEND	12
3. CRUYFF COURT WYCKERPOORT	13
4. PLAYGROUND MISERICORDEPLEIN	14
5. PLAYGROUND CITY PARK	15
PLAYGROUND	16
CONCLUSION	17
<b>OVERHEAD, UNDERNEATH &amp; IN-BETWEEN</b>	<b>20</b>
MAPPING & REMAPPING	22
<b>LEFT-OVER SPACES</b>	<b>24</b>
LEFT-OVER SPACES IN MAASTRICHT	24
CONCLUSION	40
<b>CASE STUDIES</b>	<b>41</b>
MELOPEE SCHOOL	41
BRIGHTON COLLEGE	42
(WIDE) PAVEMENTS	43
PARK 'N' PLAY	44
CLIMBING WALL STAIRS	45
<b>RESEARCH &amp; DESIGN</b>	<b>46</b>
URBAN DESIGN	46
ARCHITECTURAL DESIGN	58
DESIGN STRATEGY 1	62
DESIGN STRATEGY 2	64
DESIGN STRATEGY 3	72
<b>REFLECTION</b>	<b>89</b>
<b>BIBLIOGRAPHY</b>	<b>92</b>
<b>OTHER PRODUCTS</b>	<b>94</b>

## INTRODUCTION

The aim of this thesis is the necessity of spatially cleaning up the industrial area of Maastricht by reorganizing and using what is already there.

We hardly pay attention to the possibilities of what has already been built. Making use of these left-over, underused spaces is where I see my opportunity as a designer. To glean the so-called waste and turn it into something of value. The thesis aims to investigate how the 'left-over' spaces in Maastricht can be used to make sports and play part of the existing urban fabric. This will be done through the lenses of the studio theme; Glaneus & glaneuses, which translates to gleaners.

The literal definition of gleaning is "to gather grain or other produce left by reapers." and "to gather information or material bit by bit" (Merriam-Webster, 2021). An architect can thus be considered a gleaner, one that collects data, information and material from all kinds of sources and translates that into a design. An architect could even be considered some sort of waste picker of knowledge (Raisbeck, 2016).

The research topic is inspired by the fieldwork in P1 in which the terms 'Overhead, underneath and in-between' were analysed in Maastricht and especially in and around the industrial site.

## PROBLEM STATEMENT

Many cities have districts that confer on them a sense of place and identity through the historic and cultural associations they provide (Tiesdell et al., 1996). Just like the Sphinx quarter in Maastricht they are often an integral part of the city's charm and appeal and their functional qualities are important elements of the city's image and identity. The industrial area of Maastricht was once a lively environment, but feels nowadays more and more detached from the inner city, even though it is only a few minutes' walk.

The fieldwork in P1 has shown that there are many 'in-between' spaces that act as different borders and territories, making the area less accessible and unpleasant to visit. When asking people in Maastricht about it, they mention, among other things, that the area does not belong to the city centre and that they don't have a reason to visit the area in the first place. To tackle this problem, it is not only necessary to revive the industrial area, but also to look and act upon the in-between spaces that separate this area in the first place.

Kevin Lynch (1984) argues that a good city is one in which the continuity of a complex environment is maintained while allowing dynamic change. These in-between spaces are the result of the existing urban fabric and are left-over pieces that are waiting to be gleaned. Just like vacancy, it is a form of spatial waste, whereas vacancy means that a space is completely unused, this left-over space is about under-use, the inefficient use of spaces. Left-over space can be found on different scale levels, ranging from a room that remains underused to cities that can be more efficiently densified (Hens et al., 2020). According to Trancik (1986), these spaces have no positive contribution to the surrounding urban fabric and are in need of a redesign. To ensure that these spaces do make a positive contribution there must be both a spatial solution and a solution about the usage of this space. The use of these in-between spaces can be seen as an architectural solution to connect and revitalize urban districts, as a mediator between old and new in the urban fabric. Perhaps these in-between areas could be a destination in itself instead of a transition zone, a place of social architecture. These in-between spaces can be used to bring different activities and character together in a way that creates valuable connections and exchanges (Carmona, 2010, pp. 126).

"Architecture can't force people to connect, it can only plan the crossing points, remove barriers, and make the meeting places useful and attractive" Denise Scott Brown (Tamas, 2009).

This can be directly linked to the research of Zimring into the Influences of building design and site design on physical Activity (Zimring et al., 2005). Which states that there are many factors that contribute to why people move and exercise, but that the main reason is intention. Which can be subdivided firstly into recreational exercise, which is aimed at having fun, distraction and improving health and play. And secondly in the instrumental/functional movement, which is about routine activities like walking to the supermarket. Lastly, there is the combination of these two, which is also called hybrid movement, where the focus is on consciously choosing to move, such as walking instead of taking the car. Exercising can be encouraged by making the use of traffic routes more attractive (City of New York, 2010)(Toronto Public Health, 2014). Which is something that can clearly be improved in the industrial area of Maastricht. People unconsciously walk on the bike path, and crossing is hindered by the many fast-traveling cars.

Besides the unattractive traffic routes, Maastricht offers very few opportunities for exercise, play and sports in the city. Which is striking, because Maastricht is a relatively young city in terms of its inhabitants. About 40% of all residents are between 20 and 30 years old, while this target group only represents 25% in the national average (Centraal Bureau voor de Statistiek, 2022) A group that you would expect to have a need for sports and exercise. It is also striking that this age group does not continue to live in Maastricht, but move away when they get a bit older. Could this be due to the fact that when they graduate from their study, they do not feel the need to linger, because Maastricht does not offer the facilities that make it attractive to stay?

This thesis aims to question the existing urban fabric by both looking into the left-over spaces and the need and possibilities to integrate sport and play as part of the city life. This results in the following research question:

*"What role can left-over space play in bringing sport and play into the city center of Maastricht?"*

## SPORTS & PLAY IN THE CITY

“This sense of play is expressed in a number of the accepted definitions of the word “play”; i.e., exercise or action for amusement; freedom, room for motion or action.” (Dattner, 1974, pp. 8). Sport and exercise is important for all ages, especially for young children. Exercising and playing outside is seen as an essential part of growing up healthy (Felder & Karsten, 2016, pp. 80). Playing outside contributes to the development of knowledge, spatial insight, creativity, motor development and social-emotional growth (Karsten et al., 2001),(Daan et al., 2019).

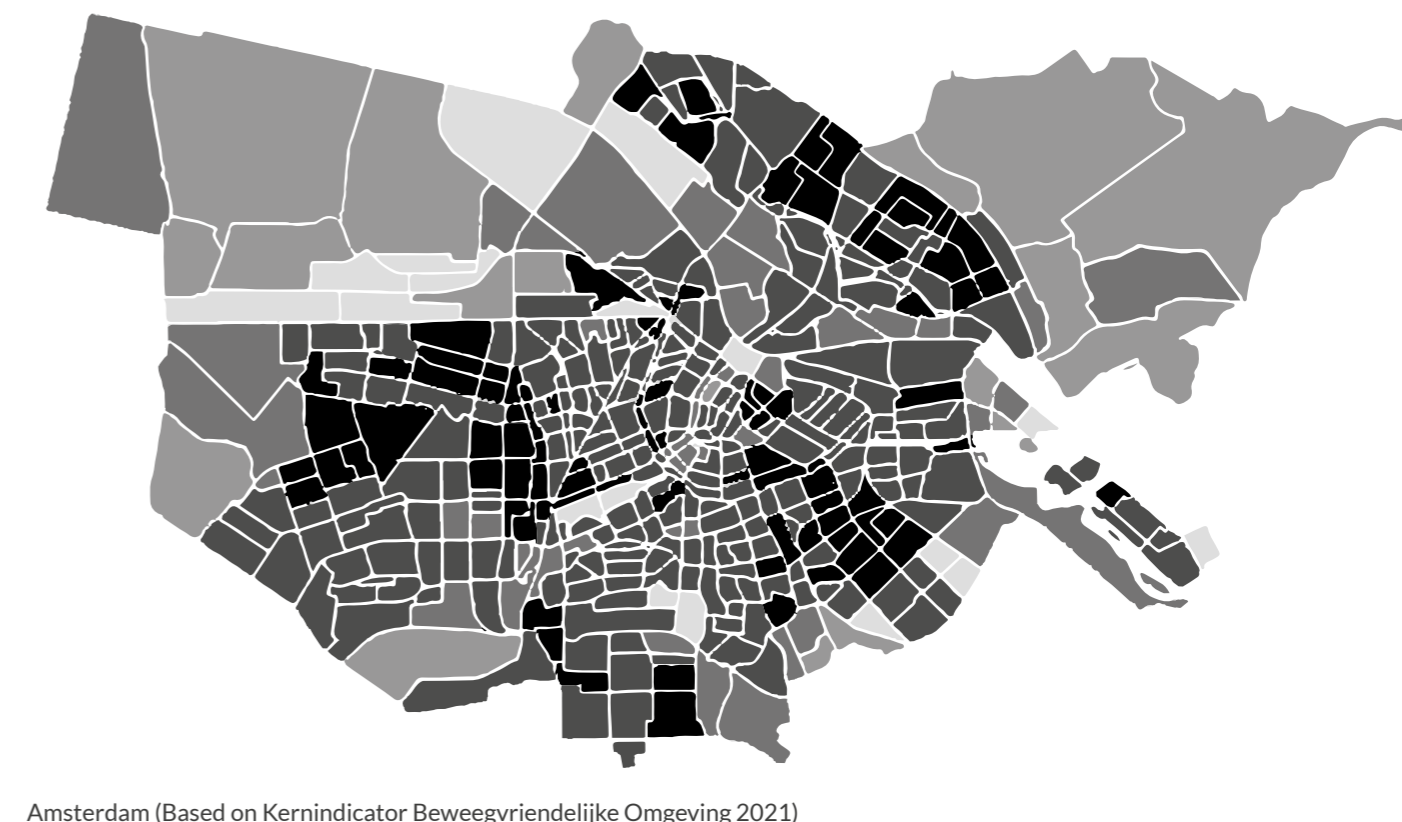
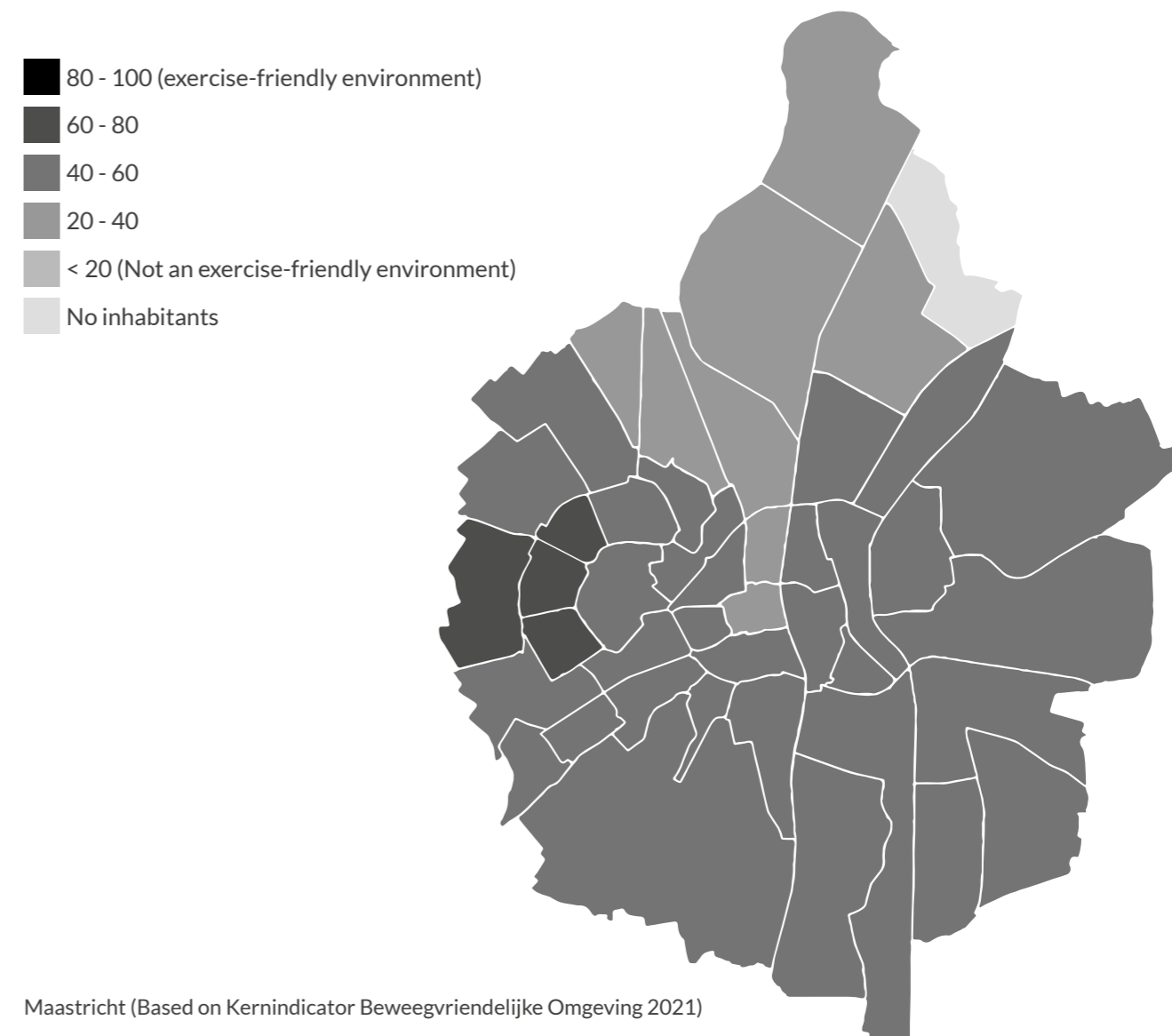
Research has shown that children from highly urban areas play two hours a week less outside than children that do not come from urban areas (Lucassen et al., 2020). Which is quite extraordinary, because after all, you would think that one could play anywhere. Research (Timmermans et al., 2013) has shown that children between the ages of six and twelve indicate that their favorite outdoor play activities consist of climbing, cycling, building huts, playing hide-and-seek and games they invent themselves. These are almost all activities that do not require specific play equipment, other than adequate space.

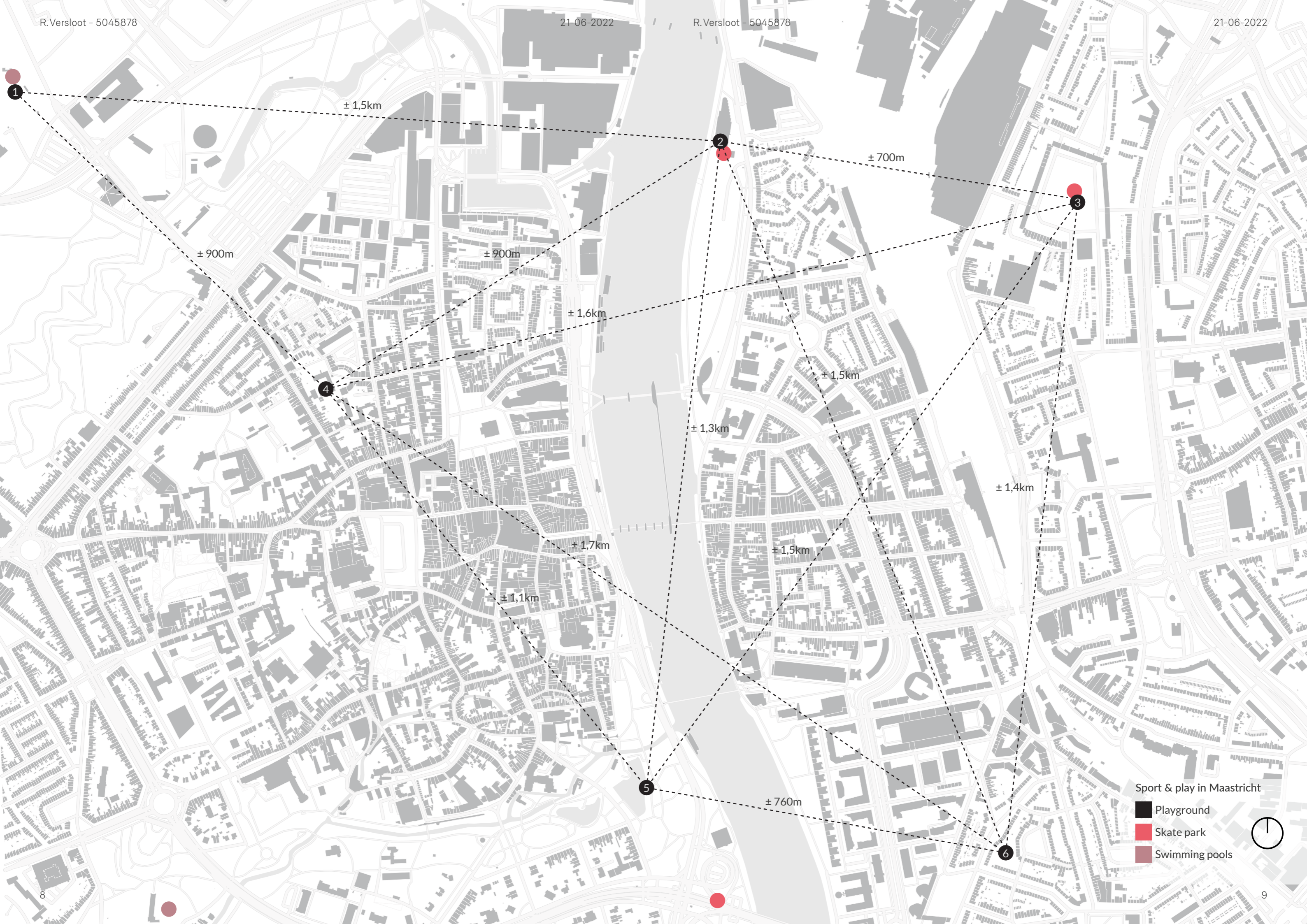
## SPORTS & PLAY IN MAASTRICHT

The Mullier Institute, which is an independent nationally operating foundation in the field of sports research and society, has conducted research into the exercise-friendly environments in the Netherlands (Dellas et al., 2018).

The results of this research have been made insightful by ‘Atlas Leef Omgeving’ by means of an exercise score on an interactive map. This exercise score indicates how much the living environment invites one to exercise. The more sports and play areas, facilities and recreational green and blue, the higher the neighborhood scores on a scale from 0 to 100. Side note is that urban municipalities generally score higher than other municipalities. This is mainly due to their higher score on proximity to facilities.

If we take a look at Maastricht, it is noticeable that the vast majority receive a score of 40-60. While the historic city center, and everything to the north of it, only scores between 20 and 40, which is very low. If we compare the exercise-friendly score with that of Amsterdam, it is clear that Amsterdam scores higher almost throughout the entire city. For example, most areas in the city center score between 60 and 80, and in the outer areas there are even scores of 80 to 100. While Maastricht only has a small area which scores a maximum of between 60 and 80.





Sport & play in Maastricht

- Playground
- Skate park
- Swimming pools



When we map out the sports and play facilities in Maastricht, it quickly becomes clear why Maastricht scores so low. The playgrounds are sparse and are far apart from each other. On top of that, the sports opportunities are not even visible on this scale because are even further away from the city center.

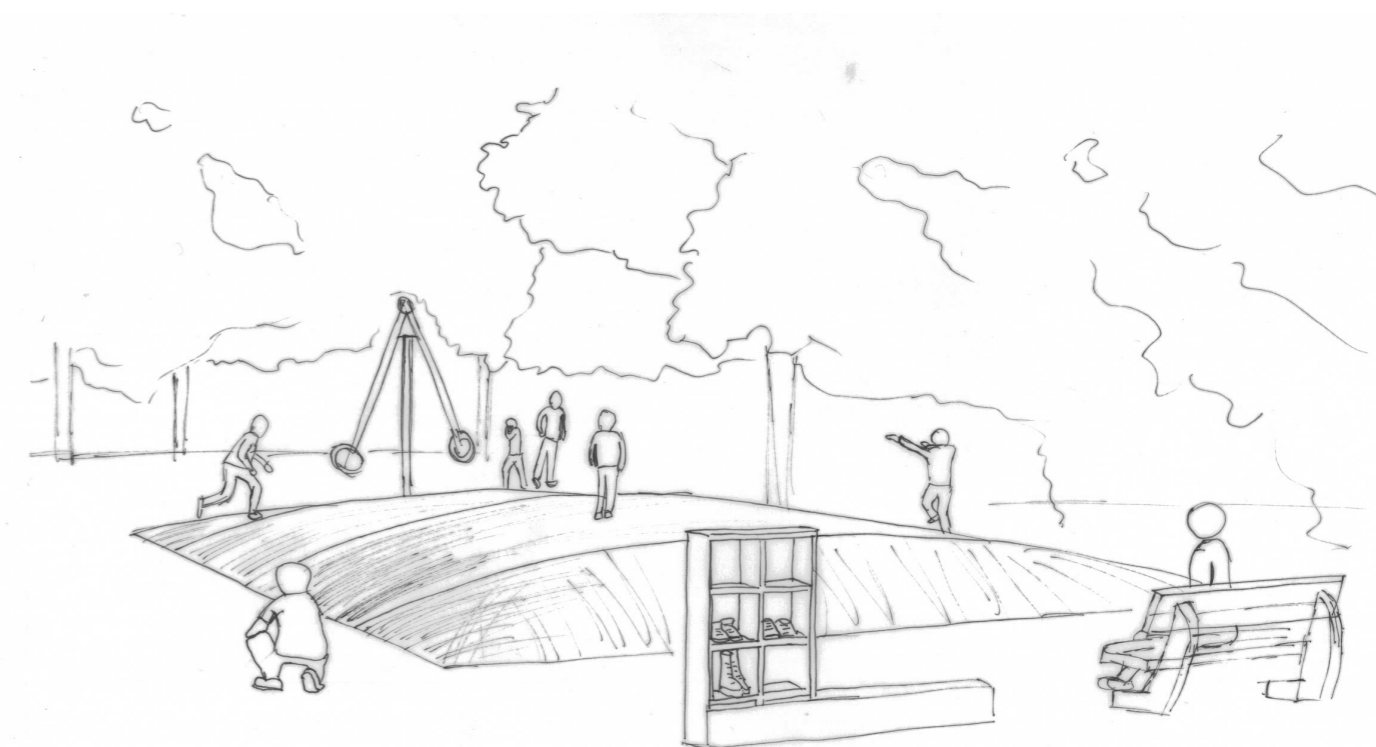
Sports and play does not have to take place in the designated places, after all, it should be possible everywhere. However, in order to stimulate this, a number of things must be done. In addition to addressing accessibility, there are many other factors that come into play. 'The new generation of city children' (2016b) by Karsten & Felder offers a series of options to make room for growing up in the city. They propose, among other things, to densify the city instead of expanding it, so that more residents will take to the streets, and therefore more eyes. This offers social security, but by increasing the density, the chance of having friends in the neighborhood is also greater. More users of the social space stimulates encounters (Felder & Karsten, 2016b)). Places such as school playgrounds and other neighborhood squares must be easily accessible and accessible outside school hours. In addition, supplementing with extra neighborhood functions such as clubs and greenery can stimulate interaction between children and adults.

In addition, it is important that playgrounds are designed based on three different goals, so that children can continue to move, discover and meet (Daan et al., 2019, pp. 25). This can be done by designing for the Motor skills (M), the cognitive skills (C) and from the social aspect (S). By thinking and designing from the play value of a place, the design choices are much broader than when thinking in terms of target groups or age categories. (Daan et al., 2019, pp. 235)

But what about these sports and playgrounds in Maastricht? What is there to do? Does something exciting happen, and are there others? On the following pages you will find a short description of the playgrounds in Maastricht with a hand sketch of the elements that stood out during the observations.

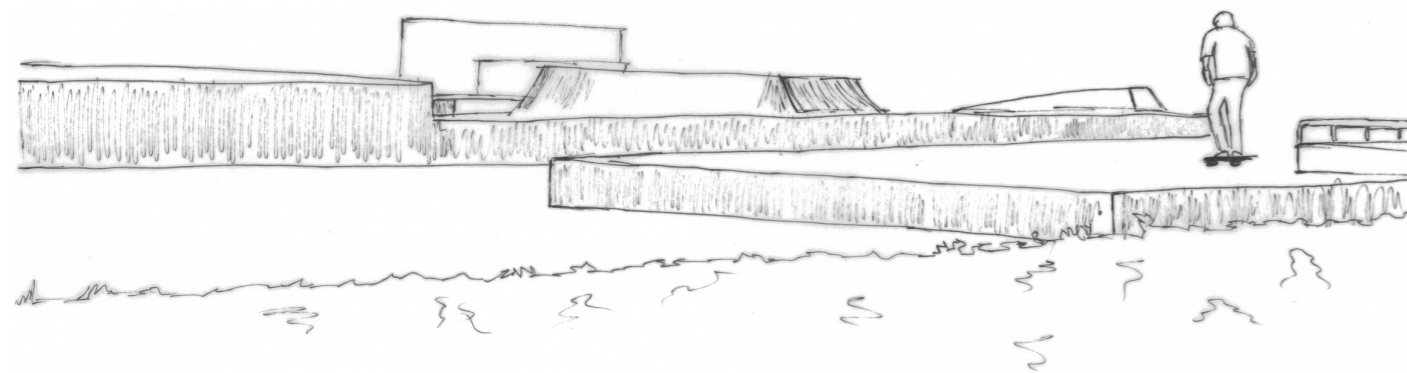
## 1. PLAYGROUND FORT WILLEM

Fort Willem has been around for seventy years and attracts more than thirty thousand visitors every year. It is therefore not the standard public playground in your neighborhood but a closed playground that is run by volunteers. There is a small fee to be paid to enter and it has certain opening times. The playground has many different play options. It is located in a wooded area so that children can climb and clamber. There is a swimming pool and a large lawn and there are various equipment that can be played on. Due to the great variety, children do not get bored easily and they can develop their motor, cognitive and social skills in all kinds of different ways.



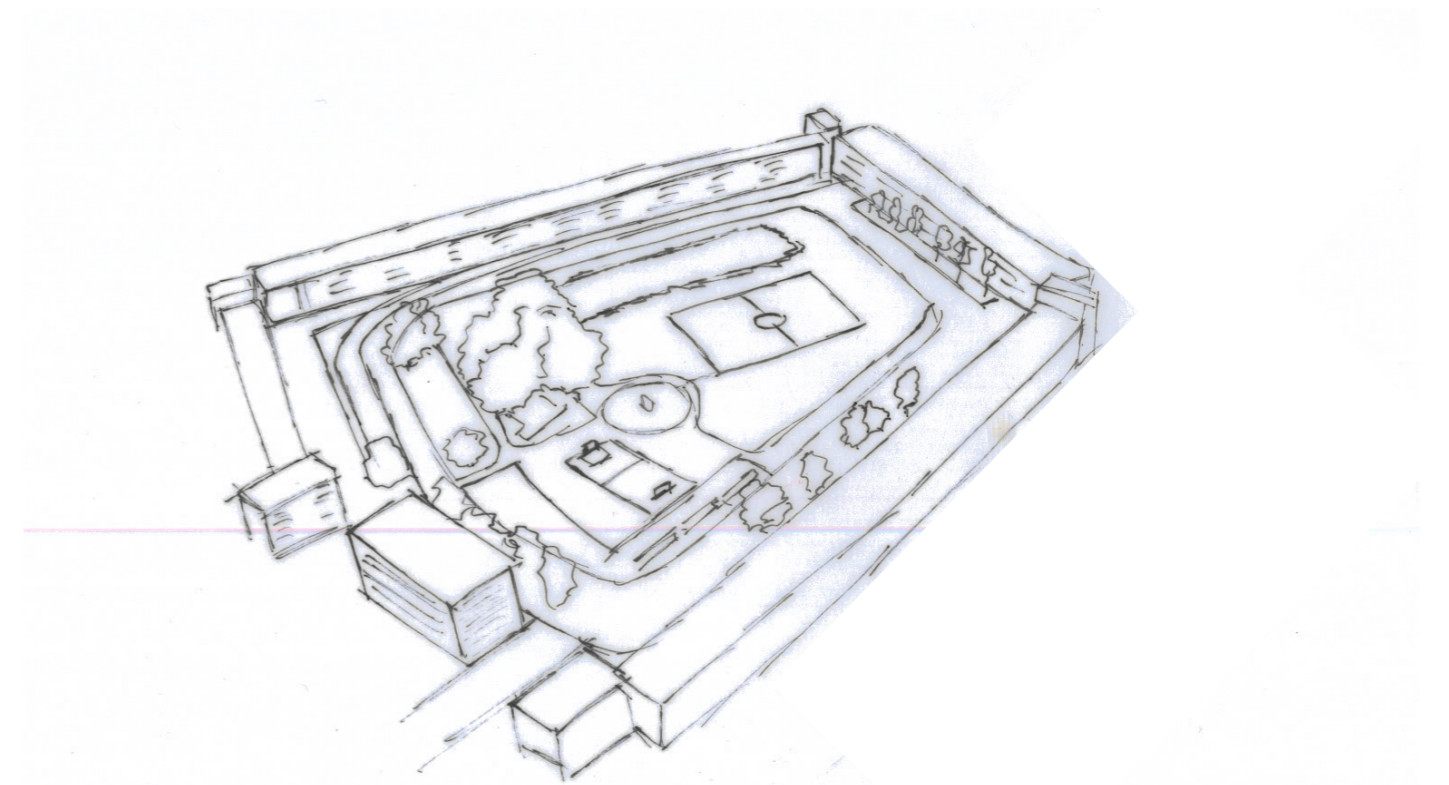
## 2. DE GRIEND

De Griend is a public playground next to the Maas on top of an underground parking garage. It has a large paved surface with obstacles that can be used for all kinds of play, but with the main purpose of being a skating rink. Next to the skate track is also a paved basketball court, but there are no other playground equipment. You can therefore control the diversity of movement options yourself by being creative with the different heights and surfaces.



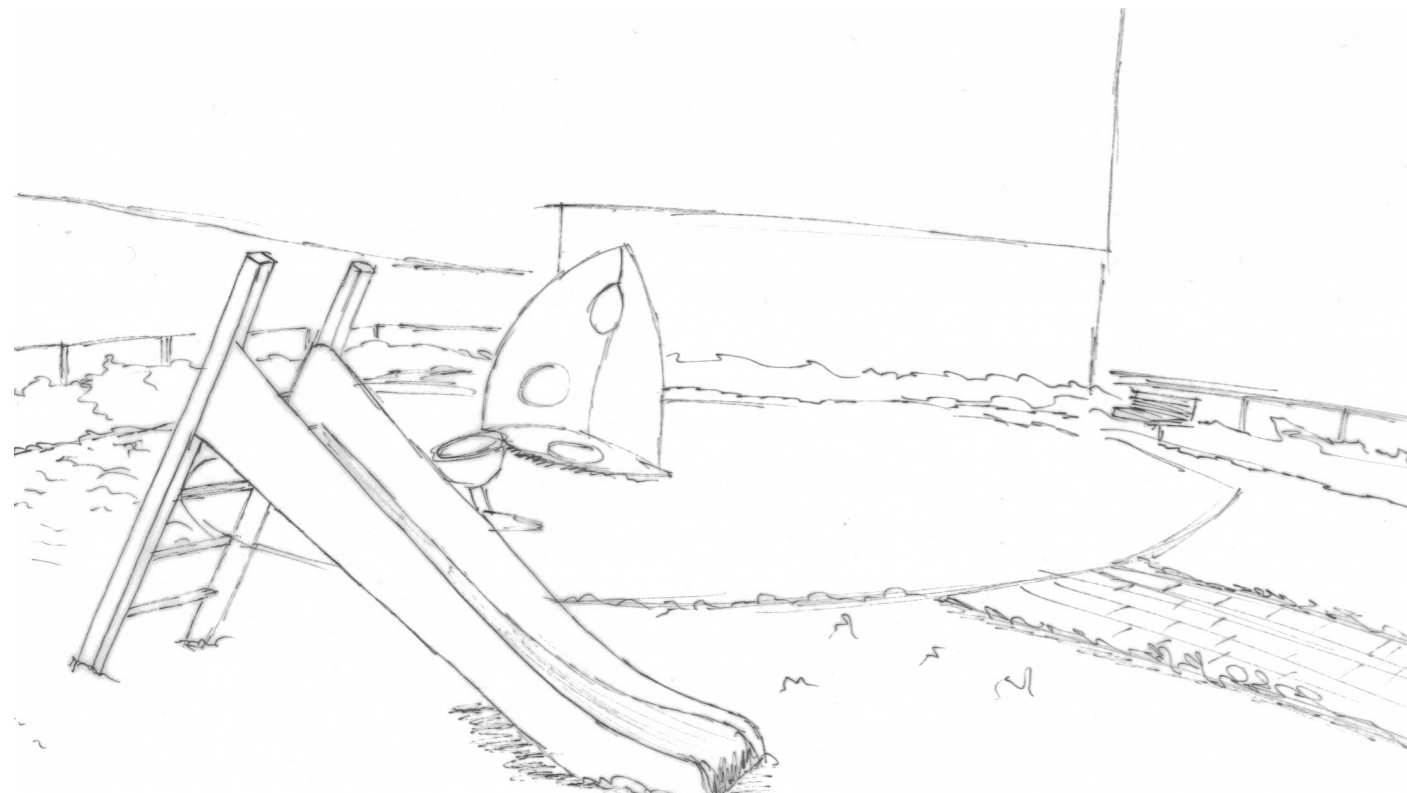
## 3. CRUYFF COURT WYCKERPOORT

Wyckerpoort is a spacious field enclosed by houses and a quiet road. To ensure the safety of the children playing, a low fence has been placed around the playing fields and the road. In addition, the many houses also offer a social control because the inhabitants can keep an eye out. The courtyard itself offers many play options such as the football pitch, basketball field, trees and playground equipment. Because the plan is spacious, many neighborhood activities are also organized in the context of sports and exercise. A place such as this has added value because various functions and facilities are combined with the play options, which means that this urban outdoor space has many double uses and is fit for all ages.



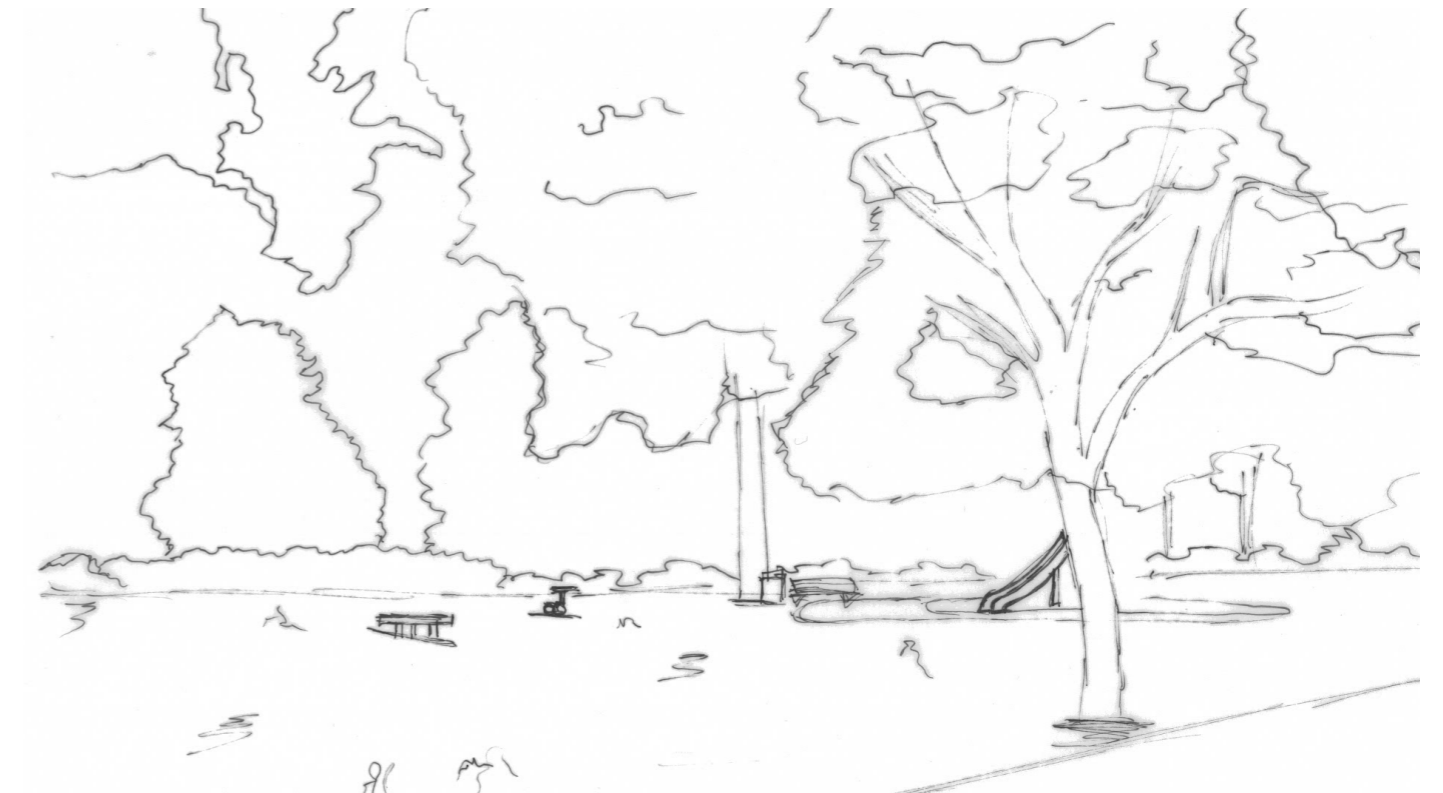
#### 4. PLAYGROUND MISERICORDEPLEIN

This small playground is the only one in the urban fabric of the inner city. Despite the fact that it is surrounded by buildings, there is virtually no social control from the neighborhood because of all the closed facades. The playground itself is mainly aimed at young children and has little to offer besides some small play equipment, and a number of benches that you can sit on as a parent.



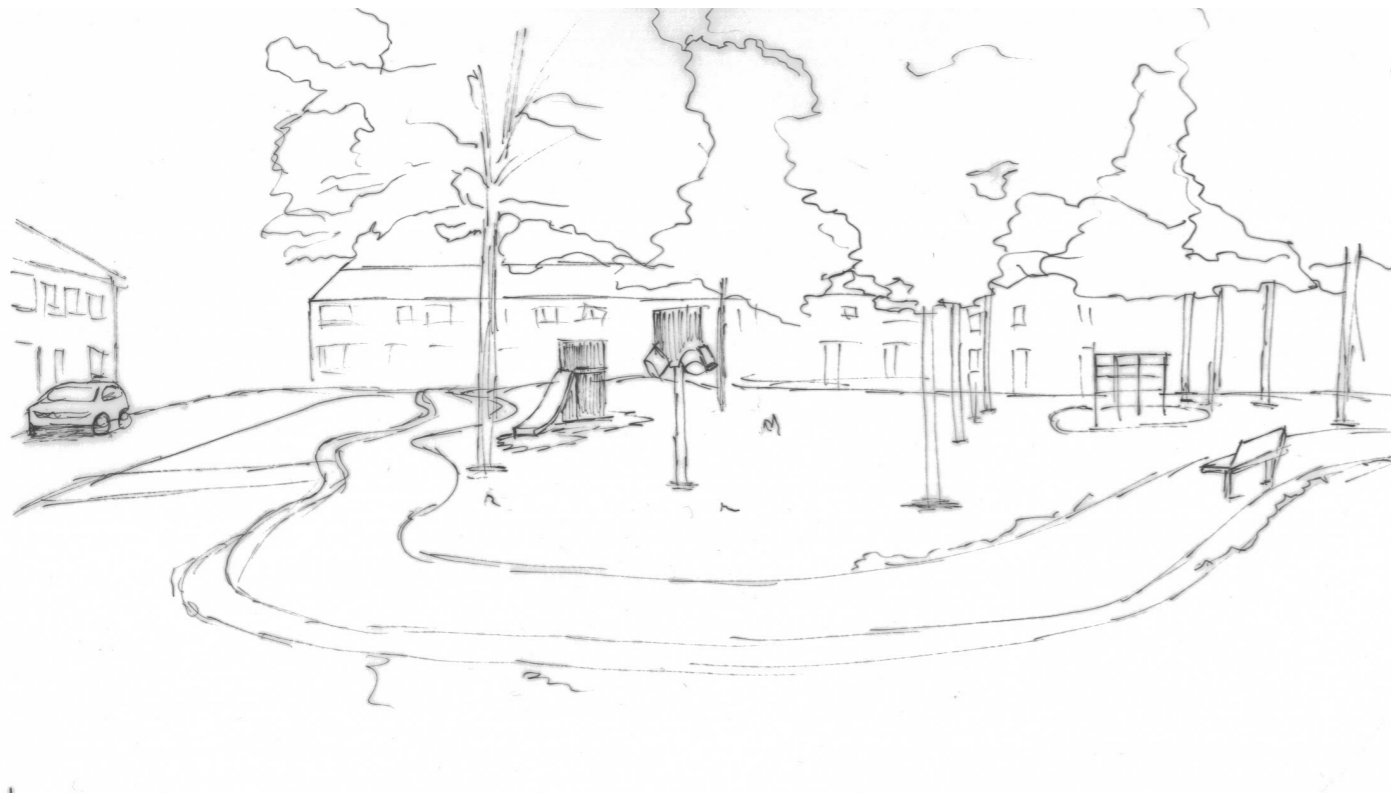
#### 5. PLAYGROUND CITY PARK

Playground 'City Park' is located just south of the city center and as the name suggests, it is located in a city park. Large open lawns and tree-lined walking paths make it suitable for running around and playing hide and seek. This location does not need much addition. In the middle of the lawn is a climbing frame with a slide, next to which are a few benches. Because there are few marked play elements, there is a free interpretation of the space, by both young and old.



## 6. PLAYGROUND

This playground has no specific name, and is therefore a playground that you often encounter in the Netherlands. It is located in the middle of a residential area and all facades are situated around the playground. As a result, there is a lot of social control and children can easily access the playground. The playground is subtly framed by a smooth paved path where children can play inside. Height differences in the landscape have been played with and there are various playground equipment. In addition, trees have been placed for shading in the summer, and several benches have been placed around where one can sit on. The playground does not offer an undefined empty space and is mainly aimed at young children and their parents.



## CONCLUSION

What is striking is that despite each place is different, it has many similarities with each other. Most have different play possibilities for children, or there's plenty of empty space around them. These empty spaces give the children the opportunity to give their own interpretation and to use their imagination. This is generally also reflected in the materialization. The defined play areas are often framed by a different type of material, whereby the empty space is often not specifically defined, consciously or not. For the elderly there are also pleasant places in the sun and in the shade, where they can socialize with each other or keep an eye out for the children. The nuisance from traffic has also been minimized by demarcating the playground. But to improve the quality of the stay, adding facilities would make the places more pleasant. Think of facilities such as toilets, changing rooms or picnic areas. Mixing functions can increase the attractiveness of play and residential areas (Daan et al., 2019, pp. 235). In short; the more goals, the more interesting a place would be. But a playground does not have to offer a complete package in itself, it can be interesting if the playgrounds complement each other. For this, however, the accessibility between the different places needs to be improved. They are currently very far apart from each other and there are all kinds of barriers that do not always make them easily accessible. The car plays a very big role in this. The car often has priority in traffic participation, then the bicycle and lastly the pedestrian. This makes it dangerous and raises the threshold for children and young people to go to play and sports facilities. The places must therefore be well connected to each other, so that children can move well and safely from one playground to another playground or football field. The routes to the play areas must be safe and free of obstacles. In this way the route stimulates playing, moving and meeting (de Vries, 2020).

The research that we conducted as a group during fits in very well with this topic of obstacles and barriers. The research was intended to better understand the context of our project location, Sappi in Maastricht. We have researched the 'Overhead, underneath and In-between'. Which can be interpreted in the broadest sense of the word and will be explained in the next chapter.



## OVERHEAD, UNDERNEATH & IN-BETWEEN

The collective groupwork carried out for P1 acts as an introduction, opening up different avenues of research into the multifaceted nature of the Inbetween; through the tangible and the intangible, the natural and the manmade, the chaos and the order, the ordinary and the extraordinary, and, the real and the perceived. Each of which could lead to diverse sets of architectural explorations and hence diverse definitions of the 'Inbetween'. Such as the guiding theme of this thesis; 'left-over space'.

Maastricht is an 'In between' city: A Dutch city straddled along the Maas between the German and the Belgian borders. As the Maas flows through the Netherlands, it begins shaping the borders with its Belgian neighbour. However, these borders reroute at Maastricht, letting the Maas flow in-between the city, defining its linear growth along the river banks. It is along these very banks that the old industrial site of the Sphinxstraatkwartier is situated. Once home to thriving industries fed through the waterways and land infrastructures, today, this site is positioned in-between the inner city and the urban hinterlands, with remnants of its industrial character seen throughout the site.

Studying this 'leftover' piece of the city reveals a layered nature where the past is entangled within the built environment, the infrastructure, and the topography. This layered nature provides the opportunity to investigate the present day site through the lenses of 'Overhead, Underneath, and In between' to understand the structure of the site and the city of Maastricht. Through this seemingly infrastructural theme, the study reveals the flows, rhythms, and the potentials of the site.

### OVERHEAD

Above one's head

### UNDERNEATH

Under or below an object or a surface

### INBETWEEN

Intermediate/  
between



### MAPPING & REMAPPING

The research into the 'Overhead / Underneath / In-between' within the Sphinxstraatkwartier begins with understanding the contextual layers that define these terminologies. Through the process of mapping these tangible and intangible layers are abstracted. Beginning with the faded traces of historic layers, maps of the existing and the perceived are studied in isolation and later overlaid to remap the context. The overlay brings forth the various degrees of entanglements within the site and sets the trajectory of the research.

- History**
  - Water
  - Road
  - Railroad
- Future mobility**
  - Tram
  - Fast lane (vehicular)
- Mobility**
  - Pedestrian
  - Bicycles
  - Railroads
  - Vehicles
  - Fast lane (Vehicular)
  - Boats
  - Fast lane (Boats)
- Transitional pathways**
  - Upper level paths
  - Mid level paths
  - Lower level paths
- Streetnames**
- Topographical lines**
- Built borders**
  - Walls
  - Fences
  - Gates
  - Car stoppers
- Flora Fauna**
  - Greenery
  - Trees
  - Lizards(reptile territory)
- Built & Unbuilt**
  - Built
- Functions**
  - Factory
  - Center
  - Offices
  - Mixed use
  - Dwelling
  - Restaurants/hotels
  - Culture/Leisure
  - Retail
  - Social
- Subjective territories**
  - Factory
  - Industrial
  - Inner city
  - Residential
  - Festival/Leisure
- Jurisdictions**
  - Two-herd Bradant-Liege
  - County of the Vroenhof
  - Lordship of Tweebergen
  - Deanery of Our Lady
  - Deanery of Saint Servatius
  - Church



## LEFT-OVER SPACES

It can be stated that the project site consists of many entanglements of complex connections and disconnections which are both spatial and social and act as different borders and territories, making the area less accessible and unpleasant to visit. These entanglements lead to the inefficient use of spaces and so called 'leftover' or 'in-between' spaces.

There are many different terms to describe these types of inefficient areas, but despite all these different names, their definitions have much in common. Left-over space can be found on different scale levels, ranging from a room that remains underused to cities that can be more efficiently densified (Hens et al., 2020). It is usually the place where the overall continuity of the city is disrupted (Trancik, 1986. pp 2)

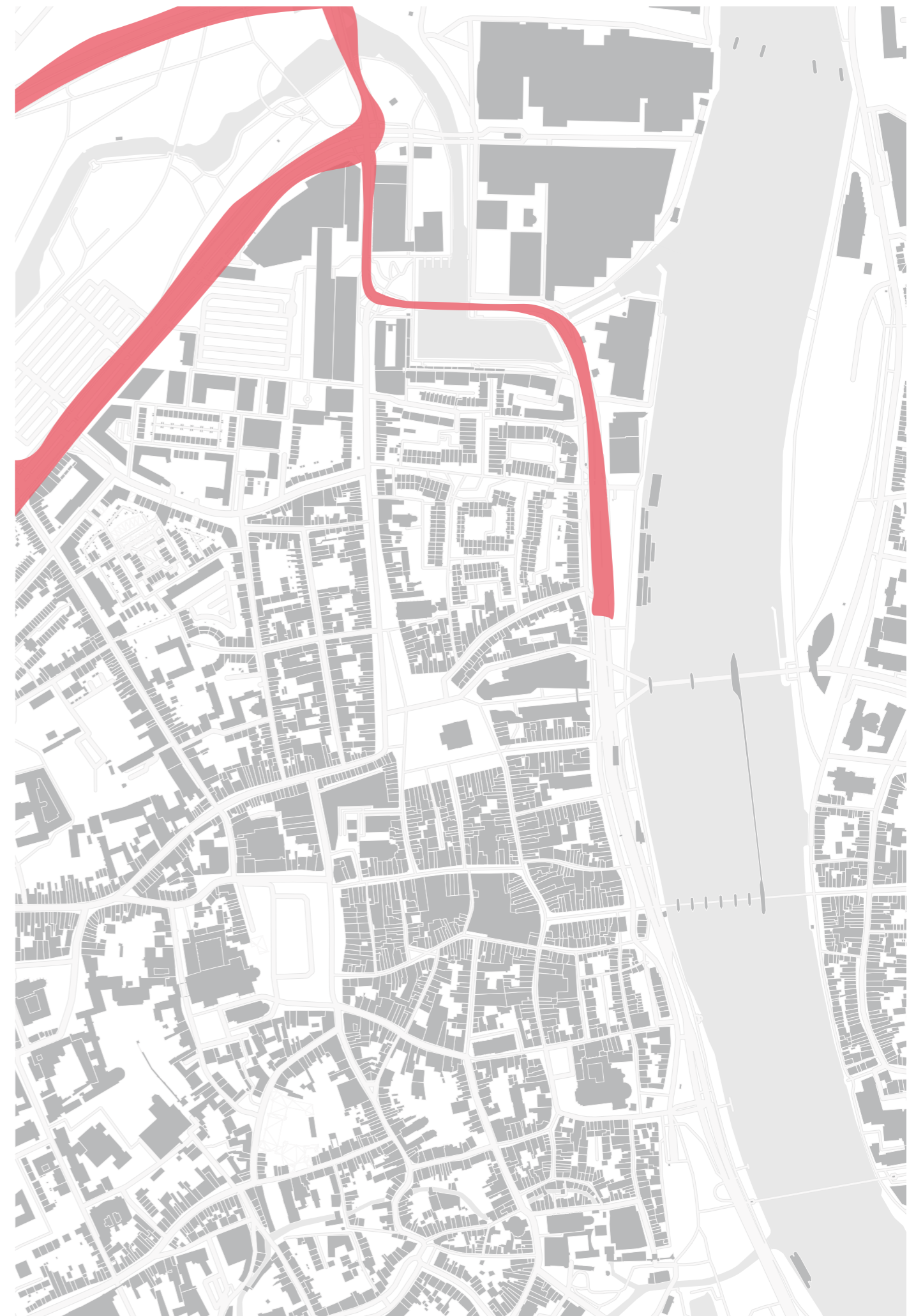
Left-over spaces exist beyond the boundaries of organised social space. Left-over spaces are the underused areas underneath bridges, along highways, waterfronts and railroads. They exist where pedestrian paths are disjointed or an disorientating experience.

## LEFT-OVER SPACES IN MAASTRICHT

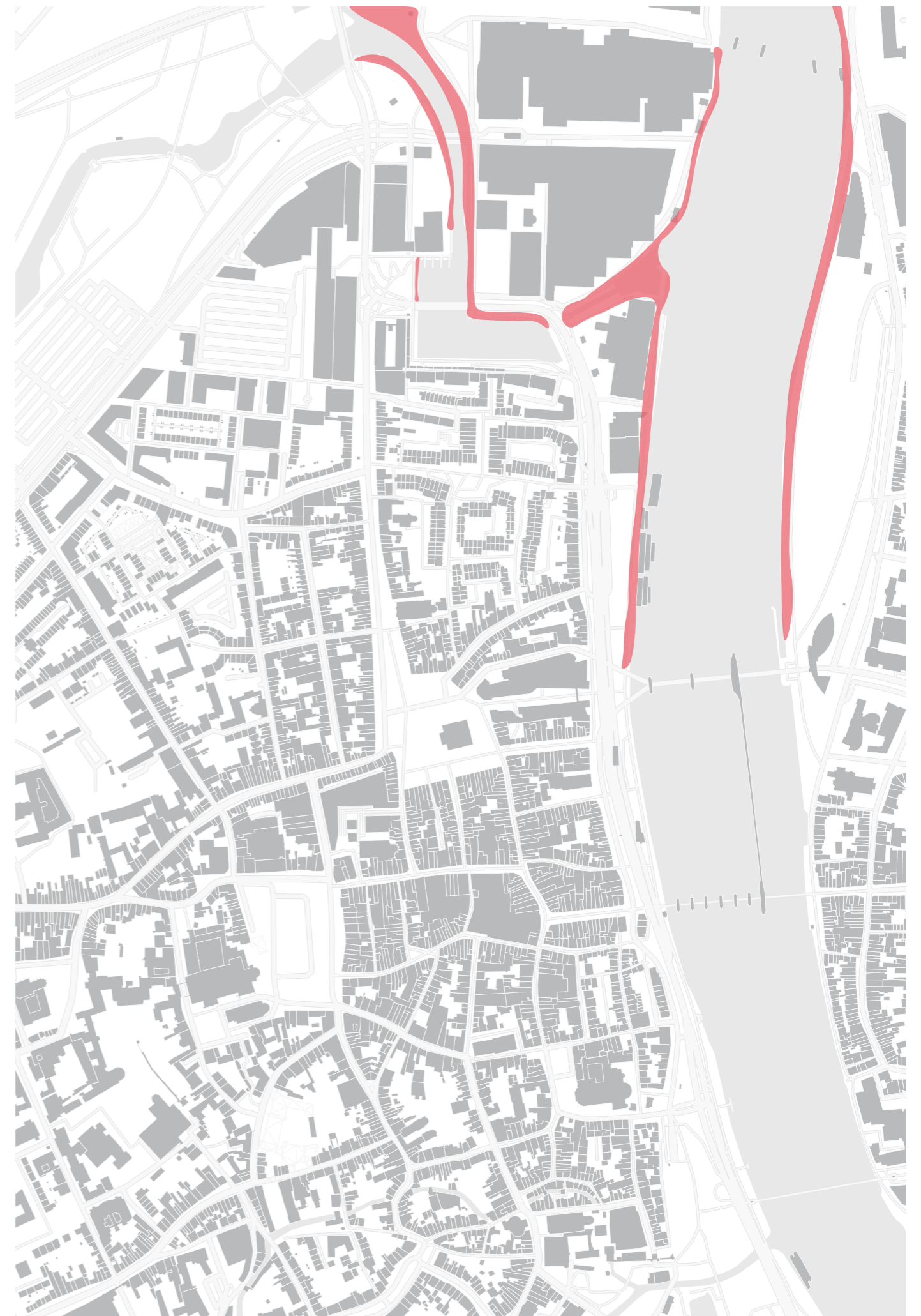
The following pages provide an overview of the left-over spaces in Maastricht, with the focus on the industrial site of the Sphinxkwartier and thus does not provide an complete overview of the left-over spaces in Maastricht.

**WANDER SPACE /  
ANTI-SPACE /  
LEFT-OVER SPACE /  
LOST SPACE /  
IN-BETWEEN SPACE**

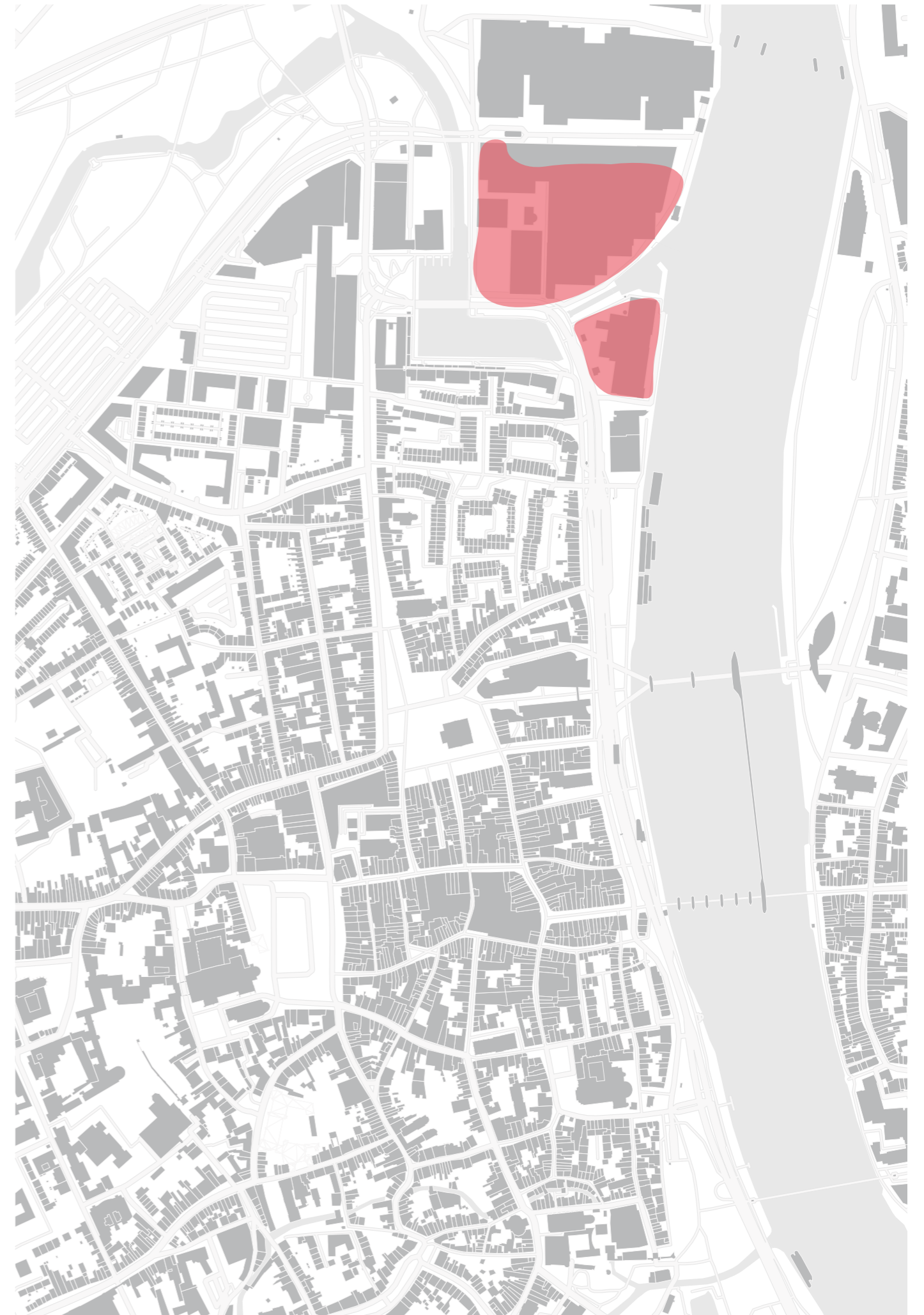
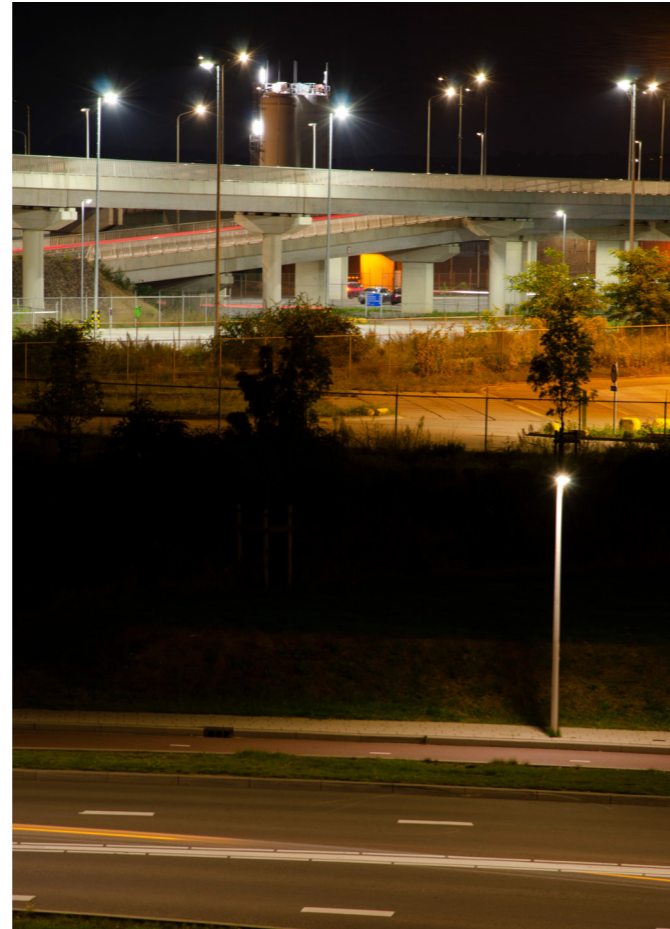
ALONG HIGHWAYS



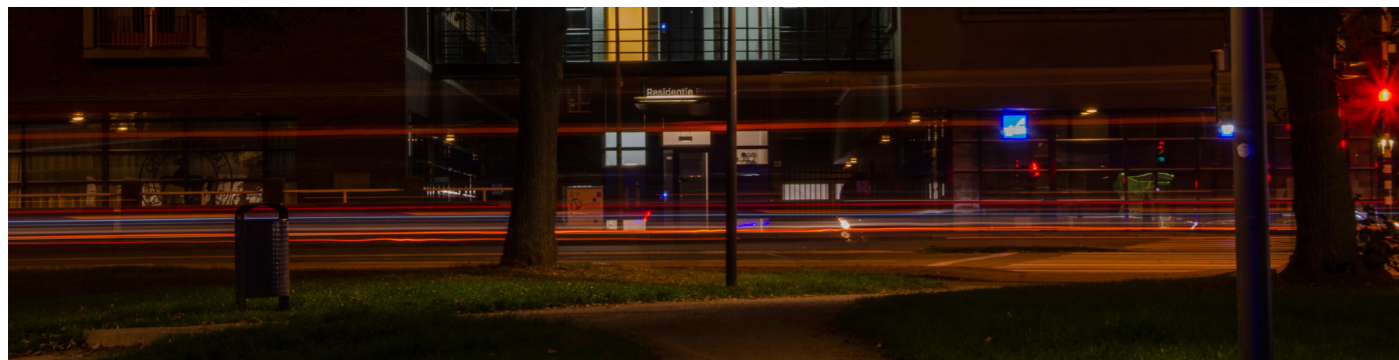
WATERFRONTS



CHANGES IN LAND USE



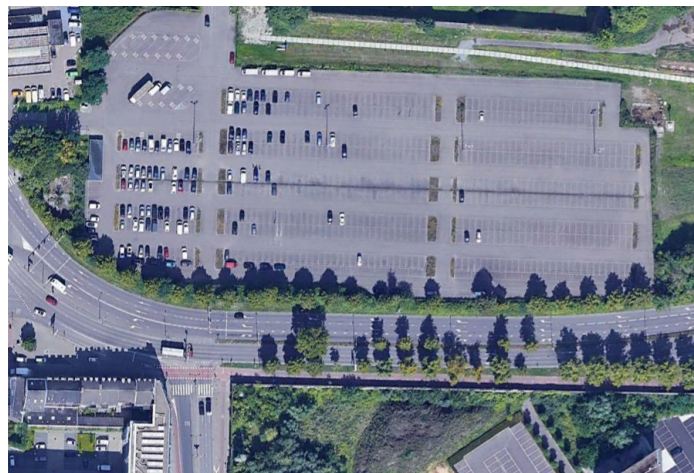
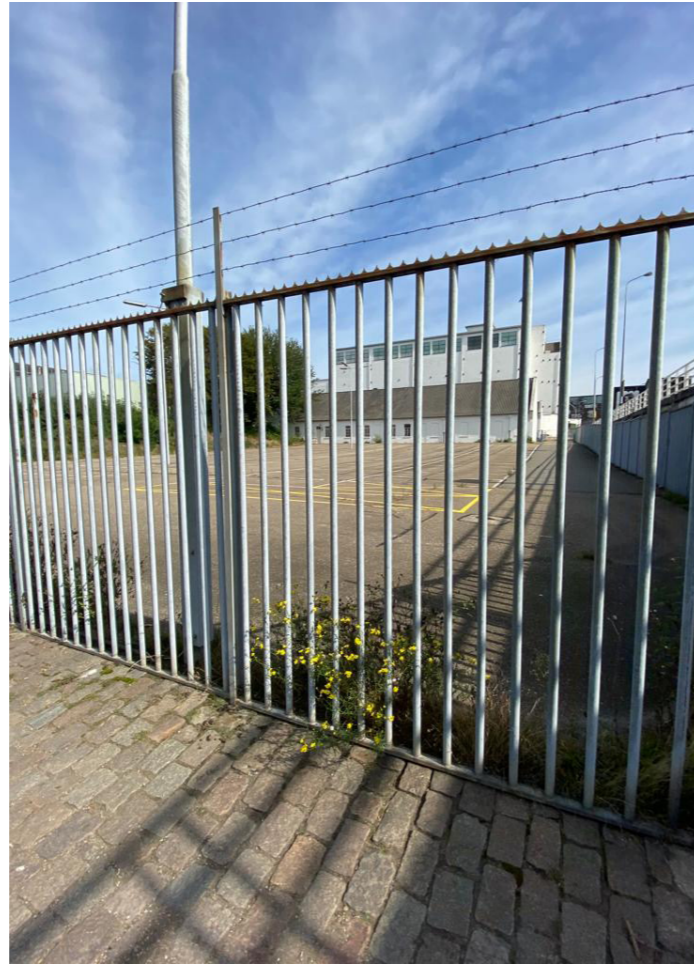
DISCONNECTED PEDESTRIAN FLOWS

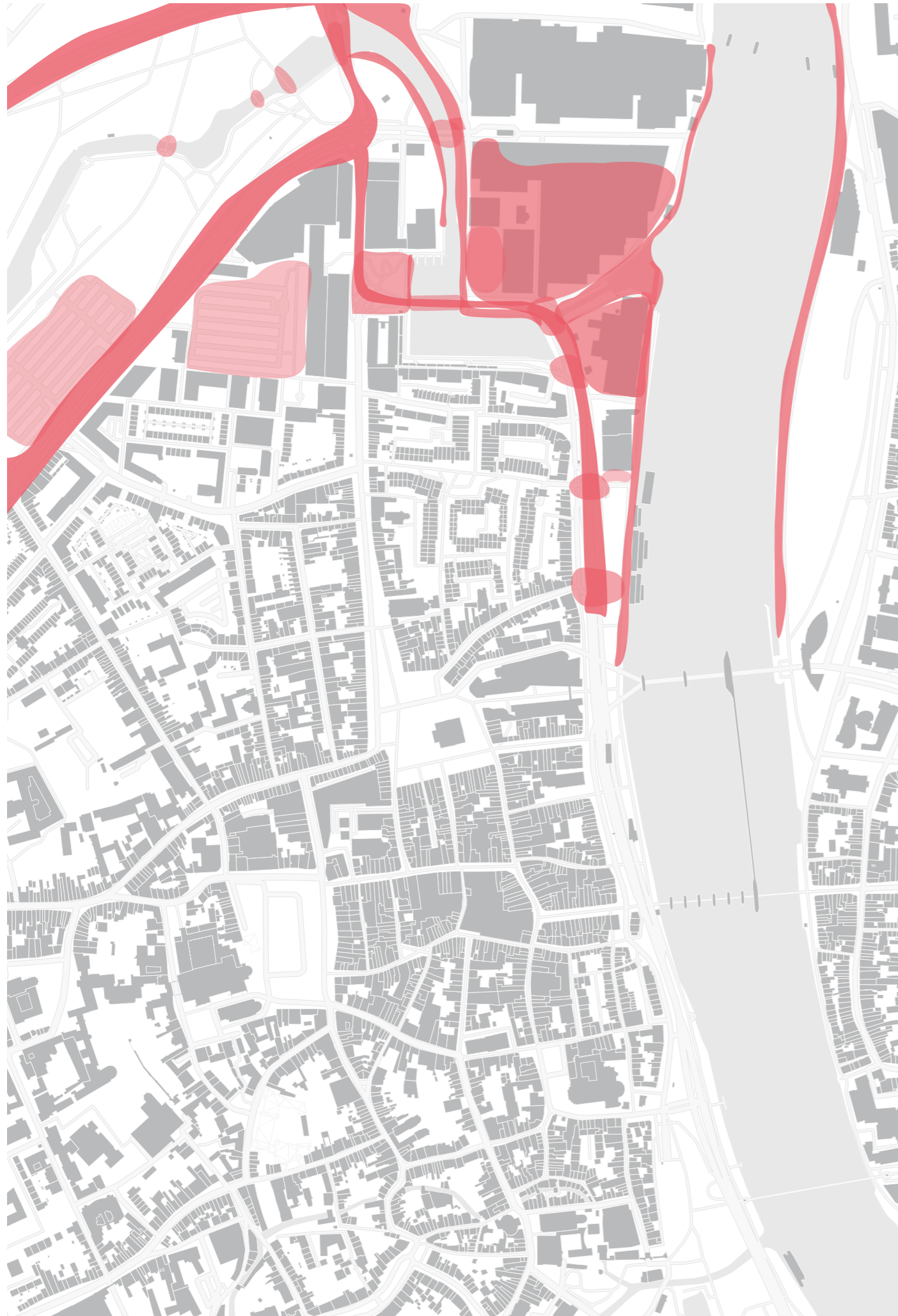


UNDERNEATH BRIDGES



PARKING SPOTS





**“WE’VE BUILT TOO MUCH, TOO BIG, UNNECESSARY, AND/OR IN THE WRONG PLACES, CREATING UNUSED SPACE.”**

(Hens et al., 2020, pp. 41)

## CONCLUSION

Left over spaces are the undesirable urban areas in terms of social flows and activities. They are the leftover unstructured landscape, away from the flow of pedestrian activity in the city. They are difficult to define and have hard-to-measure boundaries. When we superimpose the found left-over space in Maastricht, it is noticeable that there is a lot of overlap in their location. The left-over places mainly occur in the transition area of the historic city center and the industrial area. You might even say that these left-over spaces create the transition area.

The left over spaces are places that are part of a city but don't feel like a part of the city. There is generally little social control and even less social interaction. But this does not mean that they are entirely undesirable areas in themselves. The left-over spaces can also be a place to escape from the daily hustle and bustle. For example, observations have shown that the quiet waterfronts and empty spaces under bridges are ideal fishing locations, right in the middle of the city. The dead-end roads are also ideal for children to play because there is no fast driving traffic here. It is therefore important that left-over spaces are not seen as something generic that needs to be 'solved'. A tailor-made solution must be devised in order to utilize the qualities of what is already there.

Making use of these existing places could save money. For example, every place already has certain characteristics and properties, by looking at what is at hand and using this, money can be saved instead of going for a generic solution. In addition, a tailor-made solution opts for quality over quantity, and in doing so we aerate the already so dense city a little bit more. And finally we rediscover perhaps forgotten beauties. Activating left-over space starts with rediscovering what you have." (Hens et al., 2020, Pp. 67)

In the following phase, several case studies were conducted where sports and play were used in daily life and in places that could be seen as residual space.

## CASE STUDIES

This chapter summarizes several case studies where sports and games are interwoven in daily life. They are examples that can be used for inspiration for a potential use of left-over spaces. The examples vary from sport and play possibilities in urban space, but also as part of a building design. The focus is mainly on the three goals of motor skills, cognitive and social.

### MELOPEE SCHOOL

The Melopee school, a design by XDGA, is a combination of a primary school, an after school care centre, a nursery and sports facilities for both the school and its neighbourhood. The building can be divided into two halves, a closed volume containing all functions, and an outdoor area where the schoolyard is stacked on top of each other. The schoolyard and play areas are designed in a unique way. It runs like a staircase within the frame and on the way you pass various play and sports options. The schoolyard can be closed off so that no unauthorized persons can enter. But the outdoor sports fields are also open to the public outside school hours. In addition, the main entrance of the school is on the 1st floor and can be reached via a spacious staircase. The staircase is designed as a playful element, children can slide off it or the staircase itself can be used as a play element. It offers humor in a place that is normally mainly used functionally, there is a reason to play in the daily routine. In terms of materialization, the school is kept industrial and fairly neutral in terms of color use. While the play and sports elements are colorfully designed and in contrast with its environment, so that they attract your attention.

#### MOTOR

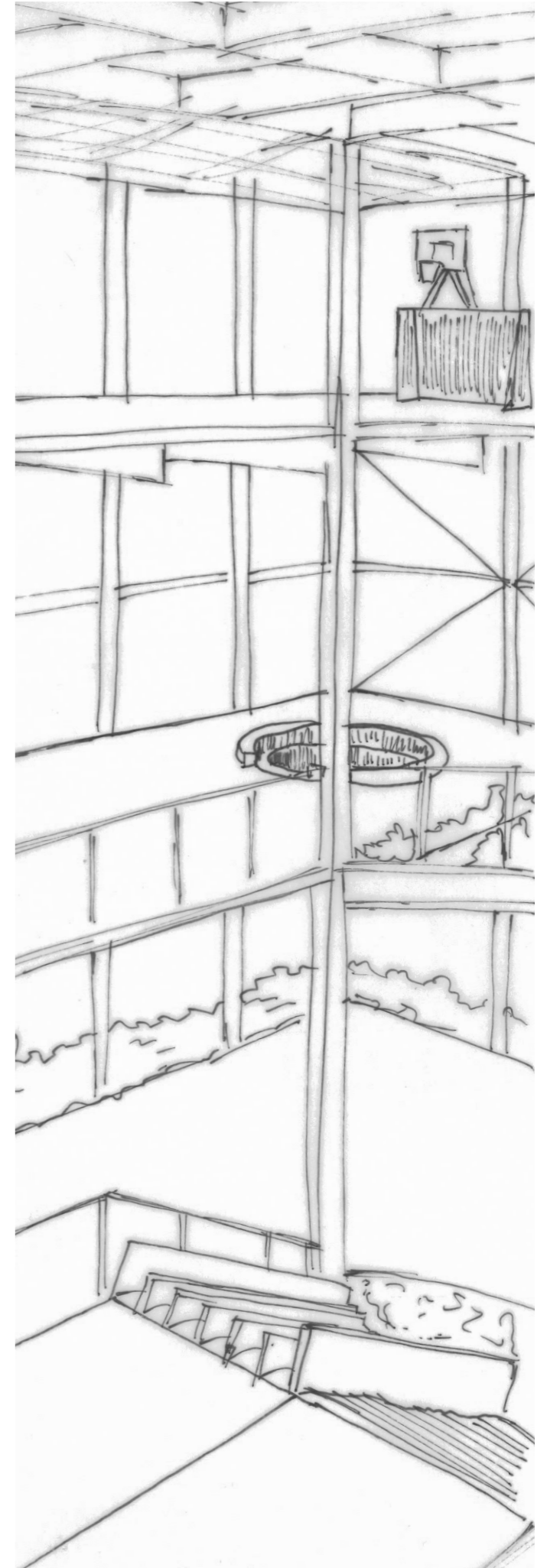
- Sliding
- Climbing stairs (as a game)
- Climbing up via the slide
- Playing football

#### COGNITIVE

- Different speeds of movement (sliding vs walking)
- Different ways of descending
- Use of play in the daily routine
- View over surroundings

#### SOCIAL

- Watch others play
- Competitions (Sliding, climbing, football etc.)
- Many different play options



**BRIGHTON COLLEGE**

Brighton college was designed by the architectural firm OMA. The building is a secondary school with both a sports and science department. Their aim was to intertwine the various functions in such a way that there is no hard separation between the various functions. An example is an athletics track as a corridor to the gym. Here people can challenge each other and compete. It is accessible and can be included in the daily routine of the school. In terms of materialization, the floor is designed as if it were a real running track. There is a transparency wall to stimulate interaction between the circulation space and the sports hall.

**MOTOR**

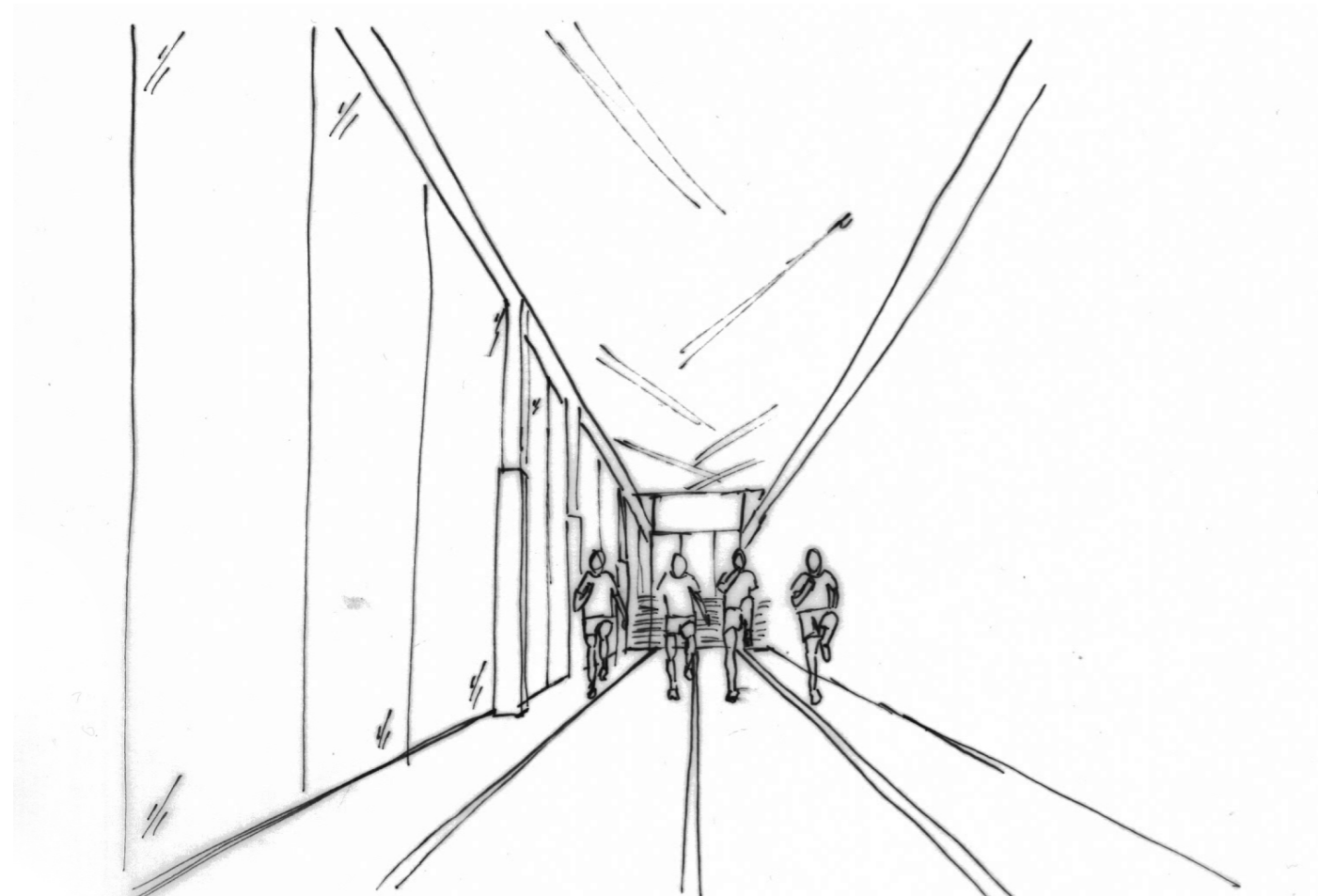
- Running

**COGNITIVE**

- Challenge each other
- Trigger to play in daily routine
- Visual connection between gym and traffic area

**SOCIAL**

- Multiple lanes allow for competition

**(WIDE) PAVEMENTS**

An area for play or sports not necessarily have to be defined. A simple example of this is an ordinary sidewalk on the street. Especially a wide pavement, which is behind a buffer of parking spaces, can be a very good space to play. It's a playground right outside the door, so it's very accessible to everyone. In addition, there is also a lot of supervision from the homes, which offers extra social safety. The sidewalk can be enriched with small interventions such as marble holes in the tiles, or the strategic placement of greenery to play hide-and-seek.

**MOTOR**

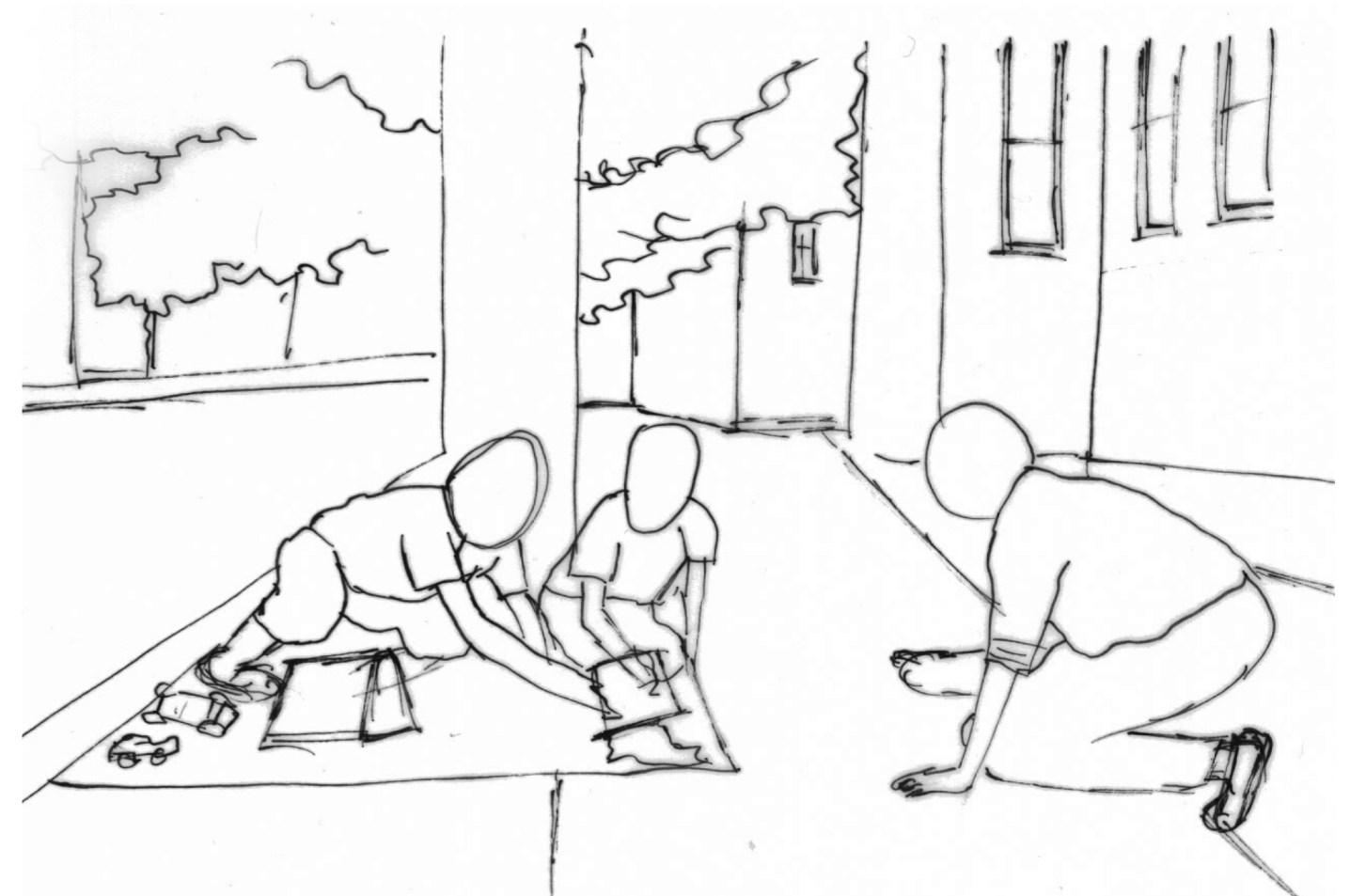
- Cycling
- Walking & running
- Playing with equipment eq. marbles
- Playing without equipment

**COGNITIVE**

- Varied street scene
- Become familiar with the environment

**SOCIAL**

- Watch others play
- Playing with the neighbourhood children
- Residents can keep an eye
- Accessible for everyone



**PARK 'N' PLAY**

A large parking lot as part of the city. A function that takes up a lot of space and is often only used for one purpose; parking. JAJA Architects has given its own twist here by combining the roof of the parking lot with a playground. The playground is accessed via a striking staircase from the streetlevel. Because it is at a height, it is a quiet, traffic-free playground and thus safe for children. One spatial element has been used. A kind of red thread that connects the various play activities with one another. The diversity of play options in combination with the unique surroundings ensures that all ages come here to play sports, or simply to admire the view.

**MOTOR**

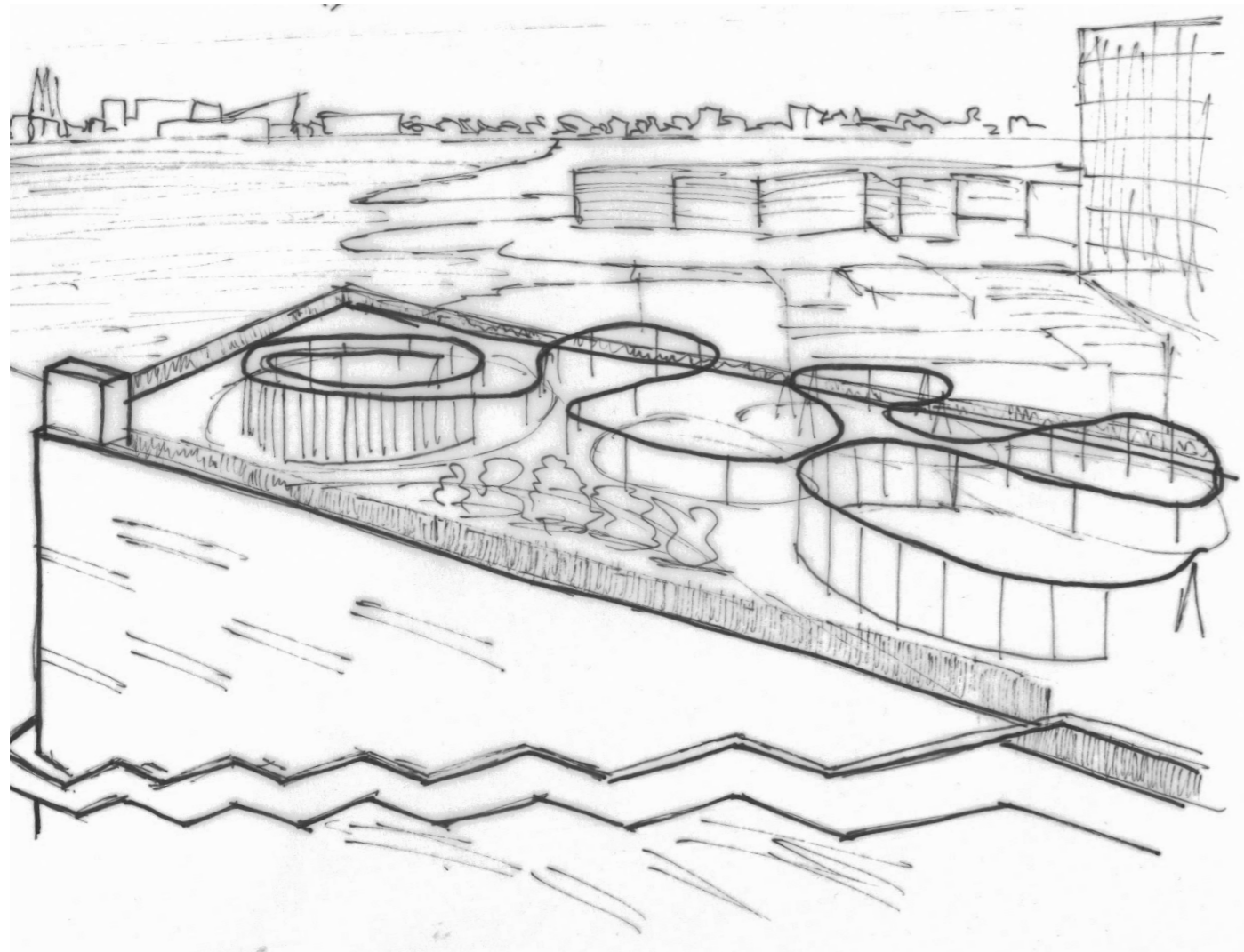
- Diversity of routes and elements
- Climbing stairs as a game
- Swing

**COGNITIVE**

- Recognizable main element
- View over the city

**SOCIAL**

- Watch others play
- Safe environment from traffic
- Diversity of play attracts different age groups

**CLIMBING WALL STAIRS**

The 'exercise school' in Albasserdam is one of the first schools in the Netherlands to focus on exercise as integral part of the education system. The design of the school is in line with the vision that children develop their motor, cognitive and social skills better if they exercise more. The interior challenges the children to move more. Various exercise equipment has been placed throughout the school and a climbing wall has been incorporated into the stairs at the main entrance. In the daily routine you can choose to climb instead of taking the stairs. There is also a running track around the stairs where children can challenge each other to a competition.

**MOTOR**

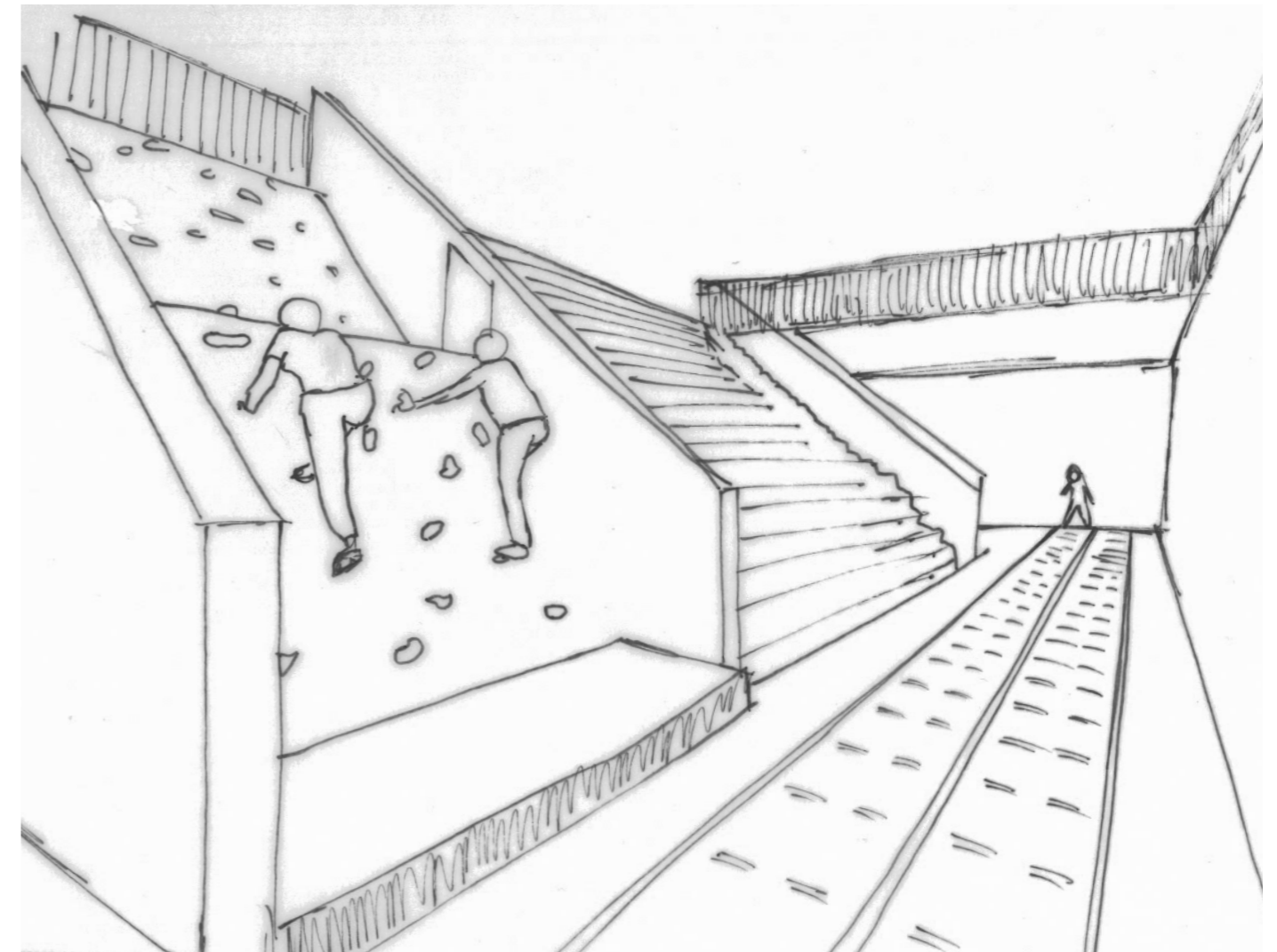
- Climbing
- Jumping
- Balancing
- Pulling up your own weight

**COGNITIVE**

- Observing the route that could be taken
- Training the judgment (Different heights and risks)

**SOCIAL**

- Interaction between people taking the stairs and climbers
- Challenge each other for a competition



## RESEARCH & DESIGN

### URBAN DESIGN

Both the research into left-over space and the sports and play were included by our group in the urban design. As a group we have conducted many analyzes and studies, some of which can be found on the following pages.

We chose to prioritize the pedestrian over the car. To make this possible in our own urban plan, we first investigated and tested the possibilities on a large scale. The result is to remove fast driving car traffic from the city center and only allow local traffic. This makes the city more pedestrian and child-friendly. The fast going traffic will be diverted to the already existing ring roads that surround the city.

This gave the opportunity to reconsider the Maasboulevard bridge, which research showed as an enormous barrier to the area. After many options and studies, we have decided to remove the bridge. As a result, the Basin has been restored to its former state when it was still fully used by the paper factory. We believe that the Basin and the Meuse have enormous potential to improve the quality of life. Therefore, our second goal is to activate the waterfronts, by making them attractive to visit. This is done, among other things, by turning dead ends into through routes. And by organizing various functions and activities around the water so that it becomes more socially lively. We do all this by making as much use as possible of what is already there, by utilizing the qualities and making improvements where necessary.

The existing buildings were also examined. We wanted to preserve as much quality as possible. We looked at the built quality, the materials, and especially the reusability of the buildings, all with the cultural and historical value in mind. In addition, we kept both urban morphology and industrial scale in mind to make our choices. The result is a well-organized plan that aerates the densification. Public life is possible because of the amount of light made available. In addition, two main connecting axes are used that link all the different functions with each other. The functions in the plan are based on the target groups they attract, the missing functions in the city, and the time of day that the functions are in use. This makes the neighborhood lively throughout the day. The following pages show how our master plan has taken shape.

### EXISTING INFRASTRUCTURE

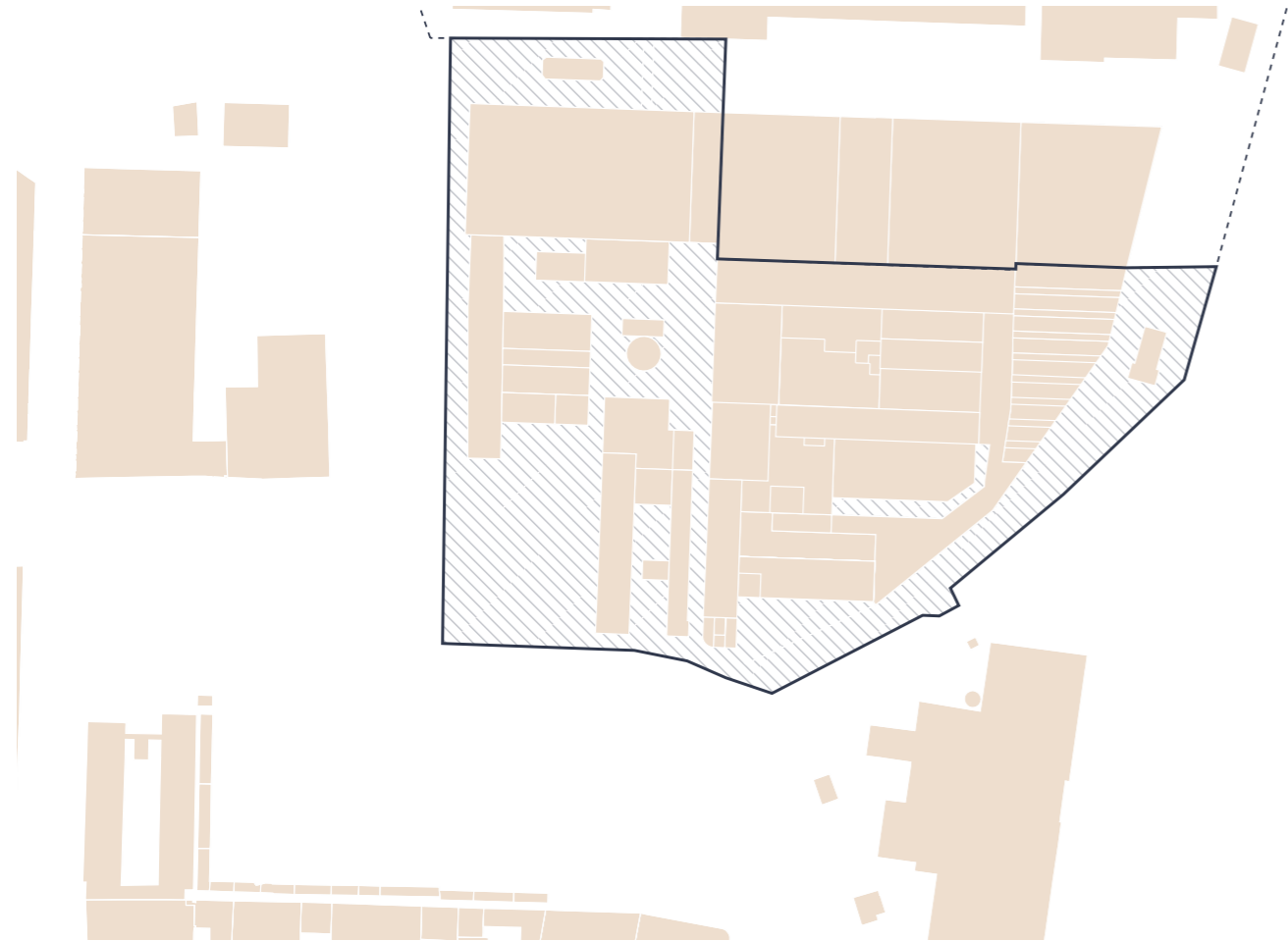


### NEW INFRASTRUCTURE

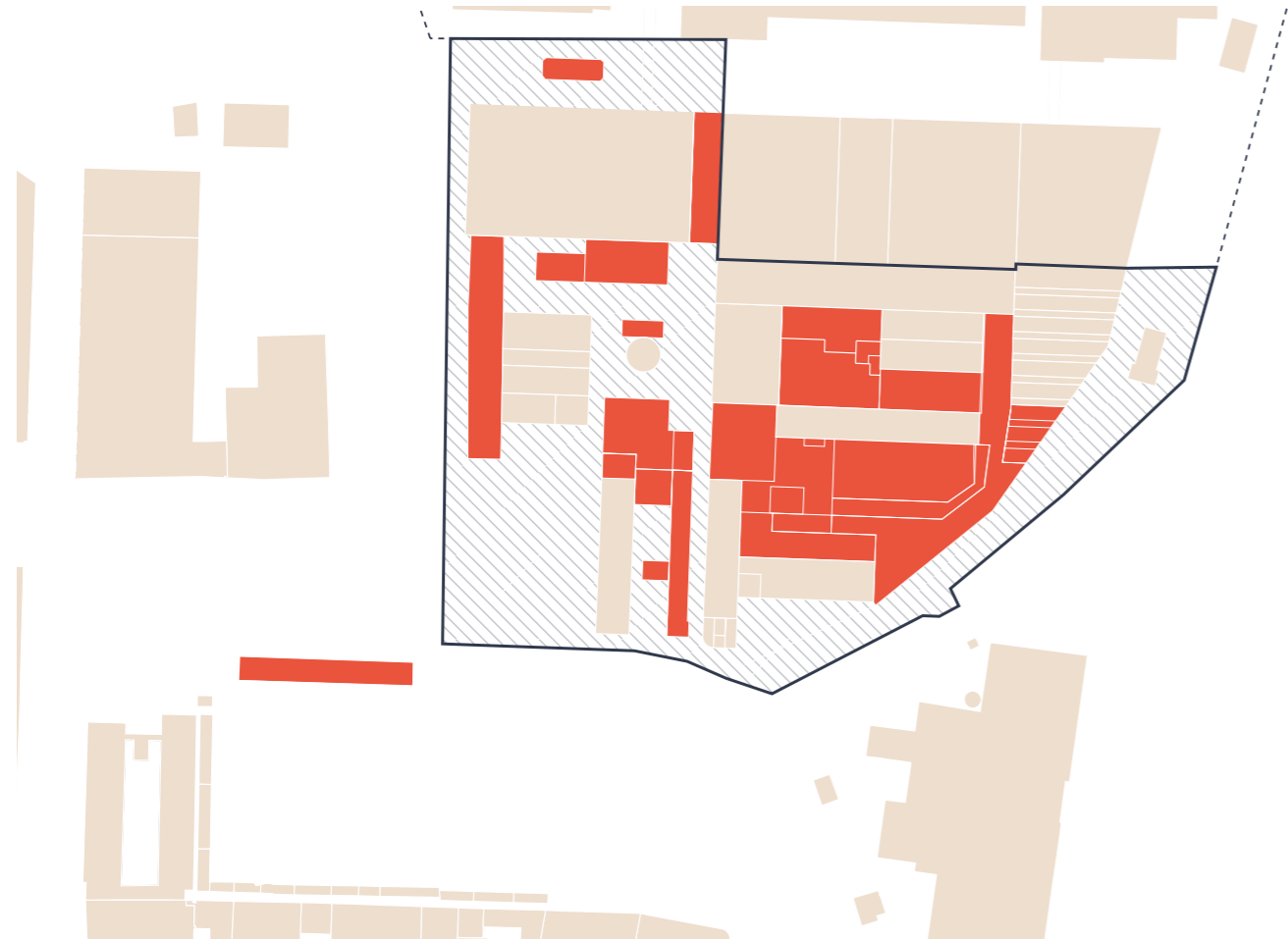


The final proposal of our urban plan as a group on which we continue to work from

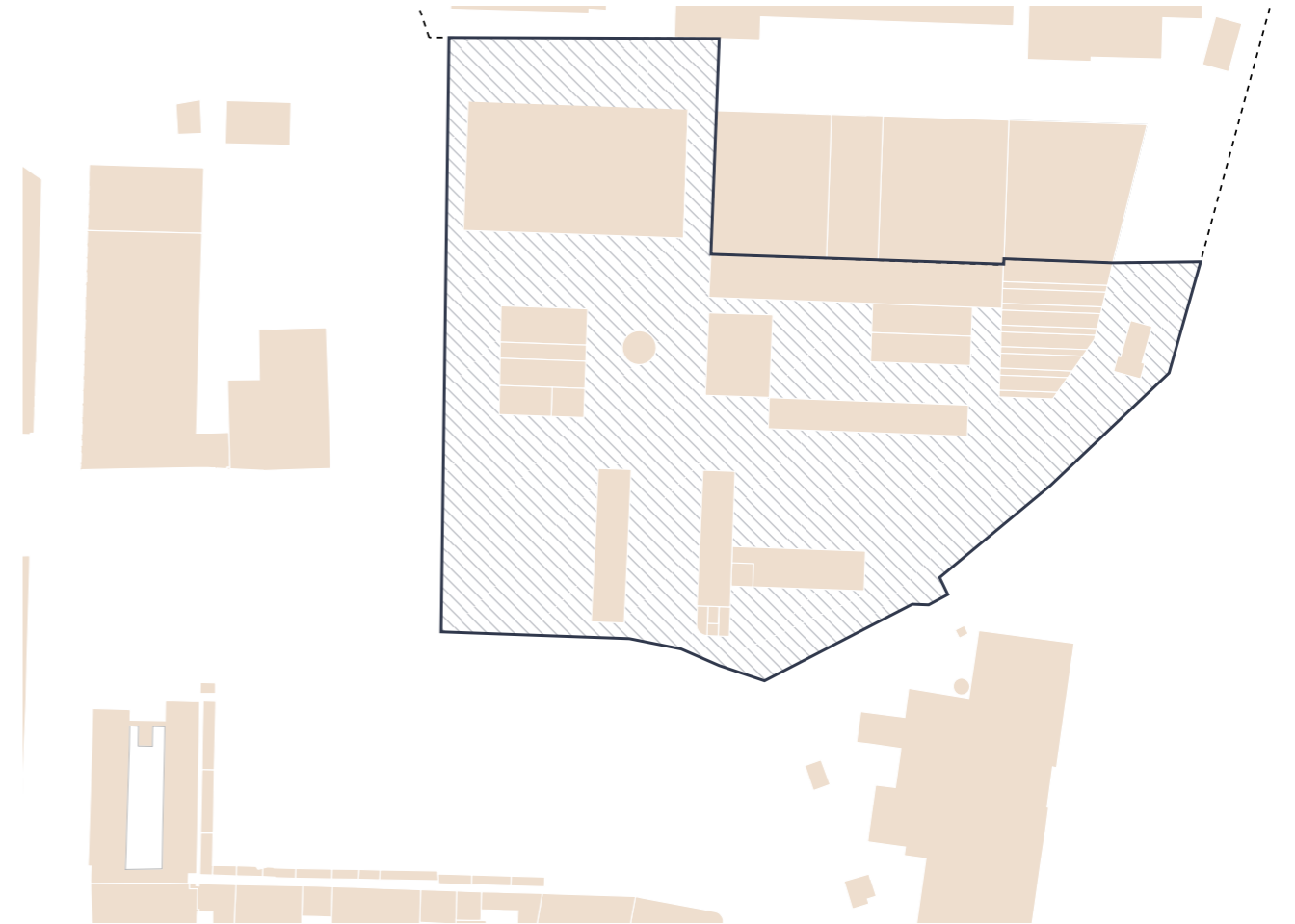
EXISTING SITUATION



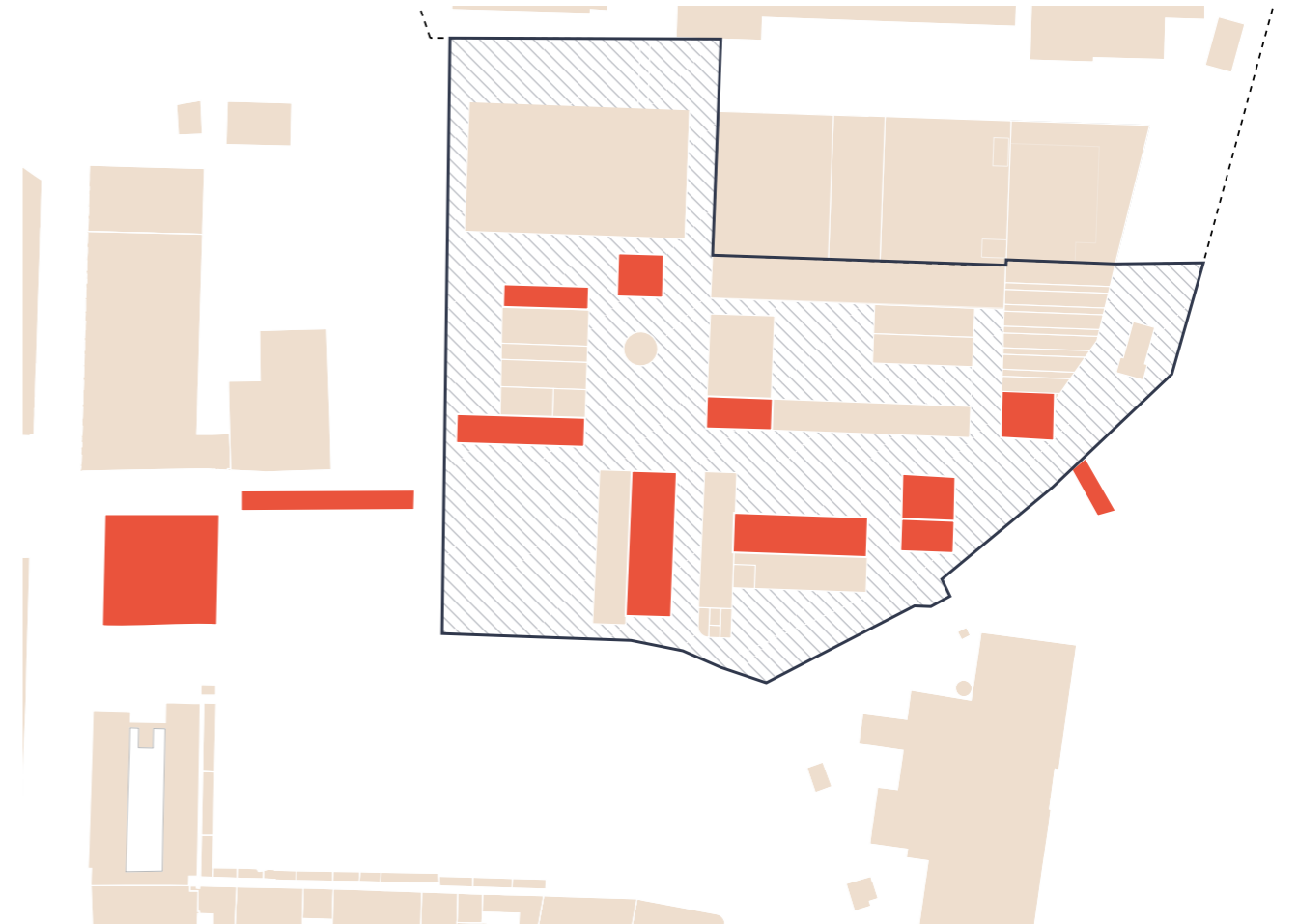
DEMOLISHMENT






REMAINING SITUATION







NEW ADDITIONS





**Connection**

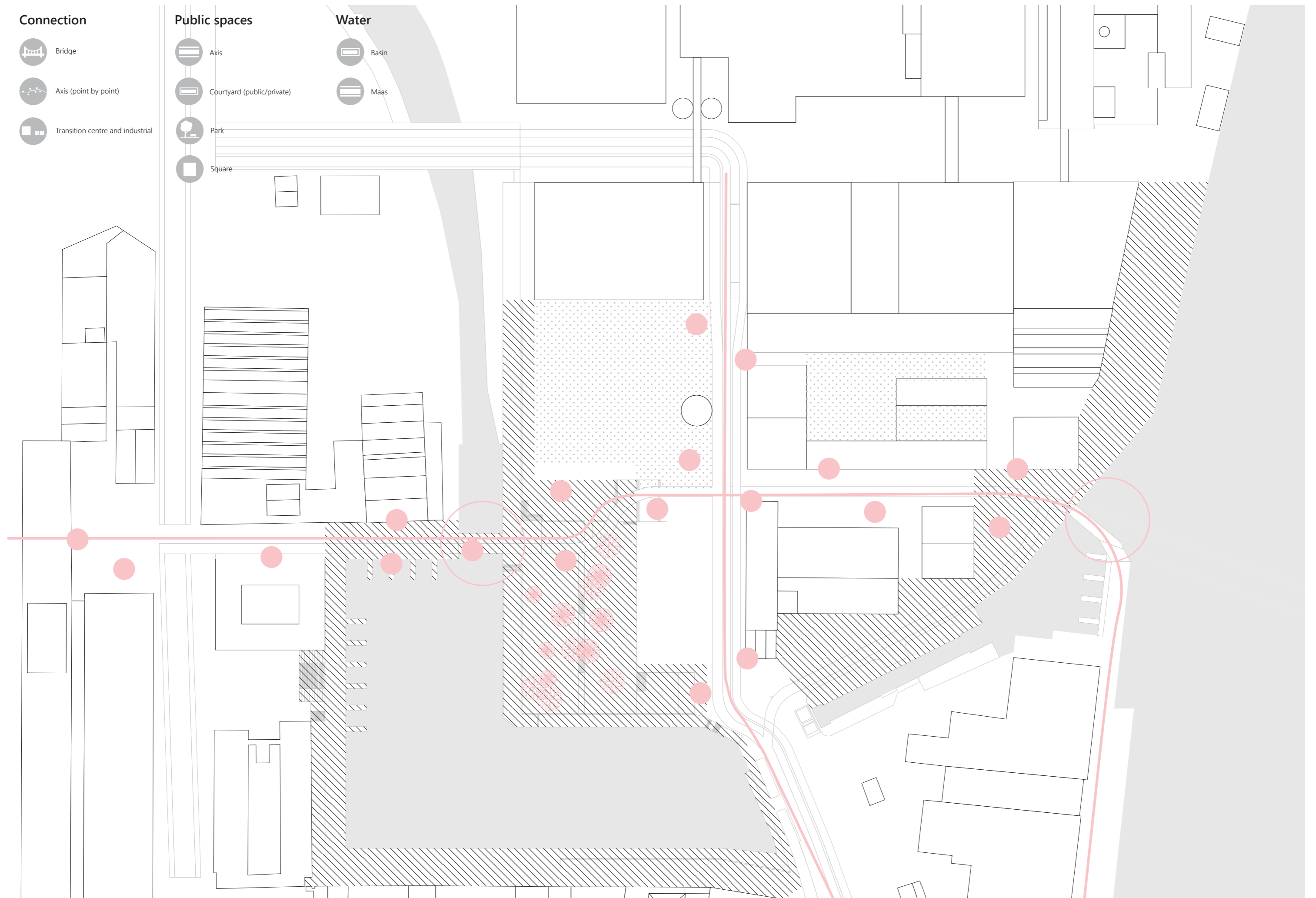
-  Bridge
-  Axis (point by point)
-  Transition centre and industrial

**Public spaces**

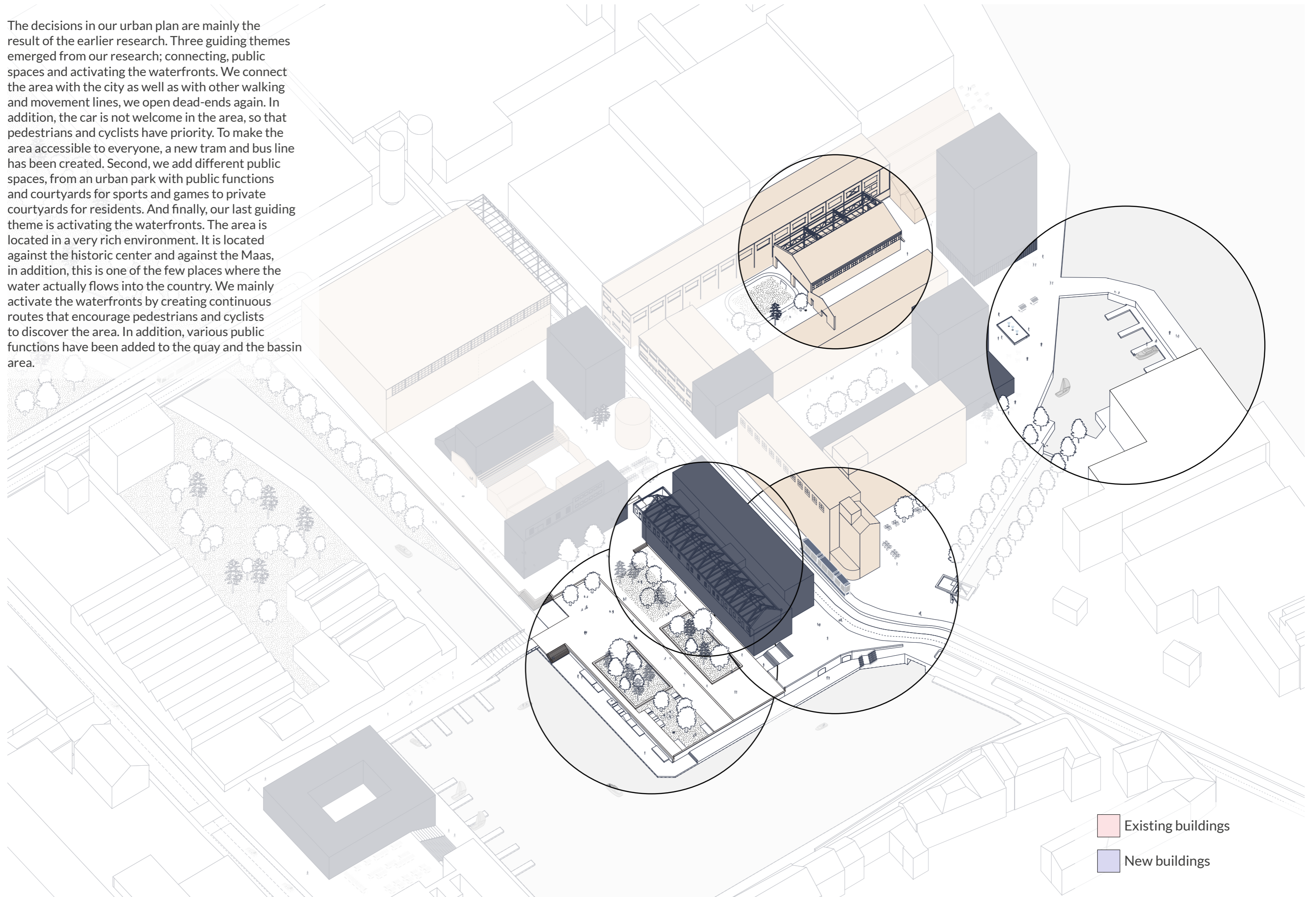
-  Axis
-  Courtyard (public/private)
-  Park
-  Square

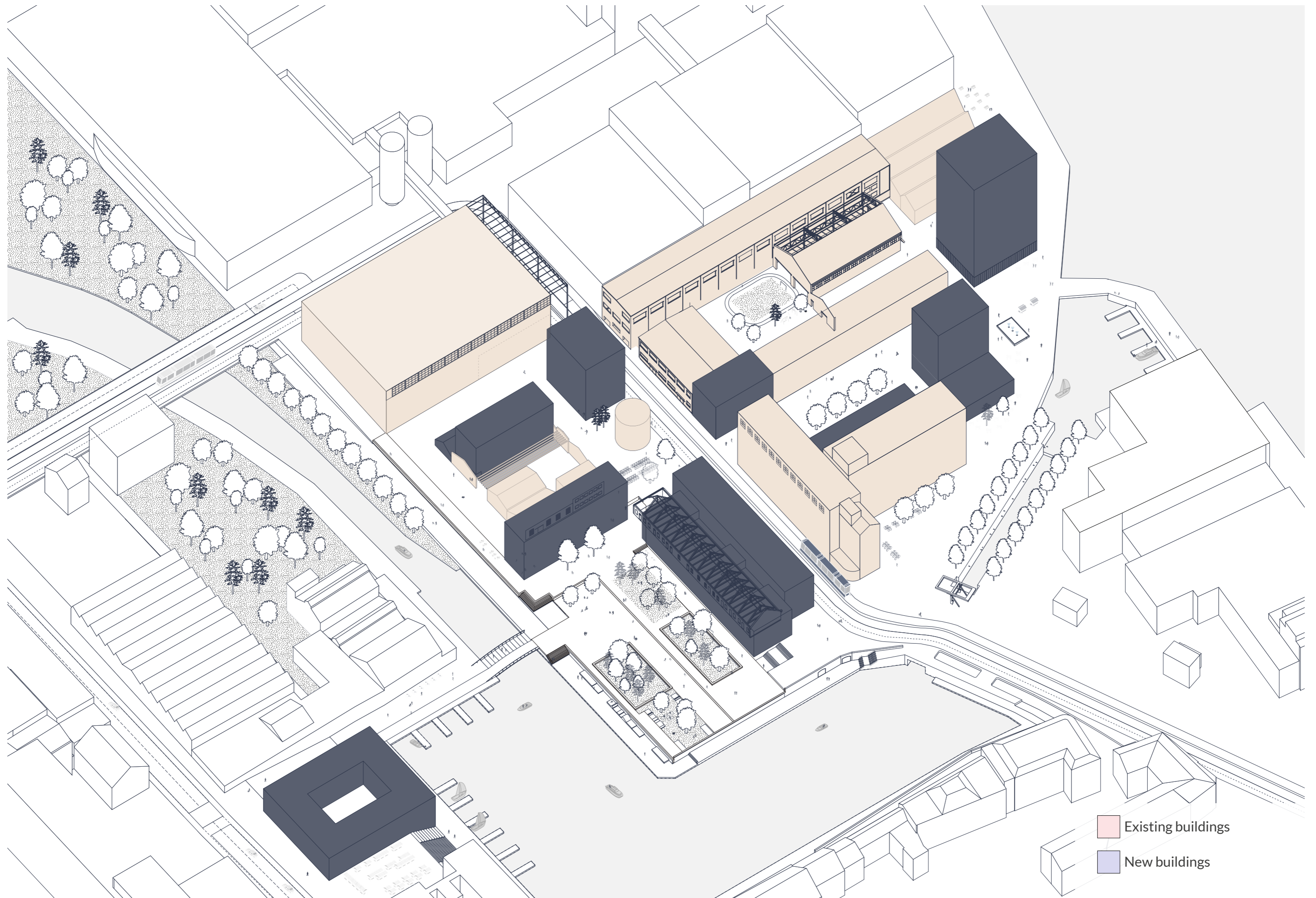
**Water**

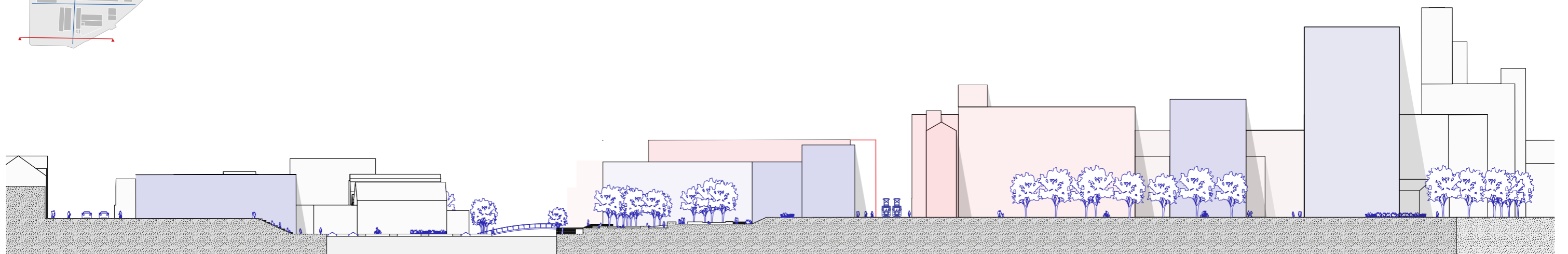
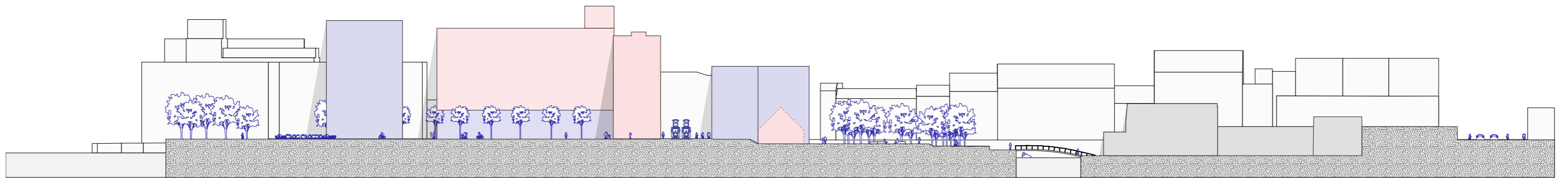
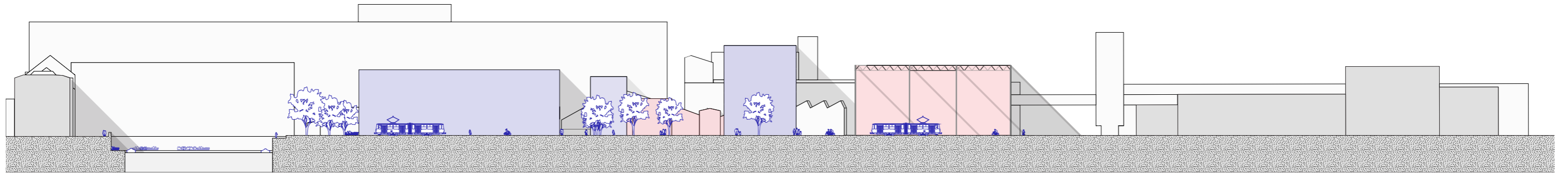
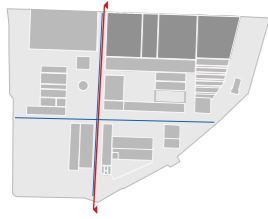
-  Basin
-  Maas



The decisions in our urban plan are mainly the result of the earlier research. Three guiding themes emerged from our research; connecting, public spaces and activating the waterfronts. We connect the area with the city as well as with other walking and movement lines, we open dead-ends again. In addition, the car is not welcome in the area, so that pedestrians and cyclists have priority. To make the area accessible to everyone, a new tram and bus line has been created. Second, we add different public spaces, from an urban park with public functions and courtyards for sports and games to private courtyards for residents. And finally, our last guiding theme is activating the waterfronts. The area is located in a very rich environment. It is located against the historic center and against the Maas, in addition, this is one of the few places where the water actually flows into the country. We mainly activate the waterfronts by creating continuous routes that encourage pedestrians and cyclists to discover the area. In addition, various public functions have been added to the quay and the bassin area.





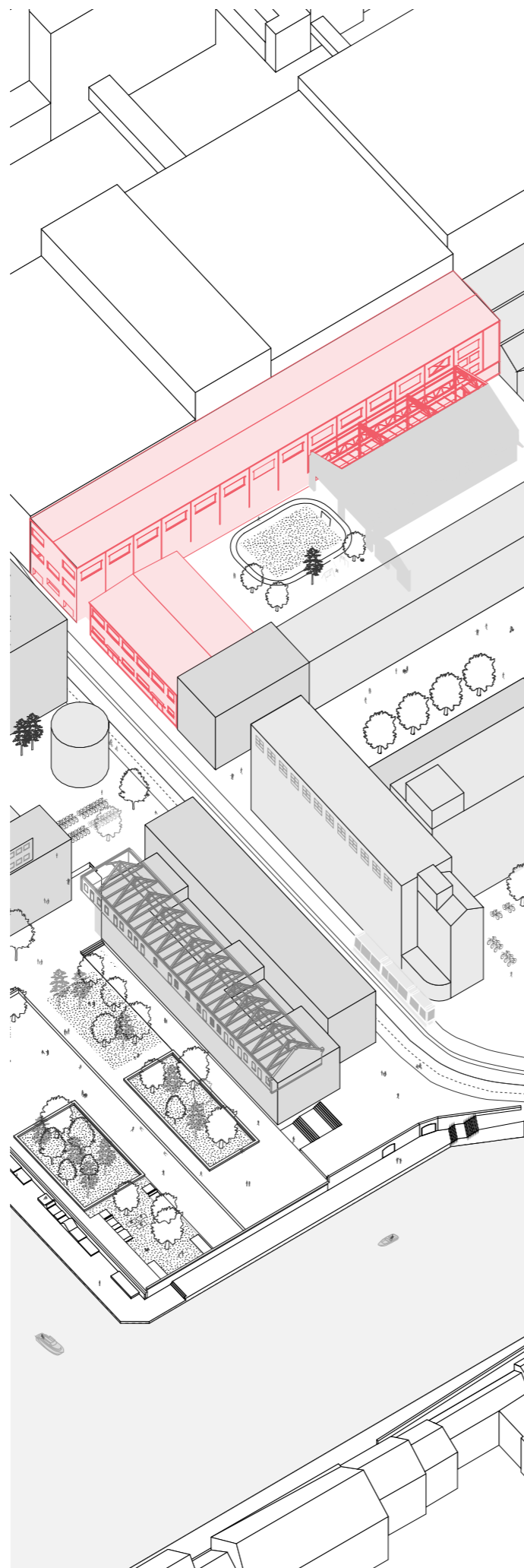


## ARCHITECTURAL DESIGN

The individual design started just before P2. From the research I have done into left-over space and especially sports and games in the city, I have come to the conclusion that I wanted to choose a suitable function and program. I wanted to reach multiple target groups and design a multifunctional building. The choice was made for a primary school where the focus in the learning system is on movement in education. This in combination with sports, where the gyms are not only for the school, but meet the guidelines of official sports. So that the building is not only in use during school hours, but also in the evenings and at weekends. The primary school is therefore combined with a daycare center and before and after school care. In addition, in the context of left-over space, I mainly wanted to make use of the qualities that are already there.

As a group, we had chosen to continue with the master plan, each choosing its own building within the project. On the right is marked which area I started with. The two narrow long buildings are the halls where the paper machines used to be, and the middle building was the fabric preparation hall. The following pages show a number of photos of our site visit to these buildings.

The buildings are characterized by their enormous industrial scale and proportions. The buildings consist of raw materials such as brick and concrete, and the tectonics are also clearly readable. In addition, a number of bright colors are used to highlight certain elements such as entrances. The PM5 is also characterized by its size where the human scale is lost. The steel construction is visible from the inside and gives an industrial atmosphere. The ground floor and the first floor are made of thick and rough concrete. But the most characteristic element is the almost 80 meter long void in the 1st floor where the old paper machine used to be. Prepulp interior qualities The prepulp is characterized by its high open space where the steel trusses are all clearly visible. The large windows are placed high so that a lot of light comes in, but you cannot see outside.



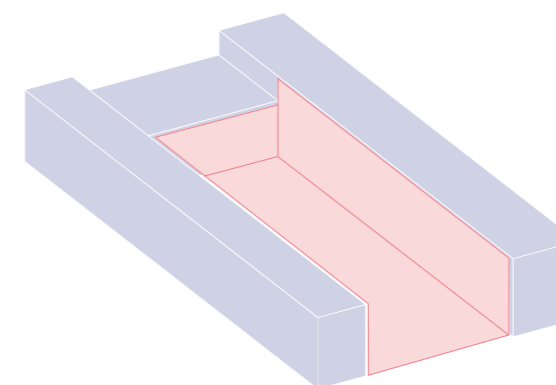
## QUALITIES AND CHARACTERISTICS OF THE EXISTING PM5 & PREPULP BUILDING



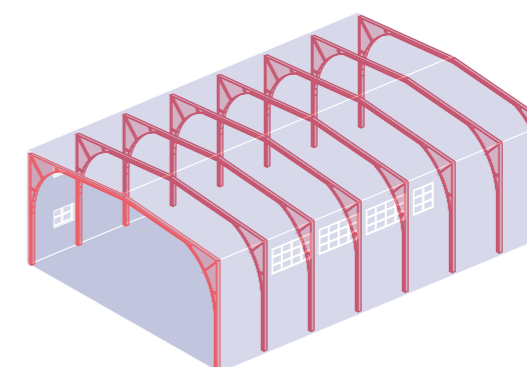
The next step was to determine the program that fits the concept from my research. After studying many other projects with similar functions, the program was set up. Although the number of square meters was suggestive, these were the starting points for further work.

In addition, I proposed to work according to three design strategies. I saw the environment as a natural protected shield for the school and the schoolyard. I also didn't want to design a traditional school where the corridors are strictly functional as a traffic route, but adapted to the needs and behavior of children. This while preserving the industrial heritage and characteristics and integrating sports and play into the daily routine.

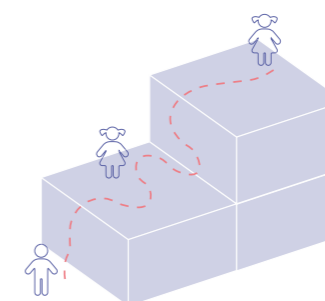
SPORT RELATED PROGRAM	AMOUNT	m <sup>2</sup>
GYMS	3	924
FLEXIBELE STUDIOS (YOGA, DANCE, ETC.)	3	375
EQUIPMENT STORAGE	1	60
SHOWERS & CHANGING ROOMS	1	200
SPORTS LAB	1	60
STORAGE OUTDOOR SPORTS	1	150
SPORTS BAR / CAFETERIA	1	200
<b>TOTAL</b>		<b>1969</b>
SCHOOL RELATED PROGRAM	AMOUNT	m <sup>2</sup>
DIRECTOR & OFFICES	1	200
STAFF ROOM	1	80
STAFF KITCHEN	1	15
LIBRARY	1	80
DAY-CARE	1	200
LOWER PRIMARY CLASSROOMS	4	240
HIGHER PRIMARY CLASSROOMS	13	780
MULTIFUNCTIONAL CLASSROOMS	3	216
MULTIPURPOSE HALL	1	200
REFECTORY	1	80
COMPUTER LAB	1	100
AUDITORIUM	1	160
GGD (SCHOOLDOCTOR & SPEECH THERAPY)	1	50
<b>TOTAL</b>		<b>2401</b>
OTHER / BOTH	AMOUNT	m <sup>2</sup>
ENTRANCE	1	150
JANITOR	1	15
TOILETS	1	200
TECHNICAL ROOM	1	200
STORAGE	1	90
BICYCLE STORAGE	1	150
COURTYARD	1	1200
<b>TOTAL</b>		<b>2005</b>
<b>TOTAL (EXCLUDING TRAFFIC AREAS)</b>		<b>6375</b>



Site becomes the school's protective enclosure



Preserving industrial heritage



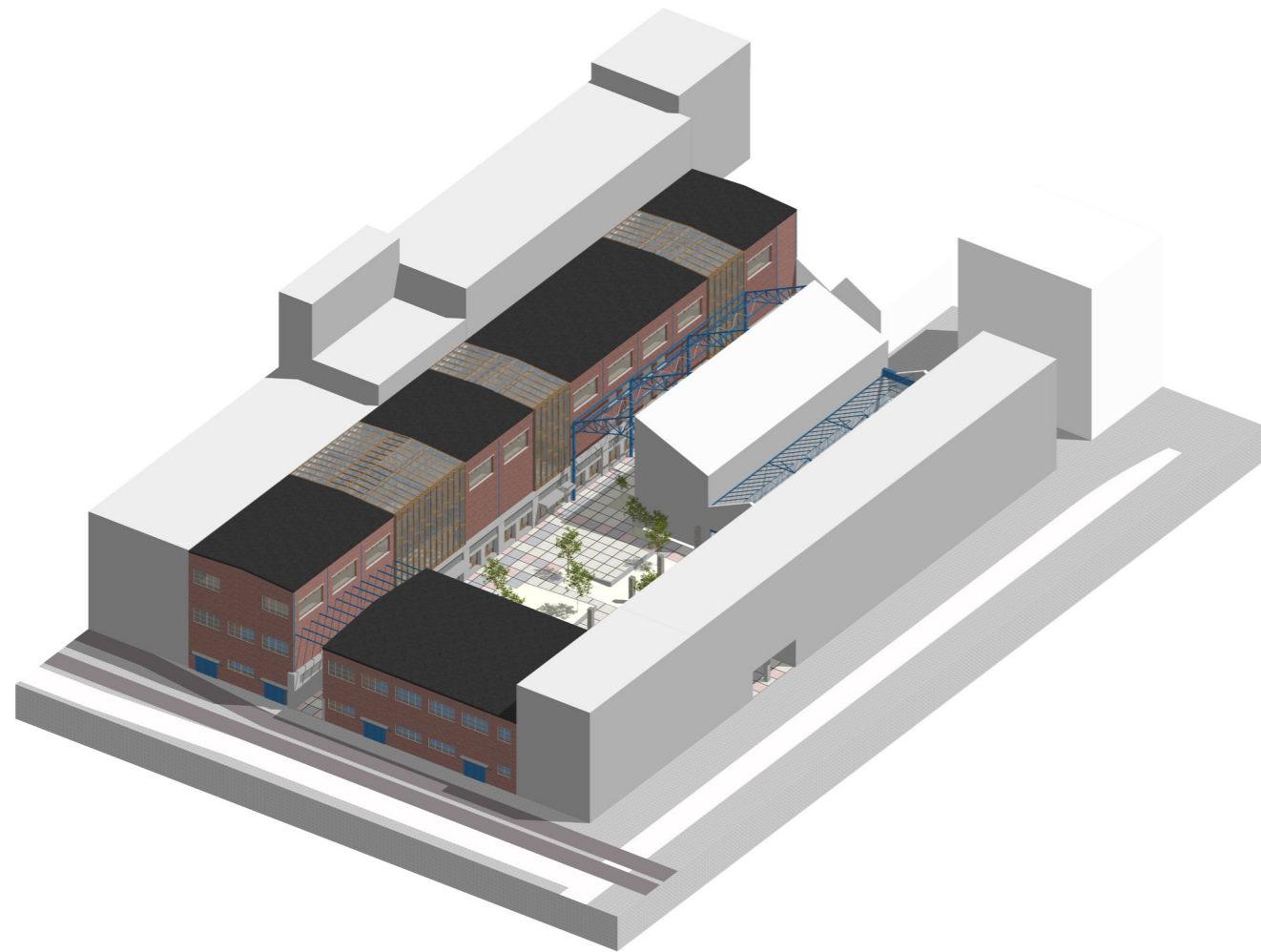
Integrating sports and play into daily routine

## DESIGN STRATEGY 1

The first design strategy is using the site as the school's protective enclosure. As can be seen on the image below, the courtyard is completely enclosed. The functions surrounding the courtyard are almost all school related. The primary school and the sports section are supported with a kindergarten. And on the other side of the school, along the main axis, consists of dwelling.

The West facade is located on the main axis next to the square. As can be seen, it is completely built into the building. An opening has been made between the buildings to approach the courtyard.

This impression of the courtyard on the right page clearly shows how the prepulp and the PM5 building enclose the area. In addition, the remains of the demolished old buildings have been used in the courtyard. The concrete columns function as a play element in the courtyard. It can be either used on its own or be used to place play equipment inbetween.

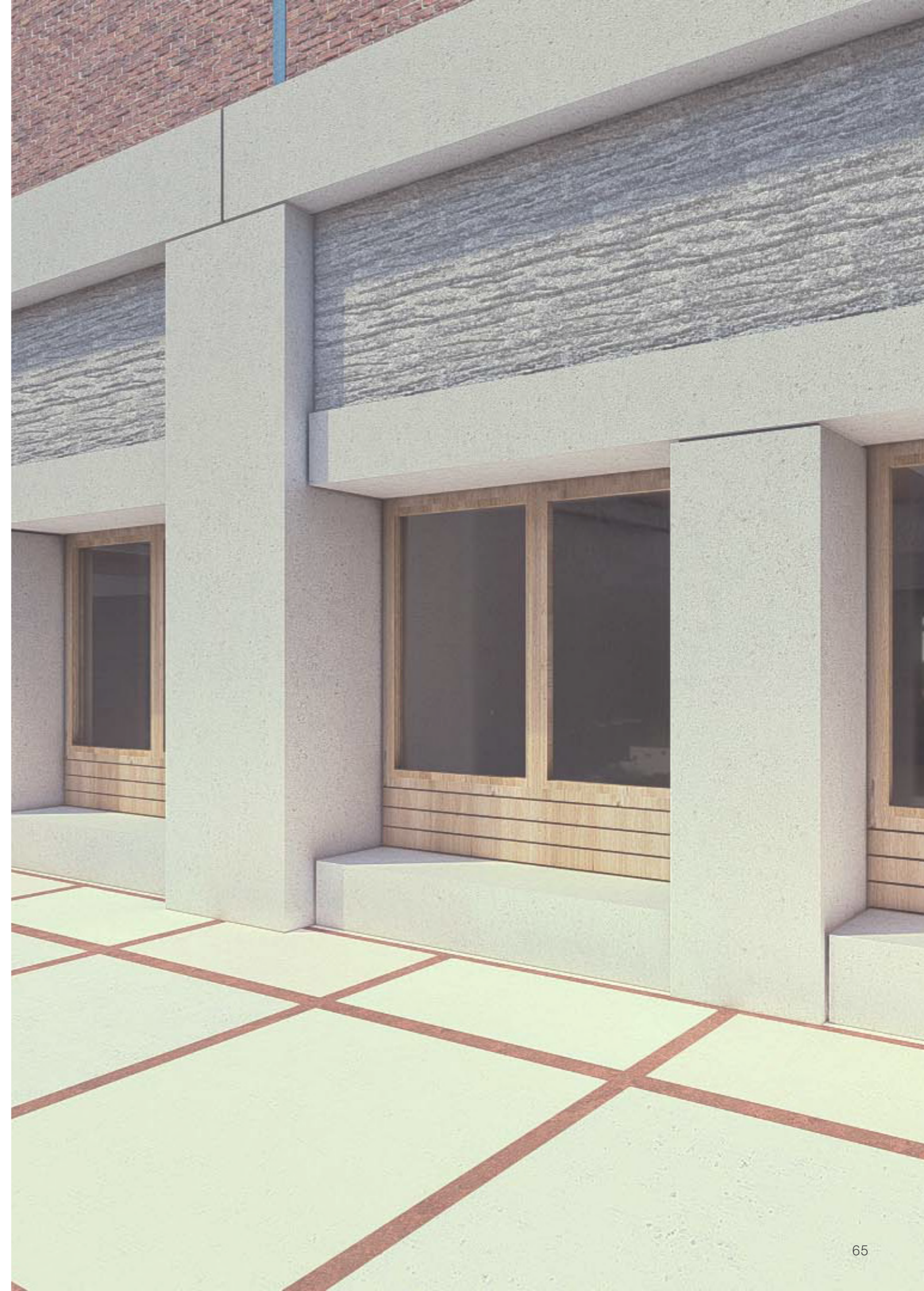
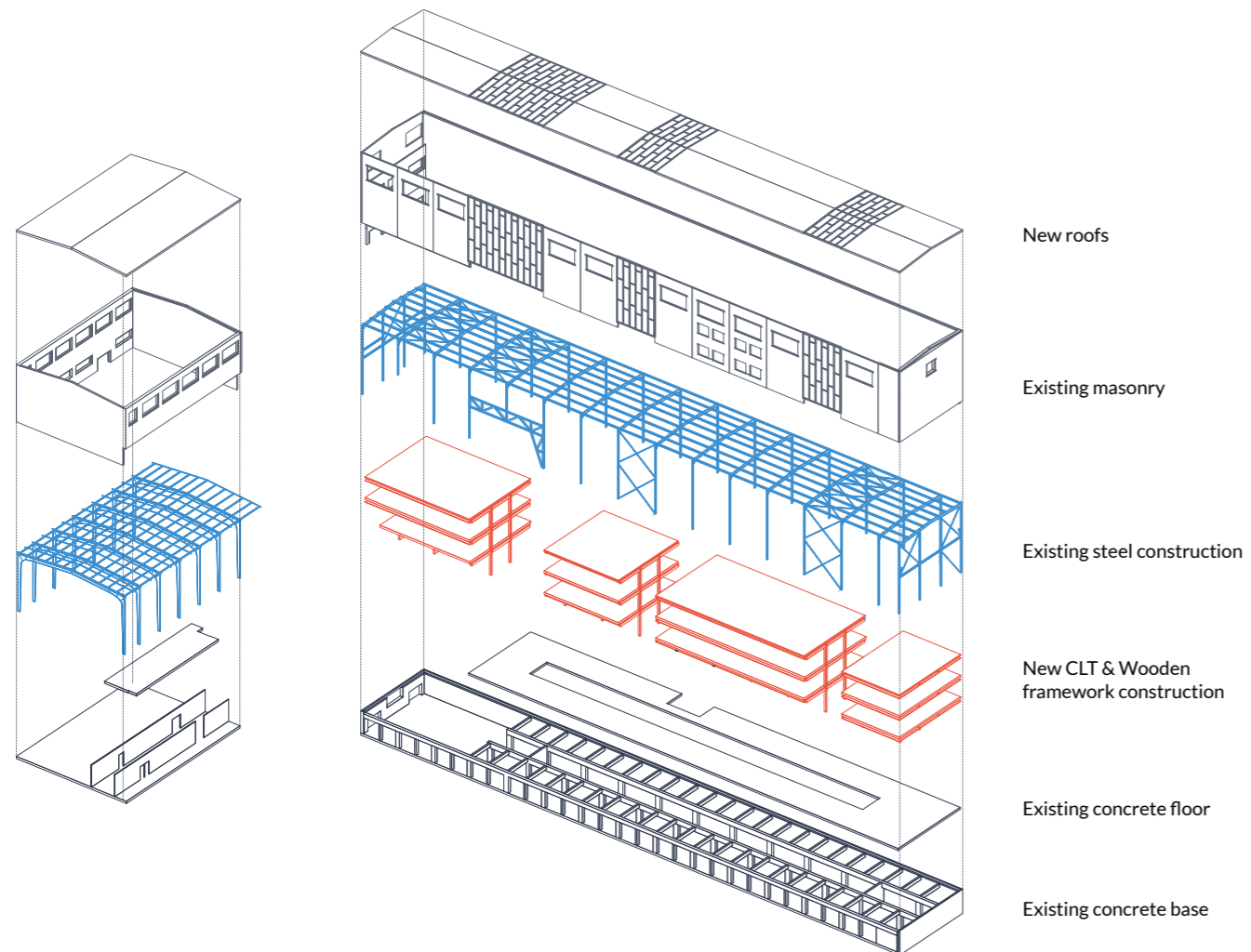


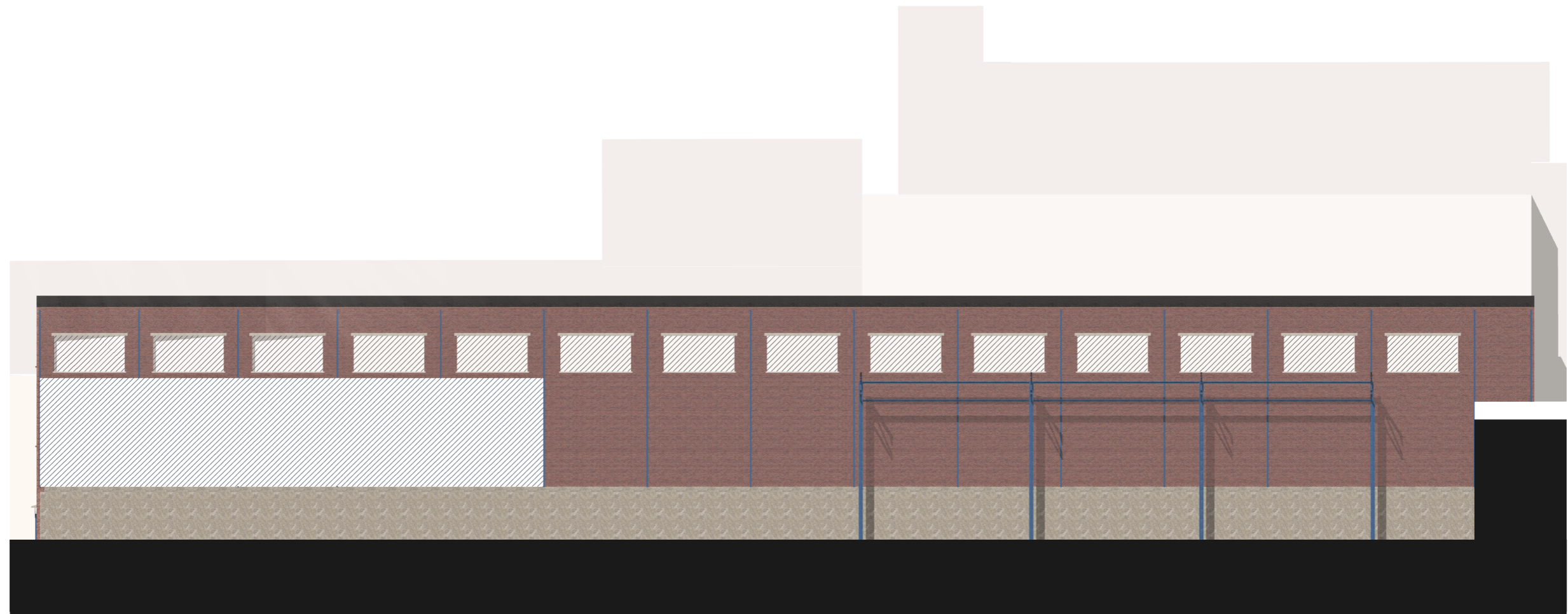
Site becomes the school's protective enclosure



## DESIGN STRATEGY 2

The second design strategy is preserving the industrial heritage. The existing facade consists of a hard concrete plinth of 4 meters high. Above this is a masonry shell that, together with the steel construction, forms the supporting structure of the roof. Only 3 main materials are visible in the facade; concrete, masonry and steel. The building. An opening has been made between the buildings to approach the courtyard. The simplicity in materials is something I want to keep with the new additions. For example, a new concrete plinth has been added and the masonry has been preserved as much as possible. Because the building is completely built-in on 2 sides, it is necessary to get daylight into the building. For example, the old facade openings on the top floor have been used again, and new windows have been made below. In addition, the building has been broken open at 3 points by means of a glass atrium. In this way, new facades are created on the inside that receive daylight. The masonry that is removed for the atriums is reused to heal the facade.





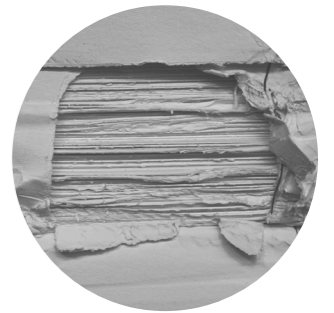
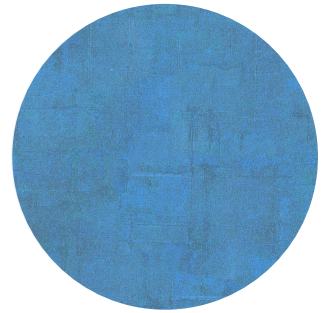
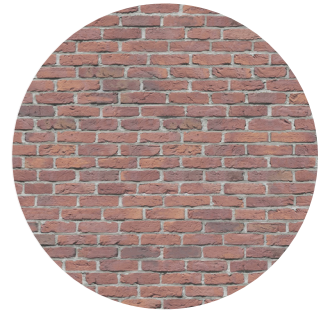
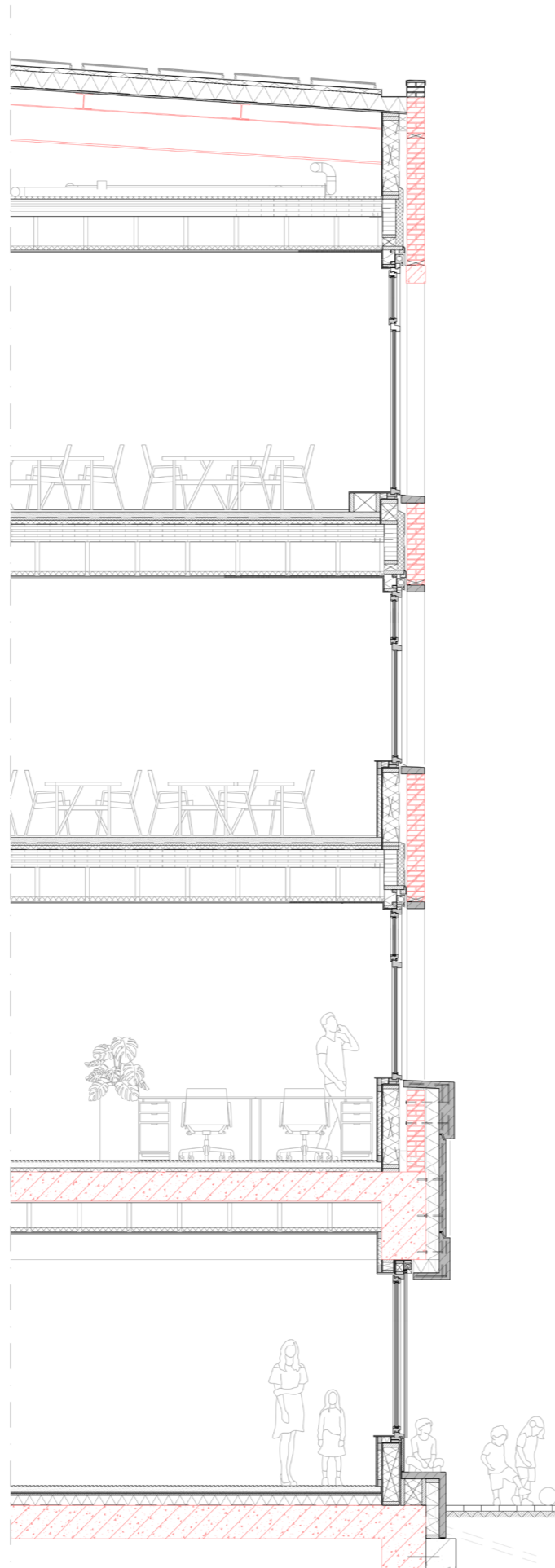
Existing south facade



New south facade

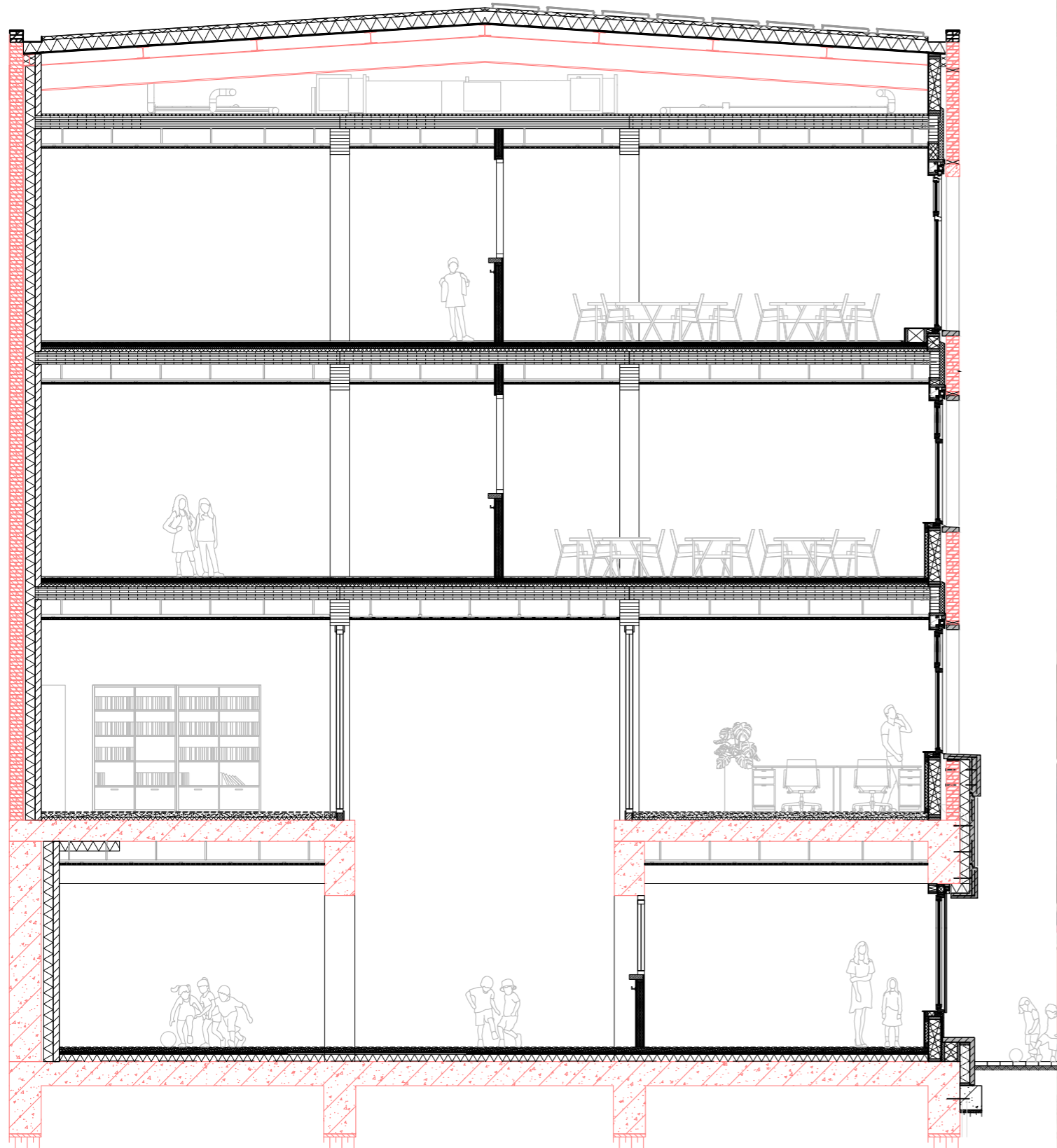
As mentioned before, my vision is to keep the industrial look on the outside. The new plinth is insulated from the outside and therefore has an increased thickness. I wanted to keep the existing masonry on the outside, and therefore I insulated that part on the inside. I mainly work with materials that already exist in the building. In terms of materialization, The new plinth is made of slim reinforced concrete. In the original typology, this building had an extremely heavy concrete plinth, which I want to keep legible on the outside. Because of the activities happening on the ground floor, the material must be able to take a beating. Multiple set backs and planes have been used to make the façade more playful and relatable to the human scale. The darker plane in the middle has a rough pattern unlike the rest of the concrete. This is based on the stacks of unfinished paper that was made in this hall. Finally, further infills in the facade are made of wood, as a contrast against the hardness, to indicate the difference between existing and new.

A seat has been incorporated into the plinth. You can sit and play on this. In addition, all windows on the ground floor can be opened from the inside, so that a connection between the inside and the outside can be made.



This cross-section clearly shows how the human scale has been brought into the building. It is designed from different sightlines and eye heights. The windows in the corridors are also positioned in such a way that children are not distracted by other children in the corridor, but teachers can see through the windows into the classrooms and vice versa.

This image on the right clearly shows the contrast between the rough hard exterior and the warm interior. As mentioned before, all new additions are made of wooden.

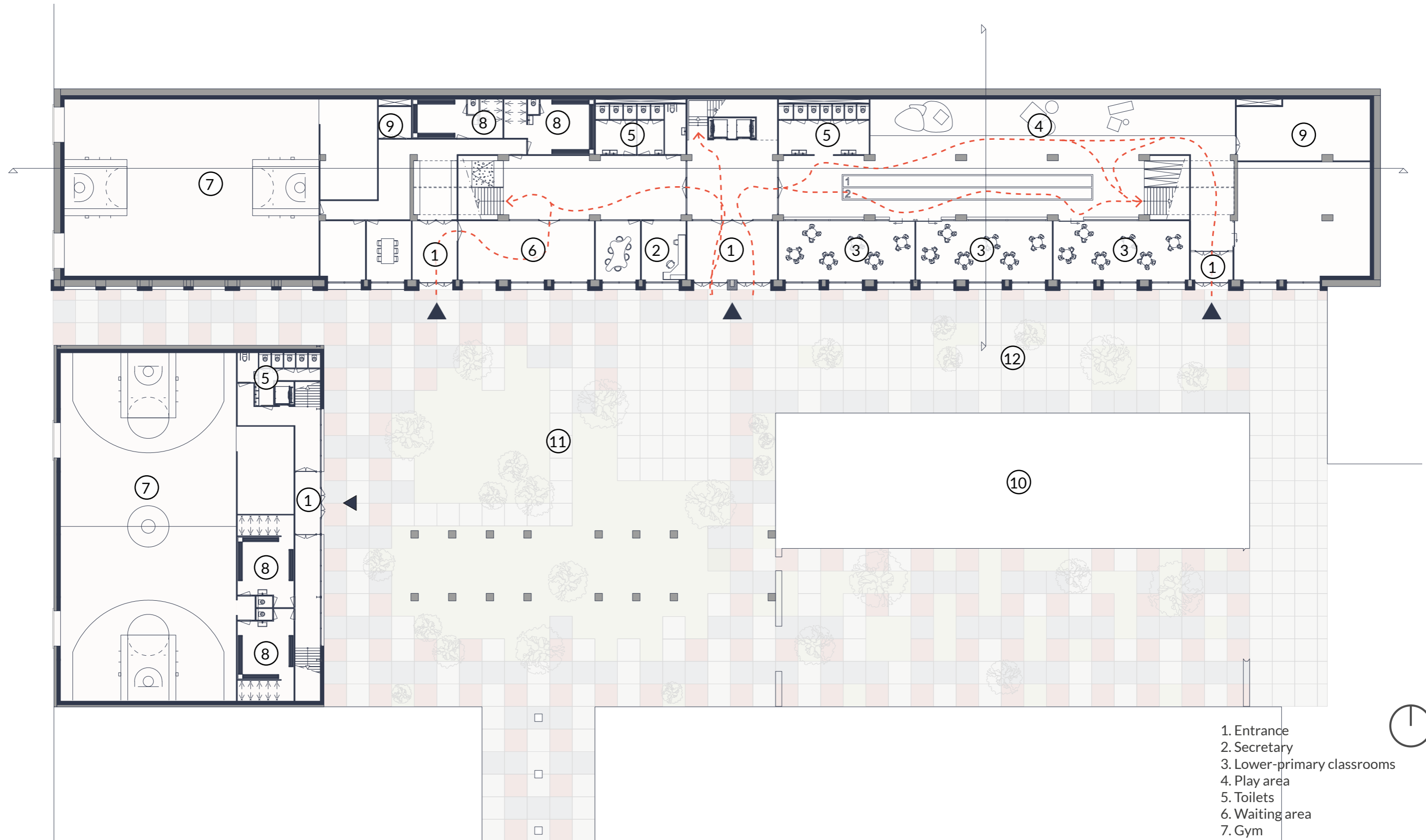


### DESIGN STRATEGY 3

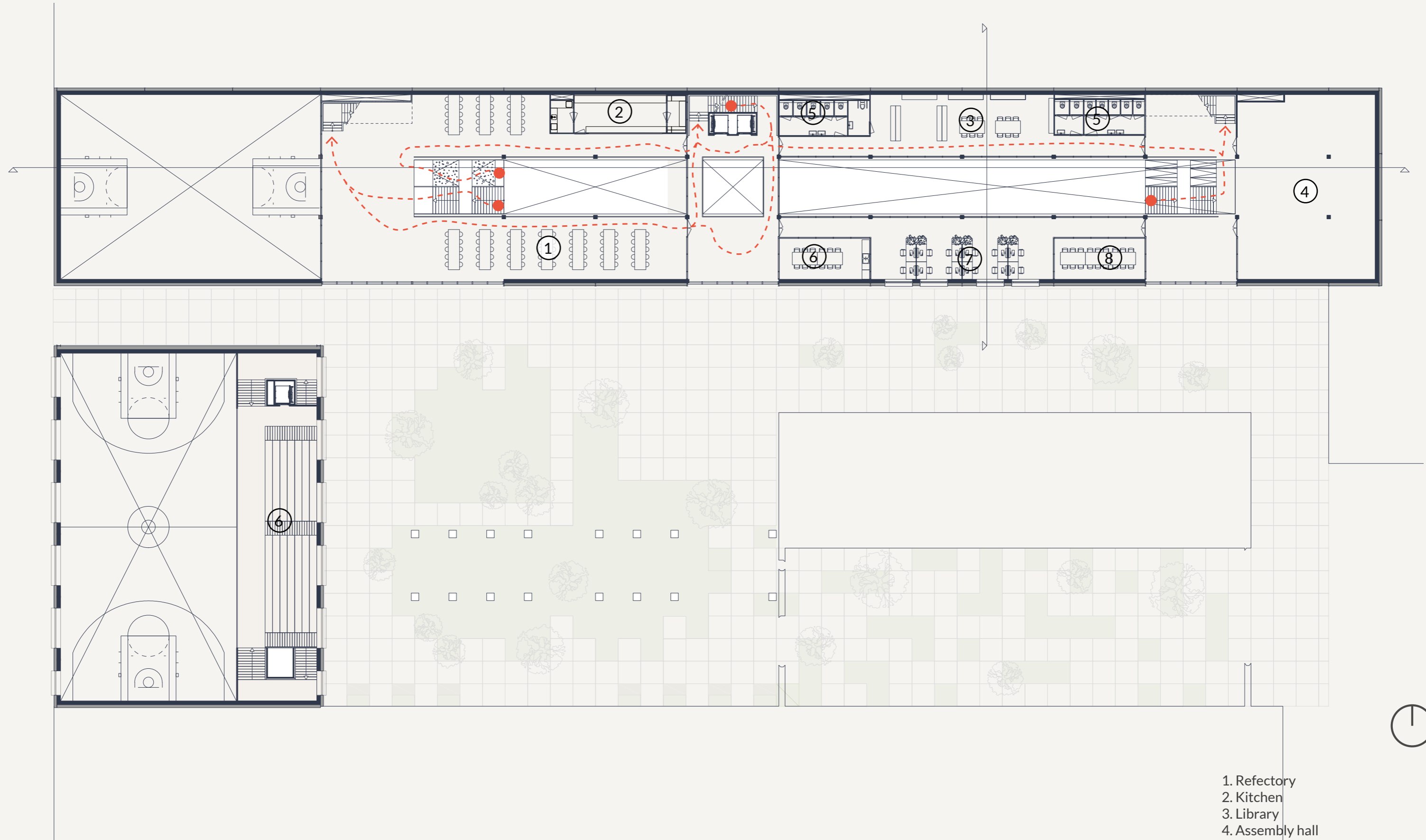
The third and last design strategy is integrating sports and play into the daily routine of the building. Integrating sports and games into the daily routine is something I have learned from my research. The building itself is industrial, and the additions are made of wood, a warm contrasting material. The sports and play elements in the school building deviate from this and are instead executed in bright colours. This actually triggers activation and movement. By adding these elements in places such as next to a staircase or in the hallway, playing becomes accessible and above all spontaneous. The different elements each have their own properties to stimulate the development of children.

Starting with the ground floor. Both buildings have their own entrance on the courtyard side. The entrance to the main building is in the middle, where you walk past the desk when you enter. If you continue you will end up in the middle of the building. When you walk straight ahead you will reach the main stairs and elevators. When you turn left you go more towards the sport oriented functions. Here you have a waiting room, changing rooms, technical room and the gym. When you turn right you come to the first school oriented functions. This is where the lower primary classrooms are located. These are located on the courtyard, and share a more private schoolyard with the children's karting. There are also open play areas and a large technical room. At both ends of the corridors are stairs again that take you to the next floor. On the first floor, on the left, there is a view of the gym from the refectory. This refectory has a small kitchen where small snacks can be obtained. It also serves as a transition space between the school functions and the sports functions. To the right of the facade are the teachers' rooms and offices, with the assembly hall at the far end.



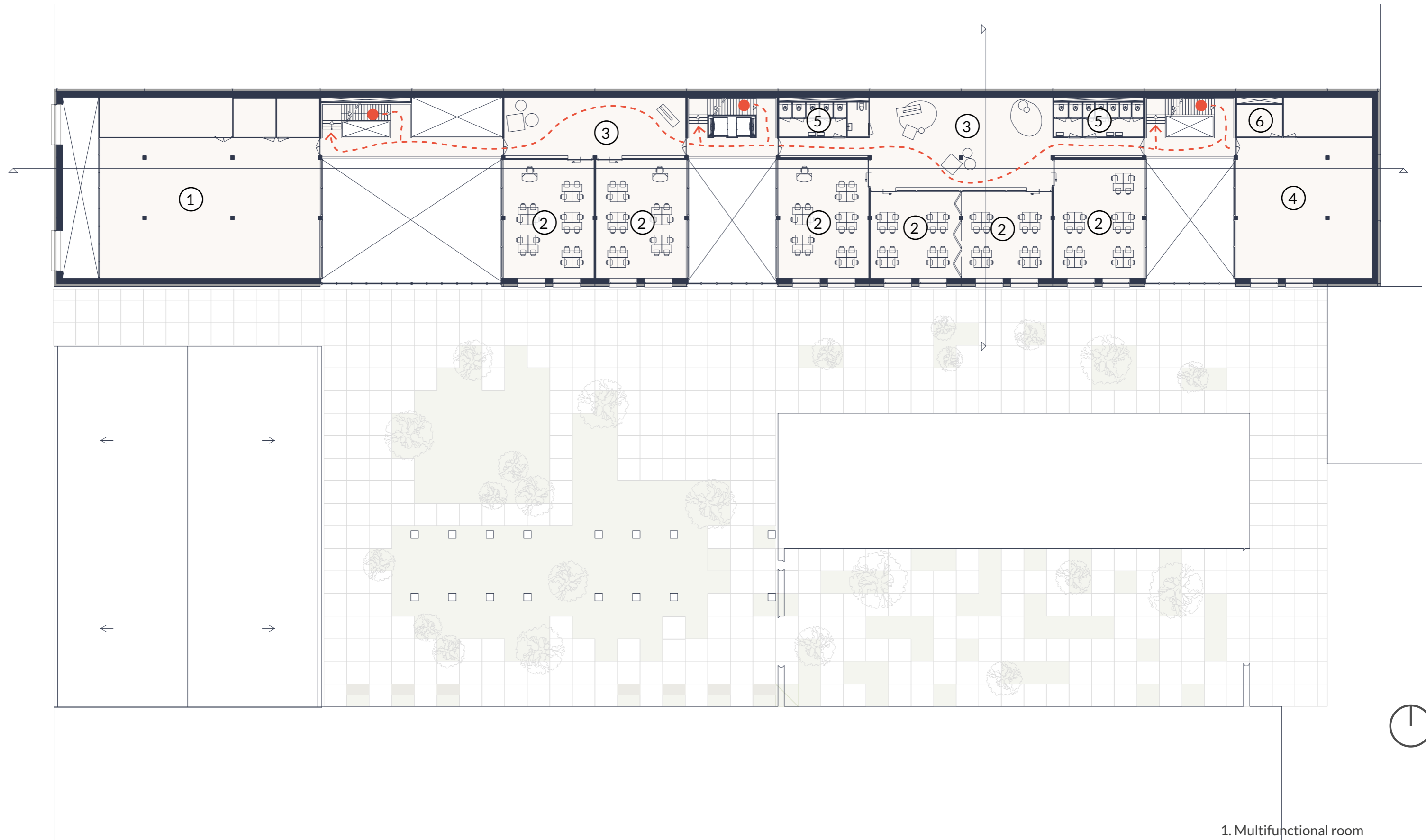


GROUND FLOOR



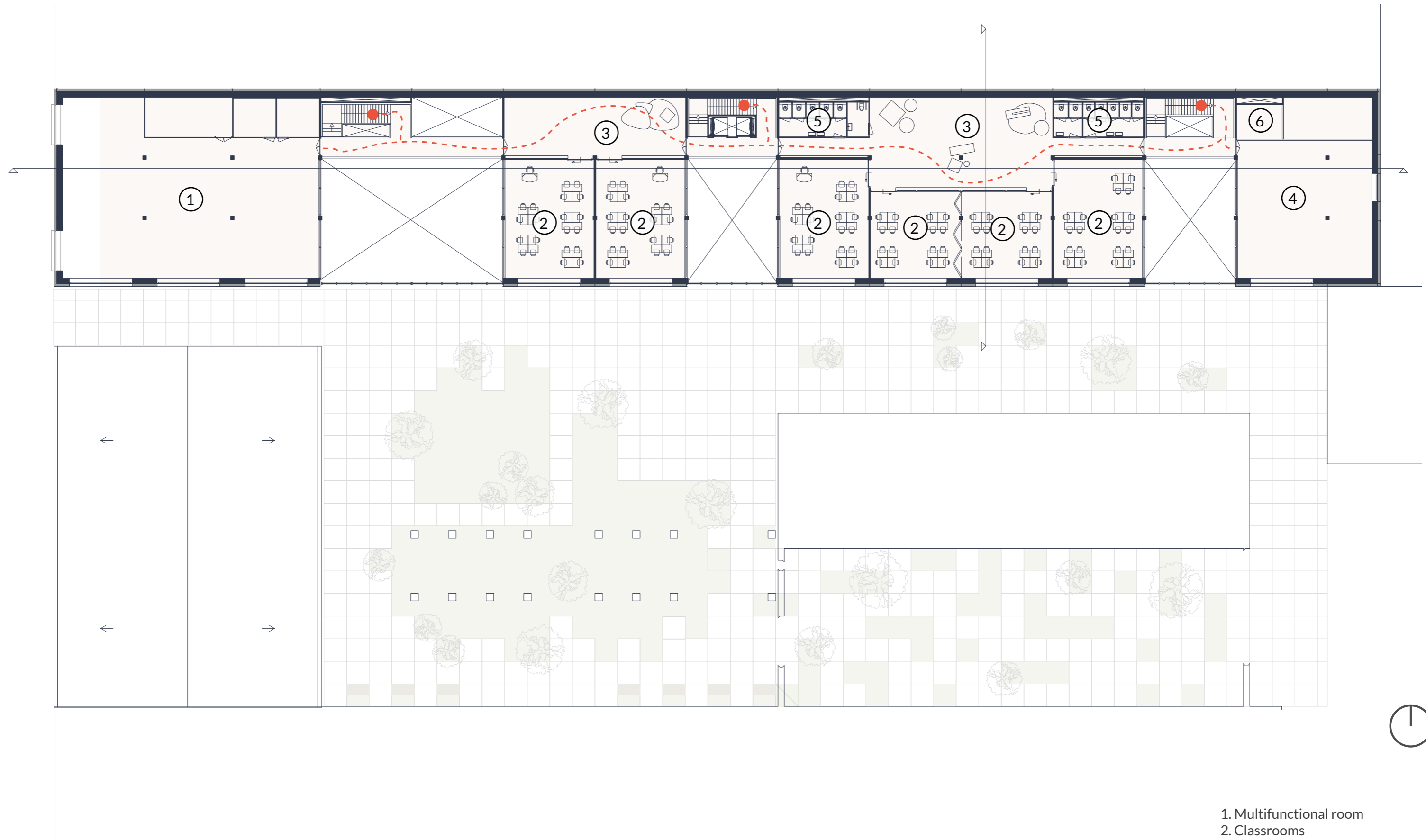
- 1. Refectory
- 2. Kitchen
- 3. Library
- 4. Assembly hall
- 5. Toilets
- 6. Staff room
- 7. Offices
- 8. Meeting room
- 9. Tribune

FIRST FLOOR

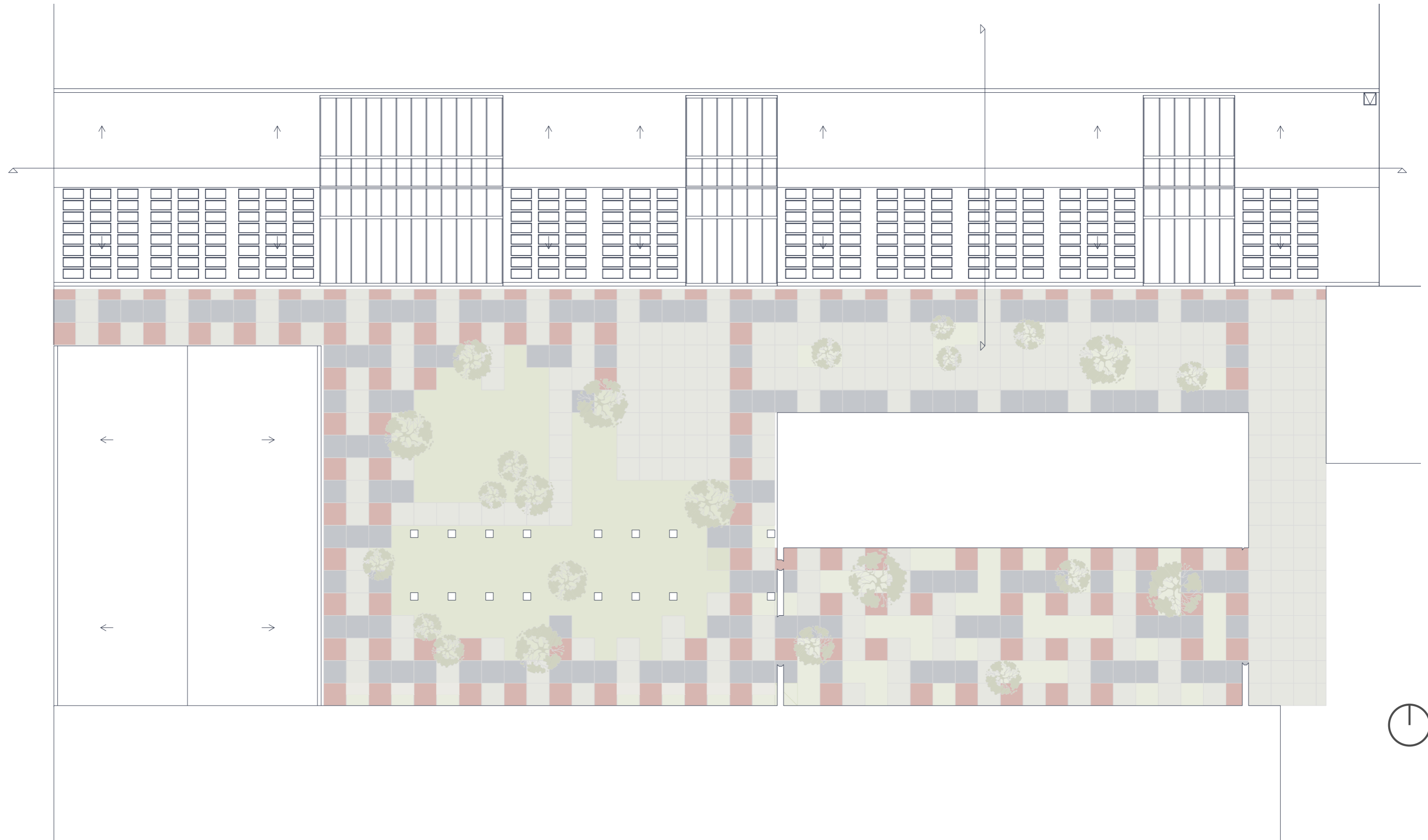


- 1. Multifunctional room
- 2. Classrooms
- 3. Play area
- 4. Computer lab
- 5. Toilets
- 6. Storage

SECOND FLOOR



- 1. Multifunctional room
- 2. Classrooms
- 3. Play area
- 4. Music / crafts room
- 5. Toilets
- 6. Technical room
- 7. Storage



ROOF PLAN

Integrating sports and games into the daily routine is something I have learned from my research. The building itself is industrial, and the additions are made of wood, a warm contrasting material. The sports and play elements in the school building deviate from this and are instead executed in bright colours. This actually triggers activation and movement. By adding these elements in places such as next to a staircase or in the hallway, playing becomes accessible and above all spontaneous. The different elements each have their own properties to stimulate the development of children.

**MOTOR**

- Running

**COGNITIVE**

- Challenge each other
- Trigger to play in daily routine
- Recognizable play elements

**SOCIAL**

- Multiple lanes allow for competition



**MOTOR**

- Diversity of play elements

**COGNITIVE**

- Trigger to play in daily routine
- Recognizable play area

**SOCIAL**

- Watch others play
- Many different play options



**MOTOR**

- Sliding
- Climbing stairs (as a game)
- Climbing up via the slide

**COGNITIVE**

- Different speeds of movement (sliding vs walking)
- Different ways of descending
- Use of play in the daily routine

**SOCIAL**

- Watch others play
- Competitions (Sliding, climbing etc.)



**MOTOR**

- Climbing
- Jumping
- Balancing
- Pulling up your own weight

**COGNITIVE**

- Observing the route that could be taken
- Training the judgment (Different heights and risks)

**SOCIAL**

- Interaction between people taking the stairs and climbers
- Challenge each other for a competition

**REFLECTION**

I've come to the conclusion over the years that I enjoy working on small to medium-sized projects. This is mainly because I like to make the architectural language that I portray both esthetically pleasing, but above all also manufacturable. So that it also radiates my intended quality on a more detailed level and not just as concept. With my graduation I wanted to take on the challenge of going on a bigger scale than I did before. Besides this, I have always been fascinated with the interaction between existing and new in terms of design. In my opinion, context is always an important factor, but especially if the context is sensitive because of, for example, its cultural or social value. My interest therefore fits in well with the theme of the studio 'Glaneurs, Glaneuses'. The concept of 'Gleaning' is the central theme of the studio, which means "to gather grain or other produce left by reapers." and "to gather information or material bit by bit" (Merriam-Webster, 2021). With my thesis I therefore looked at the existing situation. What produce is left by the reapers? What existing urban fabric is left and what kind of potential does it hold? My research thesis 'Left-over space' explores the various residual spaces in the city of Maastricht, and the value of these places. And how, through architecture, these left-over spaces can be used to create a well-functioning city with a focus on sports and games.

The research topic is inspired by the fieldwork that we conducted in a small group during P1 in which the terms 'Overhead, underneath and in-between' were analyzed in Maastricht, especially in and around the industrial site. We started as a group by defining the terms, which at first glance seem very concrete and definable. But turned out to be a lot more than that. The research began with understanding the contextual layers of the site that define these terminologies.

Because we had an enormous diversity of characters and interests in our group, we complemented each other well and we balanced each other. We have been to Maastricht several times to talk to and interrogate people, to make observations and experience the environment ourselves. We also examined the area from a birds-eye perspective. By investigating at the historical layers, the different types of transport, borders and territories and many more. In short; the study was a combination of both qualitative and quantitative research. As a result, we have examined and mapped many layers, both the tangible and the intangible. This was a long and arduous process, mainly because we didn't know exactly what to work towards. At one point, out of curiosity, we superimposed the different maps and then we found out how much they had in common. The overlay brings forth the various degrees of entanglements

within the site and sets the trajectory of the research. The overlap of maps revealed a number of points where the different layers often converged and some did not. We examined these points in more detail by abstracting the different layers from each other. We did this by making a hanging wire model that showed the different layers that form so-called entanglement in combination with image projections on top of them. This combination showed both the tangible and the intangible layers.

Looking back on this part of the research, I'm still satisfied with how we handled it. By applying the different research methods, we have managed to create a unique view on the terms 'underneath, overhead & in-between'. And also, to visualize them clearly for others to understand. We have come to the conclusion that this research acted as an introduction, opening up different avenues of research into the multifaceted nature of the in-between; through the tangible and the intangible, the natural and the manmade, the chaos and the order, the ordinary and the extraordinary, and, the real and the perceived. Each of which could lead to diverse sets of architectural explorations and hence diverse definitions of the 'Inbetween'. Such as the guiding theme of this thesis; 'left over space'.

My interest was aroused, so I decided to continue with these so-called inbetween/left-over spaces. Because we hardly pay attention to the possibilities of what has already been built. Making use of these left-over, underused spaces is where I saw an opportunity for myself as a designer. To glean the so-called waste and turn it into something of value. I started reading a lot of literature to better understand the term and to link it to my own project. This was a difficult process because the term is not so much tangible and there are many different views of on the matter. The further investigation of these left-over spaces paralleled with the formation of new groups for an urban plan of our project site Sappi in Maastricht. The choice of group members was based on common interests and research, so that we could incorporate this into our master plan. This was the first step where we've been researching and processing our findings, in my case about left-over spaces, into our design. Here again we have conducted many studies related to the context.

What I struggled with during my own research was the transition from left-over spaces on an urban scale to an architectural interpretation on a smaller scale. But this began to take shape during analyzing the site with our new urban group. One conclusion that fascinated me was that there are very few sports and play opportunities in Maastricht. Even according to various official studies, Maastricht ranks very poorly on this matter. This is the moment I could see a link

between left-over spaces and sports and play. Sports, exercise and play is something that is done by all ages, some more consciously than others. The next step was finding suitable programs and functions for our masterplan that complement our findings. After many discussions within the group, I came to the conclusion to go for a community school; a primary school with a focus on sports and exercise. The idea with this program is to bring sport and exercise back into the city with a function that attracts multiple age groups. Primary school is a period in which children play a lot in their early years, and the older they get, the more playing is replaced by sports. In addition, sports and games are also something that takes place outside school hours, so that so-called left-over space is given substance throughout the day. This was the moment when my research made the switch from the urban scale to my individual design. To stay within the framework of left-over space, I have chosen to transform an existing building instead of a new one. I explained this during my P2 presentation.

During my P2 presentation I explained my proposal and I was advised to adopt a more reflective attitude every now and then, and not to make decisions too quickly to continue. This made me look again at my individual project and site and I chose to re-analyze the qualities and characteristics of the existing environment. Something that I still benefit from today, in my opinion I am more aware of the characteristics and qualities of the buildings, and I now know how to use them better.

After this presentation, I put the research on hold for a while and focused on the architectural design. This is something I wish I had done differently looking back. By focusing mainly on designing, I gradually lost sight of my basic principles of why I actually wanted to go for a primary school in the first place. I noticed that I got stuck at certain points because I couldn't properly substantiate why I was doing something. This was the moment that I resumed the investigation. I have conducted several case studies on playing in the city, what the needs are for and how sports and games can be applied. This subsequently sent me to see sports and play not only as a separate function within the school, but to integrate it completely into the design. By taking a step back, it has helped me to make faster and well-founded choices.

I found it difficult to actually project my program into the existing buildings. The building, PM5 (Paper machine 5), that I have been working on is an important building for the history and character of the Sappi factory. It is an elongated building of almost a hundred meters that is completely built in on 2 sides. I knew in advance that this would be a nice challenge because of the limited daylight, while a school requires a lot of

daylight. In addition, I wanted most of the spaces I add to be multifunctional. For example, the sports halls should also be used for official matches. This means that the sports halls have enormous dimensions and are therefore very decisive for the design. I found this especially difficult because I wanted to preserve as much of the existing building as possible. Looking back, it was sometimes regardless of whether it actually added value to the building. In addition, I tried to preserve the characteristic long trench that housed the old paper machine, and to make a contrast with the sturdy industrial hall and the soft additions of a school. This was a difficult assignment in terms of room circuits as well as construction technology and building physics, which I struggled with for a long time.

The weekly tutoring sessions were great moments that helped to keep an extra grip on the design process. It helped to keep looking critically at my design choices so that my motives remained strong and grounded. In addition, I also regularly talked to fellow students to discuss certain ideas and problems. What was a difficult part of the tutoring was the constant substantiation of the architectural choices in the building engineering tutoring sessions. Such as, for example, the choice of materials for the new plinth to be built. It is my concept to preserve the industrial character of the hall as much as possible. Which means that they are tough, rugged and tectonic materials. On the inside, I want the new additions to be friendly and contrasting with the hard outer shell. This gave me the reason not to introduce new materials apart from the contrasting interior. This resulted in a self-supporting concrete plinth that was a well-founded choice from an architectural point of view. Because concrete is known for its non-environmental friendliness, this gave a discussion during the construction technique guidance. Which led to my motivation not being sufficient to use such a polluting material. Because of this I again made a lot of material studies and design options for several weeks, which took a lot of time. In the end I ended up with using concrete again because the other material studies did not fit the concept as much. The different studies resulted in a better thought-out plinth in both material and aesthetics. The downside is that I would rather have spent this time shaping the sports and play areas in the school. Something I will continue to focus on between my P4 and P5.

Looking back at both my research and design I can say that it has not been a linear process. Both with design and research I had to take a few steps back a couple of times in order to continue. Of course, this isn't necessarily a problem, but I think that if I had made a clearer plan of action for myself beforehand, this would have given me more guidance. Nevertheless, I can look back on a generally enjoyable process in

which I learned a lot, including about myself. I believe that both the research and the design that went hand in hand responds to a contemporary problem. The world is becoming more and more crowded. But are we actually taking a good look at what has already been built and how the existing fabric works? It's not just about making a cool and unique building, it's about the role that your building plays in the environment. It's about cleaning up, not just demolishing what is not needed, but especially using what is already there and not working properly. And that personal goal has succeeded for me.

**BIBLIOGRAPHY**

Carmona, M. (2010). Contemporary Public Space: Critique and Classification, Part One: Critique. *Journal of Urban Design*, 15(1), 123–148. <https://doi.org/10.1080/13574800903435651>

Centraal Bureau voor de Statistiek. (2022, February 25). Inwoners per gemeente [Dataset]. Retrieved April 21, 2022, from <https://www.cbs.nl/nl-nl/visualisaties/dashboard-bevolking/regionaal/inwoners>

City of New York. (2010). Active Design Guidelines: Promoting Physical Activity And Health In Design. New York City: City of New York.

Daan, B., Peeters, K., Fink, A., & Gemeente Amsterdam. (2019). *Spelen in de stad*. Amsterdam University Press.

Dattner, R. (1974). *Design for Play*. Amsterdam University Press.

de Vries, M. (2020, October 6). Spelen als ruggengraat van de leefbare stad. *A.Zine*. Retrieved April 26, 2022, from <https://a-zine.nl/2020/10/06/spelen-als-ruggengraat-van-de-leefbare-stad/>

Dellas, V., van den Dool, R., & Collard, D. (2018). Ontwikkeling buitenspelen bij kinderen in Nederland (No. 2018/4). Mulier Instituut. [https://www.kenniscentrumsportenbewegen.nl/kennisbank/publicaties/?ontwikkeling-buitenspelen-bij-kinderen-in-nederland&kb\\_id=23494#:~:text=factsheet%202018%2F4&text=In%20de%20media%20wordt%20vaak,tot%20en%20met%20elf%20jaar.](https://www.kenniscentrumsportenbewegen.nl/kennisbank/publicaties/?ontwikkeling-buitenspelen-bij-kinderen-in-nederland&kb_id=23494#:~:text=factsheet%202018%2F4&text=In%20de%20media%20wordt%20vaak,tot%20en%20met%20elf%20jaar.)

Felder, N., & Karsten, L. (2016a). *De nieuwe generatie stadskinderen* (1st ed.). Macmillan Publishers.

Felder, N., & Karsten, L. (2016b). *De nieuwe generatie stadskinderen* (1st ed.). Macmillan Publishers.

Glean. 2011. In Merriam-Webster.com. Retrieved October 8, 2021, from <https://www.merriam-webster.com/dictionary/glean>

Hens, T., De Ridder, R., Van Broeck, L., & Kast, J. (2020). *Wanderspace Zwerfruimte* (1ste ed.). nai010 uitgevers Rotterdam.

Karsten, L., Kuiper, E., & Reubsaet, H. (2001). *Van de straat? Koninklijke Van Gorcum*.

Lucassen, J. M. H., Singh, A. S., Heijnen, E., & Slot-Heijs, J. J. (2020). *Buitenspelen 2020 - Een verkenning van het beleid in Nederland en Europa*. Mulier Instituut. <https://www.mulierinstituut.nl/publicaties/25469/buitenspelen-2020/#:~:text=samenvatting%3A,niveau%20en%20in%20andere%20landen.>

Lynch, K. (1984). *Good City Form* (Reprint ed.). The MIT Press.

Raisbeck, P. (2016) *The Architect as Gleaner: Design Practice as Performance in the Architectural Office*. In: Chan, P W and Neilson, C J (Eds.), *Proceedings 32nd Annual ARCOM Conference, 5-7 September 2016, Manchester UK*. Association of Researchers in Construction Management, 771–780.

Tamas, A. (2009, August). Interview: Robert Venturi & Denise Scott Brown, by Andrea Tamas. *ArchDaily*. Retrieved November 1, 2021, from <https://www.archdaily.com/130389/interview-robert-venturi-denise-scott-brown-by-andrea-tamas>

Tiesdell, S., Oc, T., & Heath, T. (1996). *Revitalising Historic Urban Quarters*. Architectural Press.

Timmermans, P., Meinema, W., & Snel, N. (2013). *Buitenspelen 2013 - kwaliteit van de speelomgeving in de eigen buurt*. TNS NIPO. [https://www.kenniscentrumsportenbewegen.nl/kennisbank/publicaties/?buitenspelen-2013&kb\\_id=12118](https://www.kenniscentrumsportenbewegen.nl/kennisbank/publicaties/?buitenspelen-2013&kb_id=12118)

Toronto Public Health. (2014). *Active City: Designing For Health*. Toronto: City of Toronto.

Trancik, R. (1986). *Finding Lost Space*. John Wiley & Sons Inc.

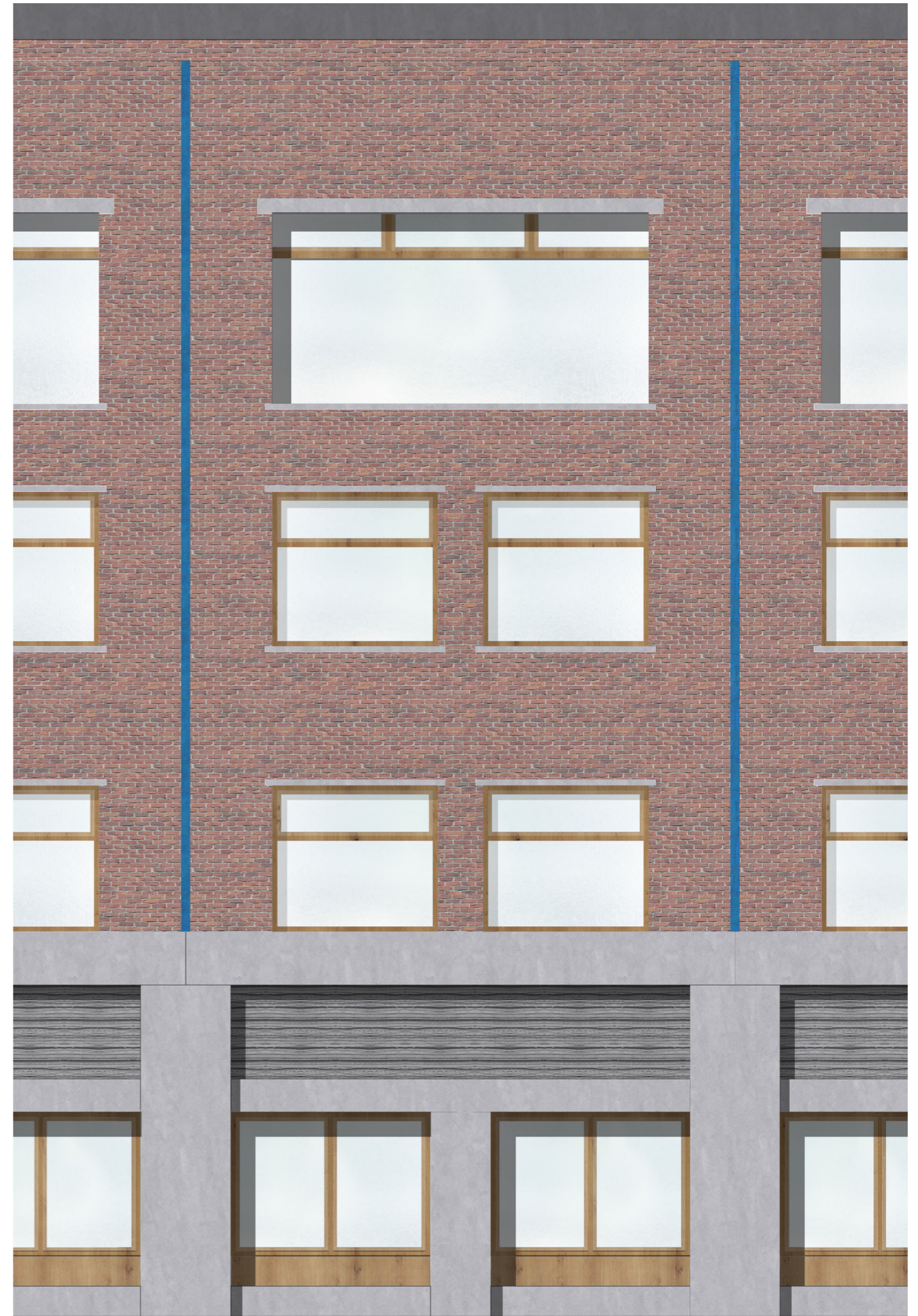
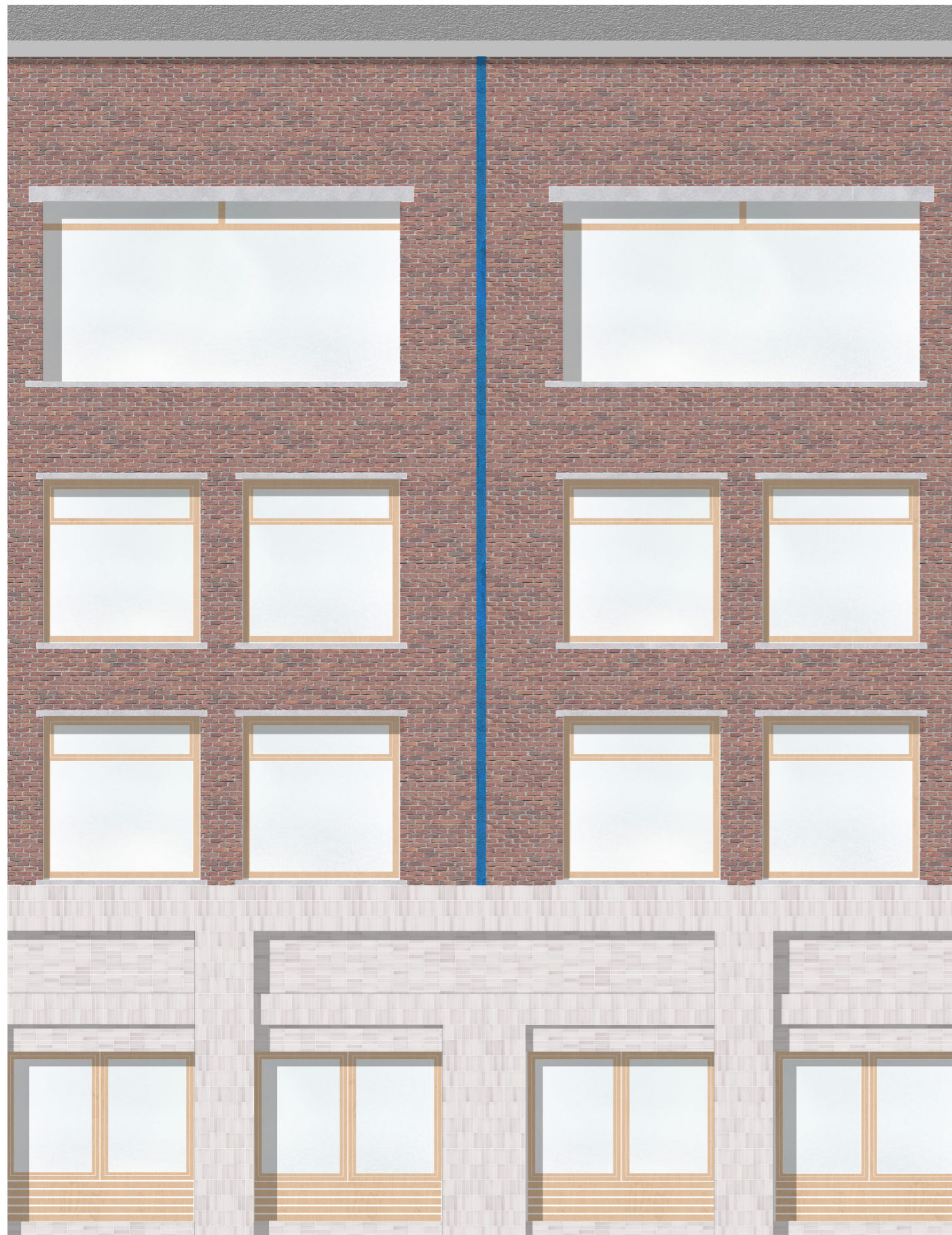
Zimring, C., Joseph, A., Nicoll, G. L., & Tsepas, S. (2005, Februari). Influences of building design and site design on physical activity: Research and intervention opportunities. *American Journal of Preventive Medicine*, pp. 186-193.

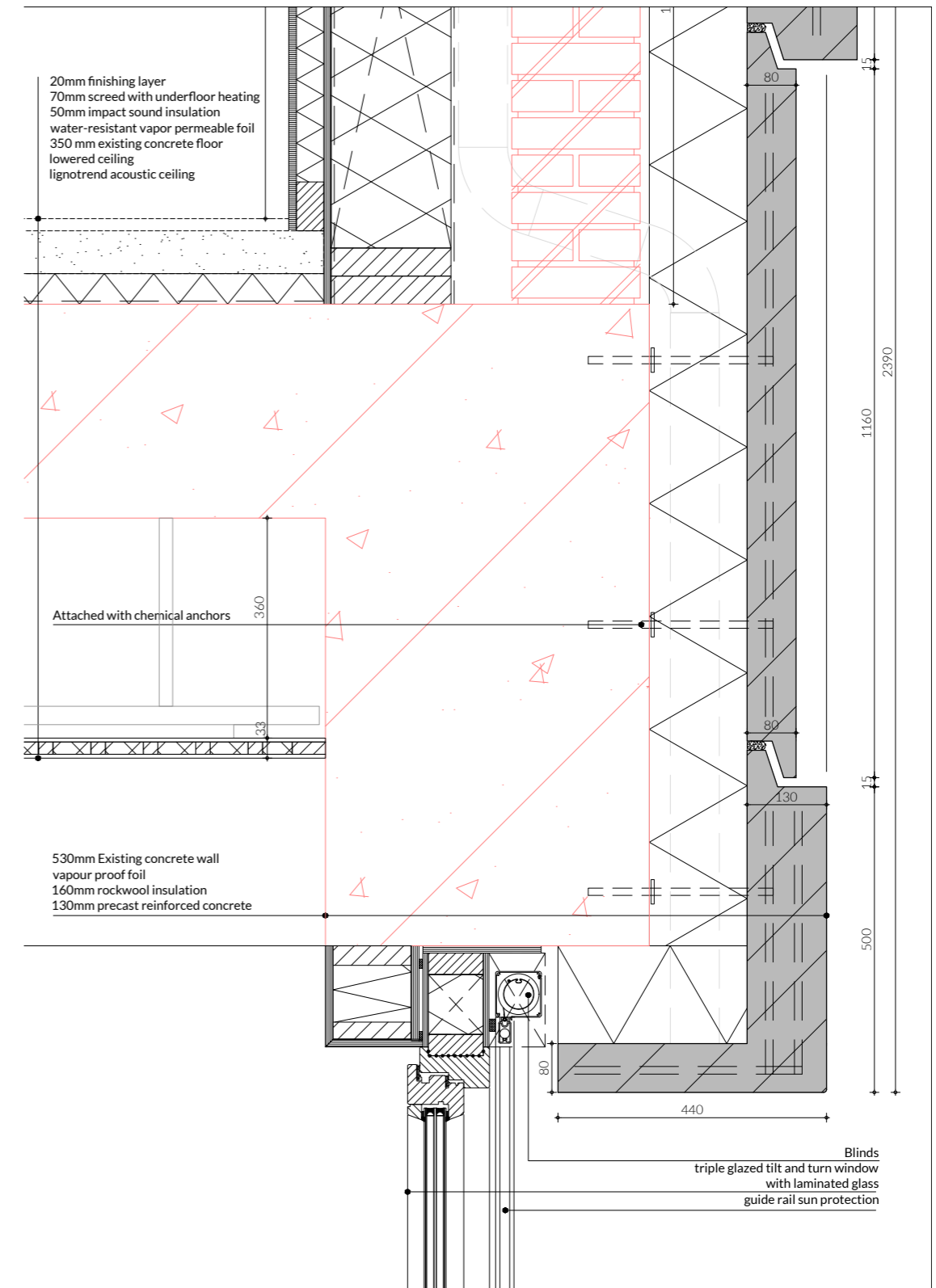
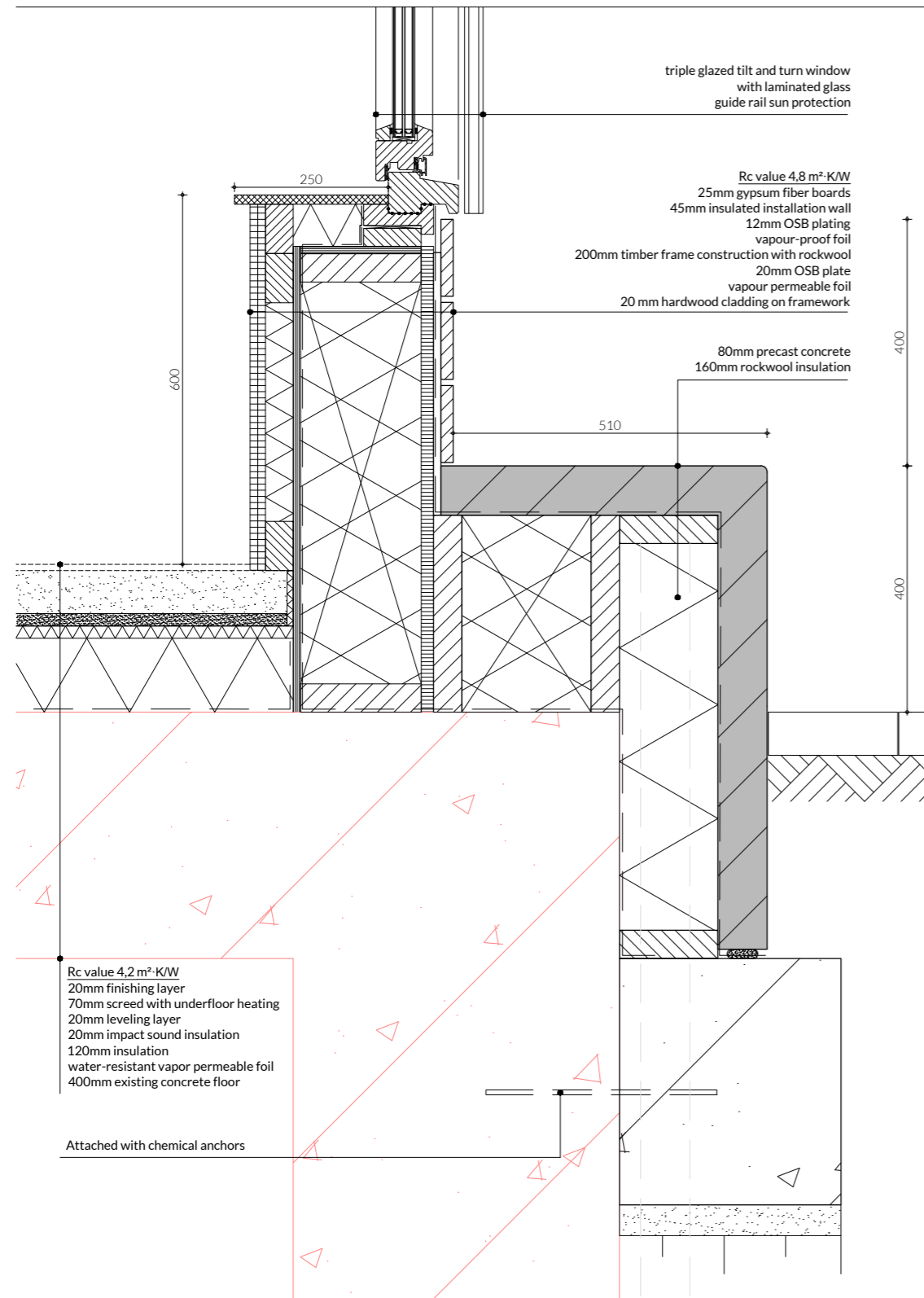
## OTHER PRODUCTS

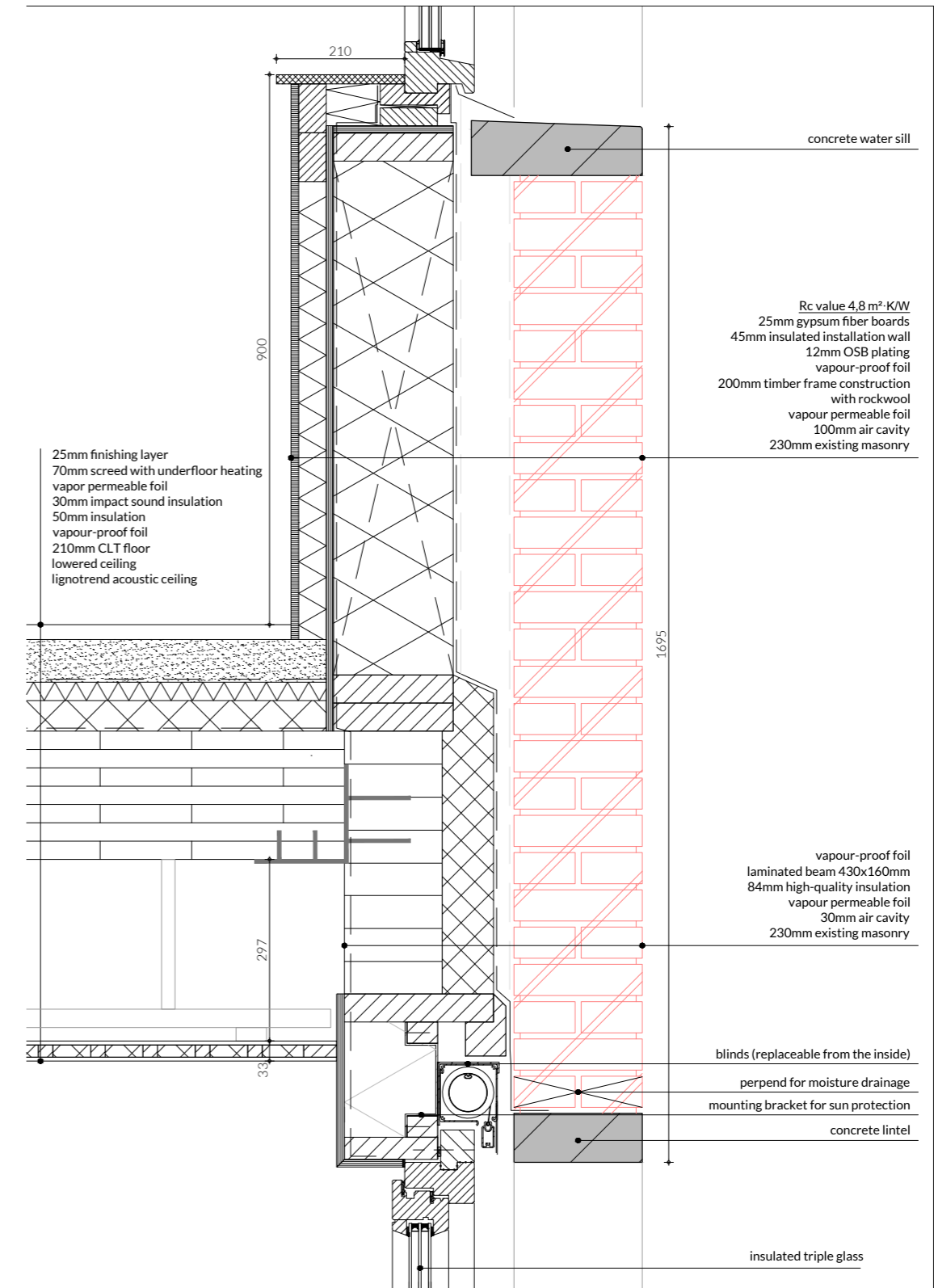
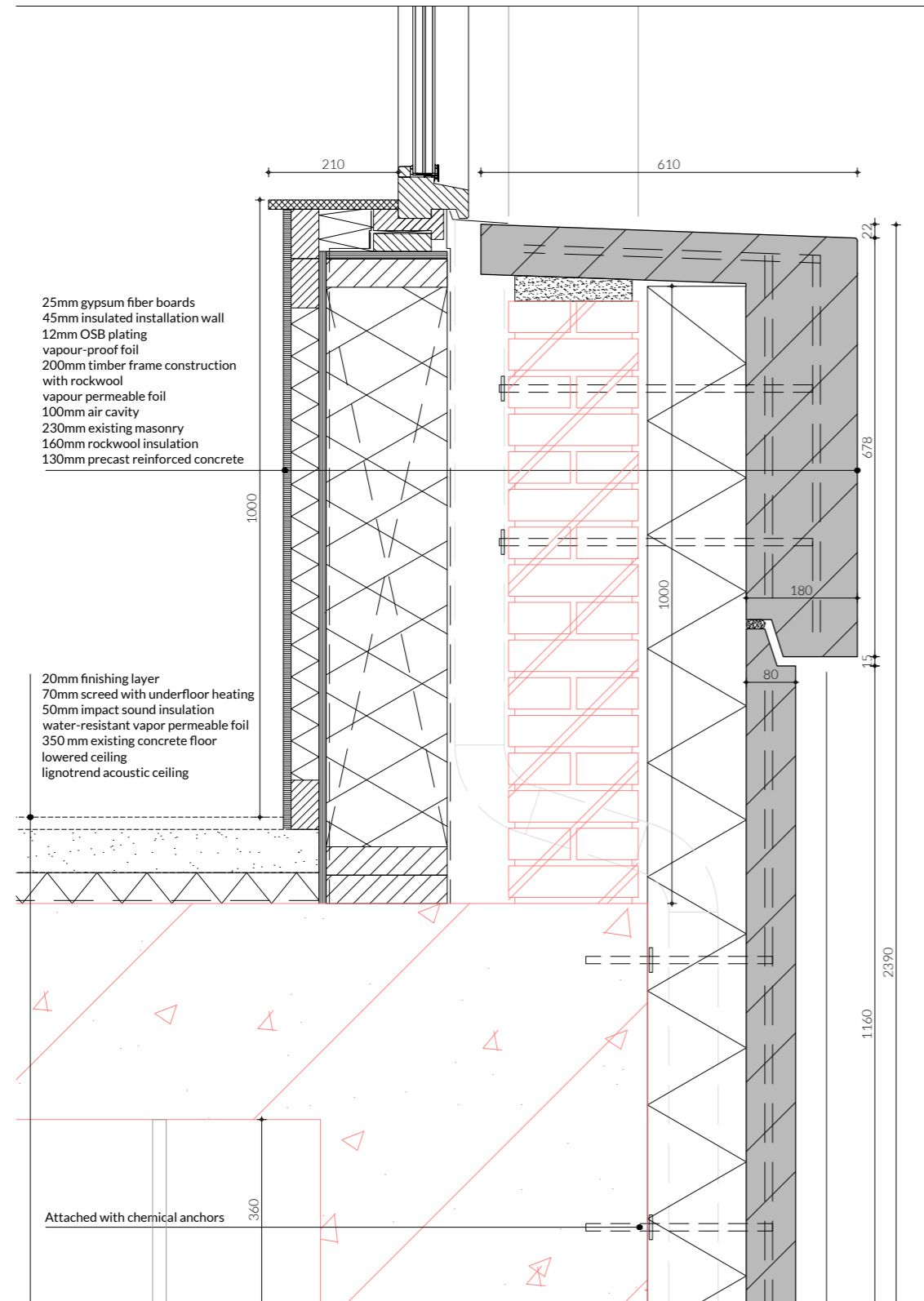
Many products were made during the entire graduation period. In this chapter you will find the products that have had the most influence on my process. In addition, hundreds of hand sketches have been made with, among other things, floor plan options. These have not been included in this chapter due to their number.

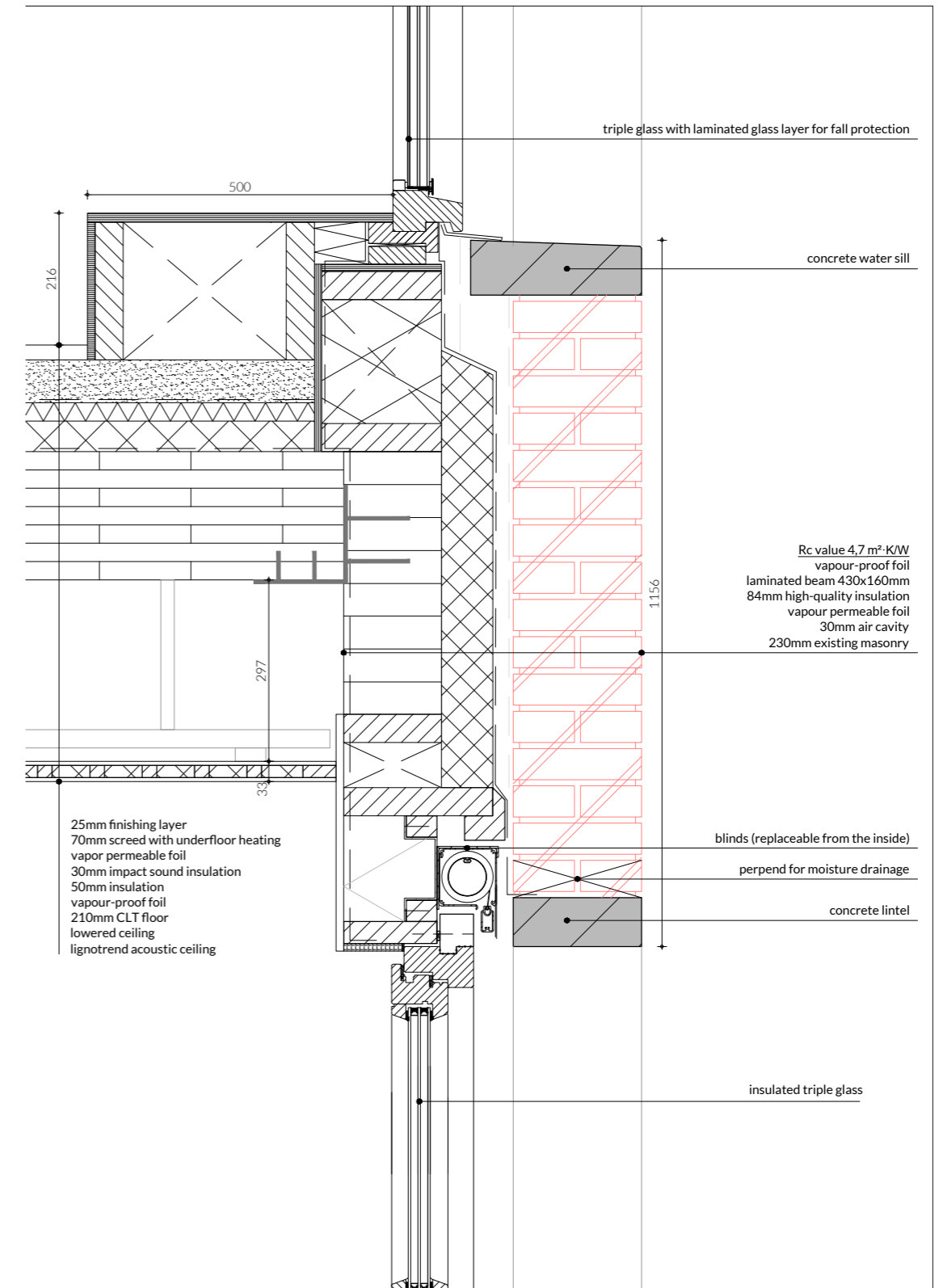
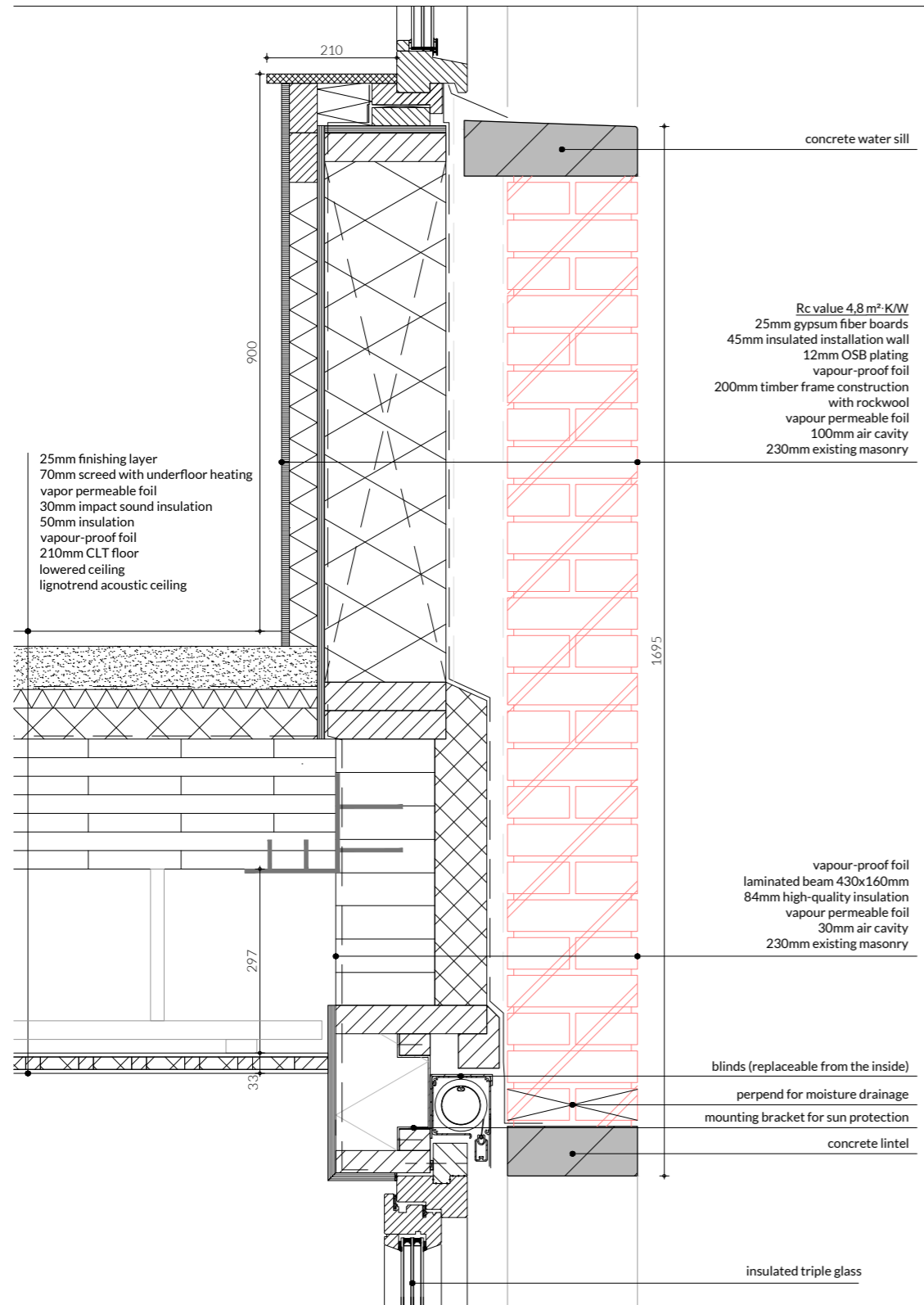
Several weeks of studies have preceded the materialization, both in terms of materialization and composition. I wanted to preserve the characteristics of the industrial building as much as possible. The concrete ground floor is especially characteristic and an added value from the inside, while the brick facade above it is in good condition from the outside. The inside is run down and full of patchworks that are poorly executed. In addition, it was my starting point to make as much use as possible of what is available, provided it has added value. For this reason I insulated the ground floor from the outside, while the shell above is insulated from the inside. This resulted in a thermal bridge that had to be absorbed by an insulation package of one meter. The following pages show some of the skirting studies that led to the final design.

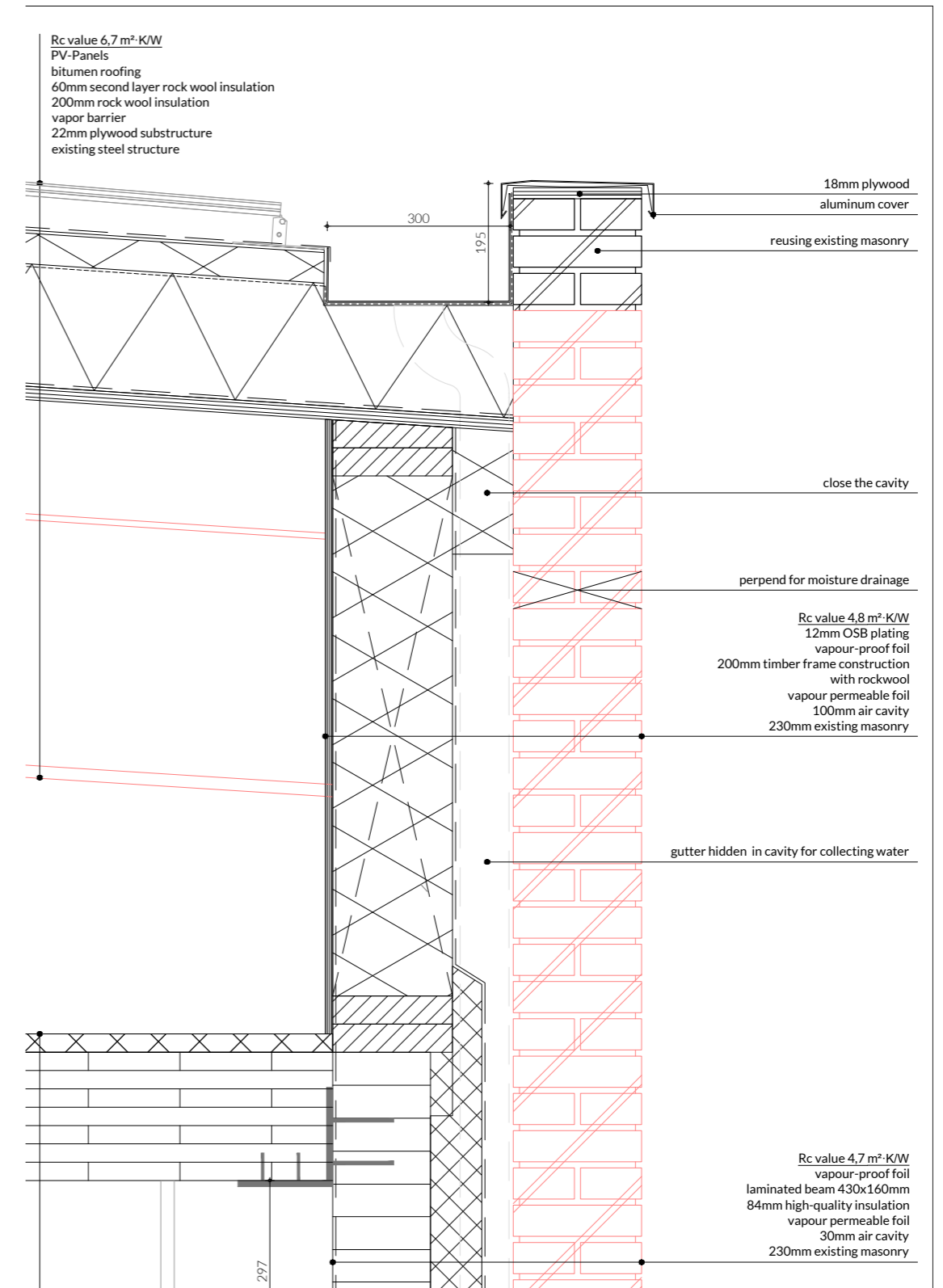
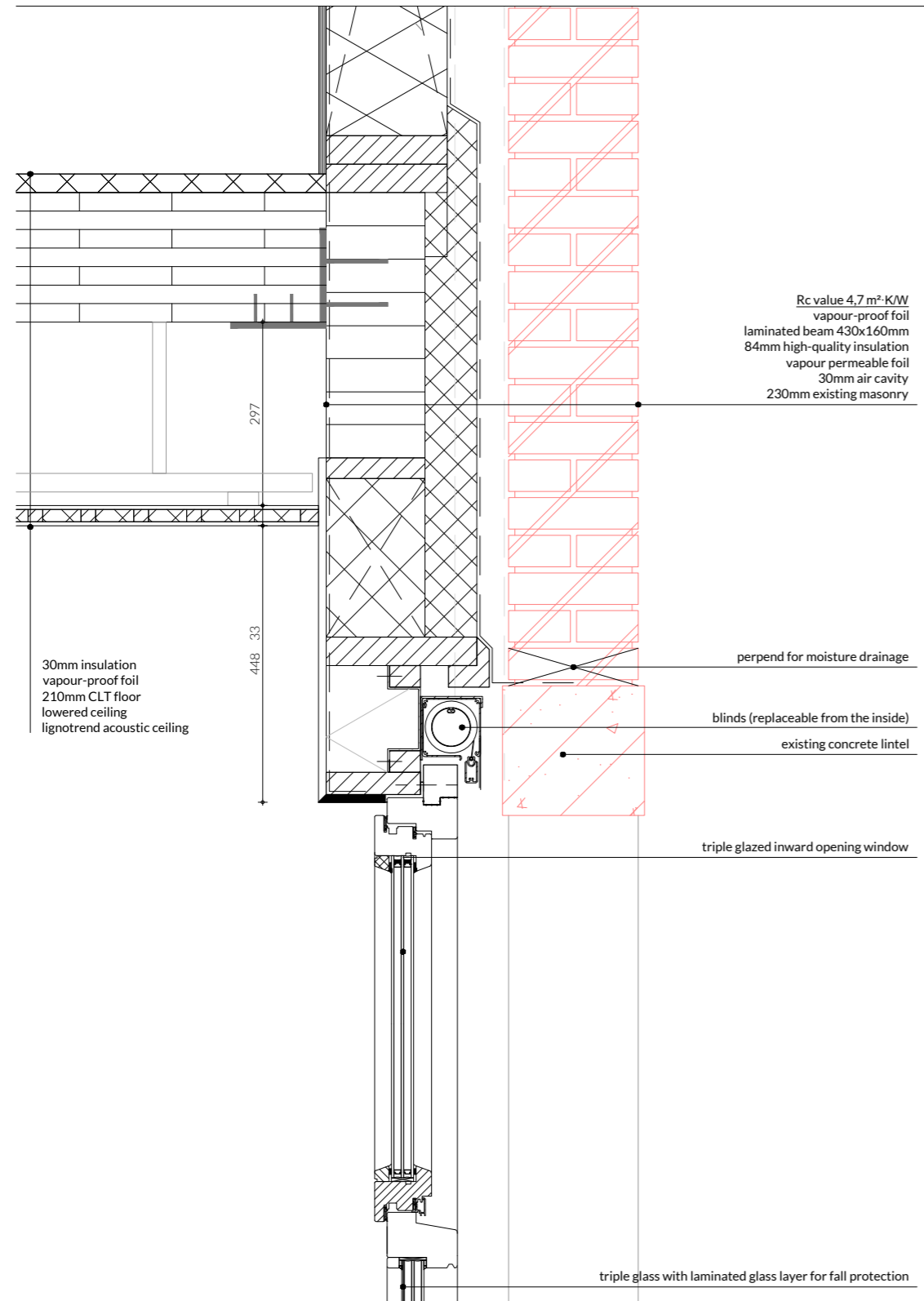


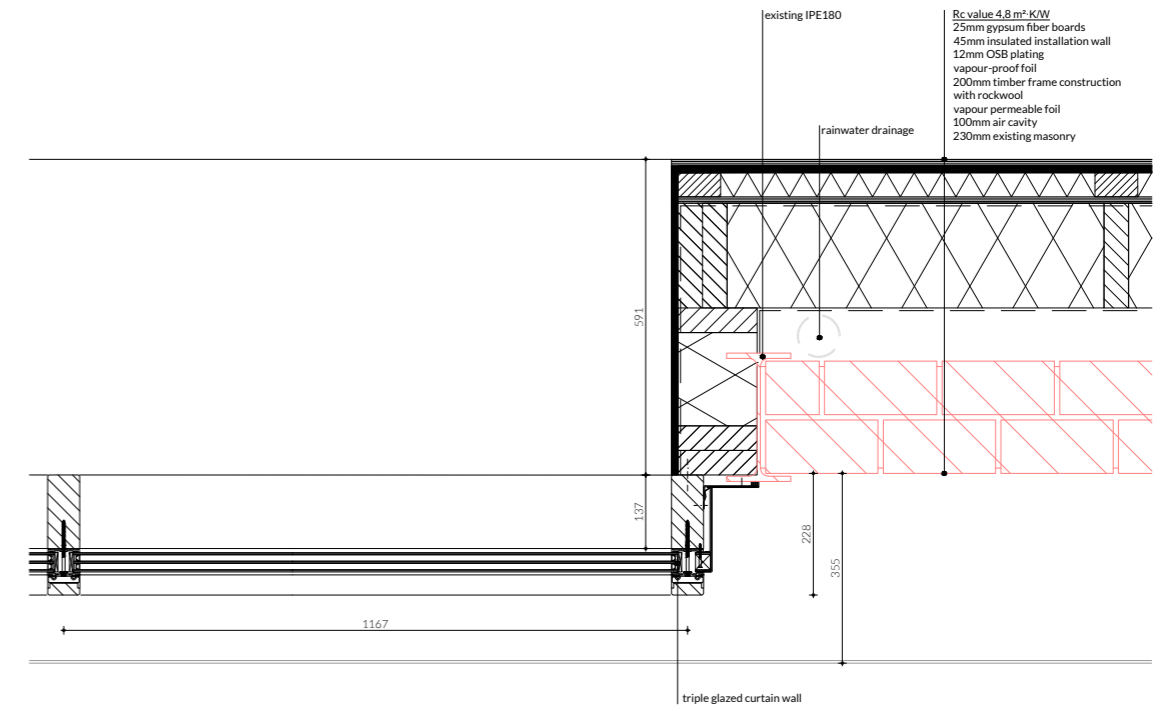
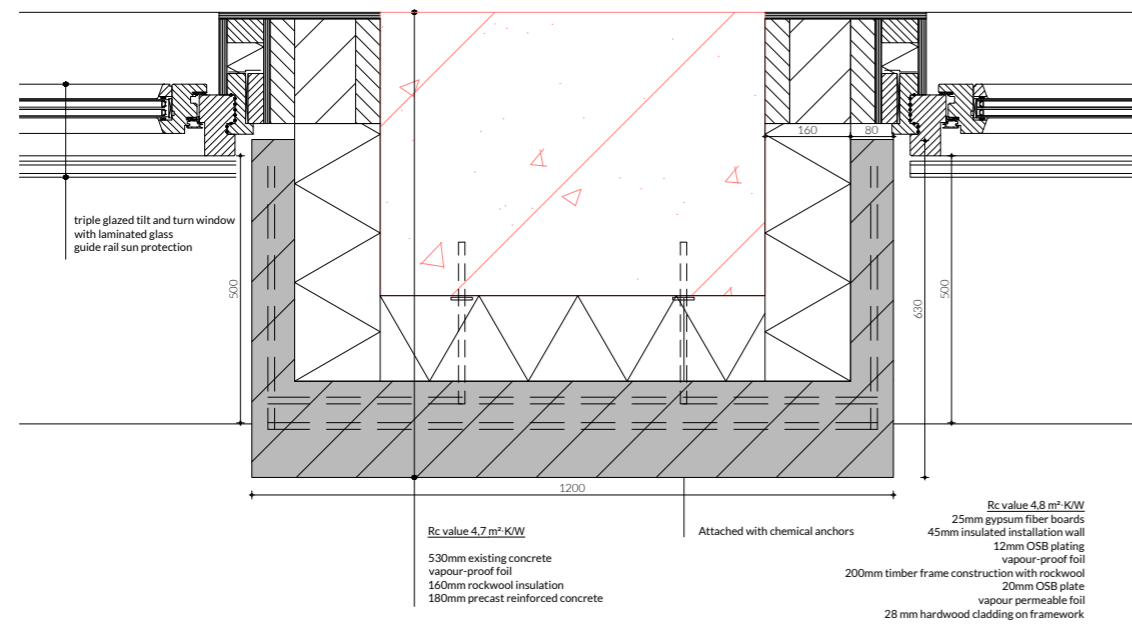








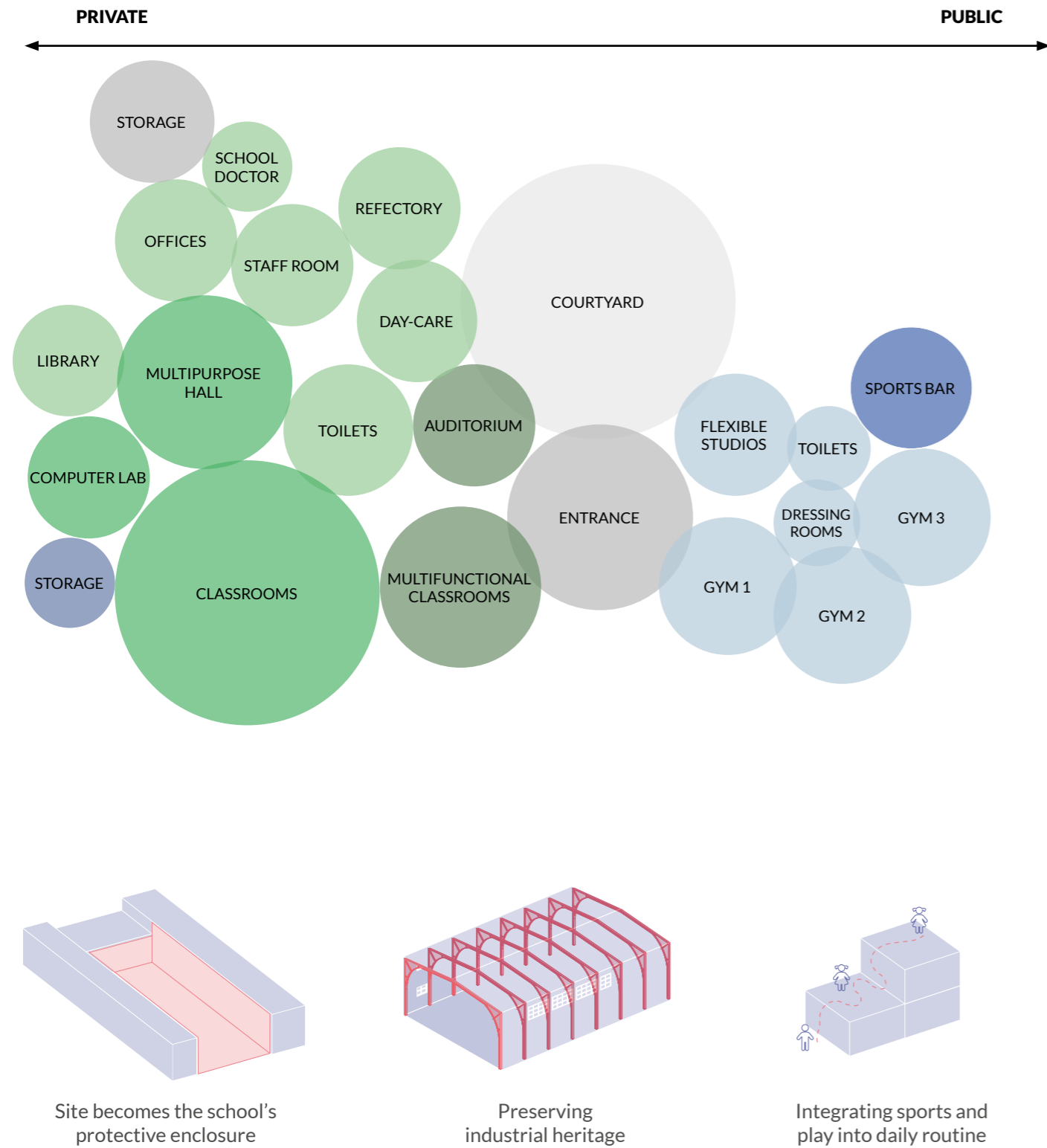




VALUE ASSESSMENT



- HIGH VALUE
- MEDIUM VALUE
- LOW VALUE



After this initial setup, I decided not to use both half factory halls, but the full length. Because this would give too much square meters to do for both buildings, I chose to work with the upper hall (PM5) and the prepulp building (middle). The reason I continued with the entire building is because by using the entire building I make more use of the potential and characteristics. What makes it difficult in this building is that it is completely built-in on two sides and therefore limited daylight is available. Many weeks of sketching design options eventually led to the following floor plans that can be seen on the next page.

