BRICOLAGE
OF TIME AND SPACE

A JOURNEY TROUGH THE TRANSFORMATION OF MOLENPOORT

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Bricolage of Time and Space:
A journey trough the transformation of The Molenpoort

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Architecture is the product of an on going, never ending, design process in which environment transforms part by part.
— Habraken (1998)

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ABSTRACT

Nijmegen, known as the oldest city in the Netherlands, shows many periods and events in history in its architecture. Ruins, walls and contrasts of styles are proof of events that had shaped the city as we can see it today. In the borders of the centre, The Molenpoort, a hybrid between a shopping mall and a passage that was before a place of encounter, has to turn into an empty area and is now about to change.

The following document aims to present architecture as a process in continuous transformation, exploring how new interventions can adapt to existing conditions, respond to given needs, and speculate about a future in which buildings will need to evolve.

A decomposition of the city and the site's layers and fragments will be the base for an architecture intervention. Strategies to create an adaptable architecture to its contexts and can be transformed in the future will be explored and implemented in an urban proposal.

Bricolage will be used as a methodology to achieve a project that combines many elements that the city has to offer into a coherent architectural proposal.

CONTENTS

CHAPTER 1

THE JOURNEY BEGINS

INTRODUCTION

Time:

"Nonspatial continuum that is measured in terms of events which succeed one another from past through present to future."

Merriam-Webster (n.d.)

Past, present, future constitute the linear conception Past, present and future constitute the linear conception of time. Day and night, weeks, months, seasons reflect the cyclical time in continuous repetition. Seconds, minutes and hours show the progression of the clock that shapes our schedules. People experience a hybrid of cyclical and linear time intimately linked to the senses, stimulated by the characteristics of the environment and the meaning given by the culture they belong to.

We can conceive time as much more than the hands of the clock endlessly moving. The word's origin comes from the Old English "tīma", which comes from the Germanic word "tide", related to temporal senses. The earliest version of the term as a verb means "to do something at a precise moment". Time is about events that happen under specific circumstances related to the location where they take place. Space is the stage that offers the conditions for actions to occur. Many cultures describe both terms, time and space, by the same word.

Cities, buildings, streets are in a continuous metamorphosis changing how we perceive the built and unbuilt environment. However, changes never emerge in the vacuum; they are responses to events, consequences of decisions made by individuals or collectives, things that can be or not under the control of cities inhabitants reflecting politics, technology, and environmental factors relevant in the moment.

Places are composed of pieces that tell stories. Our cities are a form of bricolage of layers and fragments of history that reflect societies' evolution. We can read how space has evolved from organic patterns that follow the landscape until finding discontinuities that had left marks in buildings and urban areas through architecture and the urban grid.

However, there have been moments of disconnection when intentions to erase the past and start something completely new became the rule for architecture and urban development, especially in modern times. Plans for constructing ideal cities were proposed and executed, led by economic and political forces.

Existing buildings were slowly forgotten and unmaintained, leading to future demolitions that brought as a consequence massive destruction, waste generation and pollution, affecting the quality of life of all beings. Peoples awareness of the historical importance of the built environment for culture and identity emerged. As a result, a new generation started to question practices on urban planning, public space conservation and heritage.

Architects, aiming for the proper design and trying to bring the best viable solutions for cities, buildings, and people, are in continuous research during the design process. They must study how places come into being and learn their effects on people who inhabit them, travelling in time and space, going to the roots of history, understanding how our cities take form, and how people experience this phenomenon. Interventions during time become a materialisation of imagination, ambitions, and desires of society, determined by contextual conditions and future speculations.

In the contemporary context of accelerated evolution and dynamic changes, buildings and cities can be resilient and adapt to climate conditions and people's spatial demands. However, cycles in architecture show that new movements are in constant rejection of the one they precede. Therefore, we should also be aware of how much we destroy and consider the resources we need for the new constructions.

Even when efforts have been realised to spread awareness about the human impact on the environment, there is still a missing link between theory and practice. Technology, systematisation and massive production have led to

"Reviewing the last years, I have been through many transformations. For the future, I wonder what my identity will be then, who will I be in the future? Will I be passing my characteristics to my ancestors as well?"

The church dialogue | What time is this place group movie

Figure 1.
Shapes of St Peter Canisiuskerk over time
Drawing by the author
Source: Nijmegen archive

complex man-made materials that take hundreds of years to be processed by nature. The precise definition between inside and outside building's edges are creating disconnection with the environment. We are no longer aware of where things come from and where materials lifespan finishes, stimulated by the produce, use, disposal behaviour.

In response, this study aims to explore the relations of architecture, time and space for the development of an architectural proposal that integrates three primary forms of time: First, exploring the past, understanding how a place took form and became what it is today. Then, analysing present context and dynamics to identify problems and current needs. The newly developed strategies can be applied to buildings to adapt to present and future needs using the past in physical structures and memories, history, and culture. And finally, a future in which buildings might be transformed or not longer needed will be taken into account, being aware of the impacts of building materials and techniques in the environment.

The study will take place in Nijmegen, a city on the east side of The Netherlands in front of The Waal River, 10 Km away from Germany. It is considered the oldest borough in the country. A unique characteristic is its topography, conformed by seven hills, so it was so attractive for different cultures that settled there.

The plot is located on the south border of the historical city centre, now occupied mainly by The Molenpoort, a shopping mall built in 1970. The name was inspired in the old city gate of the antique walled city, considered for a long time as the main entrance until it was demolished in 1879.

Nowadays, the Molenpoort has disconnected from its surroundings in form, scale and activities. The typology is a hybrid between a passage and a shopping. Too dark and empty for shopping, too big for a passage. It is not hard to lose the sense of orientation; large columns interrupt the views, and low ceilings give the impression of close space. The parking on the roof covers the state entirely, blocking the views and light of other constructions. The plot also includes diverse commercial areas, including restaurants, retails, and coffee shops.

Getting closer to the heart of the city centre, one can recognise the richness of culture, identity and architecture, especially in the oldest houses and ruins. Even though it is easy to get lost in the city being

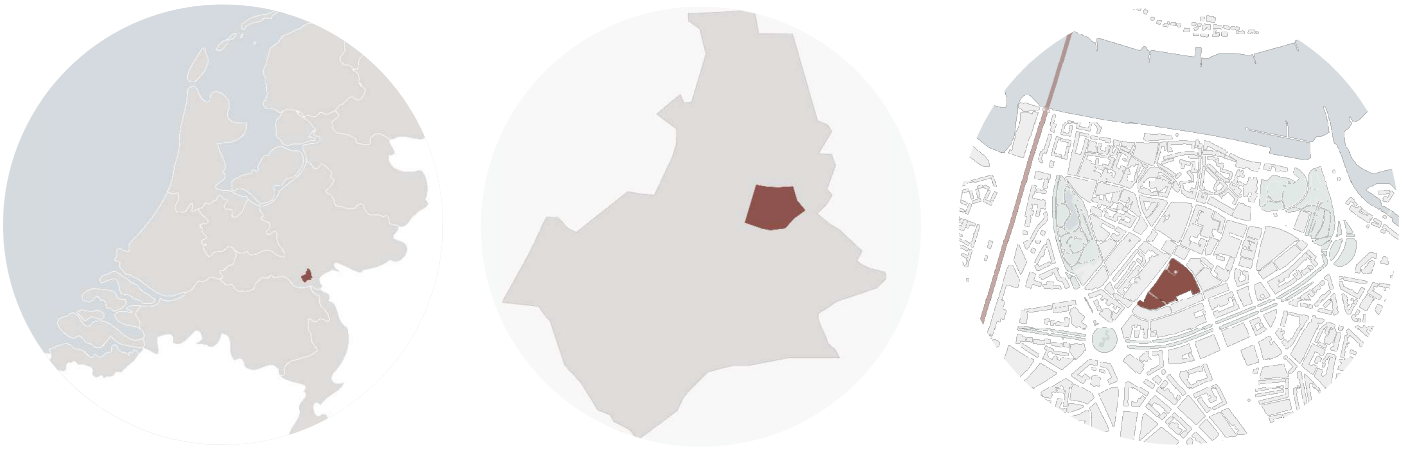


Figure 2.
Location of Molenpoort on Nijmegen's city center
Drawing by the author

Figure 3.
Transformation of Molenpoort, Nijmegen historical entrance until its demolition in 1879
Source: Nijmegen archive

distracted by unexpected stairs, small courtyards and old buildings, the topography gives even more charm to the city's discovery.

Pedestrian streets have enhanced an active life on the streets, restaurants and cafes inviting to stay. It seems that this atmosphere fades once one is closer to the border on the historical centre. According to municipality plans, the area will be the subject of urban renewal. They intend to build new houses and facilities to make it more attractive and reduce the current vacancy of offices and stores.

Integration of research, analysis and design will provide concrete and meaningful tools that will lead the decision-making process to develop an urban and architecture proposal for the Molenpoort area. The results could be a bricolage urban proposal and an architectural project that combines elements and fragments of different times. It can adapt to other conditions and demands, while the project components can be used for various purposes in the future.

The value of this document goes beyond the production of knowledge or filling a gap in the existing theory. The impacts of the construction industry in the demand of resources and energy and the production of waste and other collateral damages worldwide are extensively discussed, and social issues and economic benefits on building more sustainably.

The real gap is in practice and the decision-making process, and here is where design with time in mind becomes relevant. While our buildings are still preserved, design for the present and short future scenarios is the most common design.

However, the timeline of our facilities goes beyond that, and it is necessary to consider the future of our projects until they are no longer needed if we aim to preserve the environment for future generations.

First, to understand the past of the buildings and cities, we will create an intervention, making questions about what was required to bring this place into life regarding people's energy, materials, and efforts. Being conscious about where our materials come from, where they are extracted, and directly and indirectly affected by the industry produces our high-quality finished materials.

Second, which is the present we are designing? Which are people's needs, and how can we be used or transformed to contribute to society? Finally, the future, as dynamic and changing as it is, should be analysed, making questions as to how this building can change? What will happen after it is no longer needed? Where are its components going? Where will they go?

This study is considered a starting point that can allow for further developments. For example, conditions can vary according to geological, climate, cultural context, etc., specific to different places. Materials, especially organic ones, can be widely explored to understand their potentials and how we can combine traditional techniques and contemporary technology to improve their qualities.

METHODOLOGY

Bricolage:

"Construction (as of a sculpture or a structure of ideas) achieved by using whatever comes to hand."

Merriam-Webster (n.d.)

The inspiration for the development of research, analysis, and design methodology was the book Robinson Crusoe by Daniel Defoe. The main character lived on an island for around 30 years, isolated from the rest of the world. Robinson had to find ways to survive using only the remaining tools from the ship he travelled and the nature around him.

His story can be used as a metaphor of creation with available materials, attached with ambitions and the potential of those materials. Firstly, he worked to supply his primary needs. Later on, he also started to fulfil his desires. He has to understand how things are done, decomposing them into fragments and the making process. Following his example, a new proposal for The Molenpoort started to take form.

Every component should be rooted and supported by the conditions offered by the city and the site. Every step starts with the question: what the city has to offer? Explorations of composing and decomposing elements available in the physical, historical, and cultural environment is an invitation to spark the imagination, see beyond the skin, and discover the hidden.

Bricolage will be applied as a methodology, using what the city and the site offers in terms of concept, program and materiality. Those elements will discover through research, analysis and experimentation to answer different questions.

Bricolage is a combination that balances creativity, purpose and resources. Architecture becomes then a process in continuous metamorphosis and transformation. We can see buildings as unfinished products that will change and adapt to the demands of the society, as the evolution of the species, not the strongest will survive but the one that adapts to the new conditions.

The bricoleur explores the potential of available things, combined with the ambition of what it can be. There is some freedom, as there are no manuals to produce new ideas; possibilities are endless. A particular characteristic of this approach is that it always has to develop something meaningful that solves a problem or satisfies needs.

The methodology follows the main objective of this paper, which is to call attention to the responsibility we have as architects and shapers of the built environment to reflect on our positions about urban interventions. It is in our eyes and imagines that opportunities to make things in a different way place.

The journey for the development of an urban and architectural proposal for The Molenpoort can be divided into two parts. The first one includes an exploration of the city and the site. Understanding its background and its transformation is essential for the reader. Then analysing the context and identifying what is needed helps to understand what is valuable for the citizens. Finally, developing an urban proposal should determine which places are attractive and the relations with the surroundings in terms of form, functions, age, heights, etc. This process leads to the definition of research topics and themes that will support the coherence of an architectural proposal, giving tools that will lead the decision-making process and the answers to the research questions.

The second part combines research analysis and design, focusing directly on the building and its details. The firs step in the intervention for The Molenpoort was to identify its structural and technical possibilities; after that, sketching and exploring the existing spatial qualities that could be preserved and used for new functions. Finally, a detailed layout presents the prioritization of the use of organic or recycled materials and components.

Research question:

Is it possible to use time as a design tool to create an urban and architectural intervention for The Molenpoort that considers the site's past, present, and future?

Past, as the site's history and background and previous physical events, lead to its contemporary form. Present, as the physical and non-physical context, finding what is lacking and the possibilities of how it can evolve. And finally, the future, as to how an intervention can adapt to different conditions and demands, including significant transformations until its end of life.

Sub-questions

Is it possible to create a project for The molenpoort that respects the culture and memory of the city, giving new use to the existing structure in a sustainable way?

Which design strategies can be applied to adapt new interventions on existing buildings to prolong their life span, avoid demolitions and generation of waste, and reduce the demands of new materials from the environment?

Which elements should be considered in the design of an urban intervention that enhances diversity and community interactions?

Which programs can be integrated that can adapt to different requirements of people following changes in society?

Which materials and building techniques can be implemented in architecture to reduce construction impacts in the environment and allow people to be in connection with nature?

PART 1:
FROM RESEARCH TO CONCEPT

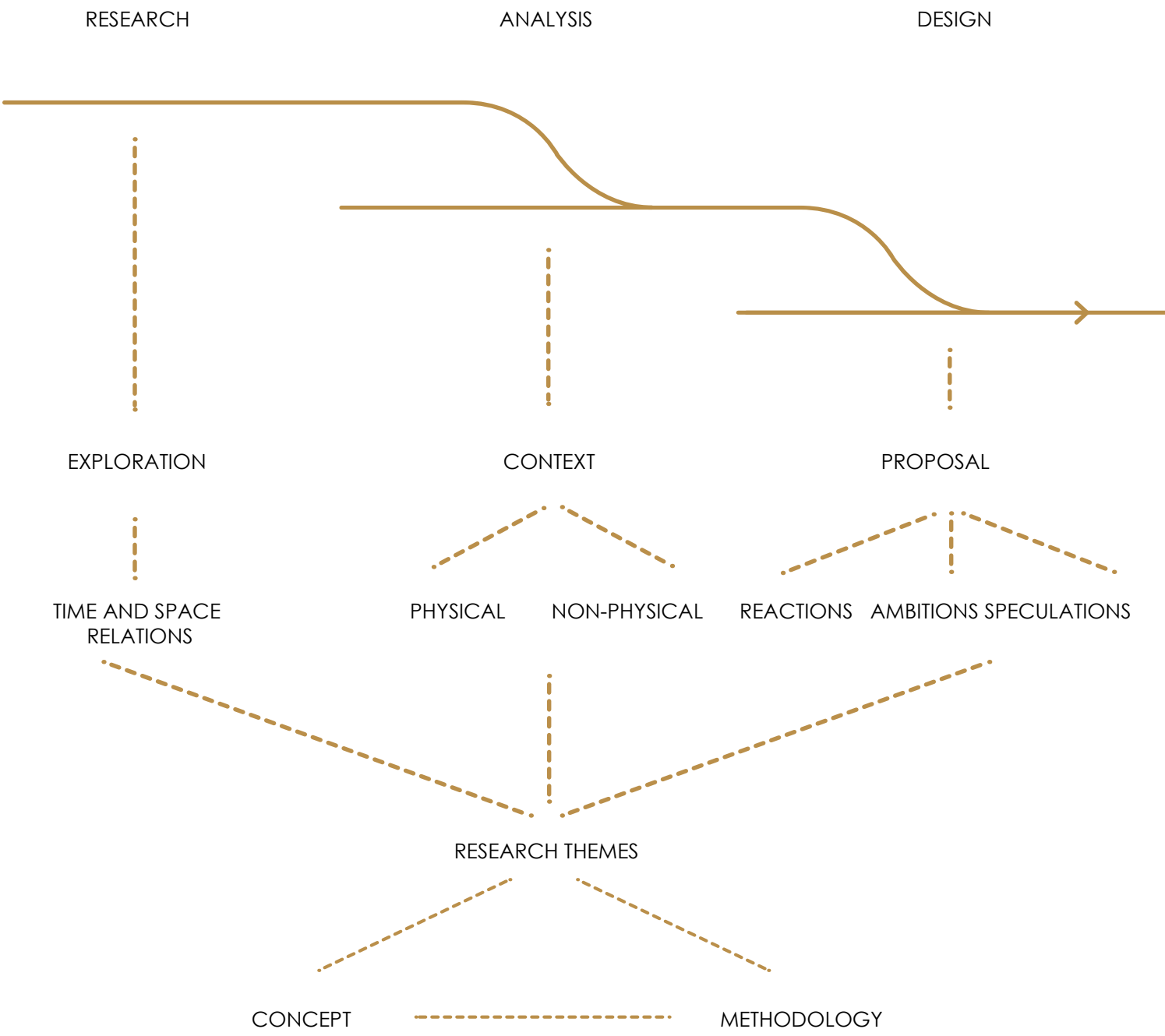


Figure 4.
The journey of a bricoleur part 1
Methodology diagram
Drawing by the author

PART 2:
FROM CONCEPT TO SPACE

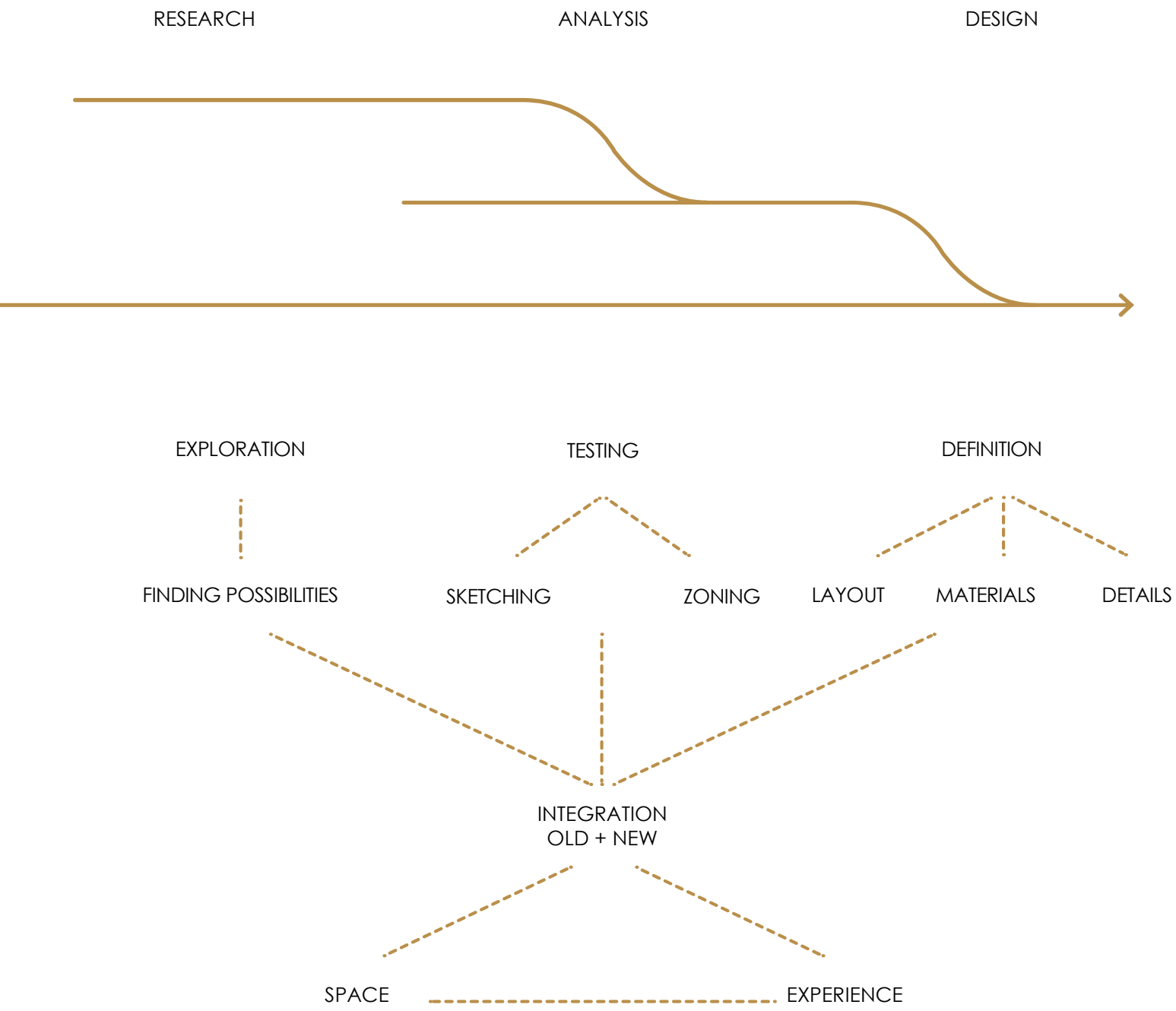


Figure 5.
The journey of a bricoleur part 2
Methodology diagram
Drawing by the author

Figure 6.
Design methods, models and materials
Pictures by the author

The result will integrate the concept of time by creating various atmospheres in the urban and building scale, allowing the experience of different time speeds finding places to slow down in the middle of a fast speed life.

Adaptability to different seasons was also considered to use spaces during the whole year with minimum energy demands. Finally, the material selection and construction techniques will take the future disassembling and the material decomposition.

The bricolage approach was taken into account not only for the final product of this thesis but through the whole process. Design with elements that can be found at hand was one of the most important values. It worked with organic and recycled materials, stimulating creativity and exploring elements' possibilities reflected in the final design proposal.

DOCUMENT STRUCTURE

The following document will show how research analysis and design were implemented to develop an urban and architectural project.

In chapter one, research themes and context had been introduced, the problem statement, objectives, and questions had been defined as well as the methodology and methods to follow.

In chapter two, a study of how space has being configured over time will be presented from medieval times to the present to identifying former strategies applied in urban interventions and speculating how this can evolve in the future.

In chapter three, a decomposition of the city layers will be presented first understanding its history and background until now. An analysis of present needs will be the base for a future program and, finally, zooming into the site and the building to explore its possibilities.

In chapter four, the urban proposal will be presented, showing the design process and strategies that will allow the architecture to adapt in different situations, seasons and transformations.

In chapter five, we will zoom in on the architectural proposal. A new street created will guide us to each building, understanding construction techniques and methods to achieve flexibility in the buildings and enhance the relations between inside and outside.

In chapter six, a final reflection will be presented, celebrating the learned lessons and failures leading to a thorough review of the project.

CHAPTER 02

ARCHITECTURE TIME AND SPACE

Space:

"A boundless three-dimensional extent in which objects and events occur and have relative position and direction"

Merriam-Webster (n.d.)

1.1 GENESIS

During medieval times, cities grew slowly and organically, responding to the landscape, lifestyle, and resources, following paths and divisions of former fields. In this period, buildings were developed plot by plot using vernacular techniques that, in time, started to be combined with decorations and materials introduced by external influences due to commercial activities, politics and interactions of the society.

Private and public spaces resulted from the configuration of buildings that framed plazas, gardens and courtyards. (Collins, G., & Collins, C., 1985). In his book The birth of modern city planning, Camilo Sitte explains how churches, their main entrances and surrounding buildings were the starting point to create public space

The element of surprise was always present. The sinuosity of streets allowed diverse perspectives, creating a variety of views and richness of experiences. Intersections became places of encounter, allowing the inhabitants interaction.

1.2 DETACHED FROM THE PAST

During the last 200 years, the world has experienced an intense process of transformation. The experience of time started to accelerate. Modernity came accompanied by technologies that altered urban configurations to host the highest productivity after the Industrial Revolution. Cities couldn't grow and adapt organically anymore.

The architect became more than the one who designed structures in the built environment and the framework of life with Le Corbusier's vision of a unified urban environment: the utopia of a modern city for an evolved society. (Lepik, A., 2010). Old structures seemed to don't adapt to the new requirements of a society detached from the past. (Rowe, C., Koetter, F., & Hylton, K., 2005). Vacancies, degradation and, in some cases, the effects of the war led to extensive demolitions, especially in city centres, as a strategy for the reuse of urban space, which reconfiguration was intended as necessary for the evolution of society.

Standardized buildings detached from their contexts, lacking any sign of authenticity and identity. People became machines of production, and the focus on the quality of life started to fade. The house as a machine reflected this new ideals and mass production of building components leaded to a repetitive landscape.

1.3 GOING FAST FORWARD

New developments in peripheral areas demanded more extensive infrastructure networks creating higher pressure on the environment. High risings, advertisements and highways blocked sun paths and views for the people who became obstacles in the street that once belonged to them. The car was the primary user of public space. A bigger scale on the design was introduced; wider streets transformed the built environment to move faster, focusing on the driving experience displacing pedestrians in prioritising priorities.

Architecture became a product to sell, the minimum standard unit out on the market at the highest possible price. Architects became the designers of landscape and city space with global capitalist forces as main clients taking the picture's human scale. The international style came to life, buildings isolated from their context to allow its reproduction at any place in the world a generic society (Lepik, A., 2010).

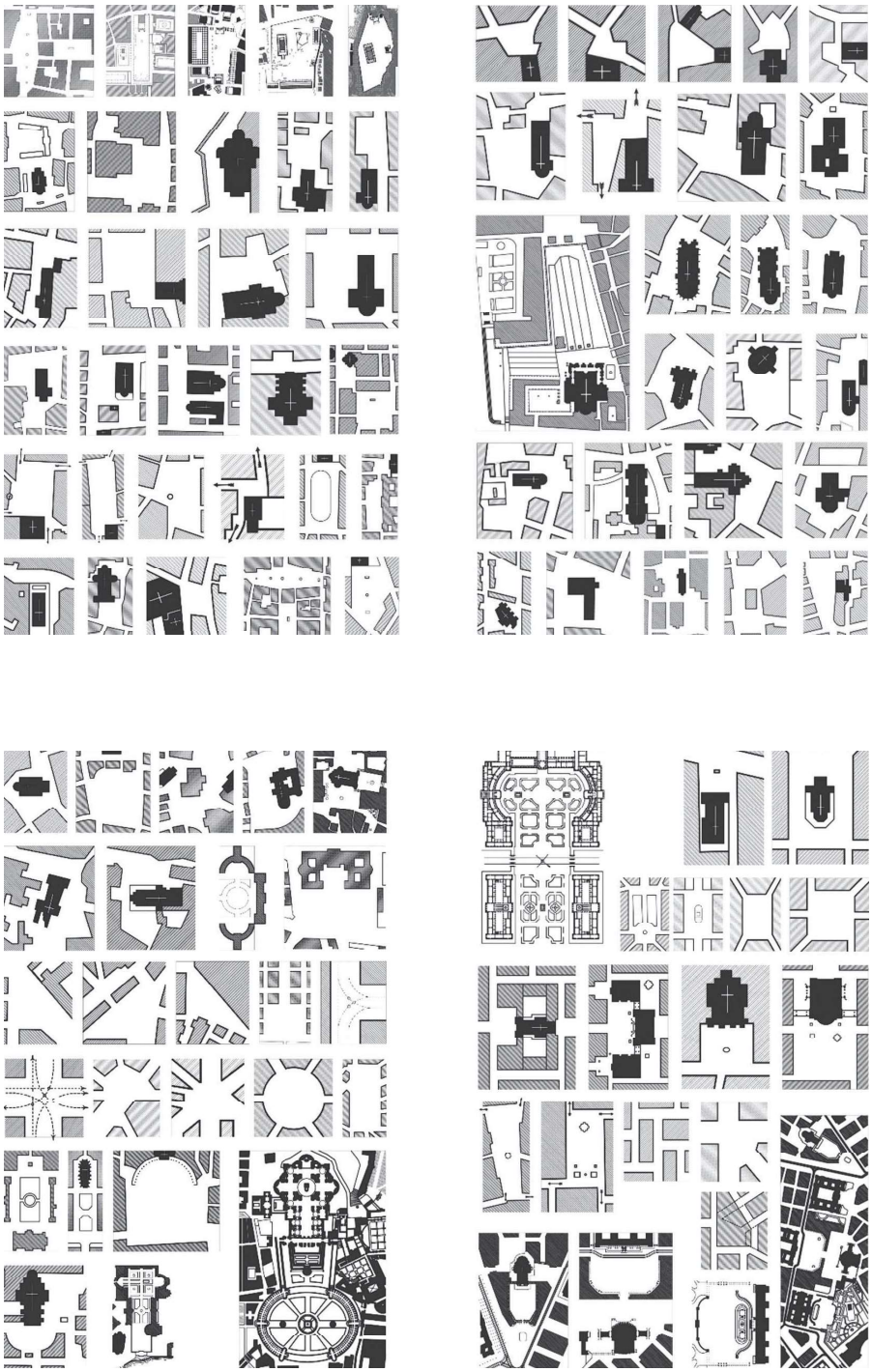


Figure 7.
Shapes of public space over time
Source: Camilo Sitte, Der Städtebau.

Figure 8.
Case study: renovation of a historical building
Praca das artes, Sao Paulo, Brazil, Brasil Arquitetura, 2012
Source: Archdaily

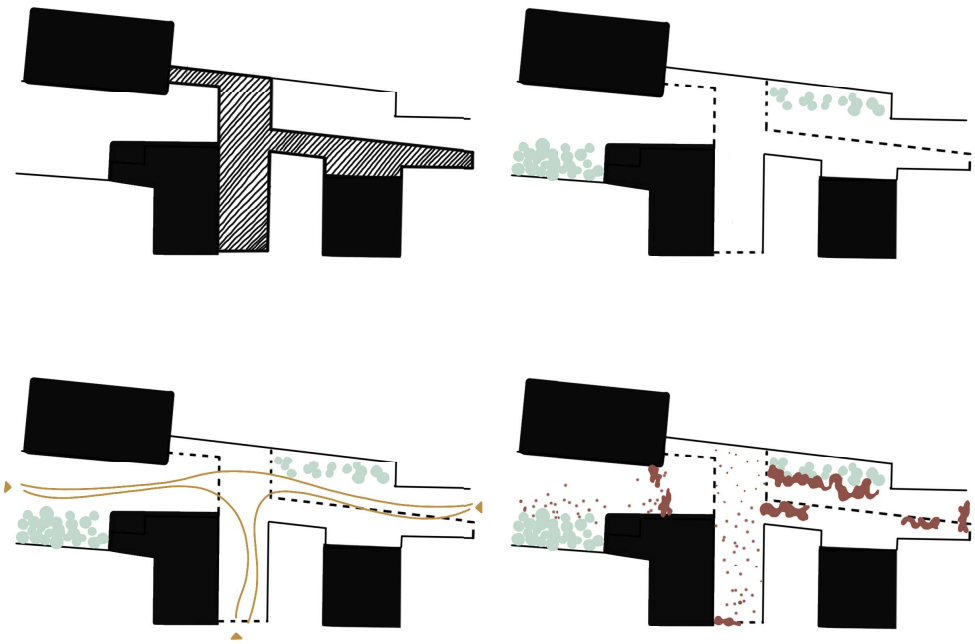


Figure 9.

Space analysis of Praca das artes
Drawings by the author

1.4 TIME TO SLOW DOWN

In response to the generic a call for individualism and authenticity came demanding for attention to individual and collective needs. Ecological and demographic crisis in the 60s and 70s. Political and social movements against disparity of wealth asking for tools that provide equality and justice. Lepik, A. (2010).

The society reacted, showing to be against massive demolitions. The rediscovery of existing inner cities was and is now an international ambition. The goal is to bring innovation, based on social and physical conditions that are unique in every site.

Questions about how to prolong the life span of buildings designing them to be more adaptable creating a more sustainable environment started to emerge. Solutions appeared not by eradication what already existed but by allowing new perspectives in the appreciation of the past.

1.5 DEALING WITH THE PAST

Reuse of space has been present in the DNA of all times and all cultures. Palaces and temples on top of each other, recovery of materials from one building to a new one, big and small cities were built layer over layer in long periods.

In the Netherlands Urban renewals had been possible thanks to grants within the Monument Act. Private housing associations, the squat movement and individuals have transformed abandoned constructions into unique spaces. (Nai Publishers , 2020).

The main challenge is to adapt old structures sites to contemporary requirements and needs, and at the same time create spaces that will be attractive for people to inhabit. To achieve that goal, architects and urban planners have to combine artistic and technical skills, embracing the statement of Aristoteles having as a main goal should be make people feel secure and happy at once

Figure 10.
Skatepark Péitruss and Luxembourg-ville - Passerelle
Source: Outdoor design source

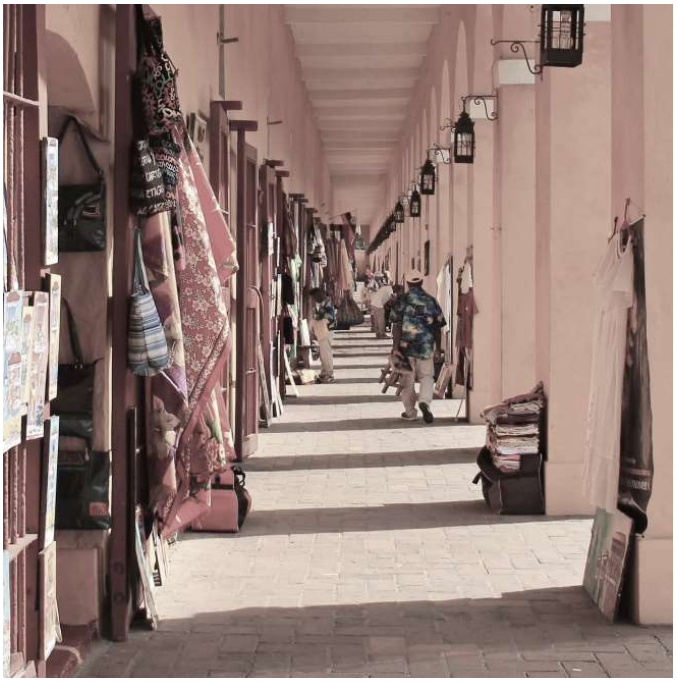


Figure 11.
Jail renovation in the walls of Cartagena de Indias
Source: Architectural Digest

Figure 12
Case study
Dexamenes Seaside Hotel`, K-Studio
Source: Archdaily

1.6 A PRESENT OF TRANSITIONS

Over time variants of reuse emerged, one of poetic and artistic design intervention in heritage sites and more recently one that questions what happens with those places that are not representing historical or architectural value for the society?

Shopping centers, office buildings, apartment blocks and that were once of common people use are becoming empty places sometimes with poor or no maintenance leading to its complete abandonement. Realstate developers take this places to transform them into something new but many times it requires the demolition of what was there before.

The role of the architects if ever was to be the shaper of the build environmet has become into the one who mades spatial arrangements following the interest of the global capital prioritize form and spectacle over context and people.

In recent decades, the focus on climate change, conservation of resources and reduction of polution and waste has change the aprproach on how to deal with the building stock.

Architecture, is the most demanding field in the world in terms of resources, therefore the most polutant considering its entire process from obtention of raw materials ultill its end of use numbers become worst and worst.

Keeping places alive for longer periods of time has a direct impact in the environment by the avoidance of waste generation in the demolitions of buildings but also in the less need of new products that need to be extracted from nature.

Efforts to evaluate the potential of existing structures for a new reuse rather than demolish them is creating new opportunities and challenges in the architecture field, to go beyond the obvious and the hidden beauty and possibilities of a place.

Sometimes with small key interventions big things can happen! In that way we can rescue building of being demolished and materials to go to trash things that had already signify the hard work of many people and resources.

Existing buildings have embodied energy already that can be used as an advantage for urban and architecture interventions. They can give identity to a place making it unique. We should find ways to use them the most as an opportunity to challenge our skill as architects, planners and urban designers.

1.7 FROM NOUN TO VERB

Architecture practice is performed many times to deliver a design of a building or urban area. As technology continues to develop, we can see in the most realistic ways how space will look. This pro-

cess conceives architecture as a final product that should be delivered, but in reality, it changes and adapts to different needs and events over time. Therefore we can define architecture as a process in continuous transformation.

Social, economic, and technological dynamics demand flexibility in new constructions. Buildings are unfinished structures that should be designed to grow, transform, and even move if we want to be a sustainable society that guarantees future generations to enjoy and see the wonders of this world.

Strategies to create adaptable buildings can include flexible programs as collective ways of living and working where communities can share common spaces and allow the users to have their private spaces.

Spatial configurations should allow a variety of internal and external uses. Construction systems can include modularity and dry assembling of pieces that can be demounted, facilitating maintenance and future reuse.

1.8 GOING BACK TO NATURE

From the beginning, human settlements were made with natural materials around communities, different types of wood, earth, clay, stone and others, available according to the geographic conditions.

As our race evolved, new man-made materials started to appear, introducing fossil fuels and the massive extraction of resources worldwide. (Green, M. 2020) Buildings also became more complex over time, disconnecting us even more from the environ-

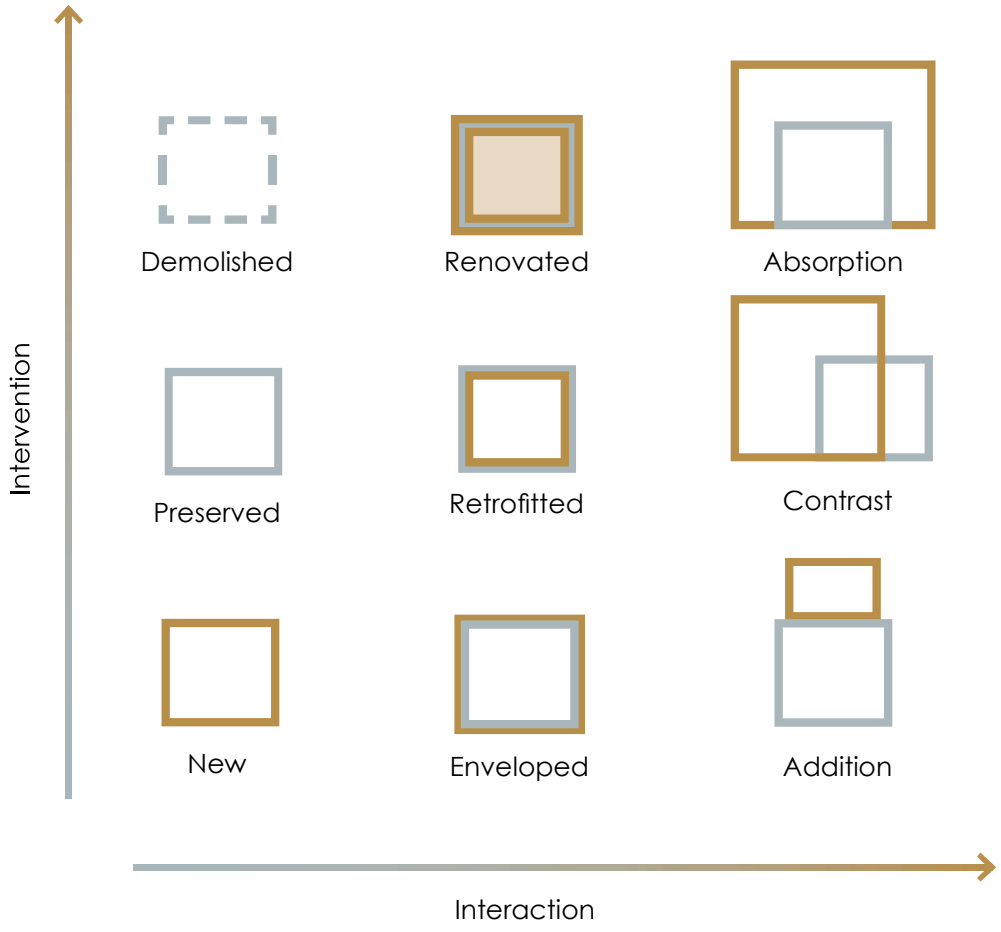


Figure 13.
Diagram of intervention and interaction scales on existing buildings
Drawing by the author

Figure 14.
Wood aging returning to nature
Paths in Cabecera Park, Valencia, Spain.
Pictures by the author

ment, to the point that there is no relation between inside and outside.

Exponential population growth has called for a reflection in the architecture practice. People demand more liveable, sustainable and affordable spaces is increasing. Architects ambition to blur the lie lines between inside and outside rethinking strategies to improve public spaces that invite people to stay. Comfortable conditions for people are also a prerequisite for financial success.

1.7 VIEWS TO THE FUTURE

Human kind is experience a transition for the future. Ambitions to find a balance between contact with nature and technology started to emerged. We have realized the importance of biophilic design for humans health and also productivity. To be surrounded by life is not anymore a matter of simple decoration but it has a real impact in the quality of lives.

Buildings that adapt and transform in different seasons and even times of the day reducing energy demands from light, and temperature control with passive strategies. Research on materials, systems and building techniques that can have a possitive impact in the environment will aloow future buildings to surpass carbon neutrality and might become carbon negatives.

To imagine a world in which everyone lives with dignity has to be the main goal of architects, designers and decision makers reinforcing consiousness in consumption behaviours in the society.

Figure 15.
Case study
Urban Village, SPACE 10 and EFFEKT
Source: The urban village project

CHAPTER 03

DECOMPOSING TIME AND SPACE

"A city is more than a contemporary and phasing phenomenon. It is the a product of many differentiated cultures in many different periods."

(Giedion, 1982)

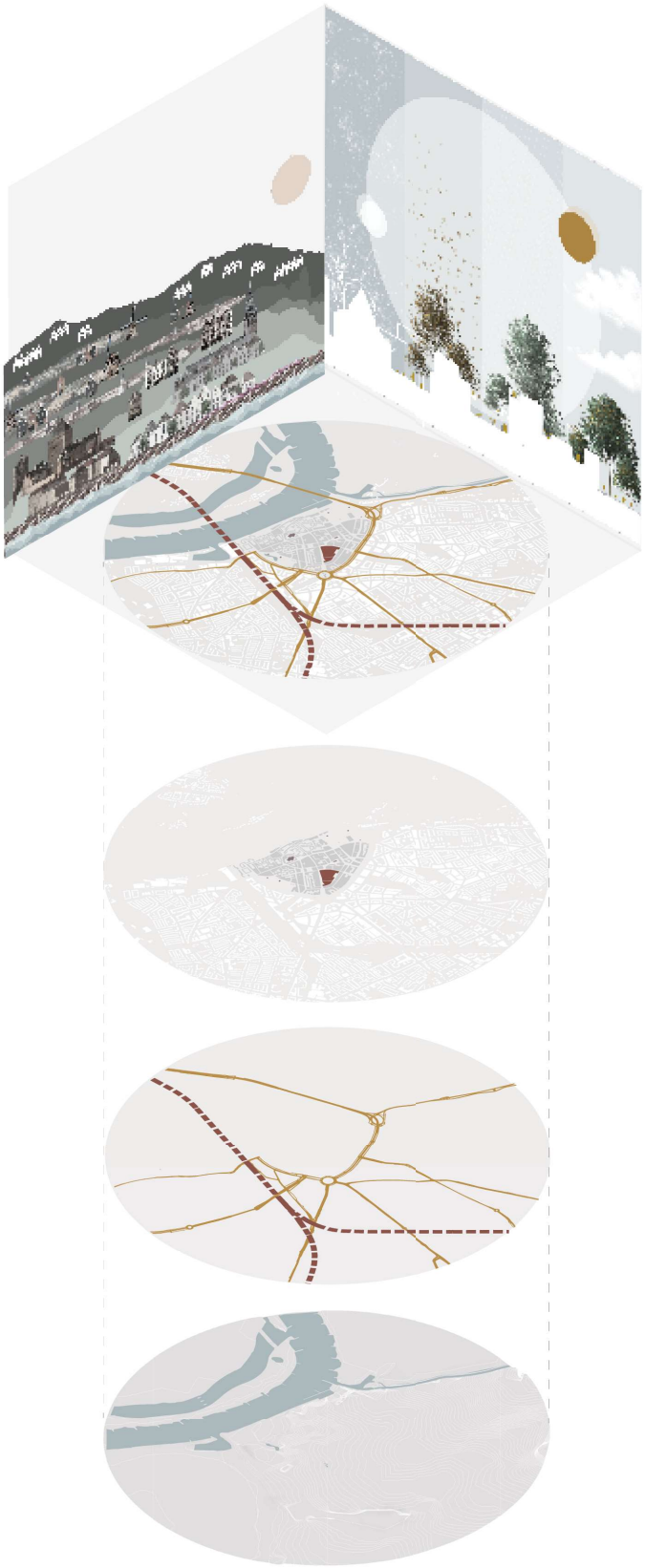


Figure 16.
Decomposition of past, present and future the city of Nijmegen
and The Molenpoort intervention
Drawing by the author

Figure 17.
Composition of historical layers in the city of Nijmegen
Drawing by the author

The present is a combination of the fragments of the past. The city of Nijmegen has changed its form and evolved due to different factors. Museums as The Bastei and The Valkhoff mainly focus on showing the city's history and its development in time.

Plans, buildings, construction, reconstruction and demolitions. What is behind the identity of Nijmegen? What remains in the citizen's memory? What is still present, and what is gone?

We will see how the city's history trough in a timeline divided into six main periods:

- Topography
- The Romans
- Middle ages
- The walled city
- Modernity
- Metamorphosis

The list is divided into three categories: Culture, architecture and maps, combined with an interpretation of the period represented by images, sections and objects, connecting different events to understand their relations and context.

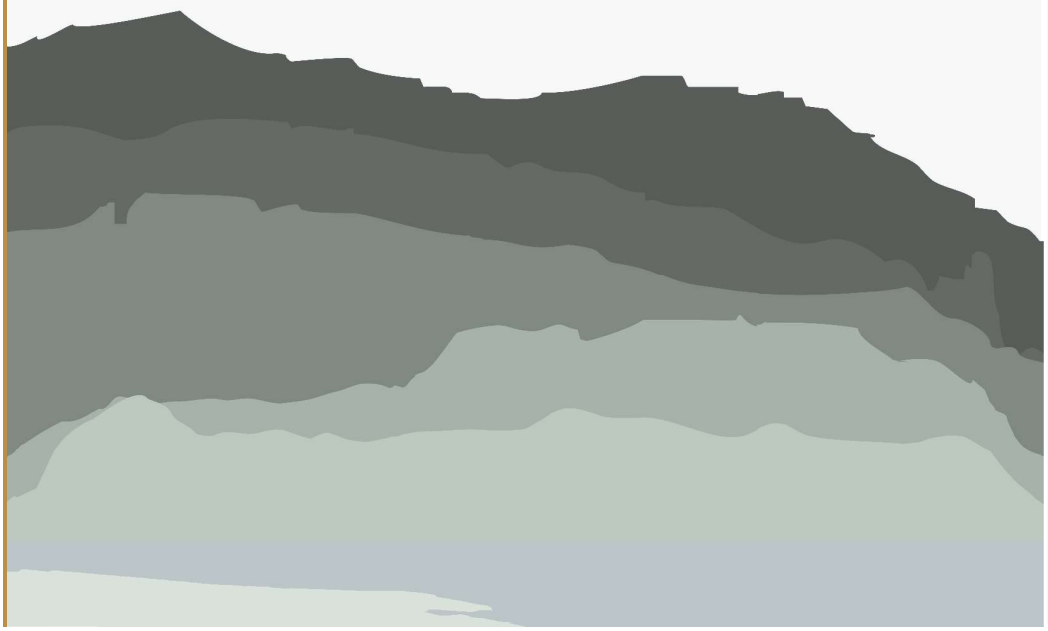
2.1 TOPOGRAPHY

We will start 25 million years ago. The Netherlands looked very different back then. The rivers Rhine and Maas were once combined into one big river. Those two rivers and another one in the north called Eridanos brought soil and stones with them. After millions of years, the sediment resulted in the growth of the land. One hundred thirty thousand years ago during the Salinan period, glaciers from Scandinavia covered half of The Netherlands, pushing the ground up. Seven thousand years ago there is a beginning of the Netherlands as we know it today. The rivers still bring nutrients to the soil and clay, used for the production of bricks.

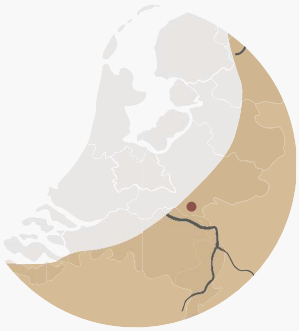
-25 Million Rivers Rhine and Maas combined into one big river. Thogeter with the river Eridanos brought soil and stones.

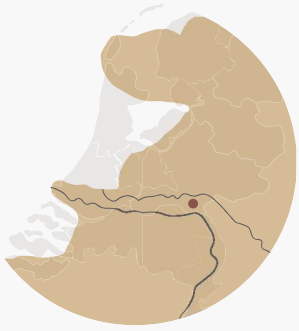
-130,000 The Saliaan period

-7000 Clay for brick production

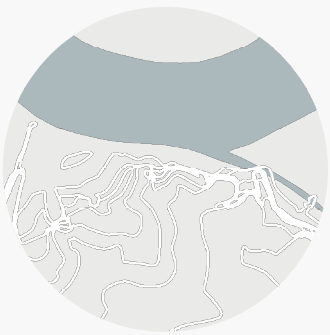


Formation of the soil





Topography of the city



2.2 THE ROMANS

The town's written history goes back to the first century B.C. when The Roman Empire established a Military base because of its strategic geographical position. The aim was to prepare for the conquest of Germania. Before The Romans, the first settlers were The Batavians who lived spread in a network of small agricultural settlements. The Batavian revolt took between 69-70AD against the pressure of the Romans. The revolt was controlled by the empire, and the patterns of occupation changed drastically, starting with the constant development of a previously almost empty area.

Batavian occupation

0

17 - Column of Honor

19 Foundation of Oppidium Batavorum

70 Batavian Revolt

Roman Empire occupation

80 - Roman Fortress

104 Exilium of X Legio

90 - Military base

175 Abandonment of X Legio

III Germanic tribes take over Romans

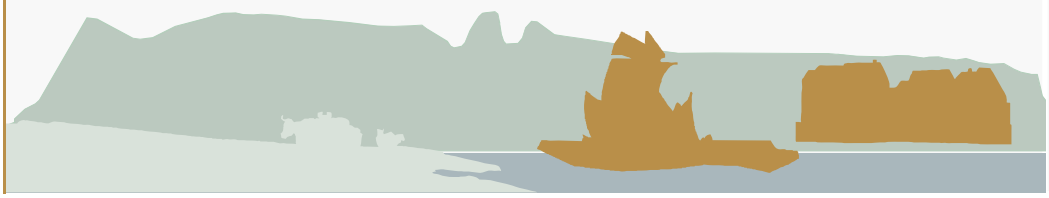
IV Romans re-establish the frontier

476 Fall of the Roman empire

500 V French kings take the city

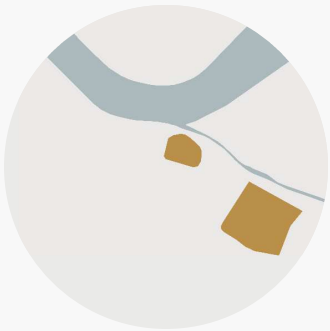
777 - CarloMagno Palace

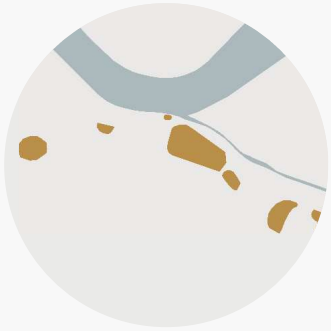
880-881 Vikings looted the village and use The Valkof as winter quarters

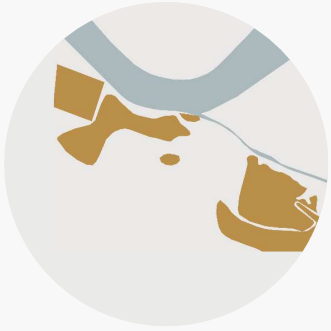


Nijmegen within the Roman Empire

Evolution of Roman occupation







1.3 MIDDLE AGES

Frankish Kings came after the Romans. They built a new forth in The Valkhof area to give protections to the citizens. The city was regularly visited for the kings imposing respect and loyalty. The palace was used also as a military base, and hosted Parliament meetings. Small houses appear next to the river. The people had to give part of their harvest and work on the rulers land as taxes. In return they were granted with protection and law. With the death of Carlomagno, the city became part of the Germany, and from 1247 to The Gelder's territory as it is today. In this time the city grew organically following the traces of paths and agricultural fields.

1000

1030 - Sint-Nicolaaskapel

1047 - Destruction of Carlomagno Palace

1155 - Frederick Babarossa converted Valkhof in a Castle

1247 - Gelders take Nijmegen as payment from Germanic kings.

1247 - Construction of the wall

1272 - Saint Stephen's Church

1400 - Limborg Brothers

1400 - 1700 Capturing witches

1500

1479 - Printing press in operation.

1521 - Peter Kanis was born

1526 - Stratemakerstoren

1531 - Completation of the wall

1554 - Town Hall

1568 – "Eight Years War" William I D'Orange revolted against Spain

1589 - 10 August: Assault by Martin Schenck

1591 Reduction of Nijmegen

1600

1612 - Boterwaag - Renassance

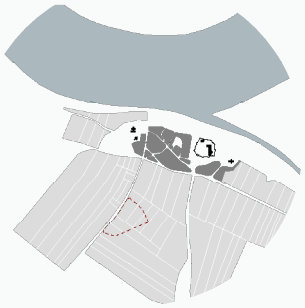
1635 The plague

1646 - Belvédère

1656 - University of Nijmegen

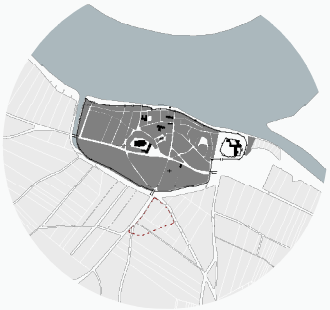
1678 – Treaties of Peace of Nijmegen among France, Dutch republic, Spain, Brandenburg, Sweden, Denmark, Munster and Holy Roman empire

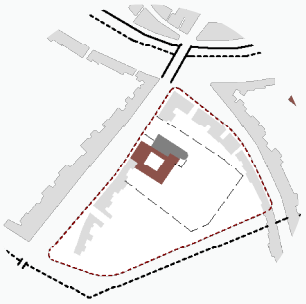
C 12th

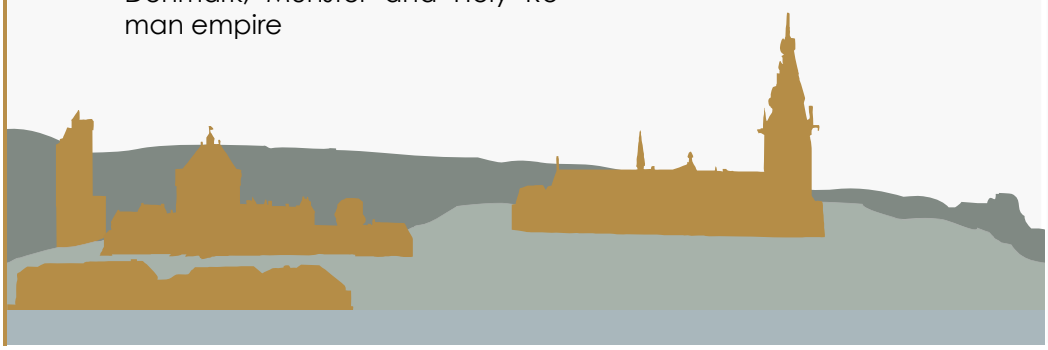


C 13th

C 14th







1.4 THE WALL

Walls were symbols of independence in medieval times. The first wall in Nijmegen was built in 1247 When the city became part of The Gelderland. The population grew inside and outside the border, and in 1450 a second wall was needed. Another expansion took place in 1530. The complex was the most impressive construction of the city, unfortunately it's maintenance had high costs and even with reparations started, they were never completed.

1700

1788 - Henriette Pressburg, mother of Karl Marx born

1825 First city walk maps
Tourism development because of railway improvements, landmarks and cycle ways in the city

1848 - De Gelderlander newspaper begins publication.

1800

1851 – catholic council favour

1876 – starts the walls demolition and expansion of the city by WJ Brender a Brandis, and Bert Brouwer
1940 – Germany invades and occupies the Netherlands

1755 - Demolition of Belvedere Castell

1756 - Nijmegen Synagogue

1824 - Nijmegen arsenal

1839 - Theatre

1848 - Architect P. van der kemp designed a partial new building for Oud Buren Gesthuis in neoclassical style

1861 - Last intervention on city wall

1865 - Nijmegen railway station

1879 - Nijmegen railway bridge

1883 - Kolpinghuis

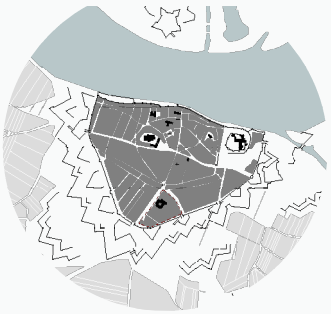
1884 - City wall dismantled

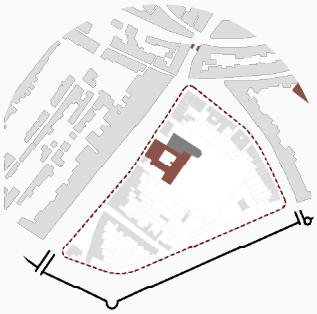
1885 - Hunnerpark by Liévin Rosseels Parkarchitect

C 16th

C 17th

C 18th





1.5 MODERNITY

After pressure from the population, in 1874 the parliament abolished the Nijmegen status of a fortified city. After that, the wall and gates started the process of demolition. The committee in charge of the city expansion was known as "The triumphviaret". W.J. Brender à Brandis, produced the first proposals. He intended to deal with the hygienic issues and transform the Nijmegen into a beautiful city with canals, parks, and large mansions for the wealthy citizens. The first plans, consisting of a grid of small streets were criticized. The commission asked for advice from Bert Brouwer architect in The Hague. The new urban plan consisted on two wide boulevards connected with a roundabout, the big Keizer Karelsplein. The construction started with the west side and by 1910 the area was completely build up.

1900

1911 - Gemeentetram

1914 - World War I begins. The Netherlands remains neutral.

1915 - Concertgebouw de Vereeniging

1916 - Bibliotheek

1923 Katholieke Universiteit

1925 - Saint Petrus Canisius canonized

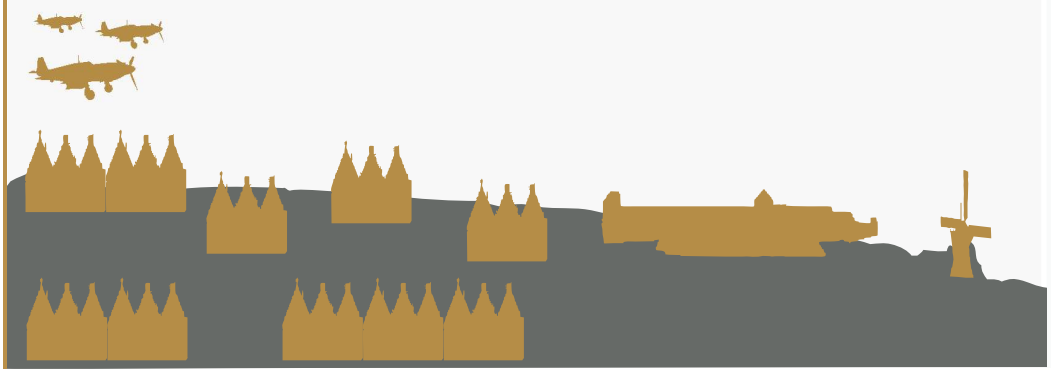
1936 - Waalbrug bridge

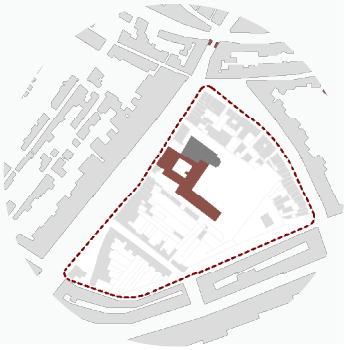
1944
22 February: Bombing of Nijmegen.
September: as part of the Allied Operation Market Garden, the Battle of Nijmegen takes place.

October: Charles Hustinx becomes mayor.

Proposals for the urban expansion

1897





1.6 METAMORPHOSIS

Nijmegen has been in a continuous process of reconstruction. Wars, reclaim of territories from Romas to Vikings, and the most recent one the bombing in 1944, has forced the citizens to reinvent spaces and give new uses adapting to present conditions. But nothing has proved to be more destructive than the human mind in urban planning. Maps show that from old city suffer mayor changes to bring modernity. Some of the most meaningful things remained; others might have been erased in the physical world but stay in the collective memory of people.

1950

1952 - Trolleybus

1960 - St Peter Canisius Church rebuilt on Molenstraat

1961 - City Theatre

1966 - Development of Dukenburg and Lindenholt

1970 - Vierdaagsefeesten festival

1972 - Passage Molenpoort shopping mall

1979 - University's Nijmeegs Volkenkundig Museum

1981 - Velorama bicycle museum

1991 - Extrapool cultural organization established.

1994 - de-Affaire music fest begins.

1999 - Wintertuin Festival [nl] begins

2000

1999 Valkhof Museum

2007 - FiftyTwoDegrees hi-rise

2010 - Waalfront

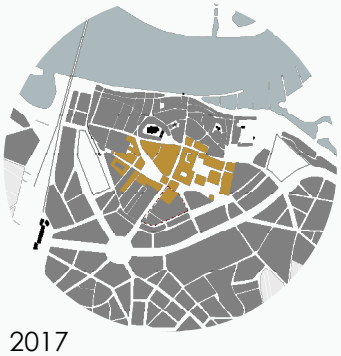
2013 "Ik bouw betaalbaar" self-build housing program

2016- Nijmegen host "Giro d'Italia"
Wins cycling city award

2018 – Nijmenegn's "passionae vision" wins Green Capital 2018

1944

1960



2017

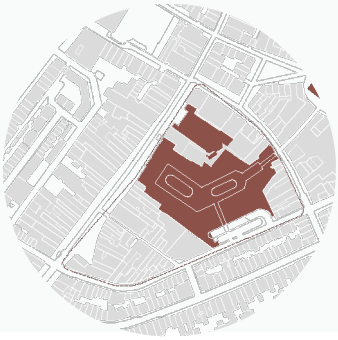


Figure 18
Location of the area of intervention in the historical center of Nijmegen
Drawing by the author

The analysis of the city's context started with the question: what is there? Following the question, the reader might find out which are the city's main qualities and also the drawbacks.

A compendium of Public Spaces was also part of the research of the city to understand which are the places that attract people and which the spaces that remain primarily empty.

The study showed that people tend to remain close to nature and water bodies. One of the most fascinating is the old ruins, where events and exhibitions take place.

The city centre is a representation of life, art and history. Plazas and squares are occupied spontaneously using the corners that remained on the medieval grid. Intentions to become a more green and livable city for its inhabitants have defined pedestrian areas, prioritizing people and cyclists over cars.

Figure 19
Views of Nijmegen (2020-2021)
Photos by the autor

Figure 20
Views of Nijmegen (2020-2021)
Photos by the autor

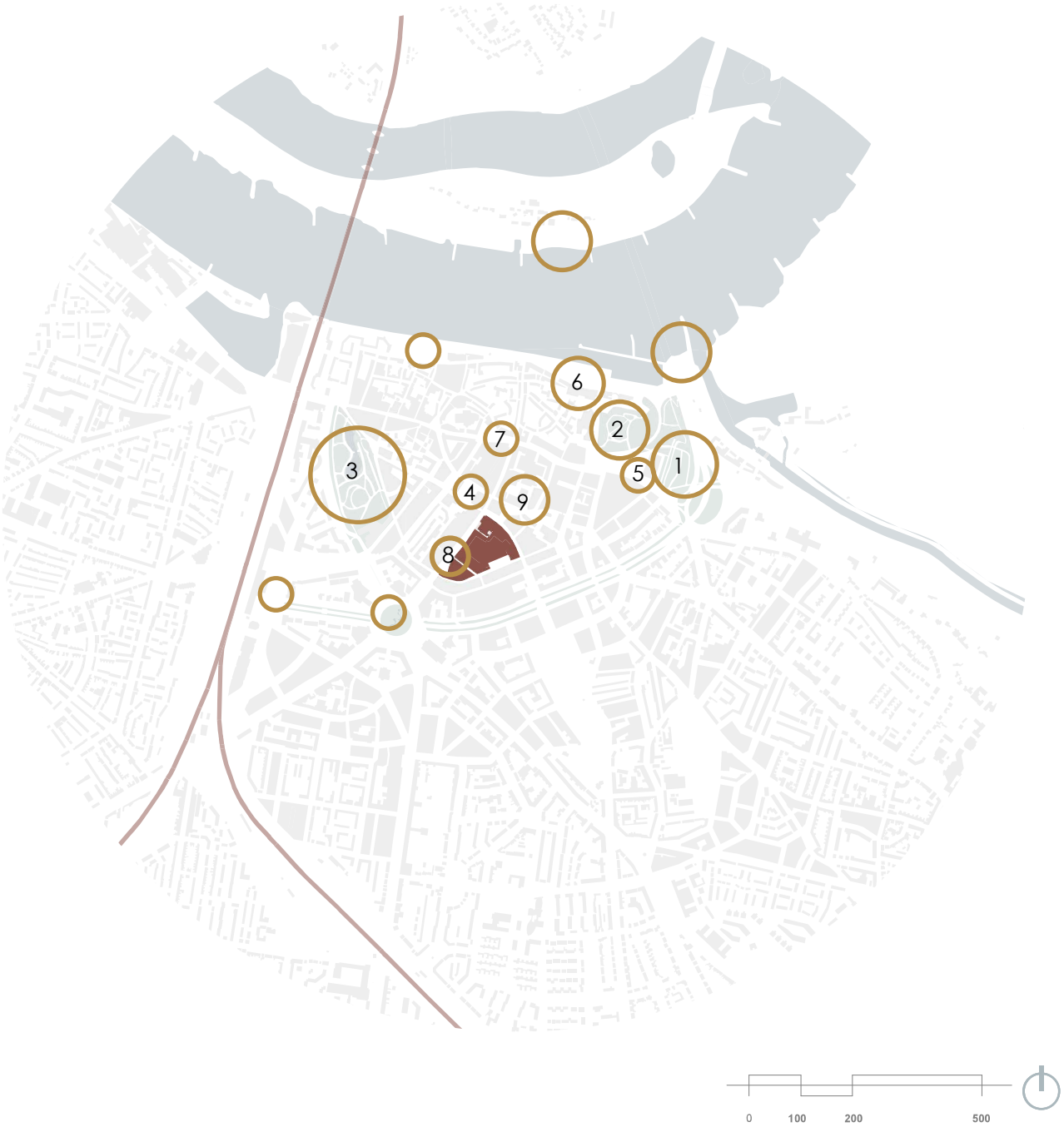
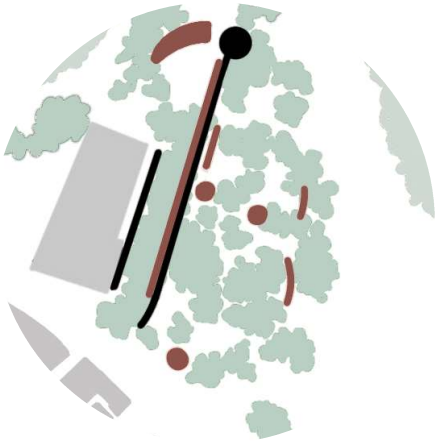
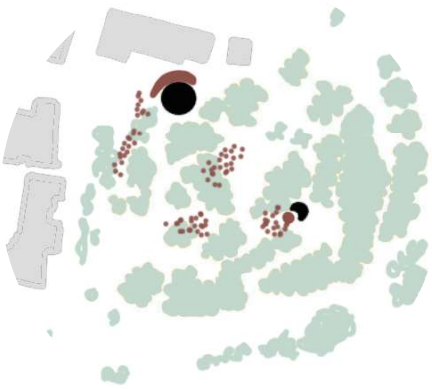


Figure 21
Compendium of public spaces in the historical center of Nijmegen
Study and drawings by urban plan group



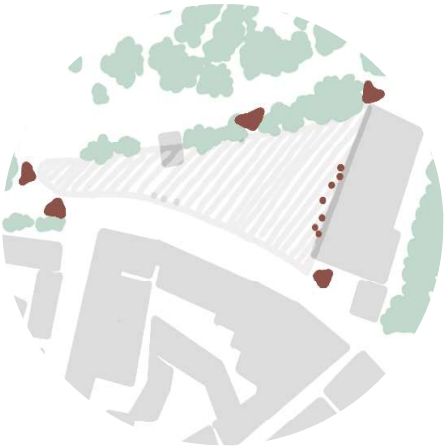
1. Hunnerpark



2. Valkhof Park

3. Kronenburgerpark

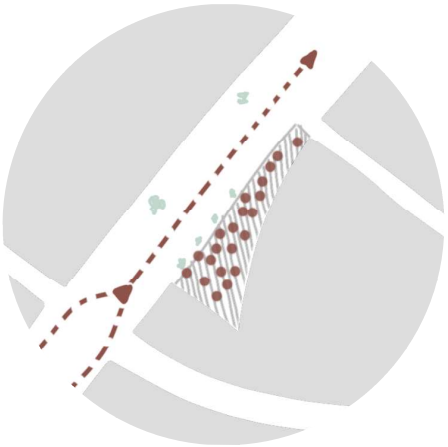
4. Plein 1944



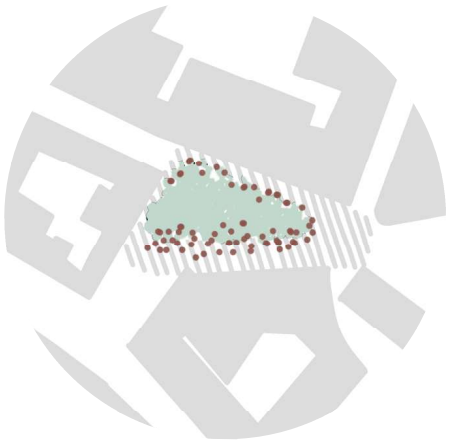
5. Kelfkensbos

6. Waalkade

7. Grote Markt



8. Molenstraat



9. Koningsplein

Walls and ruins

Buildings

Plazas

Greenery

Circulation and permanency

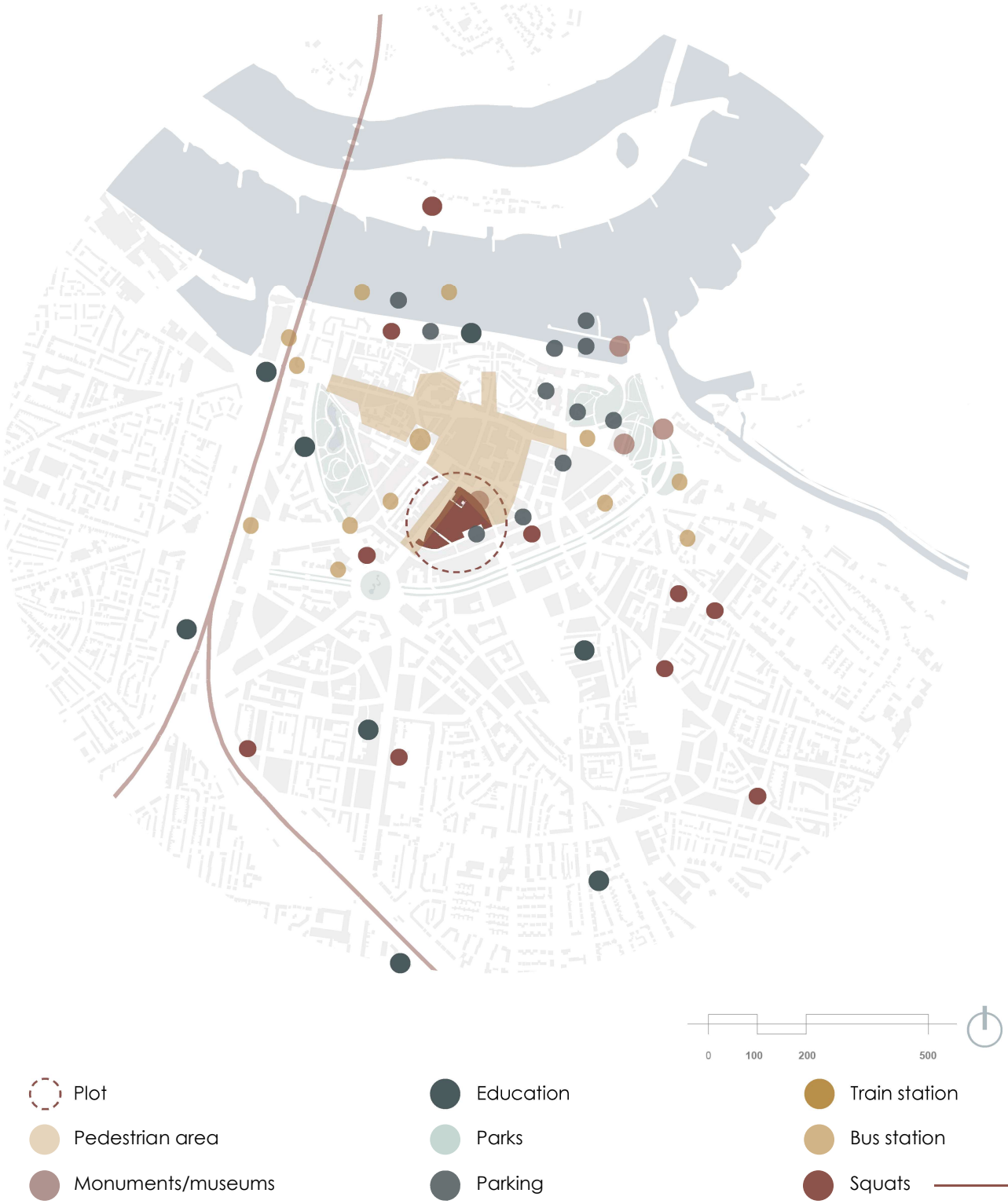


Figure 22
Map of infrastructure in the historical center of Nijmegen and surroundings
Drawing by the author

In the infrastructure study, it was helpful and engaging to find diverse squat organizations around the city. Squat is a social movement where empty buildings or houses are occupied and transformed mainly into housing with complementary spaces, expressing what people want and need. Some of the areas include gardens workshops and design offices.

SQUATS PROGRAM

- City garden
- Emergency night store
- Library
- Design office
- Cultural events
- Womens school
- Concerts
- Political cafe
- Production company
- Refugee - homeless support
- Comunity living
- Workspace
- Workshops
- Pub
- Dance yoga
- Photography studio

EVOLUTION OF THE PLOT

Our site appears on the map for the first time during the Roman period. It was occupied by civilians and military troops and further mainly used for agricultural purposes. In 1247 the first wall was built, letting the plot outside of its limits. The Molenstraat, an extension of the city's 'cardo maximus', was located on the west side of our plot. It was also the main access route to the Wilhempoort, the south gate of the wall.

In the 15th century, the city expanded, and the second wall was built. The site was now within its limits. In this period, the block took the form we see today, shaped by small houses. A new main entrance was built with the name of Molenpoort. Another essential building was constructed during this time, The Regulierenkerk. The church was small and narrow initially, but it changed and expanded many times over the next 500 hundred years, including the addition of a Monastery.

In 1517, Martin Luther began the period of Reformation. From 1568, protestants from the North part of The Netherlands, united under the name Republic of the Seven United Netherlands, turn against the Catholic Spanish King Philip II (Gelderland, 2021).

In 1591, "The Reduction of Nijmegen" occurred; this event defined the end of The Gelderland period and the beginning of The Dutch Republic. The Republic of the Seven United Netherlands, under the leadership of Prince Maurice of Nassau, attacked Nijmegen. As a result, Catholics were expelled from the city, and their properties were confiscated.

The Regulierenklooster became a house for old men and woman and was renamed 'Oud Burgeren Gasthuis' ("Regulierenklooster en Regulierenkerk - Huis van de Nijmeegse Geschiedenis", 2021). Only protestants were allowed to offer public services. Statues and decorations removed from the Regulierenkerk, that became Wallon church and the as a Lutheran church.

In the 17th century, the Molenstraat became part of an important transit route; This change increased building activities along the street. In 1794 The French introduced freedom of worship for all faiths in The Netherlands. Until 1808 The Monastery and the church had different owners, but after the initiative of Napoleon, church buildings were returned to the Catholics, which formed 60% of the population in Nijmegen.

For about 200 years, everything remained surrounded by the walls. After the demolitions of the wall, the city expanded rapidly; more people started to come to the service; therefore, from 1895 to 1897, a bigger Neo-Gothic building was designed by Nicolaas Molenaar and replaced the old church. (User, 2021). At that time, the architecture also expresses the religion to which the church belonged. Catholic churches used Neo-Gothic, Protestants neo-Dutch Renaissance and the Jews neo-eastern.

In 1817, the Oud Burgeren Gasthuis opened, in the former Regulieren monastery. In 1848, the architect P. van der Kemp designed a new building three-story high, with a Neoclassical facade. Already at this time, the proportions were more prominent than the surrounding constructions in the street.

In 1874 when the fortress started to be demolished, significant changes came for the plot with increased building activity. New regulations were established to improve the hygienic conditions forcing the farmers to leave the urban area.

The Regulierenkerk was rebuild in Gothic style in 1897 and changed its name to St Ignatiuskerk. User, S. (2021) In the bombardment of February 22 of 1944, the church was seriously damaged. However, the church was provisionally restored by Mr J. Coumans using only materials from the former construction due to Governmental policies. Consequently, he reduced its size considerably to forty by forty meters and lowered approximately five meters. This intervention preserved all possible remaining parts of the building.

A major renovation took place from 1958 to 1960, the architects in charge were Siebers and Van Dael from Breda, and the before mentioned J. Coumans from Nijmegen. The new intervention consisted of

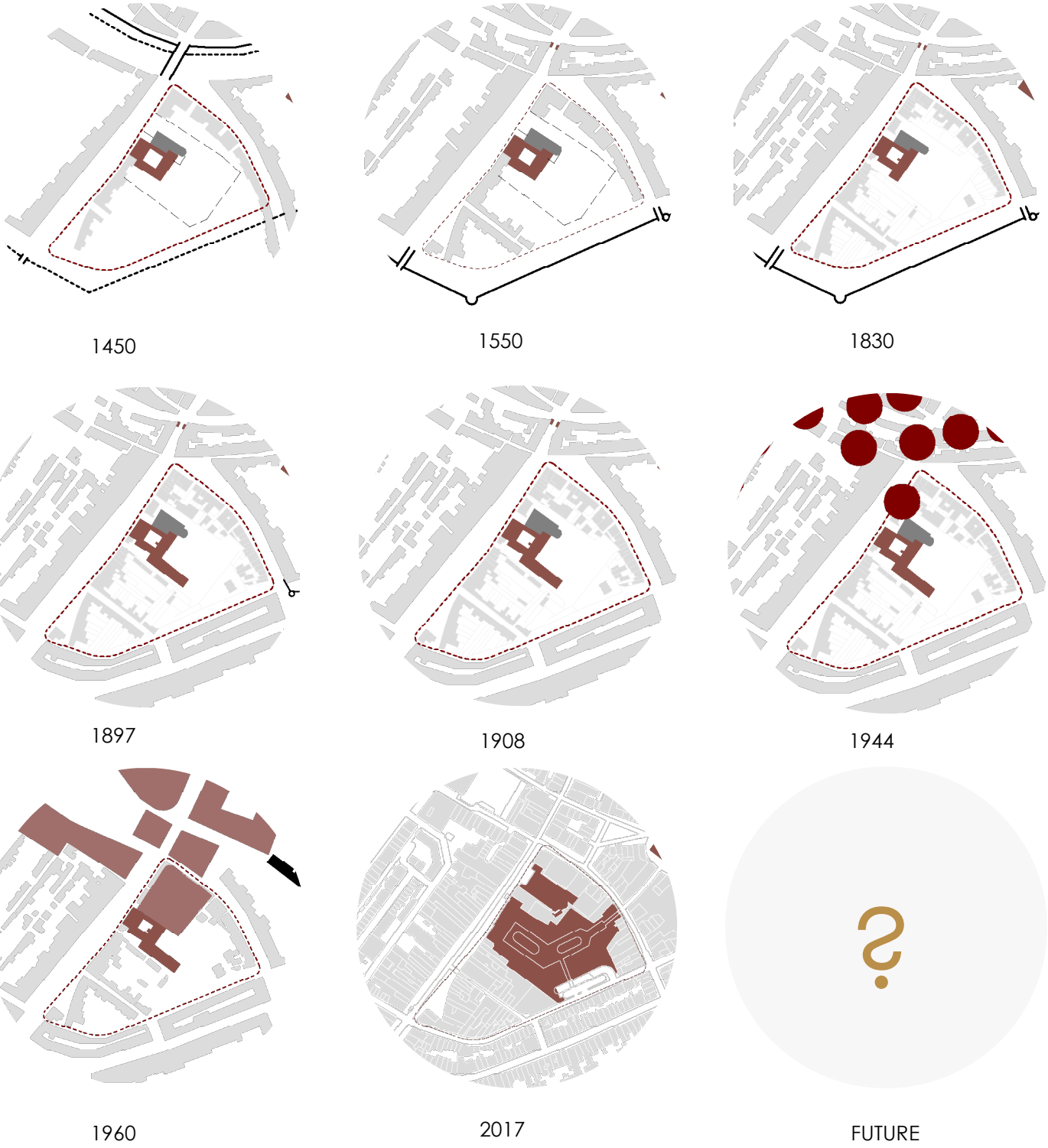


Figure 23.
Evolutions of the plot over time
Source: Nijmegen Atlas
Drawing by the author.

C14th

C19th

C20th

C20.5th

C20th

C20.5th

Figure 24.
Evolution of Molenstraat over time
Source: Nijmegen archive

Molenstraat

Tweede Waalstraat

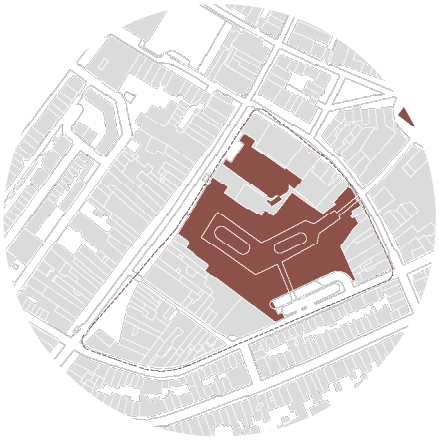
Figure 25.
Composition of Molenpoort Facades
Source: The Shopping group catalogue

an atrium, defined by seven columns that transition between the busy Molenstraat and the quiet interior. Three doors conform to the entrance with biblical scenes over them, and here we can also see the mosaics on the floor, a new clock tower, visible from a long distance even when crossing from the other side of the river.

Nowadays, the site has a commercial character. In 1970 the Oude Burgeren Gasthuis moved, and the building was demolished. Instead, the Molenpoort passage was built. With the increase of new shopping areas in the city, the site has lost its former activities. The shopping was officially opened on march 27 of 1972, following international trends of the moment. ("Concise history of Nijmegen - Huis van de Nijmeegse Geschiedenis", 2021) Thus, the place has become a novelty for the city, and some reforms took place over time.

The municipality has plans for a future renovation that includes opening the building creating small internal streets with space for gardens and courtyards. The area will also be revitalized with a mixed-use building that will consist of housing and affordable working spaces for small companies.

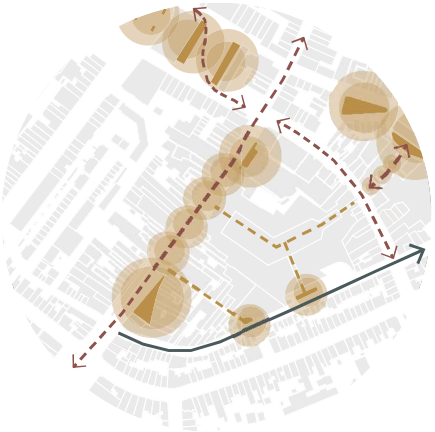
We can see how over time, our plot has evolved in relation to its context. It has been shaped by municipal, national, and even international events, developing the forms of drawings, texts and stories, and buildings and fragments.



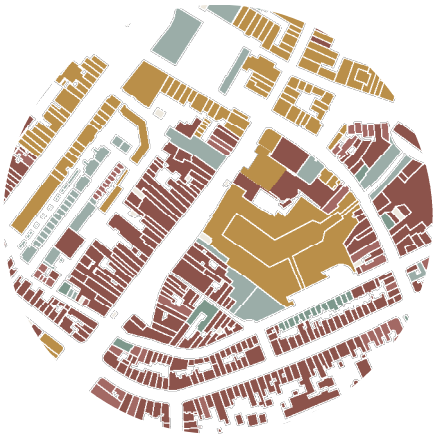
1. Plot

2. Greenery

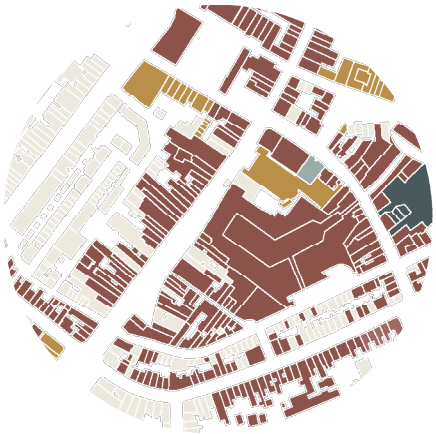
3. Sunpaths



4. Circulation

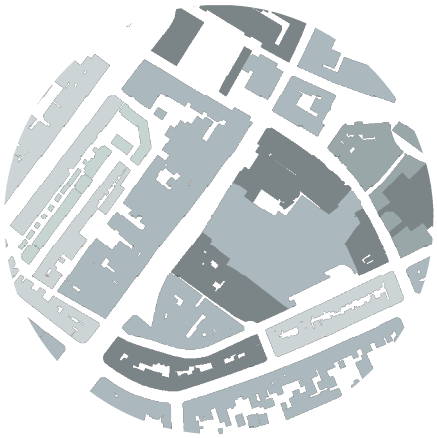


5. Age



6. Land use

7. Permeability



8. Heights

9. Lights and shadows

Figure 26.
Site Analysis overview
Drawing by the author.

A transition to design started with a more detailed understanding current conditions of the site, the buildings and its immediate surroundings.

Circulations paths and permanency areas reflect spaces with more activity. Molenstraat preserves its historical commercial character while Twede Waalstraat is quieter and remains with a village atmosphere.

The age and current conditions of buildings were analyzed to define what should be preserved, where interventions are needed and what can give something new. The land use shows dominating commercial activities versus housing and recreation, especially in the Molenpoort.

Due to construction density and paved areas, the remaining space for greenery is limited to punctual trees except for the Church garden that is still preserved.

Permeability studies, building heights, insulation, wind and projected shadows will help define the new volumes and strategies to improve accessibility in the neighbourhood.

The process of Bricolage of elements and fragments that will frame spaces and experiences trought the site started by an exploration and understanding of the building, its structural and spatial posibilities as well as it's components.

The Molenpoort, was built in 1970; Its structure made mainly with reinforced concrete and brick load bearing walls is physically in good condition. Besides that, it also had some renovations that follow the city dynamics and design trends.

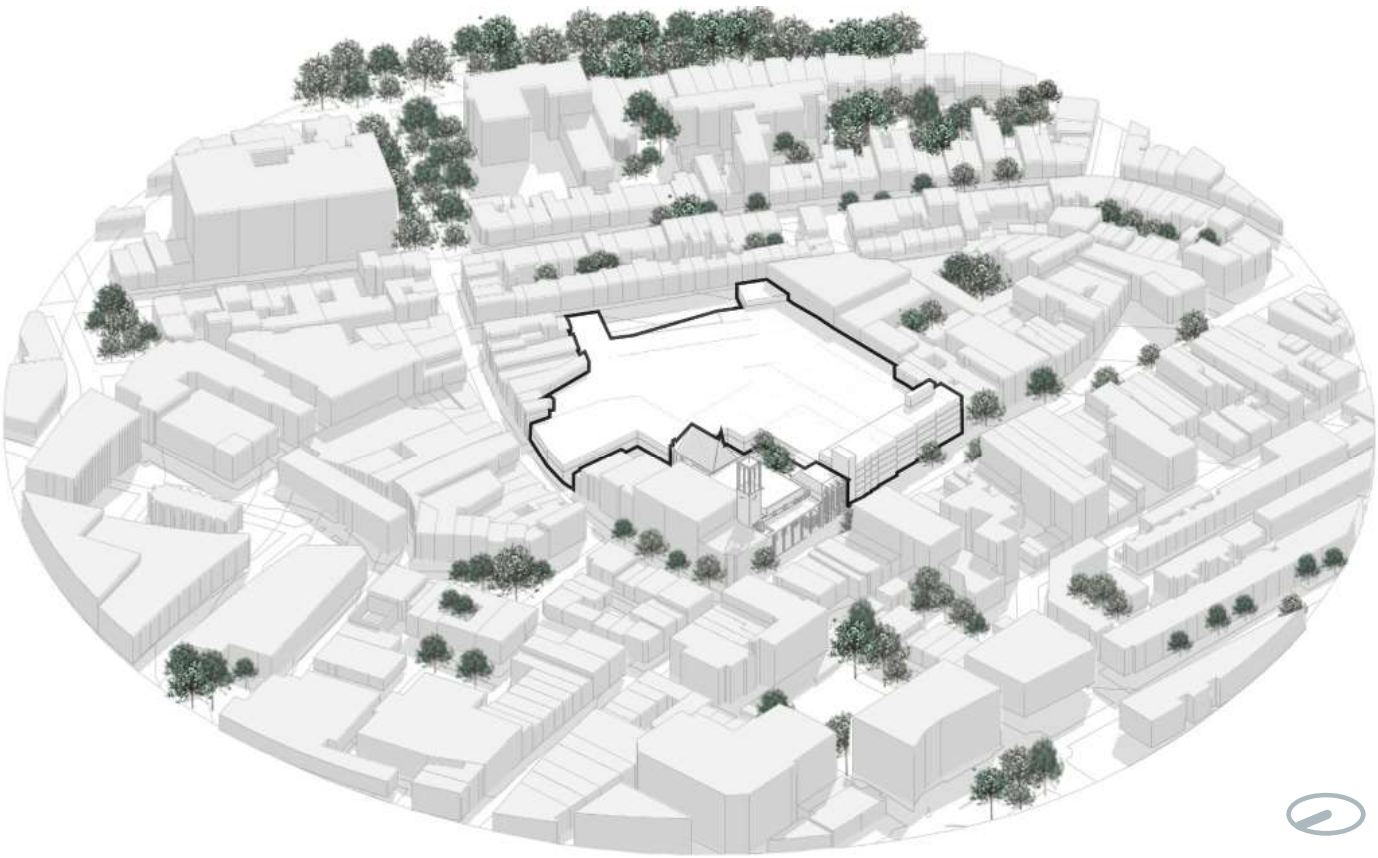


Figure 27.
Axonometric view of The Molenpoort and its suroundings
Drawing by the author.

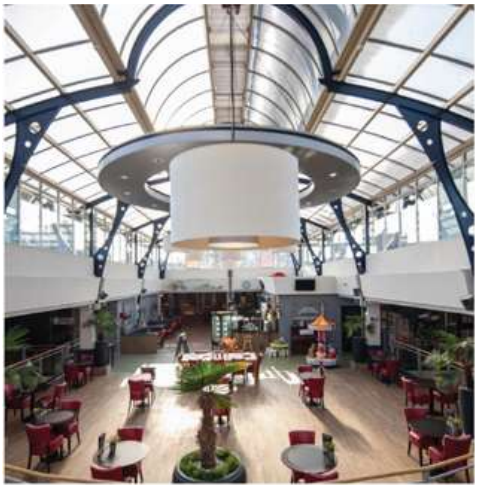





Figure 28.
Images of The Molenpoort exteriors
Photos taken by the author

An important part of the process was to understand how things were made. An extensive analysis of plans historical pictures of the construction process as well as identifying interventions and changes of the building over time lead to the future decisions of where to add reinforcements and create openings.

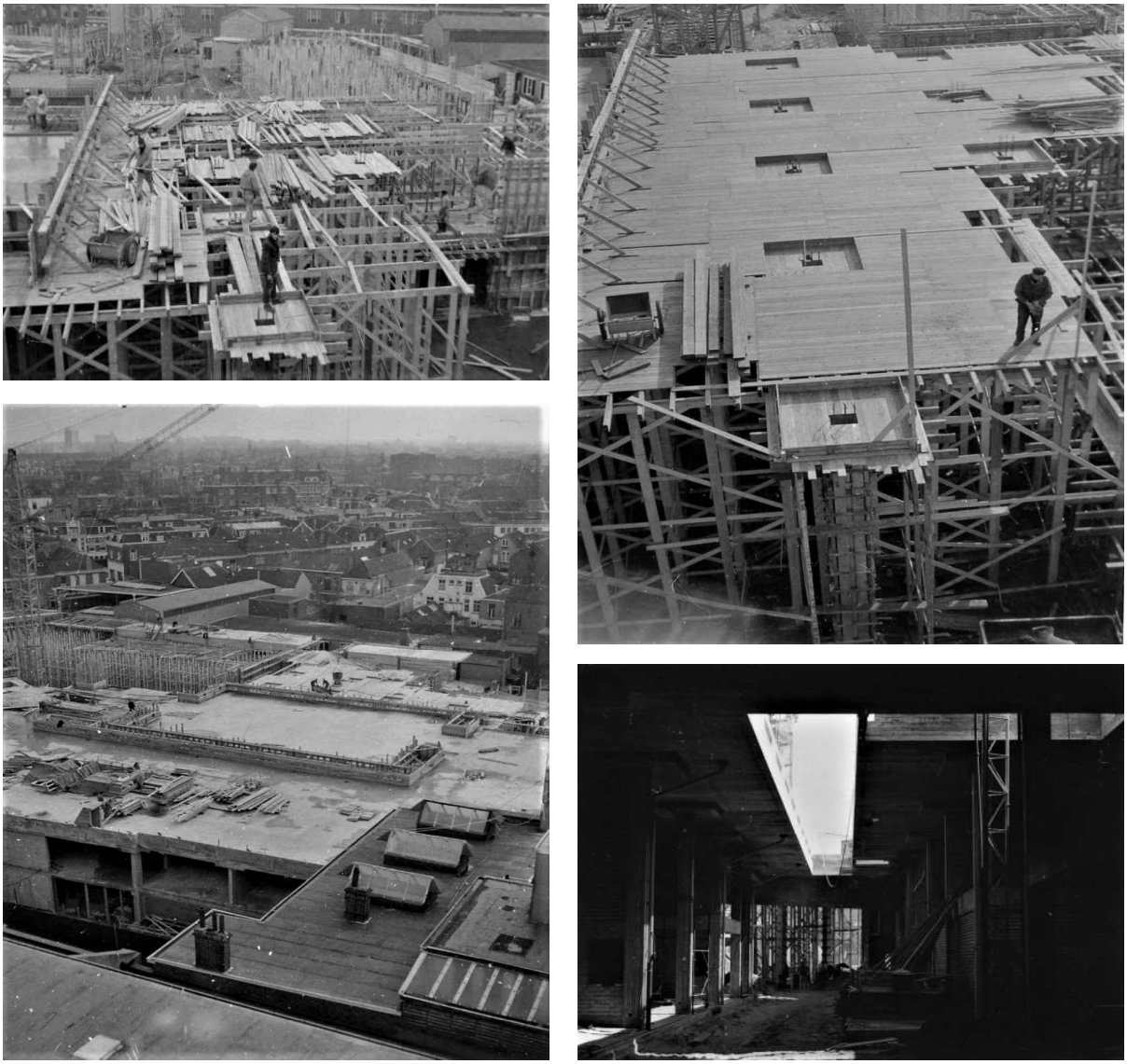


Figure 29.
Study of construction the process of The Molenpoort
Source: Nijmegen Archive

The mushroom columns played an important role when the identity of the current building stage was defined. They structure and modulate the space creating rhythm and unity. Its integration and contrast with new structural material will tell a story of frictions and changes of time.

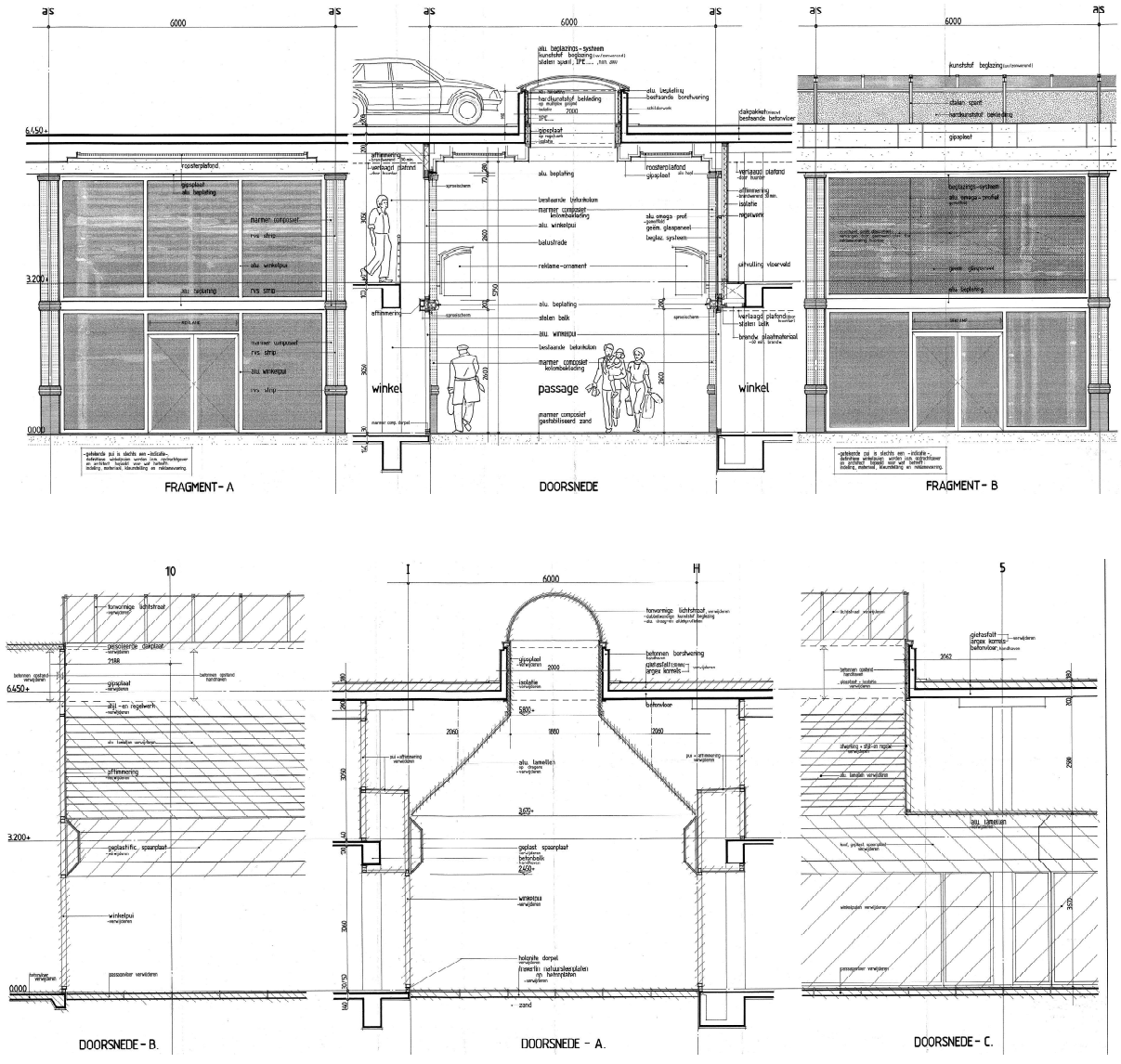


Figure 30.
Study of renovation plans of The Molenpoort passage in 1997
Source: Nijmegen Archive

CHAPTER 04

THE URBAN SPACE

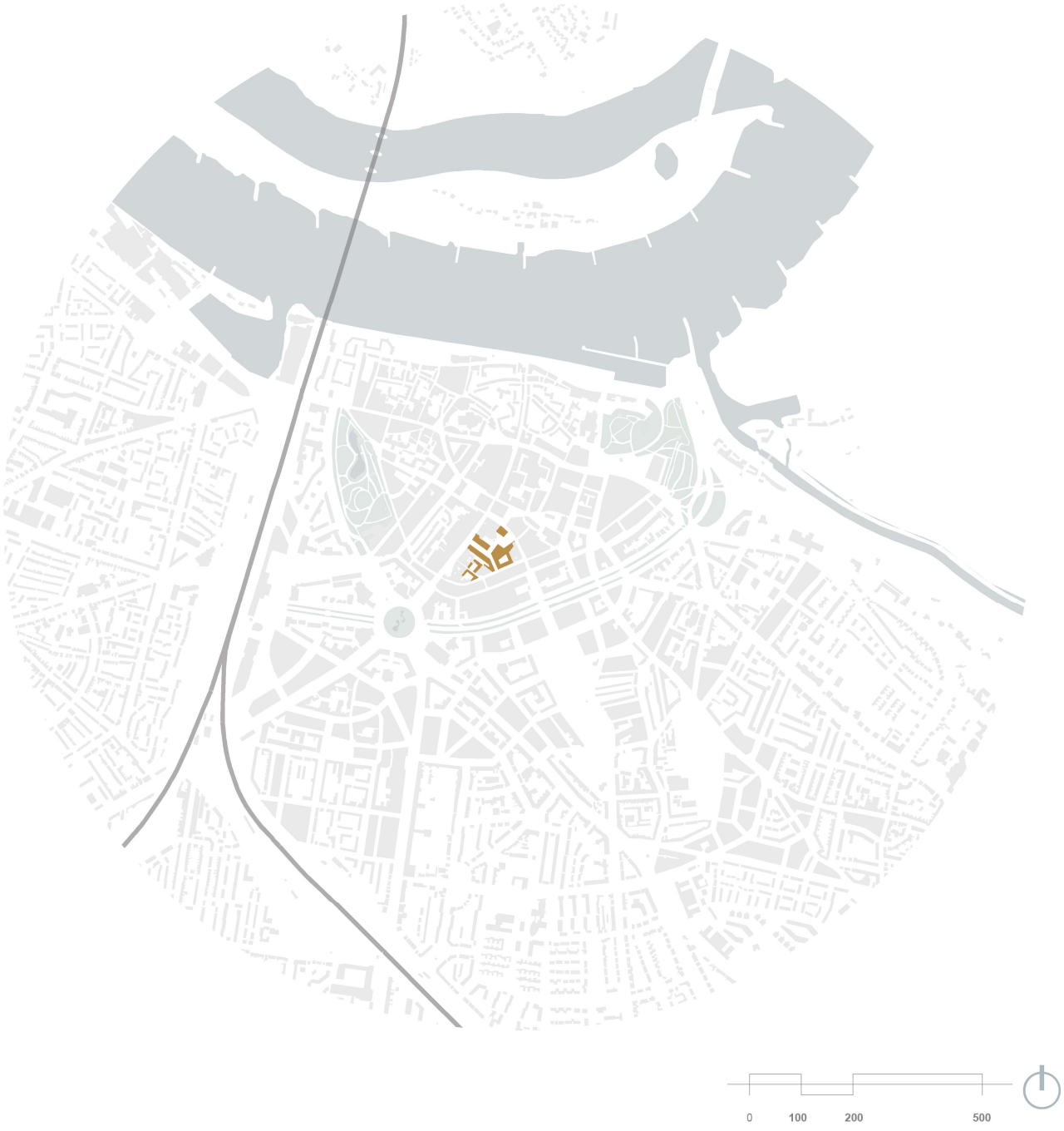


Figure 31.
Urban intervention within the context of the city center of Nijmegen
Drawing by the author.

"The conscious inclusion of time 'brings the virtual future of a building into dialogue with its actual present, as both are entangled in its past'."

Schmidt III, R., & Austin, S. (2016)

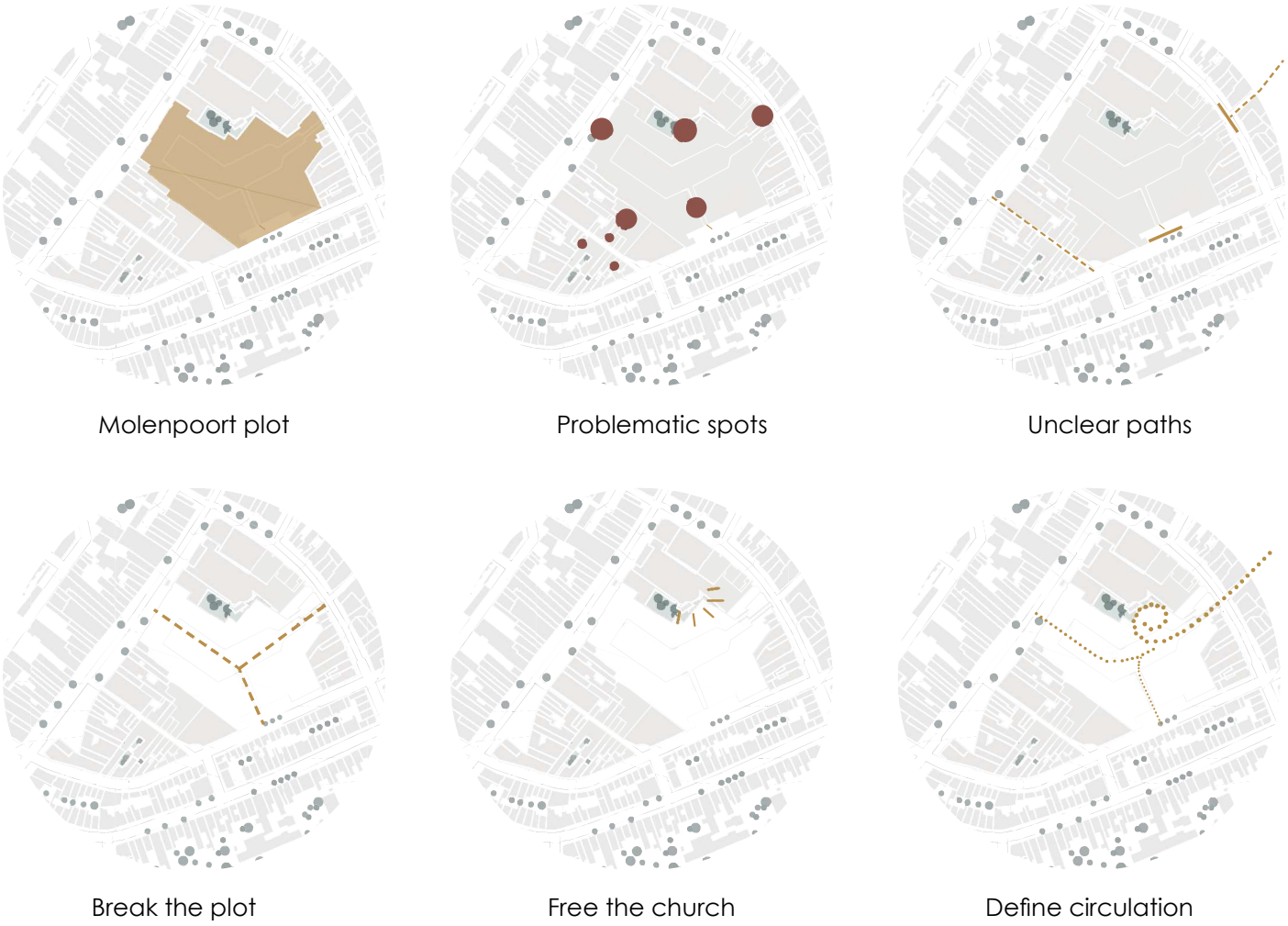


Figure 32.
Site Analysis overview - Current conditions and possibilities
Drawing by the author.

The urban proposal is a response to the analysis of the city and the site. The process started by identifying problems and qualities in the existing.

First the size of the Molenpoort building in relation with the ones that surround it and the city center of Nijmegen seemed not only massive but it had no relation and interaction with the neighbours, blocking the vies and building up every little space possible in order to increase the amount of square meter that will be rented.

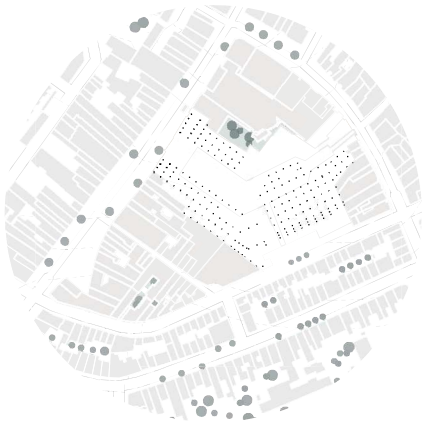
The entrances to the shopping passage are not clear at the moment, decreasing amount of people that enters naturally resulting on a deviation of the flow to the parallel street. For those who enter the passage doesn't has a clear internal path either. Making it hard for people to get orientation blocking the view with columns and volumes and lacking of natural light.

To see beyond the Molenpoort the site was cleared and interesting things were found that could be potentially developed, breaking the plot making the site more permeable and attractive for people to cross by, the back of the church is the oldest building on the site right now hidden, can be exposed and accessible for people to appreciated, the ex-

isting flow of people
Positive aspects are the condition of the existing structure, the molenpoort was built in 1970, having only 50 years old has read only half of its minimum structural potential, the modular grid mainly of six by six meters allow new functions to be introduced

The proposal resulted on an integration of possibilities and exiting .The main objectives are increase the site permeability and accessibility creating a variety of spaces and atmospheres, with building in high relation with each other blurring the edge between inside and outside

The project represents a strategy that can be applied in different places around the world. The first step starts with dealing with the existing and preserving what we have already there in order to reduce to the minimum the production of waste and get the most of the embodied energy of built structures. The second step will be what to do with things that we need to distroid in order to potentialize the space to create openings and bring more light or improve accessibility etc. what to do with the material we get rid of?

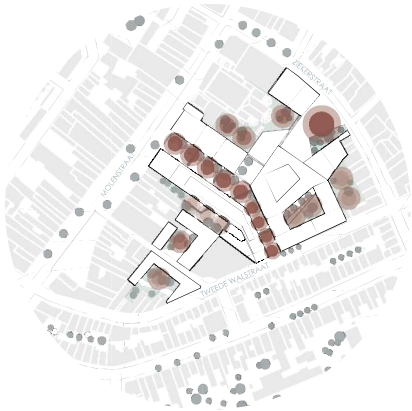


Structural grid

Building shapes

Integration

Permeability



Atmospheres

Inside-outside relations

Figure 33.
Site Analysis overview - Shaping the urban proposal
Drawing by the author.

Figure 34.
Urban proposal - Top view
Drawing by the author.

The project is about how people experience architecture and its transitions created by time and space.

For the urban and architectural proposal, the experience of time took the main role, morning, evening and night, weekends, day weeks, and different seasons. It inspired the project as a scenario for different events to happen, encouraging people's interaction.

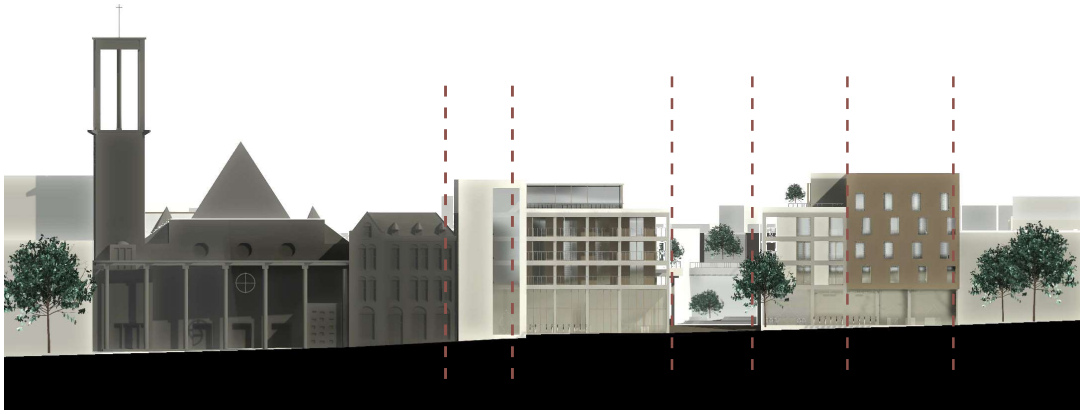
The program intends to follow the different character of the streets that defines the plot, the molenstrat a more public and lived in a faster speed, twede walstraat, village within a city and ziekerstraat, a historical street of farms that receives the flow of Mariekestraat, a shopping street that will open in the plot to a plaza defined by a New public building.

The church and its garden will bring back the city's identity to the site previously hidden, allowing people to enjoy and reconnect with history and nature.

The new facade in Molenstraat will be divided to continue with the sequence of other plots in the street. New buildings will enhance the relationship with public space, and the heights will be proportional to the surroundings.

The proposal will integrate differents levels of exposure and protection. In this way user can experience the different seasons of the year in the external areas and feel protected on internal rooms but also transition spaces allow more connection with the exterior summer winter, day and night.

Existing

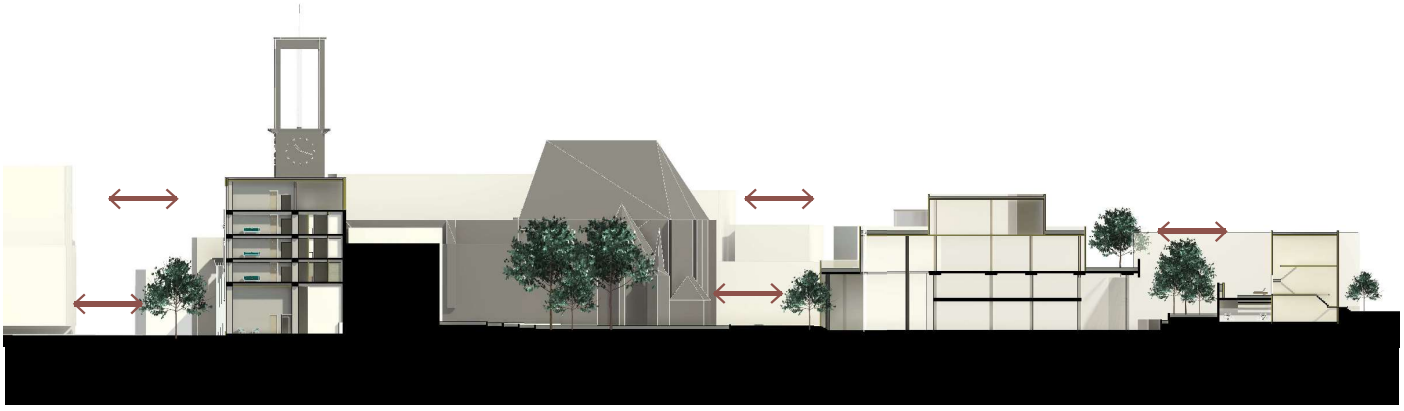


Intervention

Figure 35.

Site Analysis overview
Drawing by the author.

Section A



Section B

Figure 36.

Site Analysis overview
Drawing by the author.

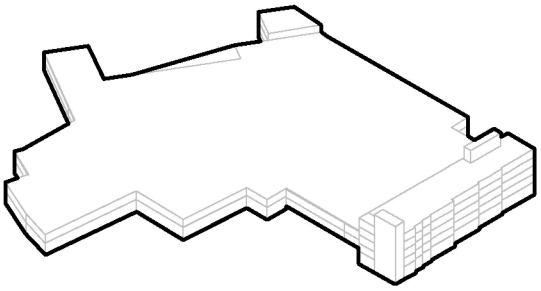
BUILDING LIFE CYCLE

One of the project's main objectives is to create a proposal based on the current conditions of the Molenpoort.

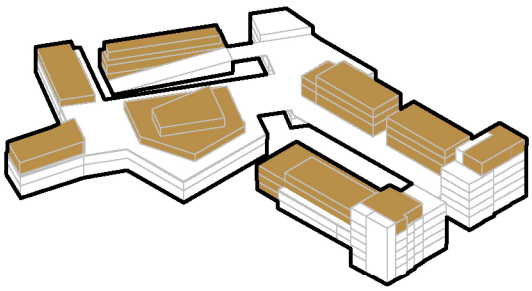
The area for demolition was defined by the main intentions of the urban plan as to create better circulation and accessibility to the people and open the spaces for gardens and courtyards.

Concrete from the previous construction will be used as gravel for the landscaping. Bricks will be integrated into the paving and will be used as a base to create new furniture. Windows will be reincorporated into the new architecture, and tiles will be used to create mosaics in the interiors.

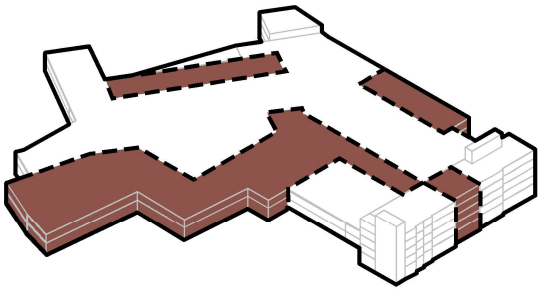
The additions will be made in timber implementing dry construction techniques to be disassembled and used for other purposes in the future; In this way the circularity and sustainability will be achieved not only because the building can be reused and addapt for different pourposes but also using an organic material that at the end of its life will feed the earth and nurture new trees in and endless lifecycle.



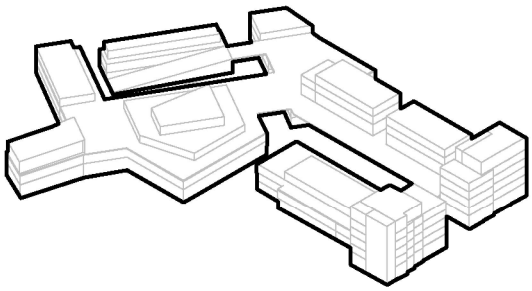
1. Existing



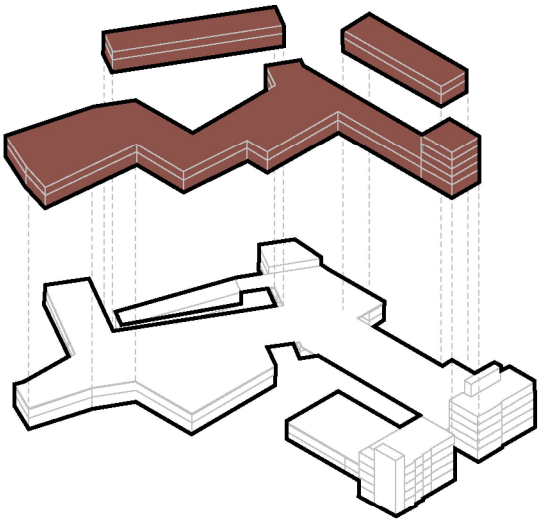
5. Additions



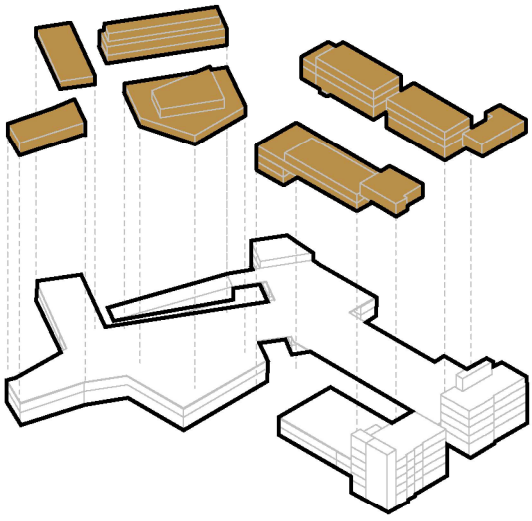
2. Demolitions



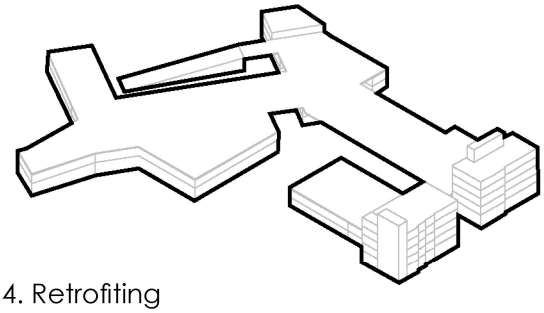
5. Integration



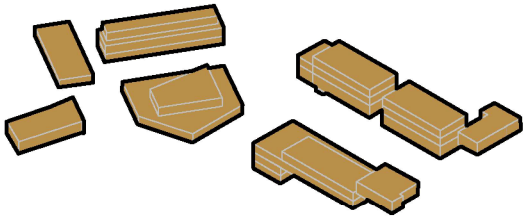
3. Recycle



5. Dissasambling



4. Retrofiting



6. Reuse

Figure 37.
Building lifecycle
Drawing by the author.

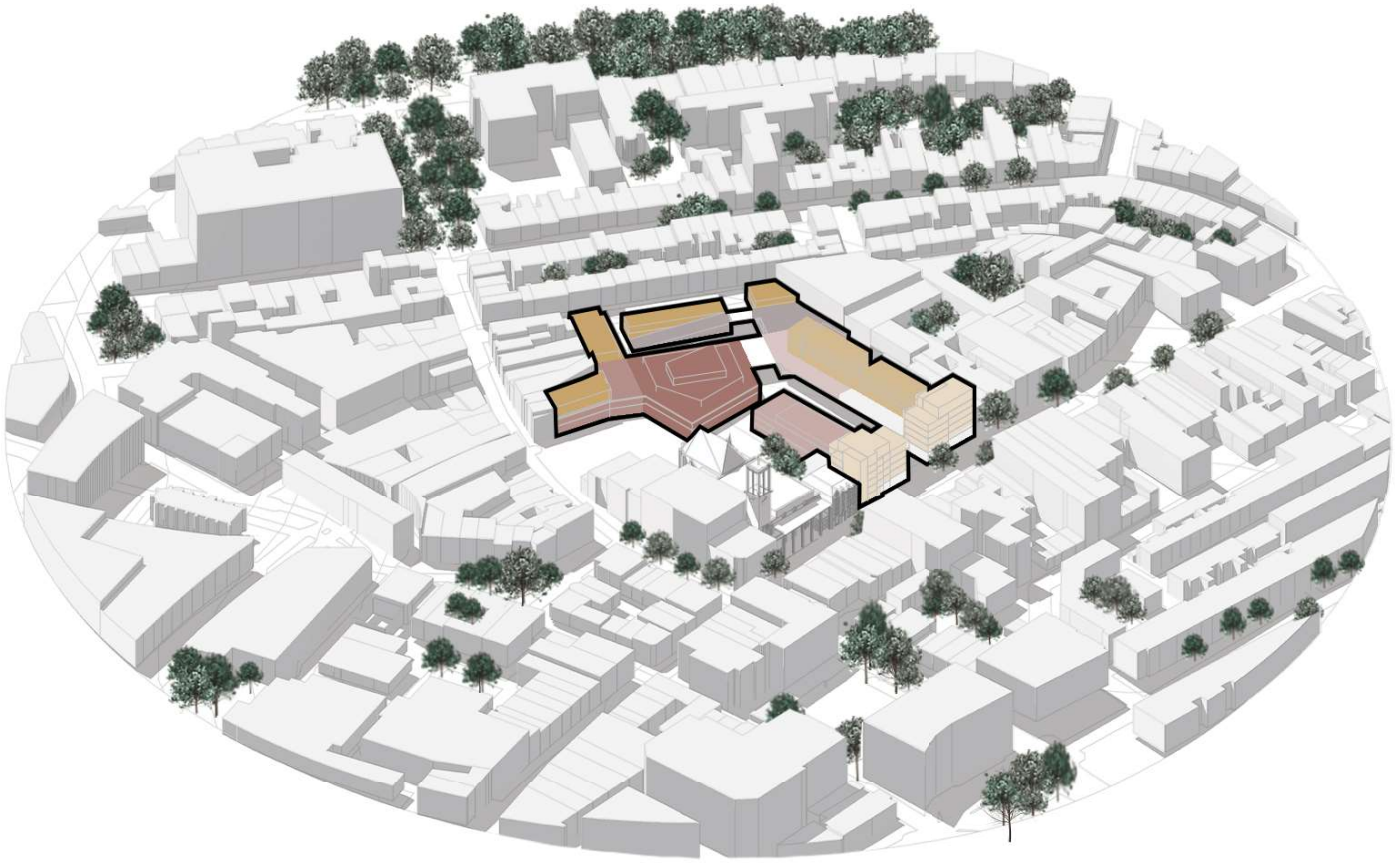


Figure 38.
First use program
Drawing by the author.

FIRST USE PROGRAM

The new program is a response to the current needs in the city and the special characteristics of each part of the site. More public functions are oriented towards Molenstraat, and more private ones in front of tweede waalstraat and a new street will serve as a transition between both.

Different residential typologies will be integrated, encouraging the sharing of facilities and services within different groups. The co-living program is a contemporary emergent residential concept that allows people to interact and live more sustainably by sharing common spaces that cannot be included in a single house or apartment as gardens, study and workplaces, laundry etc.

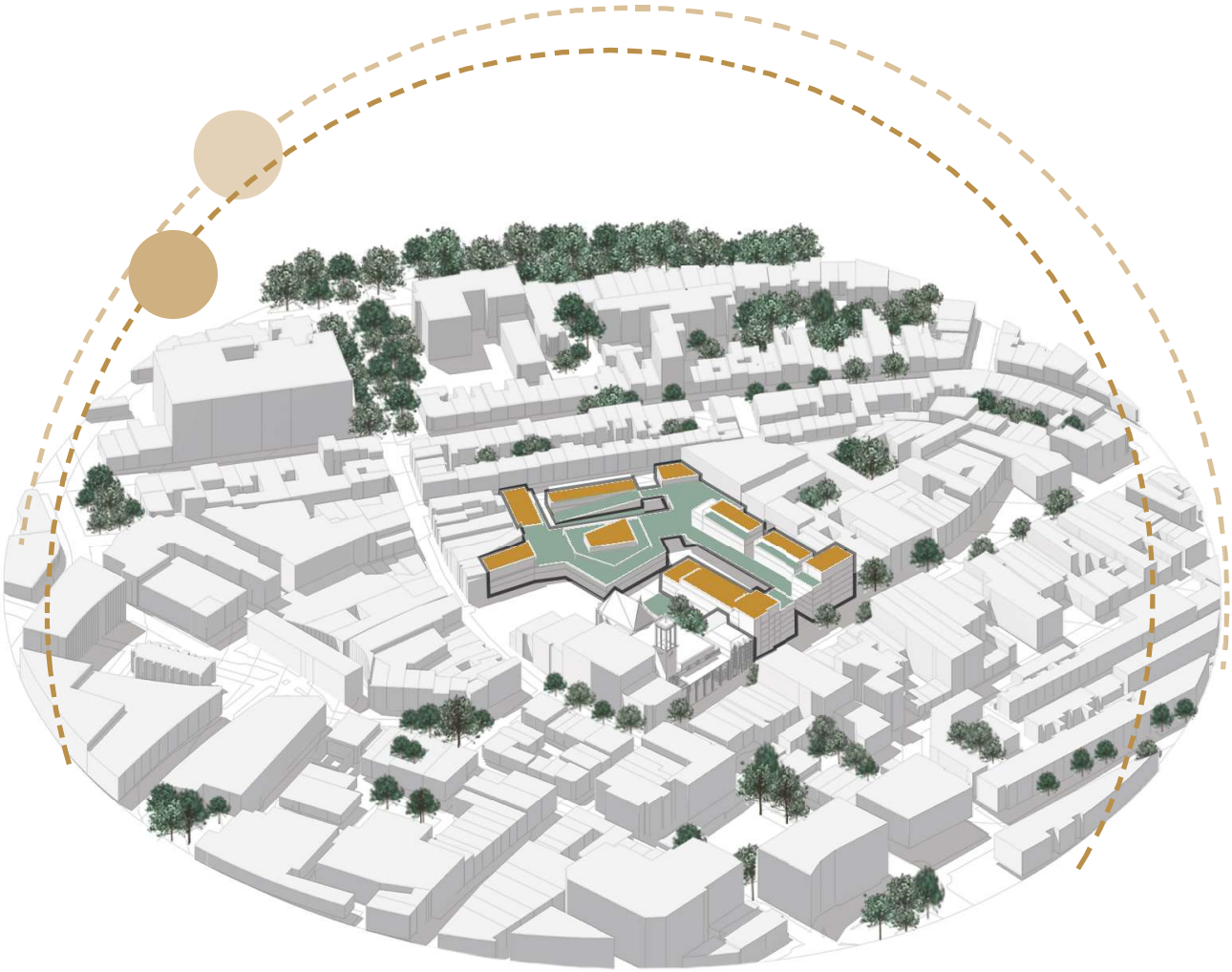


Figure 39.

Spring - Summer scheme
Drawing by the author.

SEASONAL CYCLES

pring, the season when life starts all over again. In The Netherlands tulips fields and other flowers bring colours to the landscape. This season allows a to stay outdoors and enjoy nature. Internal spaces can be naturally ventilated and the shadows of trees and sunscreens protect from solar radiation.

Energy and heat from the sun will be collected with PVT panels placed in the rooftops and later distributed in the site.

Fall is the most rainy season in The Netherlands. Roof gardens will serve as helyophylters for water collection that later can be used for toilets, and washing machines.

In the winter greenhouses will help to preheat using solar radiation the space reducing energy demands and allowing to maximize the use of the space all year long.

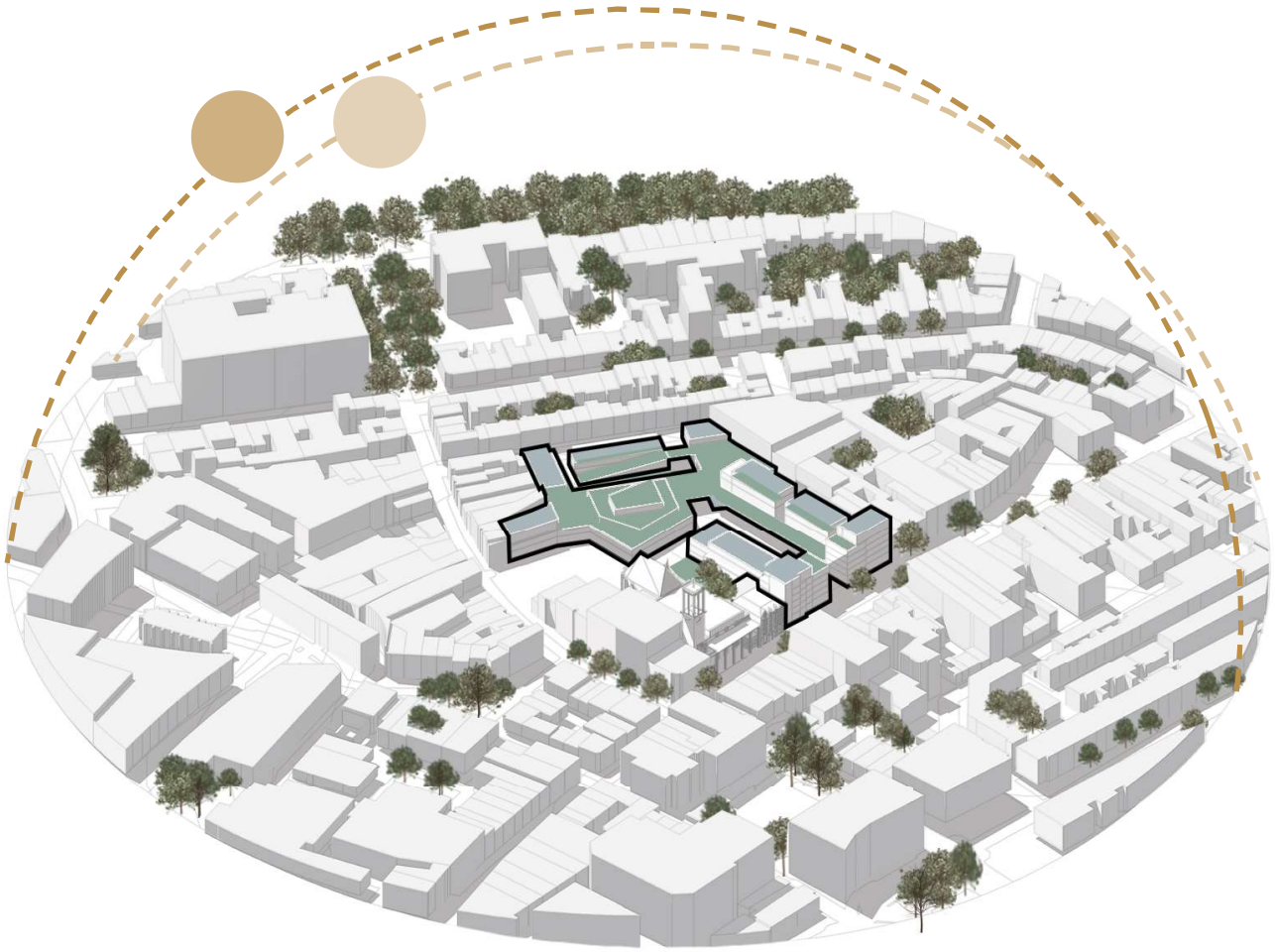


Figure 40.

Autumn - Winter scheme
Drawing by the author.

Route A:

The Church and the plaza

Route B:

The ramp

Route C:

The street

Figure 41.

Routes trough the site
Drawing by the author.

The urban design was thought, in a way that could offer the users a variety of atmospheres. Tree main routes were explored following the character of its entrance.

Each route has included green spaces and secondary paths to create rich and enhancing experiences allowing people to walk around the site, offering opportunities to stop, sit and enjoy a peaceful moment.

Coming from Mariekestraat, a narrow shopping street, the site opens to a plaza, the most public and welcoming entrance. As other pieces of history can be found around the city, here back of the church becomes an element that brings back the identity of Nijmegen, something that will instantly capture the look of visitors and that will now be open for everyone to enjoy.

The plaza will be a space where many activities can happen. Spontaneous meetings and skating, weekly fairs to open theatre performances and events. Most public buildings frame the plaza, the museum with complementary ateliers, and the church and existing commercial establishments.

The preserved church garden will be open to the community. Next to the garden, we can find the greenhouse market, a space where site growth products can be obtained and where people see and participate in planting and harvesting.

The second route starts coming from twedewallstraat, a more quiet street that has a village feelling. The existing ramp of the building is preserved to give access to the parking that was transformed into a green space with a sequence of terraces and gardens where different views of the site can be appreciated, providing space to see and be seen.

Summer morning
10:00 am


Summer night
10:00 pm

Early fall evening
6:00 pm

Autumn morning
10:00 am

Finally, the third route comes from molenstraat, the historic main entrance of the city. An opening breaks the sequence of buildings; the molenpoort straat is created to transition between the public character of its entrance to a more private atmosphere that leads to tweede waalstraat.

Concrete columns frame the path that becomes an extension of the buildings that surround it. It seems

like a combination of different materials and textures that become together that almost tell a story. Passages between buildings give access to courtyards where time seems to slow down.

During the day, the noise of people walking and activities in the buildings around bring life to the street, gives access to the market and semi-public functions that begin with retail and continue with a coworking space. During the night, residents use the space for private and collective activities.

There are different experiences at every step. An enclosed space became an open community where different experiences at every step can be found.

Autumn morning
10:00 am

Spring noon
10:00 am

CHAPTER 05

LIFE IN THE STREET

"The architects work is just the beginning, establishing a framework for a long slow-moving process."

Schmidt III, R., & Austin, S. (2016).

Winter morning
10:00 am

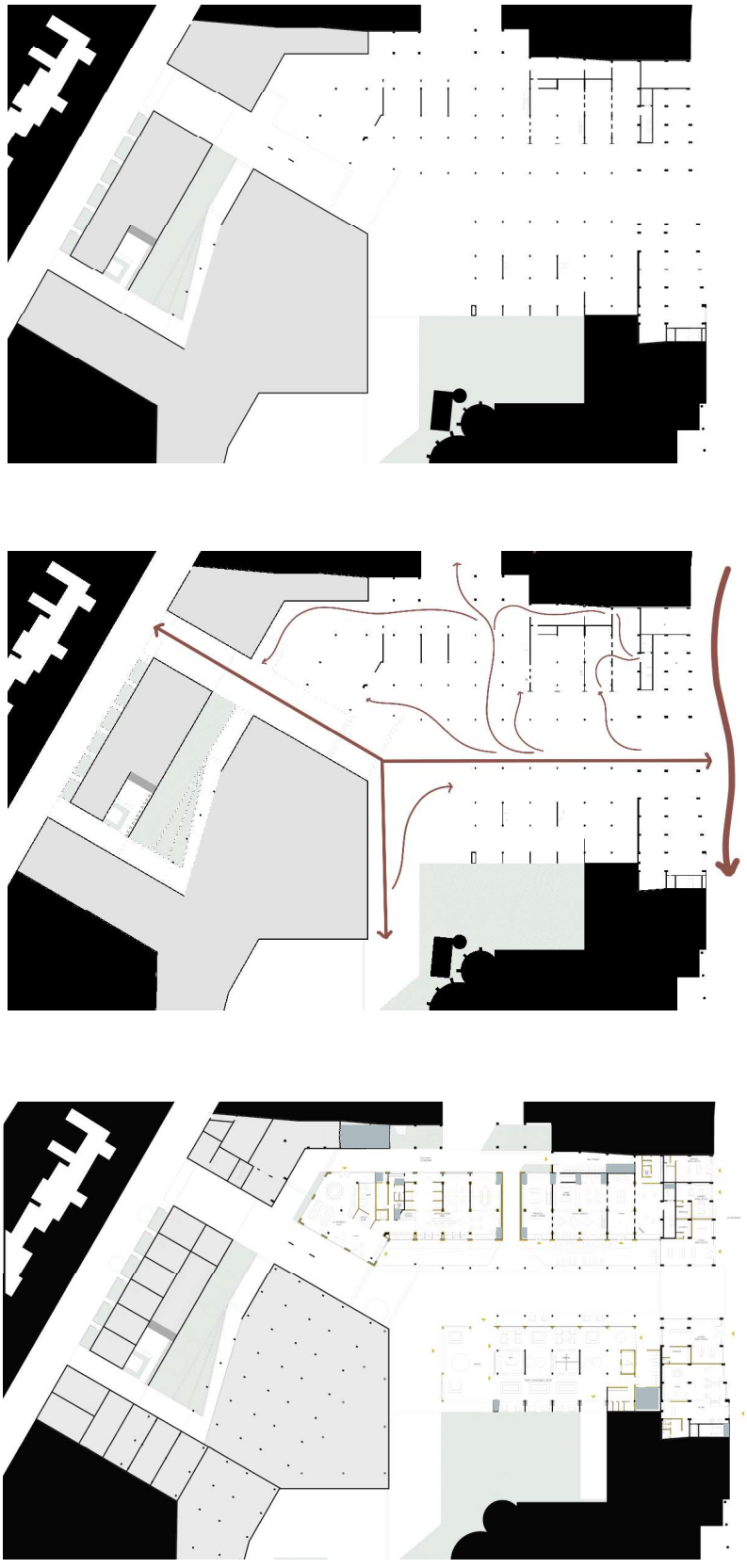


Figure 42.
Design process in architectural scale
Drawing by the author.

The architectural scale of the project is based in the Molenpoort street. The main interest on this area of the site started by recognizing its role on connecting different urban conditions from the busy Molenstraat to Twedewaalstraat

The design process in architectural scale started with the main intention of find the pottential on the building creating a balance betwen the urban plan ambitions and existing condiyions.

Similarly to the process in the urban scale, thhis time a clear model of the structure was made to see what is hidden behind the walls skecthing routes and getting first impressions of how it can be. Finally testing and detailing lead to the architectural proposal.

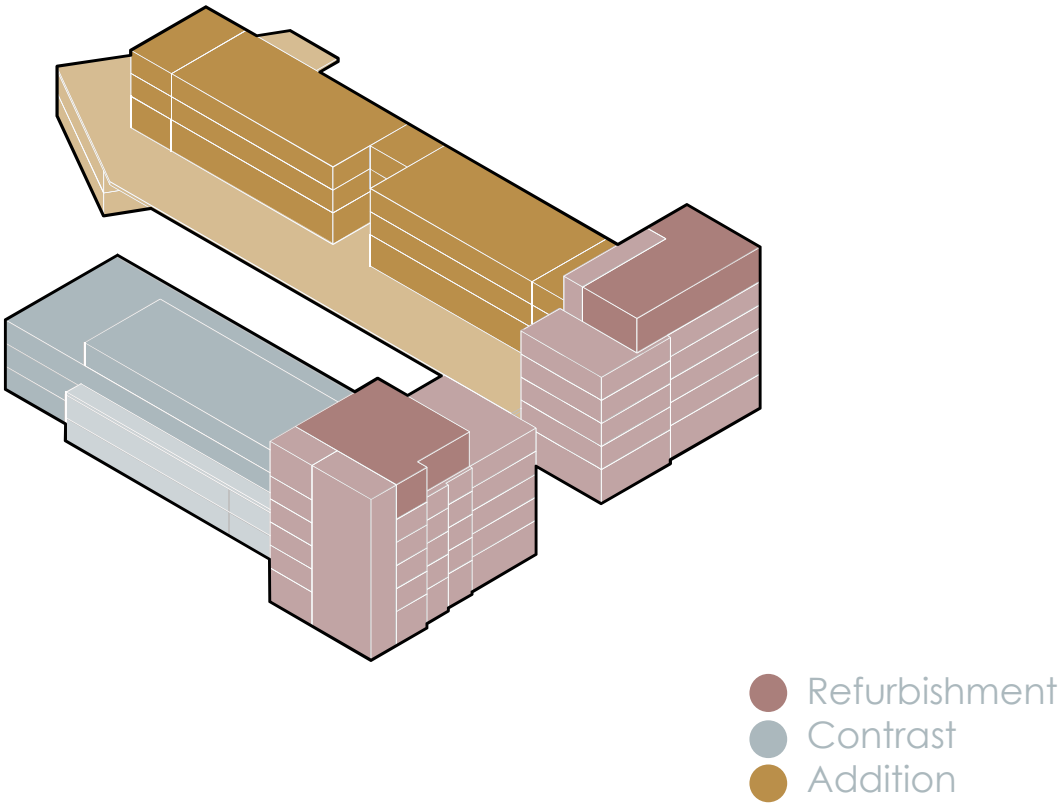


Figure 43.
Intervention strategies
Drawing by the author.

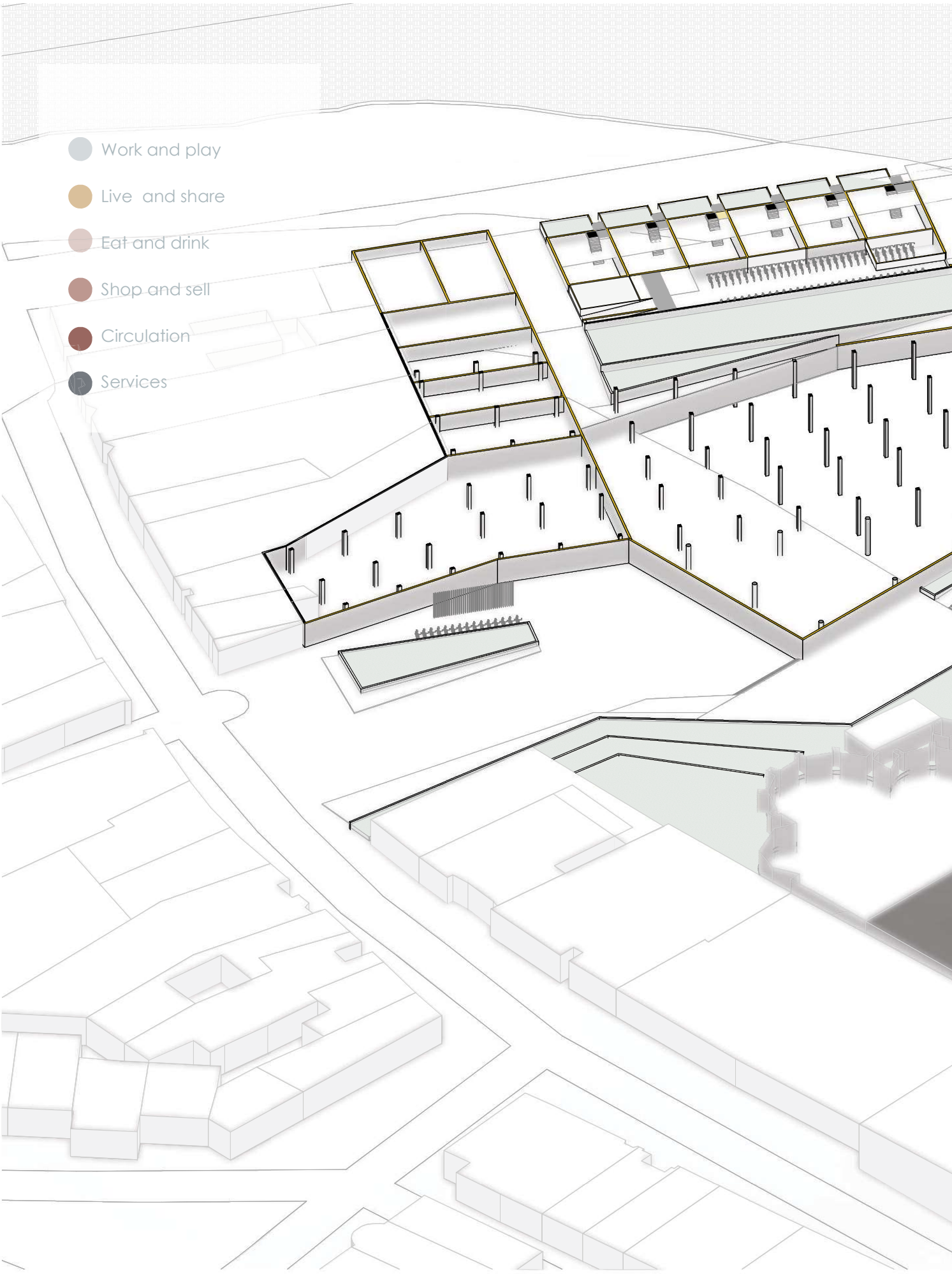
The proposal for the renovation of the Molenpoort will become a Bricolage of different strategies responding to the specific characteristics of each building part.

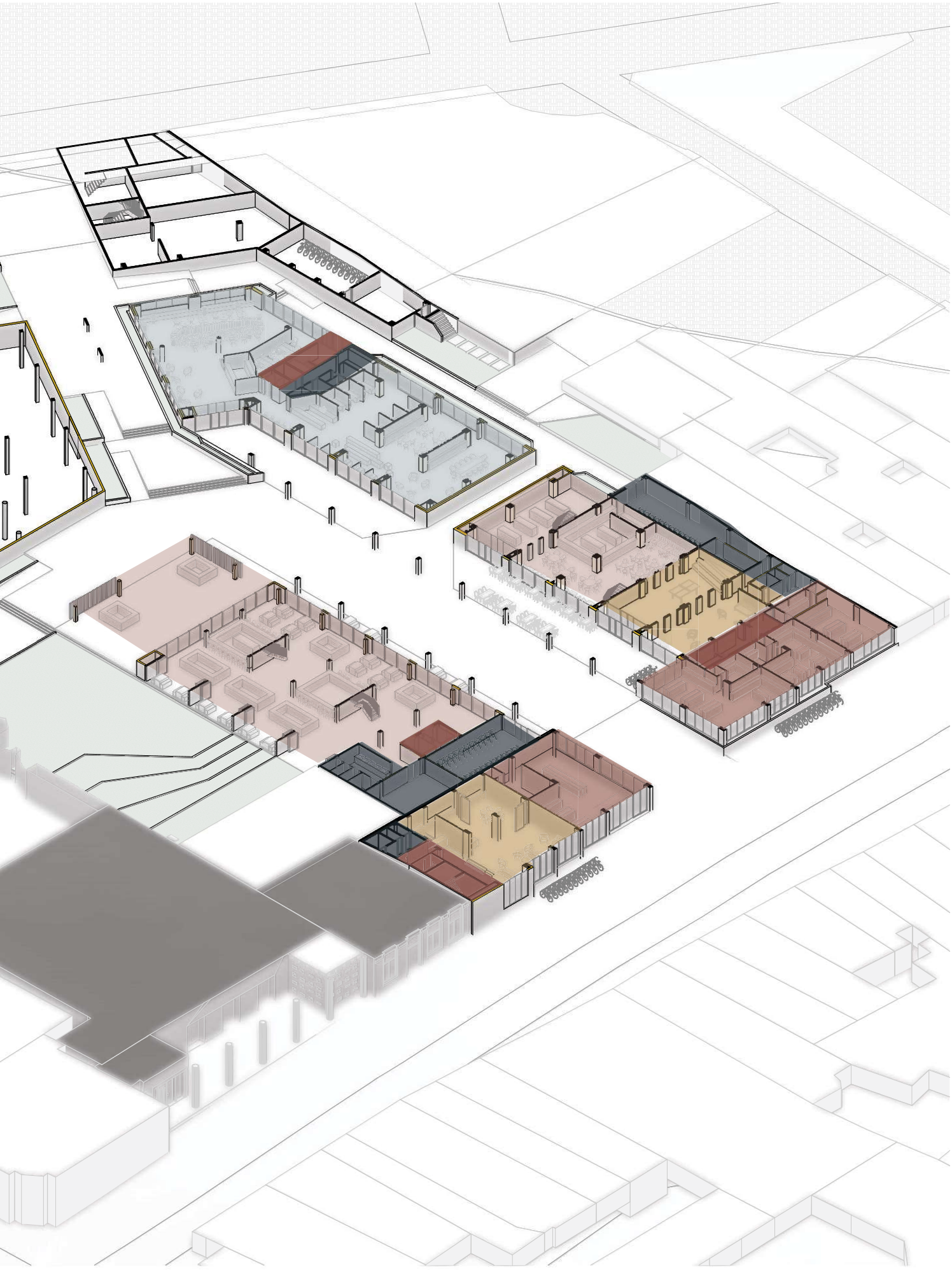
Reefurbishment and retrofitting:
Towards Molenstraat, the Molenpoort has a commercial ground floor three additional floors for commercial purposes. In this section, minimum actions are required allowing the inclusion of programs for social housing.

Contrast and integration:
In this area, new and existing merge together and become one. The structural connections between both become an asset that makes the building unique.

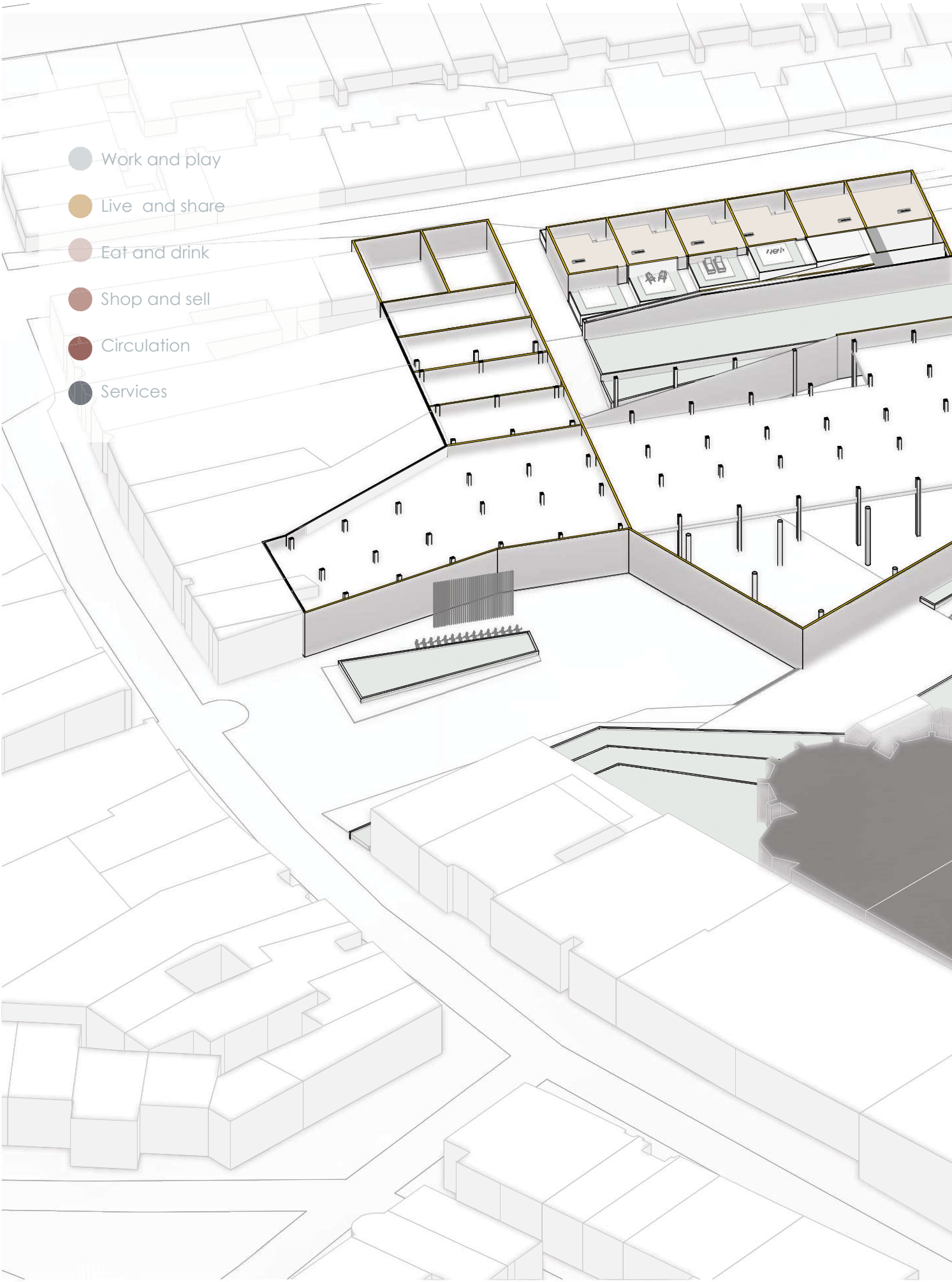
Additions and renovation:
Increasing the density in the place and bring new functions required reinforcement of the existing structure. The further intervention will be made out of wood, a light and flexible material that follows the sustainable ambitions of the urban plan.

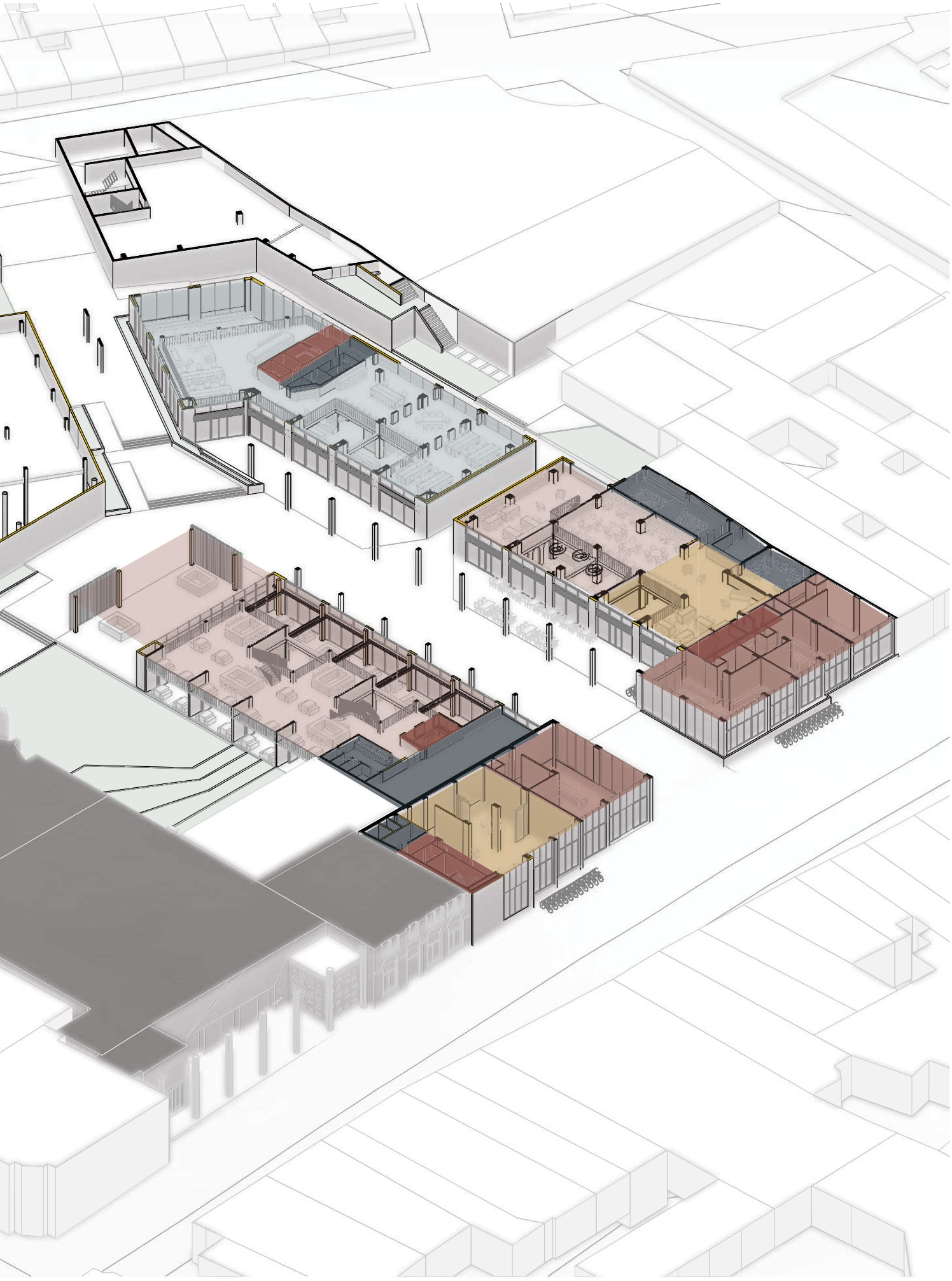
GROUND

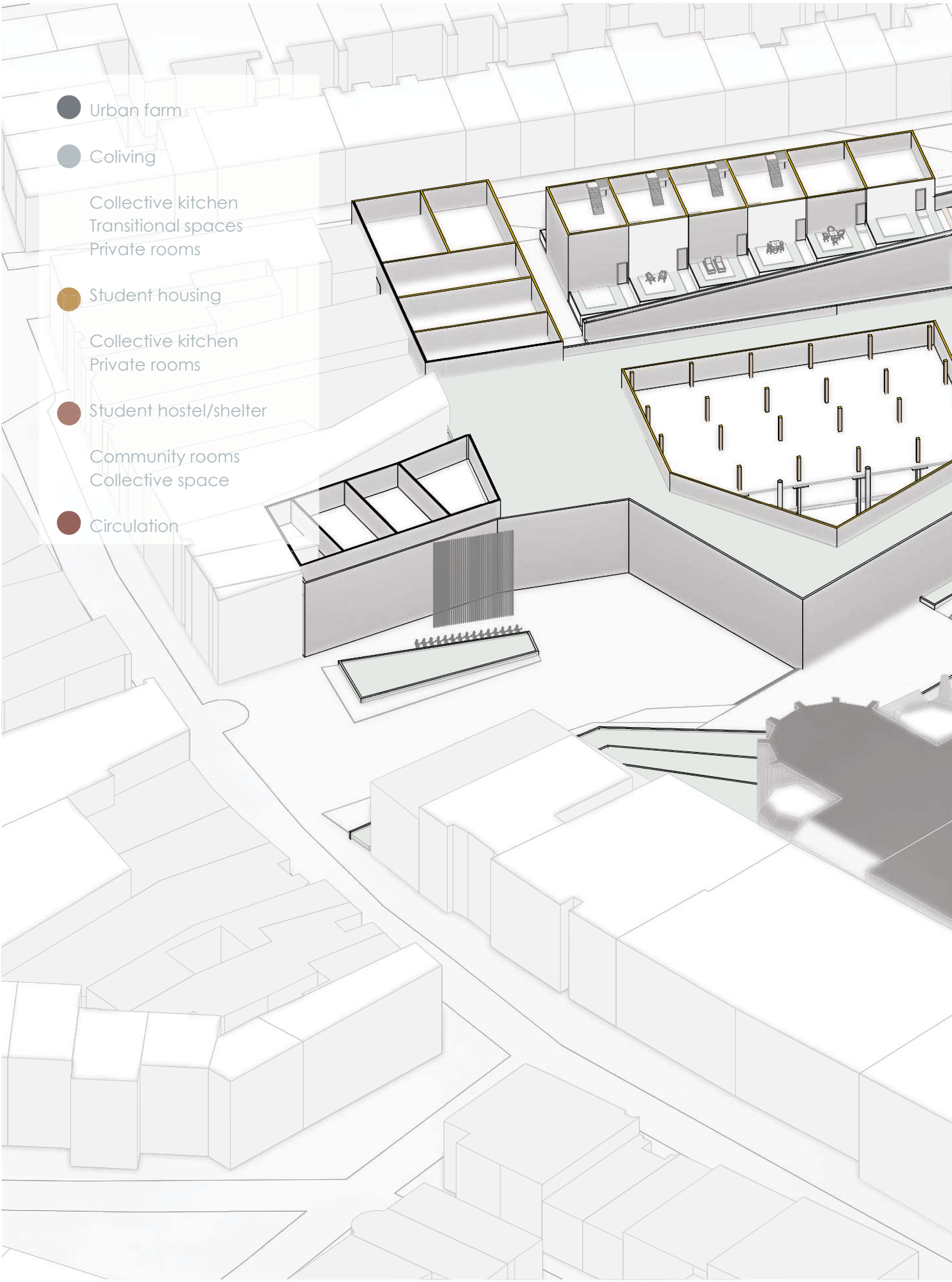

Work and play
Live and share
Eat and drink
Shop and sell
Circulation
Services

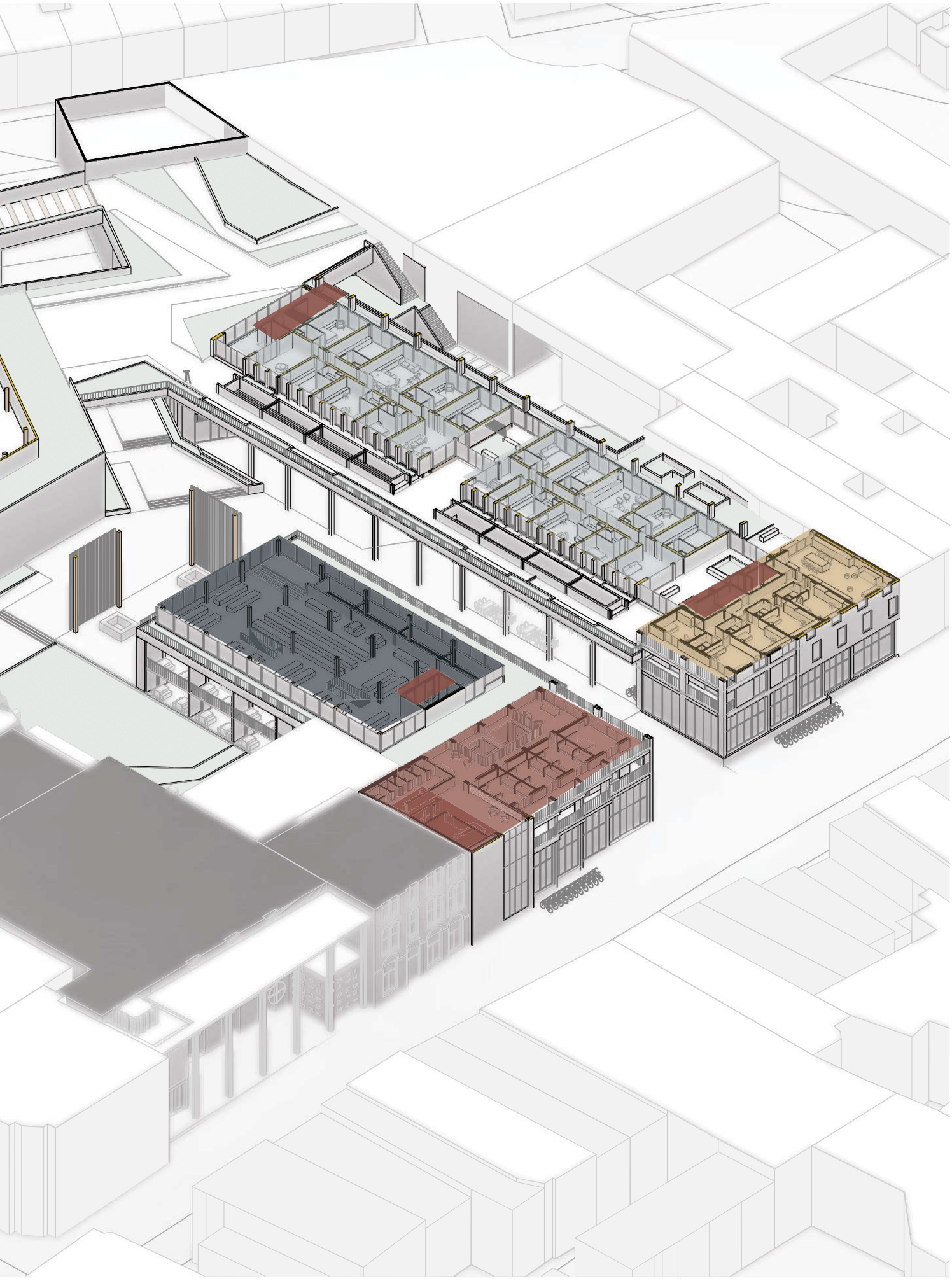


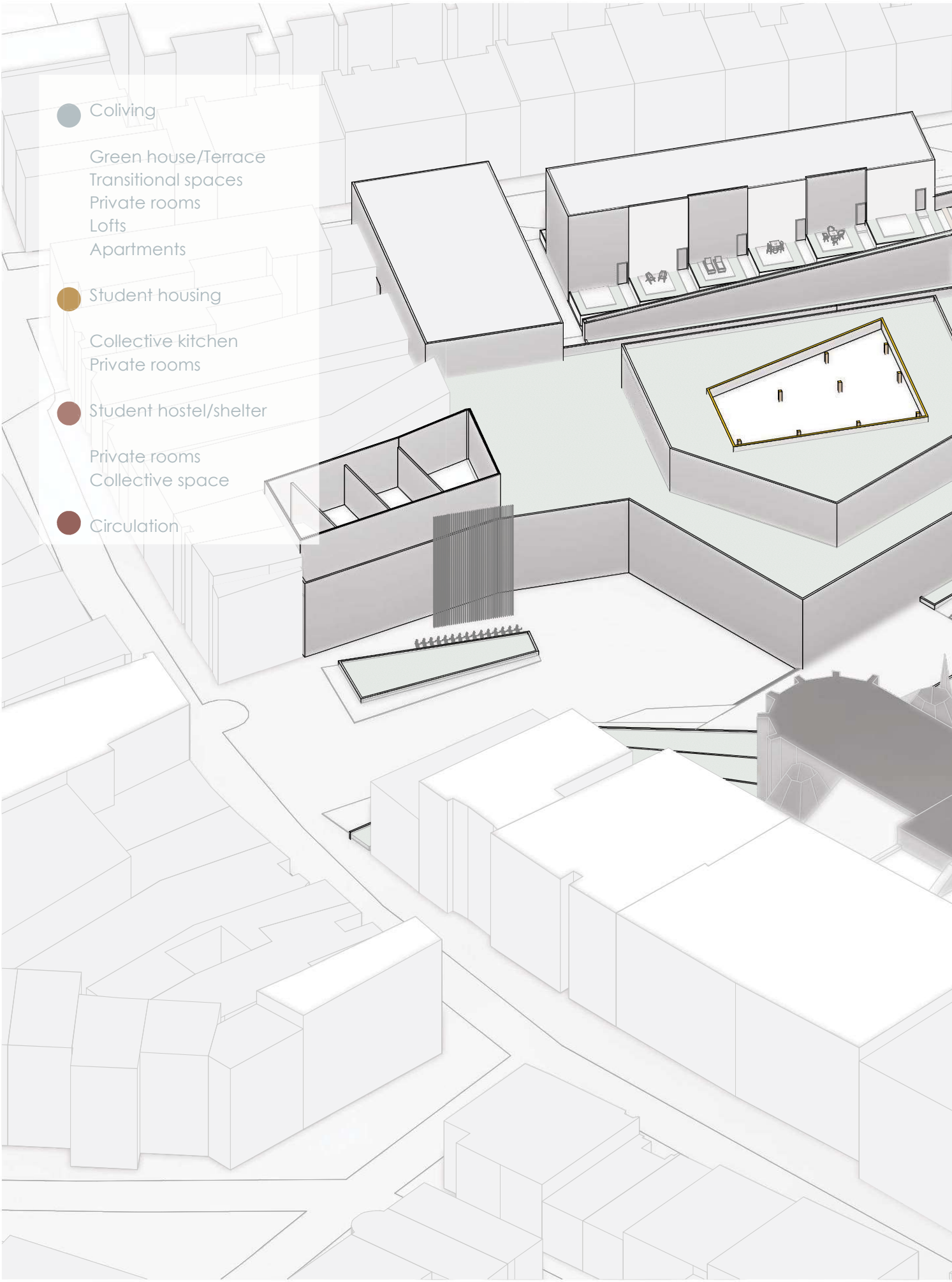
LEVEL 01


Work and play
Live and share
Eat and drink
Shop and sell
Circulation
Services

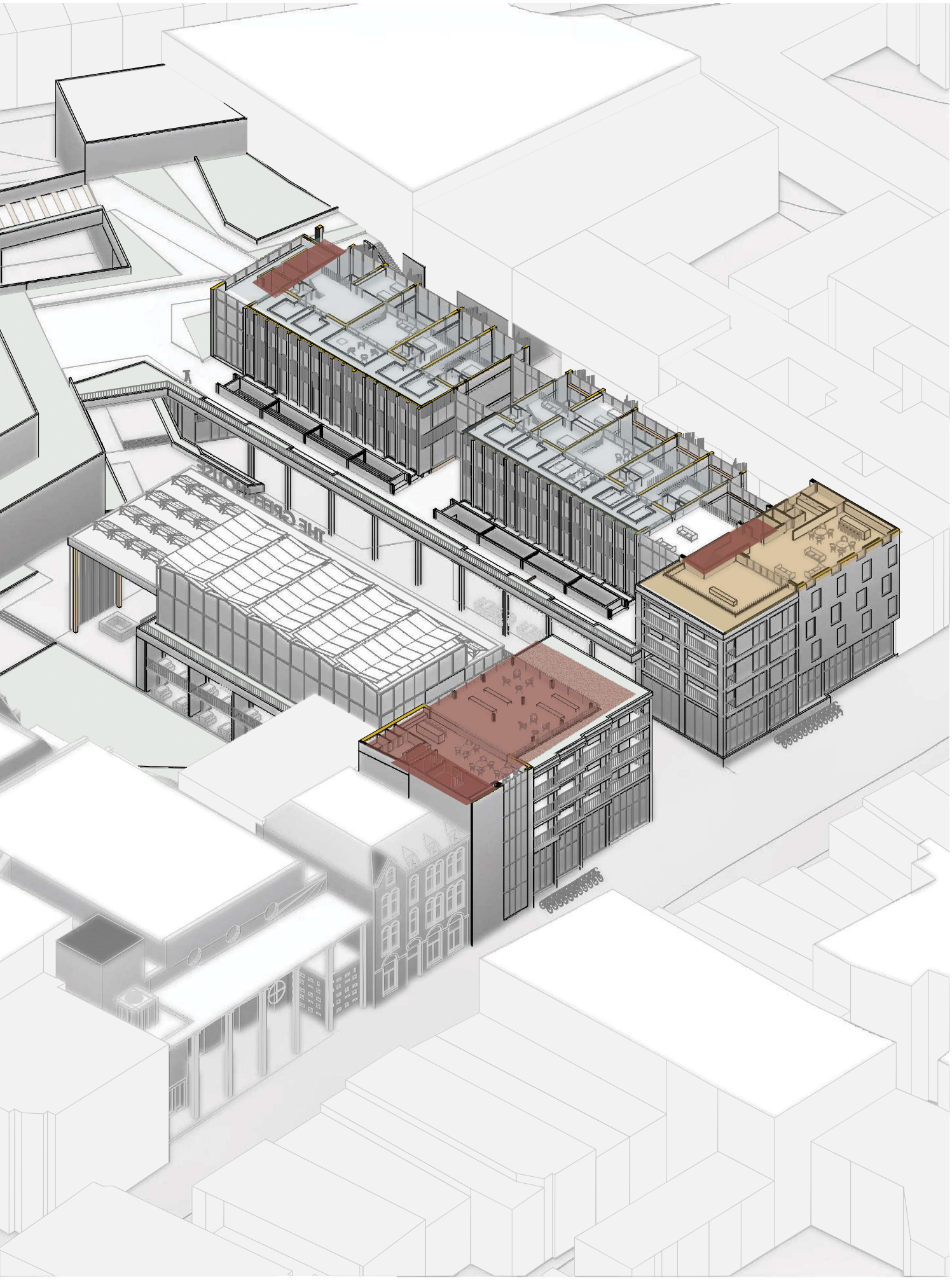



Urban farm
Coliving
Collective kitchen
Transitional spaces
Private rooms
Student housing
Collective kitchen
Private rooms
Student hostel/shelter
Community rooms
Collective space
Circulation




Coliving
Green house/Terrace
Transitional spaces
Private rooms
Lofts
Apartments
Student housing
Collective kitchen
Private rooms
Student hostel/shelter
Private rooms
Collective space
Circulation


Coliving
Transitional spaces
Terraces
Lofts
Apartments
Student housing
Common room
Terrace
Student hostel/shelter
Community kitchen
Green house terrace
Circulation



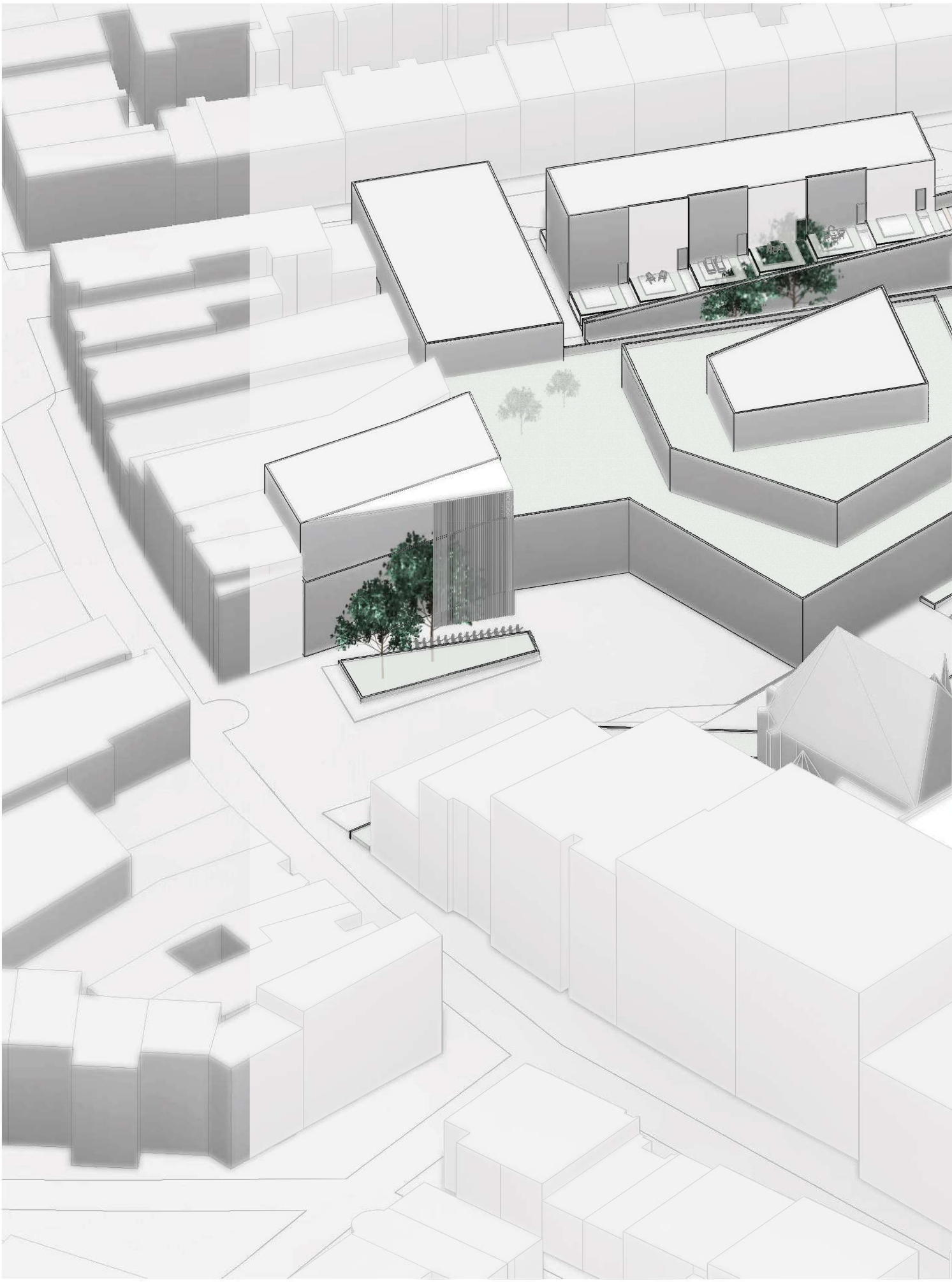


Figure 44.
Intervention area
Drawing by the author.

The experience through the street is defined by the buildings that shape its path. Coming from the Molenstraat on the left side of the street, we found a Market, this acts as an activator of the urban area attracting people for daily shops and needs that also serves as a place for encounters.

On the second floor, the structure allows the creation of gardens and a terrace; additionally, an urban farm where food can be produced on-site and be sold directly to the residents. This function reminds of the historical farm fields that once occupied the place.

Connected to the market, a hostel shelter is proposed. Being a building with fewer interventions, can become an affordable place for people in need and visitors who wish to stay for short periods. The first and second-floor host community rooms, while the third floor has the option of private ones giving different possibilities that can change according to the demands over time.

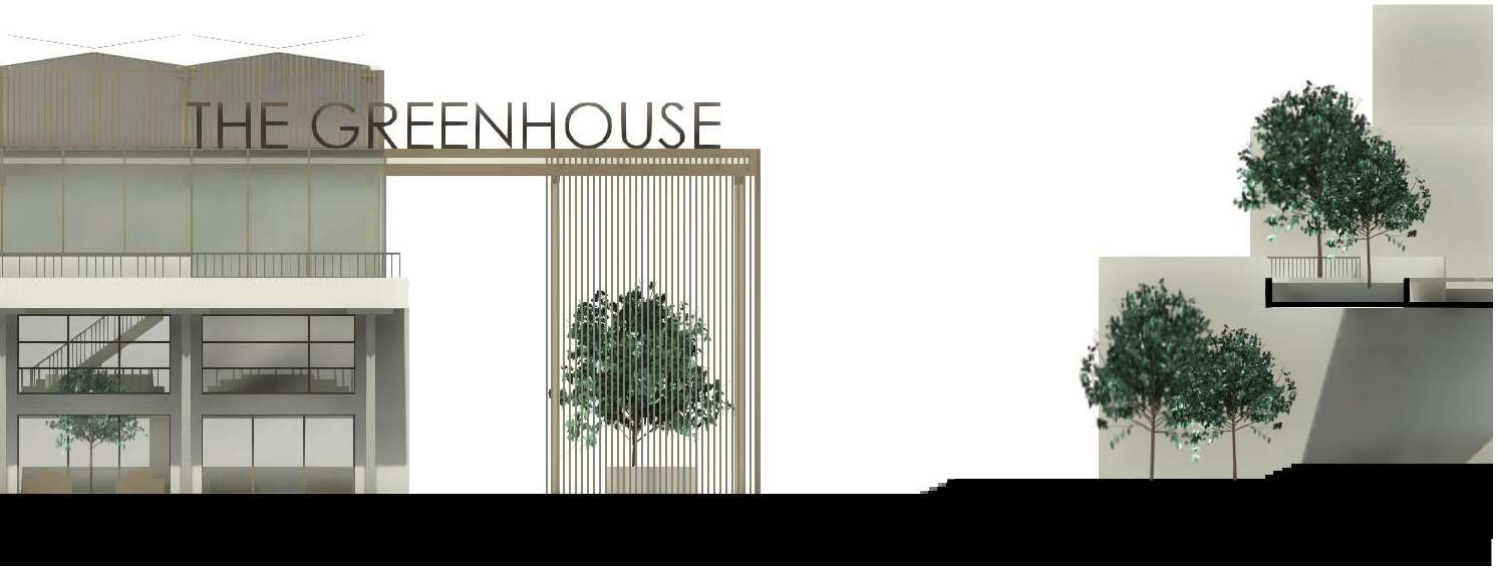
The last floor hosts a community kitchen where food from the market is prepared to avoid food waste and make that preparing meals can become an activity that enhances social interactions.

On the right side of the street, the office area turns into student housing. This building is confirmed by a private room with its private bathroom, increasing the level of intervention compared to the shelter. Student communities will bring energy and life to the site. On the top floor, there is a common room for meetings, parties and events.

Entering more into the street, the transition starts to happen from a shopping area to a workplace, space where residents and visitors can exchange ideas. The place will be equipped with meeting rooms with flexible dimensions, and individual meeting spots for short "zoom" meetings, a coffee station and a kitchen for those who need some help to stay awake.

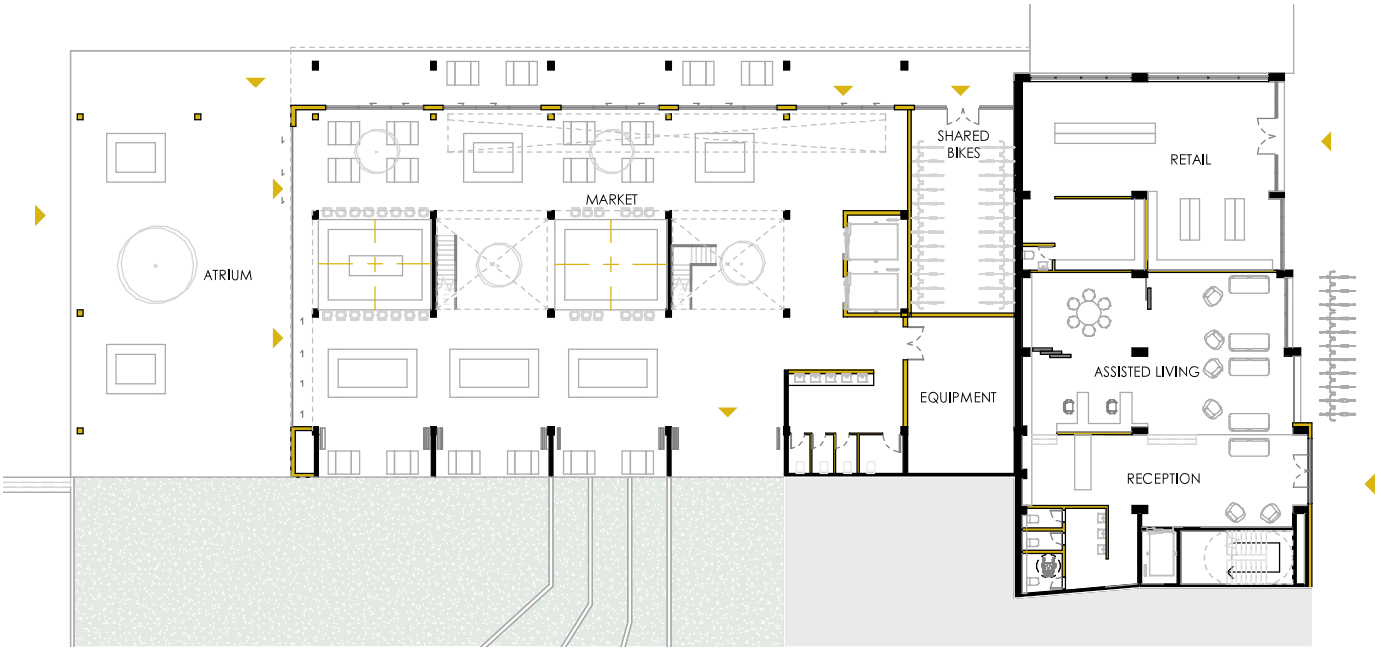
On top of the existing building with combinations of different typologies and common spaces. The Netherlands is a country where being protected from the strong winds, heavy rains and low temperatures is important and enjoying the most of the sun. Areas of transition that can be open in the summer and closed in the winter will maximise the use of spaces during the whole year.

Summer morning
10:00 am



Elevation

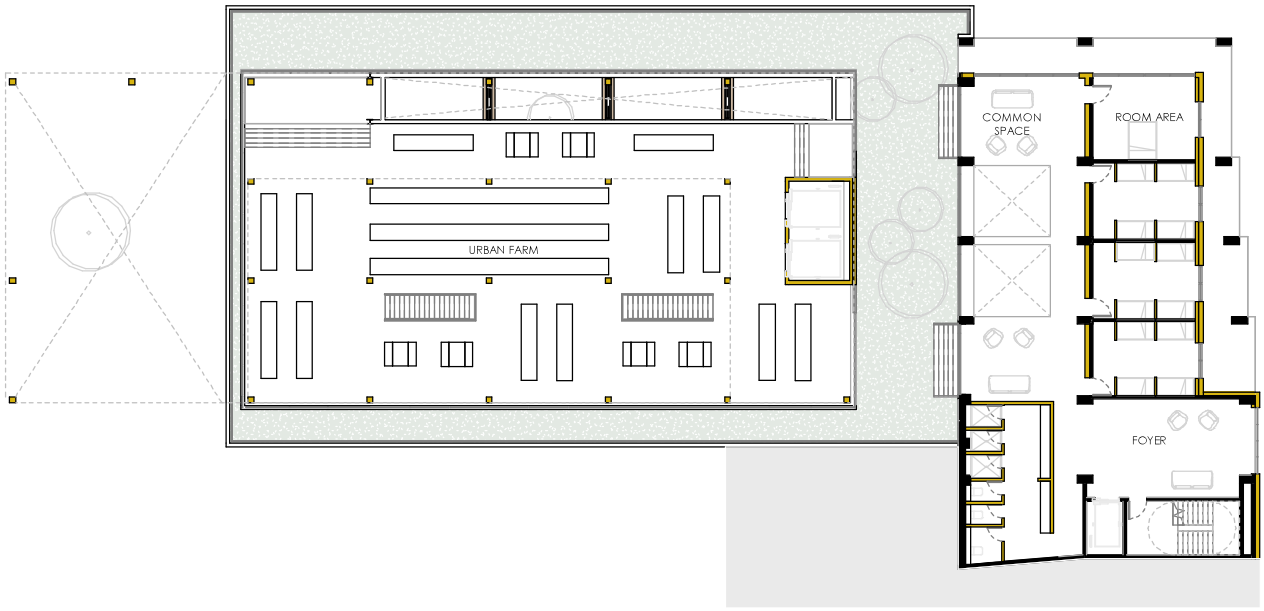
Section



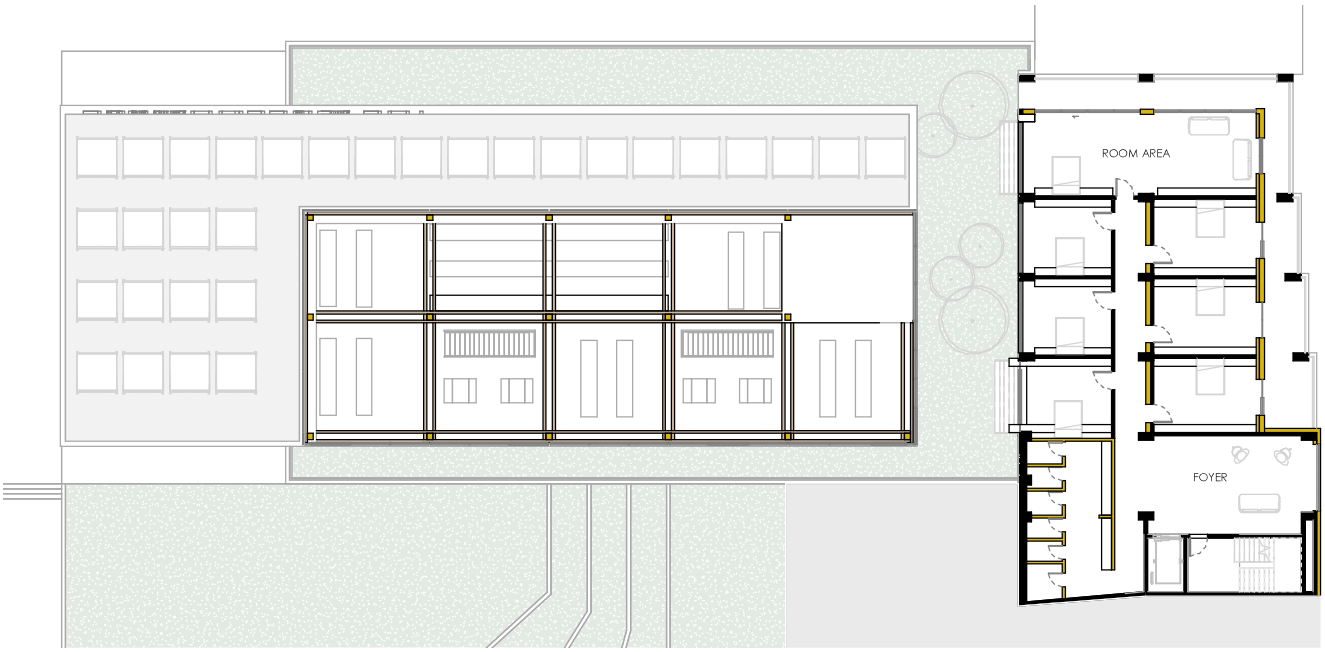
Ground

Level 01

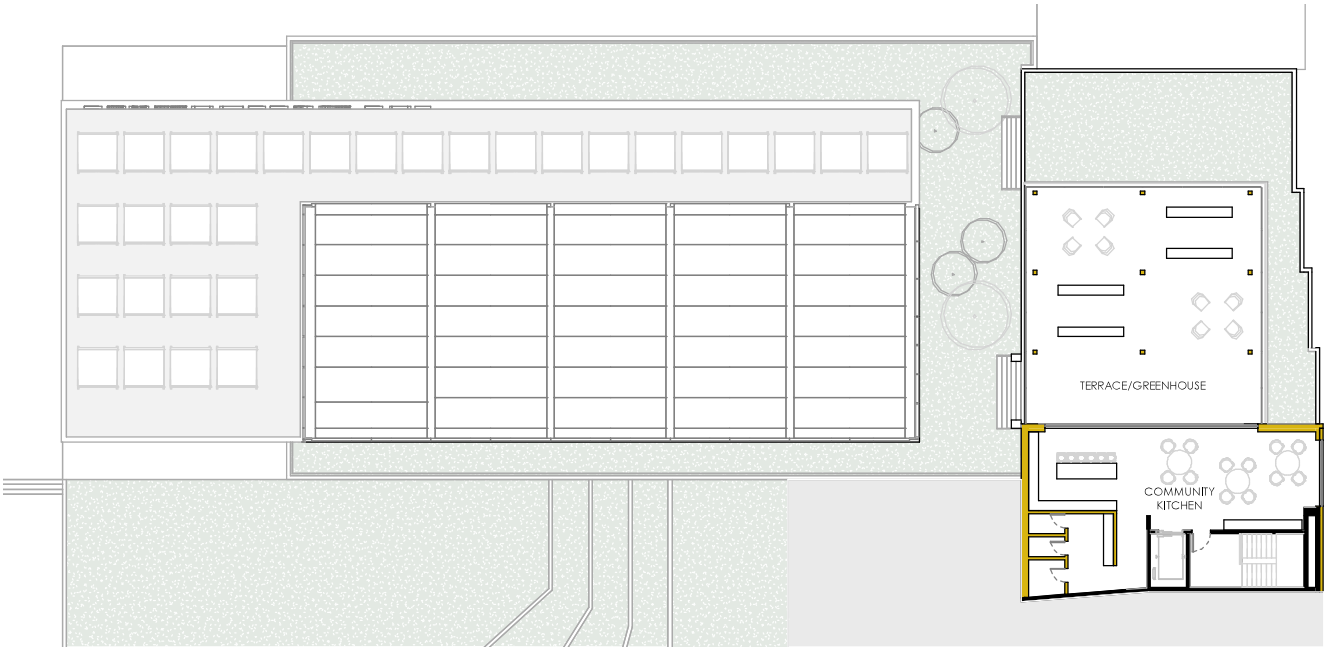
0 1 2 5 10



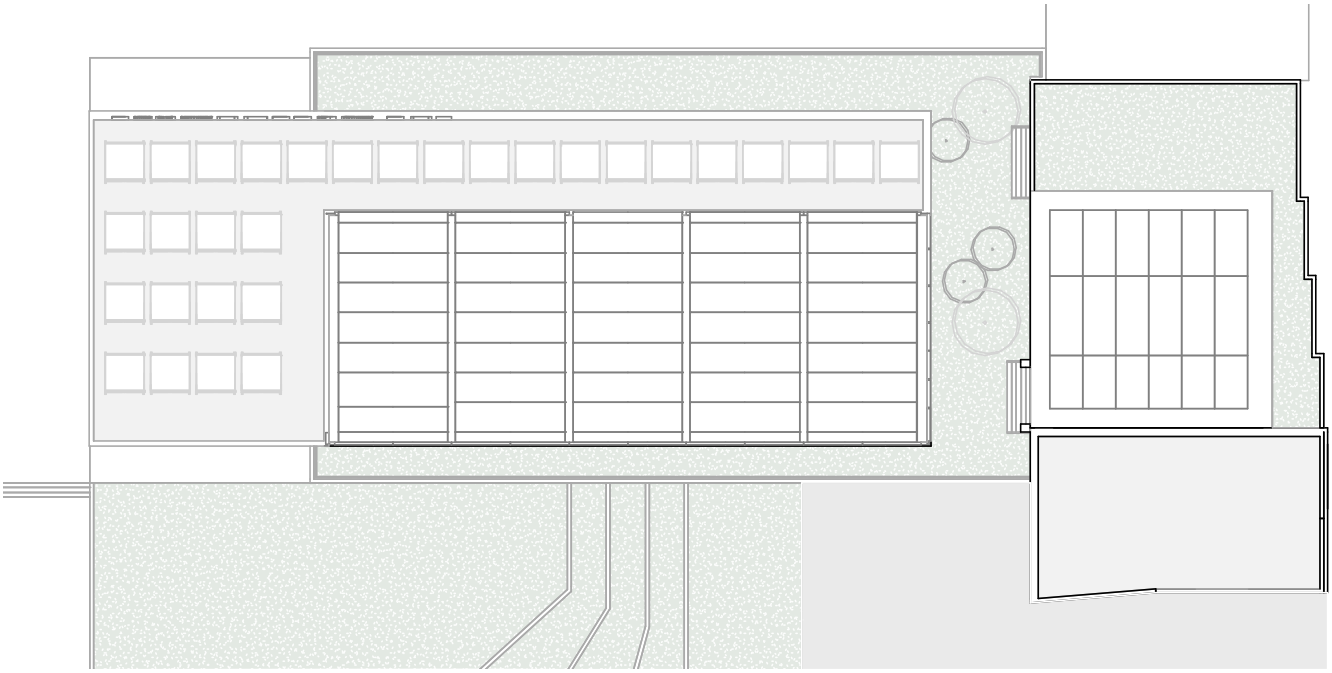
Level 02



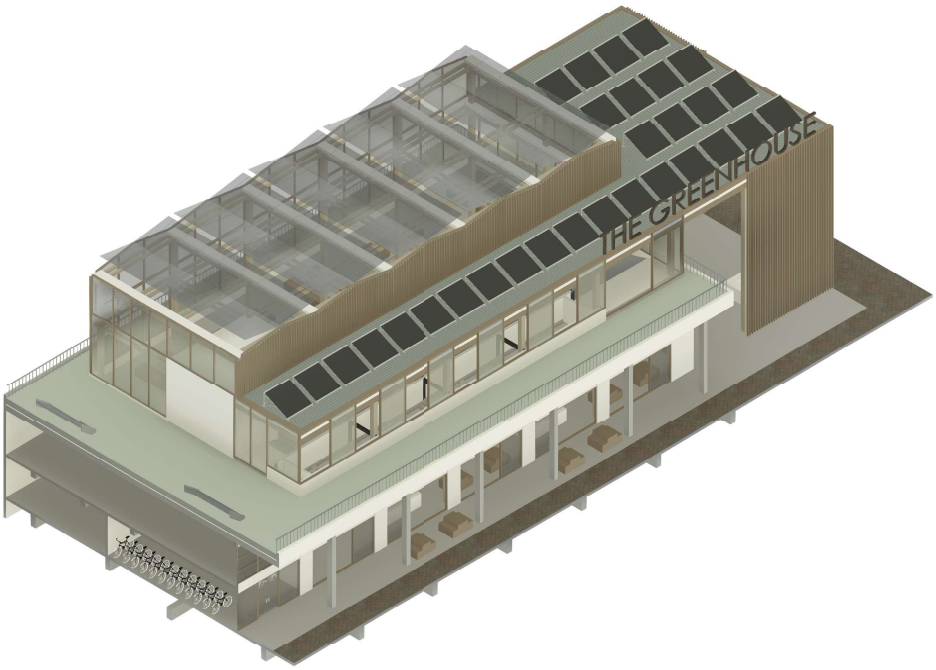
Level 03



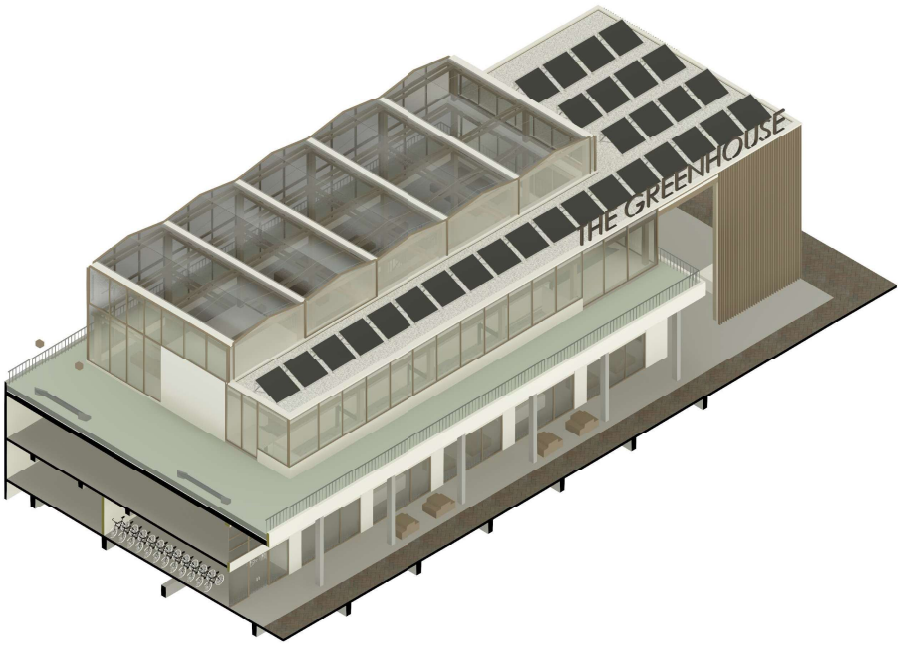
Level 04



Roof



Summer

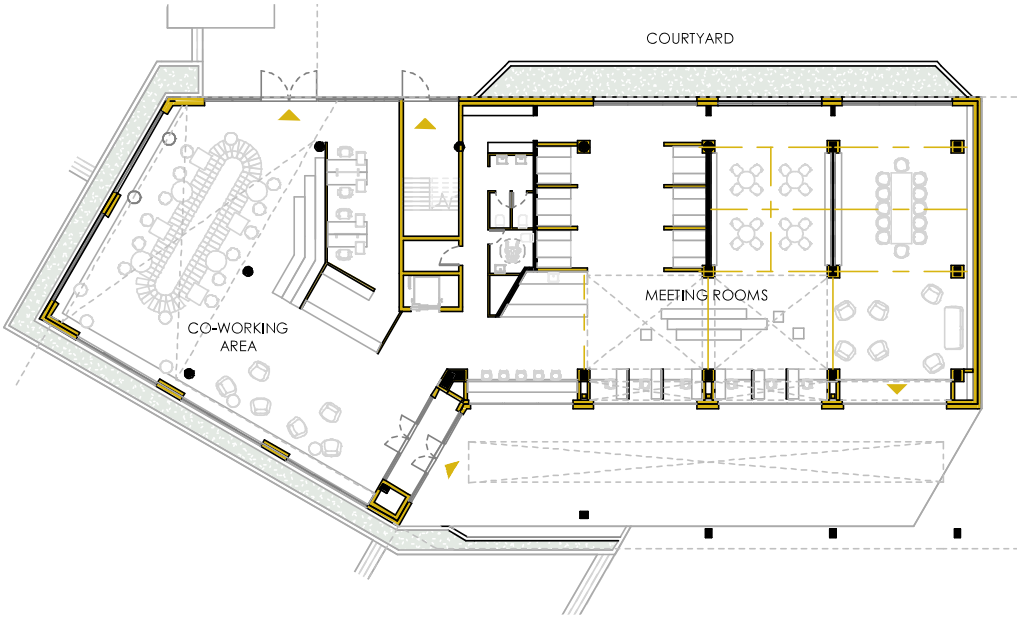


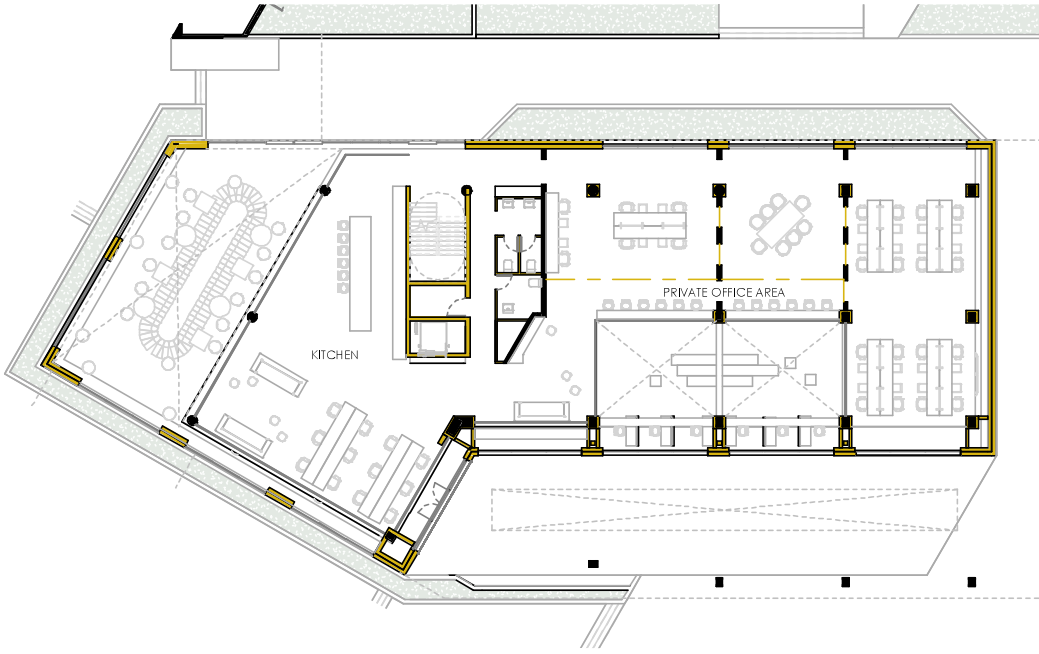
Winter

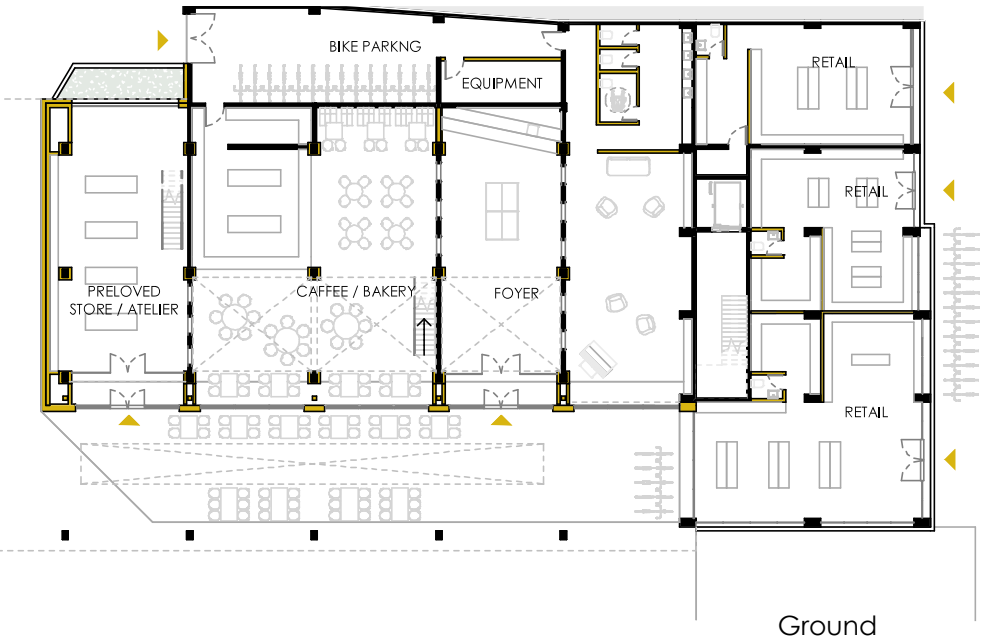
Spring afternoon
2:00 pm

Elevation

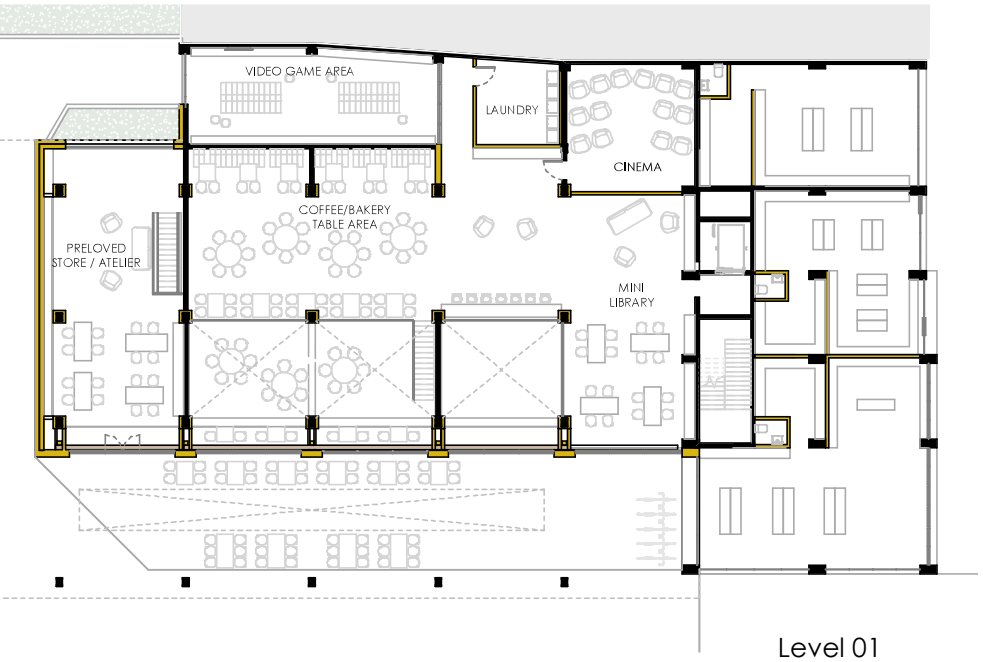
Section


COURTYARD
MEETING ROOMS
CO-WORKING
AREA

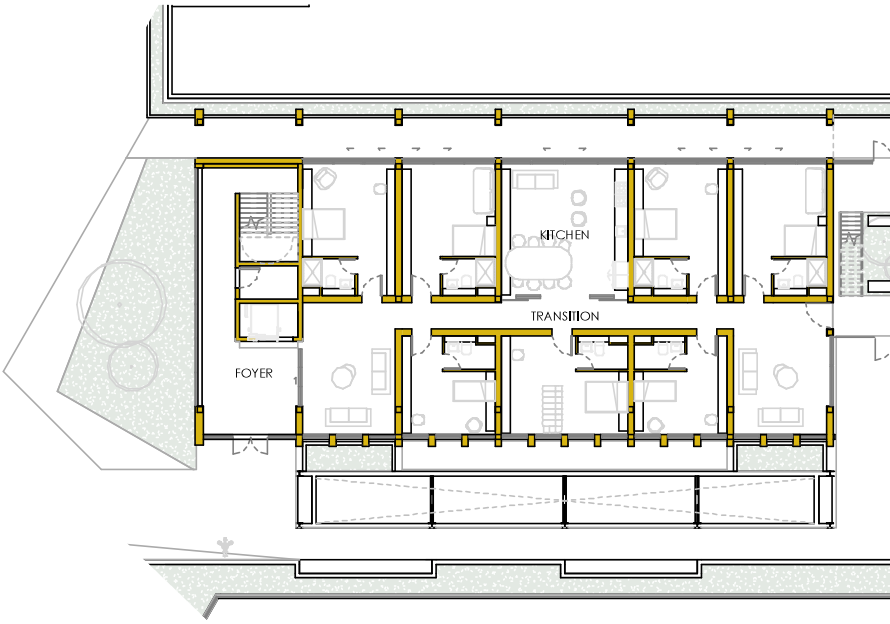

PRIVATE OFFICE AREA
KITCHEN

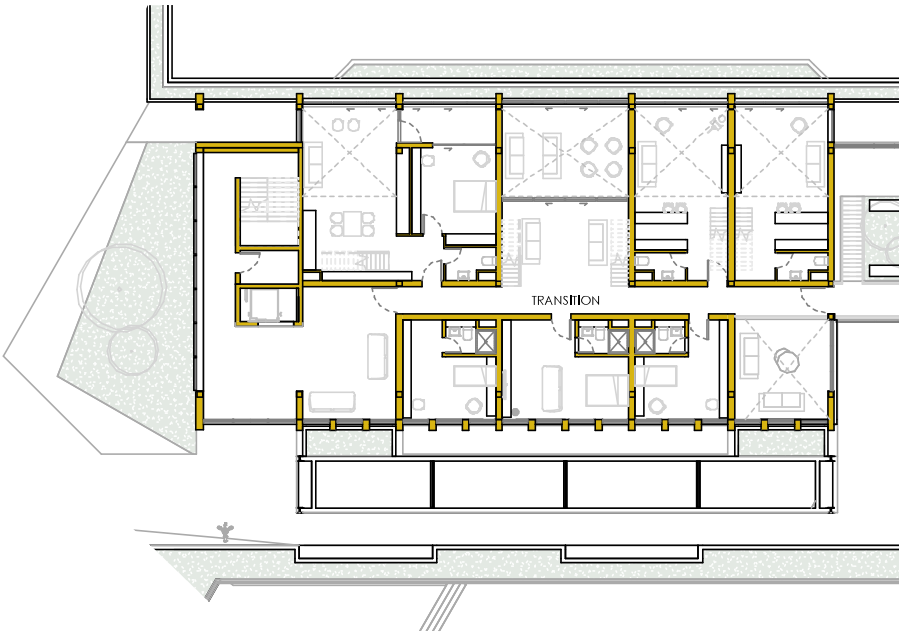


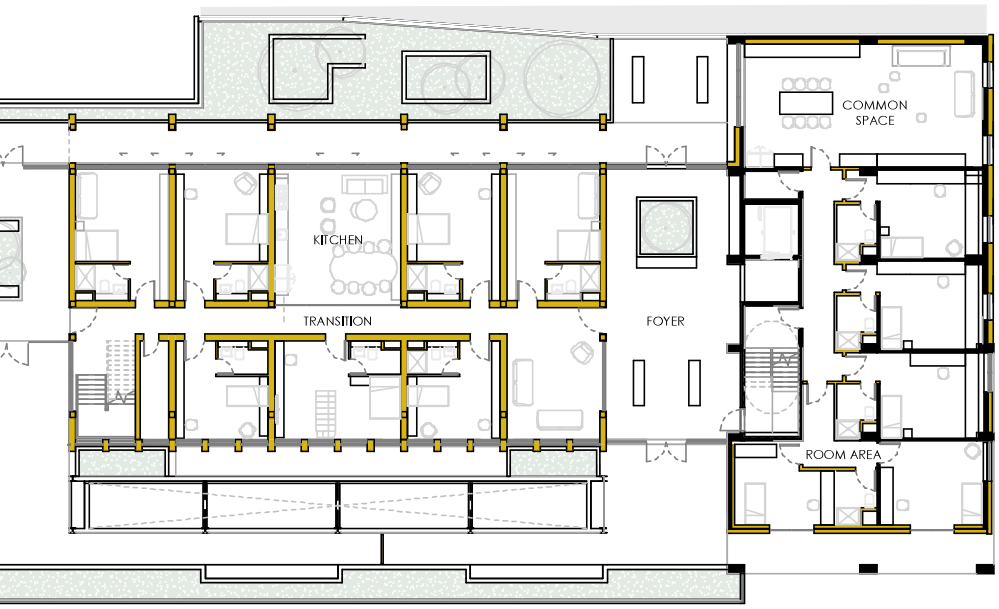
Ground



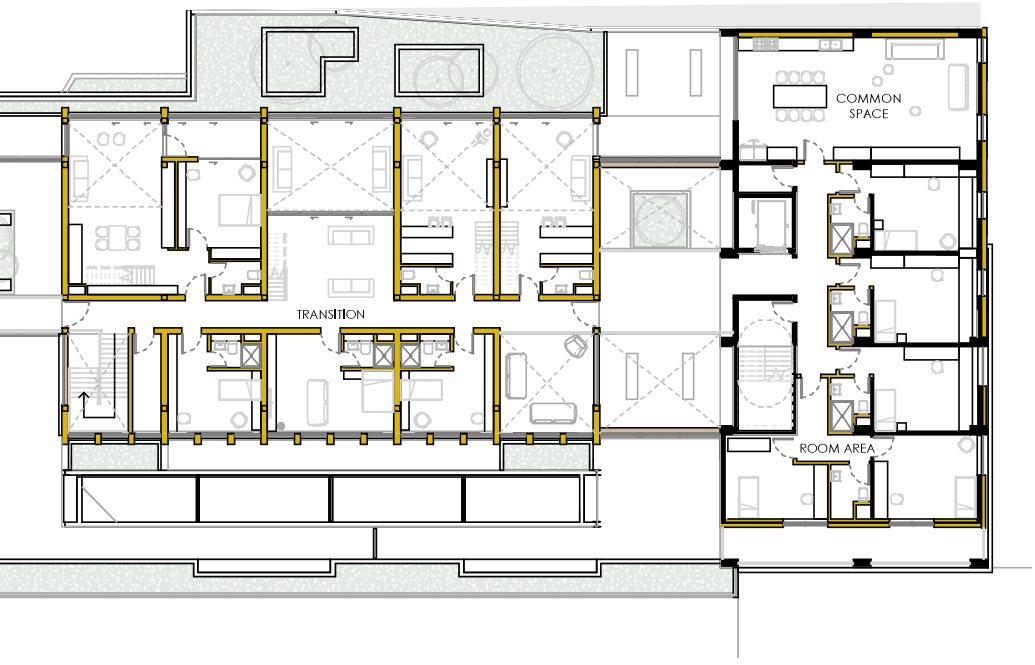
Level 01


KITCHEN
TRANSITION
FOYER

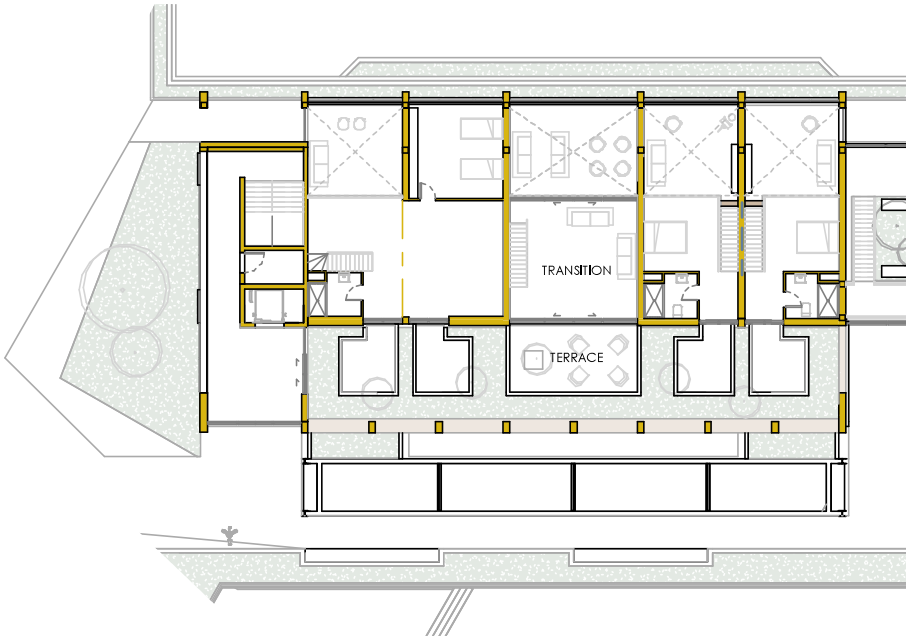

TRANSITION

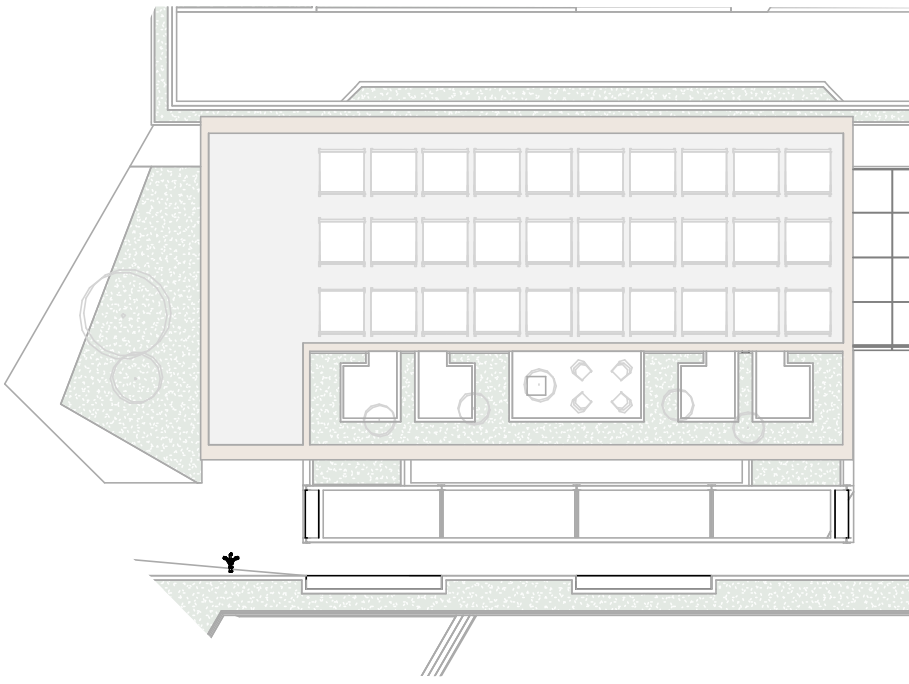


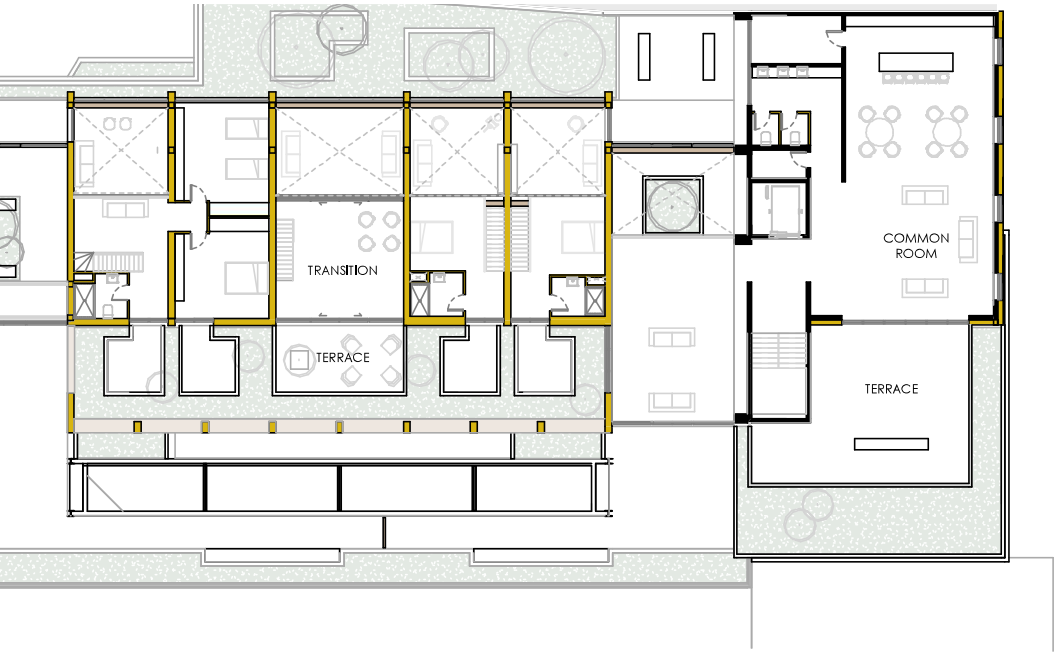
Level 02



Level 03


TRANSITION
TERRACE





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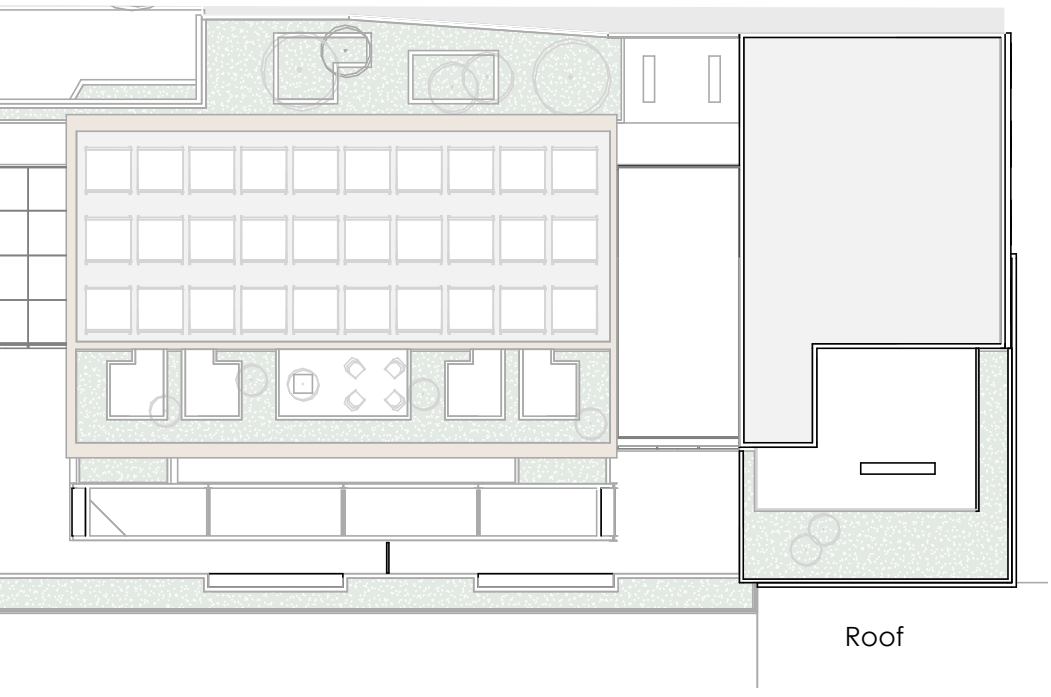
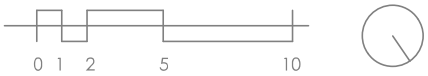
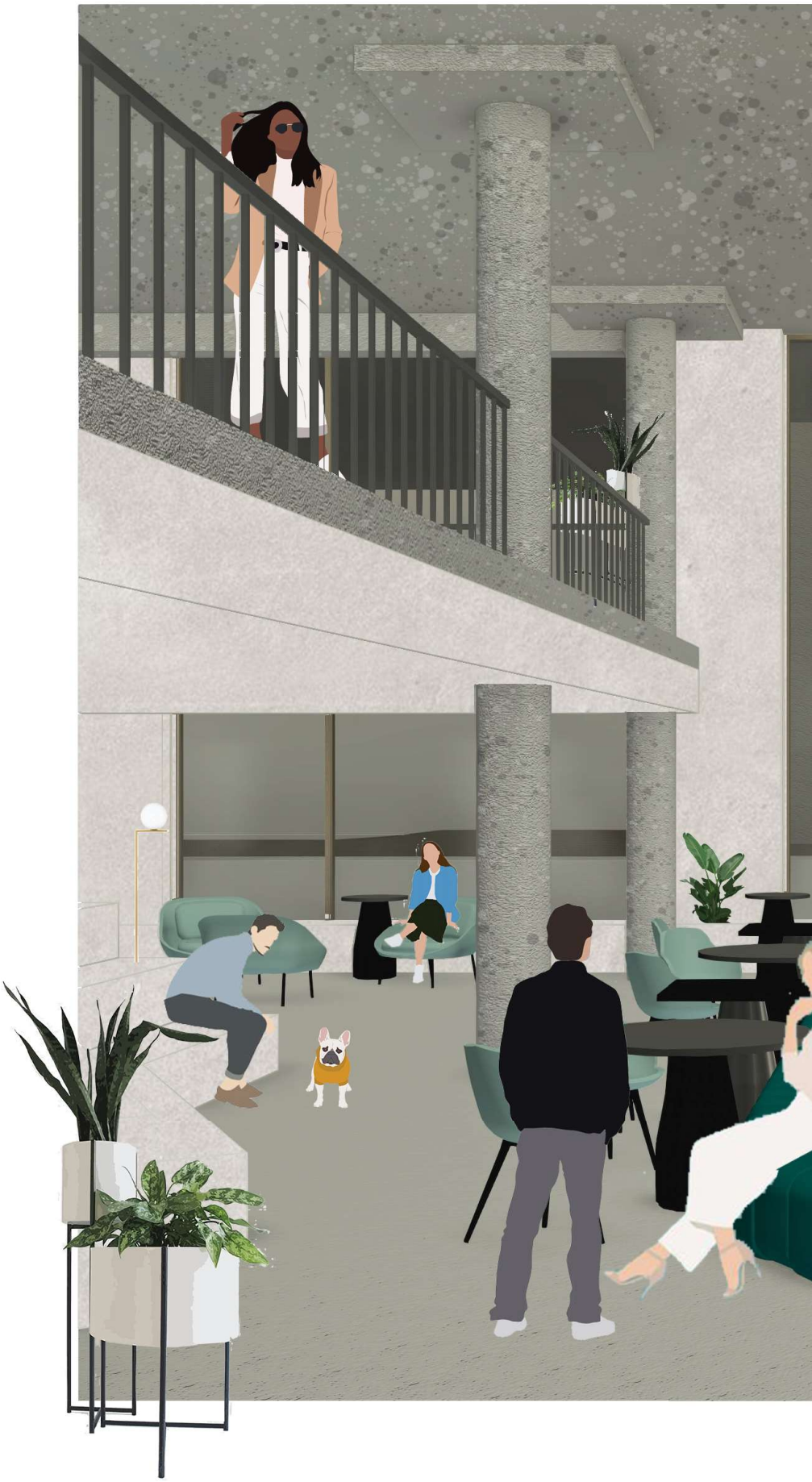


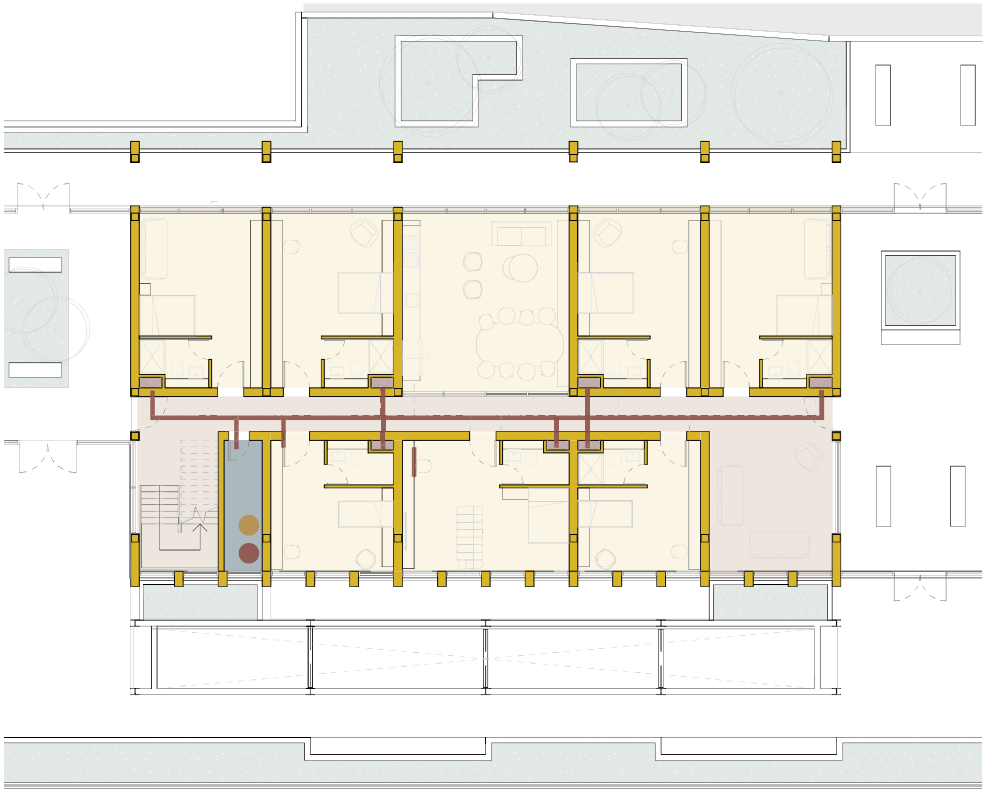
Roof



Weekdays in the office
8:00 am +



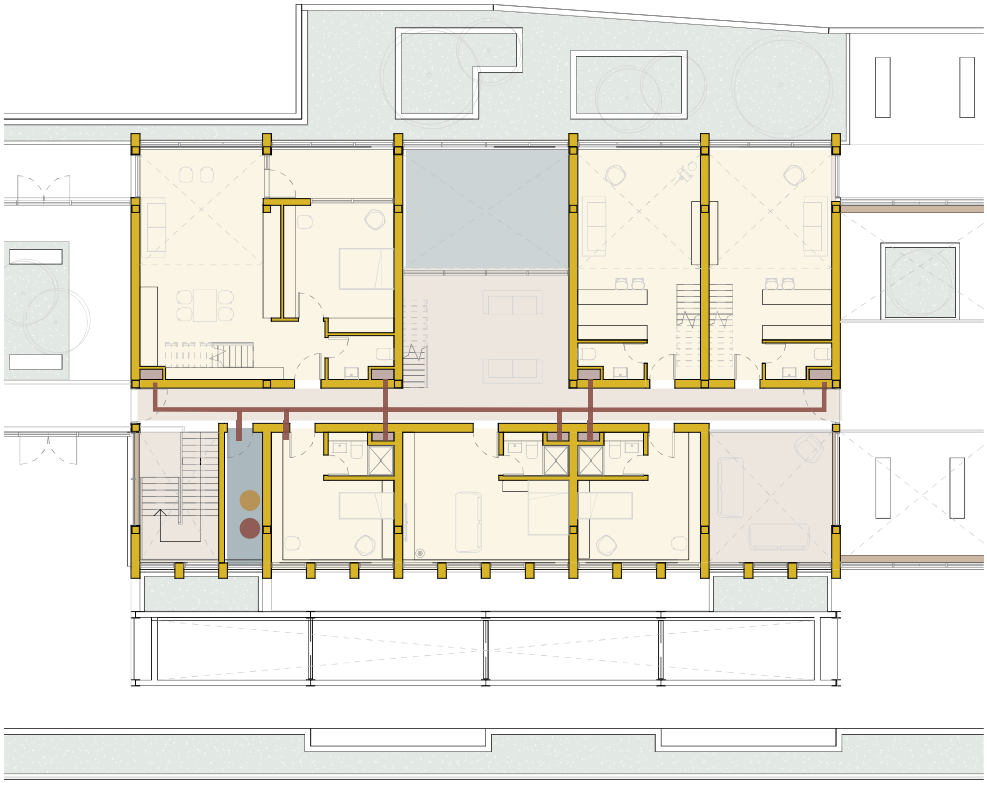
Morning coffee
6:00 am +



Level 2

Legend

- Climatized
- Transition
- Terrace/Green house
- Shaft
- Mechanical room
- Heat exchanger
- Heat pump
- System distribution



Level 3

Legend

Climatized

Transition

Terrace

Summer morning
10:00 am

Legend

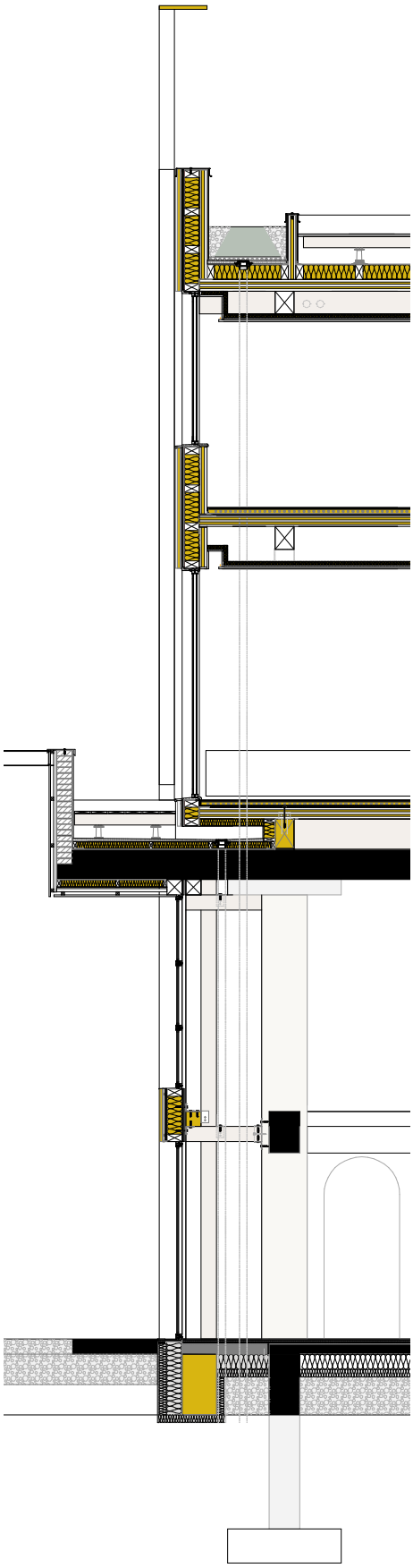
Climatized

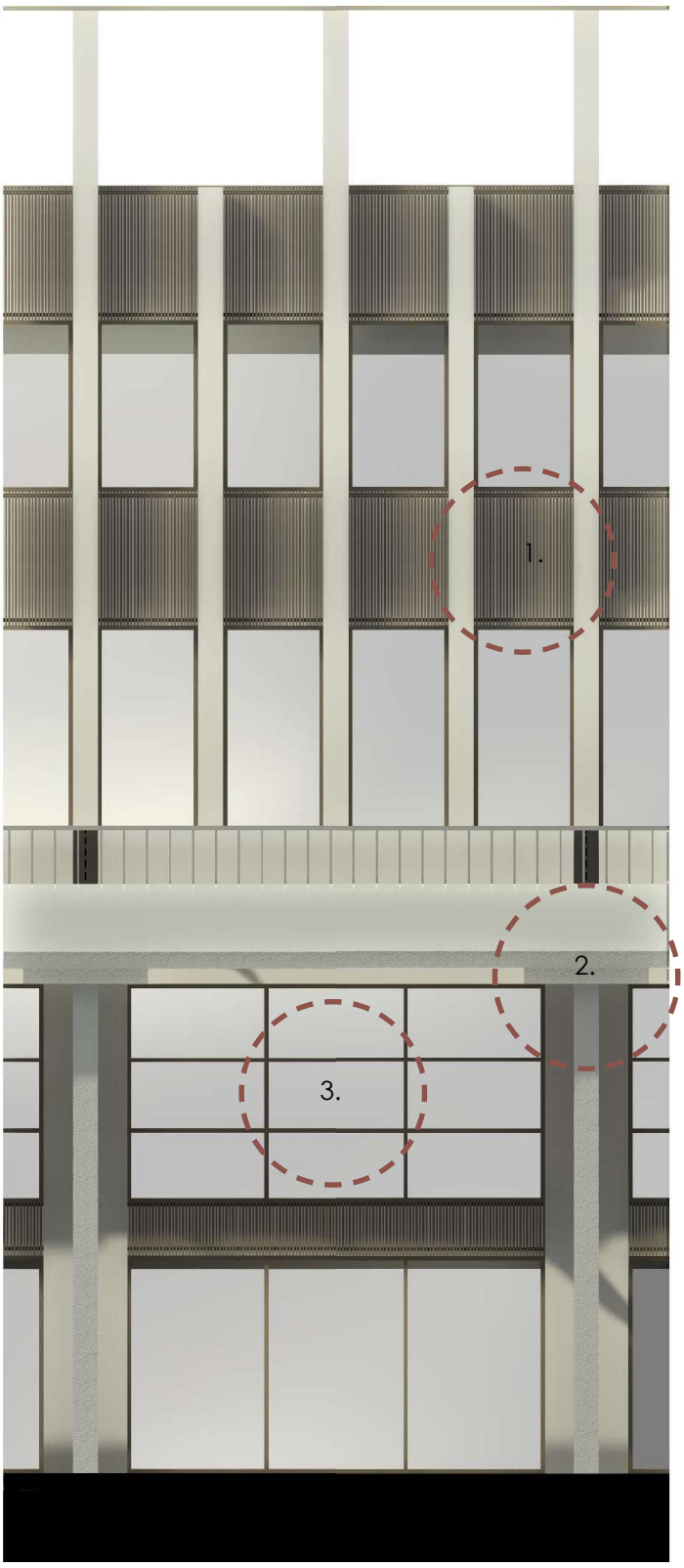
Transition

Green house

Winter morning
10:00 am

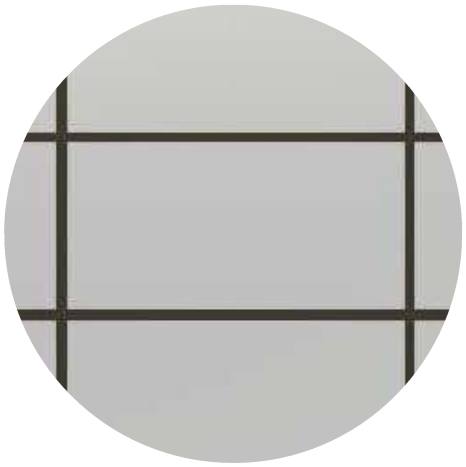
FACADE FRAGMENT





1. Wooden cladding

2. Existing columns



3. Reused windows

1. Wall:
   Existing brick wall
   Existing metallic frame
   Waterproof layer
   Soft-board
   Wood cladding structure
   Wooden cladding

2. Windows
   Double glass sliding window
   Timber frame

3. Floor:
   Packet finish
   Pipe heating system
   Wool insulation
   Moisture Protection
   CLT slab
   Systems space

4. Deck:
   Wood structure
   Suspensor
   Waterproof layer
   Wool insulation

5. Existing concrete slab
   Wool insulation (1.50m)
   Wood cladding structure
   Wood cladding

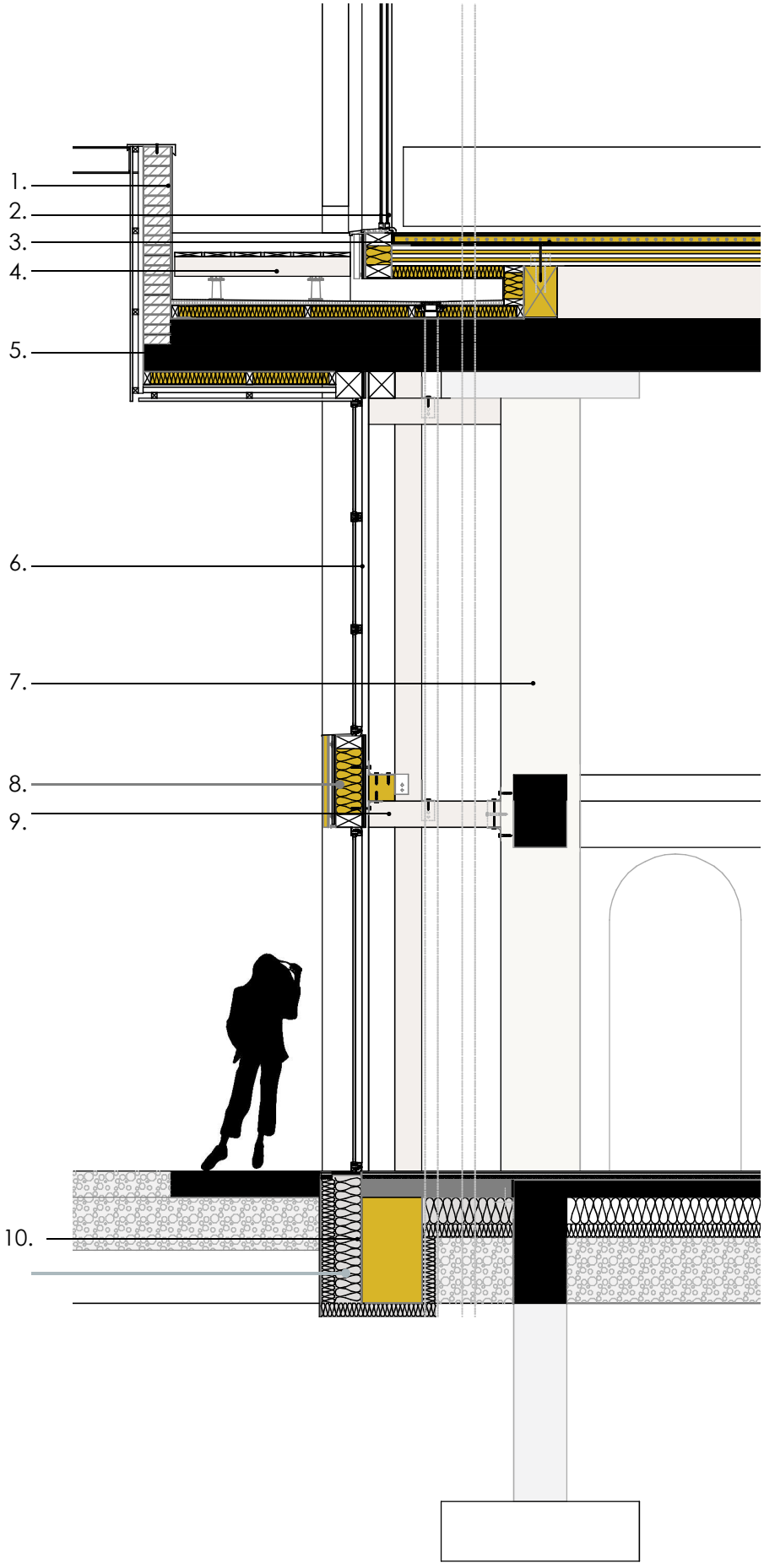
6. Reused window

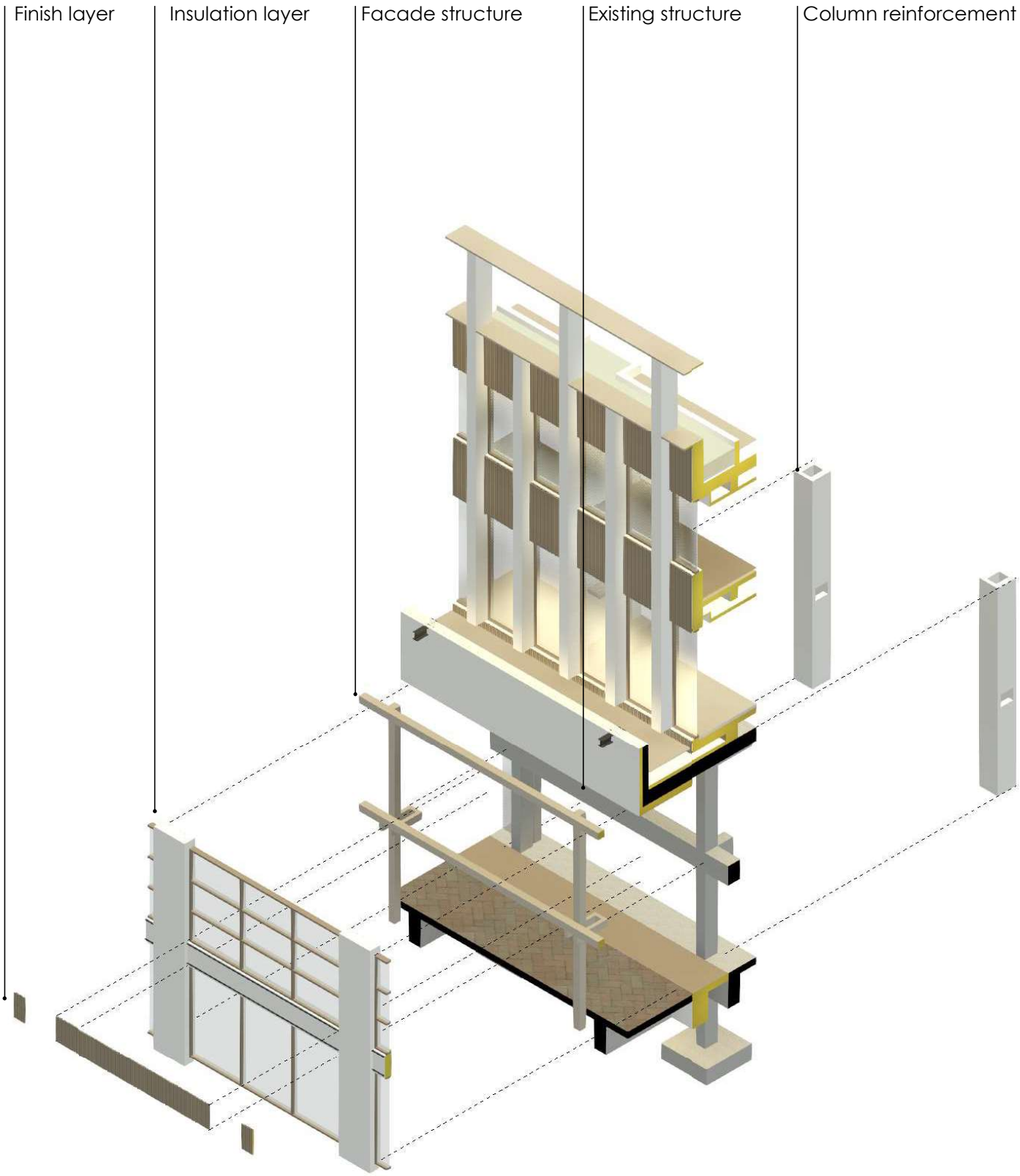
7. Reinforced column

8. Frame:
   Softboard finish
   Moisture Protection
   Wool insulation
   Waterproof layer
   Softboard
   Cladding support
   Wooden cladding

9. Timber facade structure

10. Facade foundation
    800x500 foundation beam
    Whool insulation
    Waterproof layer
    Protection board




Finish layer
Insulation layer
Facade structure
Existing structure
Column reinforcement

1. Wall:
   Softboard finish
   Waterproof layer
   CLT bearing wall
   200mm Insulation structure
   Waterproof layer
   Softboard
   Cladding support
   Wooden cladding

2. Garden
   400 mm earth
   Gravel
   Rubbber filter
   Rubber drain
   Waterproof layer
   Wool insulation
   CLT slab

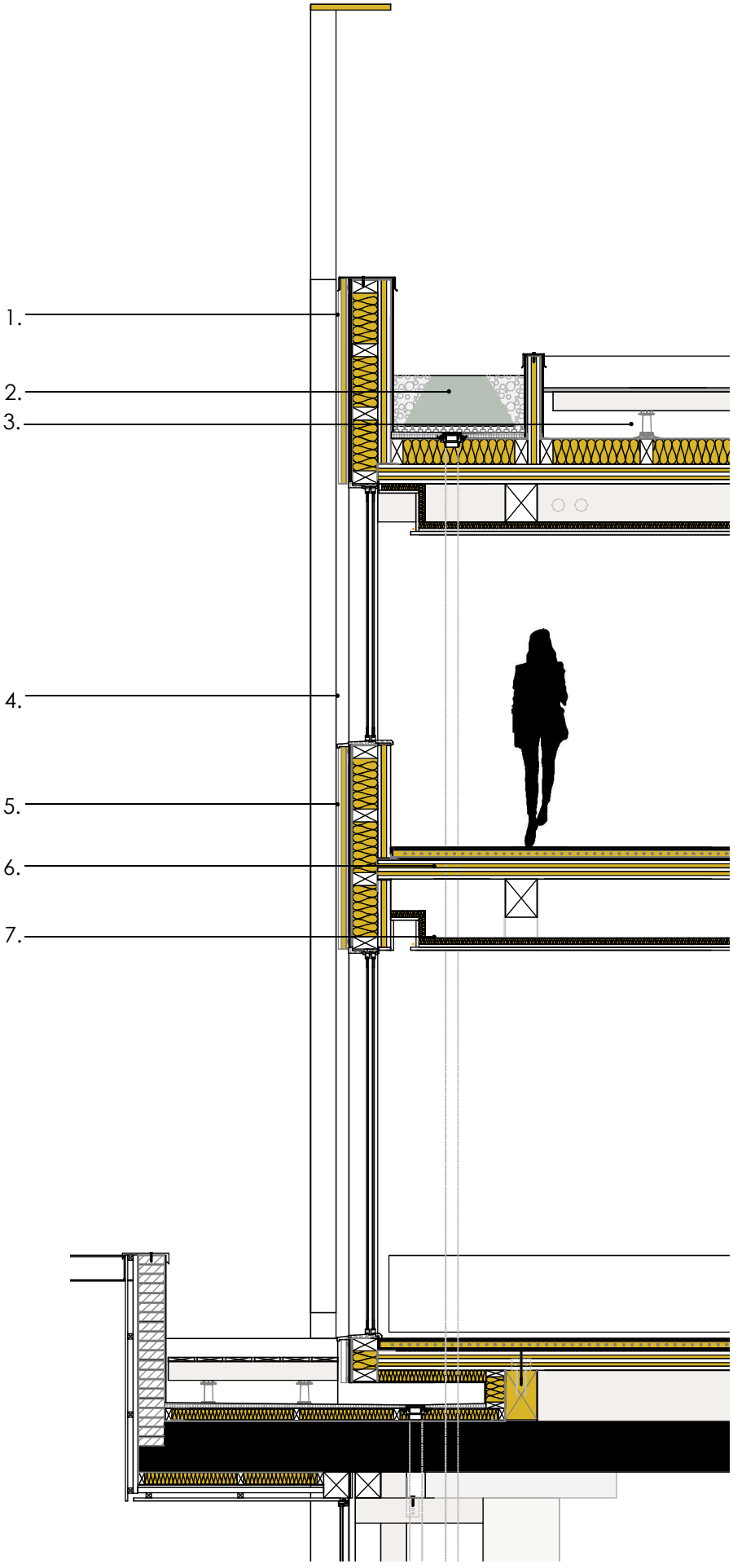
3. Deck:
   Wood structure
   Suspensor
   Waterproof layer
   Wool insulation

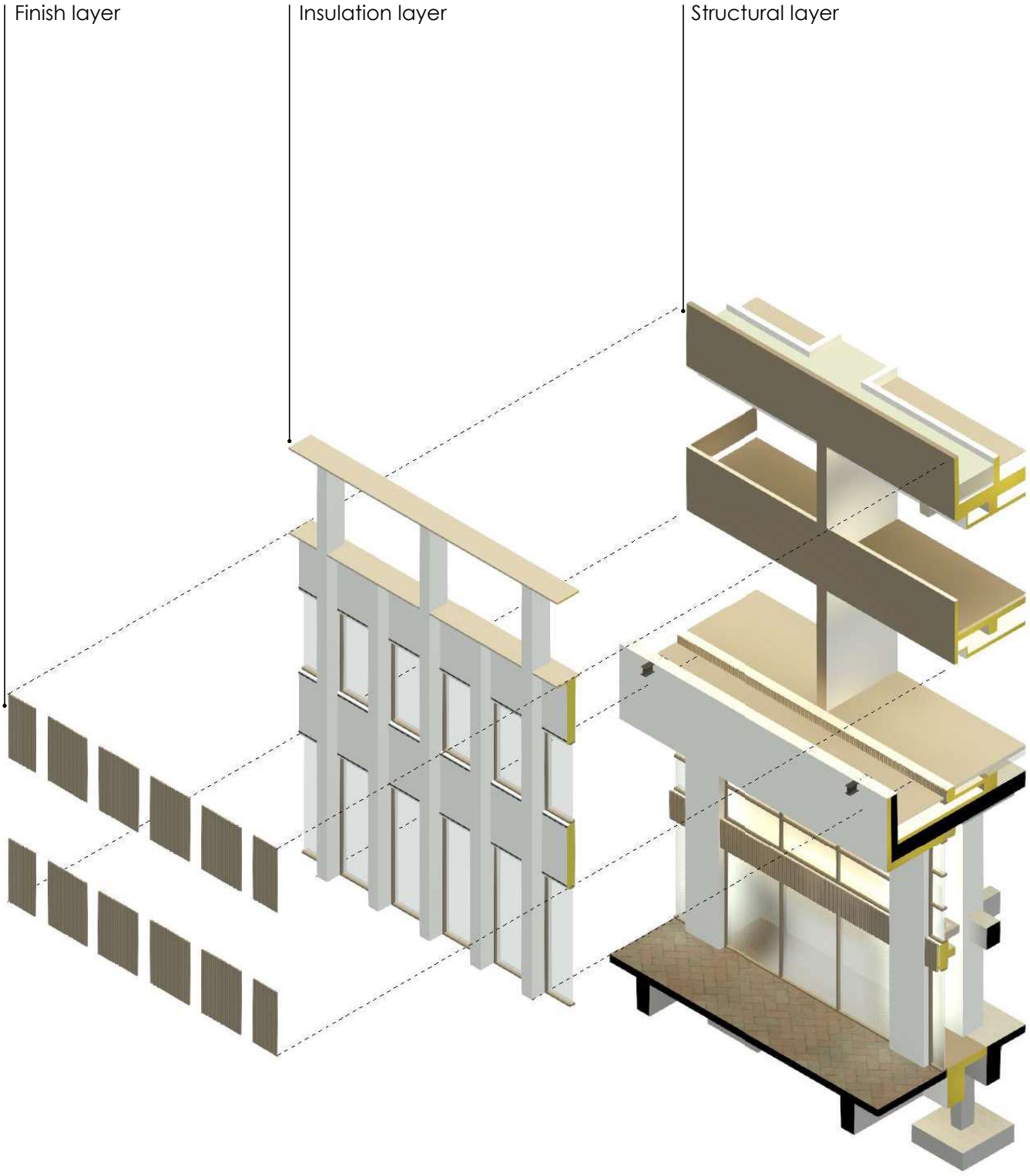
4. Double glass sliding window

5. Wall:
   Softboard finish
   Waterproof layer
   CLT bearing wall
   200mm Insulation structure
   Waterproof layer
   Softboard
   Cladding support
   Wooden cladding

6. Floor:
   Packet finish
   Pipe heating system
   Impact sound insulation
   Moisture Protection
   CLT slab
   Systems space

7. Ceilling:
   Systems space
   Cooling system
   Ceilling structure
   Sound insulation




Finish layer
Insulation layer
Structural layer

REFLECTION: THE JOURNEY OF A BRICOLEUR

The Bricolage of time and space, as I decided to name this project, came as the result of a deep process of research and analysis where many concepts and terms merge into one story.

The concept of Bricolage defined as creating something using what is handled by the Urban Architecture studio. It has great relevance nowadays for the development of a sustainable society, and it was the main reason I selected the studio for a thesis project.

An architect and a bricoleur need artistic and technical skills that should be combined in the design process. Imagination and creativity to see behind what is obvious and then transforming or exposing what was found, creating harmony and finding beauty in the accidents and encounters of different components.

To define a theme that could integrate all the concepts and aspects resulting from the research and analysis, the studio theme and architectural ambitions were among the most challenging aspects. At the beginning of the research, it was evident that space was the ultimate physical form that reflected events in history, something I wanted to grasp for my design.

The concept of time was integrated, understanding architecture not as a final product but as a process in continuous transformation. Keeping that in mind, the building should be able to adapt first to the current conditions. Reviews of technical drawings and construction techniques and logistics for demolitions and new constructions on existing buildings were needed. Second, the future construction should adapt to both cyclical time conditions as seasonal changes, day and night, and different functions. Finally, the solution should be also aesthetically and create spatial qualities for its users.

It became a methodology, an approach for doing things and making decisions applied to the different scales that the project was treated. From the columns, beams and slabs and existing openings, to find possibilities that could relate to the citizens' needs and create rooms, space.

The result combines the experience of architecture in different ways and scales. The project encompasses three forms of linear time (past, present and future) and cyclical time defined by periodical conditions (seasons, days, hours).

RELATION BETWEEN RESEARCH AND DESIGN.

Design and research were always together in the development process. The beginning of the thesis was predominated by research and literature review, contrasting to the end when the focus was mainly on design. In this way, I created the translation into space from the scientific topics I have previously studied.

At first, it seemed fascinating to me the understanding and discovered the city's origins and history. I decomposed historical periods into different components that included maps, people and culture that, in the end, was reflected into space: buildings, streets, demolitions, expansions etc. A deeper analysis regarding the church offered me a larger perspective of the project. Being one of the oldest downtown buildings, the church has witnessed the history and main character of the city's life.

Analysis of the city and the Molenpoort qualities and problems showed that the proportions of housing, working, and recreational spaces were unbalanced compared to retail spaces. This was most evident in the number of unoccupied. On the other side, squats, organisations that appropriate areas and create what they feel is needed. People expressed that the city was lacking green spaces, affordable housing and workspaces. These findings lead to the final program.

The urban plan took advantage of the existing structure making strategic demolitions, integrating greenery in courtyards, plazas and terraces to open and activate spaces for the community. Diversity typologies follow the different moments people experience through life. A hostel shelter and student housing are temporary places to live while finding a permanent residence or finishing the study period.

On the side of Twede Wallstraat, the atmosphere is quieter and calm, determined by bigger houses for families, including a nursery and a playground, courtyards, and terraces for everyone to enjoy a moment of peace in the middle of a rushy life.

Furthermore, the Molenpoort straat, was opened to connect Tweede Wallstraat anf Molenpoort Straat, creating a transitions between two very different atmospheres. Here a transitional typology for housing was introduced composed of two co-living clusters: rooms, studios, lofts, and apartments. These dwellings are designed for young people who start-

ed their professional life, single moms, divorced or elderly, couples and starting families that share common rooms, living rooms and terraces merging with the circulation, allowing spontaneous interactions.

The preserved structure will allow savings to create affordable housing. In the case of the student housing and the shelter, minimum interventions will occur following sustainability ambitions. Diminishing the amount of generated waste and recycling elements can be drivers of site intervention. New additions will be made primarily on timber as a material with a negative carbon footprint. After an overview of the whole plan, it can be understood how the city's research and analysis strongly led the design decisions, combined with intuition and innovative approaches needed to respond to the present and future reality.

RESEARCH METHODS

The research methodology and approach included various methods that started with exploration, collection and selection of material, then structure and analysis of information, and finally testing, experimenting and playing in a process where going back and reconsider ideas was often needed.

Orienting research and design using time as a central concept started unconsciously in the first week of the studio, working in the group. 'What time is this place?' Which main focus was on unveiling the city's history. This idea became more evident as the project evolved and helped me keep a defined framework allowing a diverse range of themes merged into one coherent project.

For exploration, site visits to get an impression of the relations of the building with the context were crucial. Studies of archival documents, books and museum visits were necessary to understand the background, how this place turns into the city we can see now.

Mapping and analysing the sites physical and not physical context was the first step to forgive form to a project that could improve the current situation and bring new qualities that the city centre of Nijmegen could be lacking. Understanding where are the places in the city where peoples prefer to go.

The studio allowed many opportunities to express this research in different ways as movies, models, collages etc., combining the design of a particular product that could tell the research story, motivating creativity and analysis simultaneously, and finding alternative ways to express ideas.

Collaborative work was crucial in all moments of the design and research process. Working in groups with people from different backgrounds and ideas was highly inspiring and challenging, especially when things had to be combined into one product. Listening carefully and respecting each others' points of view and taking advantage of qualities and talents every individual can bring to the table, and integrating together was the way to get the best results.

Tutorials and guidance were also part of a collaborative design process combined with lectures and workshops with architects acting as bricoleurs. It opened the eyes to various approaches and methods in which an architectural project can be designed, finding value on elements and spaces that before were not seen.

DILEMAS

In the development of the project, ethical issues and dilemmas were defined by internal and external factors. Technologies currently applied to improve buildings performance are replaced before the time they need to be used to recover energy the enormous amount of energy for their productions. Prioritising passive strategies in front of more complex and sophisticated ones to preserve the lower carbon footprint was sometimes one of the hardest things to preserve.

The main challenge I got since the beginning of the masters was understanding architecture in the European context. This required an extra effort to understand the culture, listen and speak carefully. Balance being flexible and open and preserving integrity and values as part of my identity as an individual. Doing this makes me reconsider previous beliefs and reinforce others as part of a continuous process of learning. The most important thing is to be able to adapt and reflect that also supports architectural criteria. In the end, I see a significant evolution not only about what I have achieved in the project but mainly on the lesson I will keep for life.

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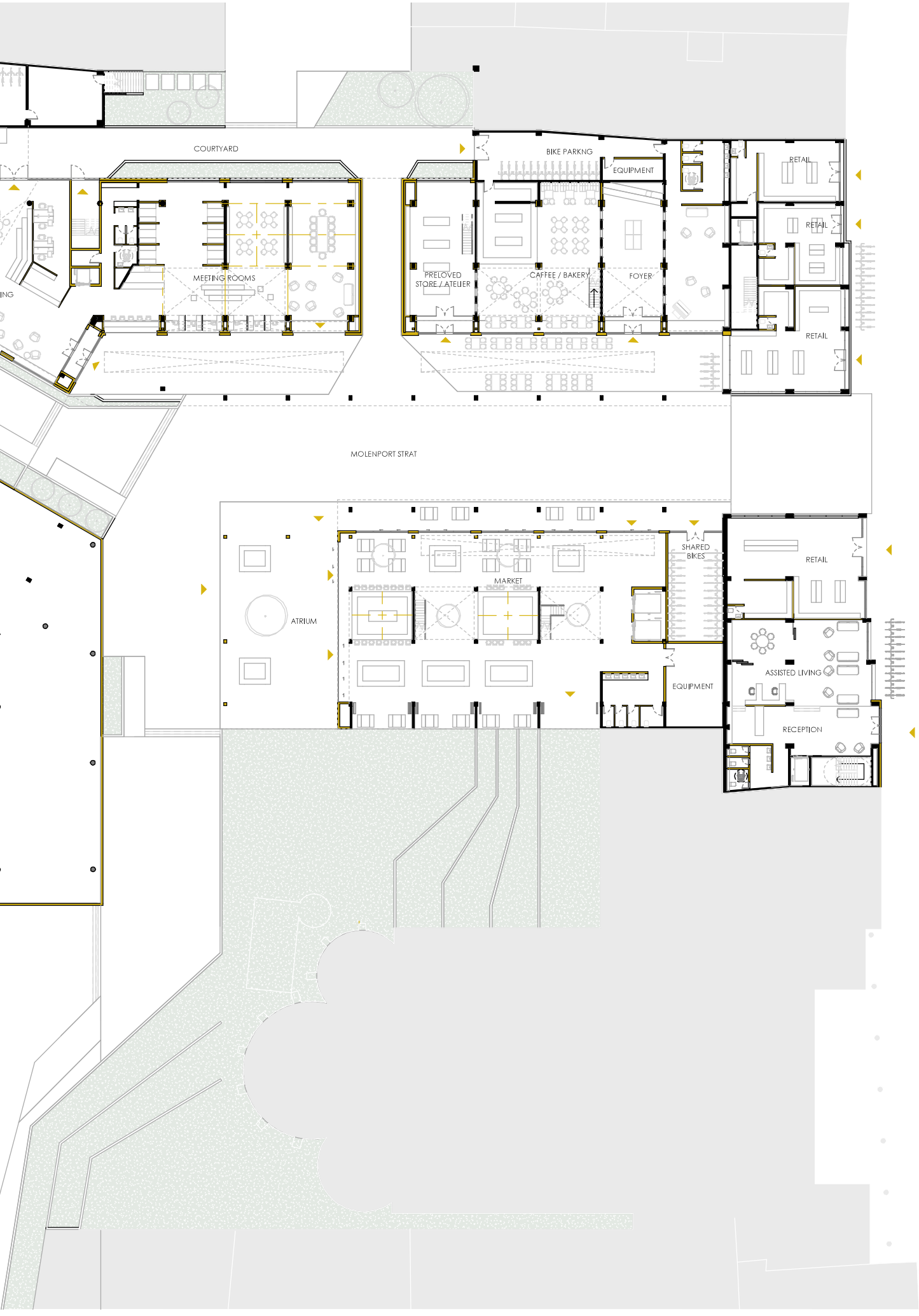
APPENDIX

GROUND

0 1 2 5 10

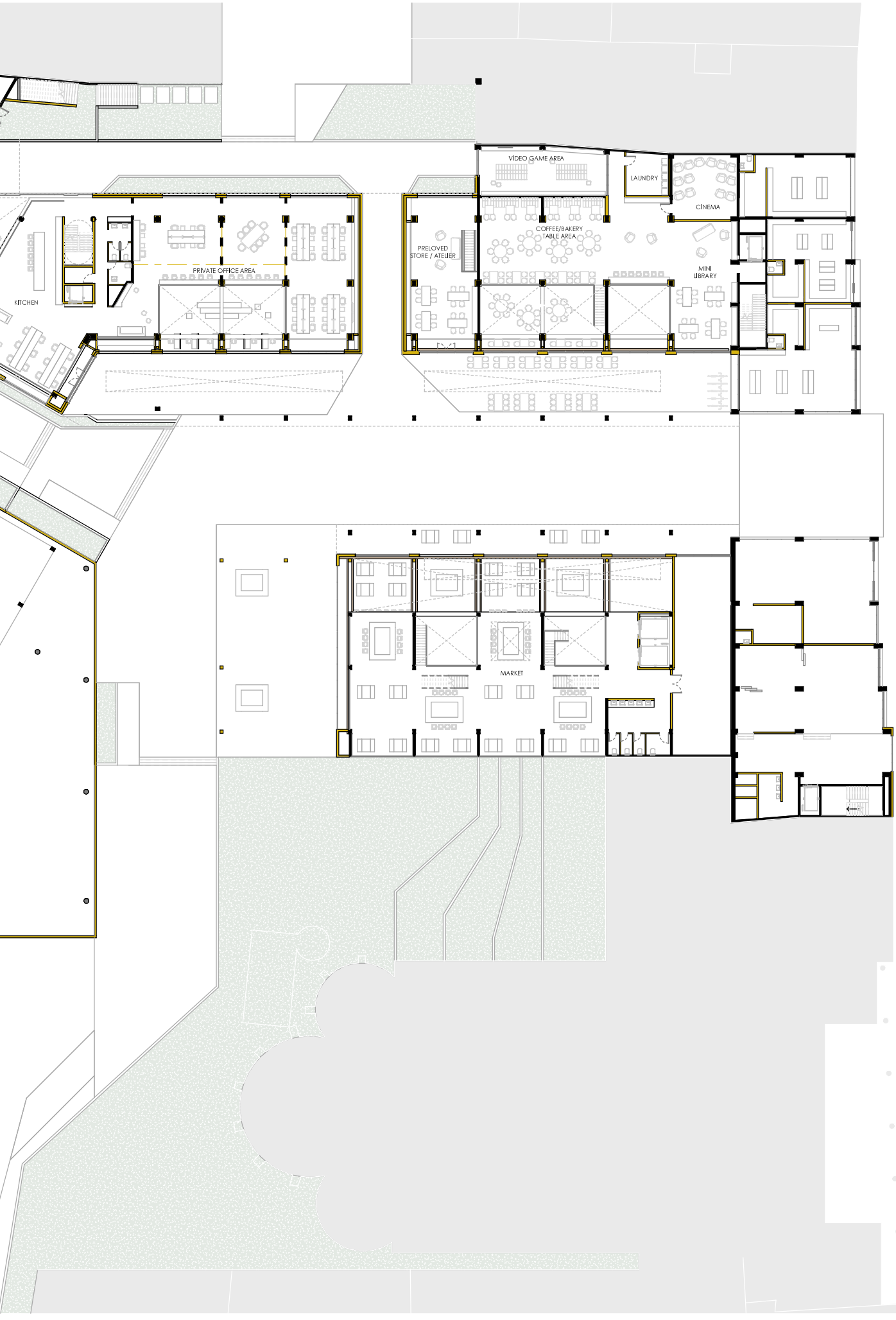
Existing
New


COURTYARD
MEETING ROOMS
BIKE PARKING
EQUIPMENT
PRELOVED
STORE / ATELIER
CAFFEE / BAKERY
FOYER
RETAIL
RETAIL
RETAIL
MOLENPORT STRAT
ATRIUM
MARKET
SHARED
BIKES
EQUIPMENT
RETAIL
ASSISTED LIVING
RECEPTION

LEVEL 01

0 1 2 5 10

Existing
New


VIDEO GAME AREA
LAUNDRY
CINEMA
COFFEE/BAKERY
TABLE AREA
PRELOVED
STORE / ATELIER
MINI
LIBRARY
PRIVATE OFFICE AREA
KITCHEN
MARKET

LEVEL 02

0 1 2 5 10

Existing
New

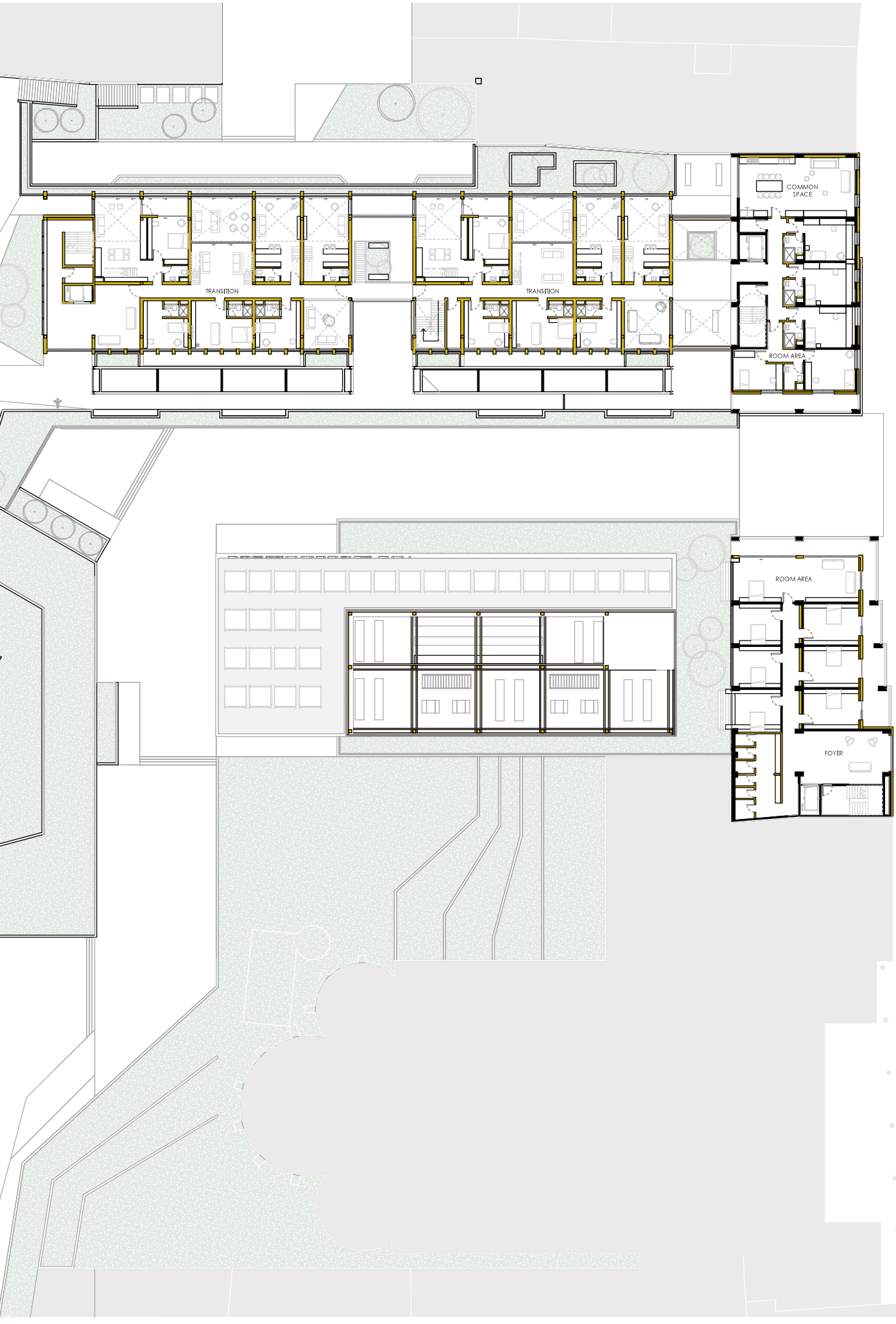

COMMON SPACE
KITCHEN
KITCHEN
TRANSITION
TRANSITION
FOYER
FOYER
ROOM AREA

URBAN FARM
COMMON SPACE
ROOM AREA
FOYER

LEVEL 03

0 1 2 5 10

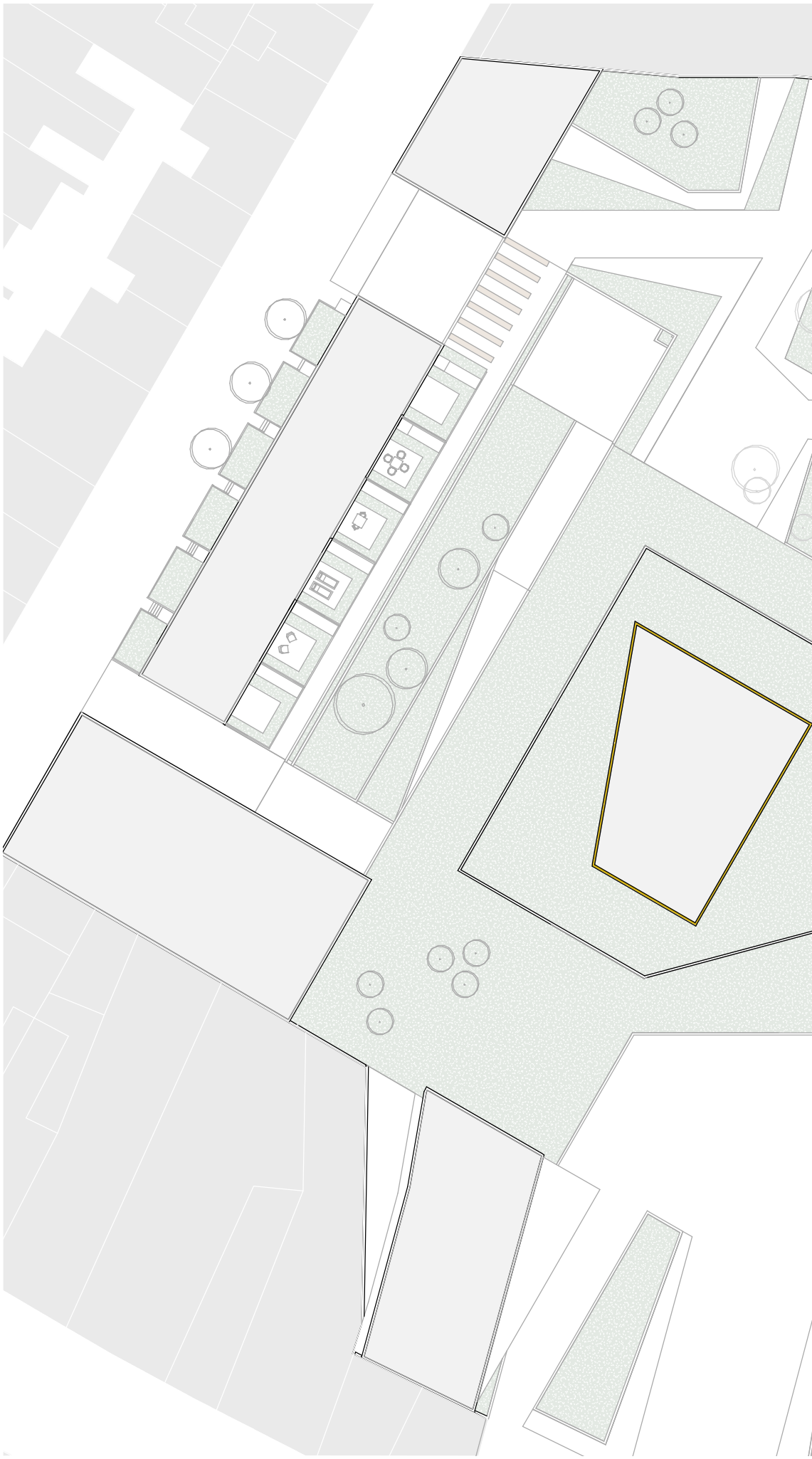
Existing
New

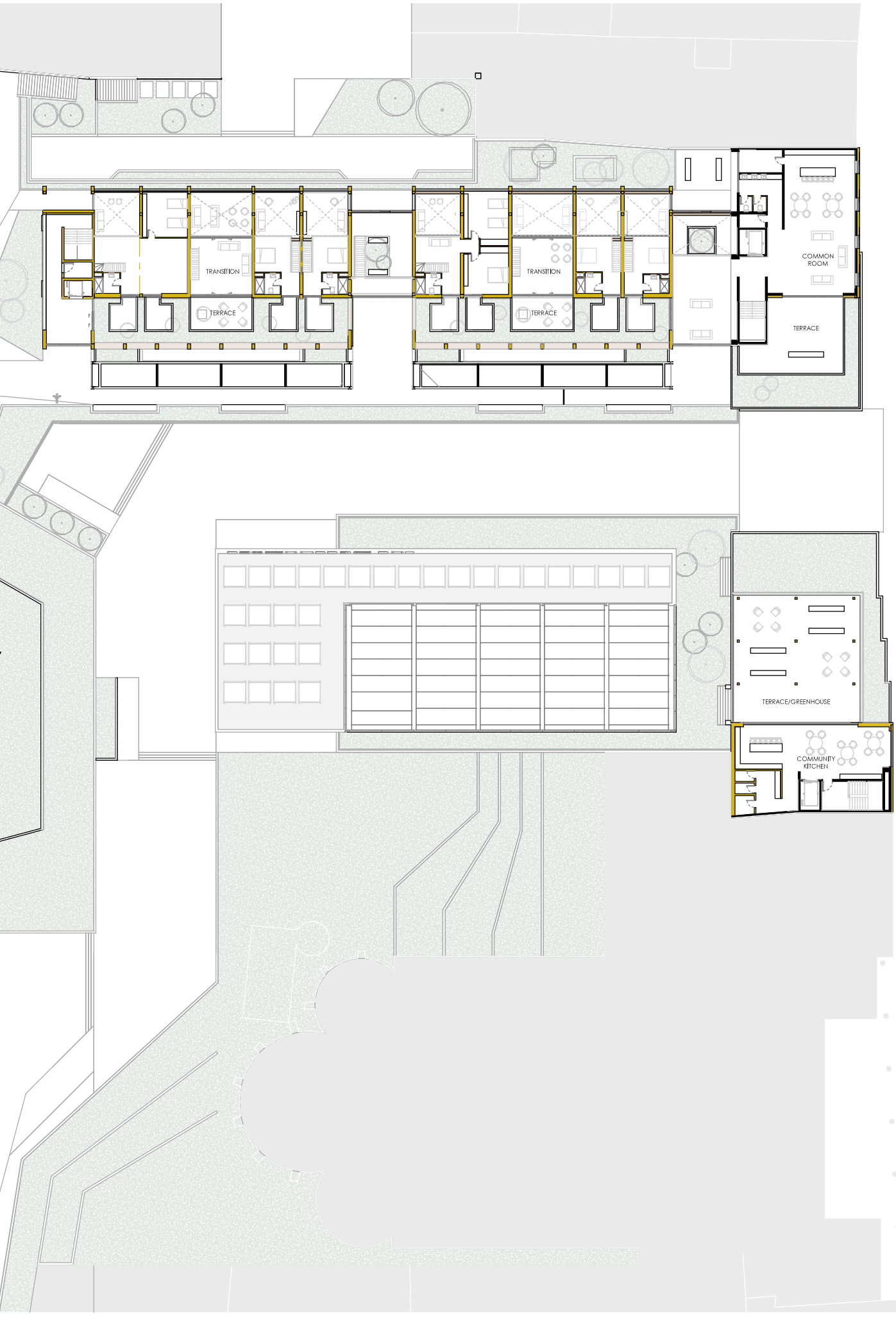

COMMON SPACE
TRANSITION
TRANSITION
ROOM AREA
ROOM AREA
FOYER

LEVEL 04

0 1 2 5 10

Existing
New




TRANSITION
TERRACE
TRANSITION
TERRACE
COMMON ROOM
TERRACE
TERRACE/GREENHOUSE
COMMUNITY KITCHEN

TU DELFT
URBAN ARCHITECTURE STUDIO

ALEJANDRA FERRERA
JULY 2021