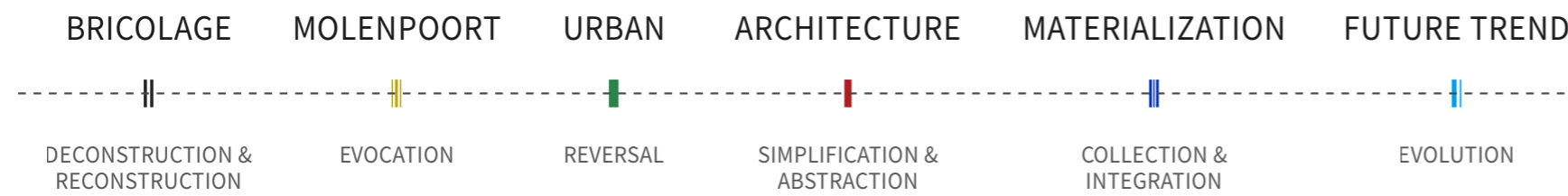


# RETAIL ARCHITECTURE

[COMMERCIAL FULFILLMENT CENTER]



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**"BRICOLAGE"**



Bricolage is a way of thinking, researching and designing. In the story of Robinson Crusoe, he survives a shipwreck on a desert island by salvaging supplies from the shipwreck of culture and making the most of nature. Similarly, making architecture is an act of bricolage, using whatever comes to hand and then new things take shape out of the existing.

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## ARCHITECTURE BRICOLAGE

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The bricoleur researches the meaning of existing materials, but also has a keen eye for new meanings and possibilities. From the perspective of architect, we build our realm using the existing constructing logic and limited materials, to make something different and new from the old, which seems to be a low-key but efficient way for building renovation of Passage de Molenpoort.



Never taking a design more than 3 percent from its original form, and same for the bricolage.

### 1.1. Bricolage: from IKEA bag to Molenpoort

Bricolage is a way of thinking, researching and designing.

My story began with the deconstruction and reconstruction of an IKEA bag, which is an example of extension of what a product used to be by using “bricolage”. At first, the word ‘bricolage’ reminded me of some works and pieces more from fashion design than architecture design, and I believe cross-disciplines is important and even become a trend these years. Last November, Virgil Abloh (the artistic director of Louis Vuitton's men's wear collection) x IKEA Collection hit the market, including furniture, rug, bags and other accessories. For the first time, the furniture retailer IKEA is not only ‘furniture’ any more, but has more possibility and potential to join in the fashion trend. In this case, I try to extend the function and position of IKEA and transform the IKEA frakta blue bag to an IKEA messenger bag.

In the story of Robinson Crusoe, he collected all the resources at hand and used the wisdom of bricolage to build his own kingdom on an uninhabited island. Similarly, from the perspective of architect, we build our realm using the existing constructing logic and limited materials, to make something different and new from the old, which seems to be a low-key but efficient way for building renovation of Passage de Molenpoort.

### 1.2. Different methods of bricolage

When we use the idea of bricolage to think and solve problems, different methods and results occur. The table on the next page shows different methods of bricolage in different aspects of my proposal and corresponding results (Figure 1).

1. **Deconstruction and reconstruction:** breaking up the original construction logic, using the original material and then recreating it to extend its function and meaning, like the Ikea bag.
2. **Simplification and abstraction:** abstracting logic from the existing, and then reinterpreting it with new materials. In my façade research, I reinterpret the classic façade in Nijmegen based on the prototype façade of rectory and develop typology 1.0 and 2.0 which have the same logic but totally different composition.
3. **Collection and integration:** Collect materials from different sources and different attributes, and logically combine them into a new piece. The ancient technique spolia is one of the results of collection and integration in architectural history, and I will apply the idea of integration of elements (mainly reflected in materials) to urban design, architectural design and interior design.
4. **Reversal:** Keeping the original logic and material composition, but adopting a special perspective to reverse the existing things, turning disadvantages into advantages. There are several precedents for transformation between the positive and negative, like the negative space in art and the leftover space in architecture. Similarly, our urban design, the reverse of passage, is exactly the idea of bricolage reversal.
5. **Evolution:** I use several examples of typical typology of retailing architecture and find out how and why they evolve, and how they interact with the society.
6. **Evocation of memories:** The materials available at hand are from the present, the time and space in which people live is also the present, but the results of bricolage can still evoke scenes and fragments in their memories. The past and the present are intertwined and merged together through bricolage.



Process Method	Prototype	Typology	Typology	Typology	Typology
Deconstruction and reconstruction					
Simplification and abstraction					
Collection and integration					
Reversal					
Evolution					
Evocation					

Figure 1: Different methods of bricolage, drawn by author

**"RETAIL MOLENPOORT"**

## Introduction

This chapter includes the history and problem statement of the Molenpoort, the reasons why I chose this topic and my research & design structure.

Retail buildings and commercial spaces is one of the most widely distributed types of architectural spaces, and it has a significant impact on urban space and social life. Since the emergence of the retail industry, the contradiction between retail space and the expansion of commercial activities has always existed, which is the reason why retail spaces are always changing and expanding. They can choose to follow the trend to evolve; otherwise they are confronted with extinction, like the Molenpoort.

(Figure 2) Date back to 1972, the popularity of the American shopping mall gave birth to de Molenpoort in Nijmegen, the first shopping mall in Europe. Because it is a product of emulation, the Molenpoort did not take root in the city, but isolated from the context and grew savagely in the city center. On the one hand, ignoring the problems and simply protect it as a heritage building make no contribution to the rebirth of “dead mall”. On the other hand, totally replace the Molenpoort with another building will also be a loss for Nijmegen.



Figure 2: Molenpoort in 1972 (left) and 2020 (right), retrieved from archive and internet

## 2.1. Problem statement: beast or beauty?

Our group’s research focused mainly on the Molenpoort itself and people’s daily routine including shopping behaviors here. We did a literature review about Molenpoort’s history, and then collected footages through photographs, videos, interviews, and bricolage them together to make a film, which is our first step to the Molenpoort. The huge building takes up a large proportion of the urban block in the city center, and the entrances of which lure customers in for shopping, just like a beast (Figure 3). But as we stepped into it and started to uncover more of its secrets, stories and history, our perception changed drastically: we found there still existing fascinating aspects which make it unique, and the “dead mall” was actually a “sleeping beauty”, waiting for a second life.



Figure 3: *The Beast*, drawn by author

Based on the observations and interviews to people working or living near the Molenpoort, problems like the entrance barrier, typologies of shops and even the architectural form itself are the main resistance that prevents customers from coming inside. Opinions contain four aspects as followed:

### 2.1.1. Typology of retailing architecture: Passage or shopping mall?

The leather shop owner in Molenpoort said since it is more a passage than a shopping center, the entrance, like a dark hole, is not very inviting to come in, leading to less and less customers nowadays. However, from the clothing shop owner's point of view, a passage is outdated and old-fashioned, while Molenpoort is actually a covered shopping center and it sounds more friendly to people.

It is not uncommon that people often compare Passage de Molenpoort to American shopping mall, because the private owner of the Molenpoort is an American investor, and the half-passage half-mall form is apparently the combination of American shopping mall and European style of shopping. An American shopping mall is approximately 6 or 7 times as big as a European passage, and it is able to hold 10 restaurants and a cinema in the basement, though the huge volume of which won't fit in the urban fabric in the Netherlands.

Besides, what will always be the case is that people need to take an extra step to get into a passage or shopping center. In a normal open-air shopping street they walk through more easily, but in a covered shopping mall, questions like 'what do we find behind those doors?' will influence their behavior that whether to go through doors. Like the leather shop owner said: "on one hand I would throw the roof off because there is a certain group of people that don't want to go inside a shopping center anymore, but on the other hand I think every city needs at least one covered shopping center."

### 2.1.2. Distribution and positioning of shops

Except for the local residents, a large amount of visitors come from cities around Nijmegen. Most of them will park their cars on the roof, go downstairs to the Coop or the Xenos, and leave again. This is because Molenpoort itself is really a center for the small entrepreneurs from Nijmegen, and these unattractive small shops need big "magnet stores", that is the Coop, Xenos, Big Bazaar and Prenatal. We found out that both the Coop and Xenos have been here for a very long time, and these shops located in the best hallway of the two passages in the middle, which is different from American typology that 'magnet stores' are often in the edges of the center. For small shops like the leather shop, most customers visit it "by accident", and then they think it is a nice shop and are surprised that it has been here for over 30 years.

By interviewing on several customers and tracking their routes, we found that they come to the Molenpoort with a specific purpose, and then they head to the shopping streets in the city center or go back home (Figure 4). "People shop differently compared to 30 years ago", said the owner of Hill's clothing shop in Molenpoort, "They don't just come to buy clothes, but they grab a lunch, or go to the cinema or the theater. They make a complete day out of it." In this case, a great variety of shops in the city center is more attractive for customers, and the open-air shopping streets function well in Nijmegen. The reason why some operators, like the café owner, would like to have a shop inside the Molenpoort instead of on the Molenstraat is that the rent prices outside is often much higher, which seems to go against our prediction that inner shop price will be higher due to safer and better shopping environment and management issues.



Figure 4: Shopping routes of several customers, drawn by author

Since people nowadays want to be entertained, it is successful to add more entertainment to the shopping centers in many countries, instead of having the focus only on shopping. For Nijmegen, however, the holistic experience is already in the city center, and there are lots of cafes, cinemas and other facilities in the rest of the city, so the Molenpoort doesn't have to facilitate all these things. Therefore, Molenpoort has a general air of decrepitude and neglect and both the distribution and positioning of shops need to be reconsidered.

### 2.1.3. Commercial collective space

Unlike the shops and public spaces on the street which managed by the municipality, the Molenpoort is a private-owned passage and the commercial space inside is also private. As a result, shop owners are allowed to put their stuff outside to the passage, and decide what can and cannot happen there. This informal commercial extension increases the scope of every shop, and creates more "grey space" for commercial activities as well. Besides, the private church garden can be enlarged and even opened to the public, functioning as a harmony green space.

### 2.1.4. Future trend

The municipality has a new plan to open the Molenpoort and add more housing on top of it (Figure 5), but most people tend to the idea of renovating it instead of totally demolishing it. "My preference would be to keep the Molenpoort, but refurbish it, and as an entrepreneur you can choose where you want to have your shop, inside or outside", said the owner of leather shop, "The advantage is that the existing shop has a name for itself. But when you do move, the customers will lose you." Besides, since there already exist many empty shops inside the passage, the cafe owner believed that getting more housing and expensive shops is not something that Nijmegen needs.

However, opinions about roof parking are quite different: some customers think the roof can go, because it is not a passage but a street, like every street in the city center, while others are in favour of parking on top of the Molenpoort. "If it becomes a street we will lose our parking spots, and those are holy to me", said the clothing shop owner. Although Nijmegen is a left municipality and the middle class want to get rid of all the cars within the city, it is not a tourist city, and we rely on people from Nijmegen and cities around it. Their demand is to be able to park their cars in the center easily, and parking space on the roof is apparently better than that on the street.



Figure 5: The future plan for Molenpoort urban block, retrieved from <https://www.nijmegen.nl/over-de-gemeente/dossiers/dossier-ontwikkeling-centrum/vlaamsegas-en-ringstraten/>

## 2.2. Research and design topic

My topic is retail architecture, and the reasons are as followed:

1. Molenpoort not functioning well doesn't mean retailing is impossible here, on the contrary, it has much more potentials to distinguish itself from other shopping streets in the city center. I believe the choice of retailing may have unexpected effects, and by using bricolage I can provide some new ideas and thoughts about renovation of retailing for this plot;
2. Shopping atmosphere and positioning of shops needs to be reconsidered. On the one hand, shopping has become a deeply experience but Molenpoort is less attractive and even oppressive for customers when comparing to other passage in Europe, the reasons include the height and width of the corridor, the decorations which are neither classic nor modern, the outdated shops, and so on. On the other hand, local residents and people from cities around Nijmegen still come to Molenpoort even there are few shops alive, so the stable source of customers can be ensured, which means that the small entrepreneurs in Molenpoort still have a chance to show themselves as long as they accept a "new rule" (explained in chapter 4) in my proposal.
3. Compared to what most of my colleagues did, they think the story of shopping ends here, so they demolish the Molenpoort and insert several ideal programs like community space, artist gallery. I also chose to demolish it, however, I reinsert retailing. It is a big challenge because I have to force myself to face all the existing problems, solve them and continue this commercial story. When talking about the Ikea bag, instead of making something irrelevant, I bricolages a bag out of a bag to prove that what others think boring actually has the potential to surprise them again, which is the same as my motivation to reinvent retailing, to provide a different perspective which seems to be impossible.

## 2.3. Research and design question and structure

Hence, based on the first research, problem statement and personal motivation, my research question is: **how can retail building and commercial space expand by interacting with the society?** Four points of opinions in problem statement will lead to four aspects in my research, and each of them will contribute to a special aspect in our urban design and my architecture design (Figure 6&7).

My design question is: **what is the role of shopping in today's tech-driven, social media-focused society?** My purpose is to use my design to prove that Molenpoort does not have to make way for other programs and online shopping will not take over physical shopping in the future.

The diagram (Figure 8) shows how I conduct my research, and how research and bricolage contribute to my design process.

# Research & Design Methodology

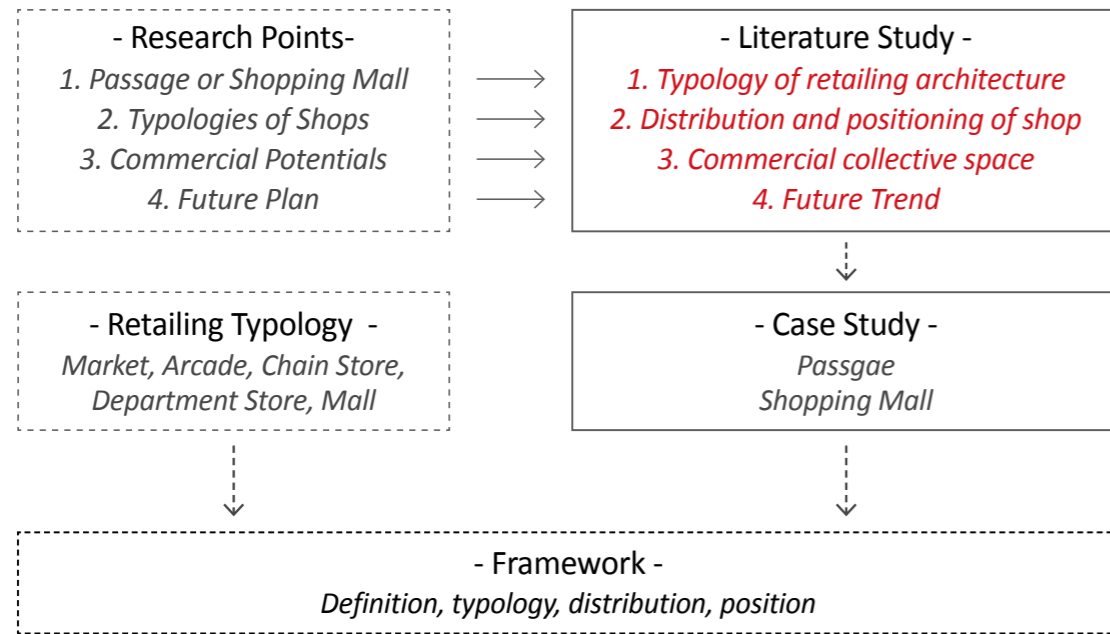


Figure 6: Methodology, drawn by author

	Field	Theme	Design
1. Typology	<i>Is Molenpoort a passage or shopping mall?</i>	<i>Genealogy of retailing typologies (space axis)</i>	<i>A multifunctional space with ambiguity and flexibility</i>
2. Positioning	<i>A center for small entrepreneurs</i>	<i>Retailing mode and layout of shops</i>	<i>A center for interaction, innovative practice and brand engagement.</i>
3. Commercial space	<i>Indoor and outdoor public space of Molenpoort</i>	<i>Commercial potentials for collective space</i>	<i>Transitional spaces like courtyard, roof garden and undefined interior spaces</i>
4. Future trend	<i>The unsatisfactory "future plan" by the government</i>	<i>Evolutionary process of retailing buildings (time axis)</i>	<i>Commercial Fulfillment Center</i>

Figure 7: Methodology, drawn by author

# Research & Design Structure

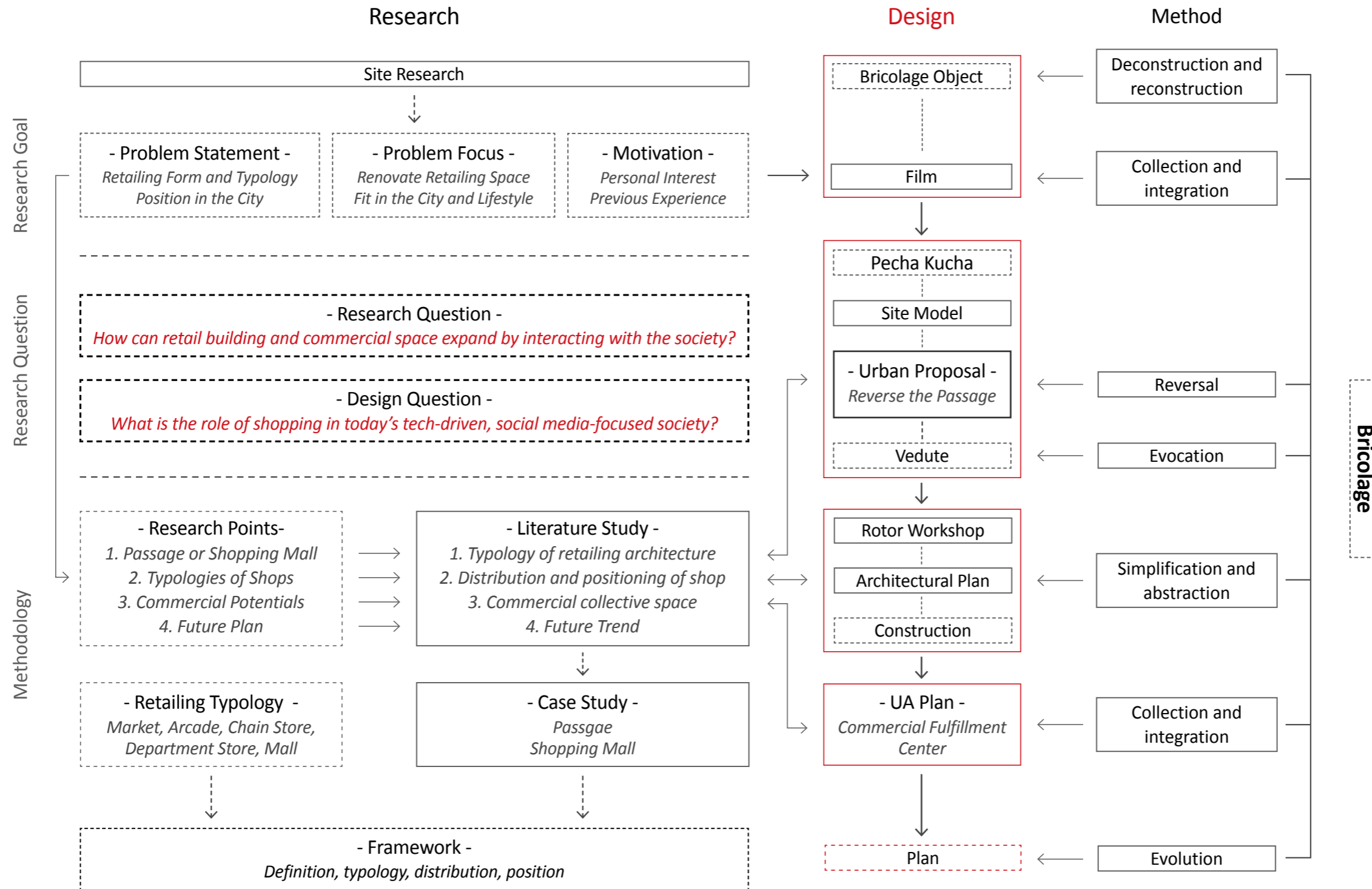


Figure 8: Research & Design Structure, drawn by author



"URBAN"



Retail spaces have evolved rapidly in its turbulent history: it developed into market space, arcades, department stores, passages and shopping malls and ultimately even colonizing our digital world.

## Introduction

This chapter includes the first part of research and our group's urban design.

Except for the local residents, a large number of customers are from cities around Nijmegen (Figure 9). They park their cars on the roof instead of streets, and then go downstairs to the shops. We interviewed nearly 20 customers and most of them come here with a specific purpose, to buy food and daily necessities in COOP, to buy gadgets in Xenos. Apparently people still need Molenpoort, and it has great commercial potentials, so retailing shouldn't be chased out of city center.

When we decided to introduce a retailing building to our urban design, we have to figure out what typology is appropriate for this plot. So I started the first part of my research by looking into the genealogy of retailing typologies in different countries.

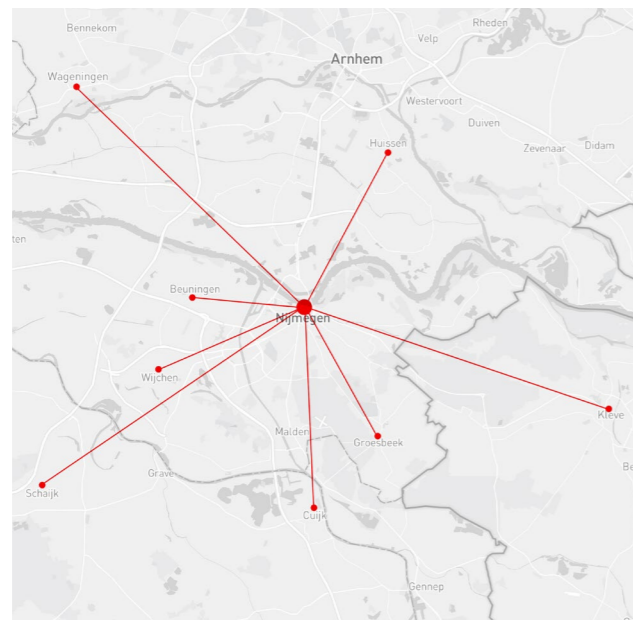


Figure 9: *Shopping Radiation*, drawn by author

## 3.1. Research part 1: typology of retailing architecture

### Marketplace

The initial "marketplace" was spontaneously generated in places where people could gather, such as certain forums and squares. By the middle ages, the market had become the center of some cities. Then it developed into some specialized bazaar buildings, such as the Royal Exchange in London in 1566-68. This kind of bazaar mainly adopted a centralized form like a city square. Similarly, the development of commerce has also broken through the limits of this inward-looking building, resulting in an "arcade" architectural form facing to the streets. This typology has formed crisscross buildings or indoor commercial streets, which can attract more people and expand the retail space.

### Department stores

Department stores began in the middle of the 19th century and Au Bon Marché was the very first department store in Paris. In 1838, the two Parisian Videau brothers decided to start a large store in Paris and they only sold mattresses, bed linen, ribbons, buttons, umbrellas and other assorted goods. In 1852 they started working together with the Aristide Boucicaut and Marguerite Boucicaut and then laid the foundation for the department store. Their new business methods include:

- (1) Customers can enter and exit the store without any worries;
- (2) Clearly marked prices shall be implemented for sales of goods, replacing the system of haggling over prices;
- (3) Advertising and a much wider variety of merchandise that customers can choose in their hands;
- (4) The goods purchased by the customer can be exchanged and returned if they are not satisfied;
- (5) Sales of goods are guided by "small profits but quick turnover", that is, "low profits, high turnover".

This is a major reform of the old business operation mode, guiding the development direction of the new retail business operation mode, and is of great significance. The wave of department stores quickly spread across the European continent, across the ocean, and had a great impact on Britain and the United States. The golden age of European and American department stores was from the early twentieth century to 1910.

The main feature of department stores is to supply almost all commodities in one building, so that customers can buy all the things they need in one place. The development of technologies, mainly the emergence and application of air-conditioning and escalators, has contributed to further expansion of retail buildings. Due to the ventilation requirements, the area of a single story cannot be too large, and windows must be opened to the outside. Air conditioning has wiped out these restrictions: the single-story area has been expanded on a large scale and windows have been eliminated to form a closed indoor environment, which provides customers with a more comfortable shopping environment than before. In addition, the ground floor is always a prime location in retail buildings, but the reachability of shops above the ground floor is gradually decreasing. The emergence of escalators blurred the boundaries between the upper and lower floors and provided the possibility of upward expansion for retail buildings. As a result, with the support of new technologies, the area of department stores can continue to expand in two directions with the development of commerce.

The Bijenkorf sits as sole department store in the Netherlands servicing the high end of the market. It's founding dates back to the late 1800's. The largest and oldest De Bijenkorf location is on Dam Square in Amsterdam. With the Hudson's Bay chain closure, it leaves only De Bijenkorf at the high end and Hema at the low end of the market.

### Chain store

Department stores have been in decline since 1929, and their opponents to dominate the market are newly developed "chain stores". The first modern chain store was the Great Atlantic & Pacific Tea Company established in New York in 1859. The chain store did not develop very fast at first, because the dominant department store was already able to meet the shopping needs of people at that time. However, with the further increase in purchasing power, the contradiction between the limited size of department stores and commercial expansion has been aggravated. The chain store mode is equivalent to dispersing a huge space into multiple small-scale spaces, scattered throughout the city, and the number of stores can continue to increase according to needs. As a result, the contradiction between the architectural form and the logic of commercial expansion has once again been eased.

### Supermarket

In 1930, another epoch-making event occurred in the history of the retail industry -- the emergence of supermarkets. Supermarkets have made a major reform in commercial operation, that is, to reduce operating expenses as much as possible, so that the sale prices of goods can be lowered. Its operation has become a practical, ultra-high-speed turnover retail mode and has a strong competitiveness in retail industry. In the 1930s, many large chain stores in the United States have turned to supermarkets. Therefore, supermarkets are actually the outcome of combination of supermarket business modes and chain stores. Department stores are gradually at a disadvantage under the impact of emerging retail forms and its operators are also looking for countermeasures. There were two strategies they adopt: one is to set up branch stores and conduct joint operations, that is, to take the form of chain stores; the other is to upgrade themselves and expand to accommodate other typologies such as entertainment, catering, exhibitions, etc., forming a closed super commercial center that integrated department stores,

supermarkets and chain stores. This is the emergence of shopping malls, which also enables the retail industry to achieve further expansion.

### Shopping mall

The concept of "mall" first appeared in the United States in the 1950s. When Victor Gruen, the father of retail architecture in the American Shopping mall, first proposed this concept, he wanted to create a comfortable shopping experience that was different from the noisy, dirty, and disorderly urban impression of American cities in the 1950s. Therefore, in 1956, he designed the world's first fully enclosed Mall, located in Southdale, Minneapolis, to isolate shopping and car traffic, and at the same time creates a comfortable artificial environment through an air conditioning system. In the following two decades, the fully enclosed Mall has been accepted and recognized by the society, has always been the mainstream form of commerce, and has also become an integral part of the process of suburbanization in the United States after the war.

However, retail building has a life cycle, including the shopping mall. Aggressive builders like Walmart chief executive officer David Glass, along with old retail pros Stanley Marcus, are predicting that 50 to 75 percent of present retail will be extinct within a decade (Lewison, 1994). After the shopping mall had entered the old age and had begun to transform, the "Dead Mall" phenomenon occurred. The so-called "Dead Mall" refers to those shopping malls that have fallen into recession due to the decline in attractiveness and passenger flow, tenants moving out one after another, and declining occupancy rates. And the Molenpoort, the half-mall and half-passage architecture form, was also a by-product of this transformation process.

### Online shopping

Online shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the Internet using a web browser or a mobile app (ref). At present, online shopping has a great impact on the real economy and physical stores, and there exists an overall decline of traditional retailing. American marketing master Philip Kotler proposed that the easy-to-learn e-commerce economy is the "new driving force" of the European and American economies. The physical stores in the United States have continued to close in recent years, leading to the "dead mall". However, the rapid development of the online shopping industry has also promoted other related economic sectors, such as finance and logistics. Research shows that more than 50% of consumers agree with the intuitive and accurate consumption of traditional retailing, but dissatisfied with its huge price difference, and 80% of young people choose to shop online. Due to the fact that the convenience and intuition that the store brings to people cannot be replaced by e-commerce, how to solve the continued decline in traditional retailing and bring them back to the urban realm is a major issue for not only retailers and consumers but also architects.

In conclusion, each retailing typology originated from its era, conforming to political and economic trends, but limited by construction technology and people's shopping concepts at the same time, which makes the old typologies continually replaced by new ones.

The half-passage half-mall form of Molenpoort contributes to its uniqueness and also distinguishes itself from other shopping streets. So, in the urban planning, we need a free-standing commercial complex. It's better if we set the entrance on Molenstraat to continue the commerciality and people's collective memory. According to the research, instead of copying a successful European passage or an avant-garde America shopping mall and pasting here, we need to find out what is next for retailing architecture especially in Nijmegen.

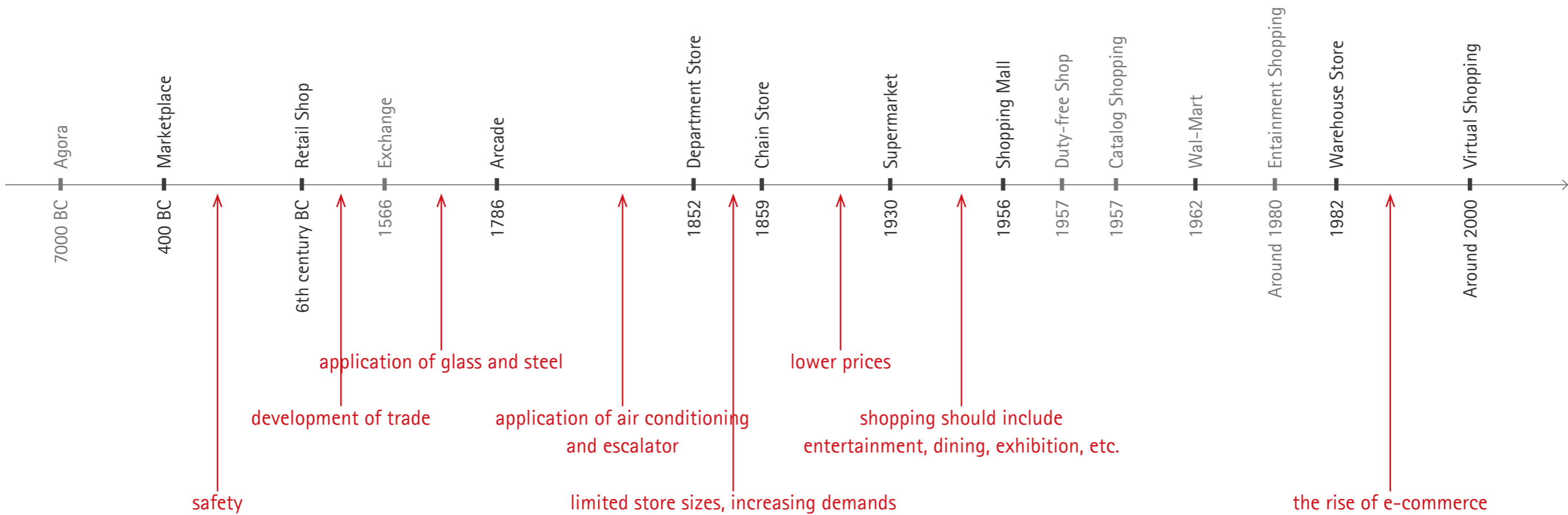


Figure 10: Timeline of evolution of retail architecture, drawn by author



For bricoleurs, of all the methods to reinterpret the resources in hand, reversal is the most efficient way without great changes and destroys to the whole system as well as its subsystems.

# Mapping



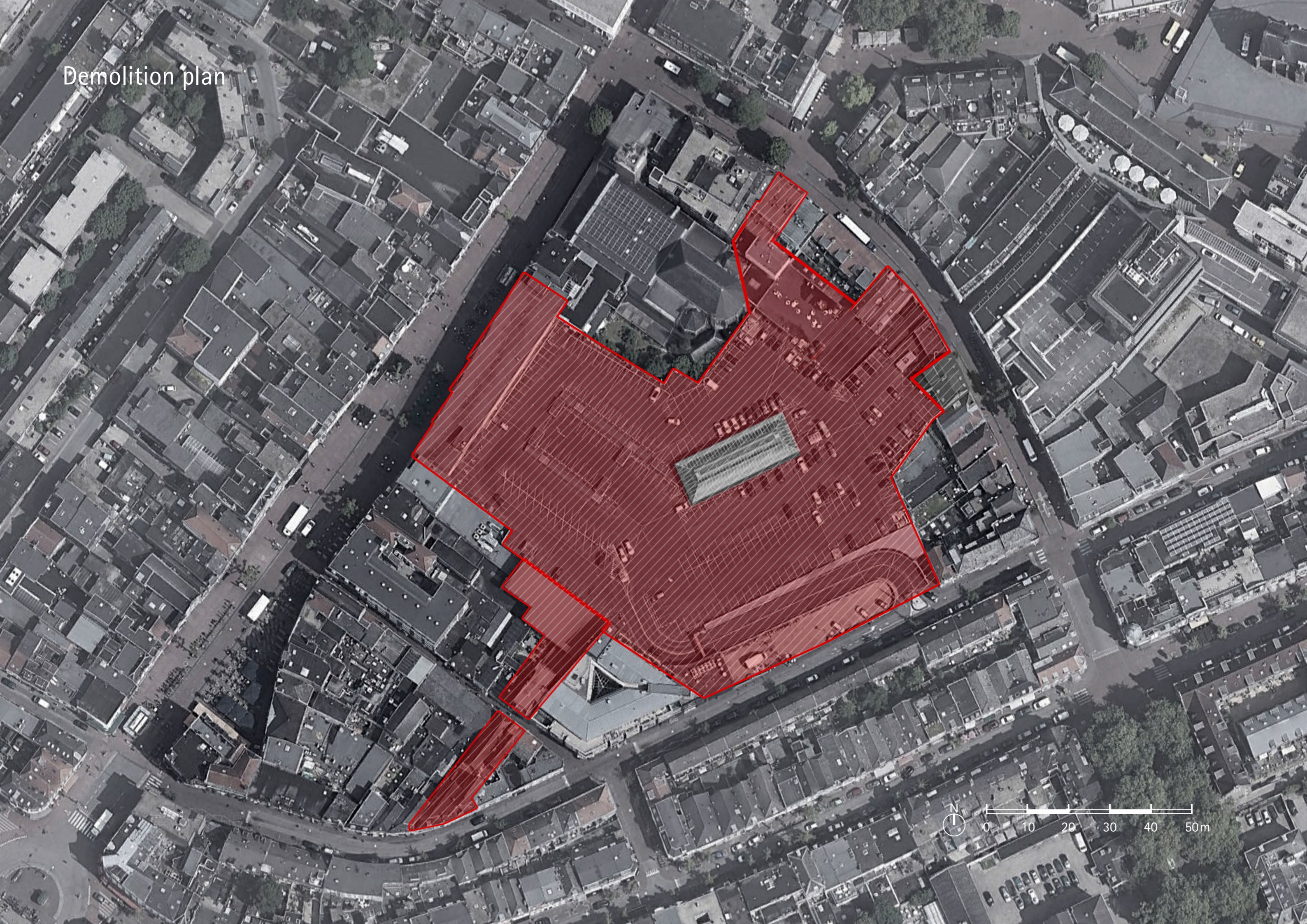


## Reverse of passage

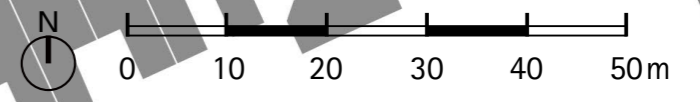


1. The existing passage direction/route;
2. The edges of Molenpoort.

# Demolition plan



# Site Plan



# Shopping Street - the Inner Ring



# Shopping Street - the Outer Ring



# Shopping Street - the newly-built street







--- Commercial route  
Public space

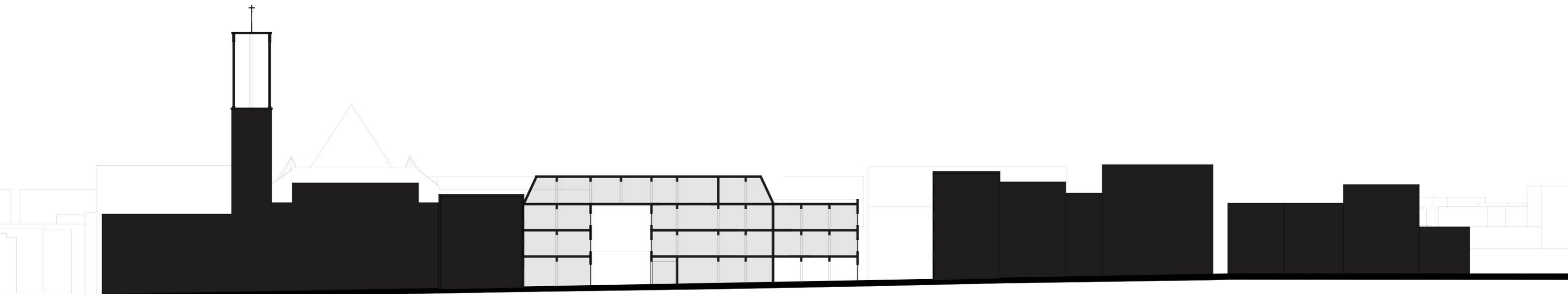
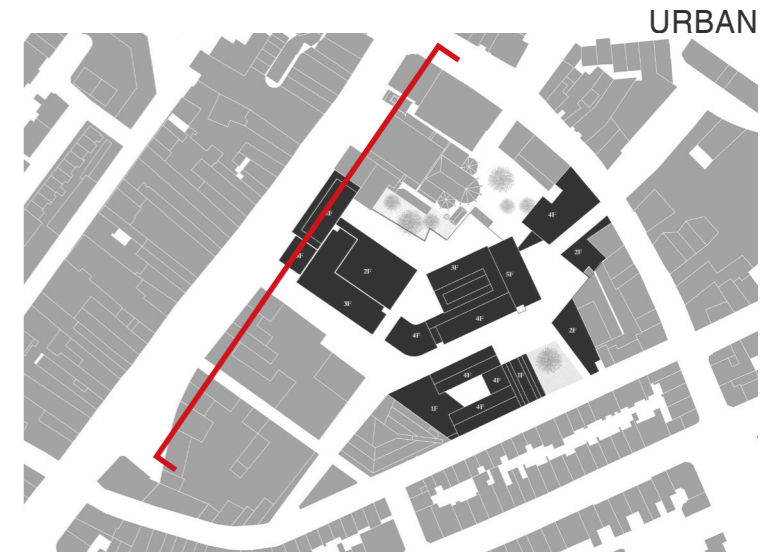


# Program

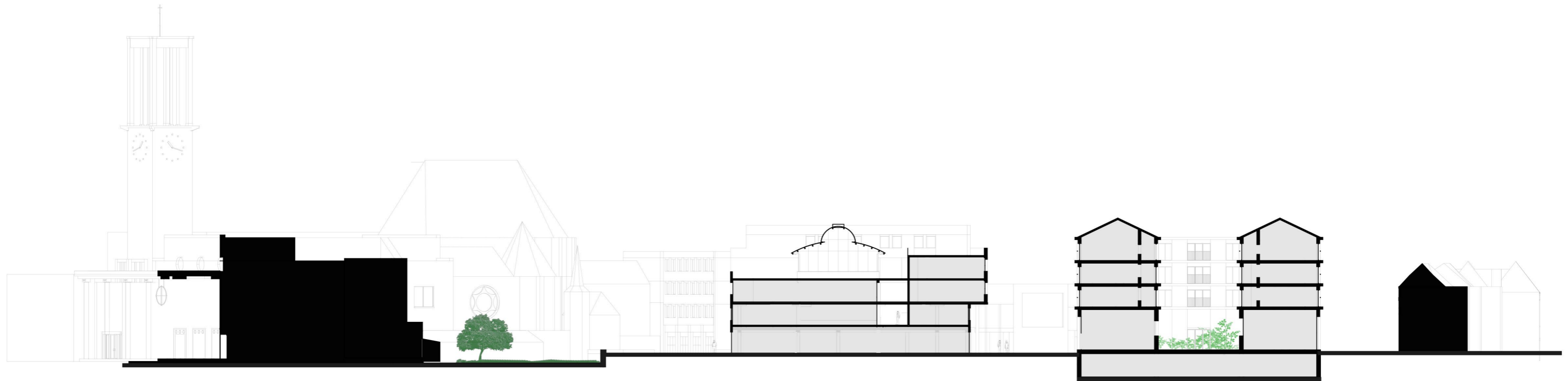
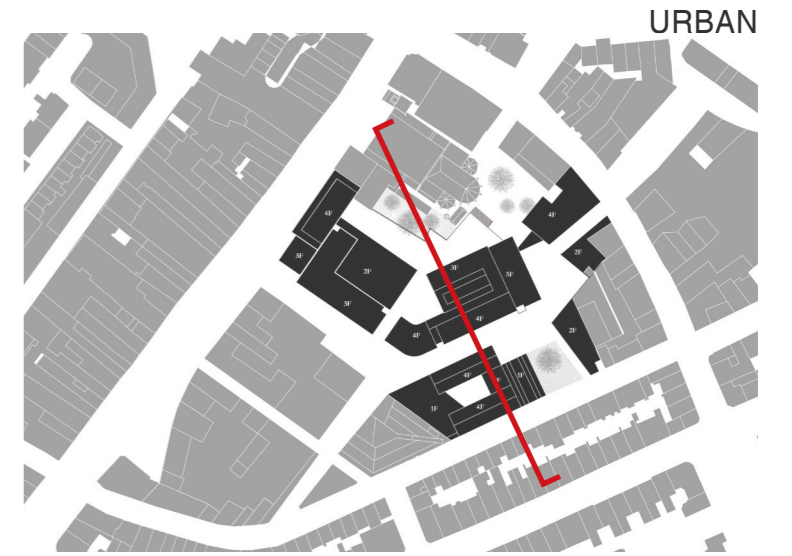


- Residence
- Retailing

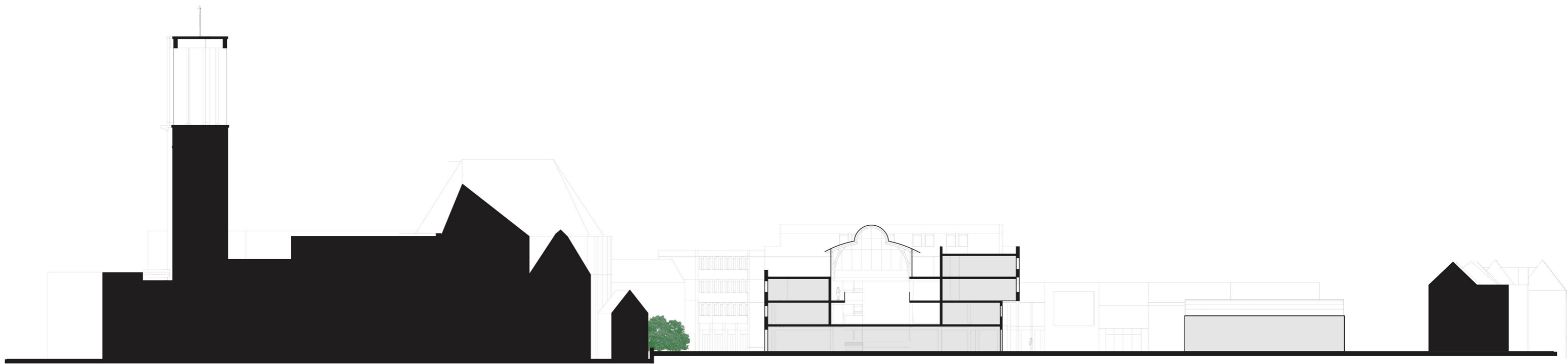
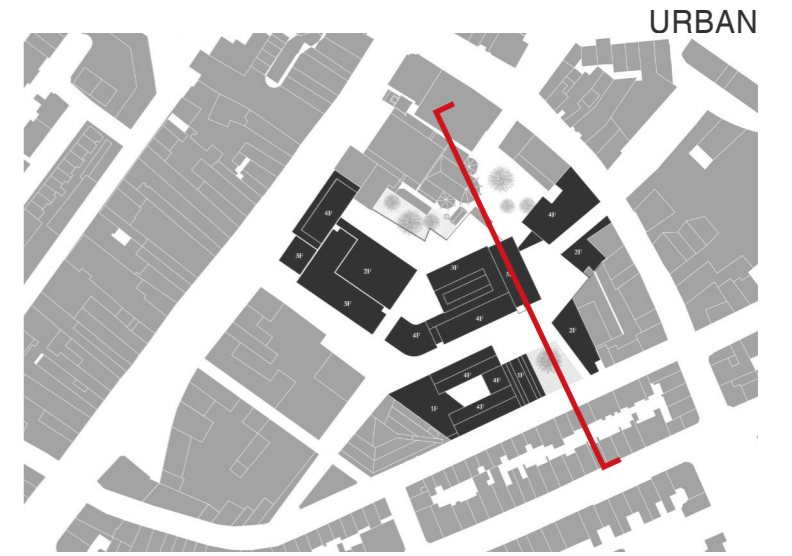
# Section



# Section



Section



**"ARCHITECTURE"**



The ancient technique spolia is one of the results of collection and integration, and I will apply the idea of integration of elements to urban design, architectural design and interior design.



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## Introduction

This chapter includes the second and third part of research and my architecture design.

Before organizing my proposal, I started my research of distribution and positioning of shop (chapter 4.1). Molenpoort's commercial mode has its special characteristics, so it is impossible to copy an modern department store or an avant-garde shopping mall from another country and paste here. Choosing to revive the commerciality requires me to face the shortcomings of Molenpoort's existing business mode and then find a suitable positioning and store distribution mode here.

Then the commercial collective space will be discussed in detail (chapter 4.2), which is the most valuable point that stand out in my proposal. Various formal and informal commercial activities will happen here and the new retail architecture will be connected to the city public realm to a great extent.

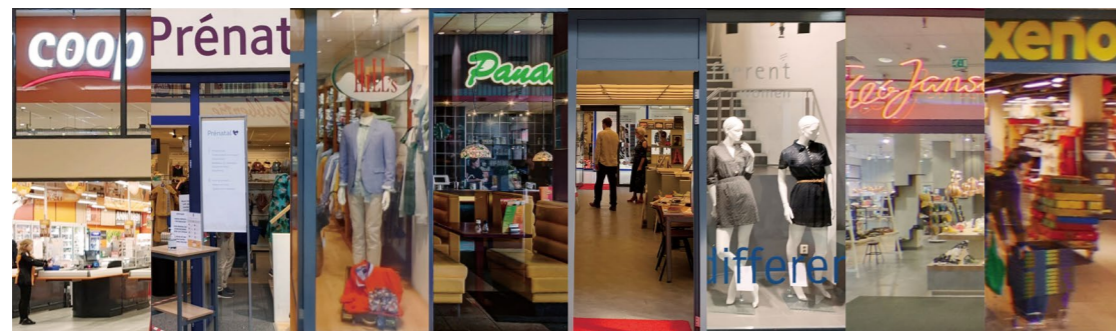


Figure 10: "Magnet stores" and small shops in the Molenpoort, photos taken by author

## 4.1. Research part 2: distribution and positioning of shop

### Analysis of Molenpoort's business mode

The purpose of retail spaces is to maximize the satisfaction of people's consumption needs, and the layout of space and circulation depends on the distribution of shops. According to the development of the retailing mode, the layout includes homogeneous commercial clusters with equal small and medium-sized shops (like shopping streets and each floor of department store) or heterogeneous commercial clusters dominated by several magnet stores, the latter of which is similar to the layout in the Molenpoort.

Molenpoort is a center for the small entrepreneurs from Nijmegen, and these unattractive small shops need big "magnet stores", that is the Coop, Xenos and Big Bazaar which locates in the best hallway of the two passages in the middle (Figure 10). After some case studies of other successful commercial, I found that in heterogeneous commercial clusters, the business mode of magnet stores attracting more customers for small stores is a very effective method, but it is difficult to achieve in Molenpoort, and we see the number of customers who come to Hill's clothes shop did not increase even there is an increase in the number of people who shop in COOP. Coop and Xenos are shops that sell daily necessities, so customers coming here have specific purposes instead of hoping to experience or explore during shopping. Since the moment when customers enter the Molenpoort, they will speed up their pace, and leave quickly after shopping. They will not waste their time to stay for some unimpressive furniture store or unattractive art supply stores, unless they have a demand.

The commercial positioning of Molenpoort is different from that of shopping streets. Although it is difficult to surpass the shopping streets in terms of diversity, we can take the advantage of Molenpoort, which is the combined effect of retailing: the combination of similar types of commercial typologies will produce a comprehensive economic effect of  $1+1>2$ . So I follow the tendency and transformed the distribution of heterogeneous stores into homogeneous ones, and make shops interlocked with each other.



### "Commercial Fulfillment Center"

In this case, I propose a commercial fulfillment center to replace the existing shopping passage. It serves as a place where people are encouraged to put their new ideas into practice, and customer are able to gain an unique experience other than buying and leaving.

In my proposal, the target groups are still small entrepreneurs and start-ups, but they have more chances to collaborate with young artists and architects to create something different for their experimental brands or products in the innovative center. Besides, the positioning of shops, unlike previous ones without interaction, is able to interlock with the innovative function and together contribute to a commercial fulfillment center for interaction, innovative practice and brand engagement. In this case, all the shop owners, working like bricoleurs, are encouraged to re-use and re-create (like how I made the IKEA bag), and the products they made can be exhibited and sold here, which is exactly the idea of bricolage.

## Theme



### "Commercial Fulfillment Center"

<b>Position</b>	A commercial fulfillment center with physical and virtual space for interaction and brand engagement
<b>Target groups</b>	Small entrepreneurs and start-ups, collaborate with young artists and architects
<b>Activities</b>	Formal commercial activities and informal activities like workshop, exhibition, fashion show, etc.

# Program

## Interaction

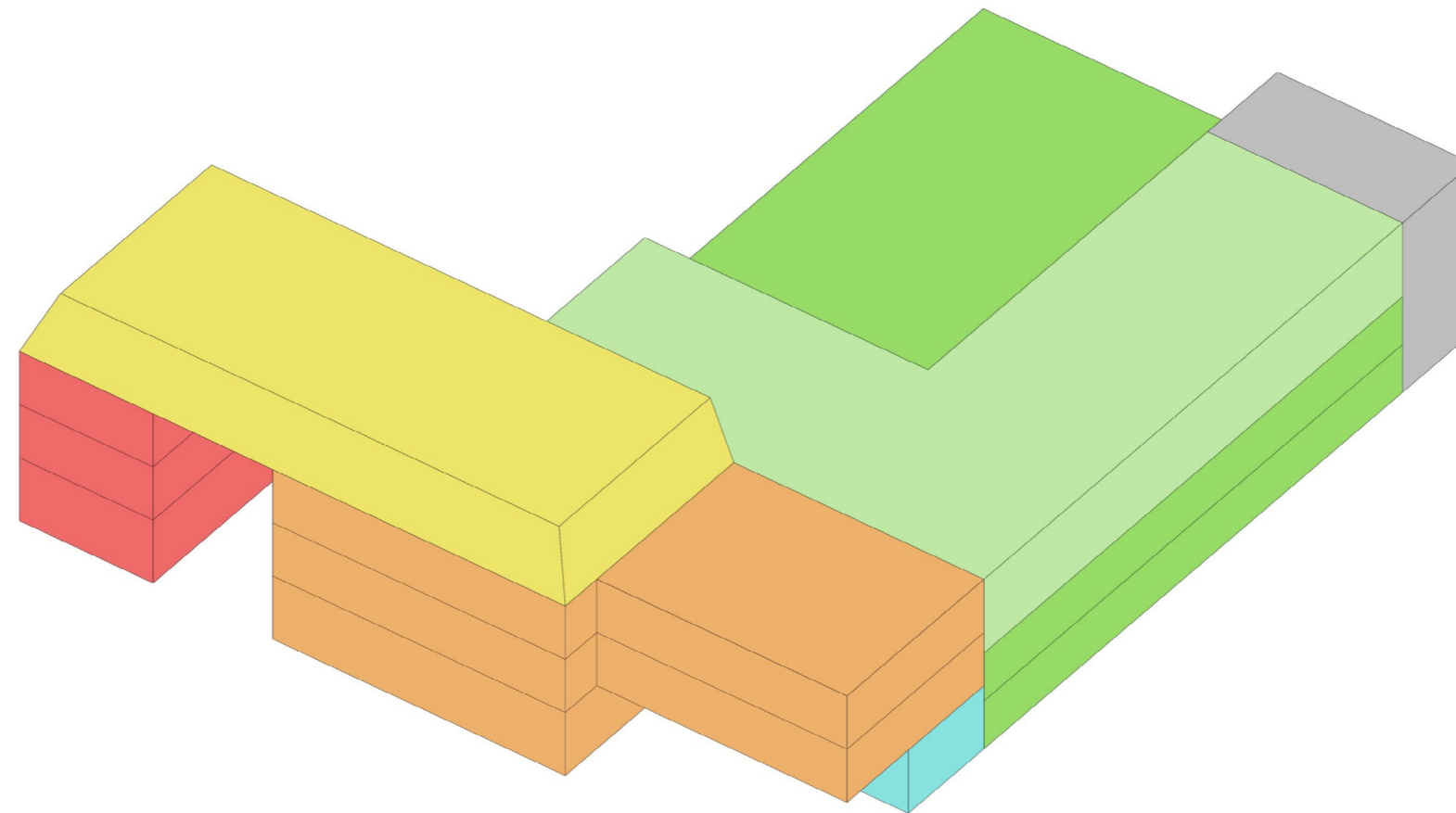
- immersive experience center
- 3rd floor
- 450 sqm

## Customer Center

- info, product service, archive
- 0-2th floor
- 350 sqm

## Innovative Center

- retail, workshop, product development and experience
- 0-2th floor
- 730 sqm



## Logistics

- freight, storage and office
- 0-2th floor
- 220 sqm

## Gallery

- exhibition (products & works)
- 2th floor
- 650 sqm

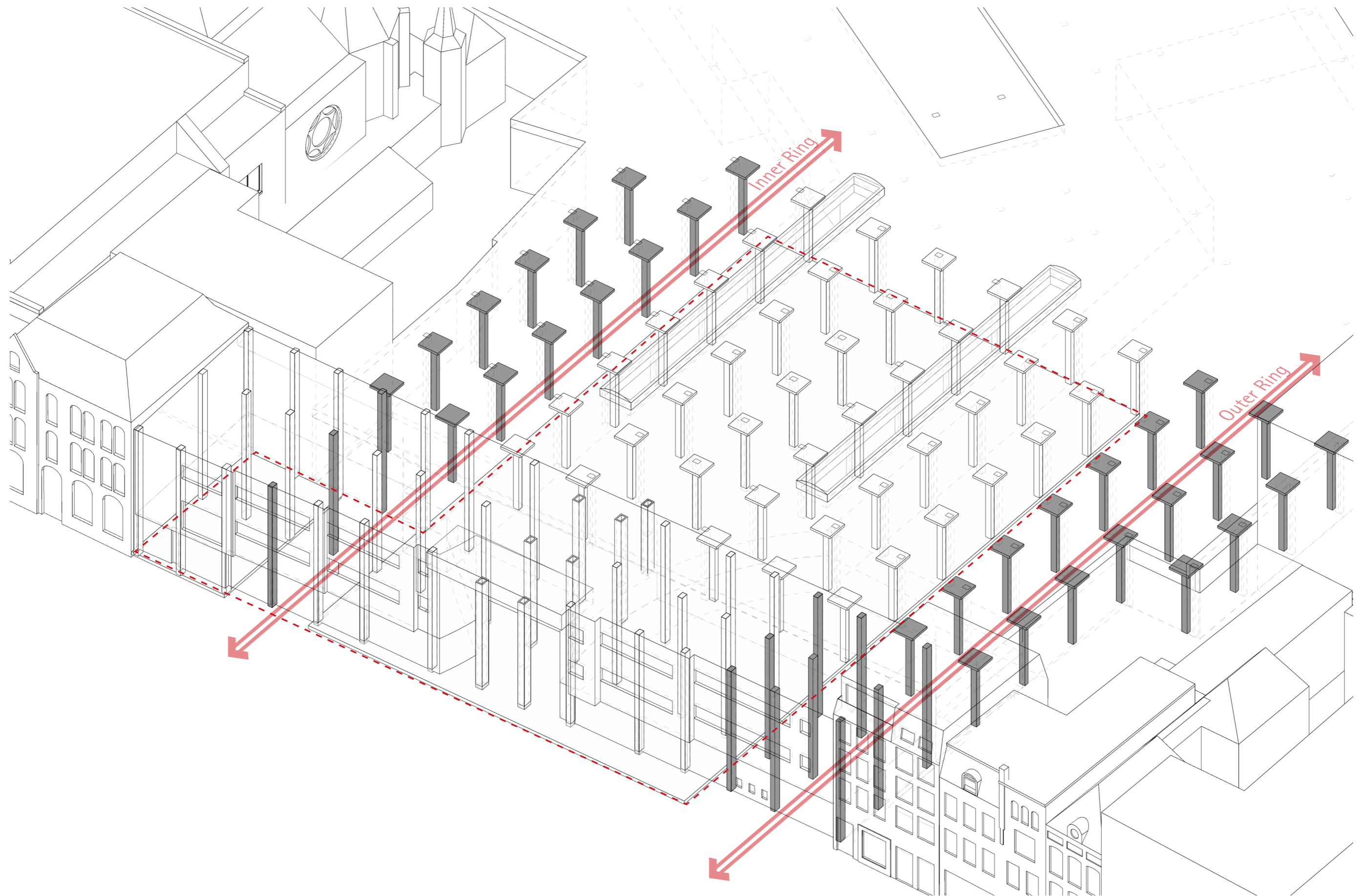
## Shop

- clothes and daily necessities
- 0-1st floor
- 2300 sqm

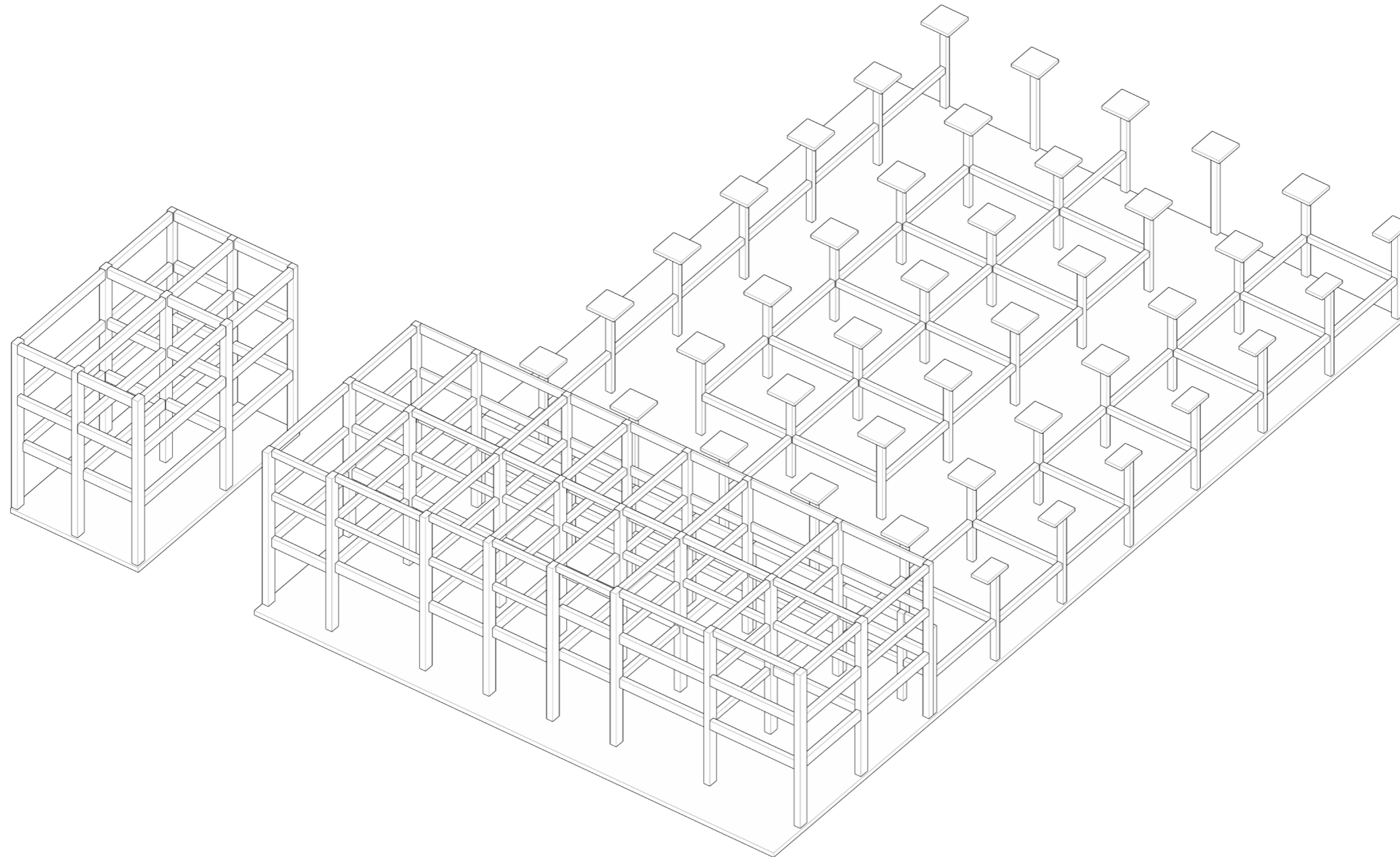
## Entrance

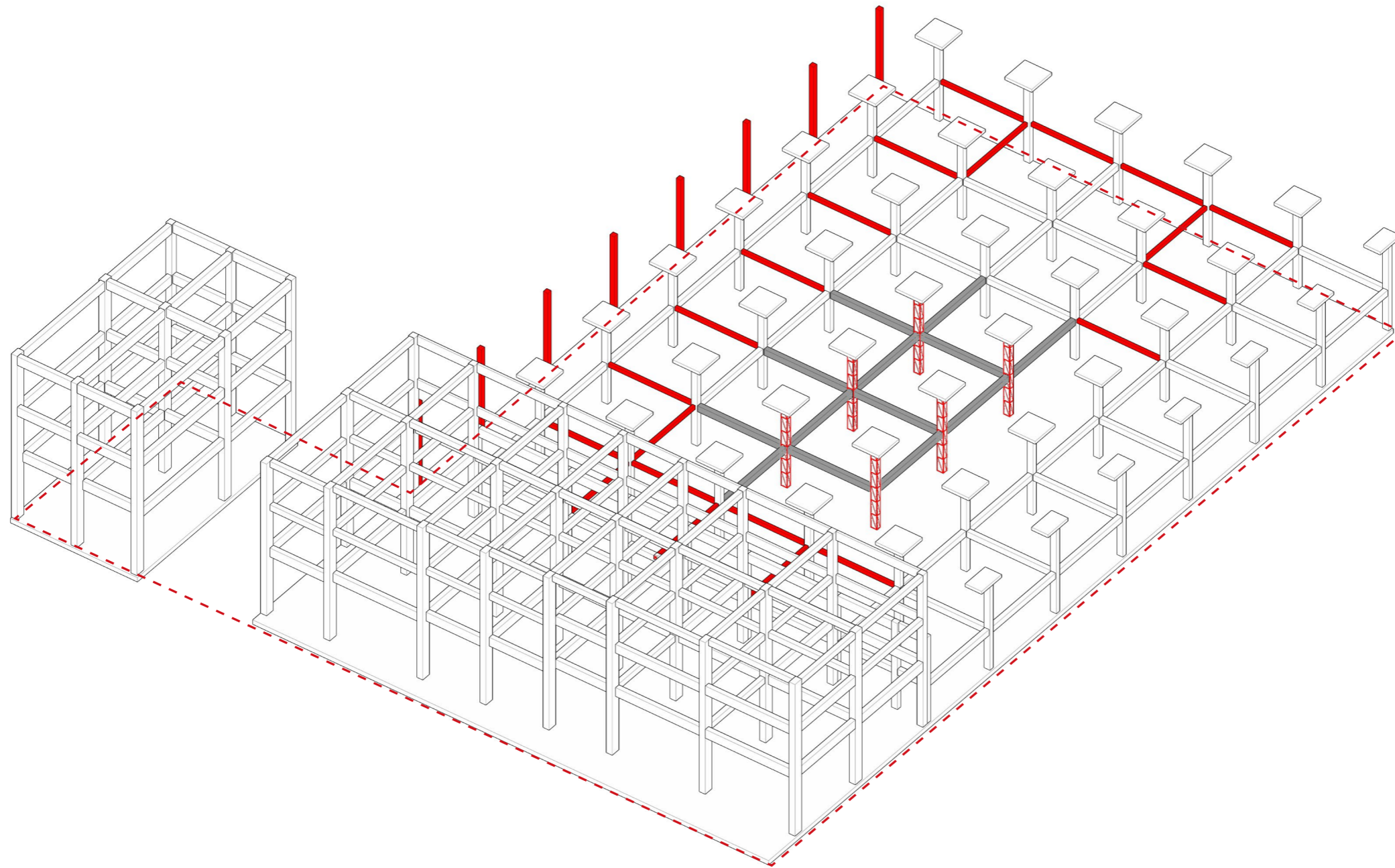
- hall, reception
- 0 floor
- 90 sqm

Commercial Fulfillment Center  
(4800 sqm)

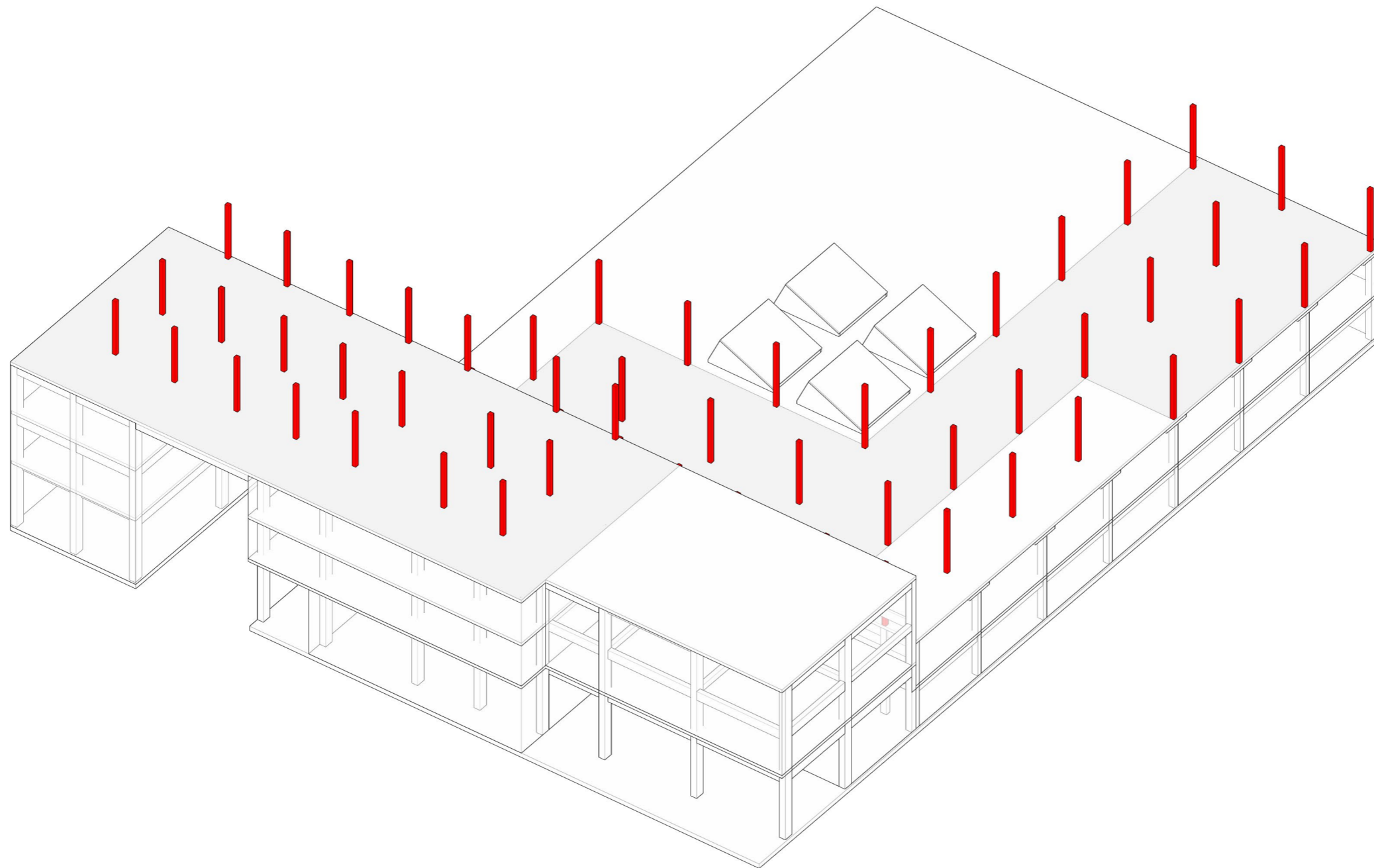


1. Demolish the structures according to the urban design

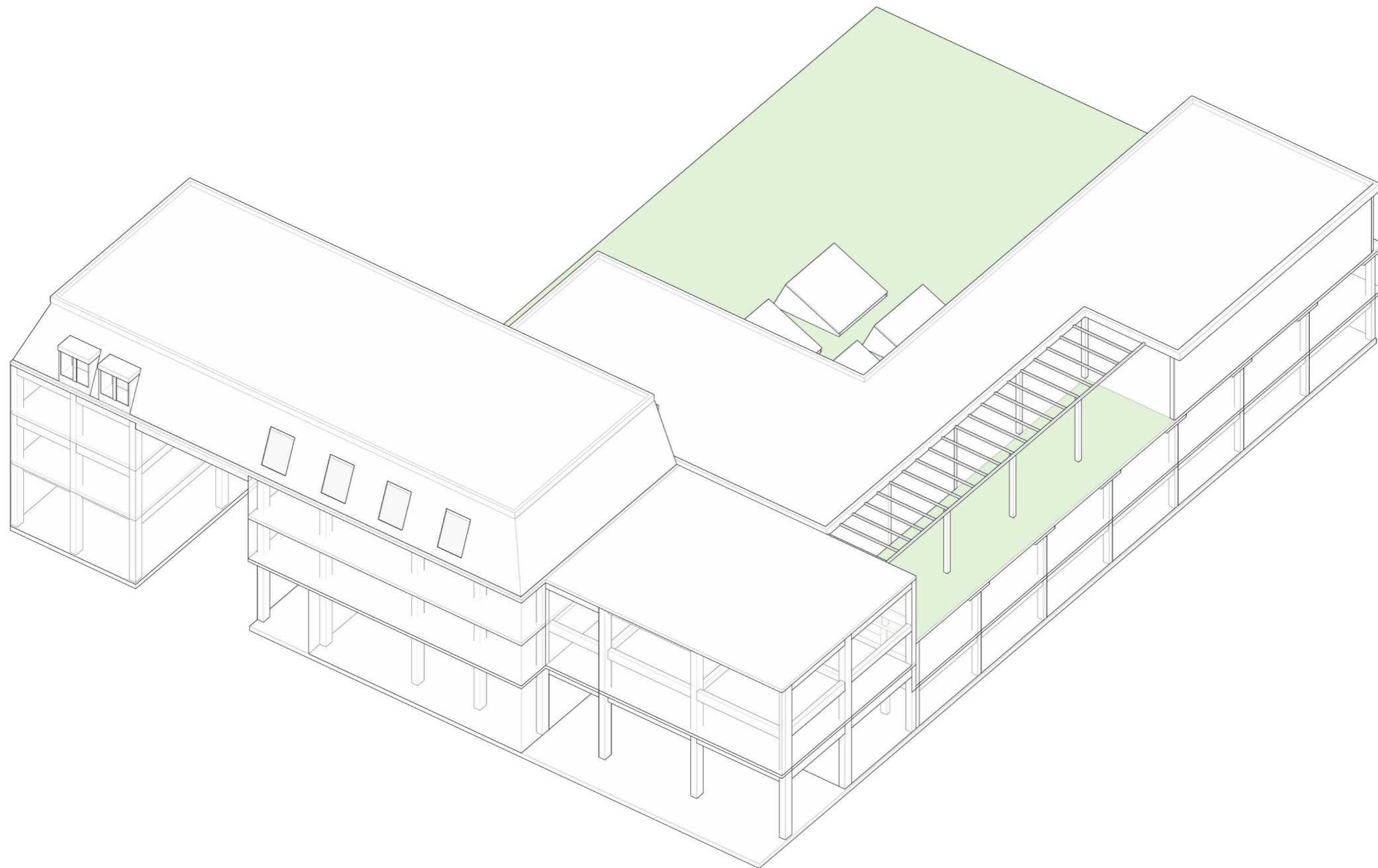




3. Remove some beams in the center and add new structures

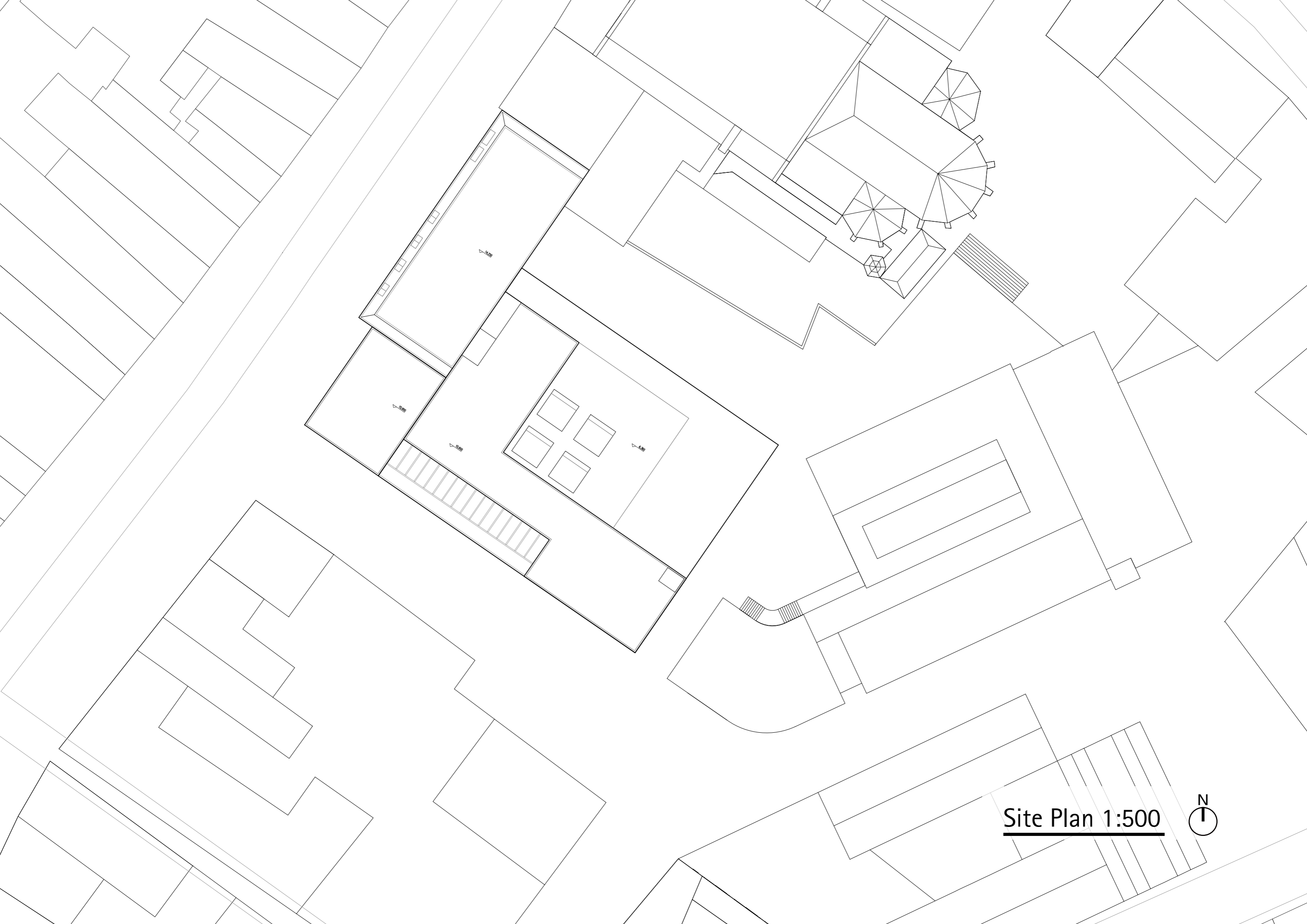


4. Construct skylights, add one more layer on top









Site Plan 1:500



## 4.2. Research part 3- Commercial collective space

The existing commercial collective space in Nijmegen is the outdoor public space on the square and on the street. Unlike the shops and public spaces on the street which managed by the municipality, the Molenpoort is a private-owned passage and the commercial space inside is also private. As a result, shop owners are allowed to put their stuff outside to the passage, and decide what can and cannot happen there. This informal commercial extension increases the scope of every shop, and creates more “grey space” for commercial activities as well. Besides, since the Molenpoort has shopping mall’s gene, the inner spaces like atrium, the pond (demolished), circulation space and interior streets are what make it unique from other shopping streets and department stores in the Netherlands. In this case, outdoor and indoor collective space in this plot should be considered carefully in the future design proposal.

With comfortable environment and convenient facilities, collective spaces are able to meet not only the needs of customers to walk, rest and communicate, but the needs of retailers to extend their commercial area and carry out promotional activities. Generally, because the information transmission channels in public spaces are unobstructed, the collective commercial space can effectively increase the stay time of potential customers, continuously motivate them to participate in various commercial activities, guide and stimulate their consumption, and attract people to visit again with a good atmosphere. Commercial collective space mainly has the following three characteristics:

### 1. Openness and privacy

In general, the higher the degree of openness a public space has, the more interaction it has with the city, leading to higher competitiveness of a commercial building. Outdoor squares usually have good openness, but the atrium and corridor (like passage) tend to be more internal and less connected with city. The overly closed public space cannot attract customers to participate in commercial and social activities, because it has lost contact and organization with outside. For commercial buildings, the transparency of space is particularly important, while

many customers’ activities such as chatting require a certain degree of privacy and sense of domain. As a result, in order to meet the needs of different people and different activities, flexible architectural elements can be introduced to my proposal to further control the openness of the space. In addition, the courtyard, which is always regarded as the most internal and enclosed space, will be opened and connected to the urban public space.

### 2. Ambiguity

Ambiguity is the uncertainty in judgment caused by the unclear classification of things. The more complicated the system is, the greater the ambiguity it has. As for architecture, it is composed of multiple elements such as columns, walls, top surfaces, and ground and they define the space in different ways. When the space is divided by interfaces, materials, and colors, the ambiguity exists. The feature of the ambiguous space is that it has different degrees of separation and connection in the property, function and form of the space, but there is no clear integration. In my proposal, I tried to blur the relationship between the store and the public space (atrium, corridor, etc.) so that customers can switch between open space and private space. In addition, the ambiguity and flexibility of commercial space contribute to the multiplicity of activities and experiences of customers.

### 3. Diversity

Retail buildings often have diversified characteristics in space: different shops in a large space will create individual brand images, while some public areas with relatively obscure functions (undefined spaces) are used for exhibitions, rest, communication, and transportation. In this way, the interior of the retailing building becomes a large space which is composed of multiple complex and independent small spaces, leading to the diversity of space. Besides, the site has huge commercial potential due to the diversity of indoor and outdoor collective spaces, which make the Molenpoort different from other retailing typologies in Nijmegen. The courtyard, roof garden and undefined interior spaces in my

proposal, together with the inner ring, the outer ring and the square in our urban design, maximize the opportunities for interaction among people as well as organization of for-profit or non-profit events. Retailers of shops on both rings are allowed to extend the scope of their shops into the urban area, which further respond to the design topic, that is interaction of retail with other social activities in the public realm.



Site Plan (ground floor level) 1:500







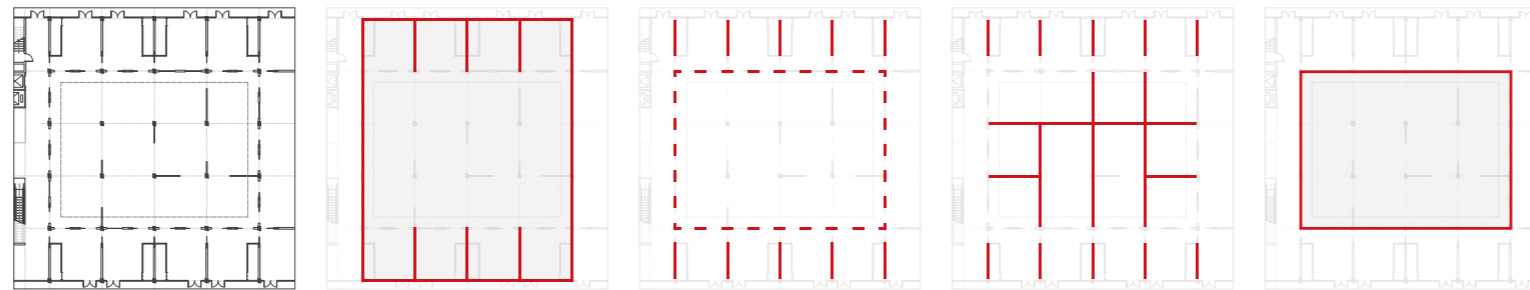


Site Plan (ground floor level) 1:500



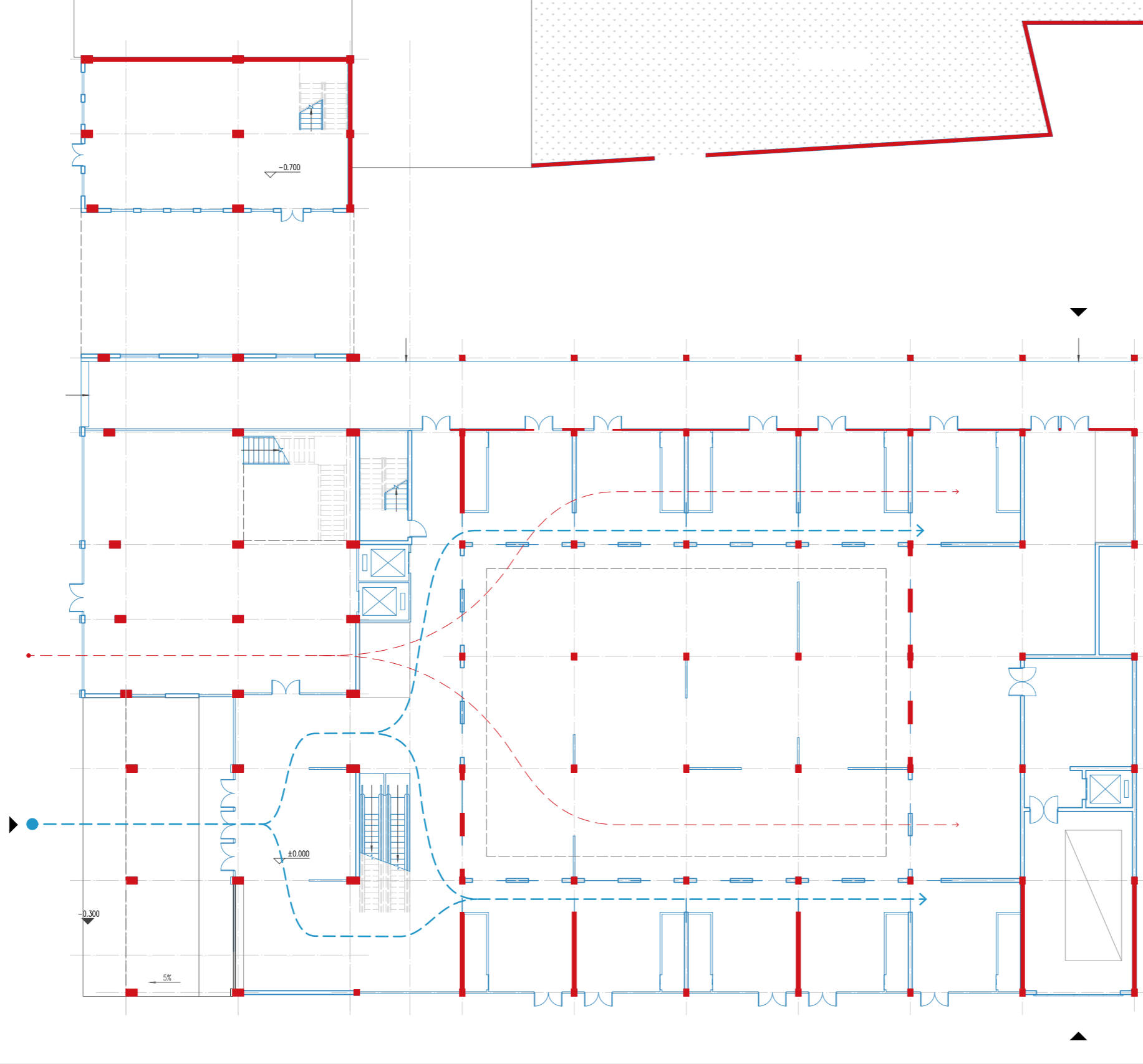




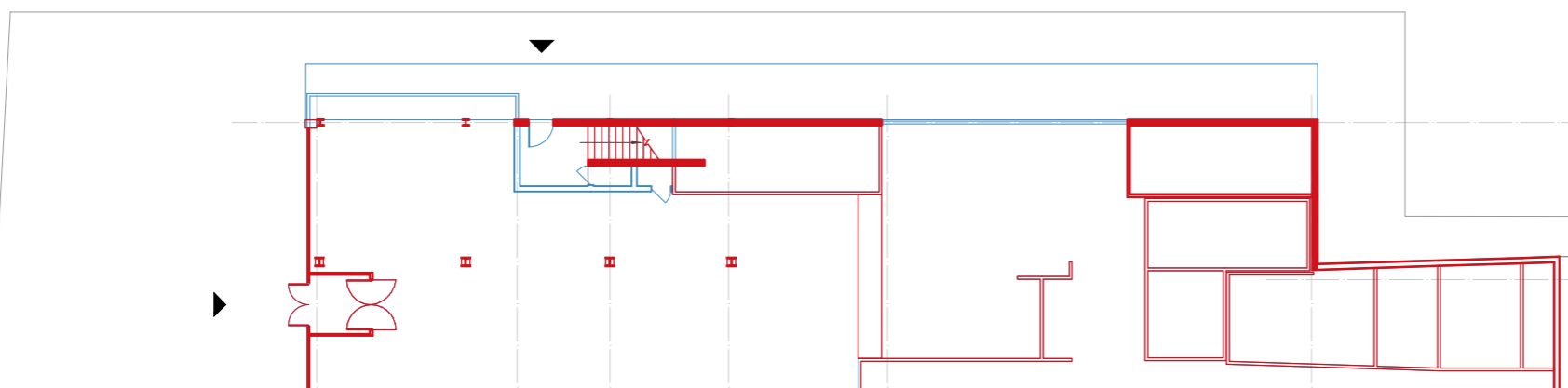


The ambiguity and flexibility not only contribute to the multiplicity of customers' activities and experiences, but serve as an evocation to several contemporary retailing typologies being converted according to ever-changing demands of customers.

New & old

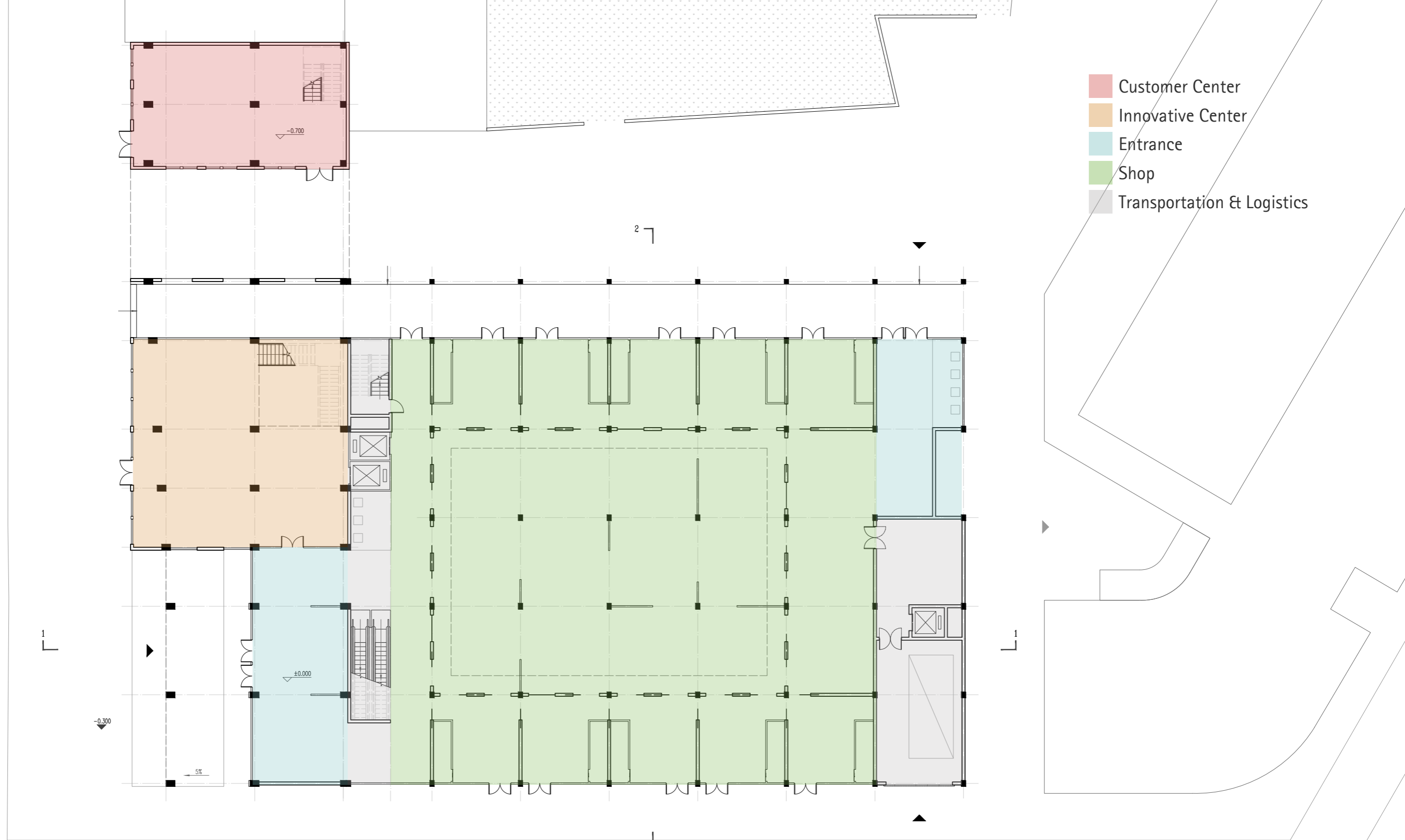


- Existing
- New
- Original passage route
- New route

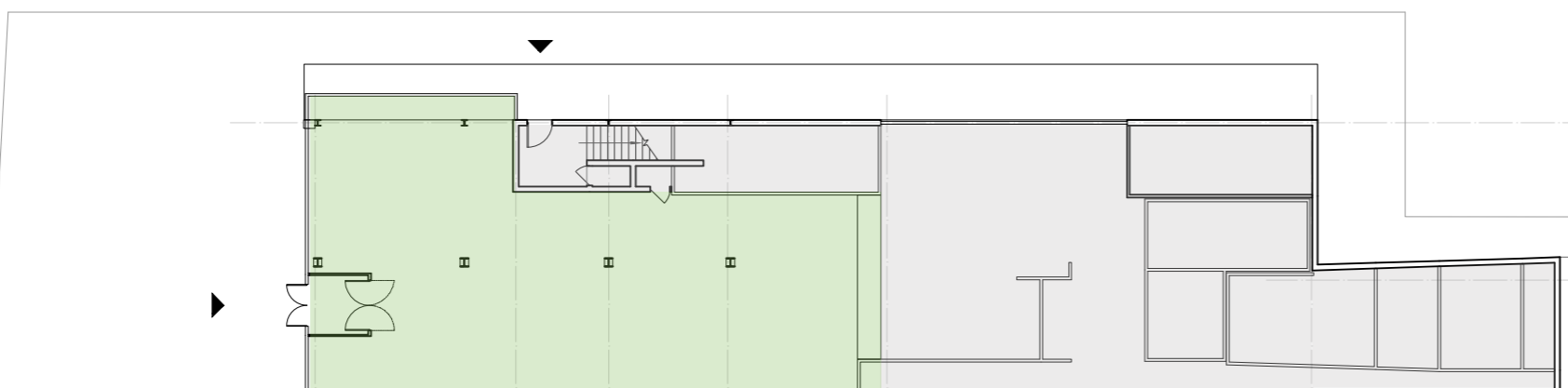


Ground floor plan 1:300



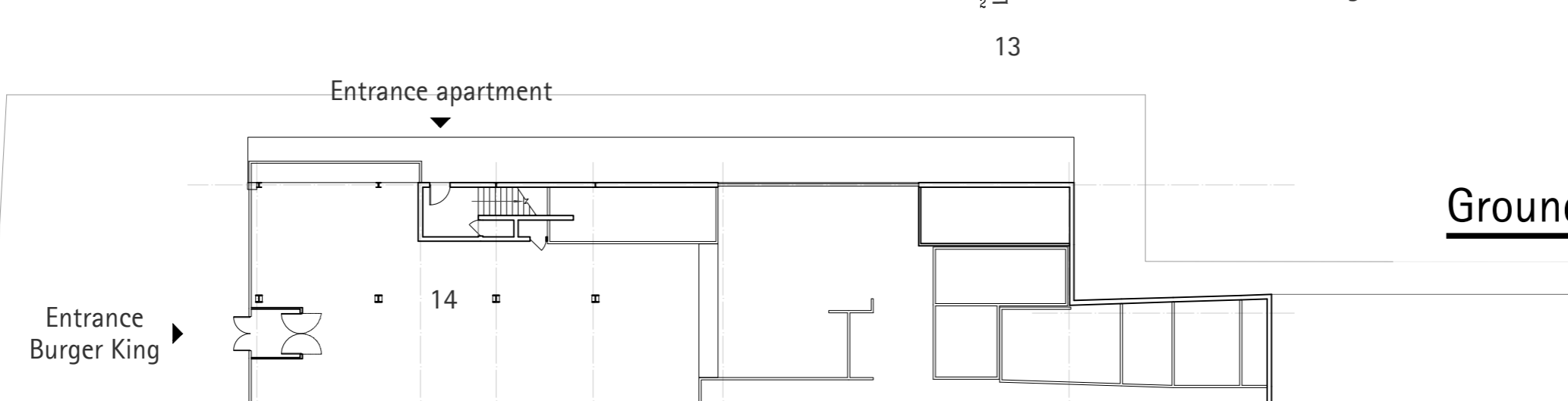
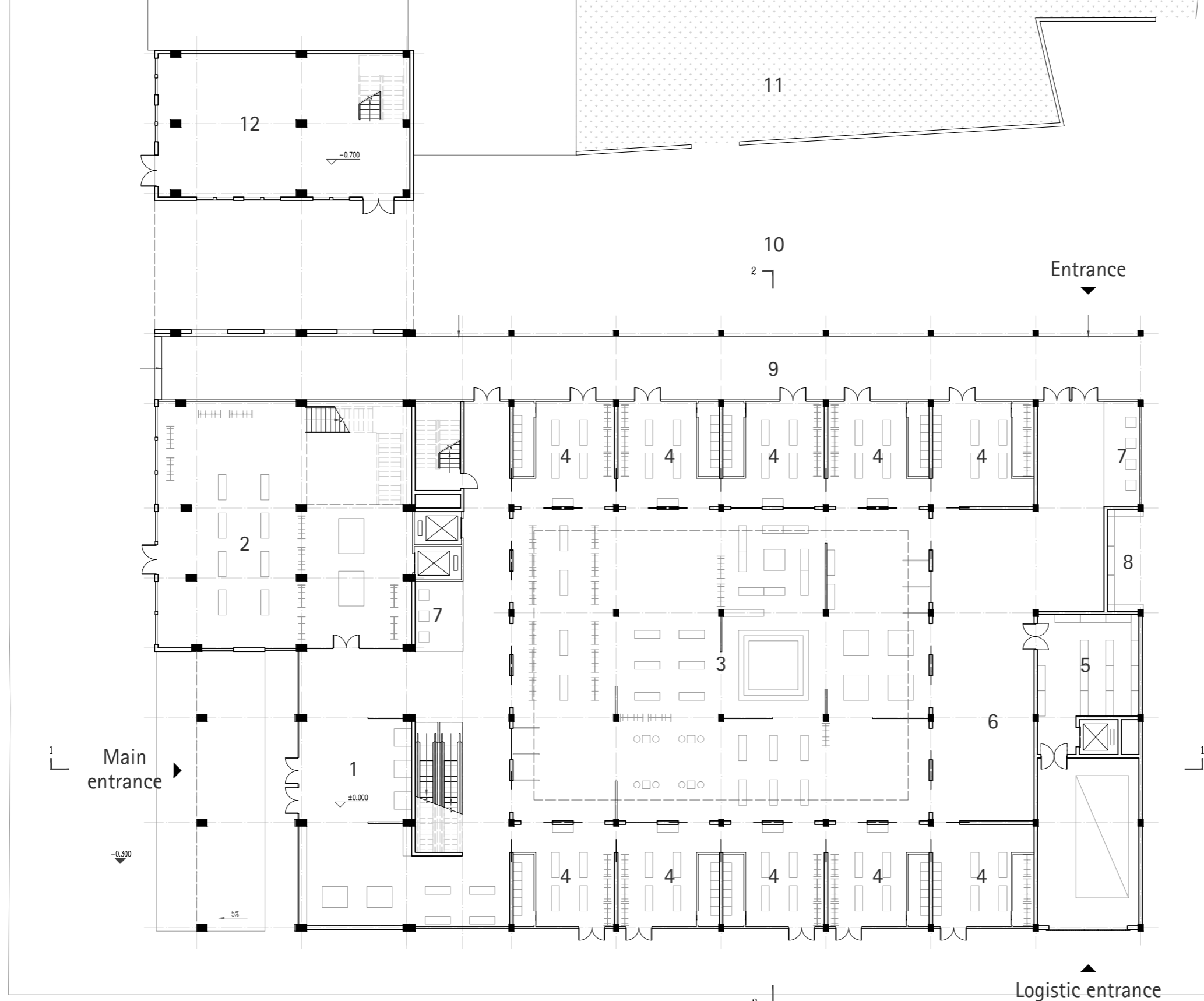



- Customer Center
- Innovative Center
- Entrance
- Shop
- Transportation & Logistics



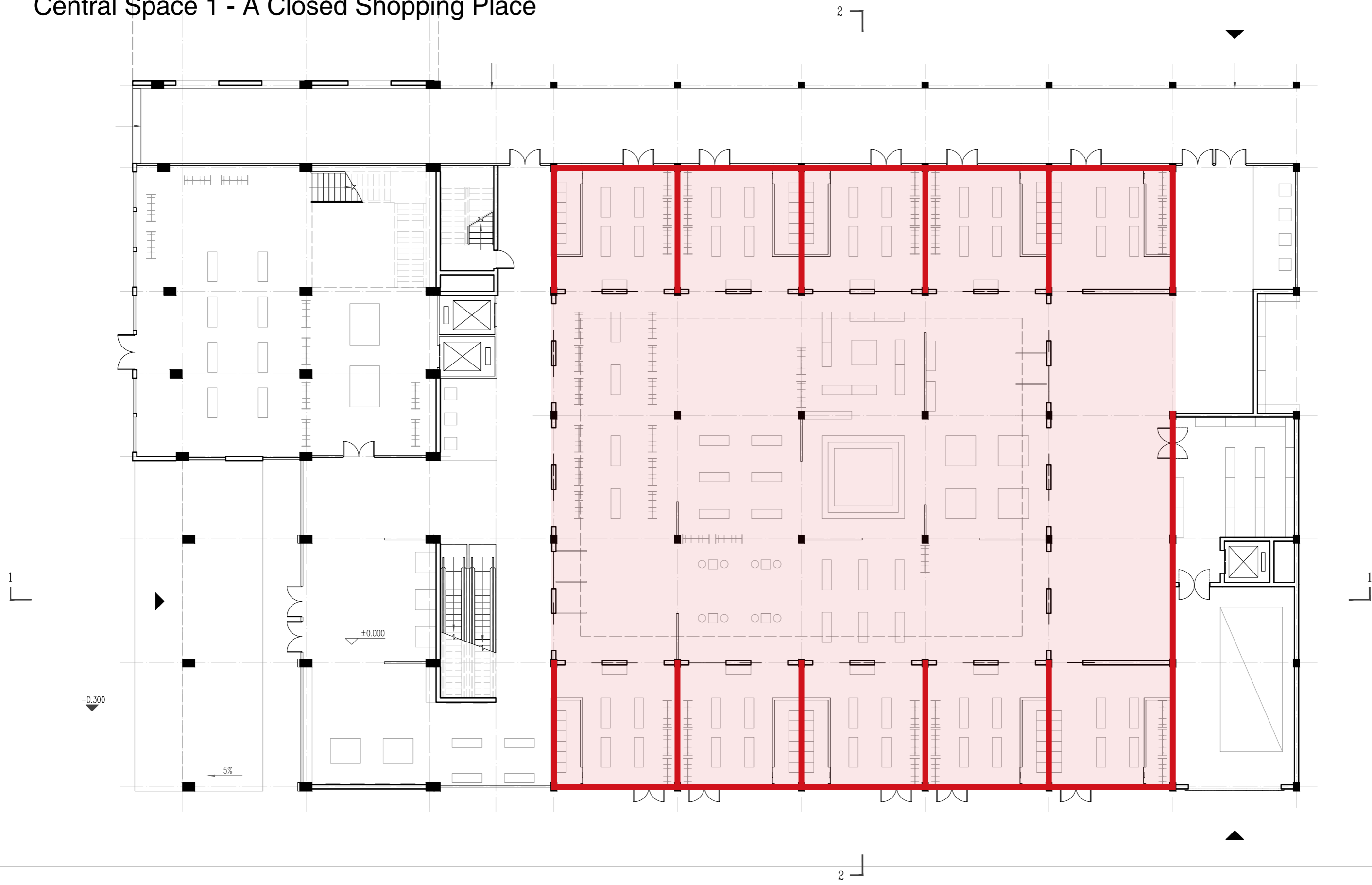
**Ground floor plan 1:300** N

1. Interactive area (reception)
2. Innovative center (retail)
3. Multifunctional center
4. Shop
5. Logistics service
6. Exhibition / leisure
7. Interactive device
8. Parcel locker
9. Arcade
10. Inner ring
11. Church garden (communal)
12. Customer center (info)
13. Outer ring
14. Burger King (renovated)



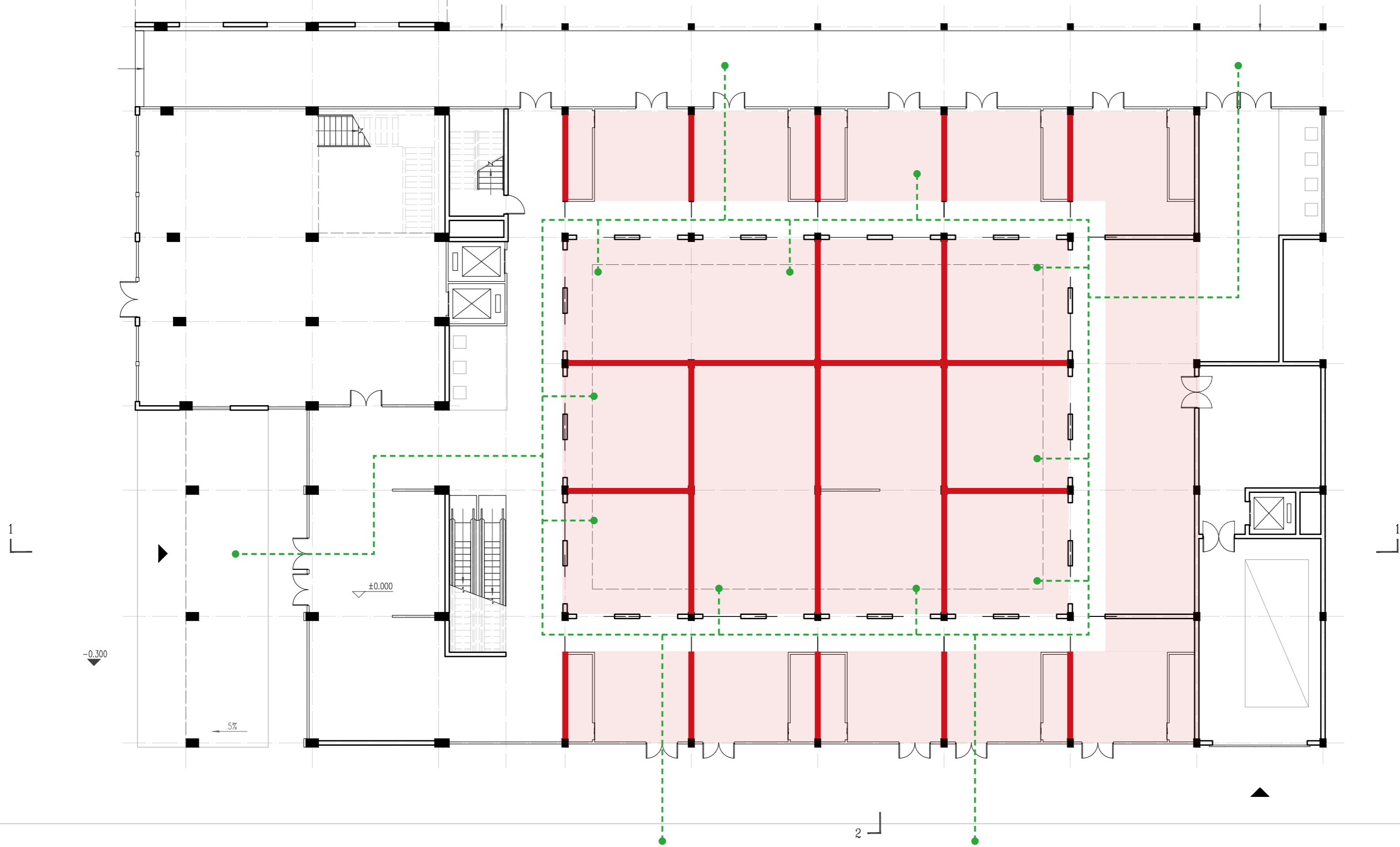
**Ground floor plan 1:300** 

# Central Space 1 - A Closed Shopping Place



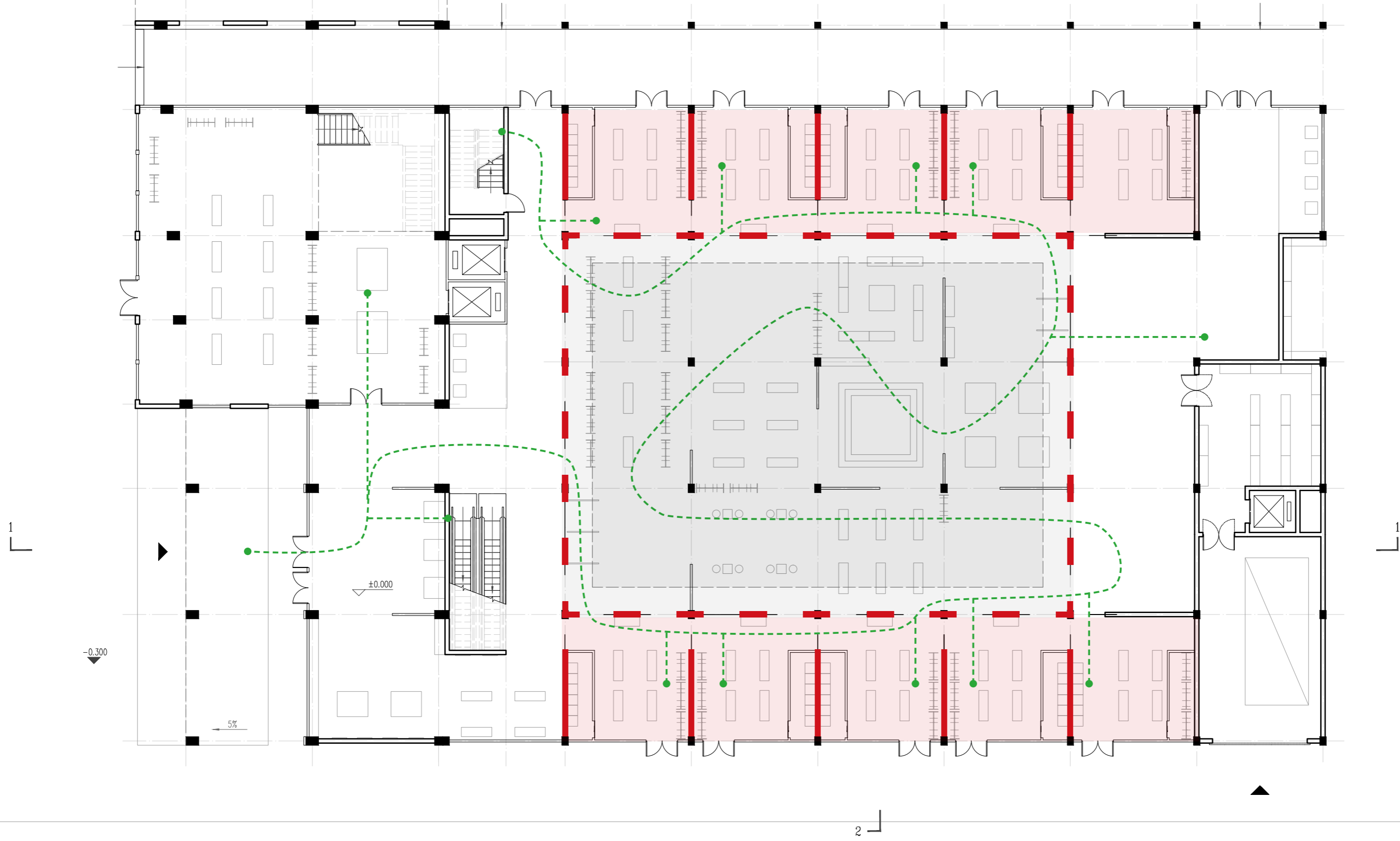
# Central Space 2 - Corridor with shops on both sides

2



# Central Space 3 - Ambiguity and Flexibility

2



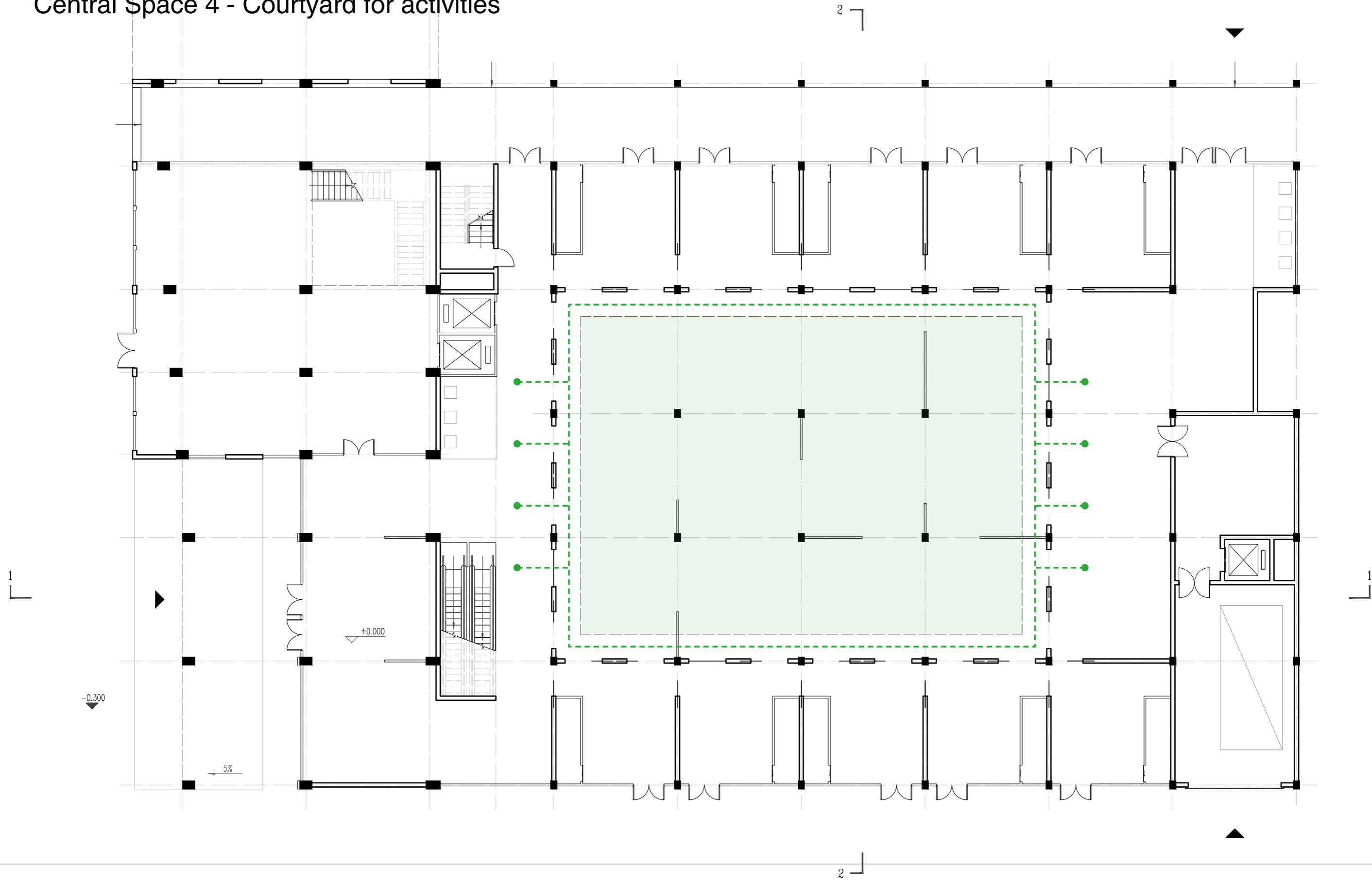
1

1

2



# Central Space 4 - Courtyard for activities









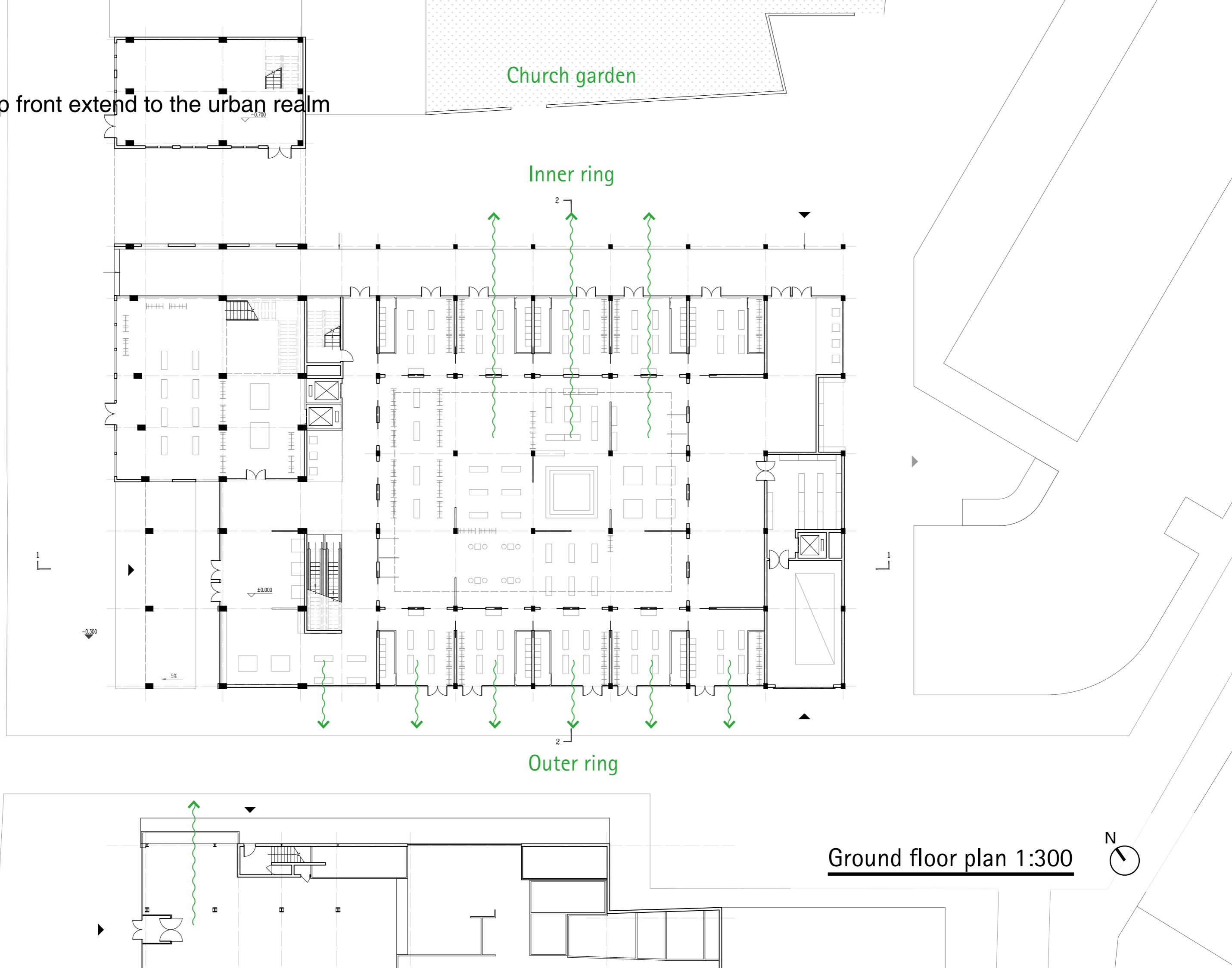
Shop front extend to the urban realm

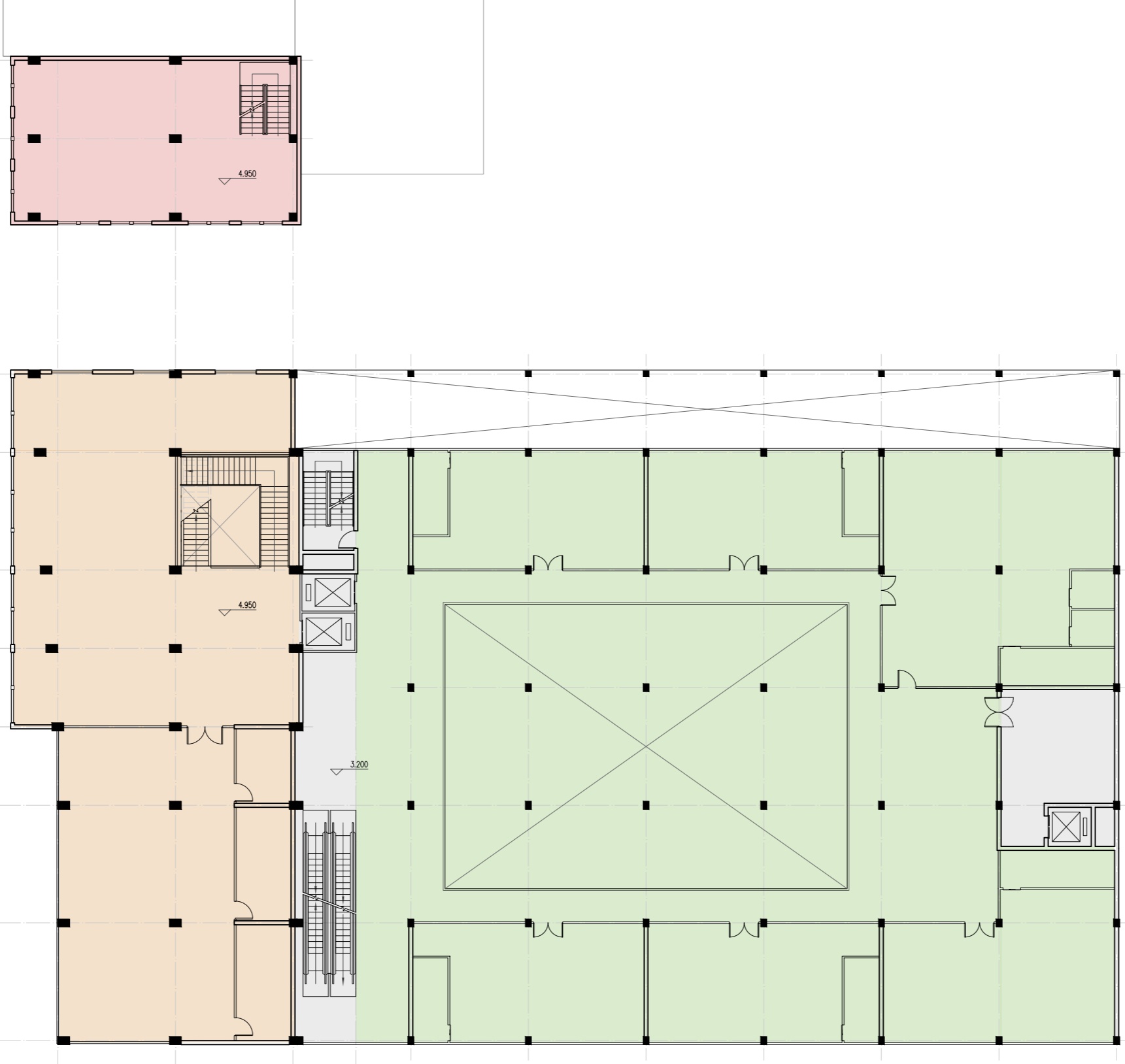
Church garden

Inner ring

Outer ring

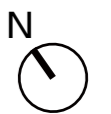
Ground floor plan 1:300



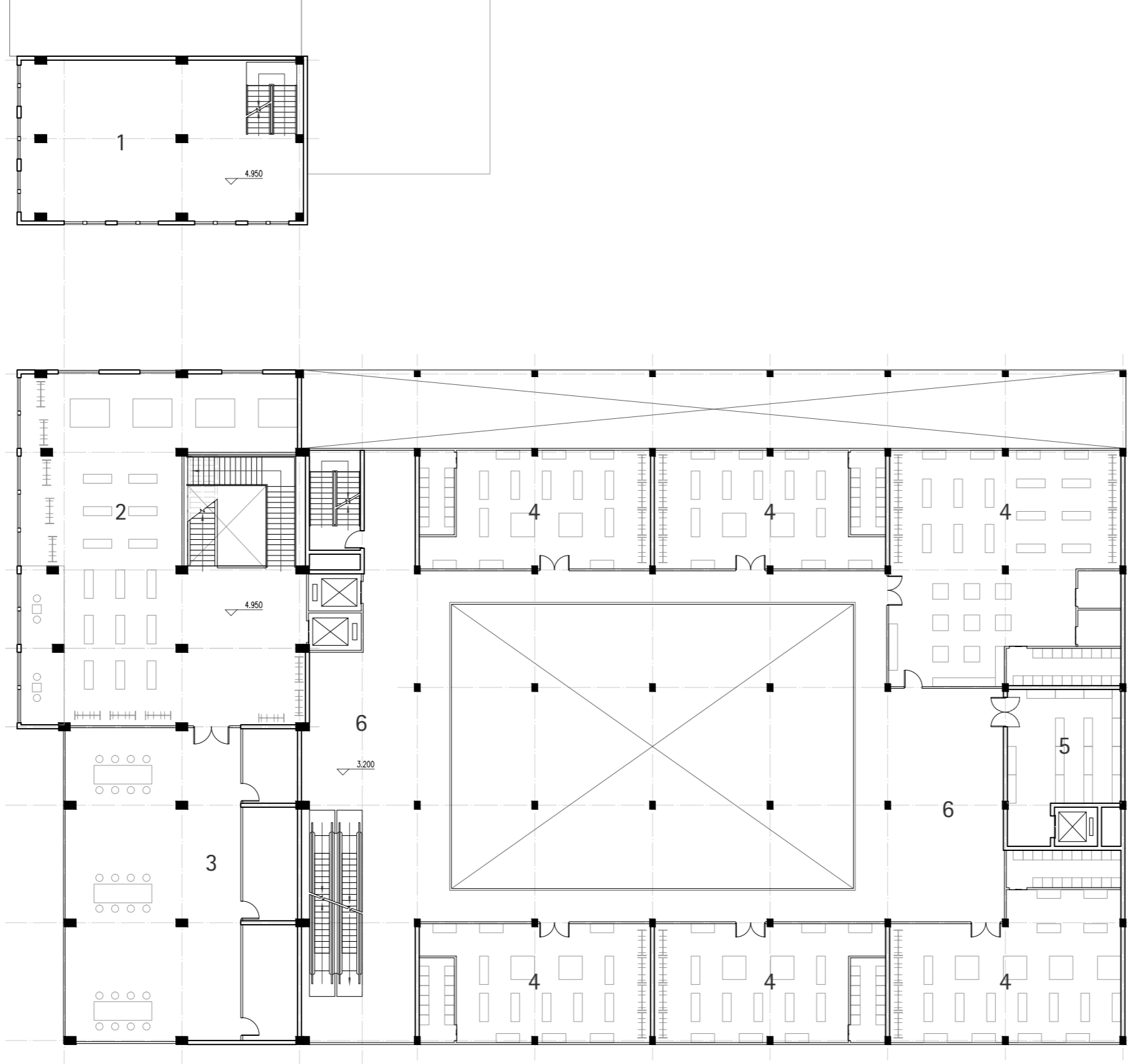


- Customer Center
- Innovative Center
- Shop
- Transportation & Logistics

First floor plan 1:300

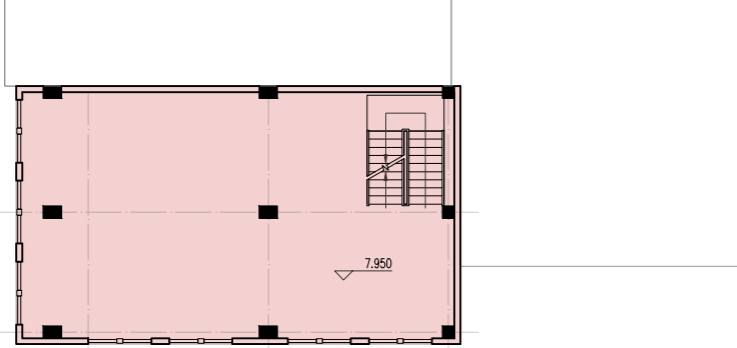


1. Customer center (product service)
2. Innovative center (product experience)
3. M-lab (bespoke workshop)
4. Shop
5. Logistics service
6. Exhibition / leisure



First floor plan 1:300





- Customer Center
- Innovative Center
- Gallery
- Transportation & Logistics

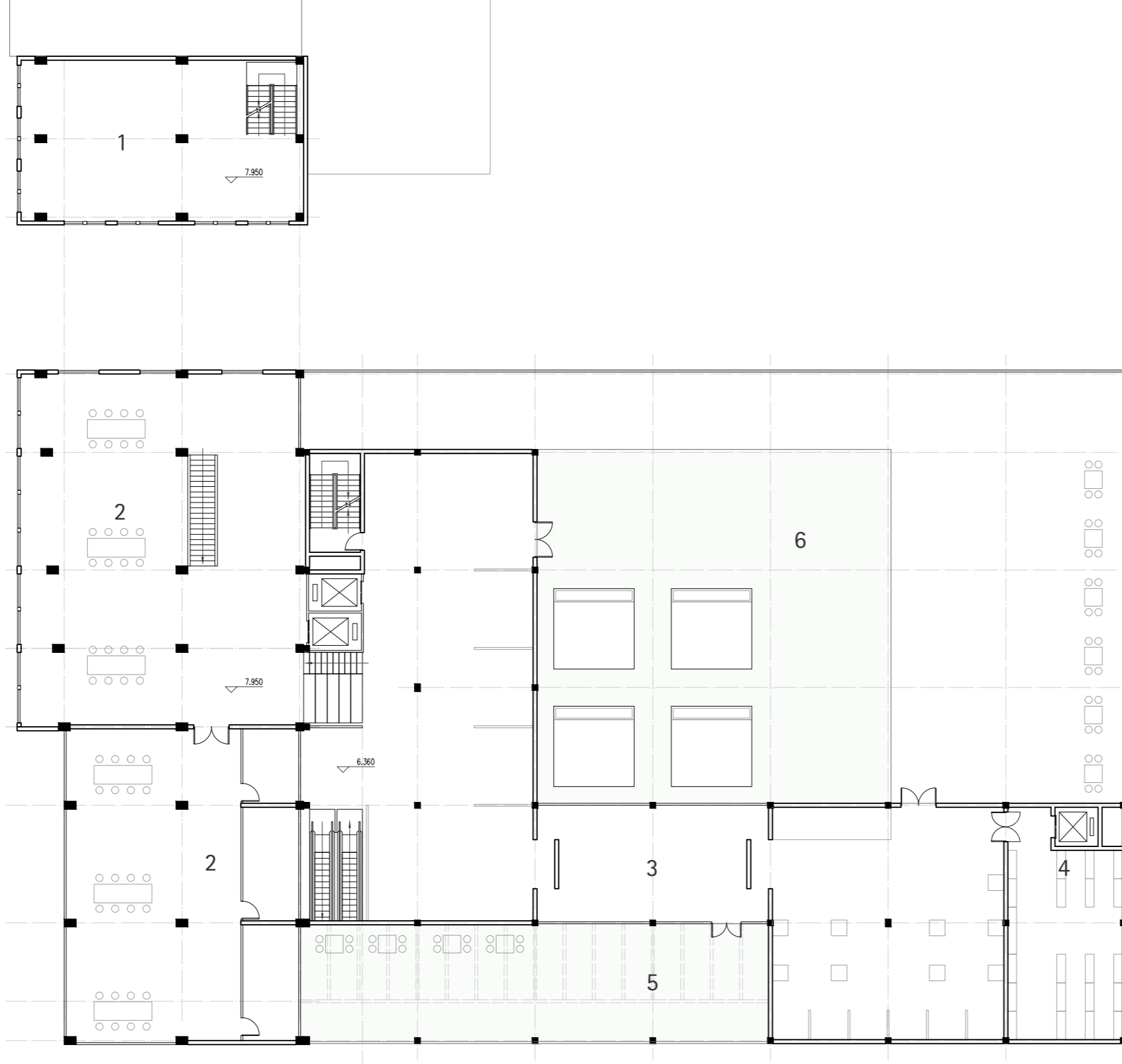


Second floor plan 1:300



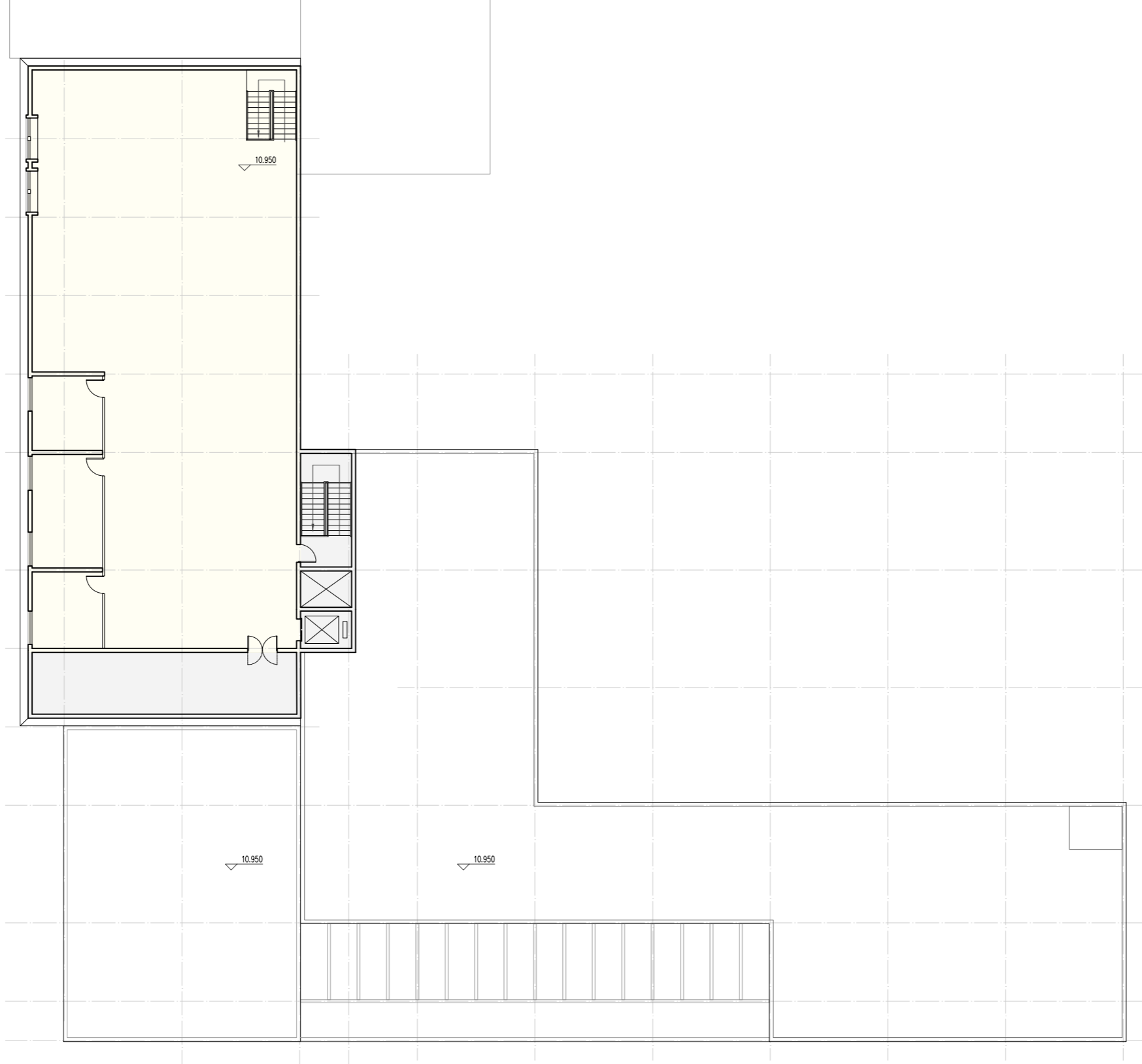


1. Archive
2. Innovative center (product development)
3. Gallery (product exhibition)
4. Logistics service
5. Terrace (cafe)
6. Roof garden (outdoor exhibition / party)



Second floor plan 1:300

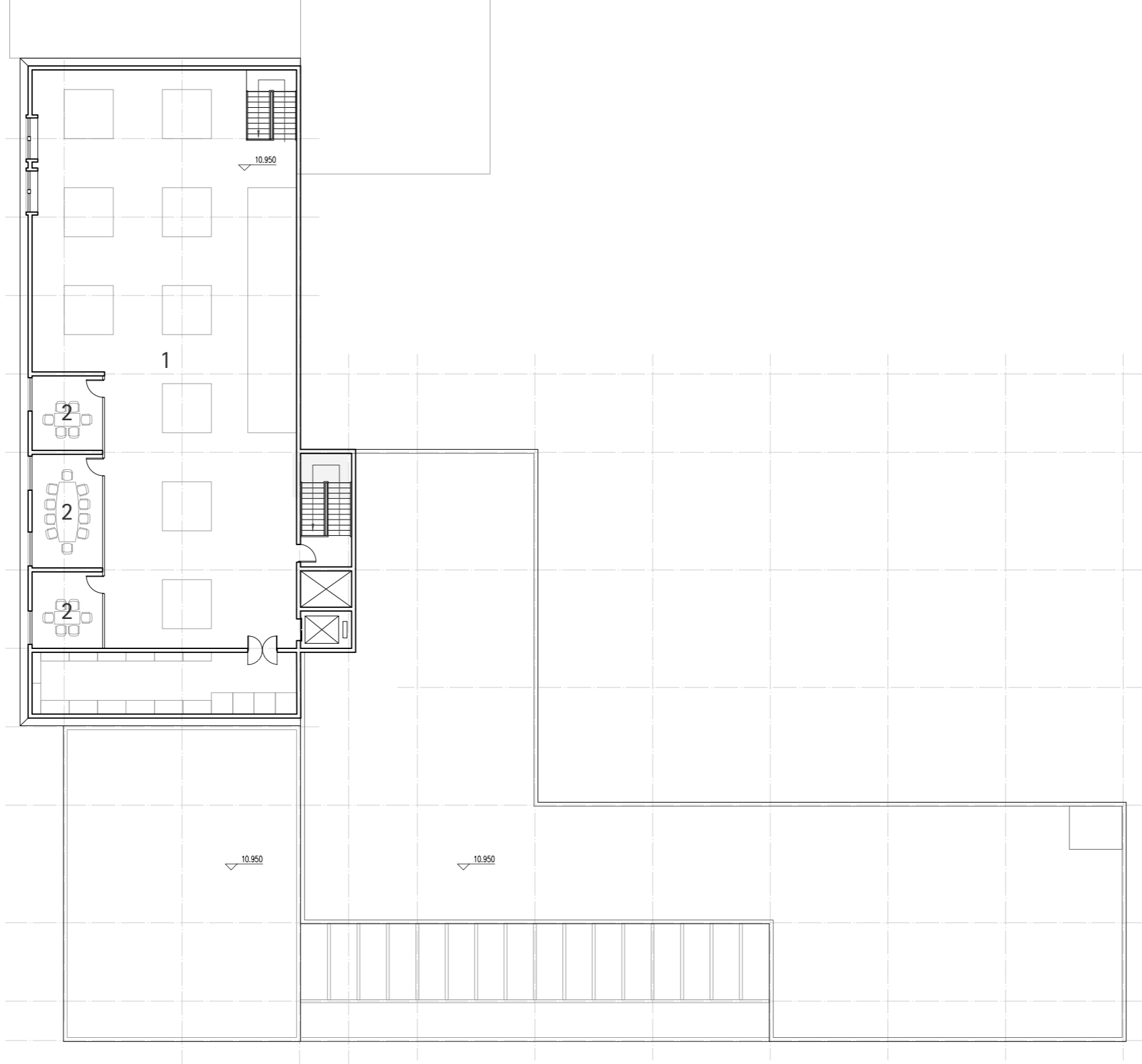




Customer Center  
Transportation & Logistics

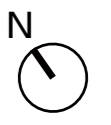
Third floor plan 1:300

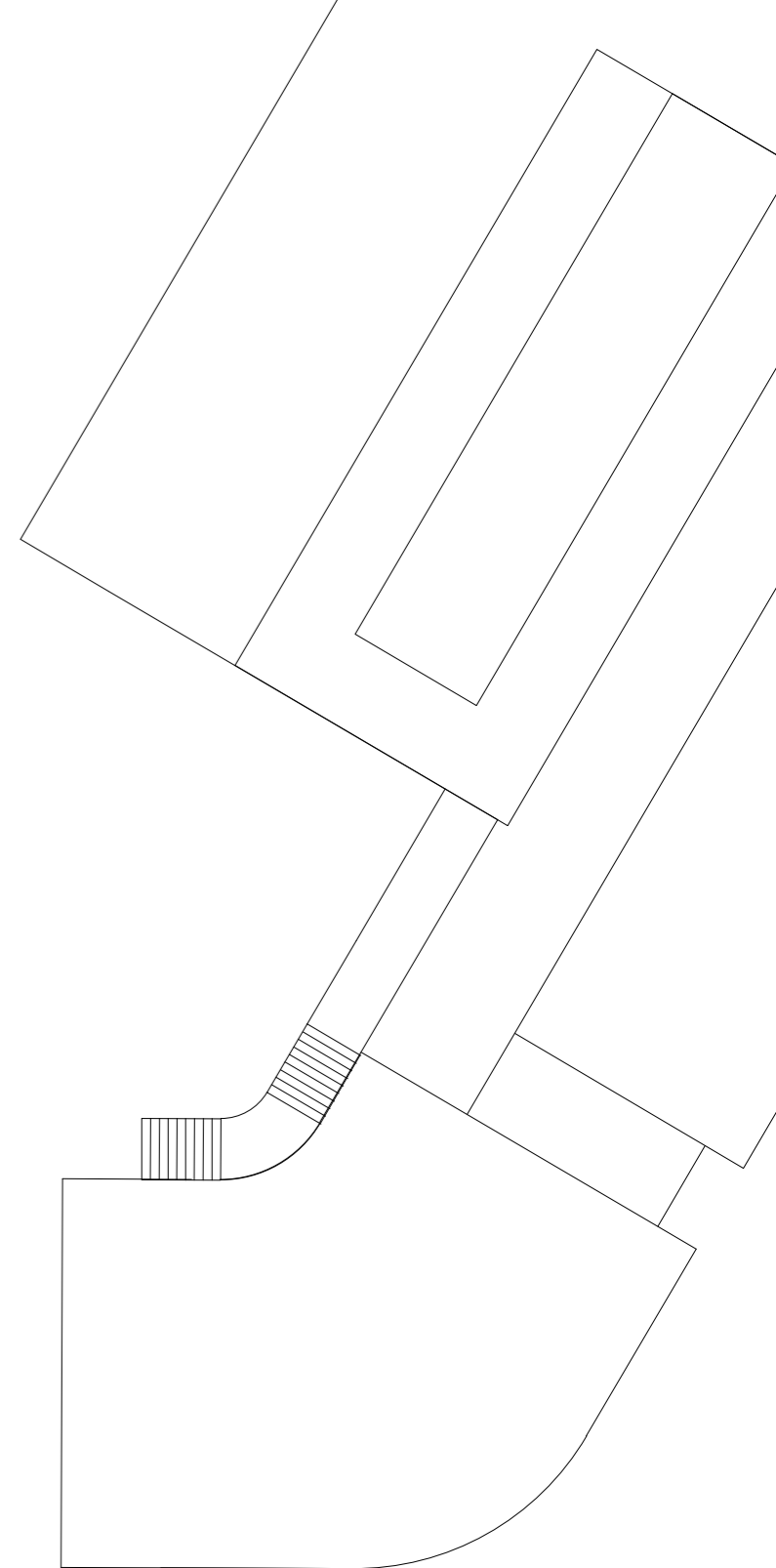




- 1. Immersive experience center
- 2. Meeting rooms
- 3. Logistics service

Third floor plan 1:300

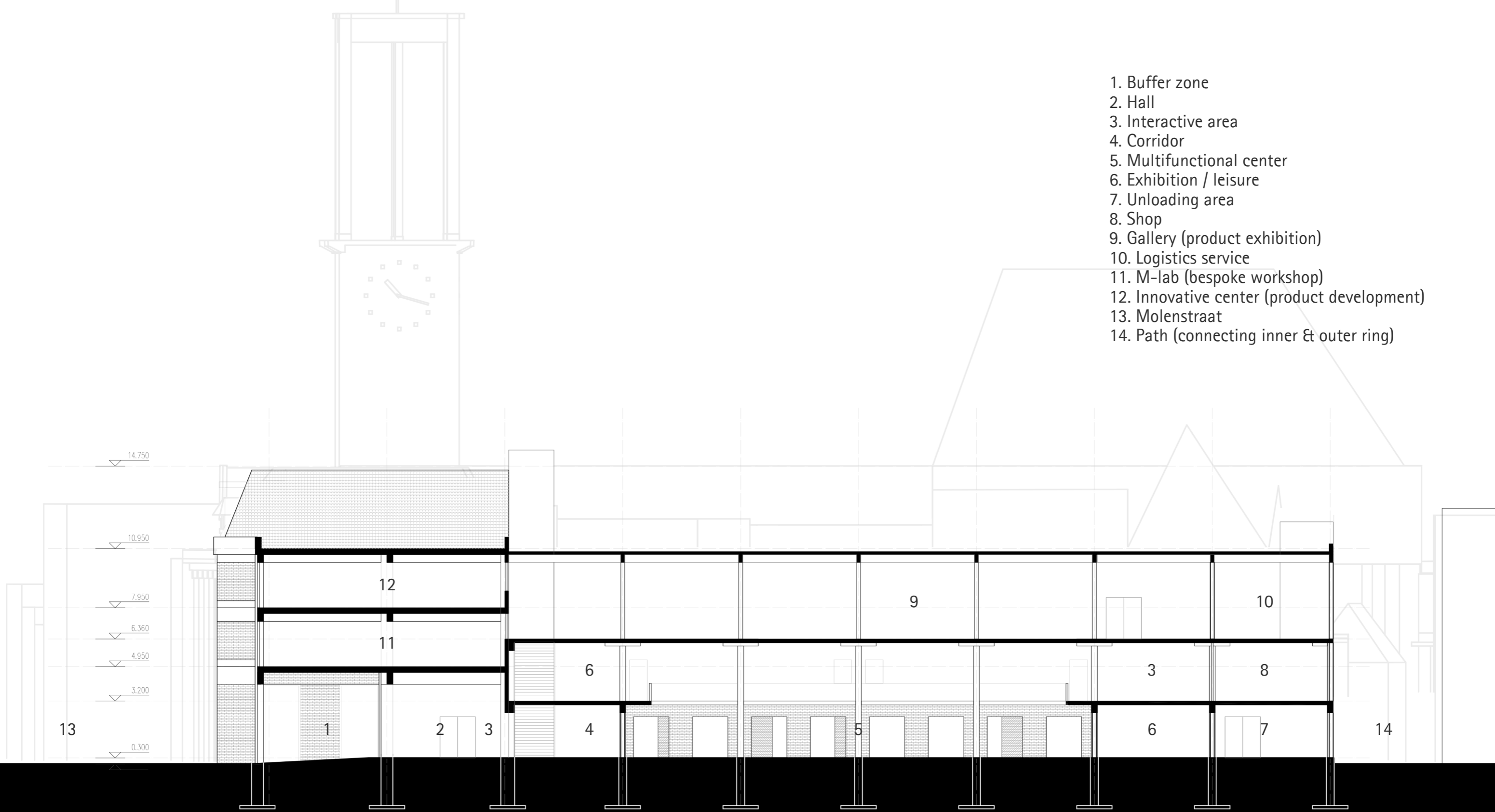




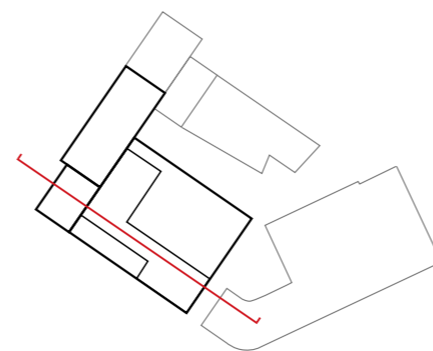
**Roof floor plan 1:300**



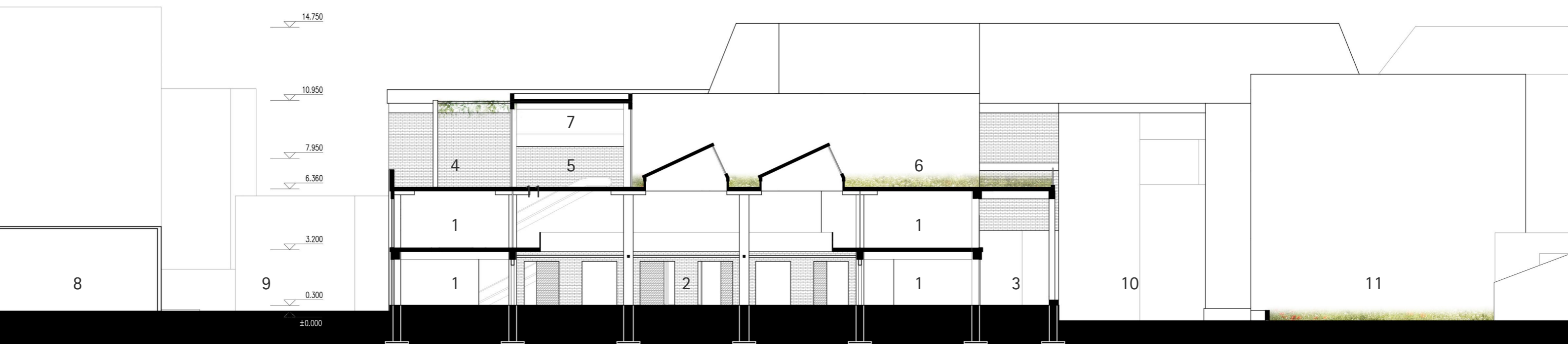
- 1. Buffer zone
- 2. Hall
- 3. Interactive area
- 4. Corridor
- 5. Multifunctional center
- 6. Exhibition / leisure
- 7. Unloading area
- 8. Shop
- 9. Gallery (product exhibition)
- 10. Logistics service
- 11. M-lab (bespoke workshop)
- 12. Innovative center (product development)
- 13. Molenstraat
- 14. Path (connecting inner & outer ring)



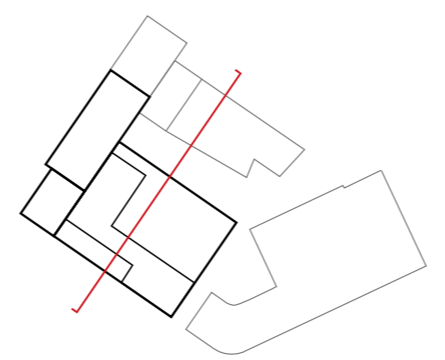
Section 1-1 1:200



- 1. Shop
- 2. Multifunctional center
- 3. Arcade
- 4. Roof garden (for gallery)
- 5. Gallery (product exhibition)
- 6. Roof garden
- 7. Innovative center
- 8. Burger King (renovated)
- 9. Inner ring
- 10. Outer ring
- 11. Church garden



Section 2-2 1:200

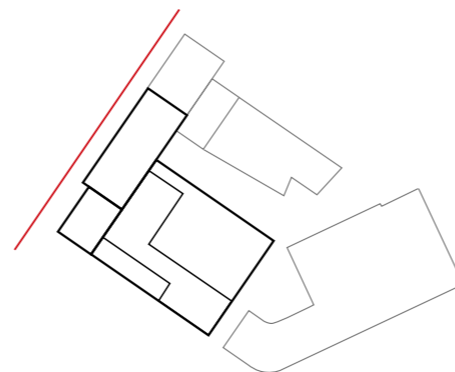




Simplification and abstraction: there is a unity for facade, but at the same time there is difference, the change of degree of abstraction and literalness is still noticeable.



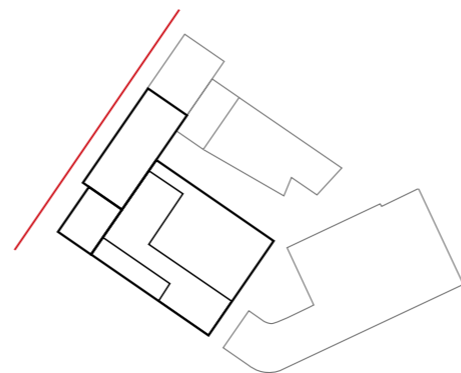
Northwest Elevation



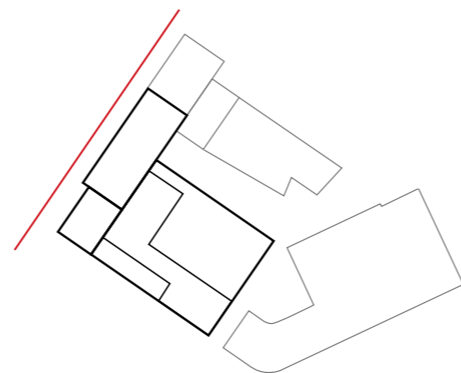
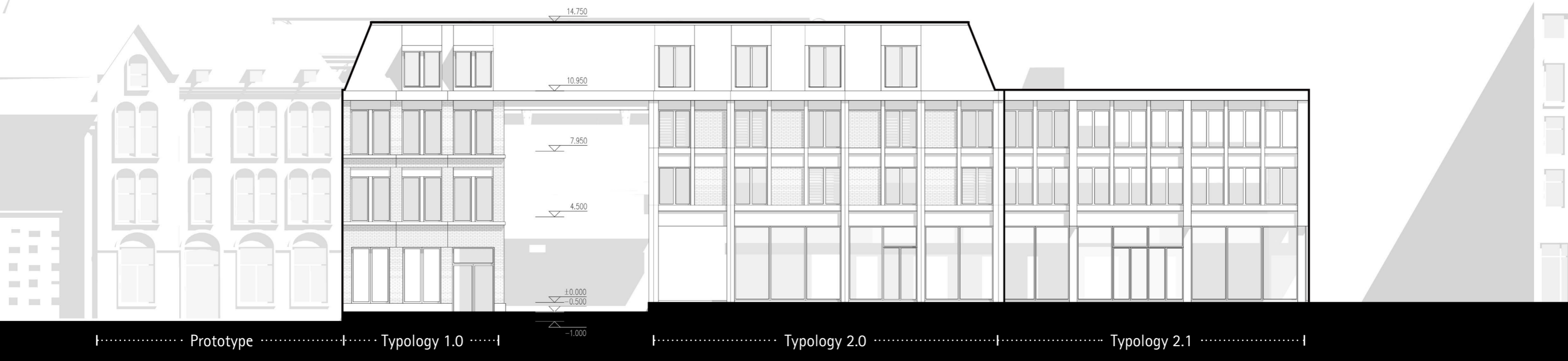




Northwest Elevation



..... Rectory ..... Customer Center ..... Inner Ring ..... Innovative Center ..... Entrance ..... Outer Ring .....

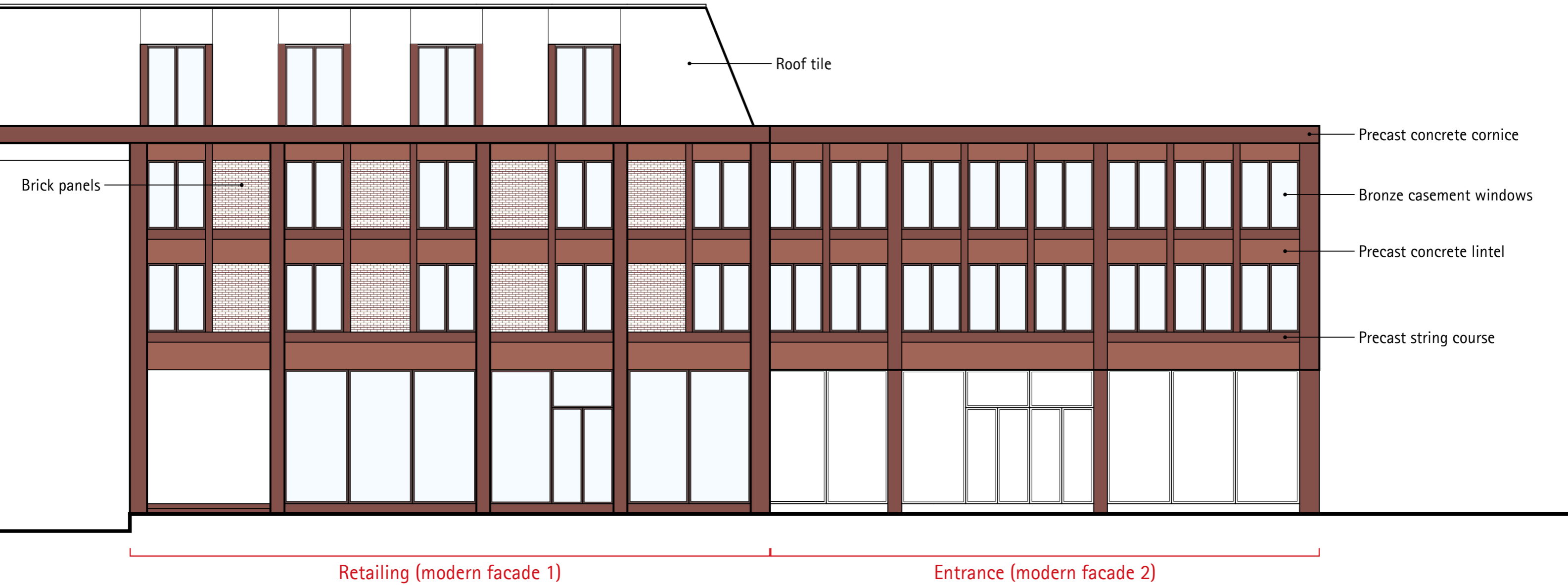


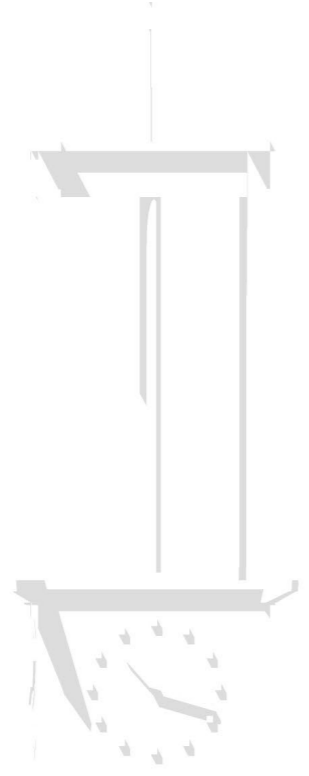


Rectory (new condition facade since 1994)

Customer Center (intermediate facade)



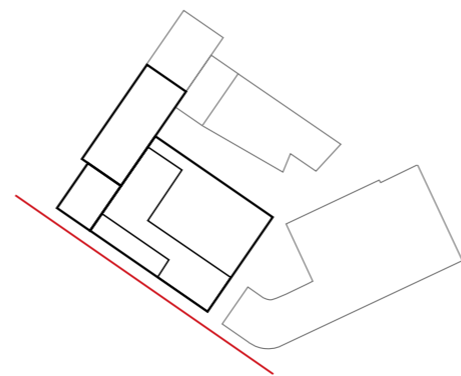




14.350  
10.950  
7.950  
4.950  
0.300  
±0.000

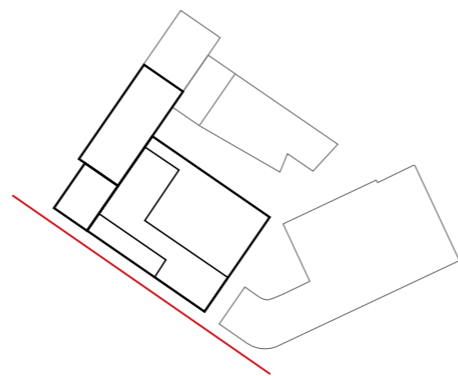


Southwest Elevation





Southwest Elevation



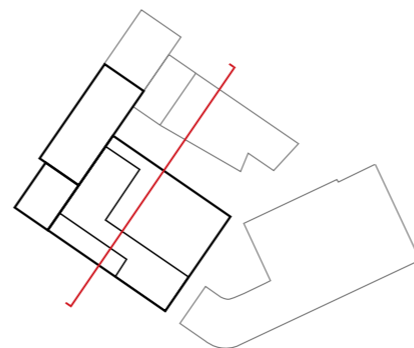
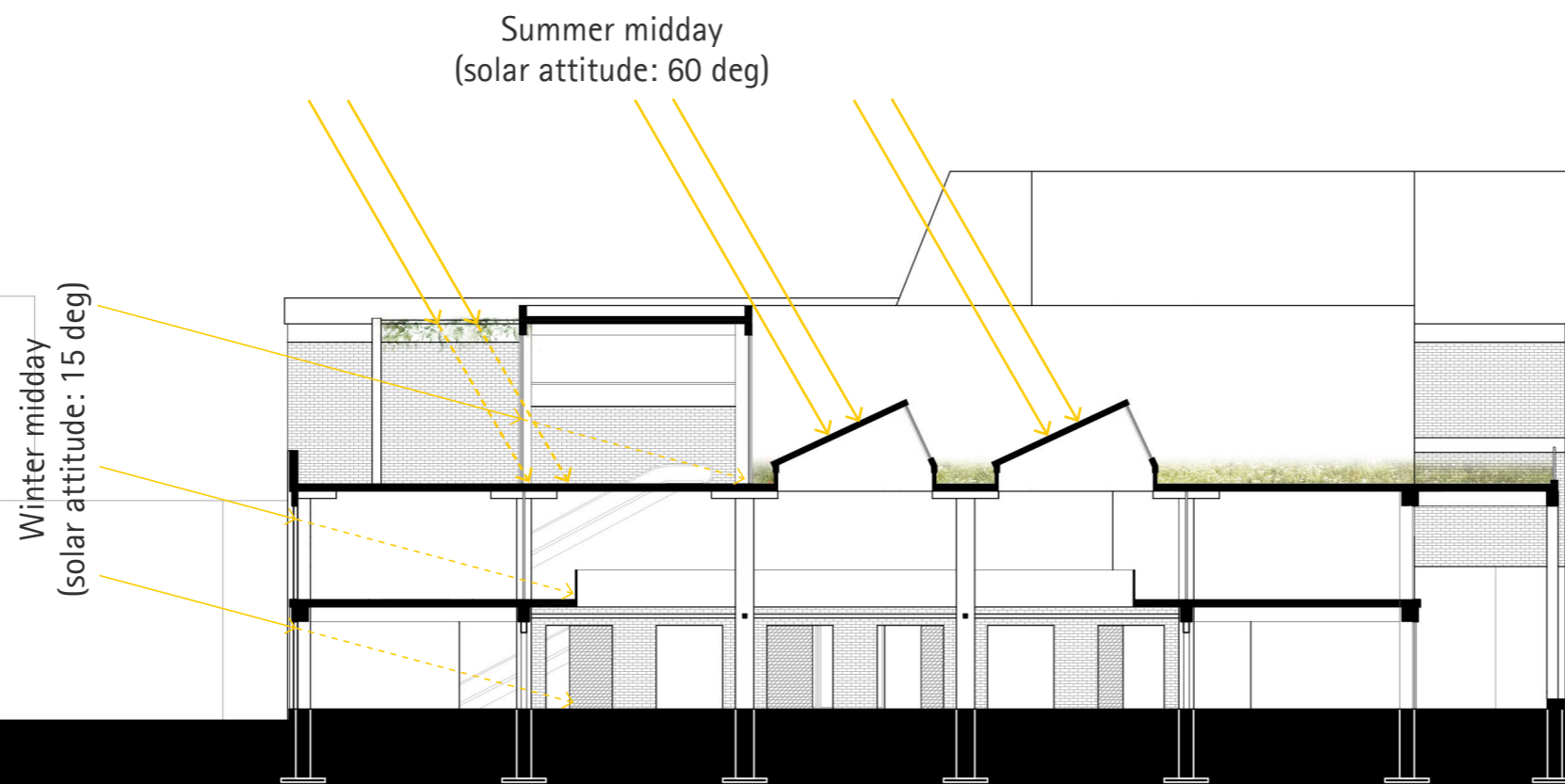
**"MATERIALIZATION"**

The roof

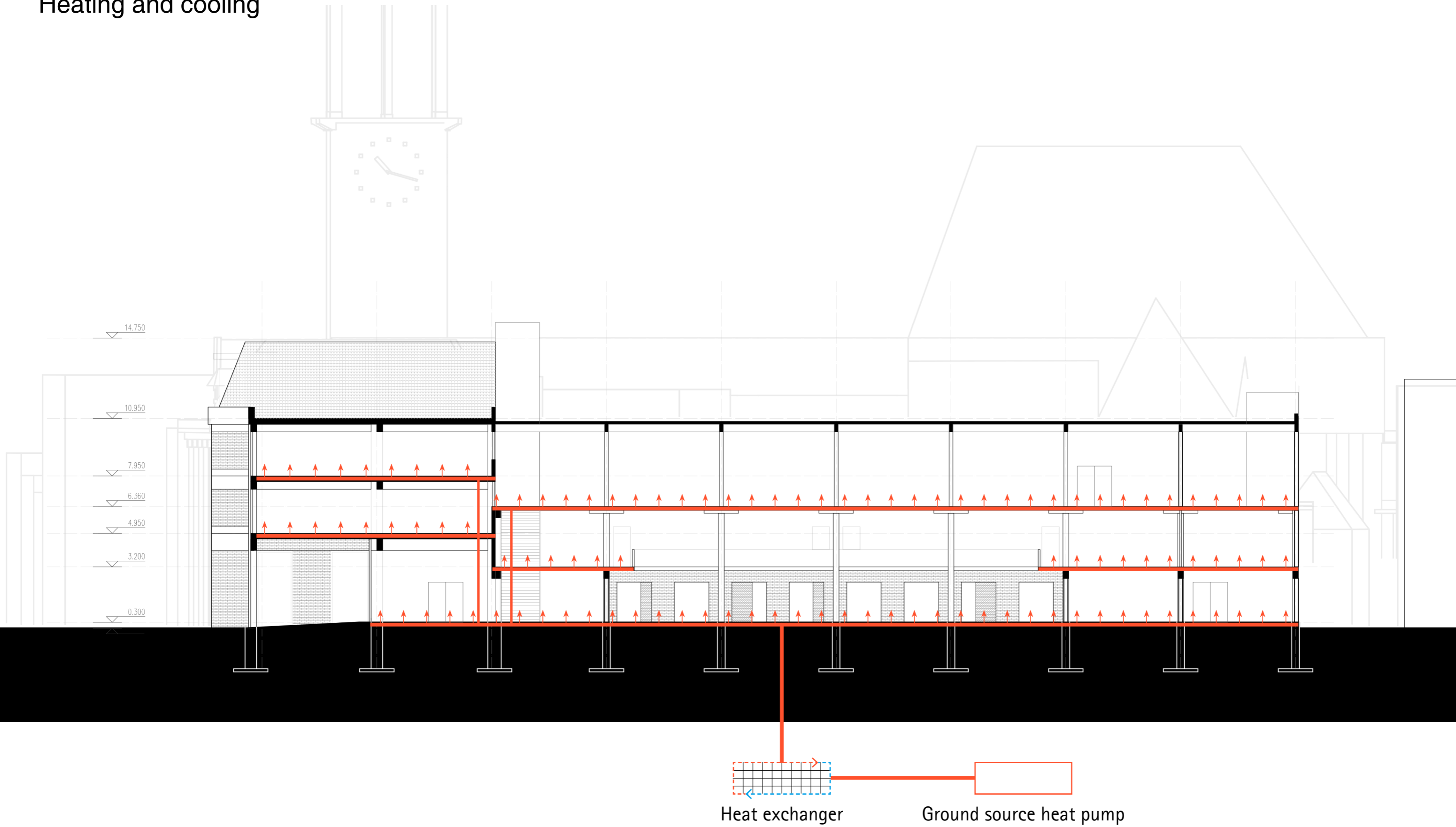


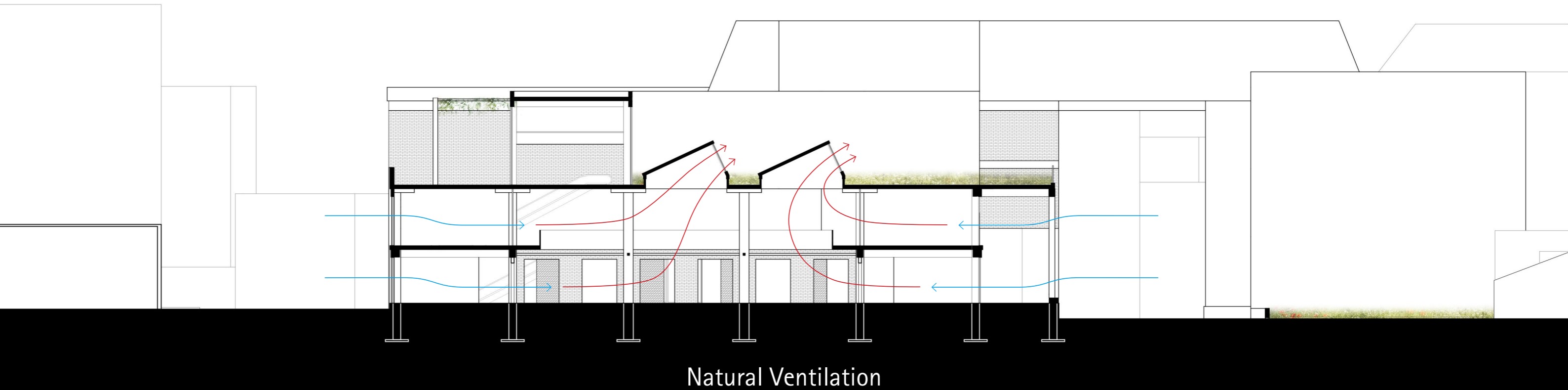


# Daylight Analysis

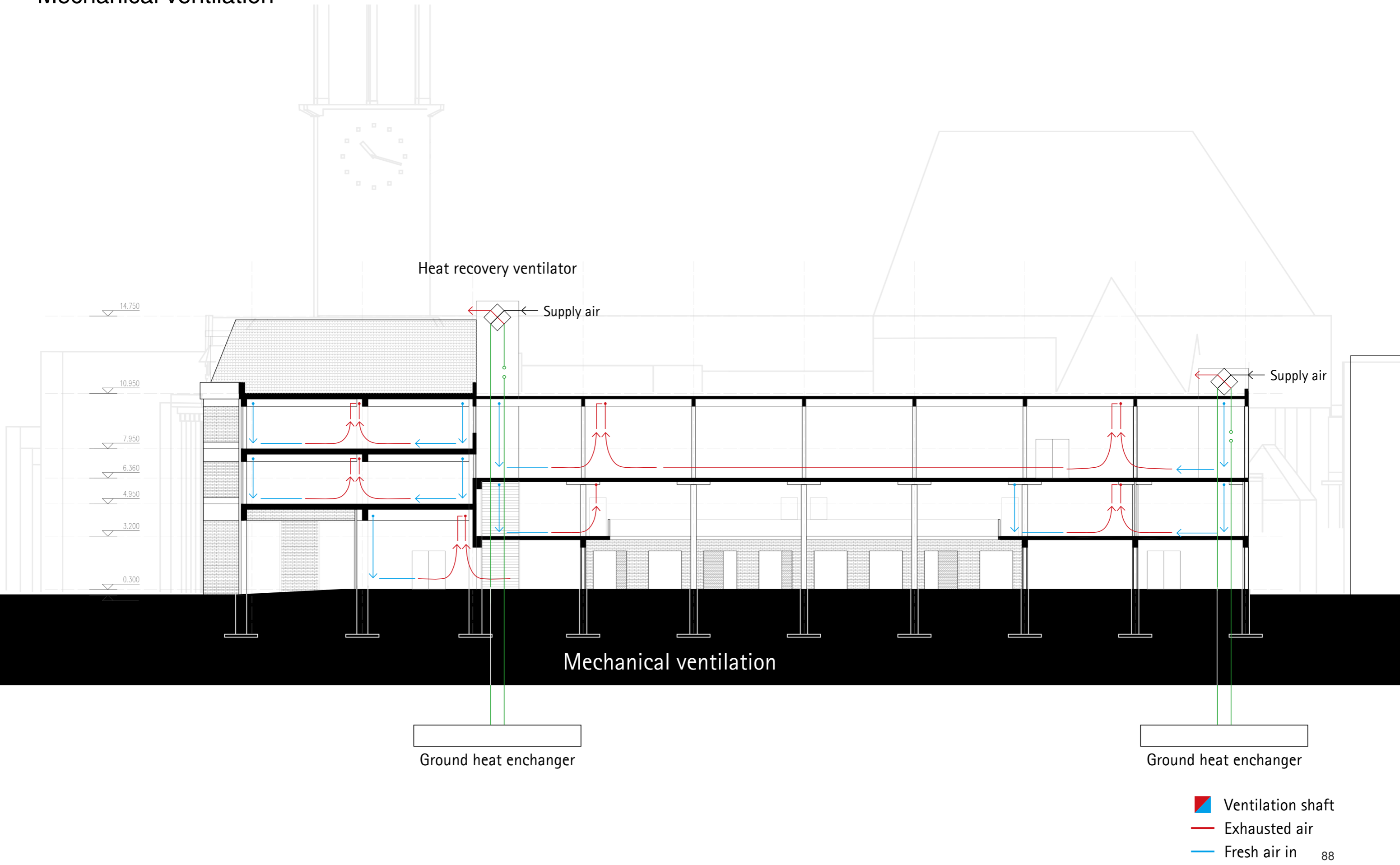


# Heating and cooling

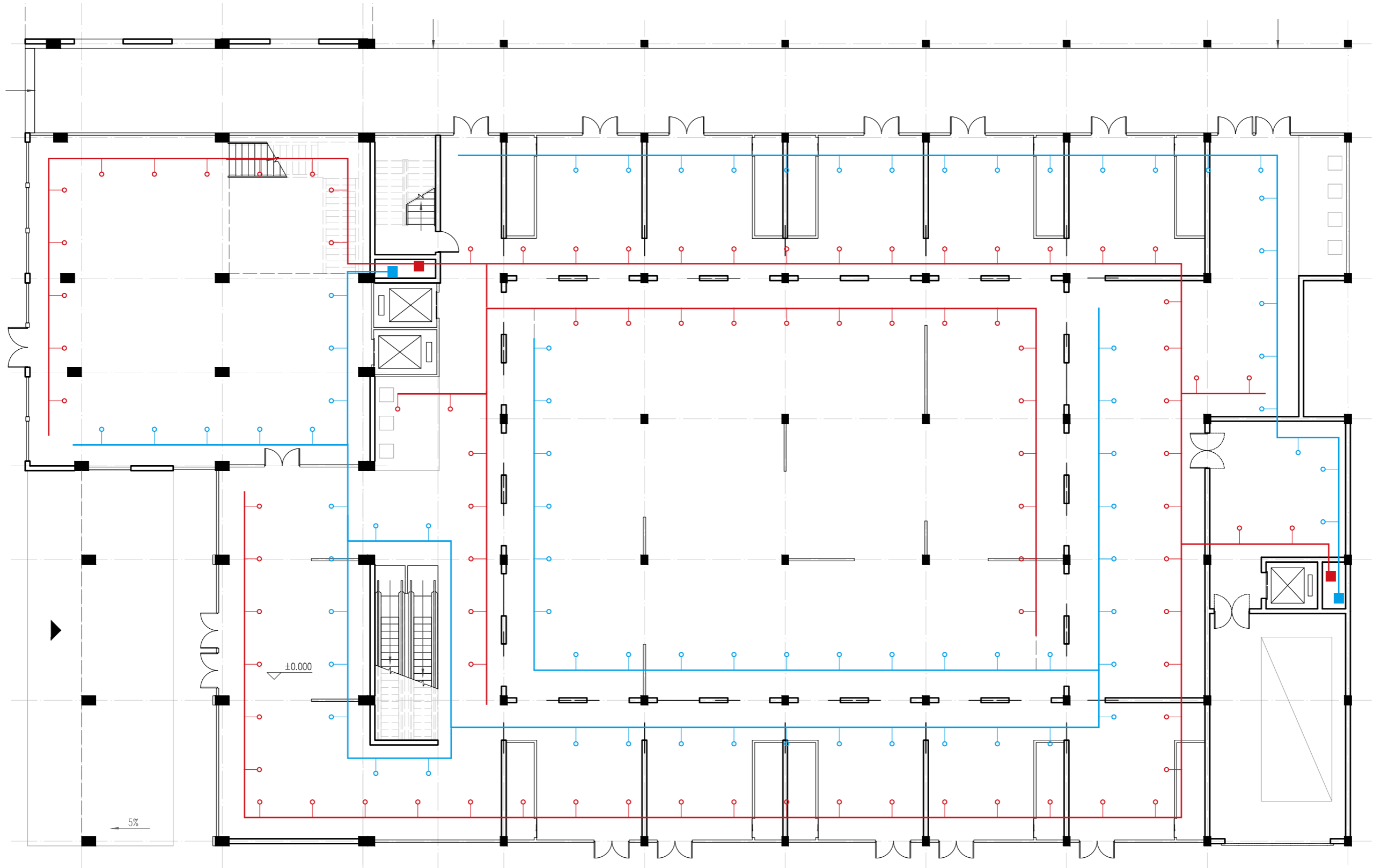







# Mechanical ventilation



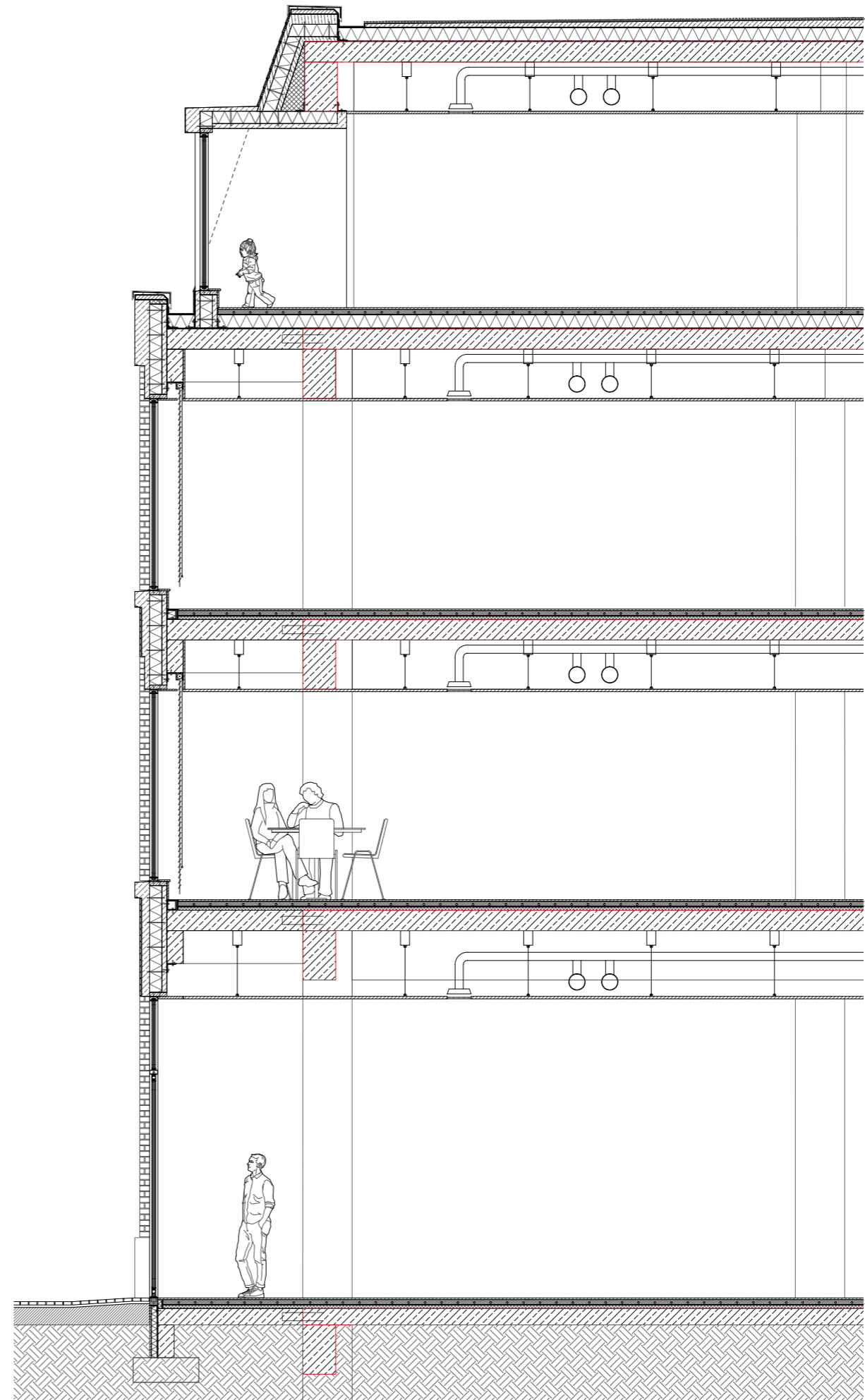
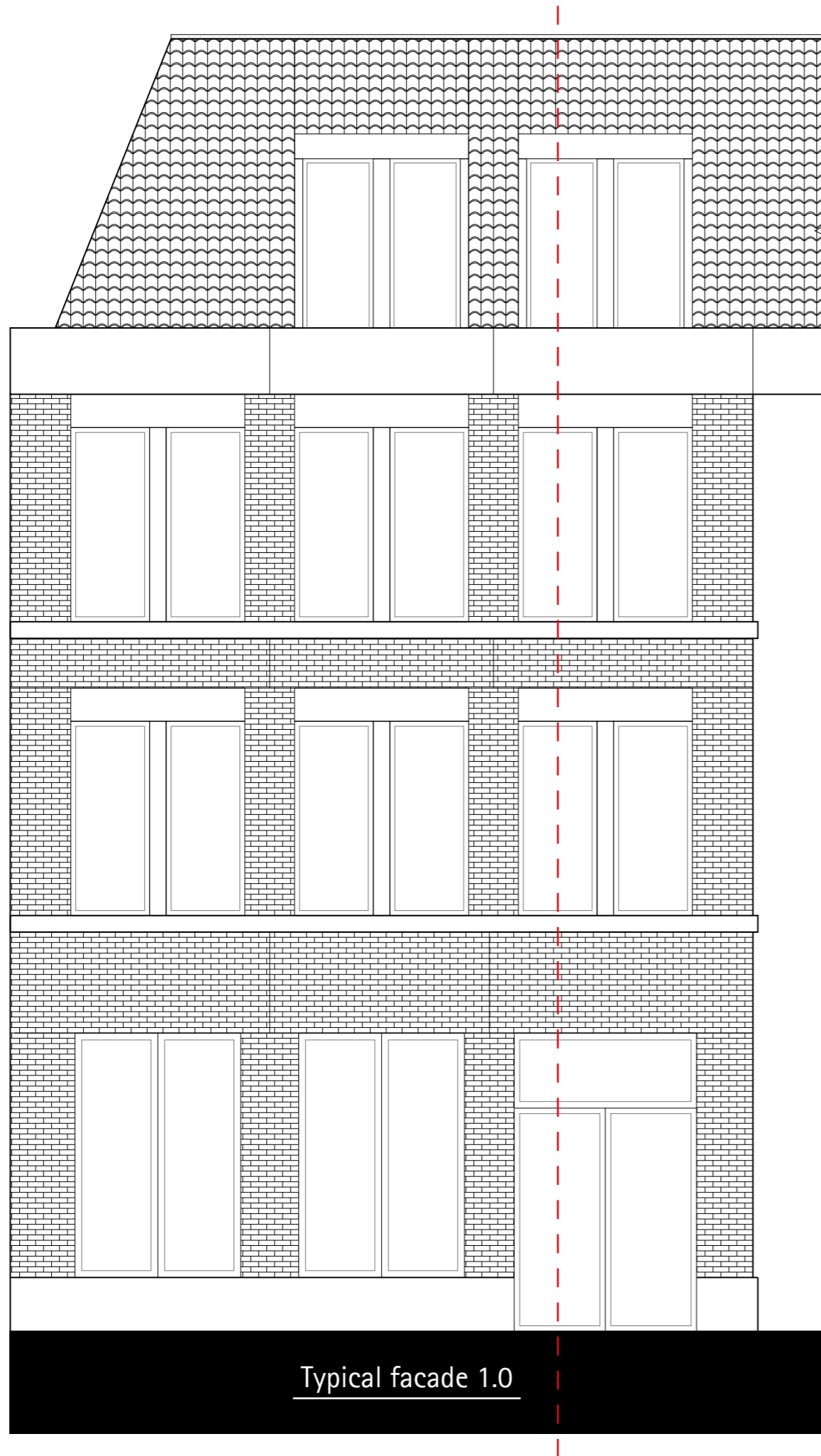
# Mechanical ventilation

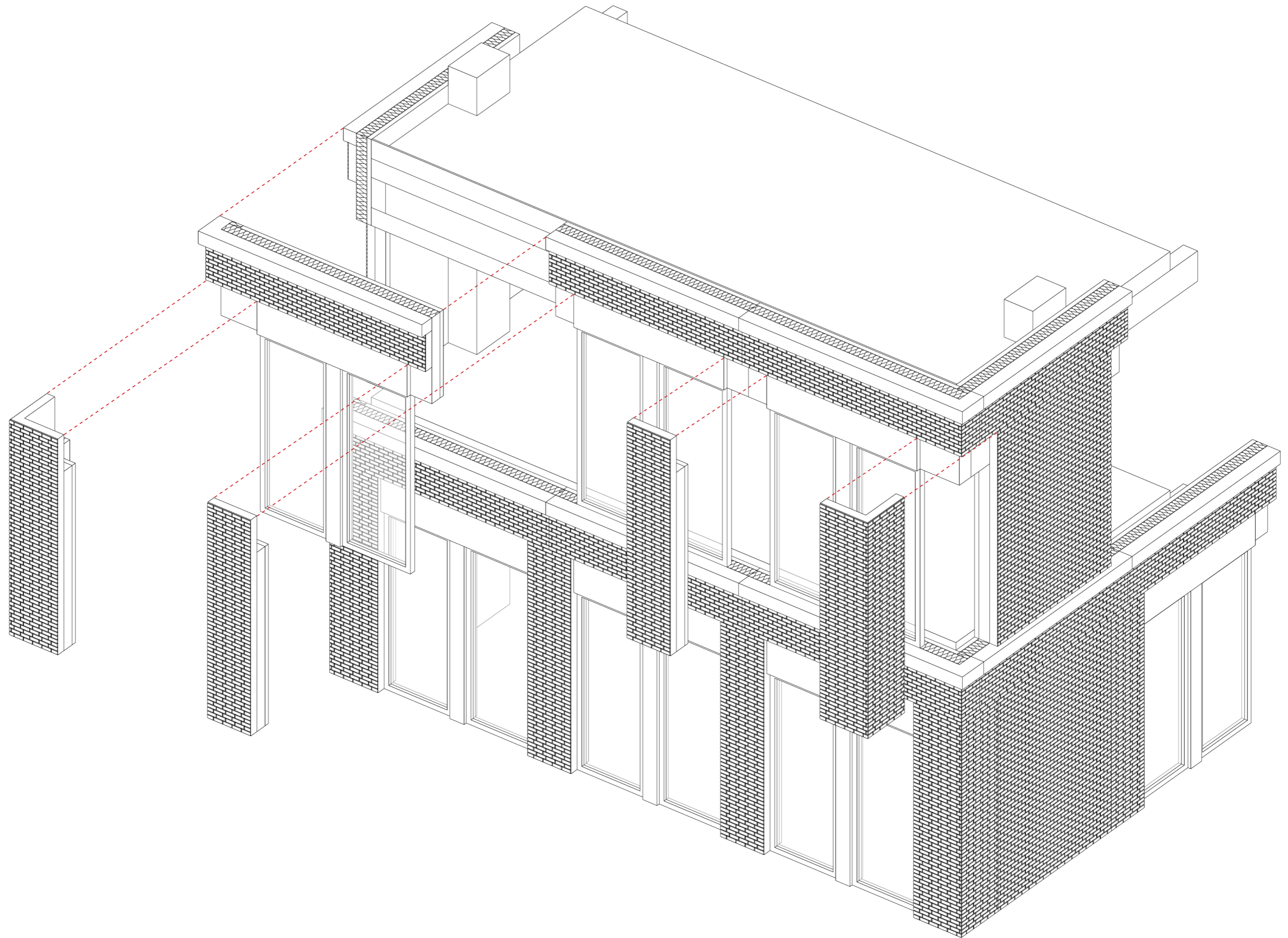


-  Ventilation shaft
-  Exhausted air
-  Fresh air in



Typical facade 1.0





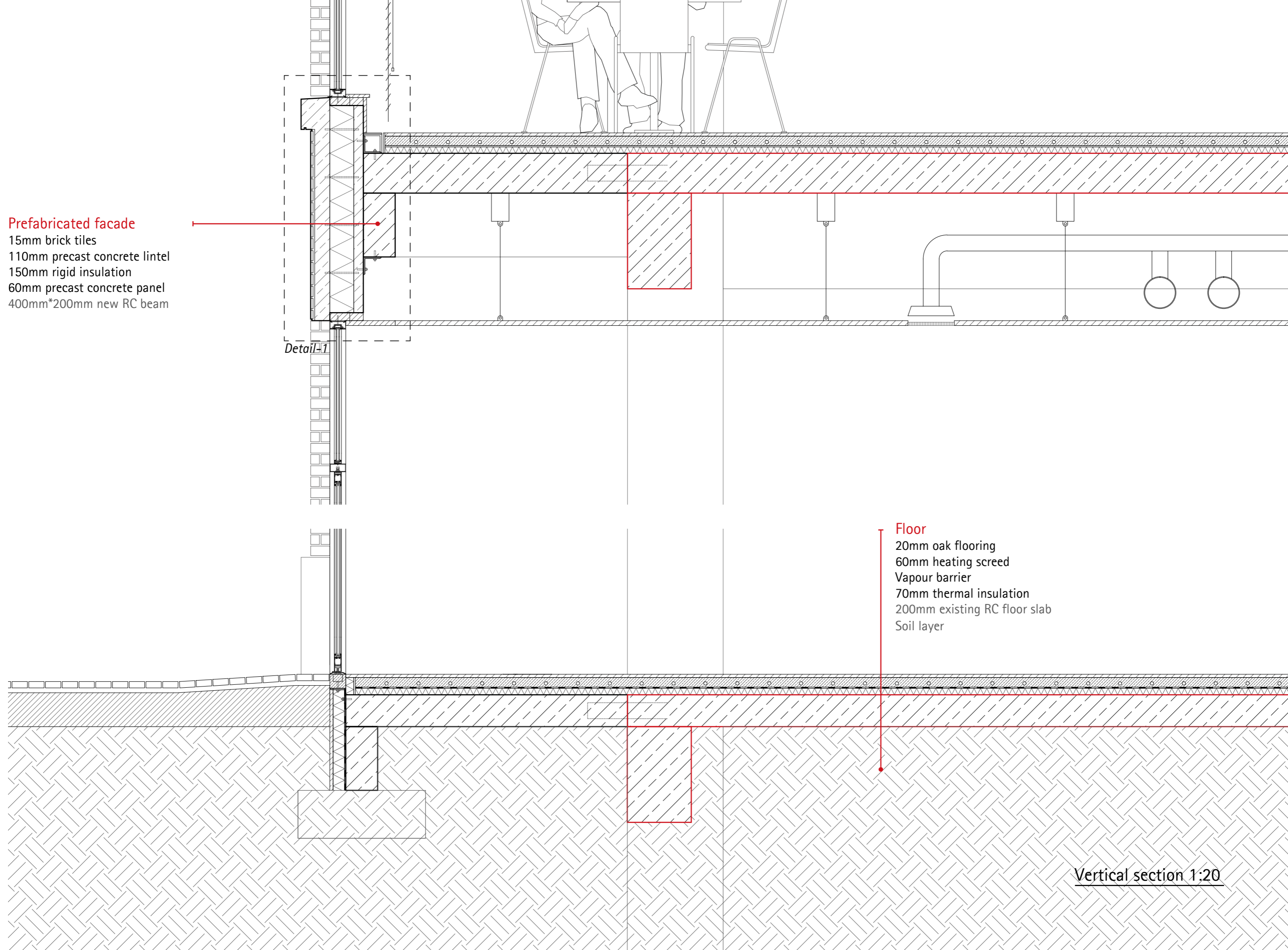


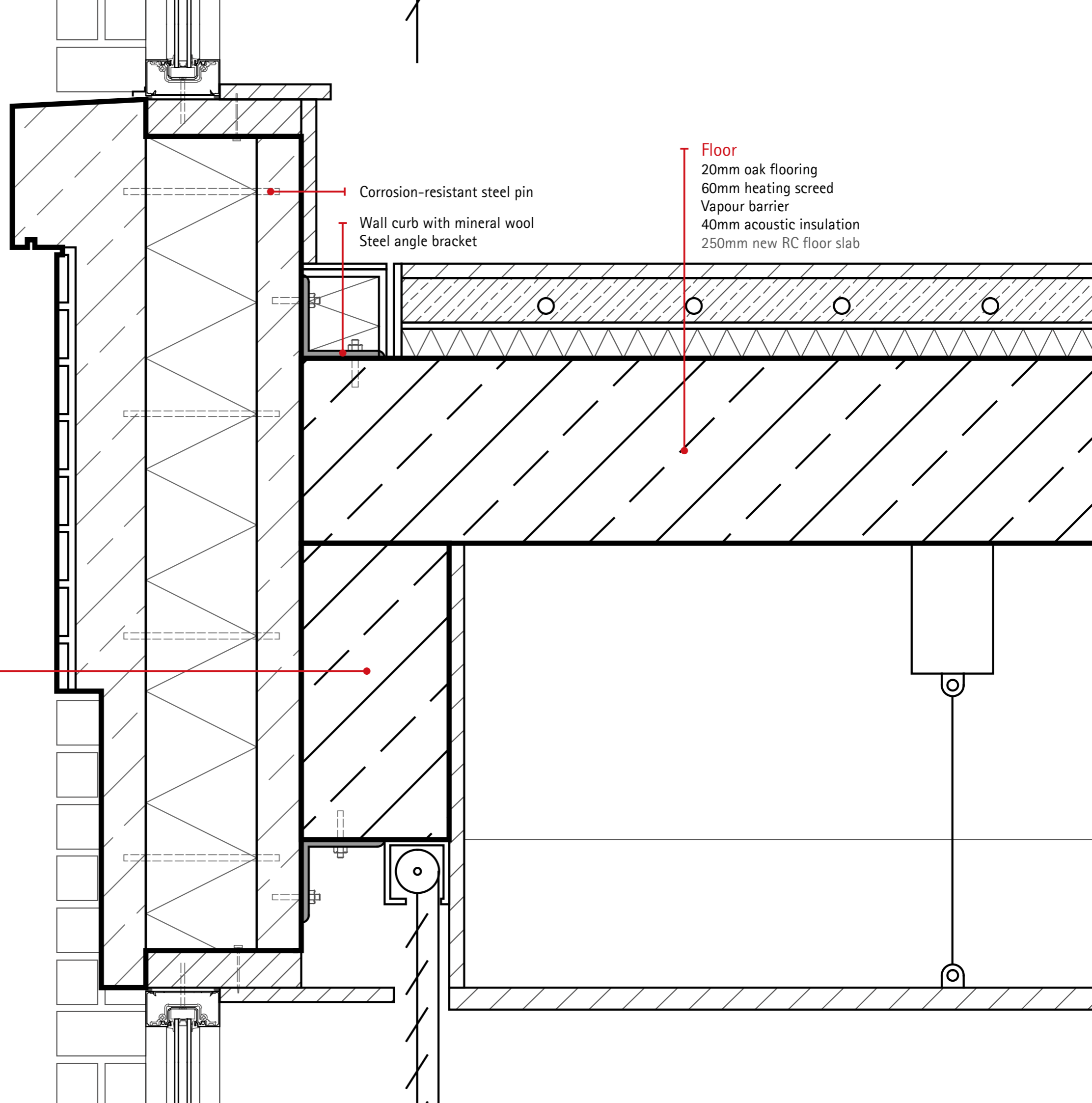
**Prefabricated facade**  
15mm brick tiles  
110mm precast concrete lintel  
150mm rigid insulation  
60mm precast concrete panel  
400mm\*200mm new RC beam

Detail-1

**Floor**  
20mm oak flooring  
60mm heating screed  
Vapour barrier  
70mm thermal insulation  
200mm existing RC floor slab  
Soil layer

Vertical section 1:20





**Prefabricated facade**  
 15mm brick tiles  
 110mm precast concrete lintel  
 150mm rigid insulation  
 60mm precast concrete panel  
 400mm\*200mm new RC beam

Corrosion-resistant steel pin  
 Wall curb with mineral wool  
 Steel angle bracket

**Floor**  
 20mm oak flooring  
 60mm heating screed  
 Vapour barrier  
 40mm acoustic insulation  
 250mm new RC floor slab

**Prefabricated roof (upper part, type1)**

- Roof tiles
- Roof tile batten
- 110mm precast concrete
- 150mm rigid insulation
- 60mm precast concrete panel
- 250mm existing RC floor slab

**Prefabricated dormer**

- 180mm precast concrete cornice
- 150mm rigid insulation
- 60mm precast concrete panel

**Prefabricated facade (top)**

- 180mm precast concrete cornice
- 150mm rigid insulation
- 60mm precast concrete panel

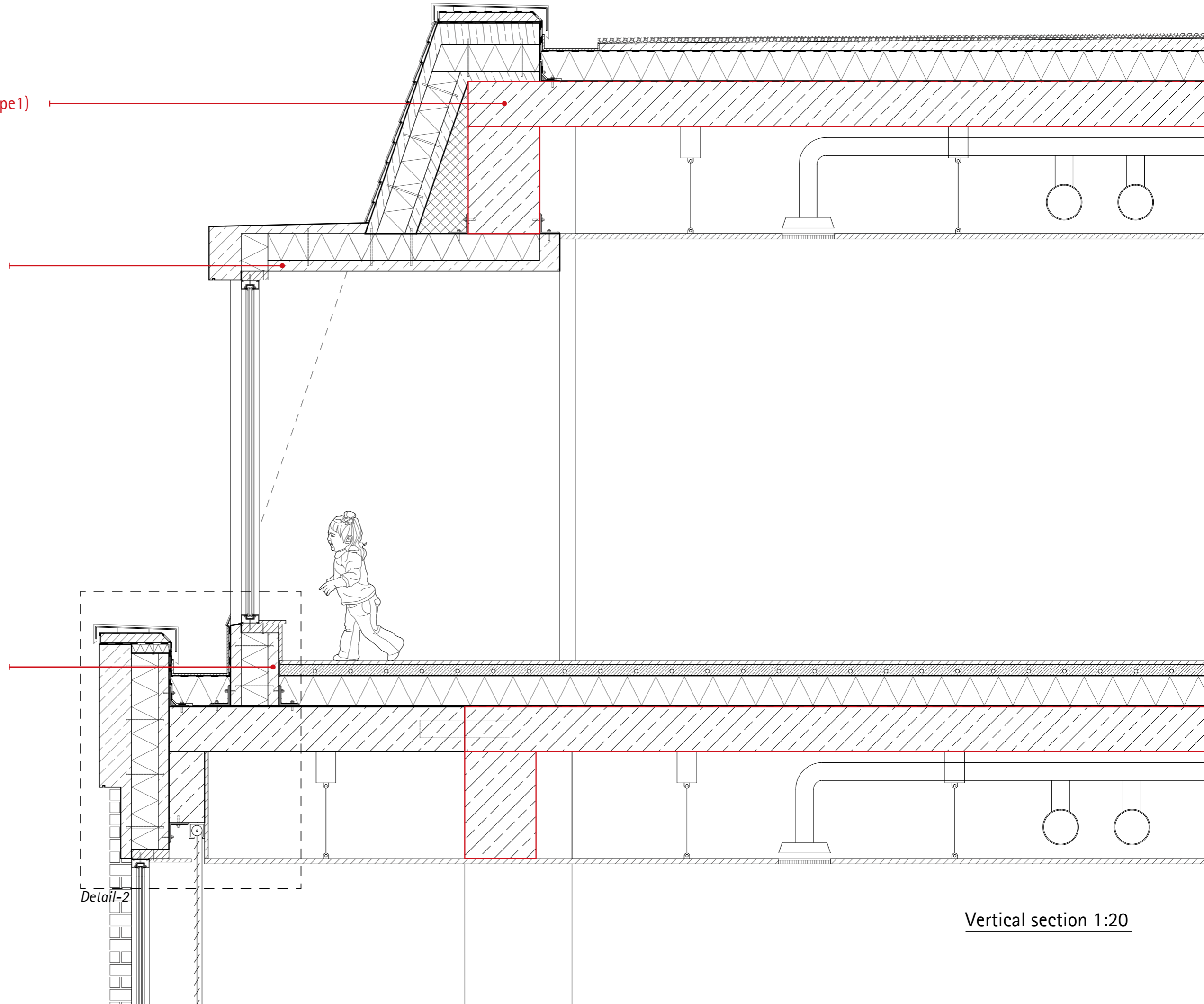
- Waterproof layer
- Gutter
- Waterproof layer

**Prefabricated roof (lower part)**

- 60mm precast concrete panel
- 150mm rigid insulation
- 60mm precast concrete panel

Detail-2

Vertical section 1:20



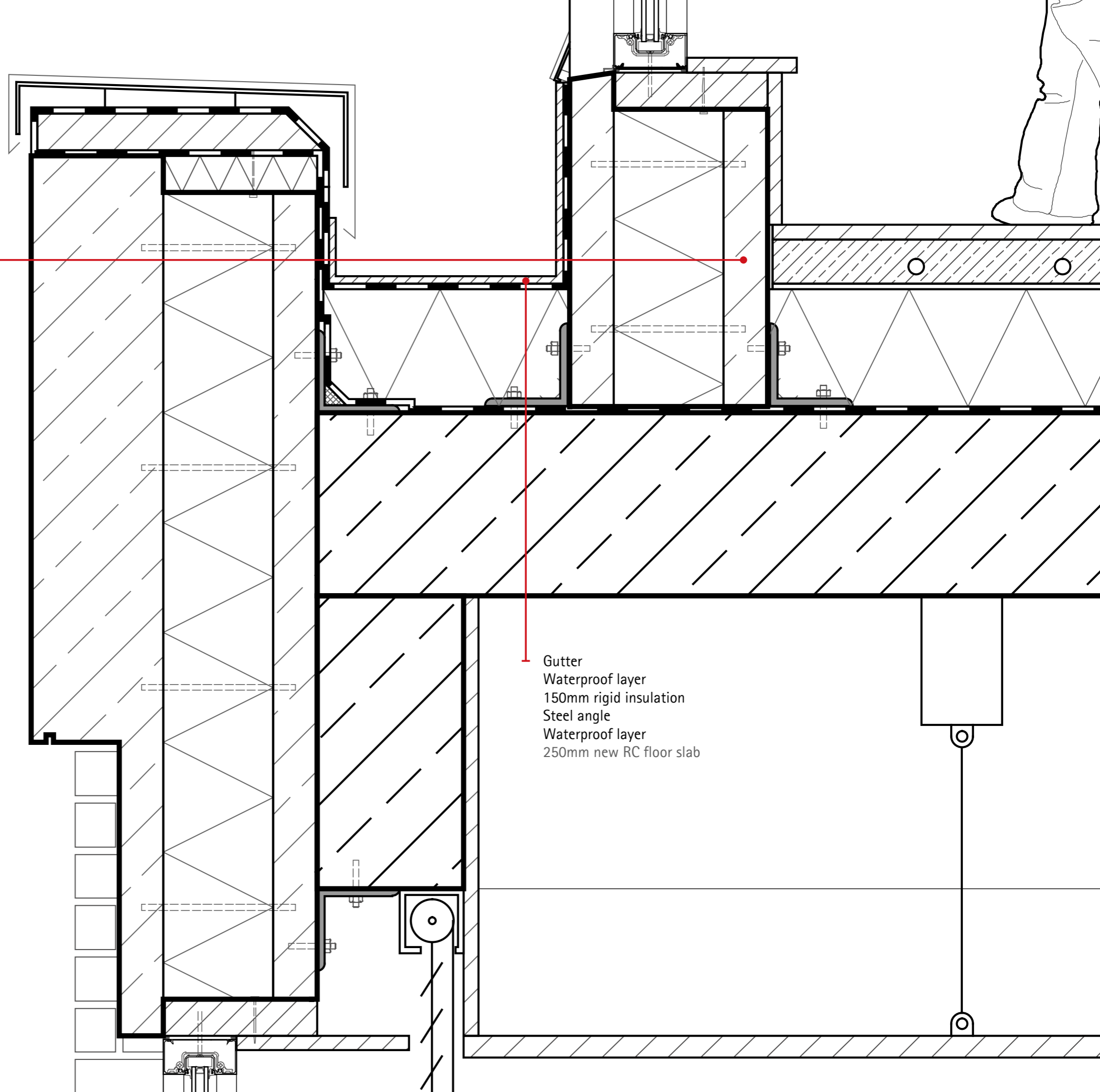
**Prefabricated facade**

- 180mm precast concrete cornice
- 150mm rigid insulation
- 60mm precast concrete panel
- Waterproof layer (two layers)
- Gutter
- Waterproof layer

**Prefabricated dormer (lower part)**

- 60mm precast concrete panel
- 150mm rigid insulation
- 60mm precast concrete panel

- Gutter
- Waterproof layer
- 150mm rigid insulation
- Steel angle
- Waterproof layer
- 250mm new RC floor slab

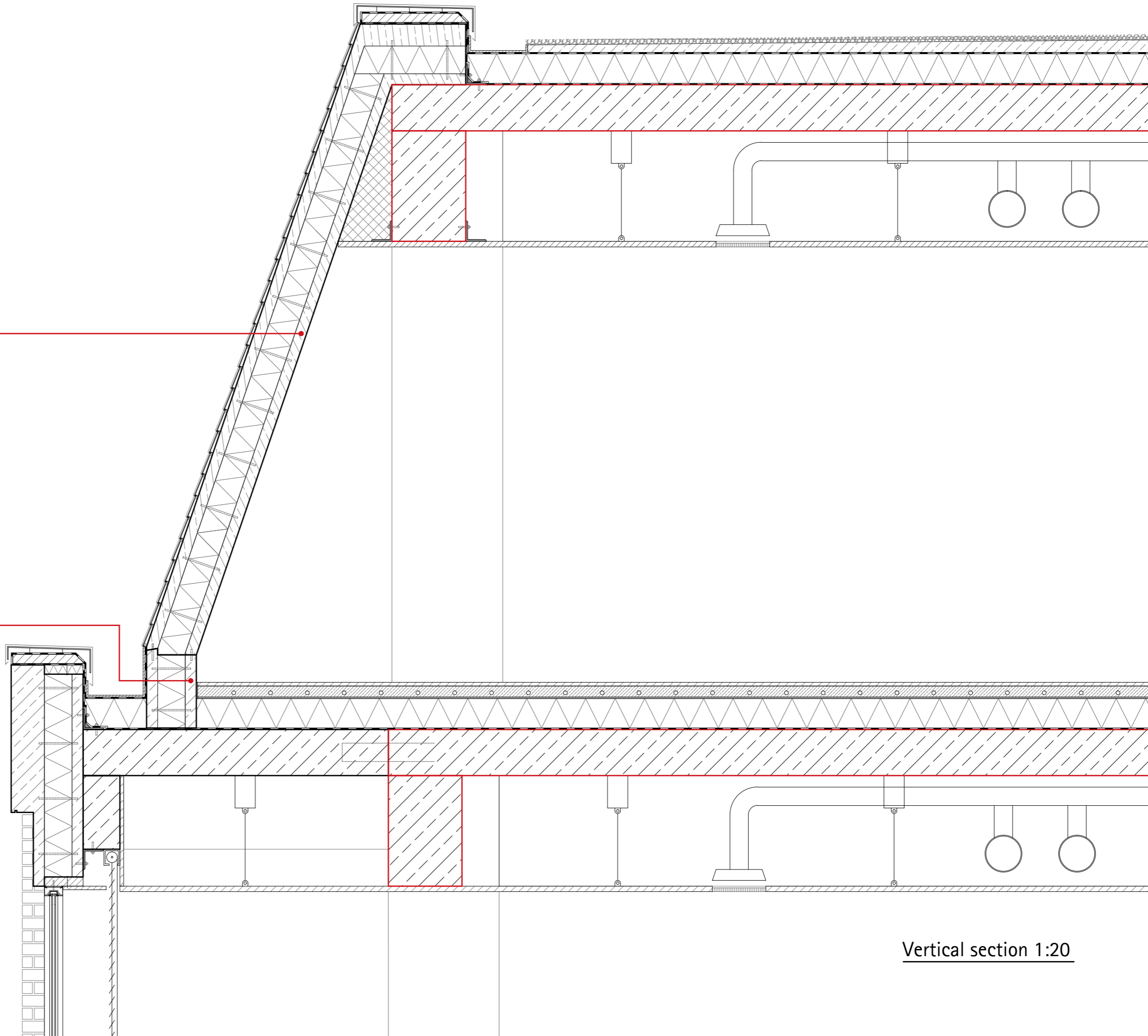


**Prefabricated roof (upper part, type2)**

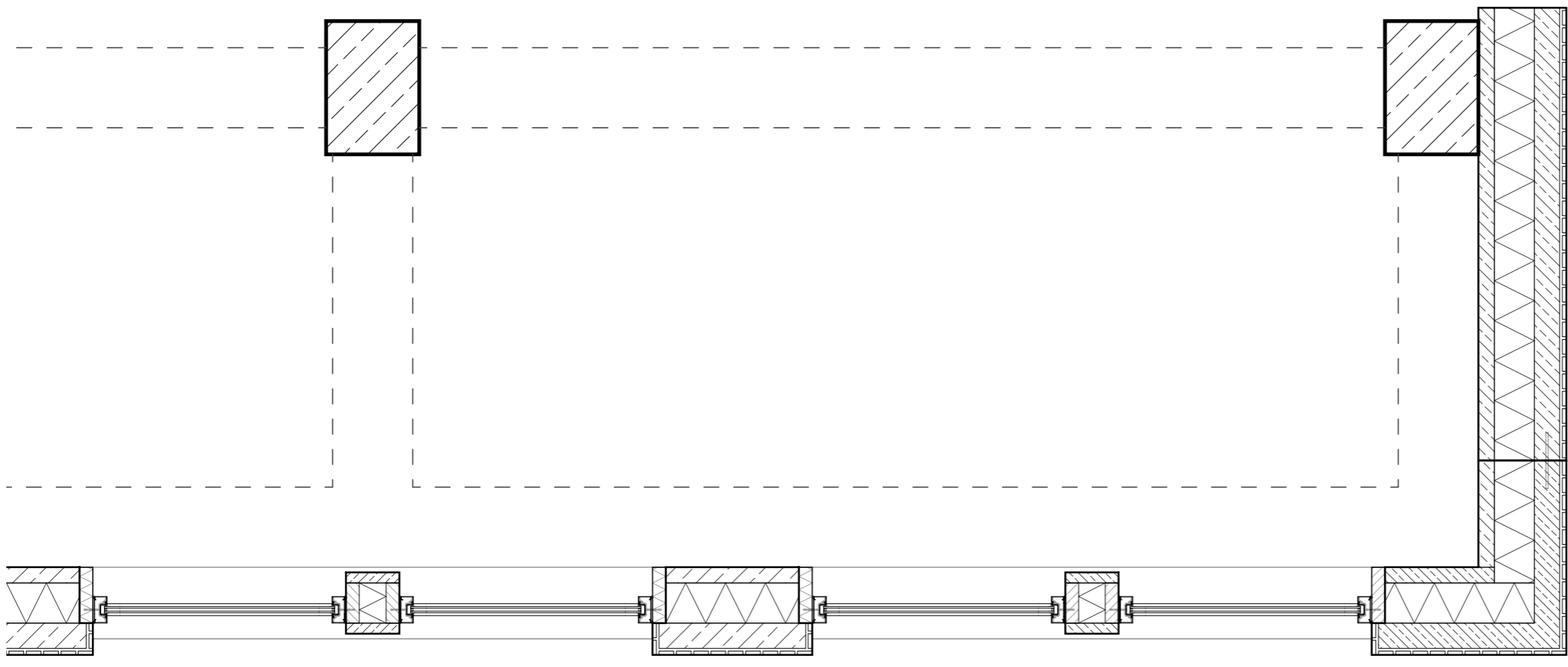
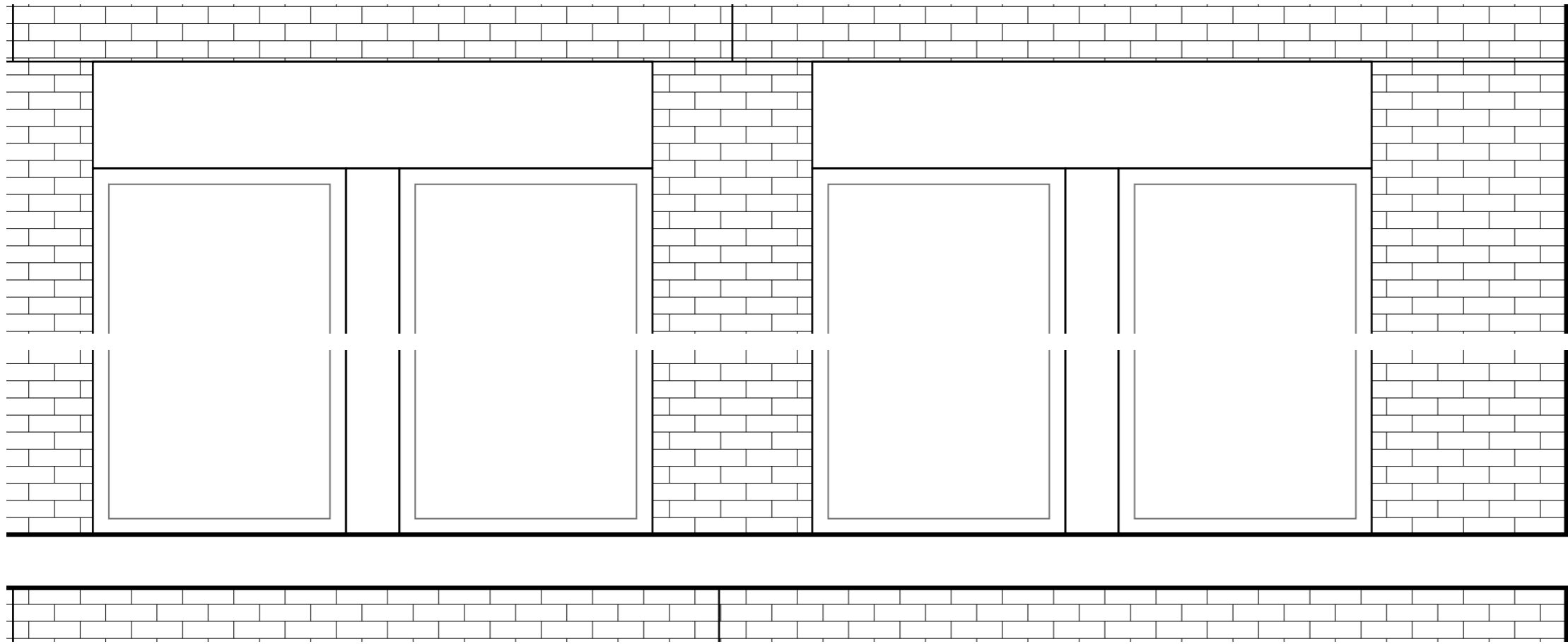
- Roof tiles
- Roof tile batten
- 110mm precast concrete
- 150mm rigid insulation
- 60mm precast concrete panel
- 250mm existing RC floor slab

**Prefabricated roof (lower part)**

- 60mm precast concrete panel
- 150mm rigid insulation
- 60mm precast concrete panel



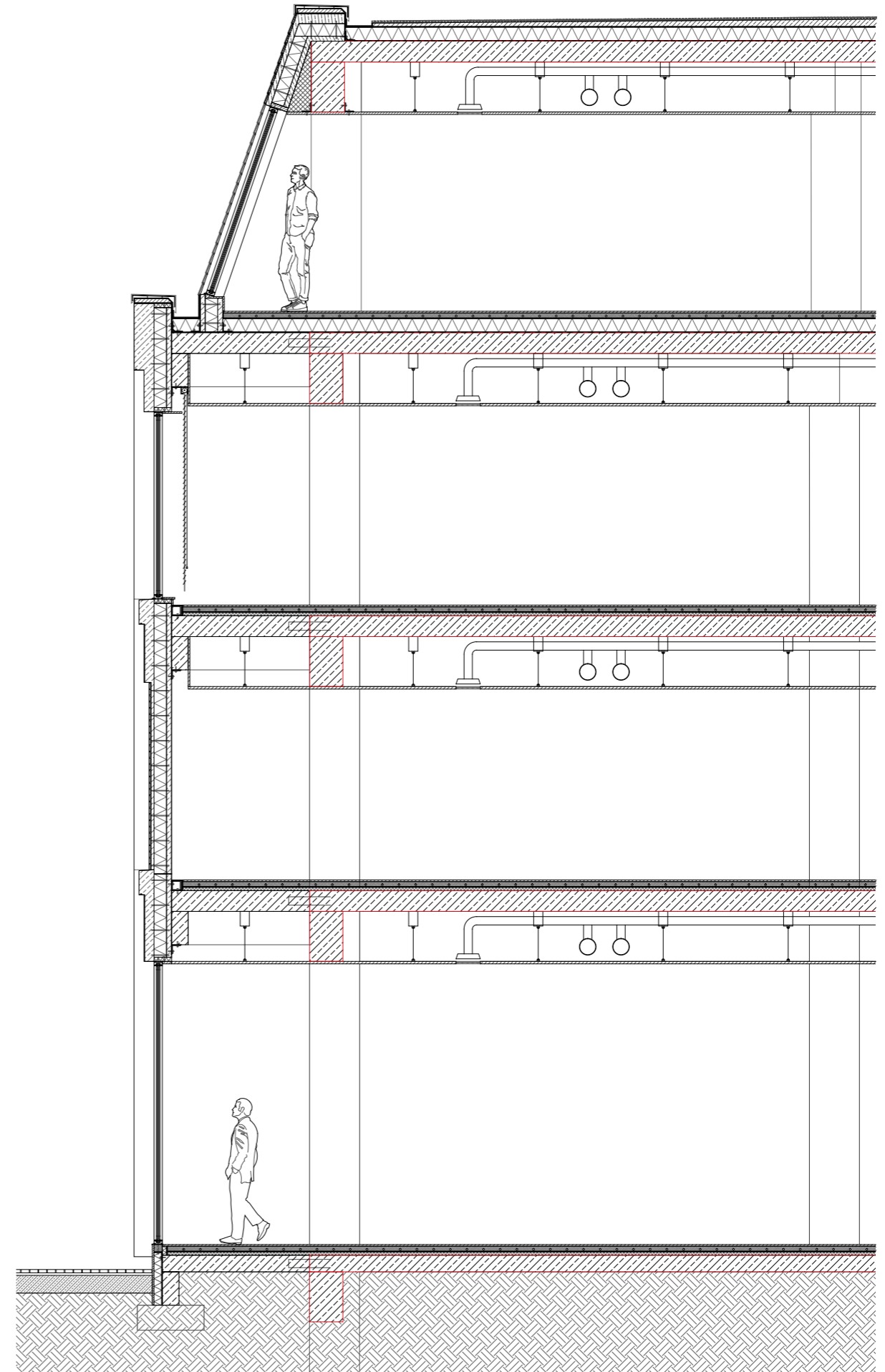
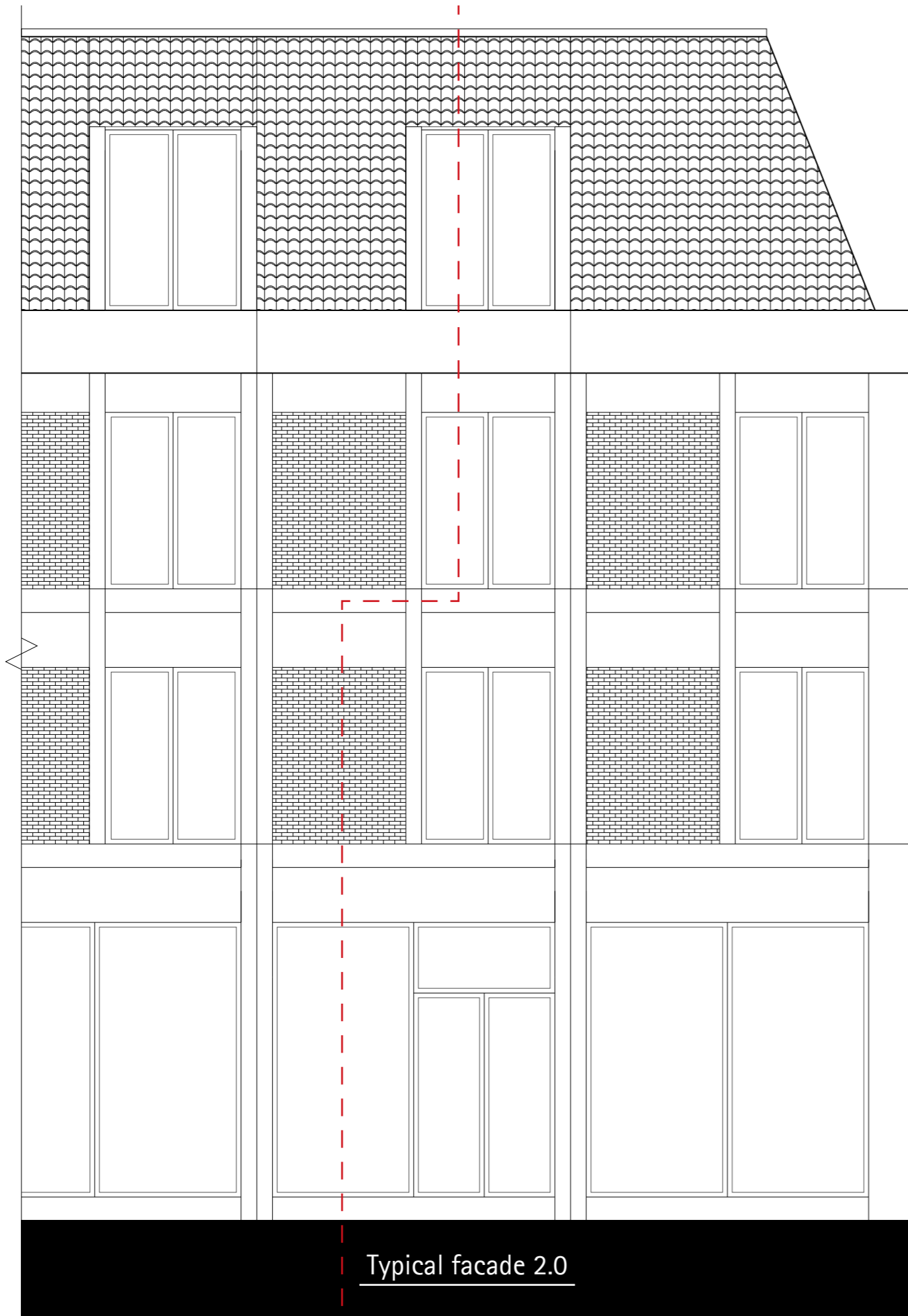
Vertical section 1:20



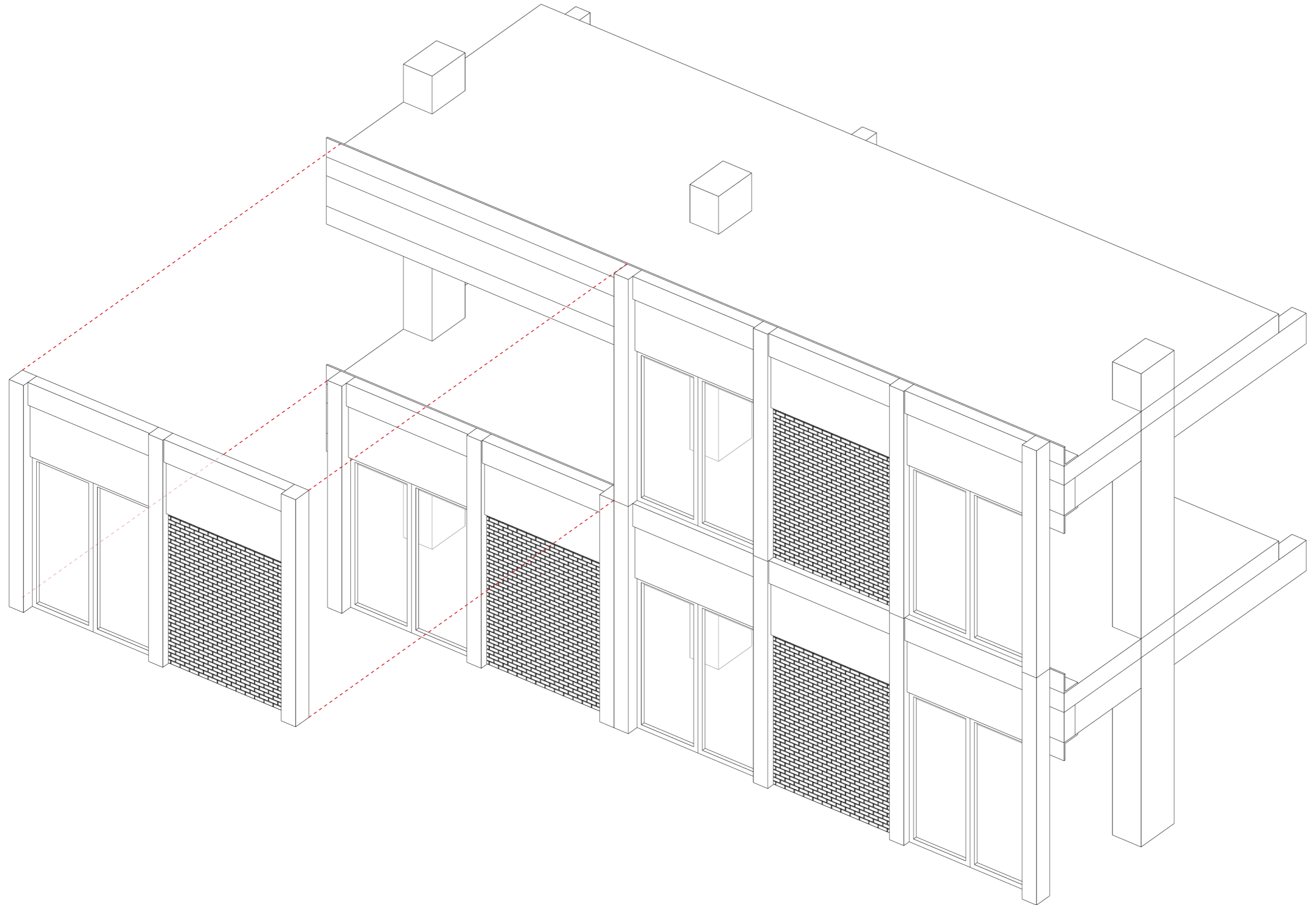
Horizontal section 1:20



Typical facade 2.0





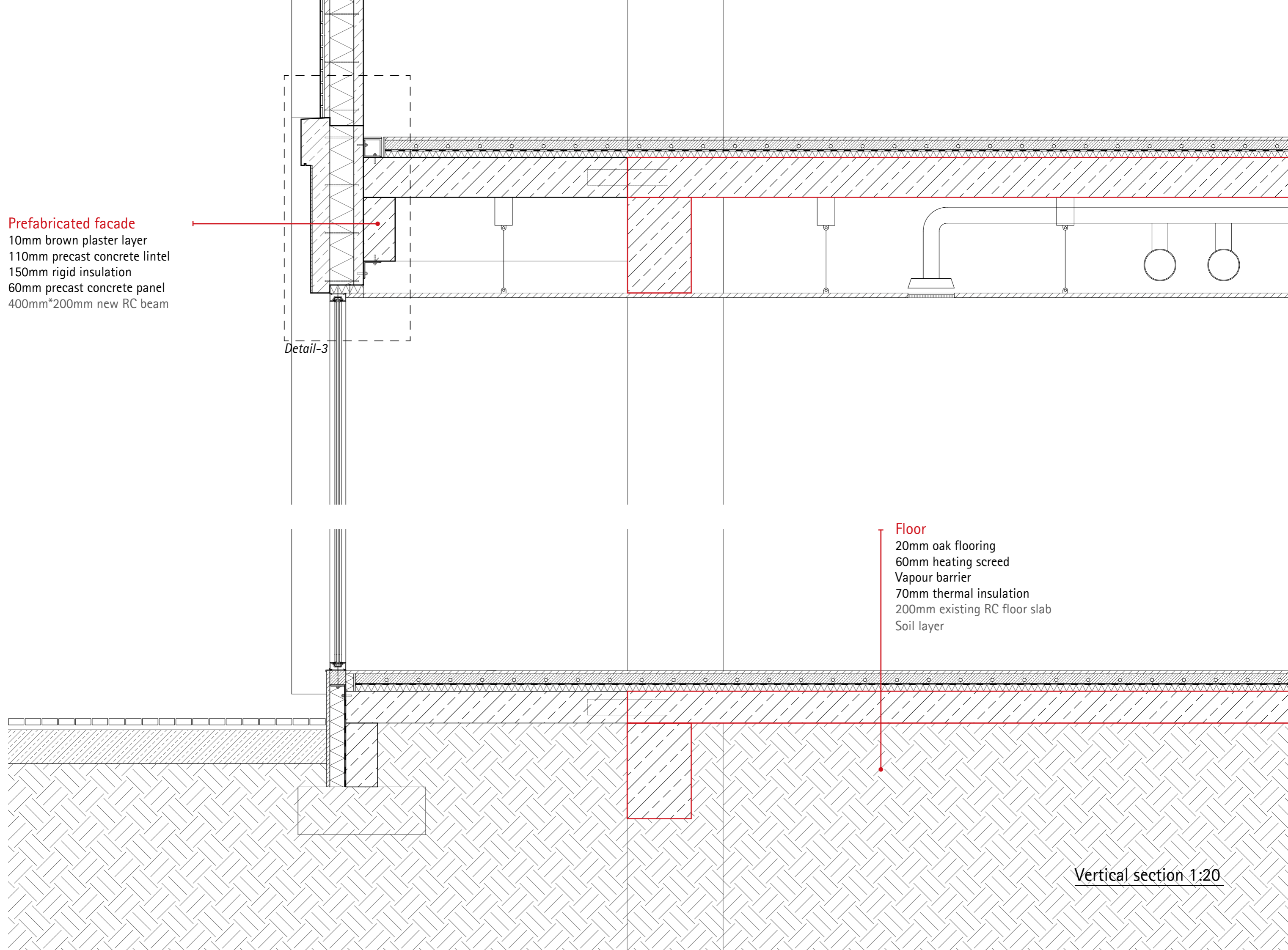


**Prefabricated facade**  
10mm brown plaster layer  
110mm precast concrete lintel  
150mm rigid insulation  
60mm precast concrete panel  
400mm\*200mm new RC beam

Detail-3

**Floor**  
20mm oak flooring  
60mm heating screed  
Vapour barrier  
70mm thermal insulation  
200mm existing RC floor slab  
Soil layer

Vertical section 1:20

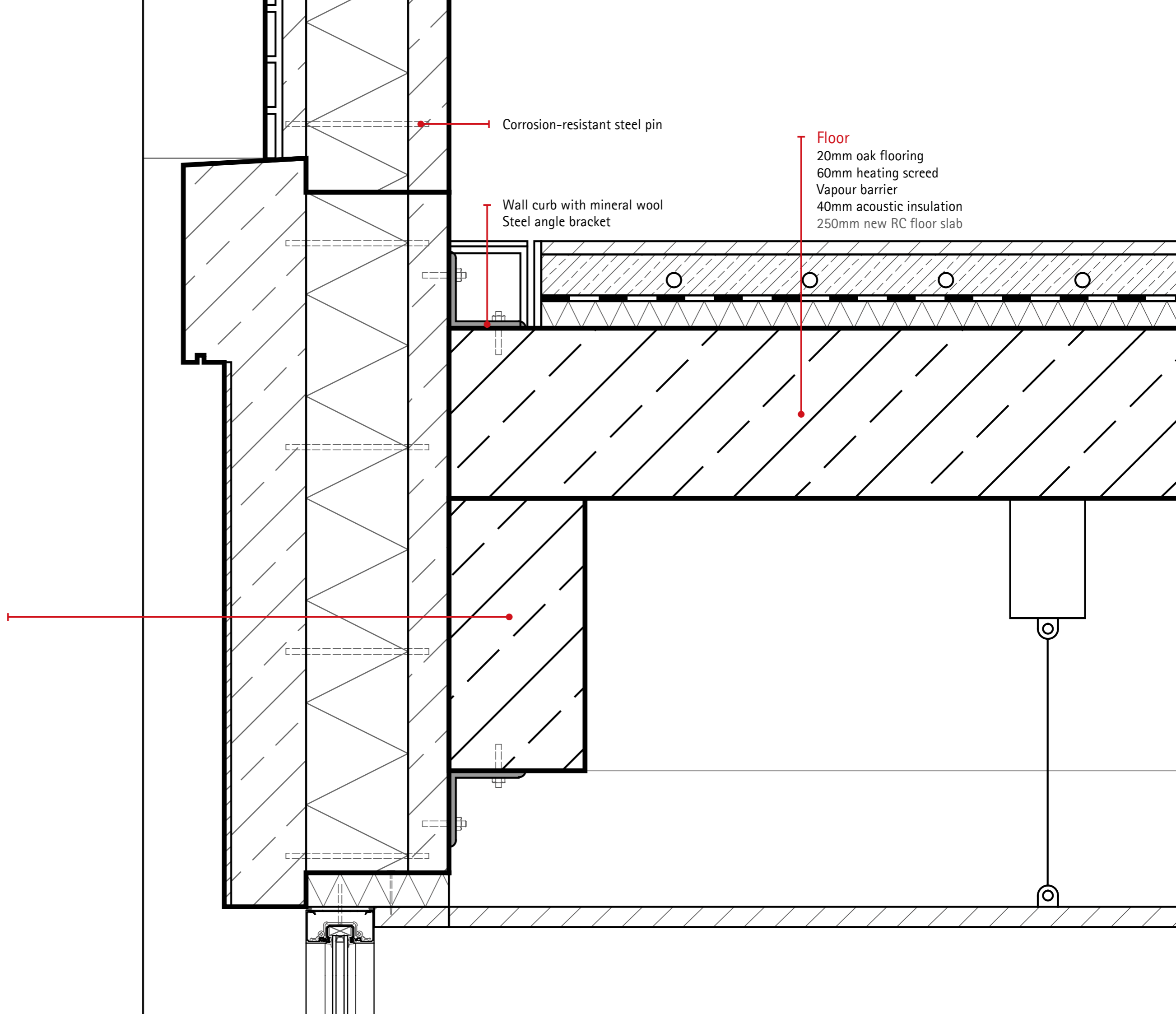


**Prefabricated facade**  
10mm brown plaster layer  
110mm precast concrete lintel  
150mm rigid insulation  
60mm precast concrete panel  
400mm\*200mm new RC beam

Corrosion-resistant steel pin

Wall curb with mineral wool  
Steel angle bracket

**Floor**  
20mm oak flooring  
60mm heating screed  
Vapour barrier  
40mm acoustic insulation  
250mm new RC floor slab



**Prefabricated roof (upper part, type3)**

- Roof tiles
- Roof tile batten
- 110mm precast concrete
- 150mm rigid insulation
- 60mm precast concrete panel
- 250mm existing RC floor slab

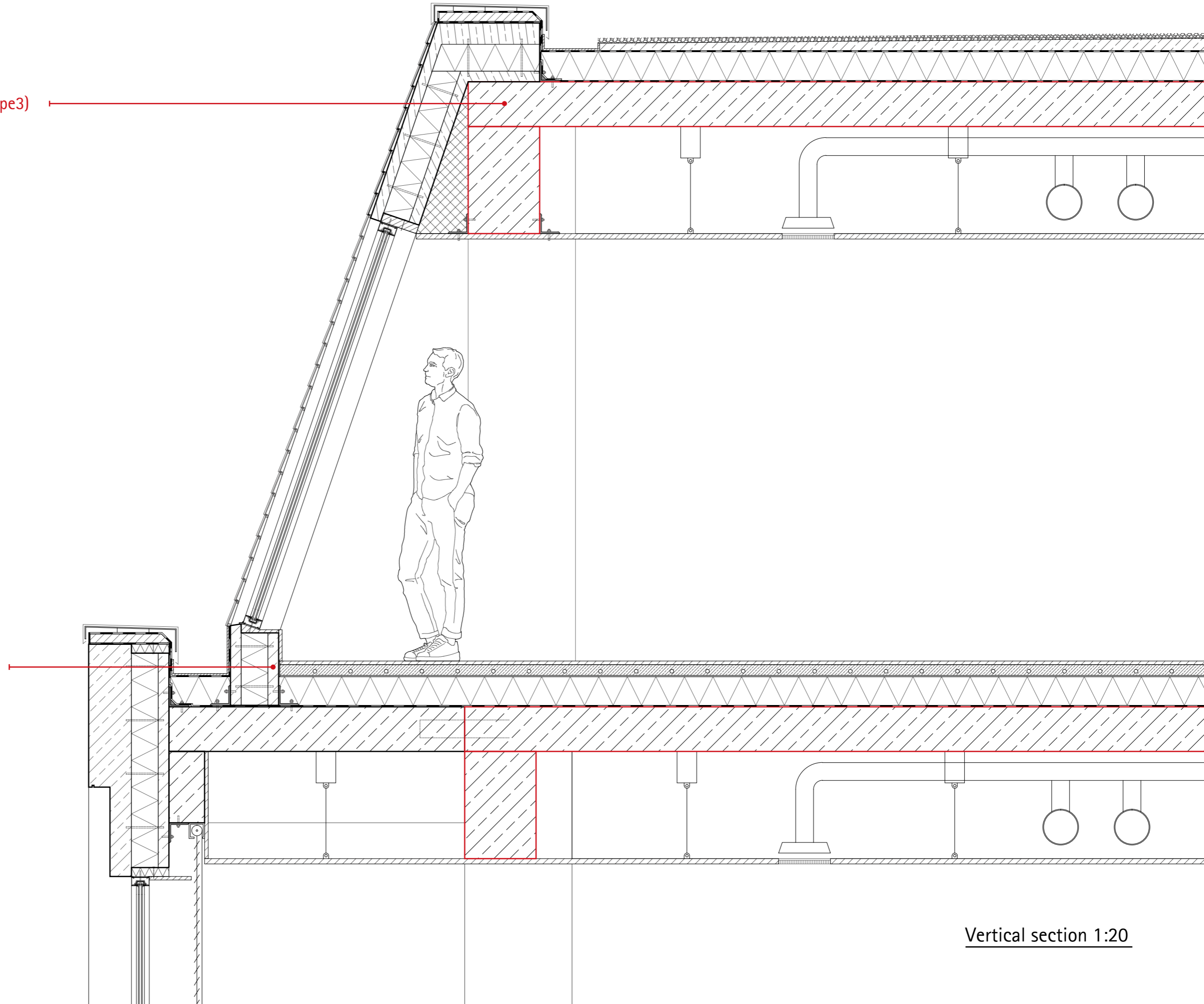
**Prefabricated facade (top)**

- 180mm precast concrete cornice
- 150mm rigid insulation
- 60mm precast concrete panel

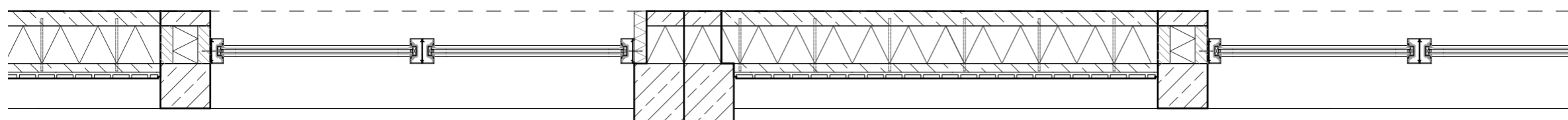
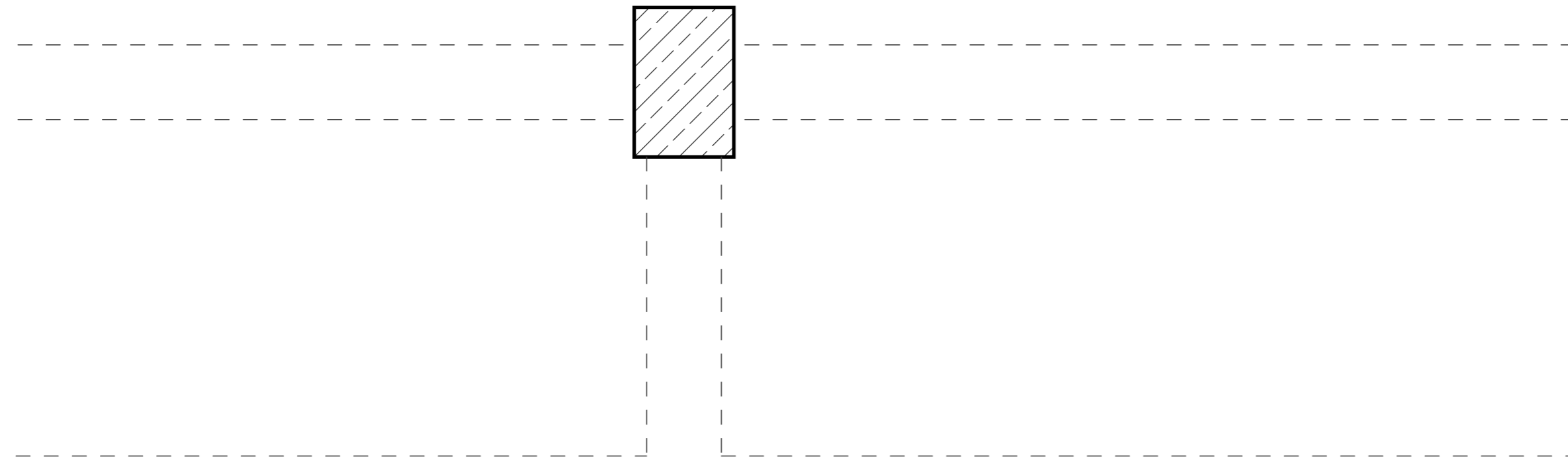
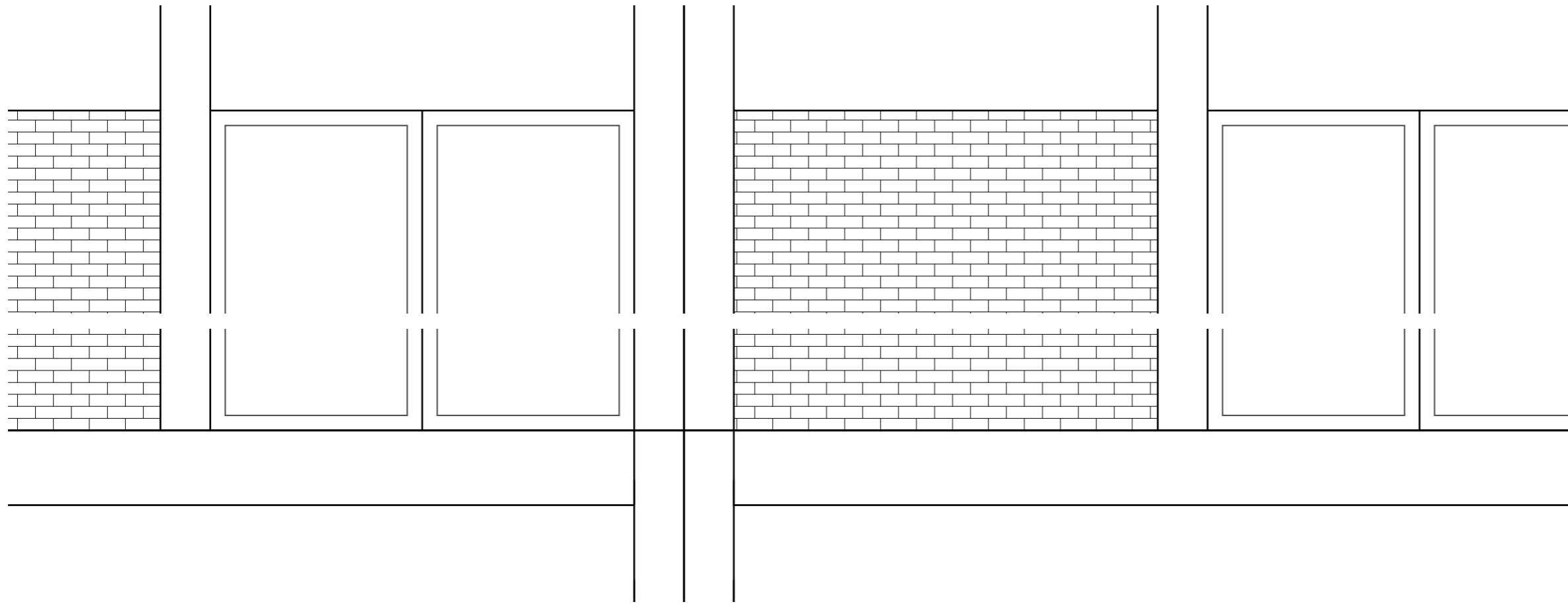
- Waterproof layer
- Gutter
- Waterproof layer

**Prefabricated roof (lower part)**

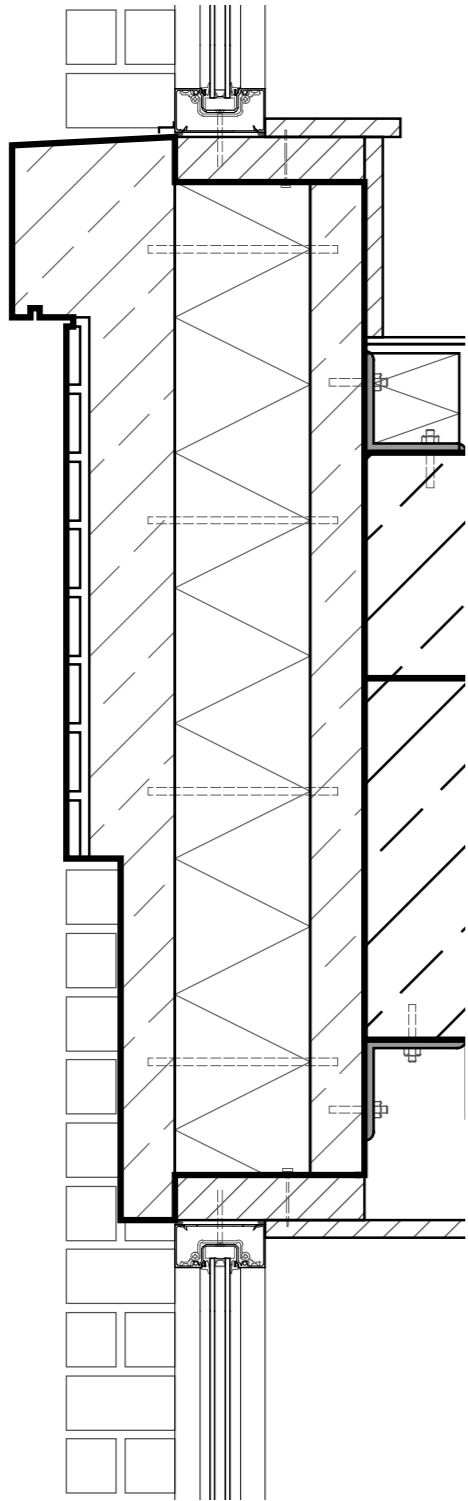
- 60mm precast concrete panel
- 150mm rigid insulation
- 60mm precast concrete panel



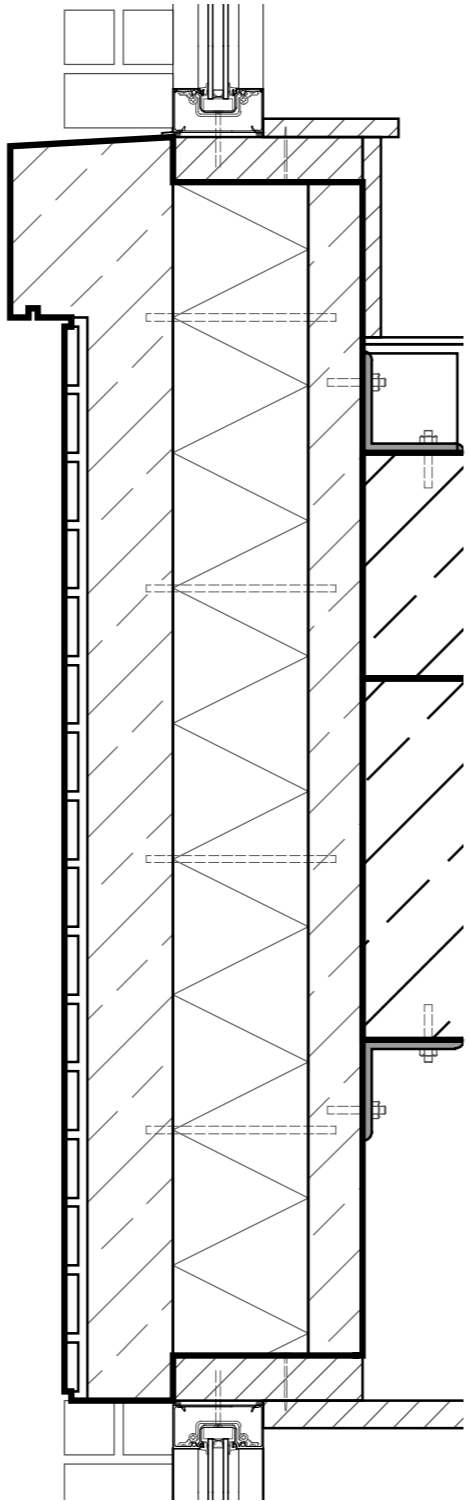
Vertical section 1:20



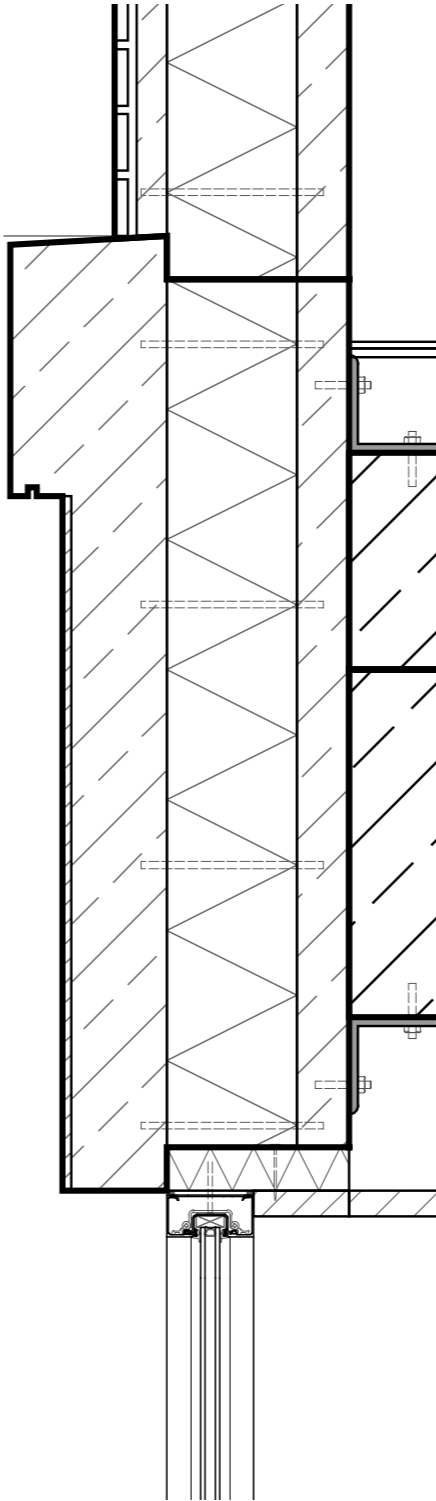
Horizontal section 1:20



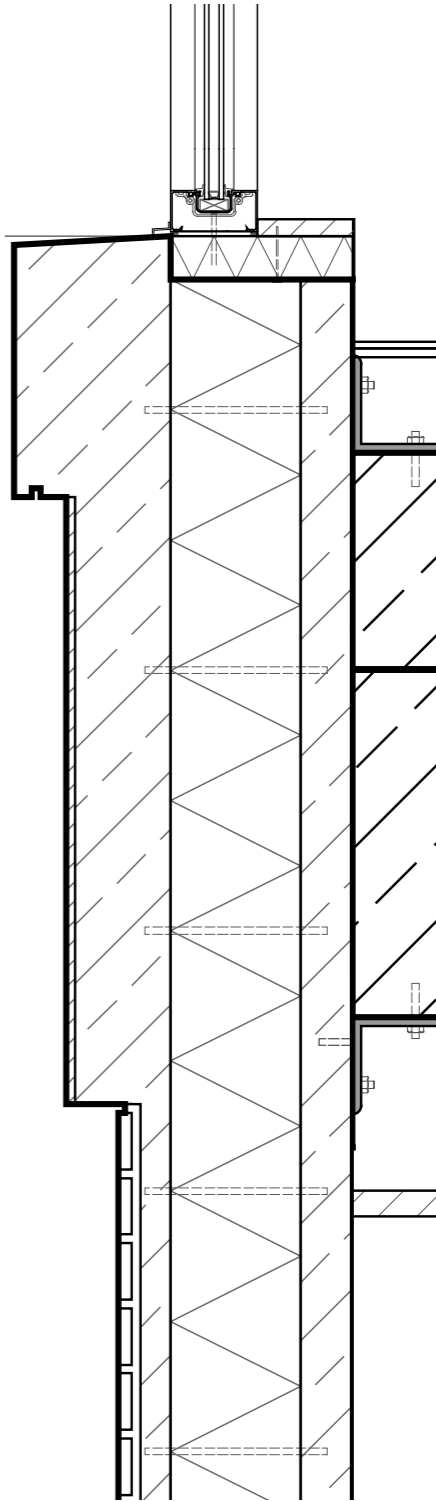
Prefabricated facade 1.0 (type1)



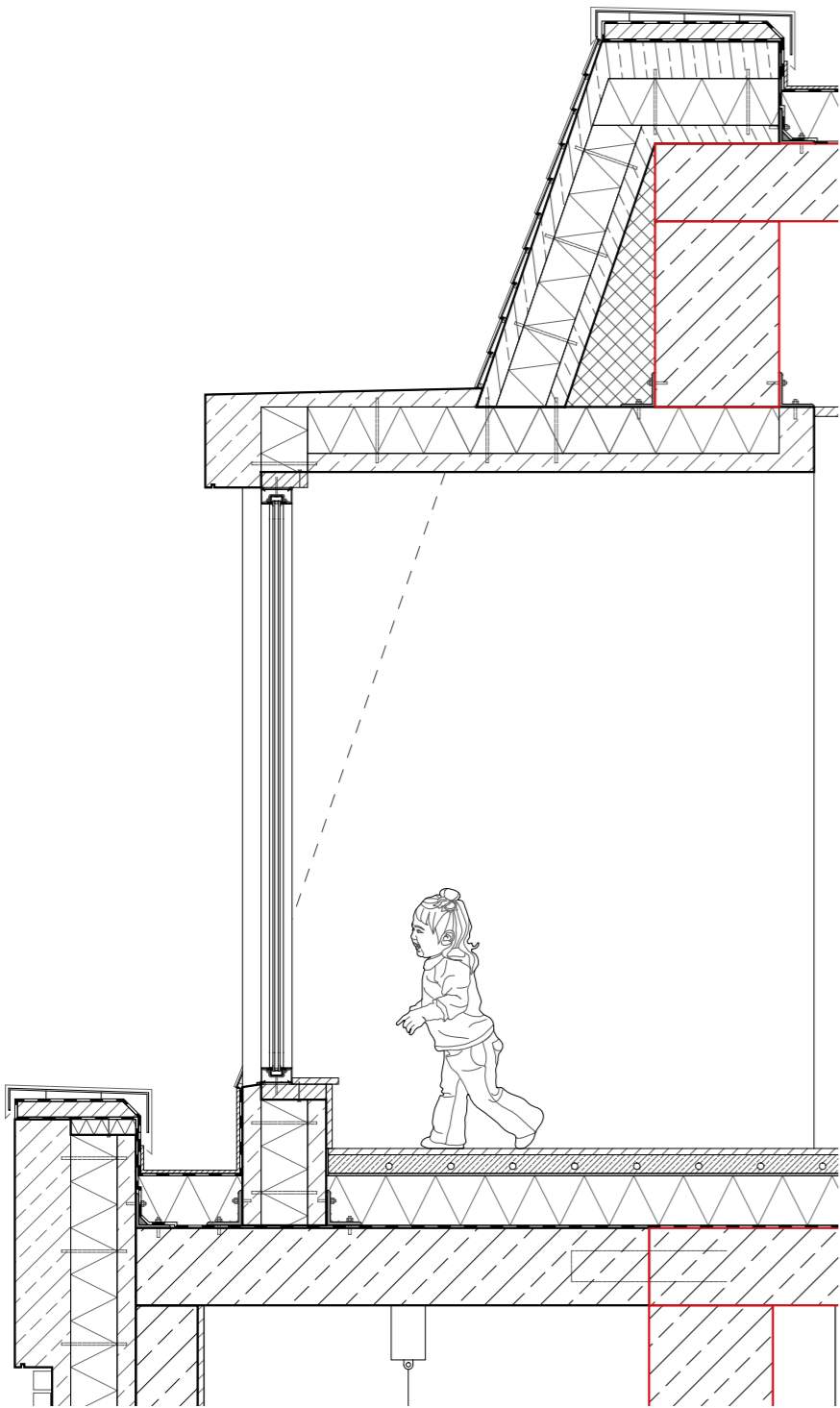
Prefabricated facade 1.0 (type2)



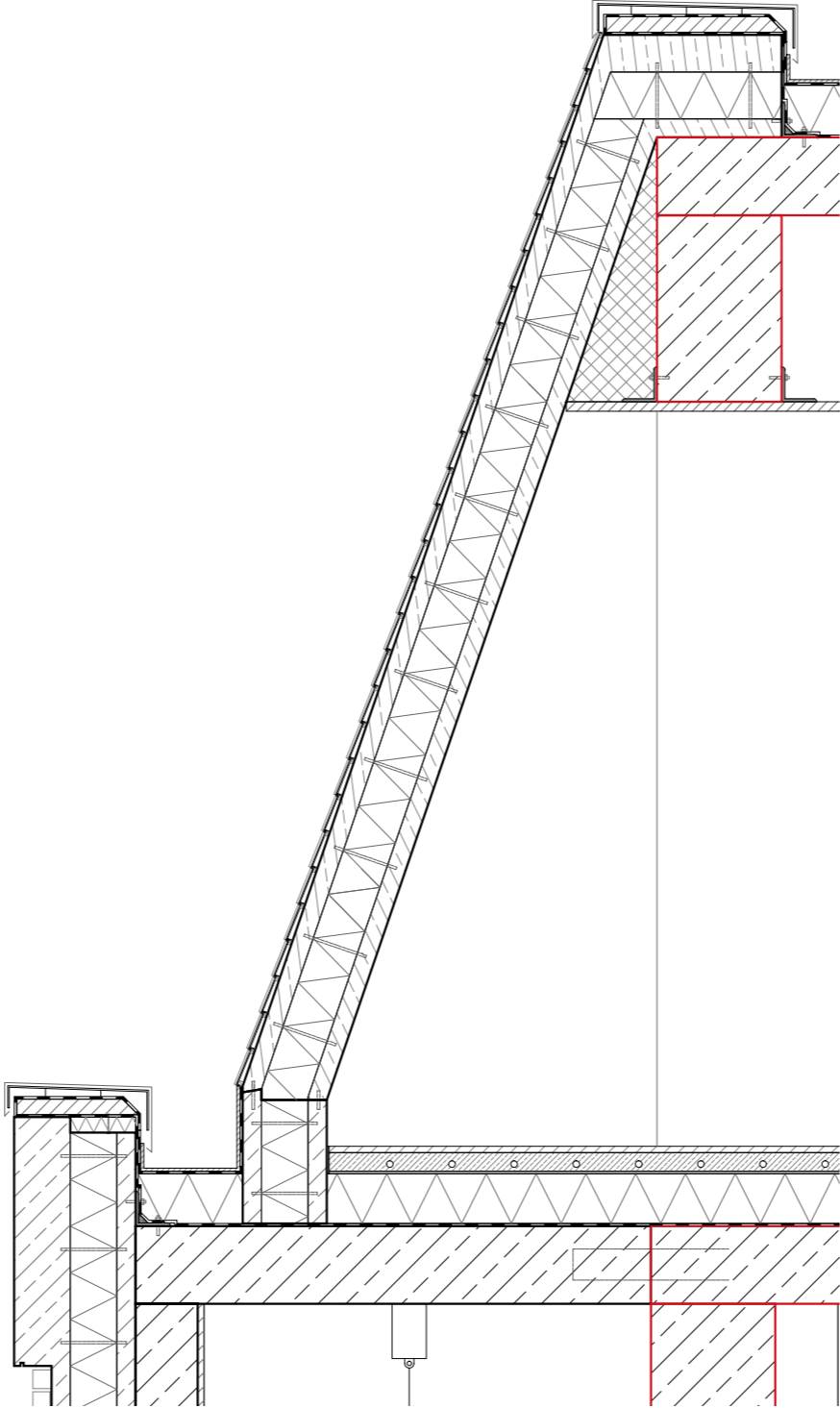
Prefabricated facade 2.0 (type1)



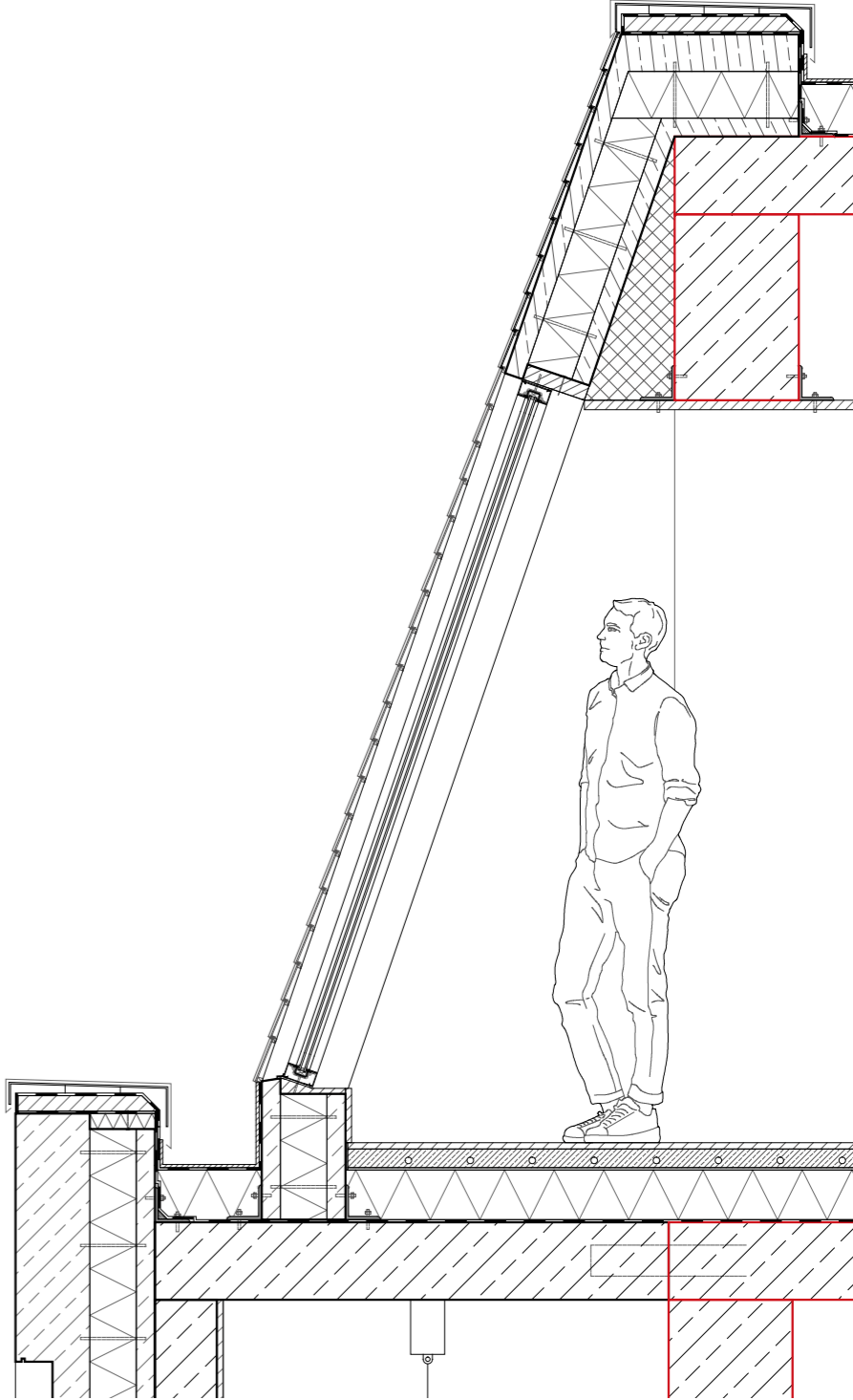
Prefabricated facade 2.0 (type2)



Prefabricated roof (type1)



Prefabricated roof (type2)



Prefabricated roof (type3)





**"FUTURE TREND"**

## Introduction

This chapter includes the fourth part of research (future trend) and review and reflection of my graduation work.

Since the “future plan” by the government may be an unsatisfactory solution to some extent, the new trend for shopping in the foreseeable future is an intangible driving force for the evolution of retailing space. A timeline (Figure 10, page 18) was drawn to show the evolution of retailing space and the logic behind it. Each time the society, technology, finance and people’s demands change (or evolve), they will contribute to a great leap on the evolutionary process of retailing buildings and spaces. Then the question occurred: what is next for us? Will virtual shopping someday totally replace the physical shopping?

## 6.1. A turning point for physical shopping (in the post-corona era)

Shopping is arguably the last remaining form of public activity, said Koolhaas, and there is no doubt that virtual shopping is the outcome of modern technology and logistics in this era. Due to the rise of e-commerce and the emergence of unknown disasters (like epidemics), the traditional forms of shopping are constantly being challenged. However, in my opinion, the physical retailing will not be replaced by online retailing in the future; otherwise there will no longer be any physical social activities at all. In this case, the concept of New Retail was introduced in the Commercial Fulfillment Center -- the integration of online, offline, logistics and data across a single value chain.

With the continuous improvement of e-commerce supply chain management, price management and market channels, traditional businesses will be constantly impacted by the advantages of low prices and fast speed of online shopping. E-commerce is able to release low-cost advertisements and information through online platforms, which not only saves time and labor but also reduces the price of the product. In addition, the distribution logistics, information flow, and capital flow of e-commerce can be communicated in a timely manner, realizing a low-cost but high-efficiency marketing environment. Such operational efficiency and competitiveness cannot be matched by traditional retailing which consumes time and labor from several links such as product introduction, deployment and sales (high-cost and low-efficiency business mode).

E-commerce places great emphasis on information circulation channels when selling products online and it can make quick responses and flexible decisions to the ever-changing market. This allows e-commerce companies to monitor the market trend more accurately, thereby reducing unnecessary expenses for personnel and improving profits. Traditional retailing such as department stores has multiple management levels, differentiated employees, low market sensitivity, slow merchandise sales and continuous shrinking profits. As the operating costs of department stores continue to increase, bidding methods such as discounts have been difficult to pose a powerful threat to e-commerce. Commodities such as clothing and shoes sold online are usually 40 percent cheaper than those in the

mall without discounts and rebates. With every change of the seasons, traditional retailers will promote the new arrivals to attract more consumers, however, e-commerce platforms seize the opportunity to reduce costs and sell new products at discounts (small profits but quick turnover), which put huge pressure on physical shopping.

In addition to price, online shopping also has an impact on traditional retail from the channel. Traditional retailing uses a commodity distribution channel that separates production and sales, while online shopping has narrowed the distance between product manufacturers and consumers and provided a platform where they can have direct communication and trades. With logistics companies, online retailers are able to complete the sale of goods, which avoids the dealer's extra price and bring practical benefits to the consumers. In addition, a large amount of choice of commodities is available online and consumers can shop around before buying, which not only saves the time for going out to shops, but they can find the most cost-effective products much more easily.

The disadvantages of a department store are gradually exposed nowadays: less diversified product mix, fixed price, few discounts, complete product categories but lack of styles. In this case, traditional forms of retailing are facing a dilemma: when consumers go shopping with specific purpose, they often come back empty-handed because they can't find a suitable product. Even for similar products, some consumers will give up buying because of the price after feeling and trying them in physical stores, and finally turn to e-commerce stores for their favorite products. The physical retail store, to some extent, has basically become a display center and experience center for e-commerce. More and more consumers regard the offline store as a comfortable fitting room: trying clothing sizes and then buying online. As a result, the sales of department stores continue to decrease, and many products have to be cleared and discounted due to the serious backlog, making the originally low profits become even weaker. After consumers are accustomed to large-scale discounts on overstocked products, they seem to have found the lifeblood of department stores, leading them into a vicious circle of no discounts

and no shopping.

The COVID-19 virus is having a groundbreaking impact on the retail industry on a global scale. Never before have retailers and brands faced similar challenges and strategical decisions. The unprecedented impact of the influenza pandemic can be felt within the whole retail value chain, from production to consumption, from retailer to customer, from the shopping street to the webshop, from platform to seller. "We are on the brink of the biggest transformation in retail ever seen", said Wijnand Jongen, the director of Thuiswinkel.org.

## 6.2. Online retail vs. offline retail: from opposition to coexistence

As the new retail era is approaching, merchants have begun to create an omni-channel shopping experience that integrates online and offline. With technological innovation and new channel distribution strategies, the retail industry will be redefined in the next ten years. Wei Shao, general manager of Nielsen China, said: "The purchase path of online shoppers during the early stage of e-commerce development is very simple: searching, comparing products, placing orders, and finally leaving comments and feedback. But today in the new retail environment, we can observe a trend that marketing touchpoints, information sources, and channels are all increasing rapidly."

The current typical consumption scenario is like this (Figure 11): consumers obtain shopping clues through touch points such as news, reports, books, mobile phone information, etc., and then search for relevant information online, communicate with friends, search for price comparison websites. After deciding what to buy, they may finally complete the shopping online on the mobile phone. Therefore, relationships between online and offline are more complementary than competition, and gradually coexist and merge with each other. When consumers shop in stores, they tend to first use the internet to check prices and find the most cost-effective solution, and consumers will also operate in the opposite direction: first go online to search, and then go to the physical store to shop.

### Offline for "emergency shopping", online for "leisure shopping"

I interviewed 20 people and most of them prefer to conduct "daily replenishment" or "emergency shopping" through physical channels; while the most popular situation for online channels is when consumers are doing "leisure shopping" or merchants are launching specials or promotions on special holidays like Christmas or Black Friday. Nearly one thirds of respondents said they like "casual shopping" online, while only 3 people said they would snap up specials via online platforms during certain holidays. Half of consumers will carry out "daily replenishment" at the physical store, and few shoppers will go to the store for "emergency shopping"--buying urgently needed goods.

### Online and offline retail complement each other

Online shoppers value "high-quality products" and "promotions" the most, while offline consumers emphasize service and experience. On one hand, except for "affordable prices", factors like "providing door-to-door service", "time-saving", "selling unique products" are also the reasons why people choose virtual shopping. On the other hand, offline consumers believe that "buying as soon as you arrive" is the primary reason they prefer offline channels, and they can receive the goods immediately after buying. Other factors for offline also include "live experience", "more reliable quality", "good service" and so on. In this case, instead of purely online retailing, the integration of online and offline is the trend for retailing in the coming years, and offline retailers are very likely to focus on differentiation of service and experience in order to avoid falling into price competition.



Figure 11: The current typical consumption scenario, retrieved from the internet

### 6.3. Reinventing retail and return back to the urban realm

Zoom out from Nijmegen to all the European cities, retail buildings is one of the most important public facilities in the society, and my graduation work of renovating the "dead mall" will be an attempt and suggestion to the evolution of retail architecture in the future. It is a fact that most of the stores are struggling to keep up with the changes to the see-choose-buy behavior of consumers and start offering an online website. We saw the department store of Vroom & Dreesmann (V&D) went bankrupt and ended the rich history of a department store that had branches in many Dutch cities, and probably the same ending for the legend of de Bijenkorf or other retailing buildings. From my point of view, however, this trend does not mean the virtual shopping will take over all the physical shopping.

Richard Sennett, in his book *The Fall of Public Man*, he talks about rise and fall of people's interacting abilities in the Western public sphere like marketplace. The more primitive and natural the shopping behavior is, the less likely it is to be replaced, because it contains much more than only buying and selling. For example, no matter how efficient online shopping is, it cannot be compared to people's shopping experience in the market (interaction between people and goods; interaction among people; interaction with the natural environment). The more artificial the shopping environment is, the easier it is to be replaced by more advanced and efficient new typology due to the ever-expanding demands of people.

On the one hand, how can retail architecture expand by interacting with the society? (my research question) The retail architecture developed into marketplace, arcades, department stores, passages and shopping malls and ultimately colonizing our digital world. The retail industry has found a way to expand itself by penetrating into various fields, and it is difficult to separate other functions in cities from retailing anymore. At a time when the retail space expansion caused by technical means such as air-conditioning and escalators reached the extreme, information technology has found a new way for commercial expansion. It is not difficult to imagine that in the near future, retailing and businesses will become more comprehensive and expand more rapidly both for

offline and online, which may degrade other public buildings and social activities (mainly non-profit activities) in the city.

On the other hand, what is the role of shopping in today's tech-driven, social media-focused society? (design question) When customers indulged themselves in the virtual world, seduced by all kinds of attractive images, commodities and services, this online illusion on the contrary provokes a desire for authenticity: physical space, real materials, handmade, organic and tactile. Since shopping is becoming a deeply personal experience through all the aspects of the customer journey, the meaning of shopping is the experience of interacting with goods, people and other social activities in the urban realm.

Besides, the behavior of exchanging goods and buying-selling is a naturally formed social activities, and it will exist in the entire human history, and eventually become the last form of social activity, which means there will be less and less non-commercial behaviors in the urban realm in the foreseeable future.

Apparently my proposal is not to introduce an latest form of retail architecture and insert it into the site. Instead, I step back and review the whole evolution history as well as thinking over the existing problems hiding in the Molenpoort. And then I use all the materials in hand and all the ideas in my mind, to bricolage a Commercial Fulfillment Center, which is not only a solution to reinvent the "dead passage", but also a transitional product between retail architecture and public realm aiming at returning our public life back to the urban realm.

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