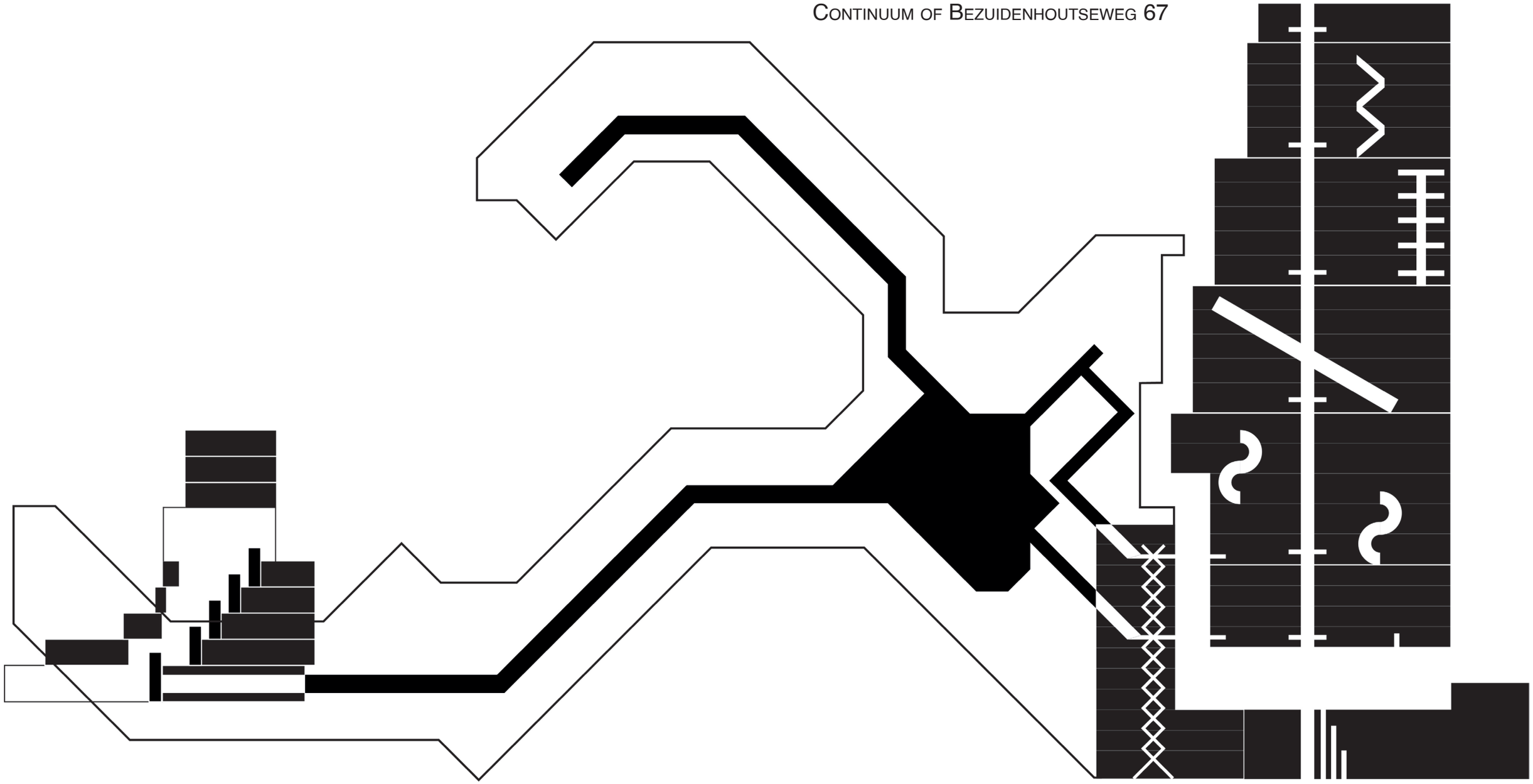
B67

CONTINUUM OF BEZUIDENHOUTSEWEG 67



Project Journal

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CONTENT

GRADUATION PLAN

Master of Science Architecture, Urbanism & Building Sciences

Personal information

Name	Theo Schoon
Student number	5714362

Studio

Name / Theme	Public Building | The Vertical Campus	
Main mentor	Paul Kuitenbrouwer	Project Design
Second mentor	Piero Medici	Technical Building Design
Third mentor	Gosia Golabek	Theory & Delineation

Argumentation of choice of the studio

During my studies, I became fascinated with how buildings can relate to public space. Hybrid buildings offer various possibilities to investigate this matter and to design the spatial gradient of publicness. How can you integrate a public building into the city while preserving the character of its private functions, without detracting from its openness and relationship to the city? These themes and questions make this studio interesting for taking a position on how public and private programmes coexist in a building.

During my studies, I have already gained a lot of knowledge about the different ways of interpreting the public realm and the relationships between buildings and public space. By participating in the Public Building studio I would like to develop further my position on the relationship between building and the public realm. In this studio, I can explore and develop my fascinations from research to design and hopefully contribute in the creation of public buildings in my future career.

Graduation Project

Title of the graduation project

B67

Continuum of Bezuidenhoutseweg 7

Goal

Location	The Hague, High-Density area
Building	Temporary House of Representatives of The Nederlands

The posed problem

In Oxford and Cambridge, higher education arose around the 13th century and has undergone major developments. One of the first colleges in Oxford was Balliol College started as an act of charity in 1260 by the King of Scots, John Balliol, where Balliol housed poor students in a house rented by him (Jones, n.d.). Over the years, several colleges have been built, each with its character and identity and mostly horizontally organised. These colleges are, sometimes, connected by footbridges but are mainly self-contained complexes. The complexes are organised out of several courtyards to which university facilities are attached. The resulting colleges are introverted due to the courtyard-facing facades that create close street frontages and have little connection with the public realm. Many campuses continued developing using the traditional layout and are mostly still segregated from the surrounding city fabric. The densification of cities necessitates the integration of campuses into the city. This ensures that cities are open and more accessible and spaces and programmes of the city and campus can reinforce each other and contribute to challenges within the society (den Heijer & Curvelo Magdaniel, 2018).

As an answer to the studio brief, the Temporary House of Representatives of The Netherlands in The Hague was selected as a project site for the new campus. This building is an obsolete office building that is, due to its function, for many parts closed for the public. The new campus will accommodate lecture halls, workspaces, housing and other public functions. These programmes have specific requirements and dimensions and therefore the building needs to be transformed. However, in The Hague's densely built Central Innovation District (CID) there is little room for a horizontal extension and creating a horizontally oriented campus as in Oxford. In fact, in the future, the Municipality of The Hague plans to densify further the CID (Municipality of The Hague, 2021), leaving even less space for buildings and public spaces. On the other hand, it creates opportunities for more multi-use high-rise buildings with different types of public programmes and spaces. Therefore, the campus needs to grow in height which causes implications for the more "traditional" circulation patterns between different floors and functions within and around the campus. How can vertical circulation be created by breaking through the stacked floors as Musiatowicz (2008) argues?

Additionally, at the moment the building of the Temporary House of Representatives of The Netherlands, colloquially named the Monkey Rock, is seen as a monotonous closed structuralist building. Although the building has a distinct identity and is part of “the unity of the archipelago” (Koolhaas, 1994, p. 296), how can the new campus incorporate the local identity which could be represented by the kiosk typology of The Hague, which is now lost in the high-density area?

Research questions

How can verticality as a strategy transform obsolete office buildings?
How can traditional universities transition to vertical hybrid organizations, utilizing vertical circulation to enhance the public realm and promote vertical movement among users?
How can local characteristics be implemented in vertically organised buildings of a big scale?

Design assignment

The Temporary House of Representatives of The Netherlands is designed with specific requirements and dimensions to function as an office building. To transform the structure into a campus a new tower needs to be created to accommodate all the new programmes. Additionally, the building needs to establish more relation with the public realm to act as a public campus. Therefore a system needs to be created to be more open to the public realm around the building and at the same time encourage vertical circulation. Moreover, to prevent the campus from becoming a monotonous complex the local character of the kiosk typology of The Hague will be implemented giving it its own identity.

Process

Method description

To achieve the intended research outcome, research will be conducted through the research-by-design method. Hence, in this research speculative thinking and projecting ideas go hand in hand with theoretical research. However, the first phase of the research will focus on the history of university design and mainly the circulation patterns before speculating about future design concepts.

The posed problem

This will be explored by a historical literature review and additionally with case studies, using University planning and architecture: the search for perfection from Coulson et al. (2011) as a guideline. In the second phase, case studies will be used to investigate how to encourage people to move vertically in a building and how public spaces can contribute to this. Lastly, research on the local identity of The Hague will be done on how the character of the kiosk typology can contribute to formal and informal design to create a variety of identities within the building.

Literature and general practical

Berkers, M. (2019). *De stad van de toekomst : tien ontwerpvisies voor vijf locaties, verbeelding voor een vierkante kilometer stad = The city of the future : ten design strategies for five locations, visualizations for a square kilometre of city*. BNA Onderzoek ; Uitgeverij Blauwdruk

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Reflection

What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

The graduation project is a search for design solutions that answer the questions raised by the studio's theme, Vertical Campus - a public hub of the future in The Hague. This vertical campus will be designed around the densely built-up Central Station where now obsolete massive building volumes seem to form a piece of the city of their own. This project focuses on how an obsolete massive building volume can be transformed and expanded vertically to become the campus of the future. In attempt to investigate how large scale buildings can contribute to and prolong the identity of the city, the typology of kiosks was applied. The local character of the kiosk in The Hague can give the interior of the building identity while encouraging users to move vertically so that not only the ground floor is used but the entire campus becomes a vertical public hub.

The campus is eventually located in the Temporary House of Representatives of The Netherlands, De Apenrots (transl: The Monkeyrock). Through my earlier master's programme Heritage, an attempt was made to determine the value of the existing building and give it identity. During the research-by-design process, concepts were developed and the existing building was kept intact as much as possible and the new vertical addition referred to the existing identity. On the other hand, research was conducted into the development of campuses to predict the future of the campus, stemming from a previous master's programme.

The knowledge acquired during this master's helped me to reflect on the concepts in the technical elaboration of the building. Value determination of the building, research-by-design to create concepts and strategies and the technical elaboration here. I believe that in this project, the different master's programmes came together to produce the final result.

What is the relevance of your graduation work in the larger social, professional and scientific framework?

Over time, campuses have transformed from being their own communities in the city to being integrated more within the existing structure of the city. This is a theme we are increasingly faced with to not only use the building more efficiently through hybrid solutions but also to allow more audiences to come together.

What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

What is the relevance of your graduation work in the larger social, professional and scientific framework?

The graduation project investigated how De Apenrots can distance itself from the closed building volume by opening up to the city. By creating an indoor street on the ground floor and by designating public floors in the facade of the tower, it tries to encourage different target groups to use the programmes in the building.

The public floors in the building consist of a mix of programmes. These programmes encourage different target groups with different social and ethical backgrounds to use them. These include programmes such as sports and games, but also shops and print shops that can be used by students, office workers and residents. The spaces used by the programme are designed to easily change and adapt to needed requirements. Hybridisation of these spaces contributes to mixing target groups and users in the building. Meeting rooms can be used as lecture halls for the university and, when not in use, for residents' meetings or various clubs in the evenings.

In this graduation project, the campus is seen as a convergence of programmes and target groups that contribute to mixing social and ethical backgrounds.

The project's research is divided into three themes. Transforming obsolete office buildings, encouraging vertical circulation and using the local character of the kiosks in The Hague to give identity to the building.

Not only in the Netherlands are many (empty) obsolete office buildings. With the increasing pressure to create new spaces with the lowest possible carbon footprint, it is important to do research to the existing building portfolio before building new. The graduation project can contribute to convincing to transform existing office buildings and make use of the existing qualities they offer.

Cities are becoming increasingly crowded and there is less room for new construction or expansion of obsolete office buildings. As a result, there is a shift from horizontally to vertically oriented buildings. This densification also affects the city's public spaces and will have to be facilitated in other ways. This project tries to depict ways to stimulate vertical circulation so that the whole building is used by different target groups and in the city, public spaces are located at different heights.

The stacking and relationships between various programmes and ways of moving through the building can serve as an example of what possibilities there are as cities are increasingly going towards more vertical orientation and encourage people to move vertically in a building.
Finally, the project tried to translate the local character of the kiosks in The Hague into design principles. The verticality of buildings can lead to just a stacking of functions where each floor has the same anonymous identity. This project tries to integrate a combination of informal and formal functions in the building where the informal functions give the building different identities.
This project is not a toolbox from which design principles or interventions can be chosen, but an example the integration of the three themes in a building.

Planning

Principles of the master plan presented during P1 and concepts developed between P1 and P2 are implemented into the design project. The schematic design is developed and the integrated design proposal is presented during P2.

From P2 to P3, the schematic design is further developed and more research on circulation patterns and the identity of informal programmes will be done. Resulting in a preliminary design in which the principles of the master plan and the concepts developed up to P2 are integrated. These principles lead to a preliminary situation drawing, floor plans, sections, facades, schematic detailing and façade fragments.

After P3, the products will be further developed into a final design with a detail level between 1:100 and 1:20. The starting points and concepts presented during P1 and P2 are translated into a final situation drawing, floor plans, sections, facades and further detailing and façade fragments. The products presented during P4 are complete and finalised. However, between P4 and P5, minor changes can be applied in some products to achieve an even better integrated design proposal during P5.

RESEARCH PLAN

Concourses and Megastructures 9

Unfortunately, more and more entrances to downtown complexes aren't doorways; they're escalators to underground places or to upper-level walkways. Putting spaces away from street level is one thing. Now planners are taking the street itself away from street level. In some cases the slope of a site calls for the extra levels. But in most cases the architectural acrobatics are being pursued as an end in themselves.

Why? Cities that have inferiority complexes want bold statements. Smaller cities seem particularly vulnerable. In those with conventional downtowns in trouble, officials are tempted to go whole hog in the other direction. So they set off on a pilgrimage to Montreal or Minneapolis and

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Figure 1 William Hollingsworth Whyte, *The social life of small urban spaces,* 1980, p. 82

Figure 2 Rem Koolhaas, The City of the Captive Globe Project, 1972

"The Grid – or any other subdivision of the metropolitan territory into maximum increments of control – descibes an archipelage of "Cities within Cities." The more each "island" celebrates different values, the more the unity of the archipelage as system is reinforced. Because "change" is contained on the component "islands," such a system will never have to be revised."
(Koolhaas, 1994, p.296)

Introduction

Higher education has undergone major developments over the years that started mainly in Oxford and Cambridge. One of the first colleges in Oxford was Balliol College started as an act of charity in 1260 by the King of Scots, John Balliol, where Balliol housed poor students in a house rented by him (Jones, n.d.). Over the years, several colleges have been built, each with its character and identity and mostly horizontally organised. These colleges are, sometimes, connected by footbridges but are mainly self-contained complexes. The complexes are organised out of several courtyards to which university facilities are attached. The resulting introverted colleges are the outcome of courtyard-facing facades that create close street frontages and have therefore little connection with the public realm. The reason for this was that it helped to counter the intrusion of villagers but also kept students inside for more control (Coulson et al., 2011). The typology of colleges provides spaces where green courtyards and the intersection of circulation routes act as meeting places. Furthermore, the college houses different programmes and facilities, such as housing, dining rooms, meeting and learning spaces and other university facilities. These facilities can only be used by the students and lecturers and that creates the opportunity to form a community within a college (Turner, 1984).

With the rapidly growing number of students around 1900, new typologies were adopted where there was no need for student housing as in traditional colleges and connecting to the existing urban fabric (Turner, 1984). While focusing to deal with the growing number of students in the most efficient way possible is understandable, a self-contained part of the city will not easily integrate into the existing urban fabric and is not the way a city should function (Sennett, 2020). In developing the new typologies, a transition is already started as Dober stated in 1964: *"Campuses which are horizontally scaled may meet their expansion requirements by gradually changing to a vertical scale as they construct taller buildings"* (p. 171). The verticality created by this transition will challenge the integration of campuses into the existing urban fabric and keeping the local small-scale character in the area

> *"In architecture such disjunction implies that at no moment can any part become a synthesis or self-sufficient totality; each part leads to another, and every construction is off-balance, constituted by the traces of another construction".*
> (Tschumi, 1987, p. 118).

Tschumi explains his design for Parc de la Villette with this statement, however this can also be used to deal with new buildings in the city. Koolhaas (1994) argued in *Delirious New York : a retroactive manifesto for Manhattan* that New York's grid filled with skyscrapers form an archipelago, *"Cities within Cities"*, where each skyscraper has its own identity between which, the public realm and *"the unity of the archipelago as a system"* is strengthened (p. 296).

Future campus buildings will be more integreted in cities again, often already densely built, so it has to be organised vertically. However, how can a vertical campus integrate into the public realm and have a place in *"the unity of the archipelago as a system"* of Koolhaas (1994, p. 296) and at the same time allow the public realm to penetrate the building vertically?

This research plan describes the problems of transforming a horizontal campus into a vertical campus with the following research questions: 'How can traditional horizontally organised universities transform into a vertical hybrid organisation?'; 'How can vertical circulation contribute to the continuation of the public realm?'; Which circulation routes/patterns can be implemented in a vertical building to encourage users to move vertically?'; How can local characteristics be implemented in a vertically organised building?'. The following paragraphs will further define the problems that resulted in the research questions followed by a description of how the research can be further developed to eventually create a coherent campus design.

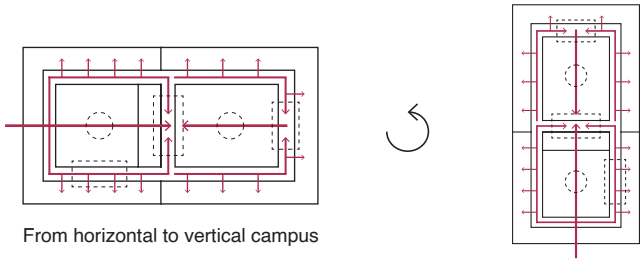
Research problem

A new campus will be designed in the Temporary House of Representatives of The Netherlands in The Hague. However, there is little room for a horizontally oriented campus as in Oxford in The Hague's densely built Central Innovation District (CID). In fact, in the future, the Municipality of The Hague plans to densify further the CID (Municipality of The Hague, 2021), leaving even less space for buildings and public spaces but creating on the other hand opportunities for more multi-use high-rise buildings. Therefore the campus needs to grow in height which causes implications for the "traditional" circulation patterns between different floors and functions within the campus and around the building. How can vertical circulation be created by breaking through the stacked floors as Musiatowicz (2008) argues without creating a monotonous identity?

Additionally, at the moment the building of the Temporary House of Representatives of The Netherlands colloquially the Monkey Rock, is seen as a monotonous closed structuralist building. Although the building has a distinct identity and is part of "the unity of the archipelago" (Koolhaas, 1994, p. 296) in the high-density area of the Hague, the local small-scale character of The Hague is lost. How can this local character of The Hague be vertically organised?

Frame work

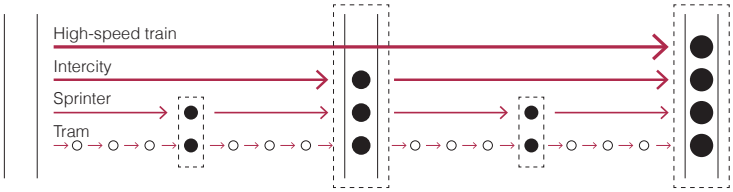
When the horizontal traditional Oxford college is organised vertically for example and the spaces and functions remain the same, courtyards are created at different levels around which circulation space connects the different layers with its functions. The space between the two courtyards, where all vertical movements converge, can then become an interesting place in the building, where meeting and interaction can occur.



From horizontal to vertical campus

Despite the potential outcomes of this transformation from the horizontal college to the vertical, some examples deal efficiently with vertical circulation in high-rises through a hierarchy. This is important because the campus needs to handle a lot of traffic movements due to the many potential students and other users using the facilities in the building.

Public transportation is a good example of how to deal with the hierarchy of different connections. This involves distinguishing how someone wants to travel from A to B and how important the final station is. Additionally, nodes are interesting spaces where different connections and travellers come together. What are the potentials of these nodes so that they are not only used as usual routes but also as places to stay to stimulate hybridity?

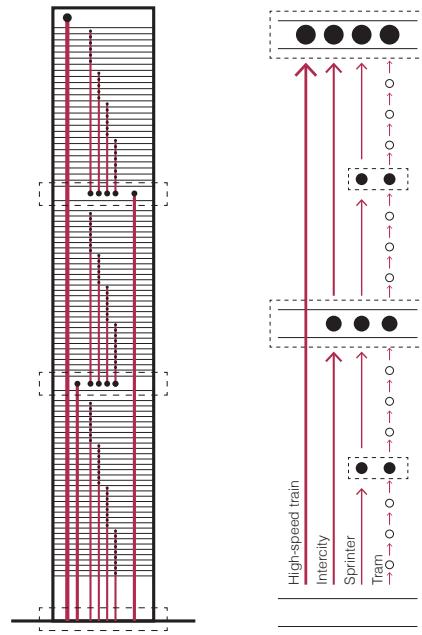


Concept hierarchy public transport, The Netherlands

Interesting / potential meeting spaces Circulation routes

An example of a building with efficient vertical accesses that deals with a hierarchy is the former Twin Towers. The lift system differentiates between connecting building sections and storey floors. This involves the use of express lifts connecting the ground floor to the top, secondary lifts connecting the ground floor to a particular building section and lifts going to the storey floors. This is similar to the hierarchy of public transport. Using this concept, potential spaces are created at the nodes where the lifts come together. However, the focus in the design for the new campus will be to connect and overlap different spaces and functions to allow users and visitors to move more vertically through the building, and this will require breaking through the stacked storey floors (Musiatowicz, 2008).

The Twin Towers' accessibility typology is efficient, but this common concept does not fit in the typology aimed at the new campus. Other forms of vertical accesses, which may not be obvious and are more radical, may give other insights into how the campus can be vertically accessed. For example, if a tree is stripped, the structure becomes visible and can be compared to vertical a circulation system. The structure of a tree, like in the Twin Towers and the public transport system, has a distinctive hierarchy where the vertices serve as nodes, the spaces where different users come together. In addition, what happens in the spaces where the branches cross? and how can the traffic spaces, the places where the birds sit in the tree, be designed flexibly and hybrid to make them functional for users? At the same time, the tree grows and changes as it ages and the same is true for hybrid spaces where programs can expand or adapt over time (Musiatowicz, 2008).



Circulation Twin Towers compared to public transport system

Tree as circulation concept

Interesting / potential meeting spaces Circulation routes Stops

Research question

Different accessibility typologies are possible to access the vertical campus. This research will further explore how the given circulation systems can be combined to encourage people to move vertically through the campus and how traffic routes and nodes can be designed so that they can be used hybrid while allowing the public realm to penetrate deep into the building.

The resulting research questions following from this problem statement are:

How can traditional horizontally organised universities transform into a vertical hybrid organisation?

How can vertical circulation contribute to the continuation of the public realm?

Which circulation routes/patterns can be implemented in a vertical building to encourage users to move vertically?

How can local characteristics be implemented in a vertically organised building?

Significance

The buildings in the high-density area around the Temporary House of Representatives of The Netherlands, currently have little relationship with the public realm. In addition, there is little room for public spaces due to the densification of the project area. To create more public space, it needs to be oriented vertically instead of horizontally. Especially when *"more and more entrances to downtown complexes aren't doorways"* as Whyte (1980, p. 82) describes downtown areas in American cities which also implies for the current state of the high-density area in The Hague. Therefore, it is important to investigate how the public realm can continue vertically in a building where the circulation routes encourage people to move vertically so that these public spaces contribute to the current number of public spaces in the area. Additionally, it is important to implement a local character to these public spaces giving it its own identity.

Method
To achieve the intended research outcome, research will be conducted through research-by-design. Hence, in this research speculative thinking and projecting ideas goes hand in hand with theoretical research. However, the first phase of the research will focus on the history of university design and mainly the circulation patterns before speculating about the future design concepts. This will be explored by historical literature review and additionally with case studies, using *University planning and architecture : the search for perfection* from Coulson et al. (2011) as a guideline. In the second phase, case studies supported by a literature review will be used to investigate how to encourage people to move vertically in a building and how public spaces can contribute to this. In Addition, research by observation will be done on how the character of the kiosk typology can contribute to formal and informal design to create a variety of identities within the building.

Objective
The design project aims to showcase how the traditional horizontal campus can be vertically organised as cities are now even more densified. Additionally, the intention is to investigate different types of circulation patterns that can be implemented in the campus to encourage vertical movement, so that visitors not only use the public functions on the ground floor but also the functions situated on higher floors. At the same time, the design project seeks to not only enhance the public realm but also extend it vertically throughout the building with its own character.

Contribution
Contemporary architecture will have to deal with connecting public spaces and the interiors of buildings. Actually, it is about connecting people and the built environments, especially as cities, such as the CID in The Hague, become even more densely built and public spaces become scarcer.

This research and design project can contribute to future vertical campuses, but also to other building typologies that are vertically oriented. The design project can become an example of how public space can be drawn vertically into a building and at the same time encourage people to use the building vertically. In addition, different vertical circulation typologies will be investigated that can be implemented in high-rise buildings. Future building designs can consider the variety of these circulation typologies to deal with the organisation of the building program differently. In addition, this design project will focus on connecting people through programme and space.

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Whyte, W. H. (1980). *The social life of small urban spaces*. The Conservation Foundation.

Case studies

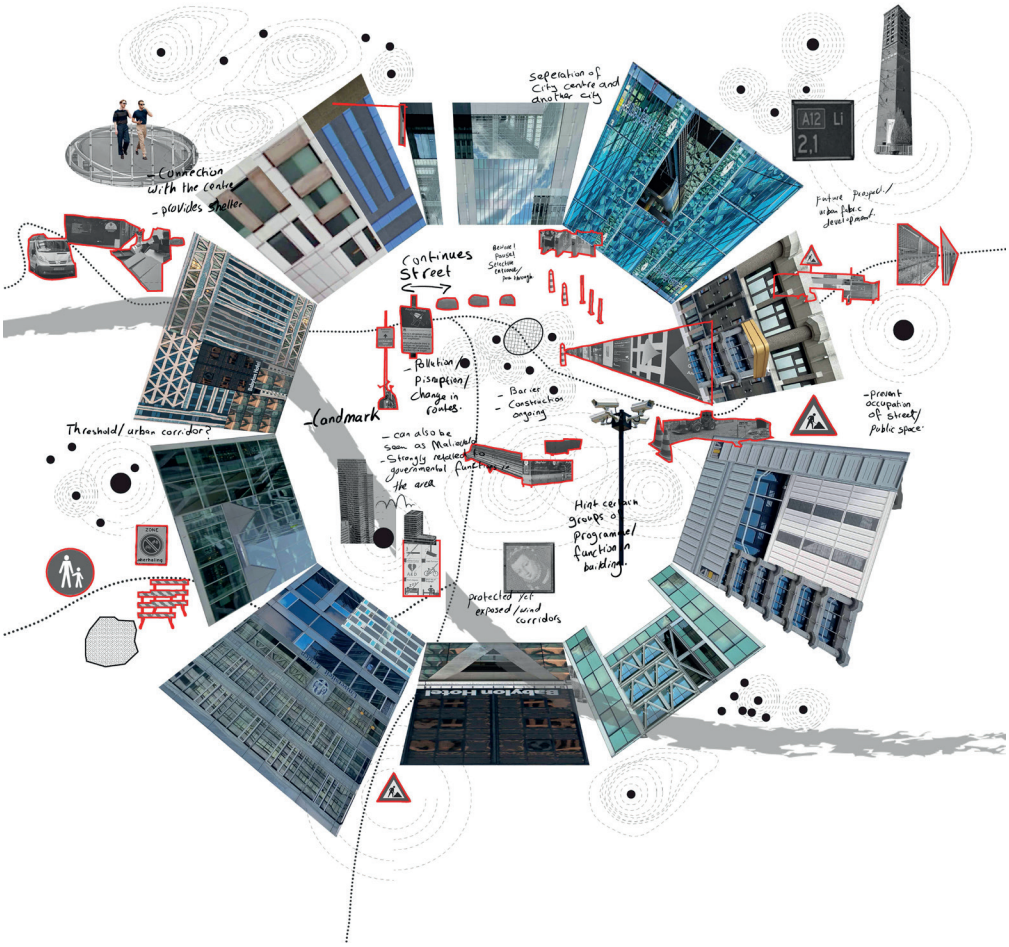
Recent projects

- C.F. Møller Architects, Maersk Tower, Copenhagen, 2016
- C.F. Møller Architects, VIA University College Campus, Horsens, Denmark, 2021
- Grafton Architects, Kingston University London - Town House, UK, 2021
- Grimshaw Architects, West Campus Union, Durham, US, 2016
- Piknic Cultural Centre, Jung Gu (Jung district), Seoul, South Korea, Indiesalon Space Design Studio 2020
- The Commons, Bangkok, Thailand, Department of Architecture, 2016
- Yoshino Cedar House, Yoshino, Japan, Go Hasegawa, 2016

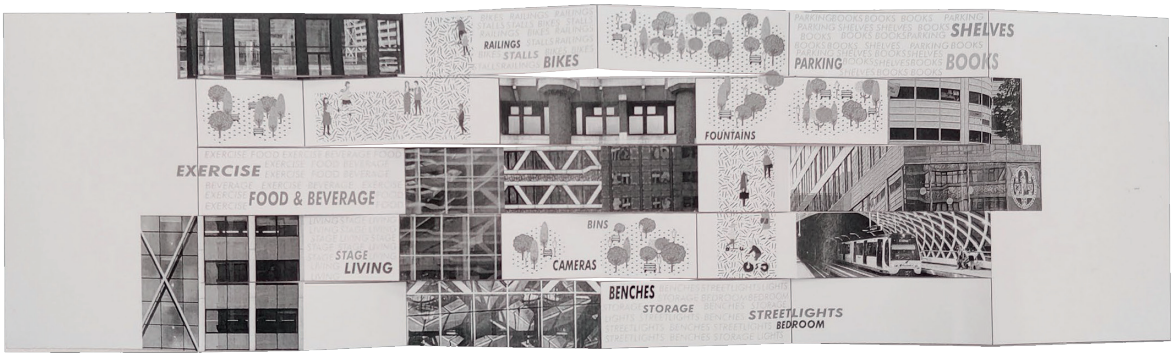
THEORY & DELINATION

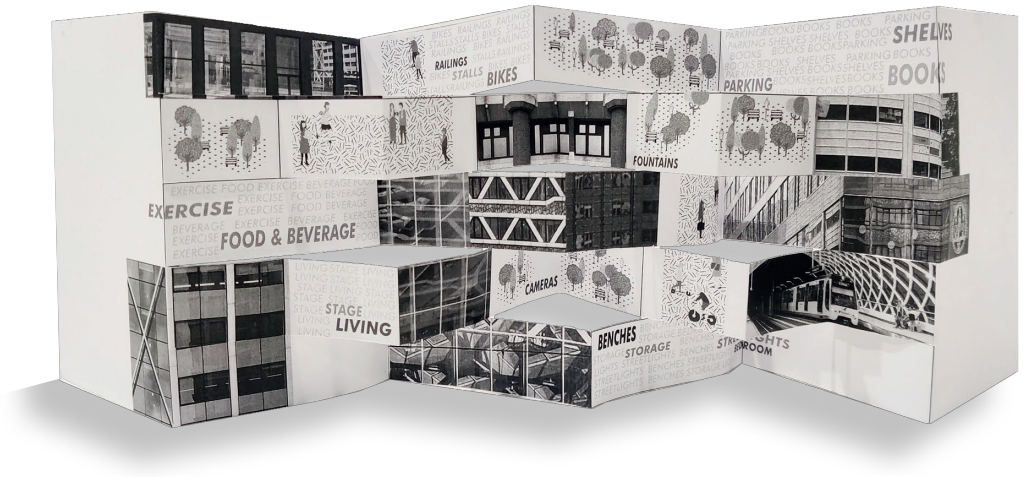
Speculative Design Thinking and Reflection

In this chapter, several techniques have been applied to encourage speculative thinking. This process goes hand in hand with the Research-by-Design method applied during the design project. Speculative thinking helped to identify bottlenecks in the public space of the High-Density area and formulate research questions and design concepts.



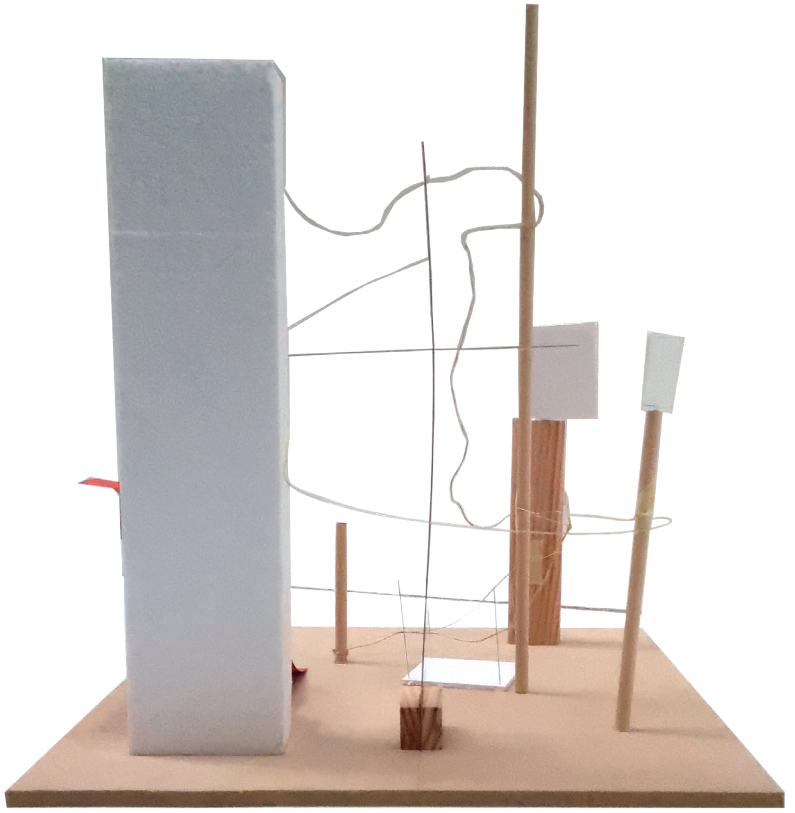
The Psychogeographical Map represents the perceived conditions of the High-Density area in The Hague. Large volumes, each with its unique façade design, create the interior of the public space between small spaces. These spaces are furnished with various objects that guide people through the area. This area is seen as an Archipelago as Koolhaas (1994, p.296) describes, in which the public space connects the different single entities.





The High-Density area presented in floorplan are individual buildings connected by public spaces, streets and squares. Different functions in the area encourage people to move between buildings and from building to building. When the area is displayed vertically, a vertical city is created where the horizontal public space transforms into a vertical circulation with squares on different floors and streets connecting functions vertically.

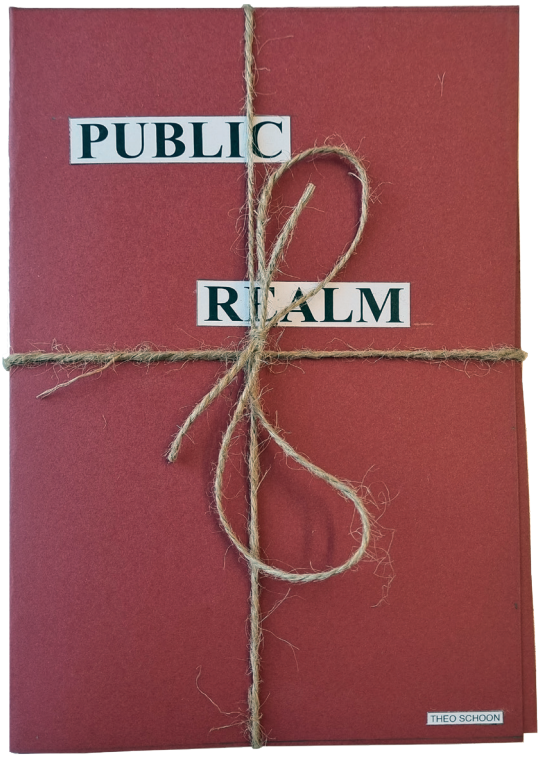
TD 3 | Performative Conceptual Model



The TD 3 assignment is an assembly of the Psychogeographical map (TD 1), Diagram (TD 2) and the research topic ‘vertical movement’ made into a physical model. The main concept of TD 1 was the representation of the in-between space and how the front facades of buildings define the public space and create a new interior. TD 2 was about how the horizontal city, which is created by fragmented objects, can be constructed in a new vertical assembly.

The idea of this model is that the organisation and stacking of different functions leave a negative space between which the circulation space is located. To move vertically through the building people can choose a variation of routes that are divided by hierarchy. Long wooden sticks represent lifts people can use to go as quickly as possible from floor to floor with little interaction. People can also choose the route of the steel tread, rope or red stairs, on which various nodes are created, caused by the intersection of circulation routes. The white foam represents the entrances of the functions that define the interior of the circulation routes.

Making this model helped me to think about my research and design options. For example, is the circulation space defined by the organisation of functions or is it the other way around?


PUBLIC
REALM
THEO SCHOON


BUILDING
DESIGN
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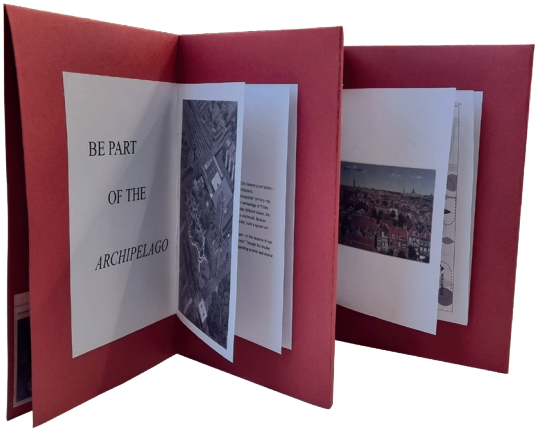
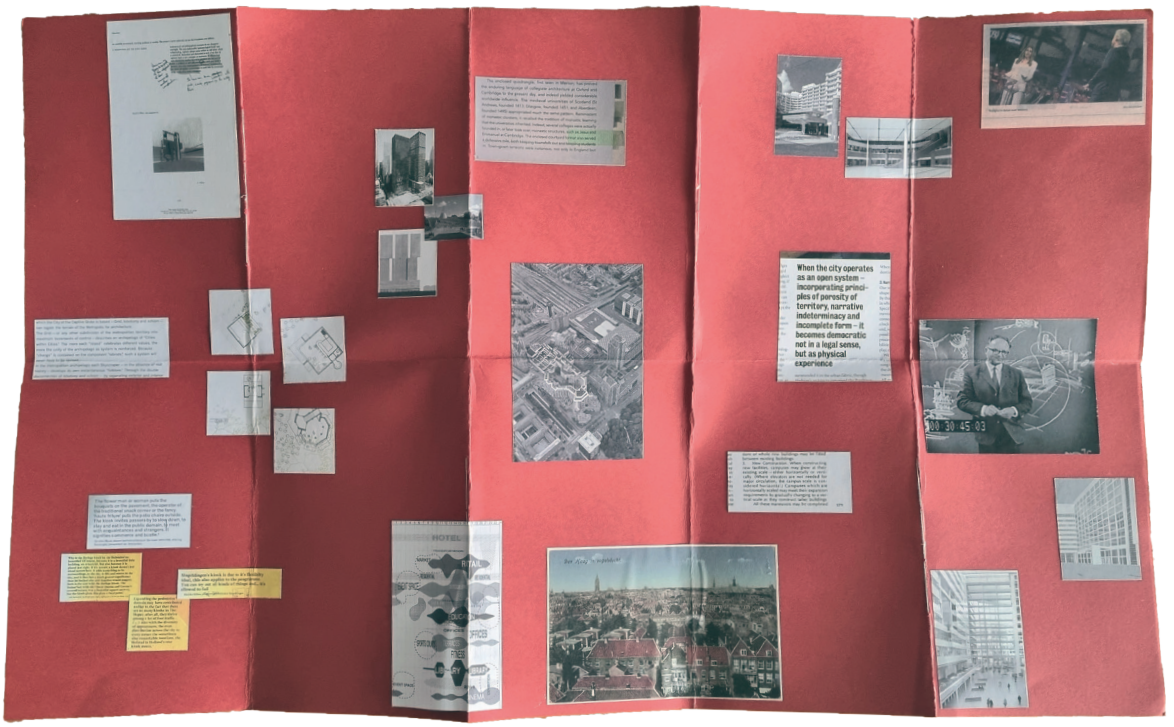
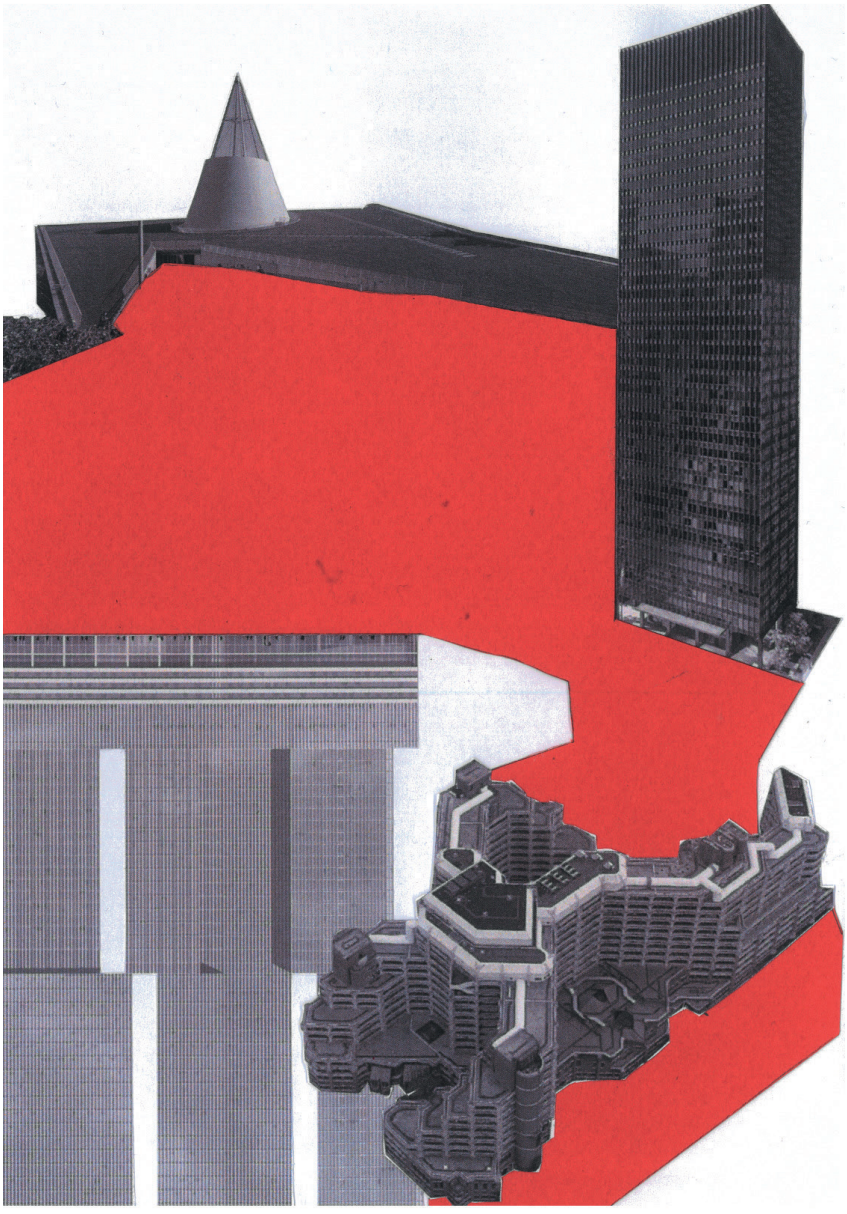

BE PART
OF THE
ARCHIPELAGO


THE
OPEN
CITY

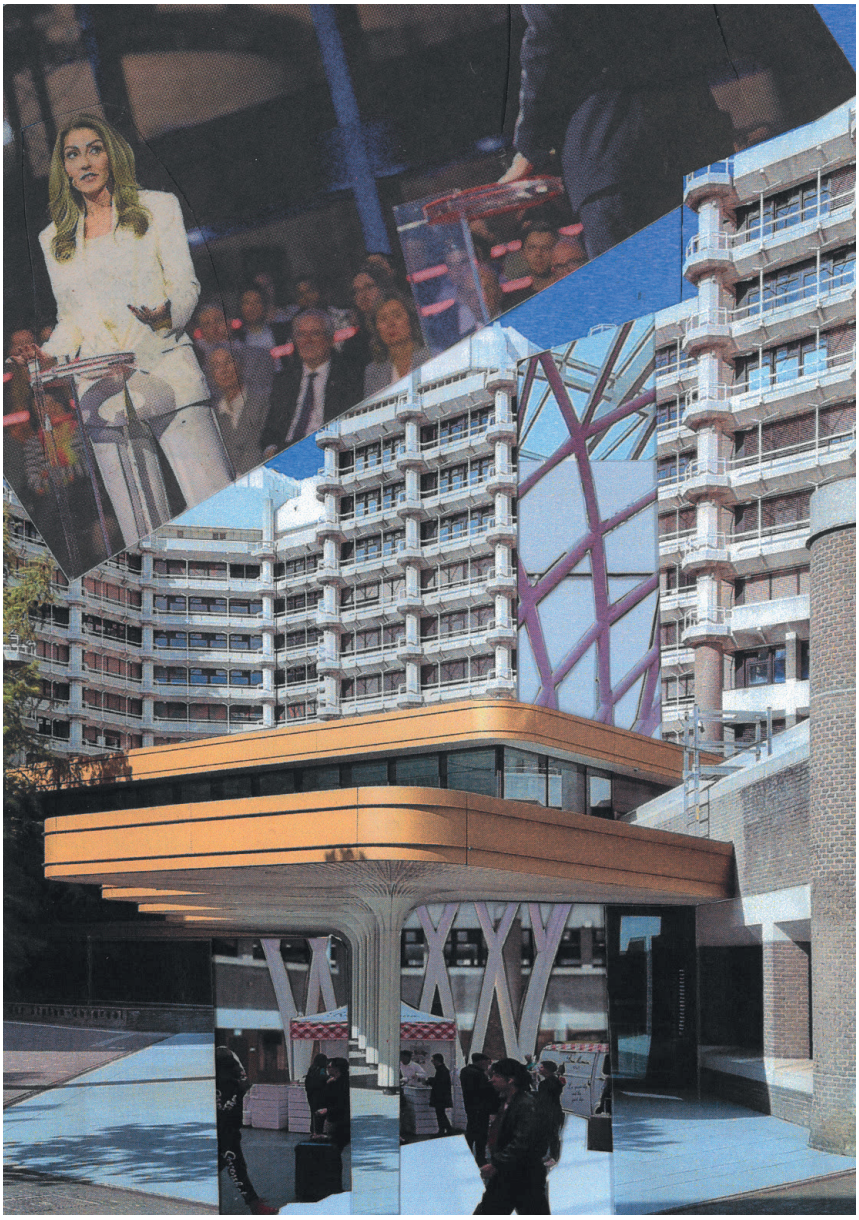


How can the relationship between the public realm and the building be established and how can they enhance each other? The Zine is a collage of inspiration and montages where the public realm and building design are presented separately and simultaneously told as a continuous story. As a stand-alone building, the Vertical Campus should enter into a relationship with the public realm and, both the building and the public space, should reinforce each other and merge so that it is experienced as a single entity.



Archipelago of the High-Density area

How to create vertical movement in a public building?

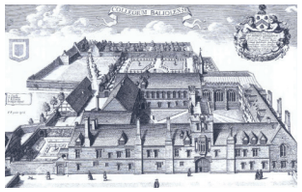


How to reveal the interior of an obsolete closed governmental building?

How to stack and use informal programme to encourage vertical circulation?

History

RESEARCH



The early colleges were found to provide housing for poor students as an act of charity. Most colleges consited of a church, educational facilities (a library and study spaces), housing and collective dining rooms (Coulson et at., 2011).

Baliol College, Oxford (1260)
Alfred Waterhouse (Main entrance design 1867-1869)

In the Middles Ages, student numbers increased and universities occupied more buildings to house students and expand libraries, teaching spaces and churches.

Harvard College, Cambridge-Massachusetts (1636)
Bay Colony

". . ., it was nineteenth-century Europe that explored to the maximun the associative power of historical style in giving form and meaning to educational institutions. . . The grandiose buildings that resulted were highly potent, highly expressice structures communative of the sociopolitical climte, of modern conceptions of education and of a youthful spirit of exuberance" (Coulson et al., 2011, p.17).

Univeristy of Virginia, Charlottesville - Virginia (1819)
Thomas Jefferson

Universities started to create city like structures instead of a collage of buildings. This was the beginning of institutions (Coulson et al., 2011).

Illinois Institute of Technology, Chicago (1956)
Ludwig Mies van der Rohe

Morse and Stiles Colleges, New Haven - Connecticut (1961)
Eero Saarinen

The early colleges | **Colonial colleges** | **Nineteenth-century** | **Modernism**

1000 | 1200 | 1400 | 1600 | 1700 | 1800 | 1900 | 2000

University of Bologna, Bolgna (1088)
The first univeristy

Queen's College, Oxford (1341)
Christopher Wren and Nicholas Hawksmoor (several building designs)

Palazzo dell'Archiginnasio, Bologna (1563)
Antonio Morandi

Instead of using cloistered buildings refering to Catholicism, American universities plannend seperate buildings in a large open green areas, open and inviting creat a relationship with the existing community (Coulson et al., 2011).

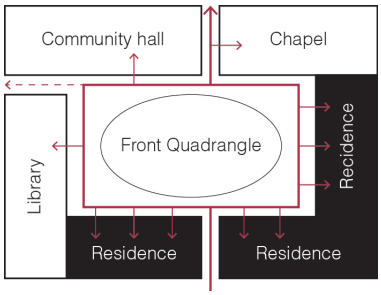
"*It is well know. . .What advantage to Learning accrues by the multitude of persons cohabiting for scholasticall communion, whereby to actuate the minds of one another, and other waies to promote the ends of a Colled-ge-Society" ZIE BOEK TURNER*

Yale College, New Haven-Connecticut (1701)
Francis Letort & Thomas Bills

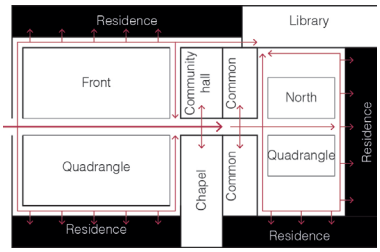
Federal Institute of Technology, Zürich (1864)
Gottfried Semper

Harvard Graduate Center, Cambridge- Massachusetts (1950)
Walter Gropius

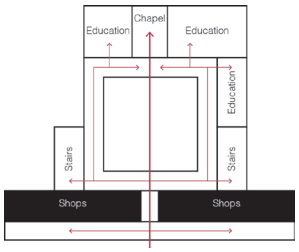
Looking back at the first campuses, universities and colleges that emerged from the first university in 1088 in Bologna, a lot has changed. Just looking at the floor plans, a clear view of how the organisation of these complexes changed is presented.
The first universities emerged from the ecclesiastical community that led to a similar organisation of the floor plan (Coulson et al., 2011). In the floor plan of the University of Bologna, Balliol College and Queen's College, clear axes can be seen in the quadrangular shape, the most important being the road to the chapel. During this period, each complex contained a chapel in which students and professors could make their expressions of faith. These complexes had a courtyard with student accommodation around and on the opposite side the chapel, library, common room and additional educational functions. The closed building block closes off the complex from the city and made it accessible only to the university's students and professors (Turner, 1984).
This organisation changed when the first colonial campuses arose. Based on the English quadrangular, these complexes were organised in separate buildings, like Harvard College. Additionally, these complexes wanted to relate more to the existing community (Coulson et al., 2011). The change in organisation is even more pronounced in Thomas Jefferson's design for the University of Viginia (1819). Jefferson argued that the most important thing of a university was knowledge so the library was designed as a central element. The chapel, also still part of the campus, was detached from the complex and located elsewhere on the campus.
During modernism, the focus on designing a campus took an entirely different direction. According to Coulson et al (2011), architects focus on designing a good organisation but mainly on the unique appearance to distinguish themselves. As a result, campus buildings, often, become more complex but on the other hand, this also creates new insights on how a campus can function. However, this is also due to the more complex design tasks that are placed in the architect's hands.



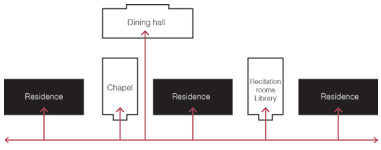
Balliol College



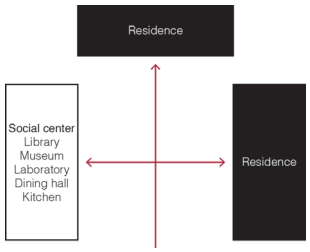
Queen's College



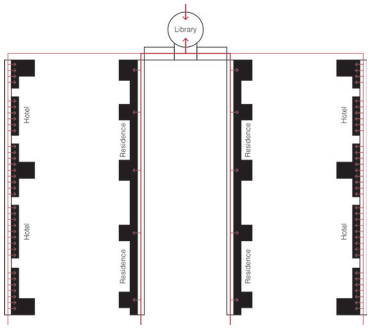
Palazzo dell'Archiginnasio



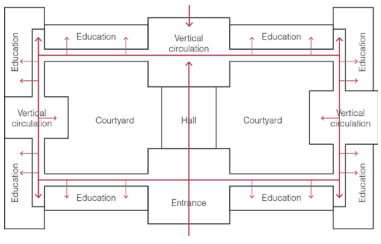
Yale College



Harvard College



University of Virginia



Federal Institute of Technology

SITE ANALYSES

THE HAGUE

The Hague part of the Randstad

The Hague as political capital

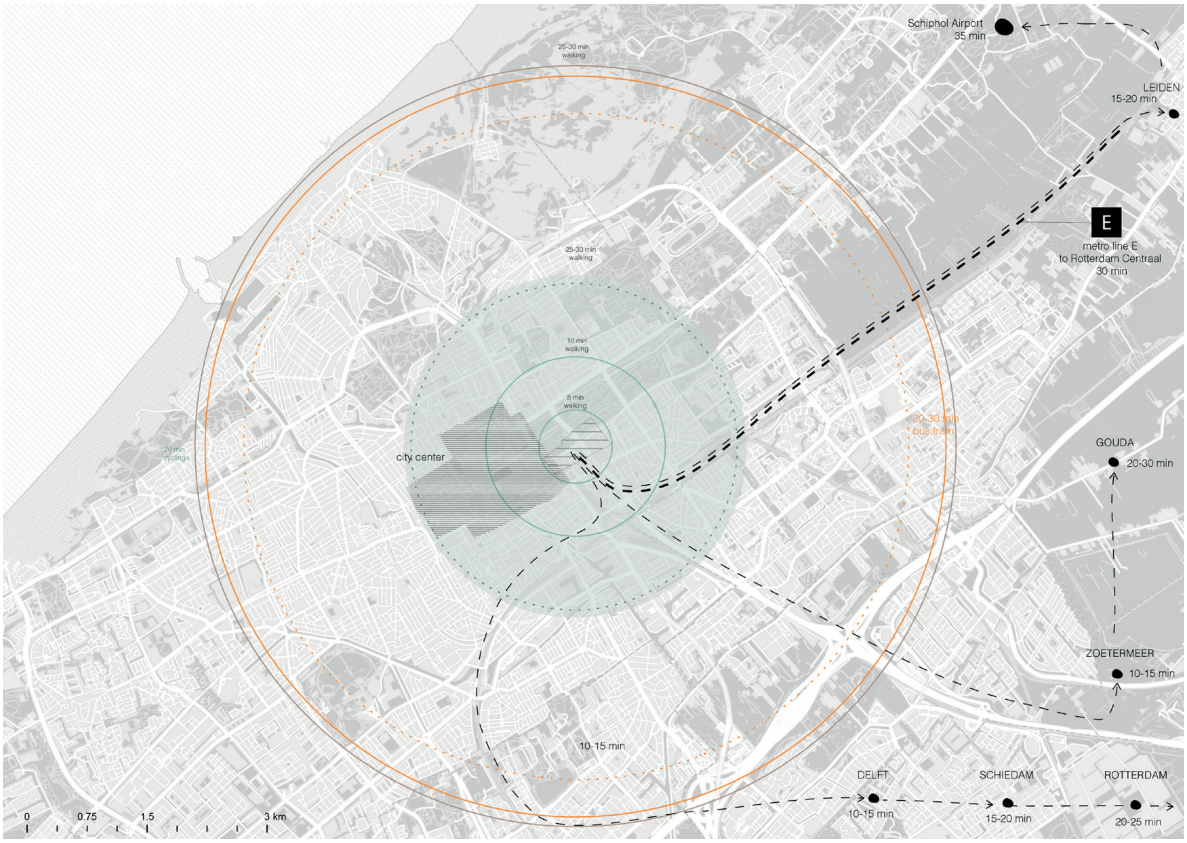
The Hague is the political capital of the Netherlands. The Parliament (1st and 2nd chambers) is located in The Hague, along with all other important government bodies. In addition, almost all embassies are located in the city. This also affects the city's security and because of this, there is a lot of police presence. Additionally, this is the city where many protests are held, mainly on Malieveld but this is shifting towards the A12 near the temporary House of Representatives building.

Figure 3 Het Binnenhof

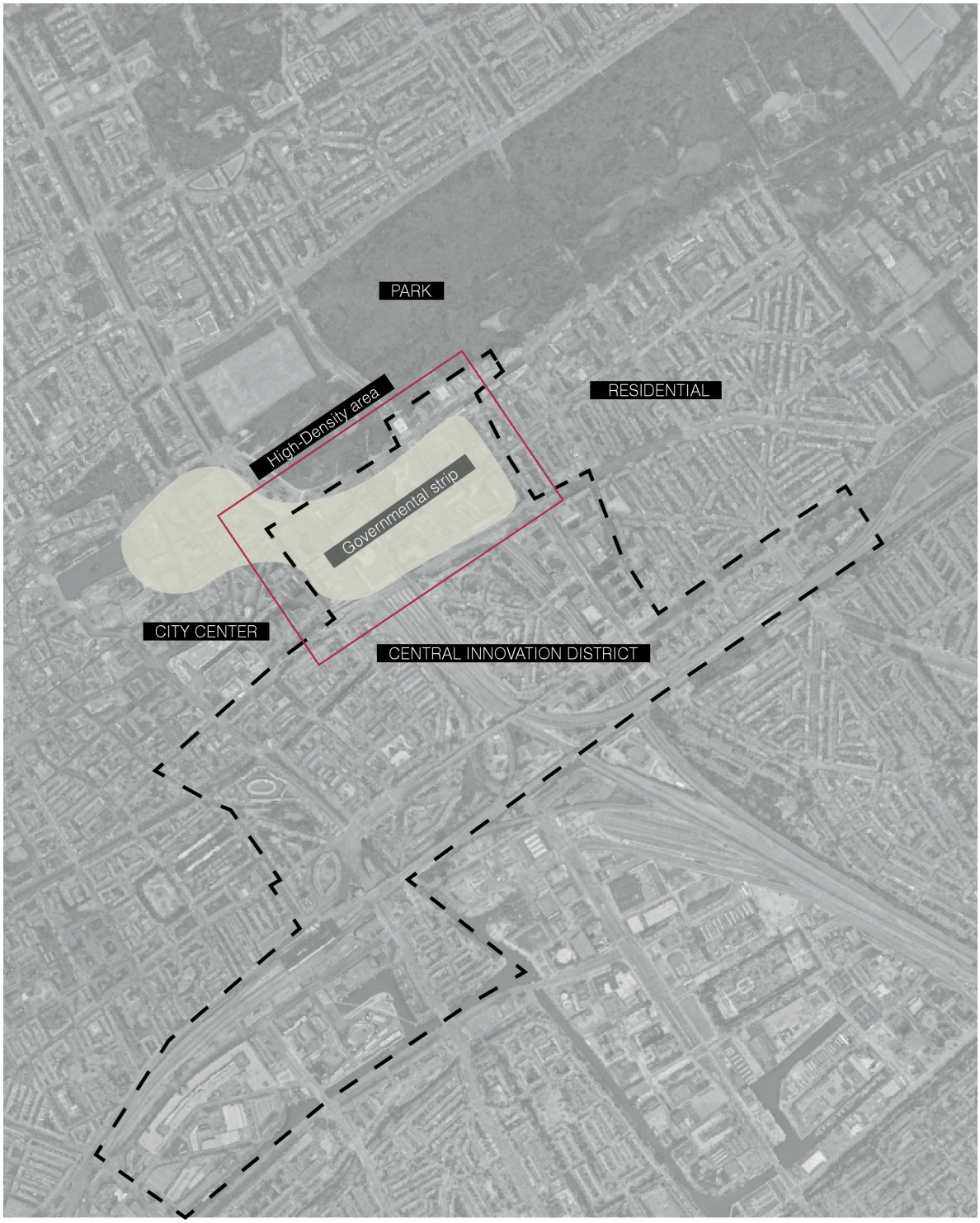
Figure 4 Demonstration at The Binnhof (1974)

Figure 5 Demonstration on A12 near Temporary House of Representatives building (2023)

Connection of The Hague



Area division



Public transport

Train tracks

Tram line

Metro line

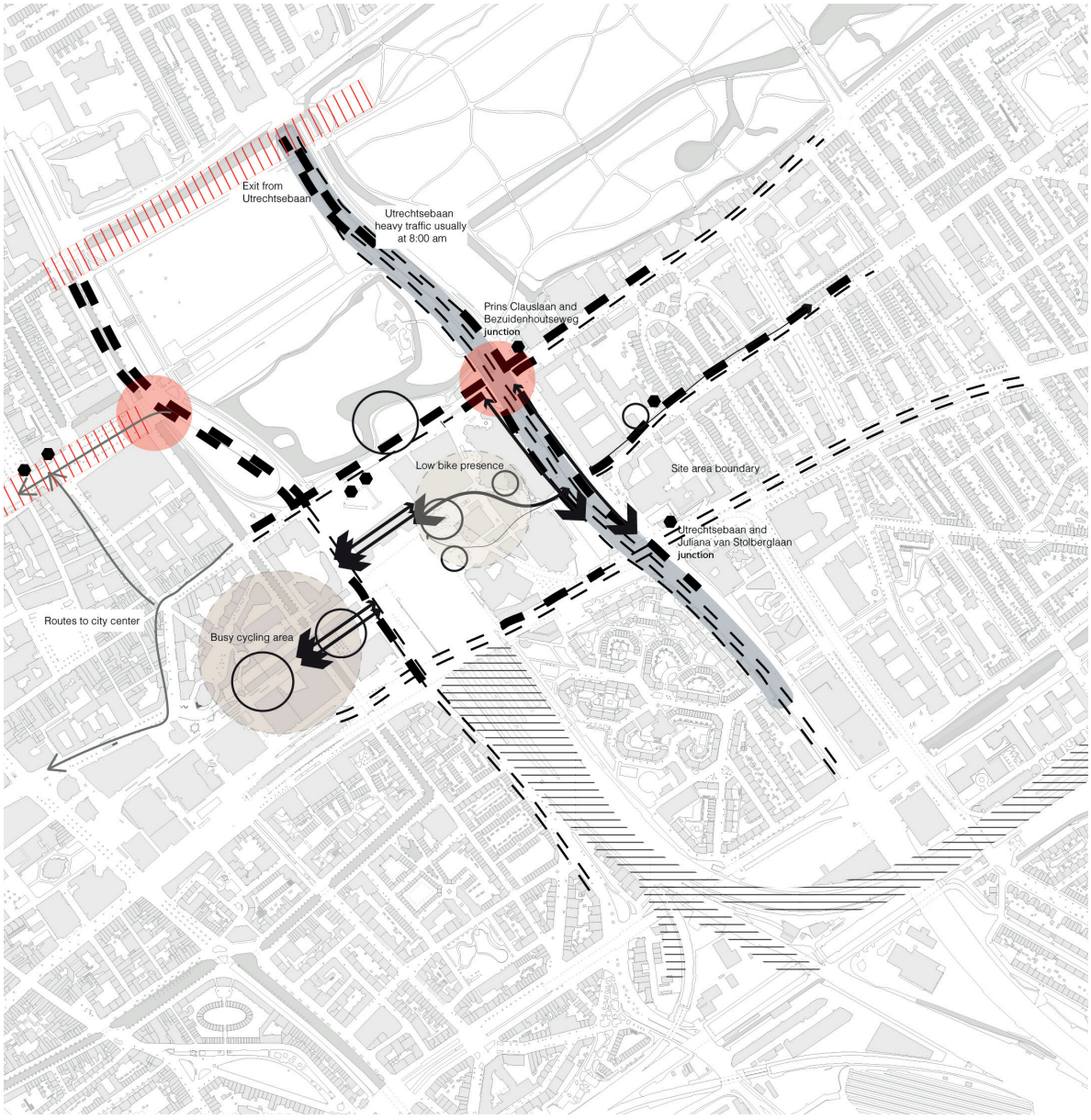
Road hierarchy

Main roads

Secondary roads

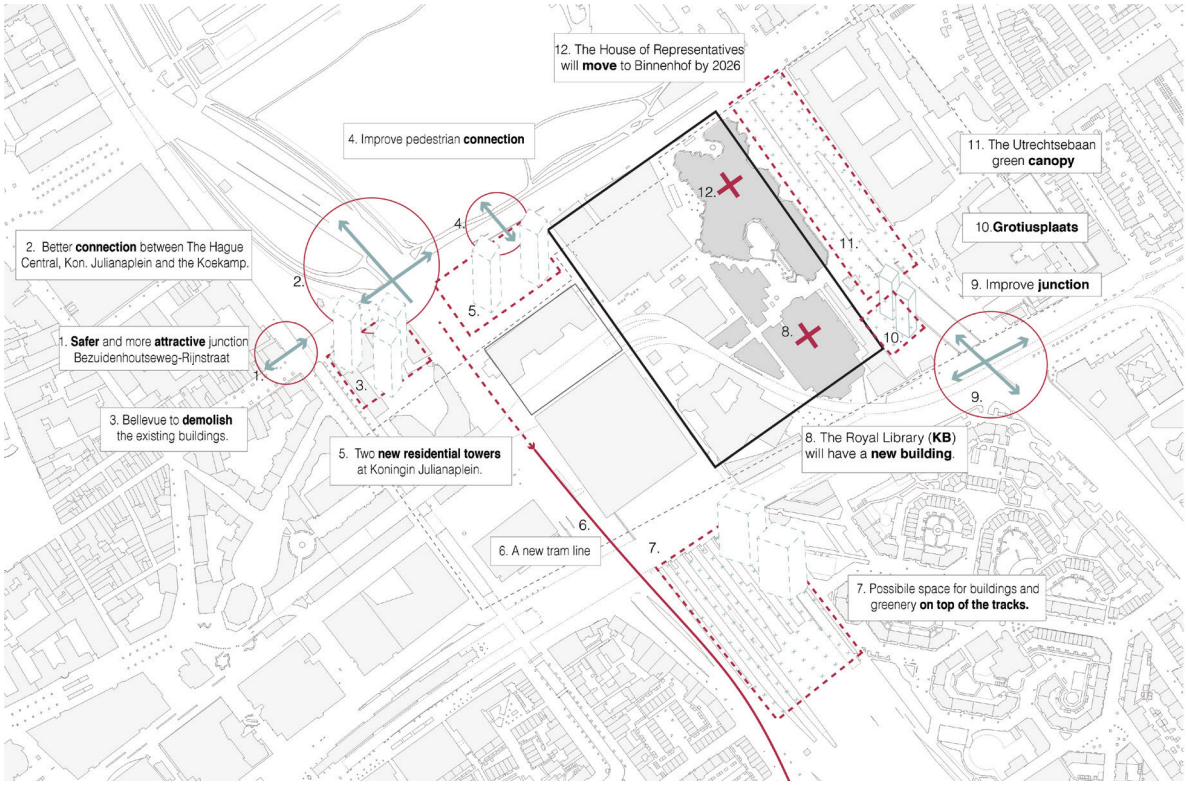
Access roads

Main traffic flows



Potential locations

The Hague municipality has developed an area vision that identifies bottlenecks around the high-density area and plans have been made to improve it. In addition, several developments are underway to create more capacity in the area. However, currently plans are only around the area while in a few years the Royal Library and the House of Representatives will move back or to a new location. This makes these two potential locations to develop a vertical campus.



Municipality Plans for the Central Innovation District Area

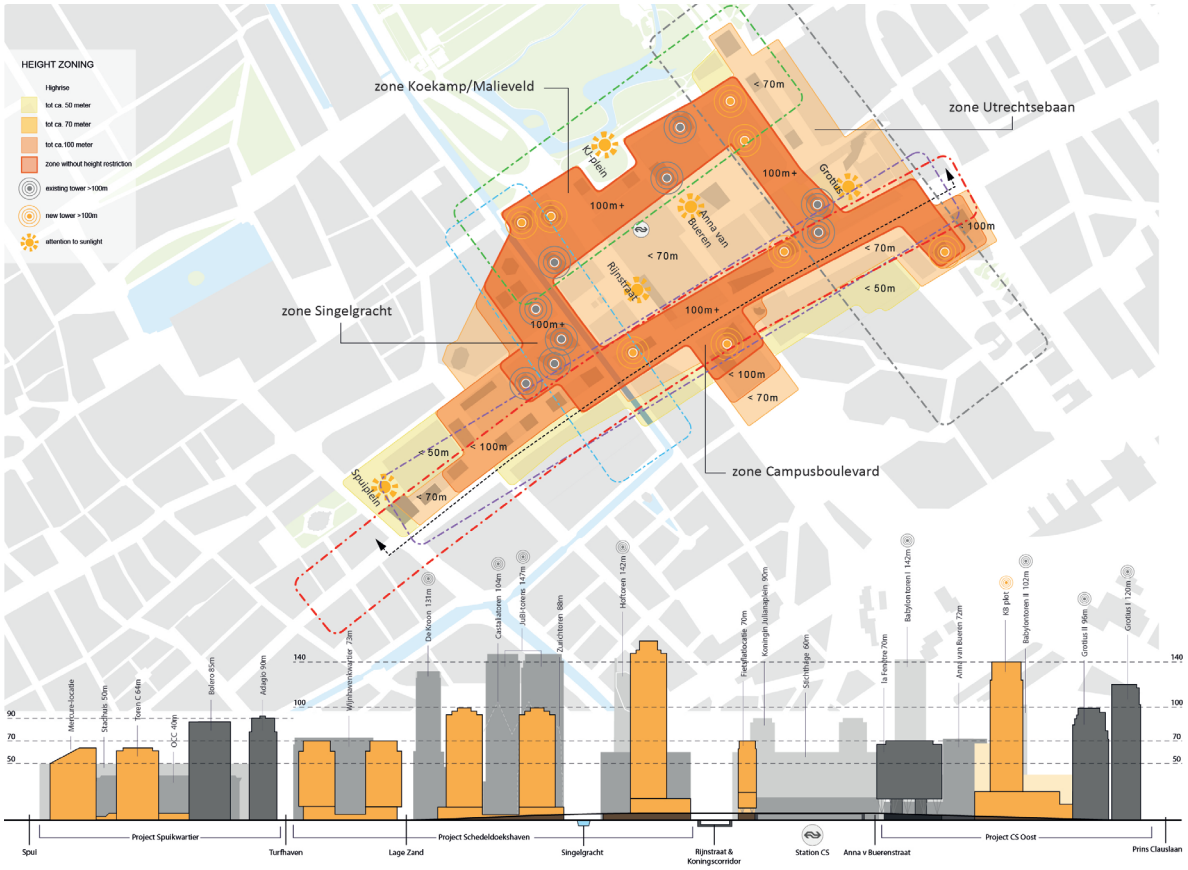


Figure 6 Profile principles height structure along Prins Bernhardviaduct

‘THE MONKEYROCK’

B67 | Temporary House of Representatives

Figure 7 Crossing Bezuidenhoutseweg 67 and A12 (1990)

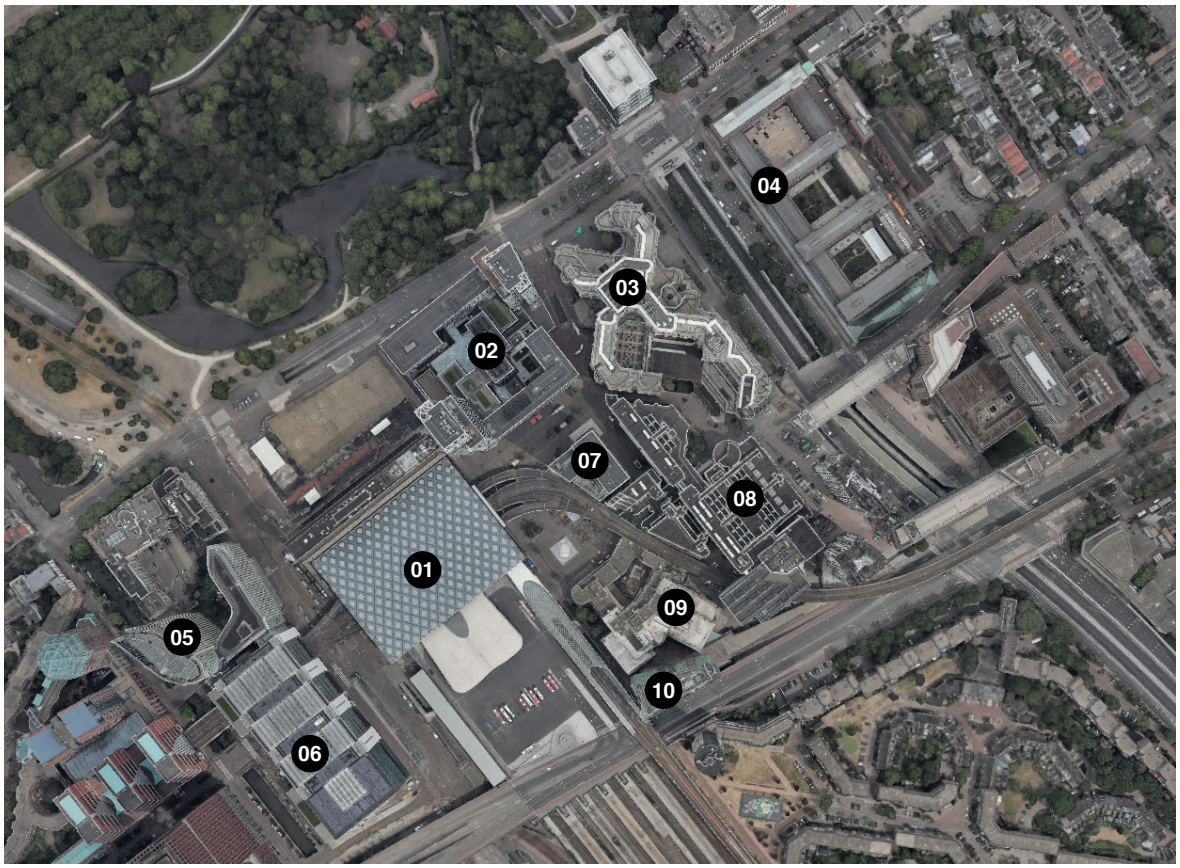
The Ministry of Foreign Affairs, built between 1979 and 1985, was designed by Dick Apon. The building has several nicknames, the ‘Aponrots’ named after Dick Apon and the appearance of the building, the ‘Apenrots’ a variation on the Aponrots and the most famous nickname and B67 because of its location at Bezuidenhoudseweg 67.
This building was created because the Ministry of Foreign Affairs grew rapidly after World War II and was spread over 23 locations. This building merged all these 23 locations into one building.
The challenge of the design brief for Apon was the programme of requirements. The most important aspect was to create hundreds of office rooms, with daylight, on a small plot (Denig & Poldervaart, 1985). To achieve this, Apon designed a cross to make the most efficient use of square metres and daylight. At the intersection the vertical circulation so that each wing could be reached easily. The building’s grid 7,2 m x 7,2 m that is rotated 45 degrees with respect to the site ensured that the wings could be designed efficiently.
The wings of the Monkey Rock has different building heights sloping towards the city. According to Denig & Poldervaart (1985), The Hague municipality saw to it that the building should not feel massive in its surroundings, but opinions are mixed on that.

Figure 8 Area around Central Station The Hague (1957)

In the 1960s, the Netherlands wanted to enlarge cities to get the more impact on the European market. By mainly better connecting the big cities, Amsterdam, Rotterdam, Utrecht and The Hague, the Government tried to strengthen and densify the cities. In The Hague, plans were made to densify the city around Central Station (figure 8). This idea was further developed over the years and in the 1980s, The Netherlands Institute for Social Research came up with the plan *Ruime kavel of compacte stad ?* (transl: Spacious plot or compact city ?) (Knol & Dugteren, 2001). In this report, Knol & Dugteren (2001) describe how compact building can reduce car mobility and leave more space for the landscape. This idea, compacting the city, is still being implemented in current policy, and the Municipality of The Hague wants to compact the Central Innovation District even further (Municipality of The Hague, 2021). This means then in the future the project area will be even more densified than it already is.

Building cluster

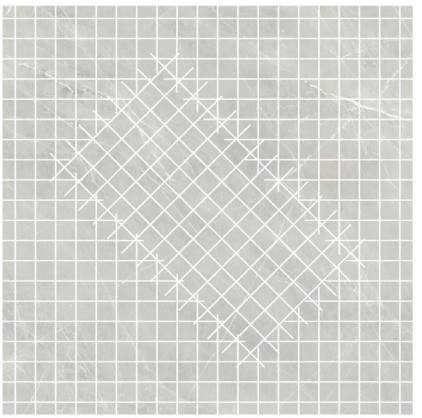
The Hague municipality has created a ‘Government Cluster’ around Central Station. In addition, Babylon, the King’s Library and the daytime residential building provide a diverse group of visitors and users to this area. Now that The House of Representatives is temporarily located in this area, the area has become even more important and, at the same time, this also presents challenges in terms of creating a safe environment.

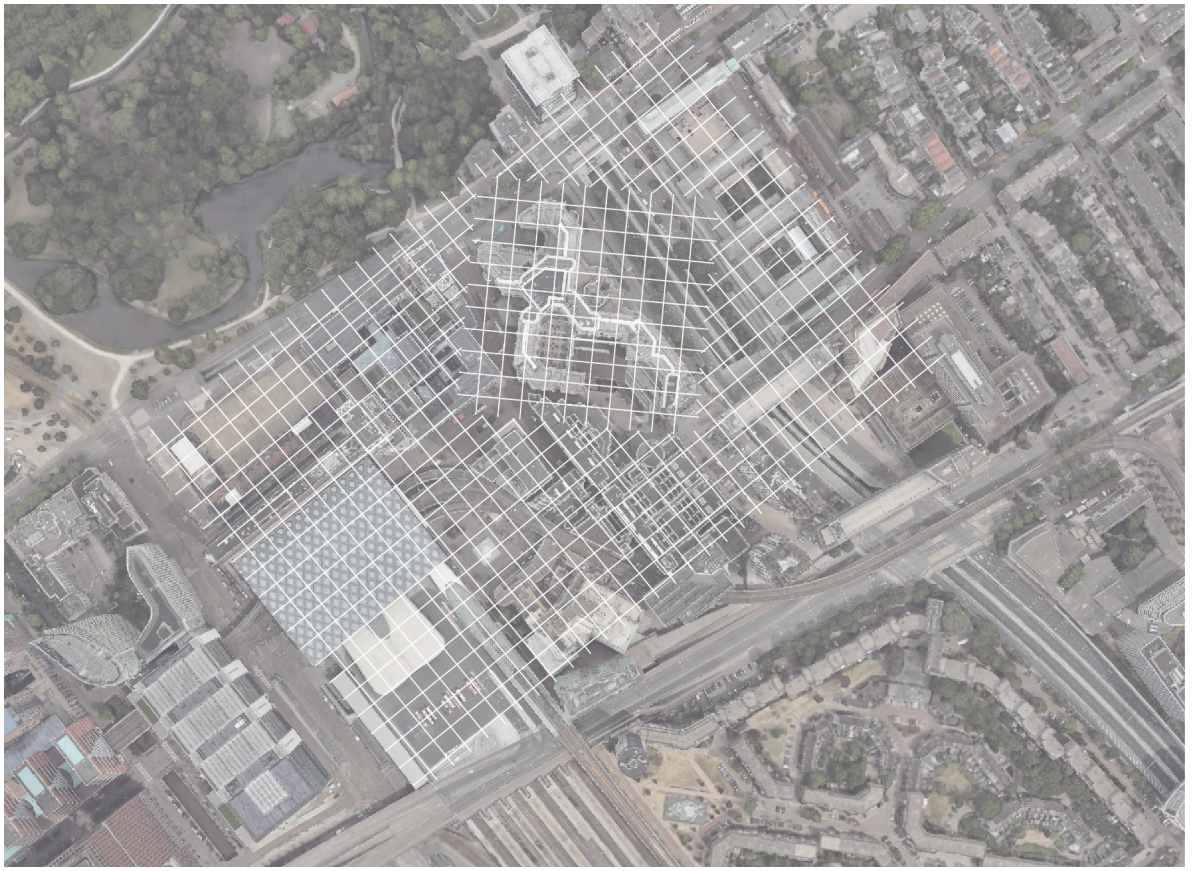


01 Central station
02 Babylon Hotel
03 Temporary House of Representatives
04 Ministry of Economic Affairs and Climate
05 Ministry of Education, Culture and Science
06 Ministry of Foreign Affairs
07 Leiden University
08 Royal Library
09 National Archive
10 Dwellings

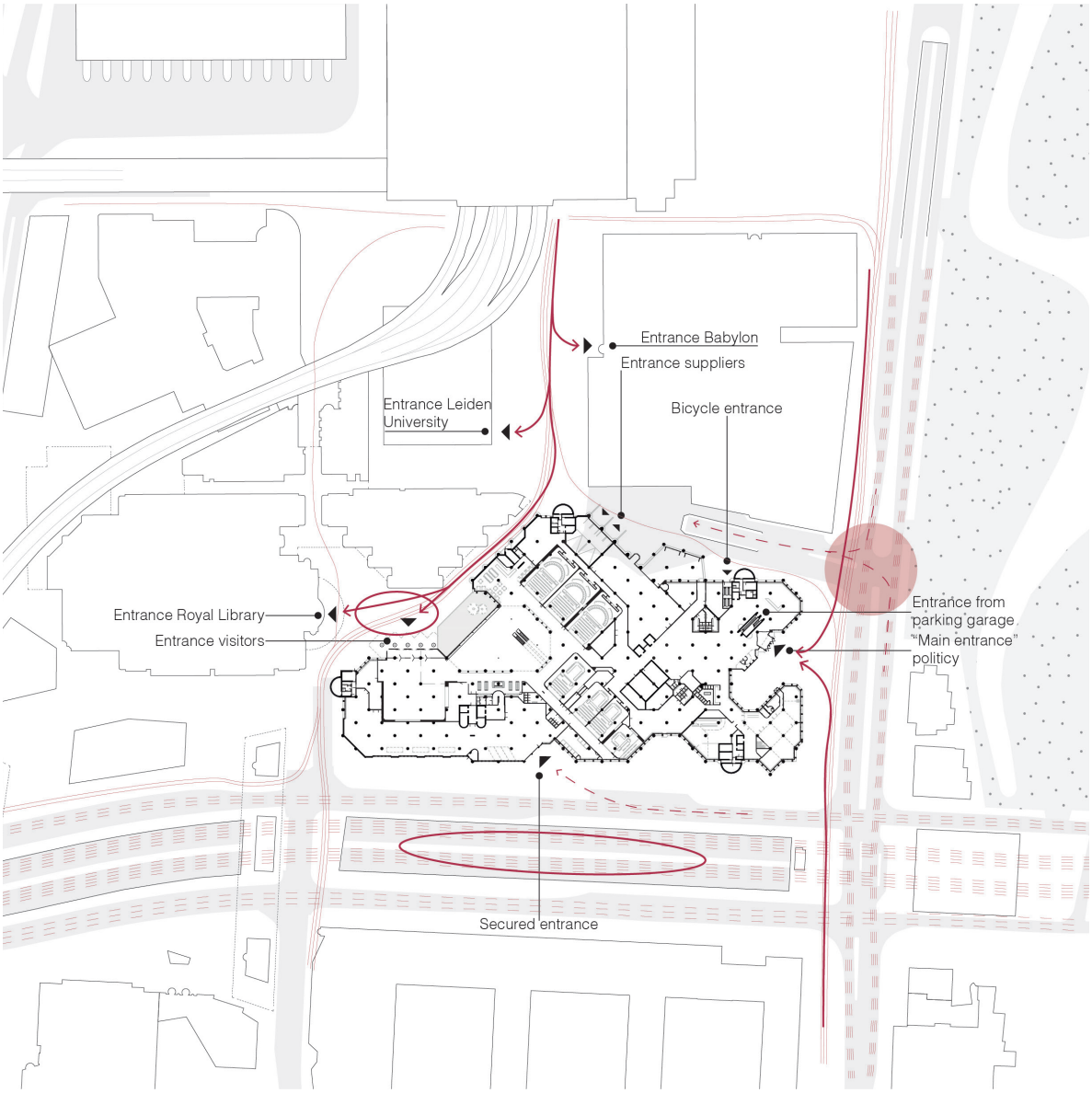
Diagonal in the urban plan

Dick Apon designed the building with a grid structure rotated 45 degrees from the grid applied in the urban plan. This created two grid systems in the floor plan from which the building is designed and constructed (Denig & Poldervaart, 1985).



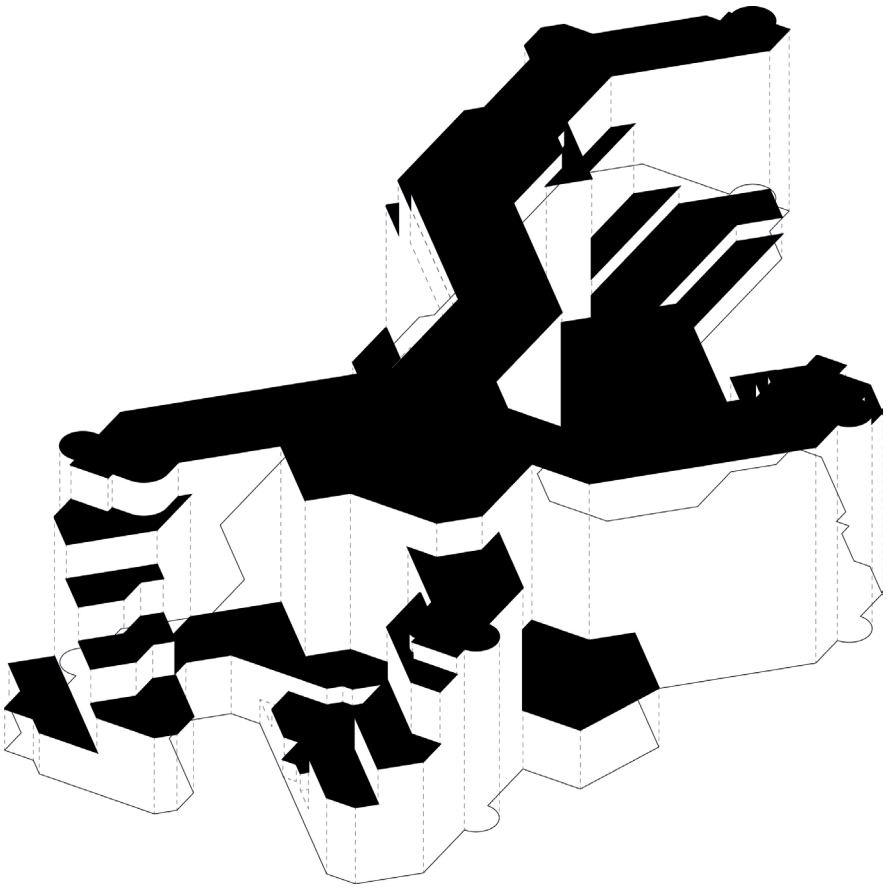


Circulation and spaces



Car routes
Pedestrain routes
Main routes cars
Main routes pedestrians
Demonstration areas
Congestion

Different building heights



The repetition of concrete elements characterises the façade of the building. Octagonal columns that are load-bearing in the façade and between them precast concrete borders and balustrade. This facade construction is from the 3rd floor upwards and below, the facade is made of brick with openings through precast concrete lintels and lower sills around the entire building. Despite the many openings, the lower levels feel closed in that many windows have curtains closed or are not transparent at all. This may also be due to its security and privacy-sensitive function as the Ministry of Foreign Affairs and now as House of Representatives.

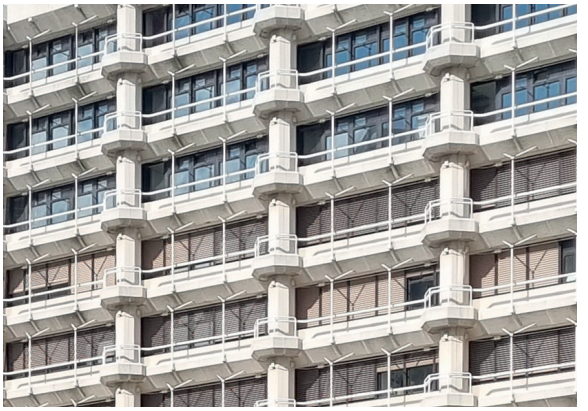
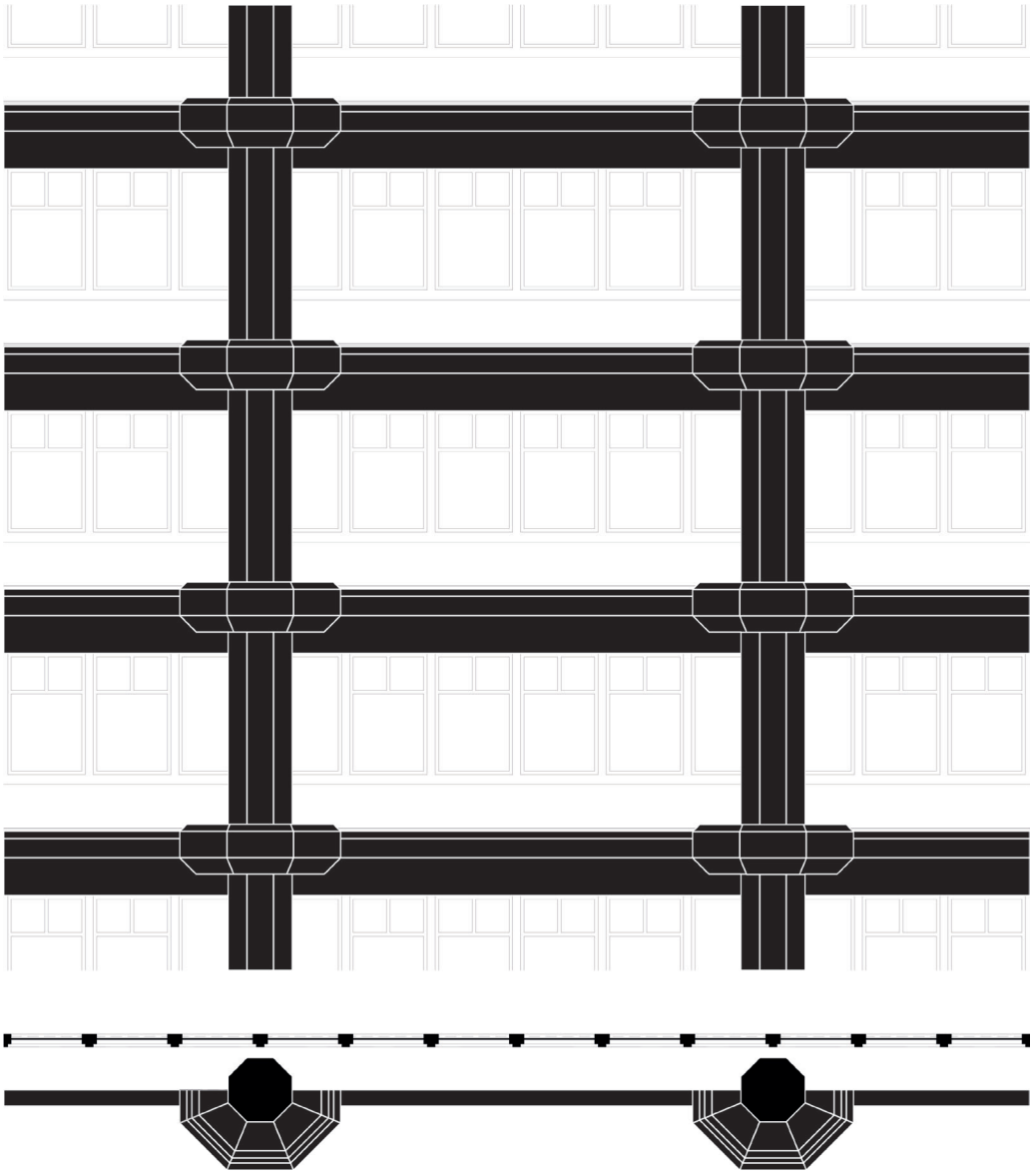
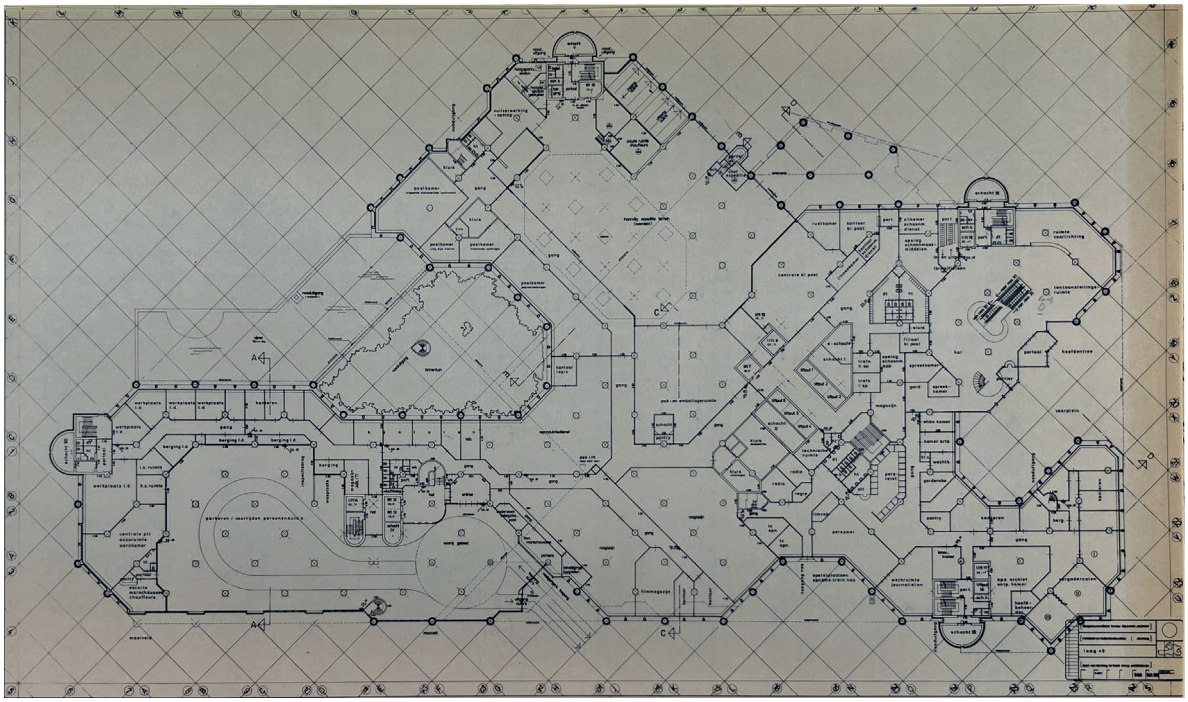


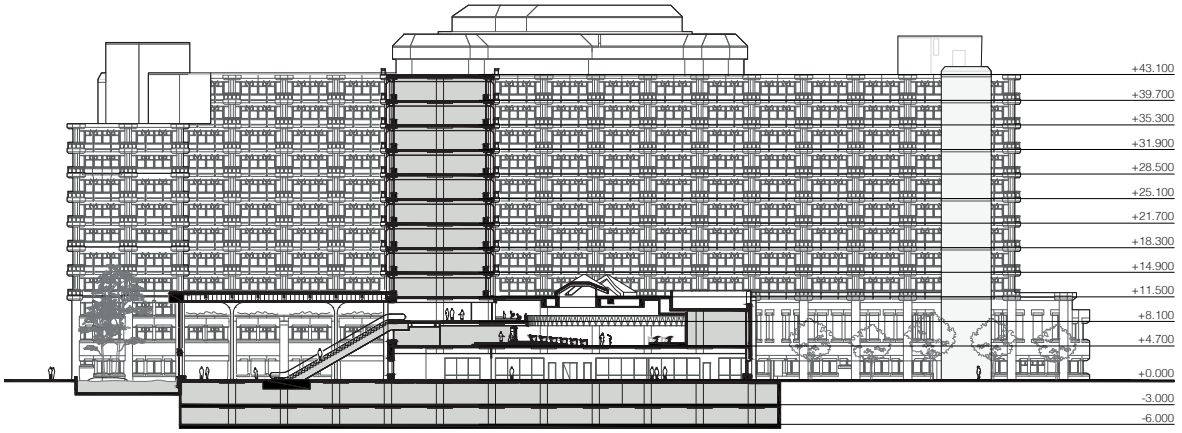
Figure 9 Ministry of Foreign Affairs (1986)

Facade structure

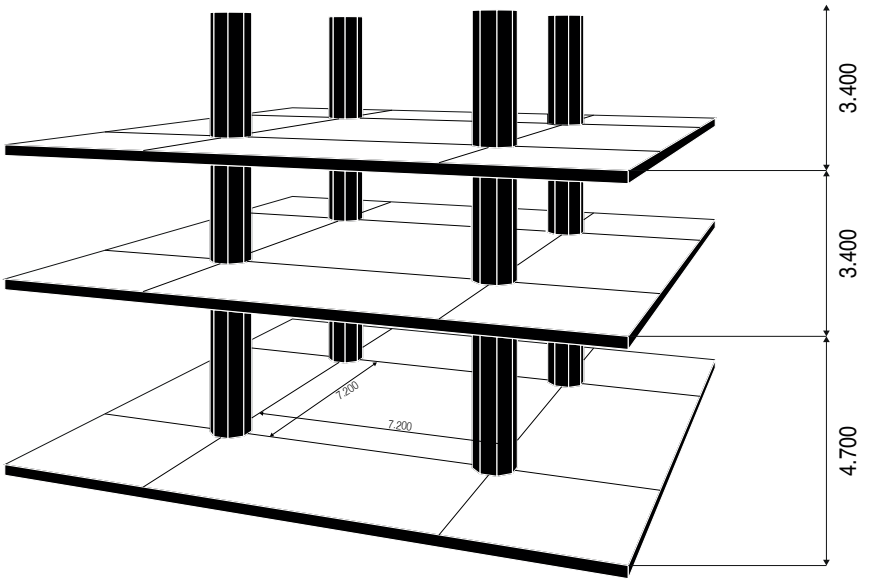


Floorplan





Section



Overview of dimensions

PROGRAMME

Space Requirements

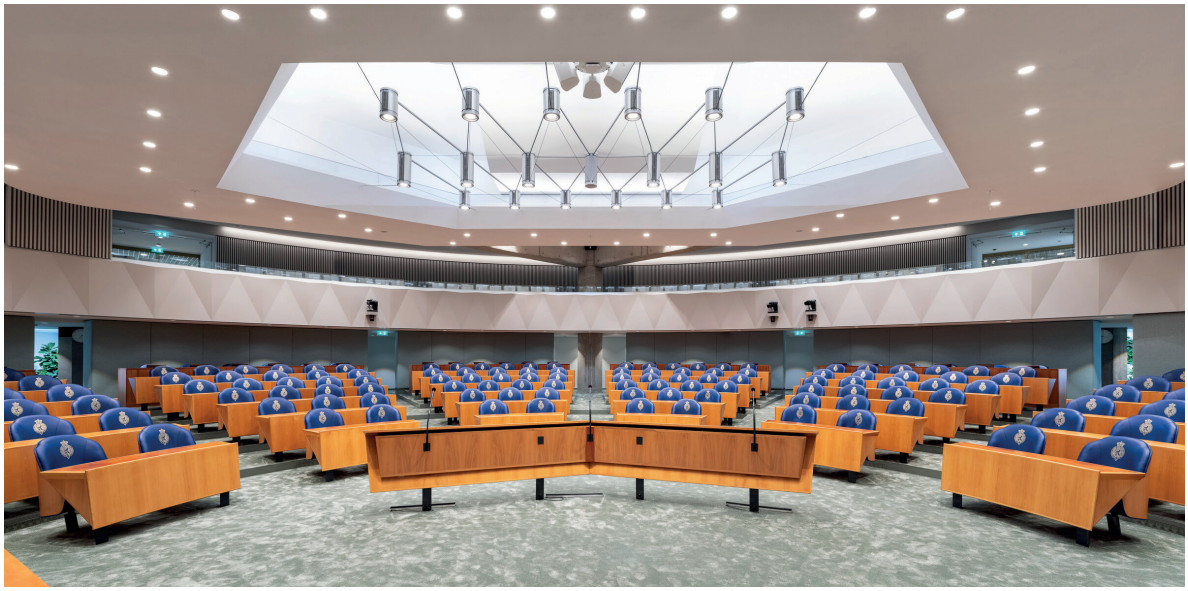
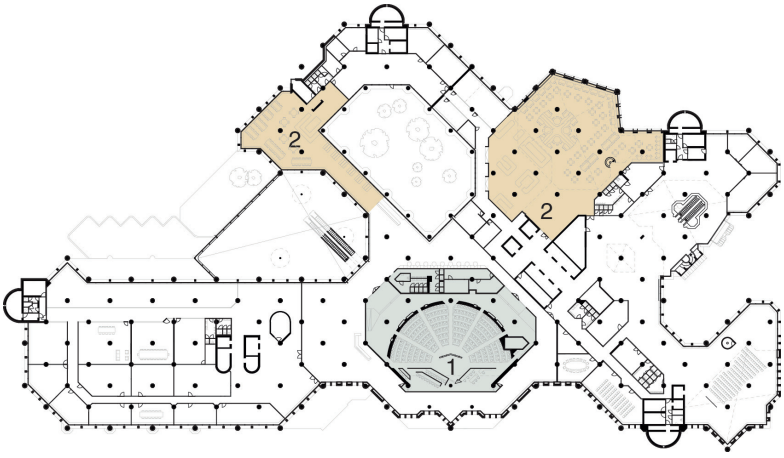


Figure 10 Plenary Hall House of Representatives

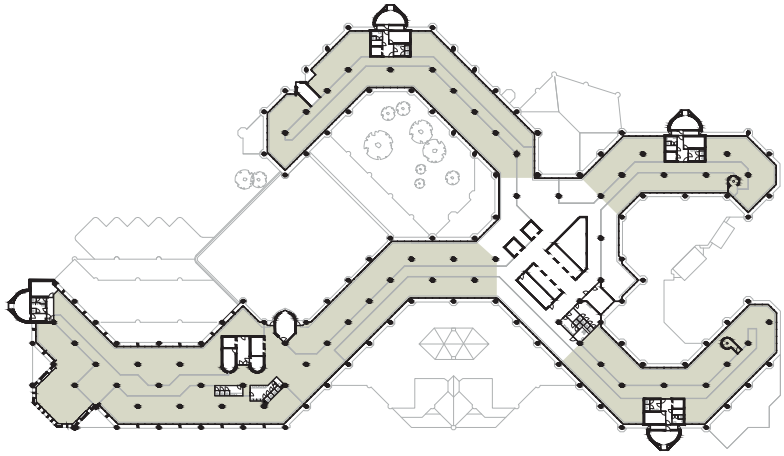
The ‘Monkeyrock’ is build to combine the 23 office buildings of Foreign Affairs. The main function is therefore office and all the floors are designed to create as many offices spaces as possible. An additional space, now to most known, is the Plenary Hall where the House of Representatives debates. Additionally a large restaurant provides lunch for employees in the building. Those two spaces can be used in the design of the new campus



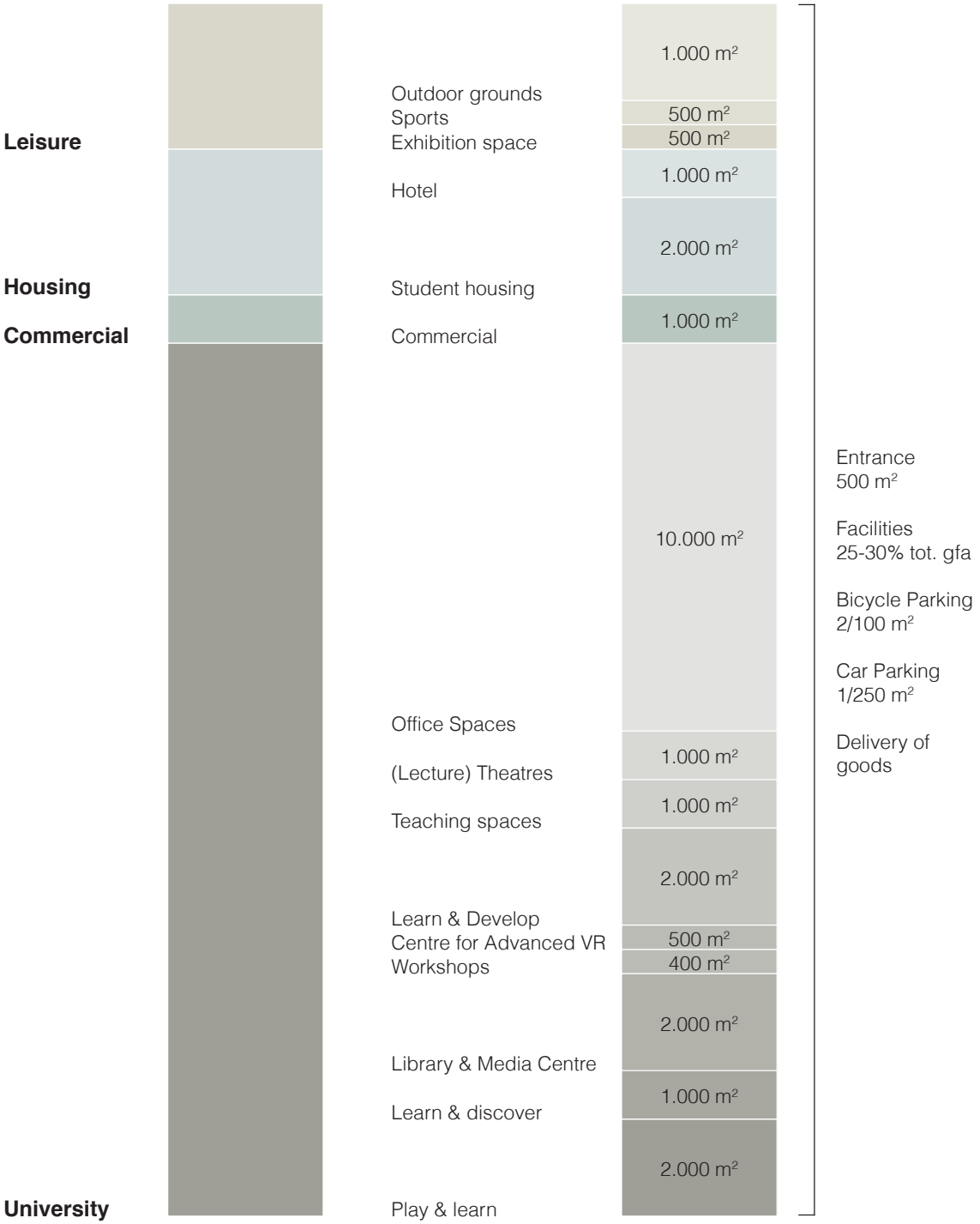
First floor

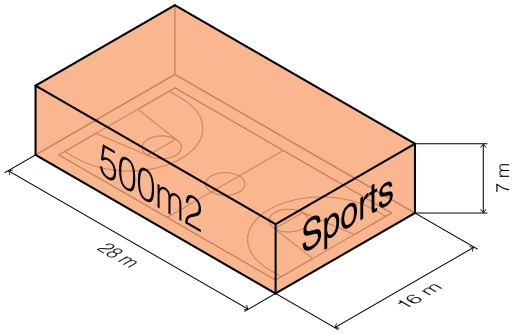
1 Plenary Hall
2 Restaurant

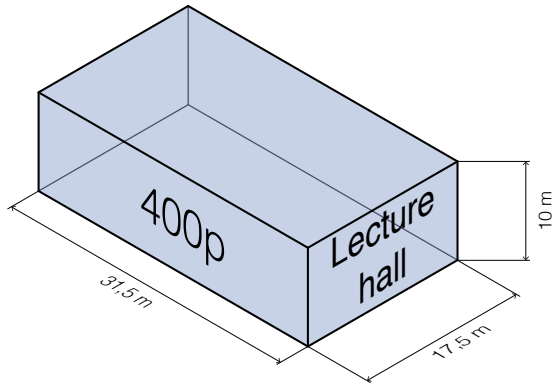
The wings of the building ensure efficient use of square metres to create as many workplaces as possible. Those wings are perfect to create workspaces for students and offices.

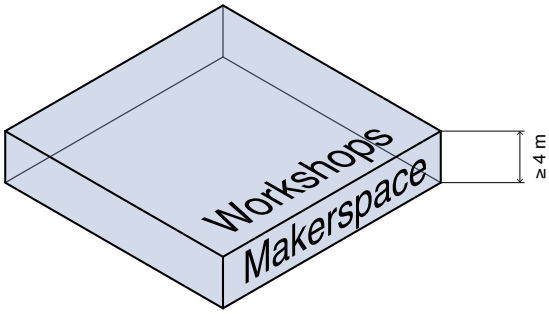


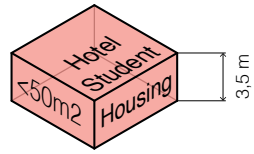
Office floor


Leisure
Housing
Commercial
University
Outdoor grounds
Sports
Exhibition space
Hotel
Student housing
Commercial
Office Spaces
(Lecture) Theatres
Teaching spaces
Learn & Develop
Centre for Advanced VR
Workshops
Library & Media Centre
Learn & discover
Play & learn
1.000 m²
500 m²
500 m²
1.000 m²
2.000 m²
1.000 m²
10.000 m²
1.000 m²
1.000 m²
2.000 m²
500 m²
400 m²
2.000 m²
1.000 m²
2.000 m²
Entrance
500 m²
Facilities
25-30% tot. gfa
Bicycle Parking
2/100 m²
Car Parking
1/250 m²
Delivery of
goods

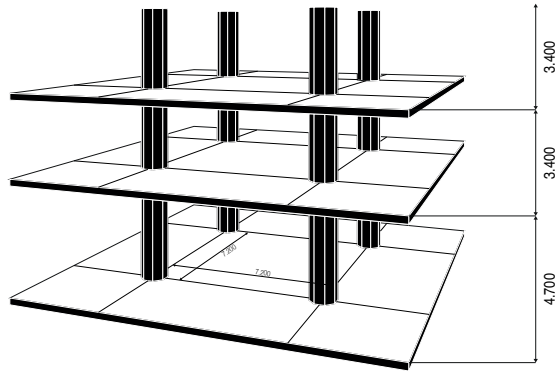






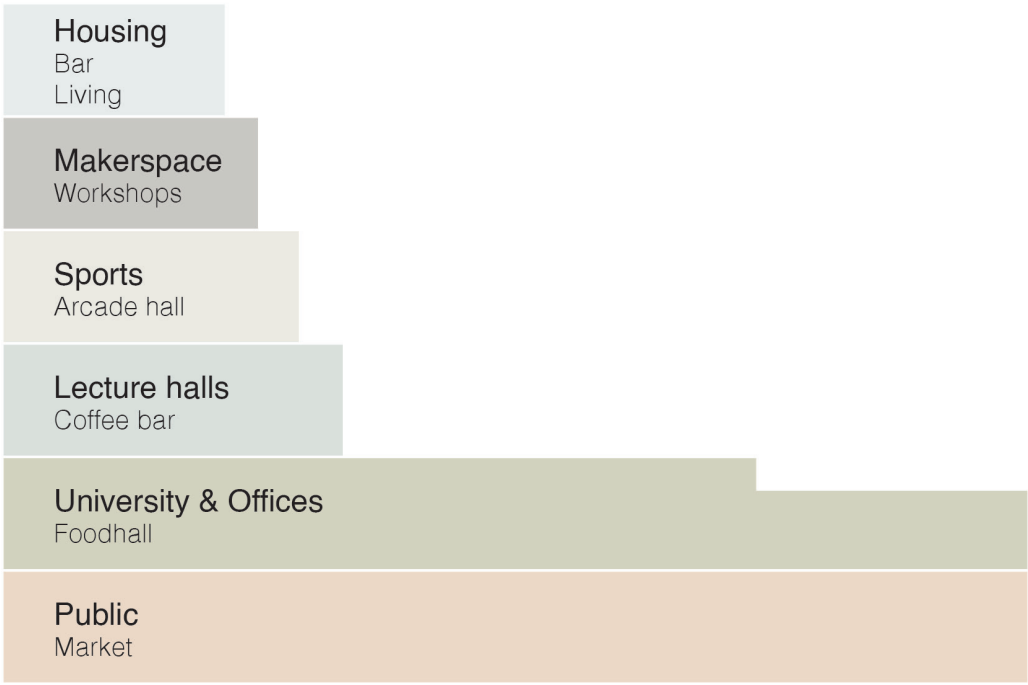


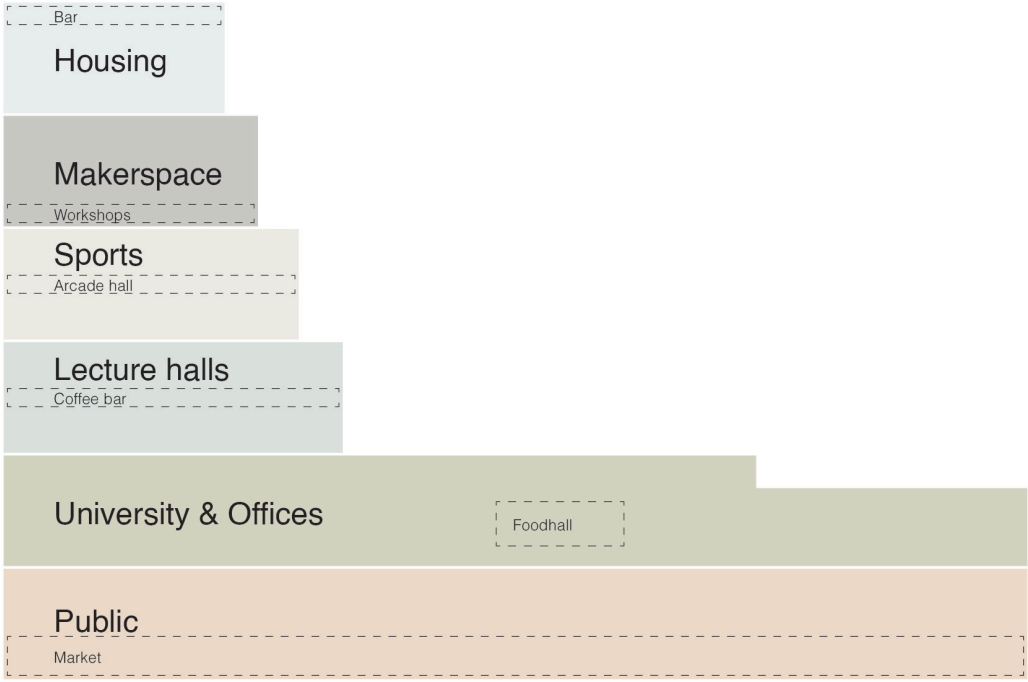
Some spaces of the design brief have specific dimensions in height or square meters. Although the existing building can be adapted in order to fit these requirements, it is more sustainable to accommodate the spaces in the new volume that is added to create more capacity.



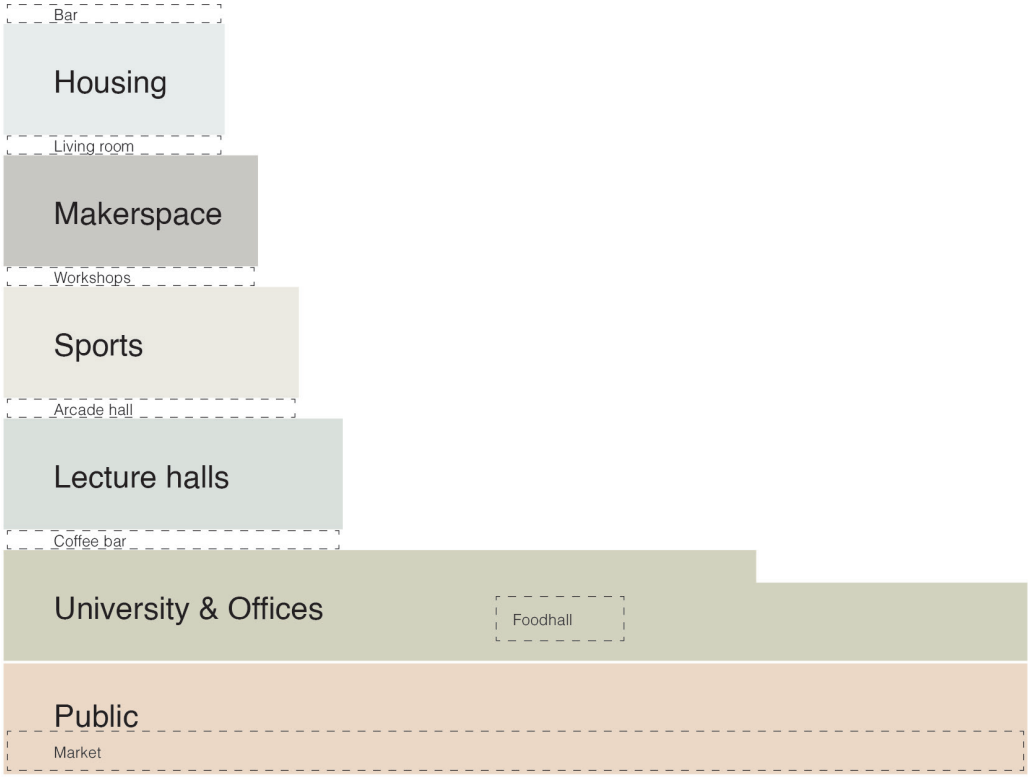
Overview of dimensions existing building

Organisation of programme



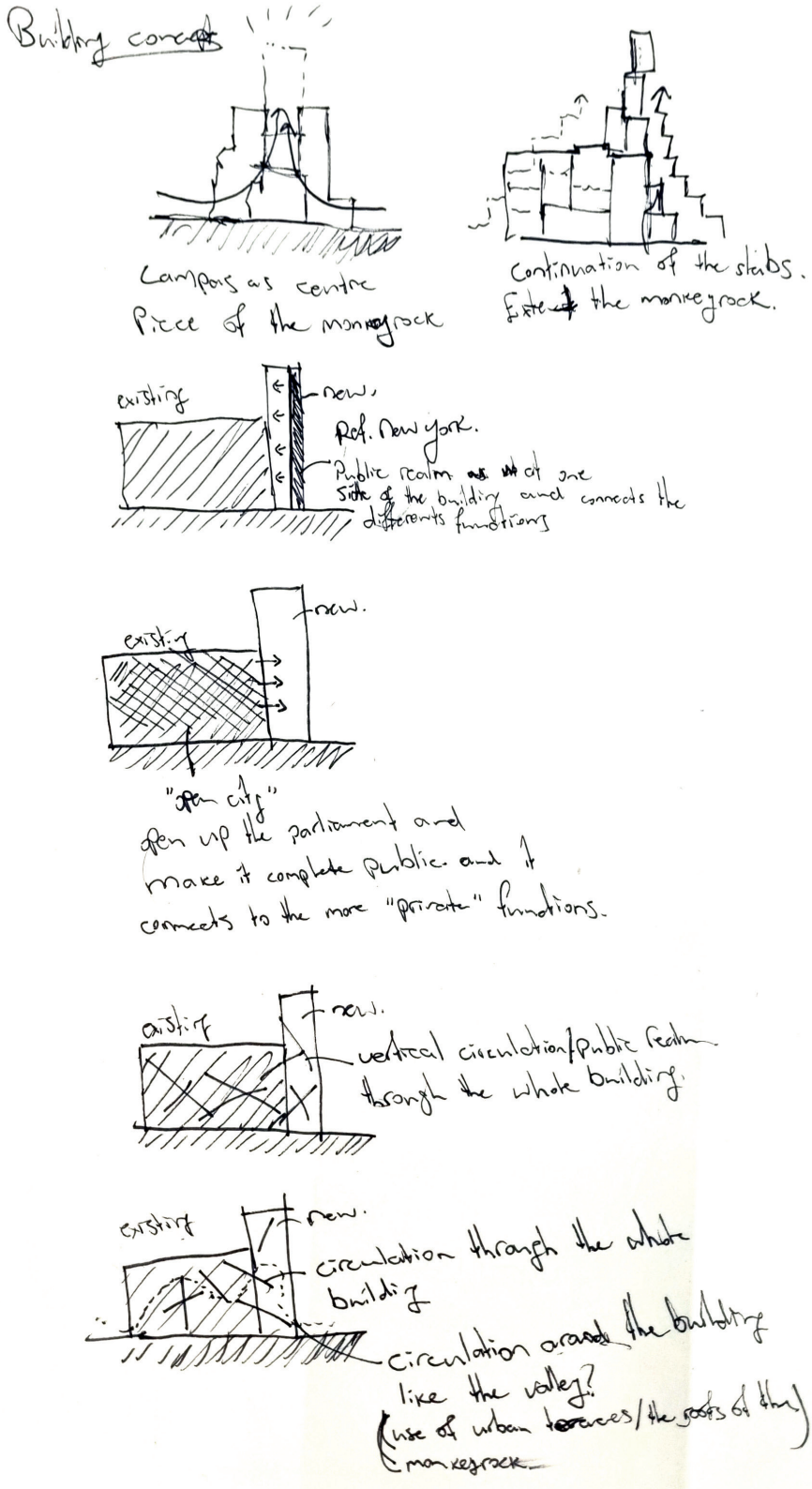


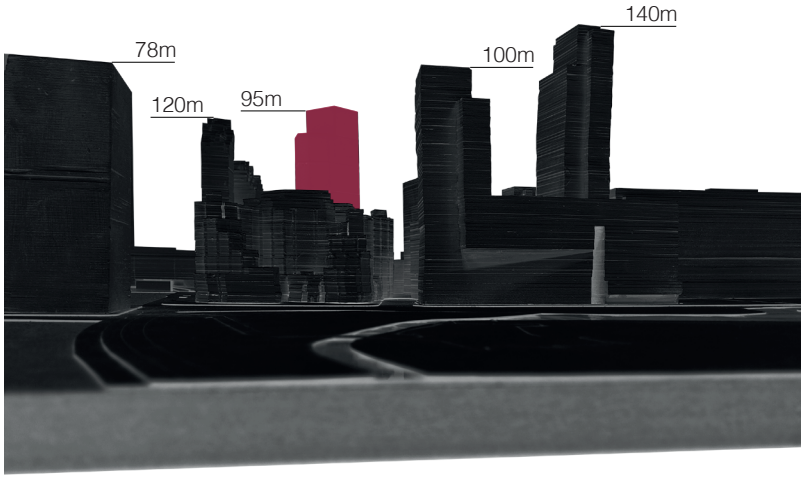
Option 01

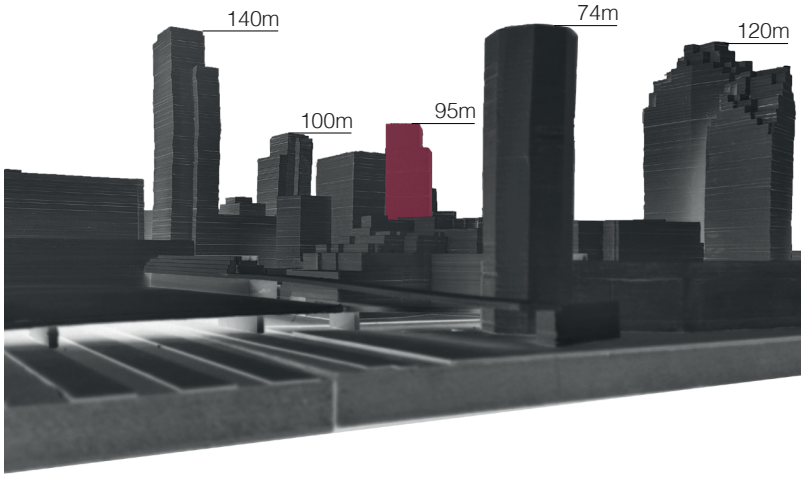


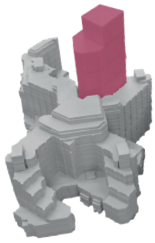
Option 02

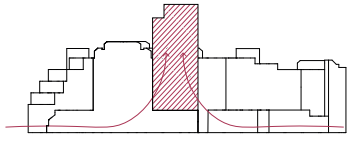
VOLUME STUDY


Building concept
Campus as centre
Piece of the monkeyrock
Continuation of the slabs.
existing
new.
Ref. New York.
Public realm on one side of the building and connects the differents functions
existing
new.
"open city"
open up the parliament and
make it complete public. and it
connects to the more "private" functions.
existing
new.
vertical circulation/Public realm
through the whole building.
existing
new.
circulation through the whole
building
circulation around the building
like the valley?
(use of urban terraces/the roofs of the
monkeyrock

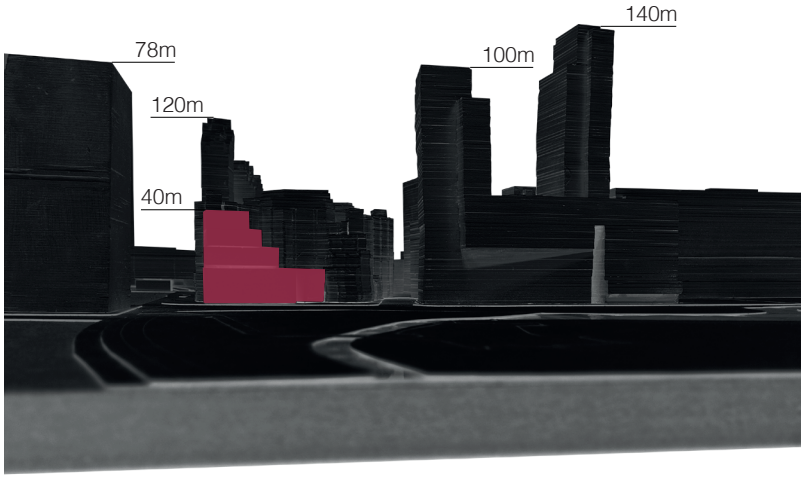


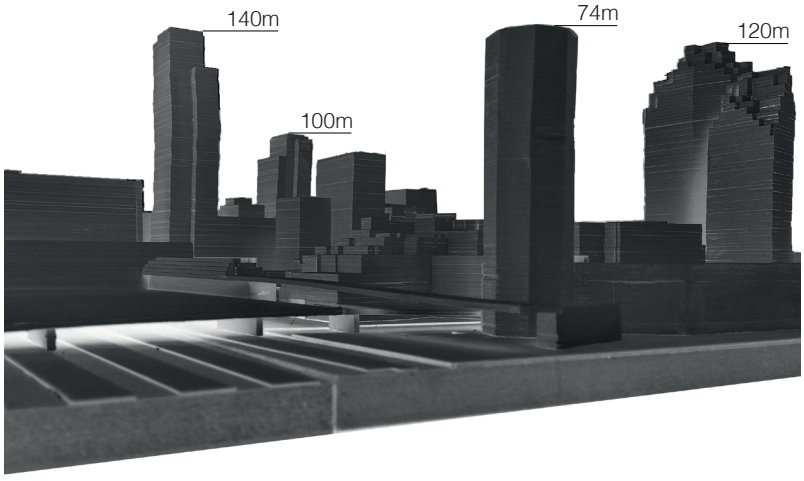


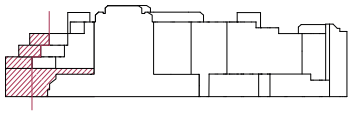




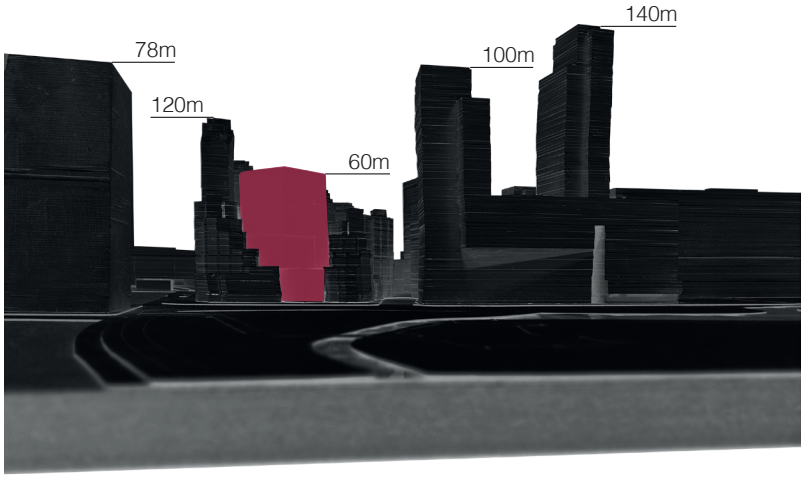
Floor height: 5 m
Area tower: 16.000 m²

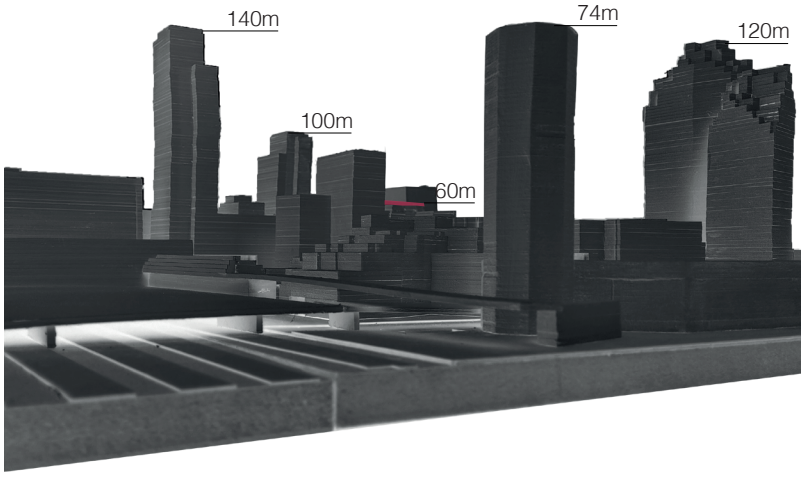


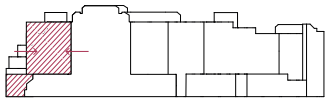




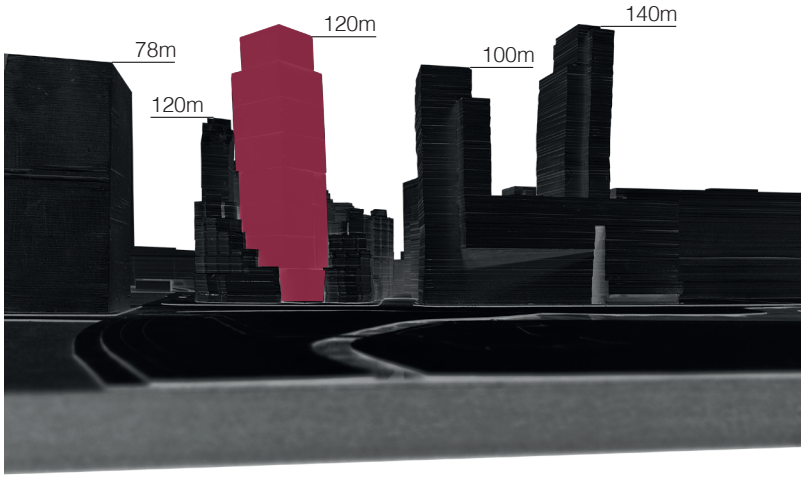
Floor height: 5 m
Area tower: 3.550 m²

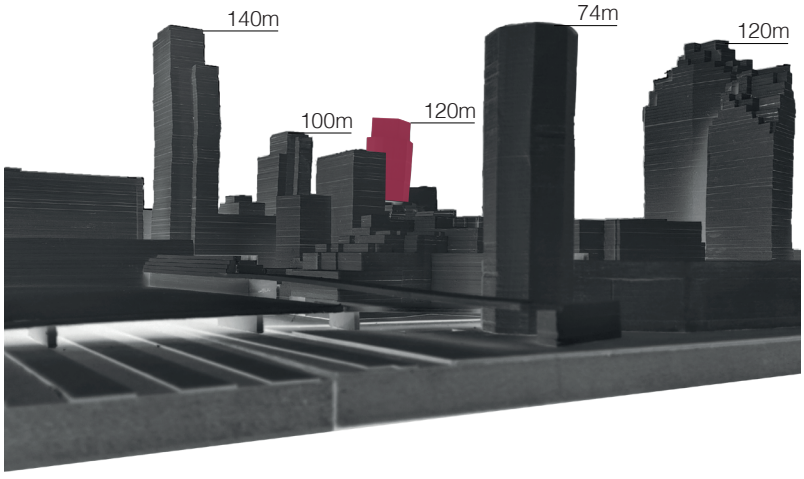


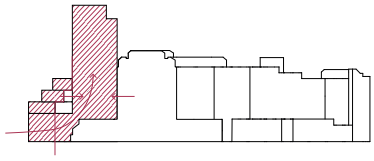




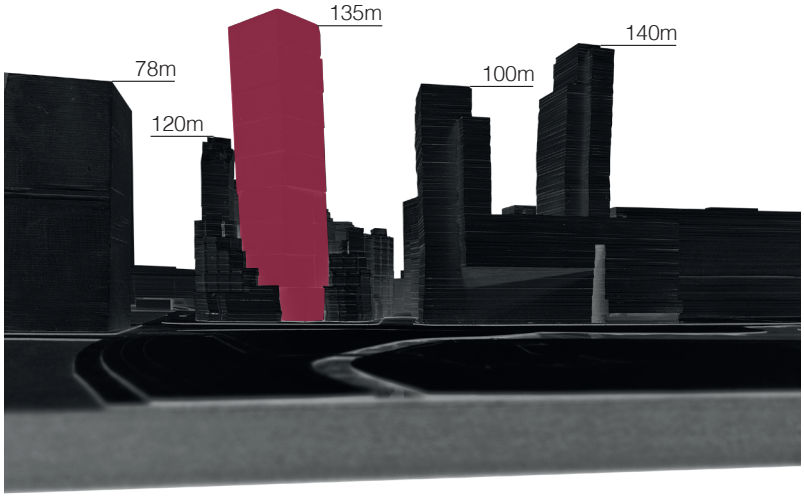
Floor height: 5 m
Area tower: 8.800 m²

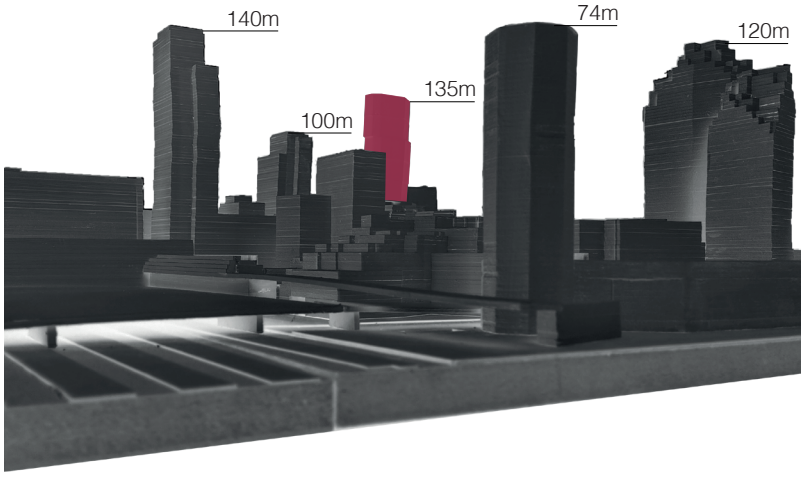


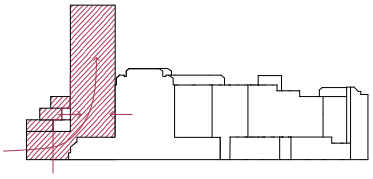




Floor height: 5 m
Area tower: 18.650 m²

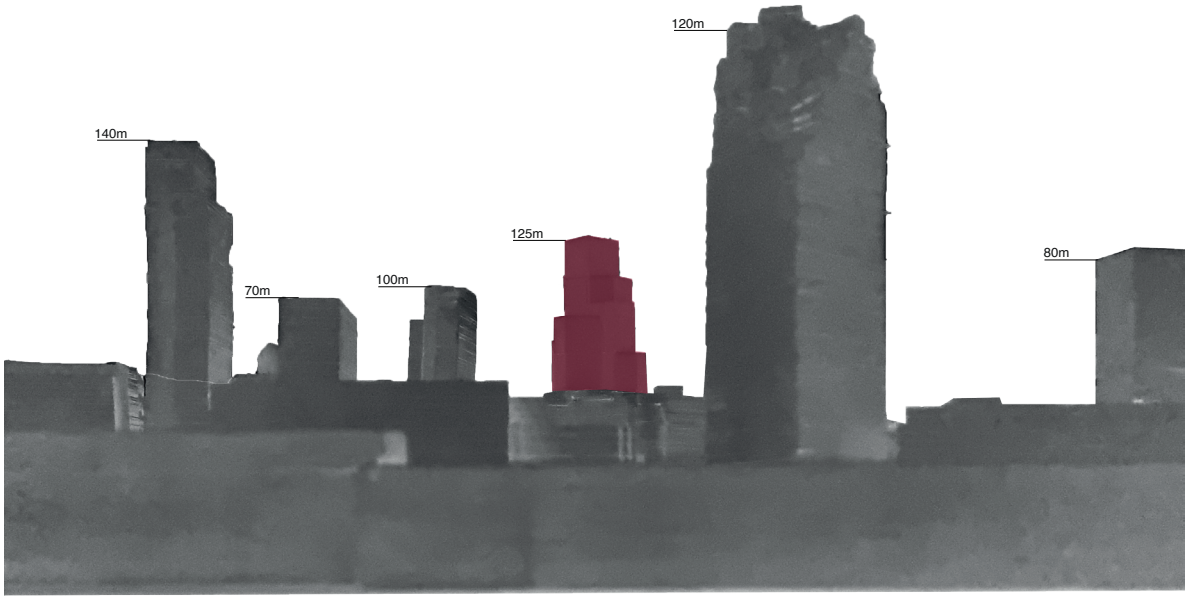


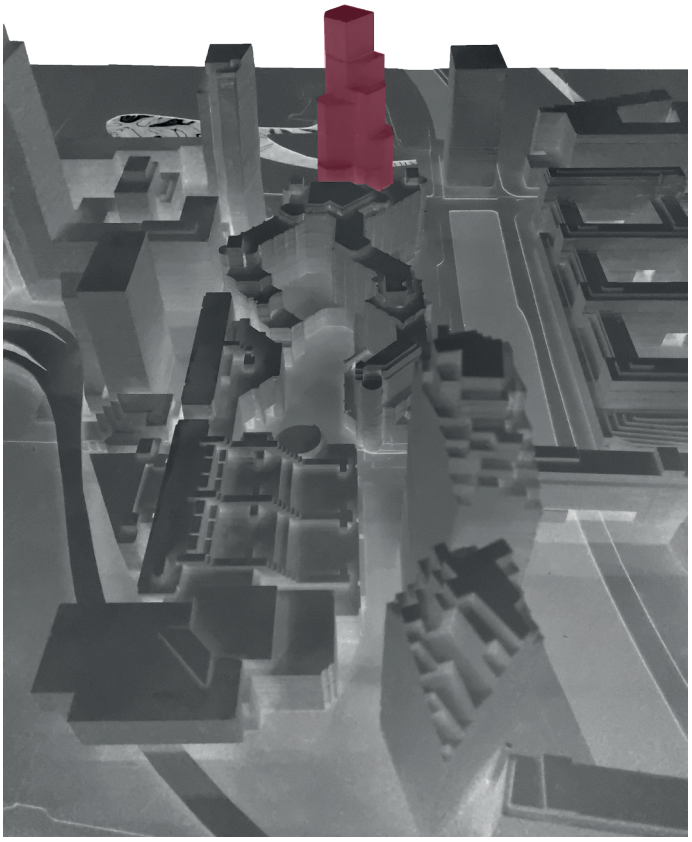




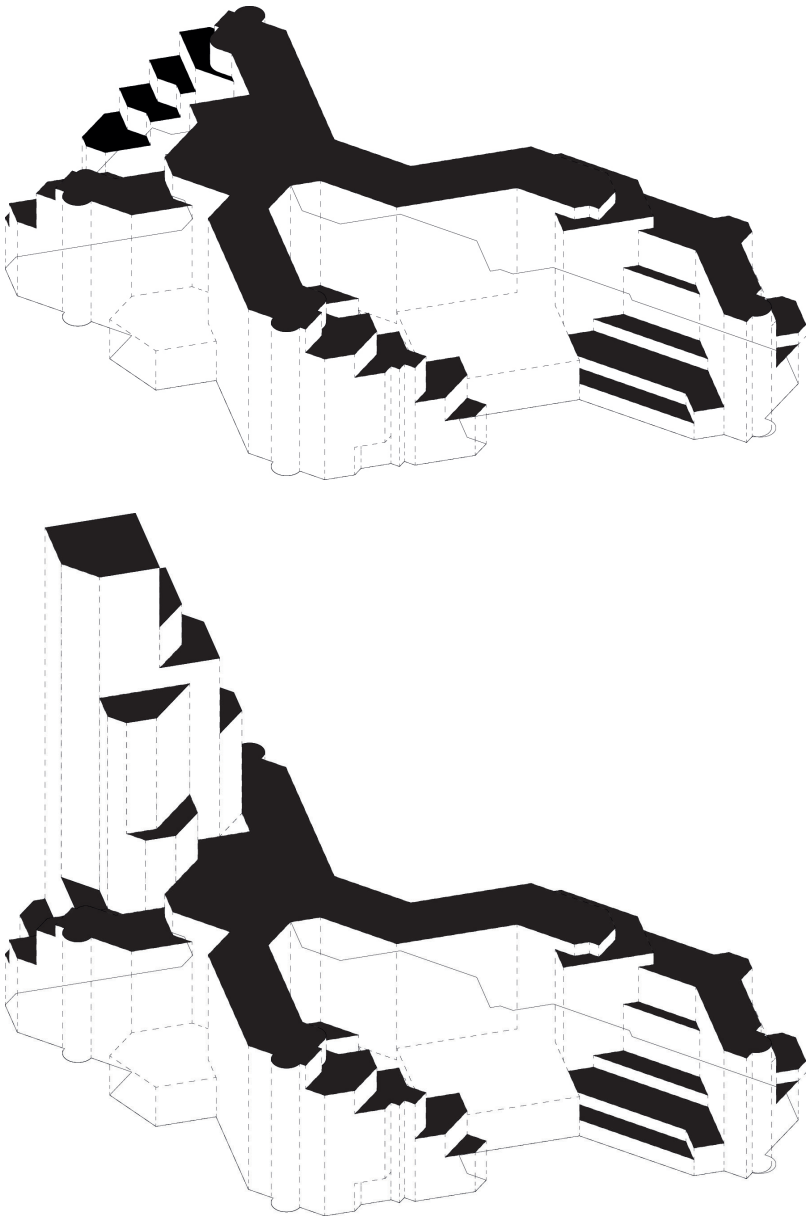
Floor height: 5 m
Area tower: 21.350 m²

Final concept

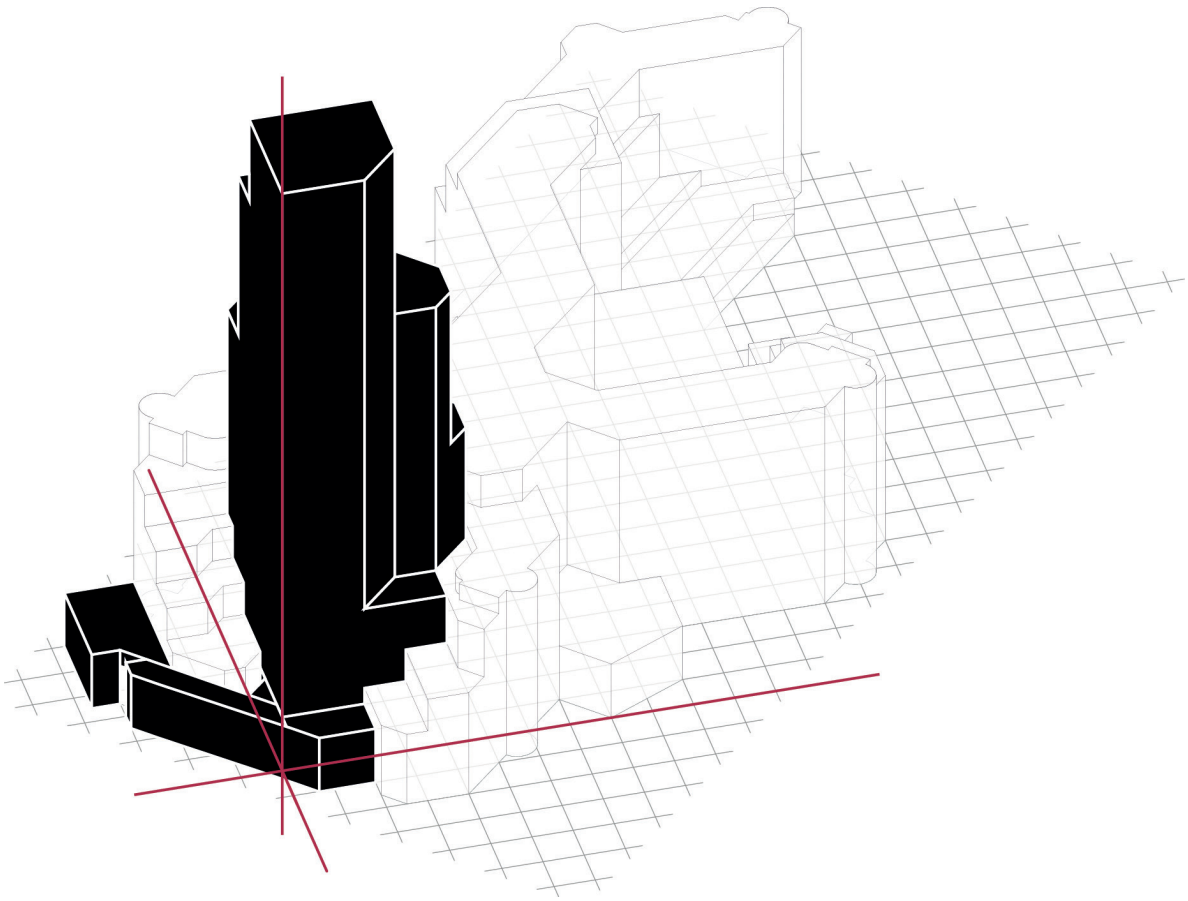




Continuation of stacked volumes



Accentuate diagonal grid



THE IDENTITY OF KIOSKS

How can local characteristics be implemented in a vertically organised building?

The Kiosk, a small informal local store that is part of the city. Every city has its well-known kiosk where office workers can get their lunch, commuters the morning paper and tourists information or a souvenir. So what makes the kiosk a landmark in the city? This chapter explores the identity of a kiosk in terms of architectural qualities to eventually apply these qualities in the vertical campus.

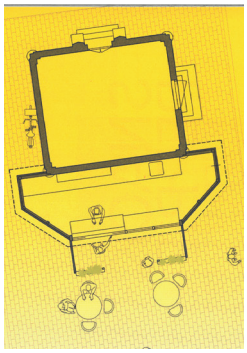
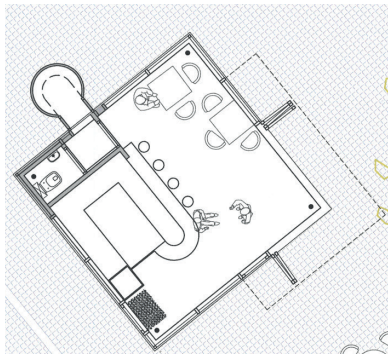
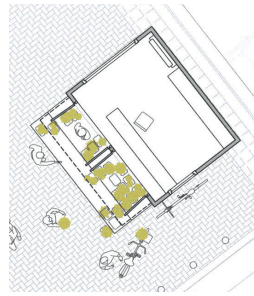
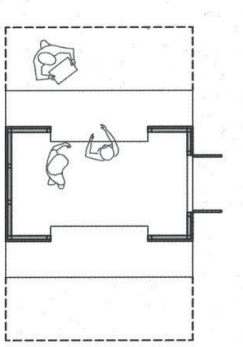
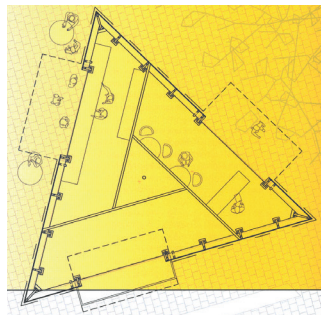
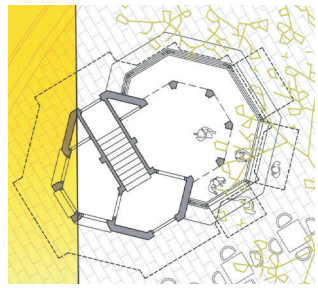
Figure 11 Snackcar de Vrijheid (1995)

The programme of kiosks is very flexible and diverse. The main purpose: to sell products. This can be food, coffee, flowers, souvenirs or other products. The programmes are small-scale due to the limited space offered by the volume. The programme does not just stay within the building volume but flows over to the street or pavement.

"The contrast between the streamlined and raked public space and the pleasantly improvised disruption of the kiosk with the wares displayed, the customers half on the pavement, the plastic bar table and trash can, the squawking seagulls looking for a fallen fry" (Beljaars & Rouw, 2021, p. 325).

Kiosks can be privately owned, but due to initiatives by municipalities, more and more kiosks are being placed in cities. These are then more hybrid buildings, allowing for different functions over time.

"Singeldingen's Kiosk is ideal because of its flexibility, so is the programme. You can try out all sorts of things and...it's allowed to fail" (Hillen, n.d., citeted in Beljaars & Rouw, 2021, p. 118).

The kiosk is a small building that has a great impact on the city. The kiosk stands out precisely from the large indoor shops because of its small scale and accessibility, even if it is surrounded by large and tall office buildings (Beljaars & Rouw, 2021). Kiosks are bound by laws and regulations, meaning the building should not be too large but large enough to function. While previously kiosks were carts that went away again at the end of the day (i.e. tied to easy movability), there is now a tendency to locate the kiosk in a more permanent building. These buildings are no longer tied to transportability and can therefore be larger.
The volume, like the programme, flows out over the pavement. The buildings often have an awning or overhang to pass and eat the order dry and often have a terrace with parasols. This volume is thus adaptable to the conditions of the period. In summer, the kiosk expands with a terrace; in winter, customers stand under the awning to eat the order.

Figure 12 Dennis Frietpaleis, Rotterdam

The design of a kiosk is mainly about contrast. Contrast between the small-scale volume of the kiosk among the high-rise buildings in the city (Beljaars & Rouw, 2021), but also the colour difference in the background and surroundings of the kiosk. At the same time, colour can also be used to refer to something as OMA has done in the design KUBE, 2019 (figure 11) in which the golden colour refers to a locally produced coffee machine (OMA, 2019). However, the do-it-self kiosk is gradually disappearing due to stricter welfare requirements and the informal kiosk is becoming more formal.

Figure 13 KUBE by OMA, Hong-Kong (2019)

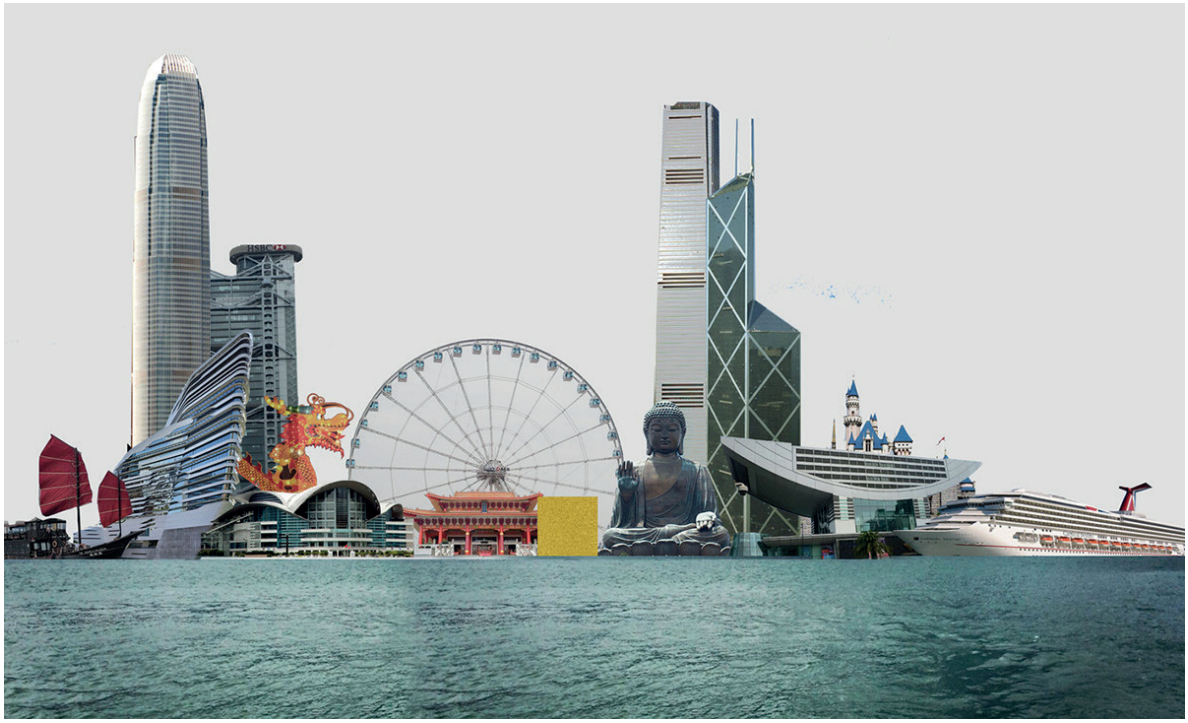
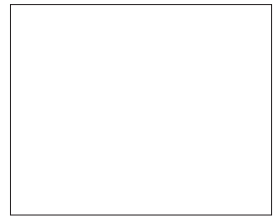


Figure 14 Collage of the Urban Landmark by OMA



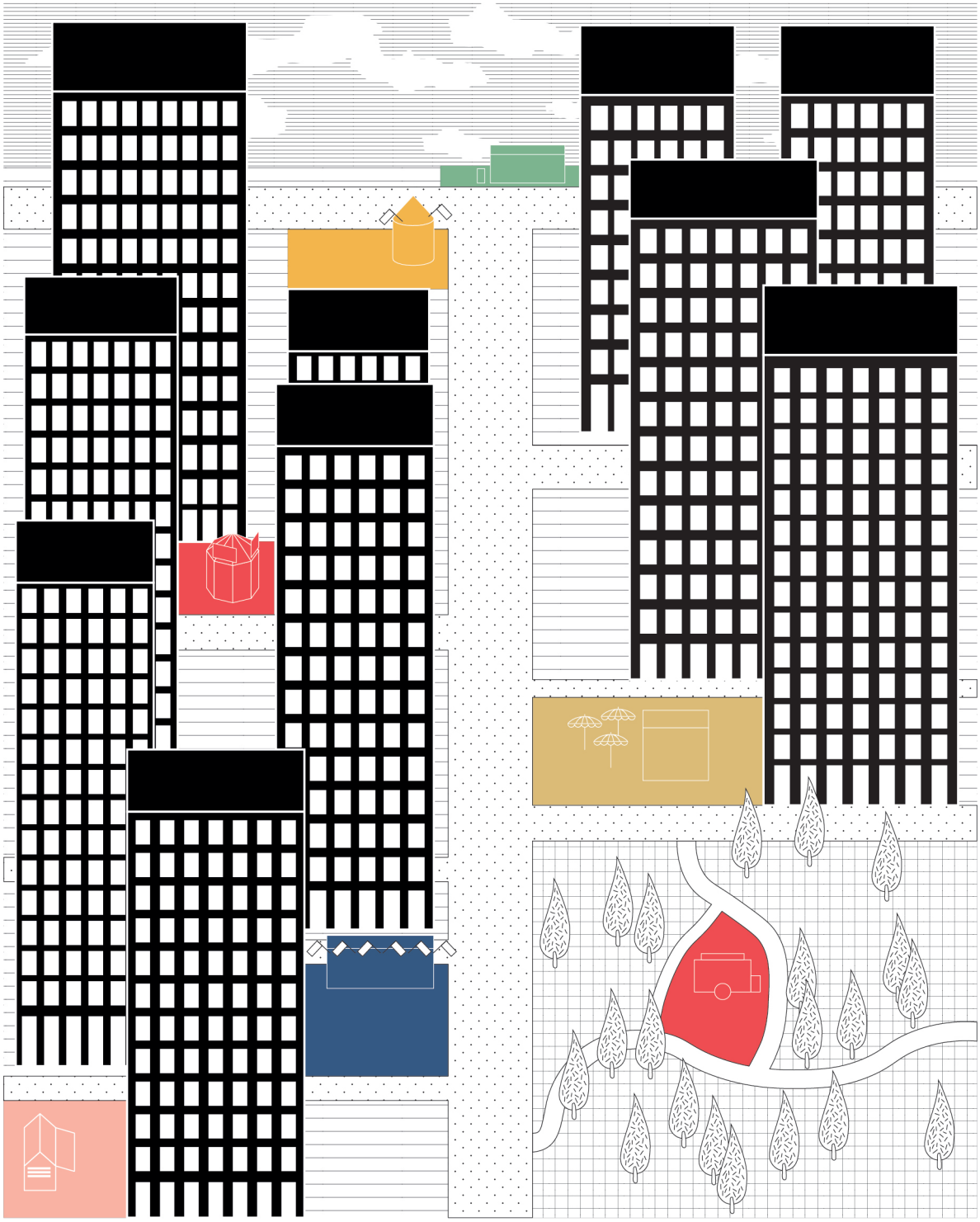




Colours of kiosks in The Netherlands

Advertising is perhaps the most talked-about aspect of a kiosk, often due to bright colours, unique slogans and names, and mainly a lot of advertising. Yet the unique slogans and names stick with people the most, such as **Henkie's Hoekie, betaalbare romentiek** (transl: Henkie's corner, affordable romance) or **snackcar de vrijheid** (transl: snackcar freedom). These slogans and names provide a personal touch and recognition among people, creating an informal character. Although a kiosk does not last forever, its unique and personal appearance makes it accessible to any target group.

Identity of kiosks




SNACKCAR de VRIJHEID
WARME GEBAKKEN VIS ZELFGEMAAKTE PATAT FRITES HETE KATJANGSAUS STOOFVLEES

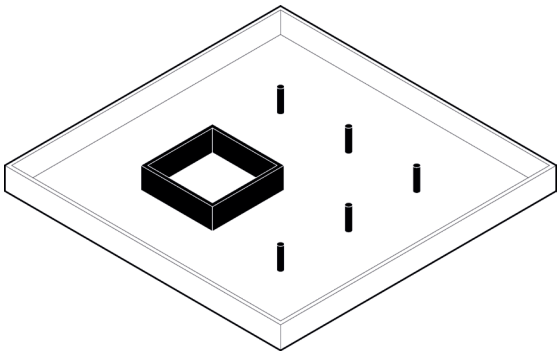

SNACKCAR de VRIJHEID


SNACKCAR de VRIJHEID

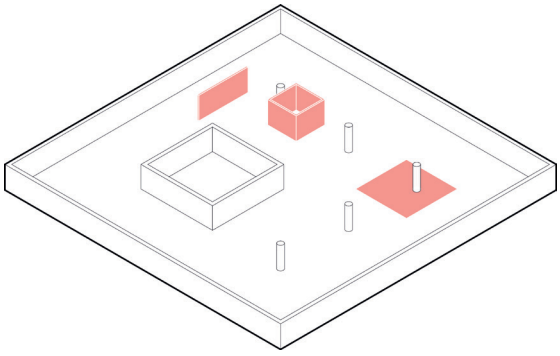

SNACKCAR de VRIJHEID


SNACKCAR de VRIJHEID

Permanent & Formal

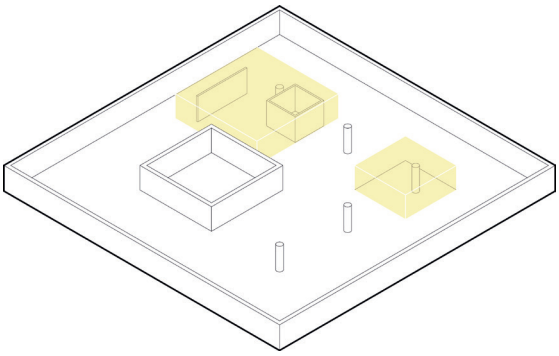


Surroundings | Structure

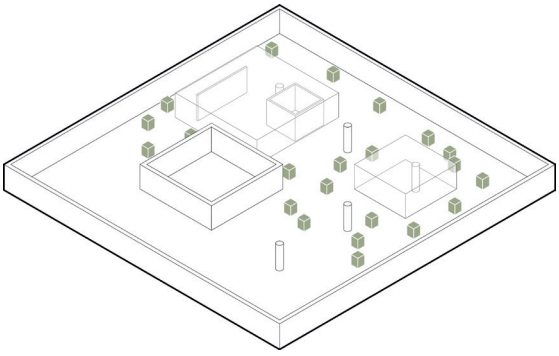


Building spot | Secondary structure

Temprorary & Informal



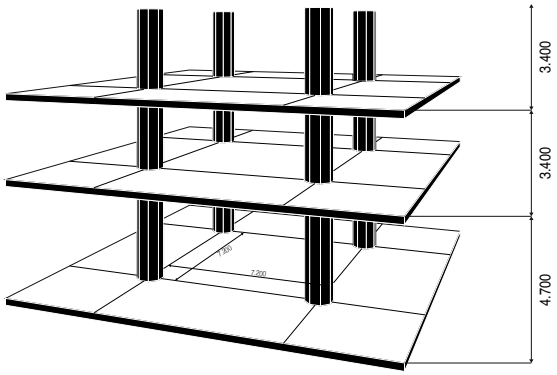
Kiosk | Programme



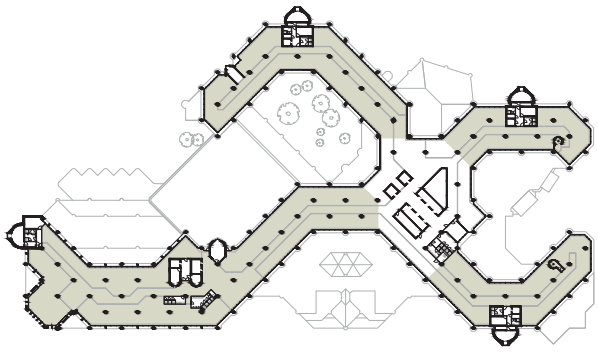
Furniture | Furniture

Transformation

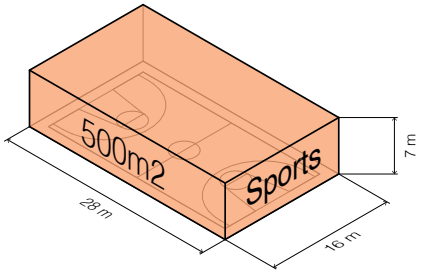
TRANSFORM AN OBSOLETE OFFICE BUILDING

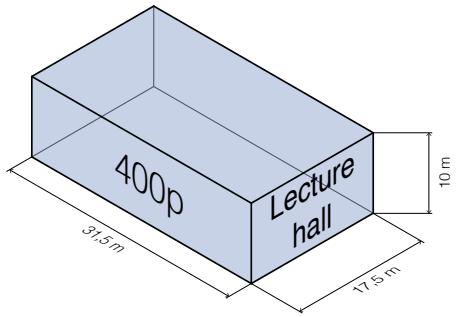


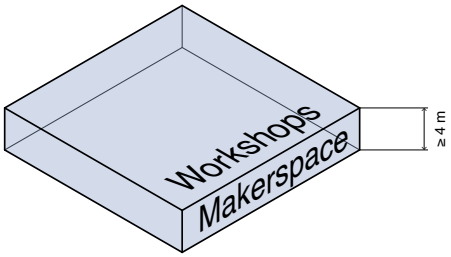
Overview of dimensions existing building

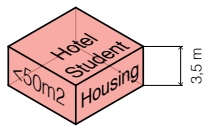


Office floor



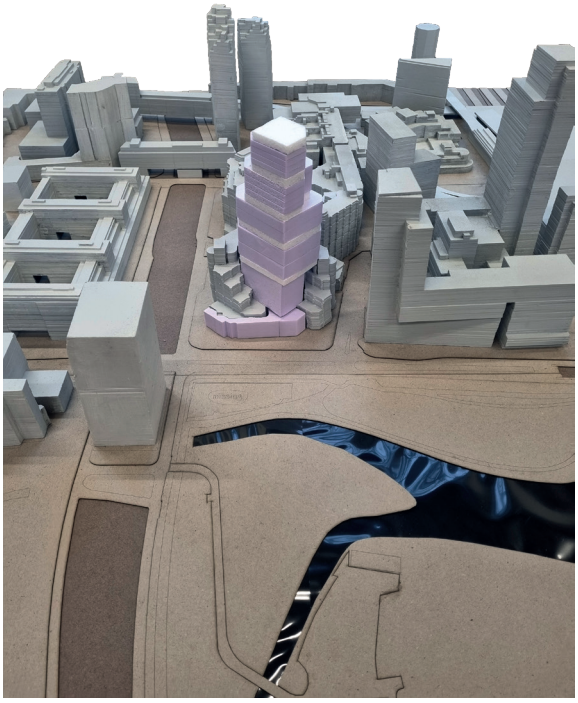




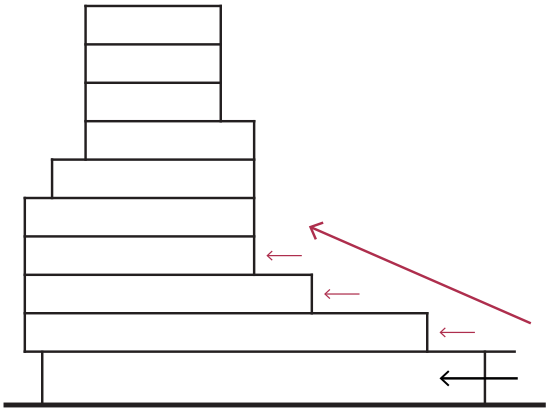


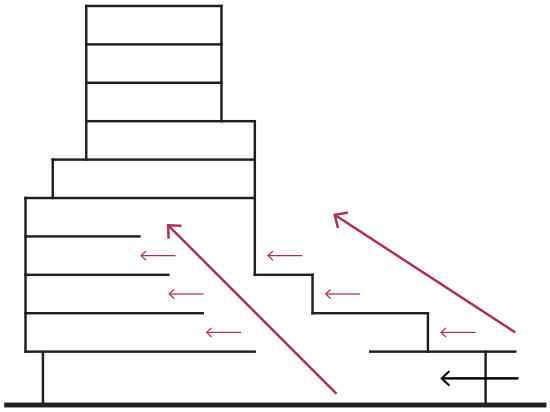
New programme with specific dimensions

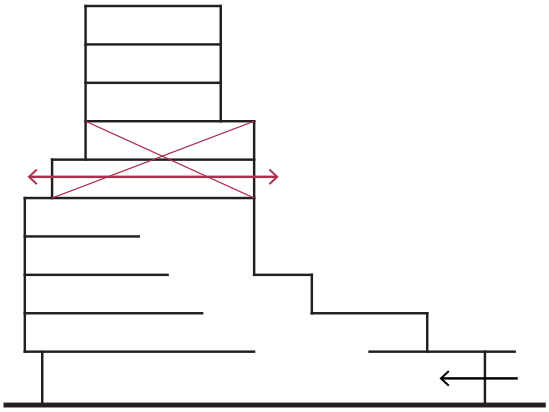
Images new volume

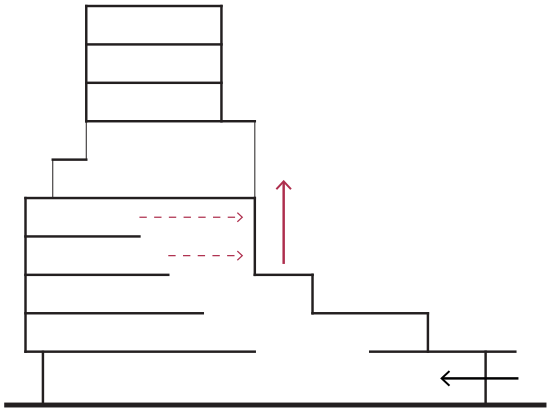


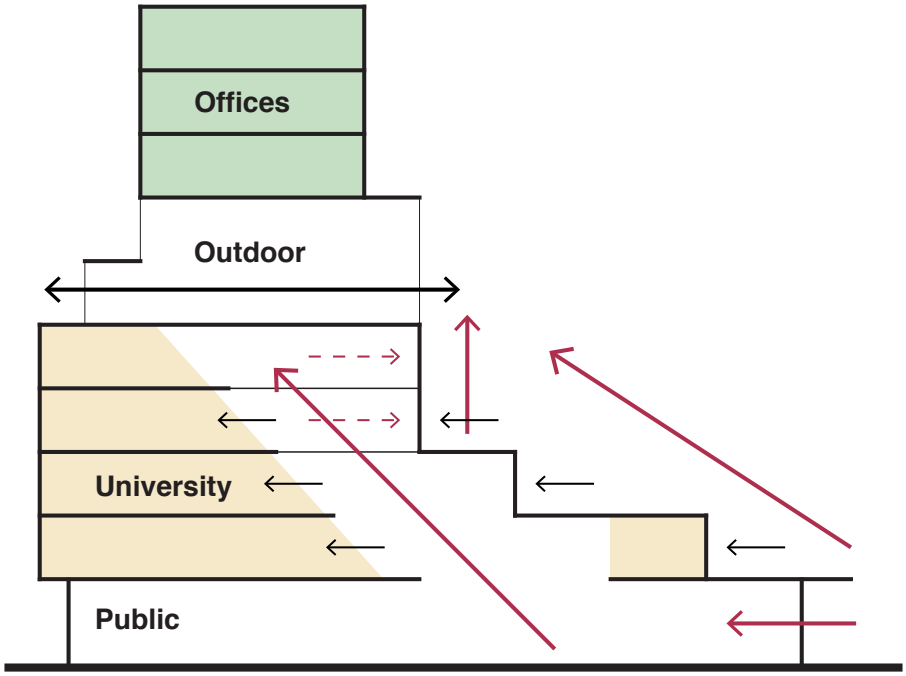
Open up the volume



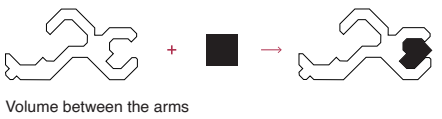


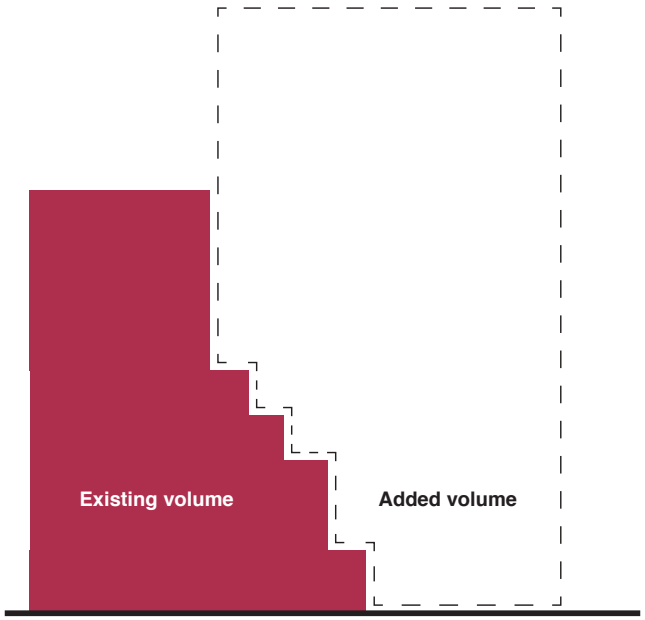




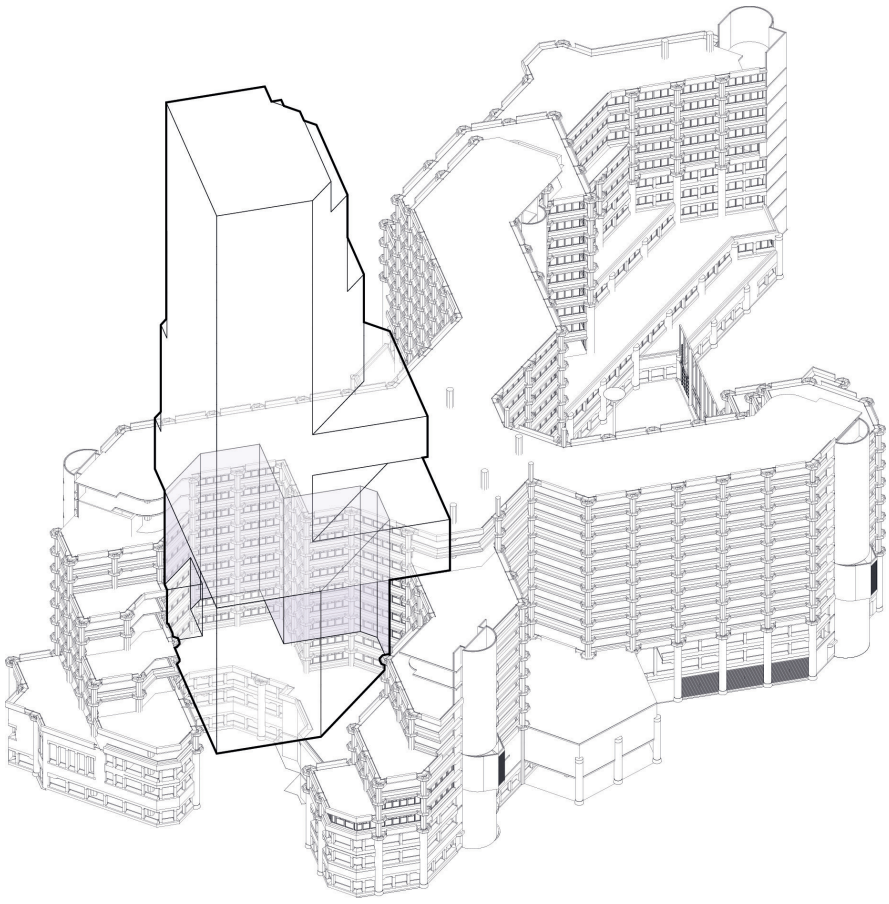

Offices
Outdoor
University
Public

Add volume to existing





The new volume is added in between two arms of the building. Parts of the new volume will be on top of the existing building, however that causes implications on the daylight intake in the new and existing building.



DESIGN CONCEPTS

Informal programme & circulation

"The flower man or woman puts the bouquets on the pavement, the operator of the traditional snack corner or the fancy 'haute friture' puts the patio chairs outside. The kiosk invites passer-by to slow down, to stay and eat in the public domain, to meet with acquaintances and strangers. It signifies commerce and bustle."

(Bouw, 2015, citeted in Beljaars & Rouw, 2021, p. 5)

Network of kiosk in The Hague

Snack Vis Kiosk
Rick Buijs

Havana (Berlage) Kiosk
National monument

Snackbar de vrijheid
Cengiz Arslan

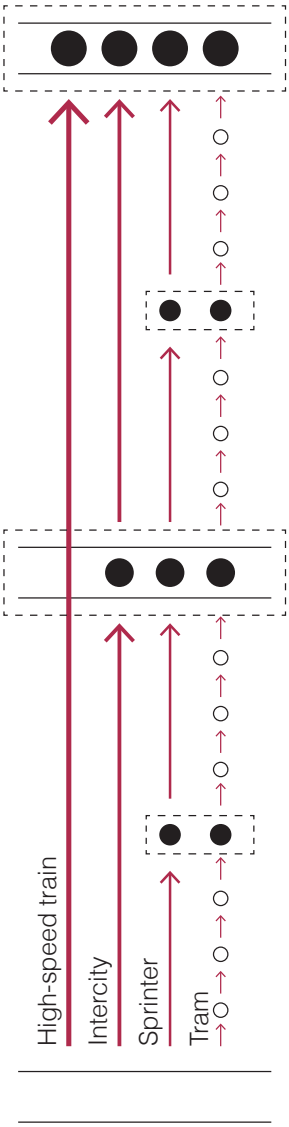
Betaaldbare romatiek
Henk Batelaan

Italiaans ijs
Moes Pekdemir

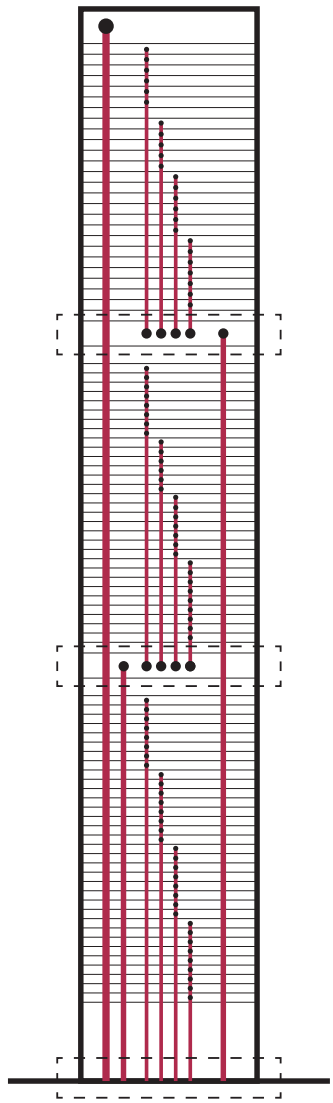
Oliebollenkraam Den Haag station
Lokie Prins

Collage vertical kiosks The Hague

Vertical circulation concepts



Public transport



Twin Towers

Vertical kiosks implementing in circulation concepts

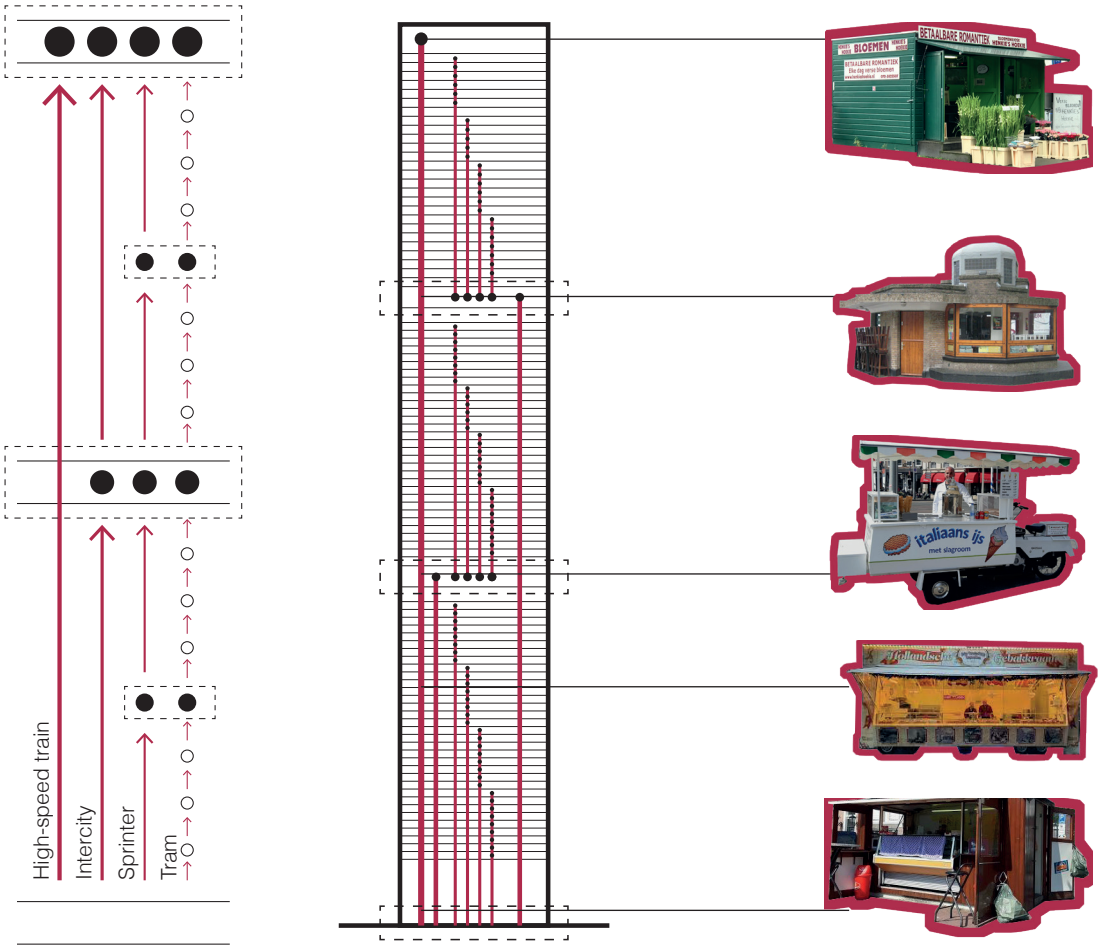
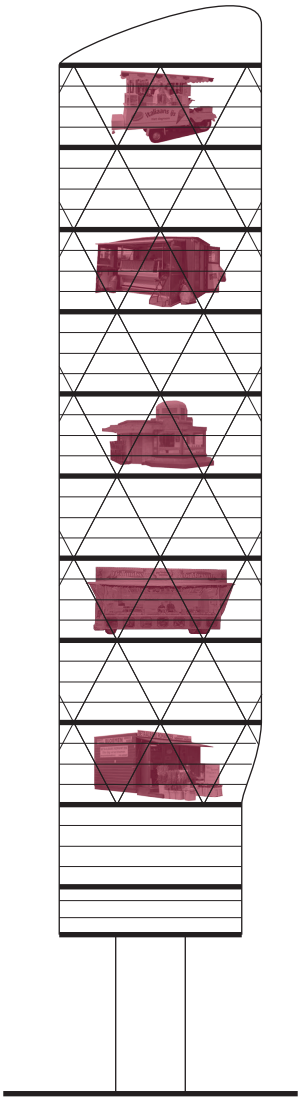


Figure 15 The Atlassian headquarters - SHoP Architects and BVN (2025)

Kiosk as informal programme to create public floors

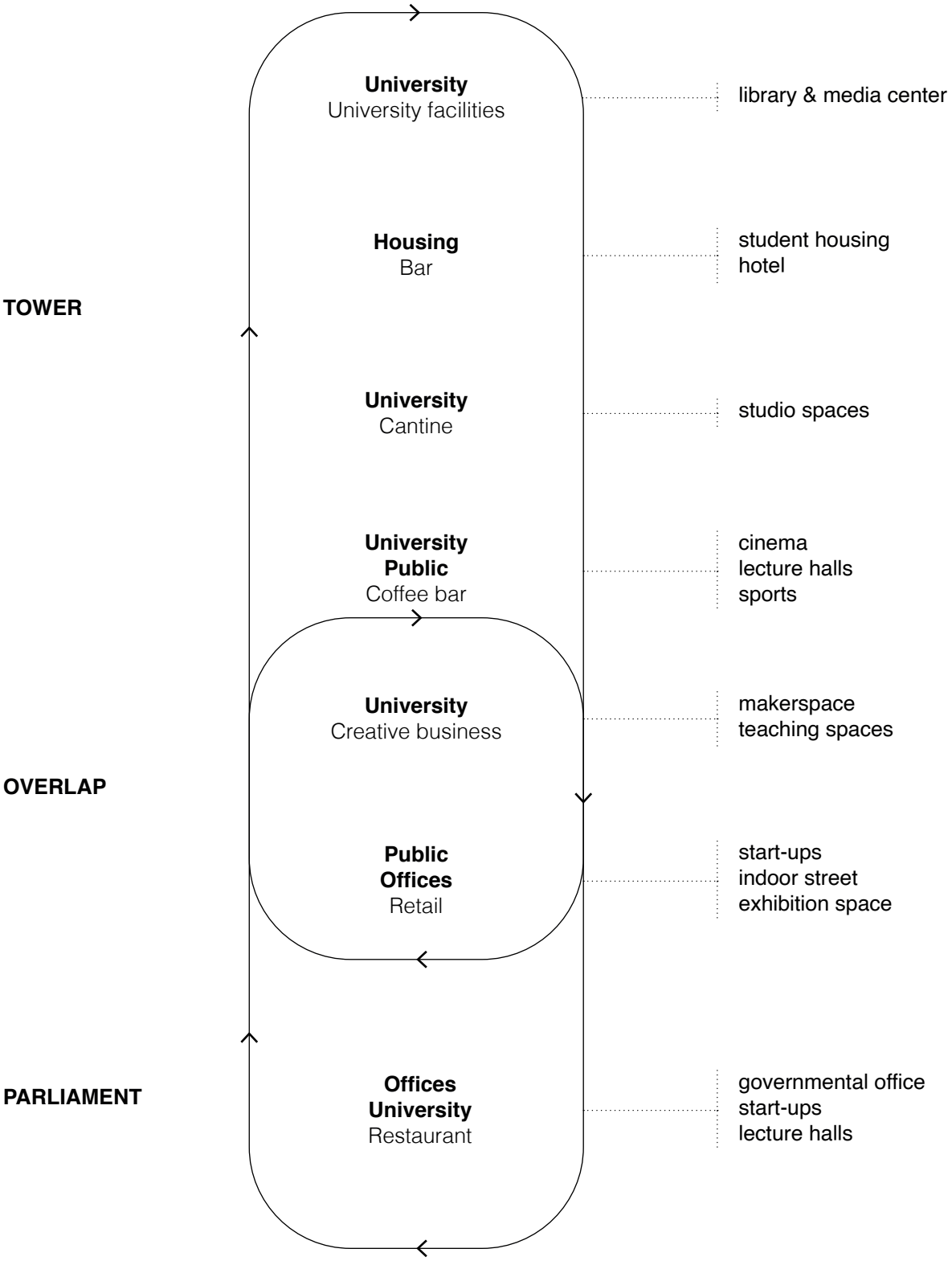


“The porous wall and the edge as border create essential physical elements for an open system in cities. Both porous walls and borders create liminal space; that is, space at the limits of control, limits which permit the appearance of things, acts, and persons unforeseen, yet focused and sited.”

(Sennett, 2006)

Programme

building parts *organisation* *function*



opening hours	*kiosk*	*opening hours*
ma./sat. 9.00 - 18.00	print shop material shop	ma./fri. 9.00 - 18.00 ma./fri. 9.00 - 18.00
mon./sun. 00.00 - 00.00 mon./sun. 00.00 - 00.00	local bar	thu./sun. 17.00 - 00.00
ma./fri. 9.00 - 22.00	foodhall	ma./sun. 9.00 - 22.00
mon./sun. 18.00- 23.00 mon./fri. 9.00 - 18.00 mon./sun. 9.00 - 22.00	coffee bar	mon./sun. 8.00 - 17.00
mon./sat. 9.00 - 18.00 mon./fri. 9.00 - 18.00	workshops	mon./sat. 10.00 - 22.00
mon./fri. 8.00 - 18.00 mon./sun. 6.00 - 22.00 mon./sun. 6.00 - 22.00	groceries market	mon./sun. 8.00 - 22.00 fri. 8.30 - 17.00
mon./fri. 8.00 - 18.00 mon./fri. 8.00 - 18.00 mon./fri. 9.00 - 18.00	restaurant	mon./sun. 16.00 - 23.00

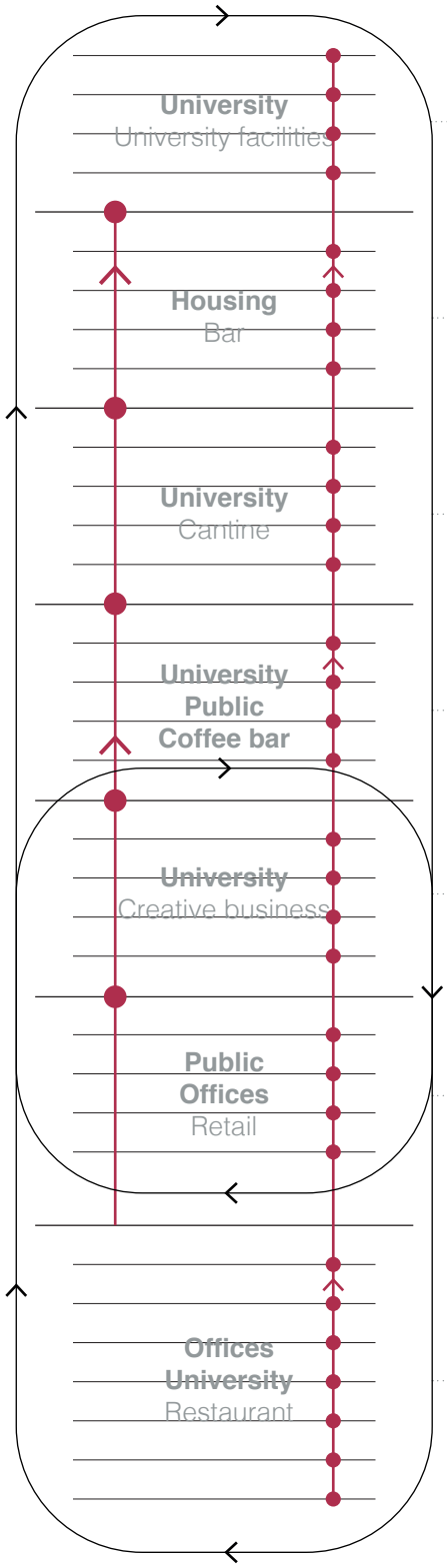
Circulation option 01

building parts *organisation* *definition*

TOWER

OVERLAP

PARLIAMENT



library & media center

student housing
hotel

studio spaces

cinema
lecture halls
sports

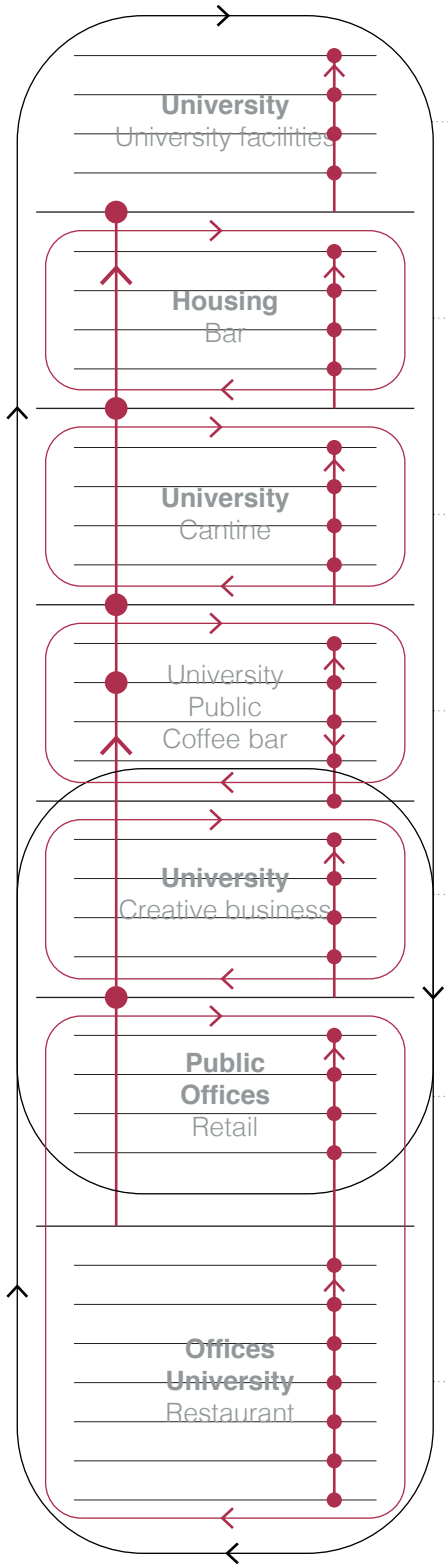
workshops
teaching spaces

start-ups
indoor street
exhibition space

governmental office
start-ups
lecture halls

Circulation option 02

building parts *organisation* *definition*



TOWER

OVERLAP

PARLIAMENT

library & media center

student housing
hotel

studio spaces

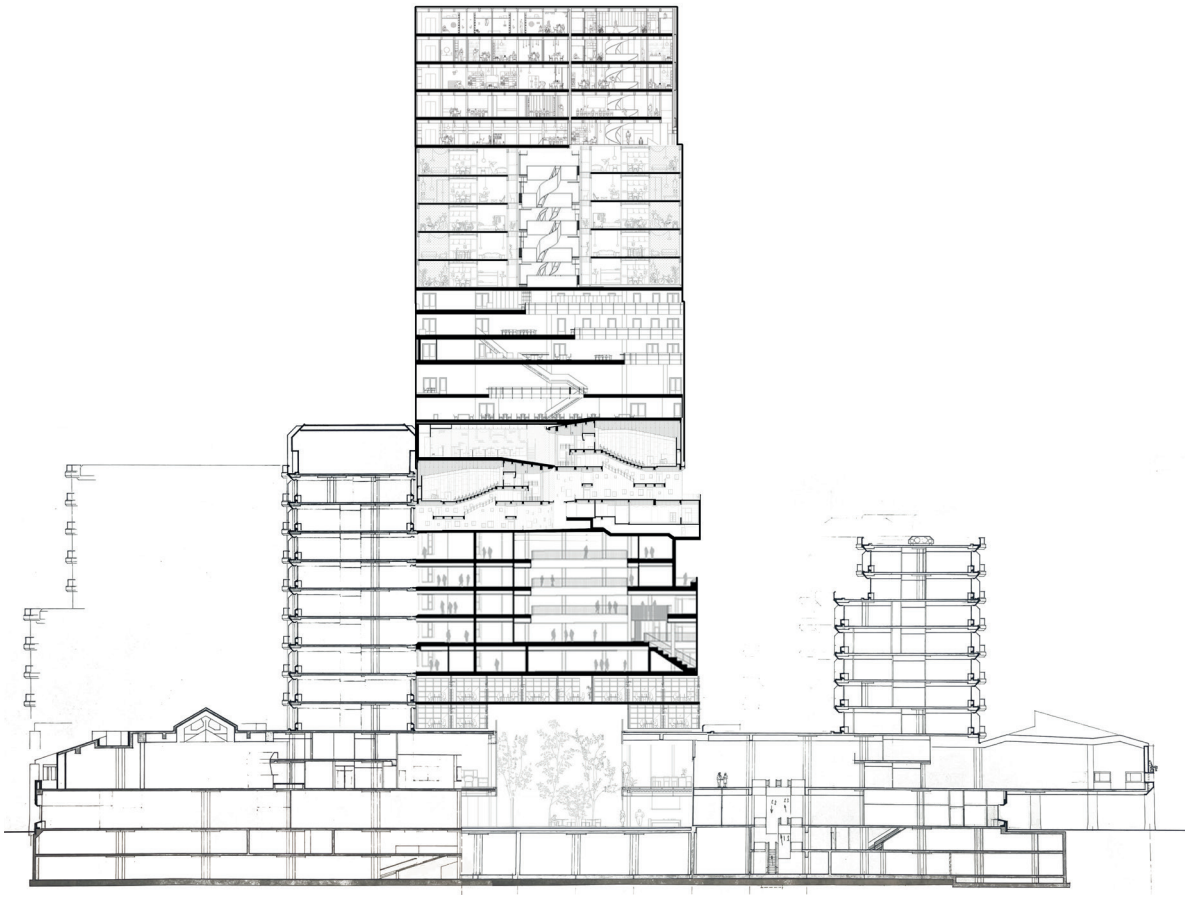
cinema
lecture halls
sports

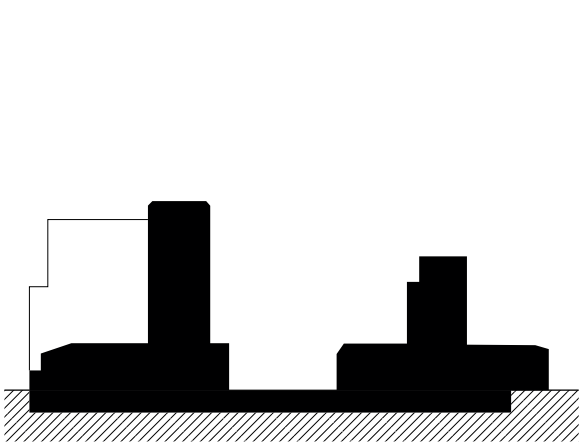
workshops
teaching spaces

start-ups
indoor street
exhibition space

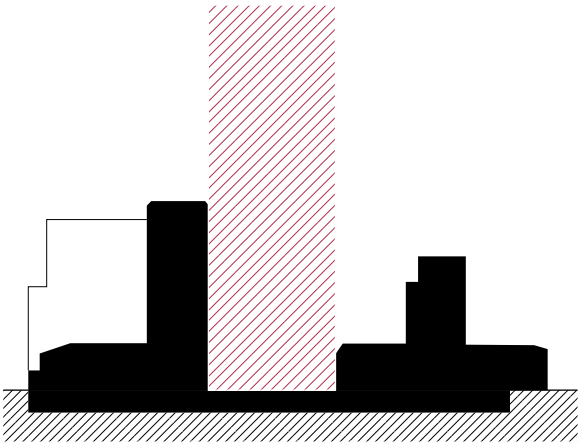
governmental office
start-ups
lecture halls

Speculative section

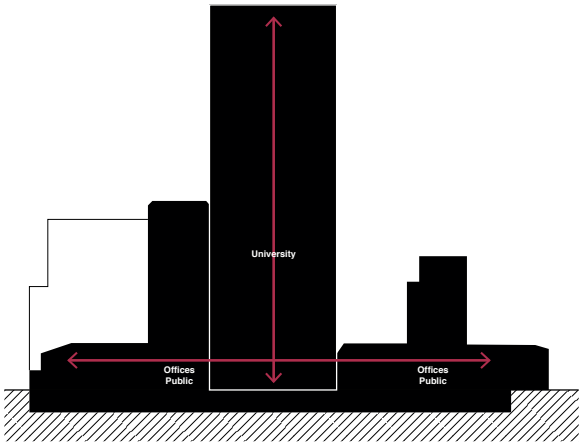




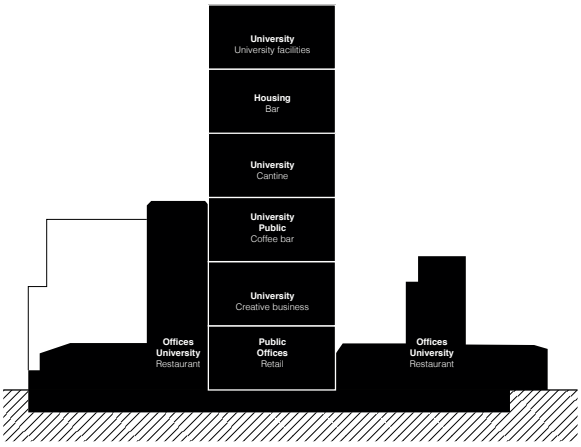
01. Existing building volume



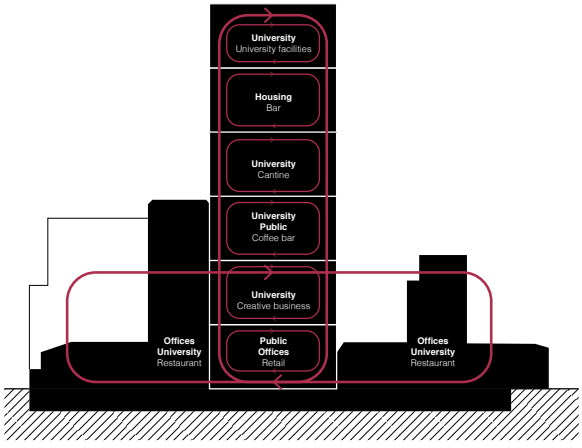
02. Added building volume



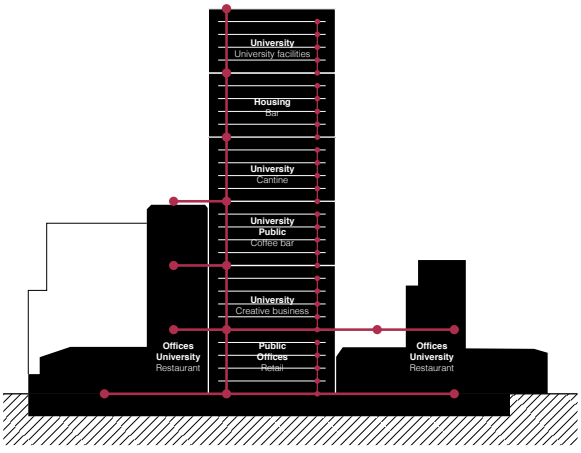
03. General circulation



04. Distribution of the main functions

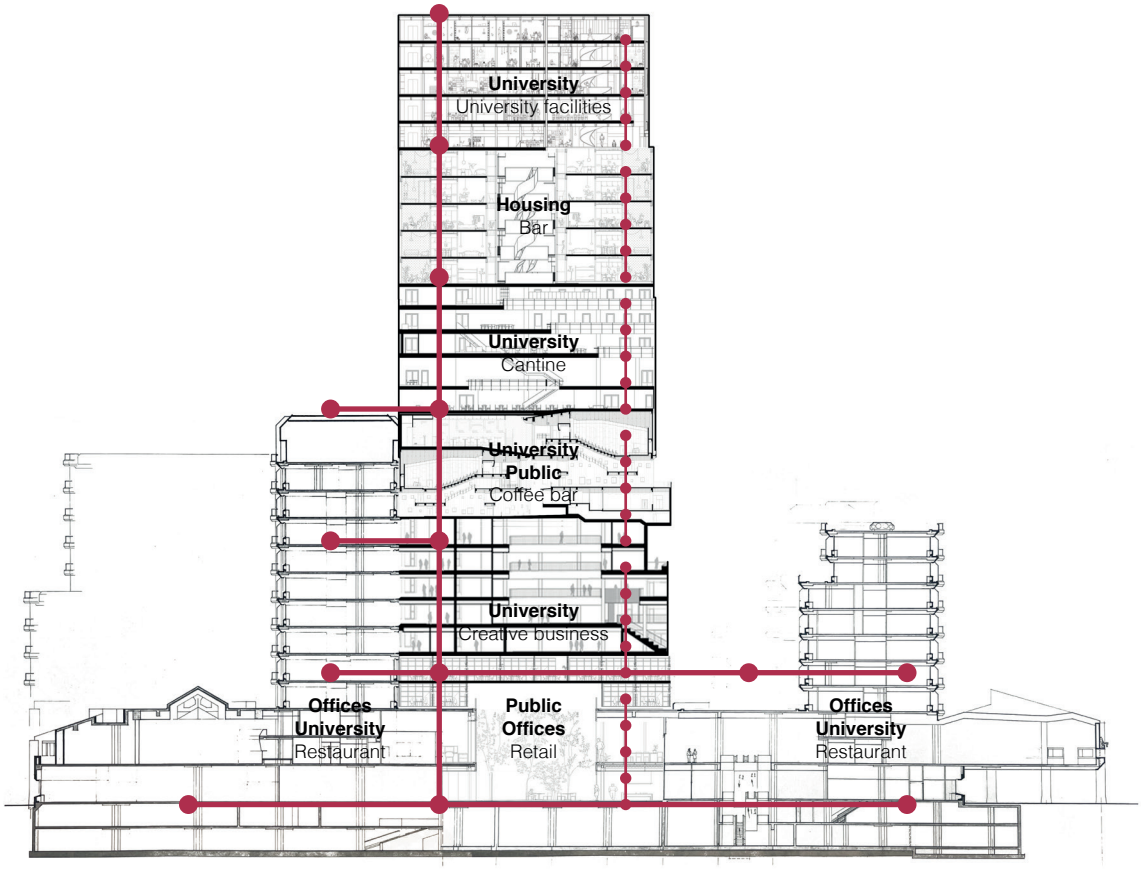


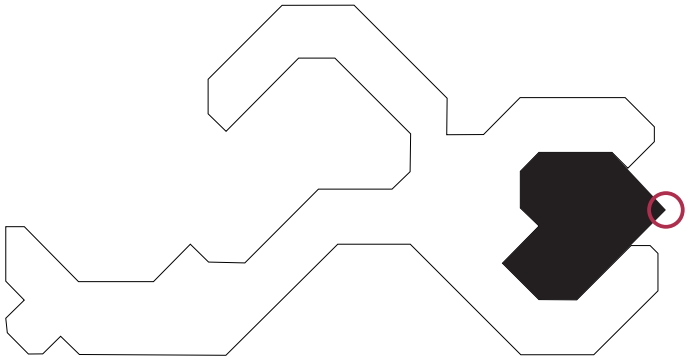
05. New circulation concept



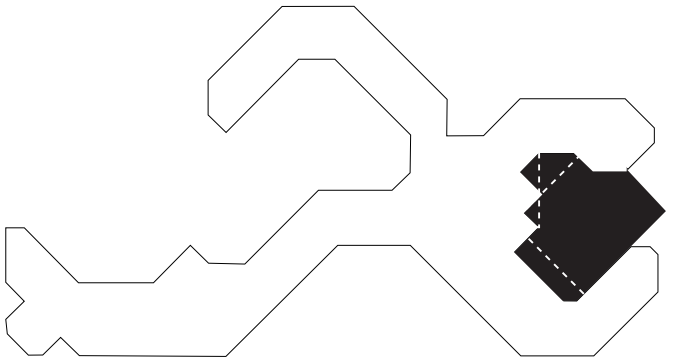
06. Vertical distribution

Distribution within the speculative section

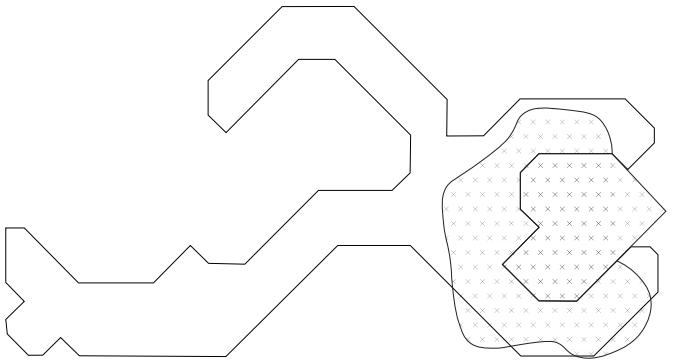




Exentuate diagonal grid

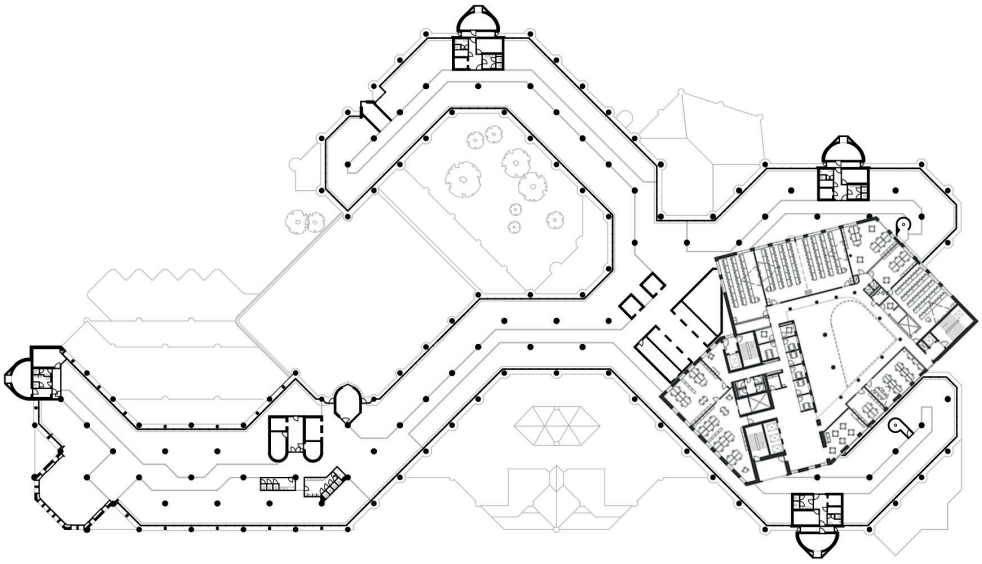


Continu the Monkey Rock on the South side

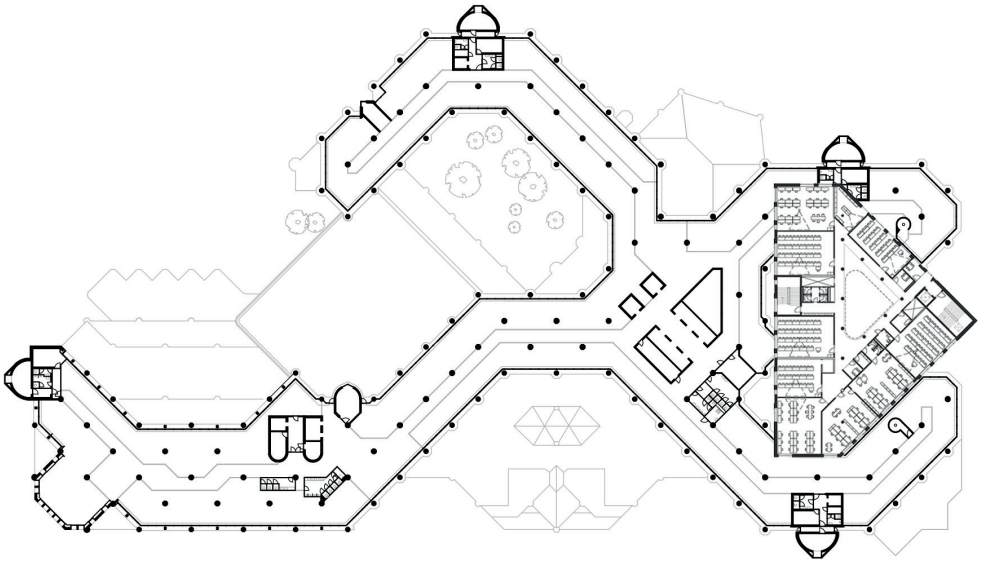


Added programme overlaps existing building

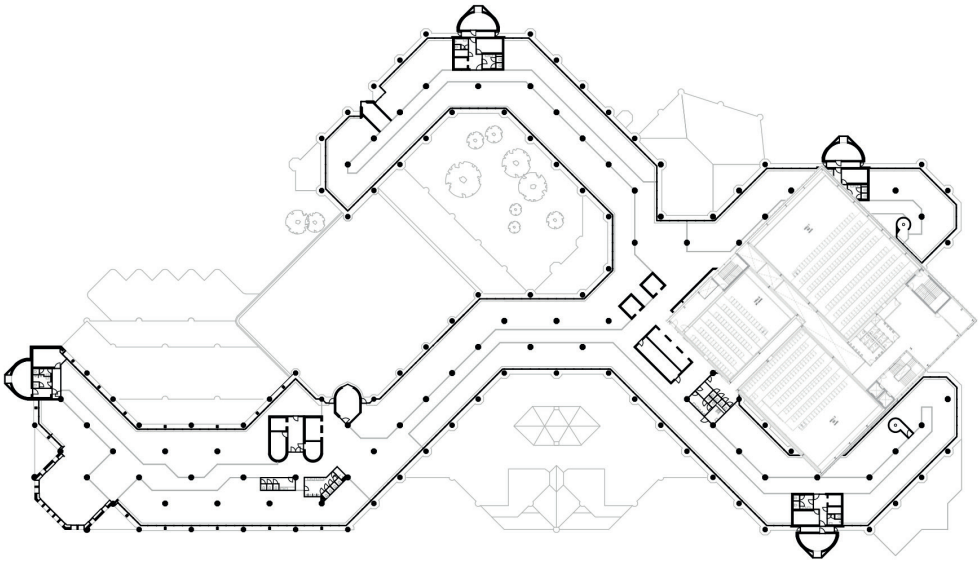
Speculative floorplan



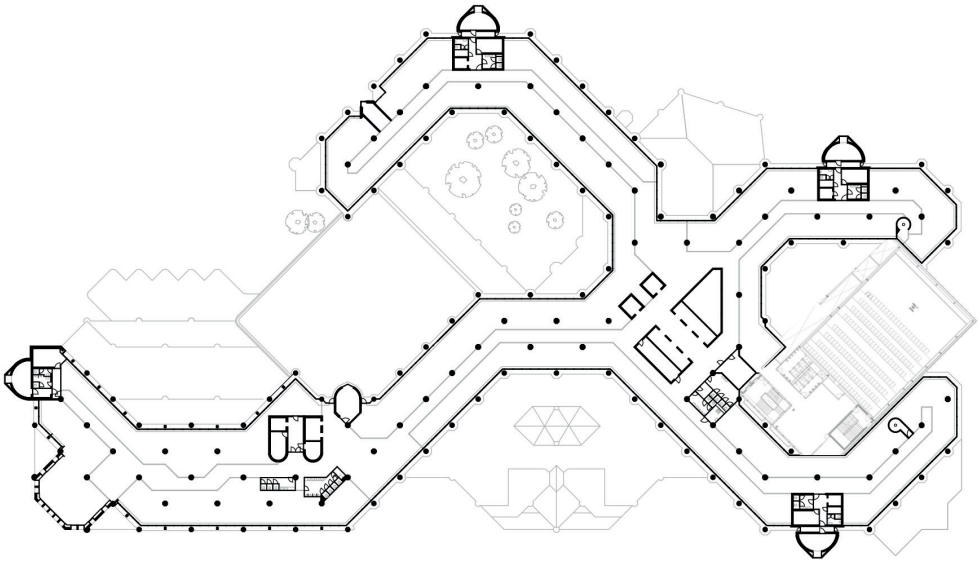
Speculative floorplan



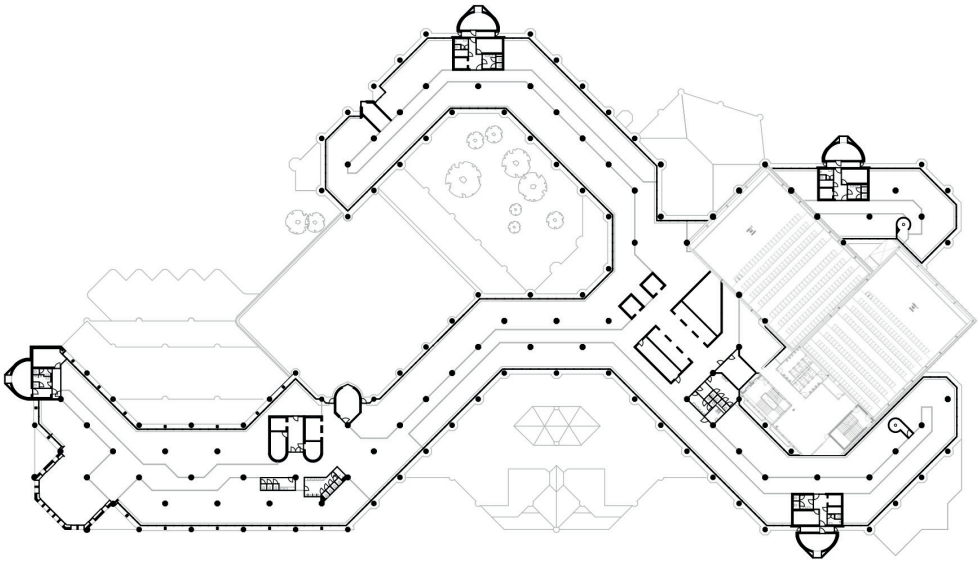
Speculative floorplan

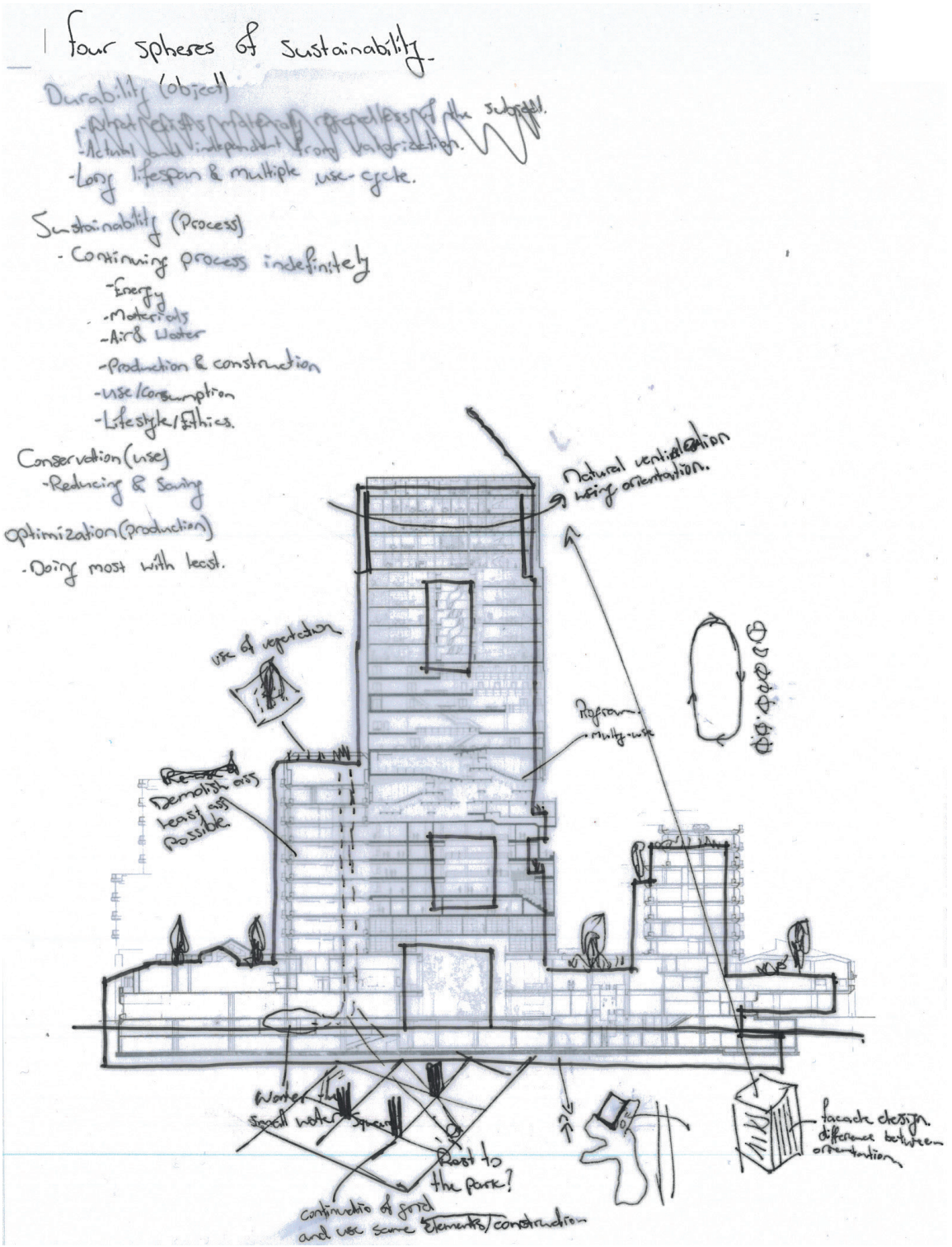


Speculative floorplan

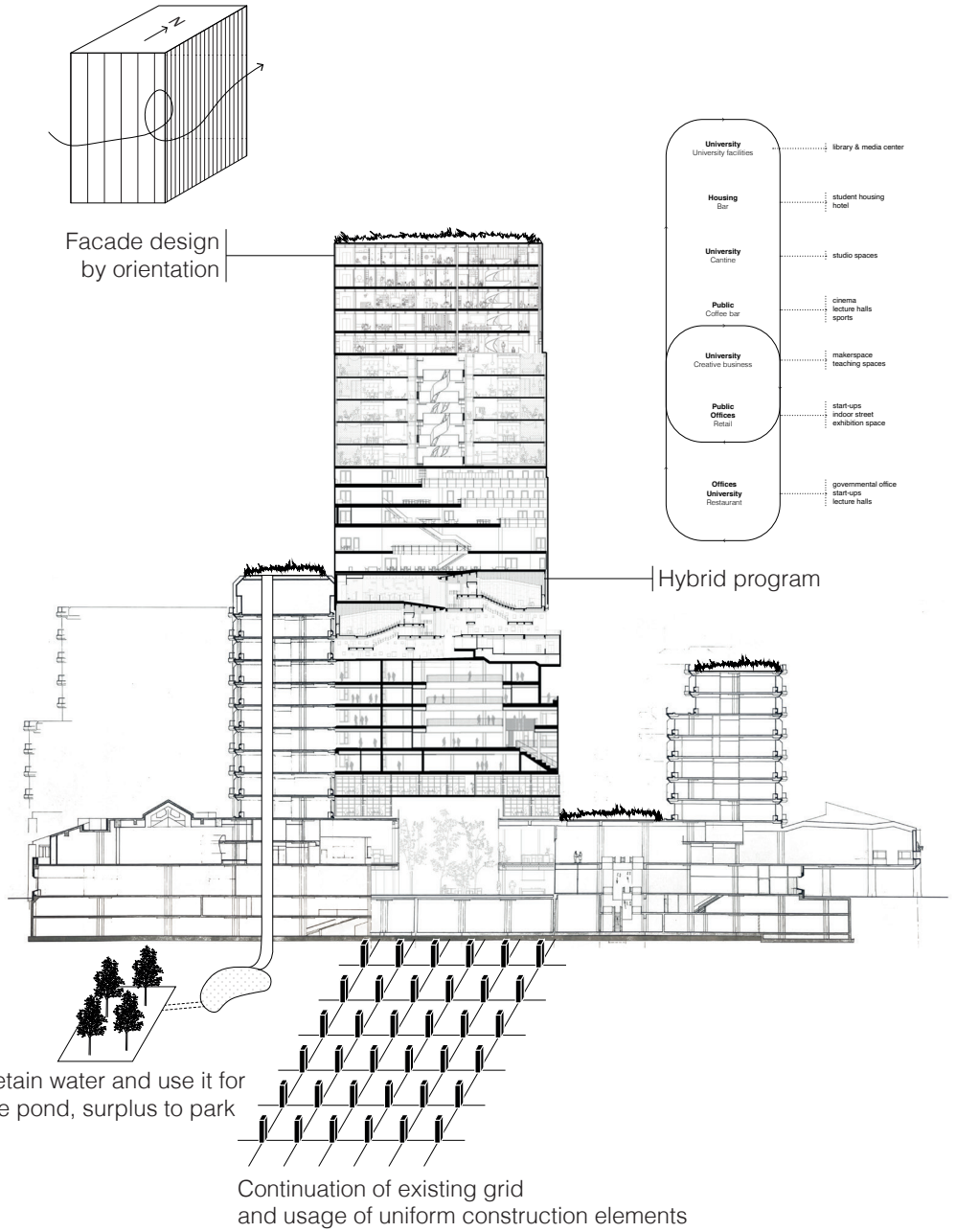


Speculative floorplan




four spheres of sustainability.
Durability (object)
-Long lifespan & multiple use-cycle.
Sustainability (Process)
- Continuing process indefinitely
-Energy
-Materials
-Air & Water
-Production & construction
-Use/Consumption
-Lifestyle/Ethics.
Conservation (use)
-Reducing & Saving
optimization (production)
-Doing most with least.
Natural ventilation using orientation.
use of vegetation
Demolish as least as possible.
facade design. difference between orientation.
Root to the park?

Sustainability diagram

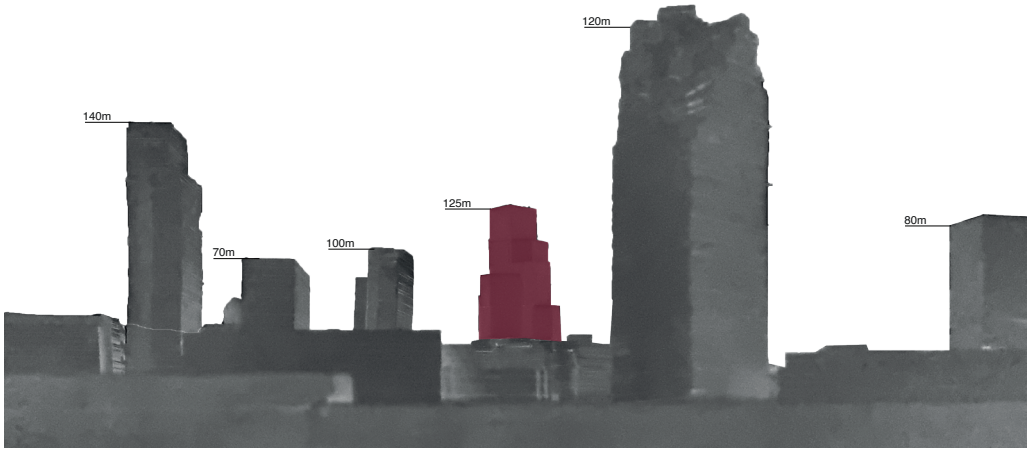


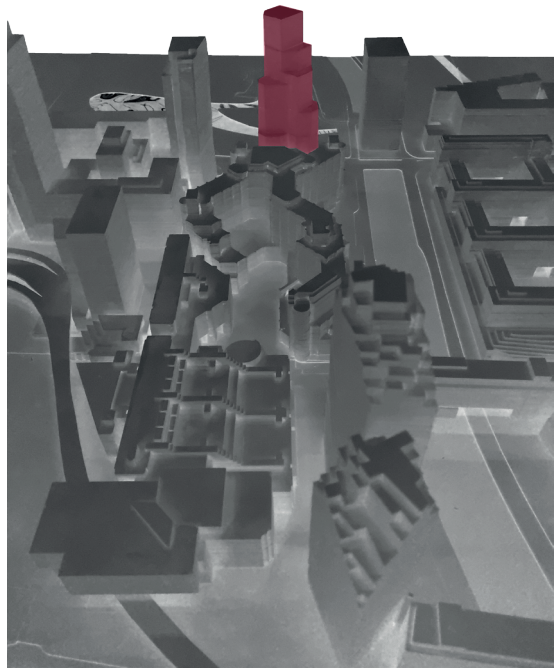
Facade ambitions

P2

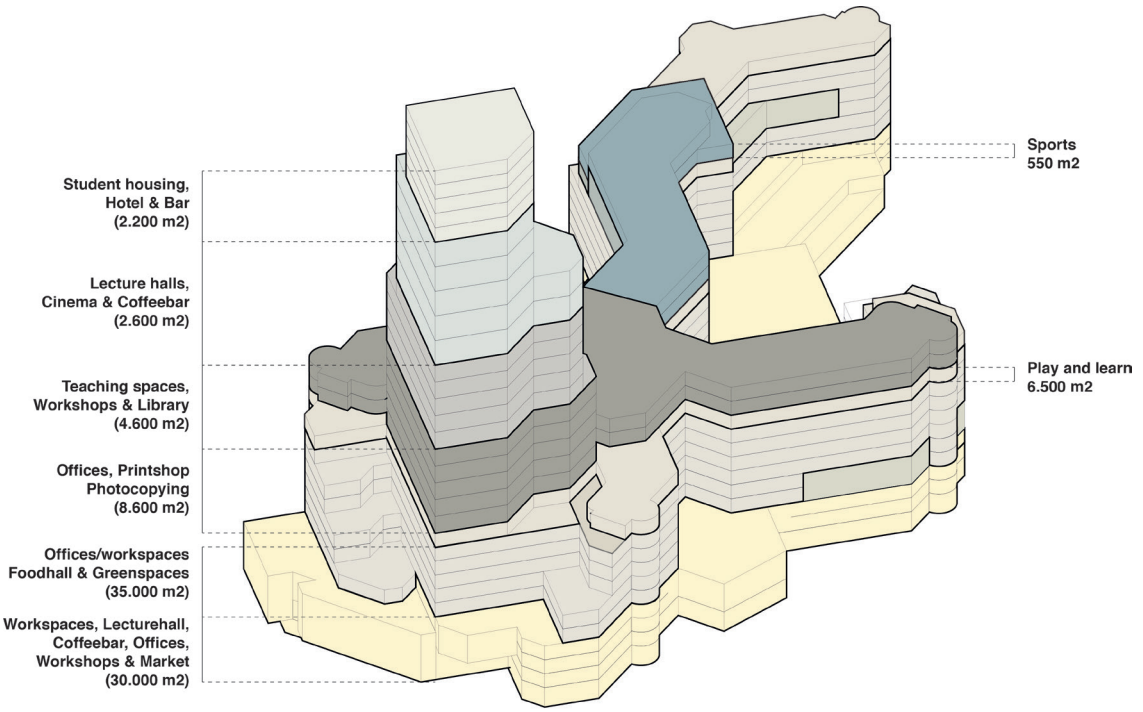
BUILDING DESIGN

Building volume

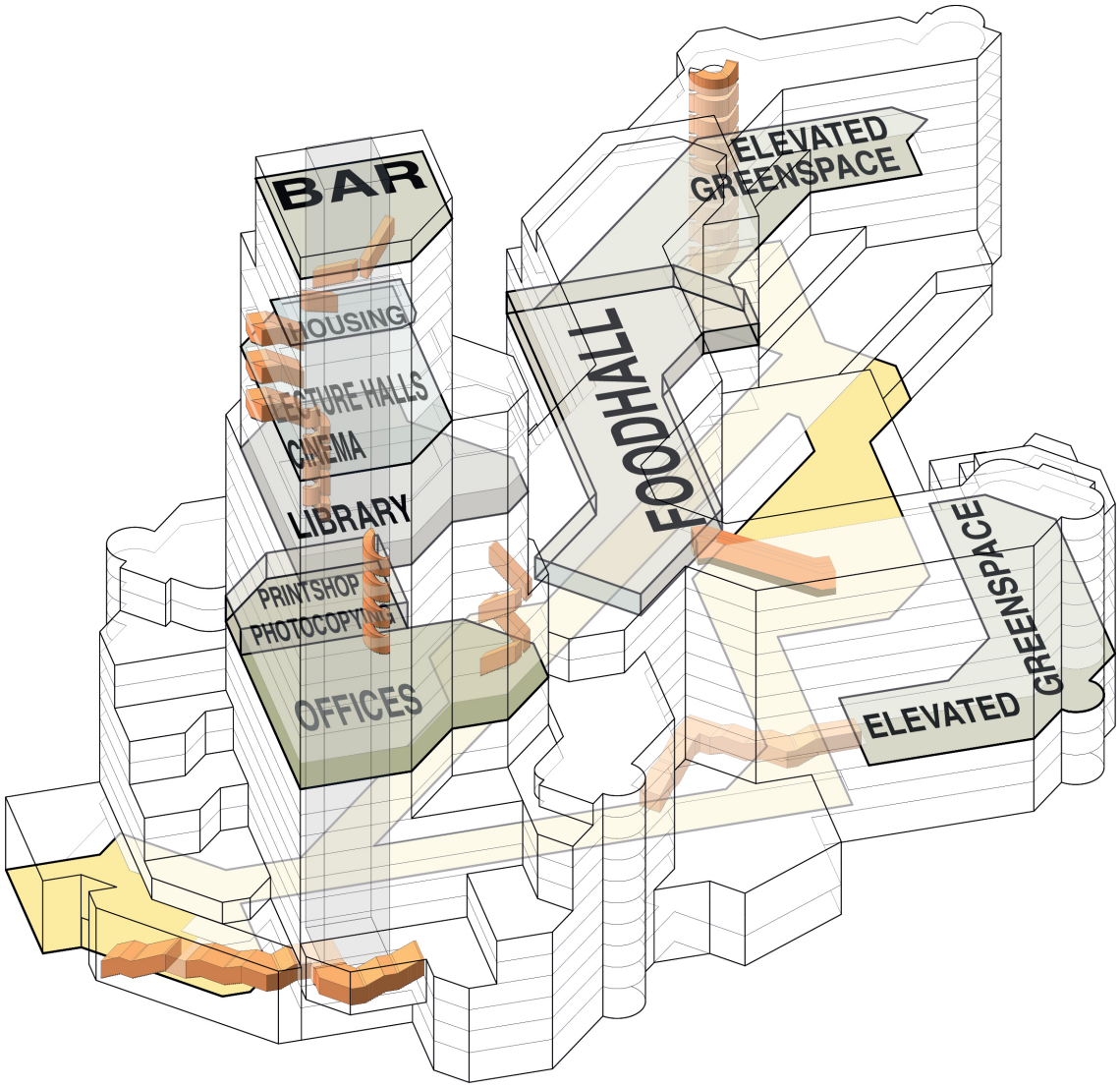




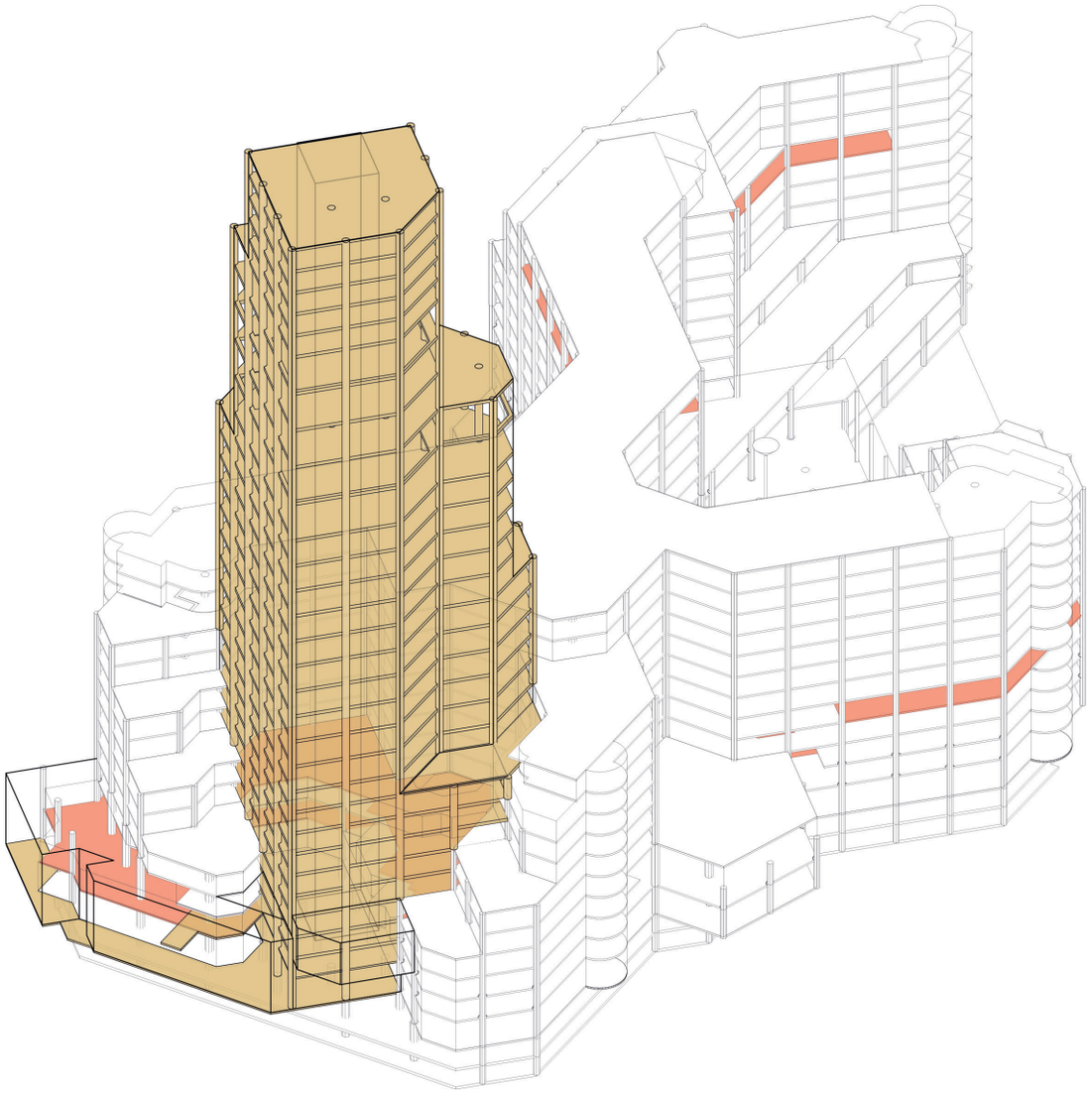
Programme

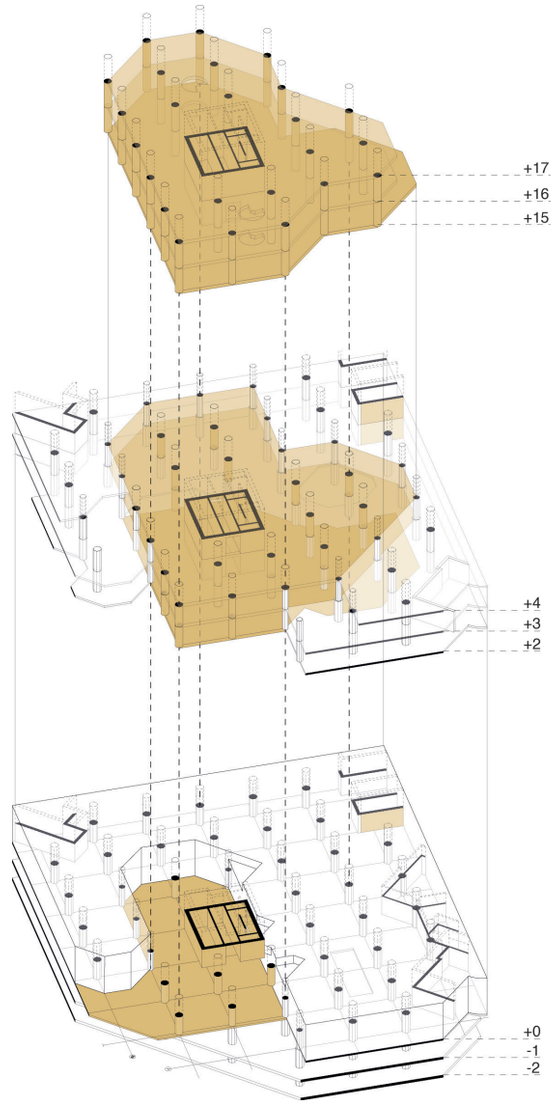

Student housing,
Hotel & Bar
(2.200 m2)
Lecture halls,
Cinema & Coffeebar
(2.600 m2)
Teaching spaces,
Workshops & Library
(4.600 m2)
Offices, Printshop
Photocopying
(8.600 m2)
Offices/workspaces
Foodhall & Greenspaces
(35.000 m2)
Workspaces, Lecturehall,
Coffeebar, Offices,
Workshops & Market
(30.000 m2)
Sports
550 m2
Play and learn
6.500 m2

Circulation



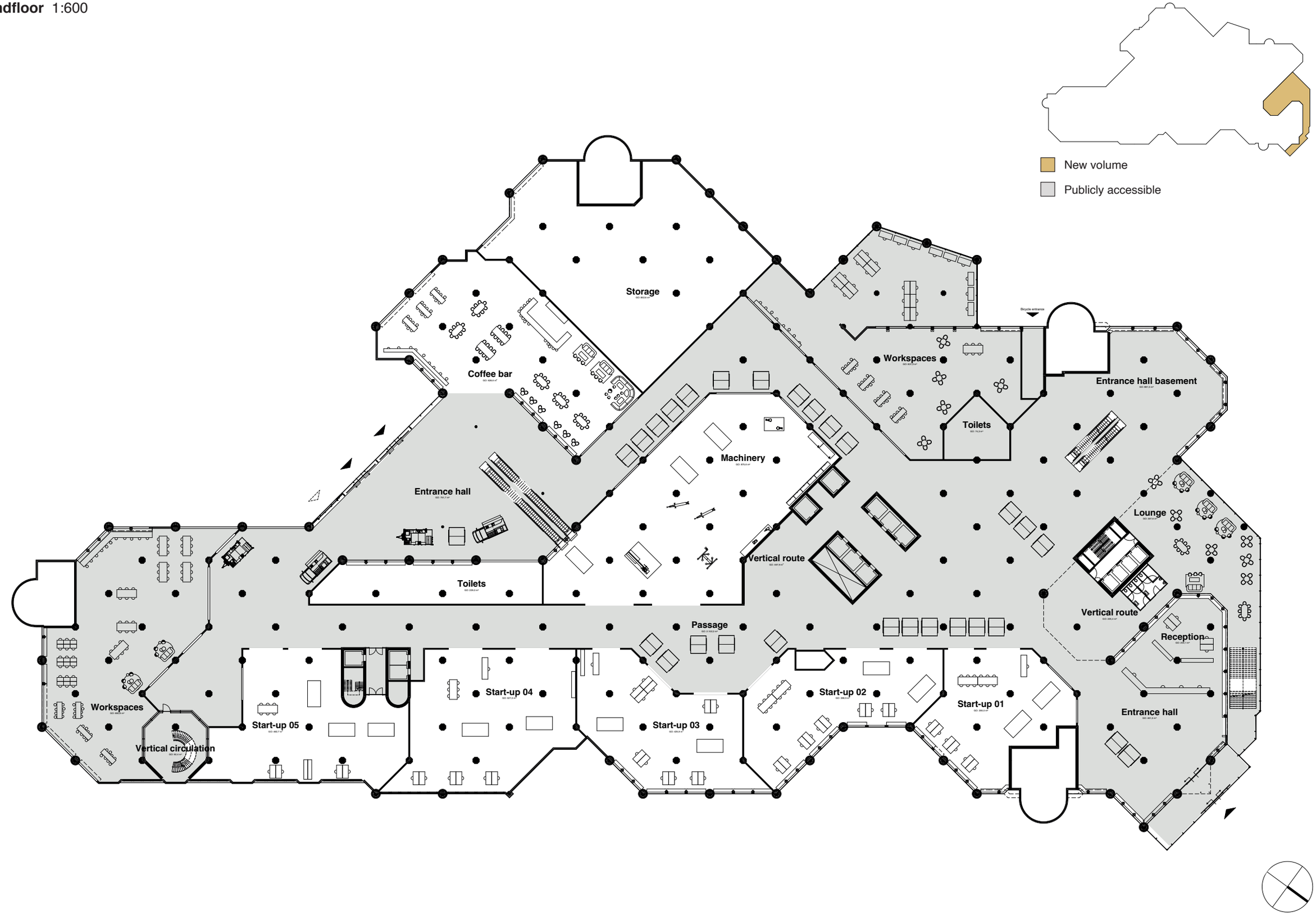
Structure



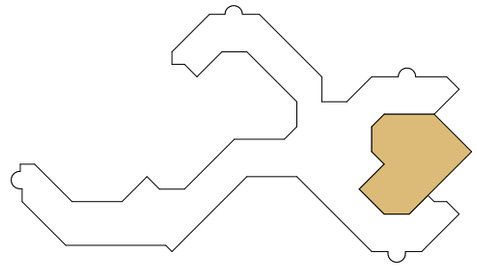


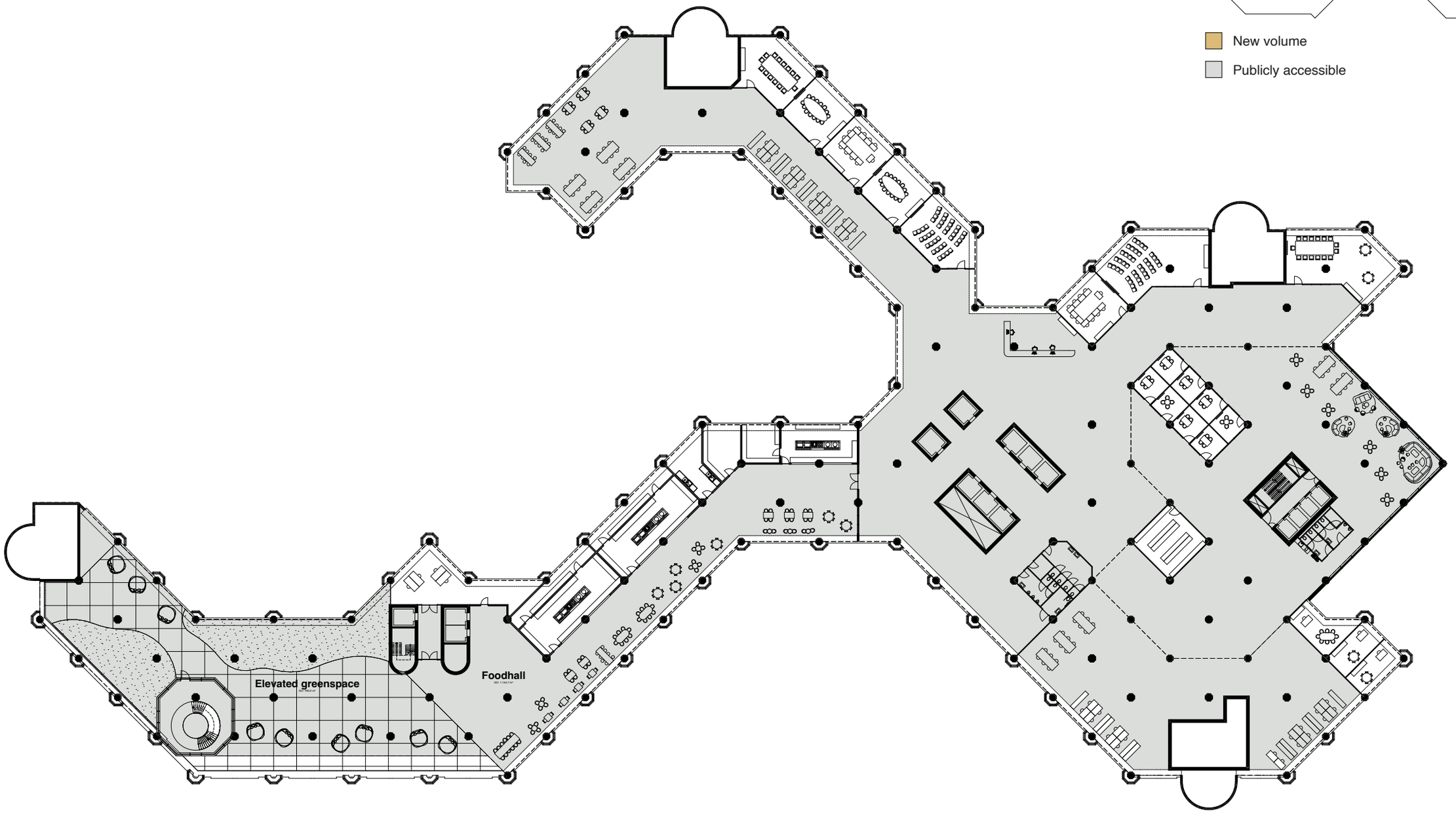
Site plan 1:2000

Groundfloor 1:600

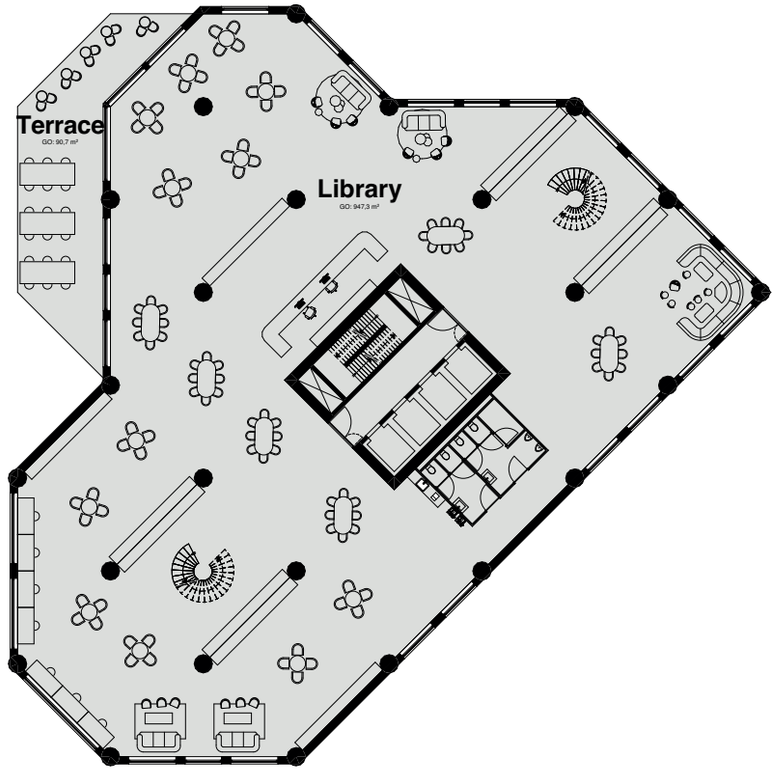


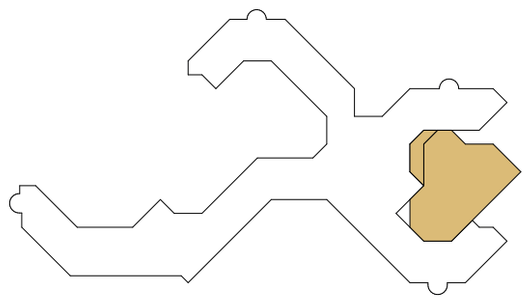
5th floor 1:600





15th floor 1:400

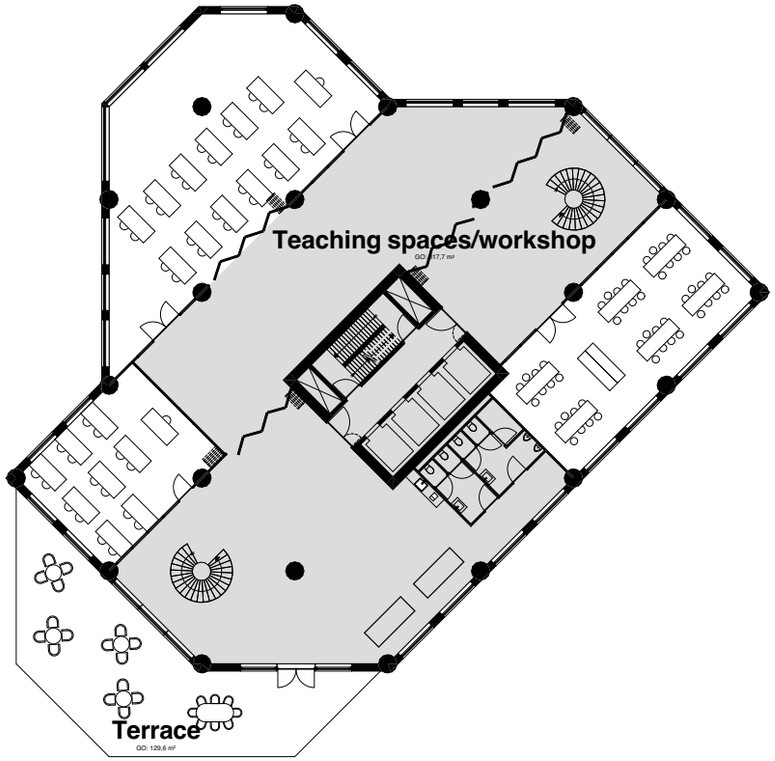


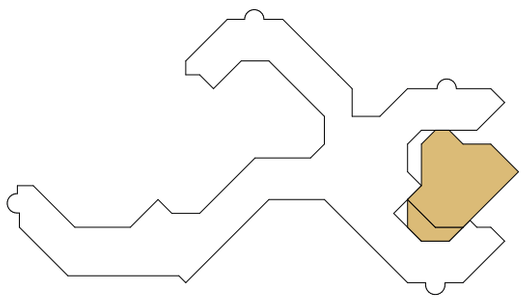


New volume

Publicly accessible

19th floor 1:400

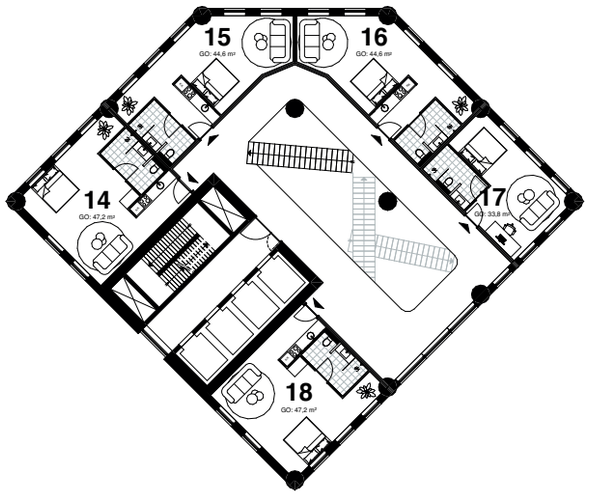


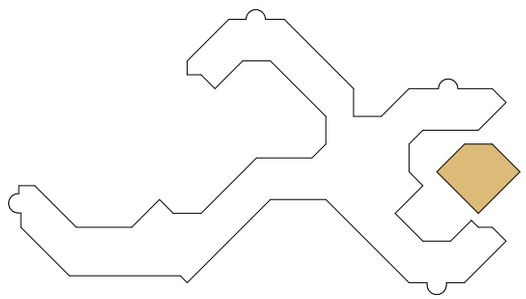


New volume

Publicly accessible

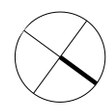
28th floor 1:400



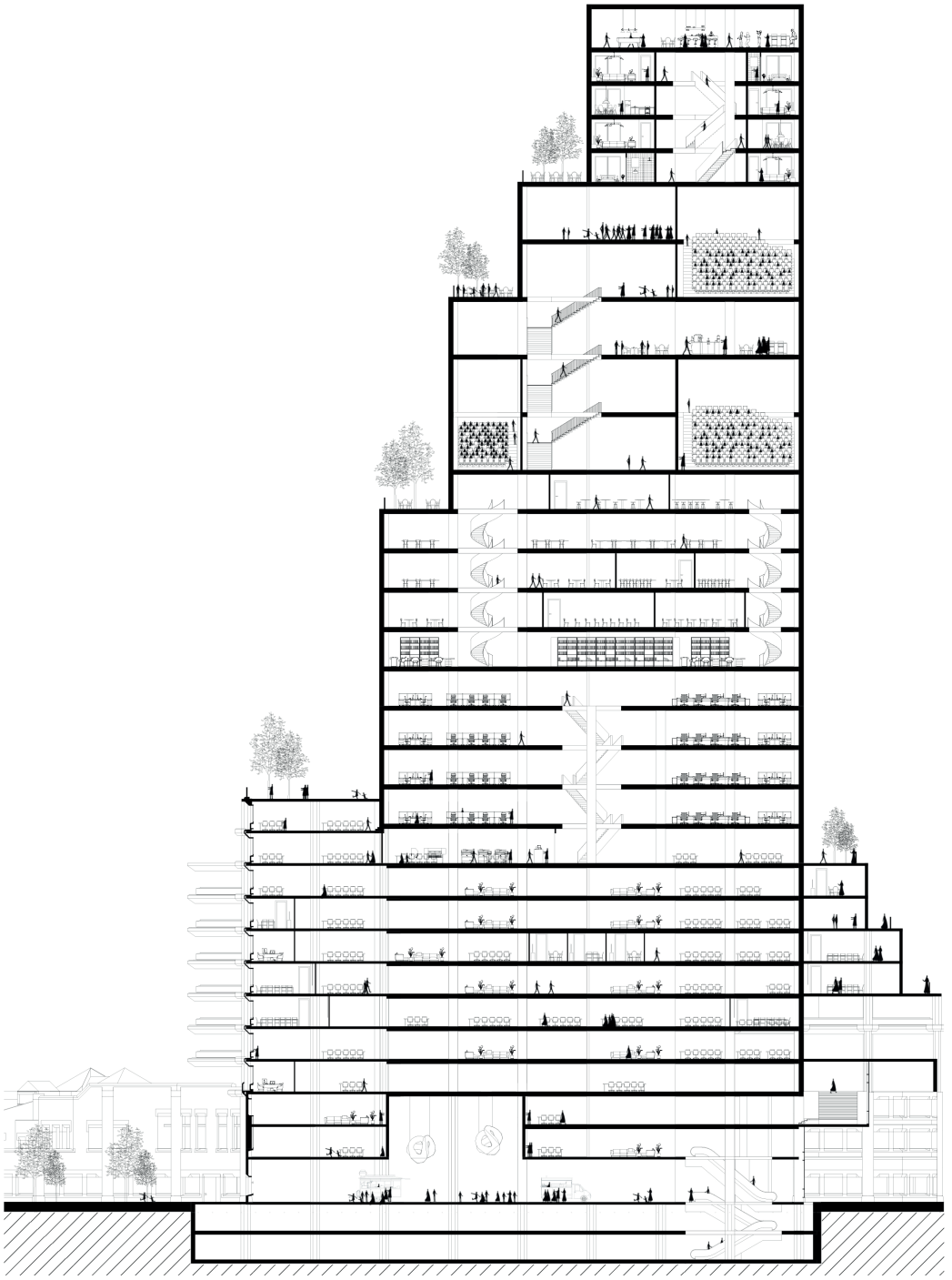


New volume

Publicly accessible



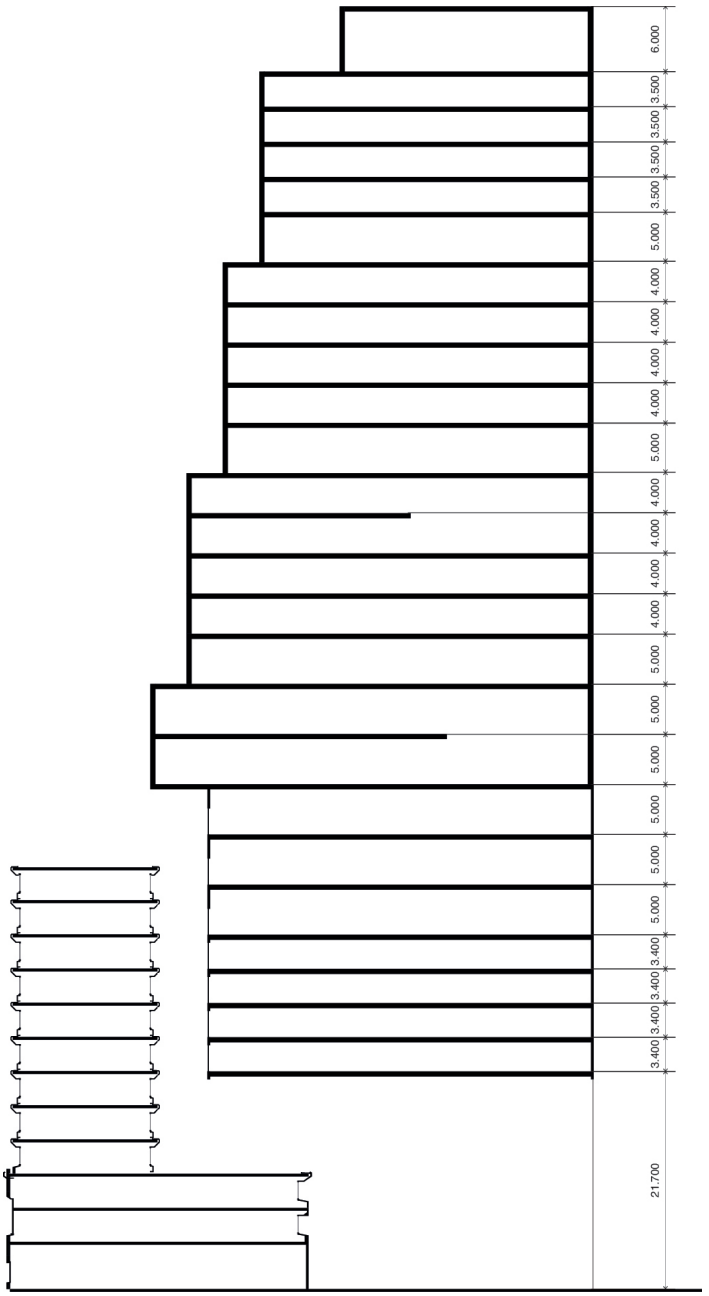
Section 1:400

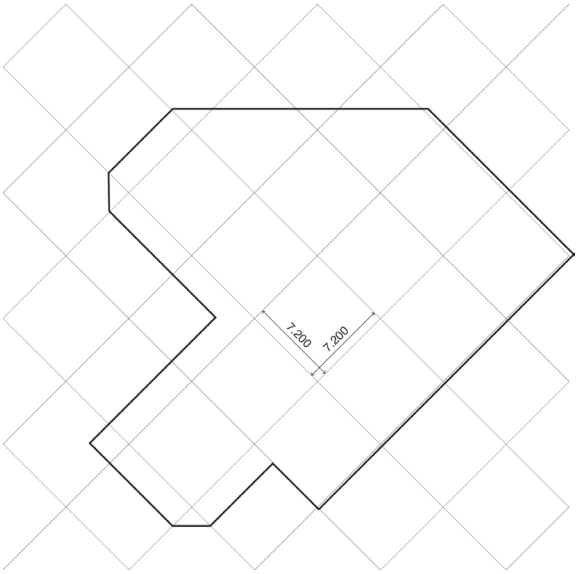


BUILDING ENGINEERING

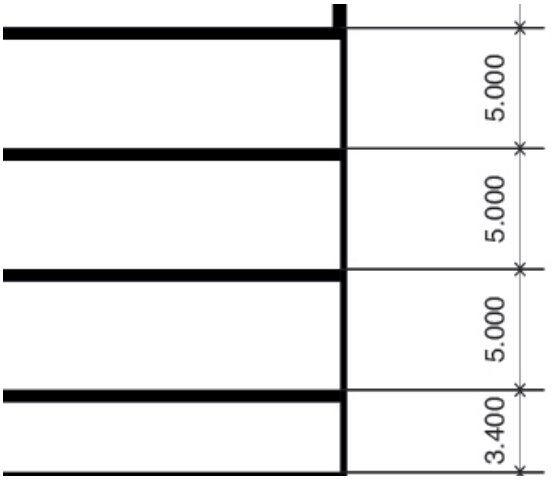
Structural model

Floor heights





6th floor | Outline tower within grid



Normative floor height | 5.000 mm

The constructive elements of the tower will be in wood. The ratio of wood using the rule of thumb is 20/1. This means that the columns of the tower need to be 5/20 = 0,25 m thick.

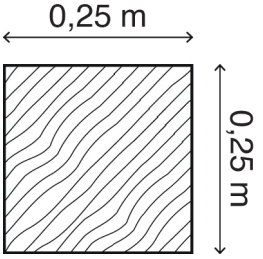
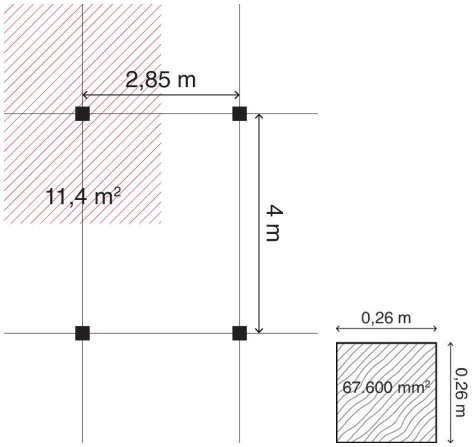


Figure 16 Constructing Brock Commons Tallwood House - Acton Ostry Architects Incl. (2017)

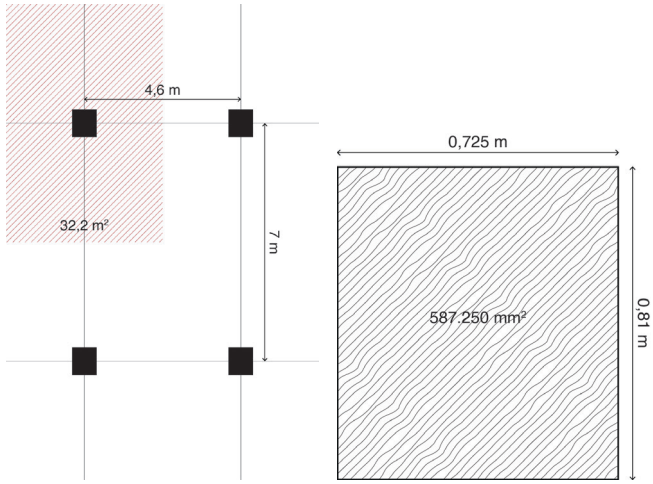
The dimensions of the columns in Brock Commons Tallwood House by Acton Ostry Architects Incl. have similar dimensions to those calculated by the rule of thumb, 0.26 x 0.26 m thick. However, this building is only 55 metres high and the storey height is about 3 metres. Moreover, compared to the tower of the design project, the grid is much smaller, 2.85 x 4 metres.

Figure 17 Constructing Mjøstårnet The Tower of Lake Mjøsa - Voll Arkitekter (2019)

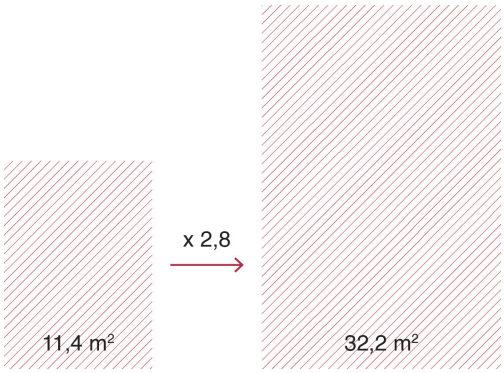
Mjøstårnet is the tallest wooden building (85m) in the world designed by Voll Arkitekter. Different dimensions were used for the columns with the four corner columns having the largest dimension. The floor heights also differ, 5 metres for the ground floor and 4 metres for the upper floors. On the 4.6 x 7 metre grid, there are columns of 1.485 x 0.625 m at the corner and between 0.725 x 0.810 m and 0.625 x 0.630 m here.



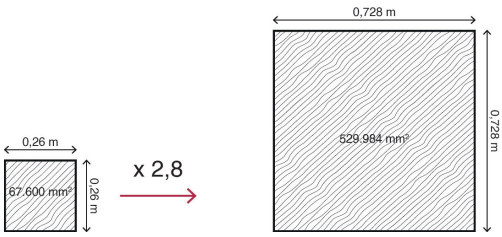
Construction Brock Commons Tallwood House



Construction Mjøstårnet The Tower of Lake Mjøsa

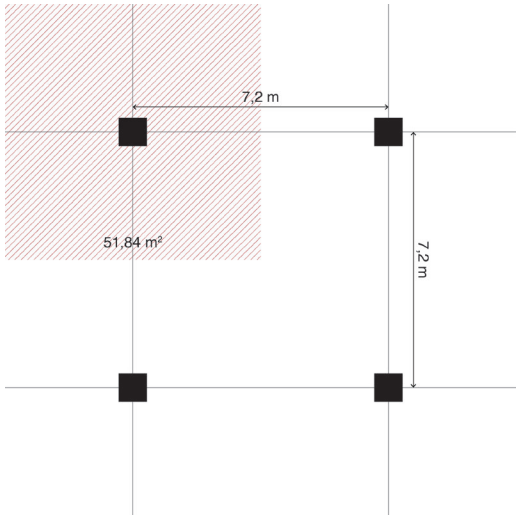


Floor area comparison

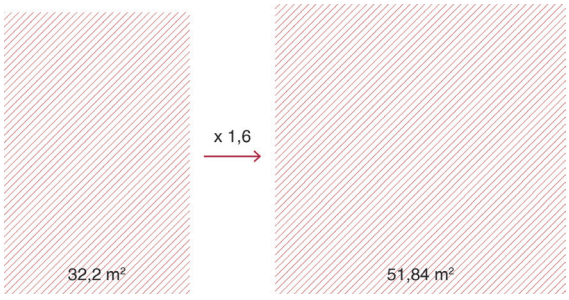


Column comparison

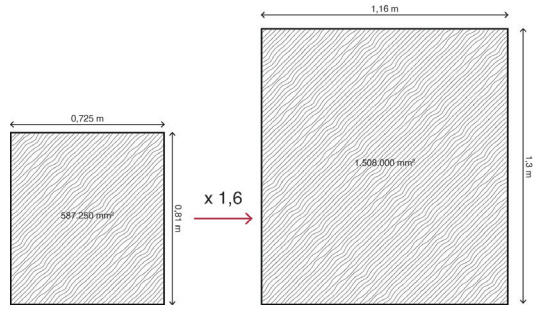
By comparing the two case studies, an estimate can be made of what the possible dimensions will be for the wooden columns in the design project. The difference between the floor areas of the case studies that the column has to support is 2.8. By doing the dimensions of the column of Brock Commons Tallwood House x 2.8, the dimensions 0.728 x 0728 m are obtained. This is a slight difference from the columns applied in Mjøstårnet. This difference may be due to the wood type and floor height used.



Because the dimensions of Mjøstårnet are closest to the tower in the design project, the floor area that the column has to support was compared and this ratio was applied to the column in Mjøstårnet.
This showed that the column of the new tower should be 1.16 x 1.3 metres. Although the height of Mjøstårnet and the new tower do not match, this estimate will be closer than using the rule of thumb.



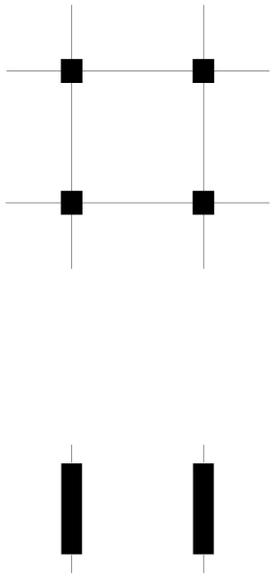
Floor area comparison

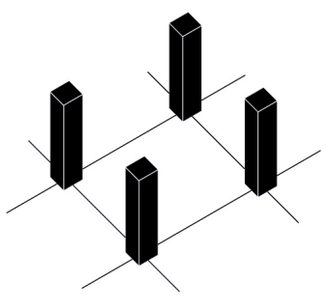


Column comparison

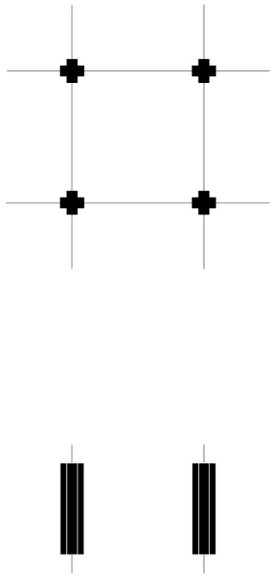
Columns variants

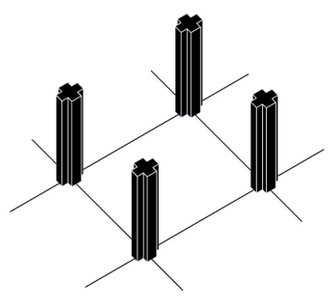
Variant 01



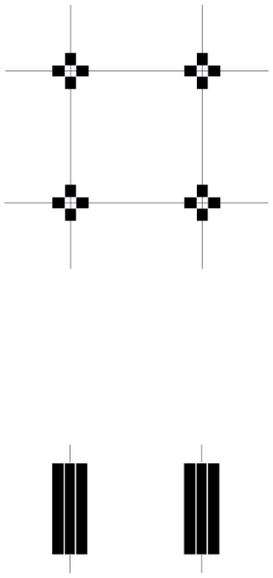


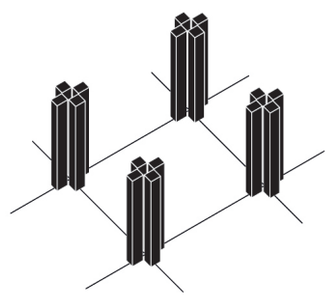
Variant 02



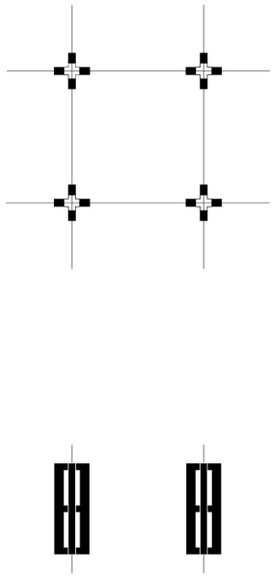


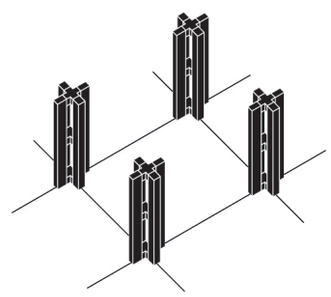
Variant 03



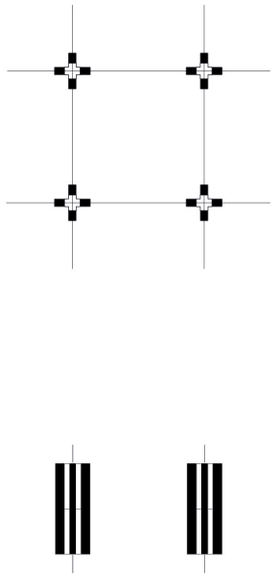


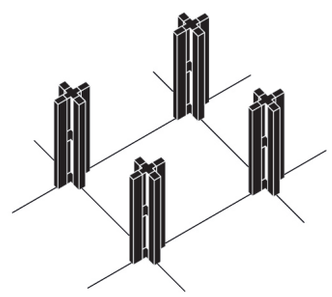
Variant 04



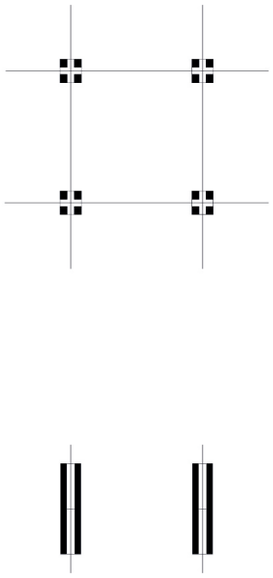


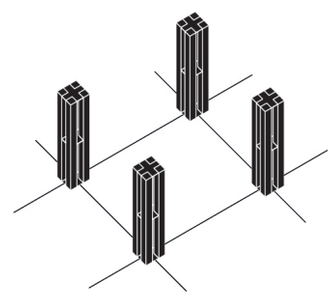
Variant 05





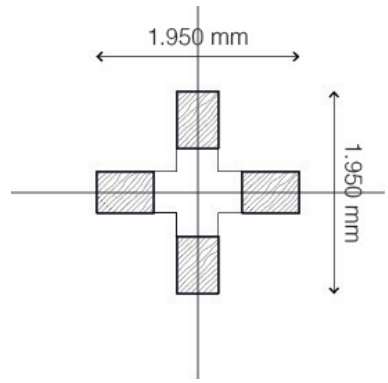
Variant 06

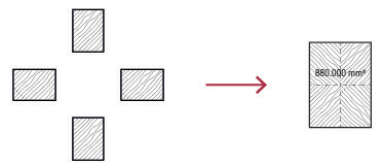




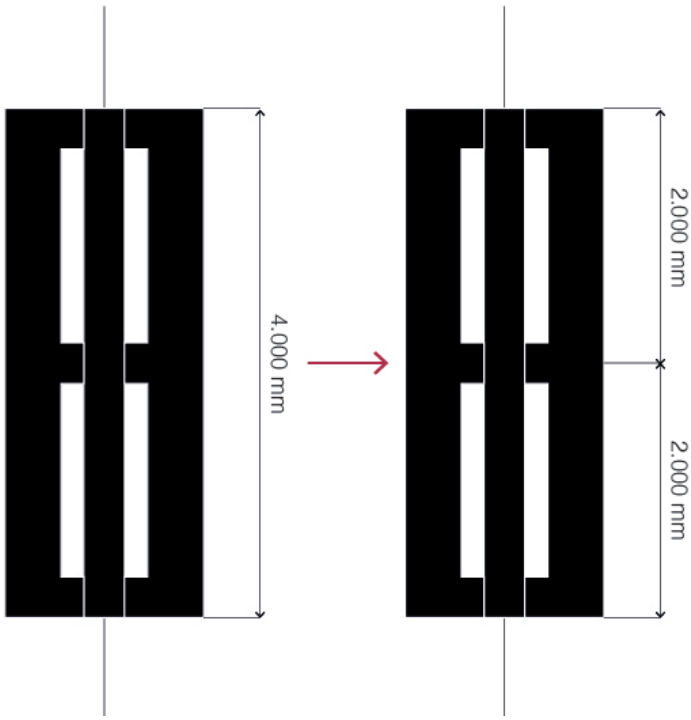
Columns choice

The assumption made from the case studies and the rule of thumb required columns measuring 1.16m x 1.3m with an area of 1,508,000mm2. Due to the massive columns, variants were created to explore alternatives to make the columns look less massive and use them in the design. Variant 04 is the final result used in the project. The shape of the column, a cross, accentuates the diagonal grid of the 'Monkeyrock' and gives a nod to Dick Apon's octagonal columns.
Although the columns are about 2m x 2m, the spacing ensures that the columns do not look massive.

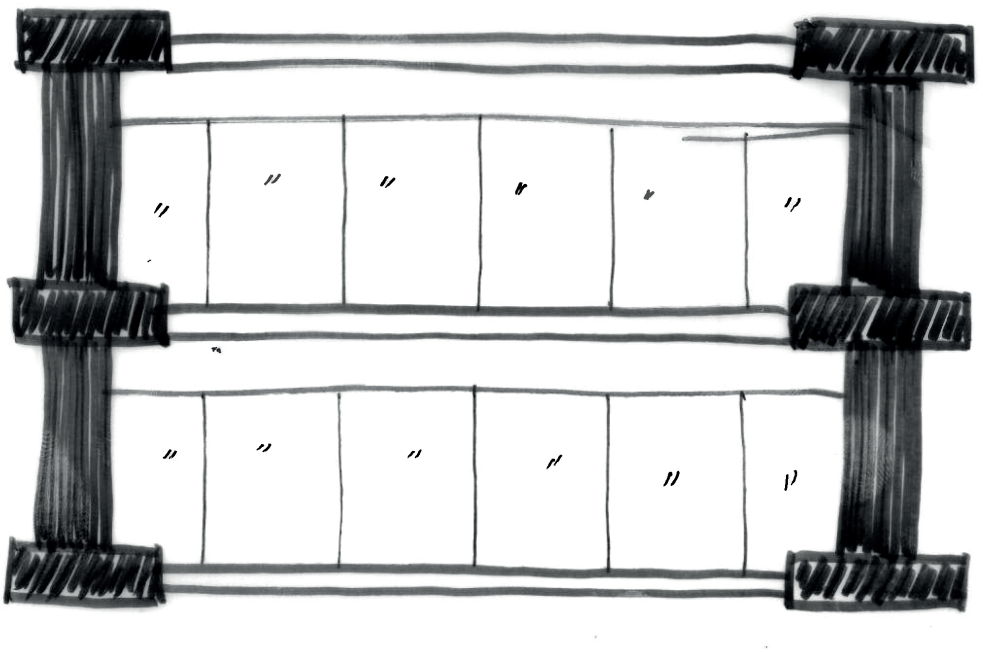




The total area of the four columns is 880,000mm2, which is less than the calculated area of 1,508,000mm2. However, because the columns are connected to each other in half this ensures that the buckling length is halved so that the surface area can be multiplied by 2 to obtain the surface area of the total length of 4m.



The shape of the columns is applied on all floors and thus vary in height. In addition, the columns can become narrower on higher floors.



Most significant facade elements existing facade

Figure 18 SEK II Campus Polyfeld 1

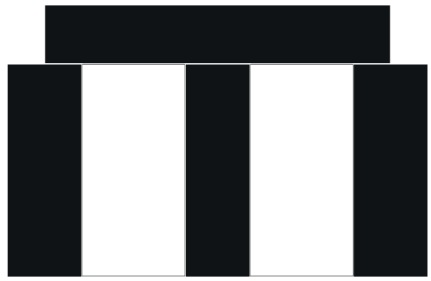
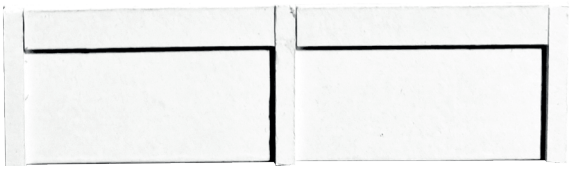
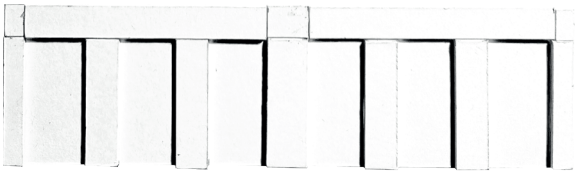
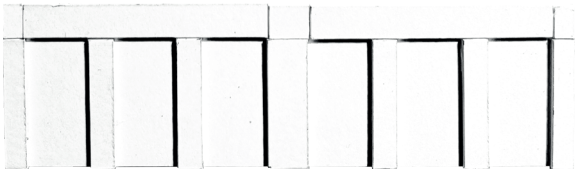
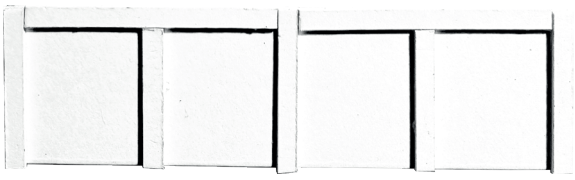
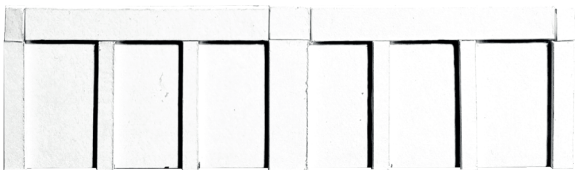


Figure 19 36-38 Berkeley Square

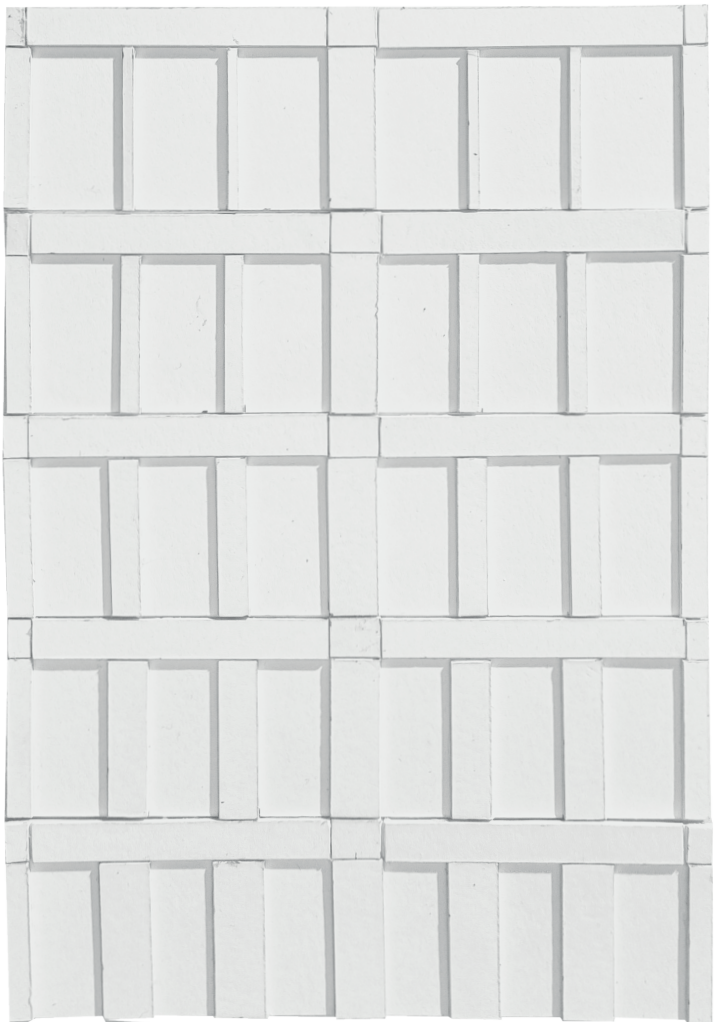
Facade studies

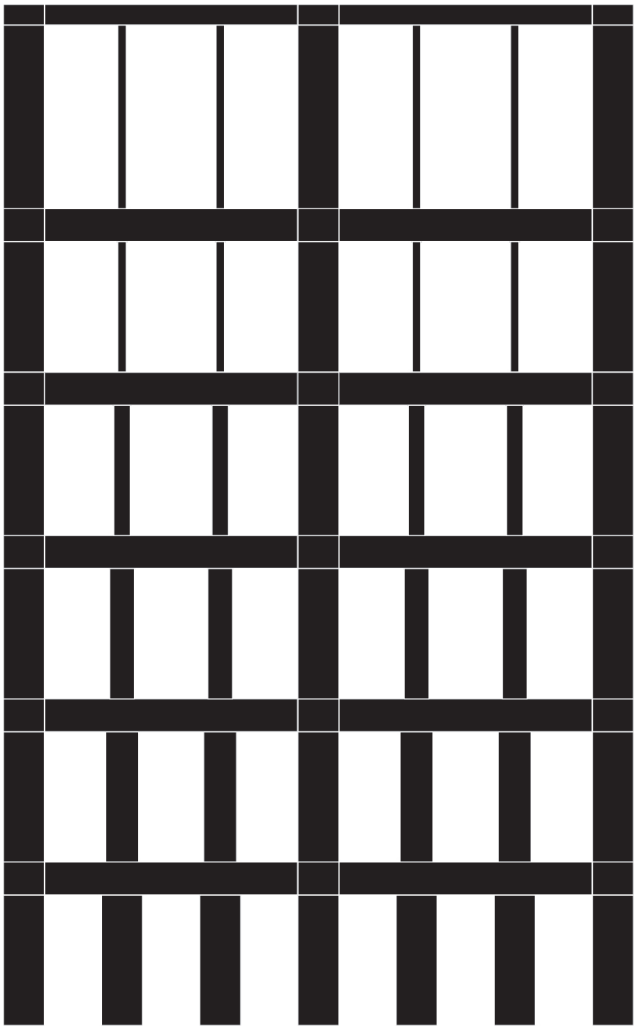



Facade rhythm

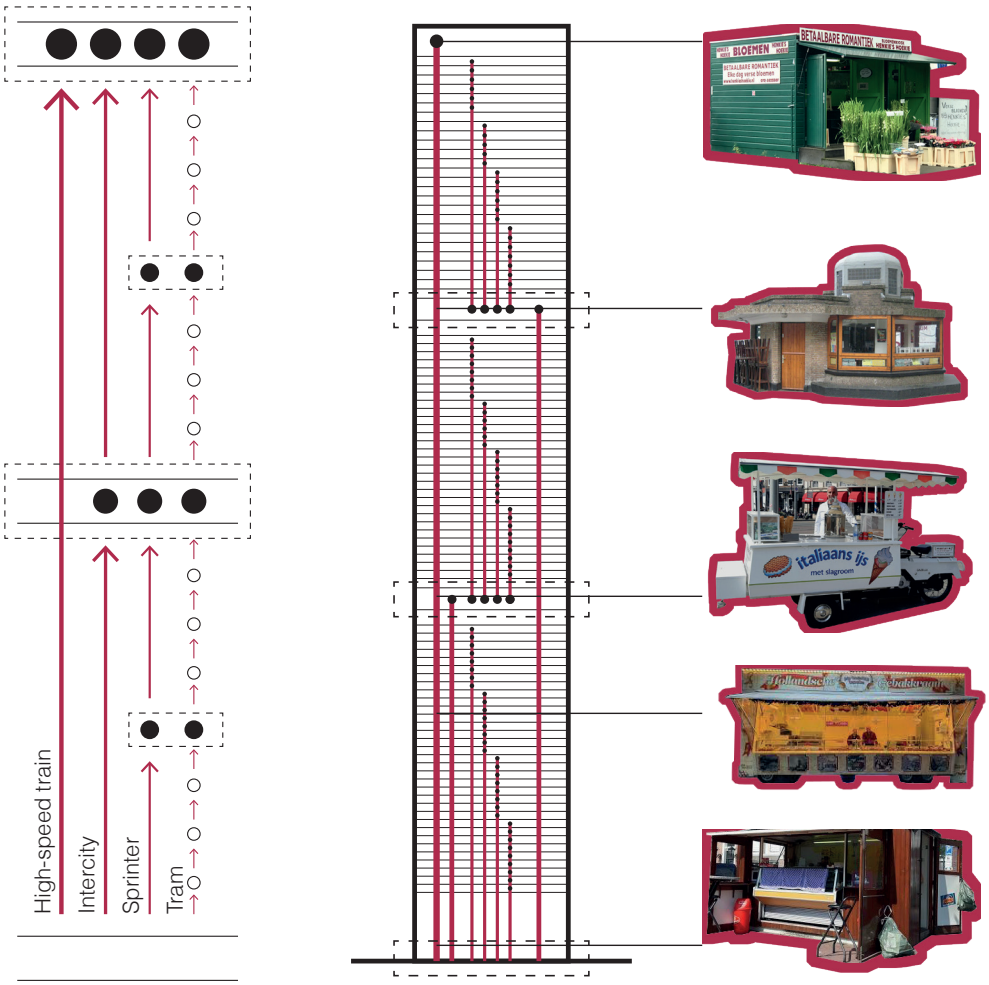


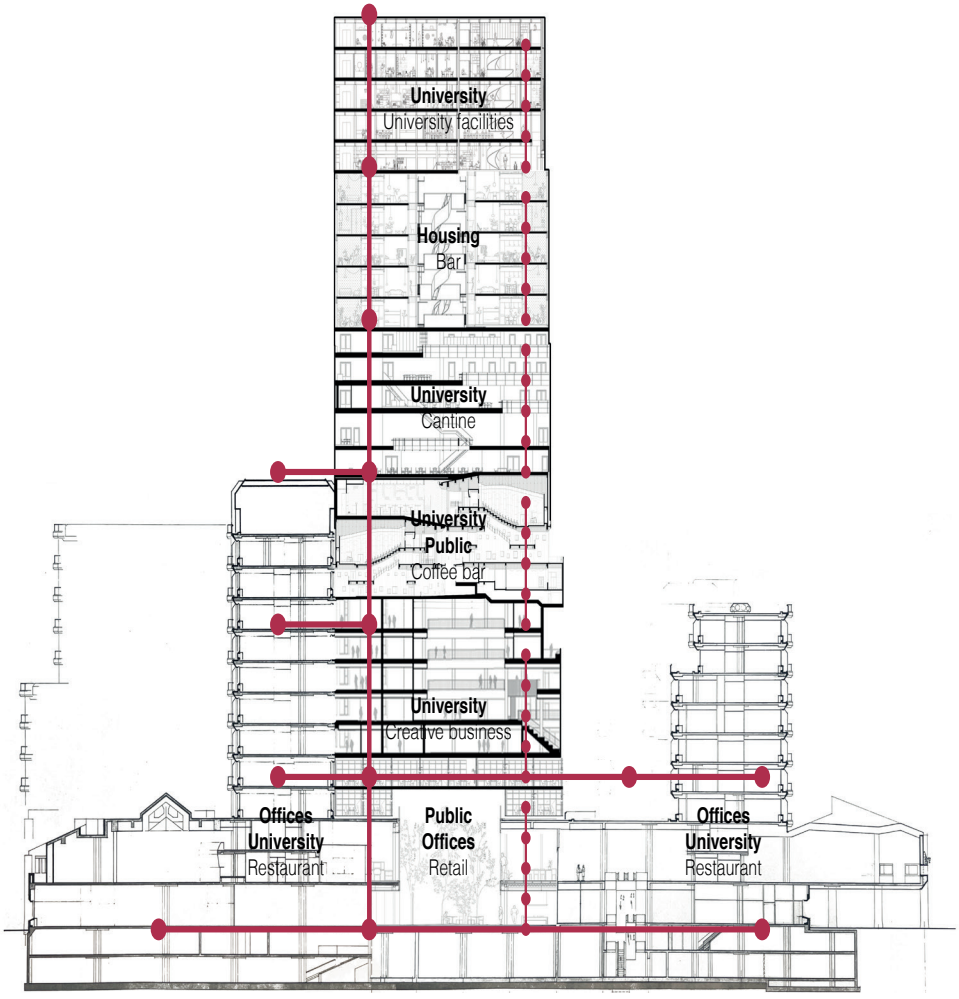


P3

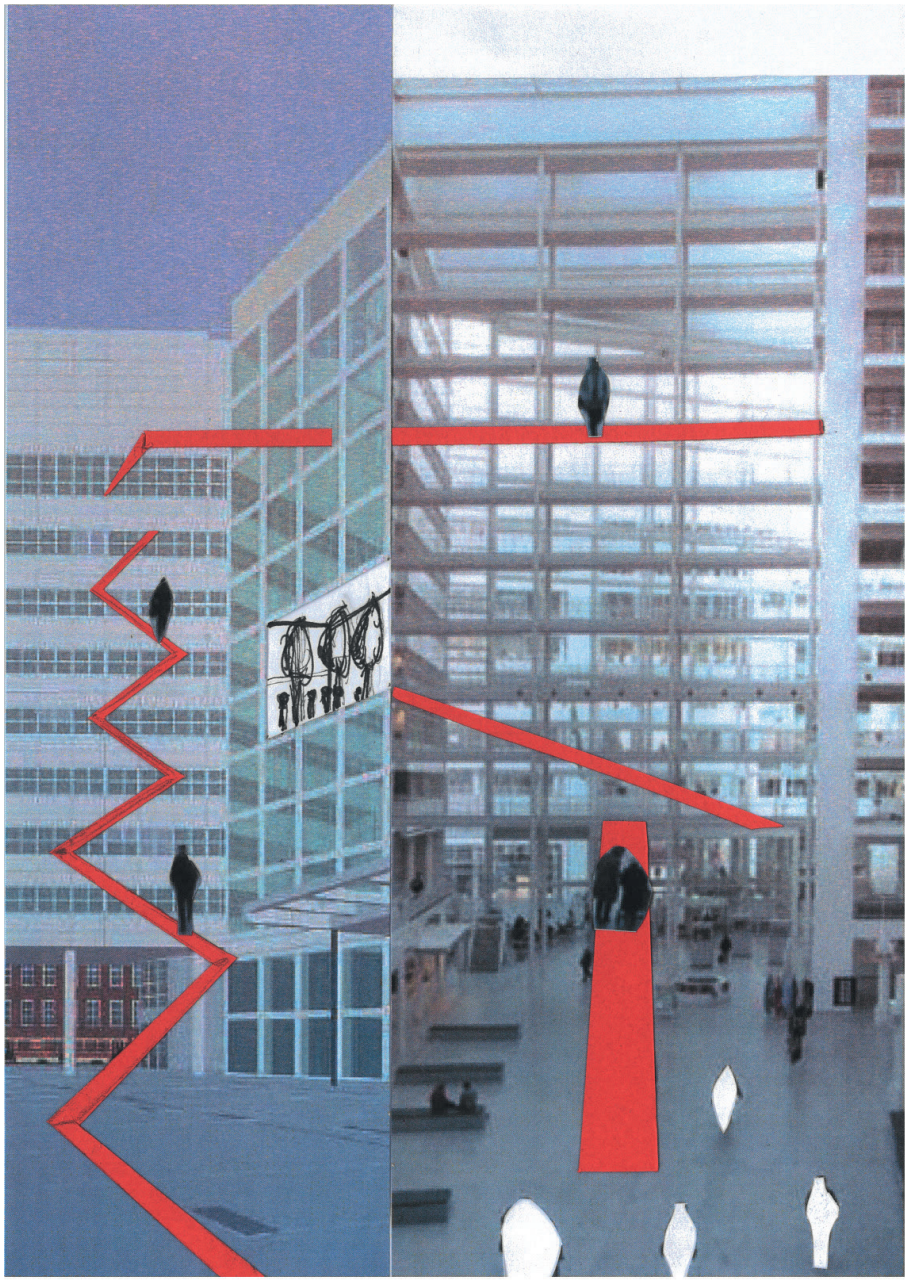
BUILDING DESIGN

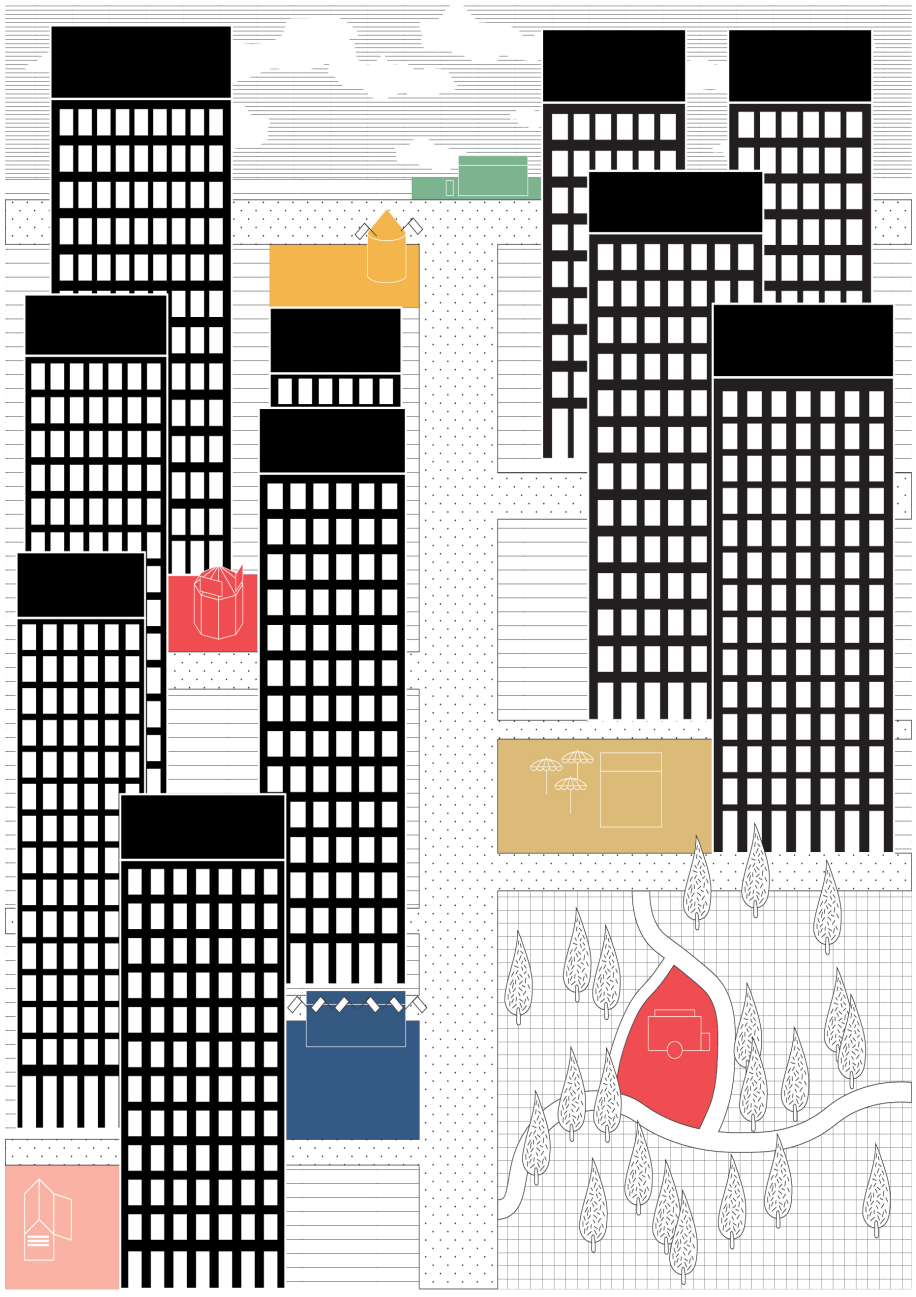
Transformation of horizontal circulation



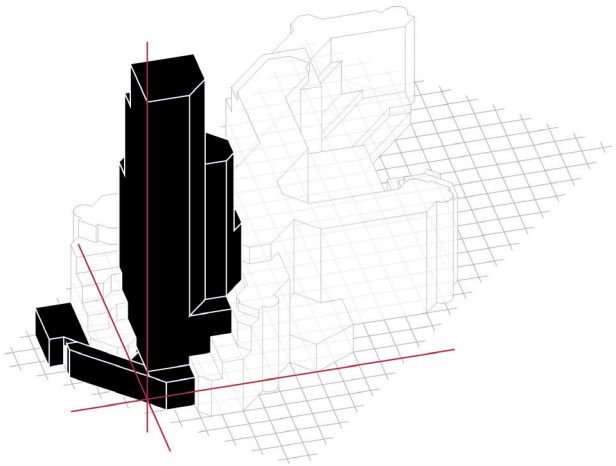

University
University facilities
Housing
Bar
University
Cantine
University
Public
Coffee bar
University
Creative business
Offices
University
Restaurant
Public
Offices
Retail
Offices
University
Restaurant

Continuation of the public realm



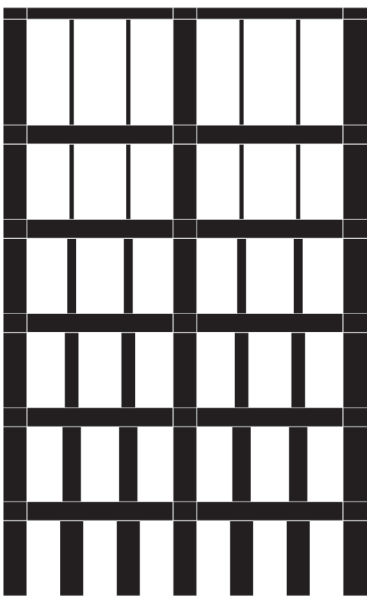


Design concept



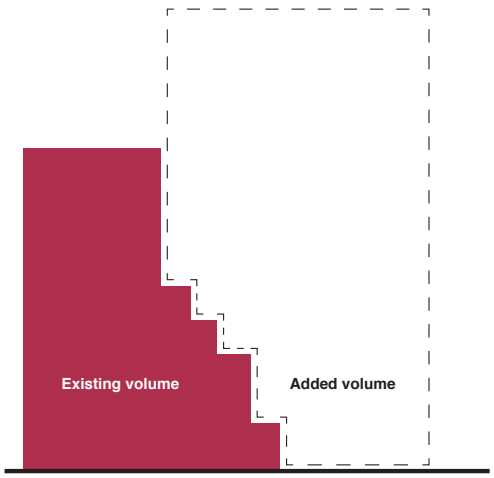
Accentuate diagonal grid

Continuation of building volumes



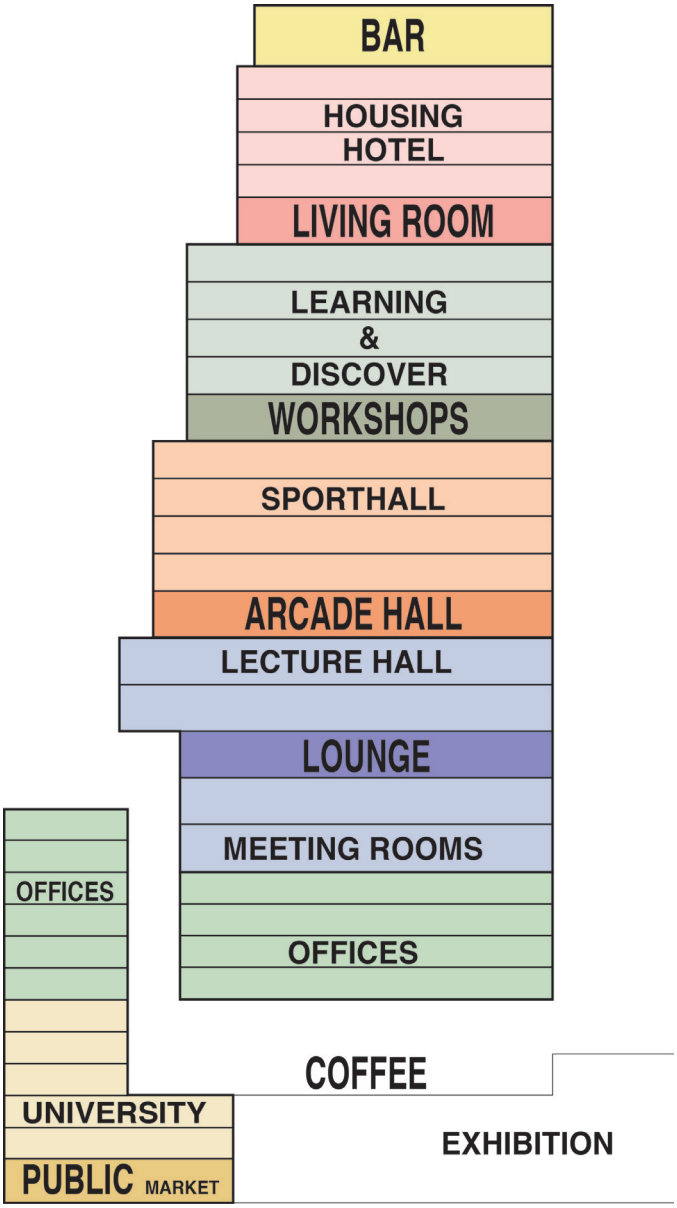
Facade concept

Volume between the arms

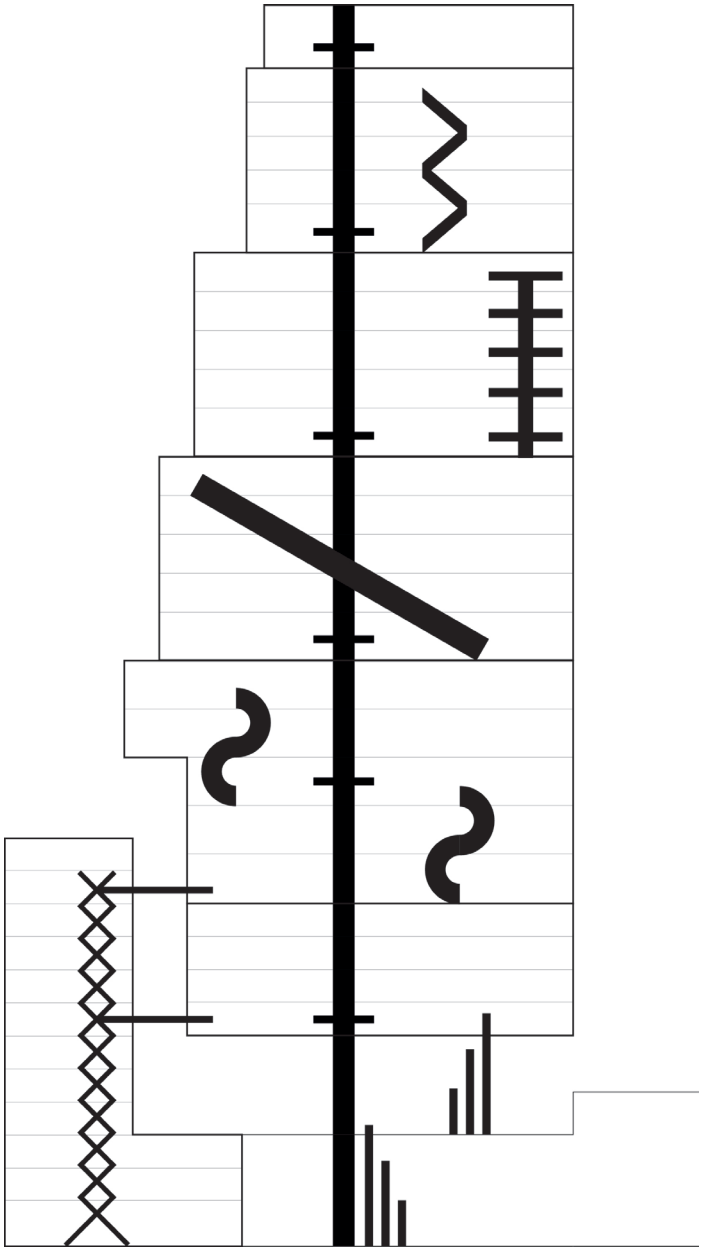


Connecting existing & new

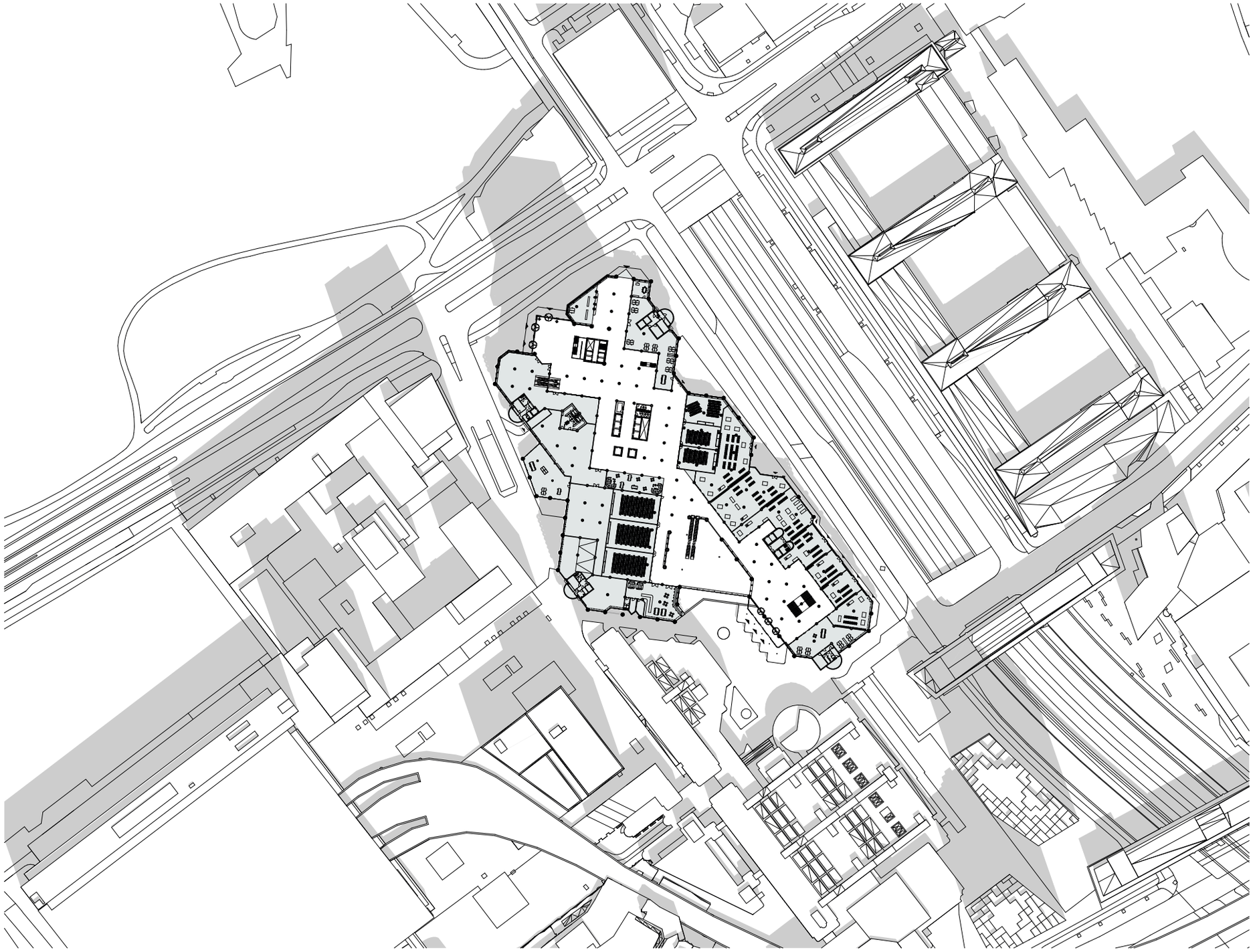
Programme


BAR
HOUSING
HOTEL
LIVING ROOM
LEARNING
&
DISCOVER
WORKSHOPS
SPORTHALL
ARCADE HALL
LECTURE HALL
LOUNGE
MEETING ROOMS
OFFICES
OFFICES
COFFEE
UNIVERSITY
PUBLIC MARKET
EXHIBITION

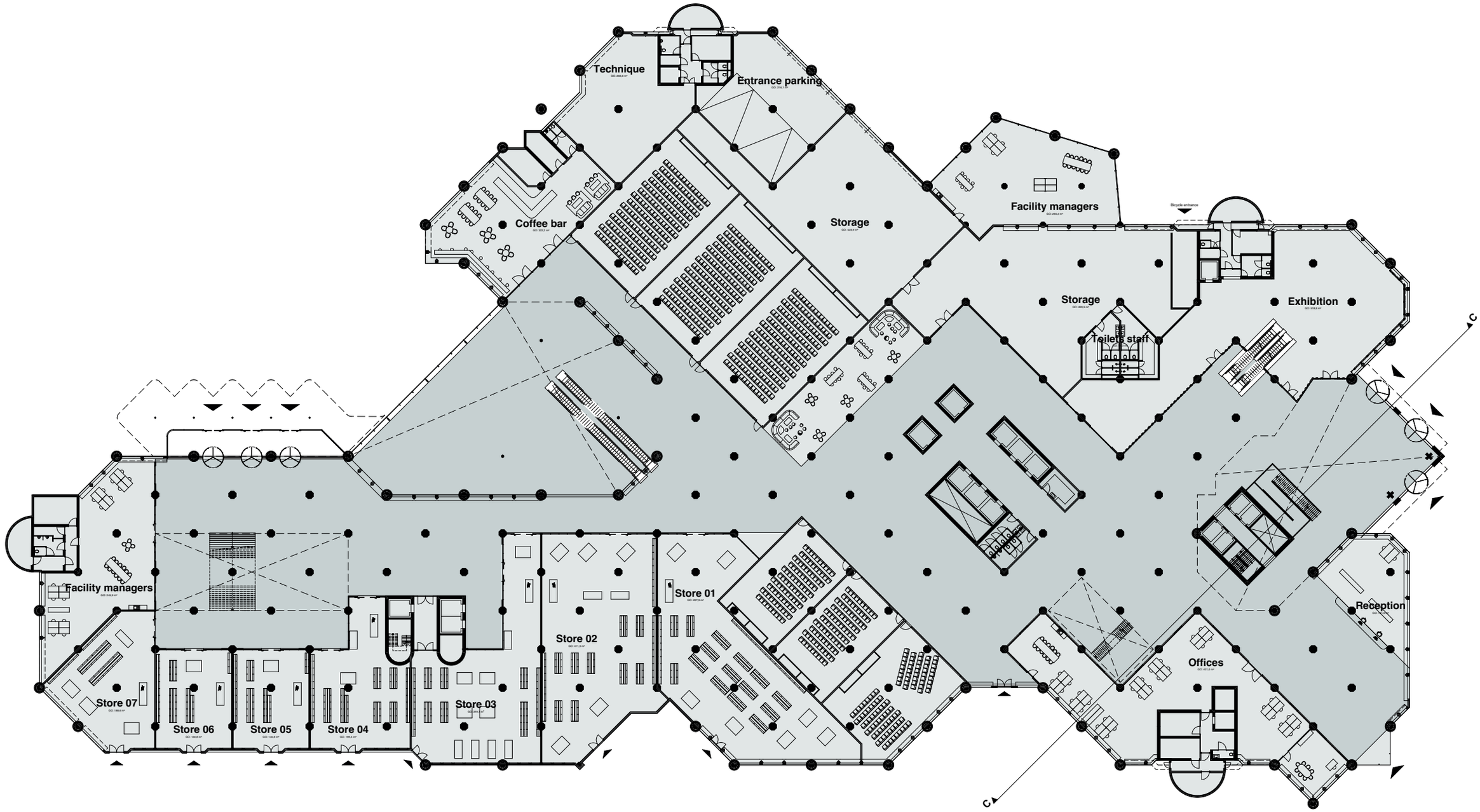
Circulation



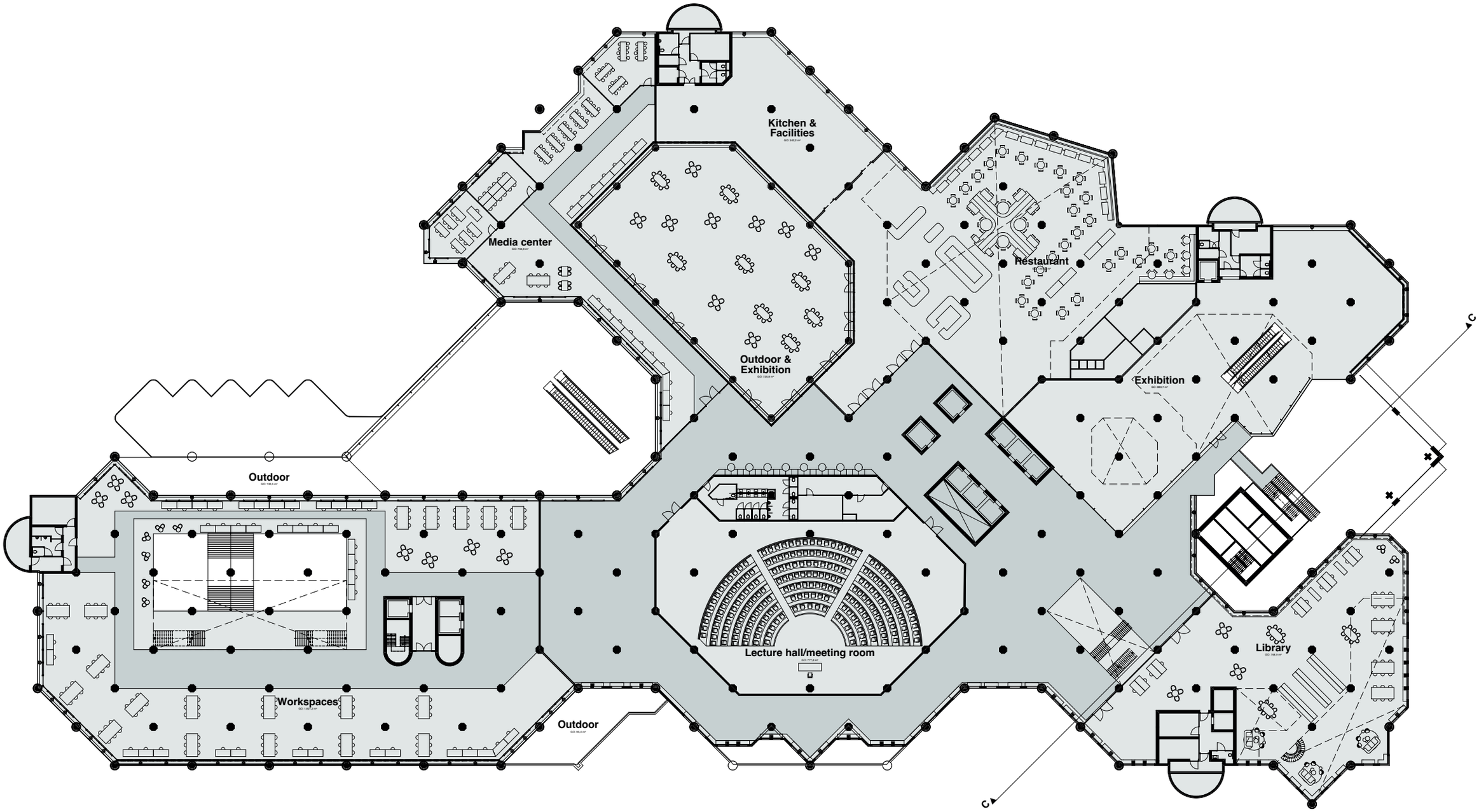
Site plan 1:2000



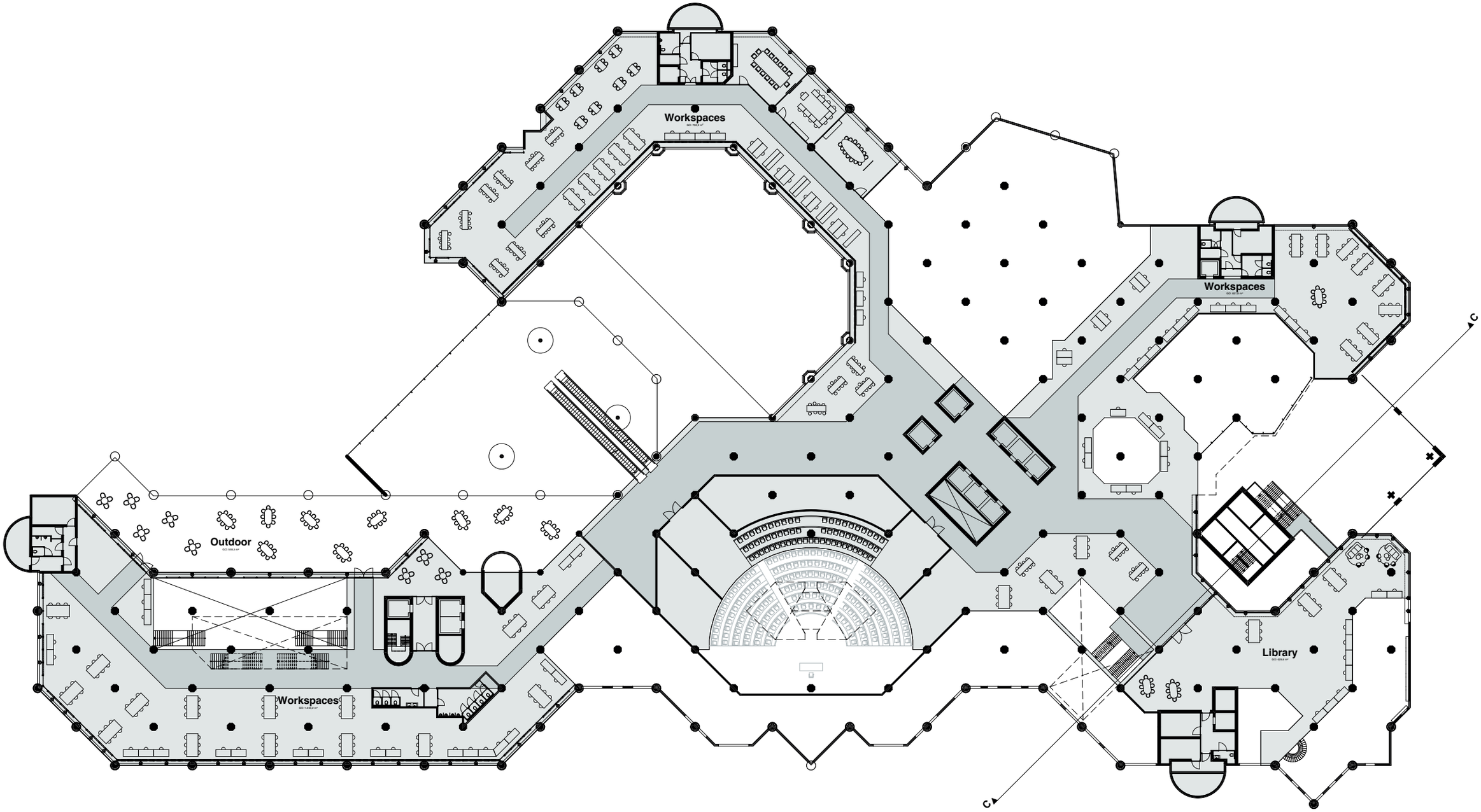
Groundfloor 1:600



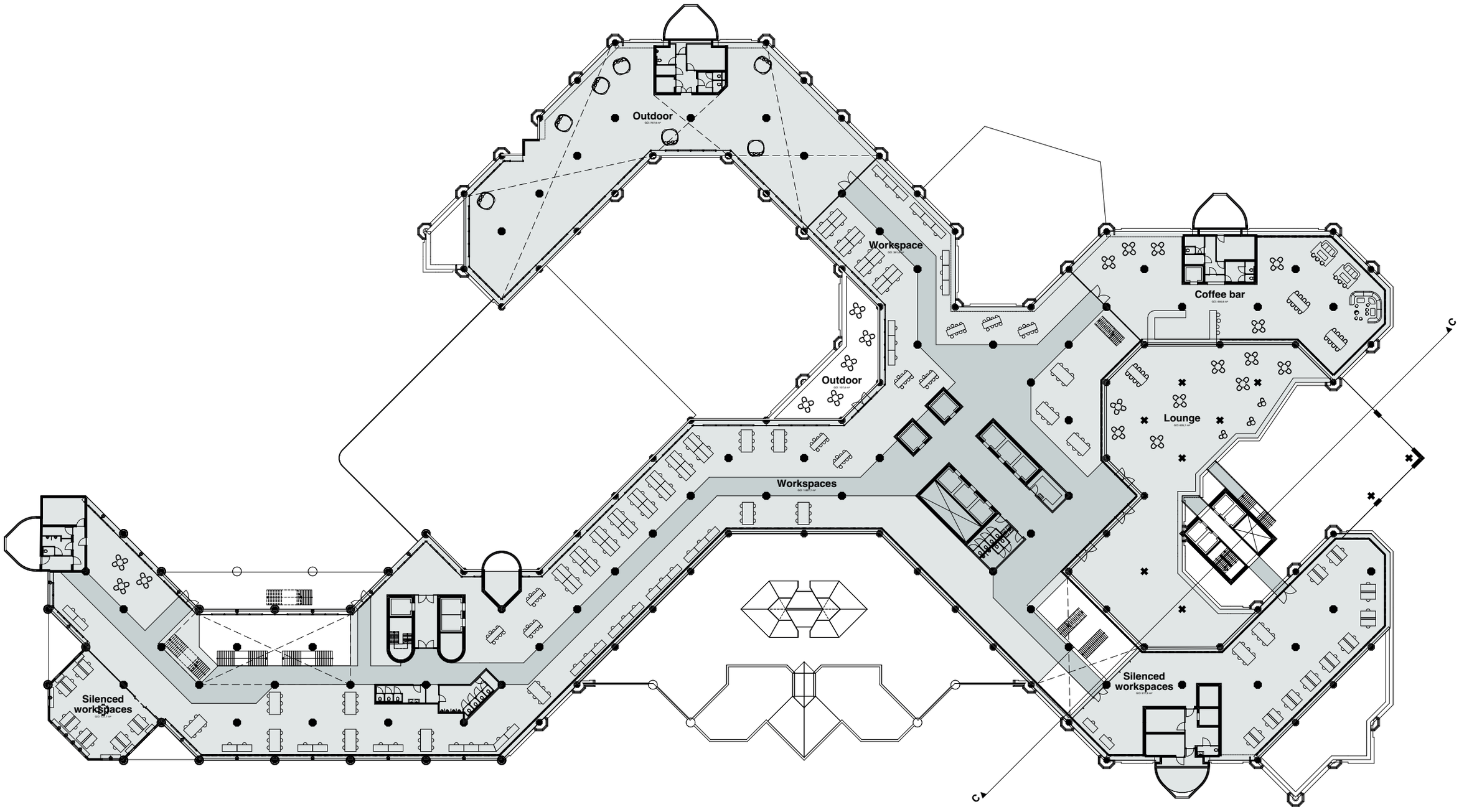
1th floor 1:600



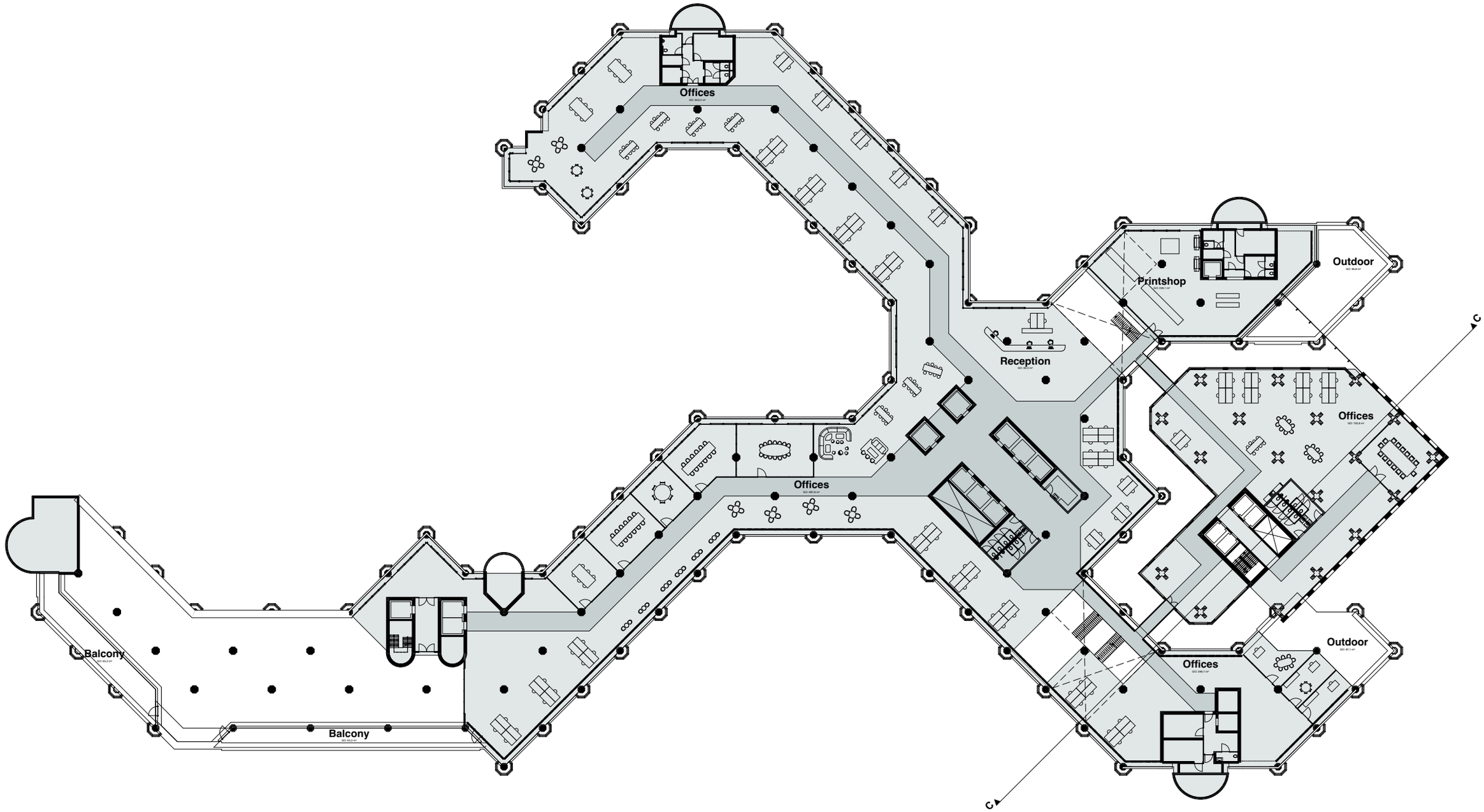
2nd floor 1:600



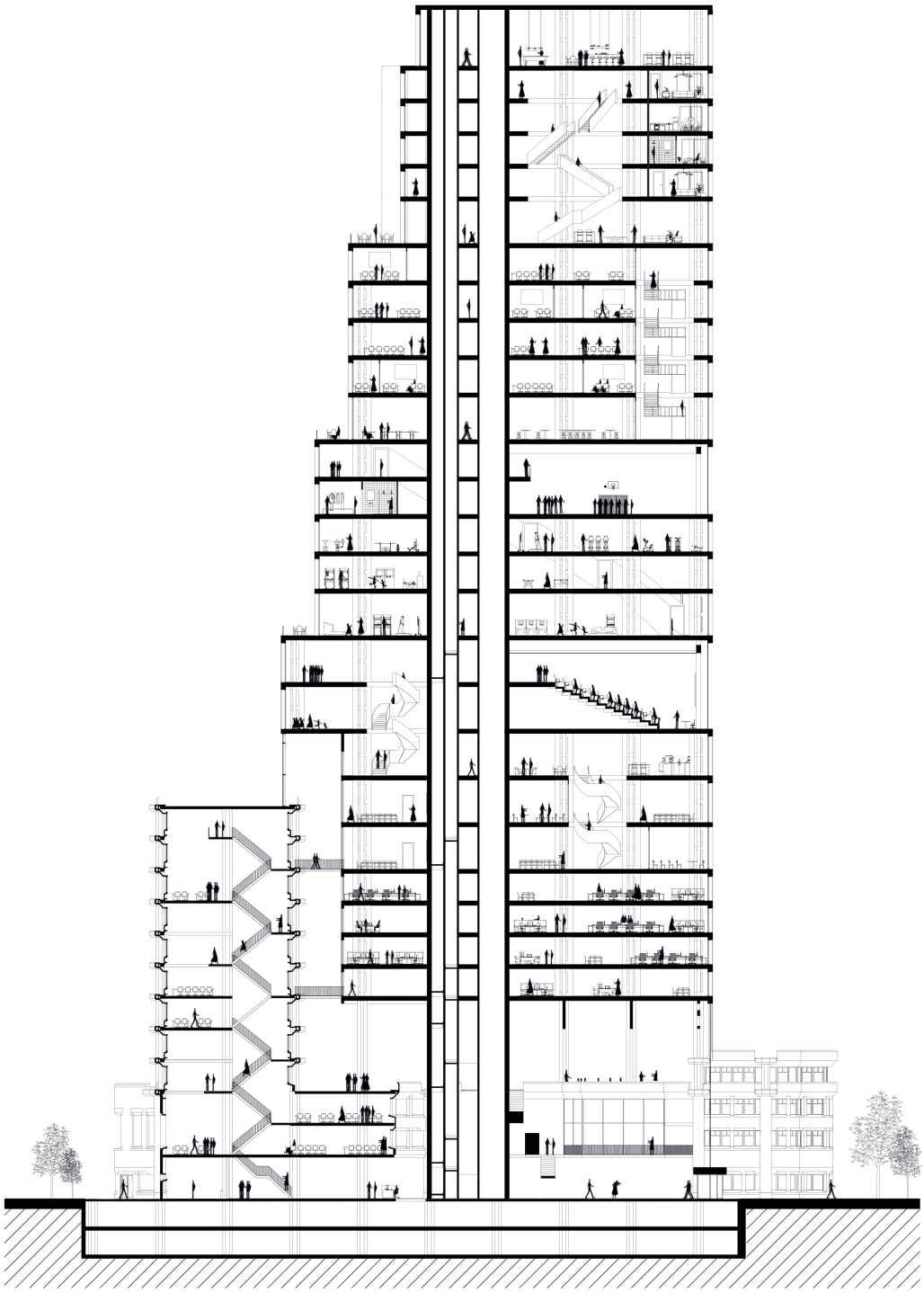
3th floor 1:600



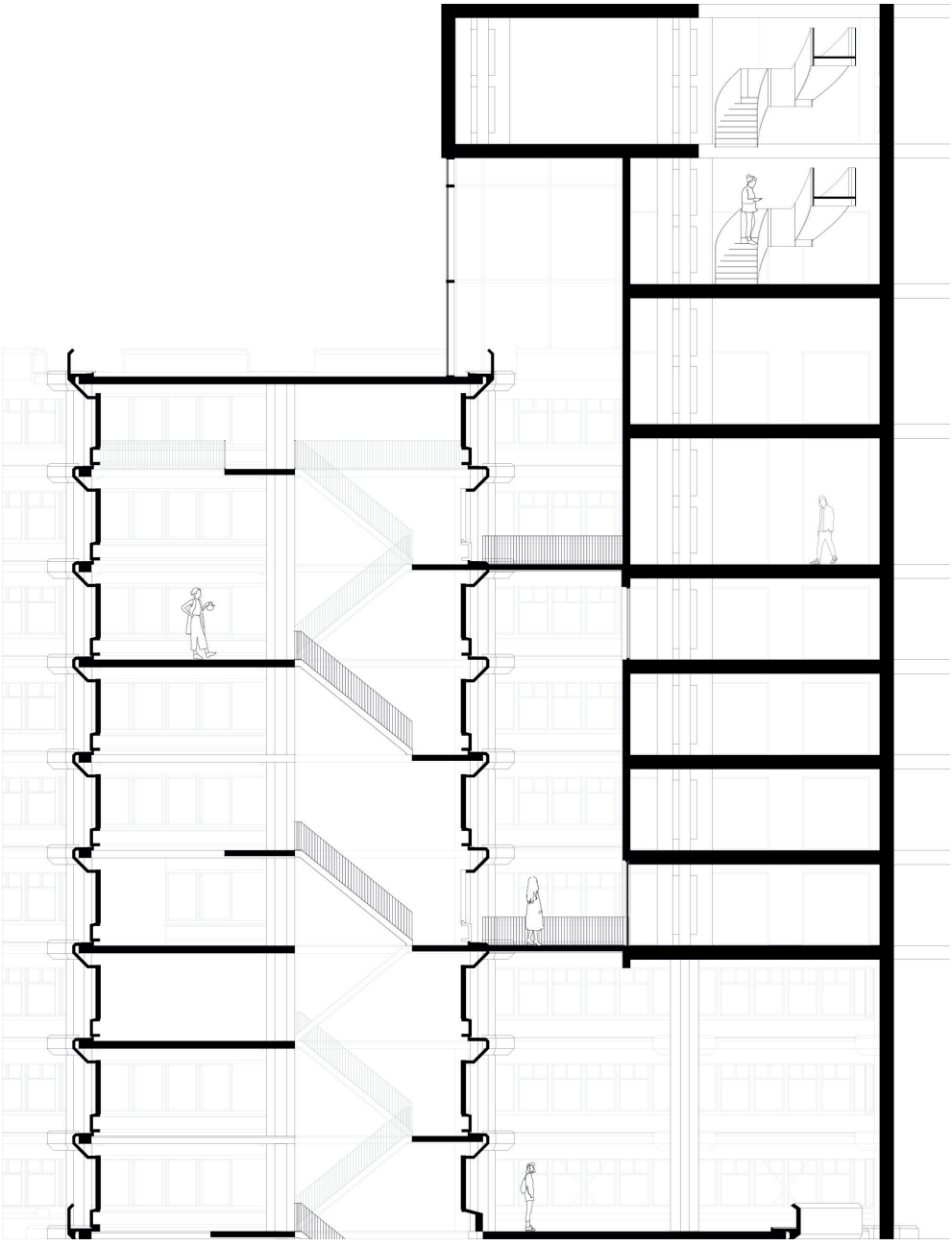
6th floor 1:600



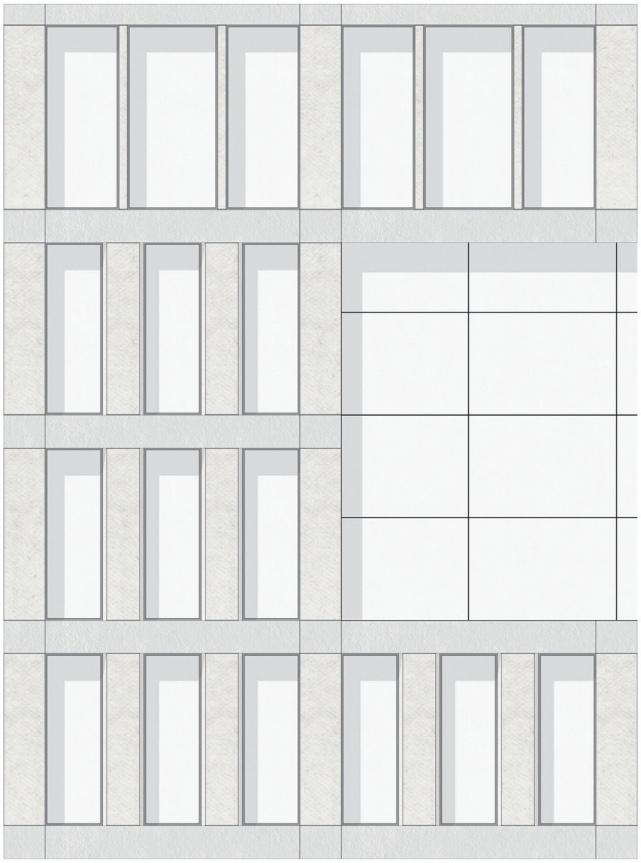
Section 1:400

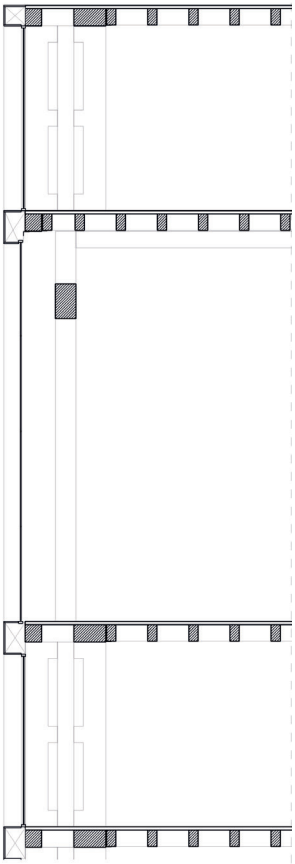


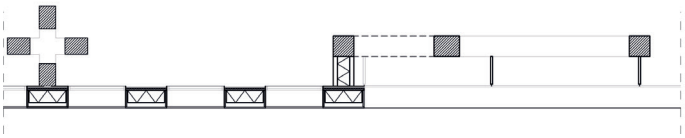
Fragment connection existing-new



Facade fragment

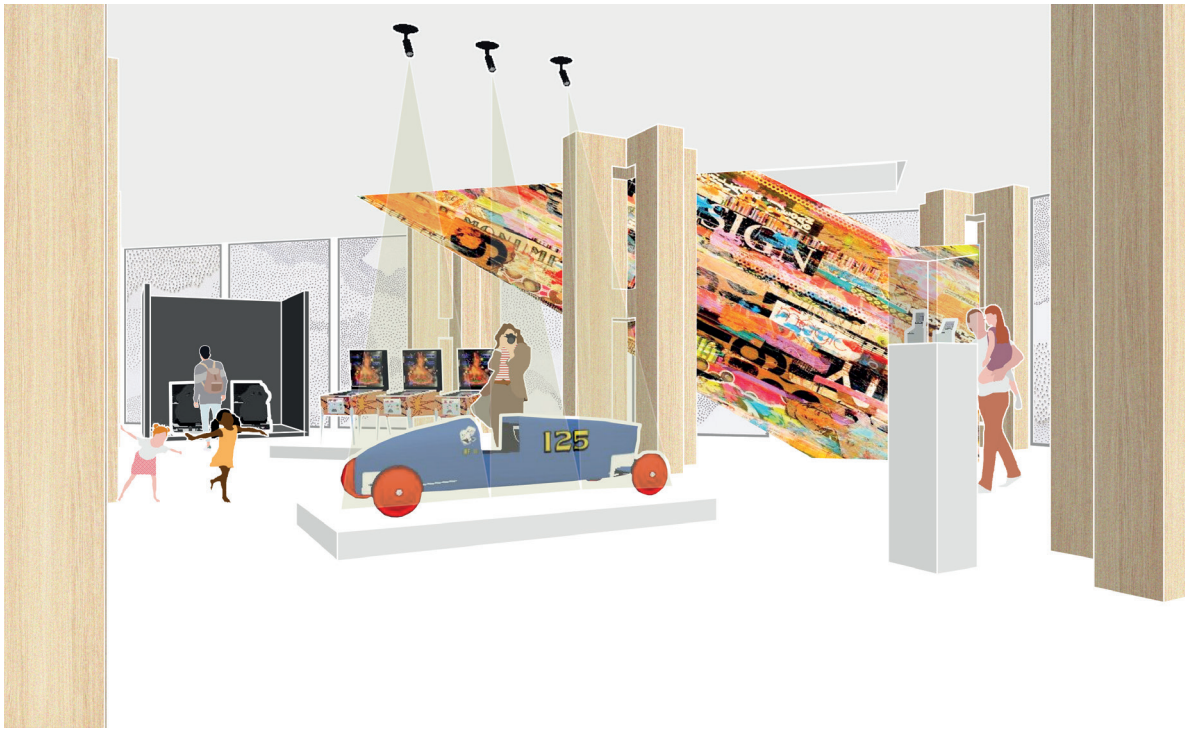






Exterior impression from Koekamp

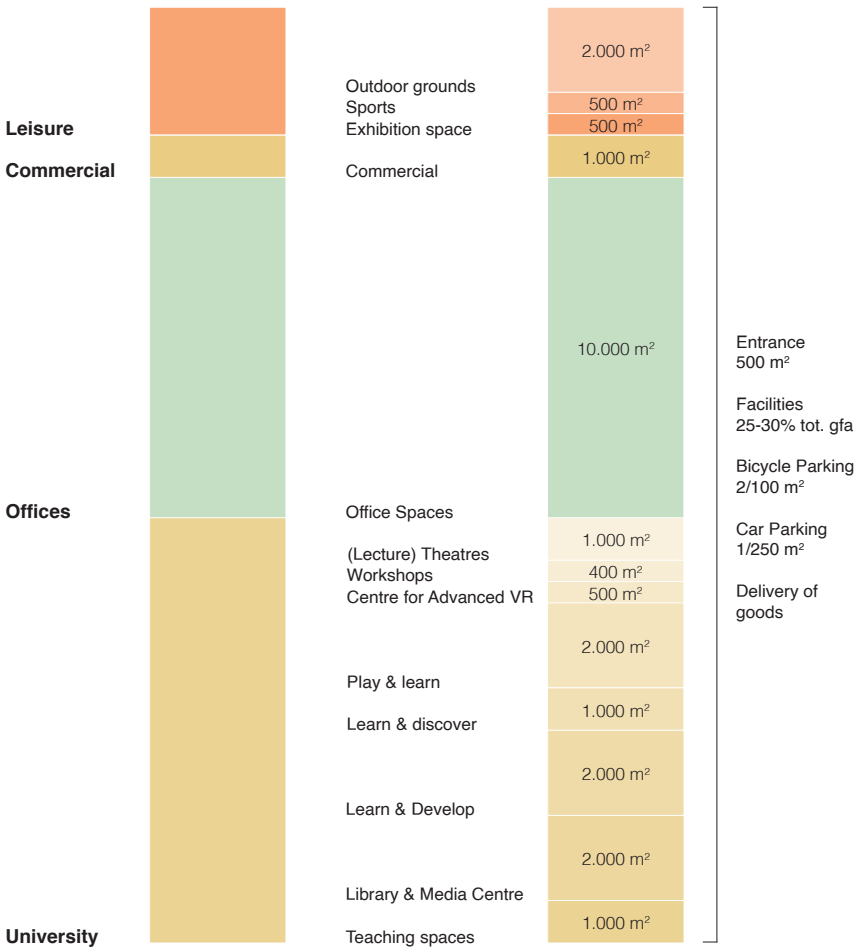
Arcade hall interior



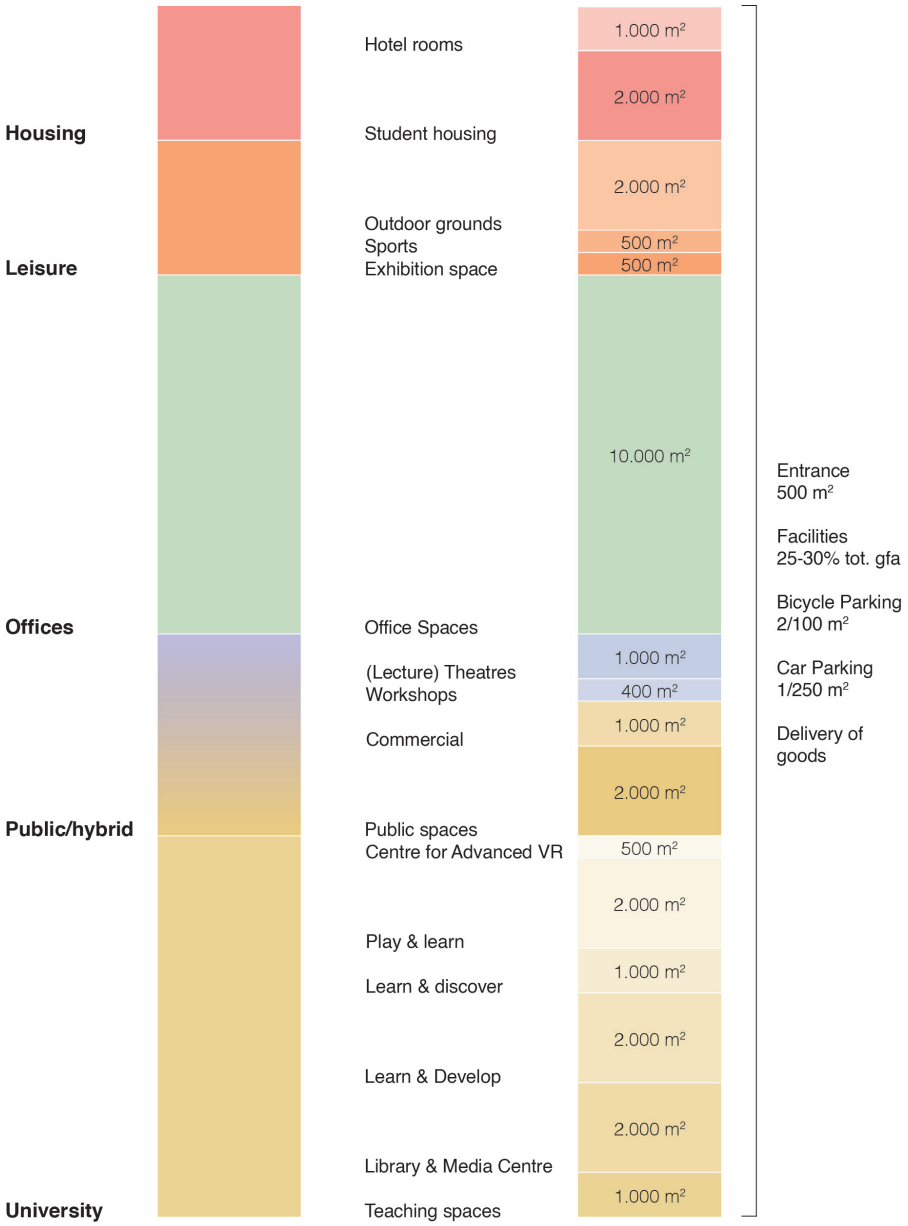
P4

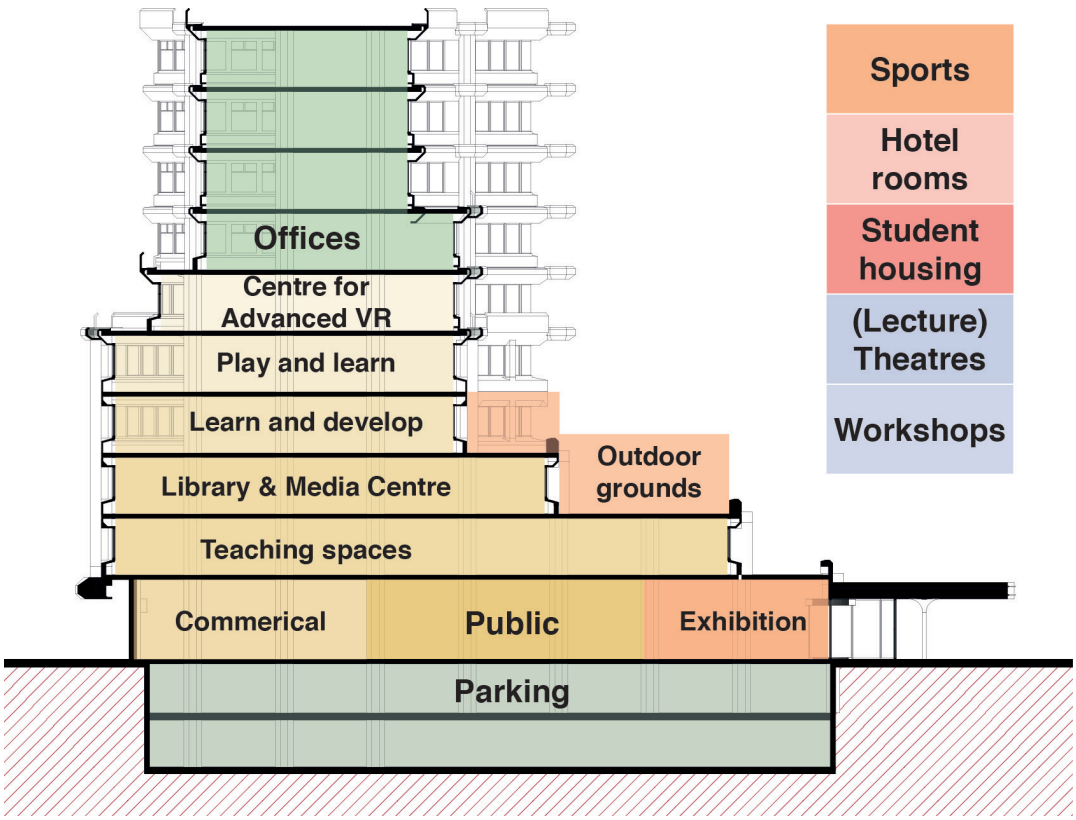
BUILDING DESIGN

Given design brief of the campus of the future

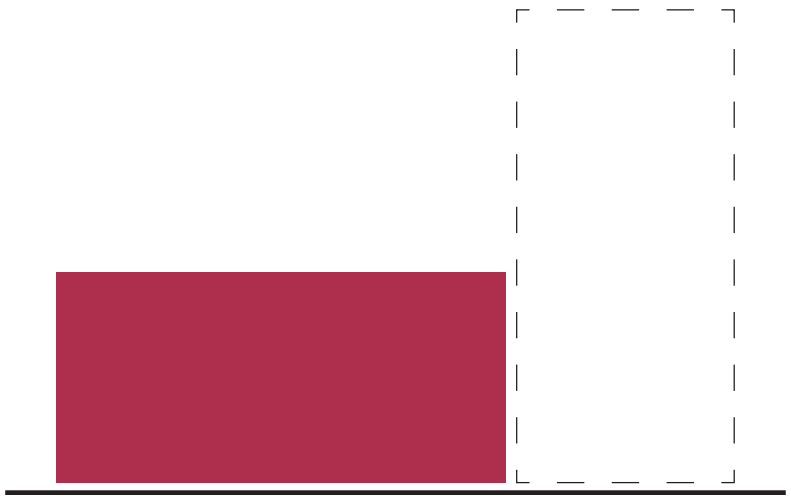


Design brief of mine campus of the future

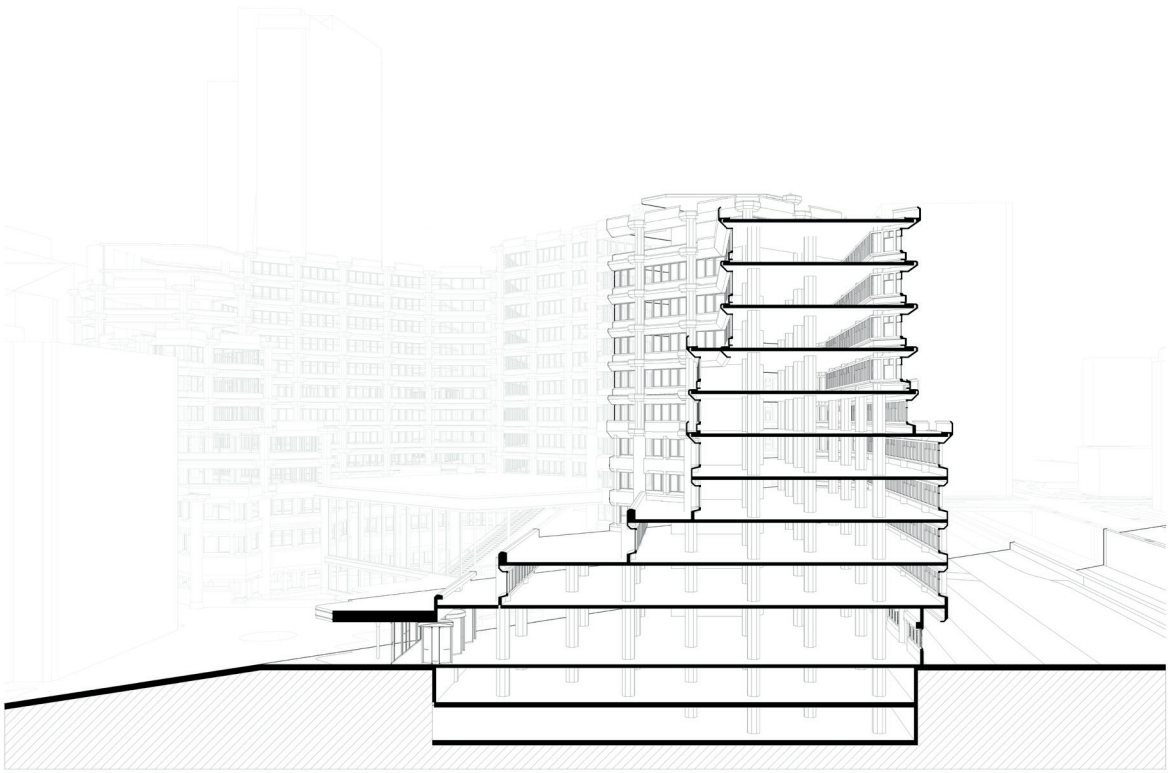



Offices
Centre for Advanced VR
Play and learn
Learn and develop
Library & Media Centre
Teaching spaces
Commerical
Public
Exhibition
Parking
Outdoor grounds
Sports
Hotel rooms
Student housing
(Lecture) Theatres
Workshops

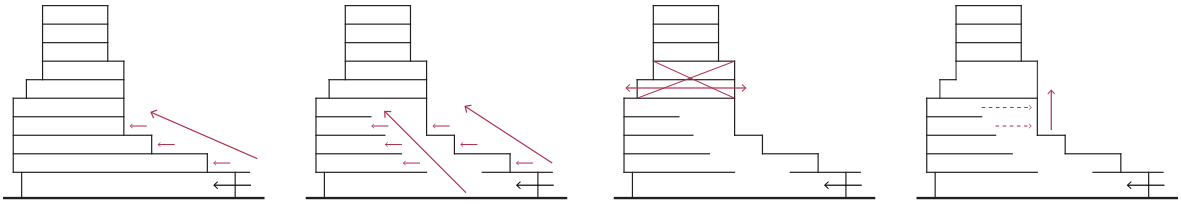
Transform the existing building

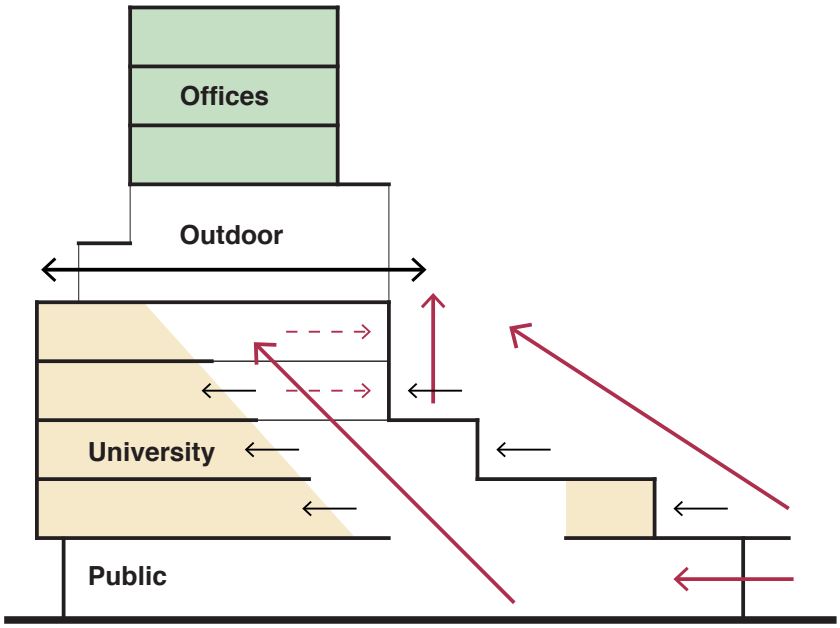


Existing section

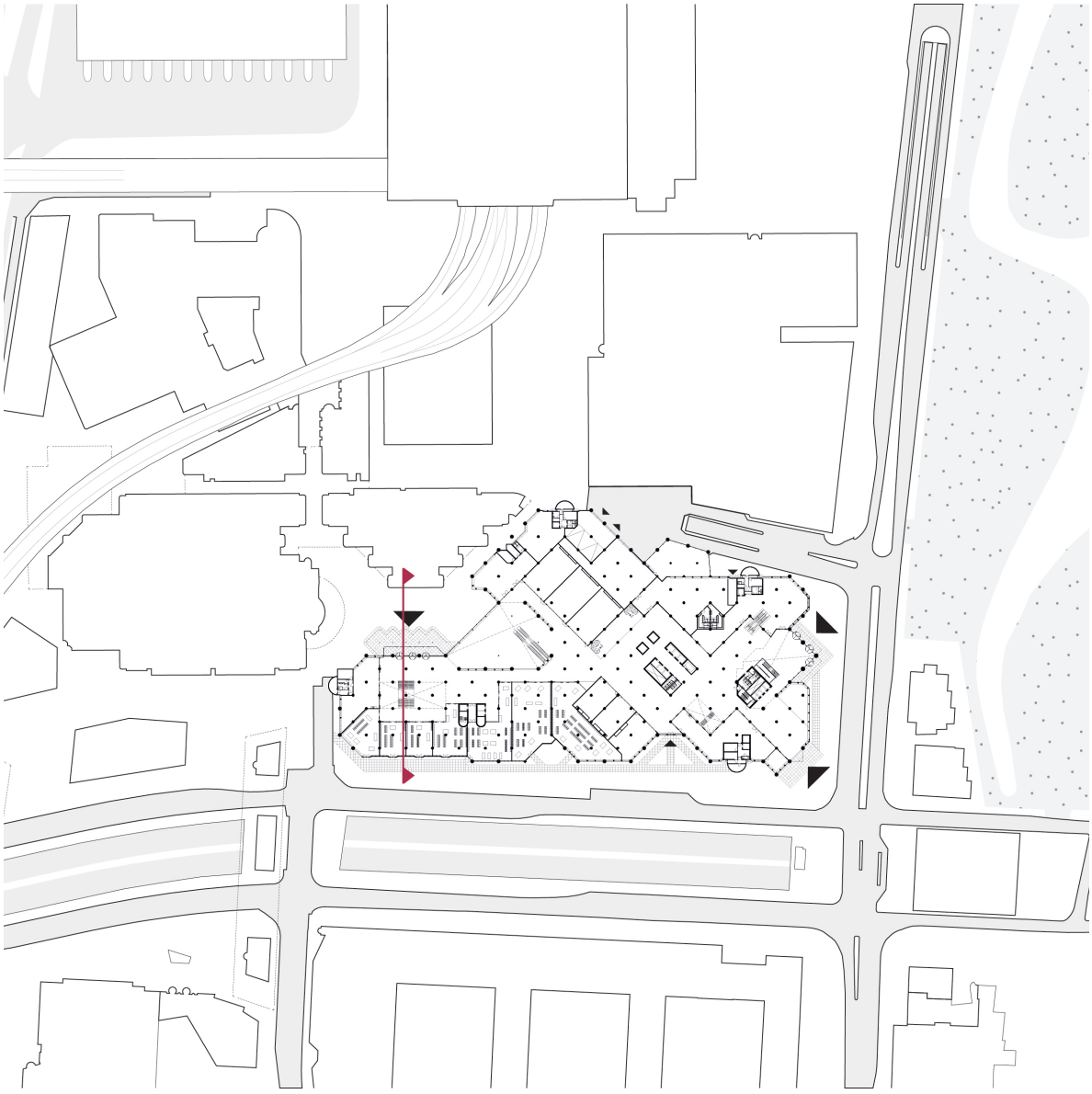


Breaking through the floors

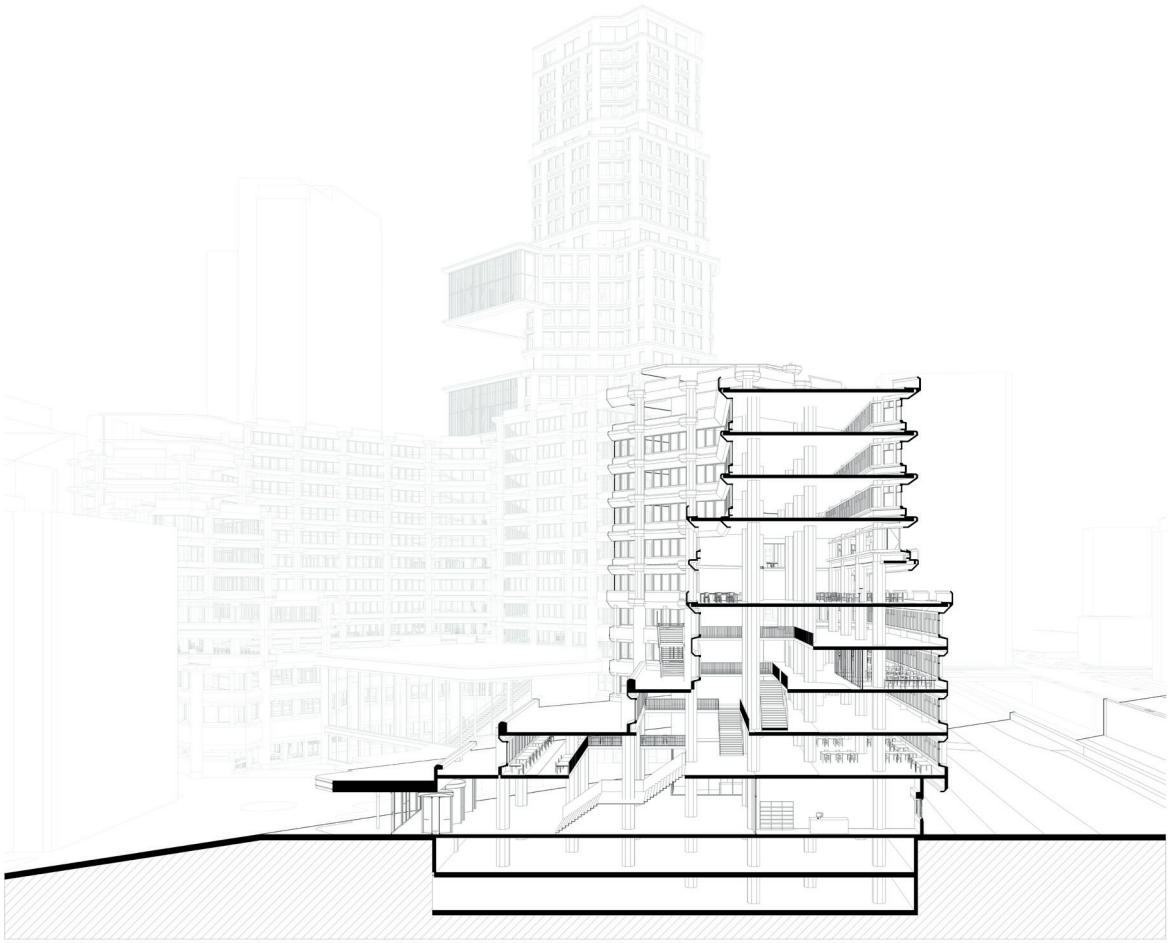




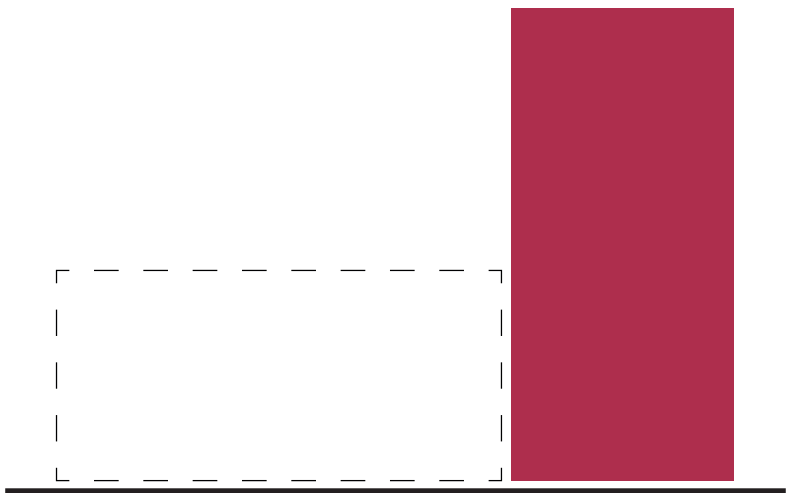
New site plan



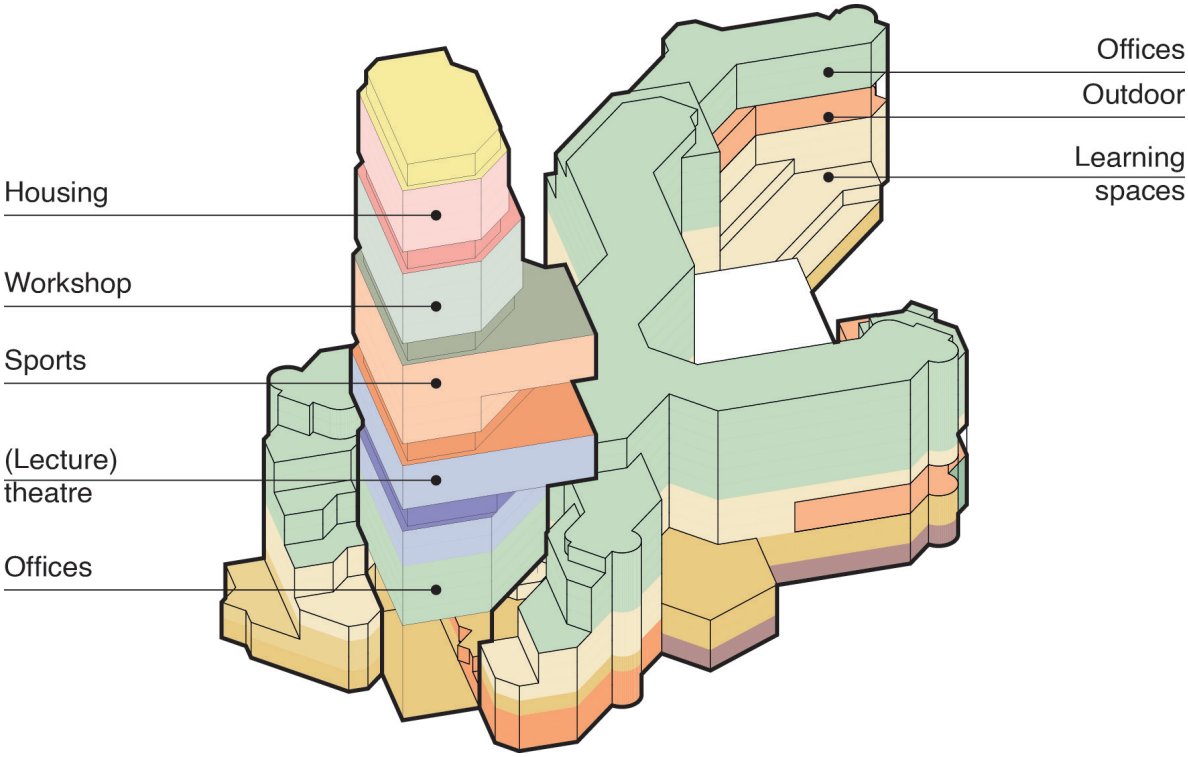
New section



Building a new vertical volume

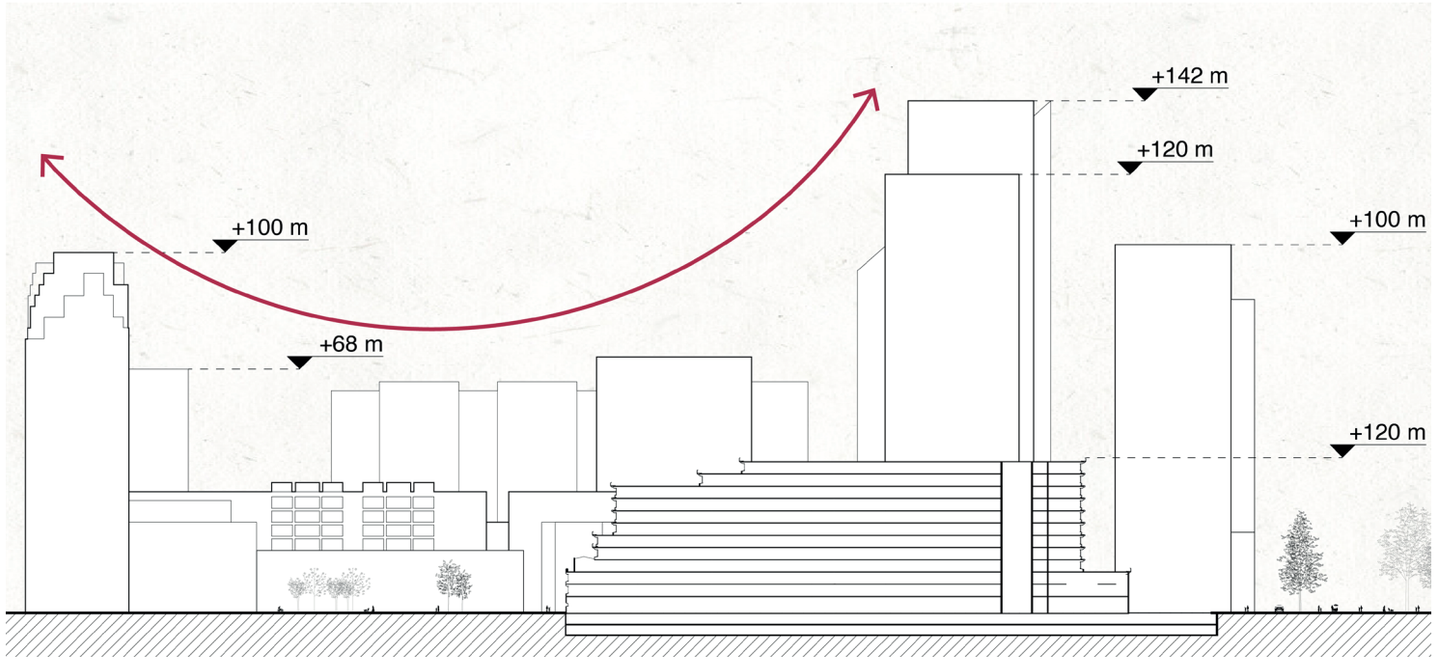


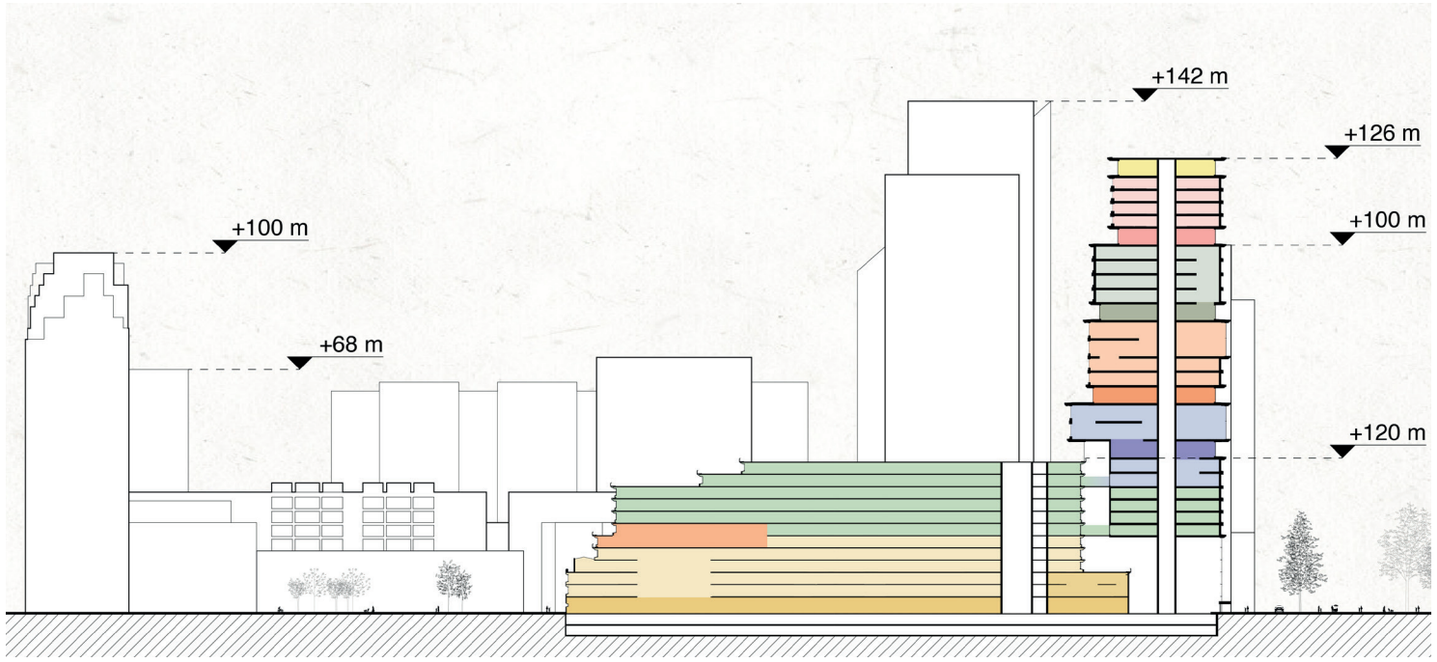
Programme diagram



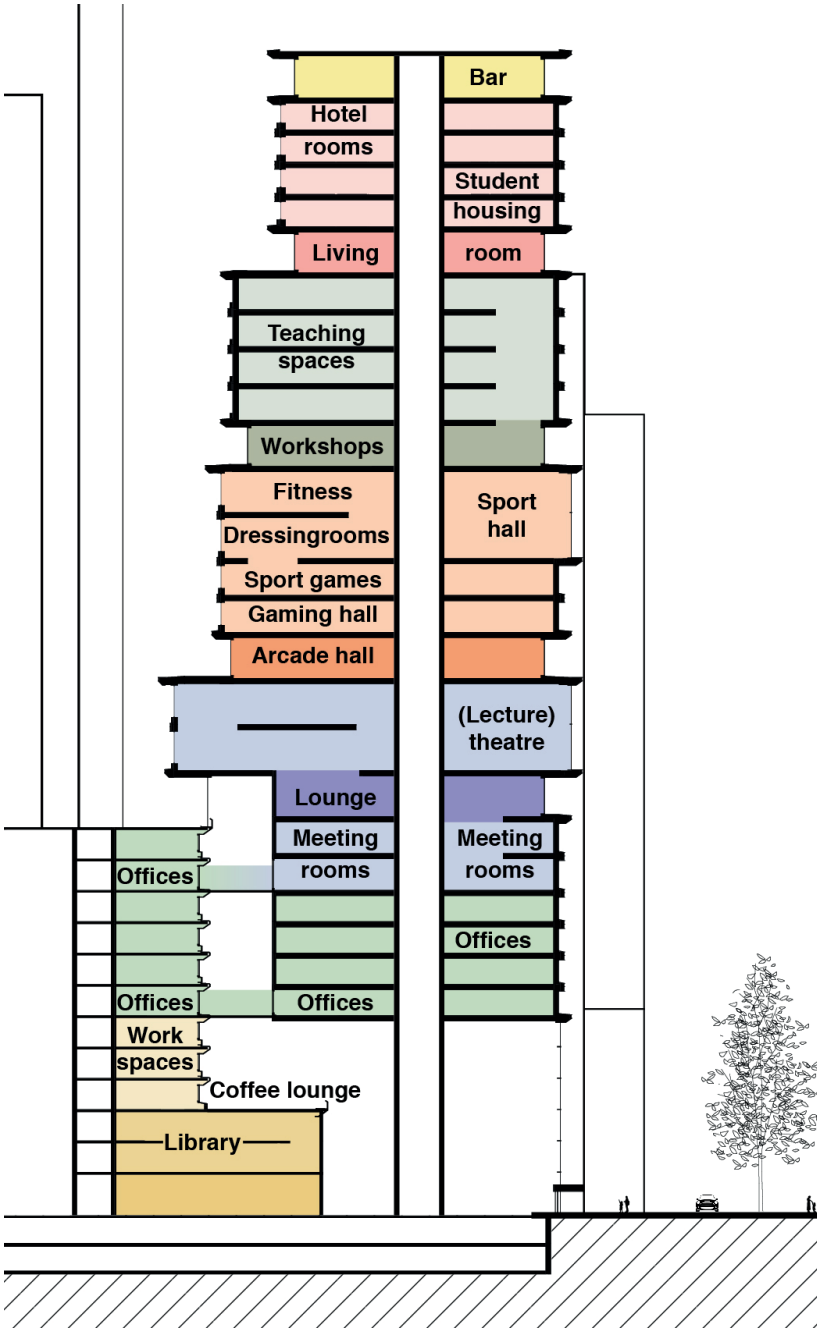
Existing:	90.000m²
Added:	15.400m²
Total:	**105.400m²**

Urban section existing-new 1:2000

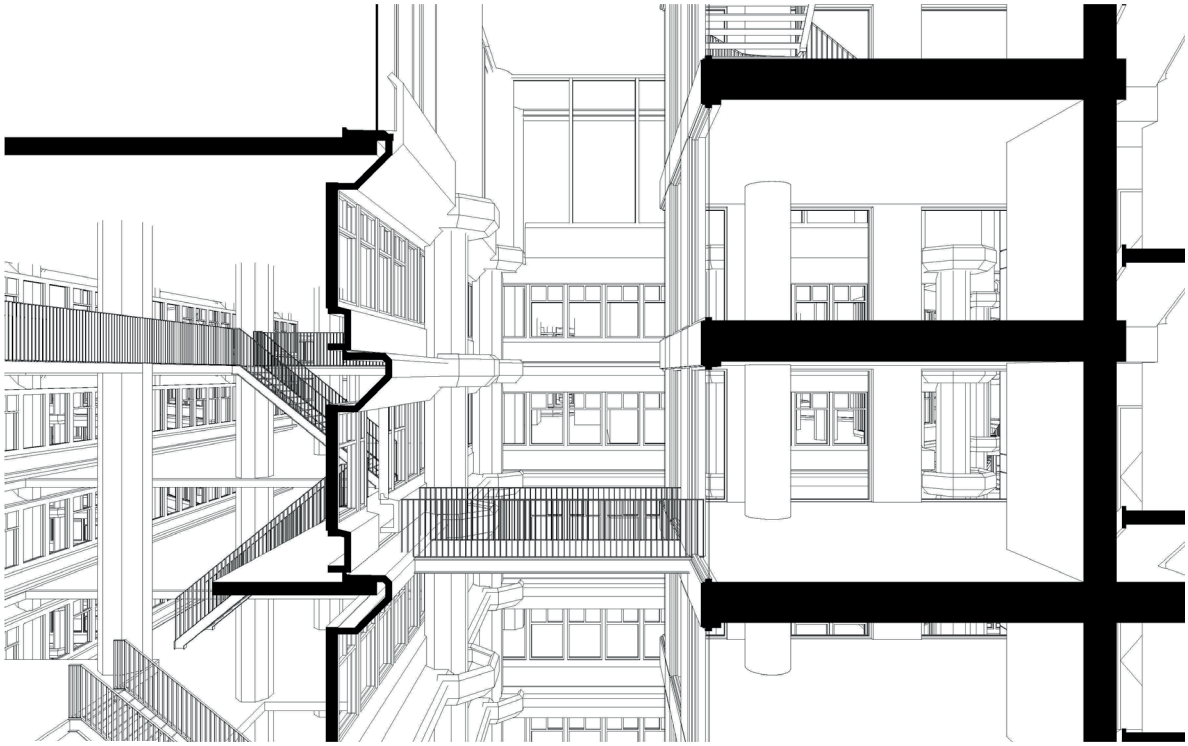


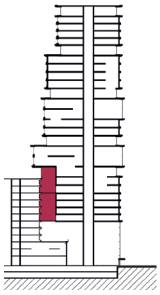


Relation between programme tower and existing building

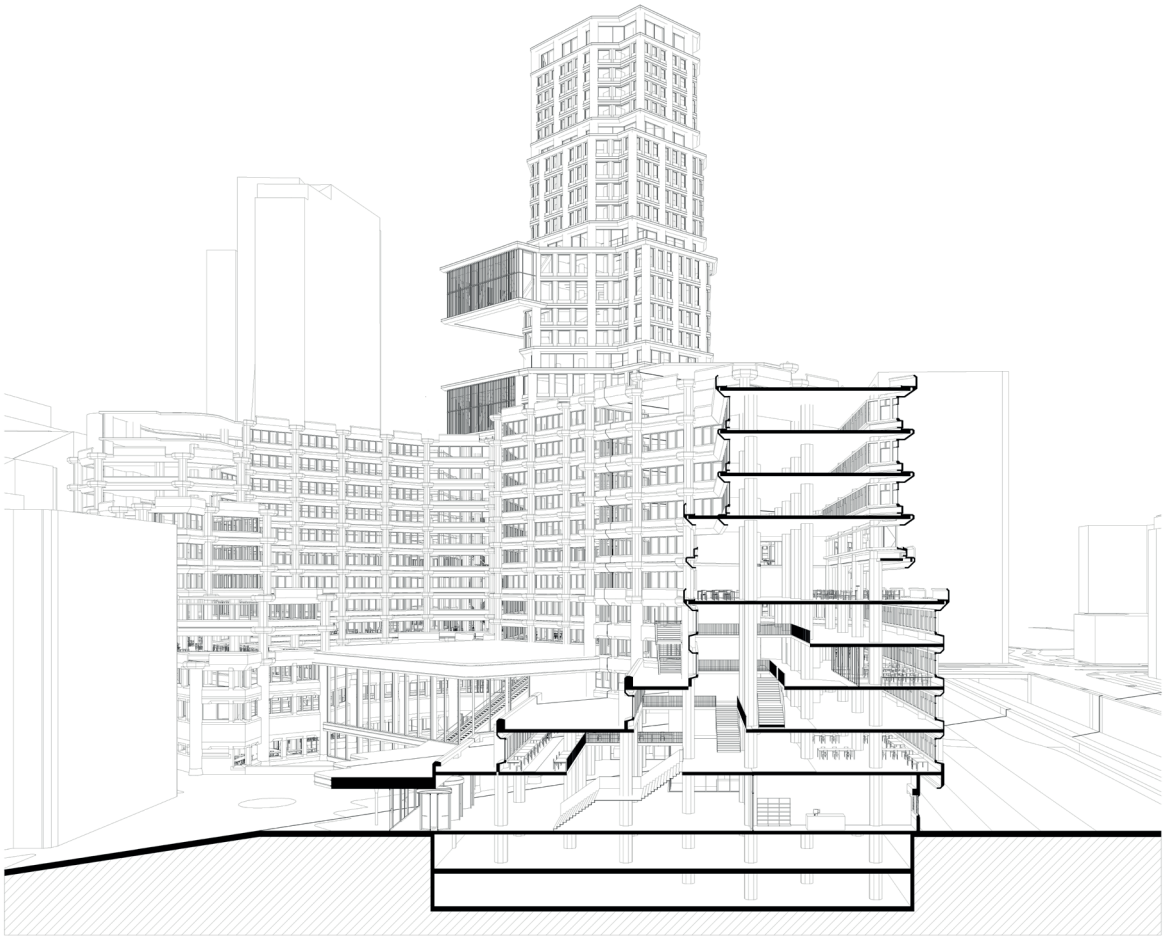


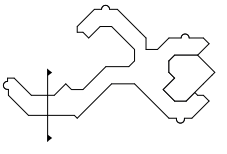
Space between new volume and existing building



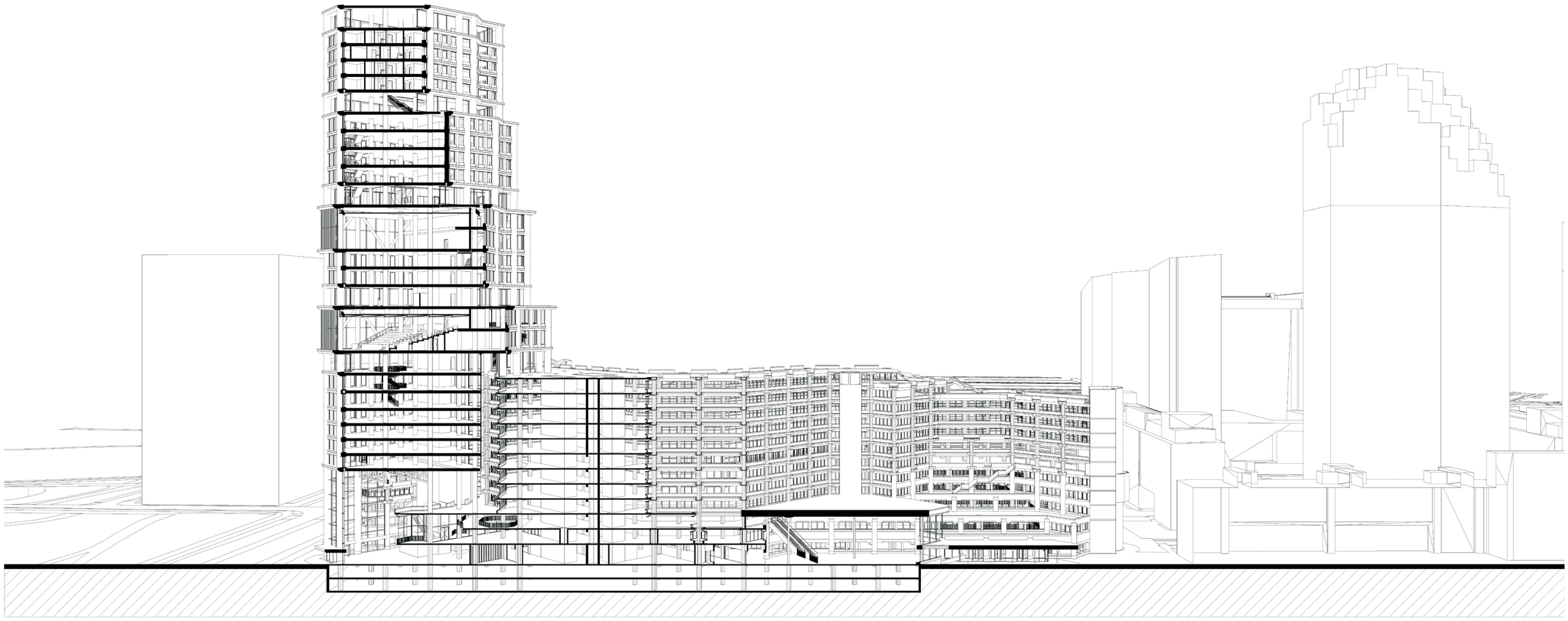


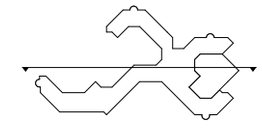
New section



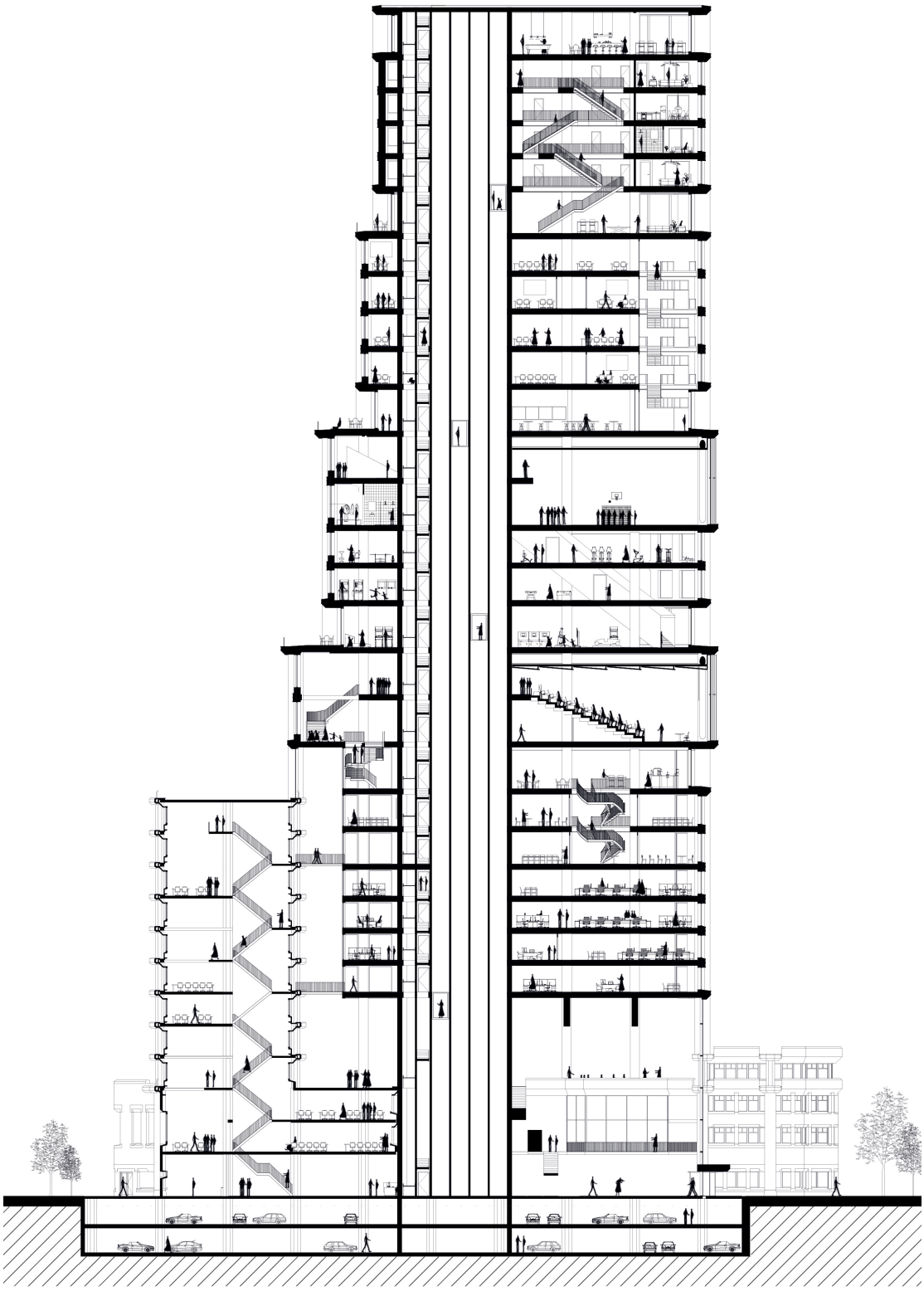


New section tower connecting existing

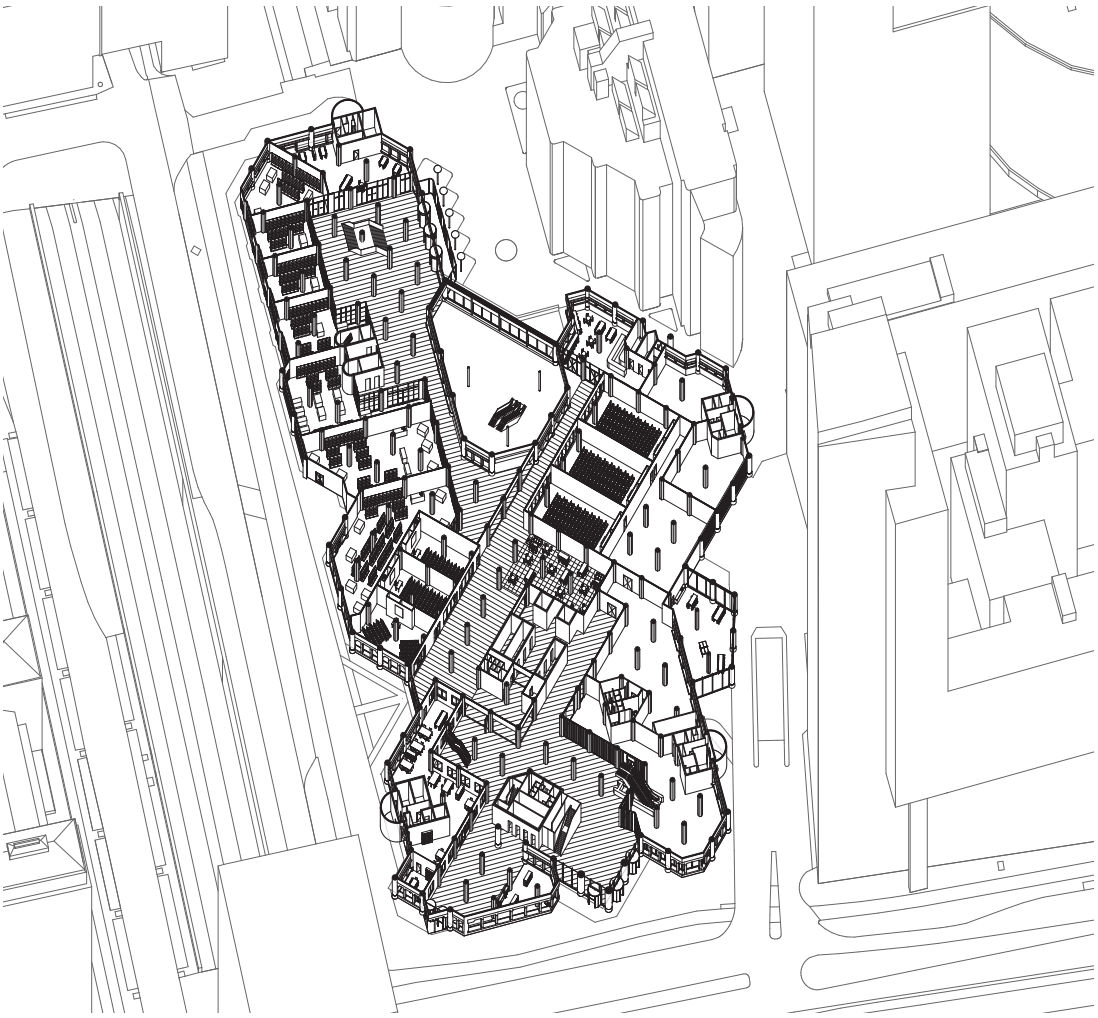




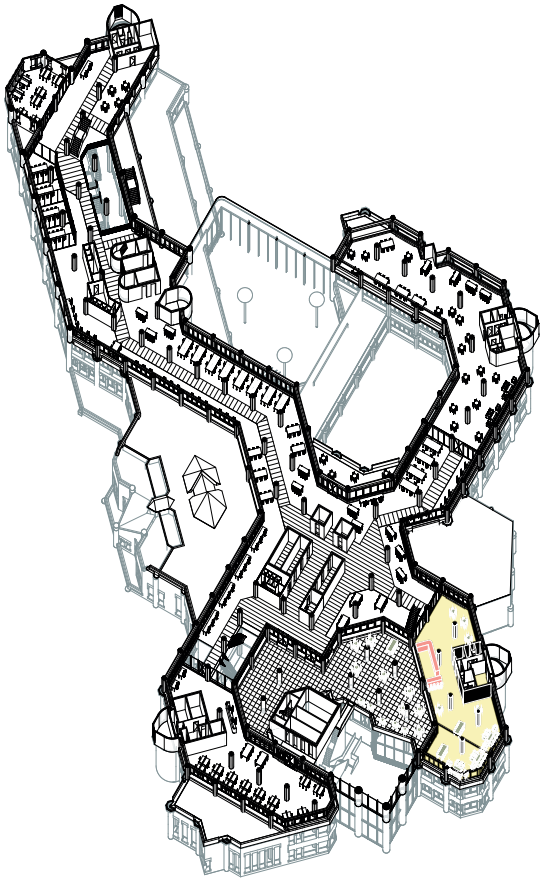
Section tower 1:750



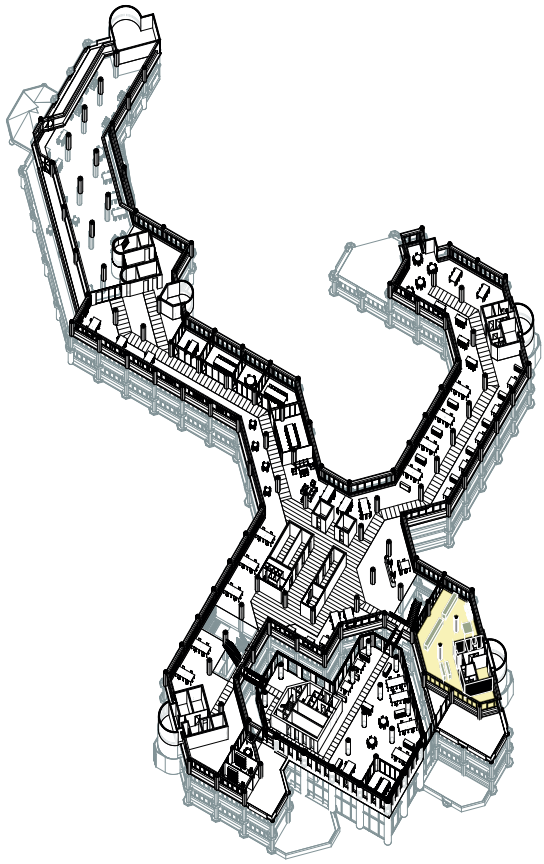
Ground floor



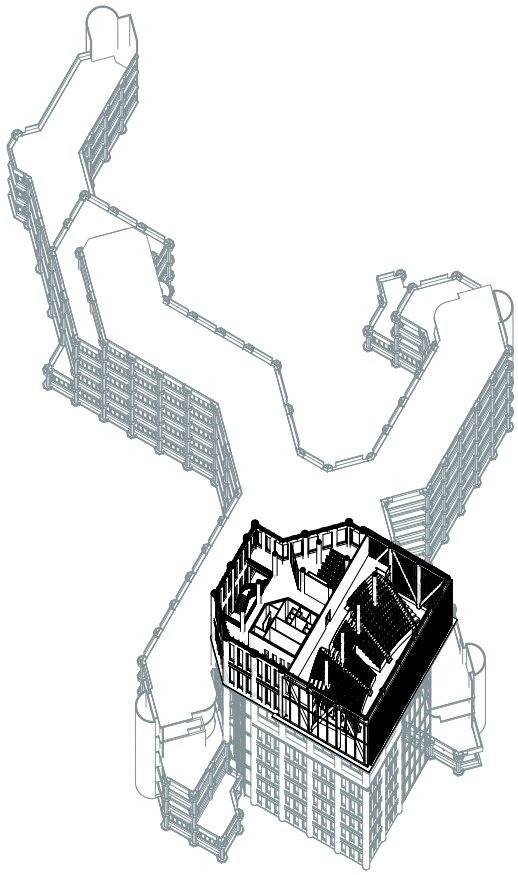
3th floor



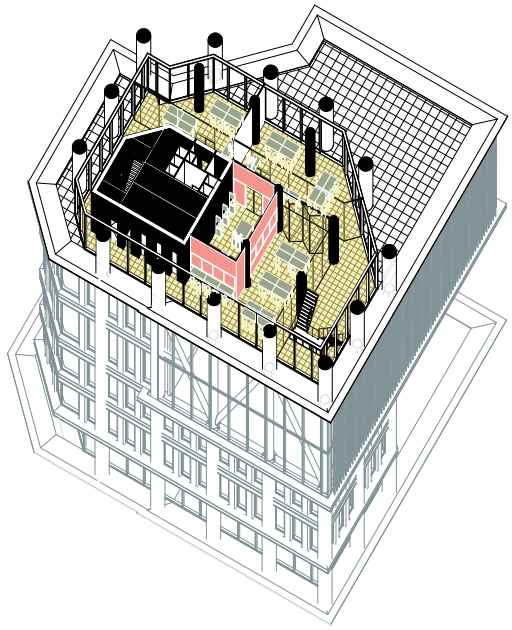
6th floor



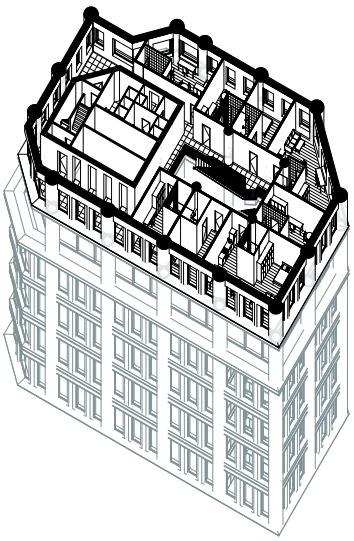
13-14th floor



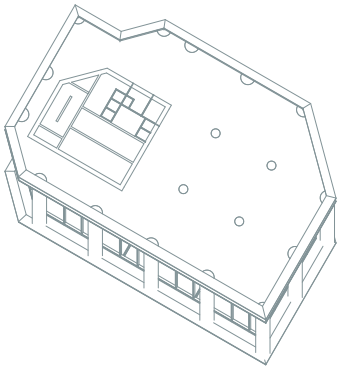
20th floor

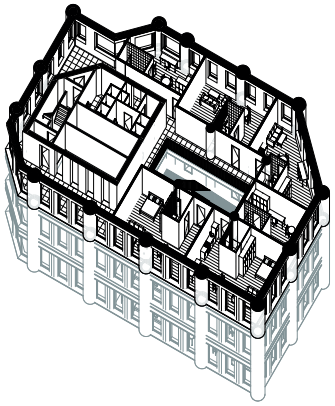


26th floor



29th floor+ roof

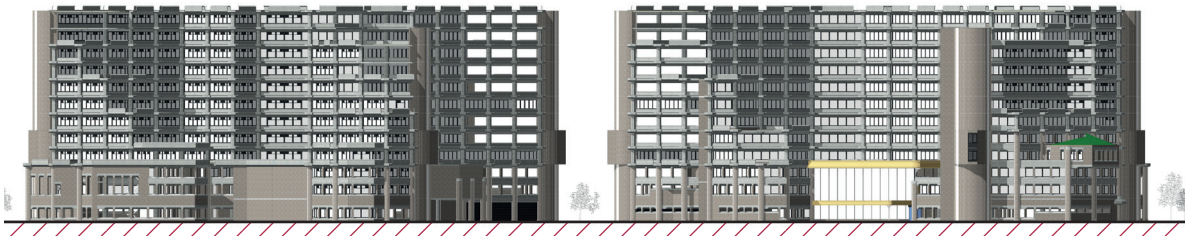




Elevations existing

North-east facade

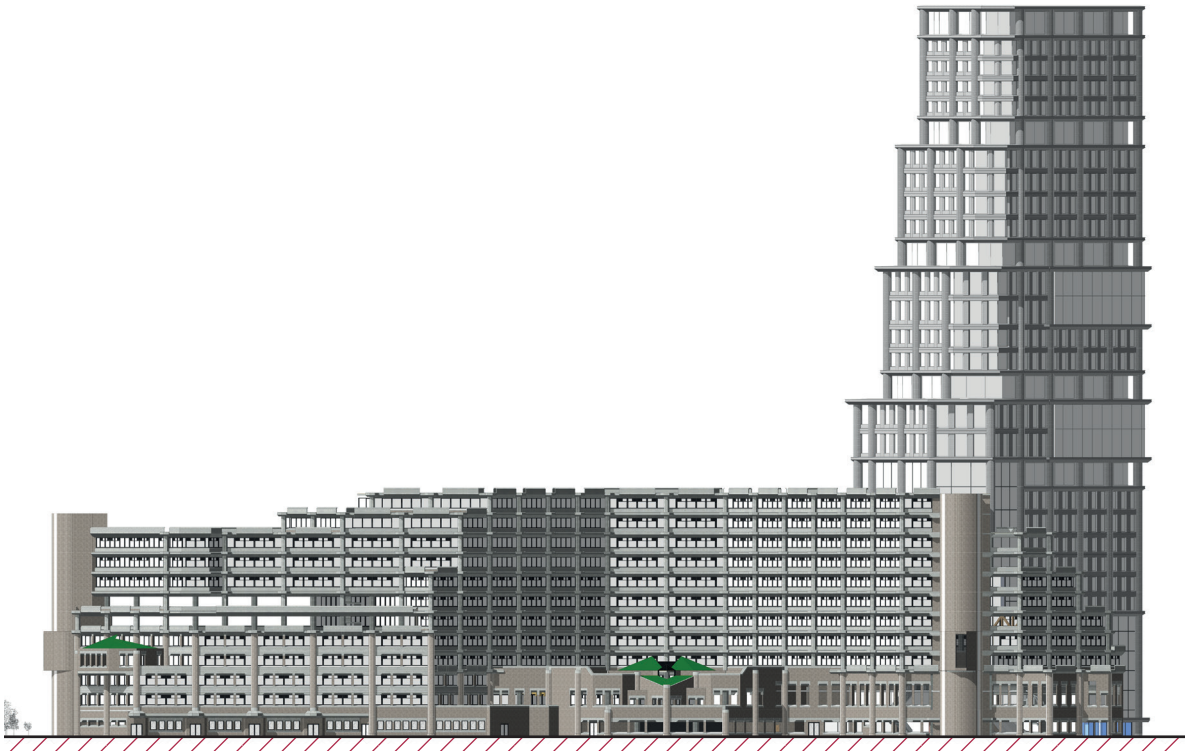
South-west facade



North-west facade

South-east facade

Elevations new



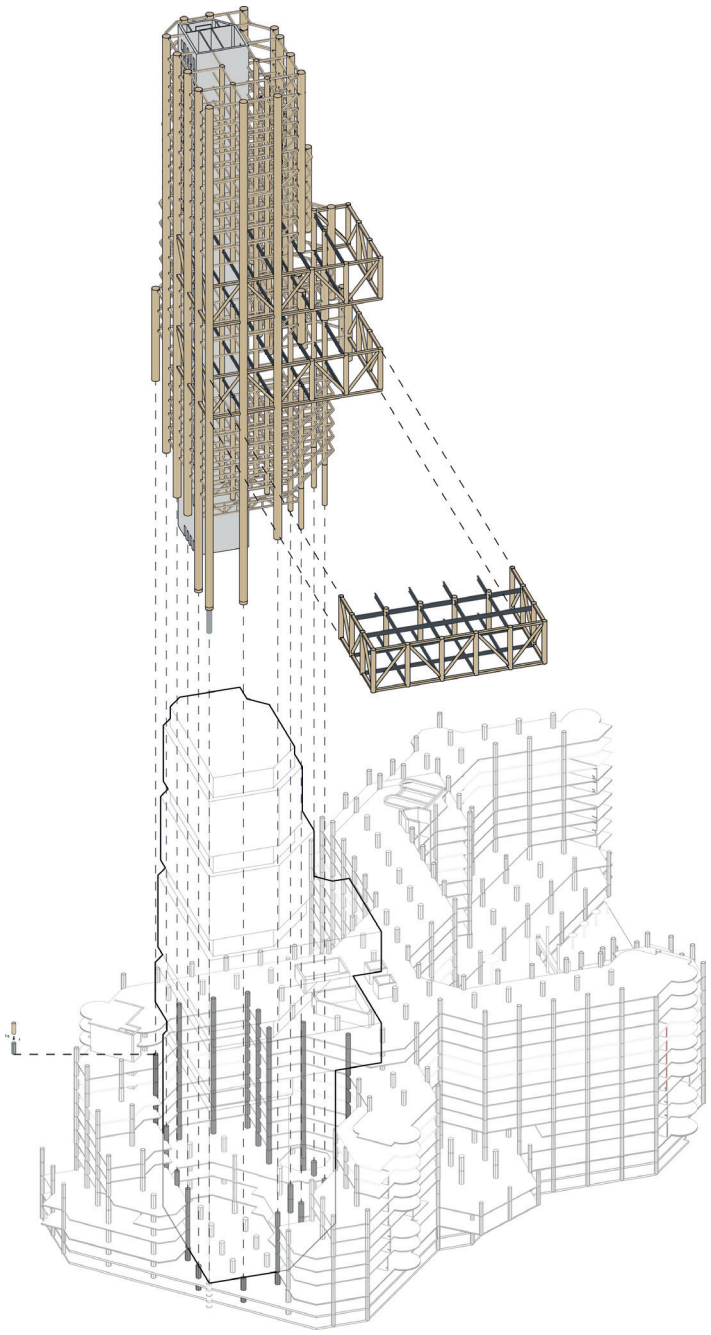
North-east facade

South-west facade

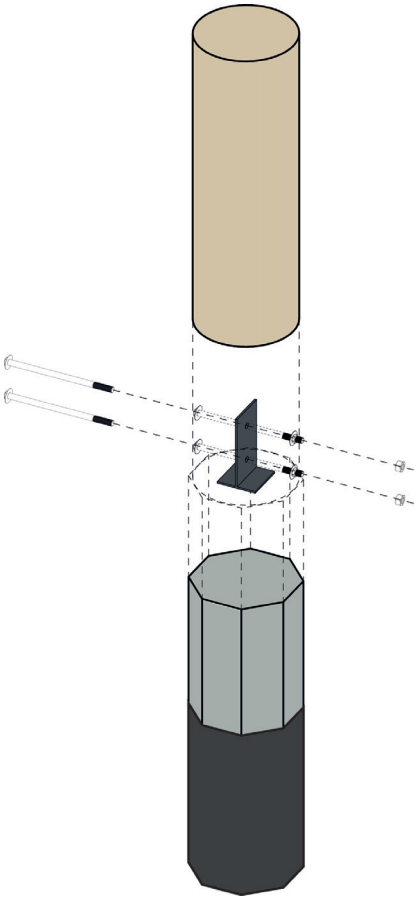
North-west facade

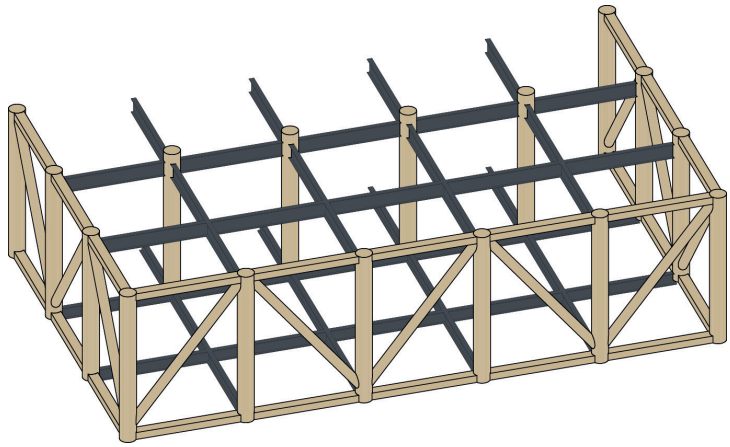
South-east facade

Structure diagram



Building on top & structure lecture and sport hall





Reinforce columns

By extending the existing building and building on top of the existing structure, the columns in the basement needs to be reinforced as they are not designed carry these forces. Even though the concrete columns have a diameter of 1 metre and can be assumed to be over-dimensioned, it is still necessary to reinforce these columns.

The SikaWrap Fabric Reinforcement System is ideal for wrapping and reinforcing the octagonal columns. This system is used, among others, to reinforce columns of bridges after a modification of the bridge structure. This fabric consists of unidirectional fabrics of carbon fibres bonded to the concrete structure with an epoxy resin. Calculations can be used to determine how many layers of fabric are needed to achieve the required strength.

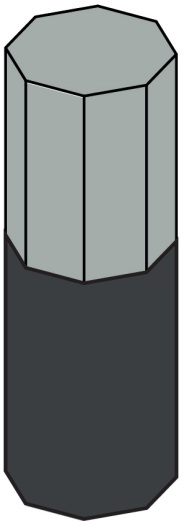
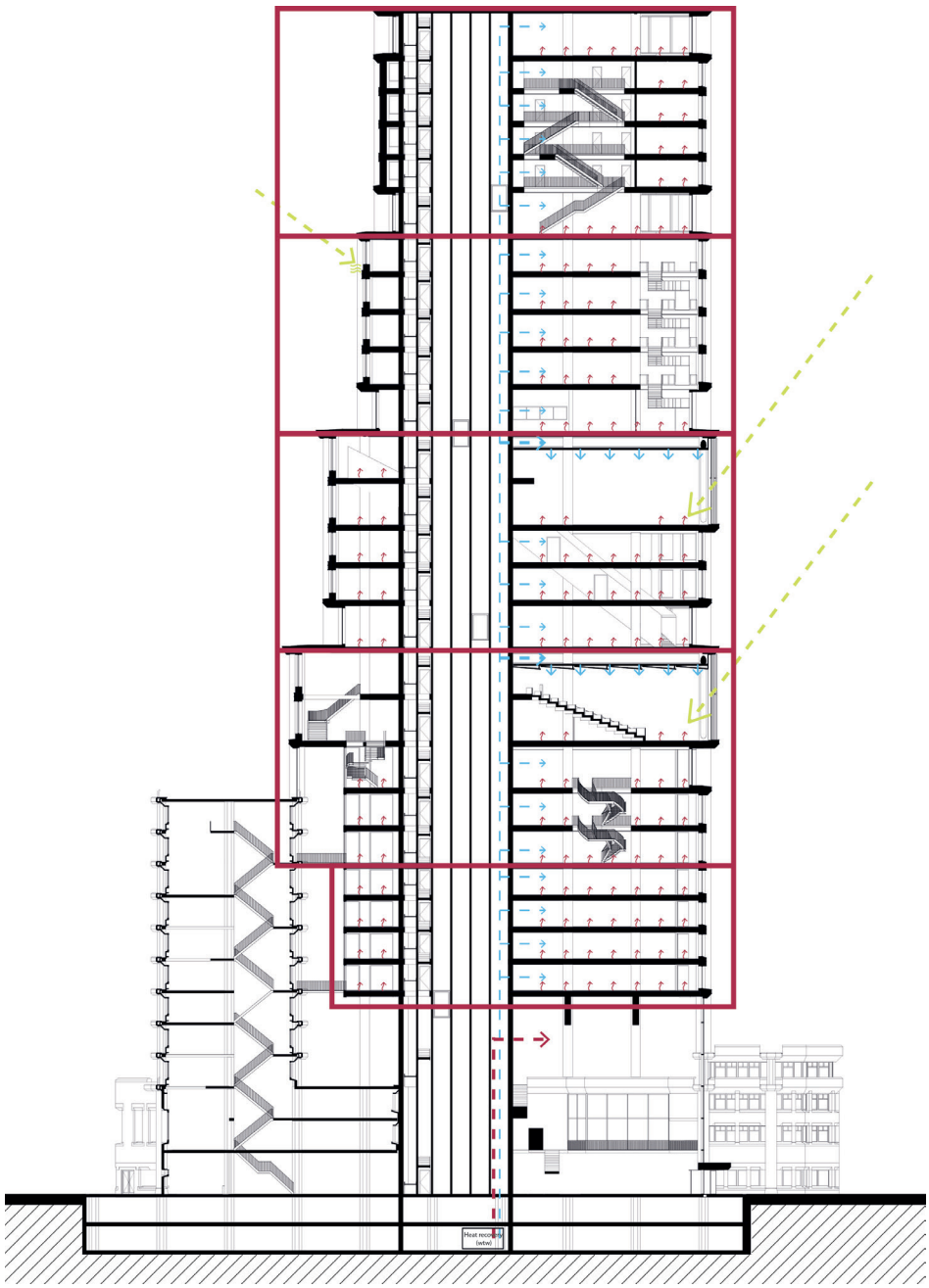
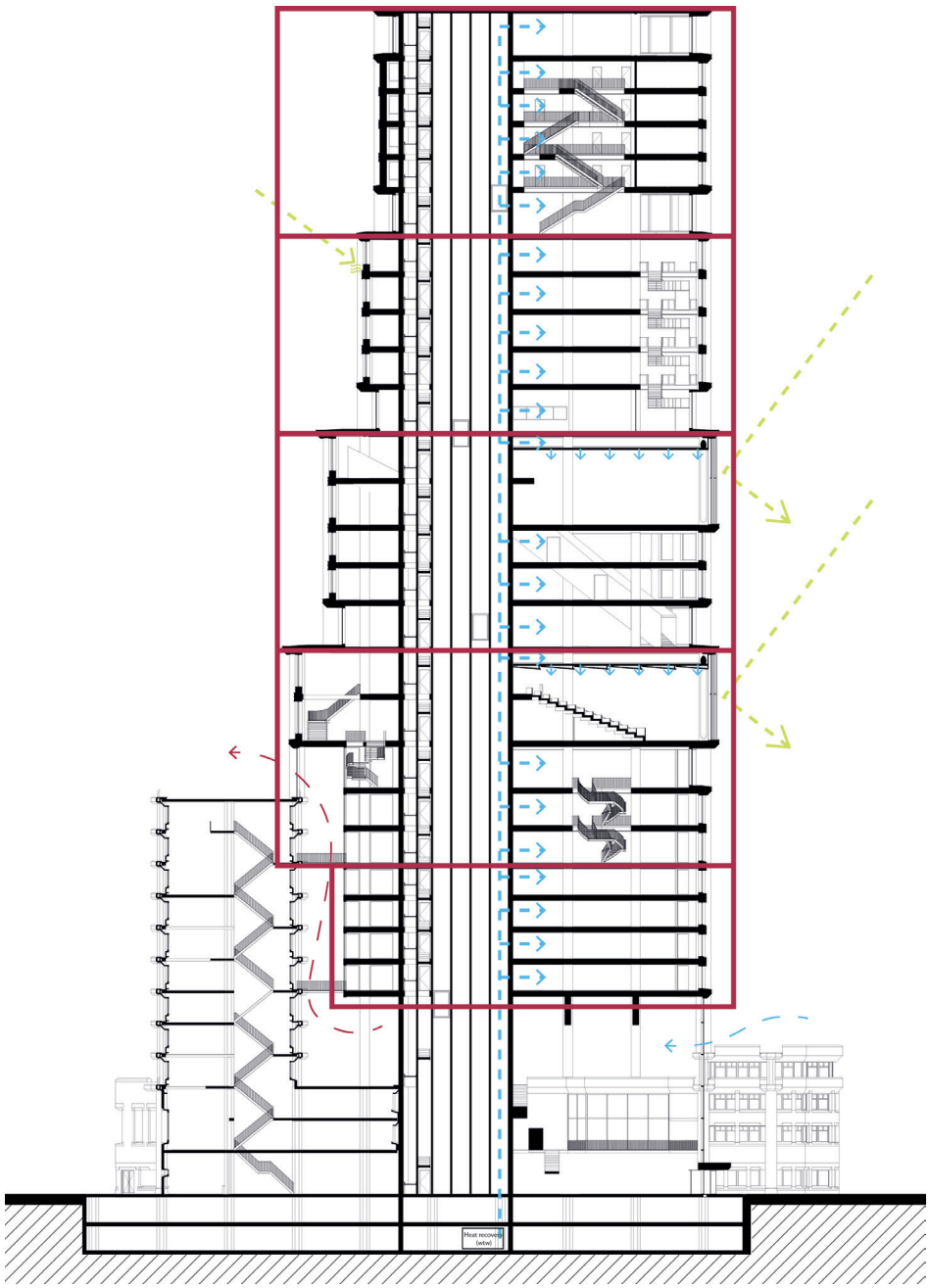


Figure 20 SikaWrap® weefselversterkingssystemen

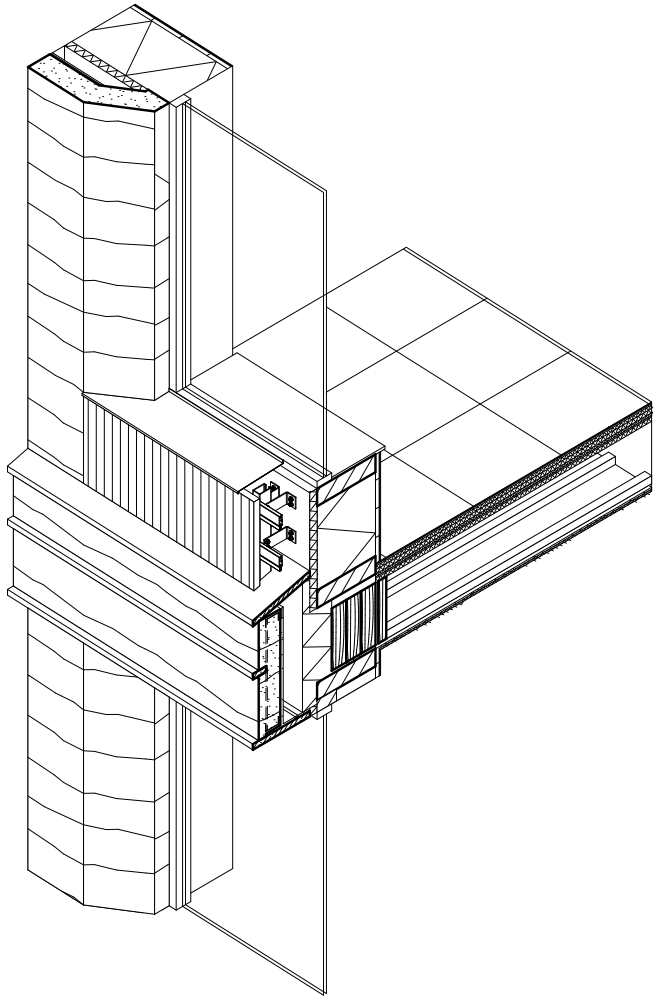
Climate concept winter



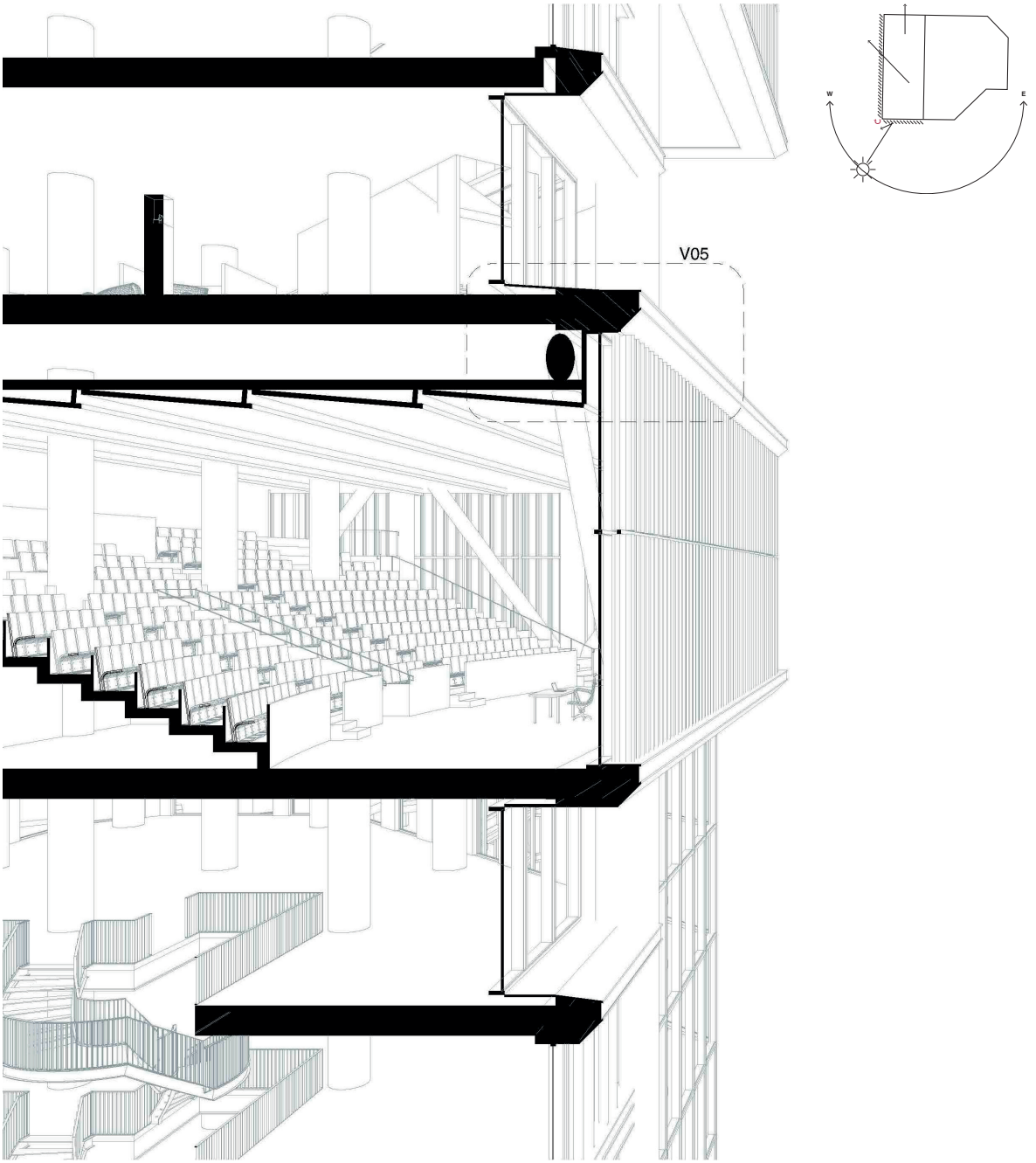
Climate concept summer



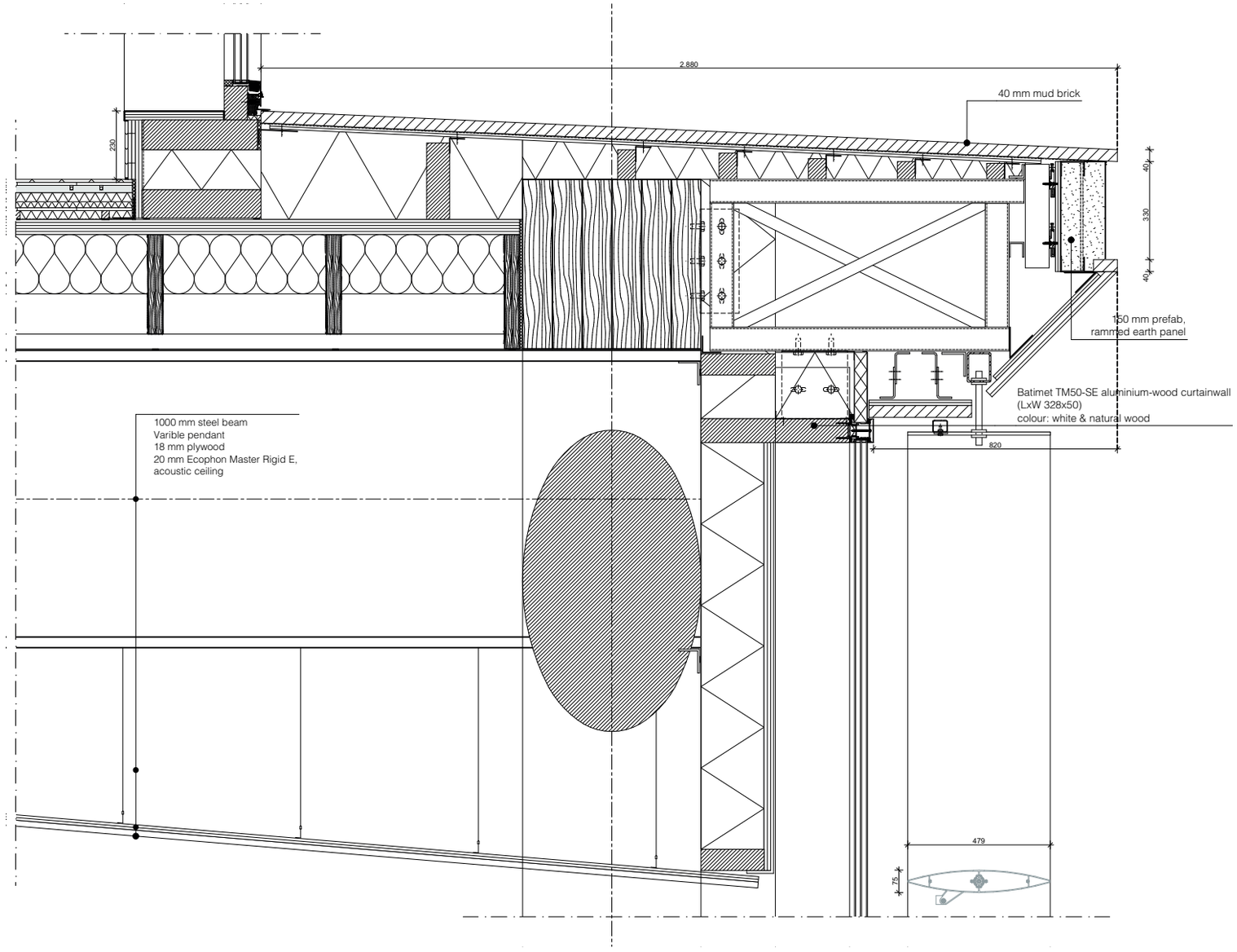
Solar panels integrated in facade



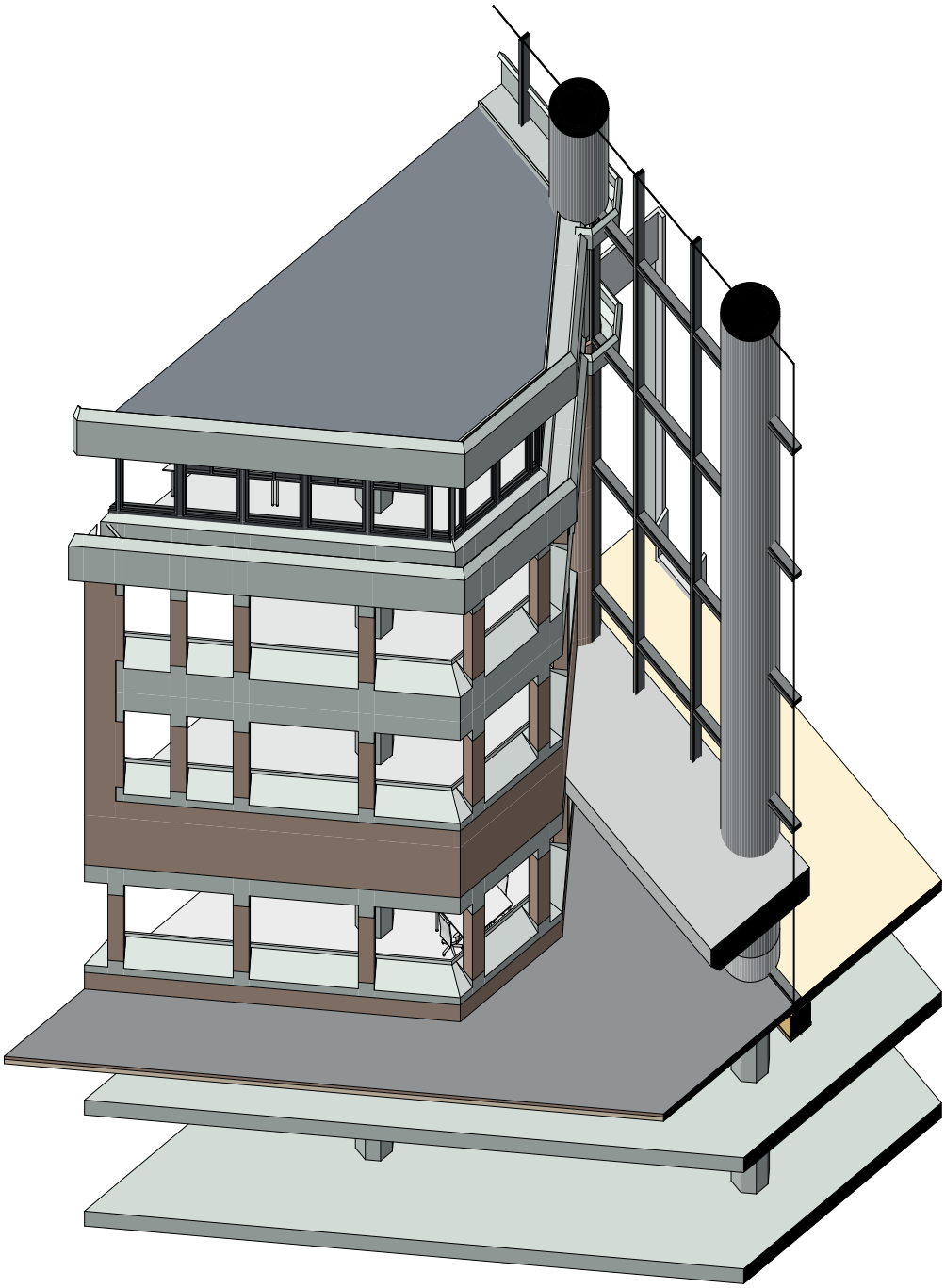
Section lecture hall



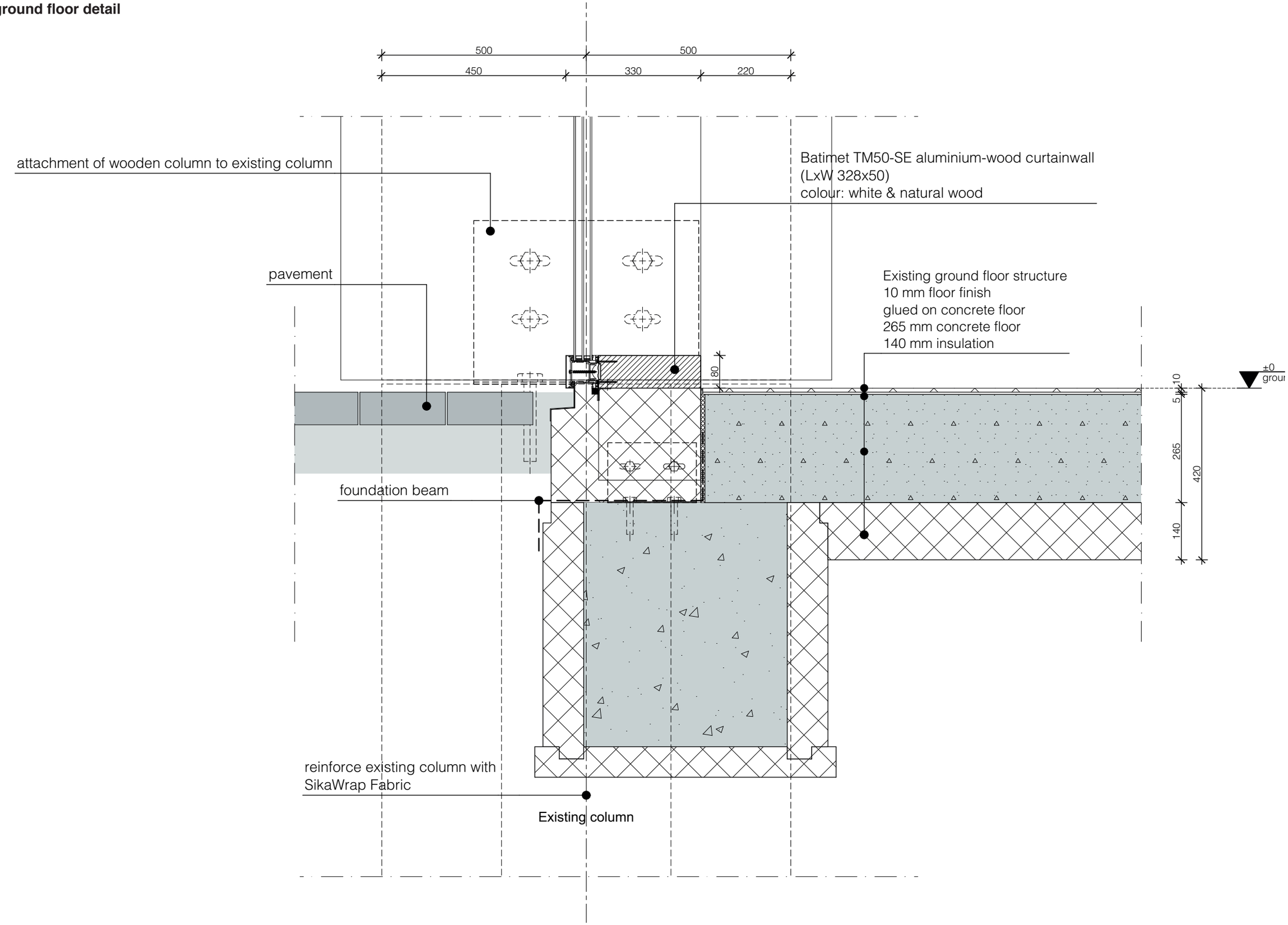
Deatil V05


2.880
40 mm mud brick
230
400
330
400
150 mm prefab,
rammed earth panel
Batimet TM50-SE aluminium-wood curtainwall
(LxW 328x50)
colour: white & natural wood
820
1000 mm steel beam
Varible pendant
18 mm plywood
20 mm Ecophon Master Rigid E,
acoustic ceiling
479
75

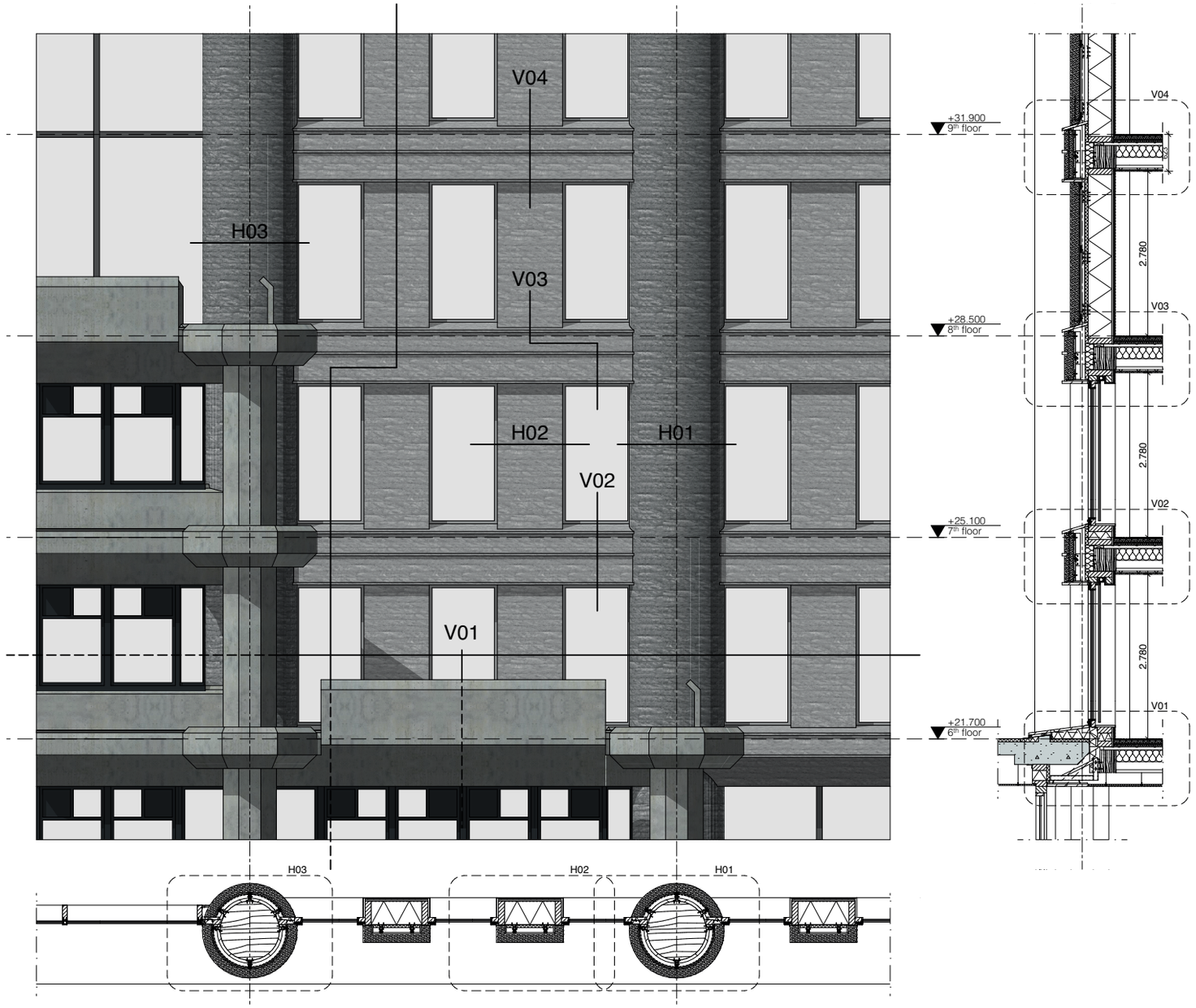
Axo fragment ground floor



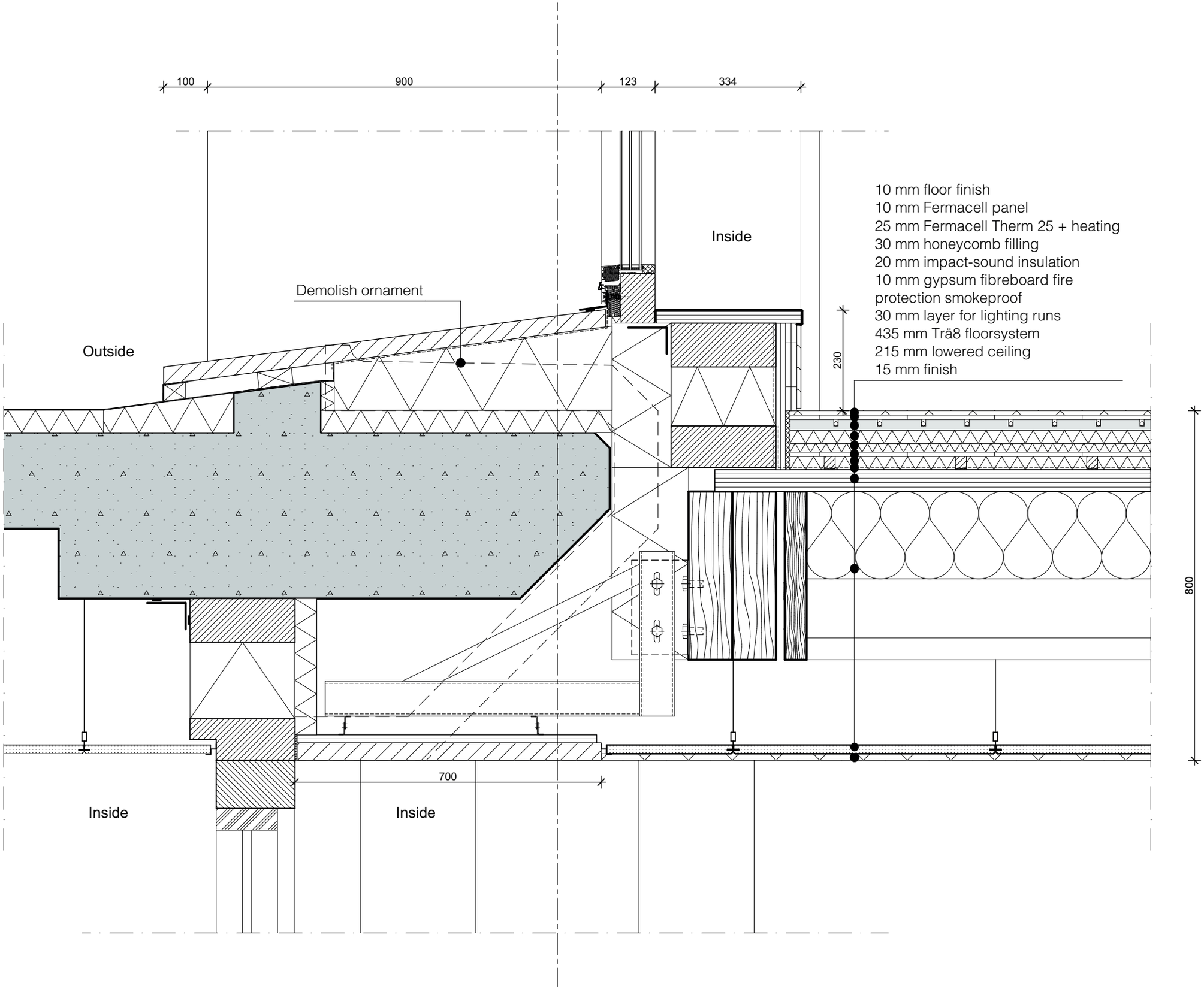
V00 1:10 l ground floor detail



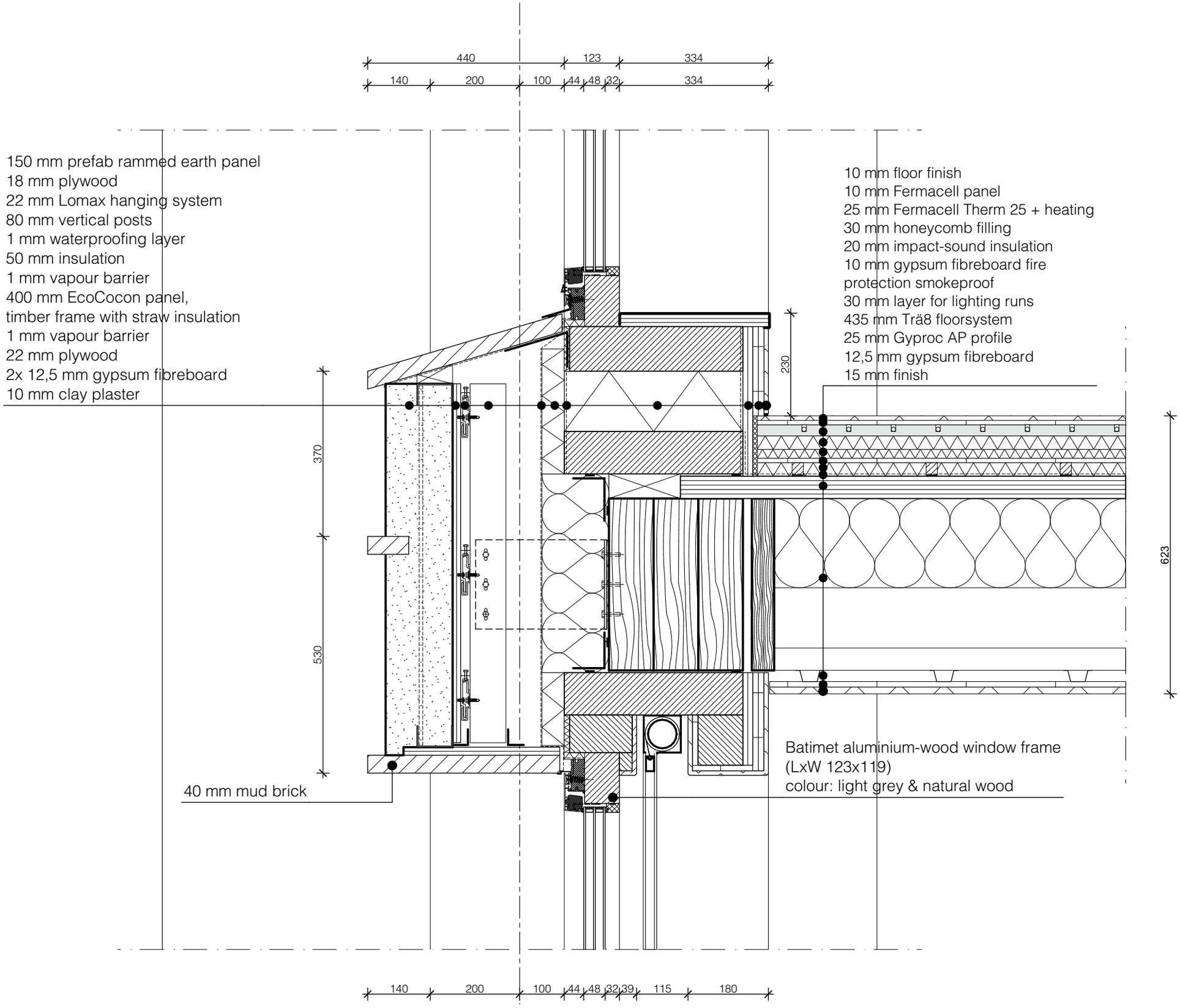
Fragment new-existing 1:100



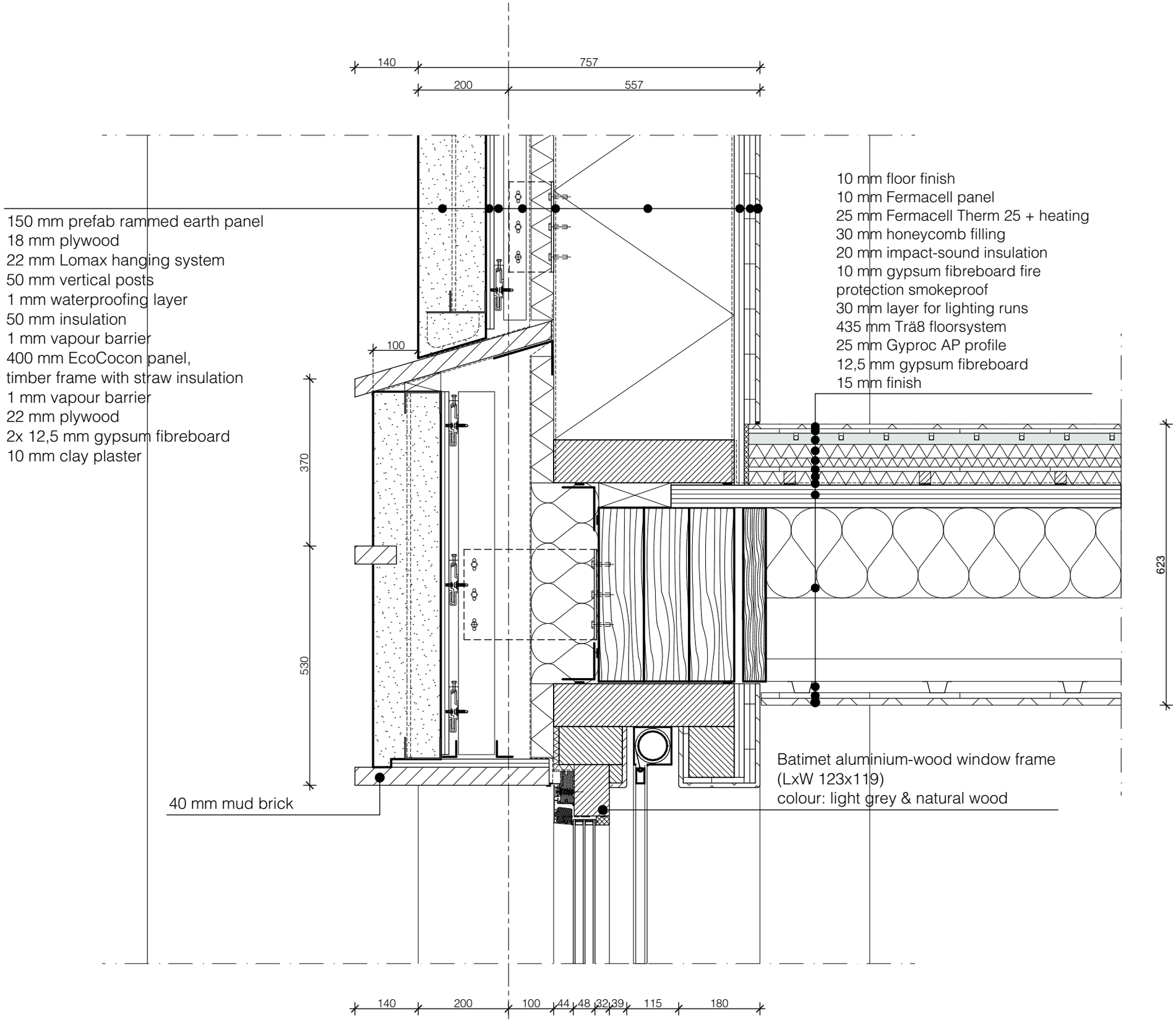
V01 1:10


100
900
123
334
Inside
Demolish ornament
Outside
10 mm floor finish
10 mm Fermacell panel
25 mm Fermacell Therm 25 + heating
30 mm honeycomb filling
20 mm impact-sound insulation
10 mm gypsum fibreboard fire
protection smokeproof
30 mm layer for lighting runs
435 mm Trä8 floorsystem
215 mm lowered ceiling
15 mm finish
230
800
700
Inside
Inside

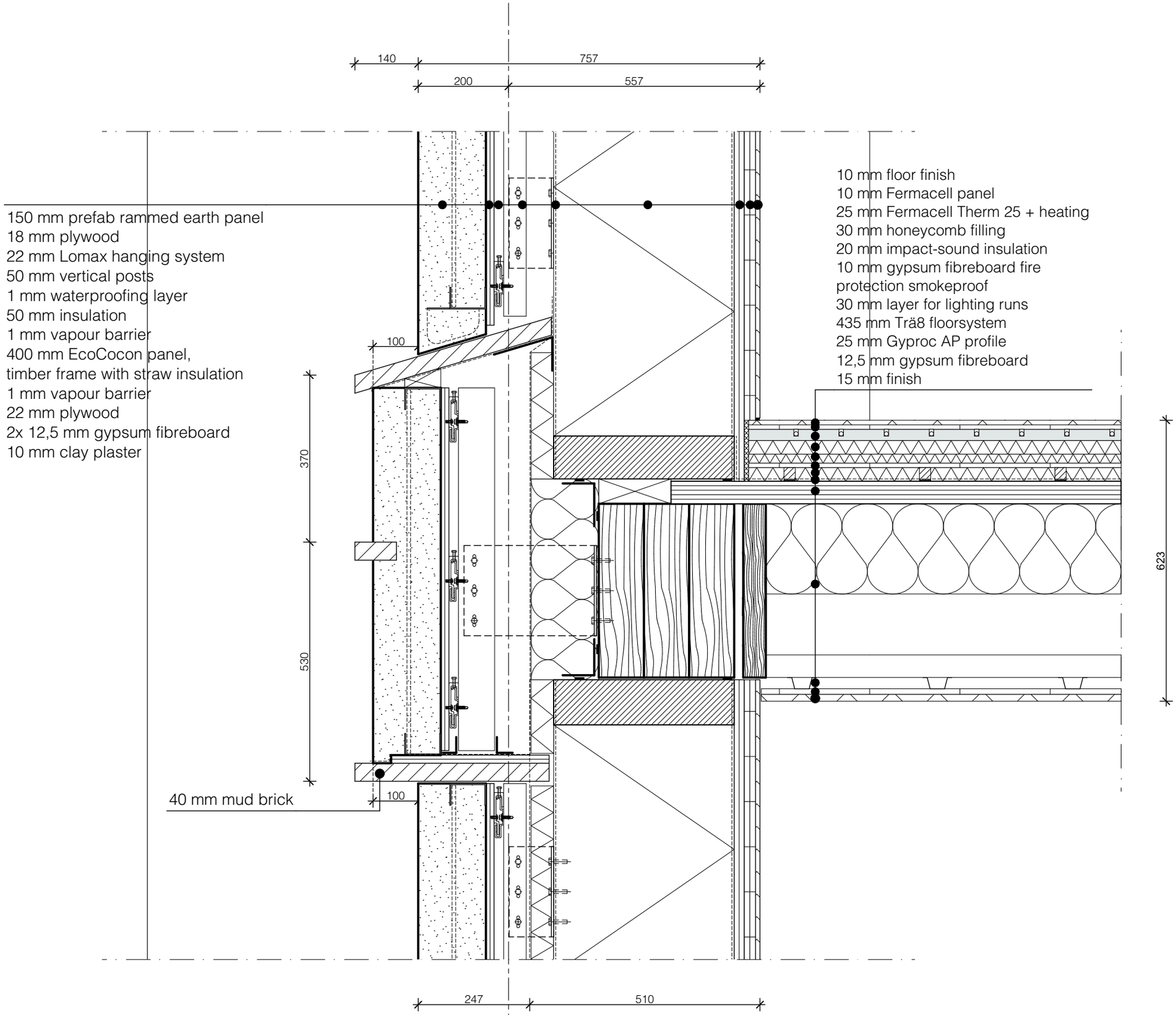
V02 1:10


440
123
334
140
200
100
44
48
32
334
150 mm prefab rammed earth panel
18 mm plywood
22 mm Lomax hanging system
80 mm vertical posts
1 mm waterproofing layer
50 mm insulation
1 mm vapour barrier
400 mm EcoCocon panel,
timber frame with straw insulation
1 mm vapour barrier
22 mm plywood
2x 12,5 mm gypsum fibreboard
10 mm clay plaster
10 mm floor finish
10 mm Fermacell panel
25 mm Fermacell Therm 25 + heating
30 mm honeycomb filling
20 mm impact-sound insulation
10 mm gypsum fibreboard fire
protection smokeproof
30 mm layer for lighting runs
435 mm Trä8 floorsystem
25 mm Gyproc AP profile
12,5 mm gypsum fibreboard
15 mm finish
230
370
530
623
40 mm mud brick
Batimet aluminium-wood window frame
(LxW 123x119)
colour: light grey & natural wood
140
200
100
44
48
32
39
115
180

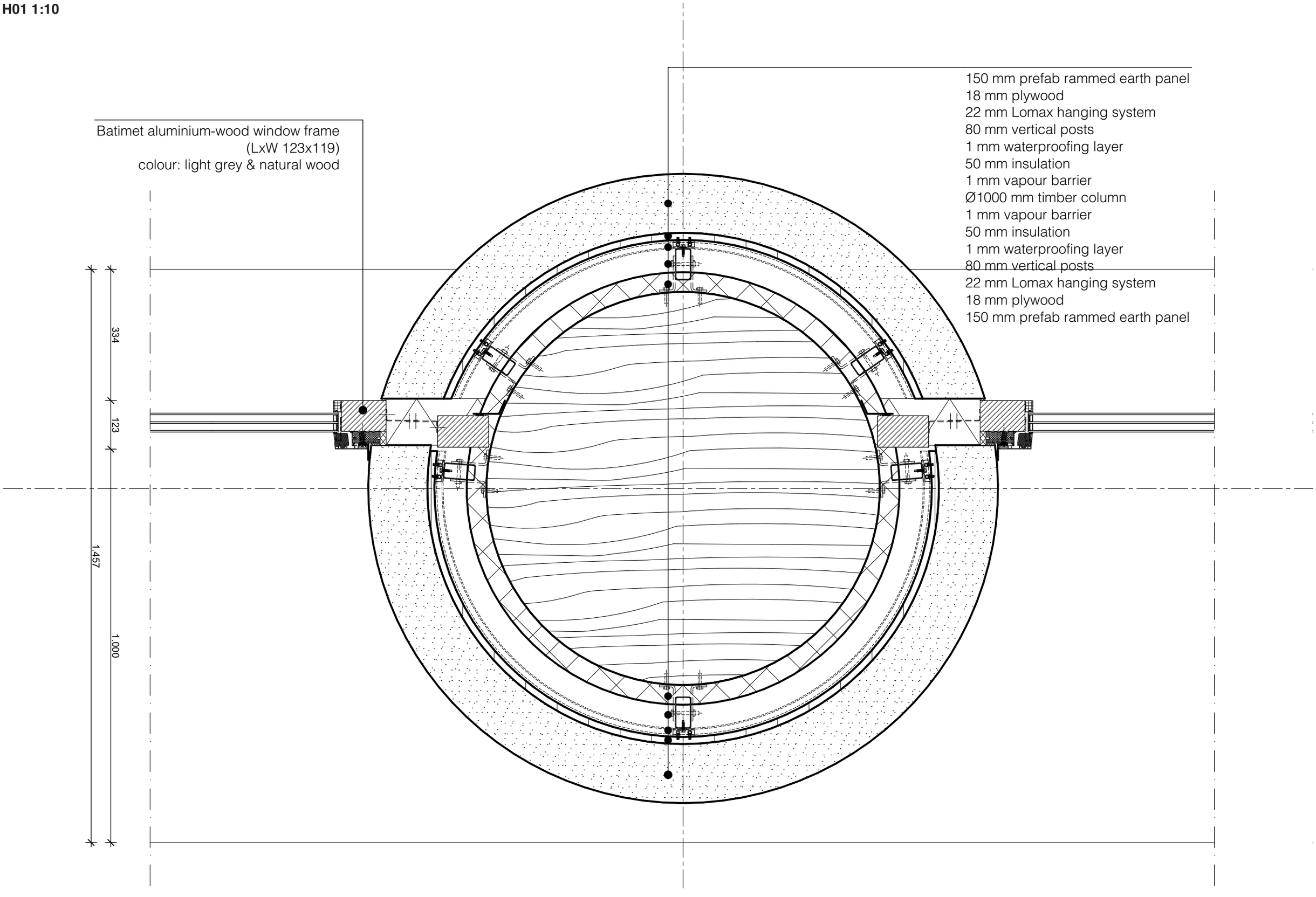
V03 1:10


140
757
200
557
150 mm prefab rammed earth panel
18 mm plywood
22 mm Lomax hanging system
50 mm vertical posts
1 mm waterproofing layer
50 mm insulation
1 mm vapour barrier
400 mm EcoCocon panel,
timber frame with straw insulation
1 mm vapour barrier
22 mm plywood
2x 12,5 mm gypsum fibreboard
10 mm clay plaster
10 mm floor finish
10 mm Fermacell panel
25 mm Fermacell Therm 25 + heating
30 mm honeycomb filling
20 mm impact-sound insulation
10 mm gypsum fibreboard fire
protection smokeproof
30 mm layer for lighting runs
435 mm Trä8 floorsystem
25 mm Gyproc AP profile
12,5 mm gypsum fibreboard
15 mm finish
100
370
530
623
Batimet aluminium-wood window frame
(LxW 123x119)
colour: light grey & natural wood
40 mm mud brick
140
200
100
44
48
32
39
115
180

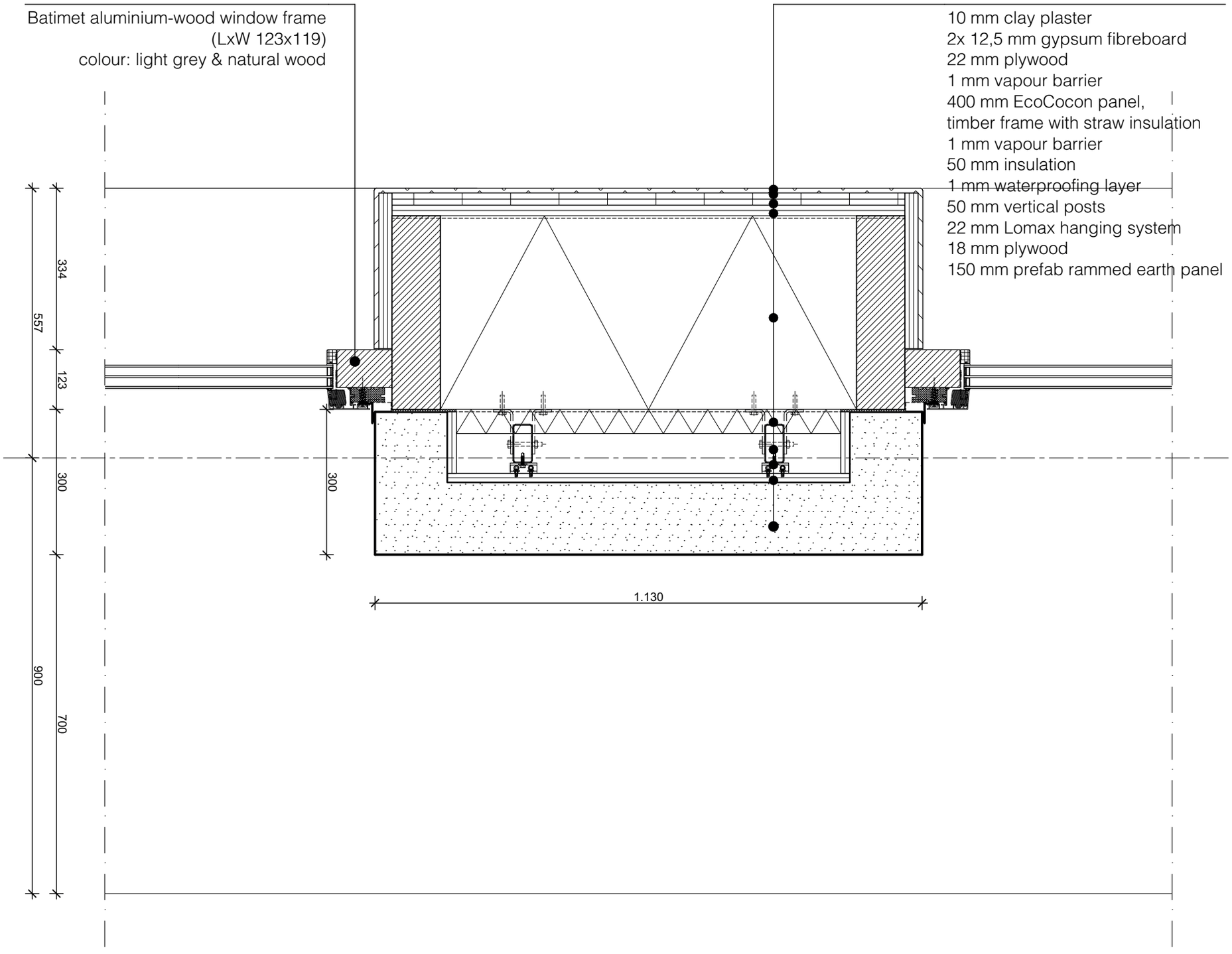
V04 1:10


140
757
200
557
150 mm prefab rammed earth panel
18 mm plywood
22 mm Lomax hanging system
50 mm vertical posts
1 mm waterproofing layer
50 mm insulation
1 mm vapour barrier
400 mm EcoCocon panel,
timber frame with straw insulation
1 mm vapour barrier
22 mm plywood
2x 12,5 mm gypsum fibreboard
10 mm clay plaster
10 mm floor finish
10 mm Fermacell panel
25 mm Fermacell Therm 25 + heating
30 mm honeycomb filling
20 mm impact-sound insulation
10 mm gypsum fibreboard fire
protection smokeproof
30 mm layer for lighting runs
435 mm Trä8 floorsystem
25 mm Gyproc AP profile
12,5 mm gypsum fibreboard
15 mm finish
100
370
530
623
40 mm mud brick
100
247
510

H01 1:10


Batimet aluminium-wood window frame
(LxW 123x119)
colour: light grey & natural wood
150 mm prefab rammed earth panel
18 mm plywood
22 mm Lomax hanging system
80 mm vertical posts
1 mm waterproofing layer
50 mm insulation
1 mm vapour barrier
Ø1000 mm timber column
1 mm vapour barrier
50 mm insulation
1 mm waterproofing layer
80 mm vertical posts
22 mm Lomax hanging system
18 mm plywood
150 mm prefab rammed earth panel
334
123
1.457
1.000

H02 1:10

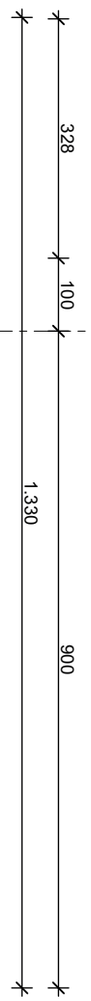

Batimet aluminium-wood window frame
(LxW 123x119)
colour: light grey & natural wood
10 mm clay plaster
2x 12,5 mm gypsum fibreboard
22 mm plywood
1 mm vapour barrier
400 mm EcoCocon panel,
timber frame with straw insulation
1 mm vapour barrier
50 mm insulation
1 mm waterproofing layer
50 mm vertical posts
22 mm Lomax hanging system
18 mm plywood
150 mm prefab rammed earth panel
334
557
123
300
900
700
300
1.130

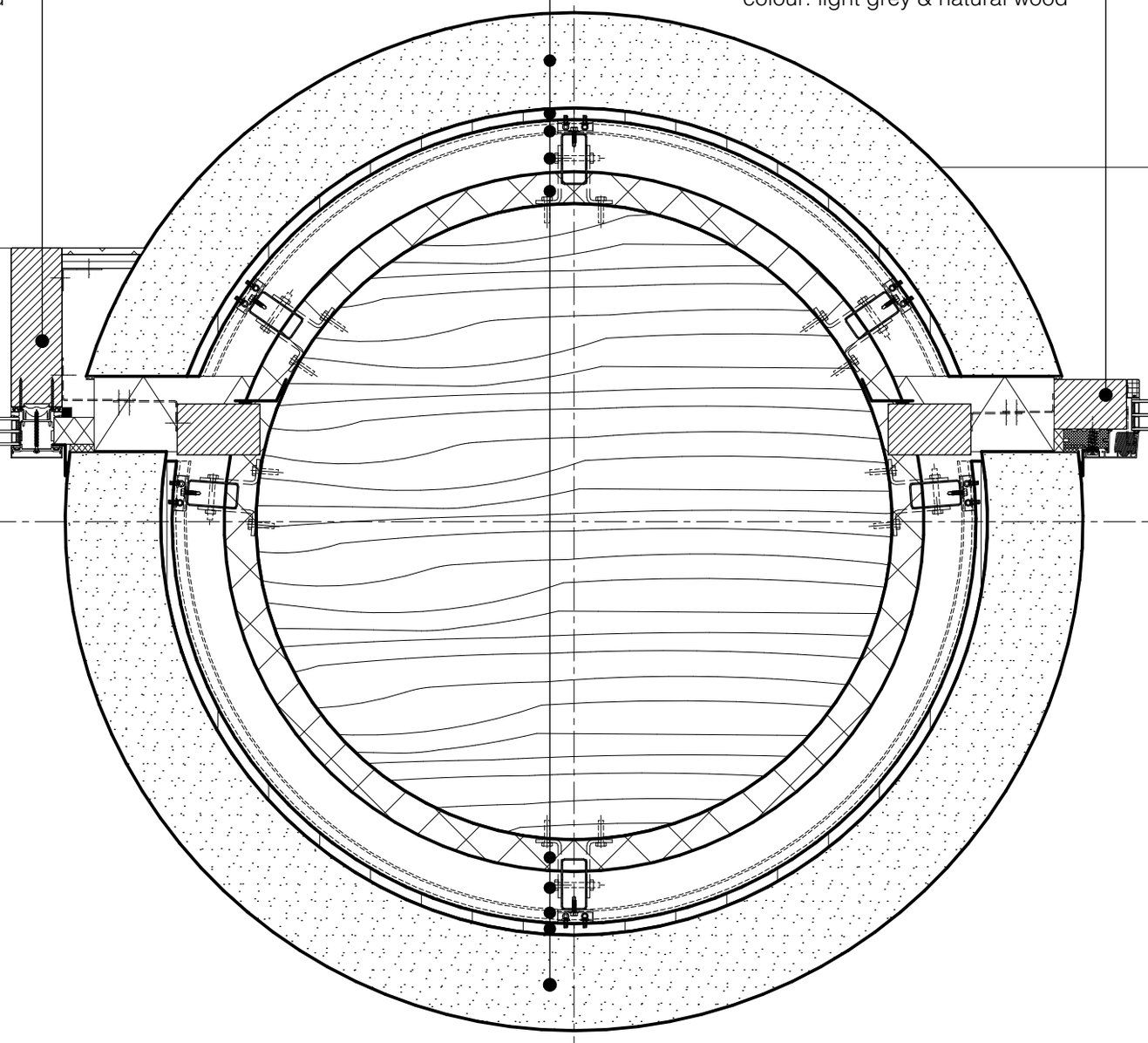
H03 1:10

Batimet TM50-SE aluminium-wood curtainwall
(LxW 328x50)
colour: light grey & natural wood

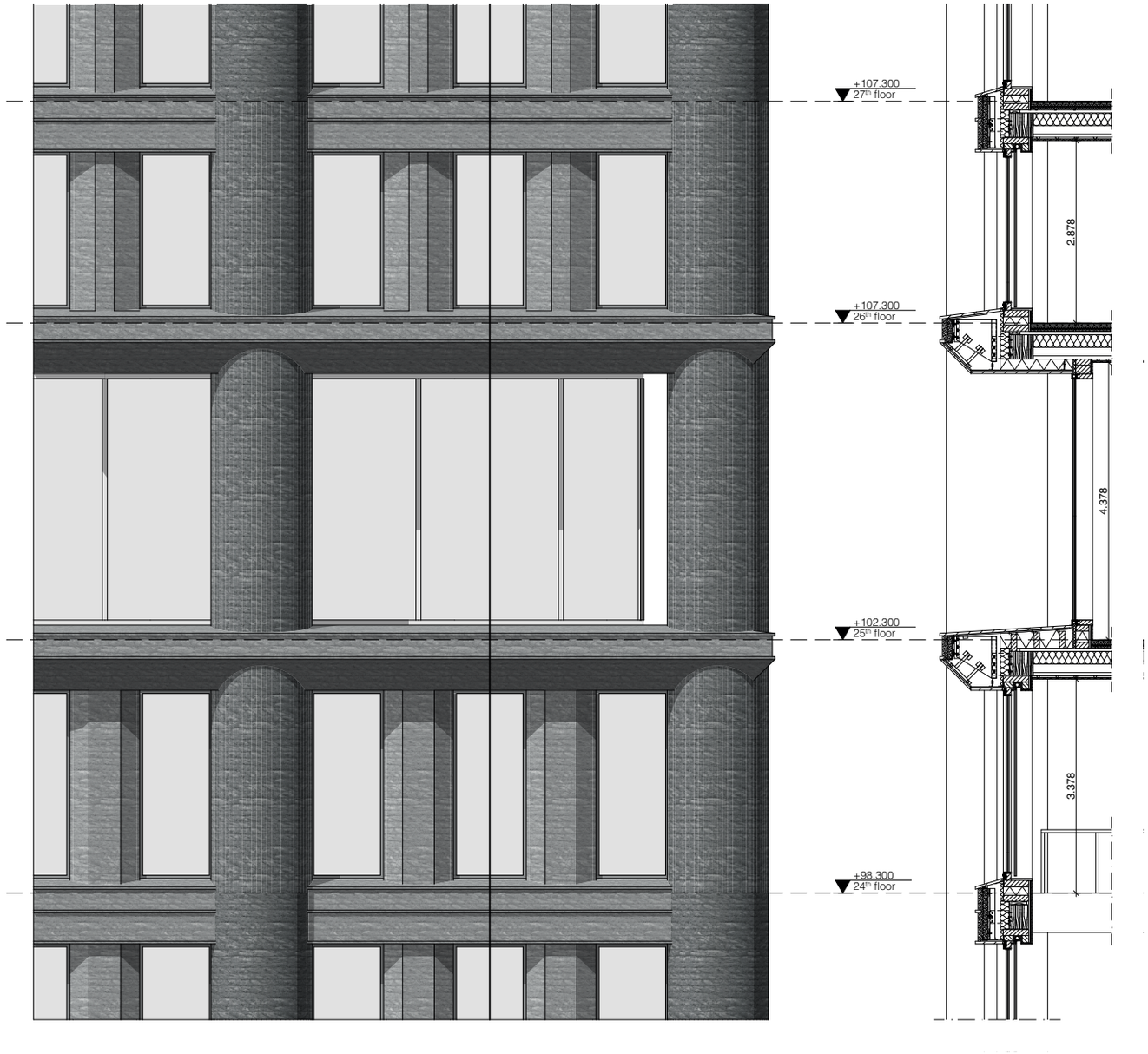
Batimet aluminium-wood window frame
(LxW 123x119)
colour: light grey & natural wood

150 mm prefab rammed earth panel
18 mm plywood
22 mm Lomax hanging system
80 mm vertical posts
1 mm waterproofing layer
50 mm insulation
1 mm vapour barrier
Ø1000 mm timber column
1 mm vapour barrier
50 mm insulation
1 mm waterproofing layer
80 mm vertical posts
22 mm Lomax hanging system
18 mm plywood
150 mm prefab rammed earth panel

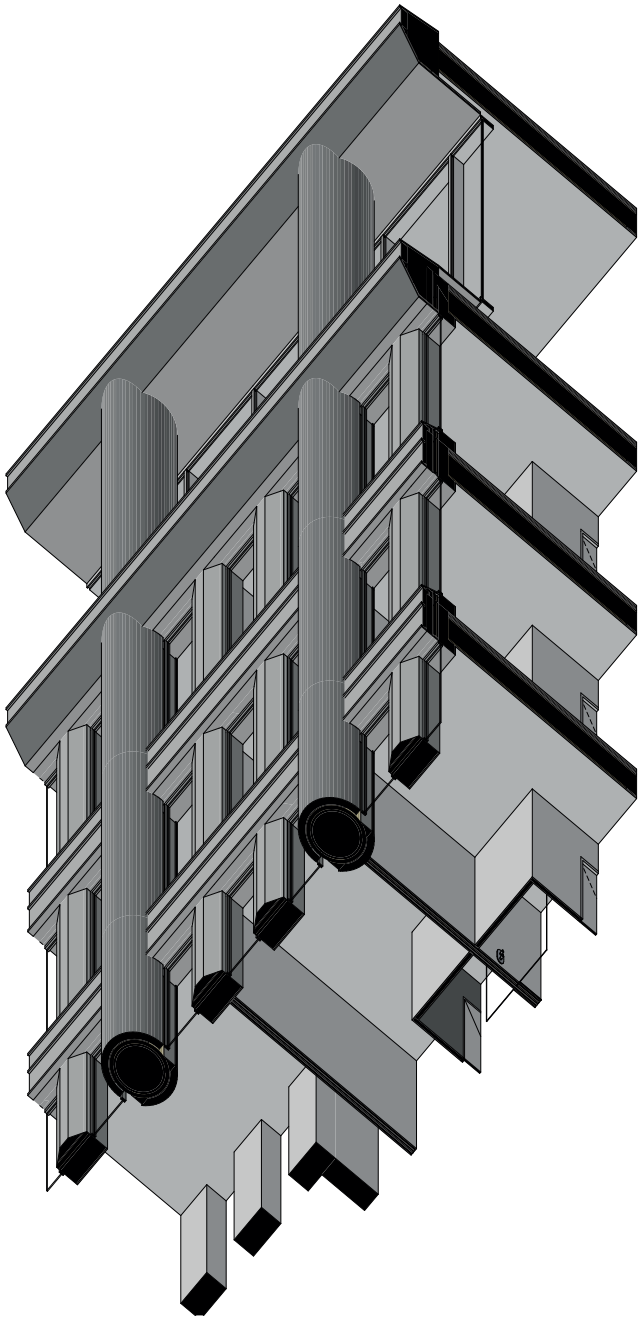




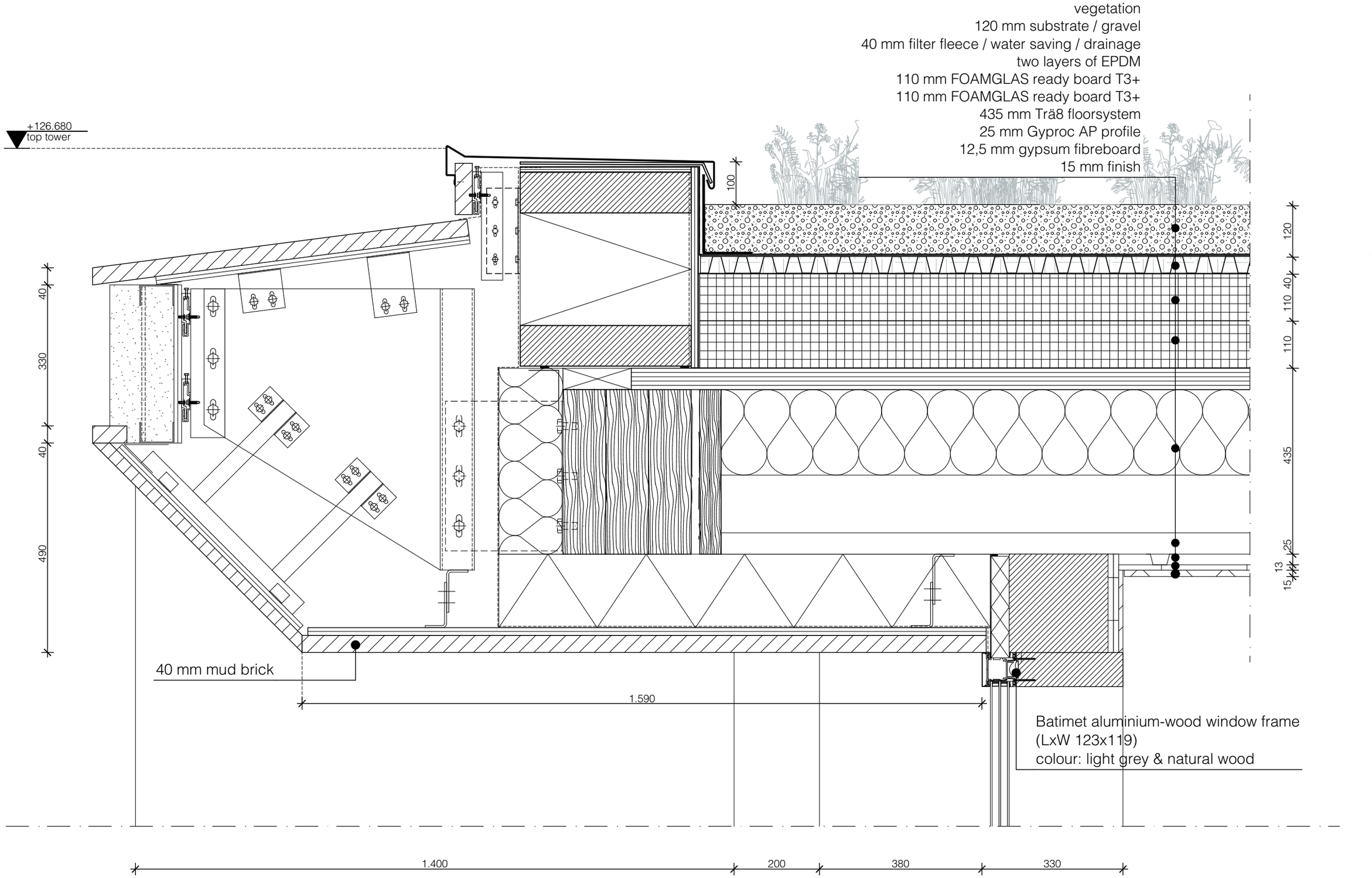
Fragment public floors 1:100



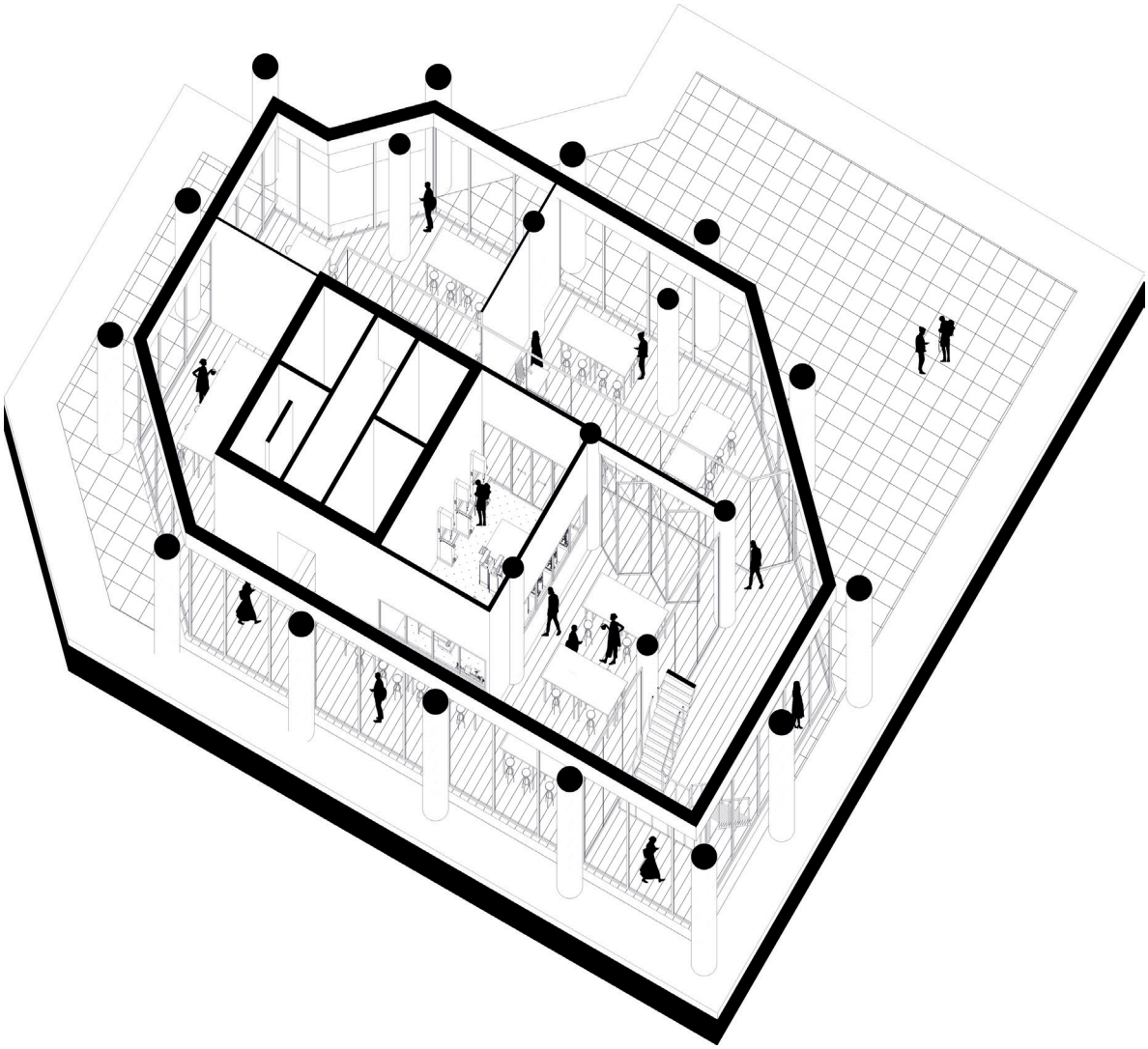
Axo fragment roof



V06 1:10 l roof detail



Workspaces 20th floor

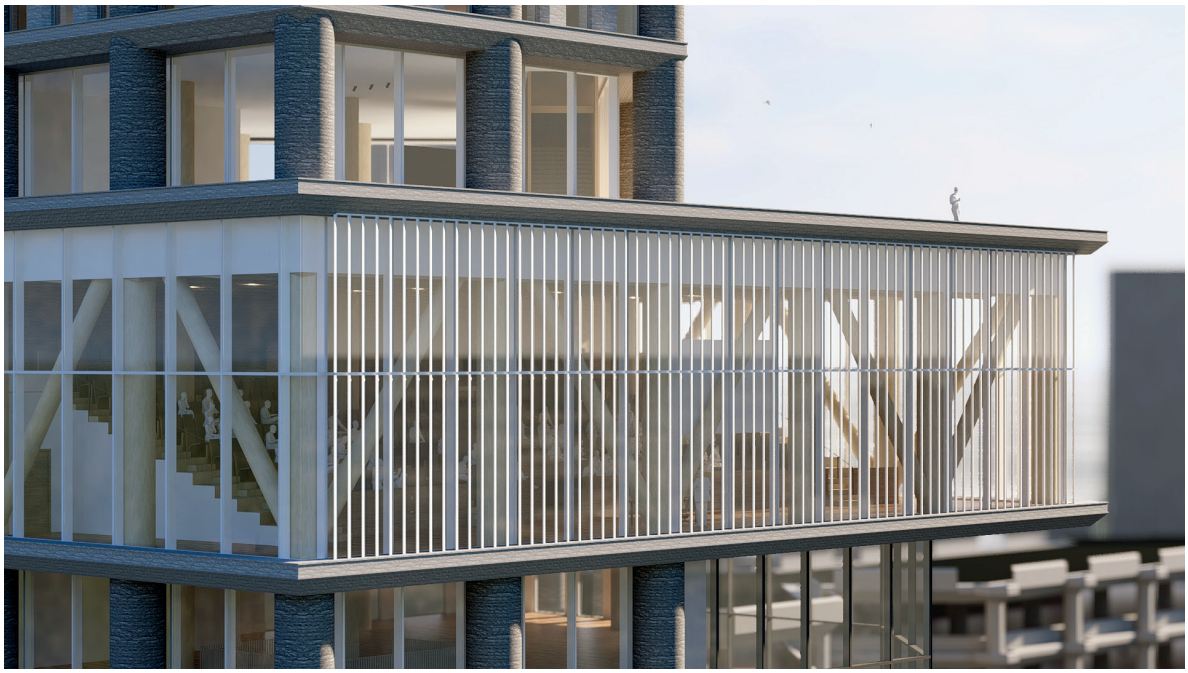


Continuum of B67

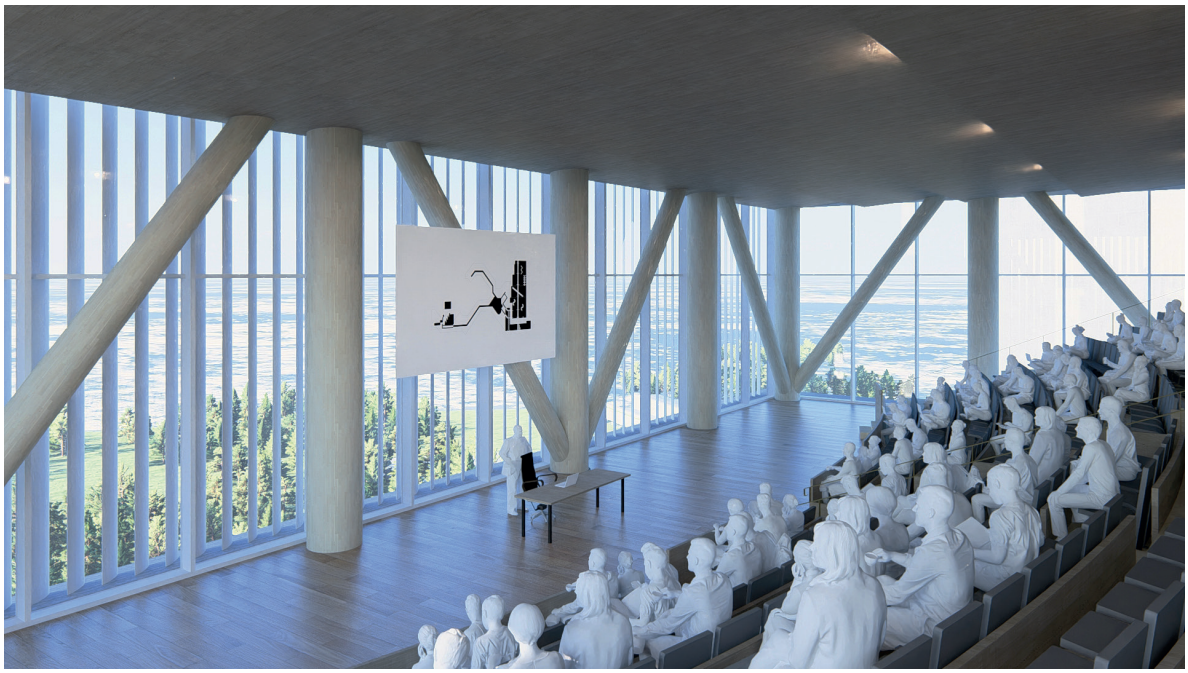
Relation between new volume and existing building

B67 from A12 - Utrechtsebaan

Lecture hall with sun shading



Interior lecture hall



Relation existing - new

Typical office floor

Workshop floor

FINAL REFLECTION

B67 AS AN EXAMPLE

In this chapter, I reflect on the various methods, approaches and outcomes of this graduation project concerning the academic field and social and ethical context. By using the main themes of the project in explaining and answering the questions asked, I reflect on the possibilities of later use in my own professional life and that of other designers and architects.

The relationship between the graduation topic, the master track and master's programme

The graduation project is a search for design solutions that answer the questions raised by the studio's theme, Vertical Campus - a public hub of the future in The Hague. This vertical campus will be designed around the densely built-up Central Station where now obsolete massive building volumes seem to form a piece of the city of their own. This project focuses on how an obsolete massive building volume can be transformed and expanded vertically to become the campus of the future. In attempt to investigate how large scale buildings can contribute to and prolong the identity of the city, the typology of kiosks was applied. The local character of the kiosk in The Hague can give the interior of the building identity while encouraging users to move vertically so that not only the ground floor is used but the entire campus becomes a vertical public hub.

The campus is eventually located in the Temporary House of Representatives of The Netherlands, De Apenrots (transl: The Monkeyrock). Through my earlier master's programme Heritage, an attempt was made to determine the value of the existing building and give it identity. During the research-by-design process, concepts were developed and the existing building was kept intact as much as possible and the new vertical addition referred to the existing identity. On the other hand, research was conducted into the development of campuses to predict the future of the campus, stemming from a previous master's programme.

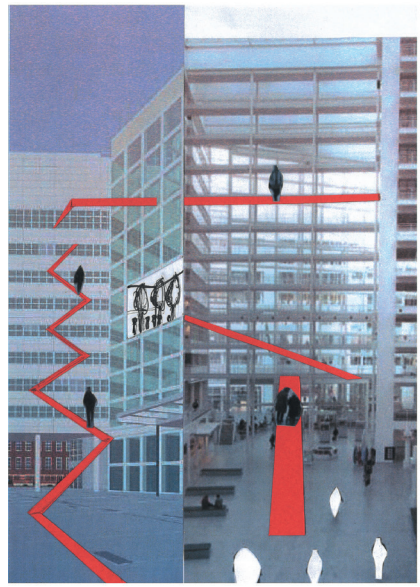
The knowledge acquired during this master's helped me to reflect on the concepts in the technical elaboration of the building. Value determination of the building, research-by-design to create concepts and strategies and the technical elaboration here. I believe that in this project, the different master's programmes came together to produce the final result.

Research-by-design relations

The design project started with understanding the urban, social and cultural context of the area with the aim of creating a master plan to densify the area around Central Station with a more diverse programme. By visualising the site survey and interviews conducted in the area, key aspects of the research emerged and concepts and strategies were developed. Research-by-design not only helped in the first phase of the design project, but also in developing research questions. Especially the creation of the collages, montages and the zine in which the relationship was searched for between one's interests, the public realm and the urban and cultural context within the design task helped.

In the previous paragraphs, we mentioned that the value determination of the existing building was part of this project. However, how do you extend a horizontal building with a tower without losing the identity of the existing building and how do you create a public hub in a tower and not a stacking of functions separated by floors? Again, collage as a design method helped to ultimately research how to turn the ambitions into a design. In addition, volume studies on the shape of the tower also helped to research the identity of the existing building.

Zine about relation between public realm and building design



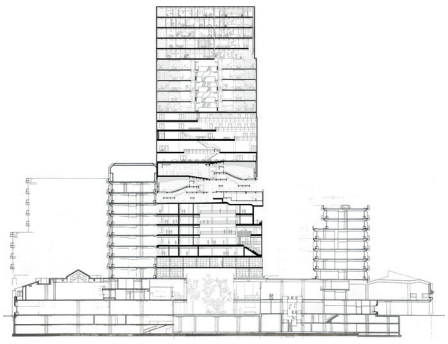
Colage: How to create vertical movement in a public building?

Assement of used approach, methods and methodology

The collective research with the themes of culture & history, connection and power divided into groups and three different sites produced a large amount of information about the project location. Although the research within one's group was the most applied later, other research contributed to choosing a potential site for the design project. During this phase, I read a lot of literature and research on the history of the campus and Oxford. This was good preparation for the visit to Oxford by making the accumulated knowledge visible.

Continuing to read the literature while doing design research made drafting the problem statement and research questions easier. Making collages and montages helped to make the problem statement and research questions more concrete.

The further design process was mainly based on applying physical models, collages and design research. These methods were also encouraged by the tutors, mainly using the urban model that gives a good overview of the design in relation to the urban context. In addition, many case studies were used to seek answers to the research questions. For instance, de Alliantie HQ by Studioninedots, Tripolis Park by MVRDV and UNStudio tower by UNStudio were used to investigate how obsolete buildings can be transformed using design principles to increase daylight. However, not all of these case studies were documented in the process report so I could not refer back to it in a later stage. Also, all the literature read helped to make design decisions, but not everything was properly recorded in the process report either. The book from den Heijer (2021): *Campus of the future*; *The Modern Campus* by Langenberg & Spices (2001) and texts by Tschumi *Urban Pleasure and the Moral Good* (1994) and *Disjunctions* (1987). These texts helped me to configure and organise the building programme and circulation. In retrospect, better documentation should have been done to finally get a more complete picture of the entire design process.



Speculative section

Facade ambitions to show the stacking of different hubs

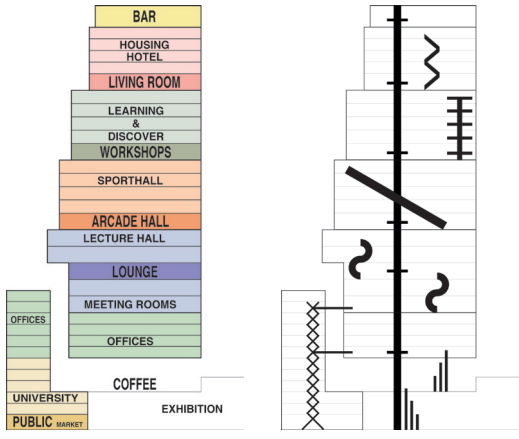
Assement of the academic and societal value, scope and implication of the graduation project, including ethical aspects

Over time, campuses have transformed from being their own communities in the city to being integrated more within the existing structure of the city. This is a theme we are increasingly faced with to not only use the building more efficiently through hybrid solutions but also to allow more audiences to come together.

The graduation project investigated how De Apenrots can distance itself from the closed building volume by opening up to the city. By creating an indoor street on the ground floor and by designating public floors in the facade of the tower, it tries to encourage different target groups to use the programmes in the building.

The public floors in the building consist of a mix of programmes. These programmes encourage different target groups with different social and ethical backgrounds to use them. These include programmes such as sports and games, but also shops and print shops that can be used by students, office workers and residents. The spaces used by the programme are designed to easily change and adapt to needed requirements. Hybridisation of these spaces contributes to mixing target groups and users in the building. Meeting rooms can be used as lecture halls for the university and, when not in use, for residents' meetings or various clubs in the evenings.

In this graduation project, the campus is seen as a convergence of programmes and target groups that contribute to mixing social and ethical backgrounds.



Programme Circulation

Assement of the transferability of the project results

The project's research is divided into three themes. Transforming obsolete office buildings, encouraging vertical circulation and using the local character of the kiosks in The Hague to give identity to the building.

Not only in the Netherlands are many (empty) obsolete office buildings. With the increasing pressure to create new spaces with the lowest possible carbon footprint, it is important to do research to the existing building portfolio before building new. The graduation project can contribute to convincing to transform existing office buildings and make use of the existing qualities they offer.

Cities are becoming increasingly crowded and there is less room for new construction or expansion of obsolete office buildings. As a result, there is a shift from horizontally to vertically oriented buildings. This densification also affects the city's public spaces and will have to be facilitated in other ways. This project tries to depict ways to stimulate vertical circulation so that the whole building is used by different target groups and in the city, public spaces are located at different heights. The stacking and relationships between various programmes and ways of moving through the building can serve as an example of what possibilities there are as cities are increasingly going towards more vertical orientation and encourage people to move vertically in a building.

Finally, the project tried to translate the local character of the kiosks in The Hague into design principles. The verticality of buildings can lead to just a stacking of functions where each floor has the same anonymous identity. This project tries to integrate a combination of informal and formal functions in the building where the informal functions give the building different identities.

This project is not a toolbox from which design principles or interventions can be chosen, but an example the integration of the three themes in a building.

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