

# A REFLECTION OF SOCIETY



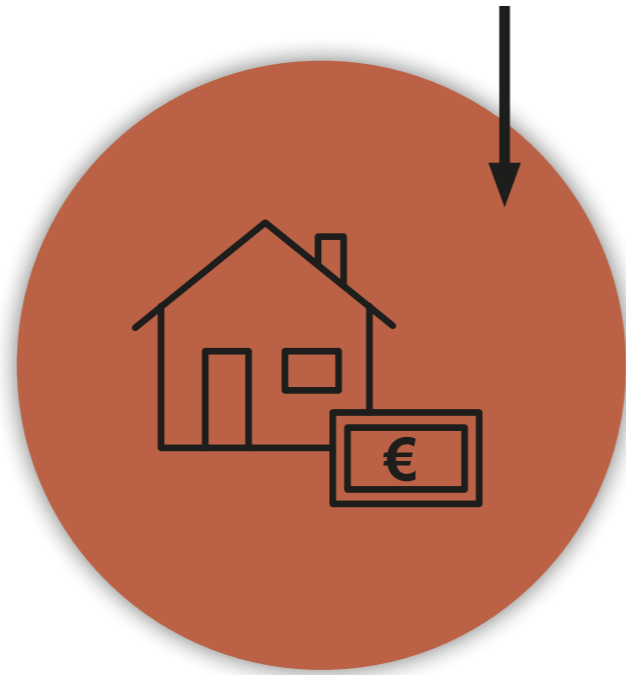
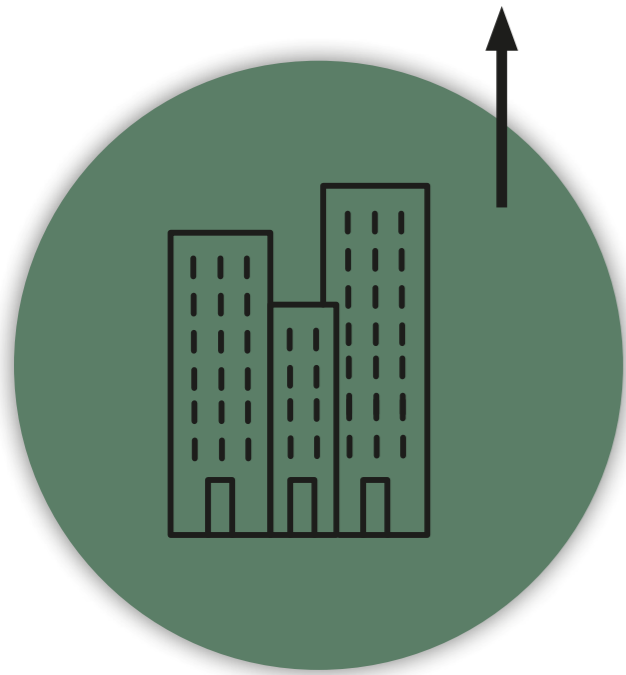
P5 Presentation  
01-07-2021  
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4430670

Design tutor: Mo Smit  
BT tutor: Gilbert Koskamp  
Research tutor: Bob Geldermans  
Delegate examiner: Huib Plomp

# ONGOING DEVELOPMENTS

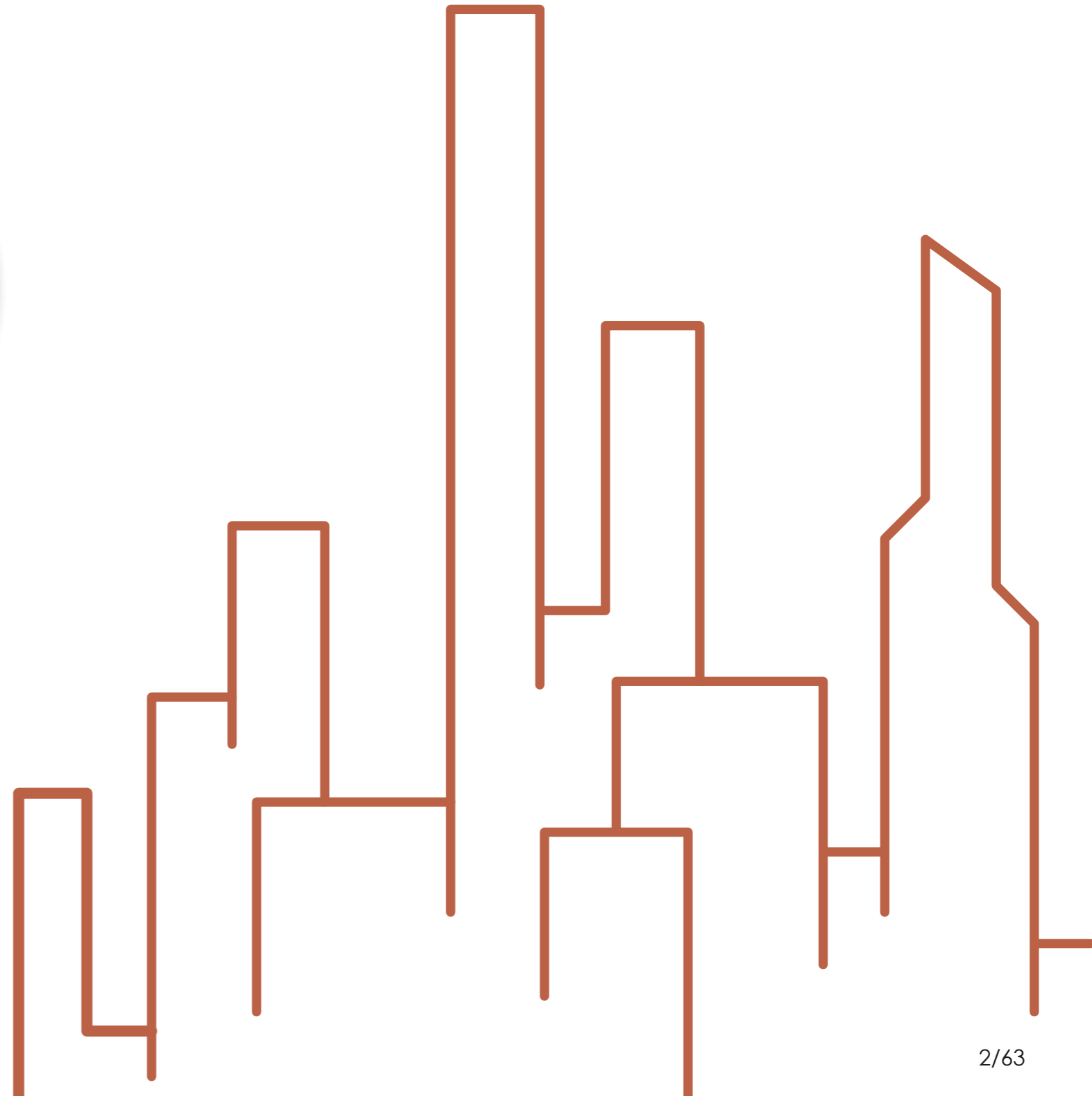
Amsterdam is getting more and more dense, the municipality has the ambition to build 52,500 homes by 2025.

These dwellings will partially be realised in the form of high rises

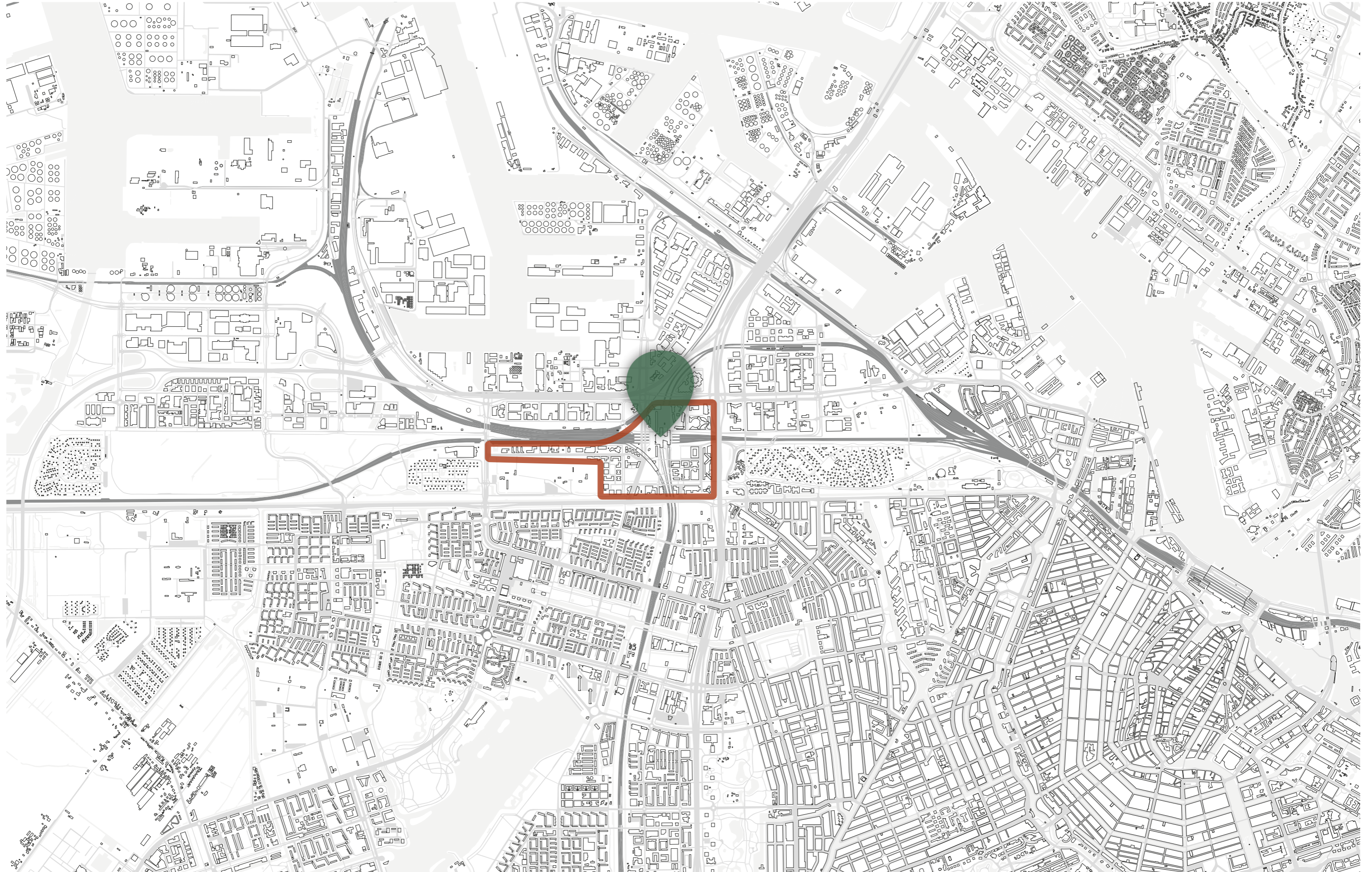


Growing urbanisation

Less affordable dwellings



# LOCATION: SLOTERDIJK CENTRE, AMSTERDAM



# CONTEXT



Source: Gemeente amsterdam, 2020



Public transport node



Strong office image



Seperation of functions

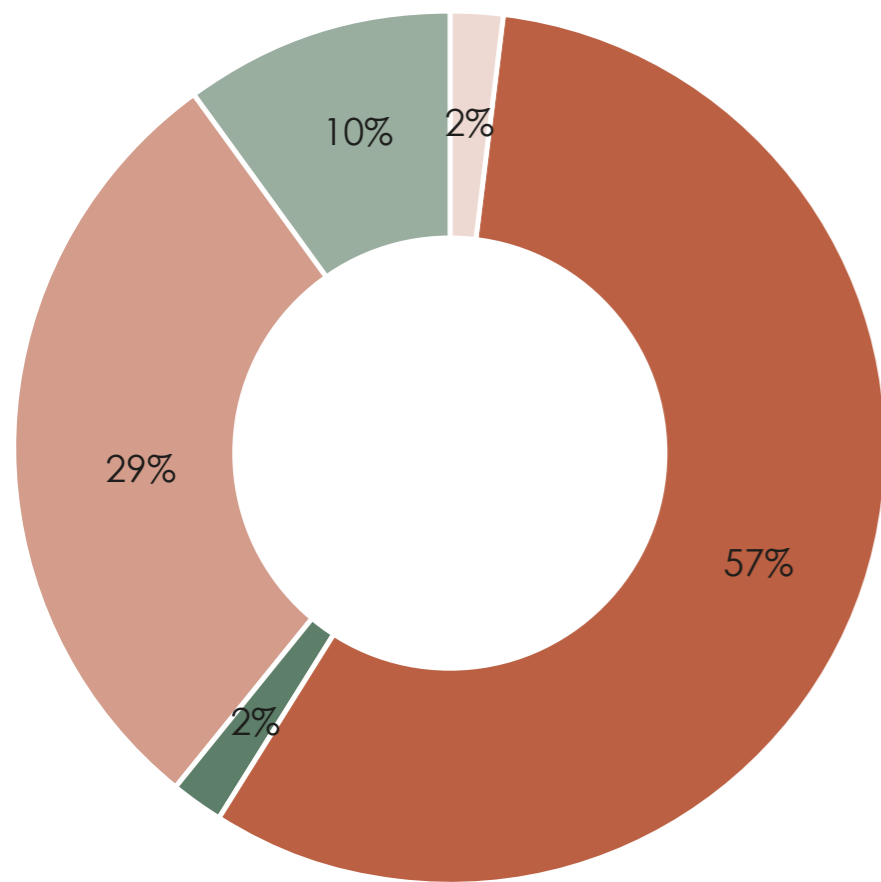
# CONTEXT - SLOTERDIJK CENTRE



1:3000

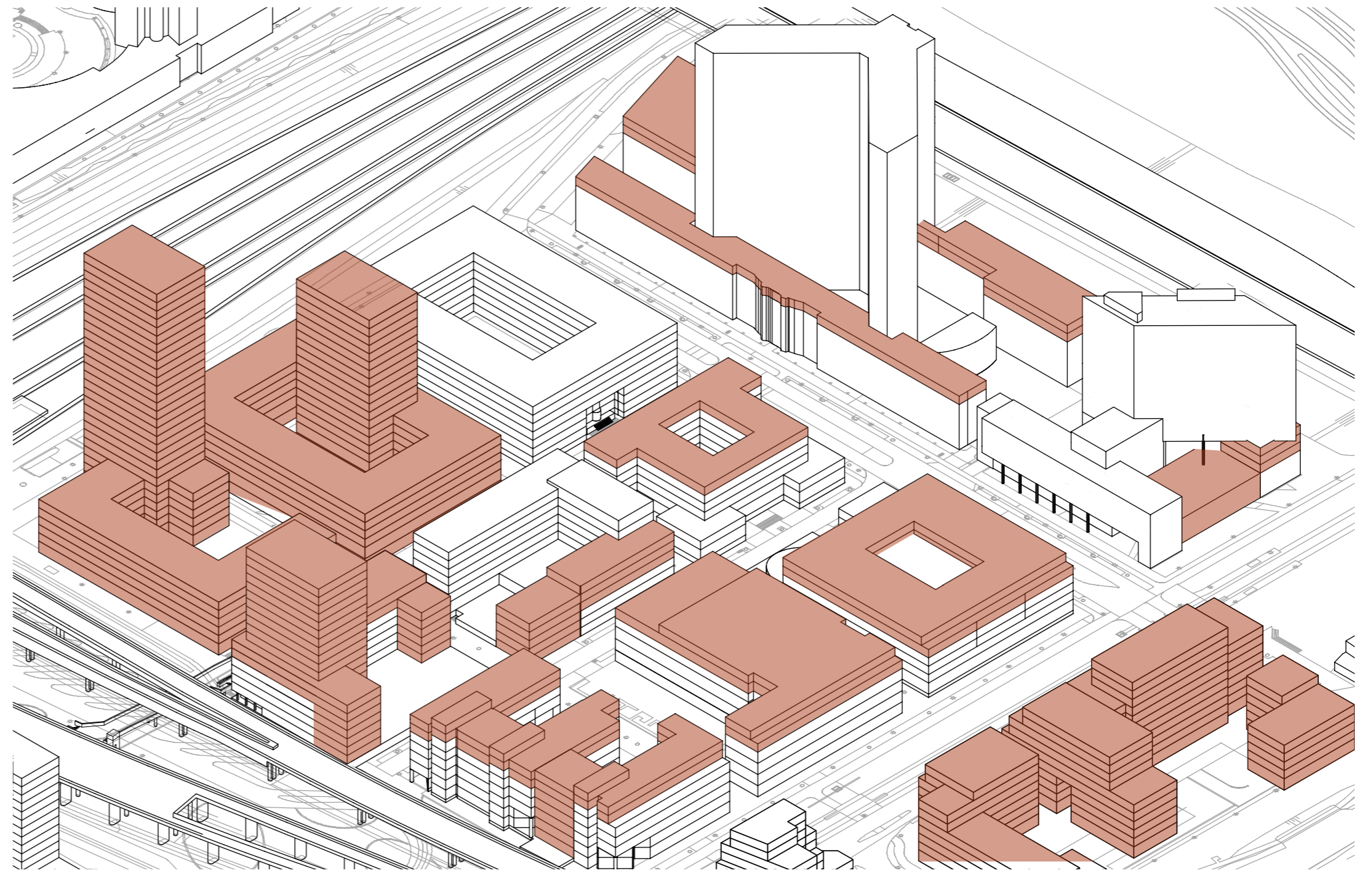


# VISION OF THE MUNICIPALITY



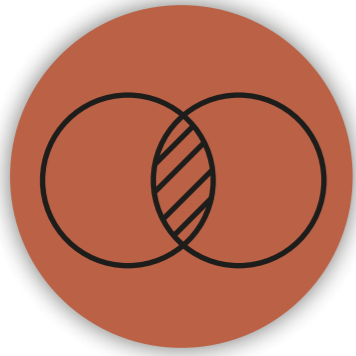
Desired function division by the municipality

- Offices
- Social
- Dwellings
- Hotels
- Commercial



Newly added

# VISION OF THE MUNICIPALITY



Coherence & contrast



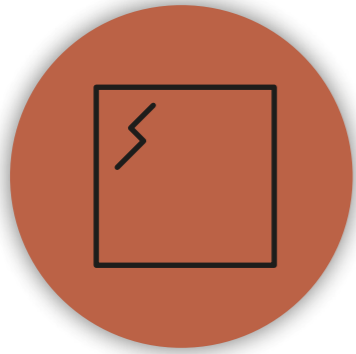
Familiarity & human scale



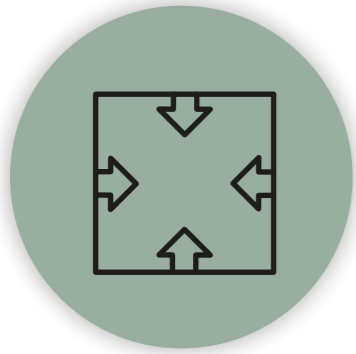
Nature inclusiveness



# PROBLEMS WITHIN THE AREA



Hard and reflecting materials



No connection with public space



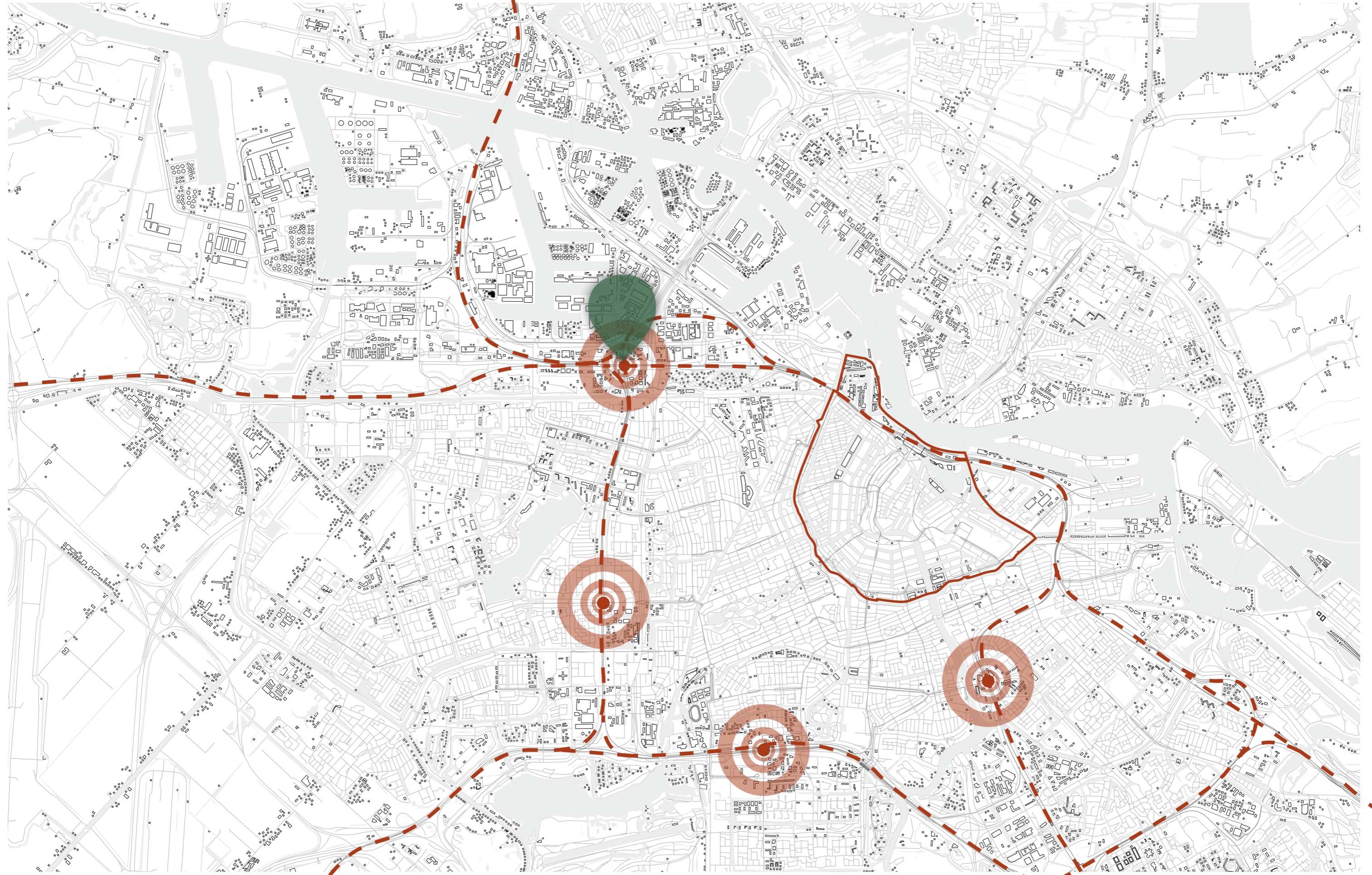
Not nature inclusive



Source: Google maps, 2019  
Source: Google maps, 2020



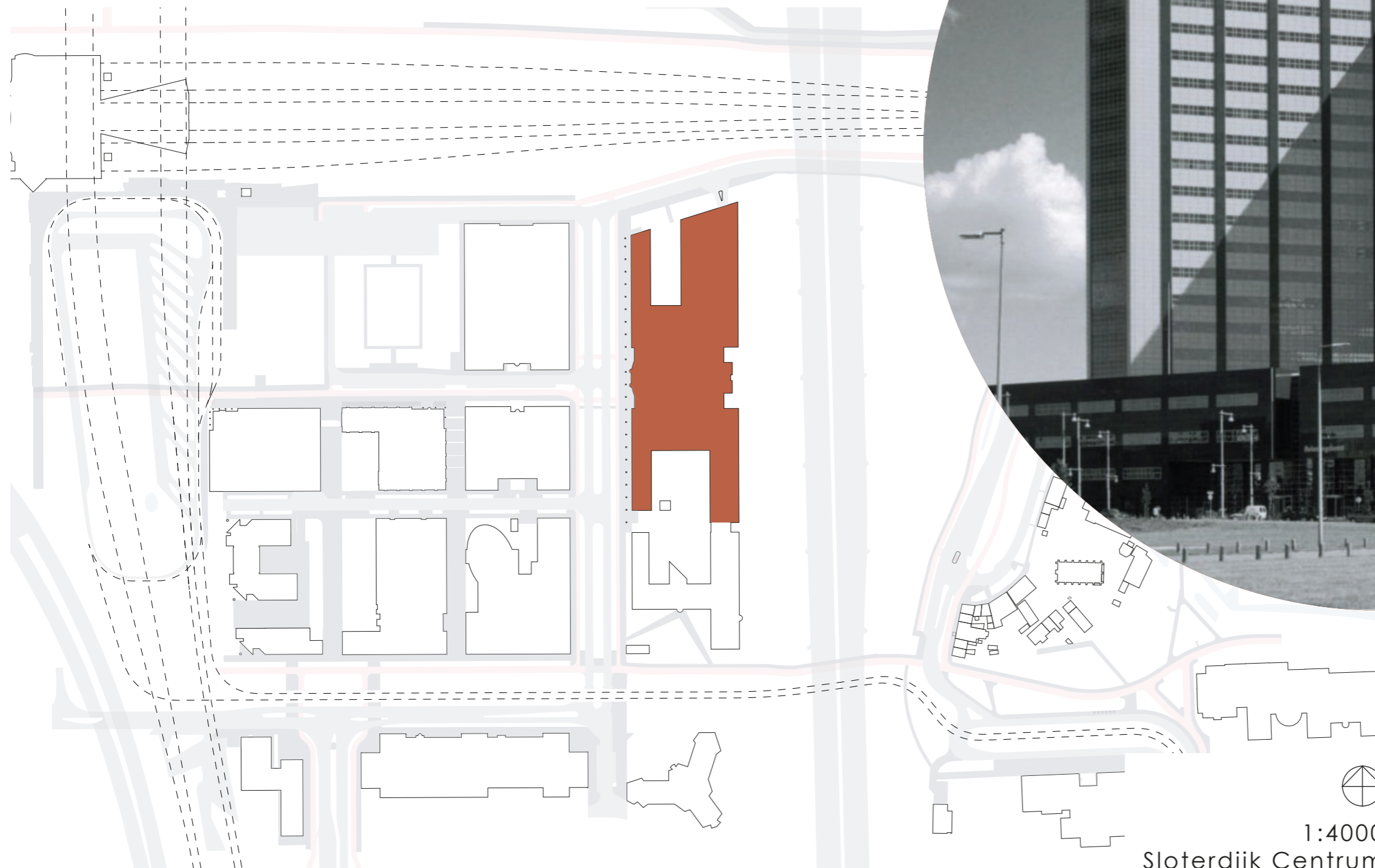
# OFFICE PARKS THAT ARE BEING DENSIFIED



# DE KNIP

Abe Bonnema - 1994  
Kingsfordweg 1, Amsterdam

Then: Scientific publishing company Elsevier  
Now: Tax authorities & customs office



Source: Abebonnema.nl

1:4000  
Sloterdijk Centrum

# PROBLEM STATEMENT



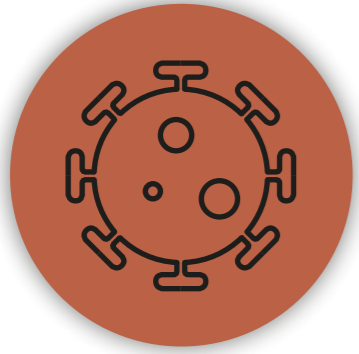
Transformation



High rises



# PROBLEM STATEMENT - TRANSFORMATION



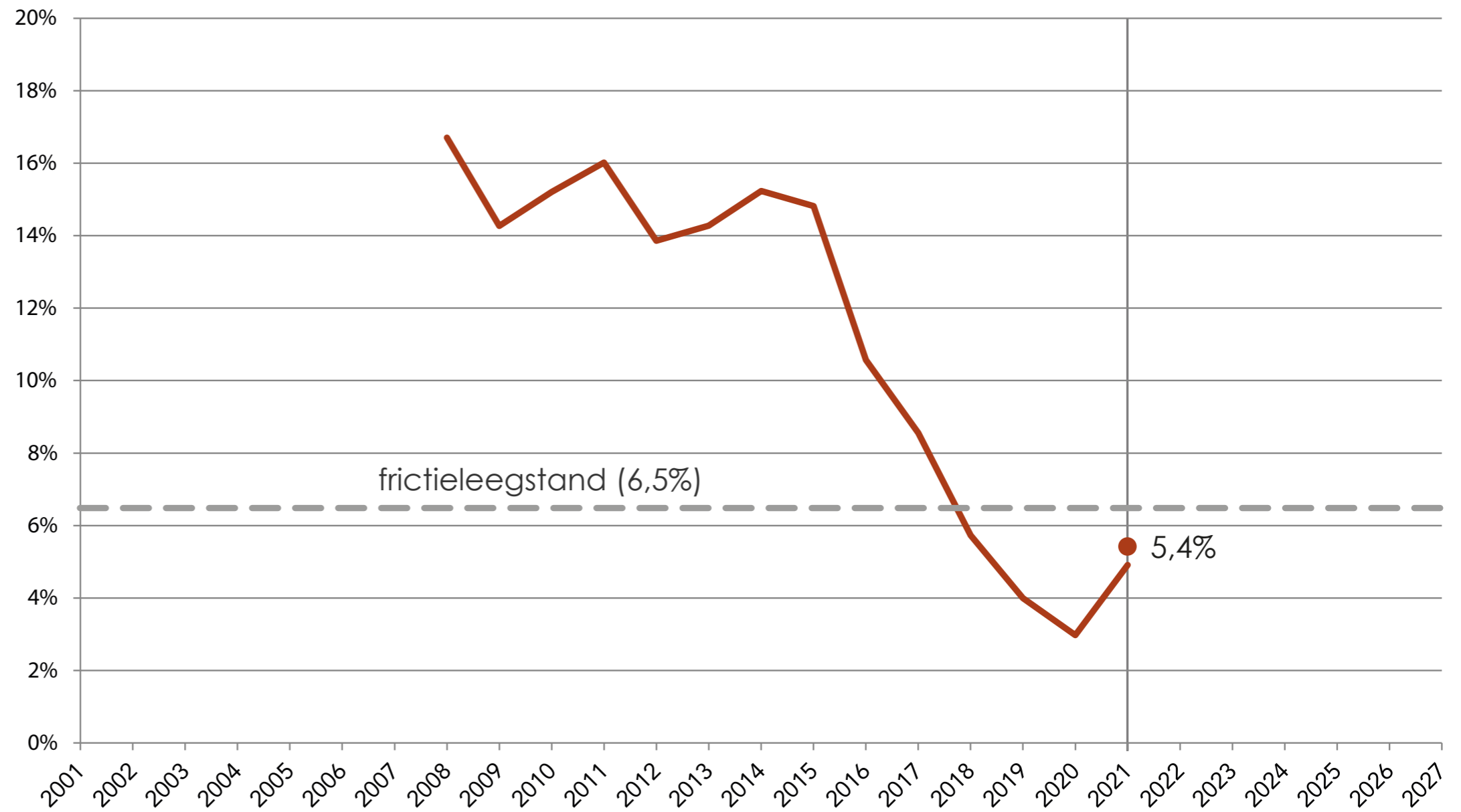
Covid-19



Economic crisis



Change of mindset

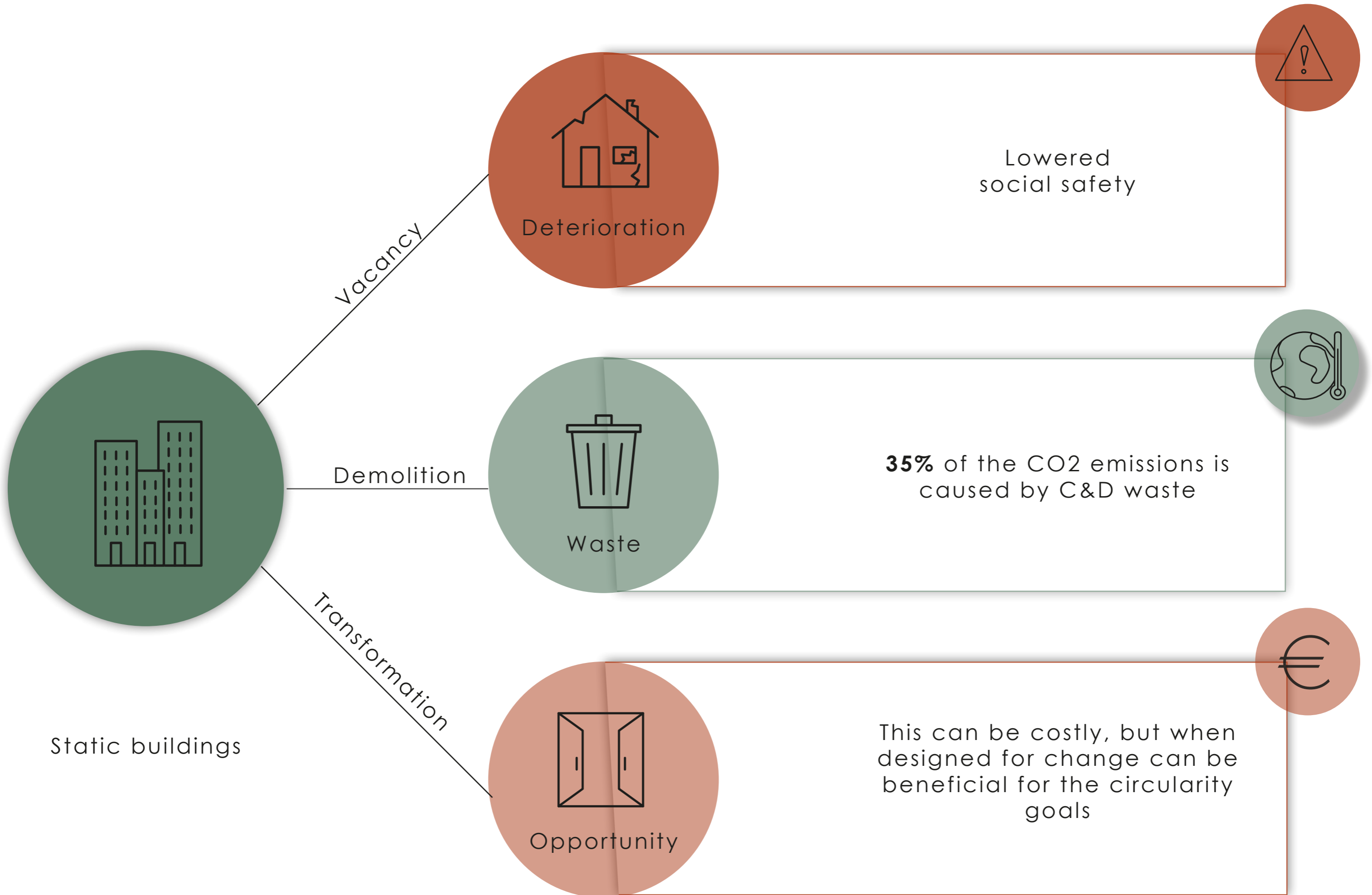


Development percentage office vacancy in Amsterdam (from January 1st 2021)

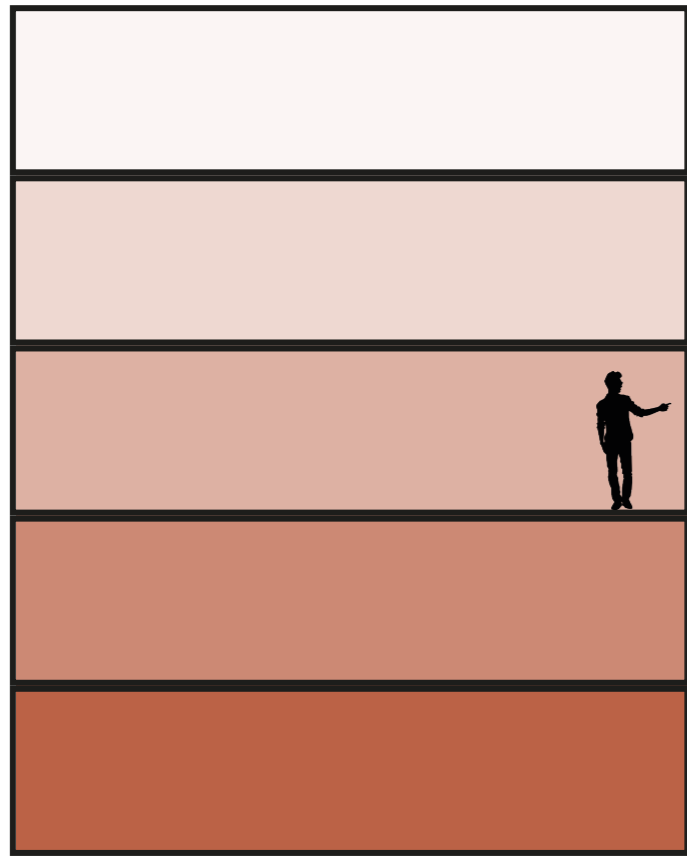
Source: Gemeente Amsterdam, 2021

- Vacancy definition municipality
- Vacancy definition CBRE

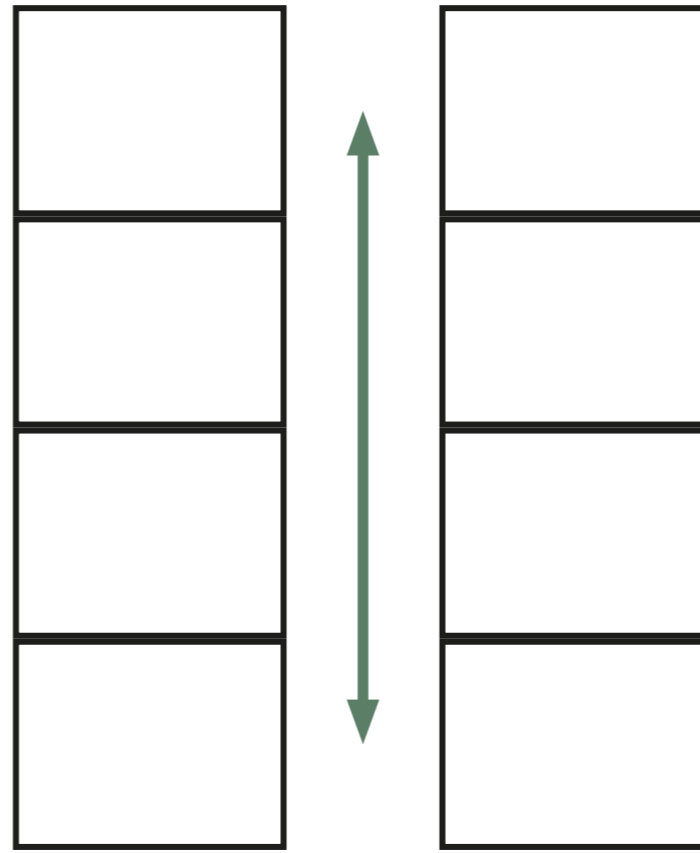
# PROBLEM STATEMENT - TRANSFORMATION



# PROBLEM STATEMENT - HIGH RISE



Contact with public life decreases fast



No social control or contact



Monofunctional

# OBJECTIVE



Transformation

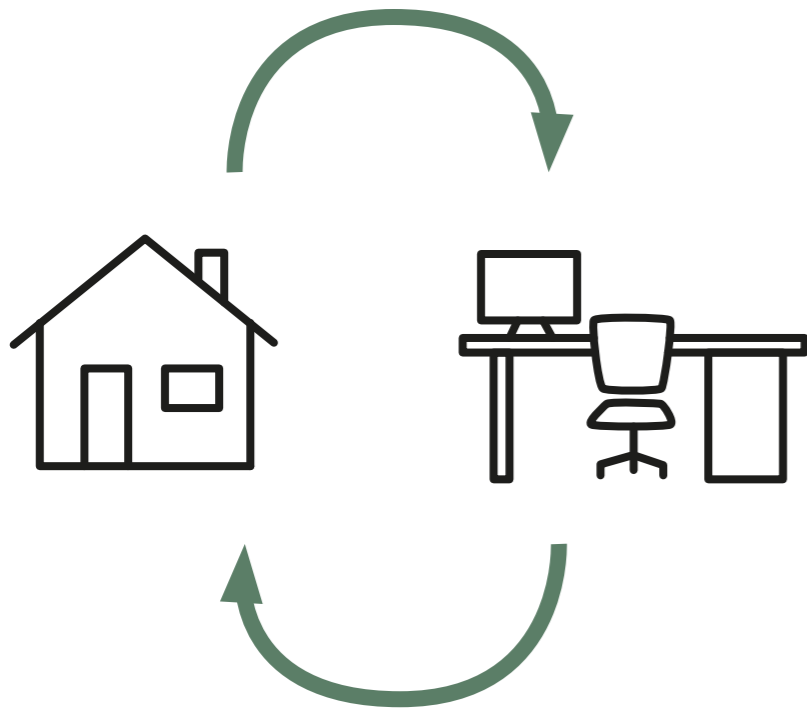


High rises

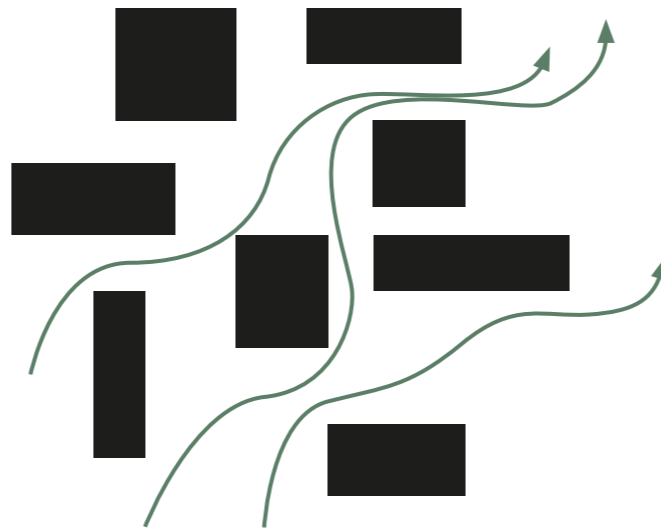


Neighbourhood

# IMPORTANT QUALITIES OF A NEIGHBOURHOOD



Able to change over time



Open fabric like that of a city

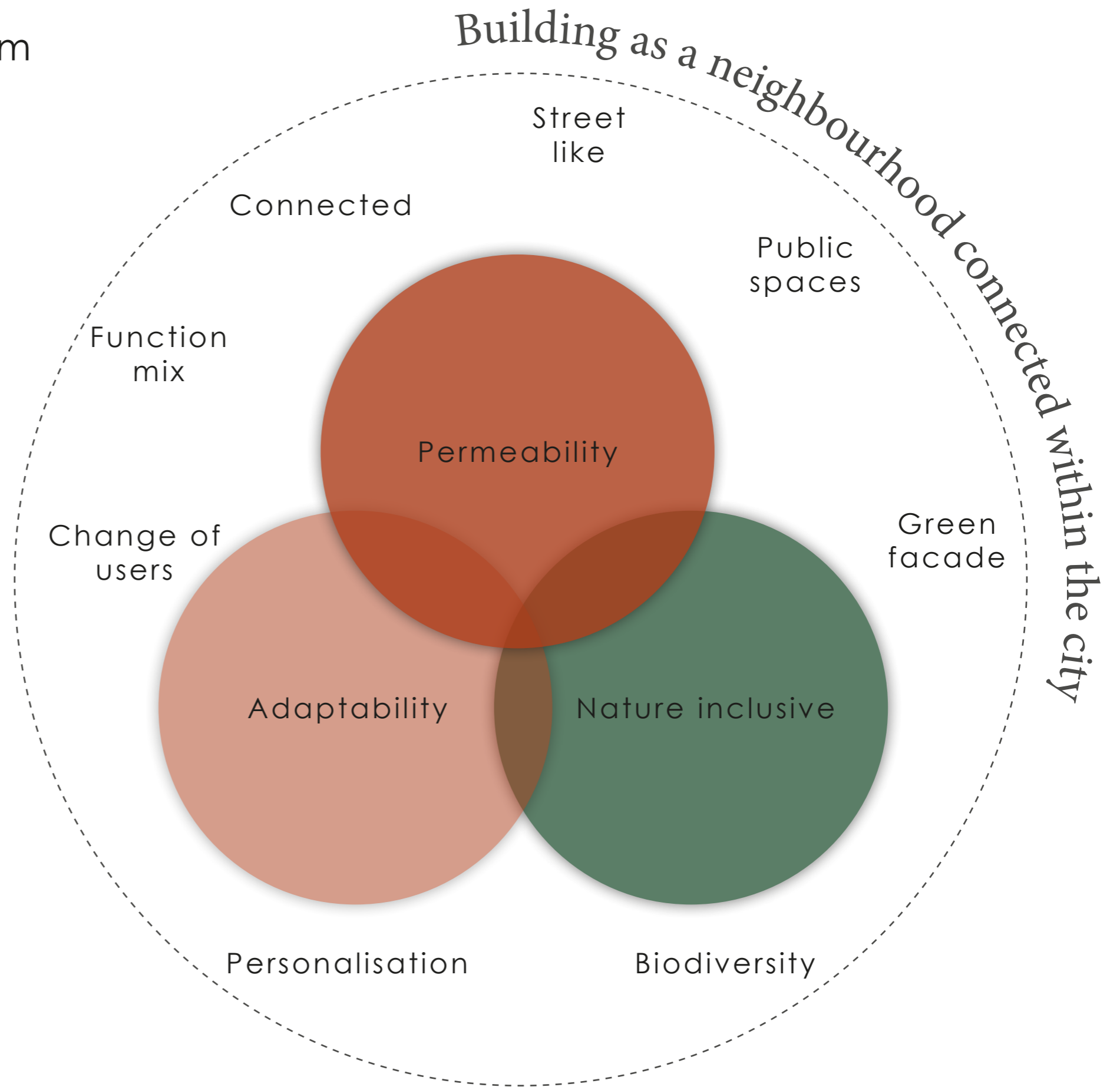


Connected with the Brettenzone

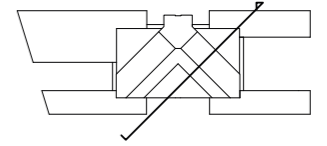


# OVERALL DESIGN QUESTION

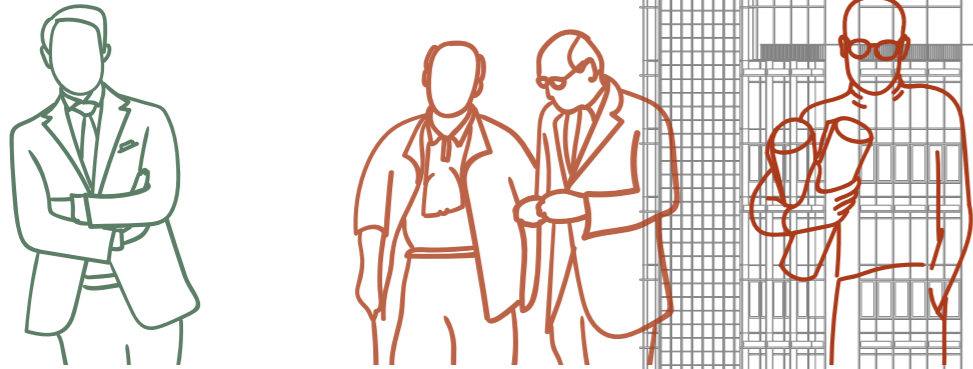
How can De Knip in Amsterdam Sloterdijk be transformed to function as a neighbourhood connected within the city?



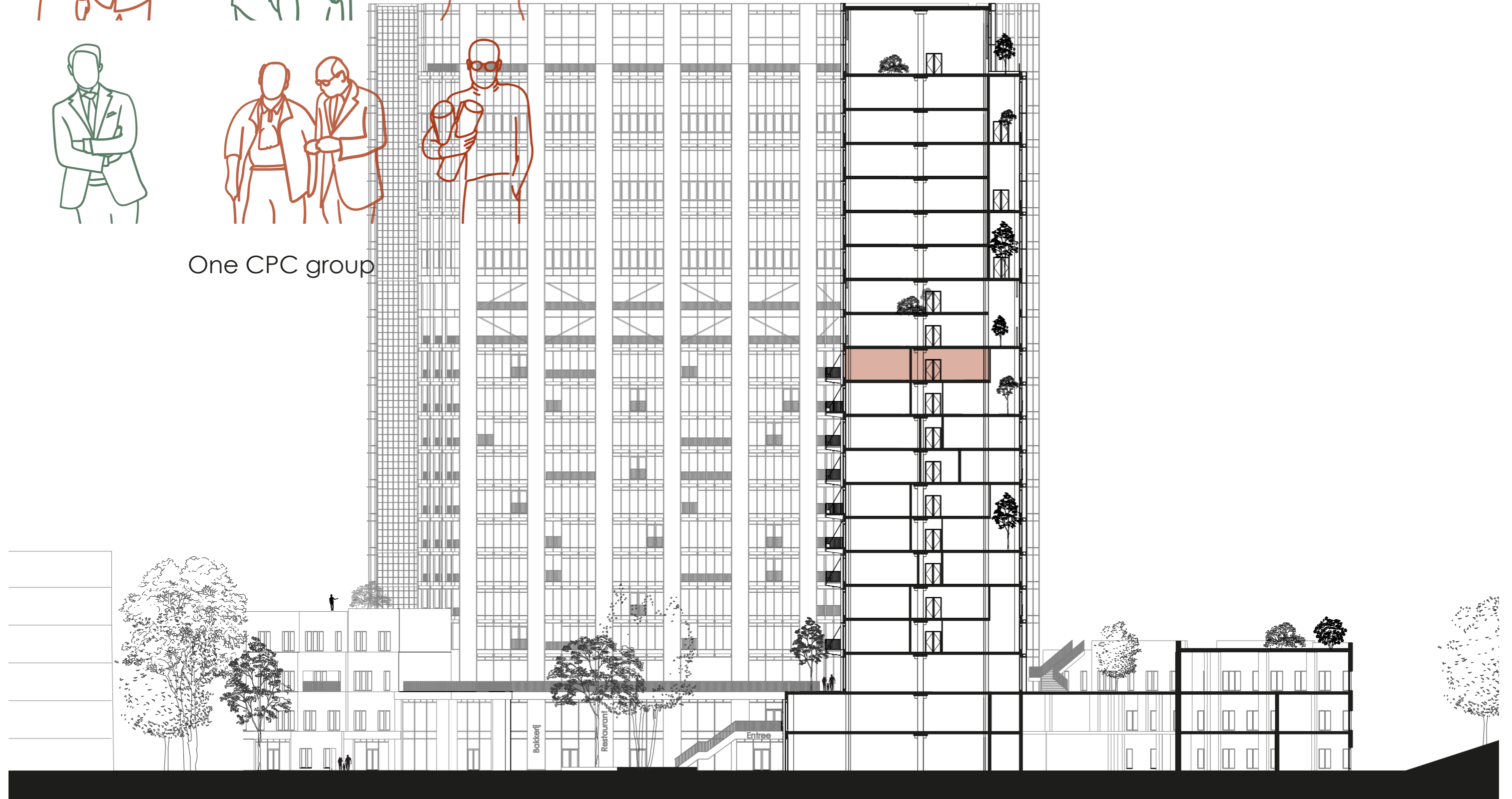
# COLLECTIVE PRIVATE COMMISSIONING



1 : 400



One CPC group

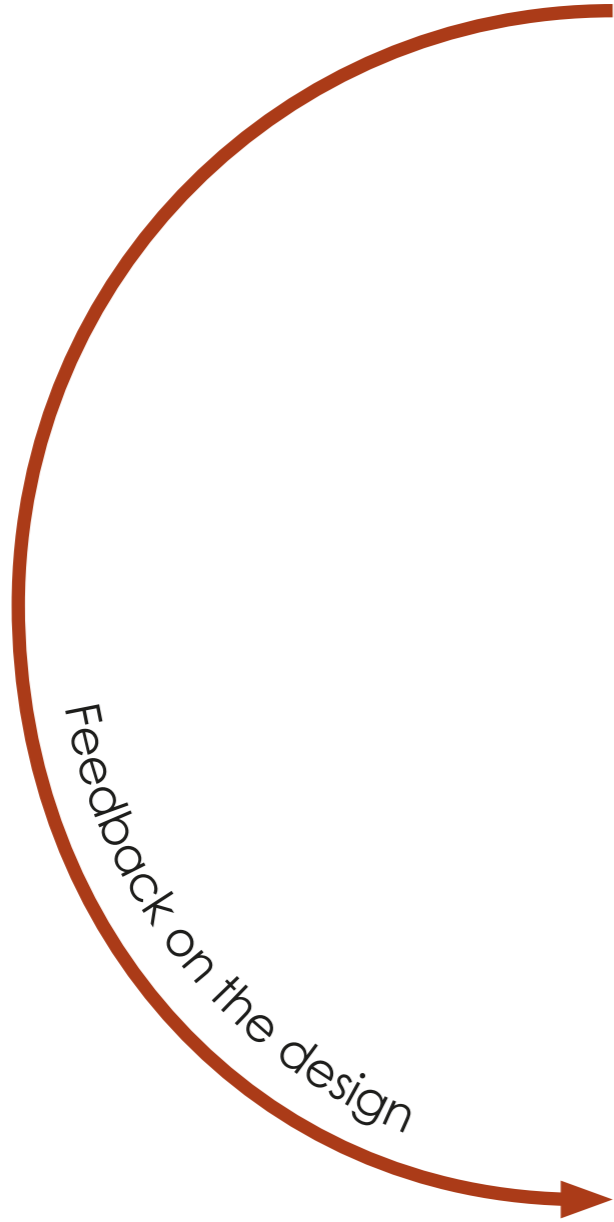


# CPC GROUP AND THE ARCHITECT

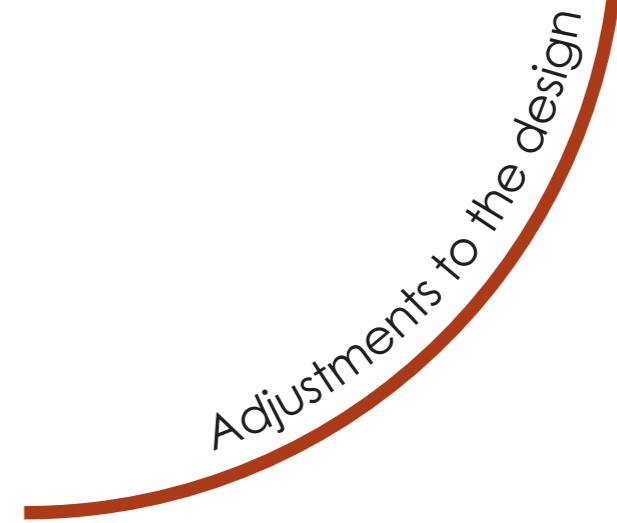
Architect forms  
basic design  
principles



Group and personal  
sessions guided by  
the architect



(Sketch) design of the  
architect



(Final) design

# BEFORE



Source: Google maps, 2020

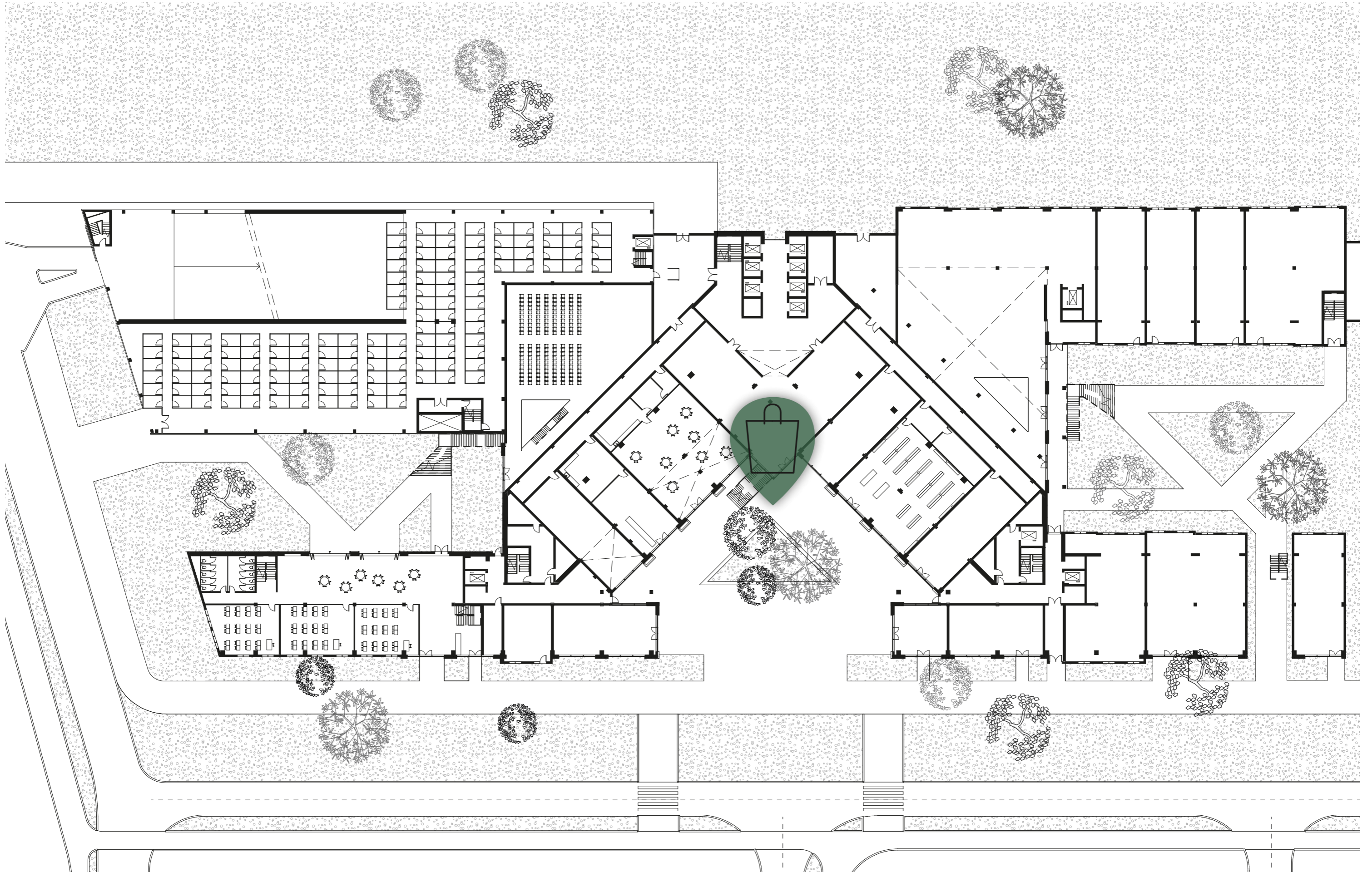
AFTER



# GROUND FLOOR



1 : 500



# CENTRAL SQUARE

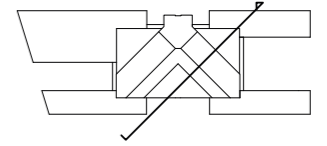


# ENTRANCE

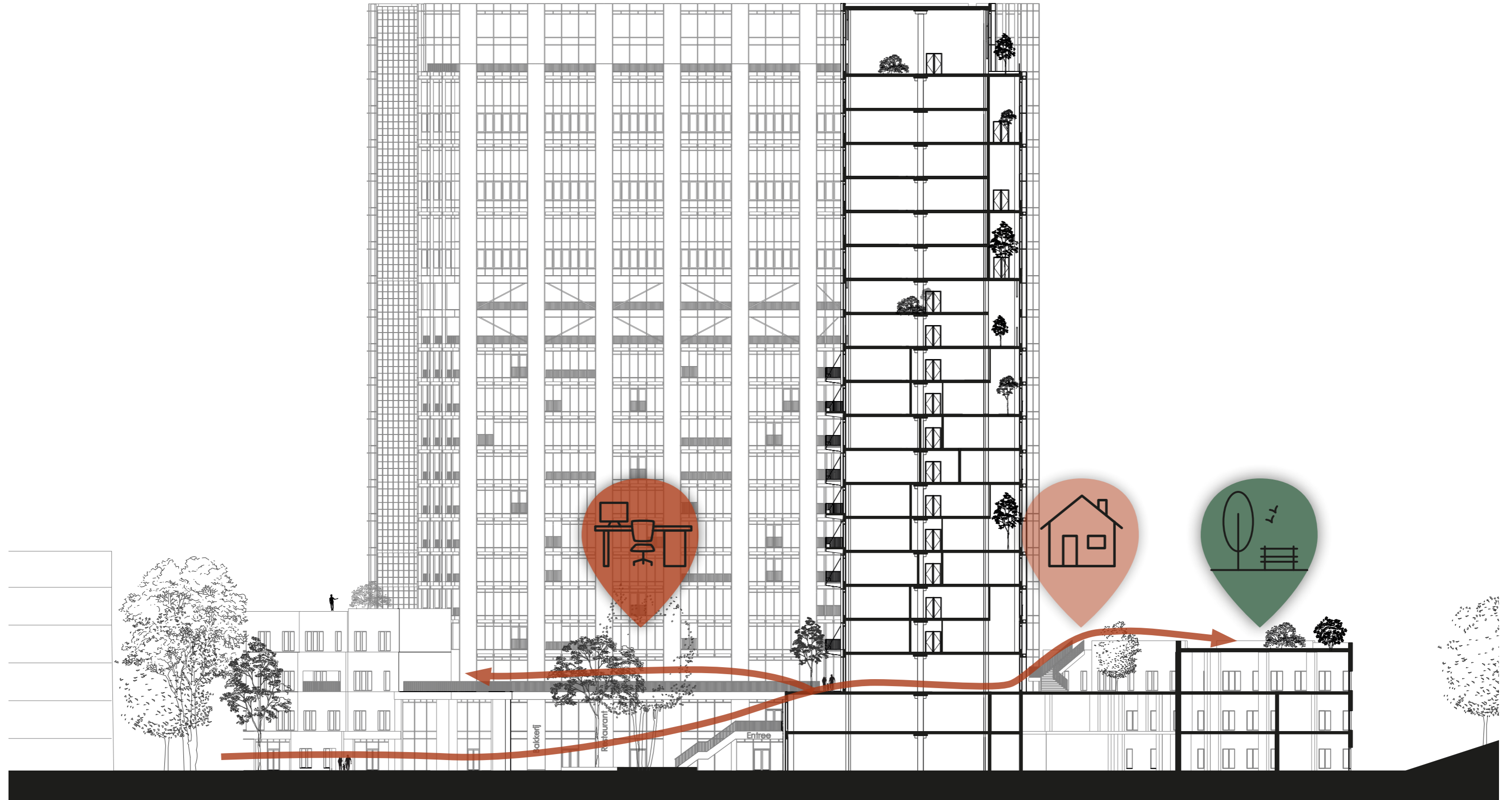




# LIFTED STREET



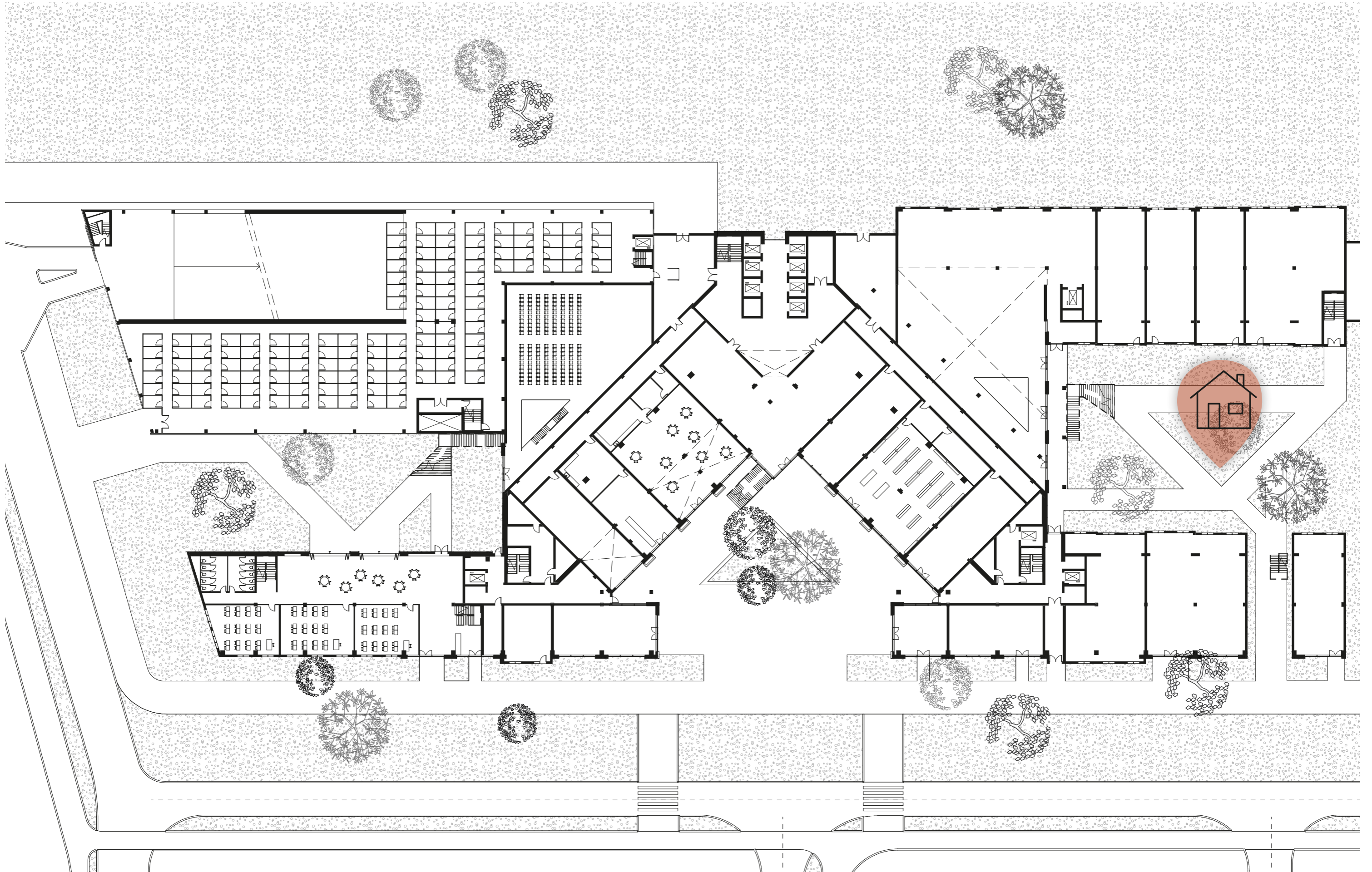
1 : 400



# GROUND FLOOR



1 : 500



# COURTYARD EXISTING ENTRANCE



Source: Google maps, 2020

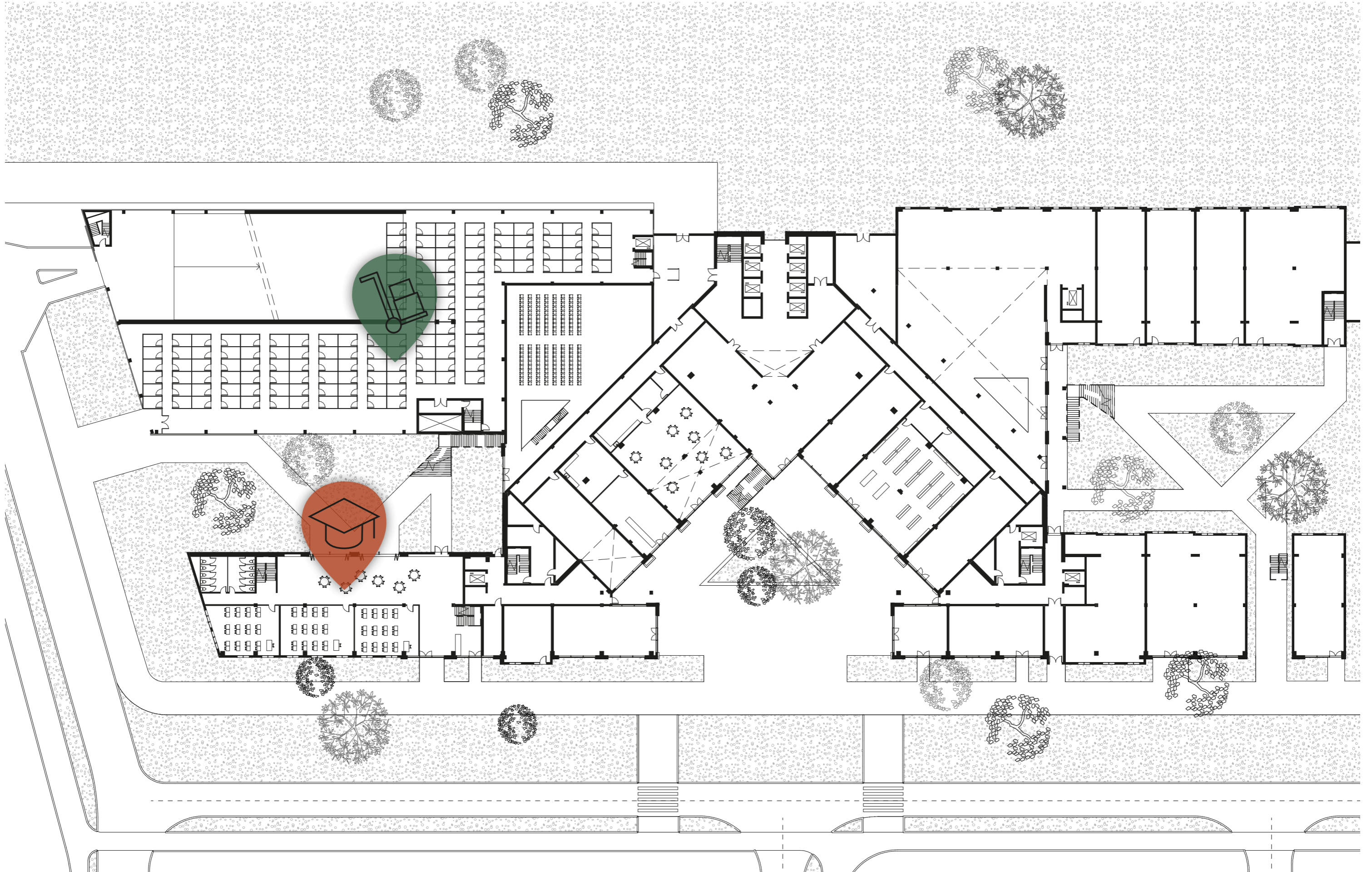
# COURTYARD NOW



# CENTRE OF THE NEIGHBOURHOOD



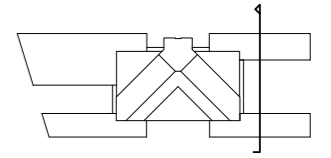
1 : 500



# MATERIAL STRATEGY



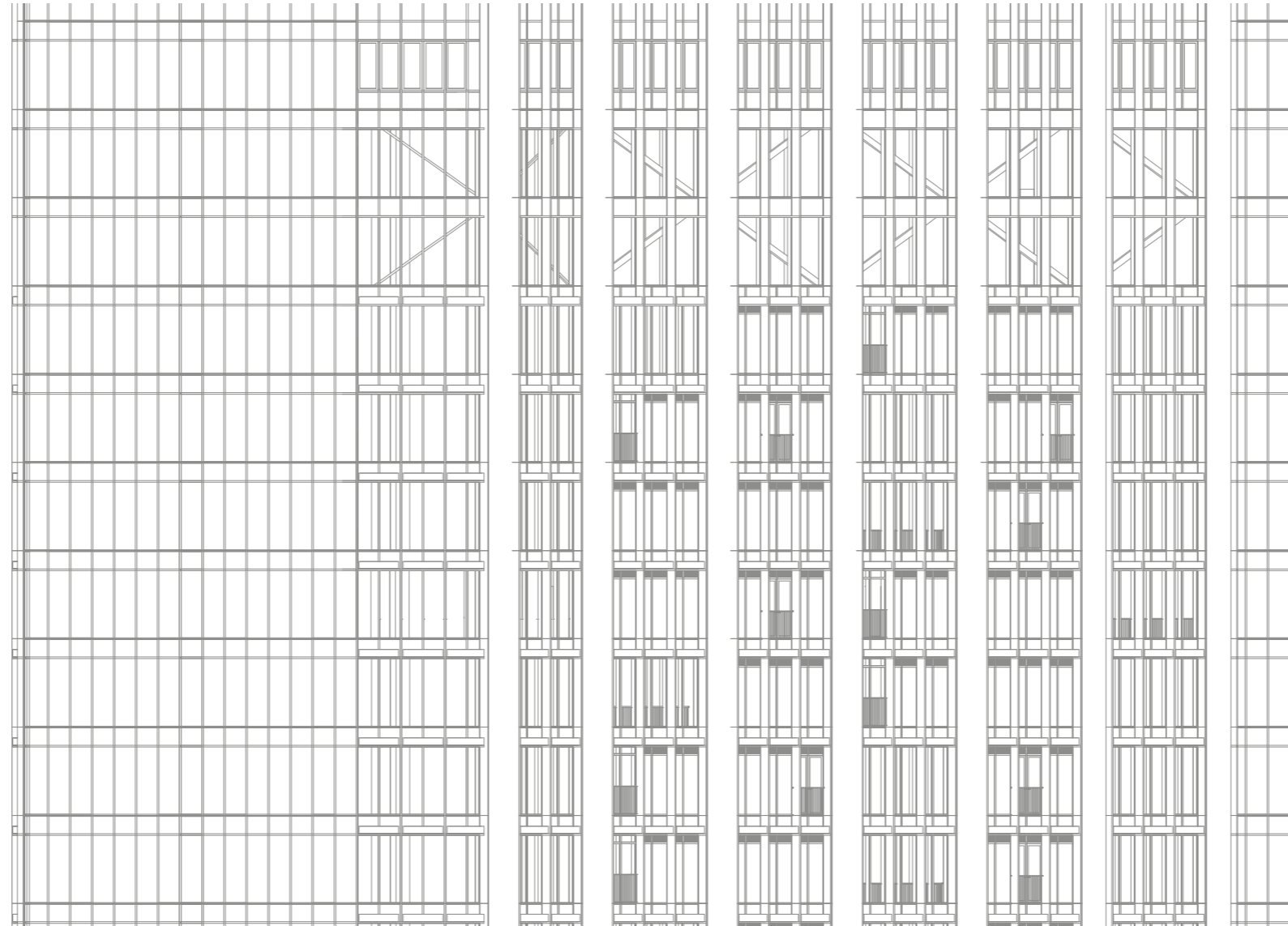
# PLINTH



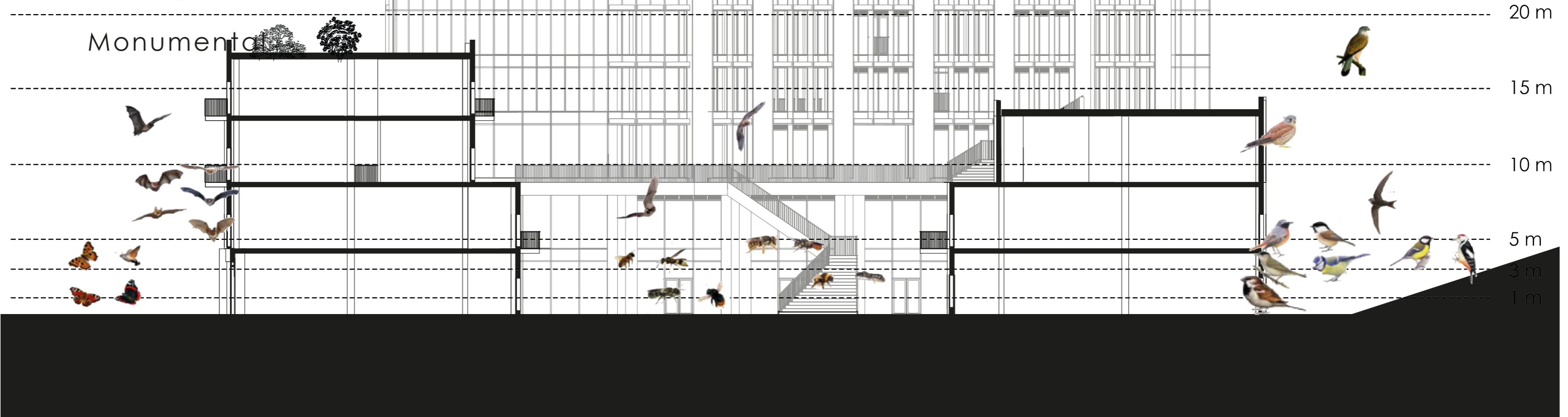
1 : 250



Nature  
inclusiveness



Monumental



20 m  
15 m  
10 m  
5 m  
3 m  
1 m

# NATURE INCLUSIVENESS



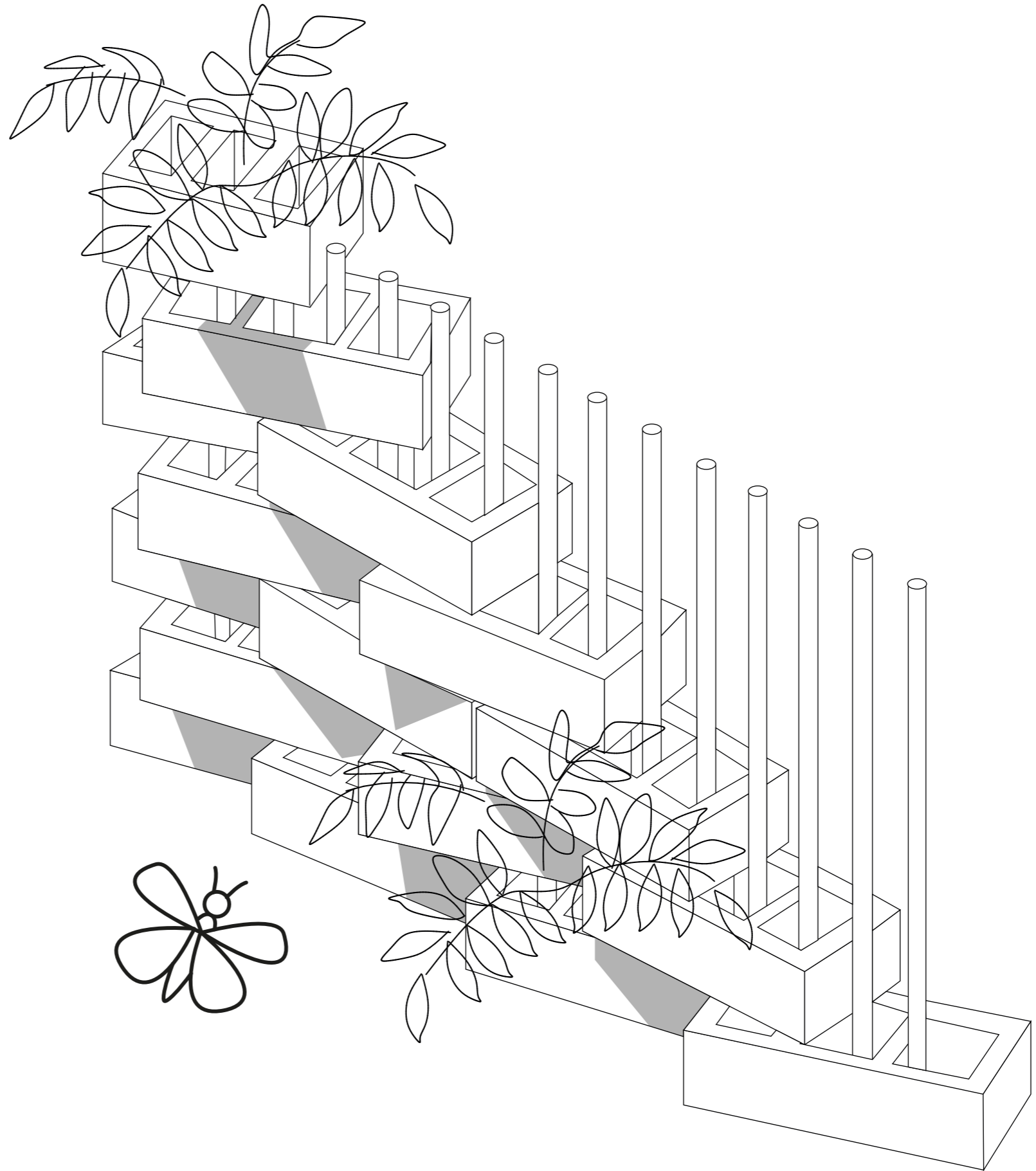
Permeability - cavities for greenery and insects



Urban heat island effect

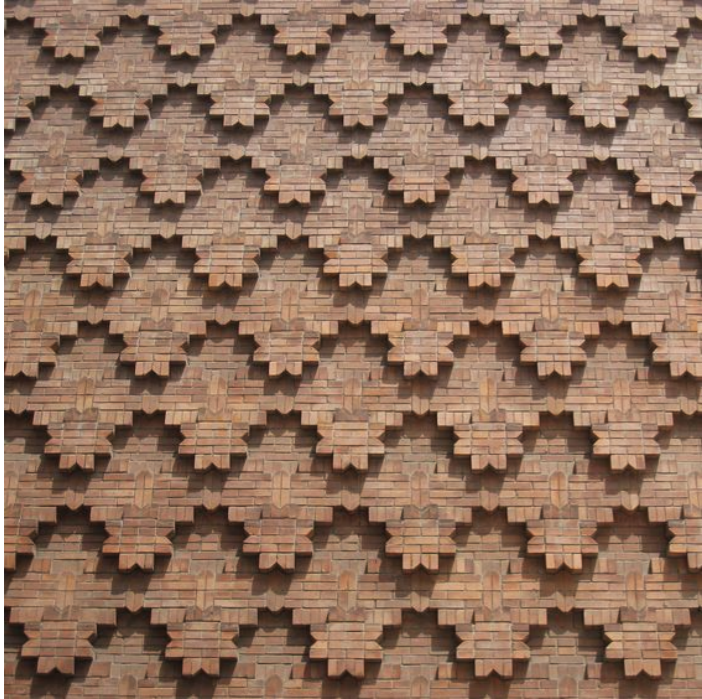
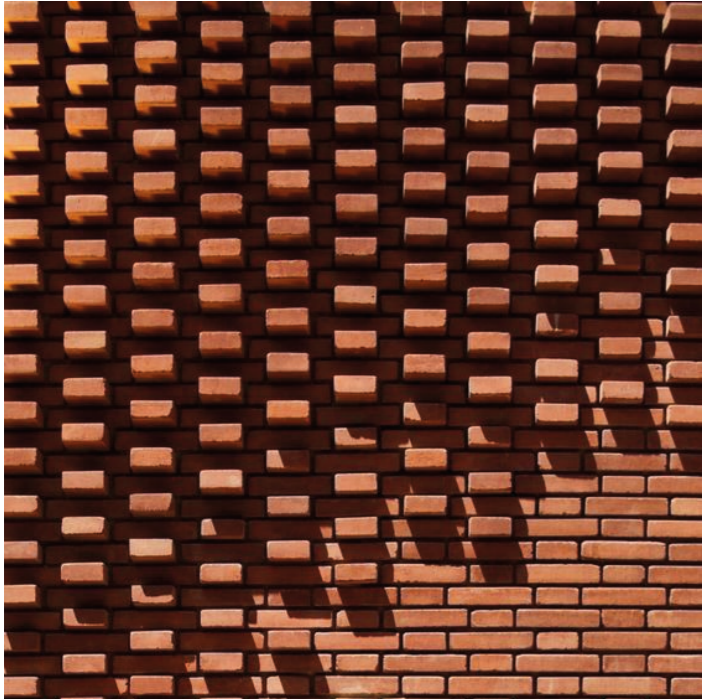


Heat recovery



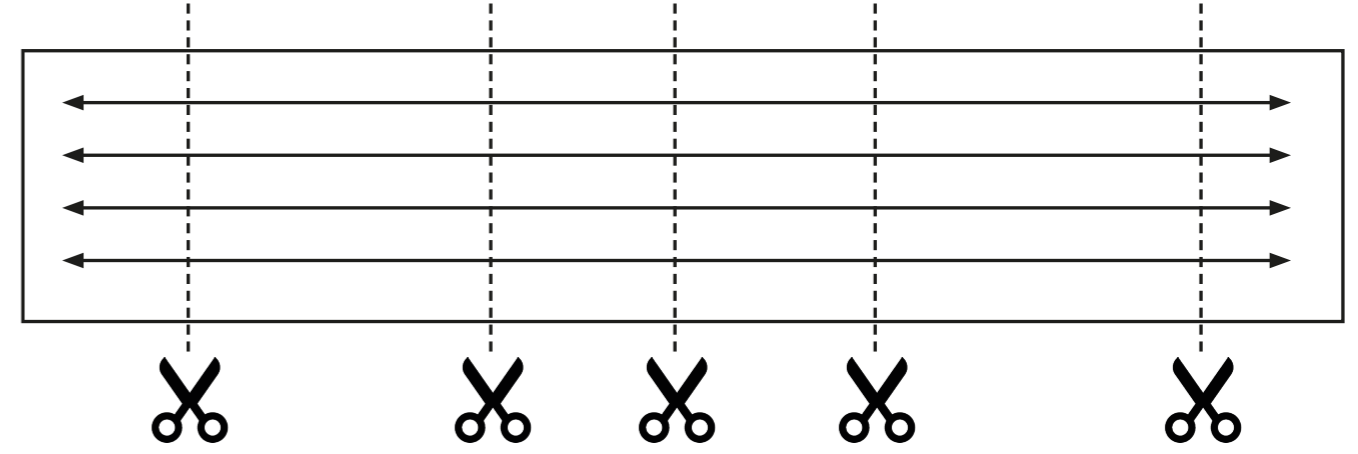


# CPC ARCHITECTURAL PRINCIPLES

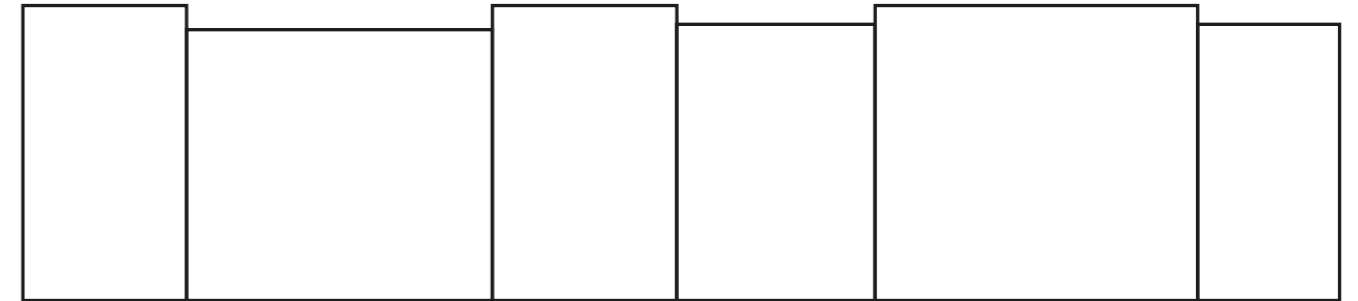


Sources: Koen Mulder, Dan Glasser, Sstudiomm, Parham Taghioff

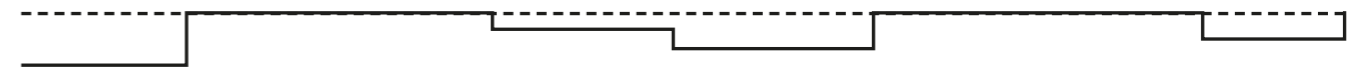
Different patterns same brick colour



Cutting up the horizontality



Height differences

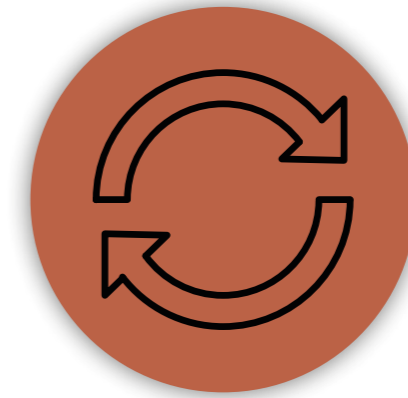


Staggered facades

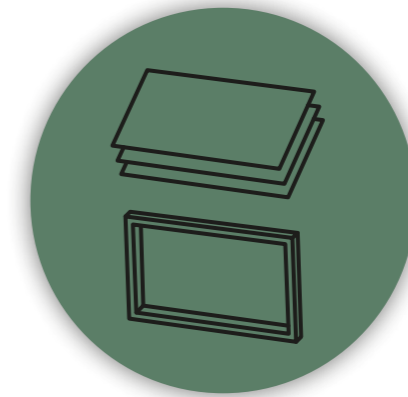
# HIGH RISE FACADE



Source: Google maps, 2021



Recycling of the material

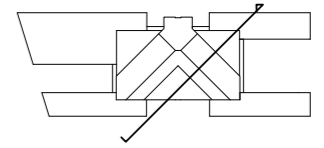


Local recycling and powdercoating at TATA steel

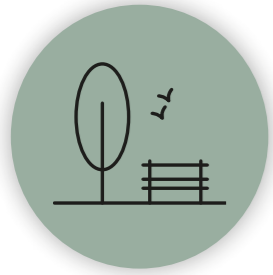
# SUPPORTING FLOORS



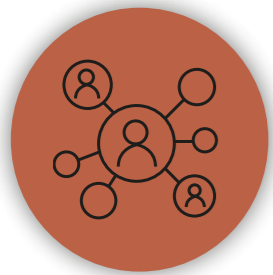
# SUPPORTING FUNCTIONS OF THE NEIGHBOURHOOD



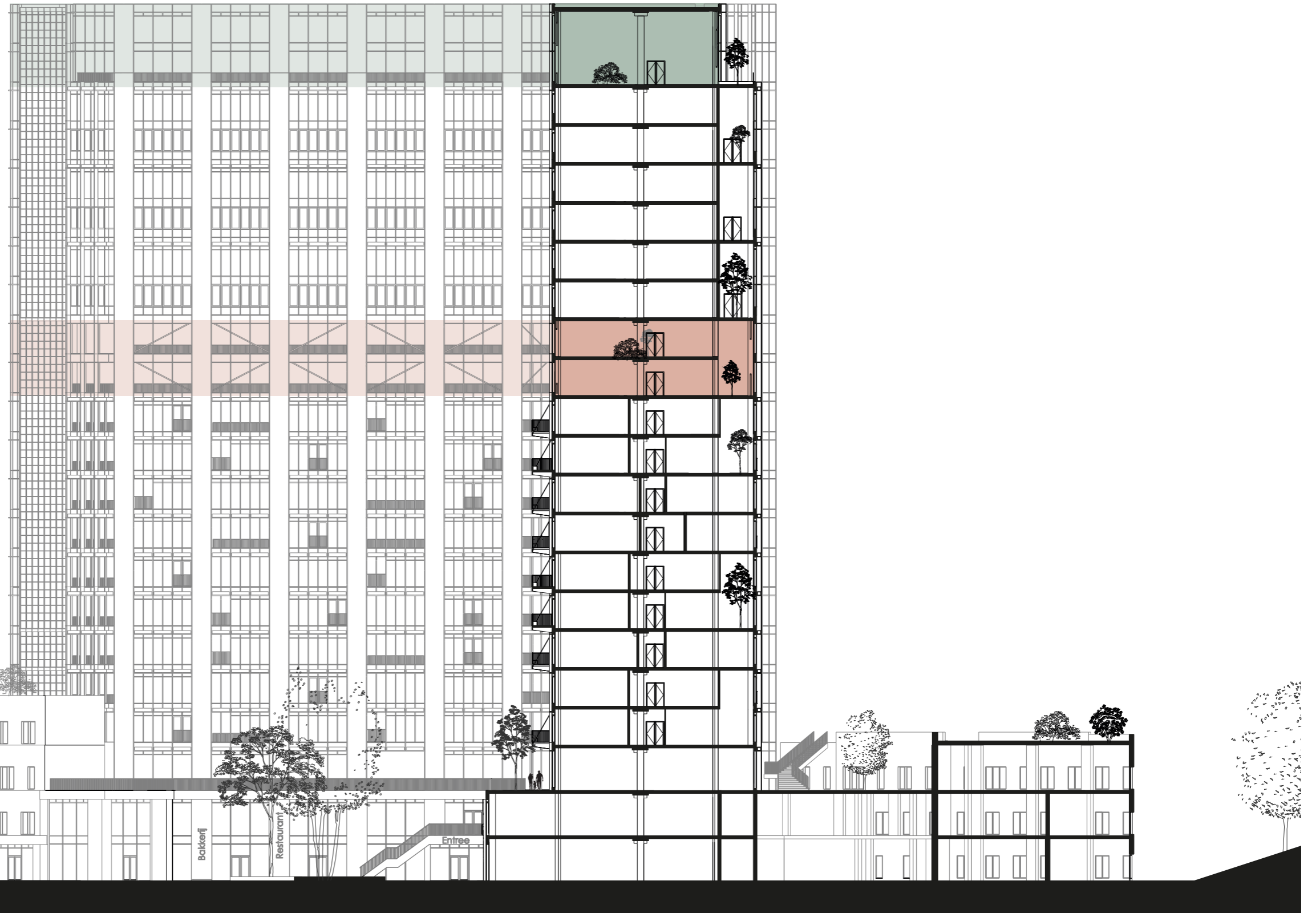
1 : 400



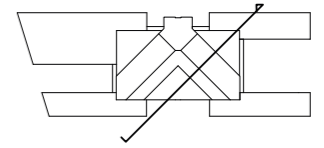
- Restaurant
- Rooftopbar
- Rentable spaces



- Laundry spaces
- Workspaces
- Coffeebar
- Rentable spaces



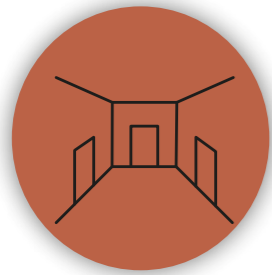
# STREETS OF THE NEIGHBOURHOOD



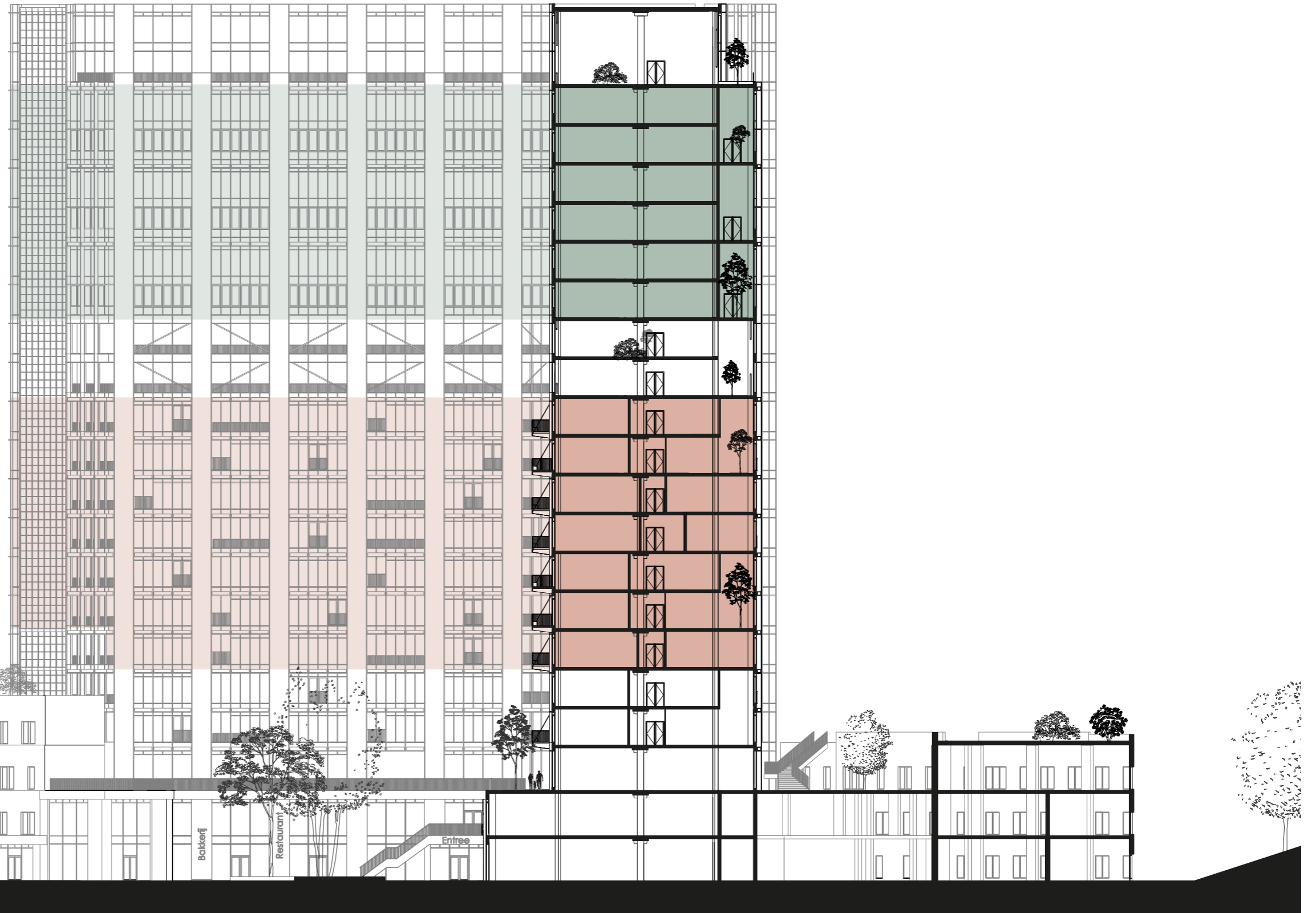
1 : 400



Gallery streets  
with massionette  
dwellings



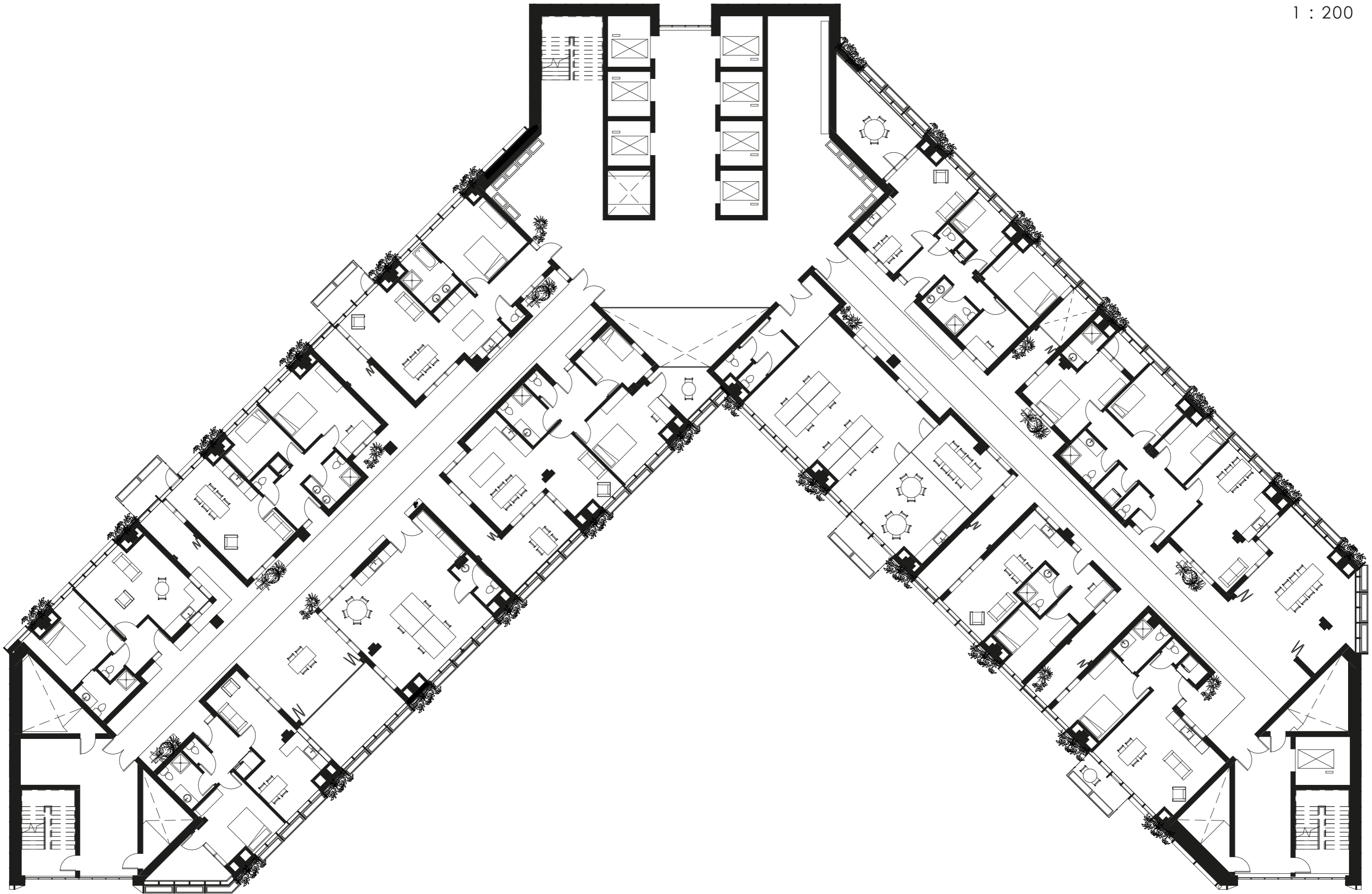
Corridor streets  
mixed with offices



# STREETS OF THE NEIGHBOURHOOD



1 : 200



# PUBLIC VERSUS PRIVATE

## PRIVATE

For owners and invitees



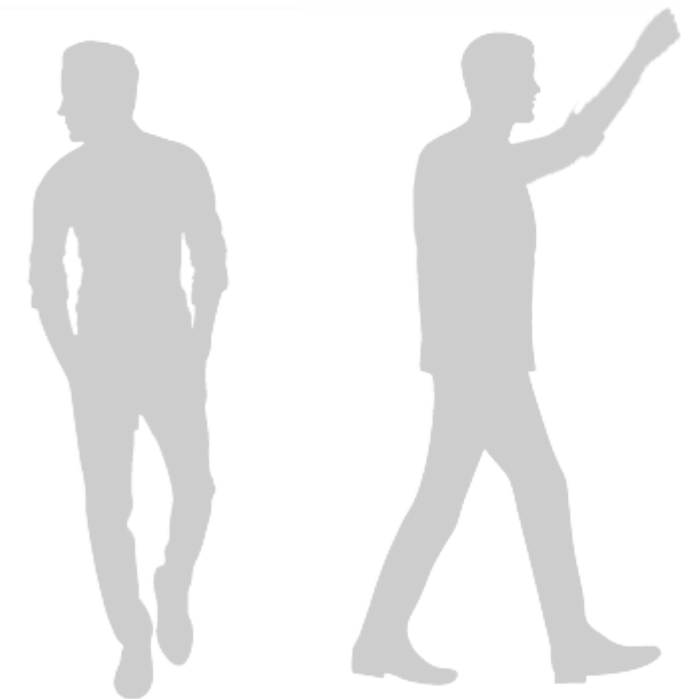
## PAROCHIAL

Social environment with secondary relations

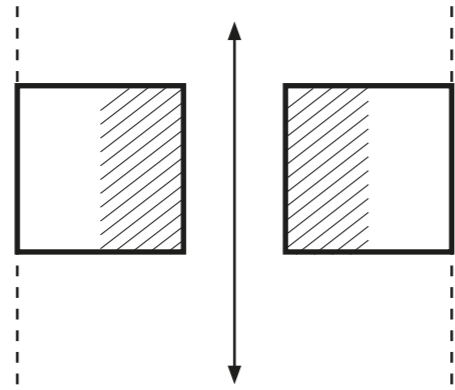


## PUBLIC

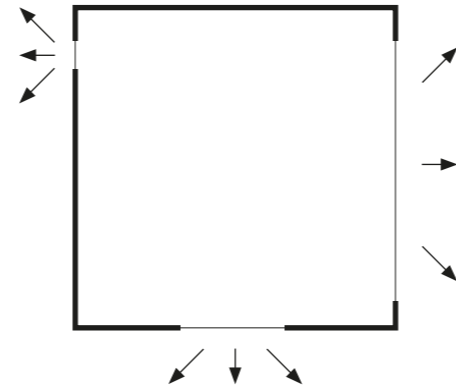
Domain of strangers



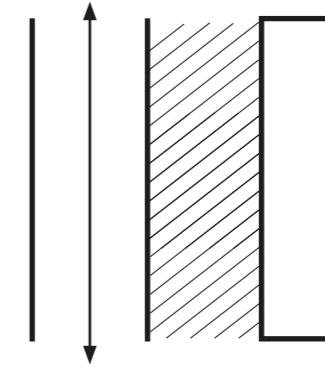
# BASIC DESIGN PRINCIPLES FLOORPLAN CORRIDOR



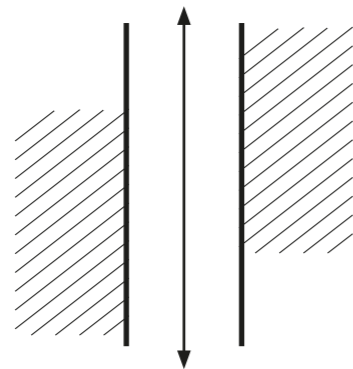
Lively spaces on the corridor side



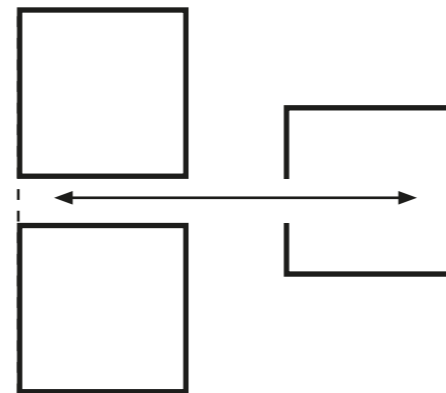
View on multiple sides



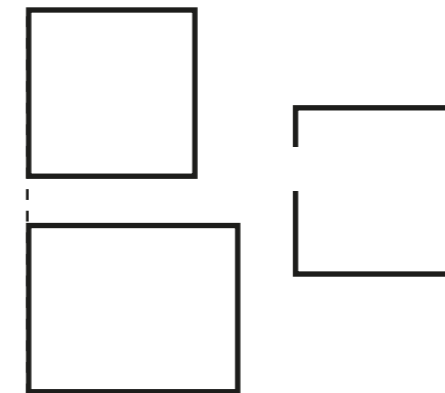
Hybrid zone



Extra space for social interaction



Permeability



Change - variety



# STREETS OF THE NEIGHBOURHOOD



Corridor floor  
1 : 100



# RISK



&



Identity

Unity

# CHOICE PALLETTE



Furniture



Materials



Windows & doors

CNC Milled vertical patterns in :  
poplar wood, cork & cardboard



Less weather resistant



Sustainable



Affordable

# CHANGE



# CHANGE



# CHANGE

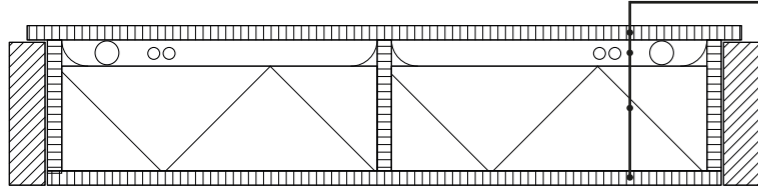


# HOW TO ENABLE THE CHANGE?

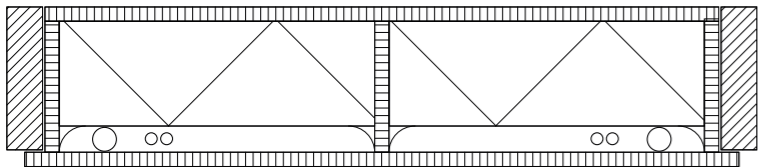
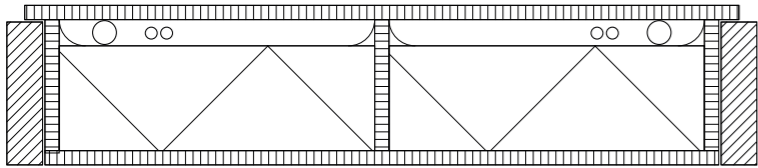
## Prefab wall elements

### Interior wall

Ecoboard - 12 mm  
Space for piping and cables- 22 mm  
Cellulose - 88 mm  
Ecoboard - 12 mm

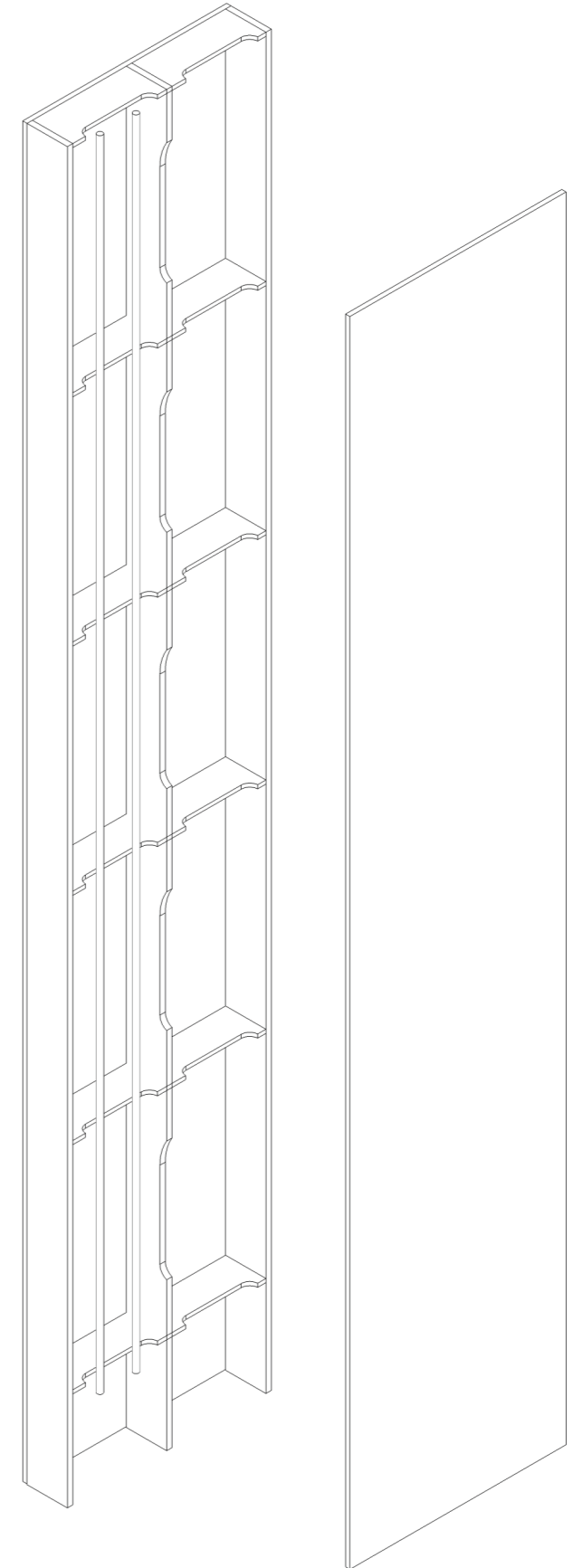
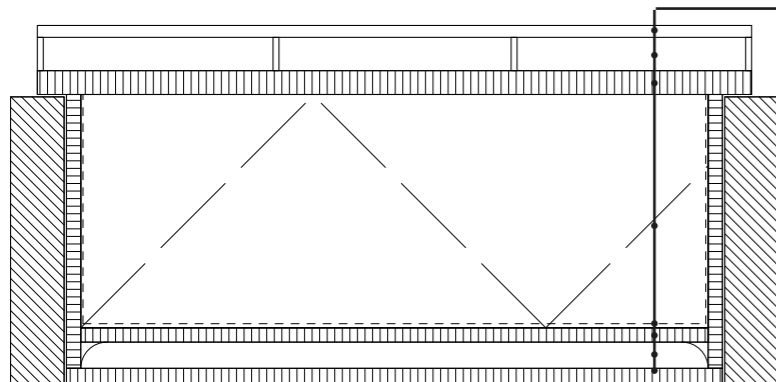


### Dwelling separation wall

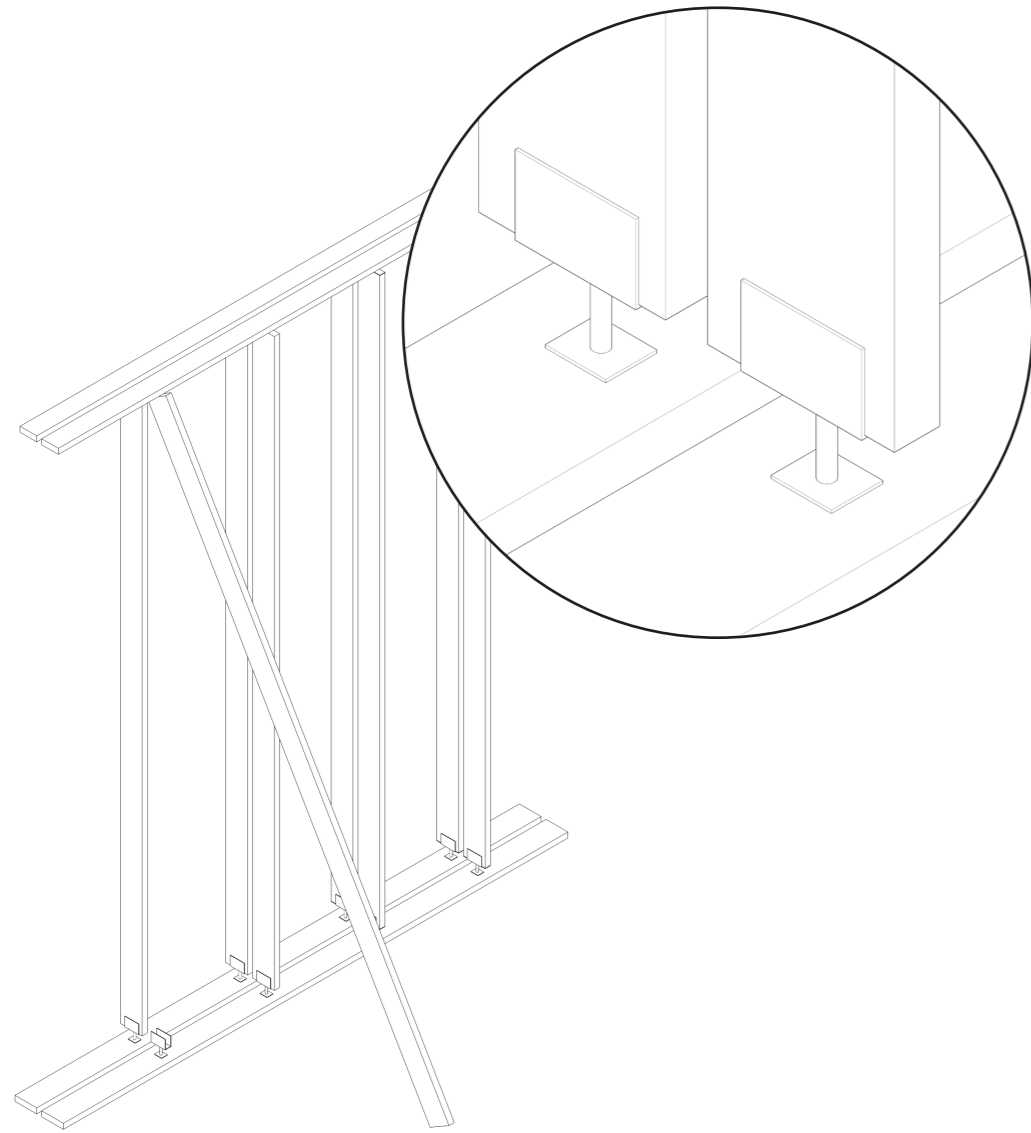


### Exterior wall

Aluminium - 10 mm  
Cavity - 28 mm  
Water-resistant fiberboard - 20 mm  
Cellulose - 196 mm  
Vapor barrier - 12 mm  
Ecoboard - 12 mm  
Space for piping and cables- 22 mm  
Ecoboard - 12 mm

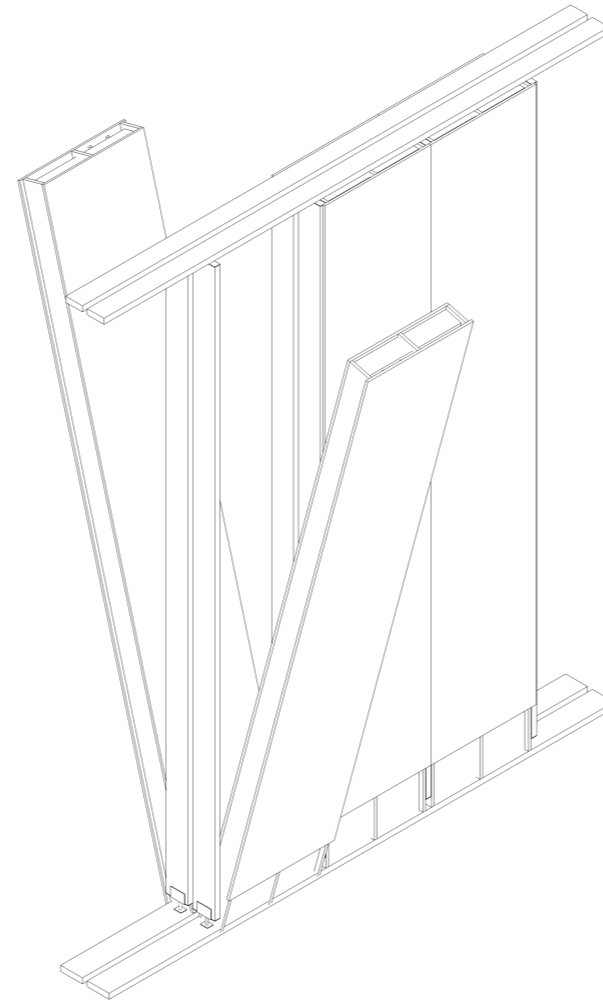


# HOW TO ENABLE THE CHANGE?



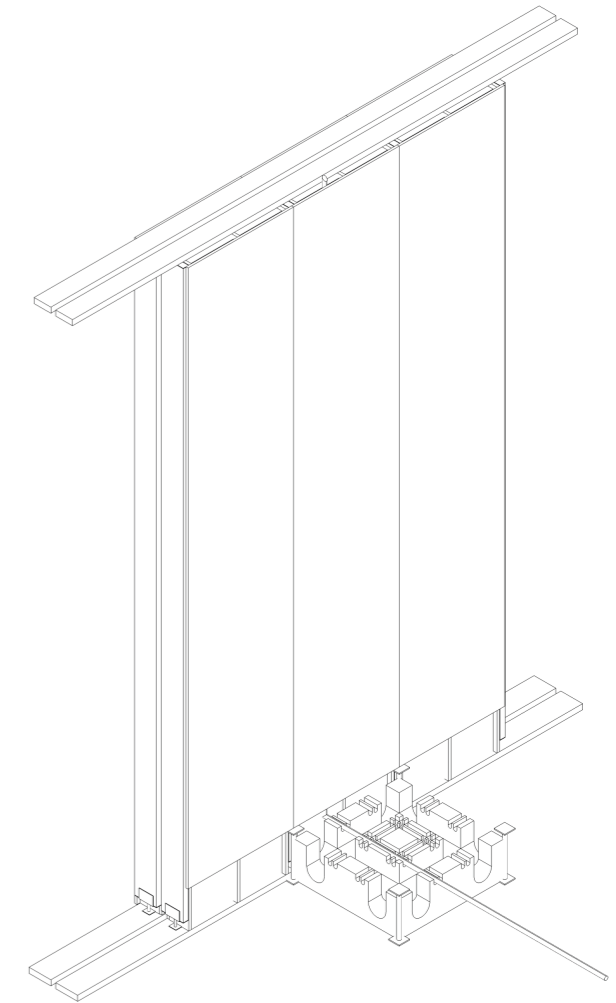
Step 1

House separating wall  
Timber frame construction  
attached by means of  
pressure



Step 2

Adding the prefab wall  
elements, attached to the  
timber frame with bolts  
system

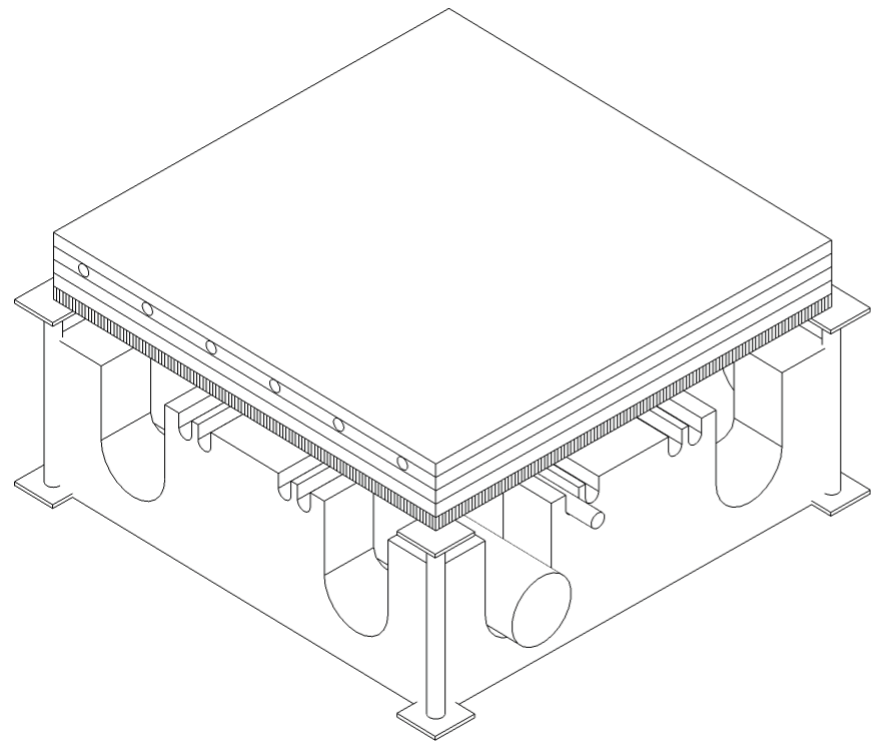


Step 3

Adding cables and piping  
that are easy to move

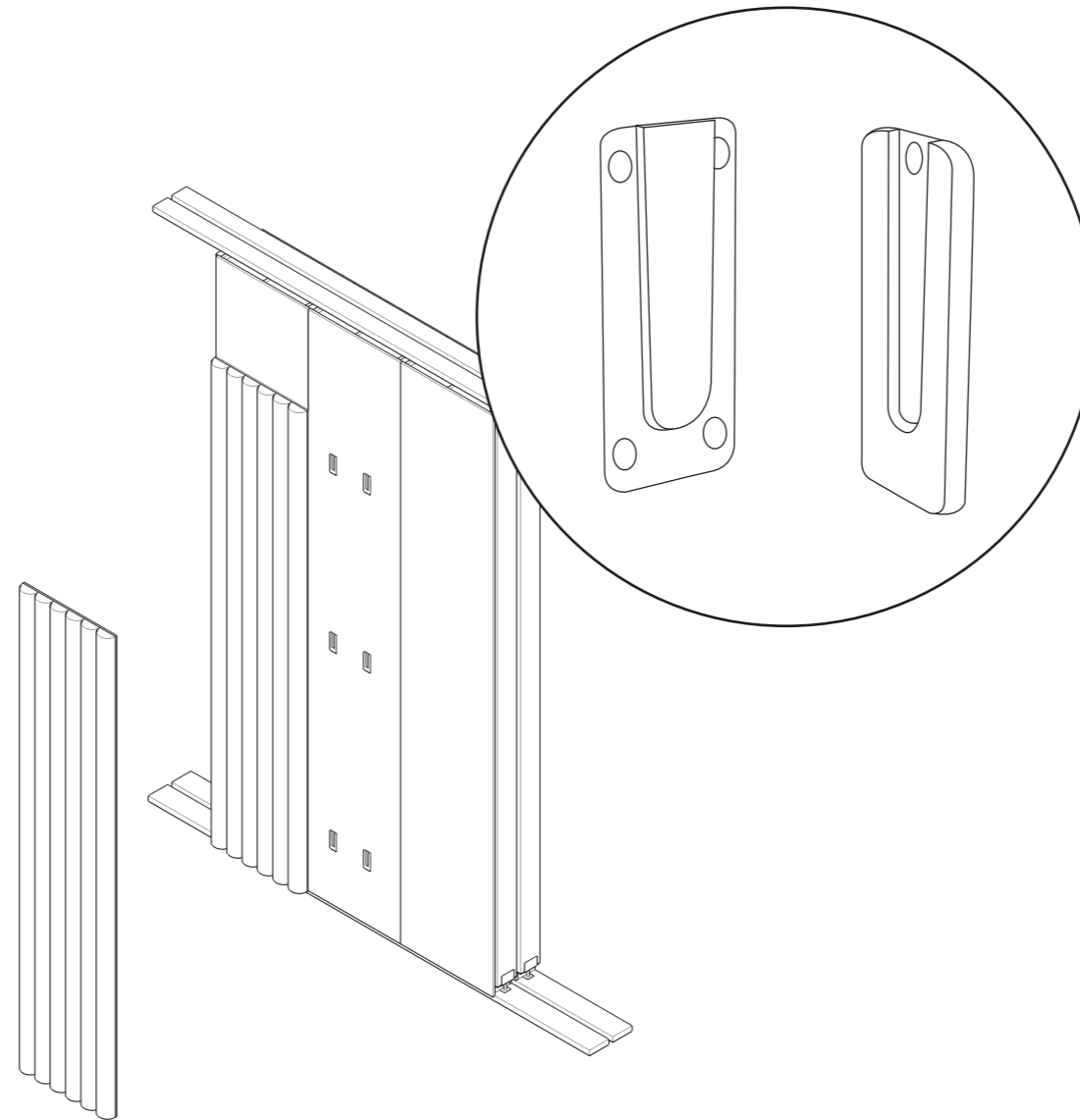


# HOW TO ENABLE THE CHANGE?



## Step 3 - zoom in

These floors make it possible to have a completely adaptive floor plan.

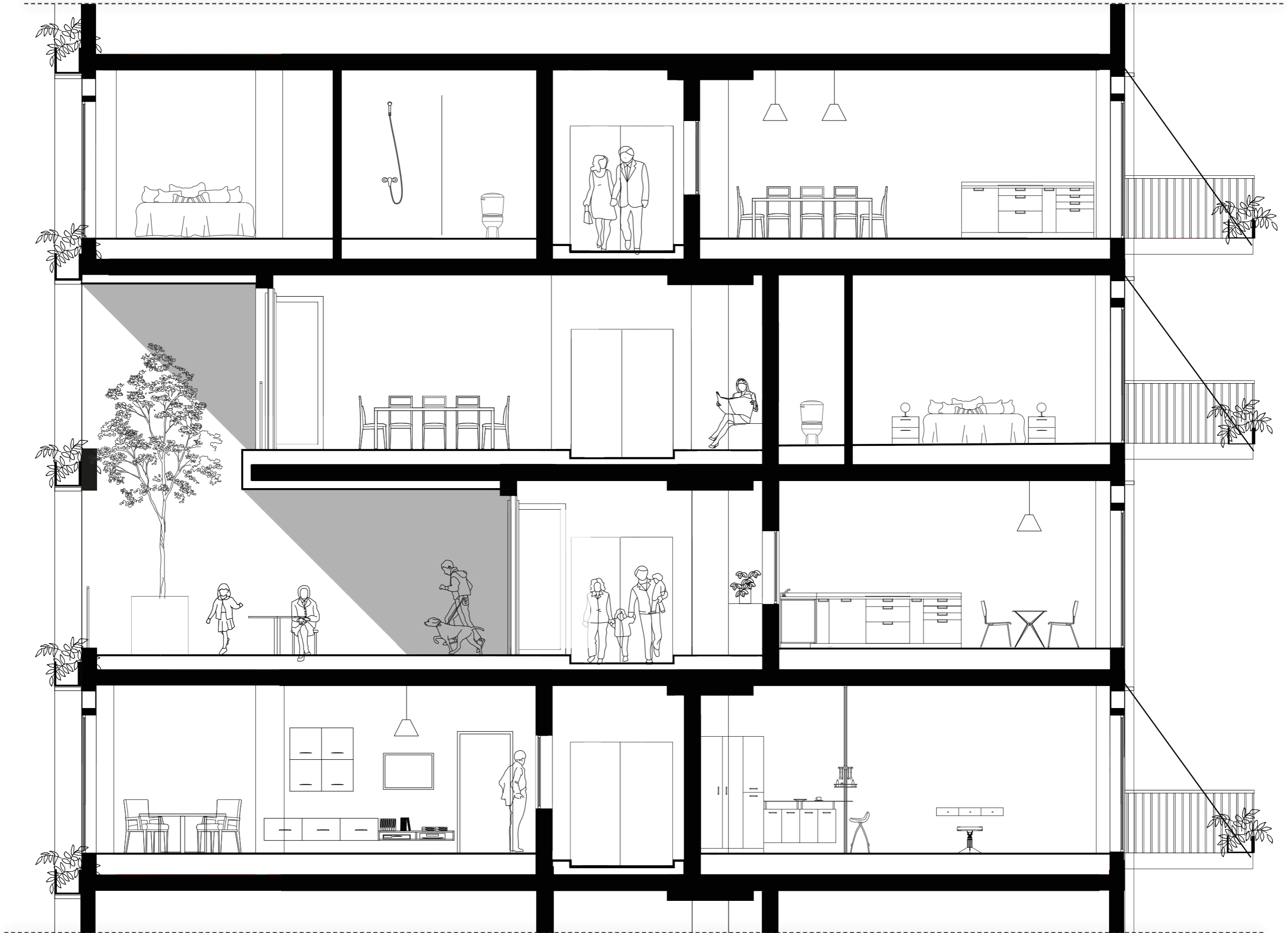


## Step 4

Facade attached to prefab wall elements with hanging system

# SECTION HIGH RISE

1: 65



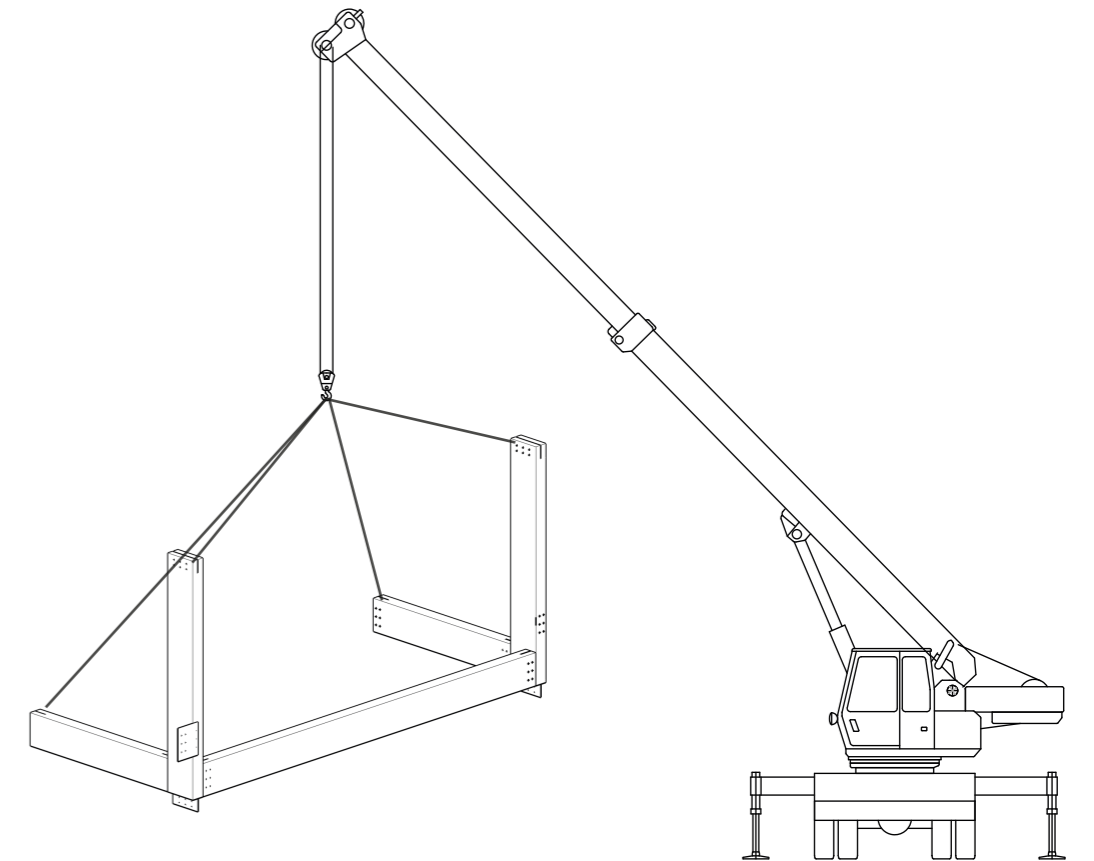
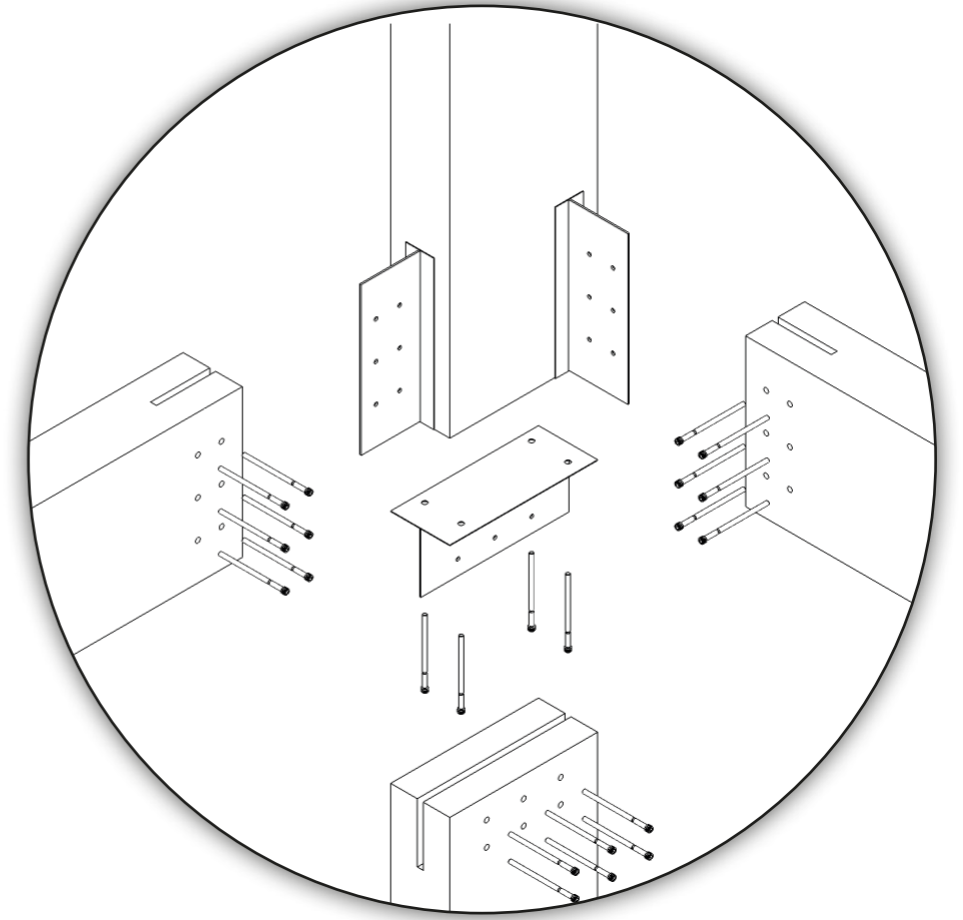
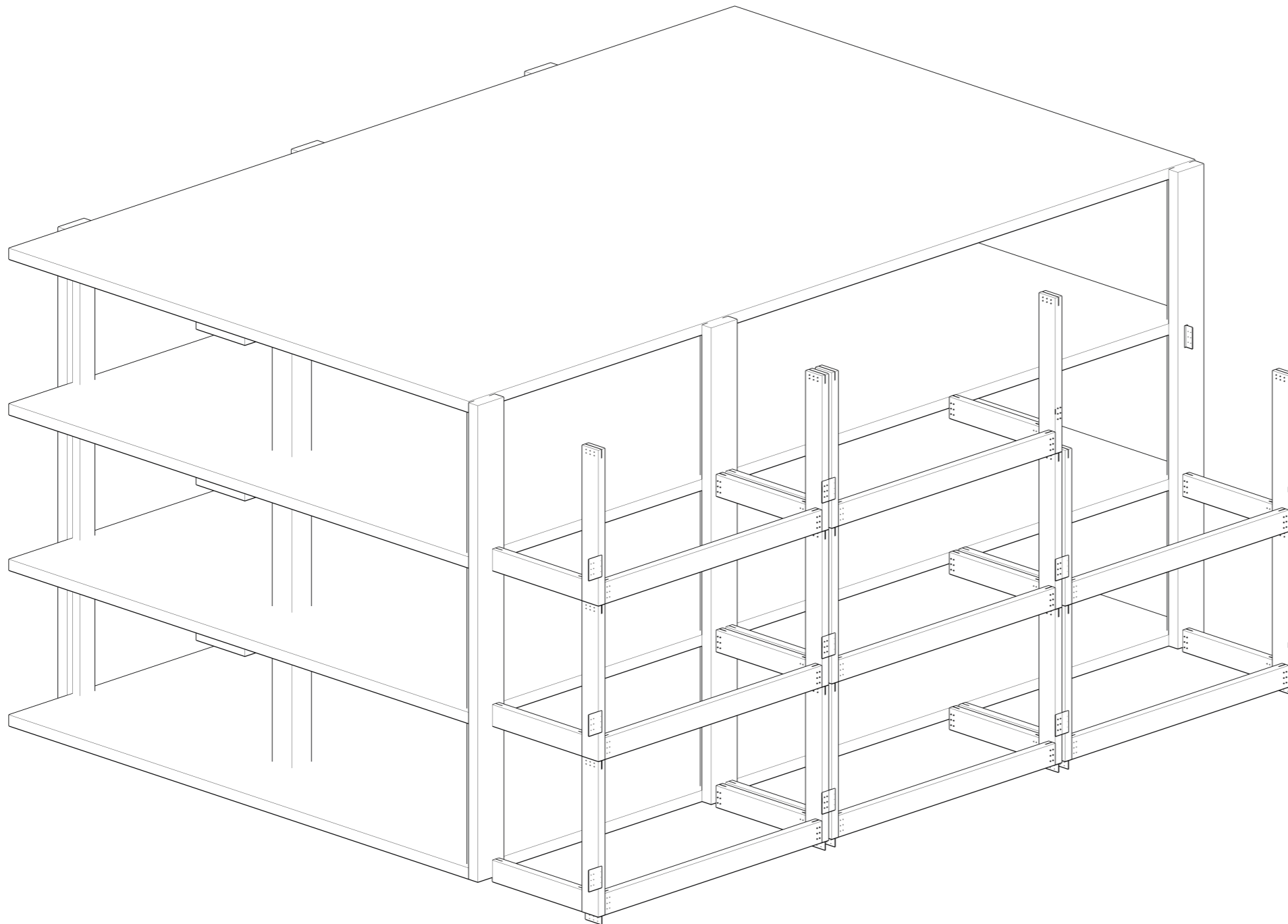
South-east and south-west facade

North-east and North-west facade

# ASSEMBLY METHODS HIGH RISE EXTENSION - SOUTH FACADE

Prefab modules

Spruce glued laminated timber

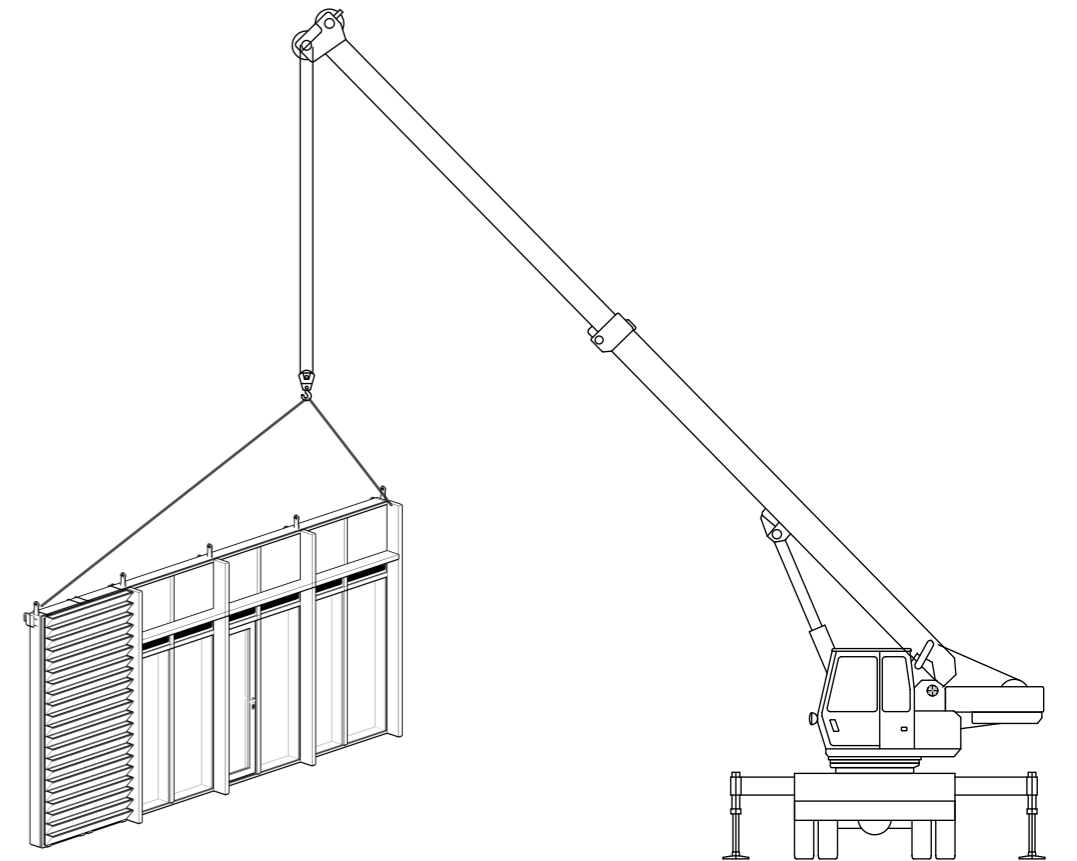
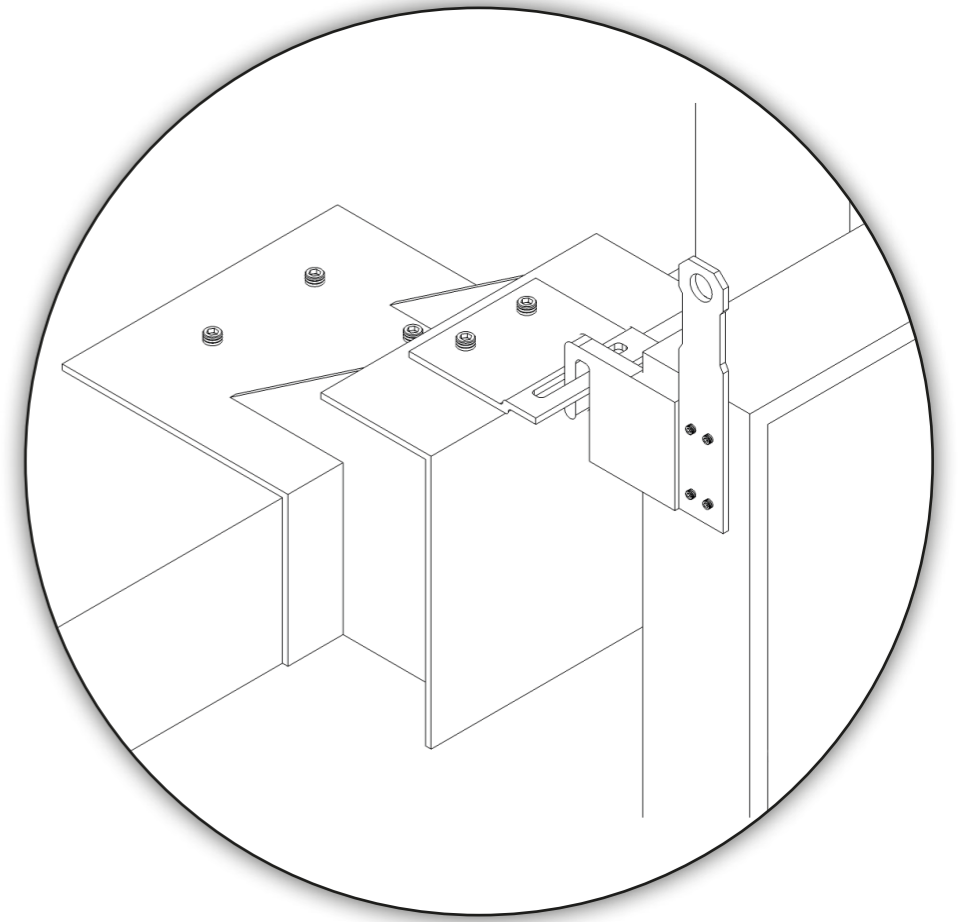
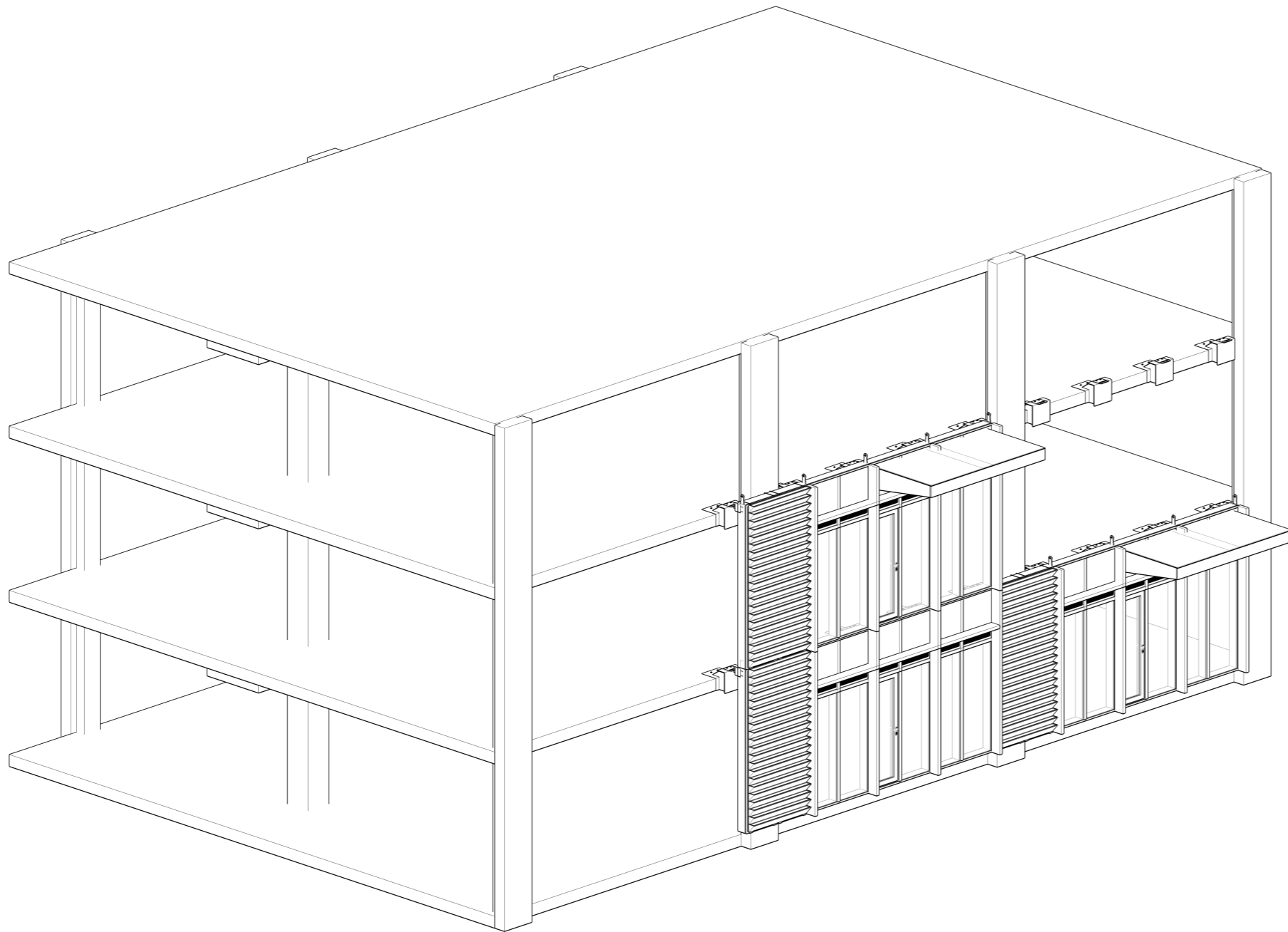


# SOUTH FACADE



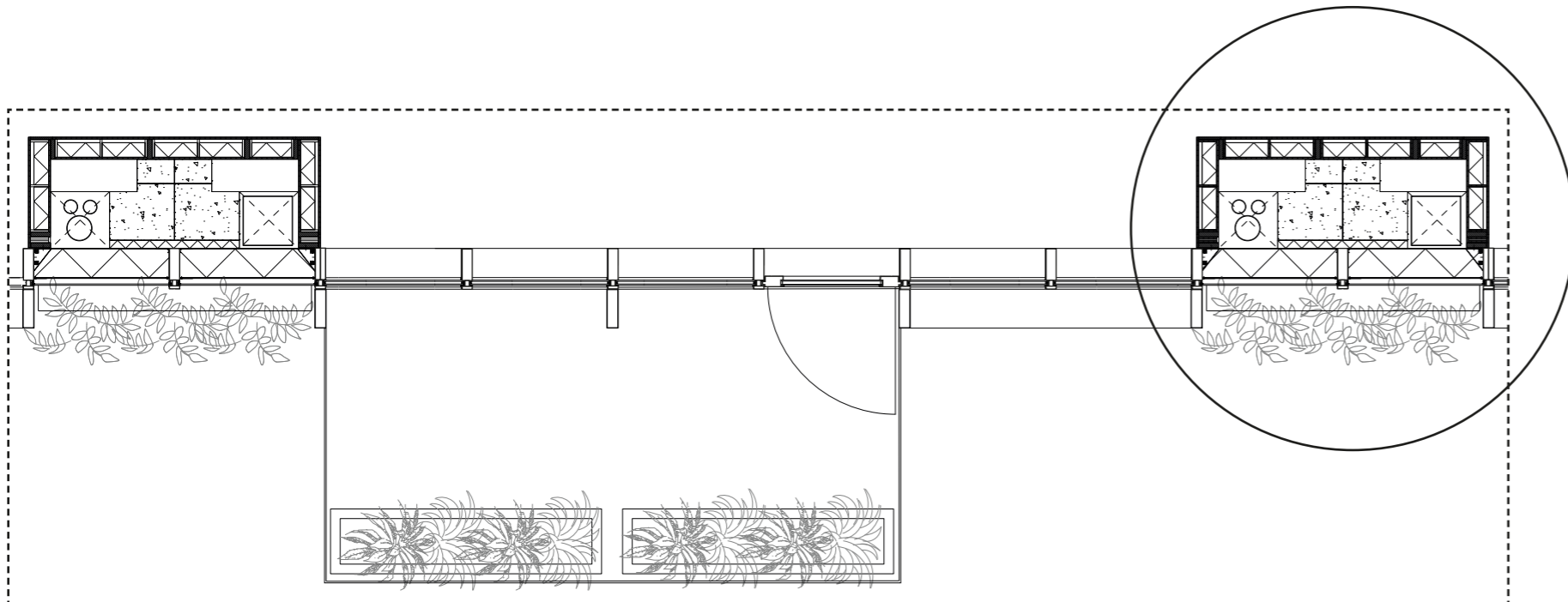
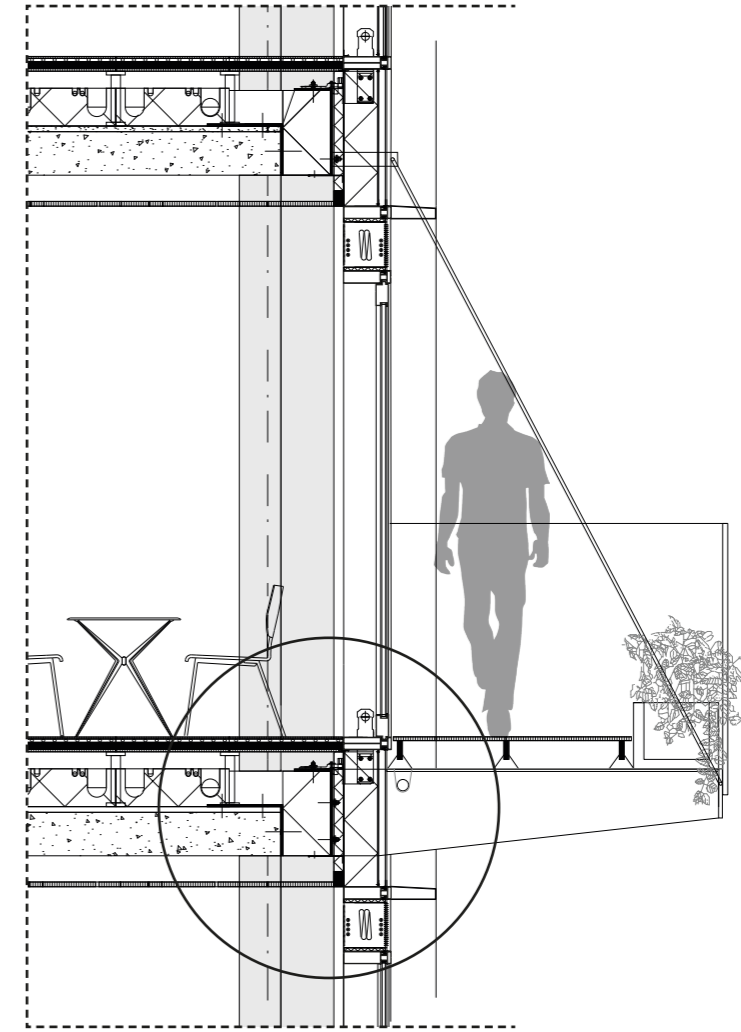
# ASSEMBLY METHODS HIGH RISE - NORTH FACADE

Connected to the existing structure as prefab elements



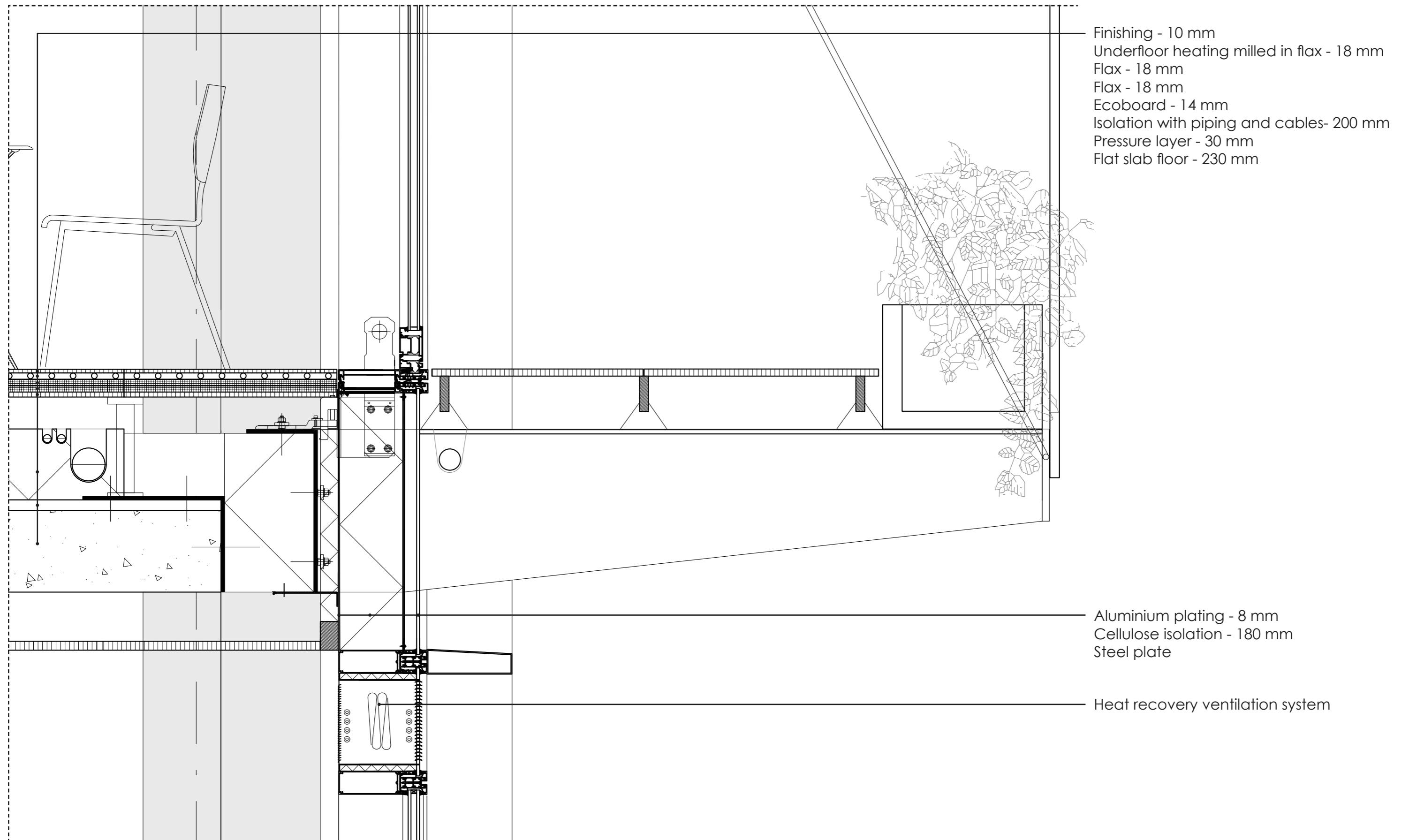
# NORTH EAST AND NORTH WEST FACADE

1:40



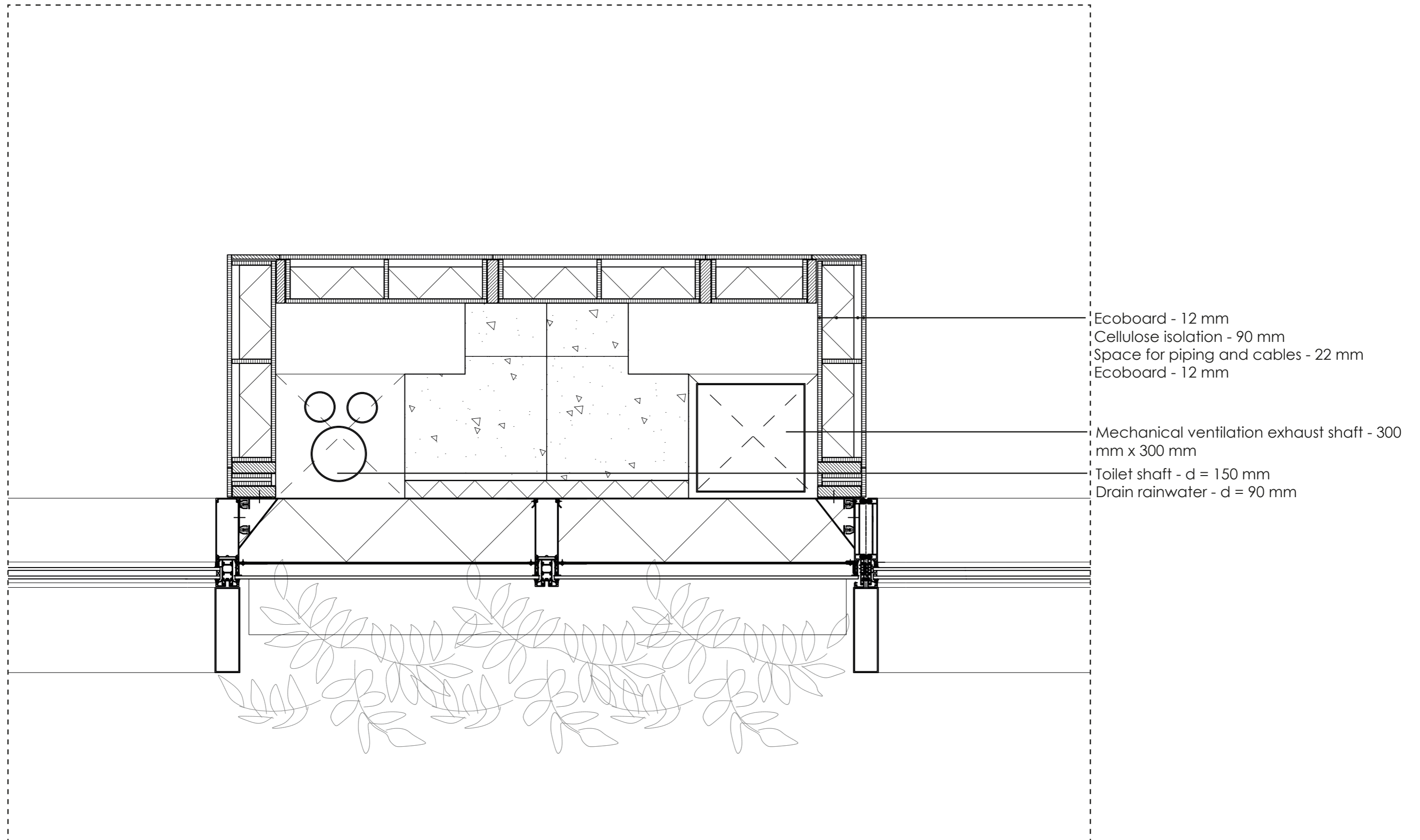
# DETAILS - VERTICAL

1:10



# DETAILS - HORIZONTAL

1:10

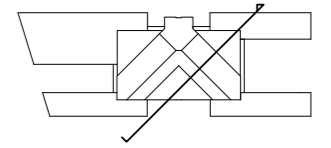




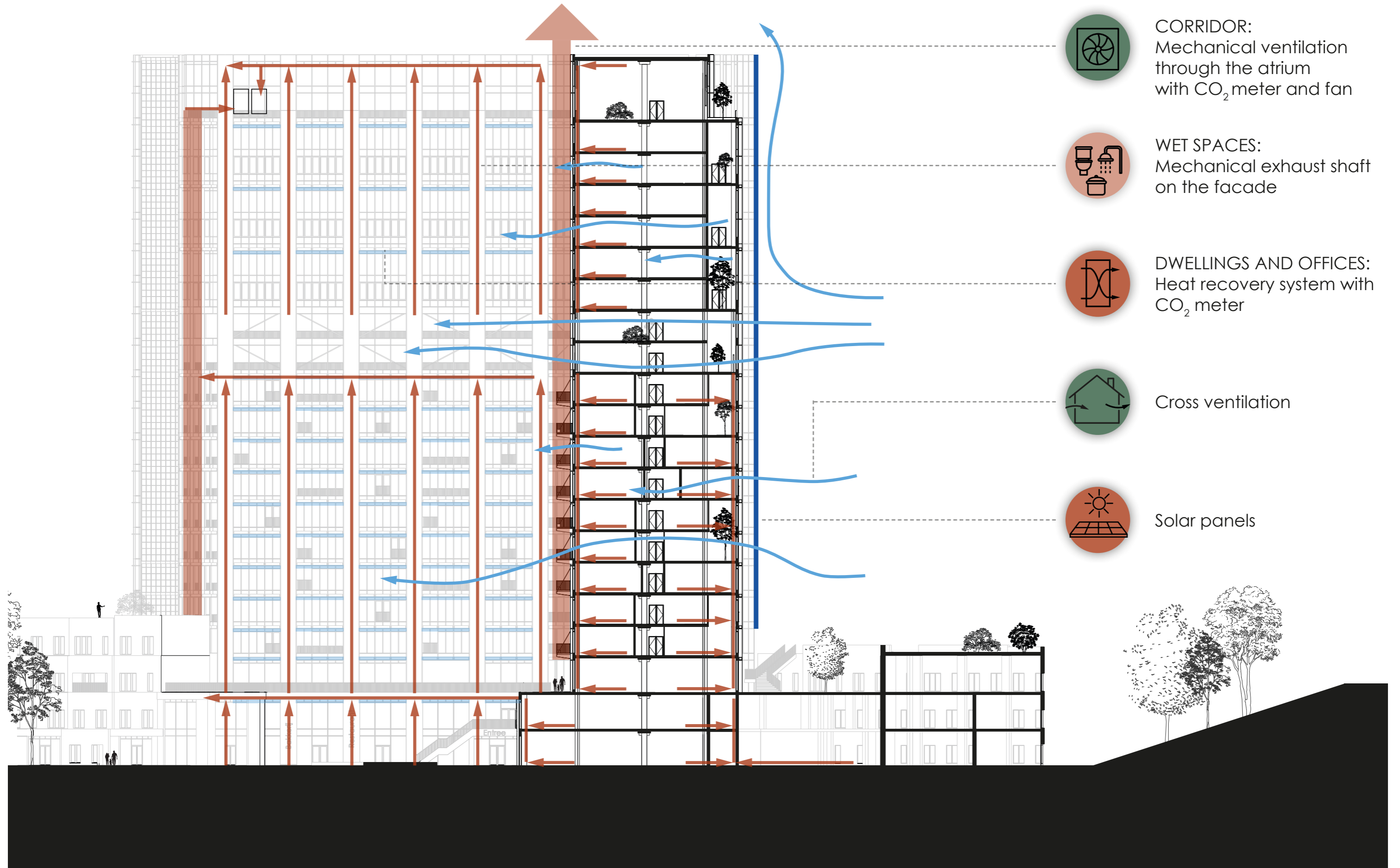
# NORTH FACADE



# VENTILATION HIGH RISE



1 : 400



# VENTILATION HIGH RISE



1 : 200

PERMEABILITY

Summer situation



# VENTILATION HIGH RISE



1 : 200

PERMEABILITY

Winter situation



# CONCLUSIONS

How can De Knip in Amsterdam Sloterdijk be transformed to function as a neighbourhood connected within the city?



CPC groups in streets



Dwelling atmosphere

# CONCLUSIONS



THANK YOU! ANY QUESTIONS?



# APPENDIX

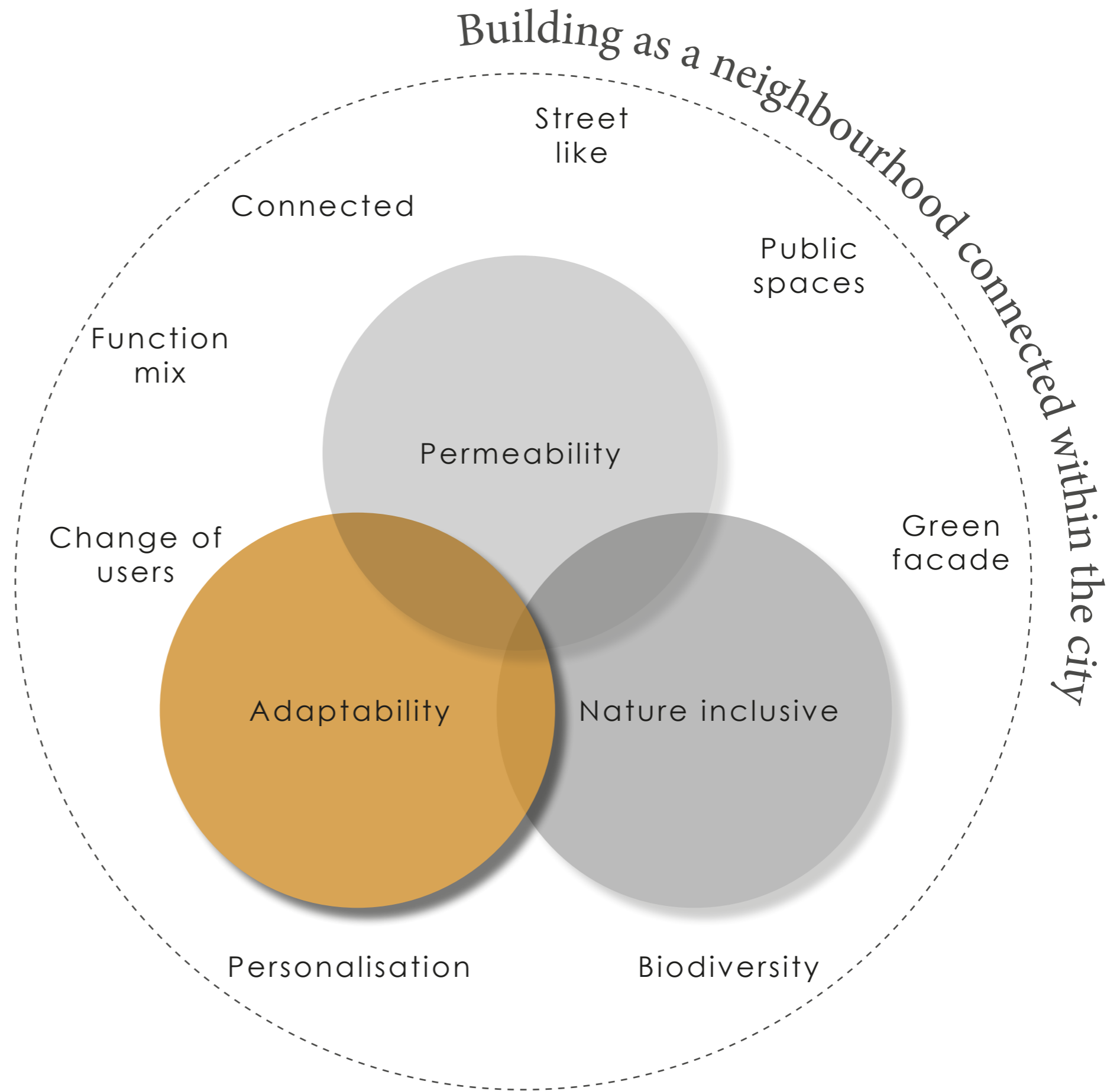


# THEMATIC RESEARCH QUESTION

What qualities should a new façade have to accommodate change of use of a building in the future?

Sub-questions:

- What kind of changes occur in the facade when a building is transformed to accommodate a different function?
- How can be dealt with the changes that occur in a facade due to change of use of buildings?



# RESULTS

Importance	Change	Final proposed solution
<b>A strong relationship</b>	Access to outside space	Prevent cantilevered floors, design a demountable façade and overdesign the capacity of the structure
	Windows	Scenario planning, modular and standardized design
<b>A relationship</b>	Ventilation grilles	Scenario planning, modular and standardized design
	Daylight	Daylight admittance at least according to building regulations of housing
	Visual comfort	Modular, prefabricated and standardized design
	Personal control of sun	Electrical sun blinds that can be personally as well as collectively controlled
<b>A relationship that is dependent on the situation</b>	Fire resistance	At least according to building regulations of housing
	Budget	A building that combines different functions
	Weight	Overdesigning the capacity of the structure
	The rhythm/grid	Choose a small grid of preferably 1800mm
	Material choice	Modular, prefabricated and standardized design

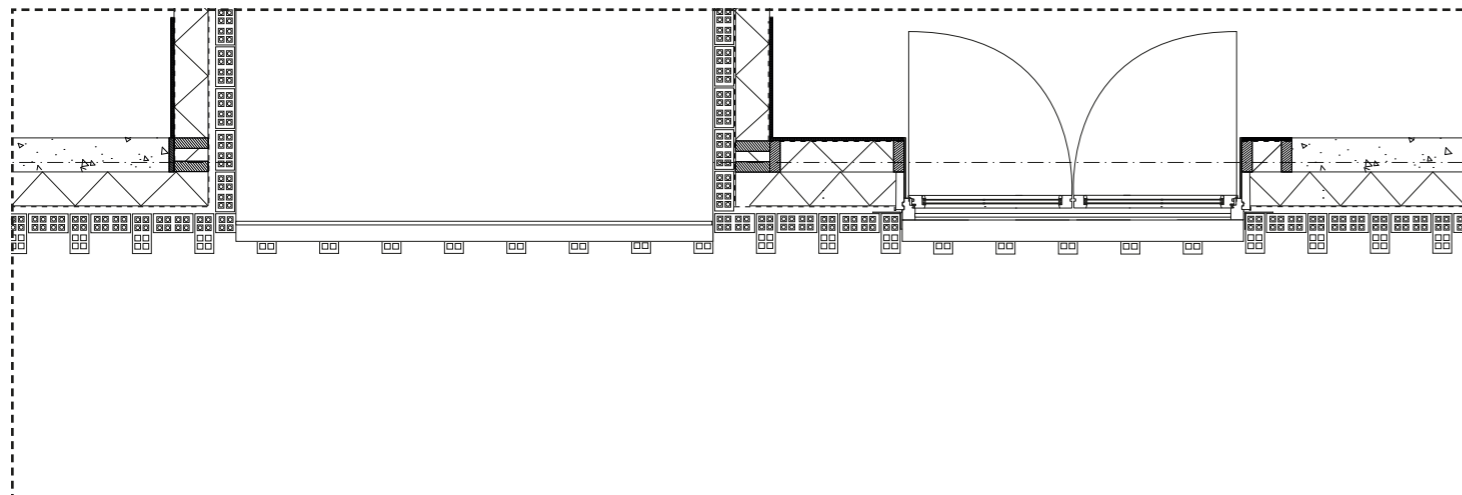
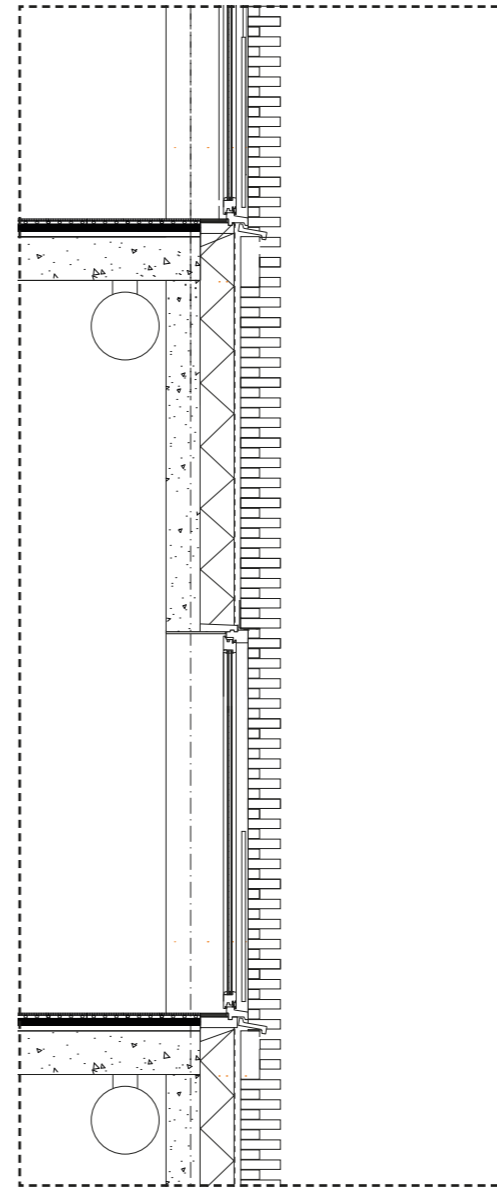
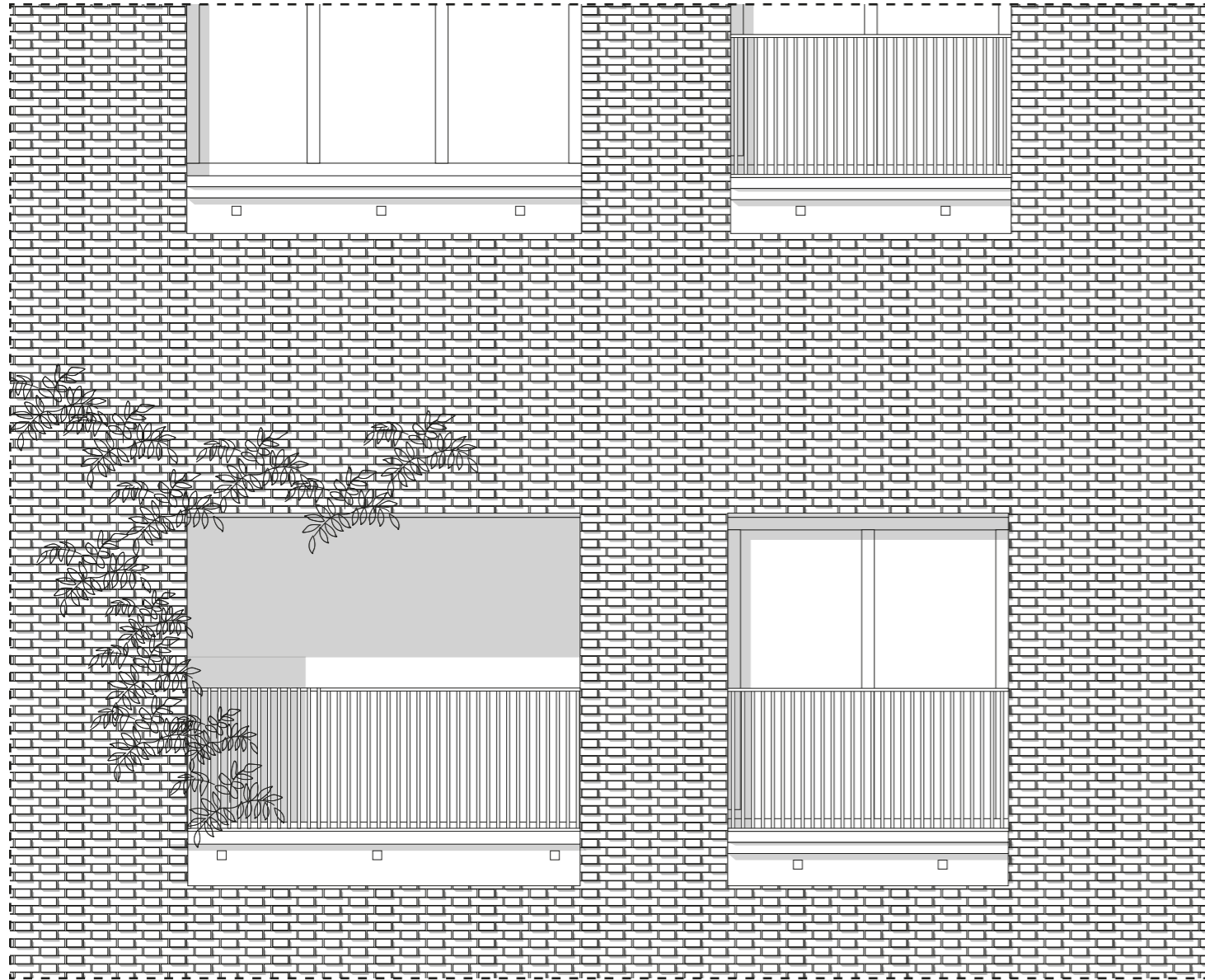
Scenario planning

Balancing different considerations

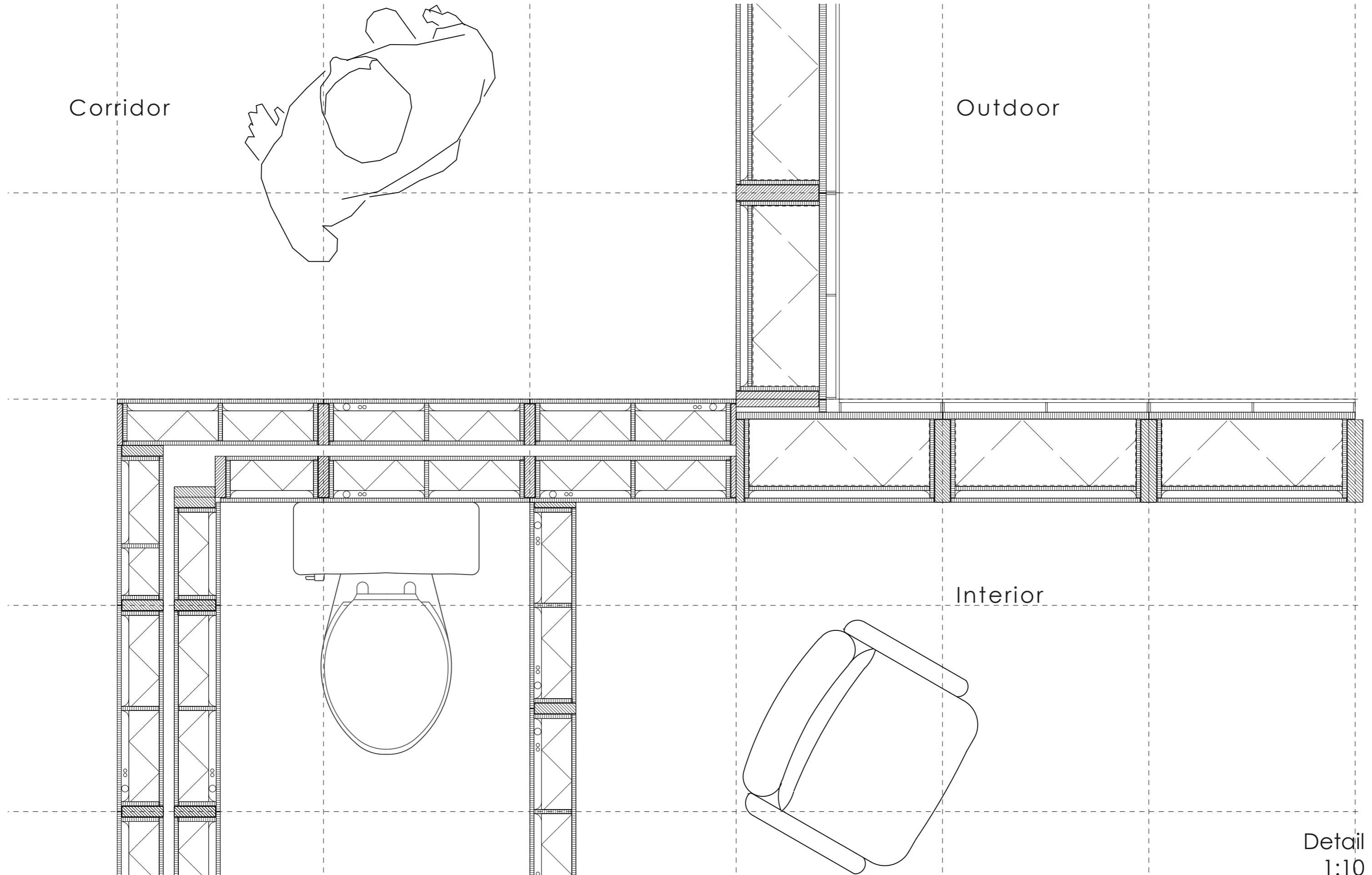
Meet strictest regulations

Modular, standardized, prefabricated and demountable

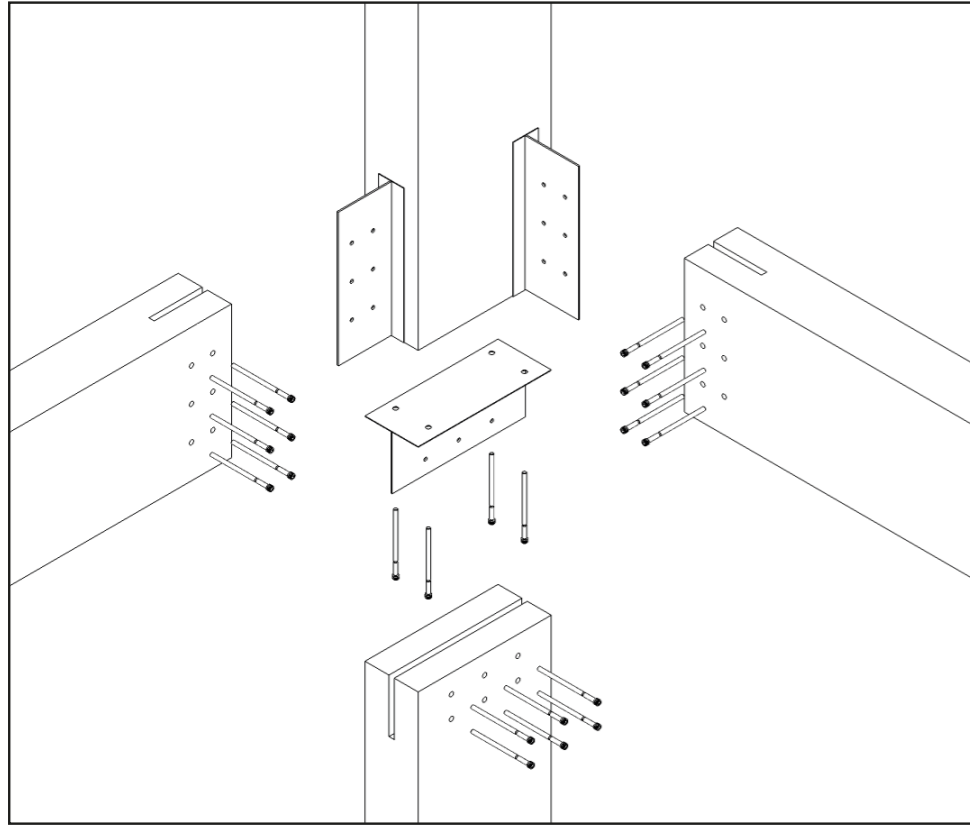
# POSSIBLE LOW RISE FACADE



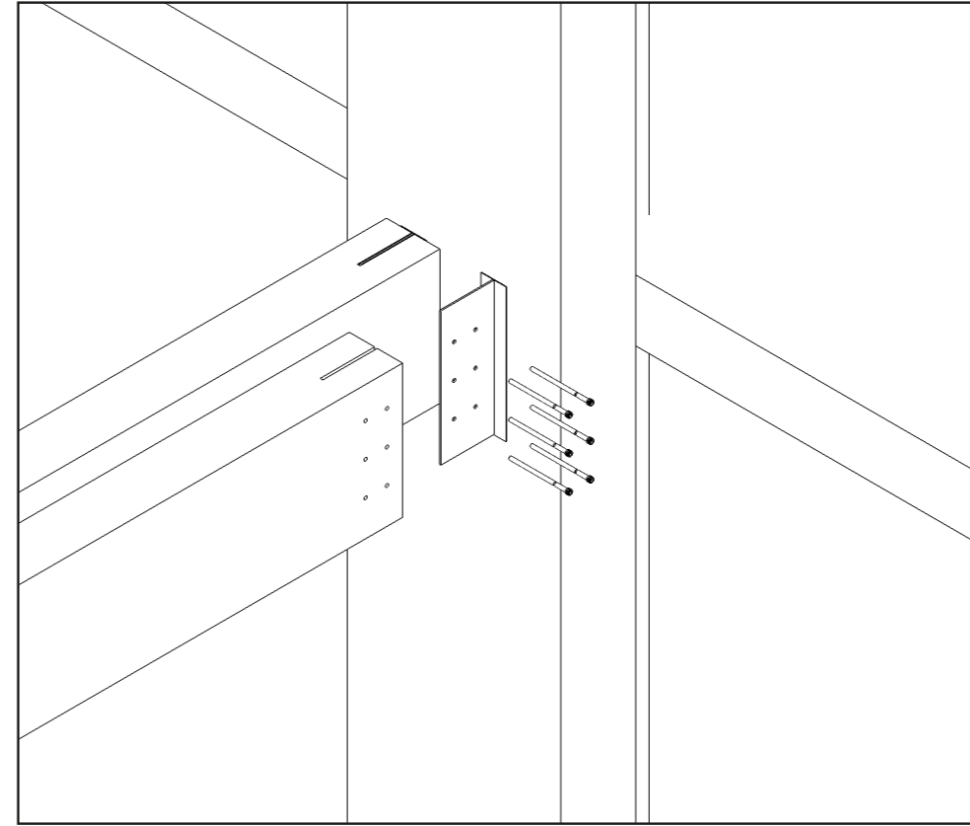
# CONNECTIONS OF THE INTERIOR WALLS IN THE HIGH RISE



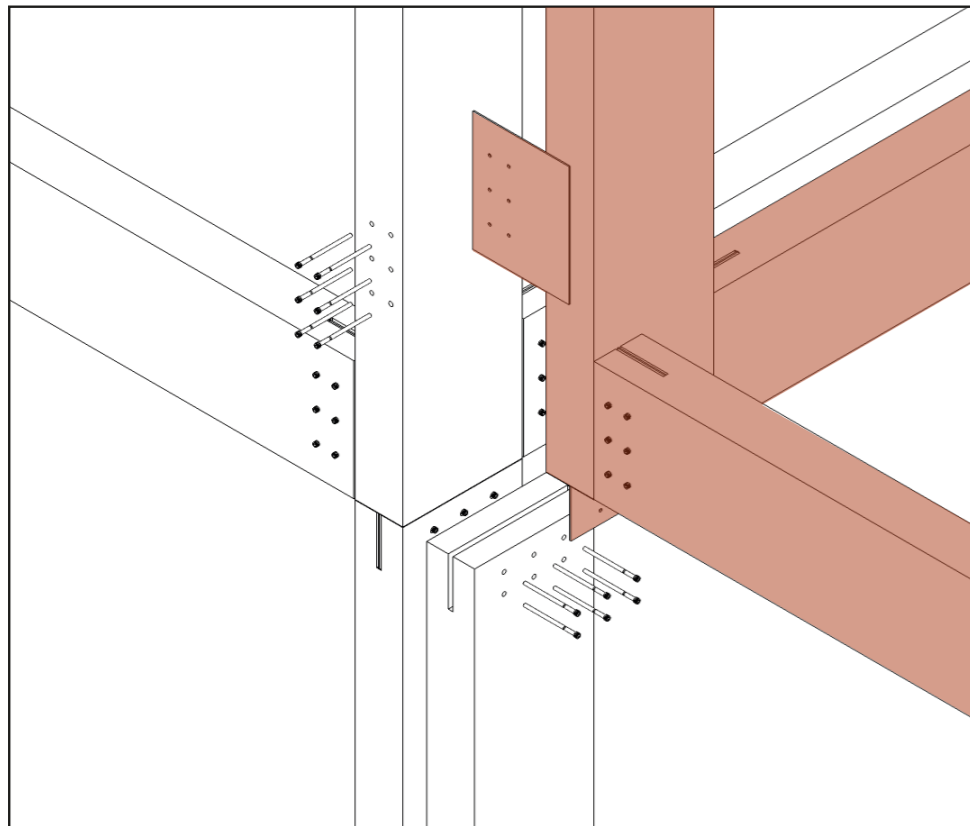
# ASSEMBLY METHODS HIGH RISE EXTENSION



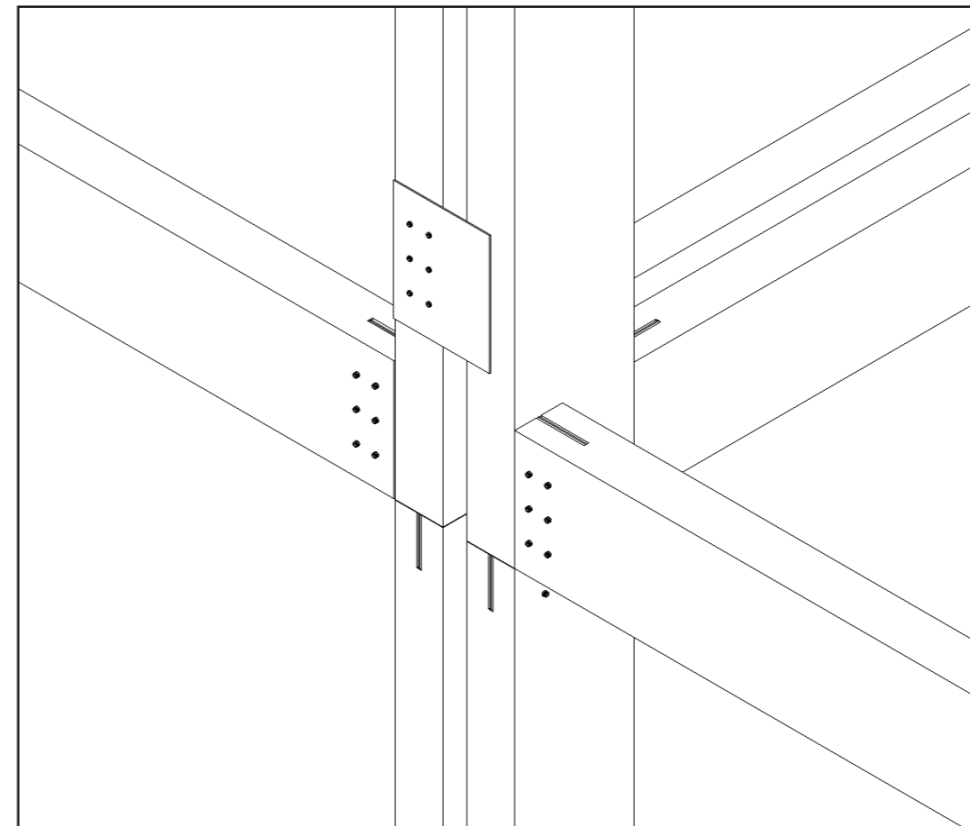
Connections between the spruce glued laminated timber columns and beams (500 mm x 200 mm)



Connections of the modules to the existing construction

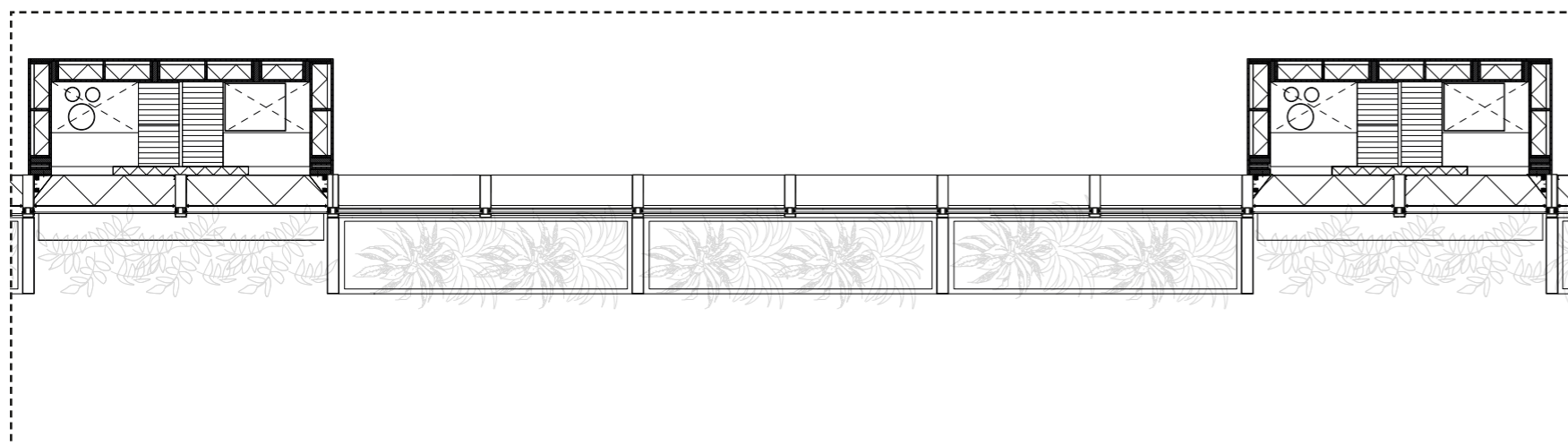
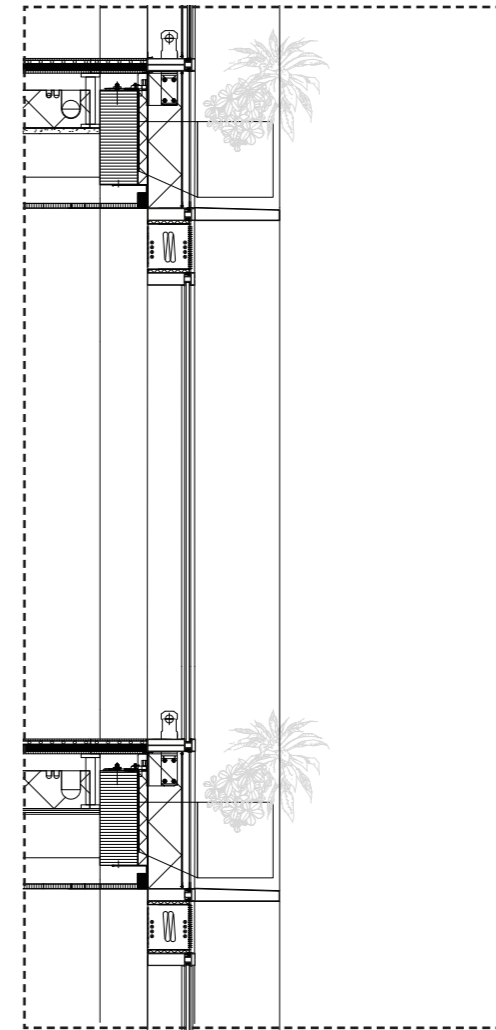
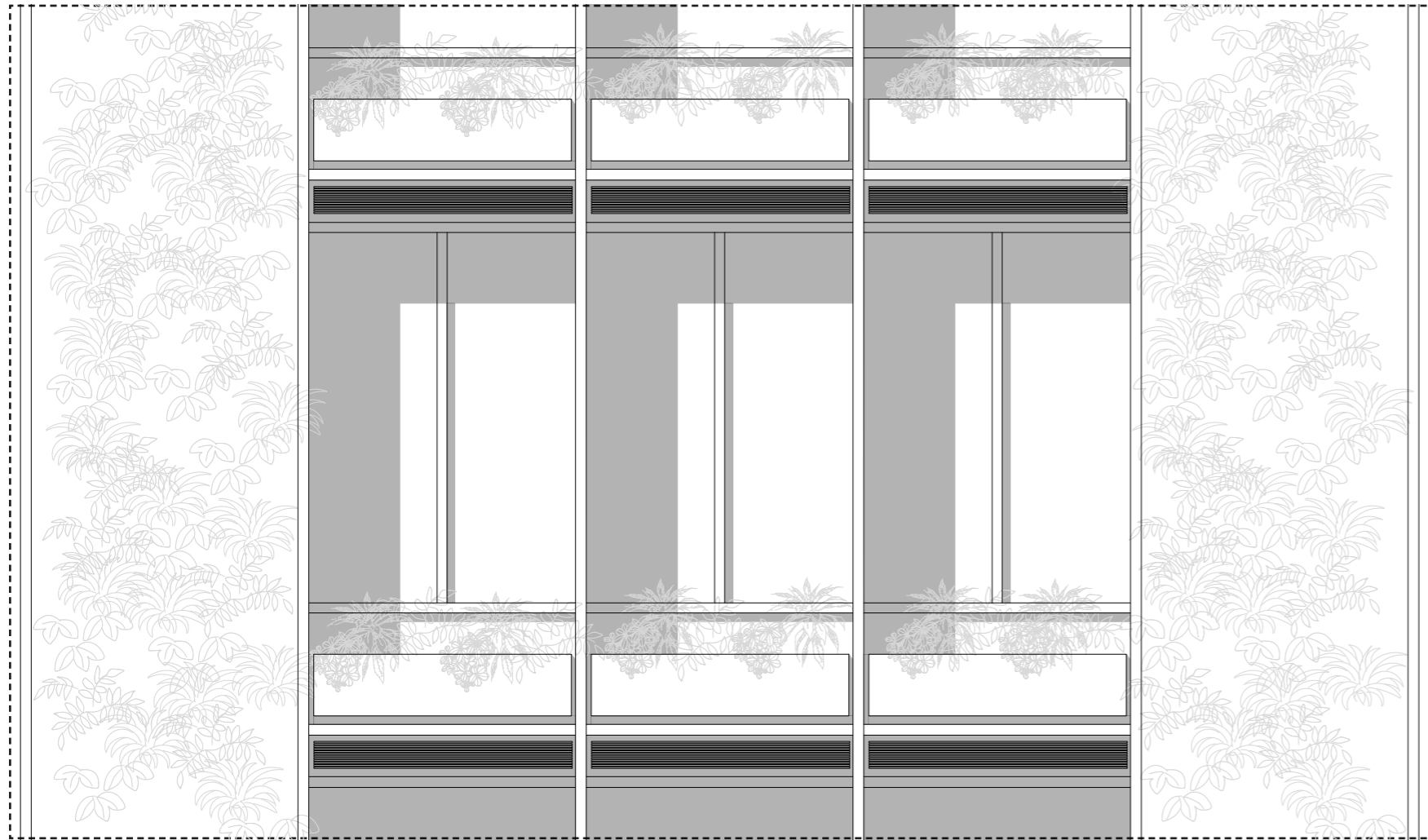


Connections between the modules

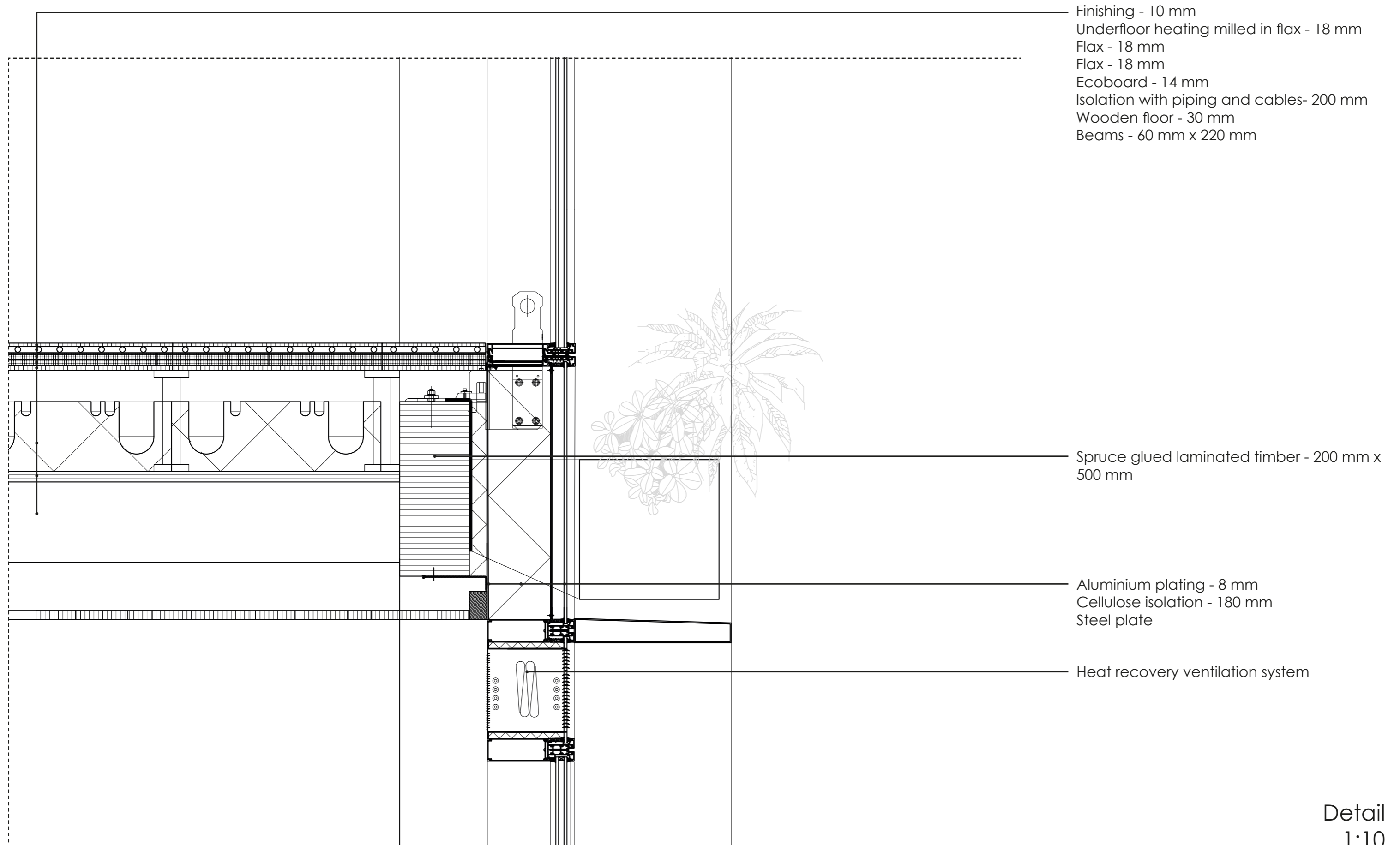


Final connection between the modules

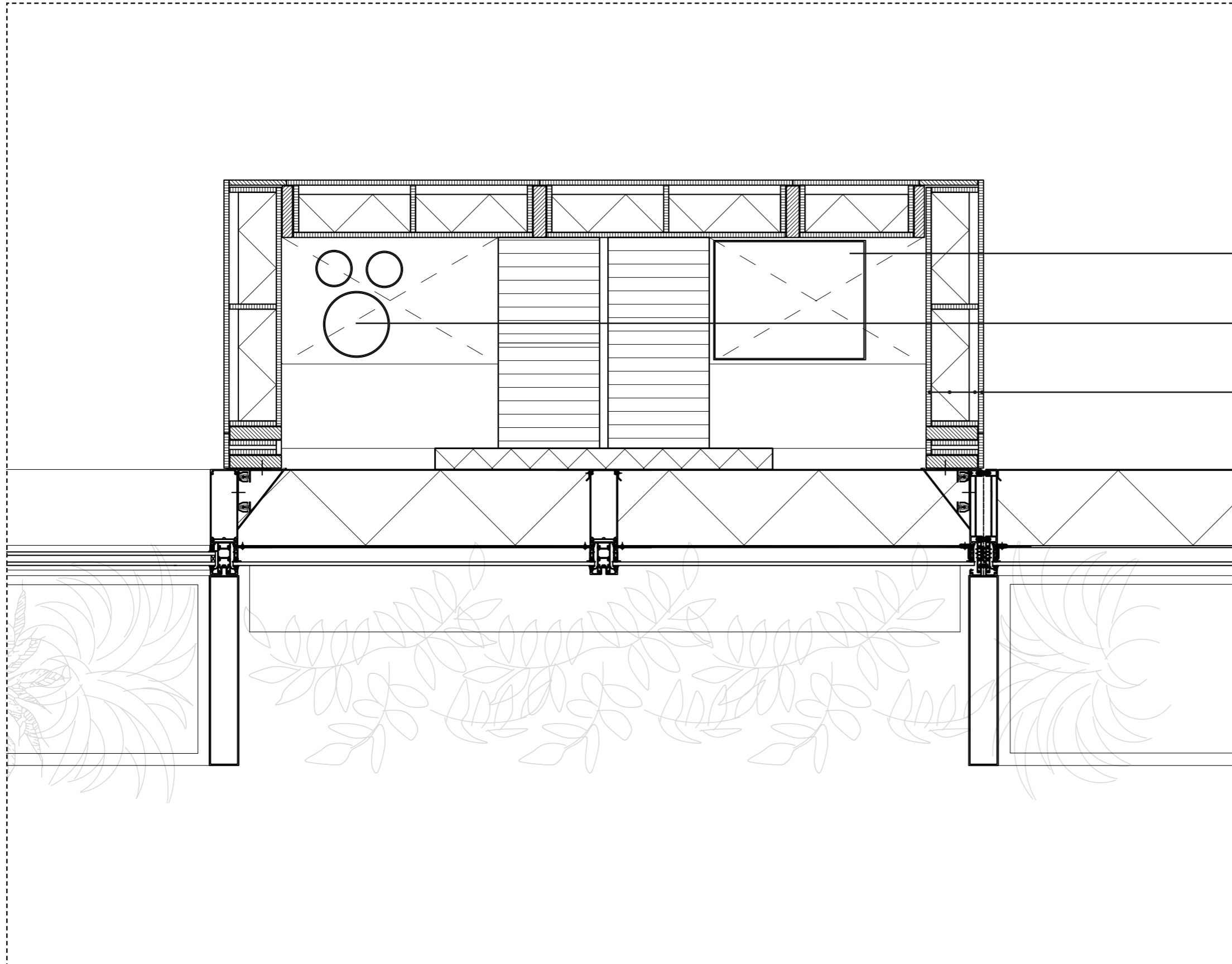
# SOUTH EAST AND SOUTH WEST FACADE



# DETAILS - VERTICAL



# DETAILS - HORIZONTAL



Mechanical ventilation exhaust shaft - 300 mm x 300 mm

Toilet shaft - d = 150 mm  
Drain rainwater - d = 90 mm

Ecoboard - 12 mm  
Cellulose isolation - 90 mm  
Space for piping and cables - 22 mm  
Ecoboard - 12 mm



# WATER HIGH RISE

