



JOHAN JONGKINDSTRAAT | AMSTERDAM NIEUW-WEST

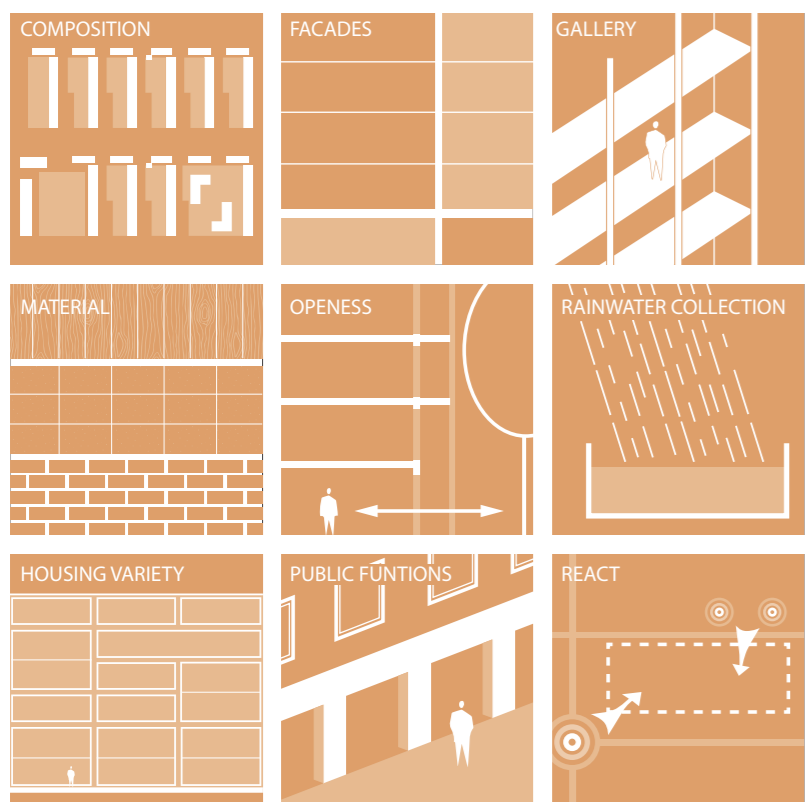
# BEYOND MONOTONY



RESTAURANT



GALLERY VIEW

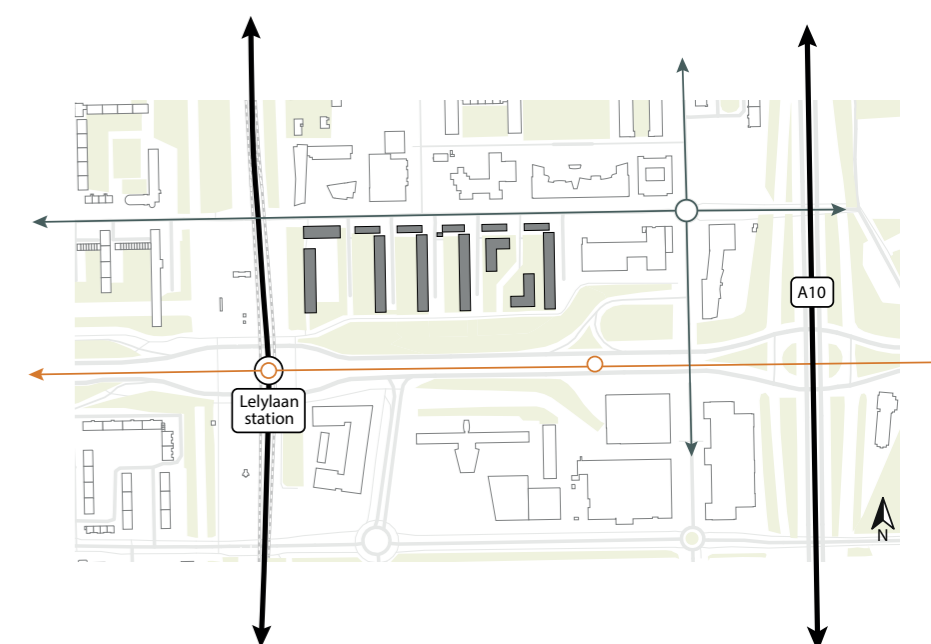
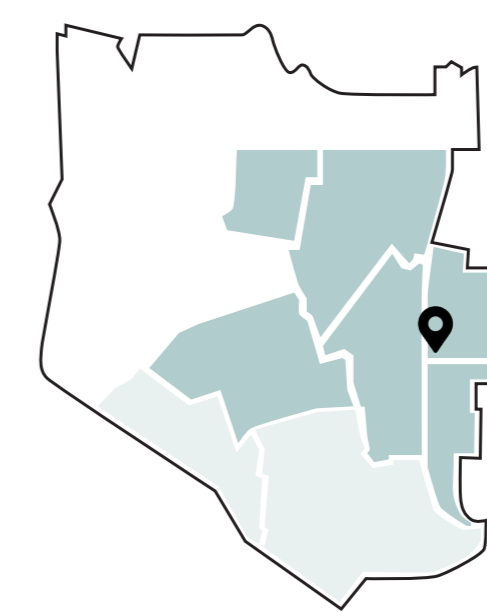


This site next to Lelylaan station in Amsterdam Nieuw-West offers space for a wide variety of housing and public functions. These residential buildings are located in Amsterdam's Western Garden Cities where there is optimal access to light, air and space and greenery is central. The Western Garden Cities are currently outdated and in need of renovation according to current needs with a view to the future. This plan shows that social safety, optimal comfort and meeting people are becoming important again. The current porch flats are built according to the airy building system, a characteristic and iconic way of building that was only widely used after the Second World War. It is important for the heritage of these flats that this, along with the openness of the Western Garden Cities, is preserved. Of the six current porch flats, four will be renovated. Wooden additions like the gallery, larger balconies and a roof extension will give the flats a lively appearance where people can meet each other and social safety and living comfort will be improved. The remaining 2 flats will be demolished to break up the repetition, make way for more public spaces next to Lelylaan station and establish connections with the surrounding area. A larger apartment complex around the urban square will give more urbanity to the Western Garden Cities, which is now lacking. A smaller apartment complex forms the village square with functions connected to the two schools on the north side. The new buildings relate to the heritage of the existing flats by reusing the characteristic concrete façade panels on the ground floor and using brick on the upper floors.

In total, this project offers 245 homes, from ground bounded family homes to 1-bedroom apartments. The restaurant and public functions enable living in an urban setting, the village square provides a more child-friendly living environment and the two historical courtyards offer a combination of more serenity and greenery.

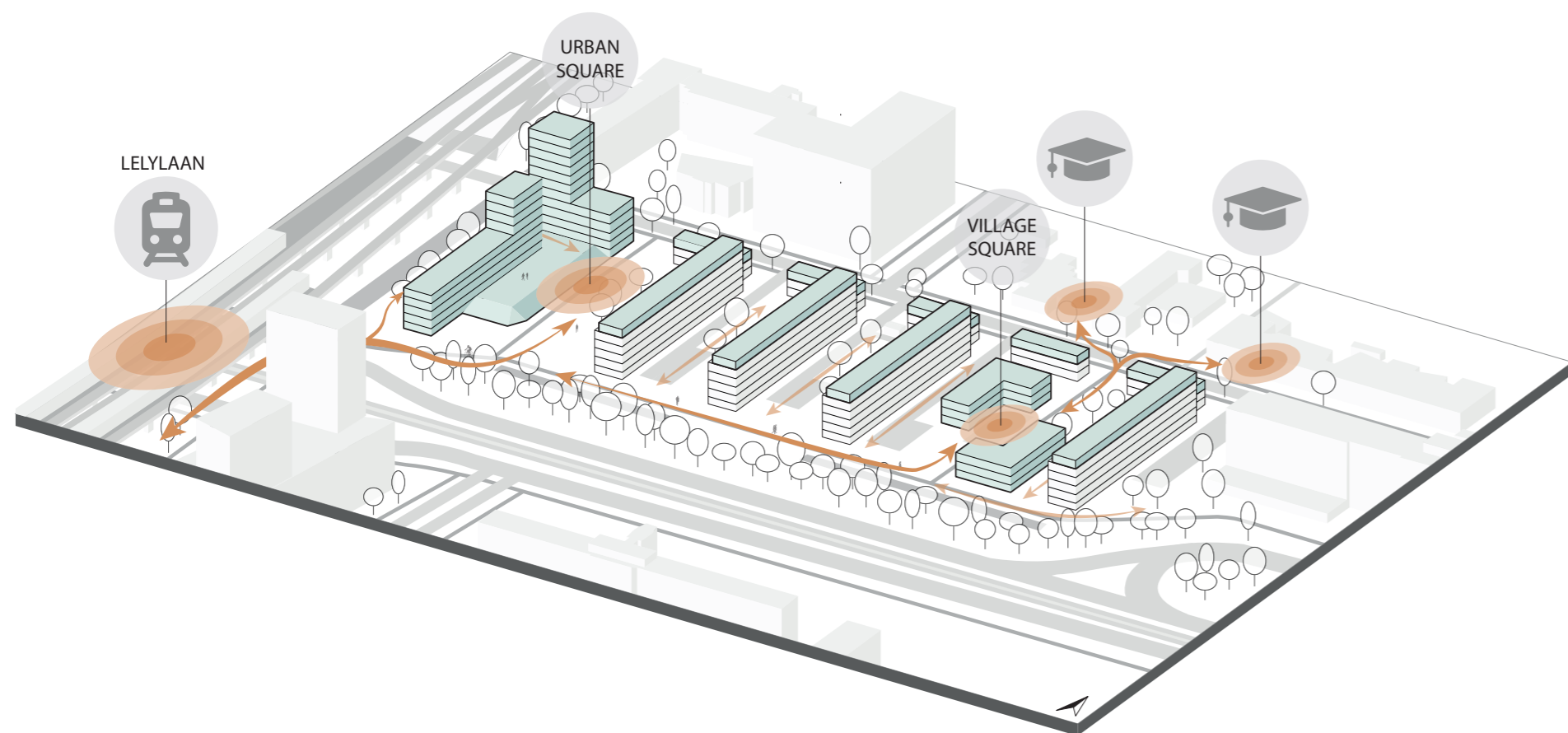
## SITE

Amsterdam Nieuw-West

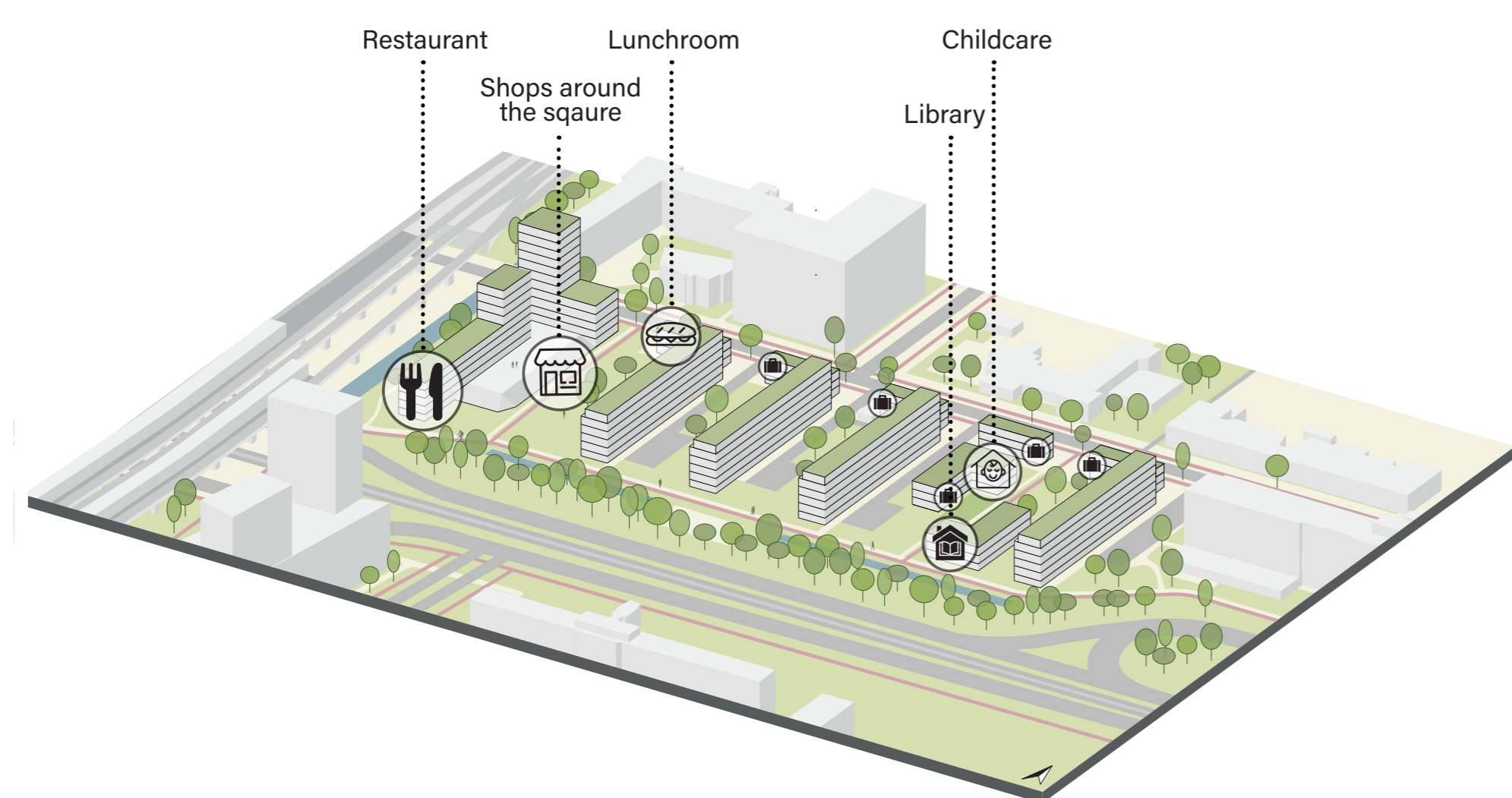


## INTERVENTIONS AND CONNECTIONS

■ New



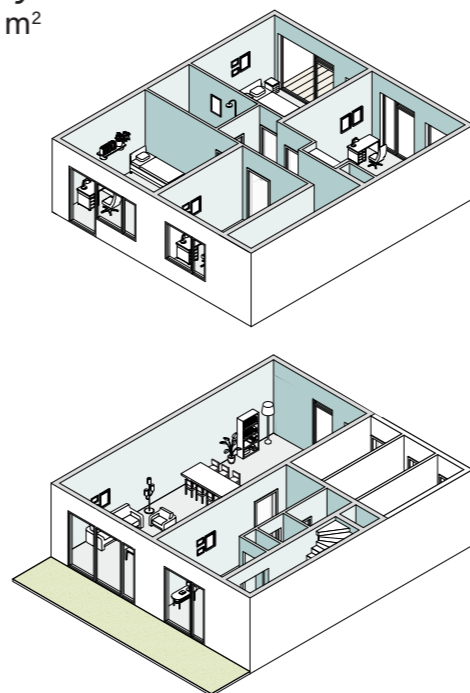
## ADDED FUNCTIONS



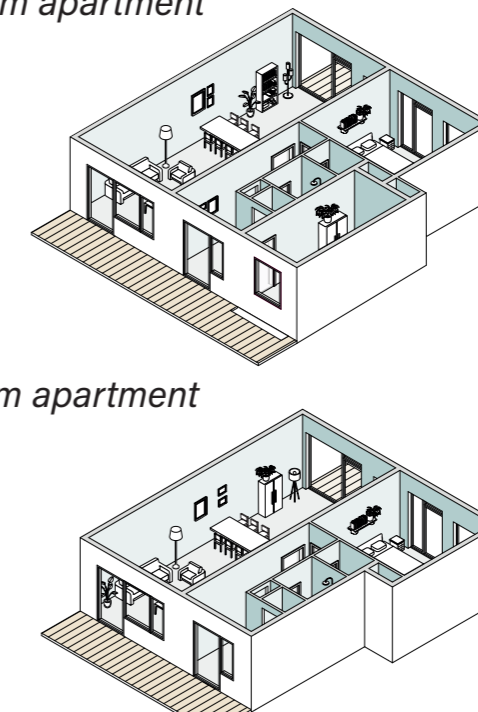
## DWELLING DIAGRAMS

Living in transformed heritage

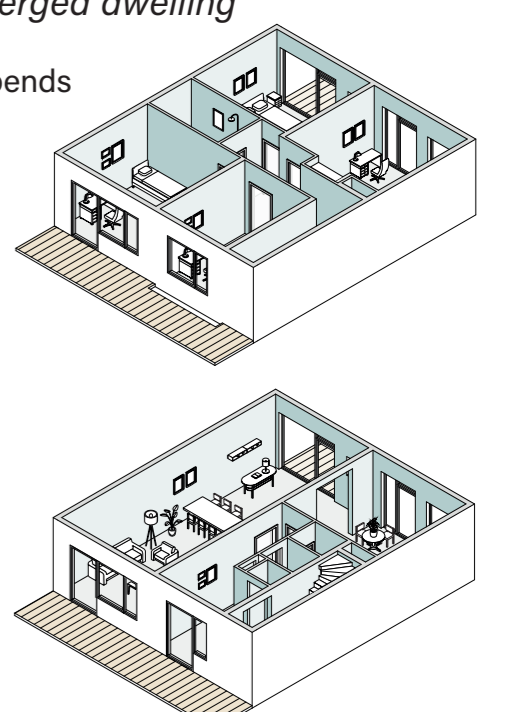
Family house  
- 130 m<sup>2</sup>  
- 24x



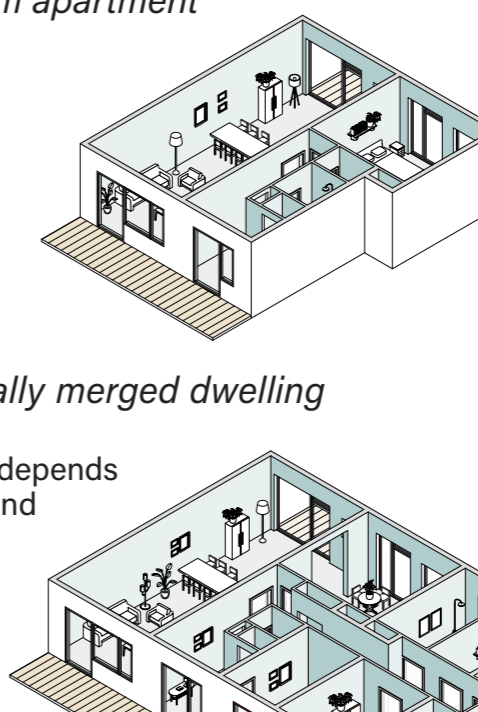
2 Bedroom apartment  
- 82 m<sup>2</sup>  
- 48x



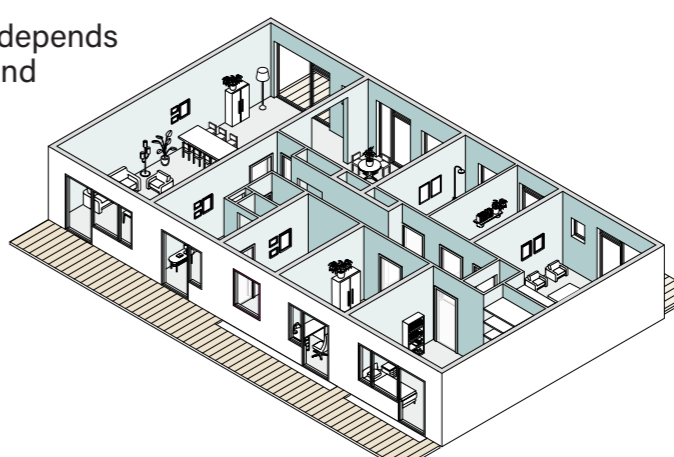
Vertically merged dwelling  
- 140 m<sup>2</sup>  
- Number depends on demand



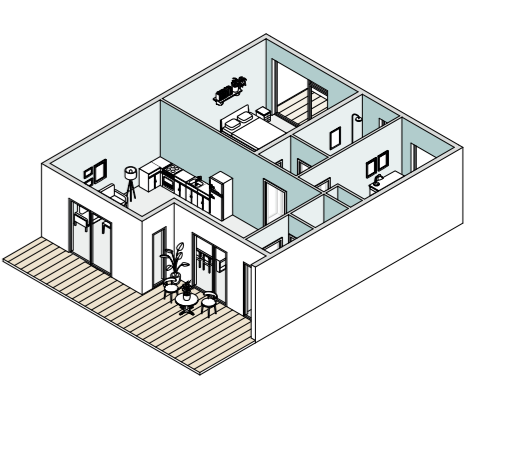
1 Bedroom apartment  
- 72 m<sup>2</sup>  
- 48x



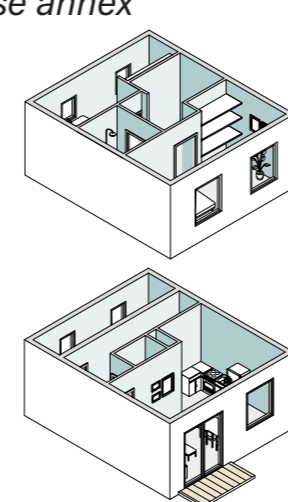
Horizontally merged dwelling  
- 150 m<sup>2</sup>  
- Number depends on demand



Roof apartment  
- 80 m<sup>2</sup>  
- 32x

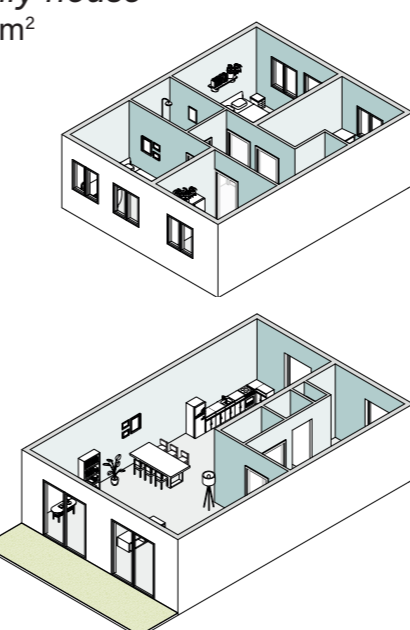


Duplex house annex  
(+ atelier 5x)  
- 56 m<sup>2</sup>  
- 9x

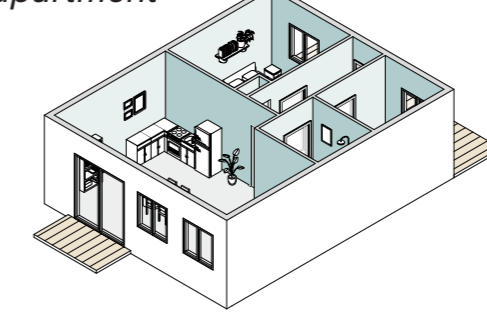


## New building - village square

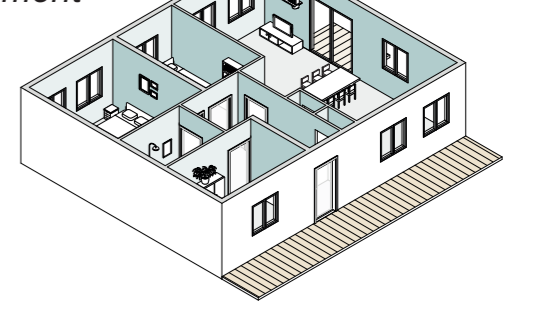
Family house  
- 110 m<sup>2</sup>  
- 3x



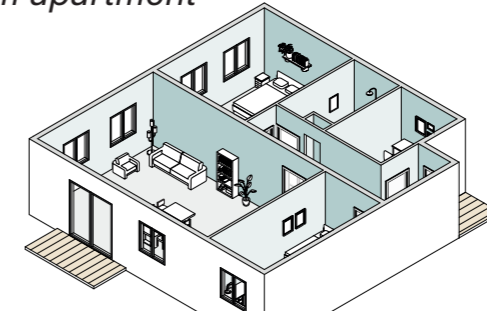
1 Bedroom apartment  
- 60 m<sup>2</sup>  
- 9x



2 Bedroom apartment  
- 90 m<sup>2</sup>  
- 4x

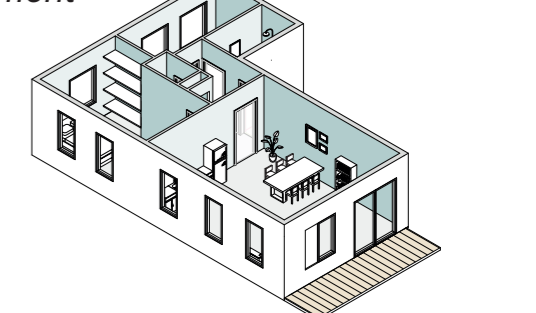


2 Bedroom apartment  
- 90 m<sup>2</sup>  
- 4x



## New building - urban square

1 Bedroom apartment  
- 80 m<sup>2</sup>  
- 58x



LIVING ROOM



NEW & OLD

# BEYOND MONOTONY

## Transforming post-war porch flats in Amsterdam Nieuw-West

The case of the Johan Jongkindstraat

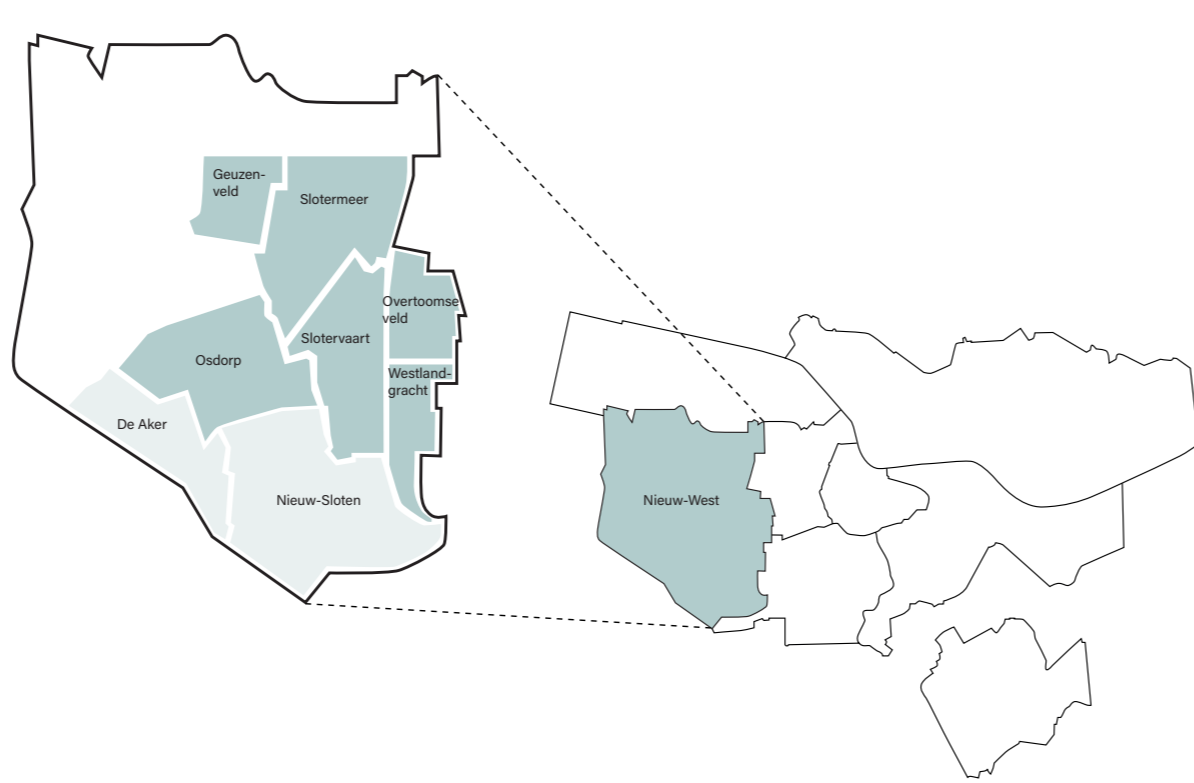
### RESEARCH

#### Future-proof porch flats:

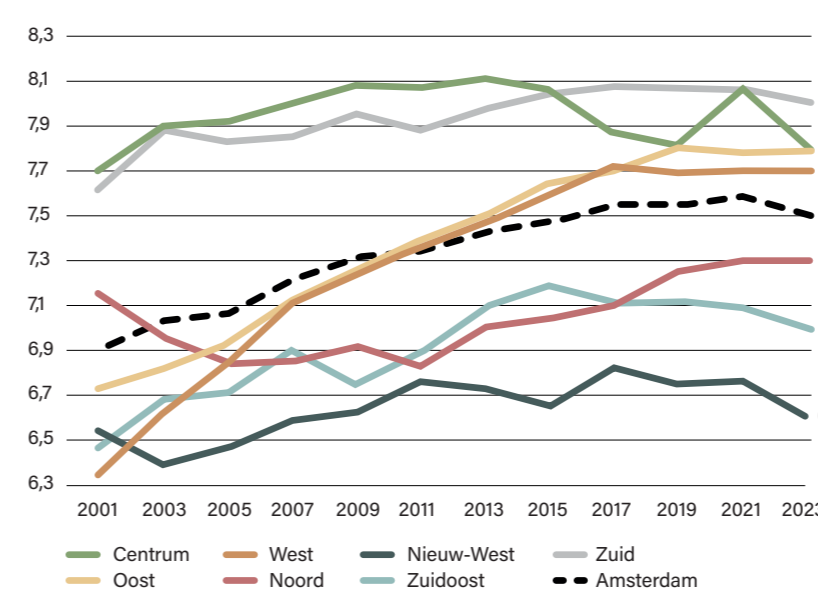
Design guidelines for the transformation of 20<sup>th</sup> century porch flats in the Western Garden Cities

A research on the principles of the Western Garden Cities in Amsterdam and the revitalisation of this area through building with adaptability in the transformation of 20<sup>th</sup> century porch flats in Amsterdam Nieuw-West

#### Research area



#### Satisfactory scores



#### Problem statement

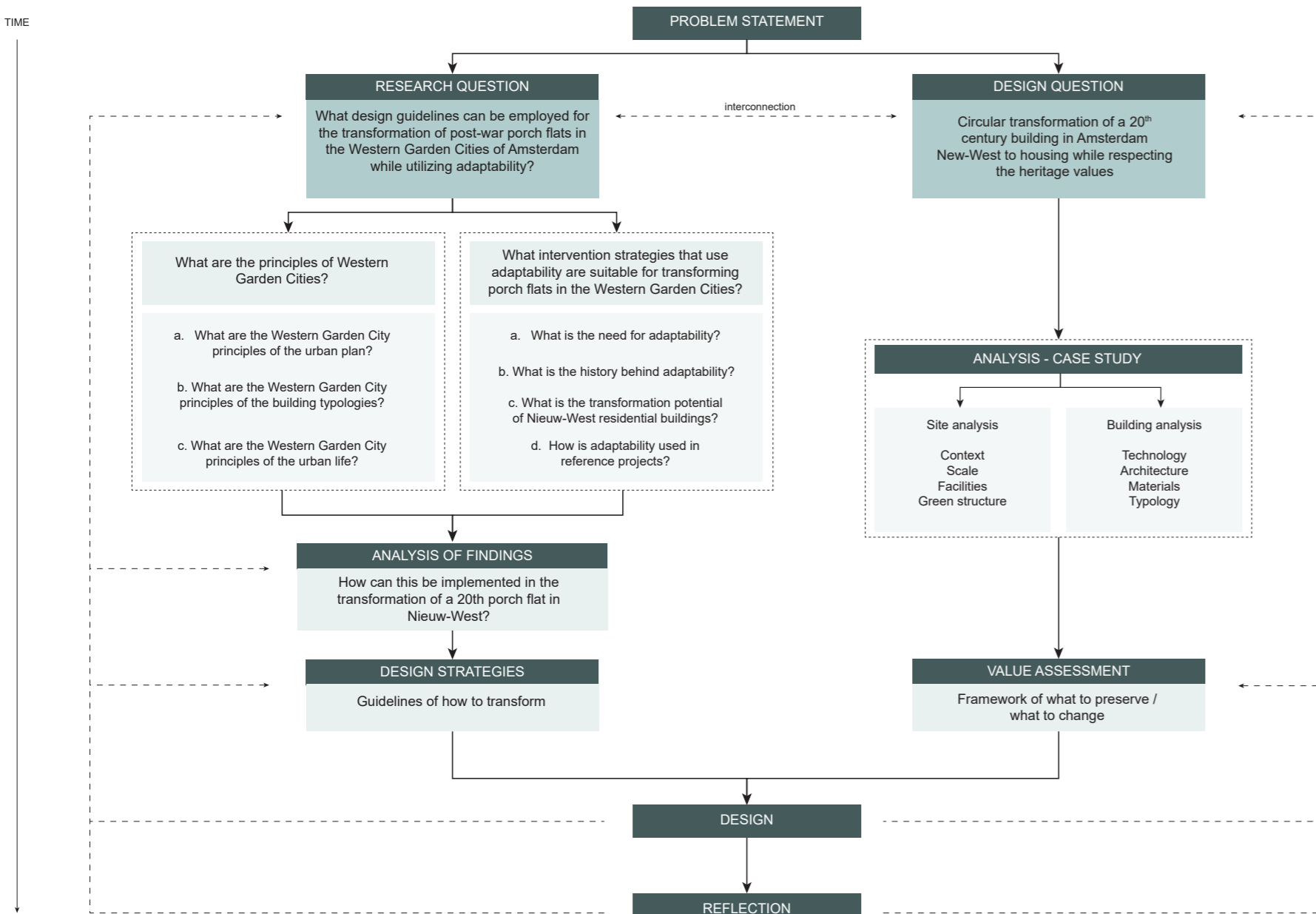
- Housing crisis
- Reconsidering the current housing stock
- Need for circular solutions
- The construction industry has a great environmental impact
- Quality Western Garden City
- The vision of the past is gone and the district faces many problems

#### Research question

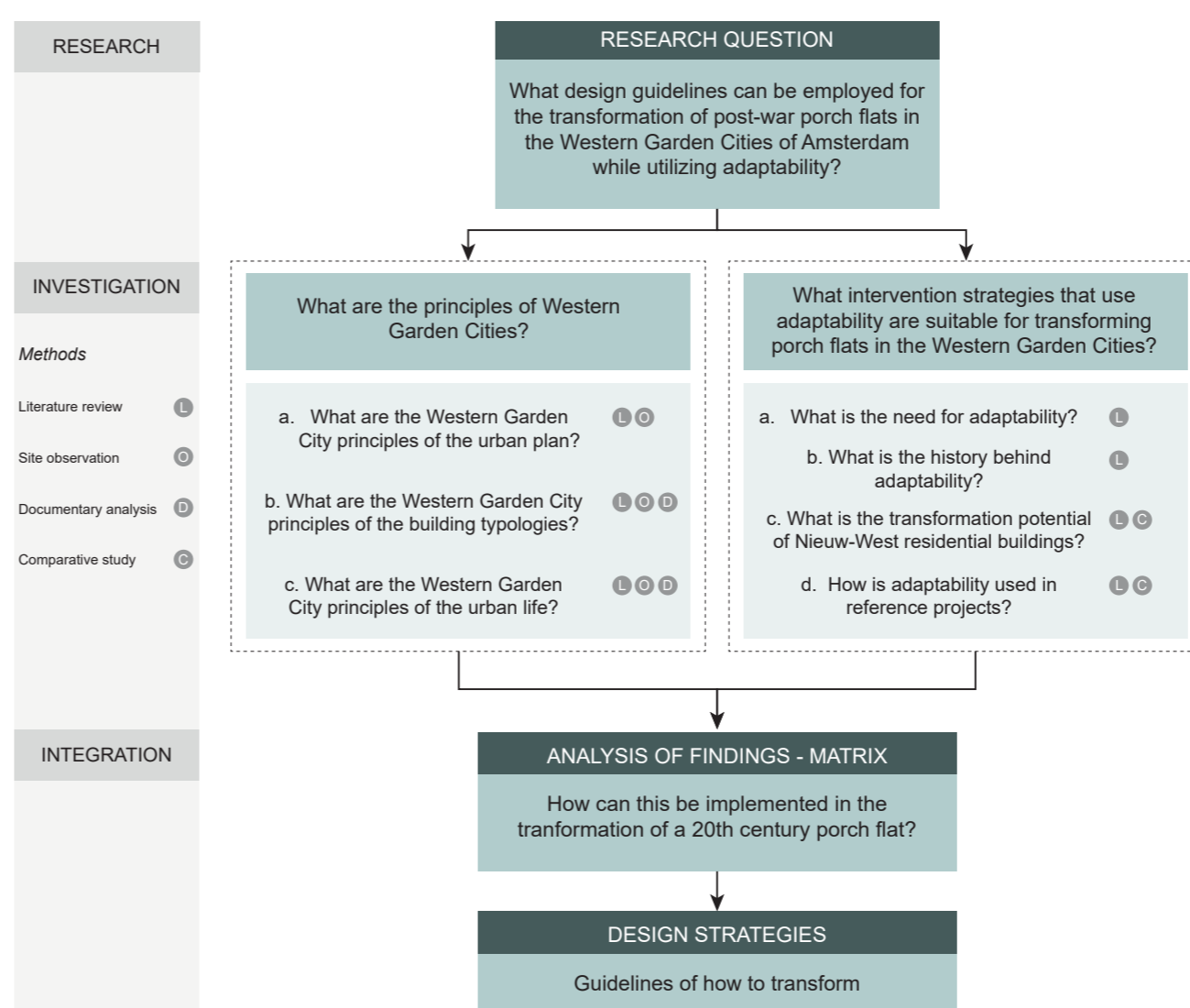
What design guidelines can be employed for the transformation of post-war porch flats in the Western Garden Cities of Amsterdam while utilizing adaptability?



### Research & design diagram



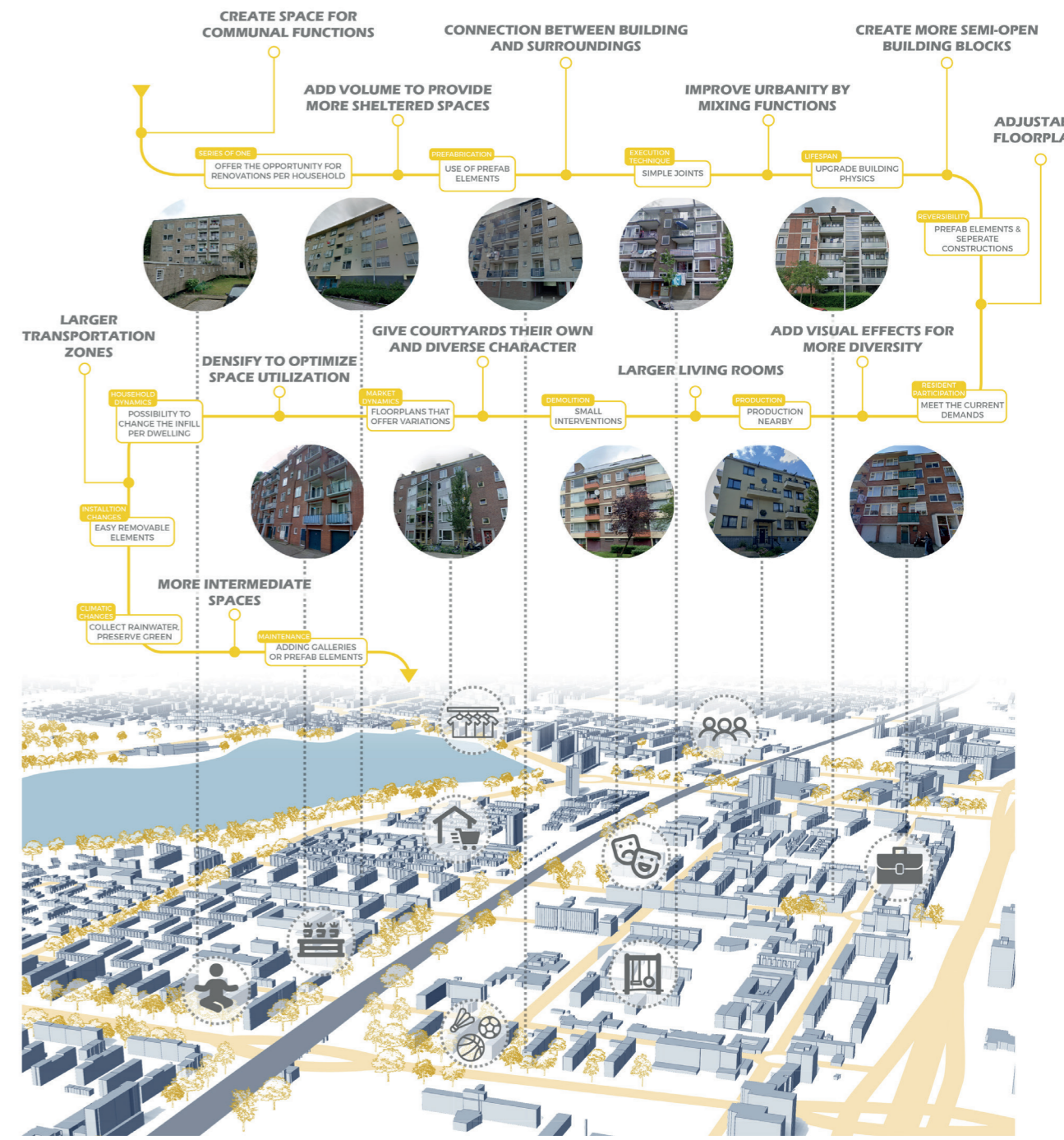
### Research methods



### Research conclusions

PRESERVATION STRATEGY	DESIGN GUIDELINES	ADAPTABILITY STRATEGIES
1. Preserve the openness of the combination of green and buildings. <i>Light, air and space are important aspects. There is optimal access to this and greenery.</i>	1. Create more space for communal areas in the buildings to enhance safety and vitality. <i>'Wijkgedachte' has disappeared and lack of social safety and a vibrant streetscape.</i>	1. Individually designed facades offer the opportunity for renovations per household. <i>Series of one - Wallblok</i>
2. Not interfere with the geometric design, ensure that people can still choose their way to work or school. <i>Hierarchical system. Relation between green, infrastructure and functions.</i>	2. The sheltered spaces are still not sheltered enough, adding building mass could help create more sheltered spaces. <i>Sheltered green spaces have remained unappropriated, the greenery is uniform. People don't feel attached.</i>	2. Use of prefabricated elements to ensure sustainable and efficient construction. <i>Prefabrication - De Swolenaar, Inside-Out, Heiligham, Fierbosdreef, Solar Decathlon</i>
3. Preserving the north-south orientation, bedrooms and kitchens on the east side. Living room on the west side. <i>Perfect orientation of the building.</i>	3. The buildings need to be connected to the surroundings by adding ground-bounded dwellings, public functions on the ground floor and attractive entrances. <i>The ground floors are made out of storage spaces, closed character is perceived as unpleasant and uninviting.</i>	3. Use of simple joints to ensure easy adaptability. <i>Execution technique - De Swolenaar, Inside-Out, Heiligham, Fierbosdreef</i>
4. The courtyards need to be preserved to make the living place more attractive, as there is outdoor space for the residents. <i>The courtyards around the building form an important aspect in the transition of spaces.</i>	4. Improve urbanity by mixing functions. <i>Residential areas are sober and not extensively used.</i>	4. Extend the lifespan by physically upgrading the building. <i>Lifespan - De Swolenaar, Wallblok, Smarttofs, Fierbosdreef, Solar Decathlon</i>
5. Porch flats need to be preserved, as they present opportunities for standard solutions. <i>Porch flats are created with standard construction methods and thus offer solutions that can be applied to many of them.</i>	5. Addition of volume to create semi-open blocks, this will renew collective spaces and create differentiation. <i>The character of the Western Garden Cities is uniform and due to the openness, people don't feel assigned to spaces.</i>	5. Ensure reversibility by adding prefabricated elements and additions with a separate construction system. <i>Reversibility - De Swolenaar, Wallblok, Portiek Alphen aan den Rijn, Smarttofs, Heiligham, Fierbosdreef, Solar Decathlon</i>
6. Preserving the 'wisselkamer', as this makes the house capable of minimal changes in size. <i>Some porch flats contain a 'wisselkamer', where this room can be appointed to a dwelling.</i>	6. Upgrade the floorplans by creating holes in the construction and create a floorplan that can adjust and offer different options. <i>Little diversity in dwellings and little versatility at the construction scale of the buildings.</i>	6. Listen to the wishes of the residents and create variation in dwellings and functions. <i>Resident participation - Wiltonflats, Wallblok, Portiek Alphen aan den Rijn, Heiligham</i>
	7. Create visual effects by changing the facades and adding small buildings with a different character. <i>As the buildings are built in a very fast way, all the buildings have a similar and sober appearance.</i>	7. Production of elements closely to minimize transportation waste and costs. <i>Production - De Swolenaar, Inside-Out, Heiligham, Fierbosdreef</i>
	8. Create more space for the living room, give this living area the full width of the building. <i>The living room is mostly oriented on the west side, but they are too small for larger families.</i>	8. Keep demolition to a minimum, achieve adaptability with small interventions. <i>Demolition - Portiek Alphen aan den Rijn, Inside-Out, Heiligham, Solar Decathlon</i>
	9. Create differentiation in the design and use of the courtyards and give them their own character. <i>The courtyards are all similar to each other and not used extensively.</i>	9. Create floorplans that offer multiple variations for other functions and alterations in dwelling sizes. <i>Responding to market dynamics - De Swolenaar, Wiltonflats, Wallblok, Portiek Alphen aan den Rijn, Fierbosdreef</i>
	10. The principle of the 'wisselkamer' can be applied to other porch flats and can create a form of adaptability. <i>Some porch flats already contain a 'wisselkamer', this can manage small changes in dwellings.</i>	10. Create open floorspaces within one dwelling to offer residents the opportunity to change the infill. <i>Responding to household dynamics - De Swolenaar, Wallblok, Portiek Alphen aan den Rijn, Smarttofs, Fierbosdreef</i>
	11. Densify to optimize space utilization. <i>The low number of residents per area creates unused spaces.</i>	11. Make installation changes possible by using elements that are easy to remove. <i>Suitable for installation changes - Inside-Out</i>
	12. Create larger transportation zones to make it easier for people to meet and connect. For example with galleries, also to create more space for dwellings as porches can be removed. <i>Sense of community during the pioneering period is not present anymore. Individuality has given way to this.</i>	12. Prepare for climatic changes by collecting rainwater and preserving green spaces. <i>Prepared for climatic changes - Wiltonflats, Solar Decathlon</i>
	13. The addition of more intermediate spaces will improve urbanity. <i>There is a strict division of public and private in the residential areas.</i>	13. Galleries offer easy cleaning and prefabricated panels can be removed in case of damage. <i>Maintenance - De Swolenaar, Wiltonflats, Solar Decathlon</i>

### Summary drawing research



### PHOTOS DESIGN CASE



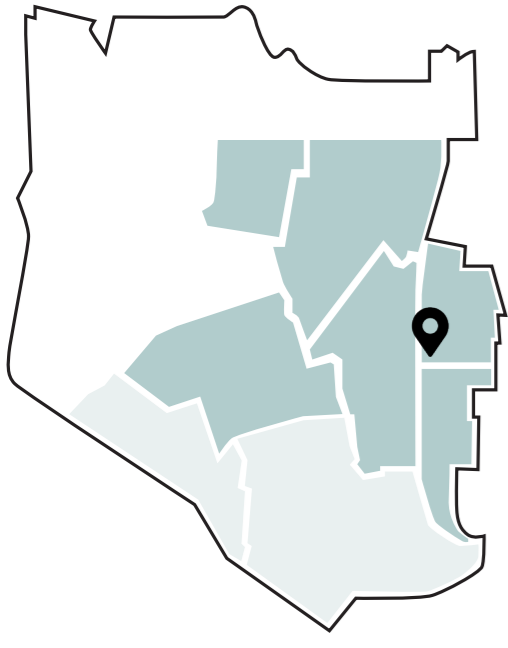
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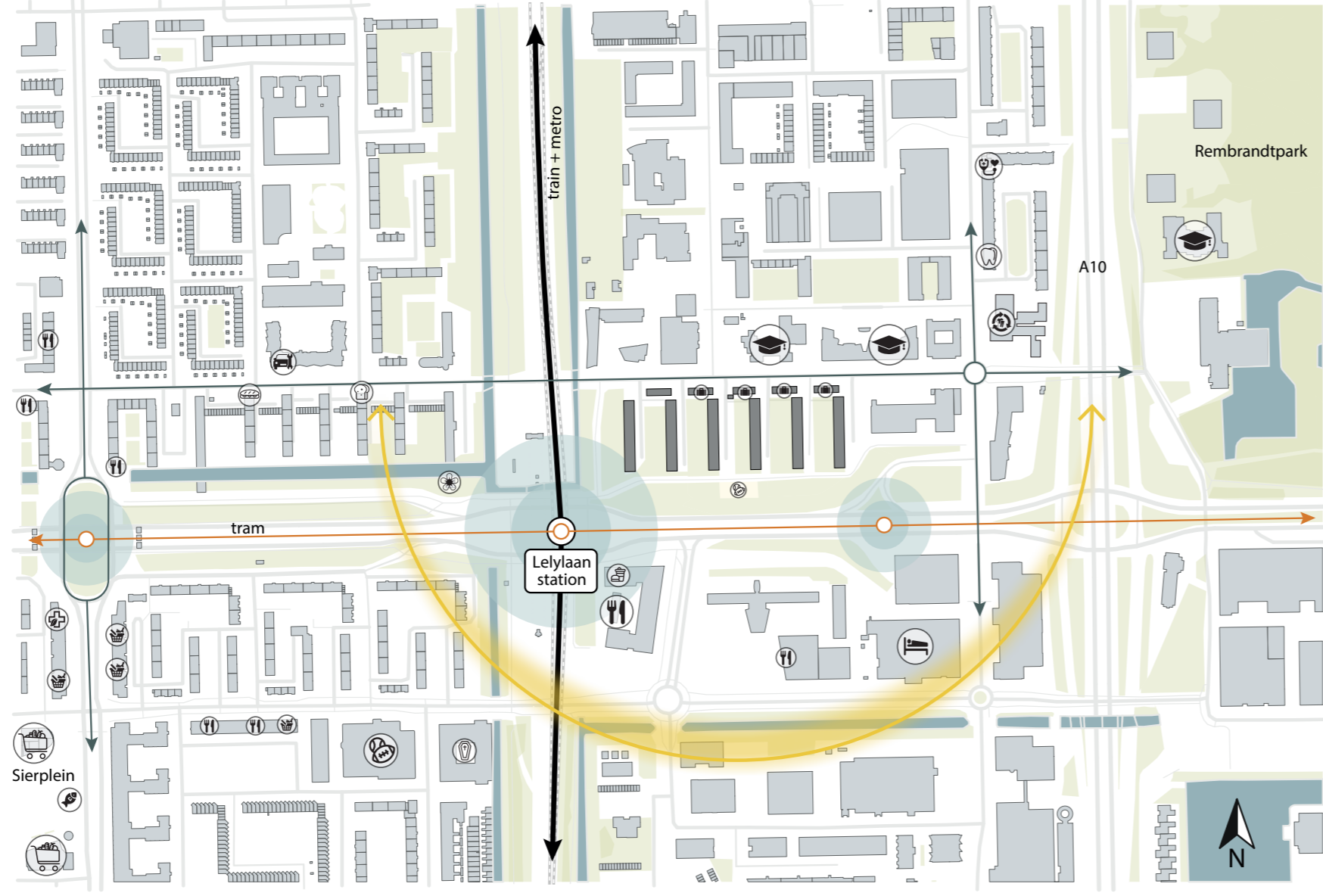
## EXISTING SITUATION | CONTEXT

### Location

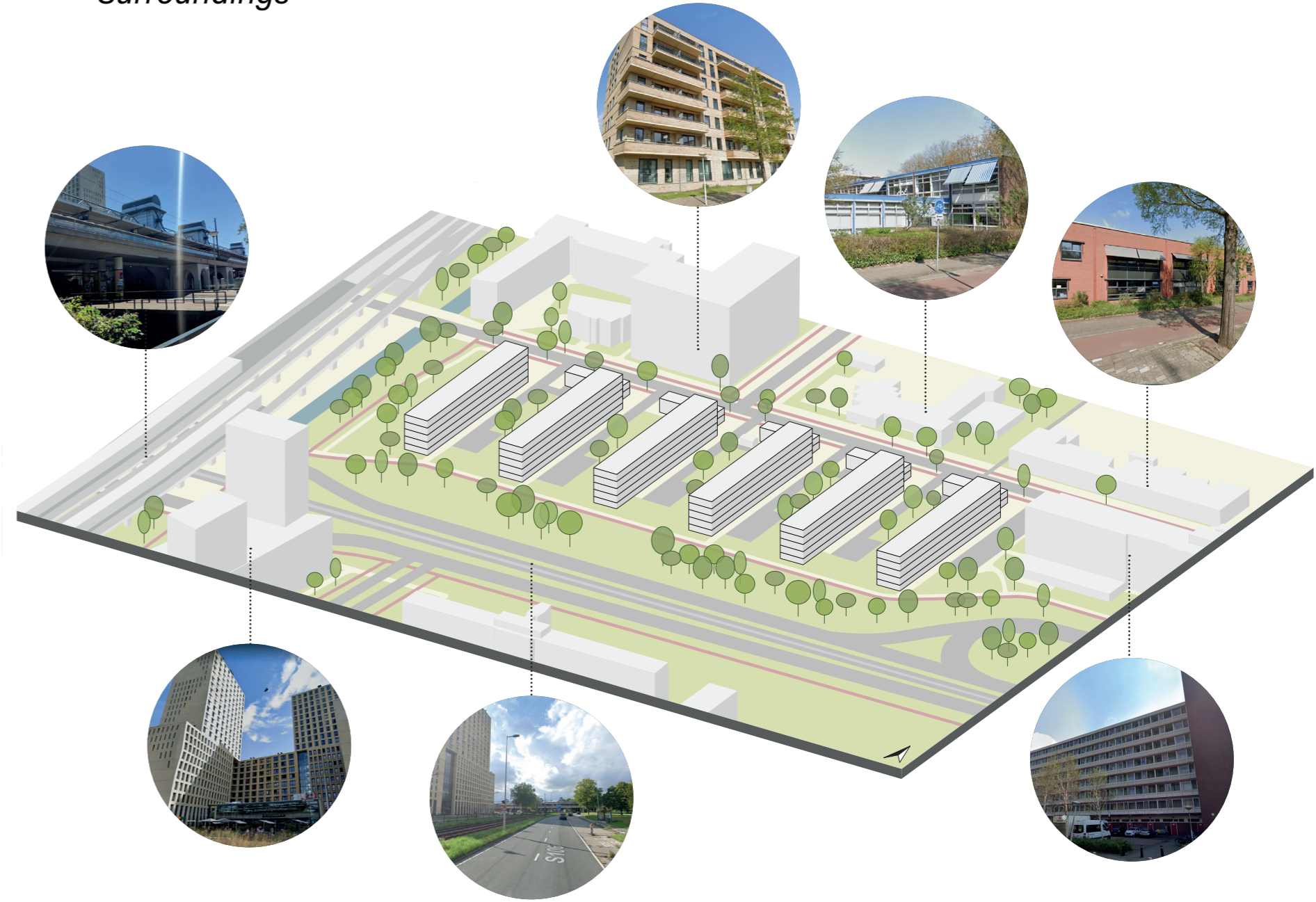


### Project information

- Area: Overtoomse veld
- Building levels: 5
- Construction system: Airey
- Architect: Berghoef & Klarenbeek



### Surroundings



## VALUE ASSESSMENT

### Value assessment

	AGE	HISTORIC	ART	USE	NEWNESS	RARITY	AESTHETICS	NEGATIVE
<b>CONTEXT</b>	The area was initially characterized by peat soil. This was transformed into a fertile agricultural land.	Buildings are part of the new developments from after the war, 1950-1960.	The typical linear set-up of the buildings can be described as functional.	Easy access by train, tram, metro and car. Close to Leylaan station.	The context is not that old. New large apartment buildings in the surroundings are added after 2015.	The Western Garden Cities are only executed in this way in Nieuw-West, this is the largest social housing area in the world.	The area has mostly open building blocks in the form of porch flats. Materialization is sober.	All the buildings are built in the same period. All the buildings are outdated at the same time.
<b>SITE</b>	The site was empty first.			Floor use of green and public areas.	Some green parts in between the buildings get extra trees and a playground.	Quality of the two sides, both Leylaan and quiet Johan Jongkindstraat.	Different lightlines in the area.	The site is uniform and repetitive. No social cohesion, and the building physics are bad (noise, insulation).
<b>SKIN</b>		The concrete tiles are typical for the experimental building method (airey).	Functional concrete tiles, window frames align with the tiles.	Form follows function, the openings in the facade relate to the function inside.	The window frames have been replaced because they were outdated.			The facade is very sober and the building physics are bad (noise, insulation).
<b>STRUCTURE</b>		The structure is made out of 82 blocks (concrete and masonry). This airy system made it possible to build it in a short amount of time.		The separating walls are load bearing and span in the short direction.		The airy building system was only used after the war and around 10,000 porch flats were built according to the principle of which 5,000 in Amsterdam.		Monotone floorplans, only family apartments and a few couple apartments.
<b>PLAN</b>		The monotone floorplan was made because the area wanted to attract families.		House is accessible via the porch, small living rooms, and small total space.				
<b>SURFACES</b>	The walls of the smaller buildings are clad with graffiti.			Surfaces are chosen because of the functional and fast assembly.				
<b>SERVICES</b>				Services are functional and limited to only the necessary, natural ventilation.	An improvement in central heating (around 1970).			
<b>STUFF</b>							Many apartments still have satellite dishes. This affects the aesthetics.	
<b>STORY</b>	When time passed by Dutch residents left the apartments and immigrants are now the most common group.	The buildings were built after the war, since there was a huge need for new apartments outside of the city.		The CAM did not envision the ground floor to be made up of storage spaces, but the notion of raising the dwellings above ground floor level resulted in this.				Sense of community disappeared.

Highly valued  
Positively valued  
Indifferent

### Problems

**Repetition & uniform greenery**

**Closed ground floor**

**Monotone floorplans & small living rooms**

**Lots of green**

**Physically & architecturally outdated**

**Lack of social safety**

**Sober appearance**

**Lack of urbanity / mixed functions**

**Airey construction system**

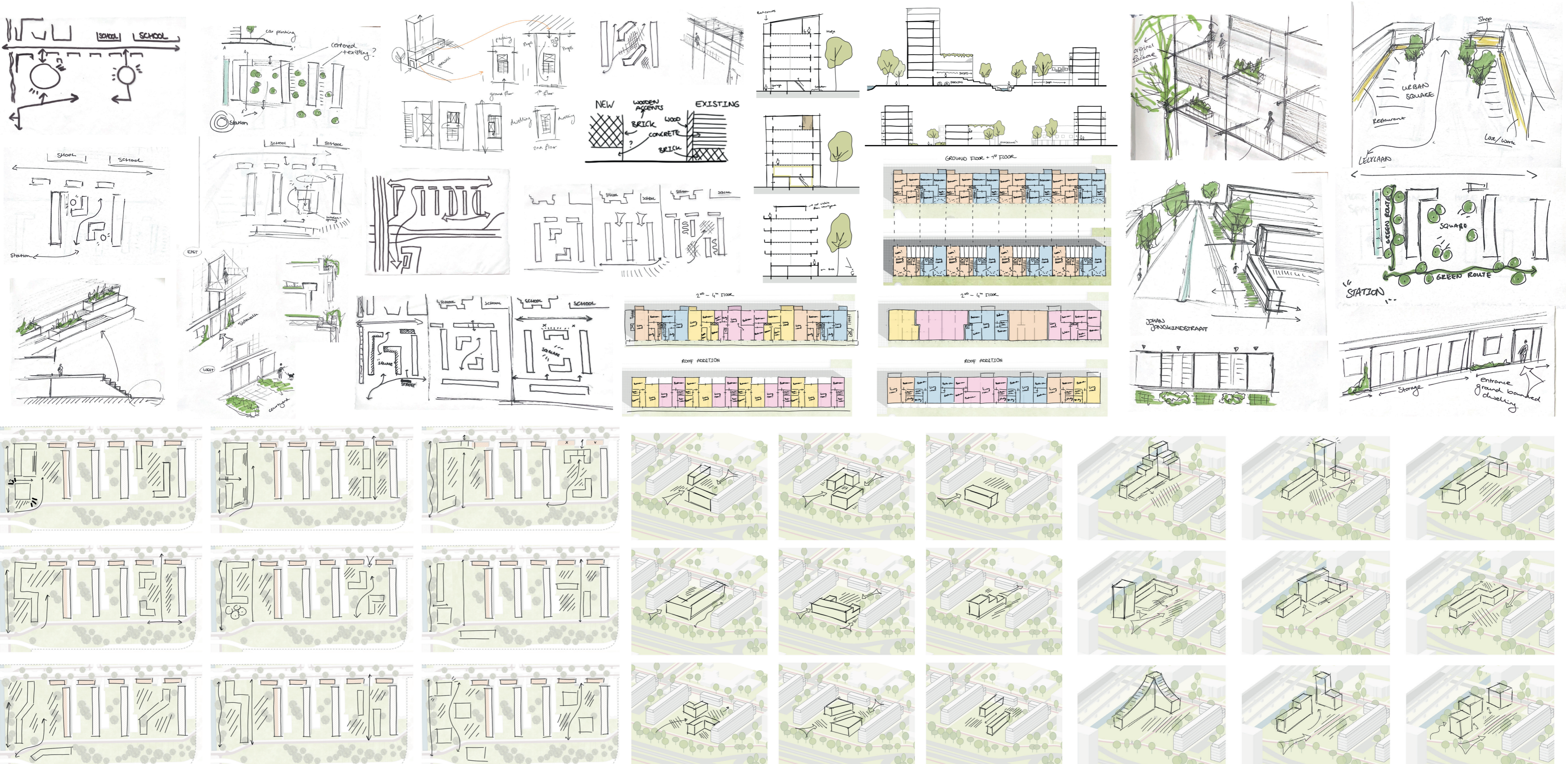
**Flooding**

**Individuality**

**Little connection with surroundings**

**Public transport closeby**

## SKETCHING & EXPLORING



# BEYOND MONOTONY

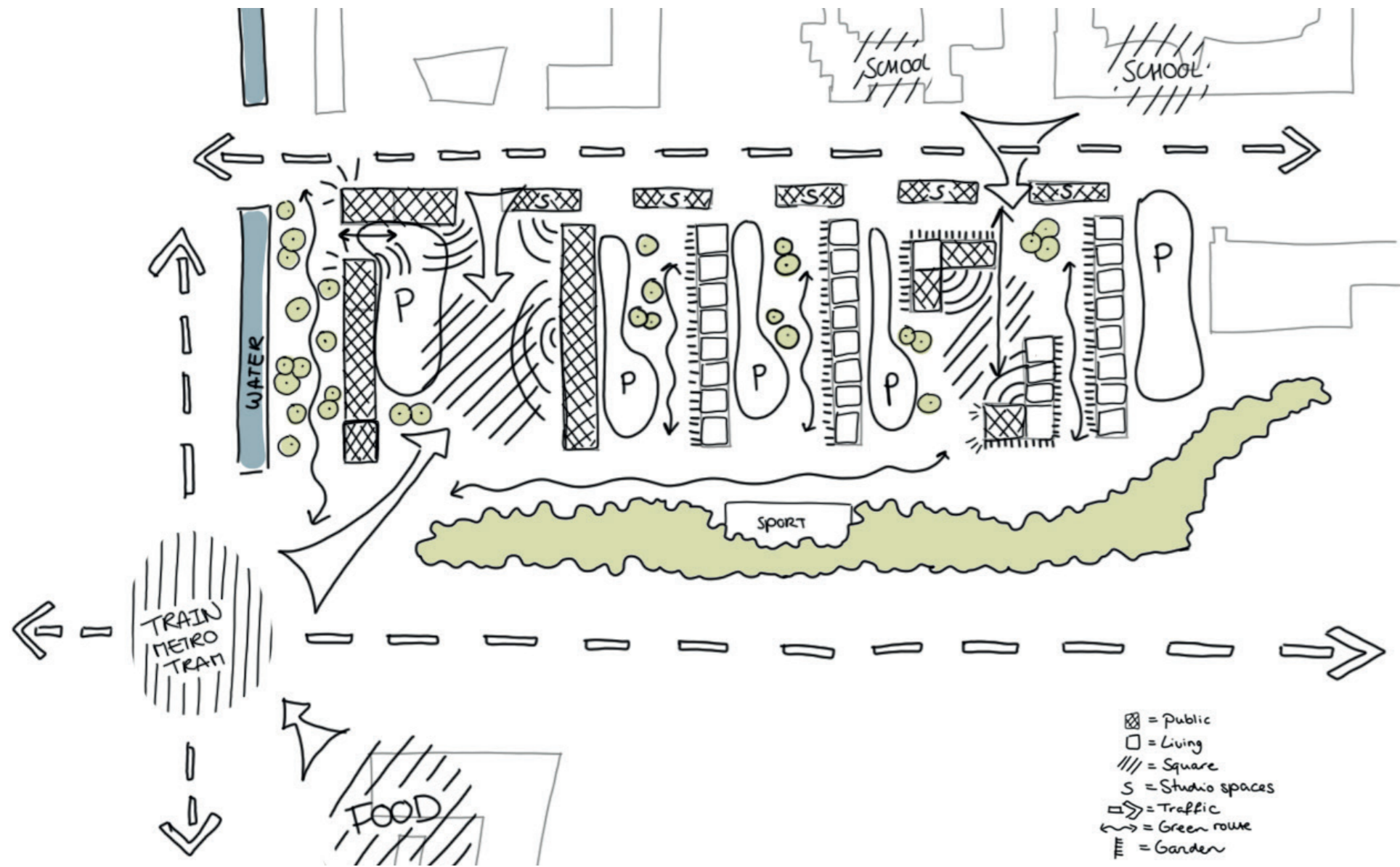
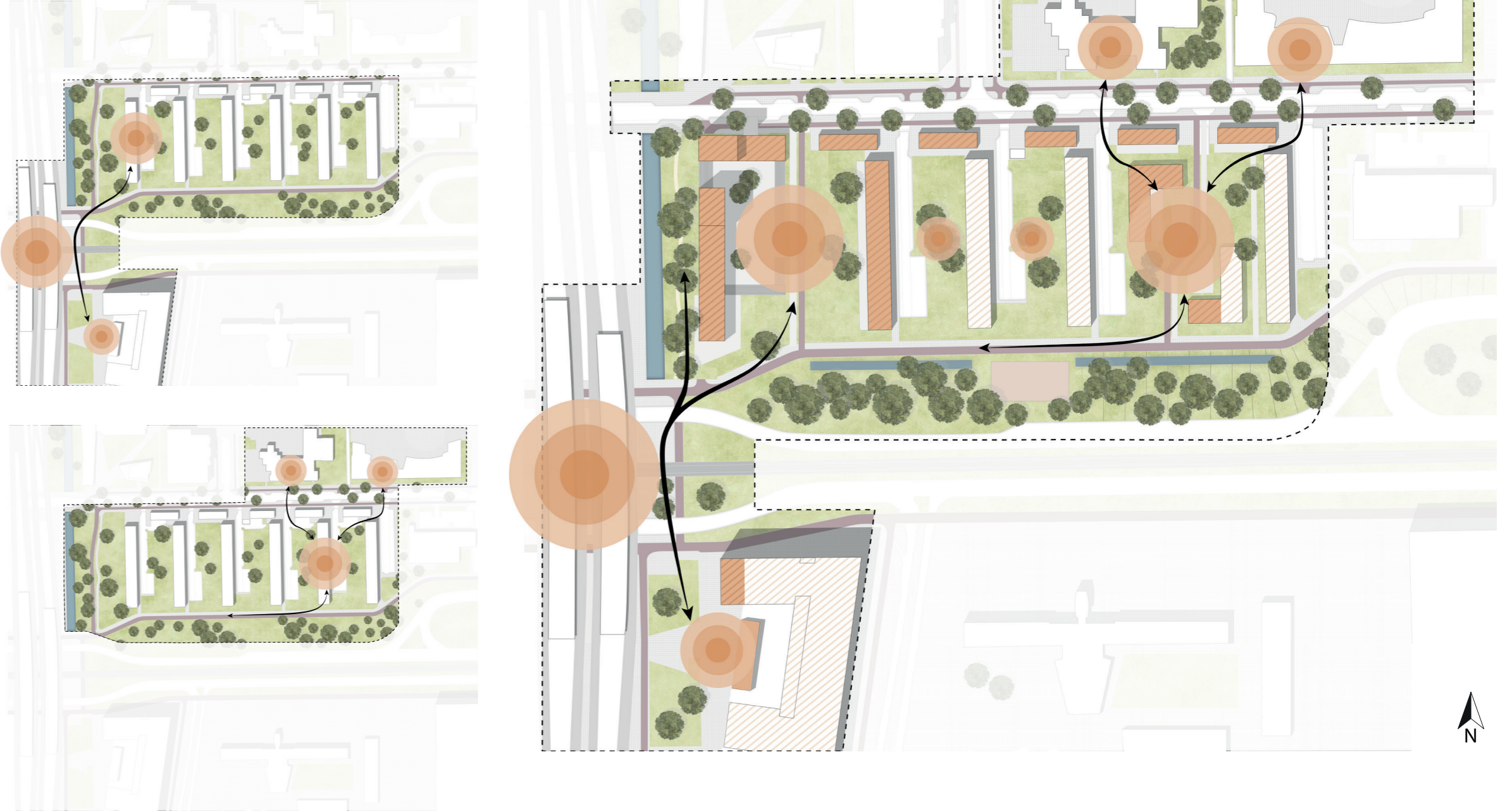
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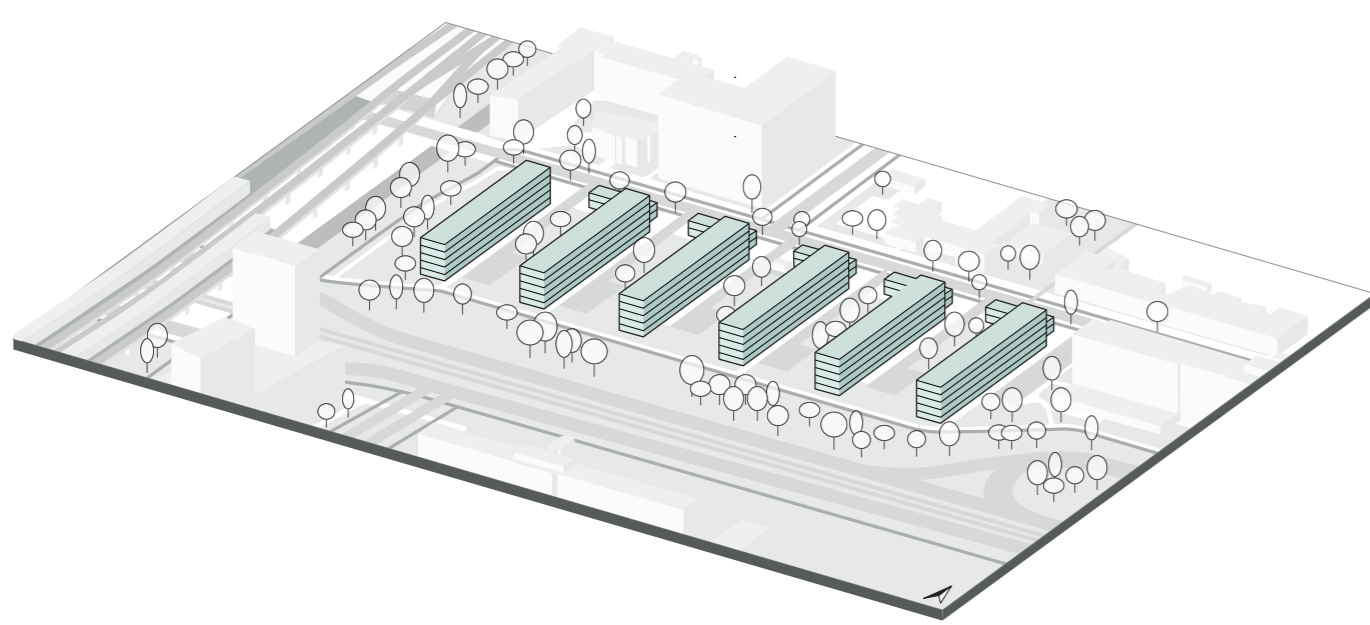
## CONCEPT PLAN

## MASTERPLAN

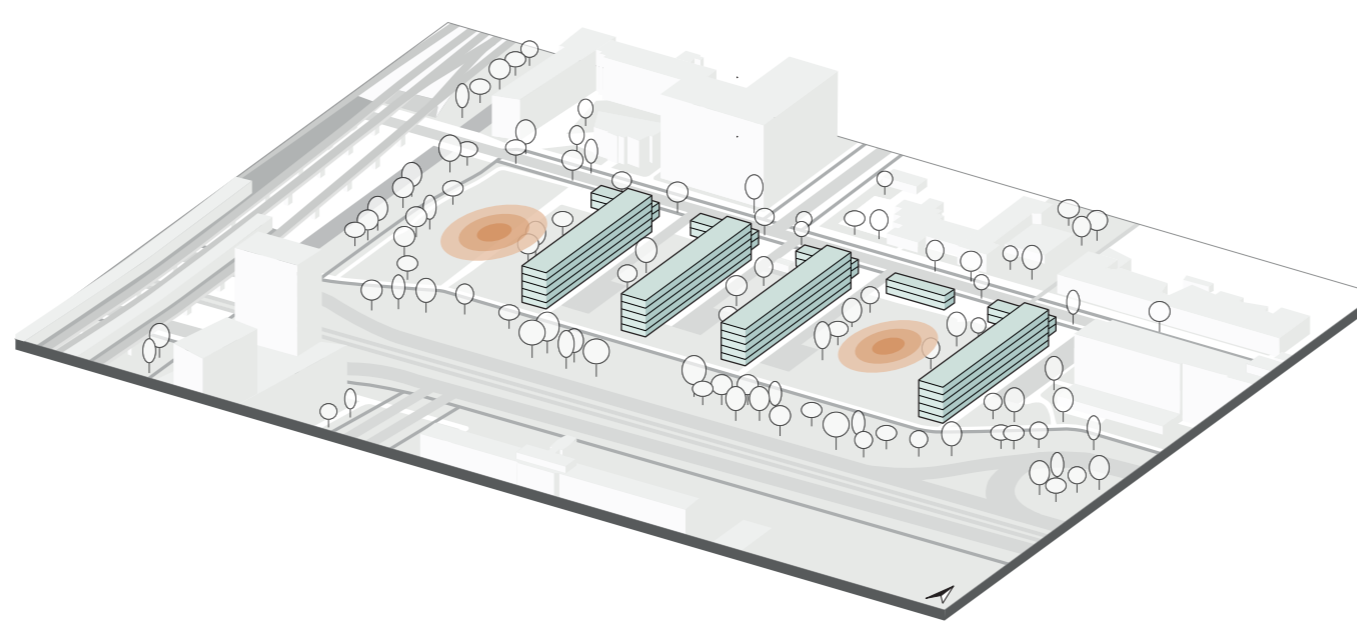
- Public / work plinth, dwellings on upper levels
- Dwellings
- Main connections



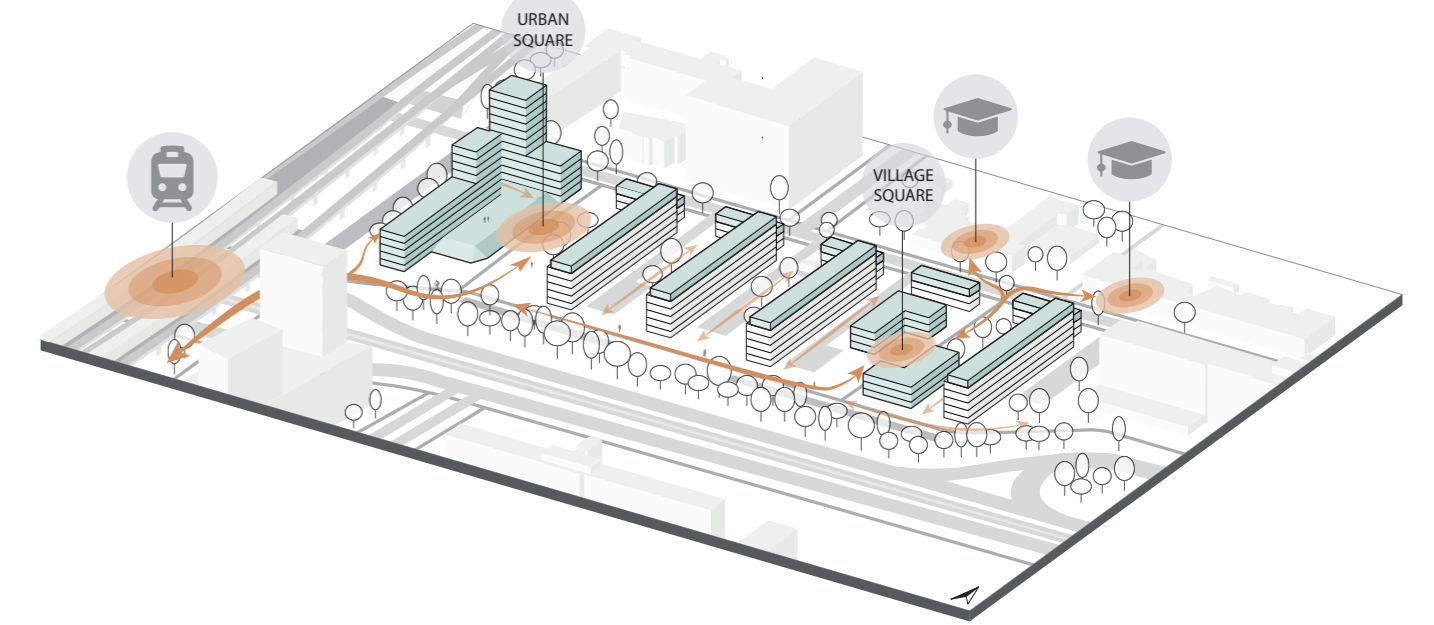
## URBAN DIAGRAMS



Existing situation



Create space for squares and variation in the plan



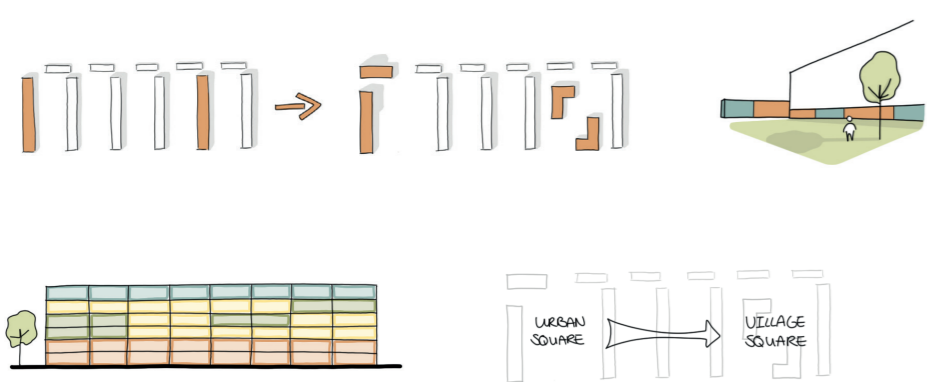
Add new building volumes and make connections with surroundings

## KEY ASPECTS | DESIGN INTERVENTIONS

### 1. Breaking repetition

- Demolition / new build
- Variety in dwellings
- Mix in functions
- Own character to public spaces

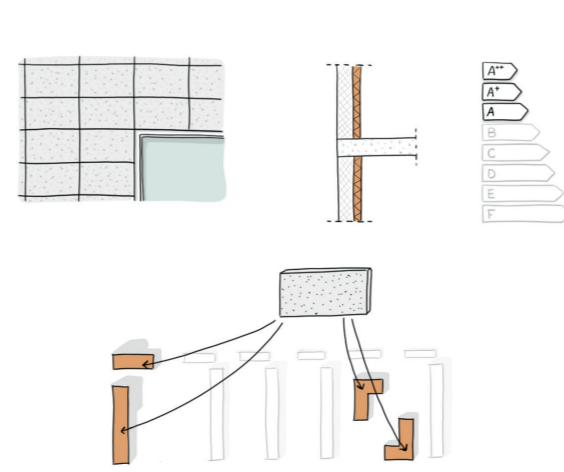
Western Garden Cities



### 3. Value the heritage

- Preserving the characteristic facade
- Material use
- Reuse facade tiles
- Keep openness and outdoor spaces
- Internal insulation

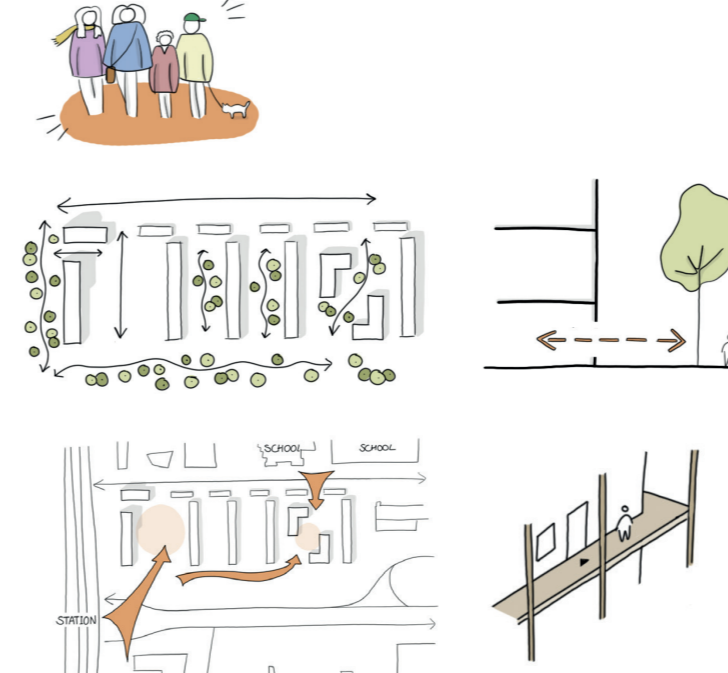
Western Garden Cities



### 2. Making connections

- Open ground floor
- Gallery access
- Routing

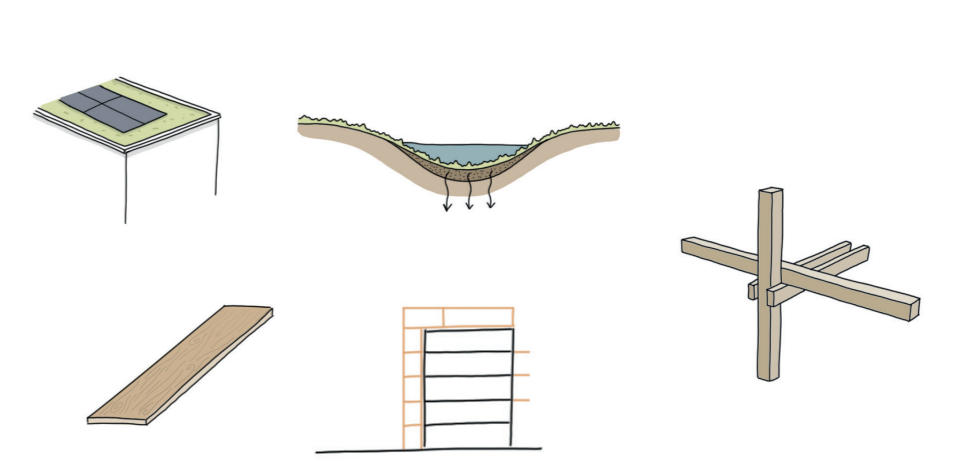
Western Garden Cities



### 4. Future-proofing the plan

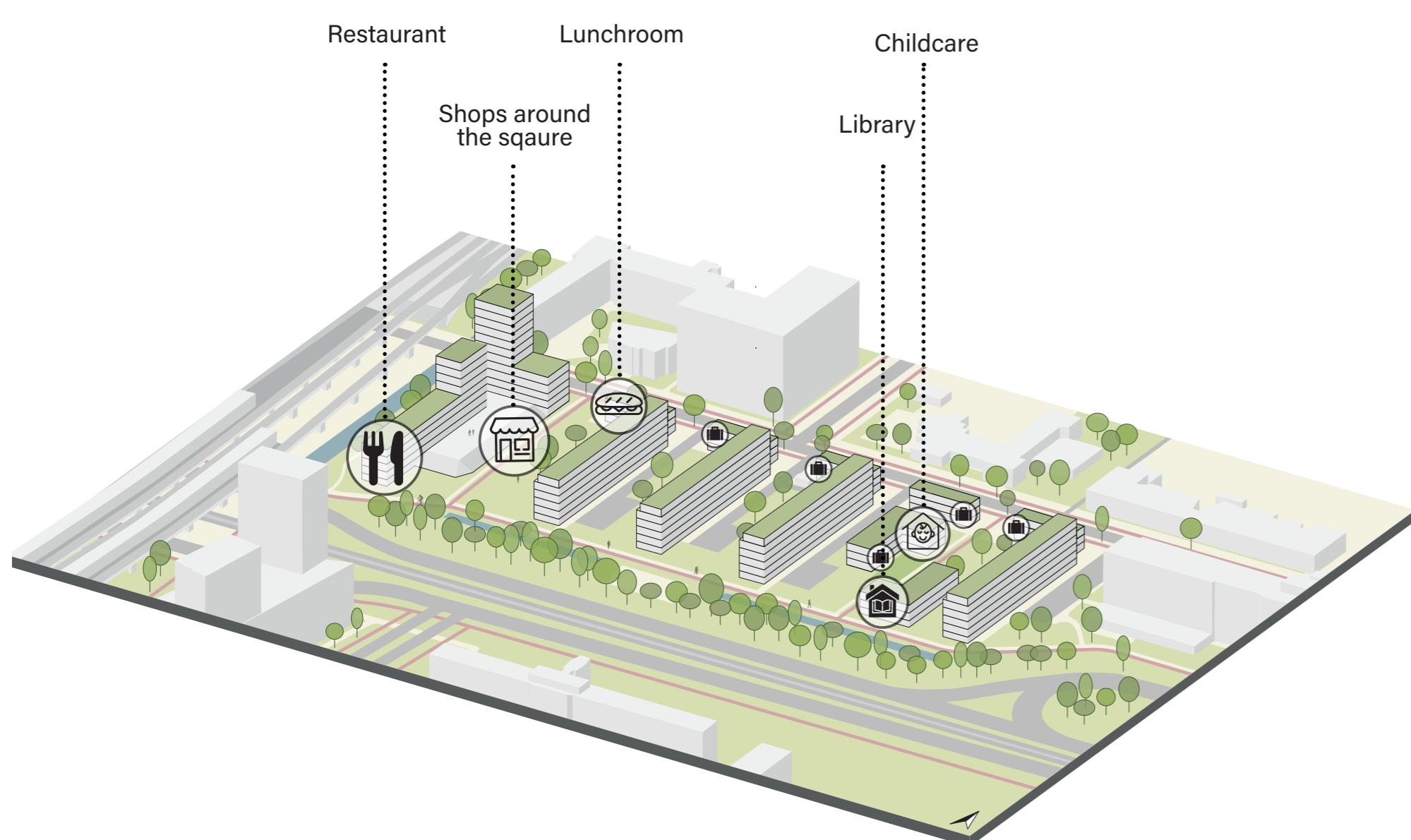
- Possibility to split or merge dwellings
- Water collection
- Sustainable materials
- Simple joints
- Separate constructions

Adaptability



## ADDED FUNCTIONS

## PROJECT DATA



Current situation			
	Number	m2 per unit	Total m2
<b>Housing</b>			
Family apartments	168	60,5	10164
Couple apartments	48	31,25	1500
Studios	6	21	126
<b>Total</b>	<b>222</b>		<b>11790</b>
<b>Storage</b>			
Storage boxes	168	10,2	1713,6
Small storages flat	48	3,8	182,4
Small storages annex	6	3	18
Garages annex	24	15,7	376,8
<b>Total</b>	<b>246</b>		<b>2290,8</b>
<b>Public</b>			
Public space annex	5	120	600
<b>Total</b>	<b>5</b>		<b>600</b>

New situation			
	Number	m2 per unit	Total m2
<b>Housing</b>			
Ground bounded family houses	24	130	3120
Starter apartment 1	48	72	3456
Starter apartment 2	48	82	3936
Merge starter apartments			
Roof apartments	32	80	2560
Apartment annex	10	56	560
Apartment annex + atelier	5	112	560
Apartment urban square	58	80	4640
Apartment village square	9	60	540
Apartment village square	8	90	720
Ground bounded village square	3	110	330
<b>Total</b>	<b>245</b>		<b>20422</b>
<b>Storage</b>			
Storage 1	96	5	480
Storage 2	46	6	276
Storage new building 1	30	3	90
Storage new building 2	14	5	70
<b>Total</b>	<b>186</b>		<b>916</b>
<b>Public</b>			
Existing public space annex	5	120	600
Work / public annex	5	87	435
Public flats	8	120	960
Public village square	2	110	220
Public urban square		1025	1000
<b>Total</b>	<b>20</b>		<b>3215</b>

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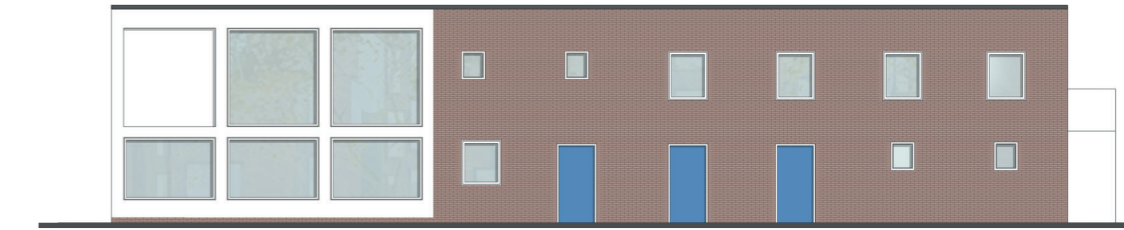
The case of the Johan Jongkindstraat

## ELEVATIONS | 1:200

Existing | East



Existing | North



Existing | West



Existing | South



New | East



New | North



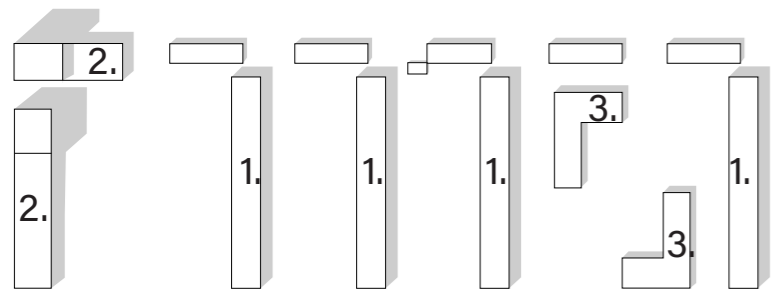
New | West



New | South



## ELEVATION PRINCIPLES



1. Existing flat



1. Transformed flat



2. New building - urban square



3. New building - village square

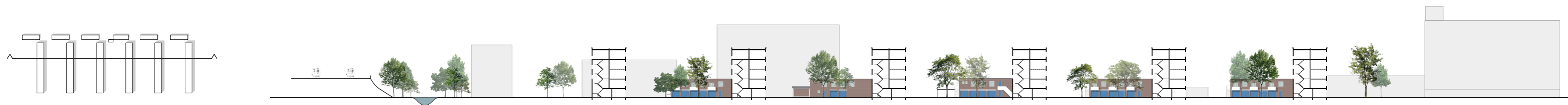
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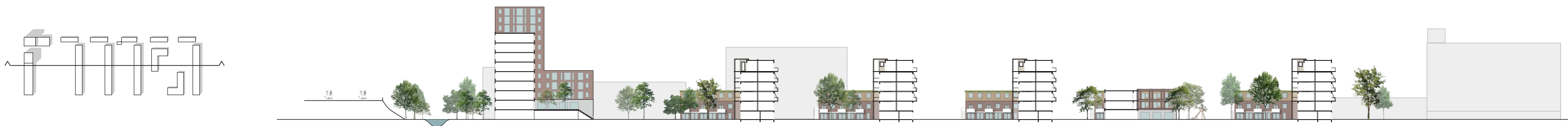
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## CONTEXT SECTION | 1:200

Existing situation

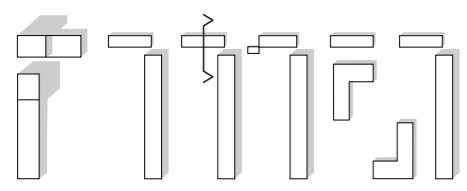


New situation

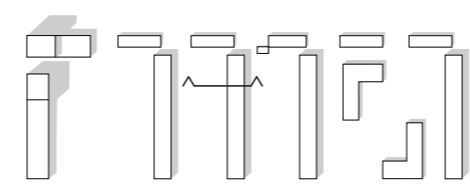


## SECTION | 1:200

Section 1

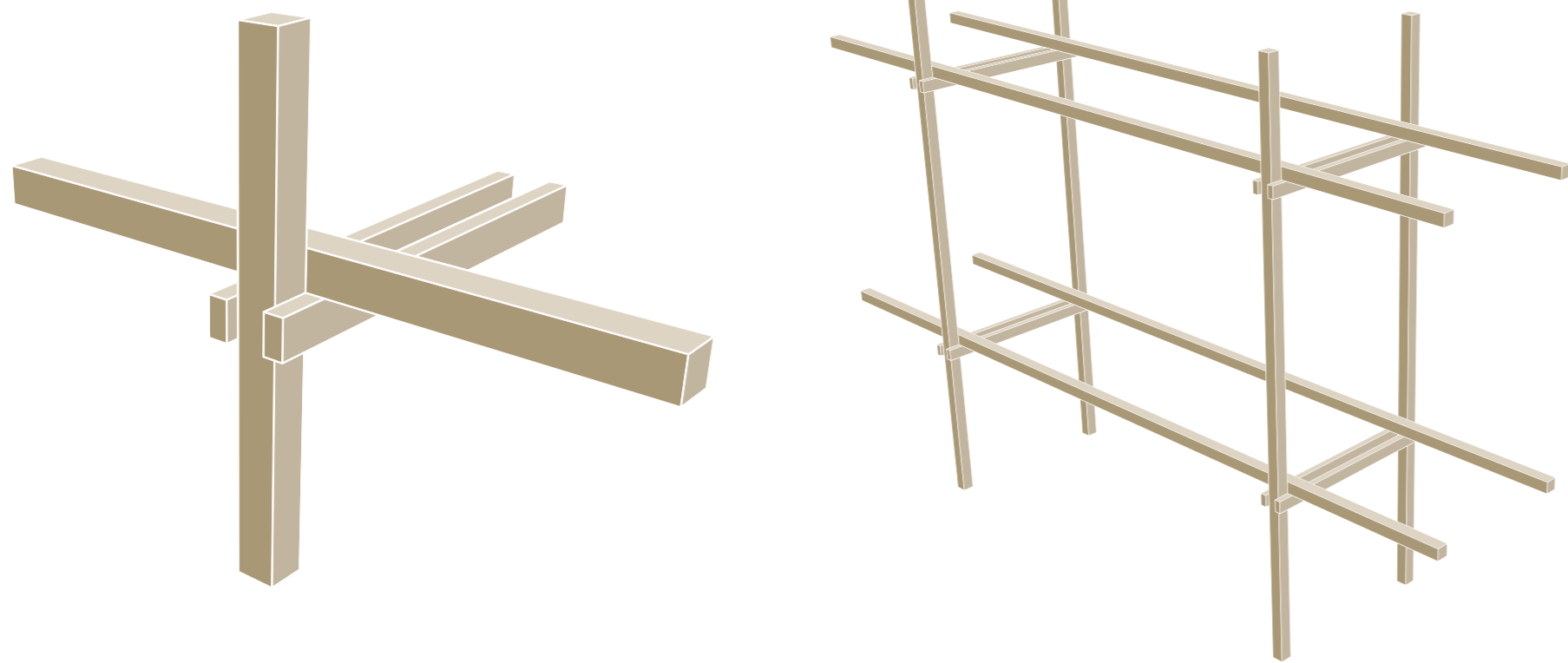


Section 2

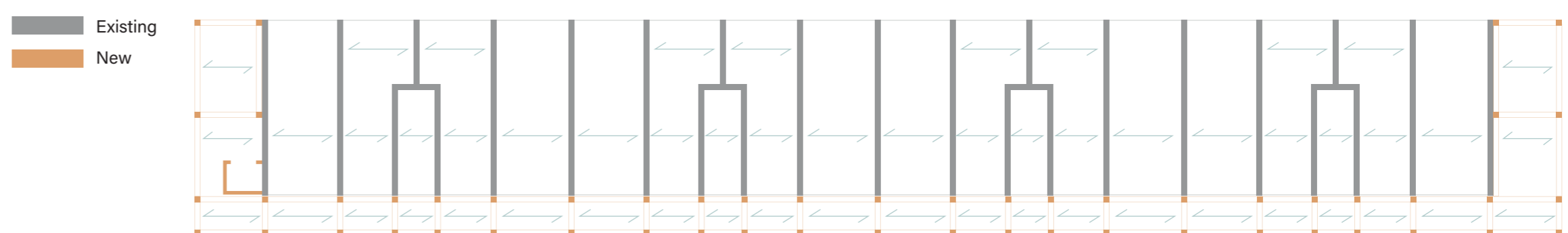


## LOAD-BEARING CONSTRUCTION

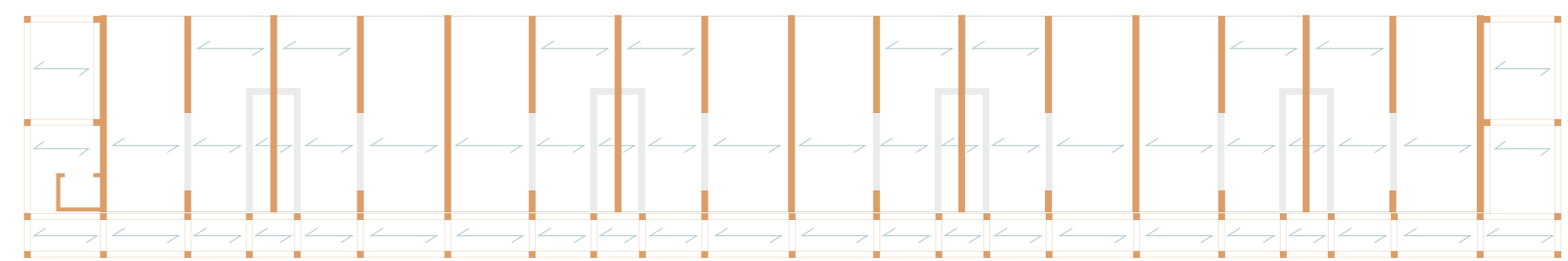
Demountable gallery structure



Existing floors

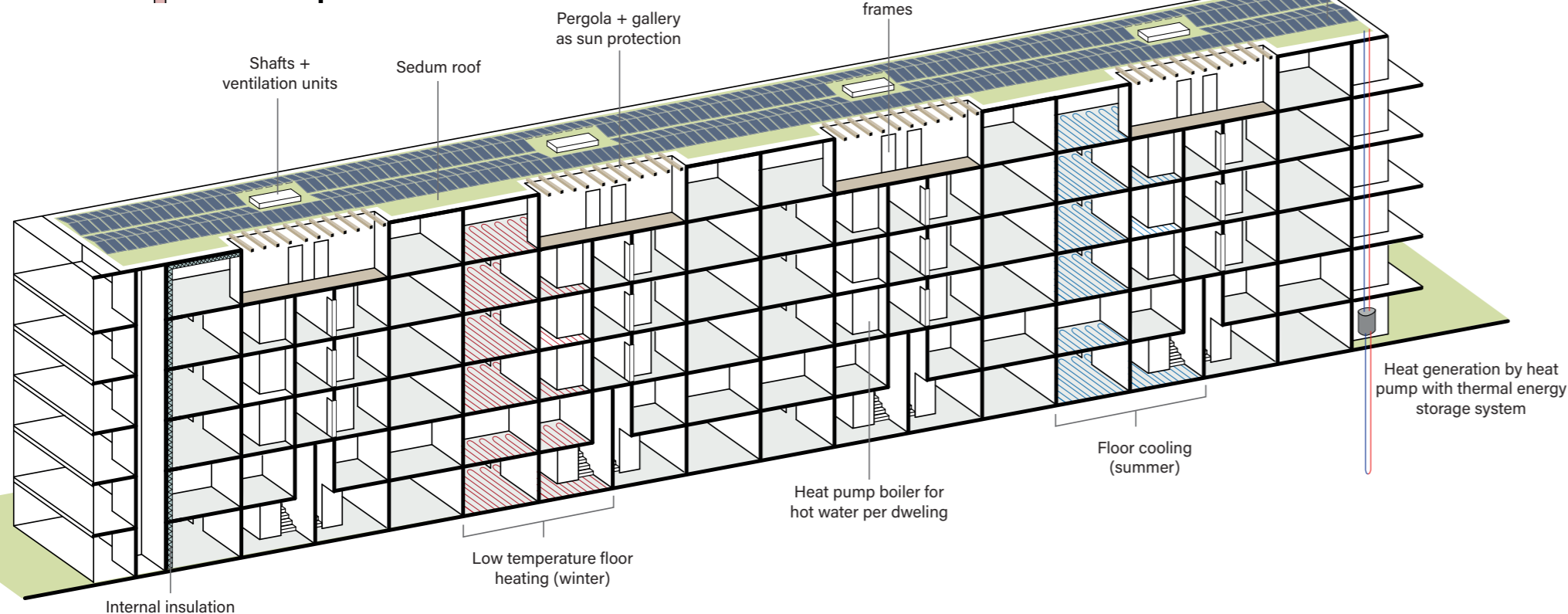
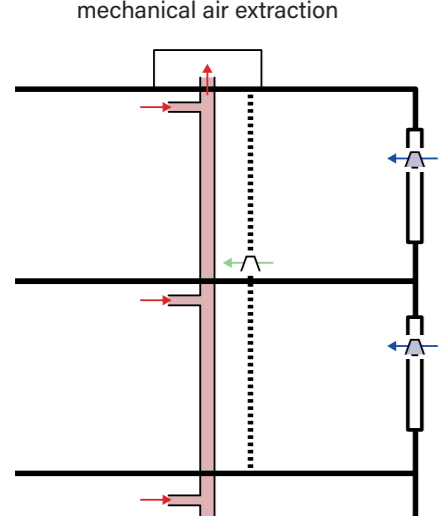


Roof extension



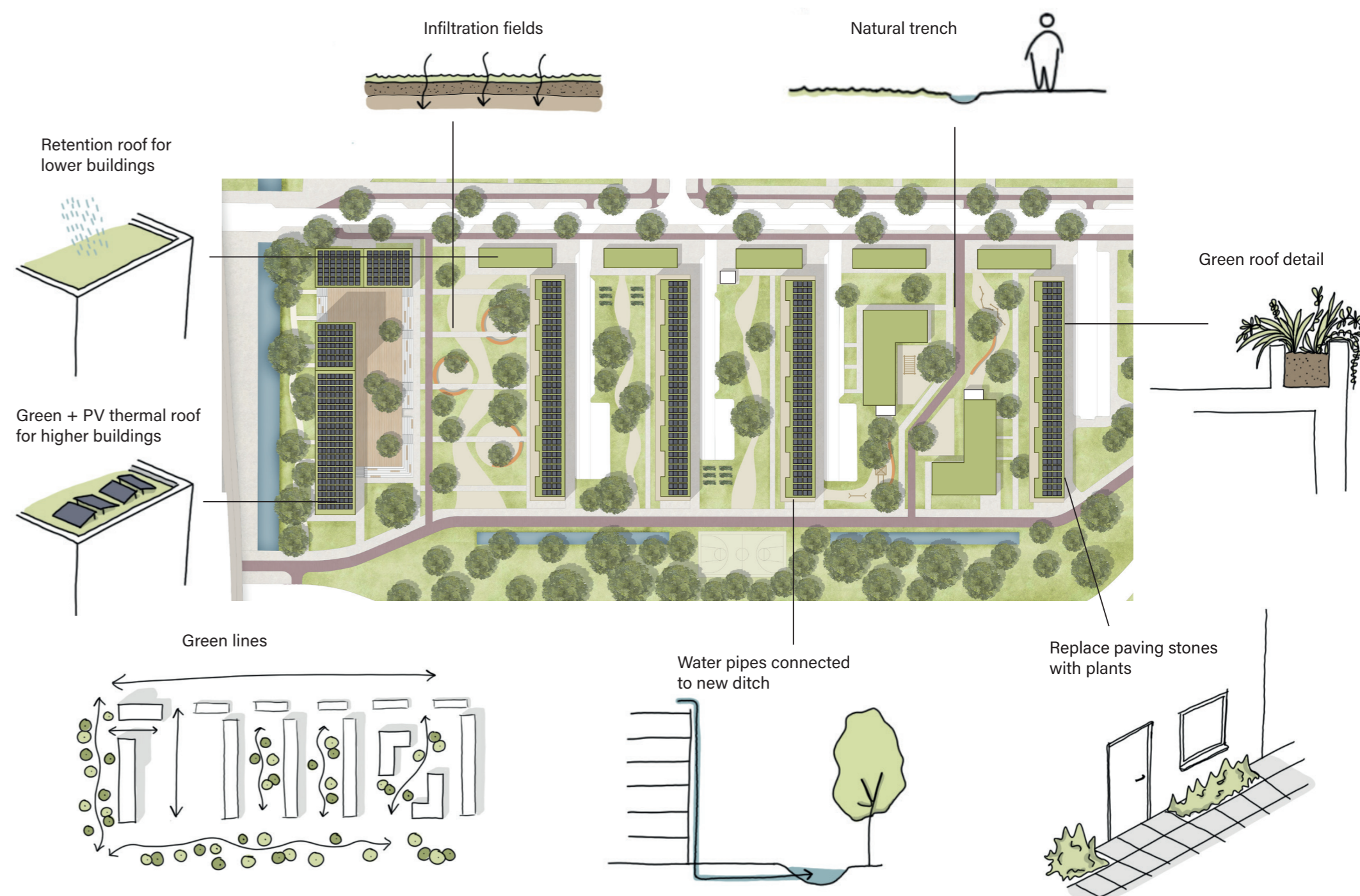
## CLIMATE INTERVENTIONS

Natural air supply and mechanical air extraction



Infiltration fields

Natural trench



# BEYOND MONOTONY

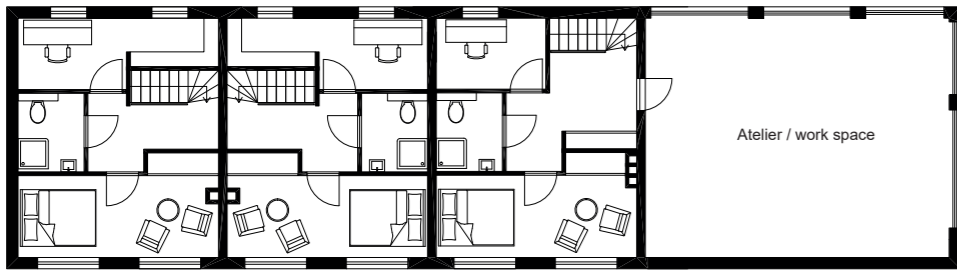
Transforming post-war porch flats in Amsterdam Nieuw-West

The case of the Johan Jongkindstraat

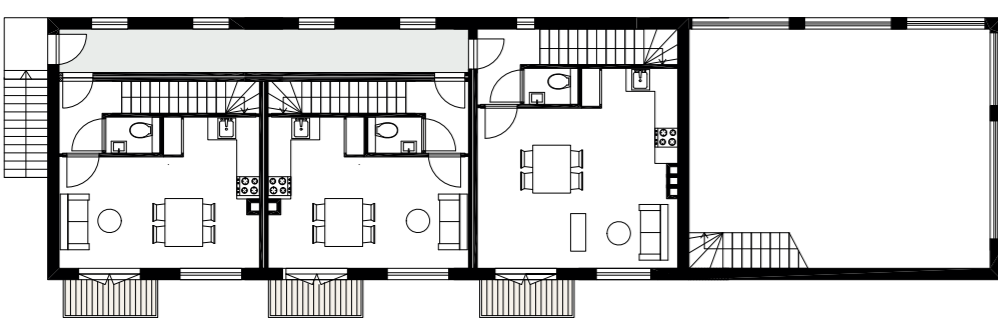
## FLOORPLANS

Annex - 1:200

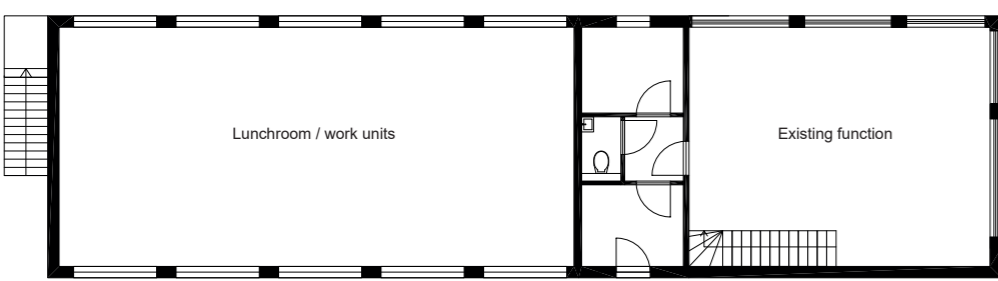
02 Second floor



01 First floor

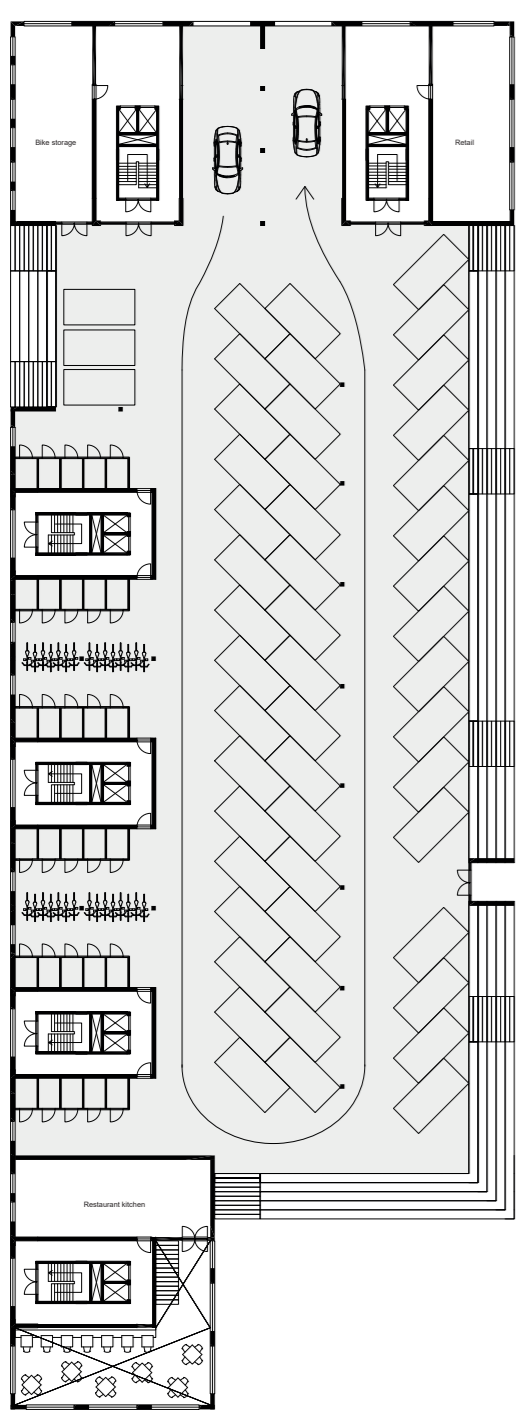


00 Ground floor

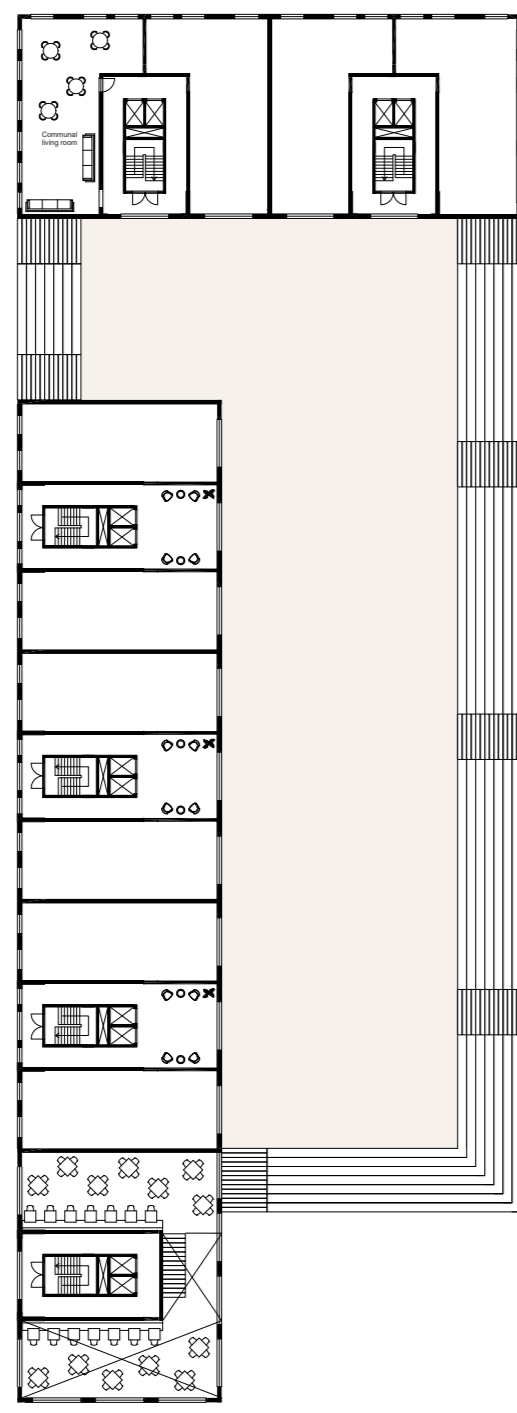


New building urban square - 1:500

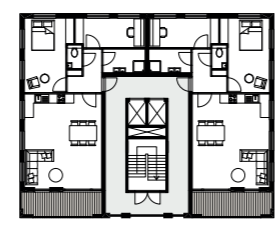
00 Ground floor



01 First floor

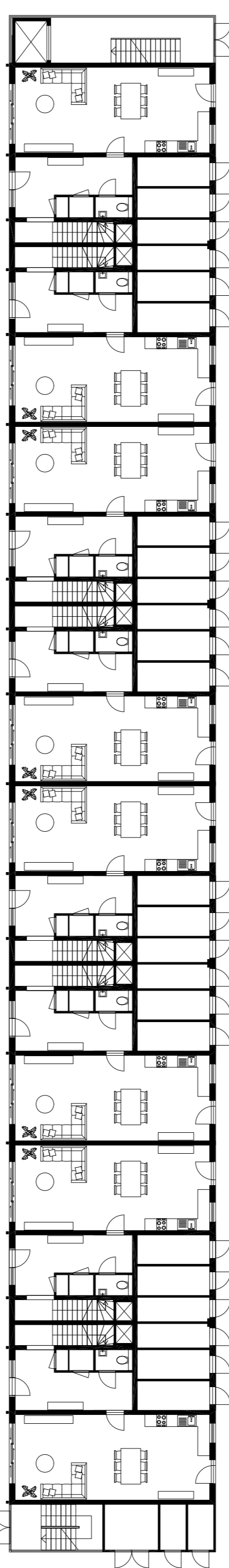


Upper floors tower

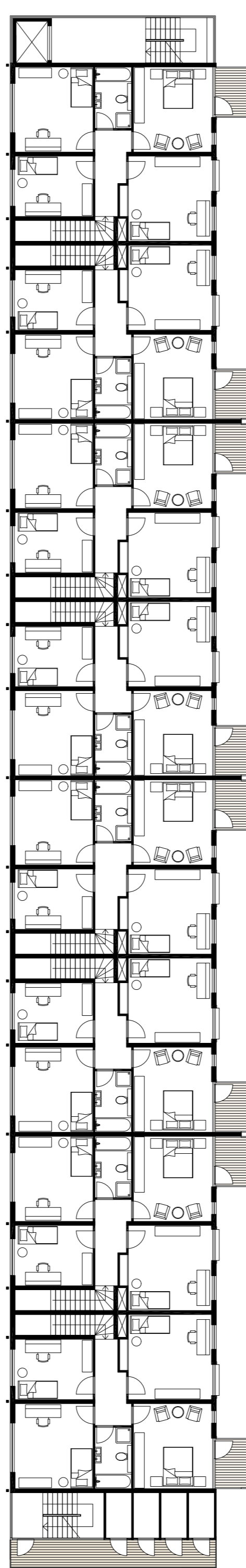


Flat - 1:200

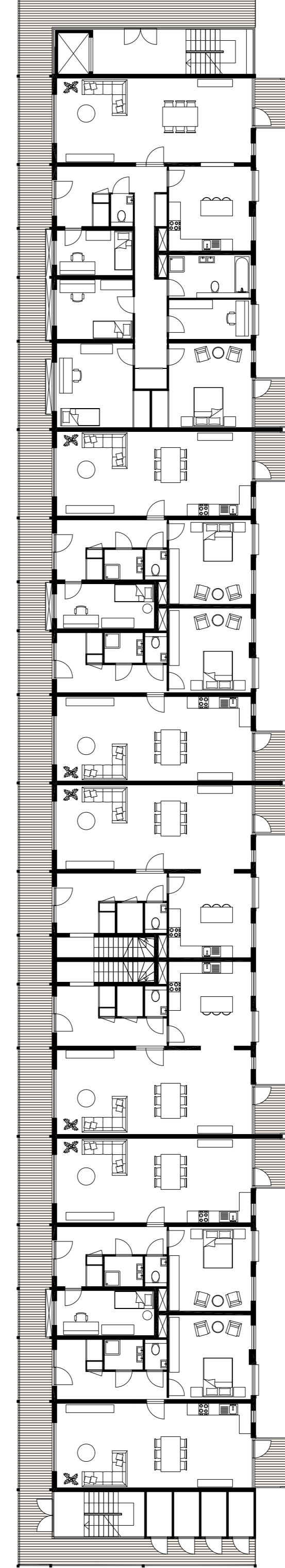
00 Ground floor



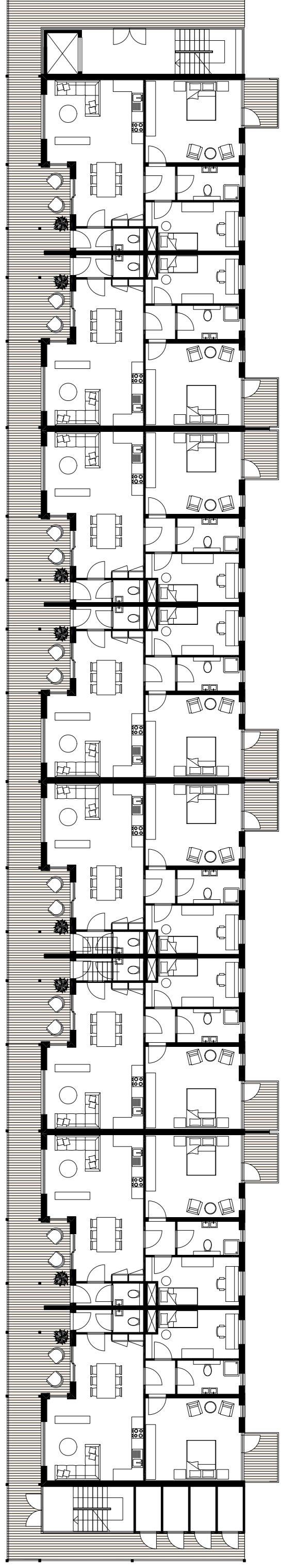
01 First floor



02-04 Second to fourth floor



05 Fifth floor



New building village square - 1:500

00 Ground floor



01 First floor



## NEW SITUATION | 1:1000



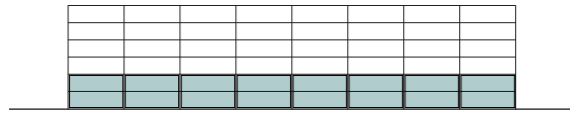
# BEYOND MONOTONY

Transforming post-war porch flats in Amsterdam Nieuw-West

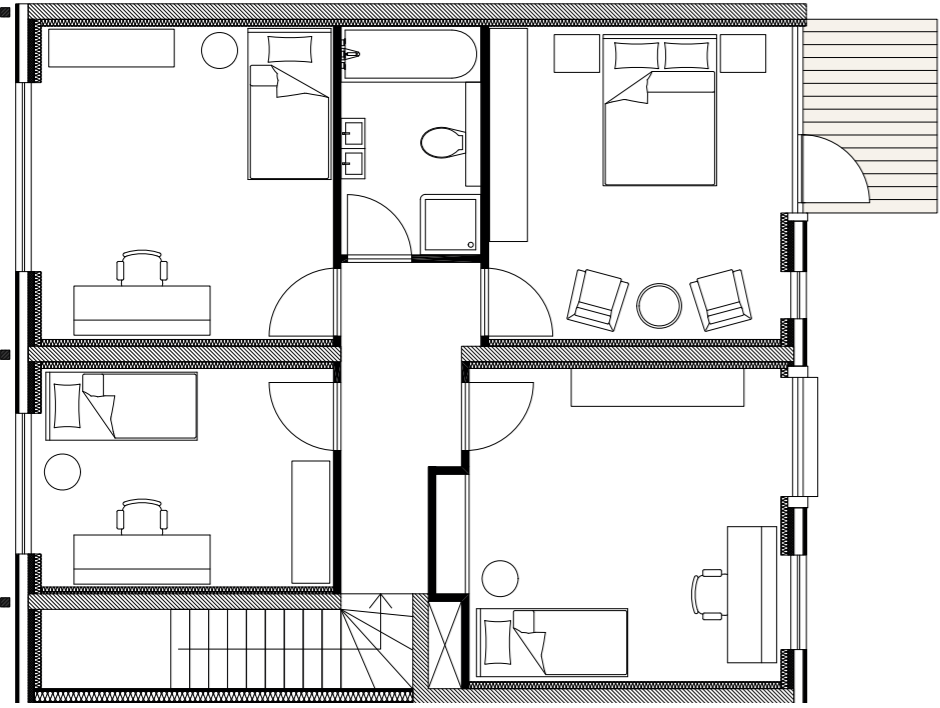
The case of the Johan Jongkindstraat

## DWELLING FLOORPLANS HERITAGE BUILDINGS | 1:100

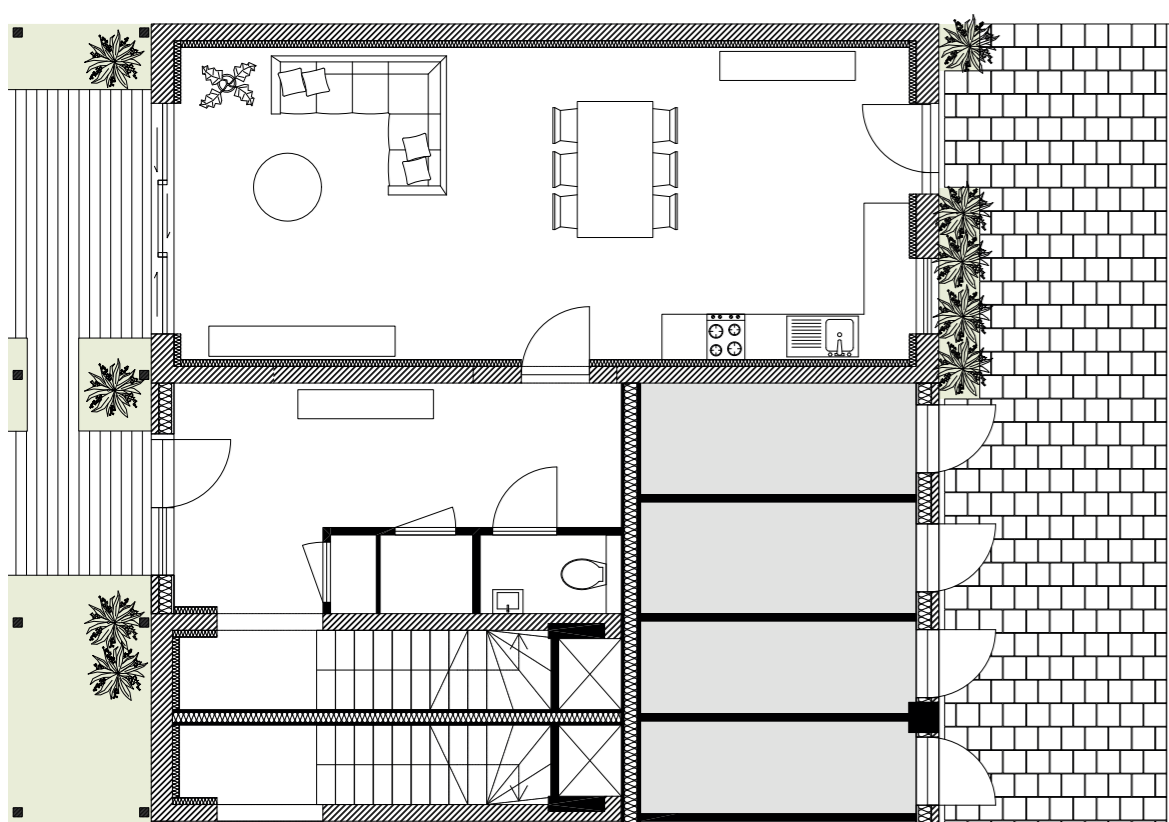
**Ground bounded family houses**  
 Square meters 130 m<sup>2</sup>  
 Number per flat 8  
 Number in total 24



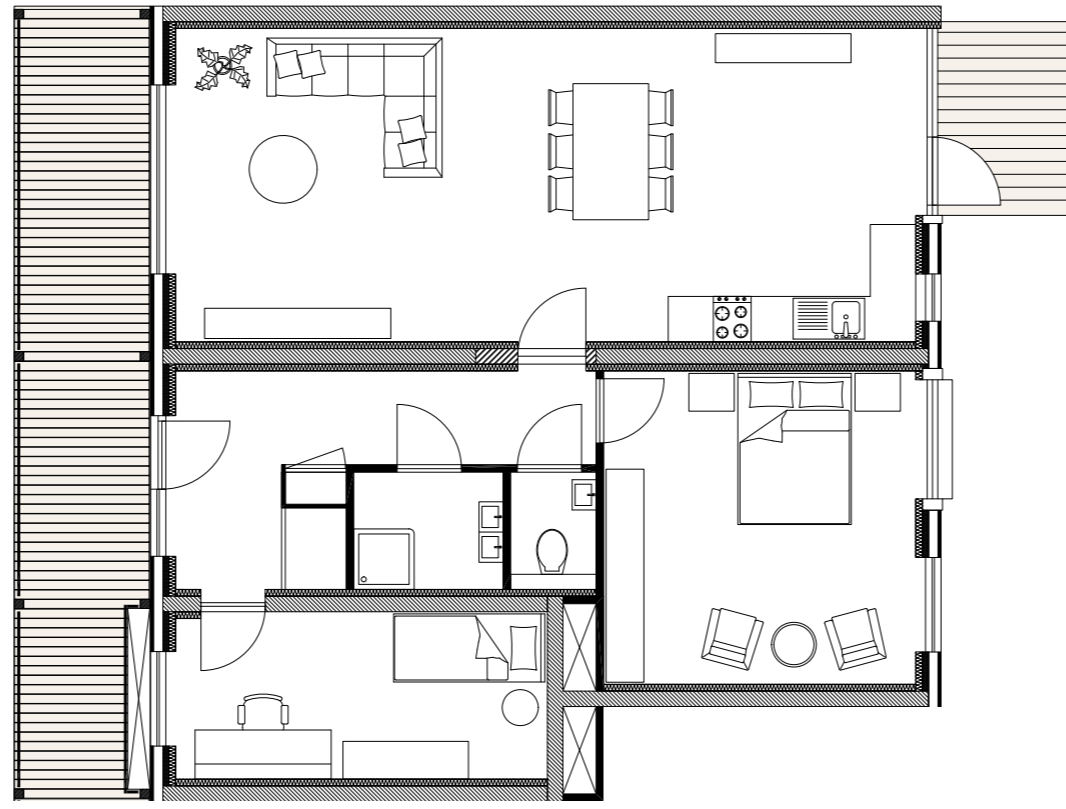
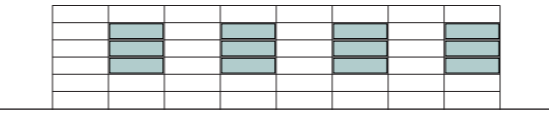
01 First floor



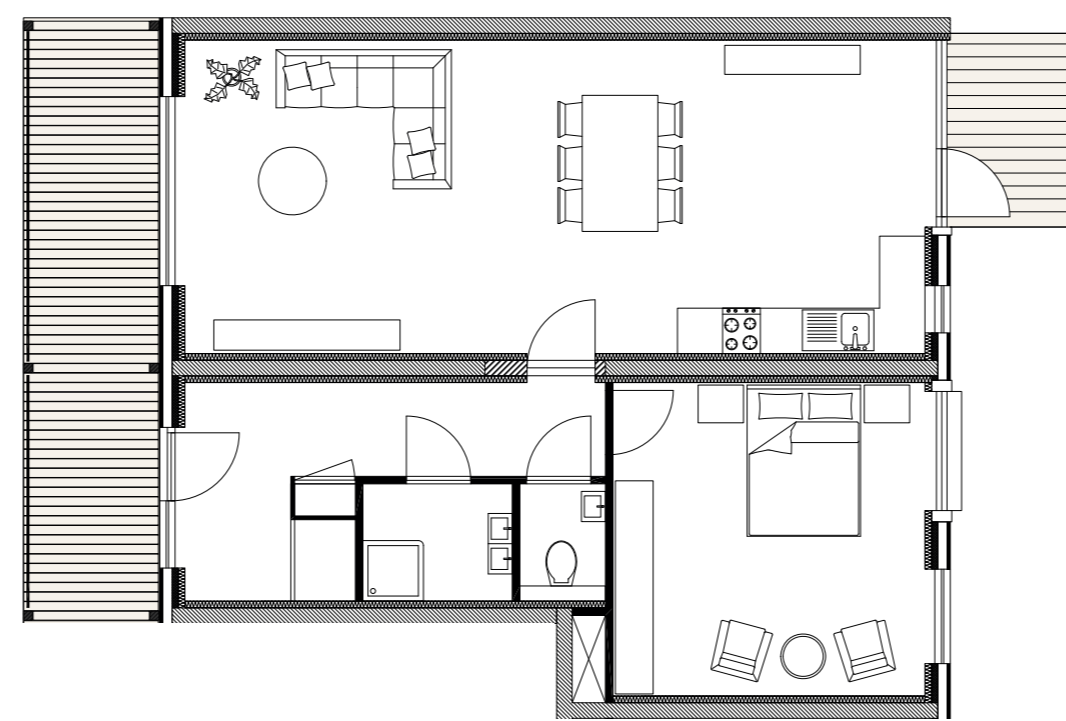
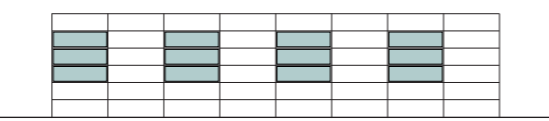
00 Ground floor



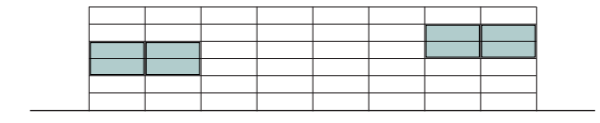
**2 Bedroom apartment**  
 Square meters 82 m<sup>2</sup>  
 Number per flat 12  
 Number in total 48



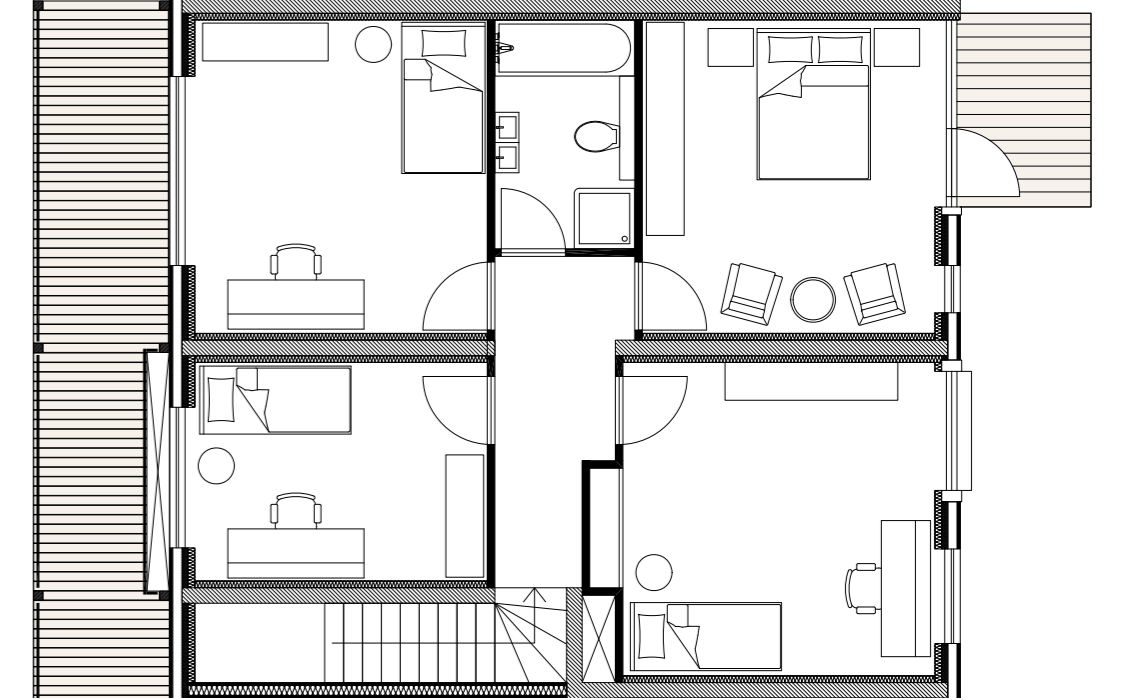
**1 Bedroom apartment**  
 Square meters 72 m<sup>2</sup>  
 Number per flat 12  
 Number in total 48



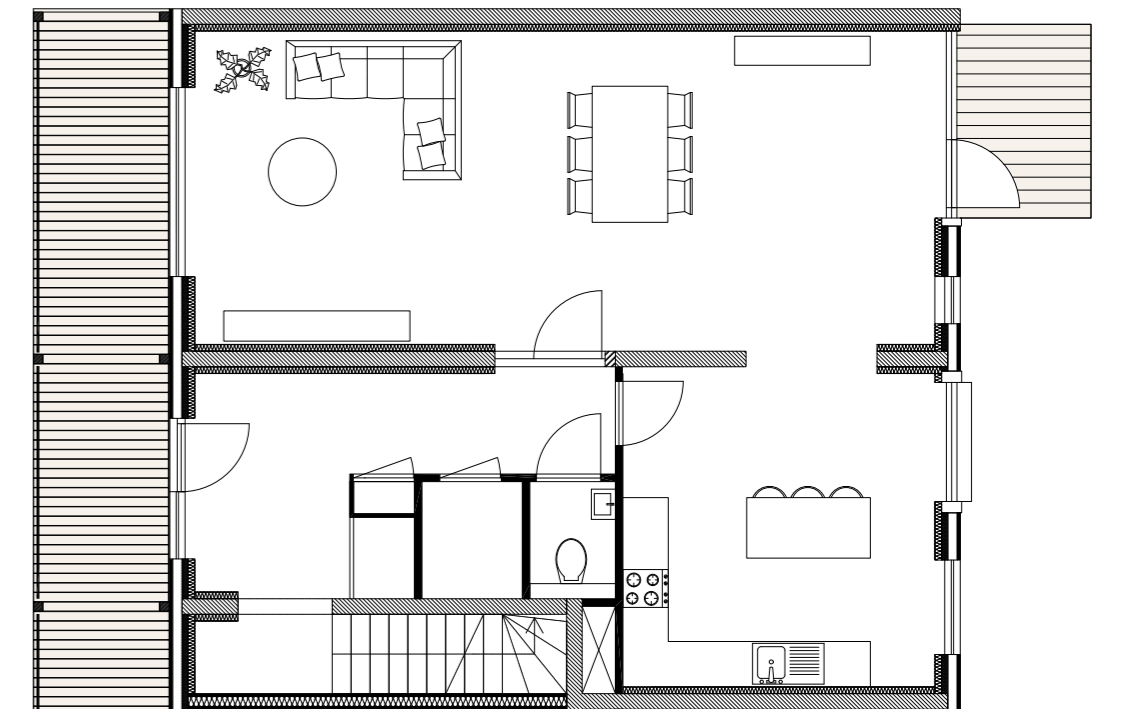
**Vertically merged dwelling**  
 Square meters 140 m<sup>2</sup>  
 These apartments are a merge of the 1 & 2 bedroom apartments. It depends on the wishes of future inhabitants how many of these vertically merged dwellings are present.



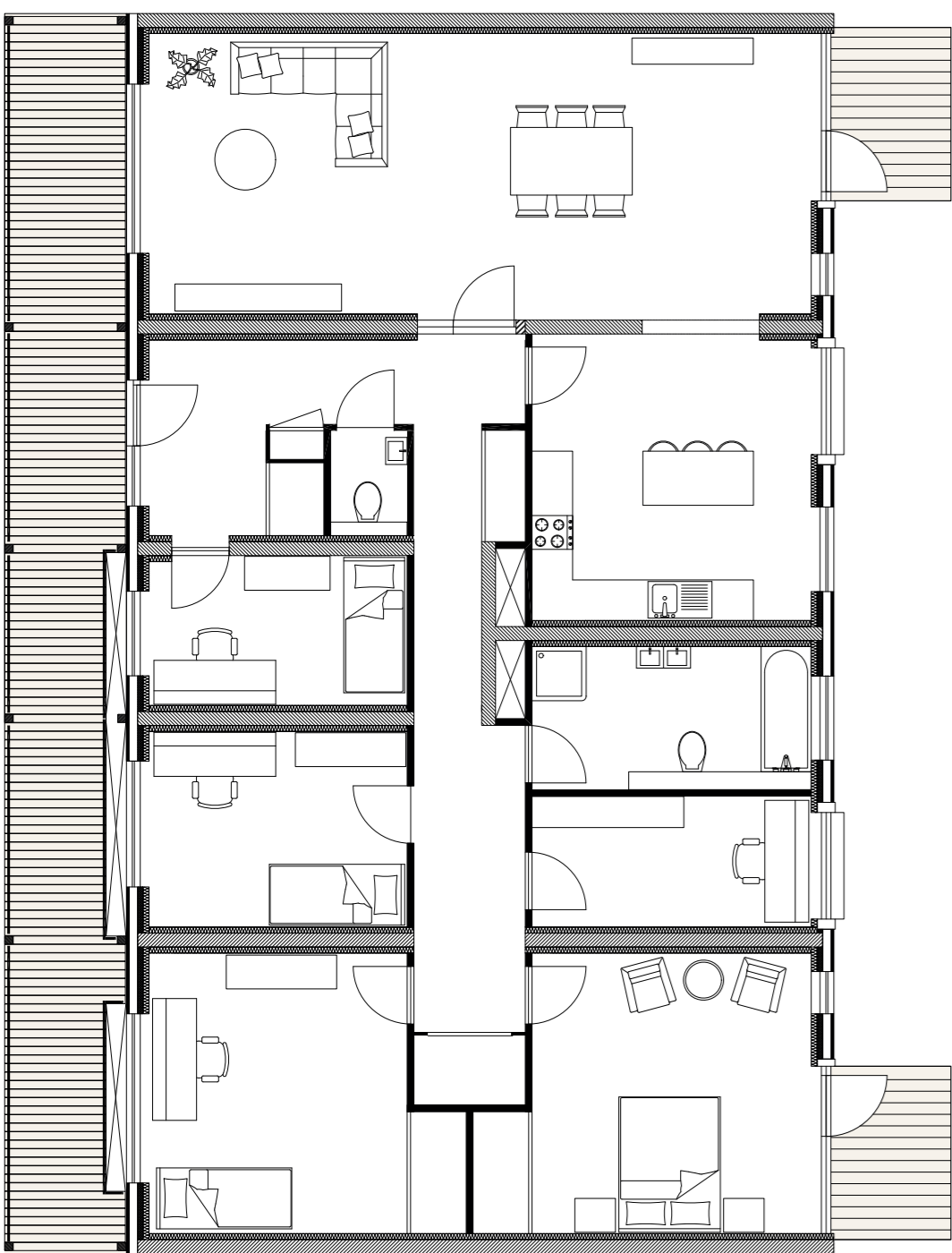
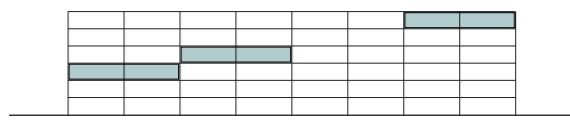
03 Third floor



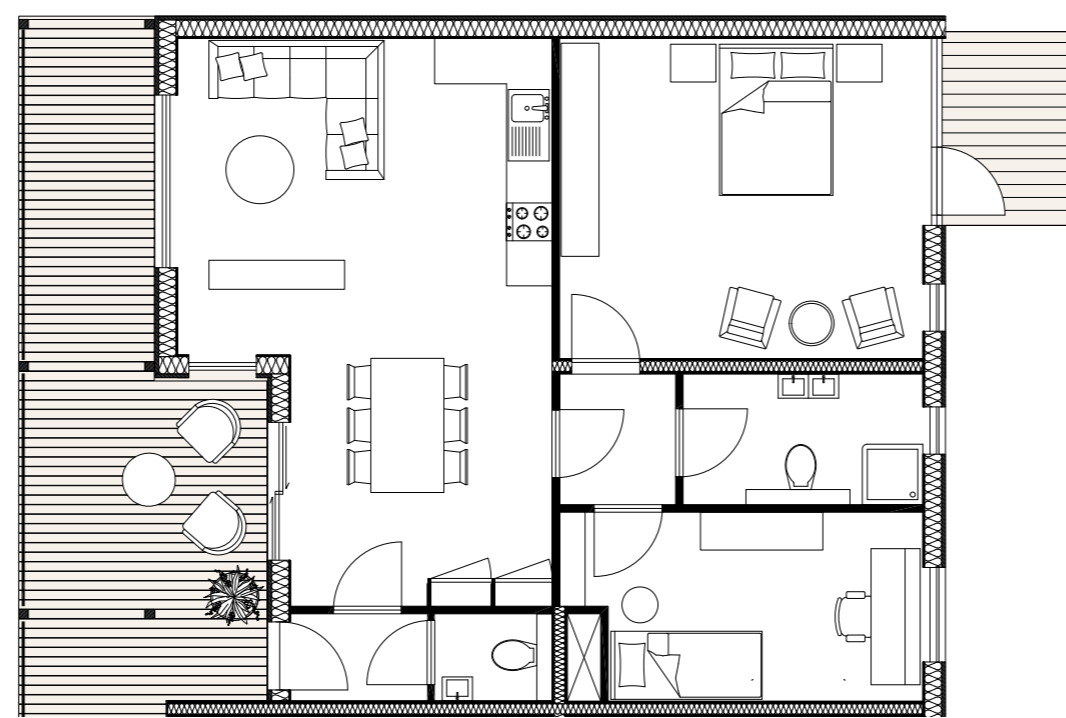
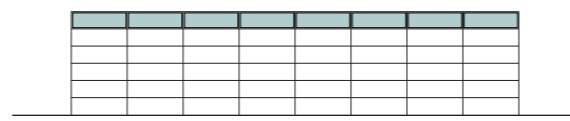
02 Second floor



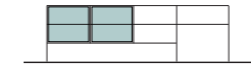
**Horizontally merged dwelling**  
 Square meters 150 m<sup>2</sup>  
 These apartments are a merge of the 1 & 2 bedroom apartments. It depends on the wishes of future inhabitants how many of these horizontally merged dwellings are present.



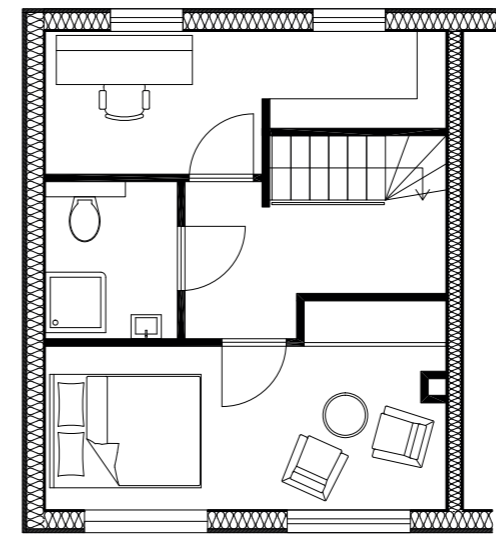
**Roof apartment**  
 Square meters 80 m<sup>2</sup>  
 Number per flat 8  
 Number in total 32



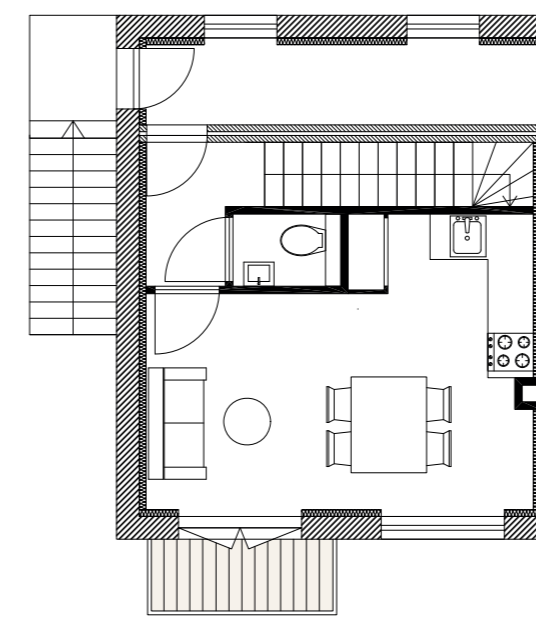
**Duplex dwelling annex**  
 Square meters 56 m<sup>2</sup>  
 Number in total 9



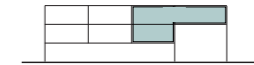
02 Second floor



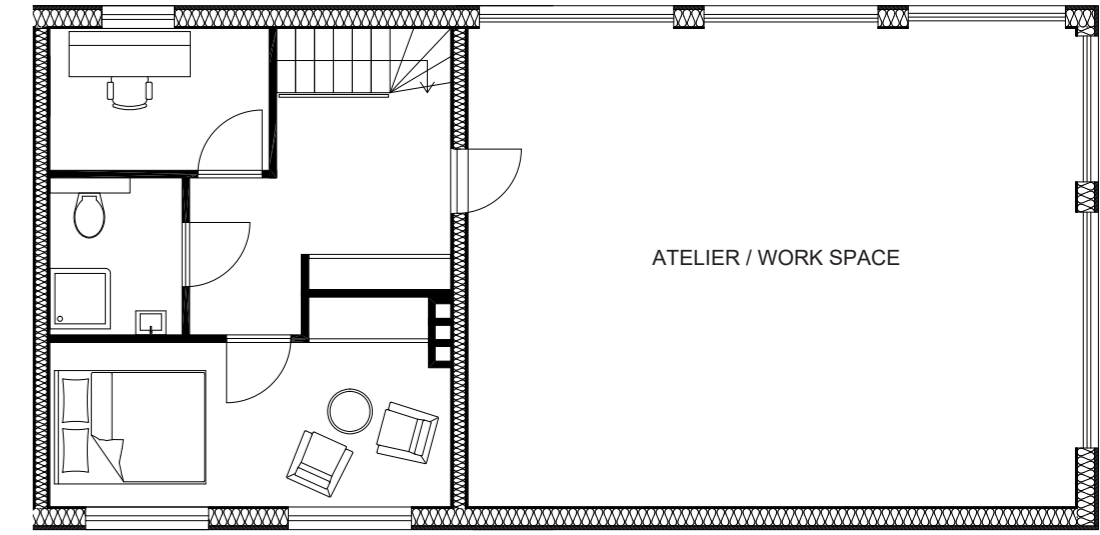
01 First floor



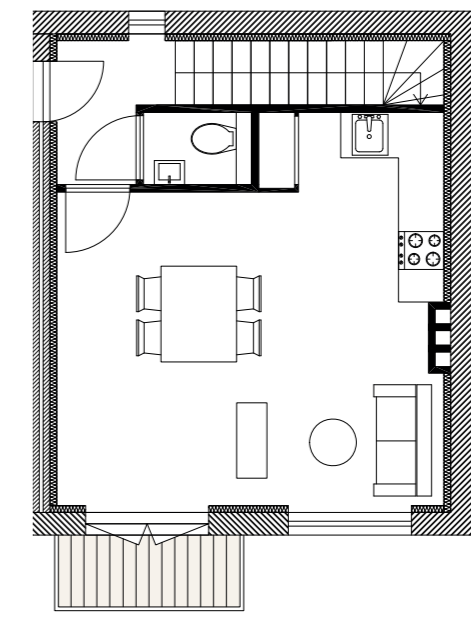
**Duplex dwelling annex + atelier**  
 Square meters 112 m<sup>2</sup>  
 Number in total 5



02 Second floor



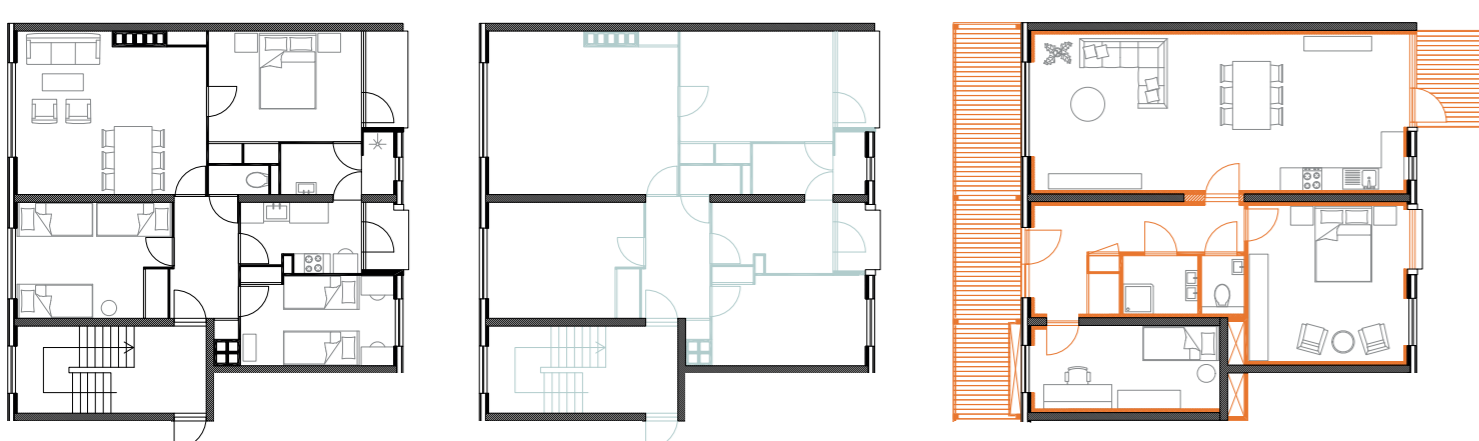
01 First floor



## TRANSFORMATION PLANS | 1:200

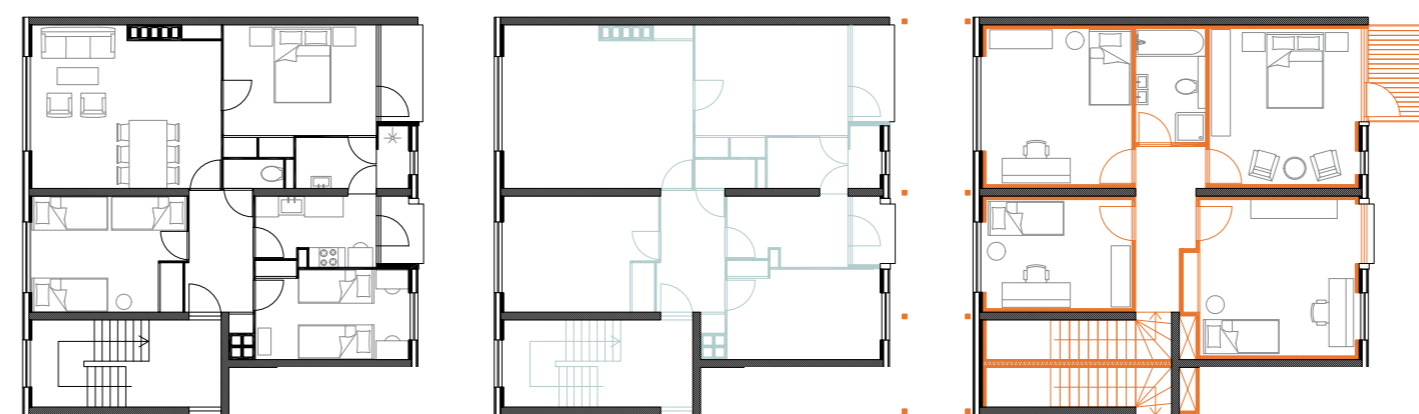
Existing situation  
 Remove  
 New

**2 Bedroom apartment**

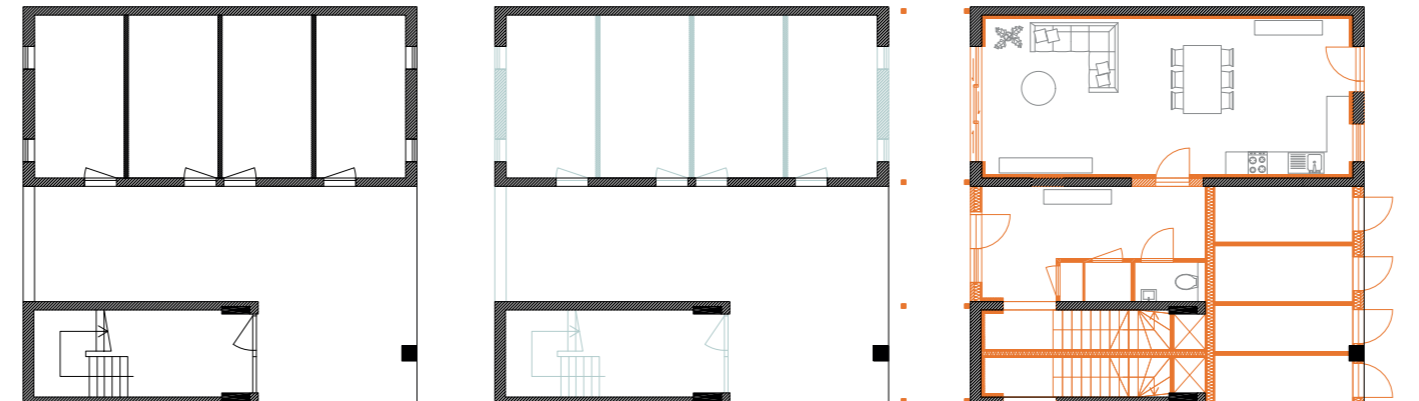


**Ground bounded family house**

01 First floor

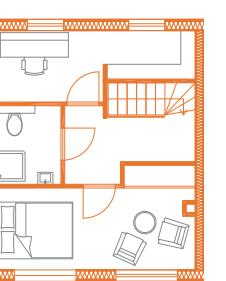


00 Ground floor

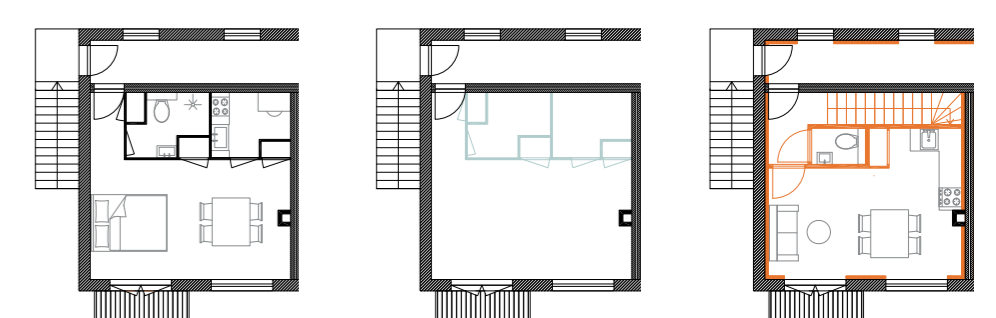


**Duplex dwelling annex**

02 Second floor



01 First floor





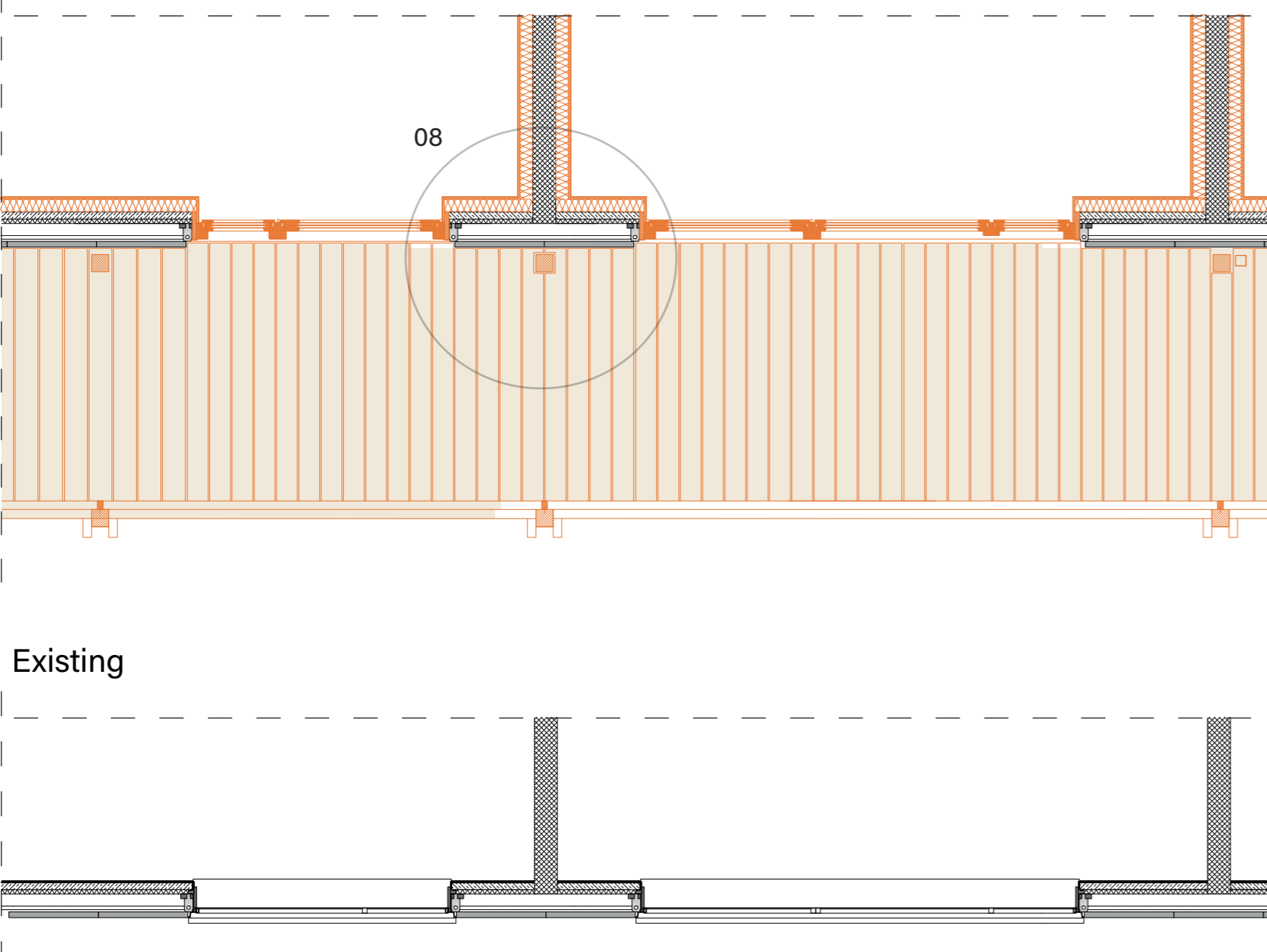
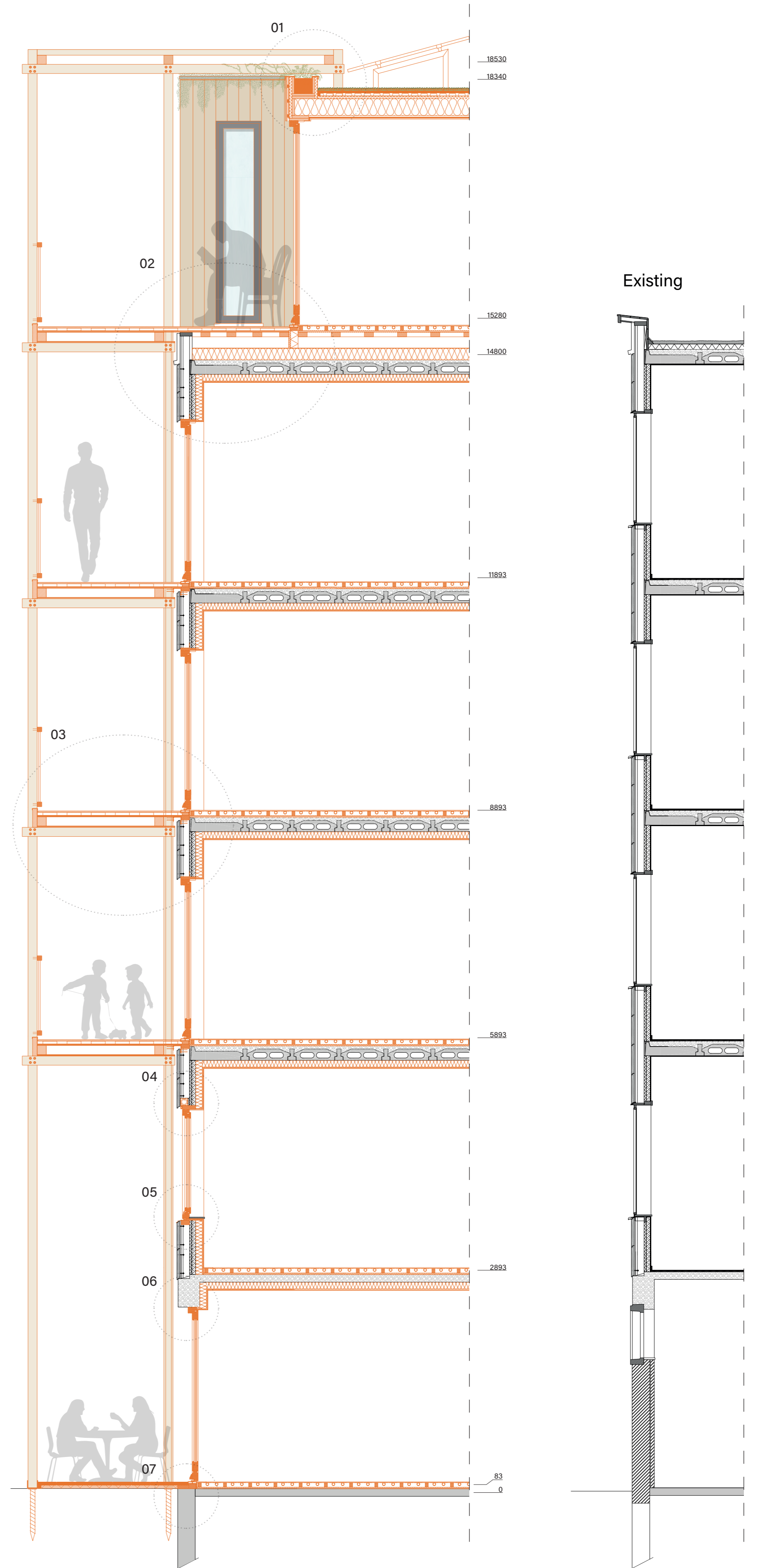
# BEYOND MONOTONY

Transforming post-war porch flats in Amsterdam Nieuw-West

The case of the Johan Jongkindstraat

## FACADE FRAGMENT | 1:40

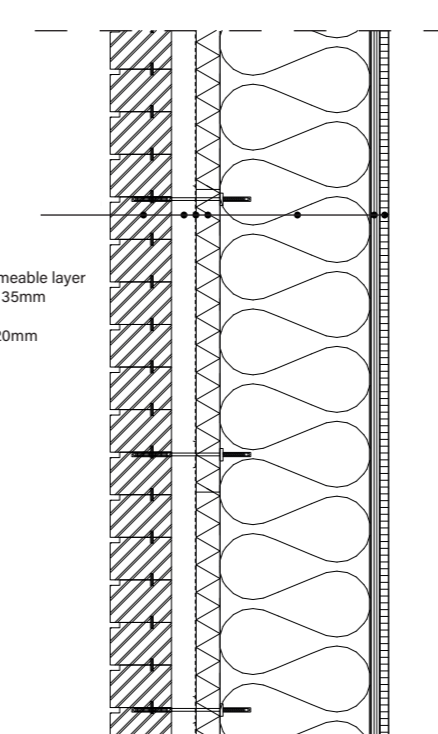
Existing  
New



## DETAILS NEW BUILDINGS | 1:10

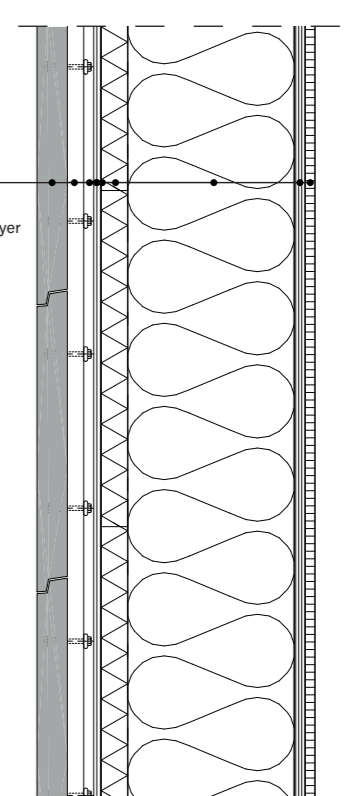
Brick wall upper floors

- Click&click 90mm
- Anchors
- Cavity 35mm
- Waterproof and vapour permeable layer
- Wood fibreboard insulation 35mm
- Wooden posts 36x220mm
- Bobbed fibre insulation 220mm
- Plasterboard 12.5mm
- Finishing 5mm



Reused facade tiles ground floors

- Reused concrete tiles 40mm
- Preserved wooden posts 28x45mm
- Waterproof and vapour permeable layer
- Wood fibreboard insulation 35mm
- Wooden posts 36x220mm
- Bobbed fibre insulation 120mm
- Plasterboard 12.5mm
- Finishing 5mm



# BEYOND MONOTONY

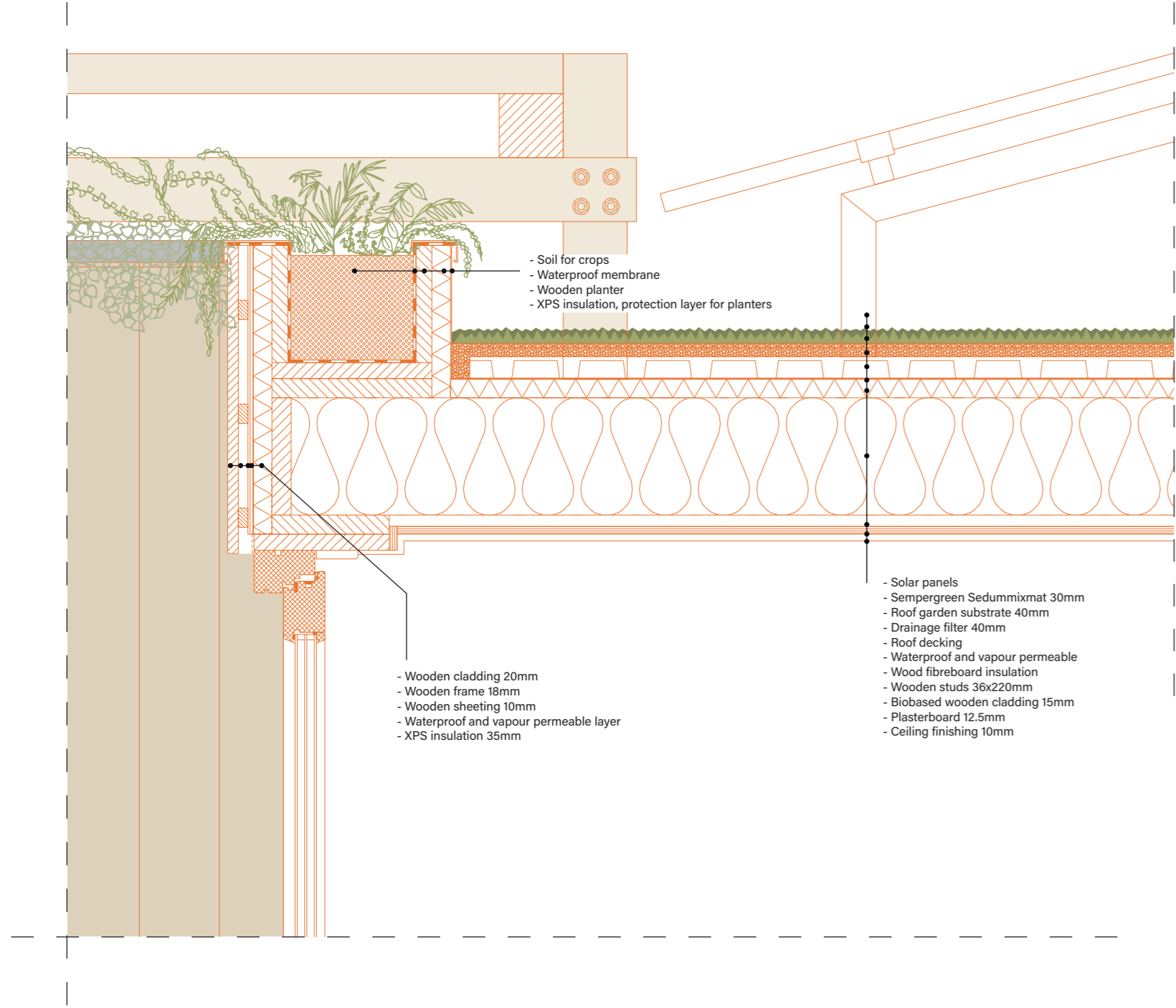
Transforming post-war porch flats in Amsterdam Nieuw-West

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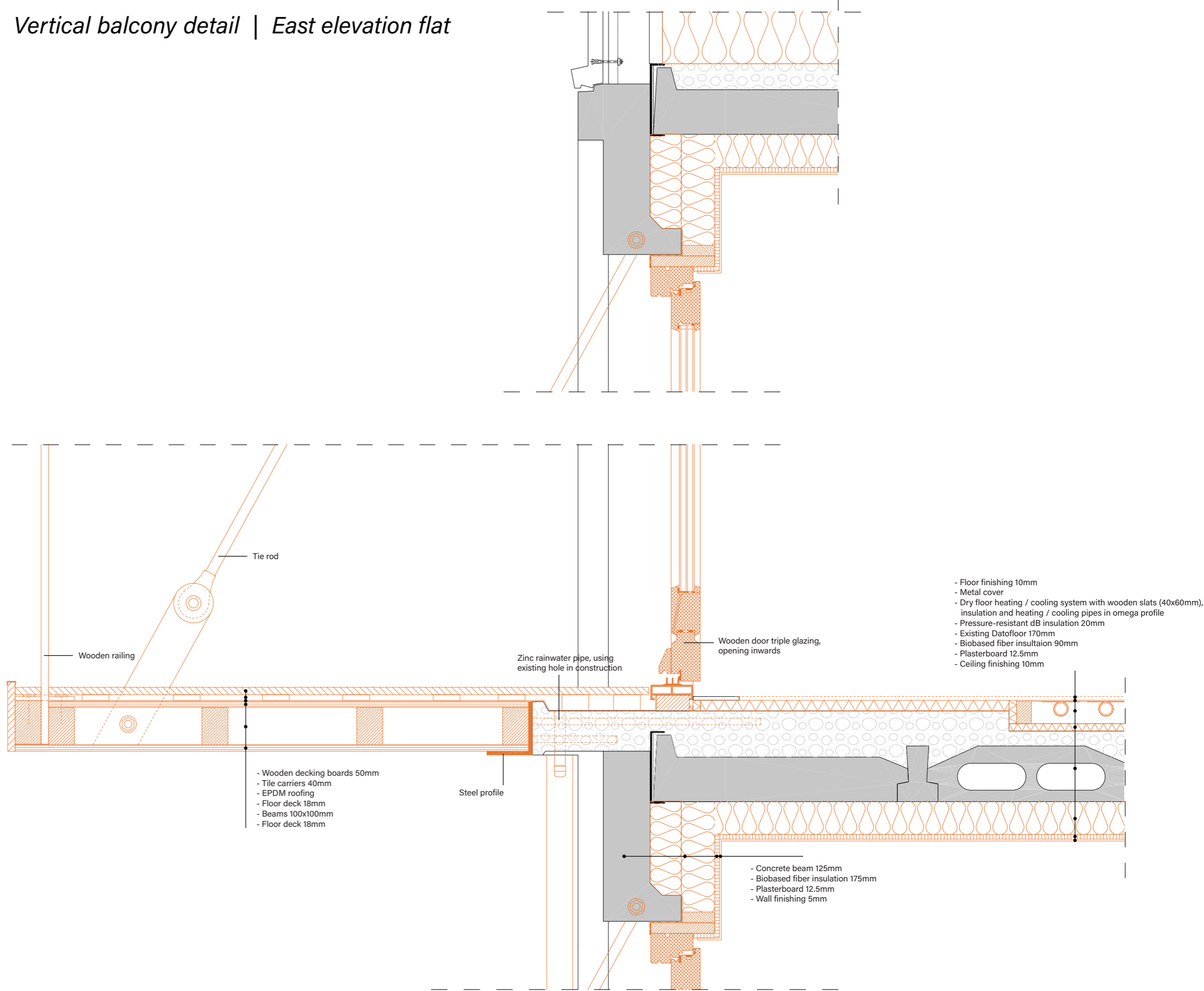
DETAILS | 1:10

Existing  
New

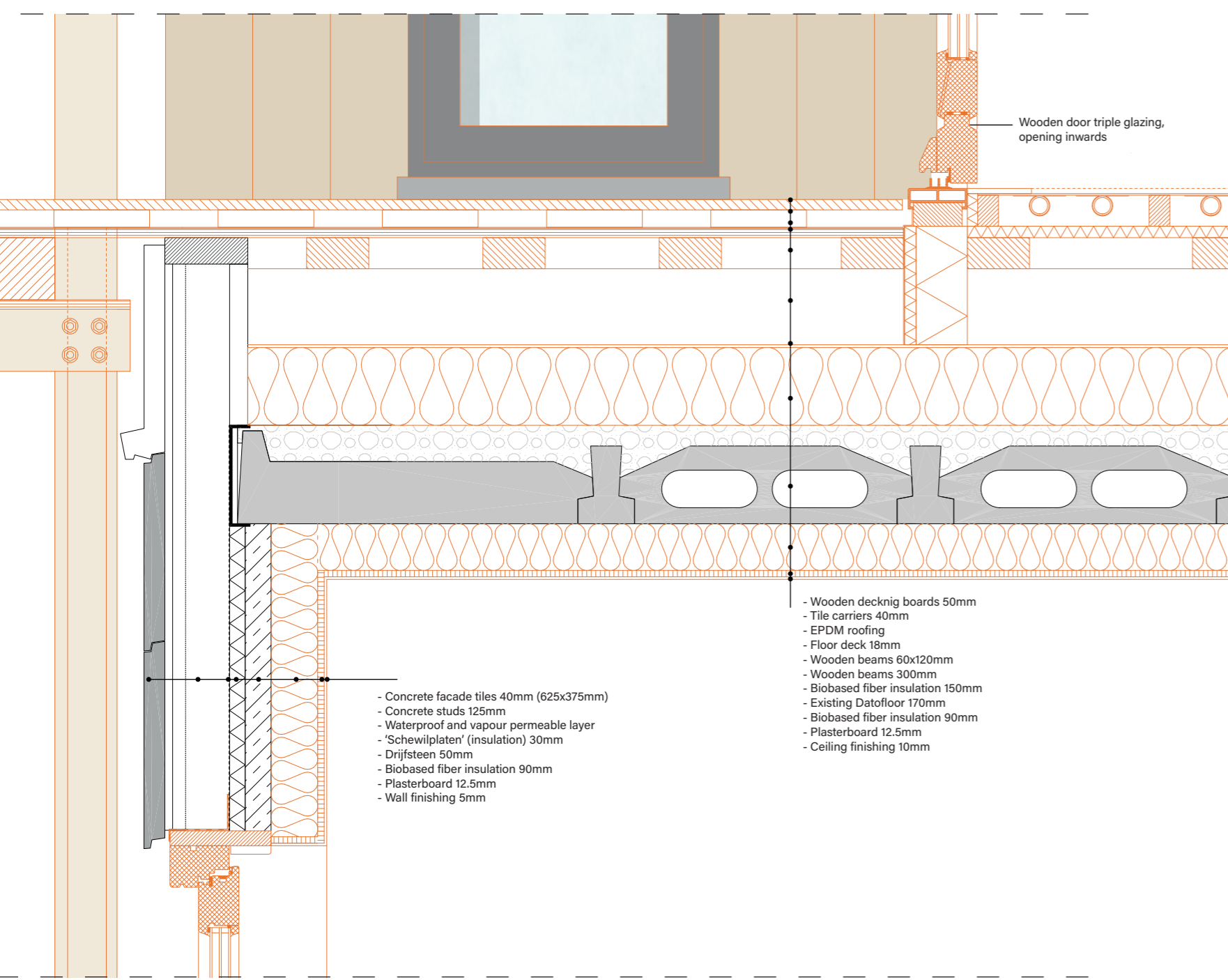
Detail 01



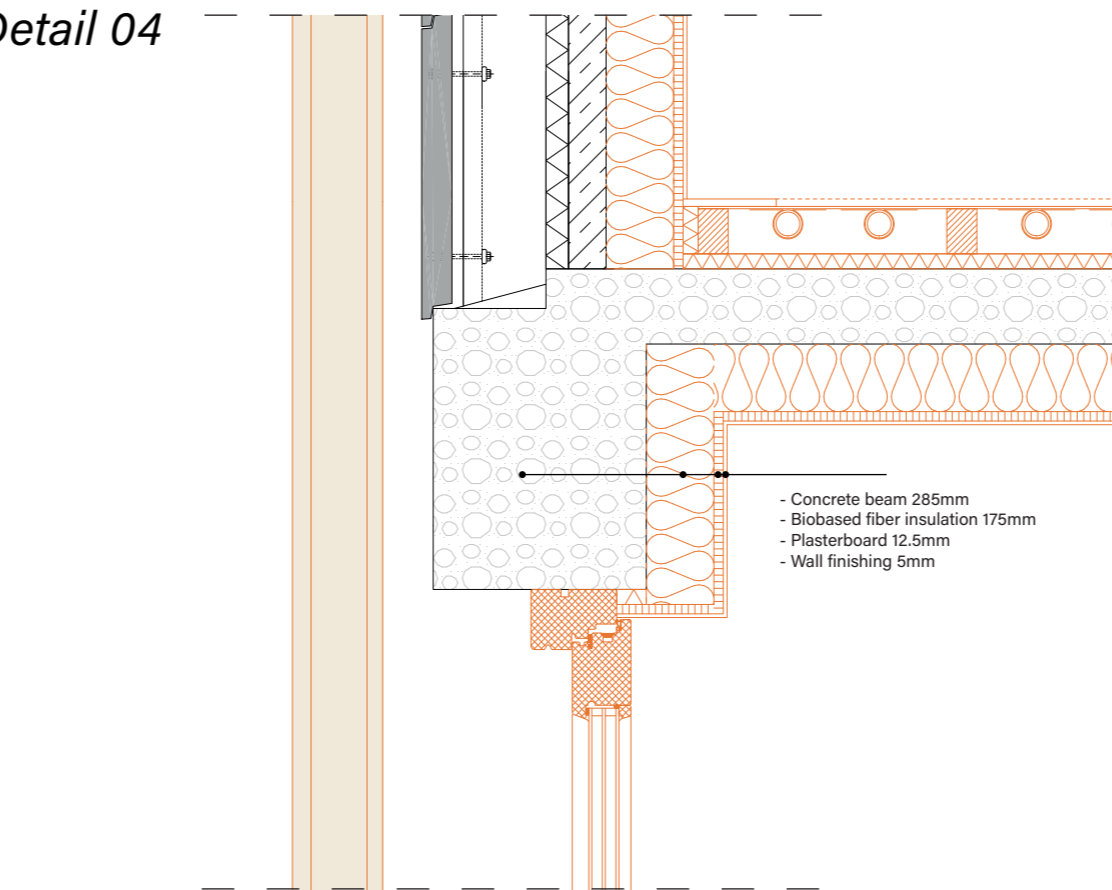
Vertical balcony detail | East elevation flat



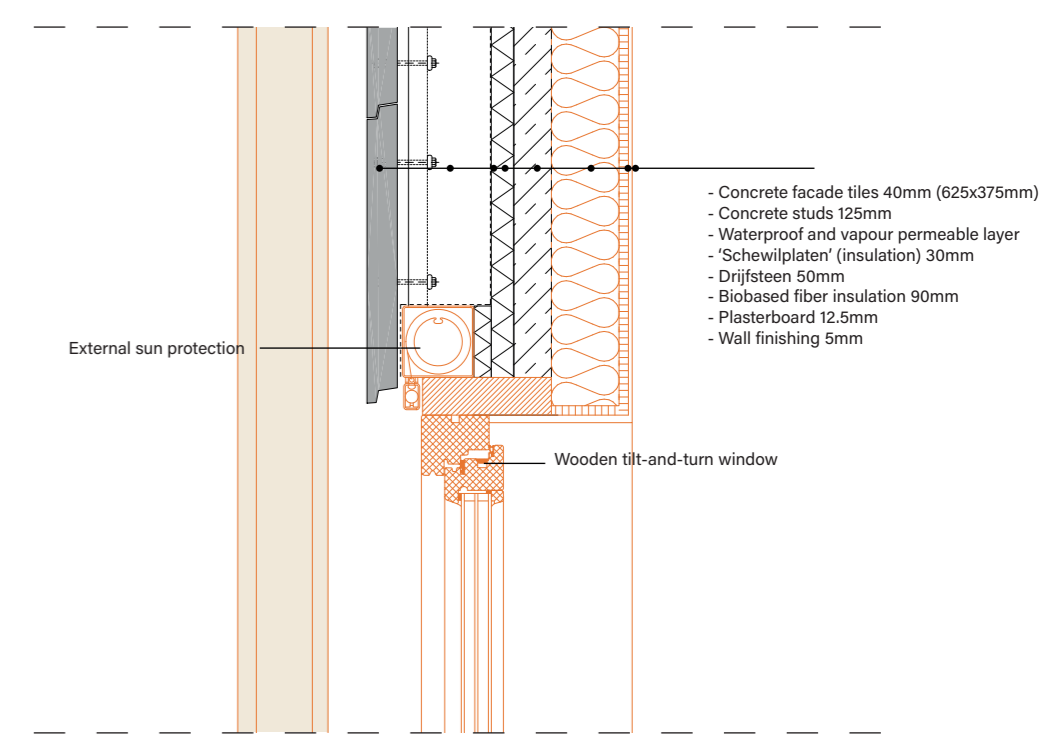
Detail 02



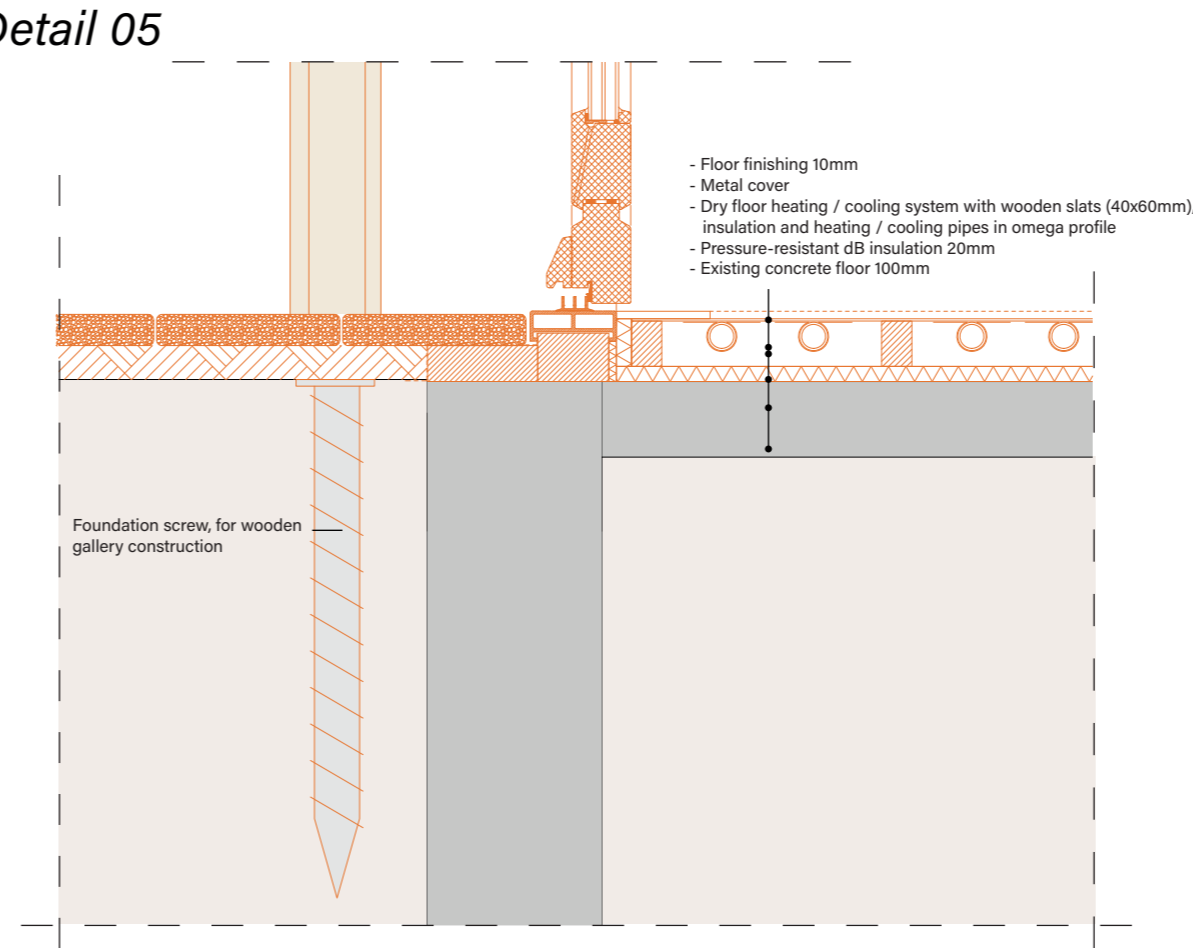
Detail 04



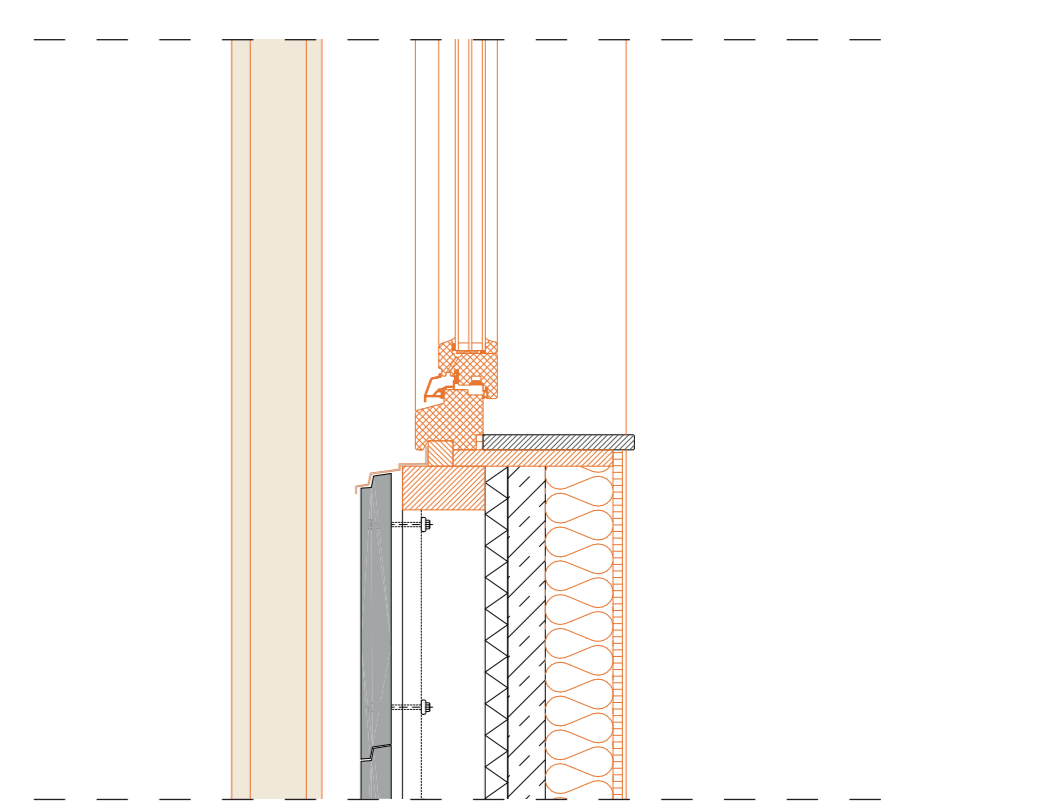
Detail 06



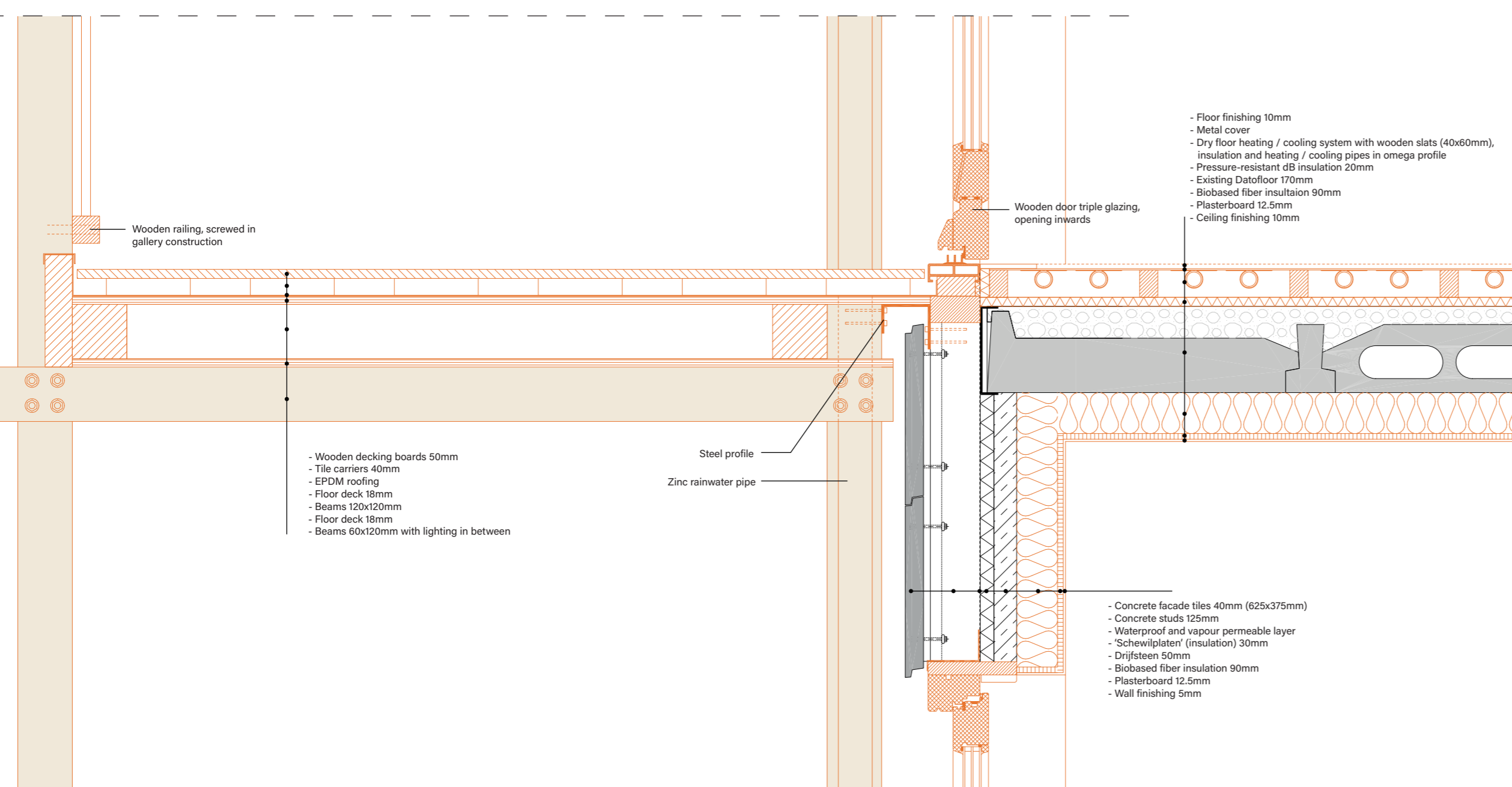
Detail 05



Detail 07



Detail 03



Detail 08

