

An architectural rendering of a modern, multi-story brick apartment building. The building features prominent cantilevered balconies with dark railings and light-colored undersides. The ground floor has large windows and glass doors. In the foreground, a paved courtyard with a brick pattern contains a green lawn area, a bench, a small tree with pink blossoms, and a man sitting on the bench reading a newspaper. A dog is sitting next to him. Other people are visible walking in the courtyard. The sky is blue with scattered white clouds.

It's never too late for a new beginning

A living environment for the young-old

Dutch dwelling
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P5 PRESENTATION MSC4 APRIL 2021

Issue:

Housing shortage in the Netherlands:

Current shortage of 331.000 dwellings

Household increase until 2035 of 924.000 households

Housing need will increase until 2035 with 893.000 dwellings

(Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2020) *Staat van de woningmarkt jaarrapportage 2020*)

A lot of people do not live in a dwelling which is their preference:

"If we were to evict people from their home tonight and offer them a home tomorrow that better meets their needs, a much better distribution of the housing stock would be achieved than now."

- Springco 2018

(Springco (2018) *Samenvatting rapportage De grote omgevingstest in de provincie Zuid Holland.*)

Hypothesis:

A crucial role is reserved for the young-old (age 55-75 without children living at home)

Developing dwellings that seduce the young-old to relocate contributes to a broader living happiness

1. The young-old get a home that better meets their needs
2. A wider range of single family dwellings will come available
3. The housing stock will become better attuned to future demand
4. Less territory is needed to build these dwellings

(Springco (2018) *Samenvatting rapportage De grote omgevingstest in de provincie Zuid Holland.*)

Research question:

Who are the young-old?

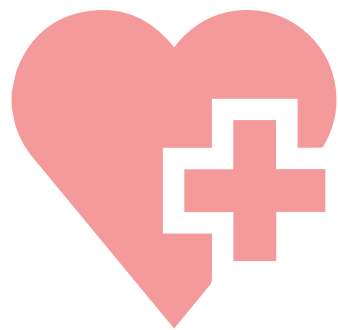
What are the requirements and demands of the young-old for a suitable living environment?

How to design a living environment for the young-old in a high dense area?

New phase in life: reason



Growing prosperity, introduction of a pension system



Improvement in health care

New phase in life: changing perception of the elderly

The old-old (traditional view of old age)
someone who is ill and depended



VS.

The young-Old
someone who is healthy and independent.



New phase in life: characteristics



Spare time



The possibility to
contribute to their
community in social
and political terms



A relatively good
health status



Higher level of edu-
cation than those
previously in their
age group



Relatively high
purchasing pow

The current generation is more active, innovative and open to learning, compared to generation before and it values independence, freedom and individual choice more than ever.

New phase in life: changing social collectiveness

Two major changes in social networks, social interaction and in household family units

1. Social networks outside of the family shift from work-focused to leisure-centred interactions

- At the core of these new kind of networks are contact between neighbours, clubs, volunteer associations, courses or hobby classes situated.






2. A shift during the 20th century of people aged 65 or over to move away from multigenerational house holds towards smaller households:






possible reasons:






- Rising income of elderly meant that they could finally live independent
- People have less children or other family members that can take them in
- The increase in supply of affordable and manageable single-person dwellings has provided the opportunity for separate living
- Changing values related to individualisation have transformed family norms and attitudes






Simpson, D. (2010), *Third Age Urbanism: Retirement utopias of the young-old*

Living preferences: Household groups

Uncomplicated retiree	
	Low educational level
	Below average income
	Appartment, terraced house
	< 90 m ²
	> € 800 / month

Well-aged middleclass	
	Middle educational level
	average income
	rental appartment, corner or terraced house
	90 - 135 m ²
	middle expensive rental or owner-occupied

Well-deserved appreciator	
	Middle to high educational level
	average till double average income
	Corner or semi-detached house
	90 - 135 m ²
	> € 800 / month middle and expensive sale

Elite class	
	High educational level
	more than double over average income
	Penthouse, detached living, multiple storey apartment
	> 135 m ²
	> € 700.000

The different household types (source BPD)

Global trends: Retiree communities

The villages, Florida, United states:

Largest retirement community of the world: 129.000 inhabitants,
the size equals double of Manhattan

Disneyworld for retirees

- recreation of former home towns of the retiree, so that they return to their 'youthfull' past
- deny the proces of ageing
- life is permanent vacation

Sense of familiarity is created

People are detached from society



Global trends: Retiree communities

Collectiveness:

Leisure activities replace the central position of work related activities in the residents social network.

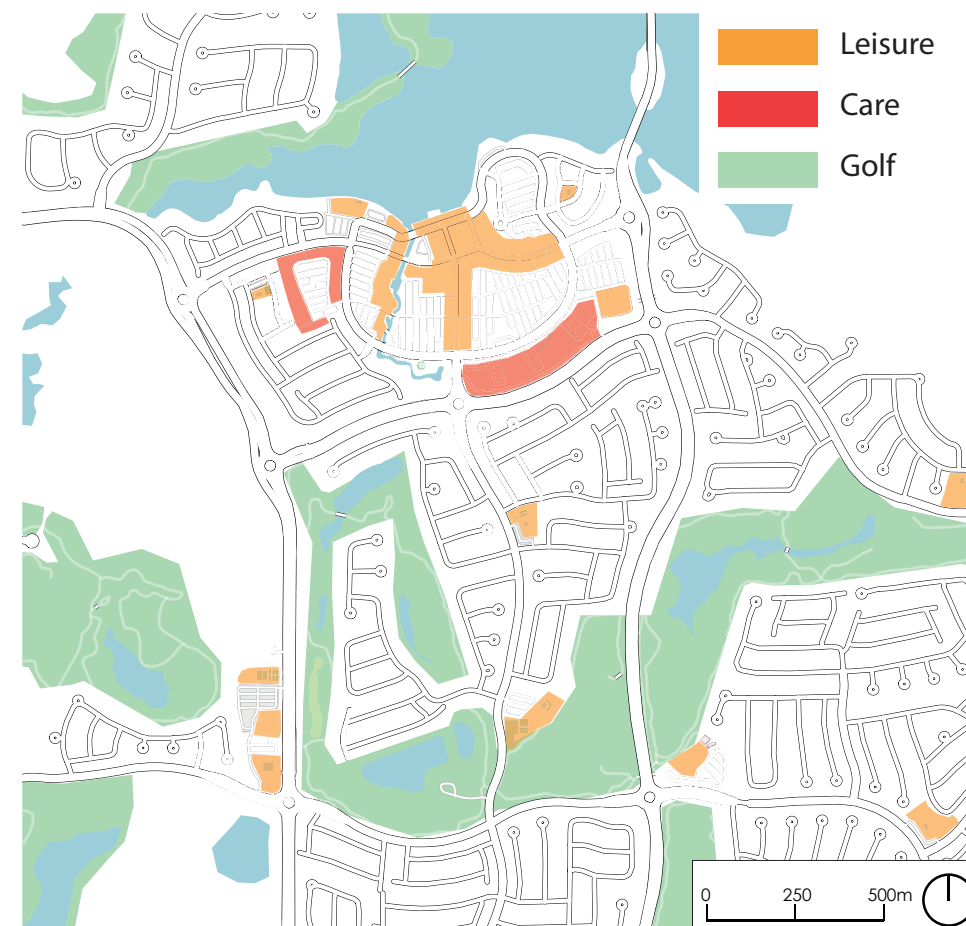
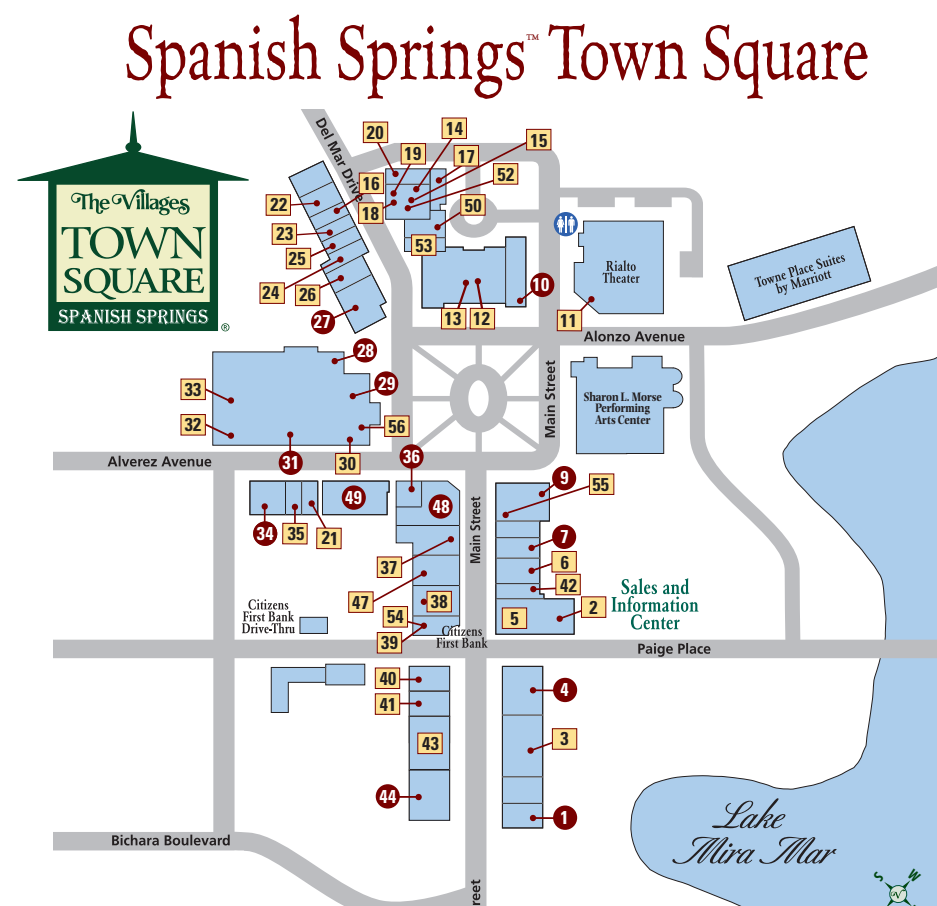
Communal facilities:

Town squares:

- restaurants
- clothing store
- care facilities
- home furnish store
- barber shop
- bowling
- theatre
- bank
- beauty salon
- real estate agency
- gallery
- golf & country club admin.
- insurance company
- golf car dealer

Scattered:

- recreational centre
- golf course
- swimming pool
- postal station
- country club



Government policies: keep them integrated in society

The Dutch government has three policies concerning the Young-Old:

1. People need to be able to live as long as possible independently in their own neighbourhood
2. Encourage the 'young-old' to move in time to a suitable dwelling for the live in old age
3. Supporting people financially who cannot afford to move to a better suitable dwelling

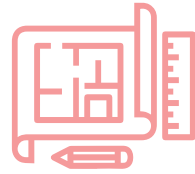
They also foresee an important role for the young-old in social cohesion of the neighbourhood.



Conclusion target group:

My goal is to design a living environment where the young-old want to live, where they can grow old over time and where social encounters between the residents are stimulated

Design principles:



Variation in dwelling types:

To cater for the different household sizes and income groups of the young-old



Typologies for young-old

Optimal floor plans should be designed which are attractive for active elderly and that can be adapted to older age.



Leisure activities in the living environment

The design should provide the young-old a natural place where they can create new social networks.



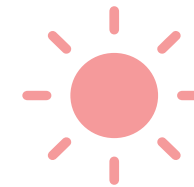
Social collectiveness

The building should stimulate social encounters between the residents to prevent isolation and provide a safe environment where the young-old feel at ease.



Privacy

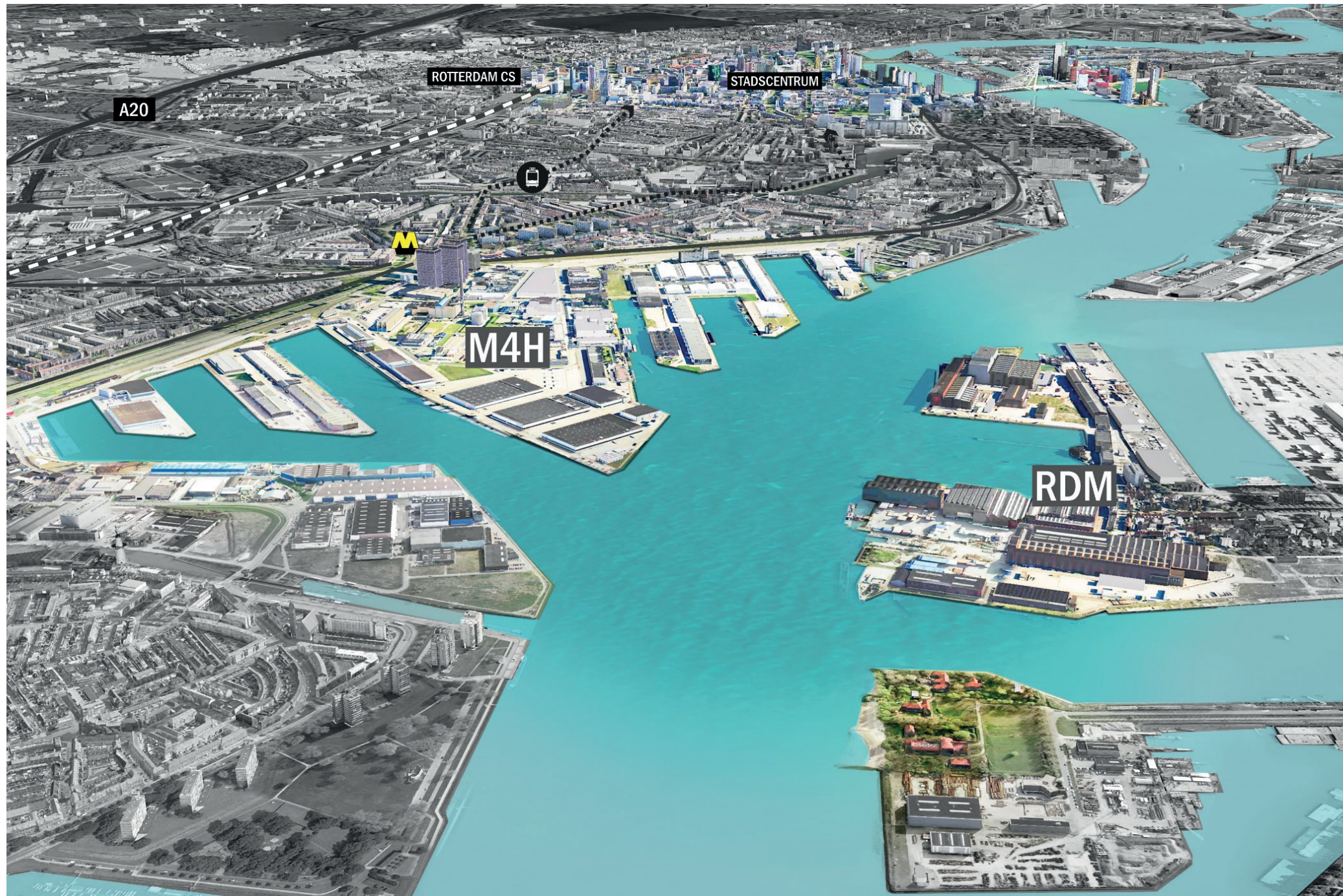
As people occasionally want to withdraw themselves, it is important that the residents have enough privacy in their dwellings.



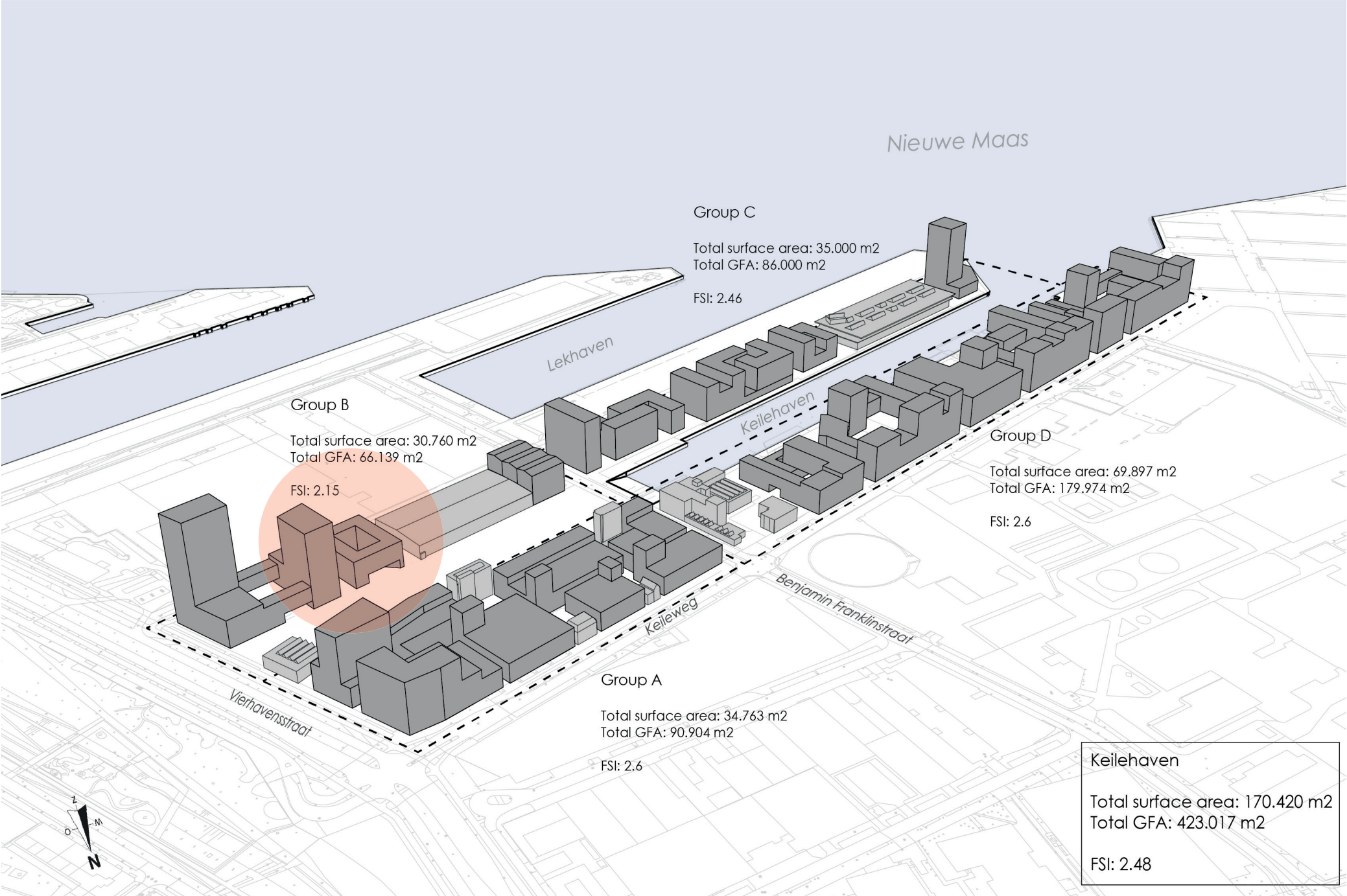
Outdoor spaces

Because the young-old are mostly retired and therefore possibly more at home it is important that they have sufficient outdoor space of a good quality.

Design location: where?



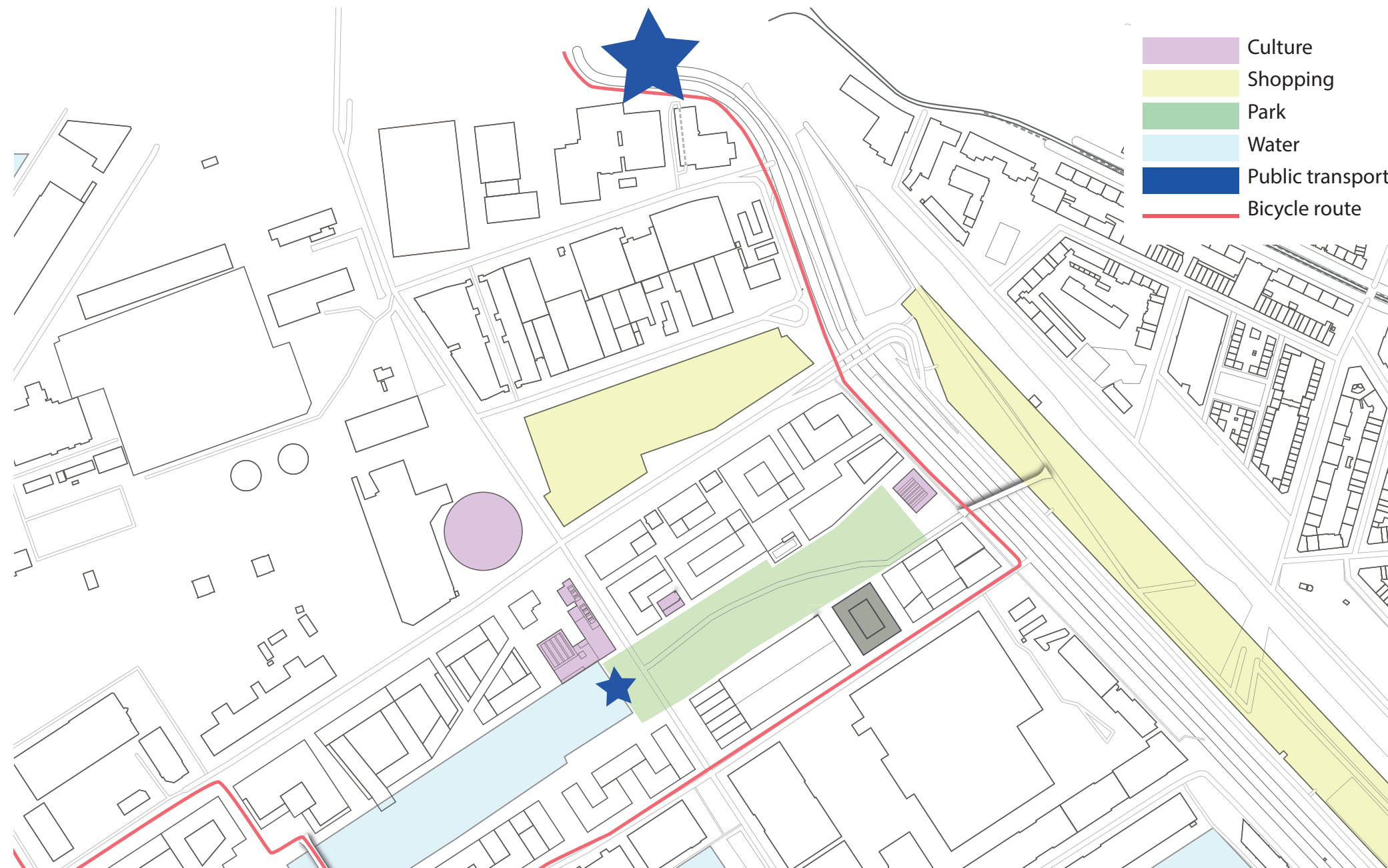
Design location: urban masterplan



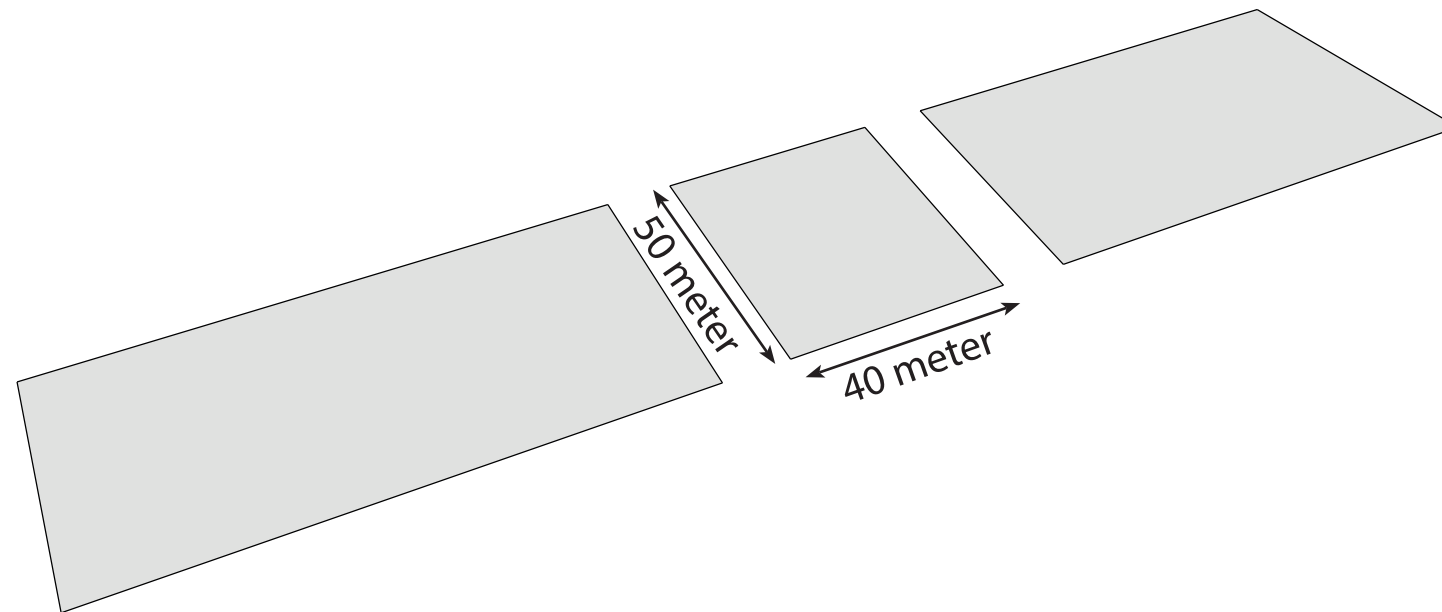
Design location: plot

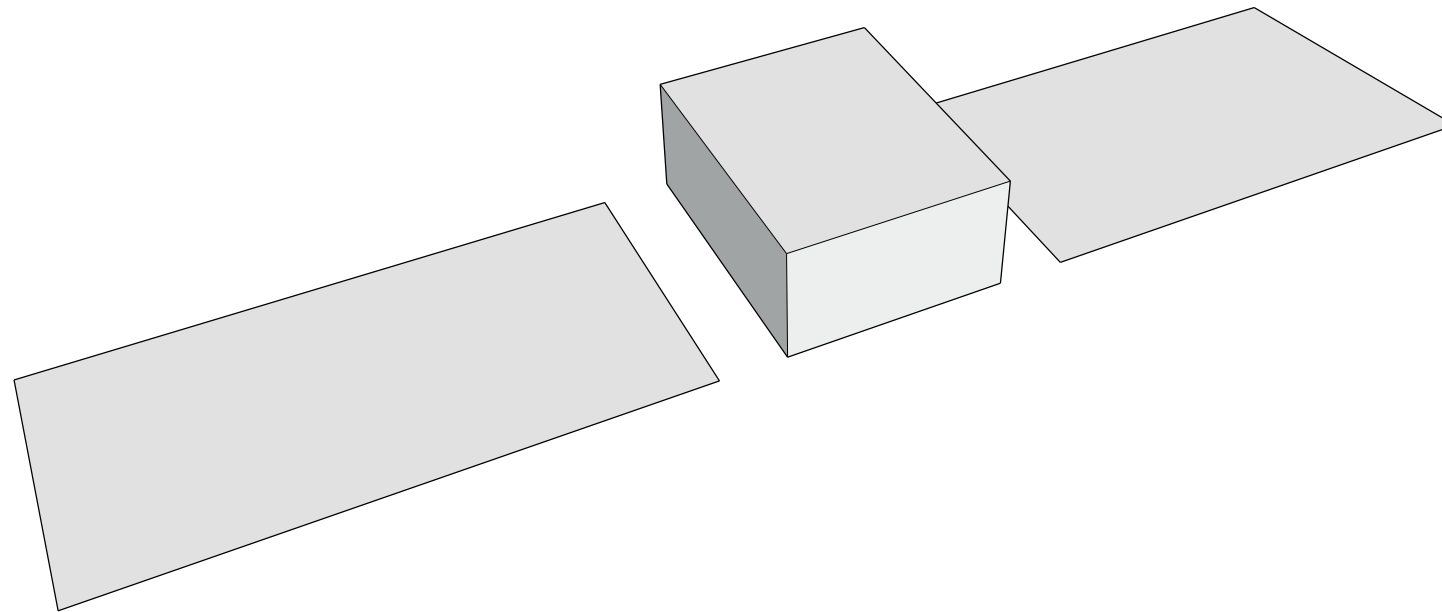


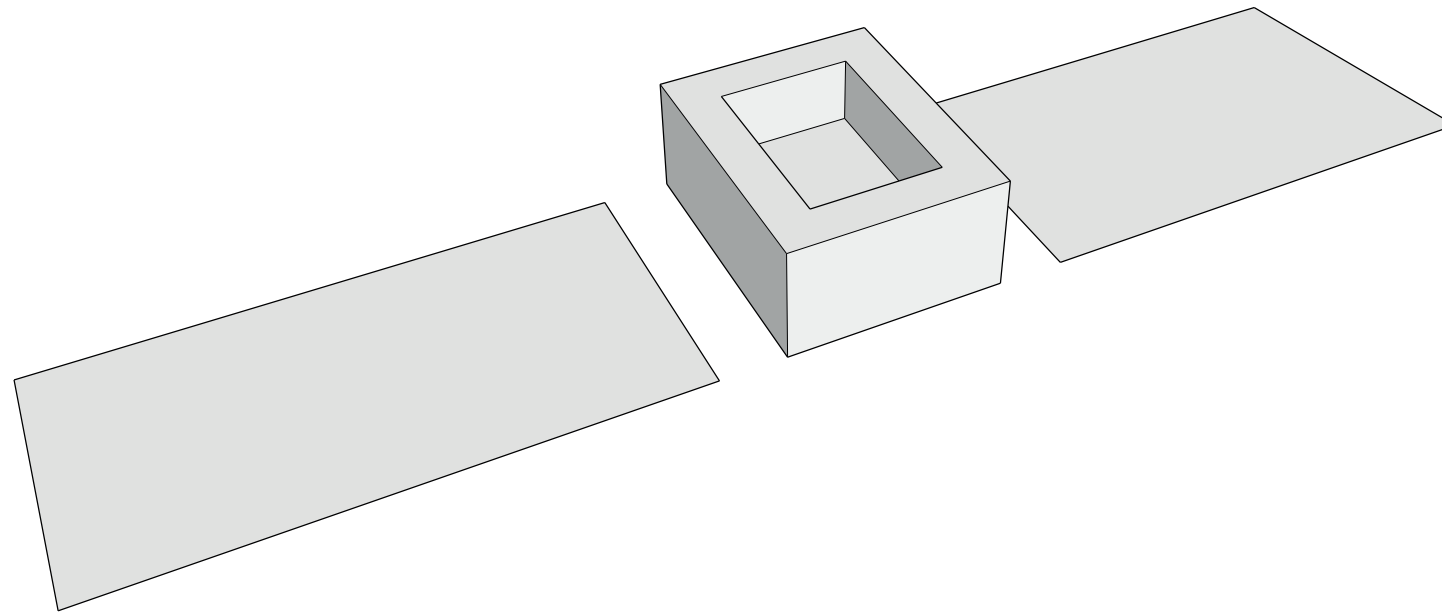
Design location: why is this a suitable location?

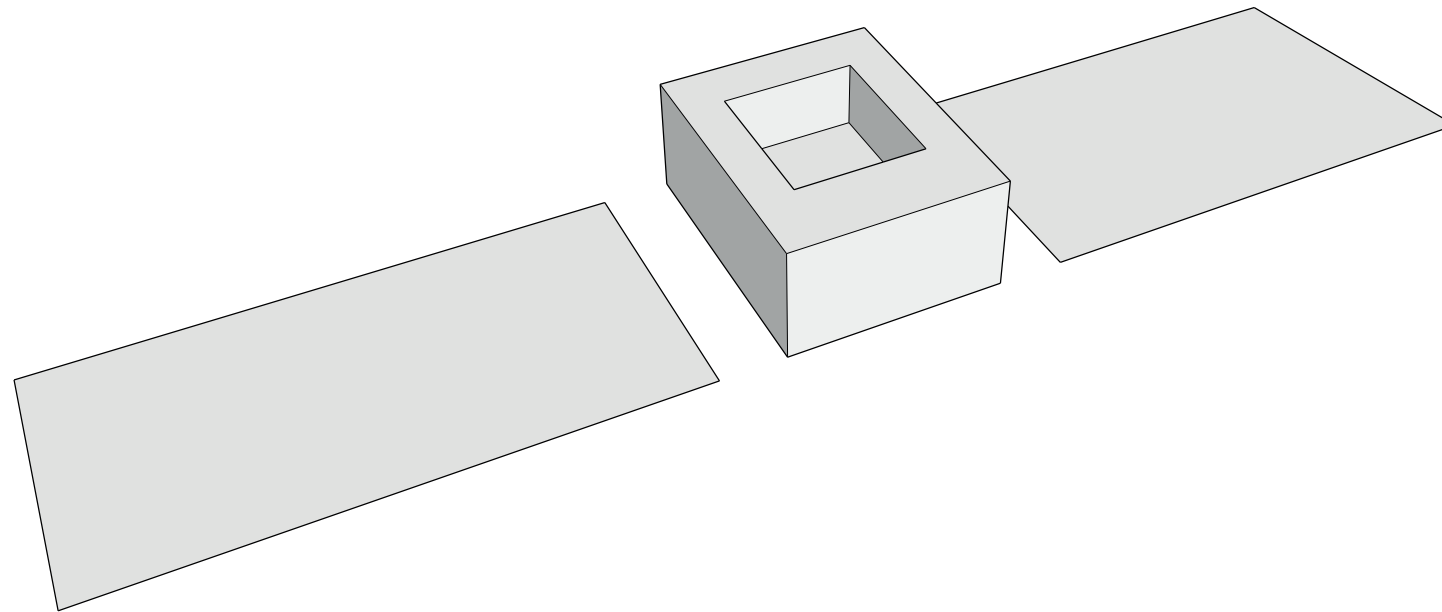


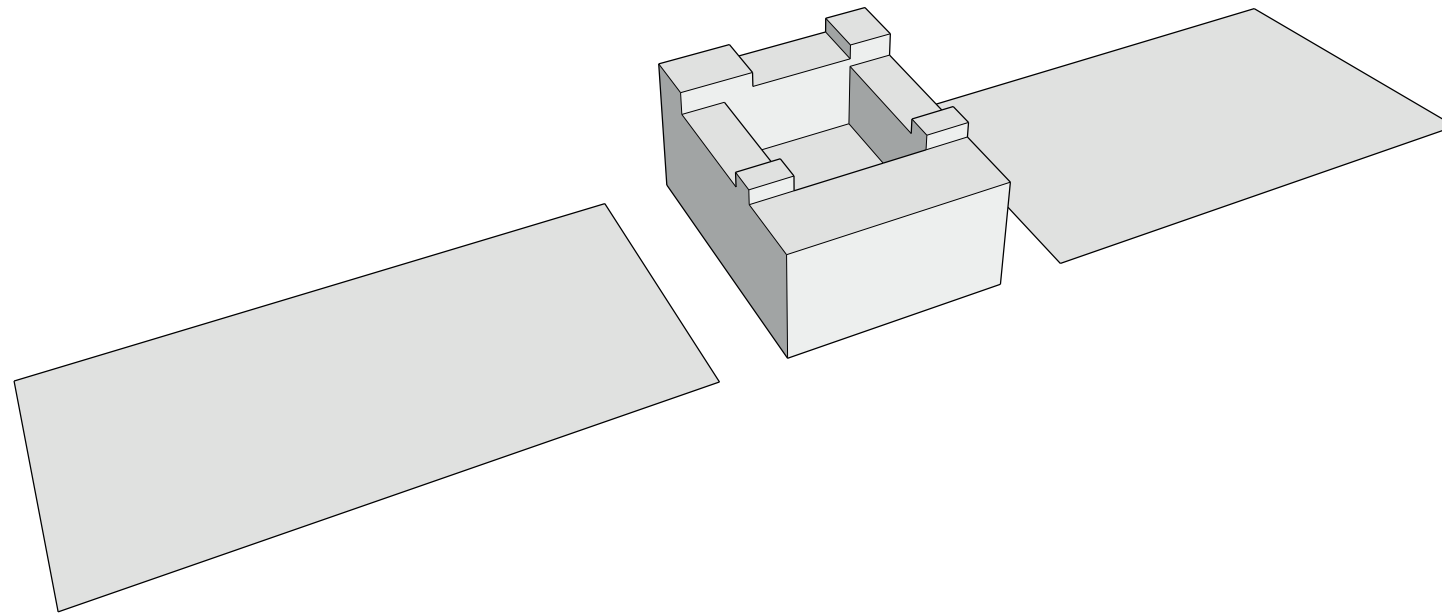
Design: building mass





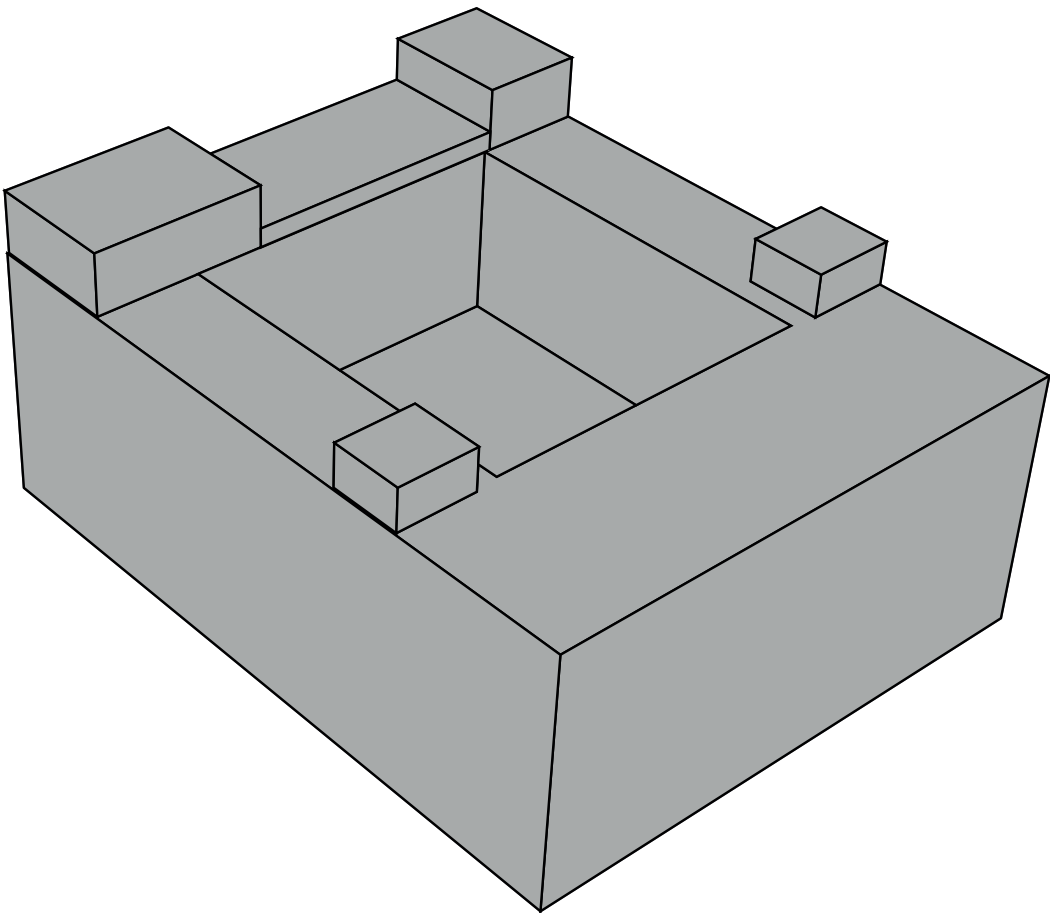
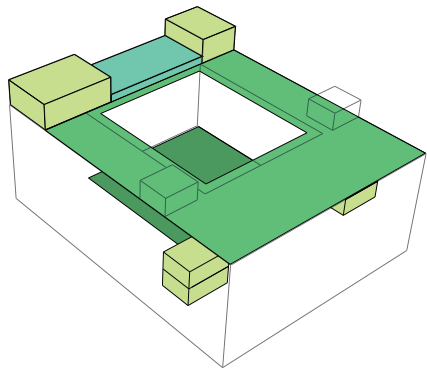
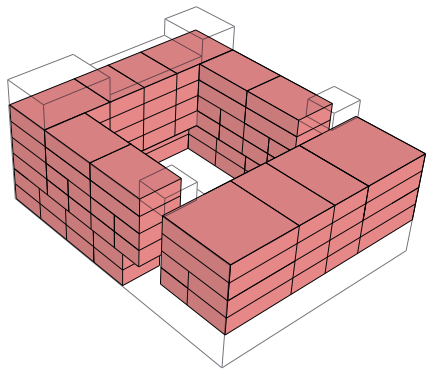
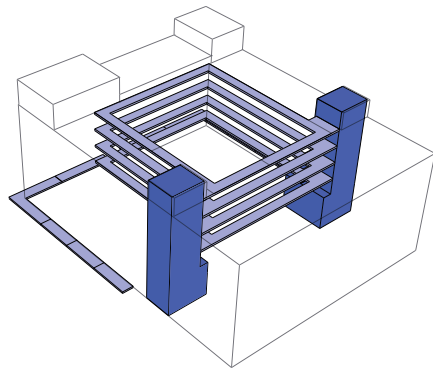
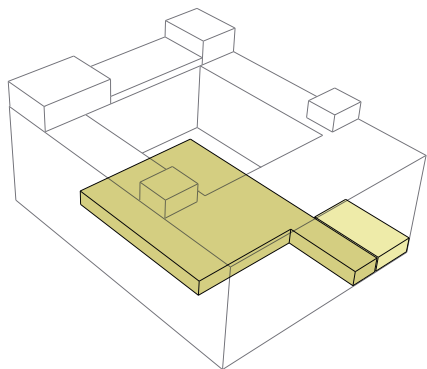
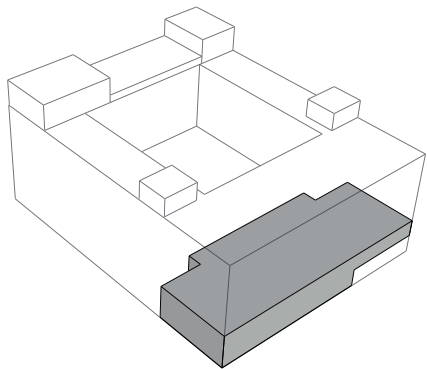






Design: building scheme

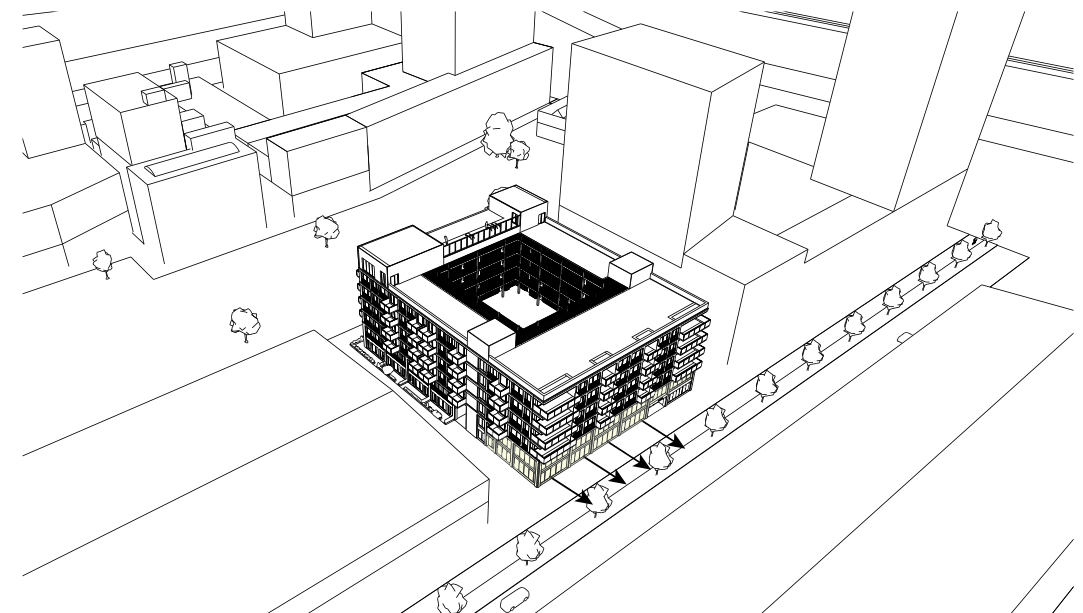
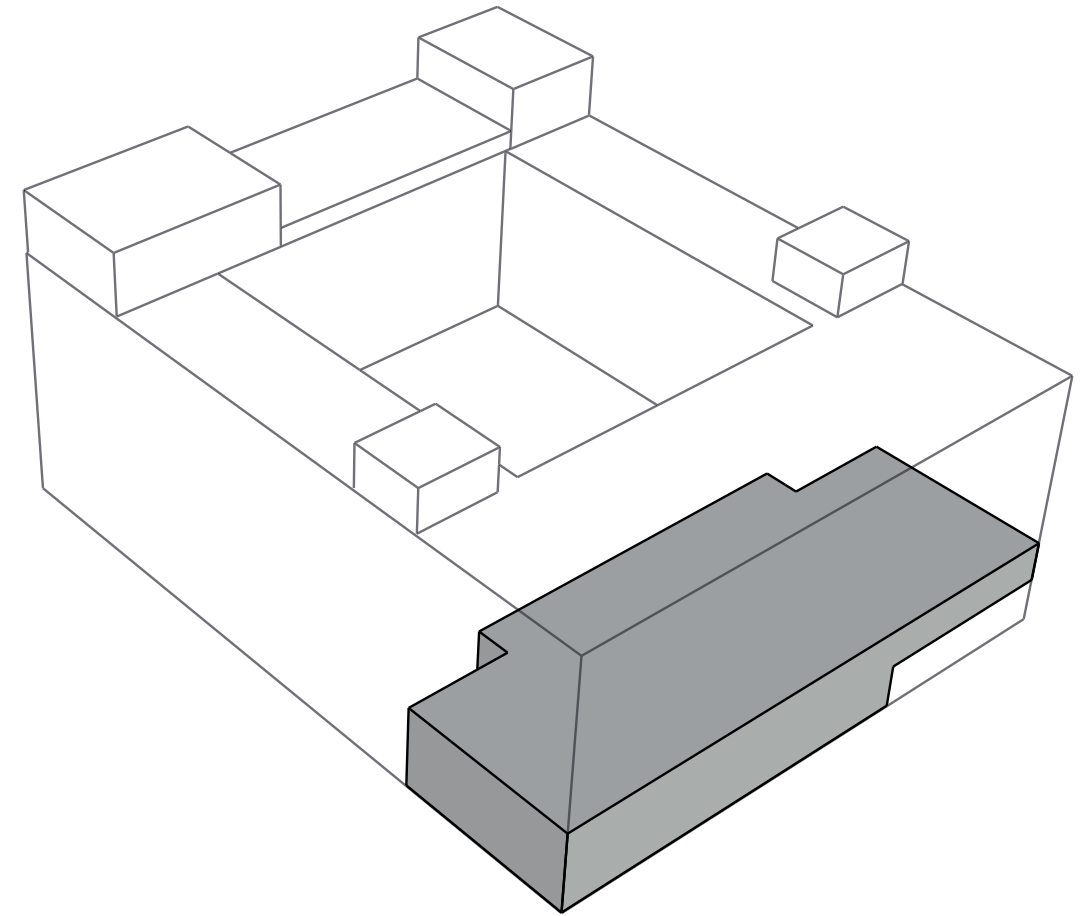
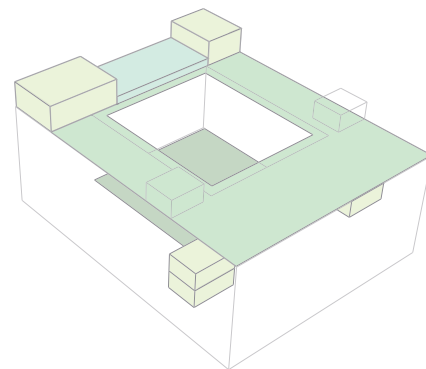
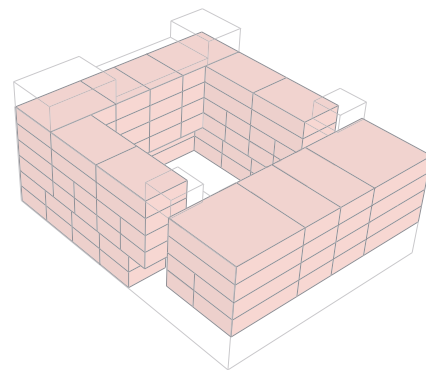
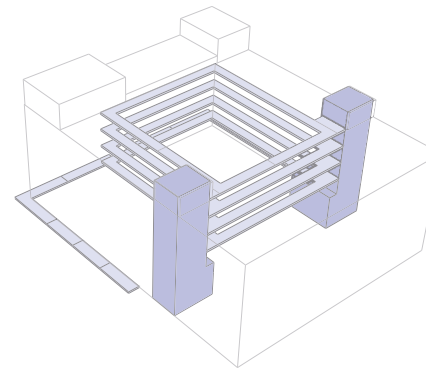
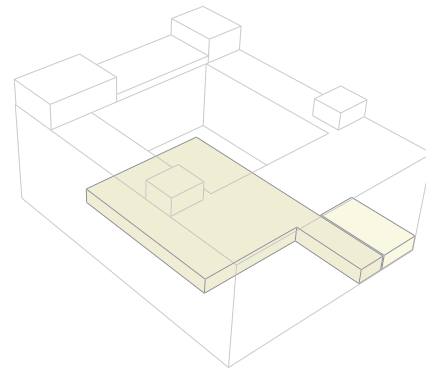
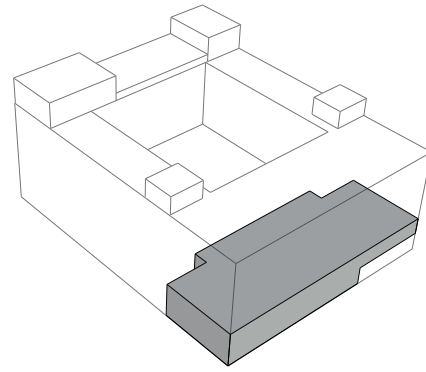
Overview





Commercial spaces:

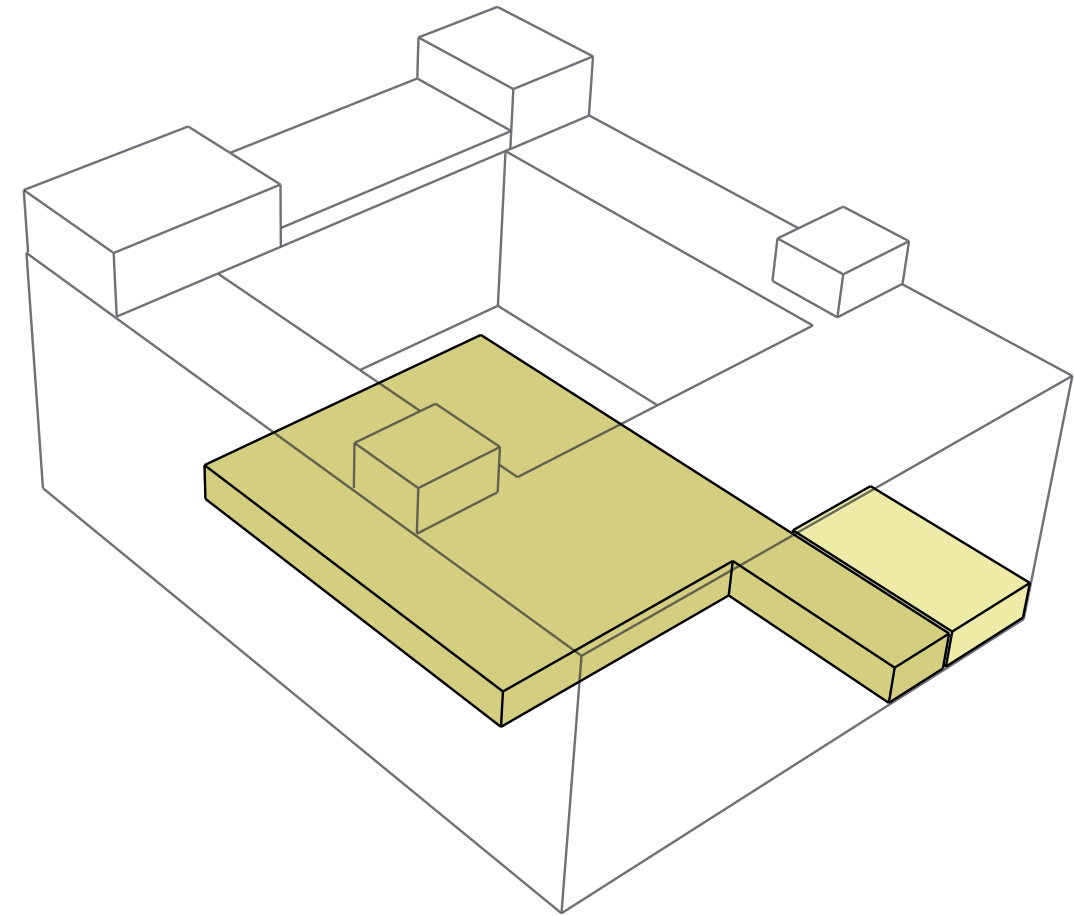
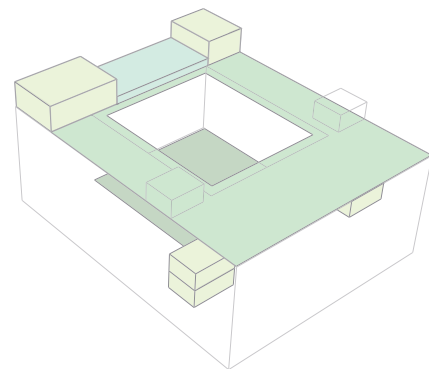
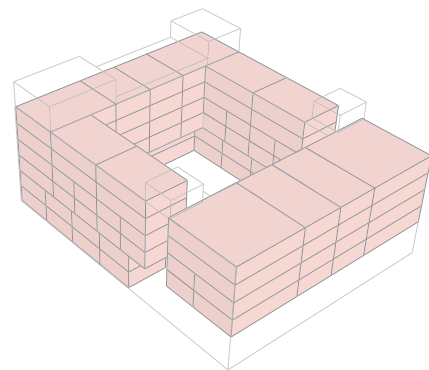
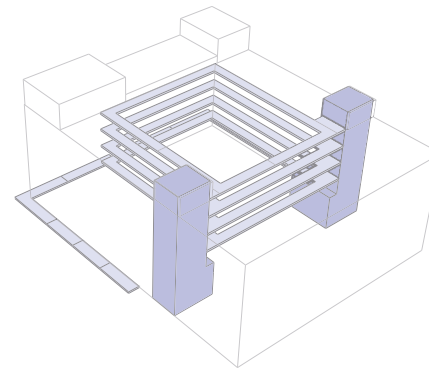
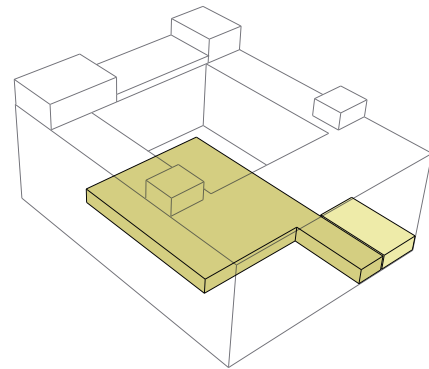
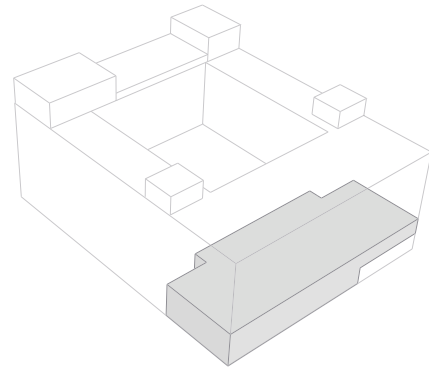
- Contributes to vivid urban area
- Adds facilities where residents can meet others people from the neighbourhood
- Located next to the mainstreet to attract as many people as possible



Design: building scheme

Parking:

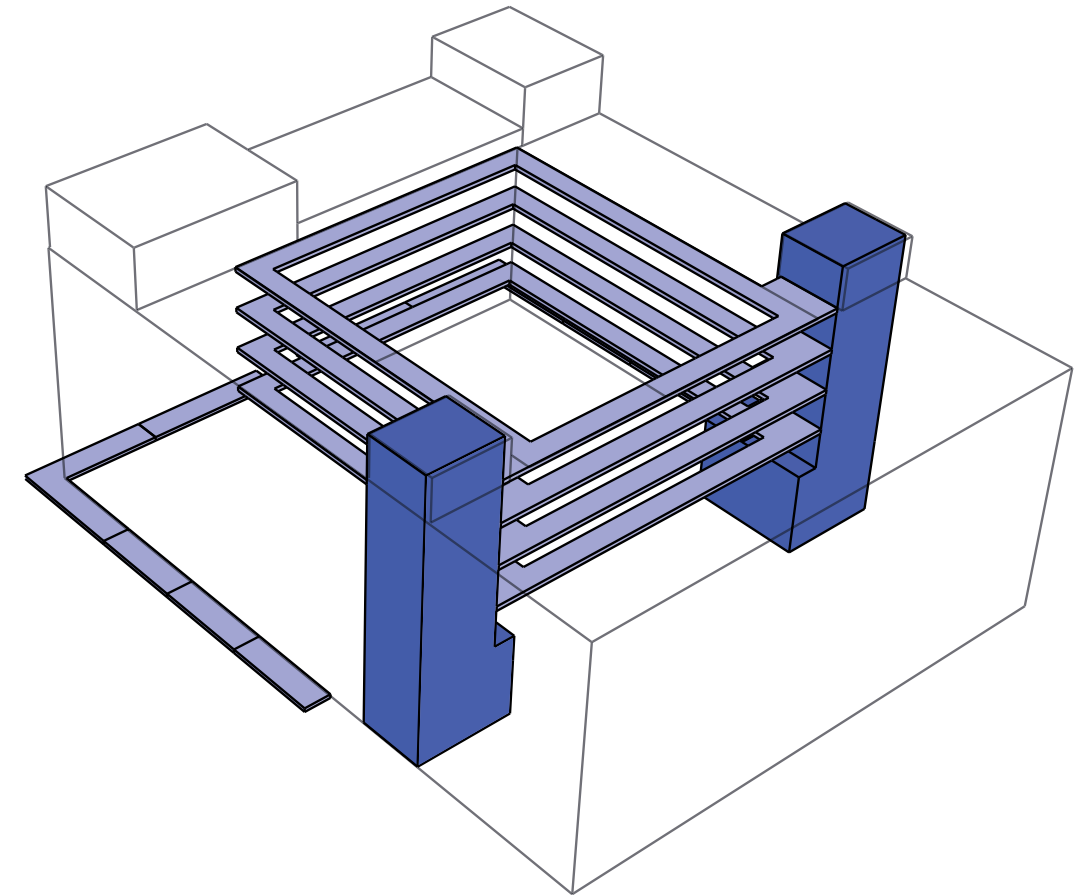
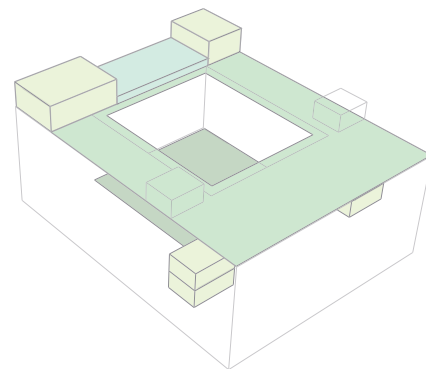
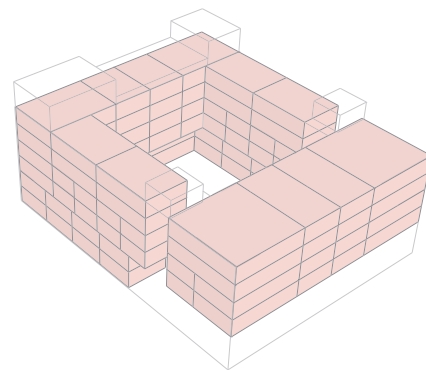
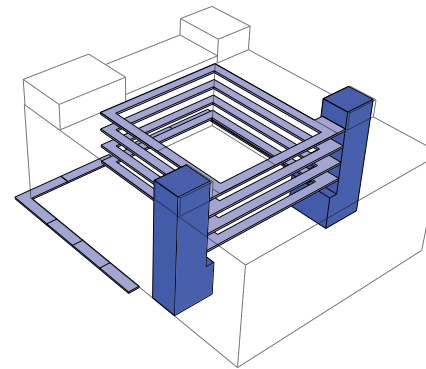
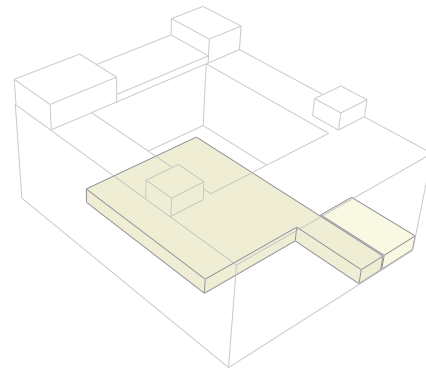
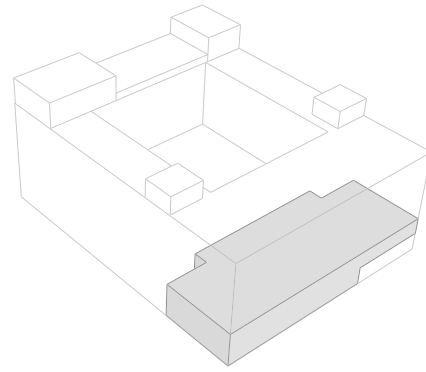
- Parking garage with shared electrical cars
- Bicycle parking for all the residents



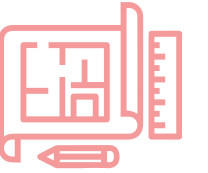


Acces system:

- The dwellings on the ground floor have a acces to the public spaces by a front garden
- Two entrances lead from the street to the galleries which connect to the dwellings

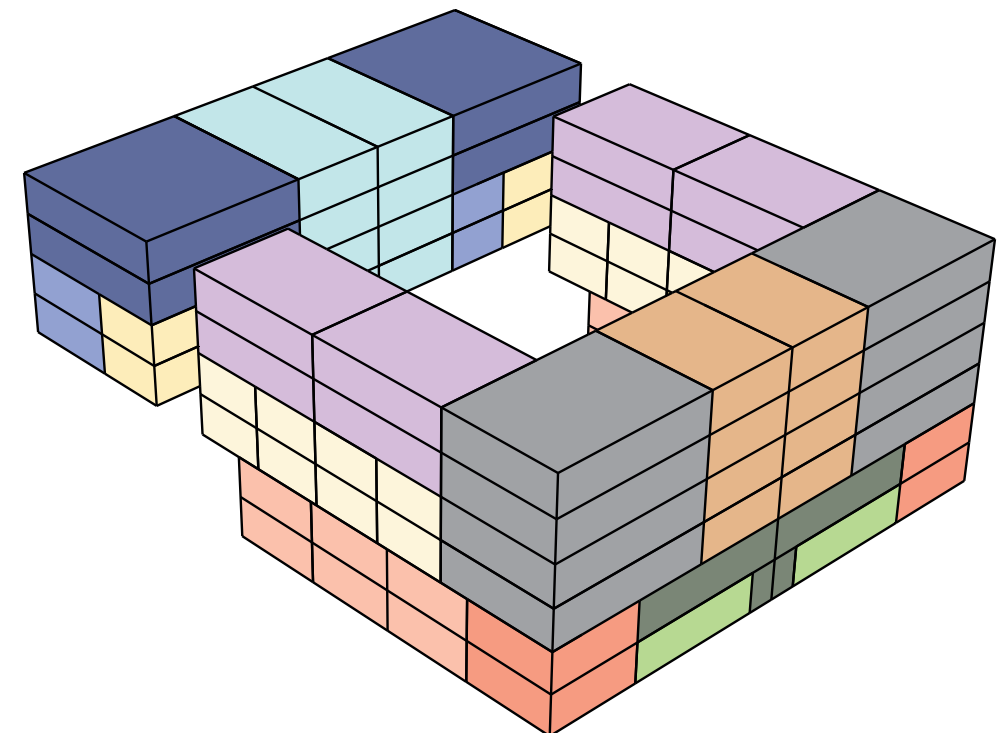
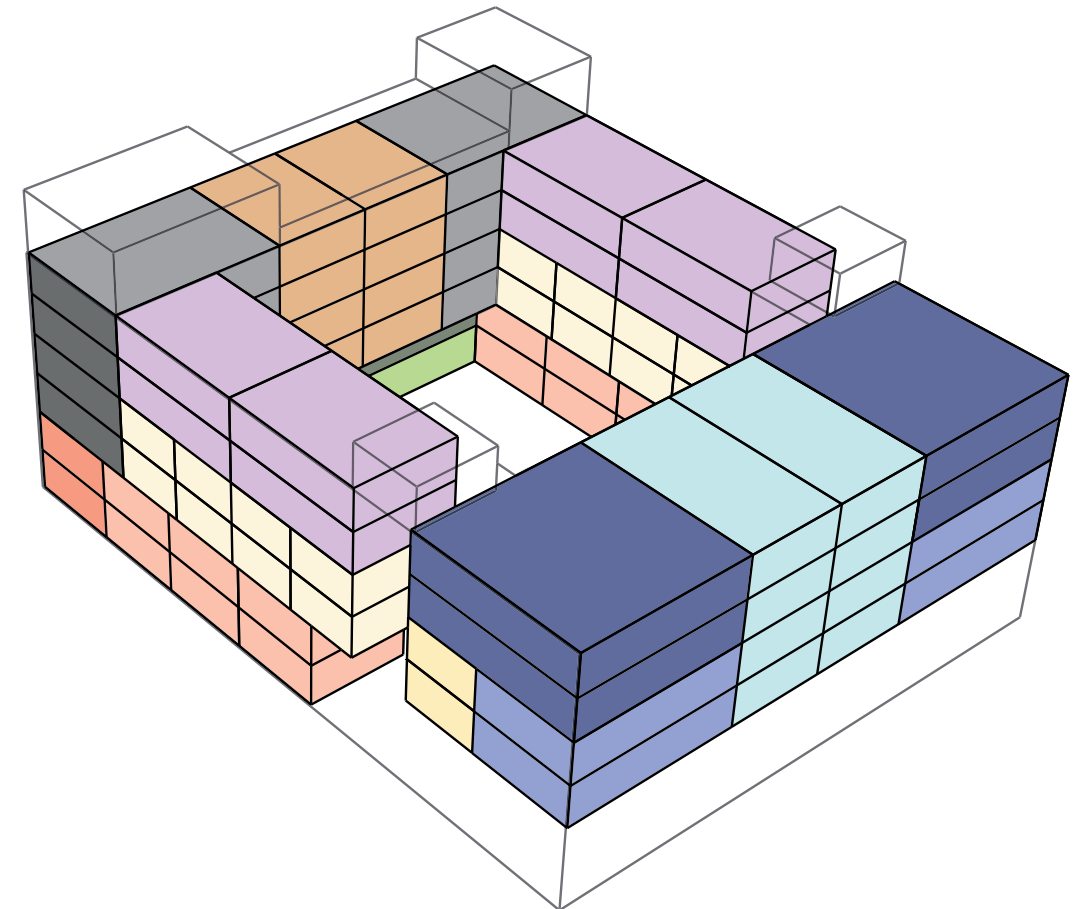
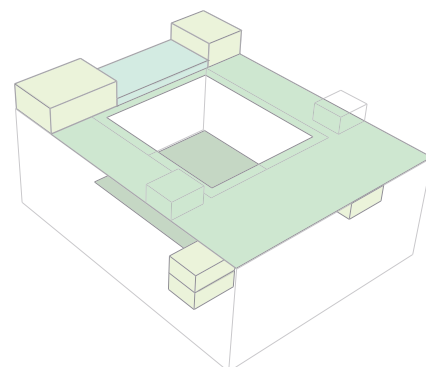
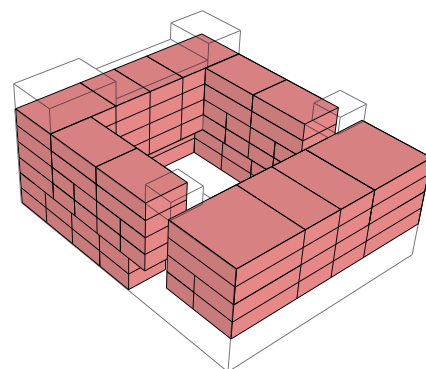
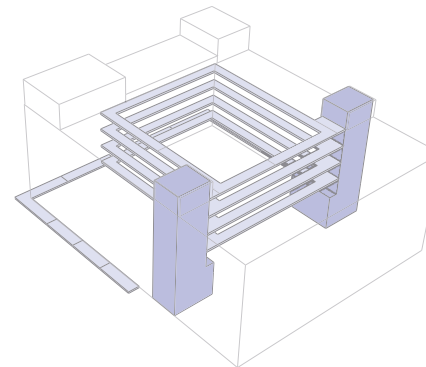
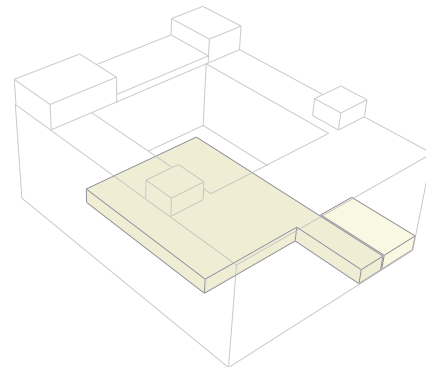
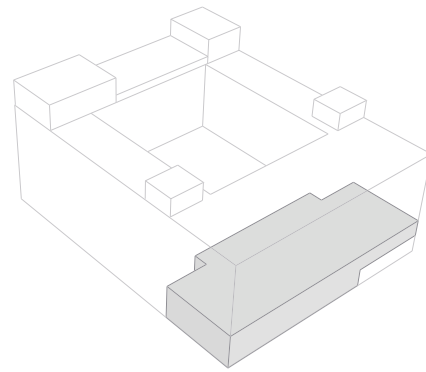


Design: building scheme



Dwellings:

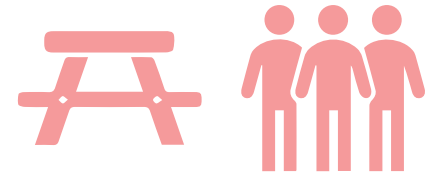
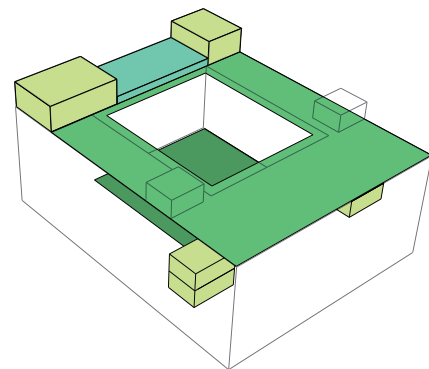
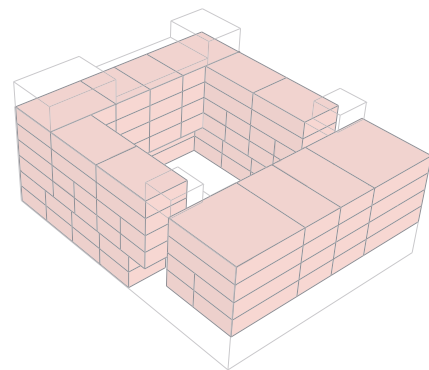
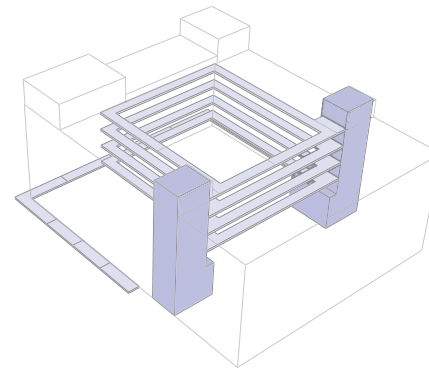
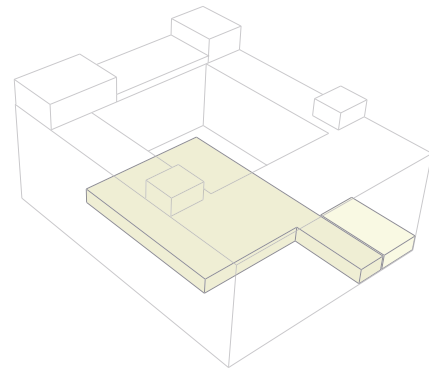
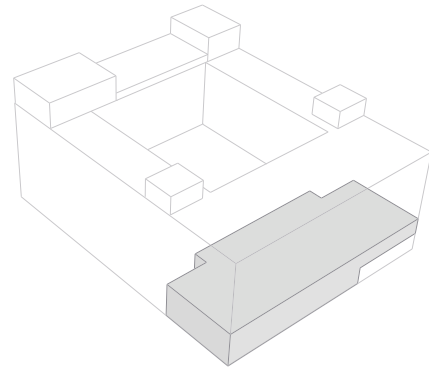
- Design entails a total of 72 dwellings in of 10 different types



Design: building scheme

Collective spaces:

- collective space inside the block for the specific type of residents
- because it is one of the lower buildings in the area, activate the roof



Fitness room

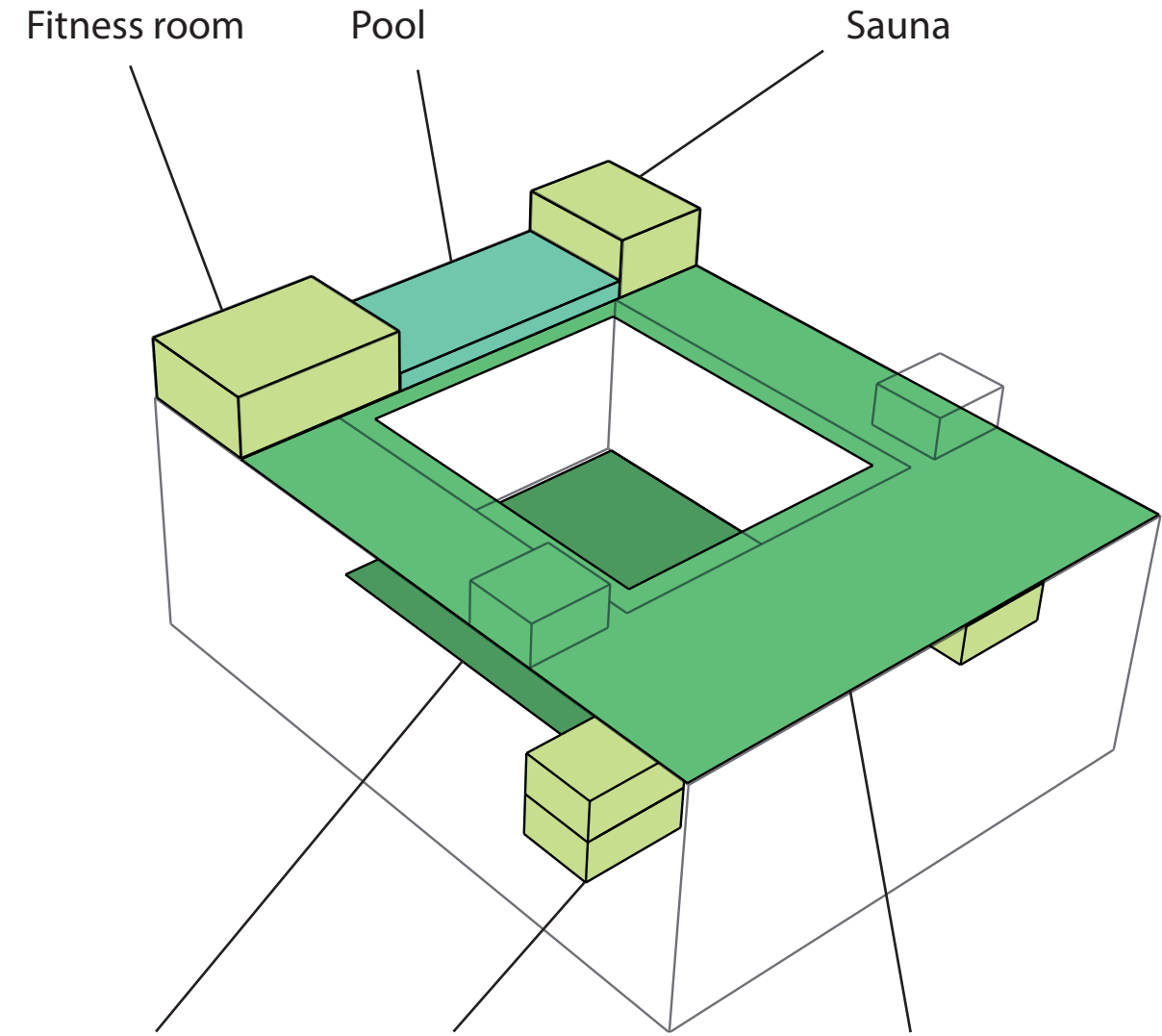
Pool

Sauna

Inner courtyard

Guestroom

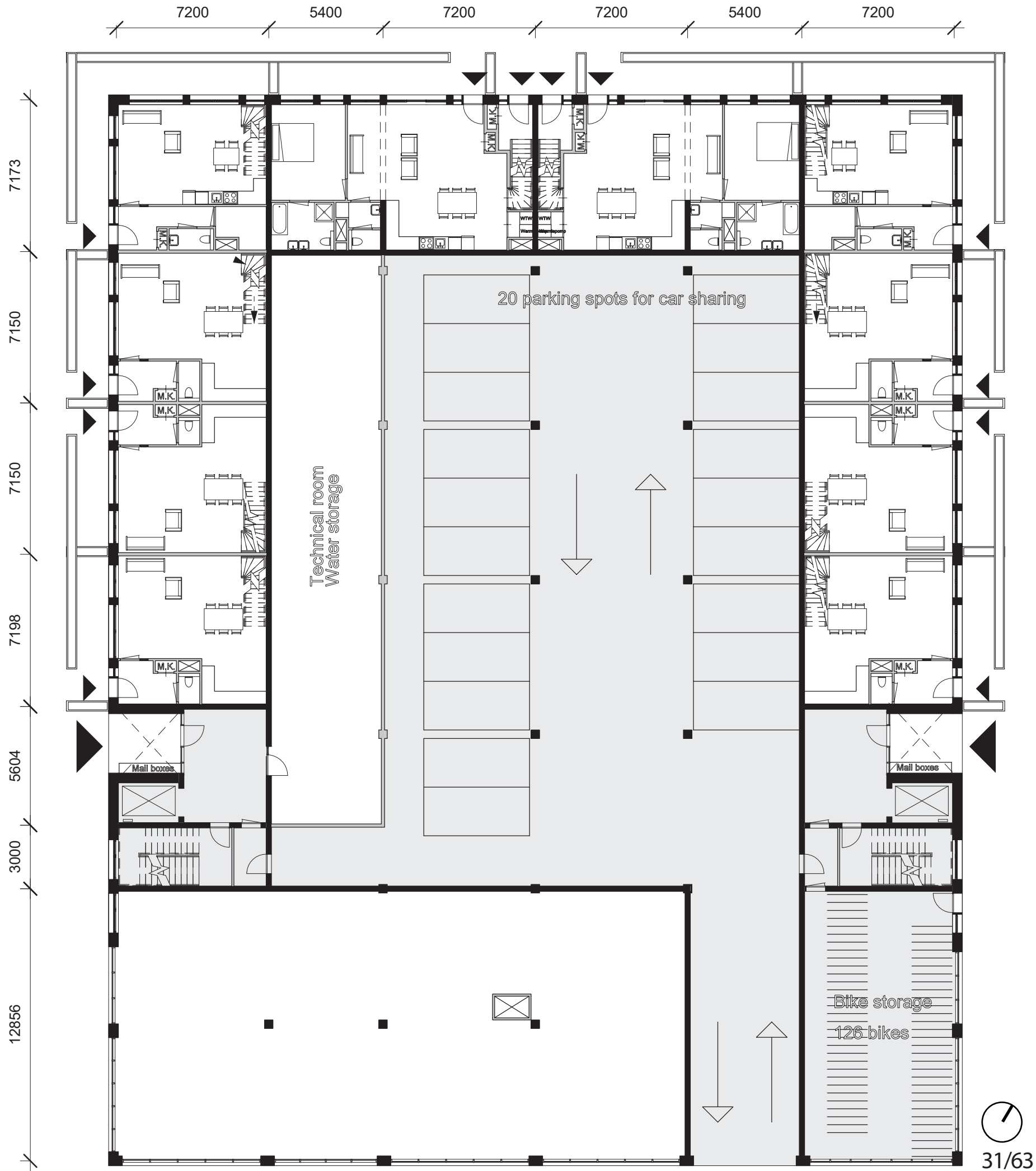
Rooftop garden



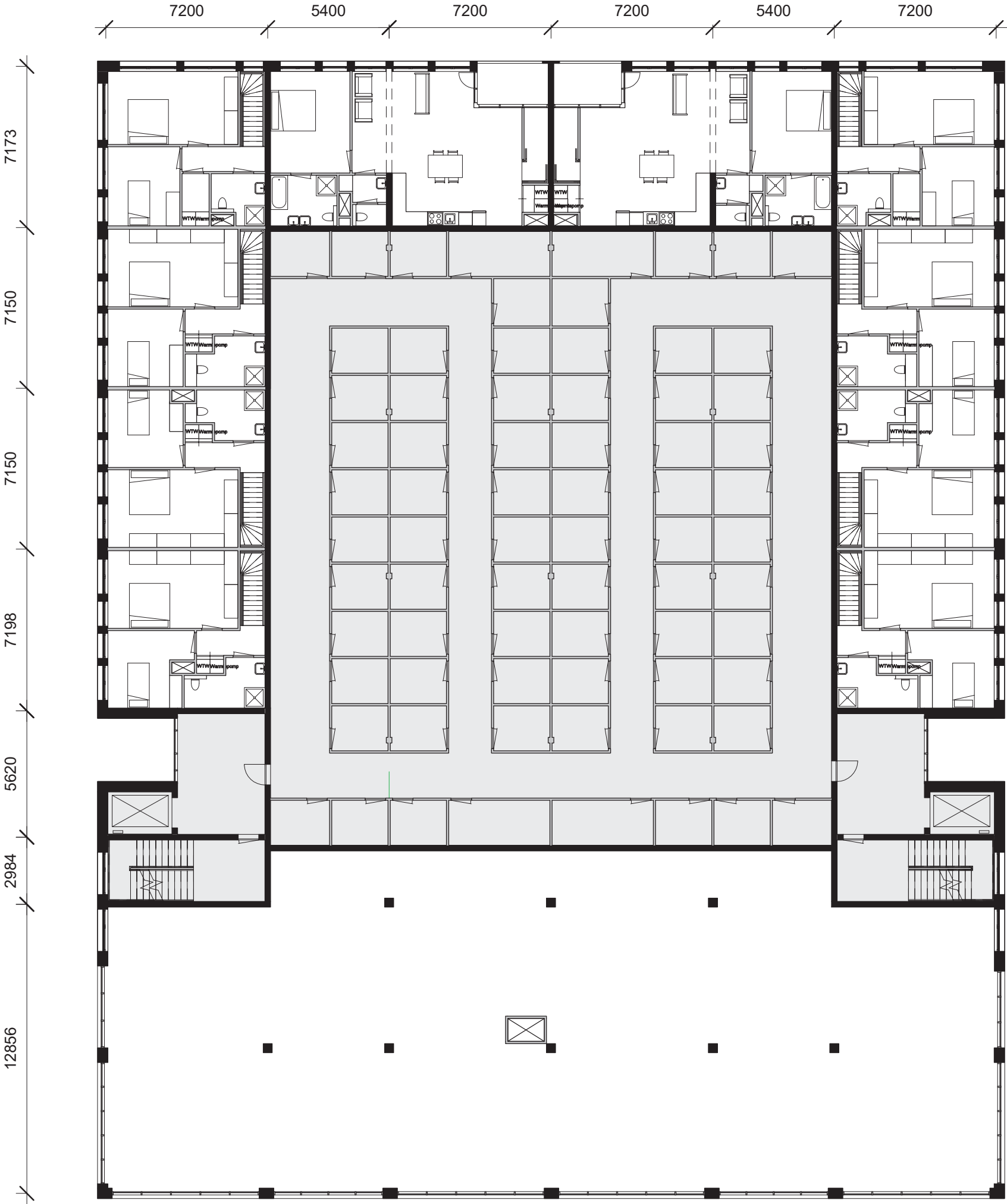


Design: elevation overview

Ground floor:

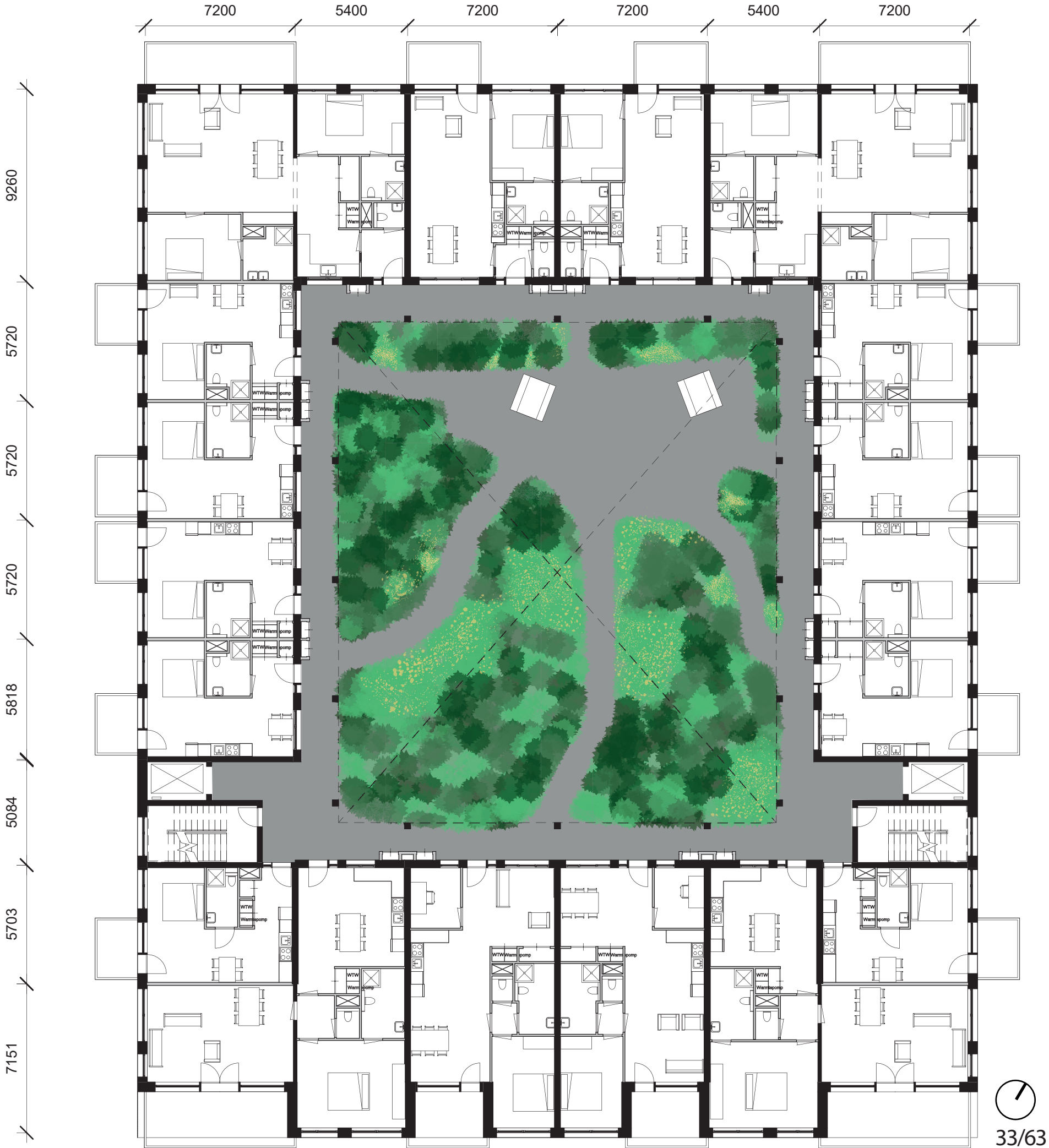


Second floor:



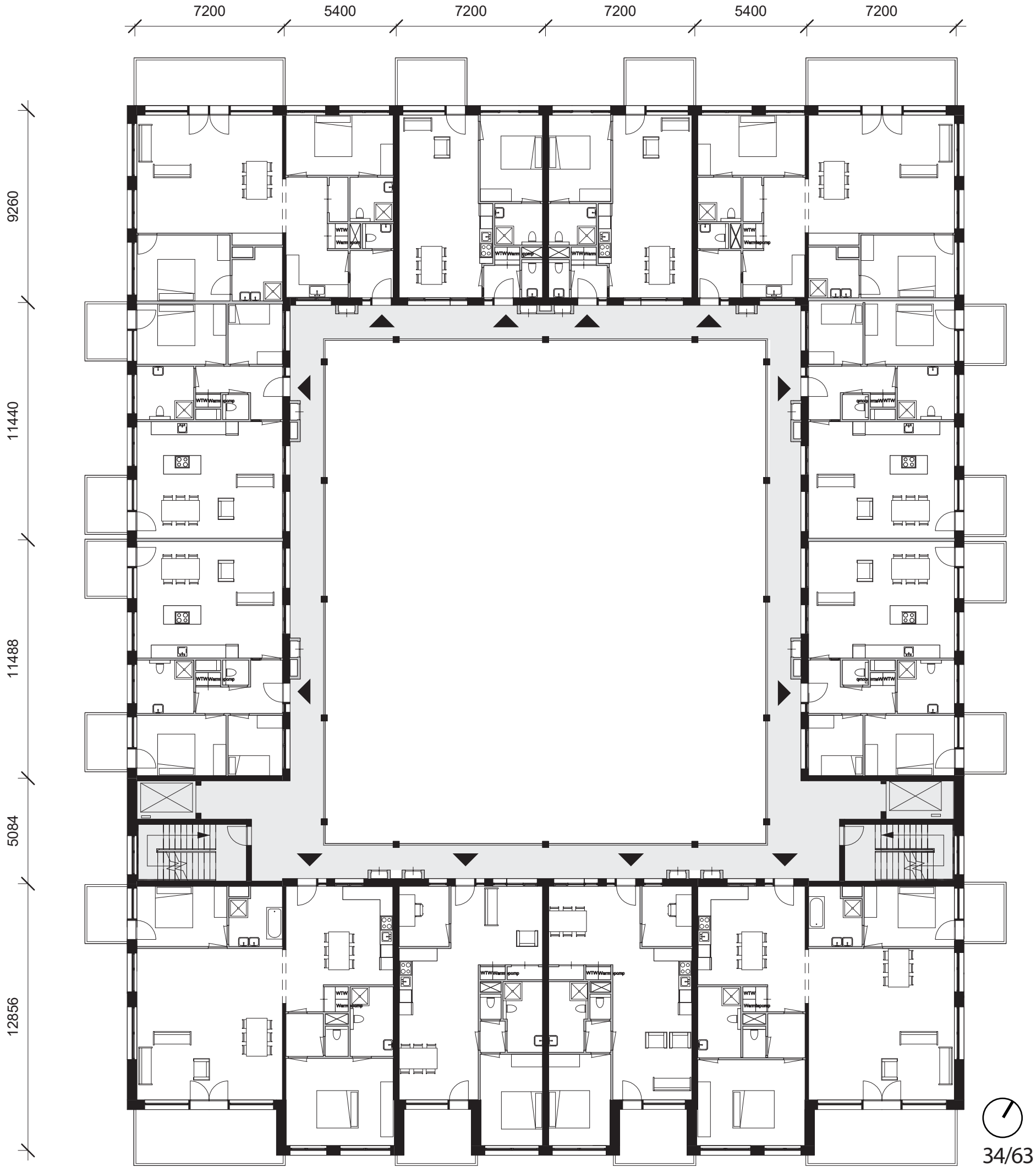
Design: elevation overview

Third floor:



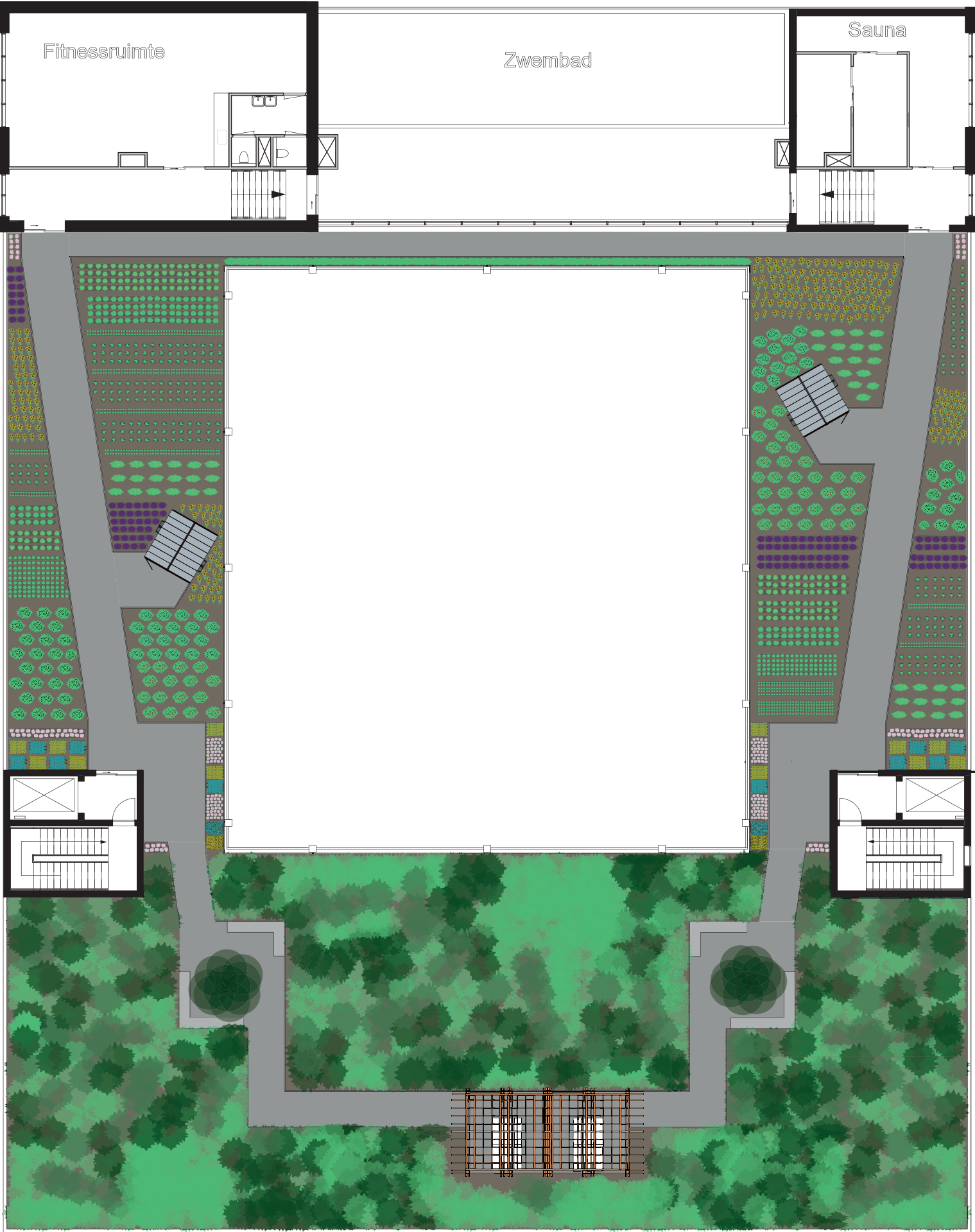
Design: elevation overview

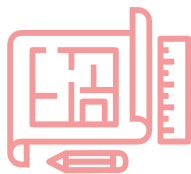
Fifth floor:



Design: elevation overview

Rooftop:





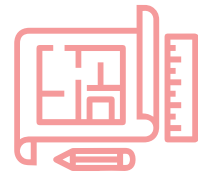
Dwellings:

Total amount of 72 dwellings

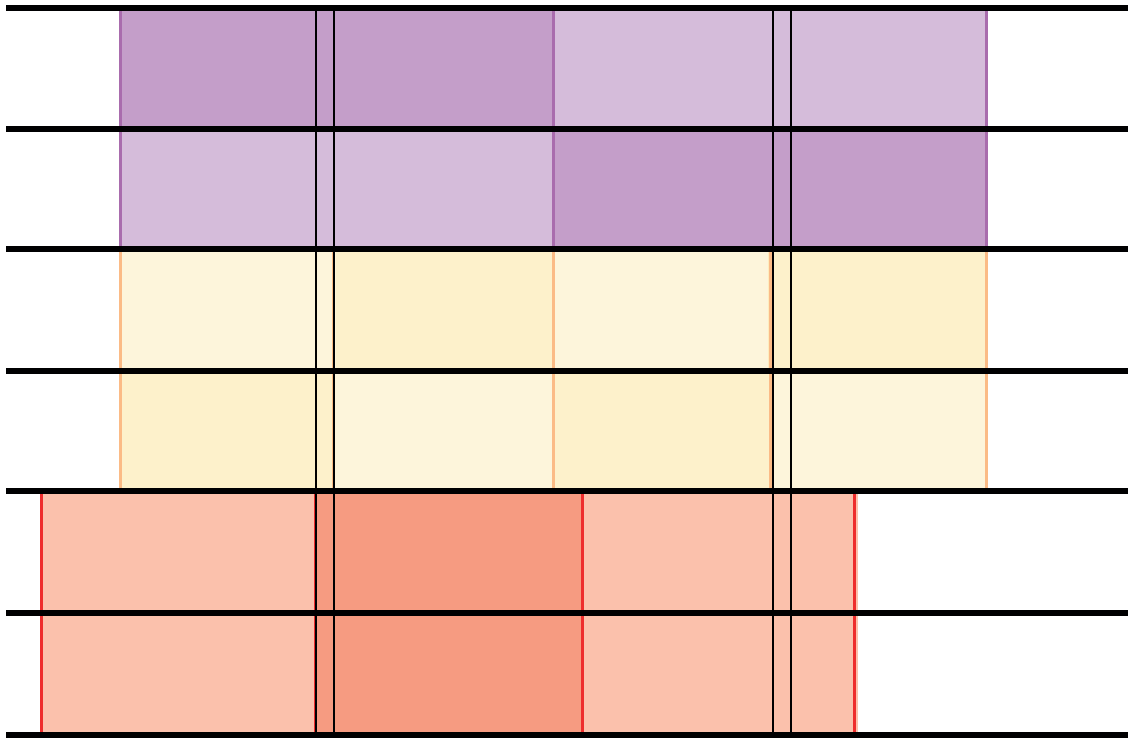
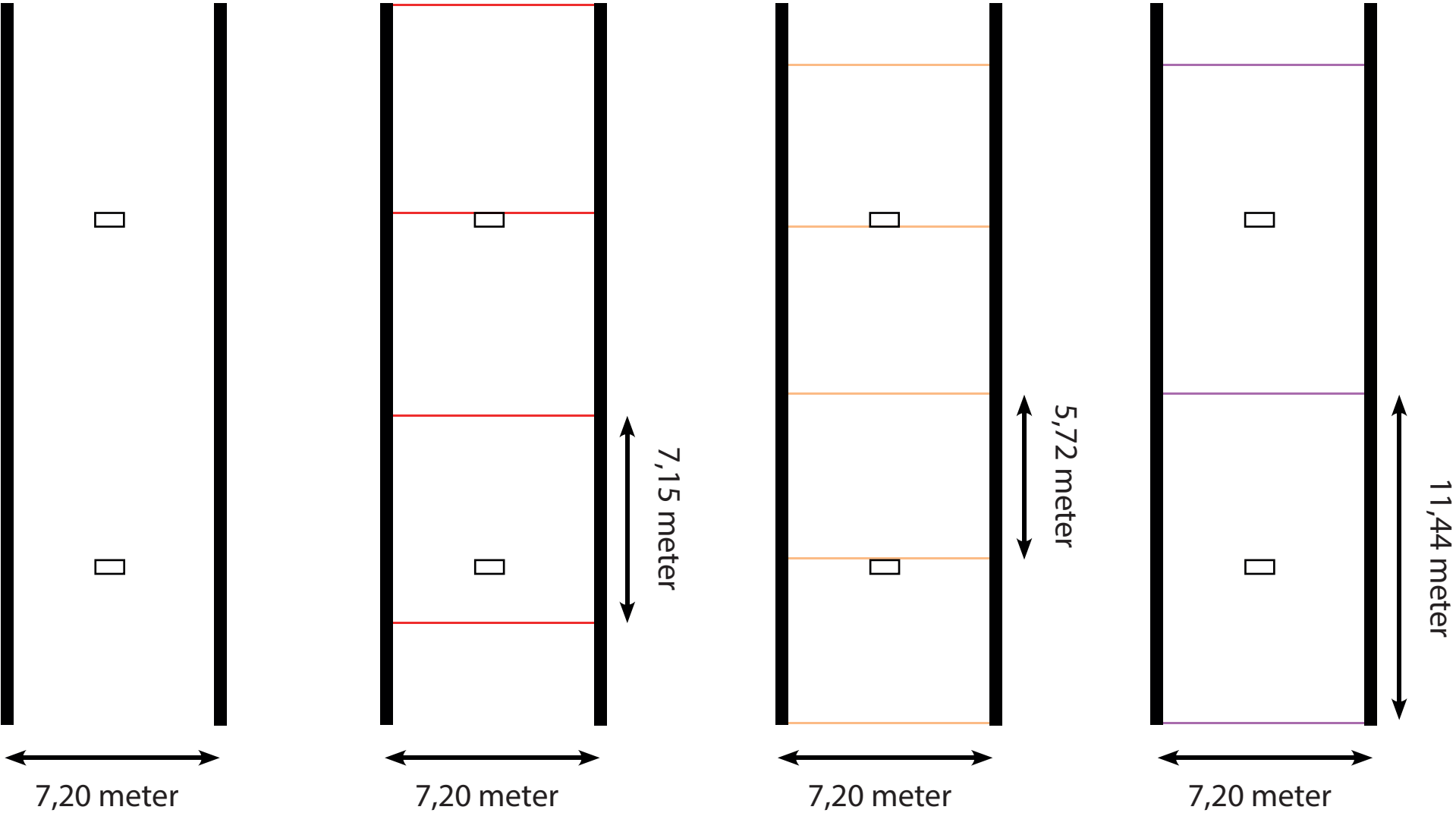
Type A1	93 m ²
Type A2	92 m ²
Type B	78 m ²
Type C	82 m ²
Type D	109 m ²
Type E	61 m ²
Type F	37 m ²
Type G	98 m ²
Type H	78 m ²
Type I	79 m ²
Type J	139 m ²



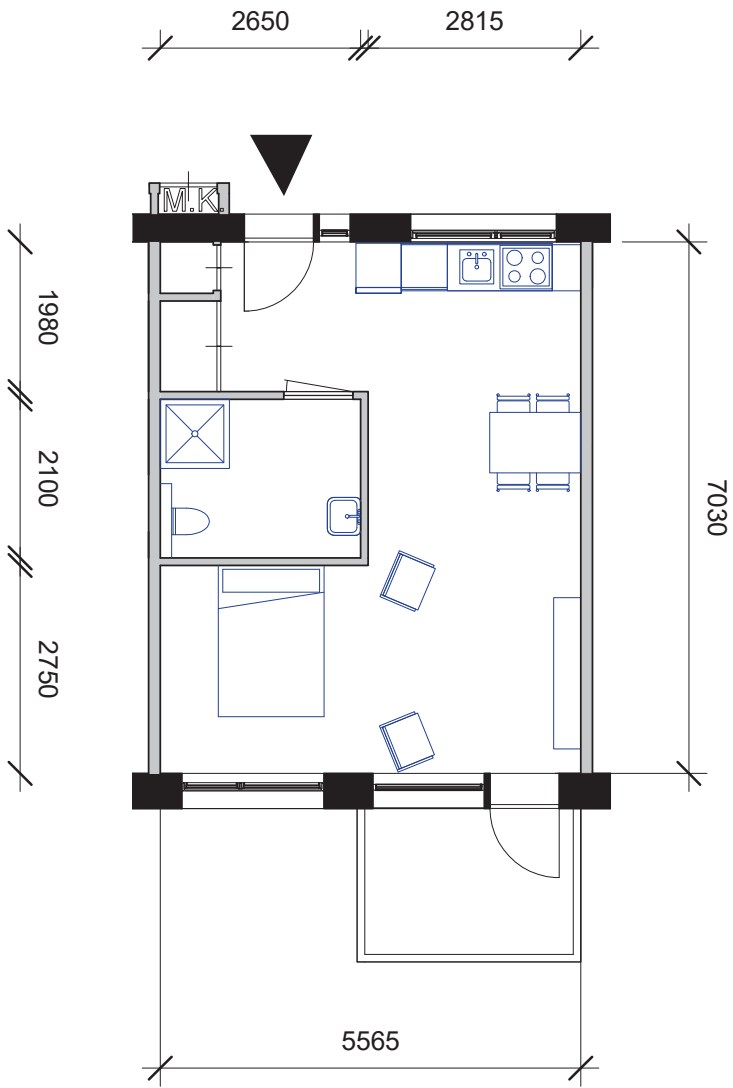
Design: dwelling typologies



Stacking of different dwelling types on top of each other



Type F:
Third and fourth floor
16x Studio
Total surface area: 37 m²
Outdoor space: 5 m²



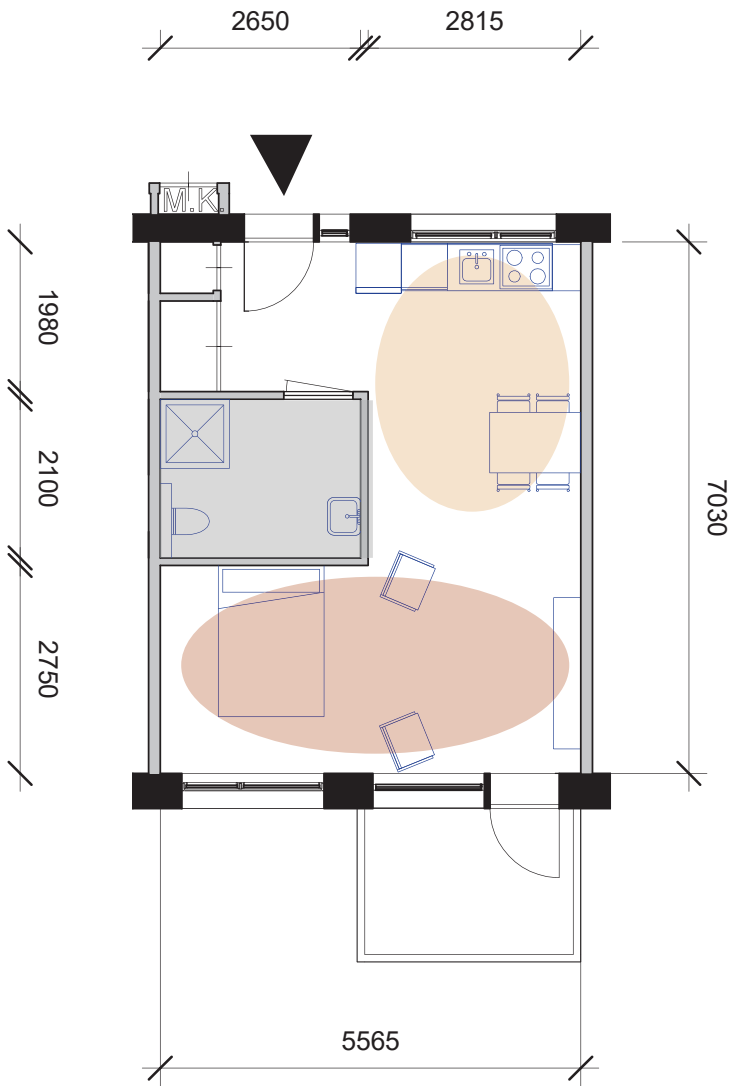


Type F:

Third and fourth floor
16x Studio

Total surface area: 37 m²
Outdoor space: 5 m²

- kitchen/dining room
- bed/living room
- bathroom



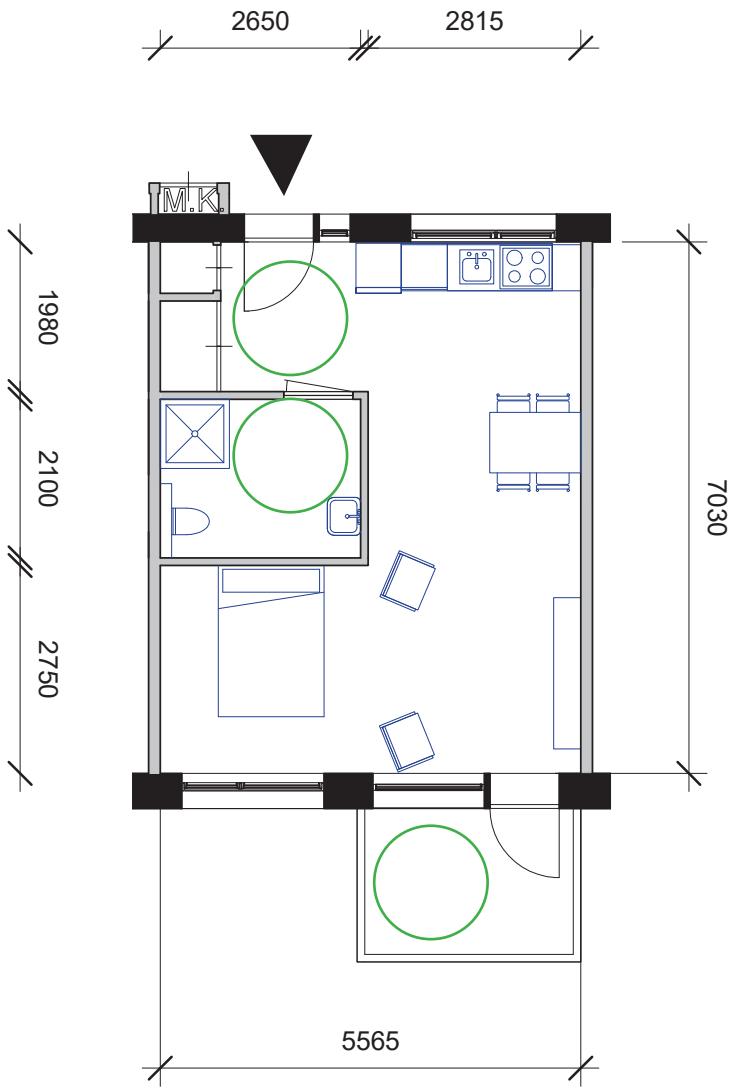


Type F:

Third and fourth floor
16x Studio

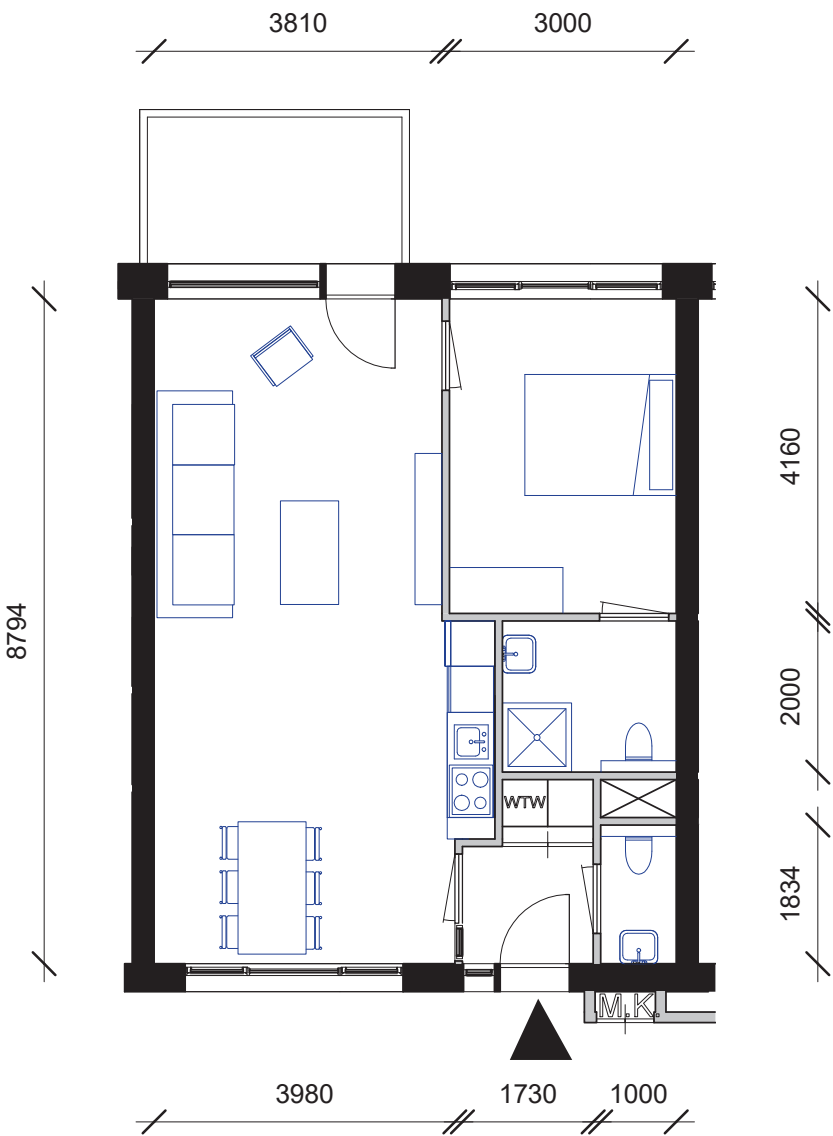
Total surface area: 37 m²
Outdoor space: 5 m²

 turning circle
wheelchair 1,5 m



Design: dwelling typologies

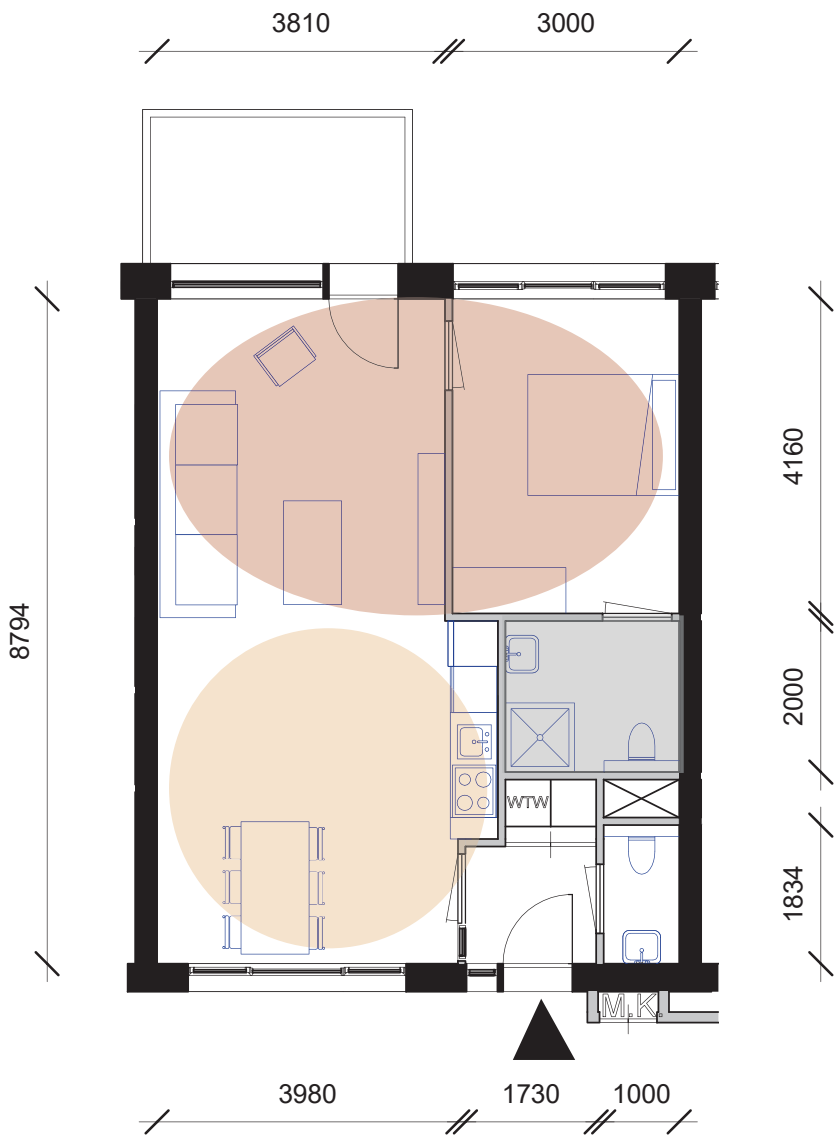
Type E:
Second, third, fourth, and
fifth floor
8x Apartment
Total surface area: 61 m²
Outdoor space: 7 m²





Type E:
Second, third, fourth, and fifth floor
8x Apartment
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Outdoor space: 7 m²

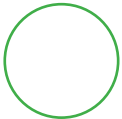
- kitchen/dining room
- bed/living room
- bathroom

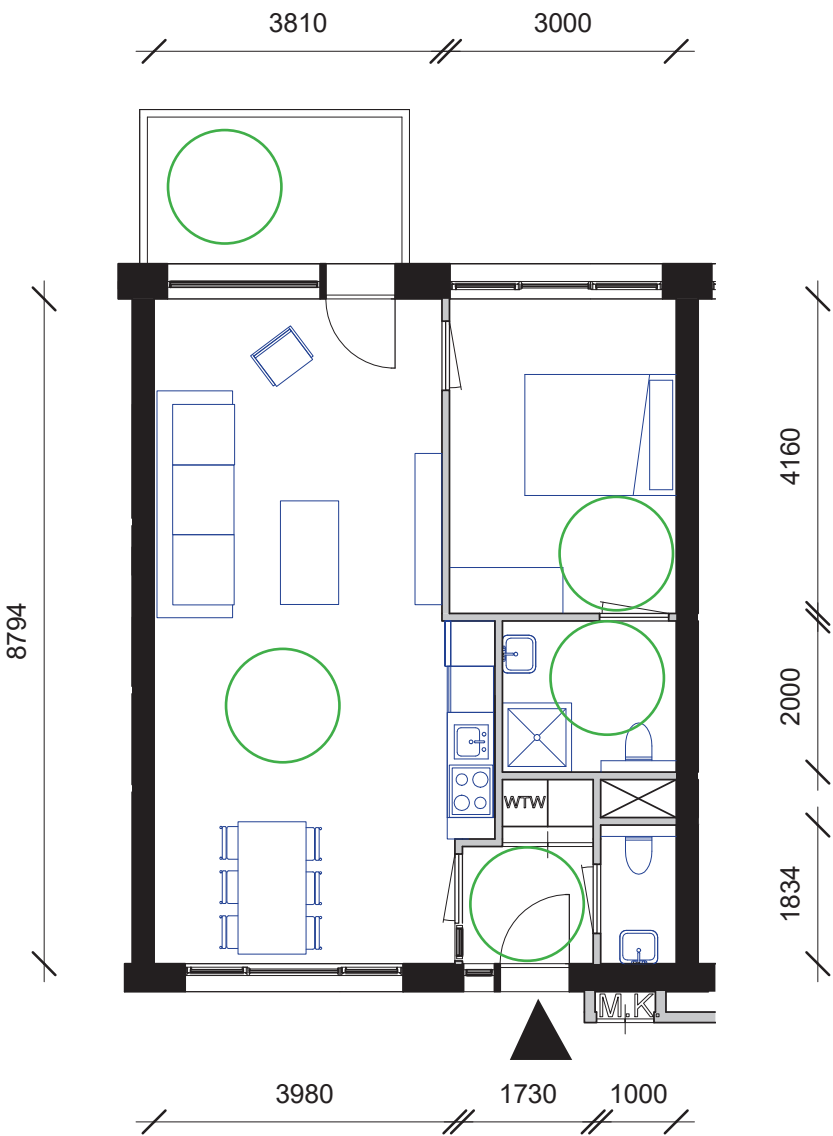




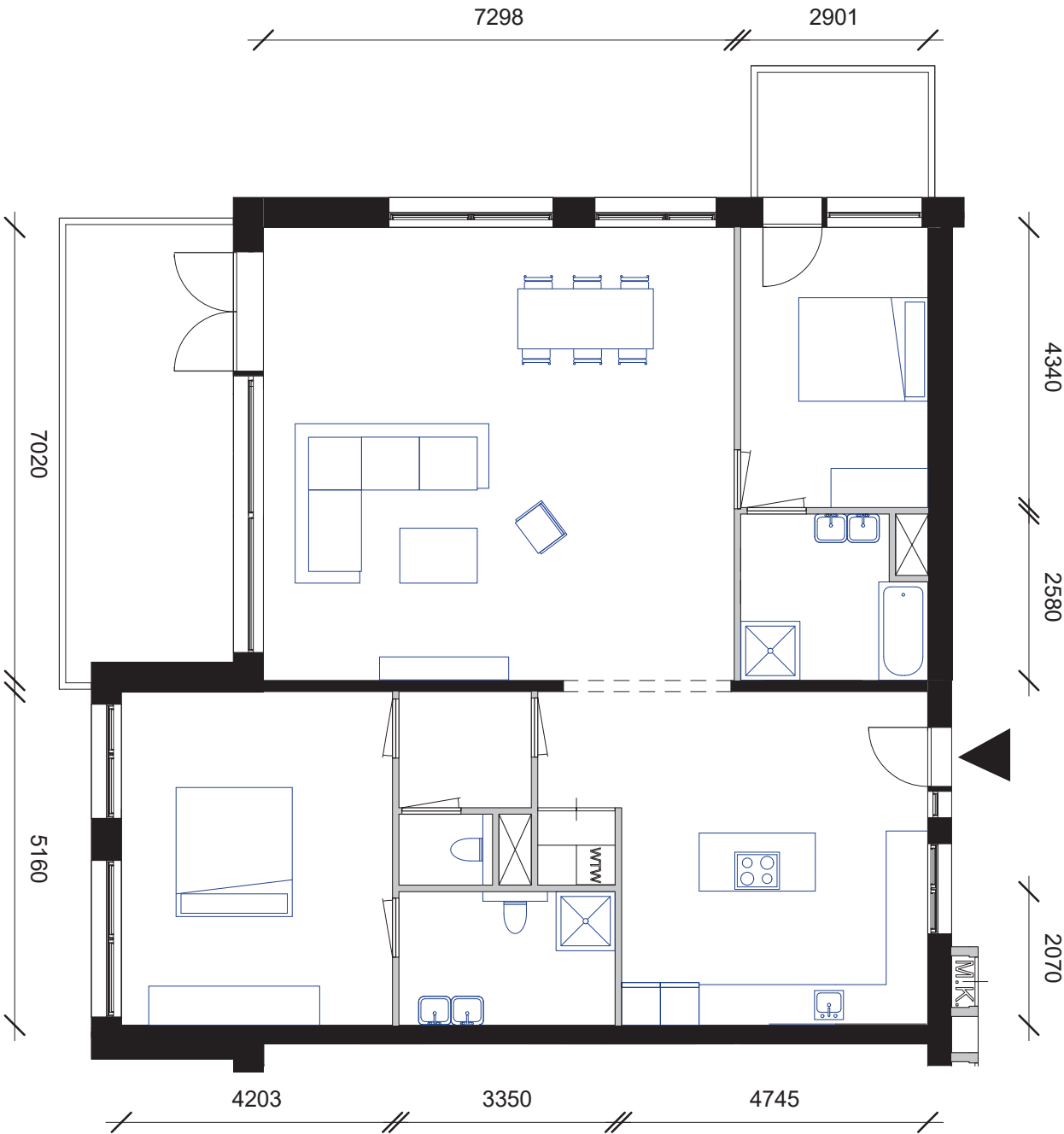
Type E:

Second, third, fourth, and
fifth floor
8x Apartment
Total surface area: 61 m²
Outdoor space: 7 m²

 turning circle
wheelchair 1,5 m



Type J:
Fourth and fifth floor
4x Apartment
Total surface area:139 m²
Outdoor space: 18 m²

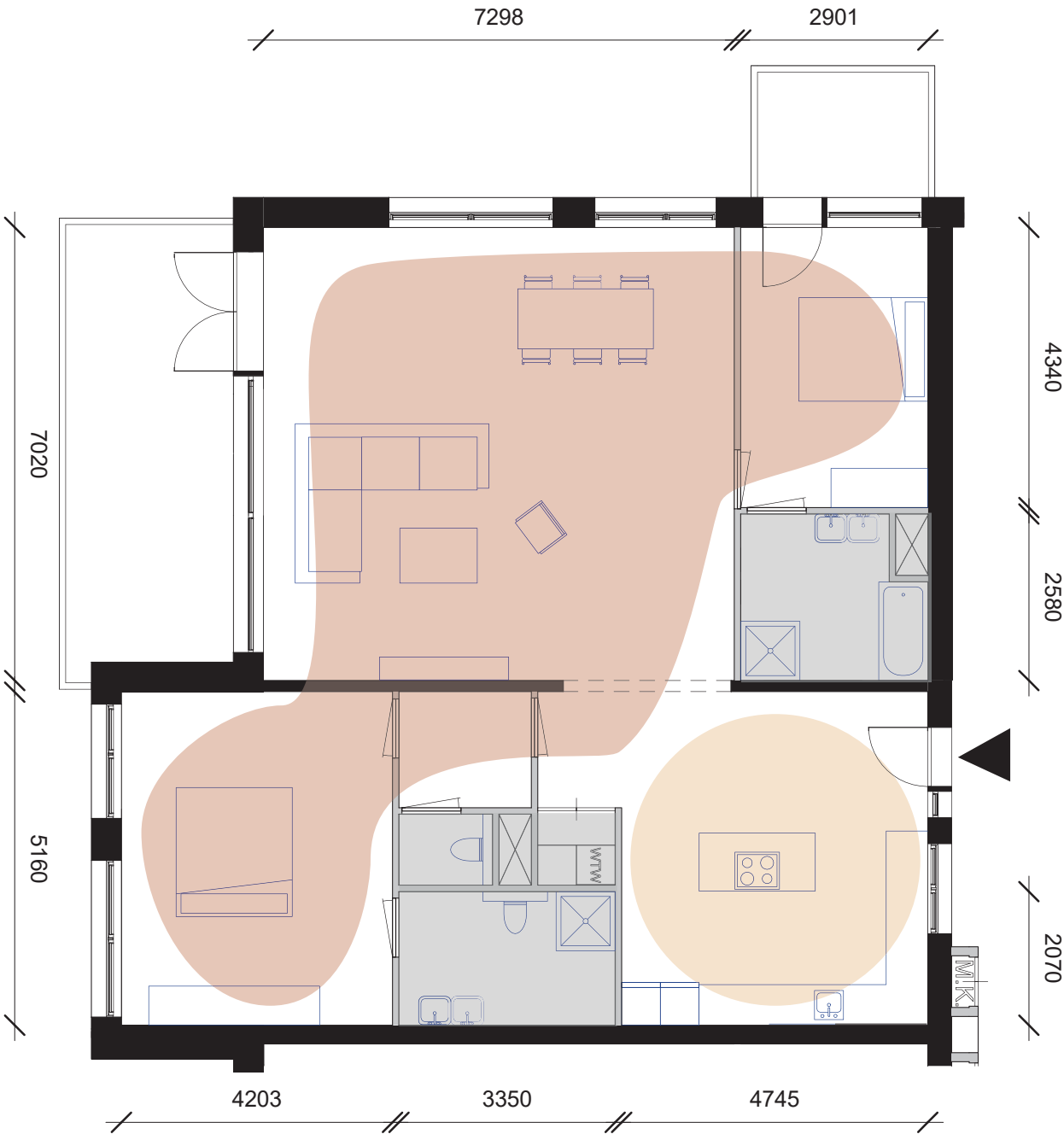




Type J:

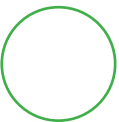
Fourth and fifth floor
4x Apartment
Total surface area:139 m²
Outdoor space: 18 m²

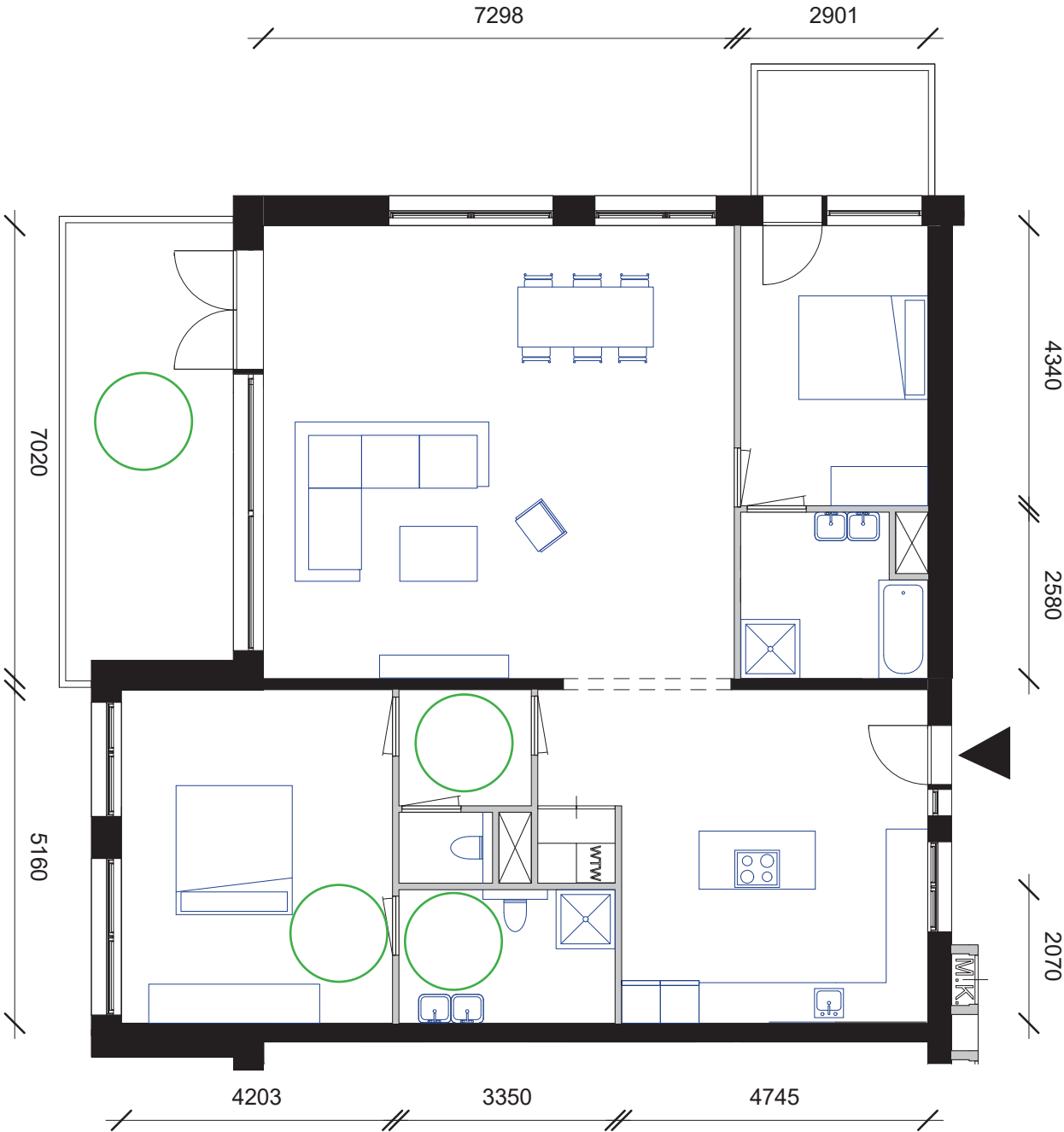
- kitchen/dining room
- bed/living room
- bathroom

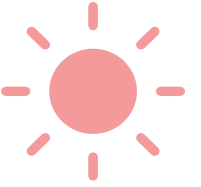




Type J:
Fourth and fifth floor
4x Apartment
Total surface area:139 m²
Outdoor space: 18 m²

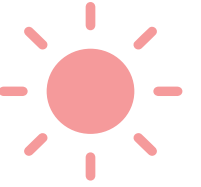
 turning circle
wheelchair 1,5 m





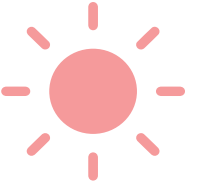
South west facade

10.30 21/03/2021



South west facade

13.00 21/03/2021



South west facade

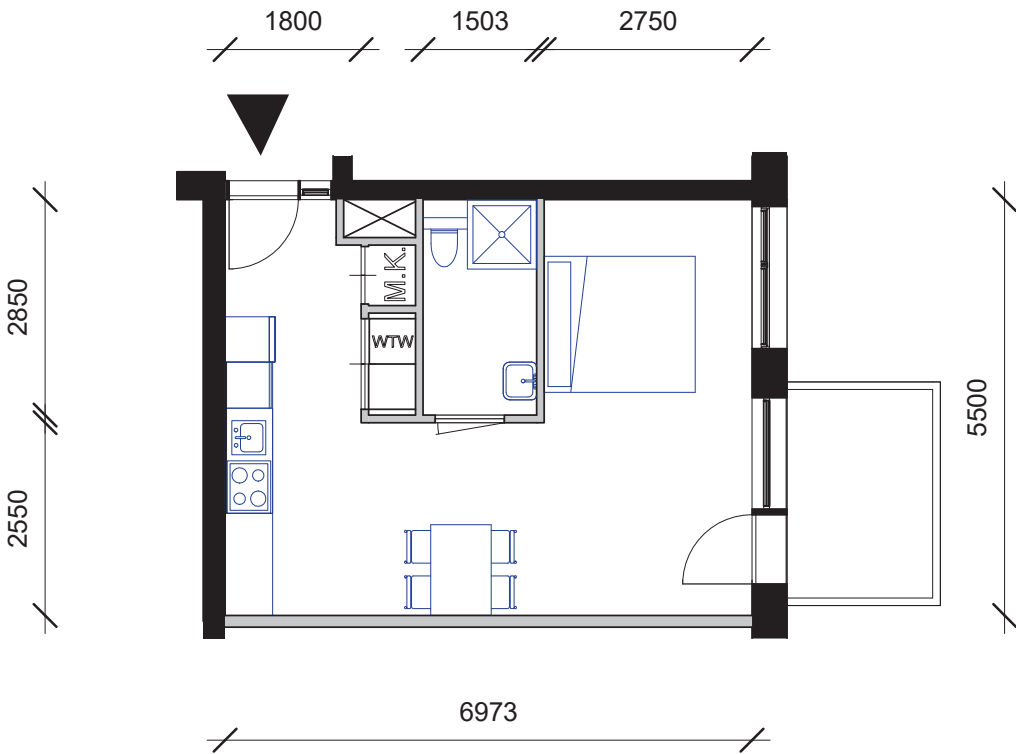
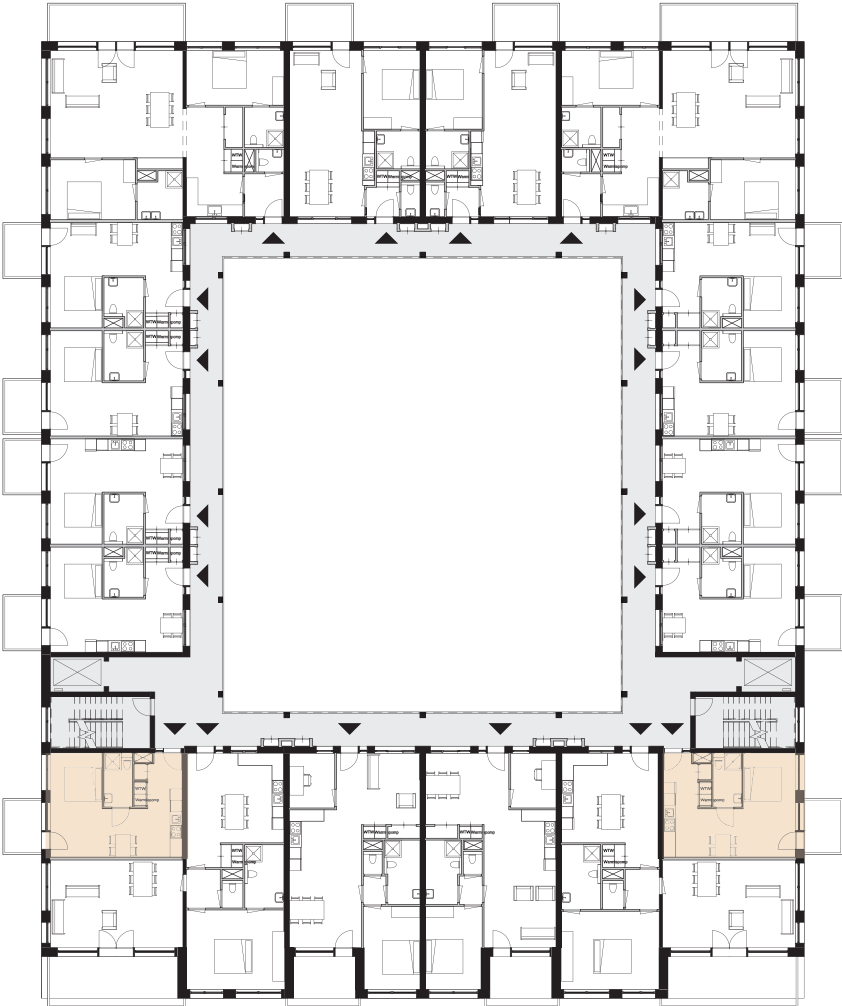
17.00 21/03/2021

Design: social collectiveness



Guestbedrooms for the residents who do not have a spare bedroom

Could also be used by caregivers in the future



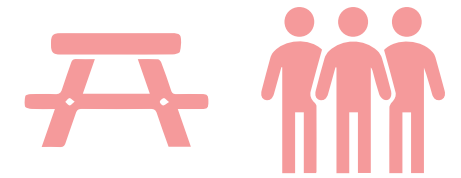


Combination of the oversized galleries and the bulging fuse boxes give the opportunity to appropriate a part of the gallery

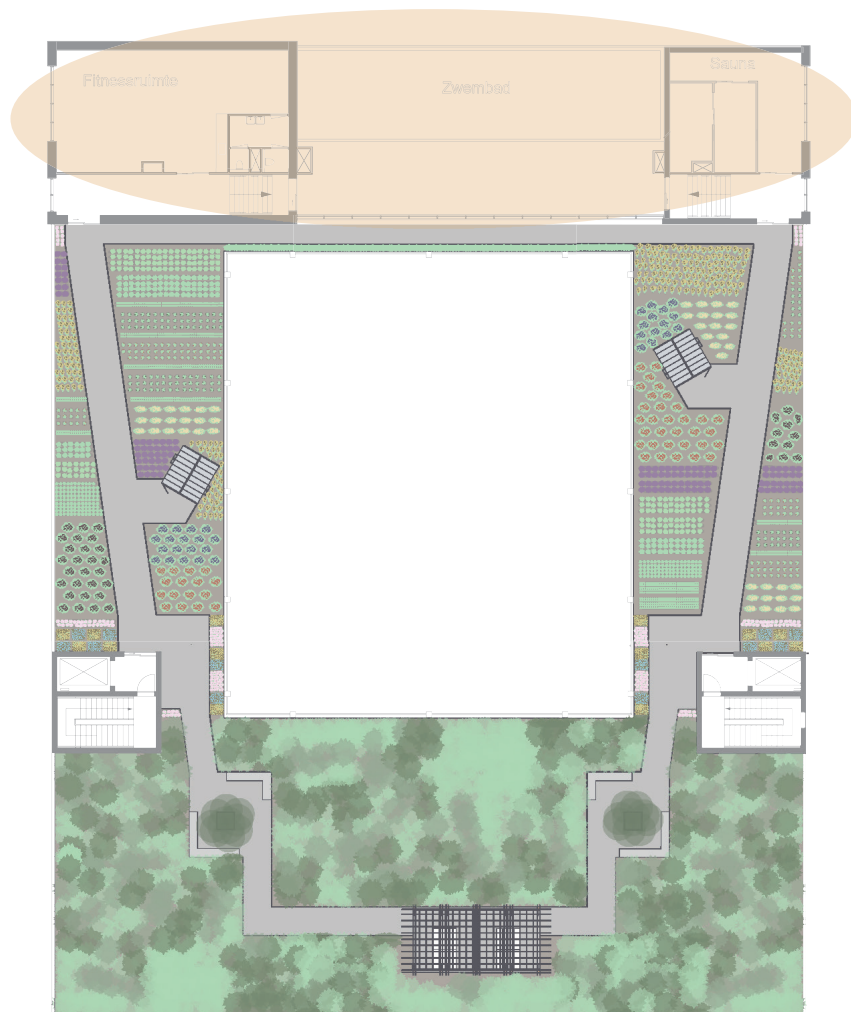
Every dwelling has large windows towards the gallery, this makes it possible to look inside the dwellings



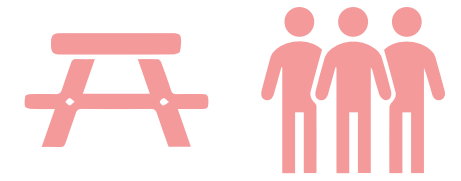
Design: social collectiveness



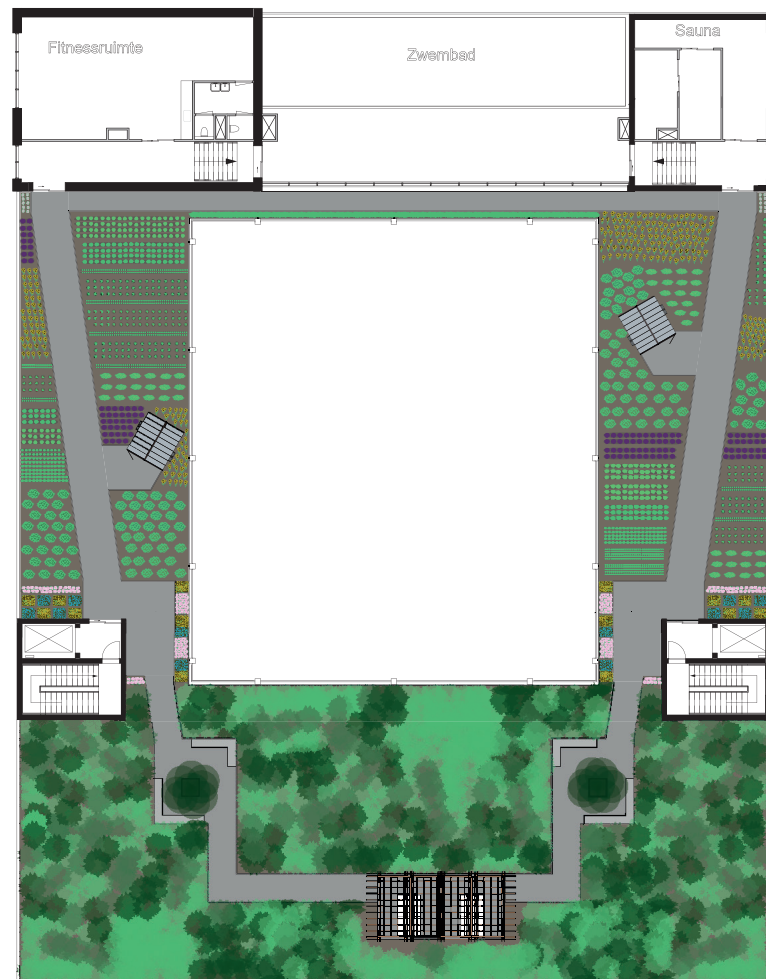
High end facilities on the rooftop where the residents are able to work out and/or relax together

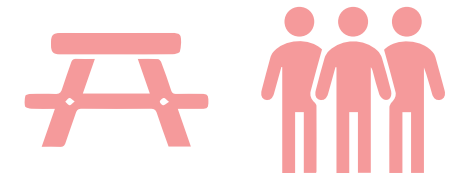


Design: social collectiveness

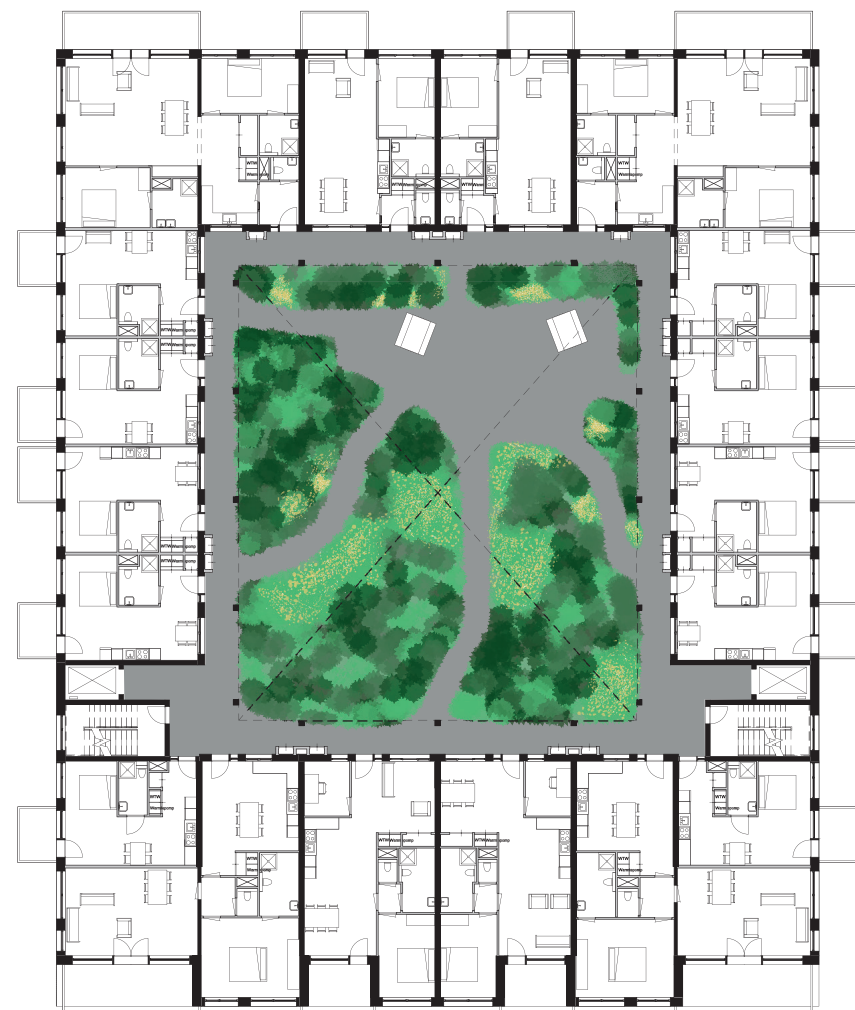


Vegetable garden, where the residents can grow their own food together





Inner courtyard, where
the residents can meet
each other and enjoy the
calm place



Building technology: overview climate

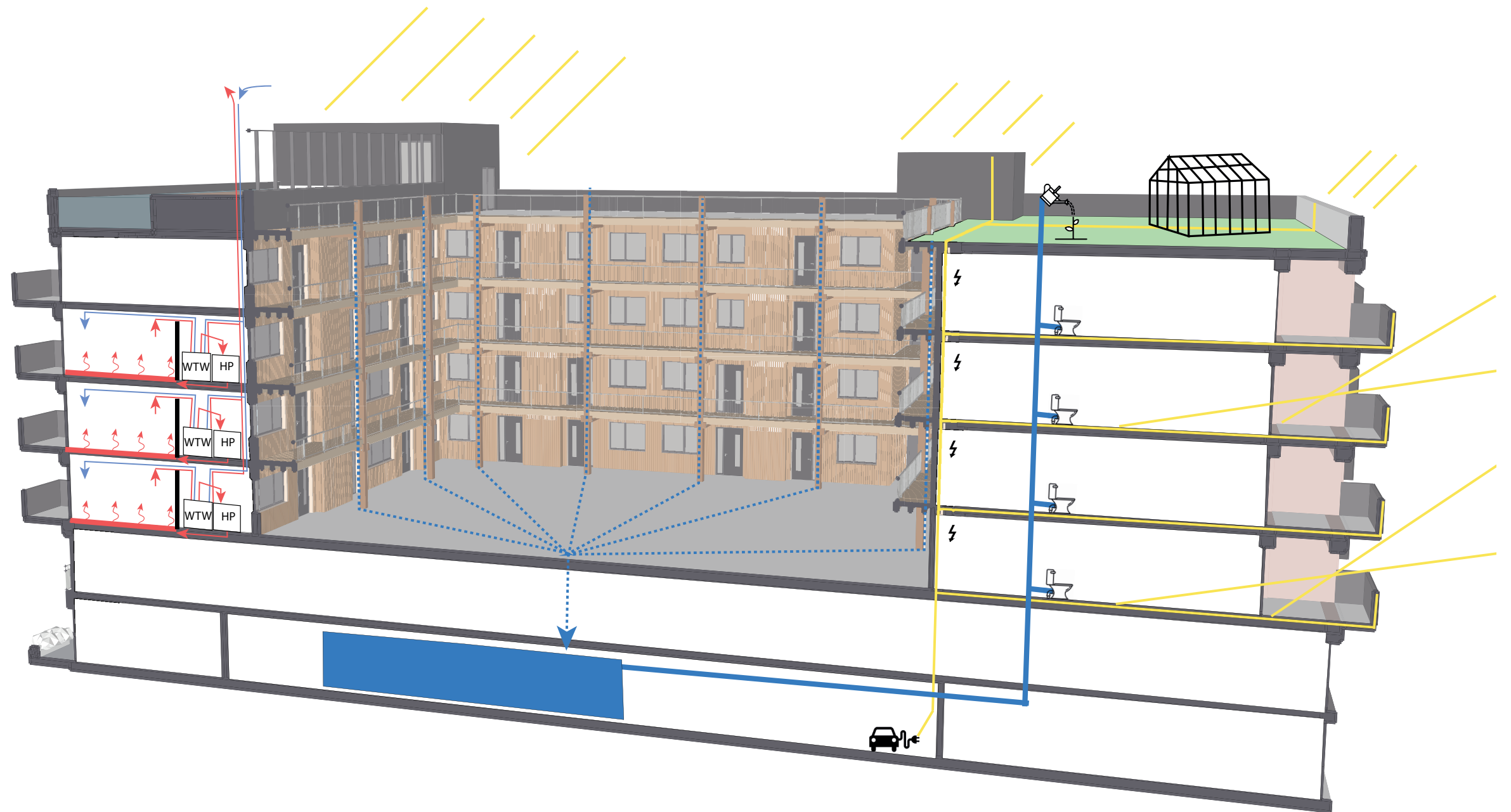
Pv-panels integrated in the facades

Rooftop garden

Water retention and storage

Every dwelling has its own installations to secure most energy efficient heating

Loggia's facing south to prevent the hot summer sun to enter the dwellings but to allow the winter sun to shine deep into the dwellings

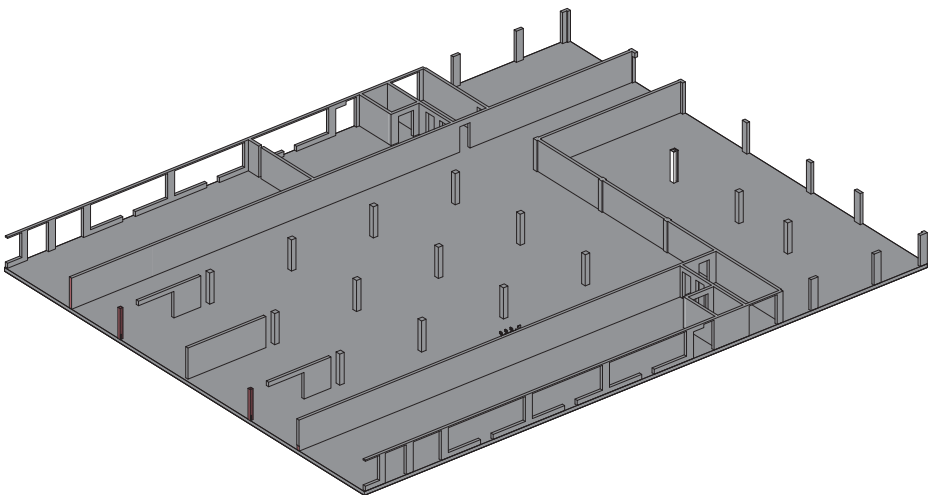
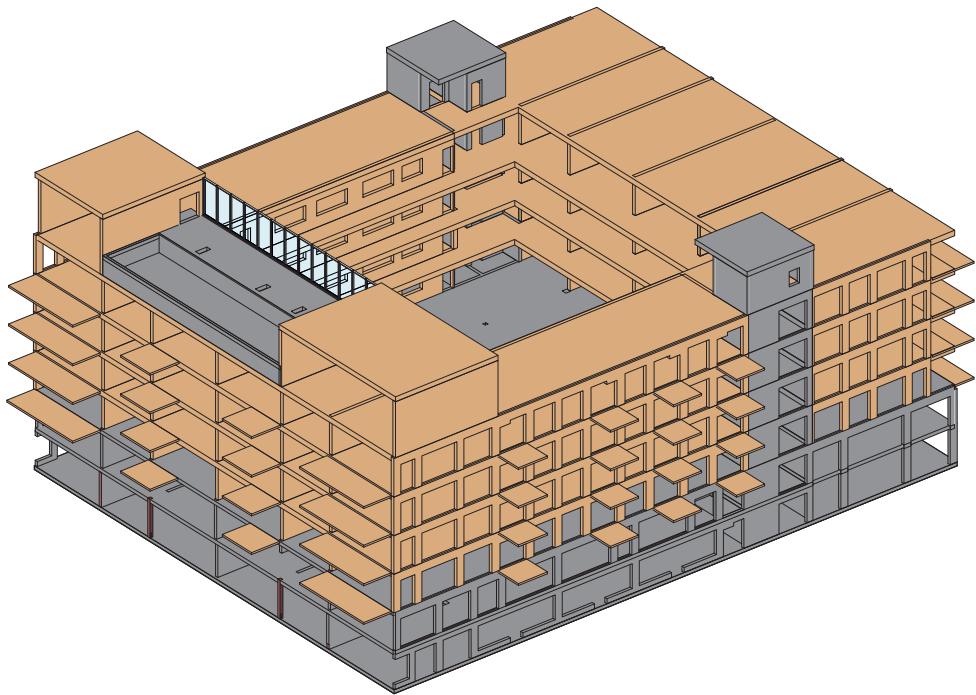


Building technology: construction

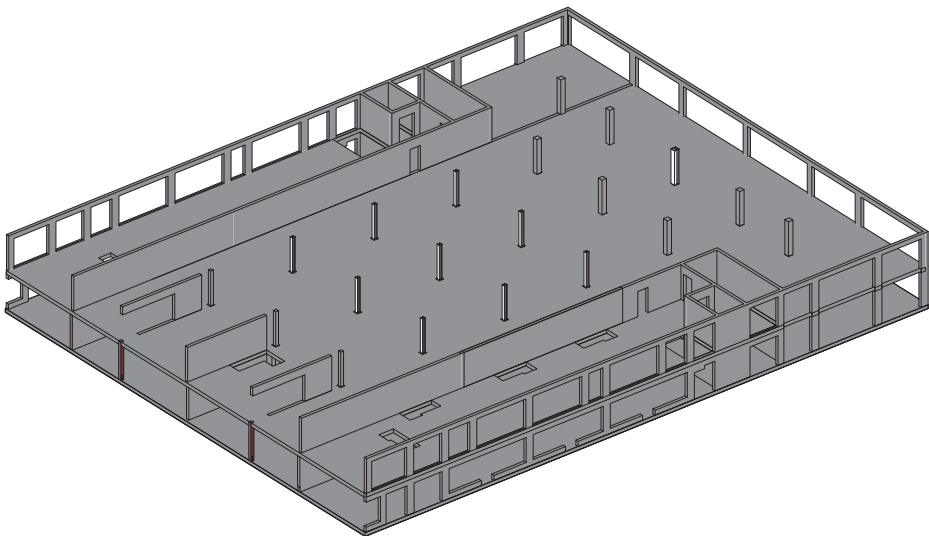
Ground floor and second floor: concrete construction

Flexible lay-out possible for the parking garage and the commercial spaces.

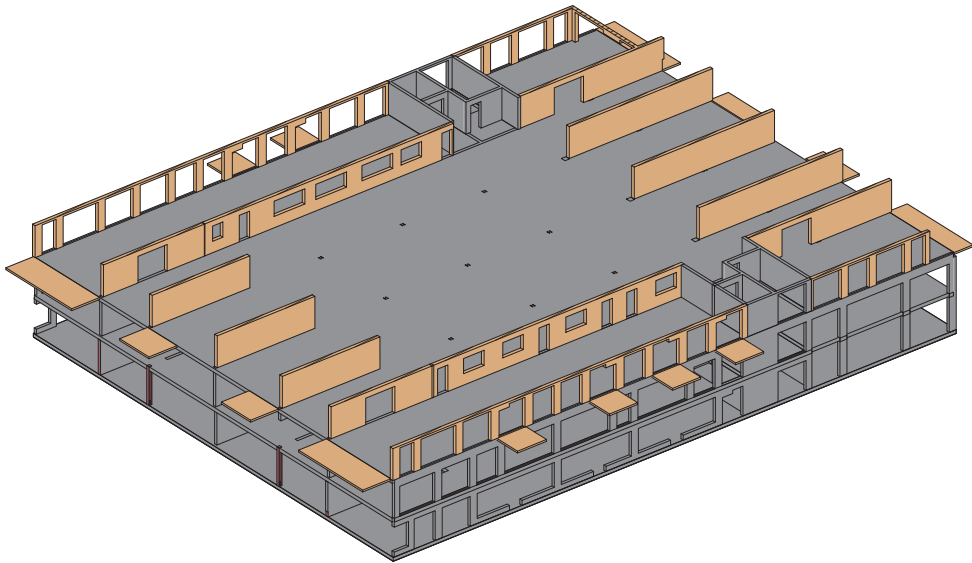
It can resist a possible flood, building is located in a flood risk area



Ground floor



Second floor



Third floor

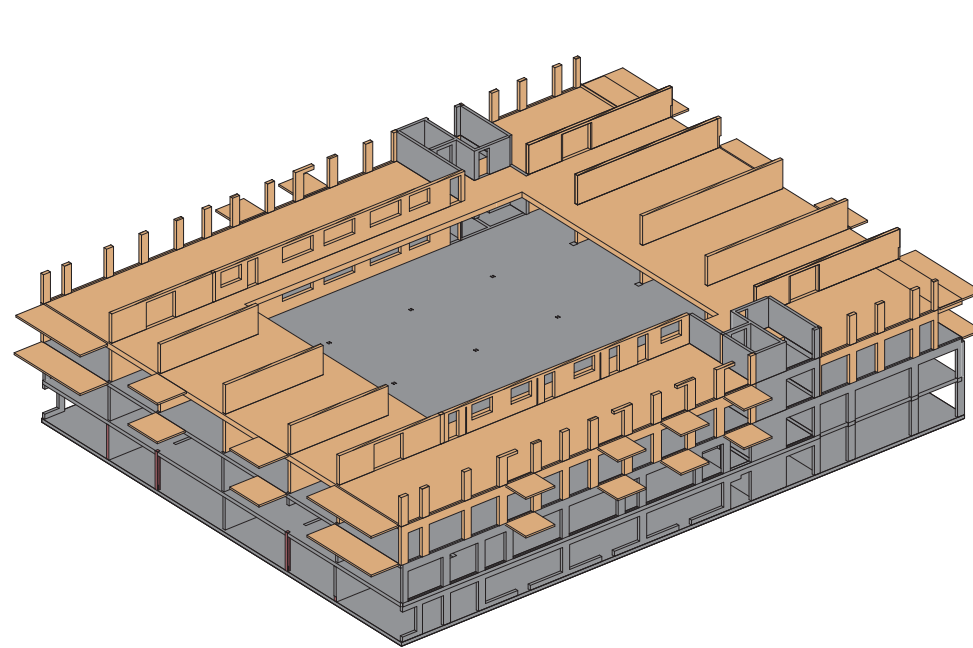
Building technology: construction

Wooden construction from
the third floor and above

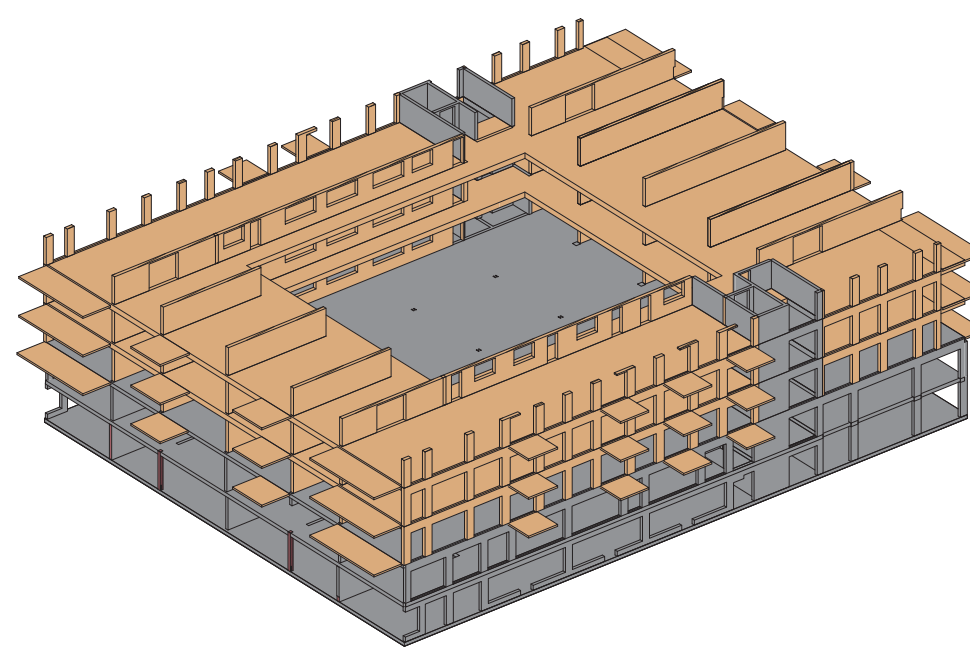
CLT walls and a hollow
wooden floor system

Lightweight construction

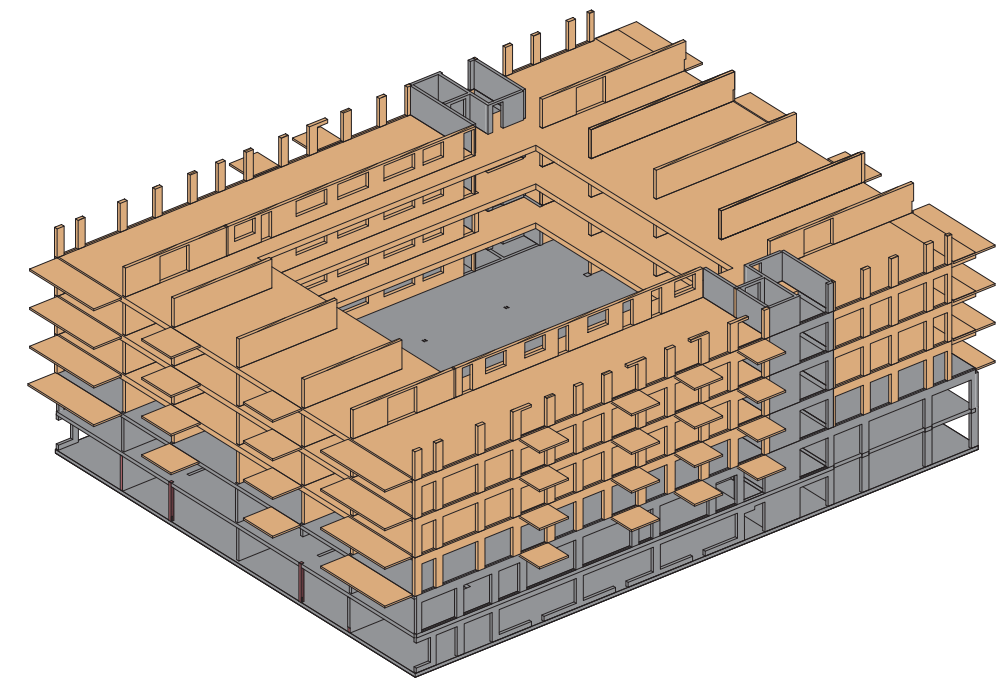
Less CO₂ emissions than
concrete construction



Derde verdieping



Vierde verdieping



Vijfde verdieping

Building technology: facades



North west facade



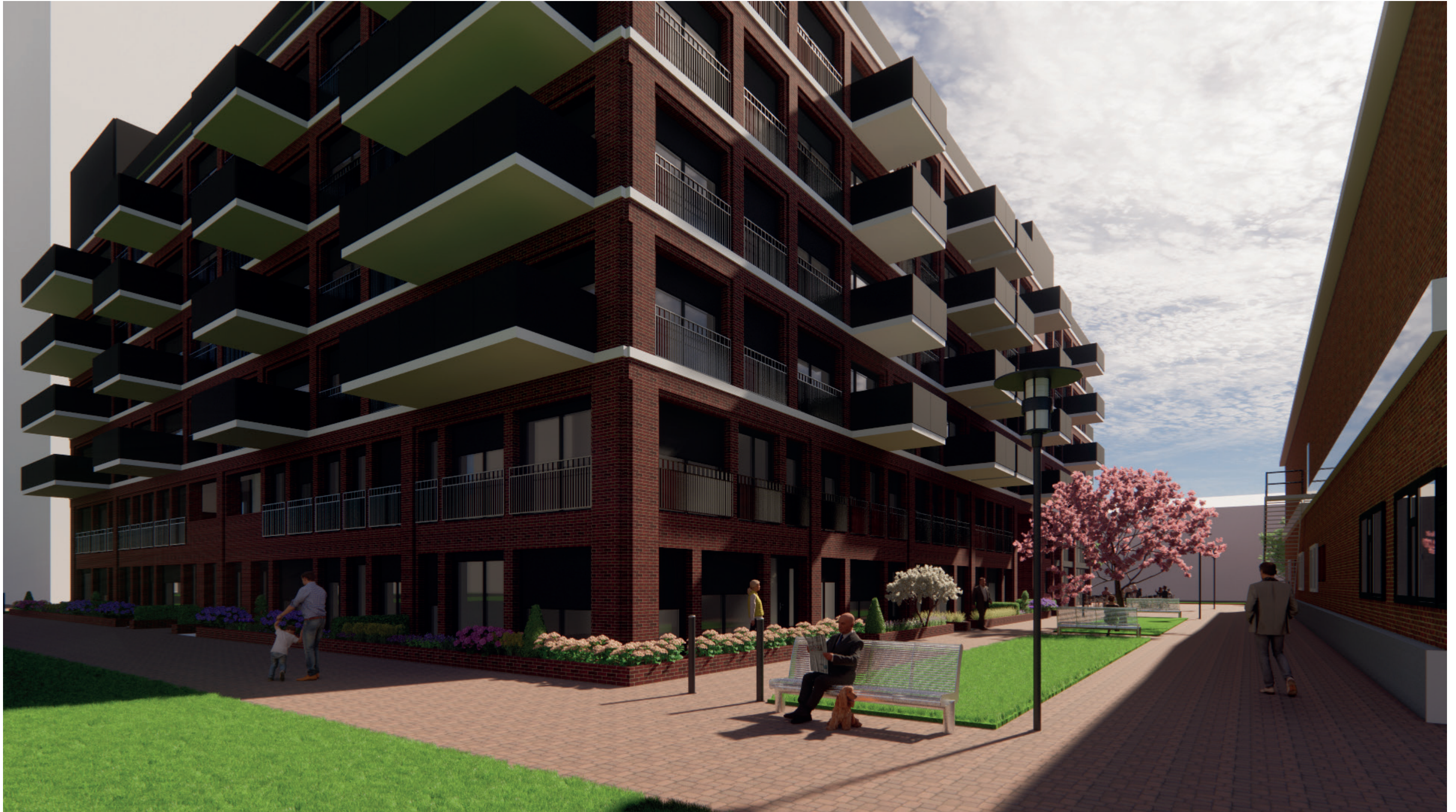
North east facade



South west facade



South east facade



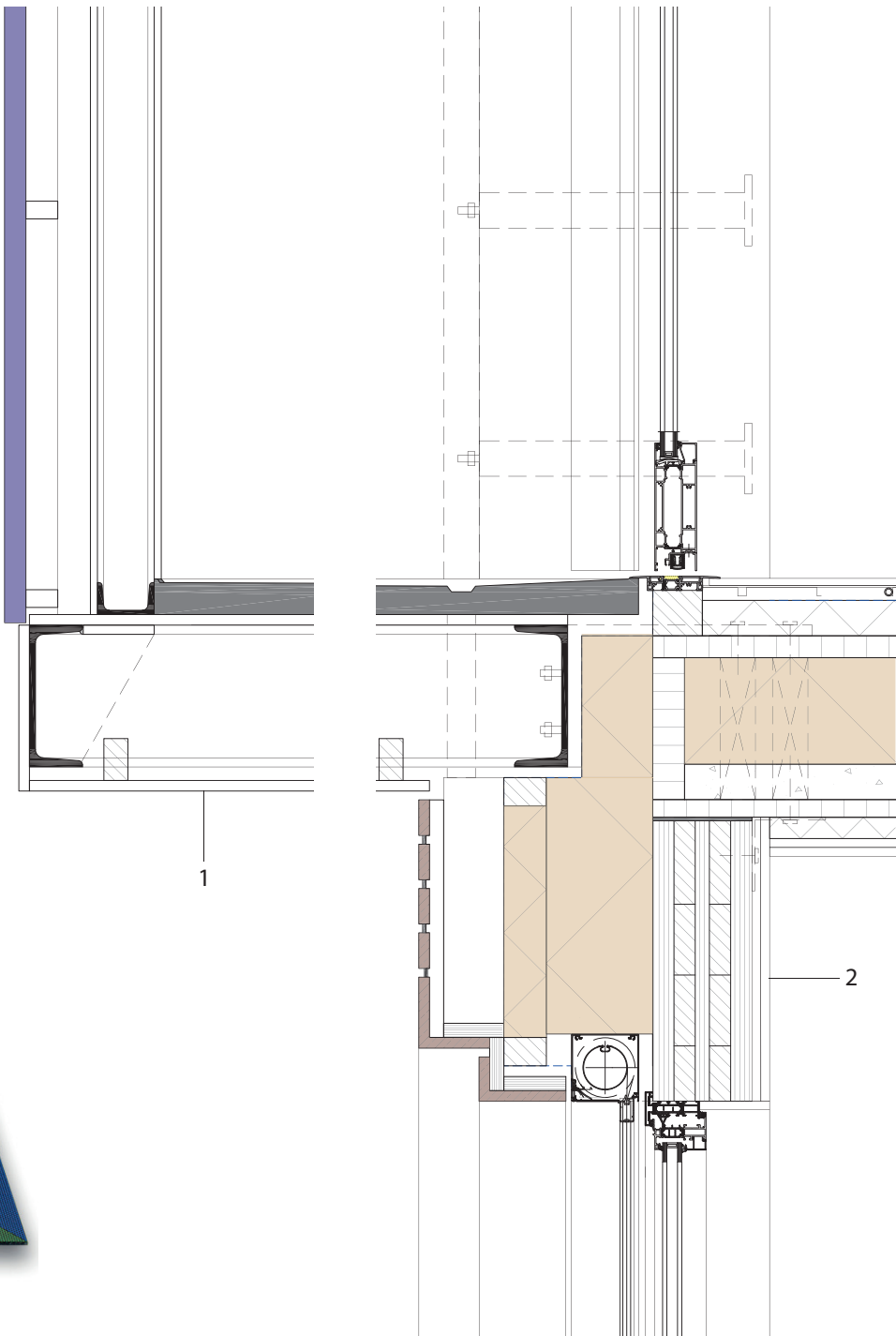


Brick strips produced from at least 60% waste

Balustrades covered with pv-panels

Woodfiberboard used as insulation

- 1 balcony floor:
colorcoated polyester steel plate
battens
UNP 200 steel Profile
prefabricated floor of glassfiber reinforced polyester
- 2 facade wall:
2x 12,5 mm Plasterboard
140 mm CLT wall
150 mm inuslation between vertical mullions
60 mm insulation between horizontal mullions
40 x 85 mm vertical battens
brick strips glued on panel



Balcony detaill







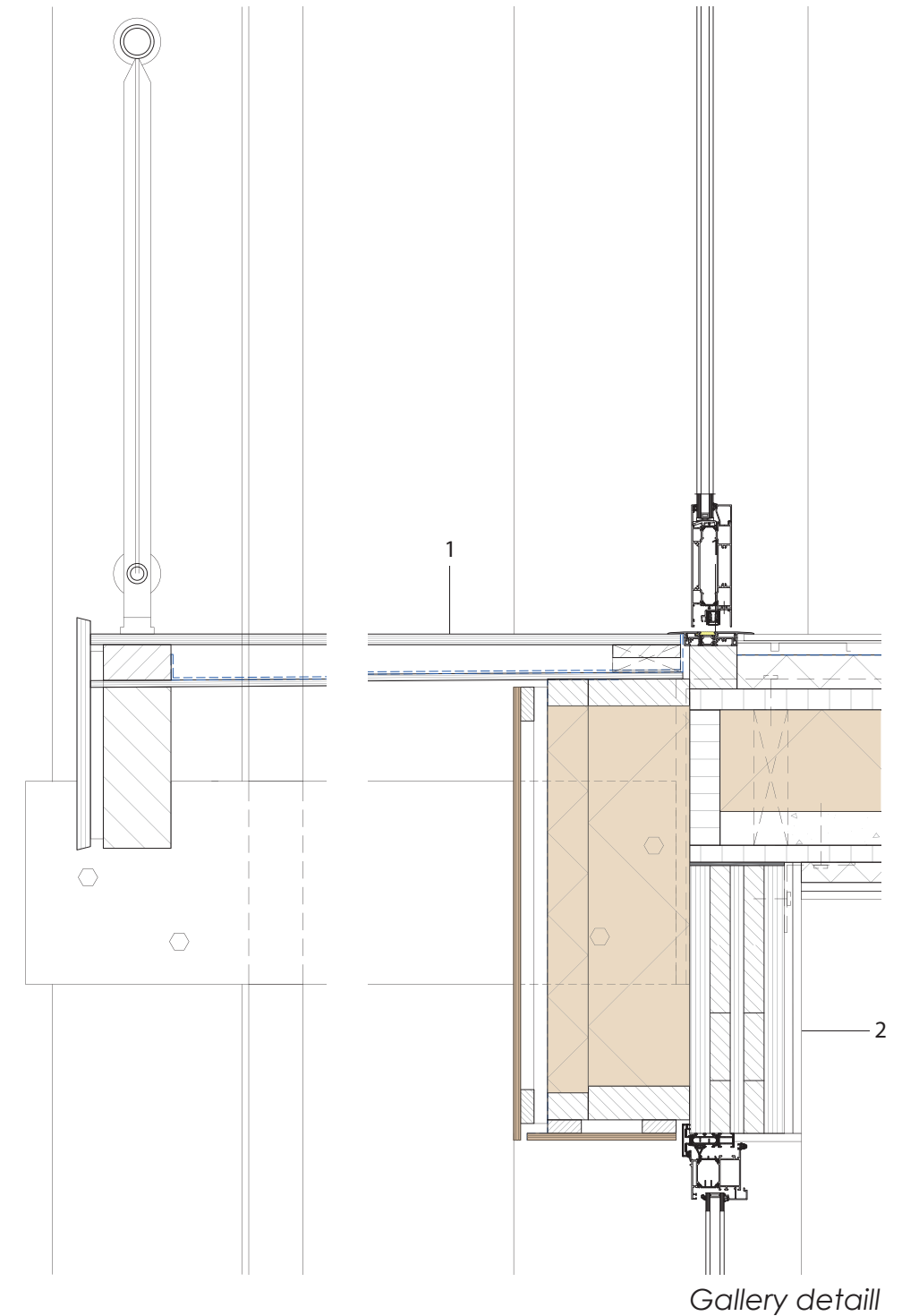
Wooden cladding by
platowood.

This technology requires
only water and heat. No che-
mical substances are added

Woodfiberboard used as
insulation



- 1 gallery:
composite deck plates
wooden battens placed on slope
EPDM foil
18 mm plywood
240/100 mm wooden beams
300/140 mm wooden beams
- 2 inner facade wall
2x 12,5 mm plasterboard
140 mm CLT wall
150 mm insulation between vertical
mullions
60 mm insulation between horizontal
mullions
vertical wooden cladding on racking



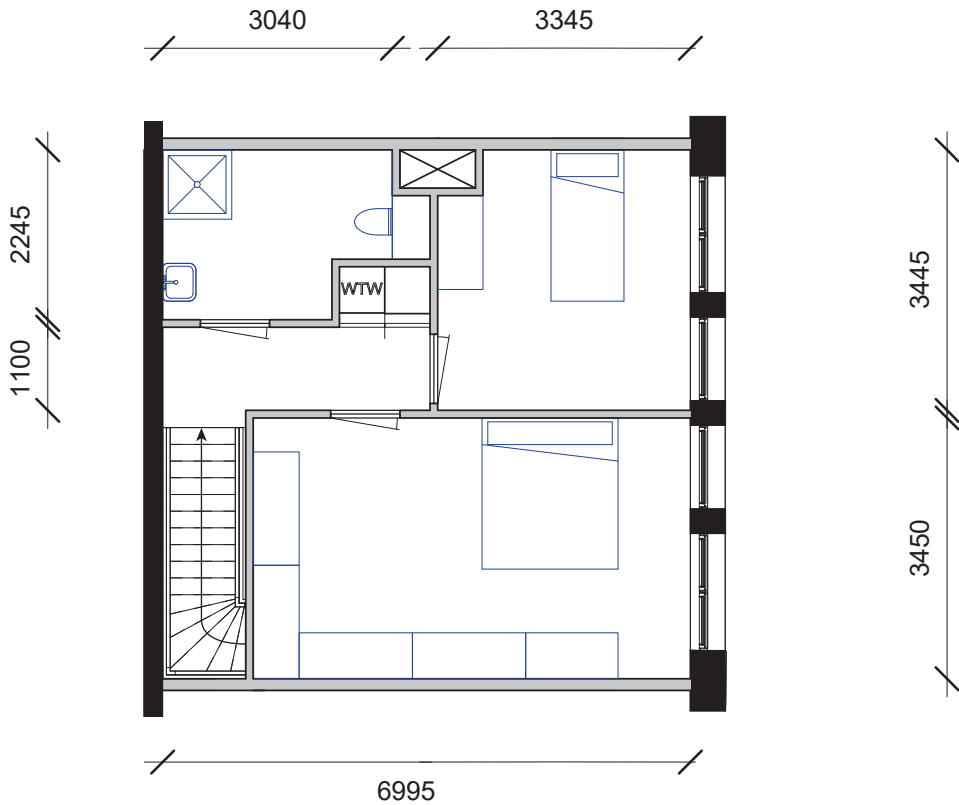
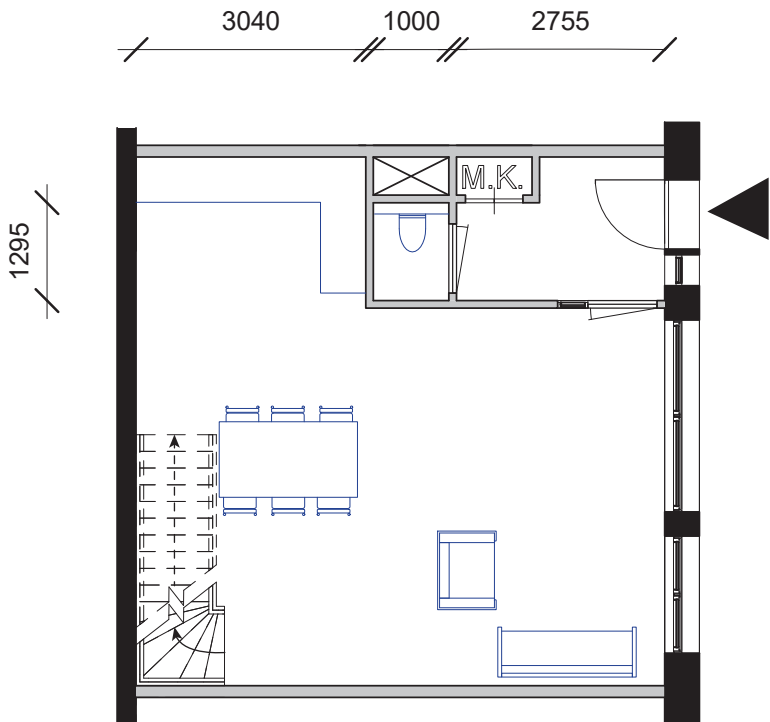
Gallery detail



Design: dwelling typologies

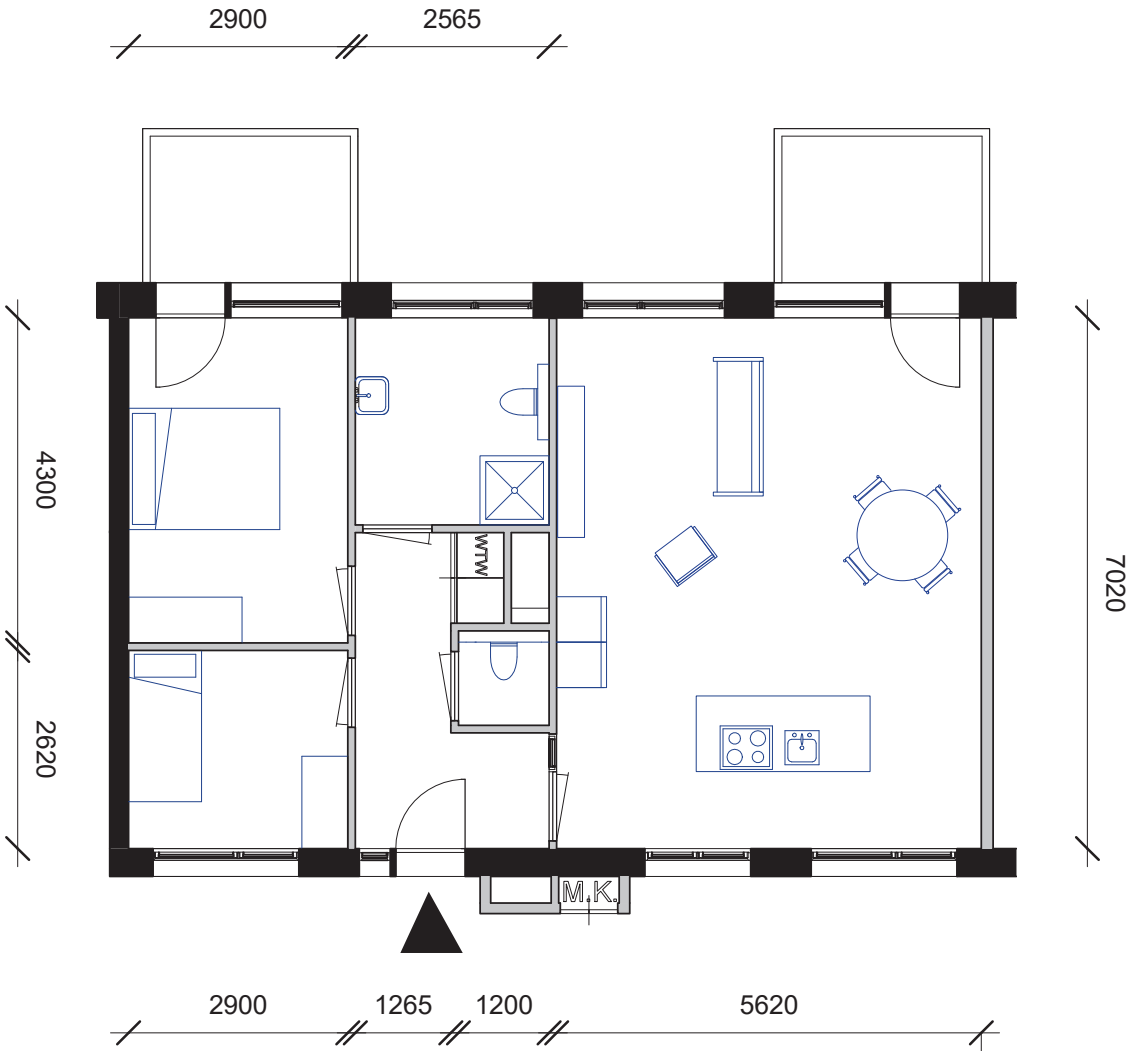
Type A1:

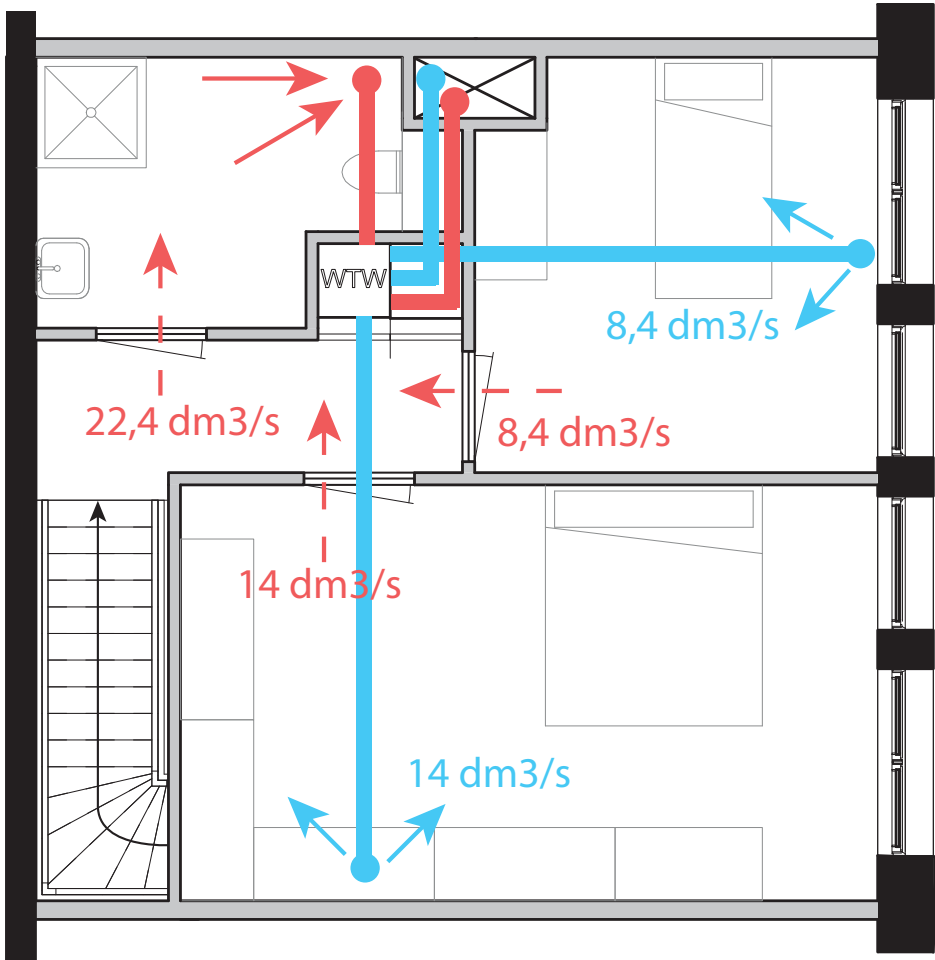
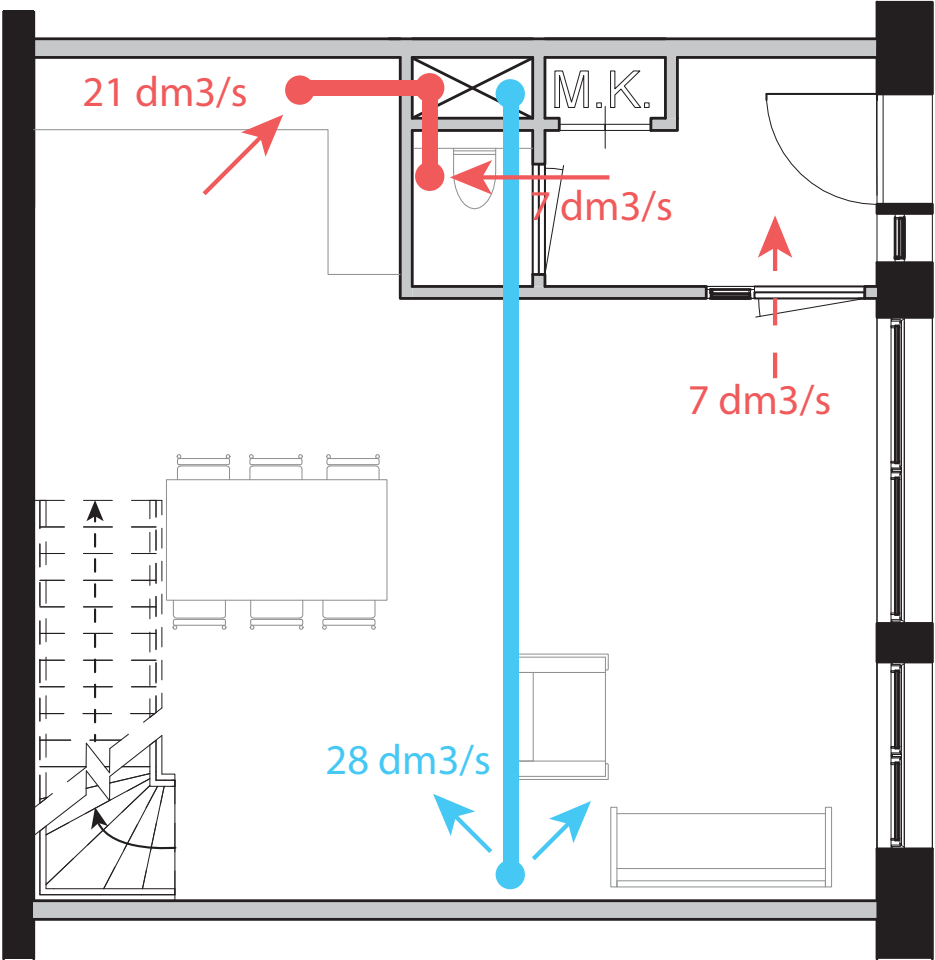
Ground floor
6x maisonettes
Total surface area: 93 m²
Outdoor space: 11 m²



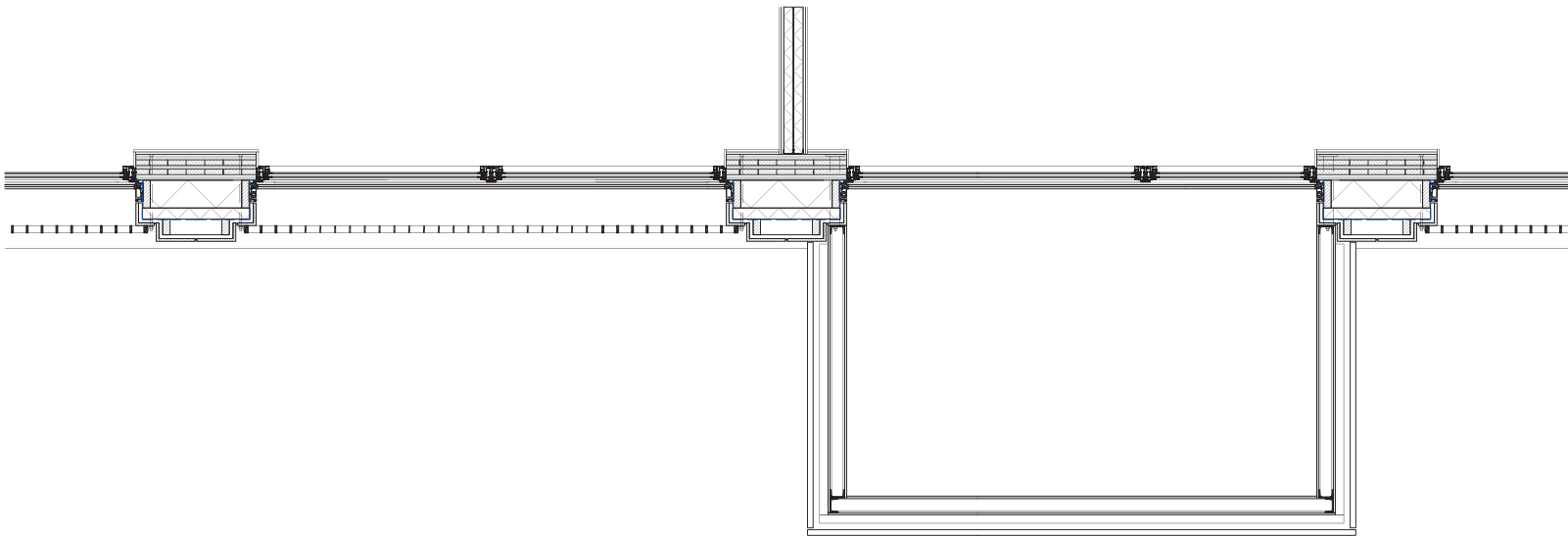
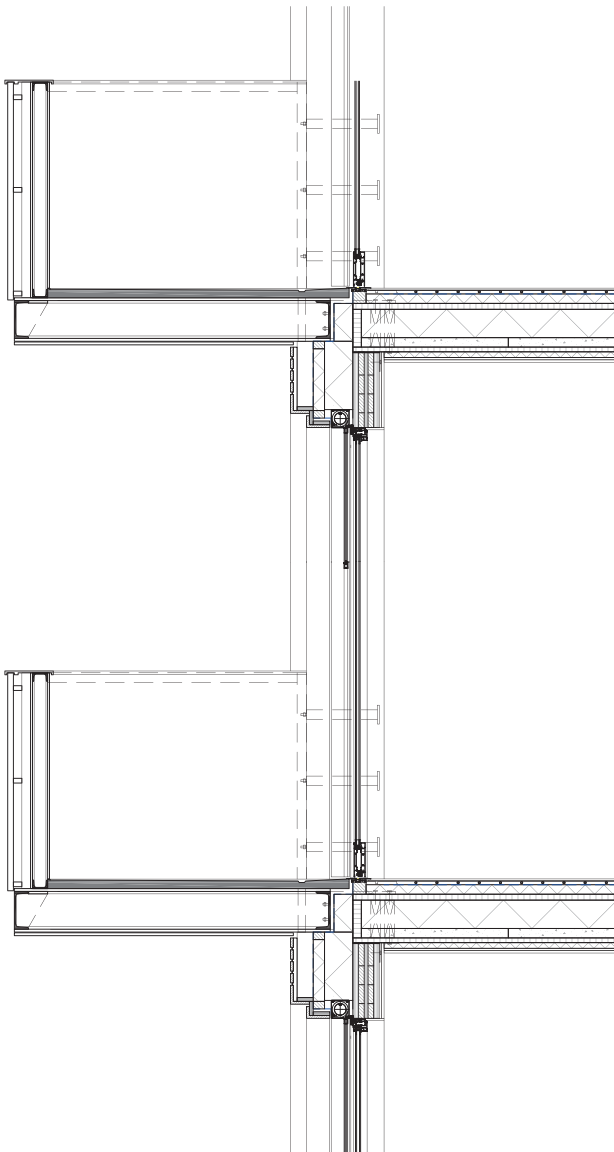
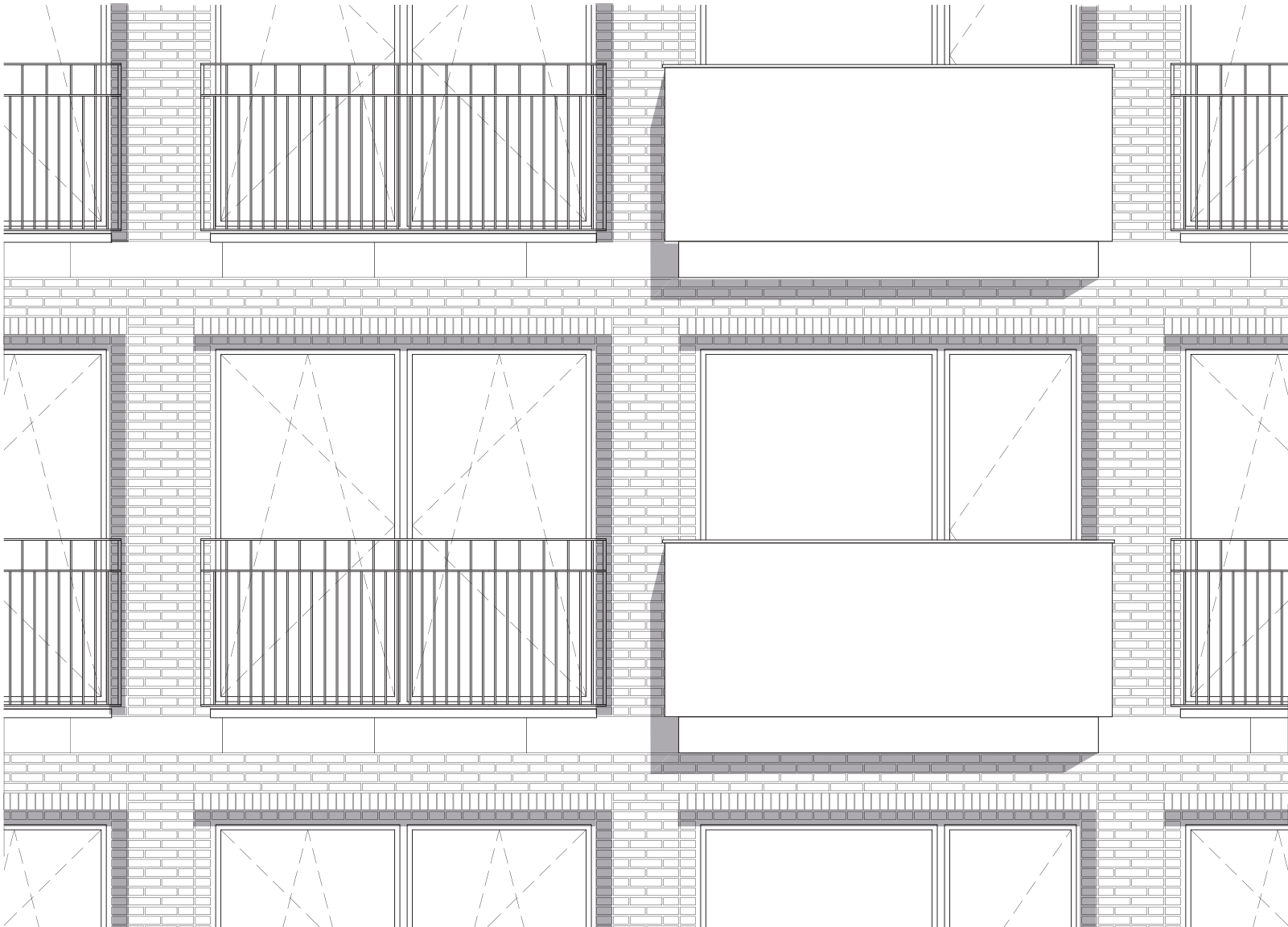
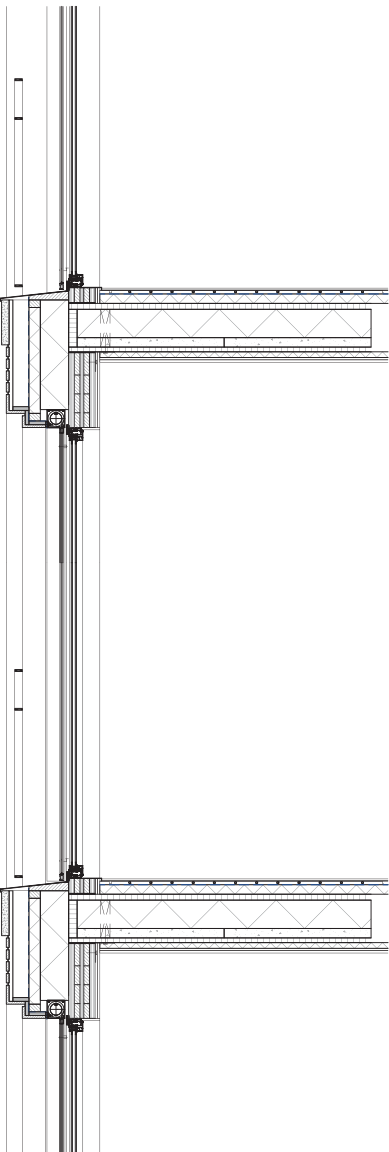
Design: dwelling typologies

Type I:
Fifth and sixth floor
8x Appartement
Total suraface area: 79 m²
Outdoor space: 10 m²

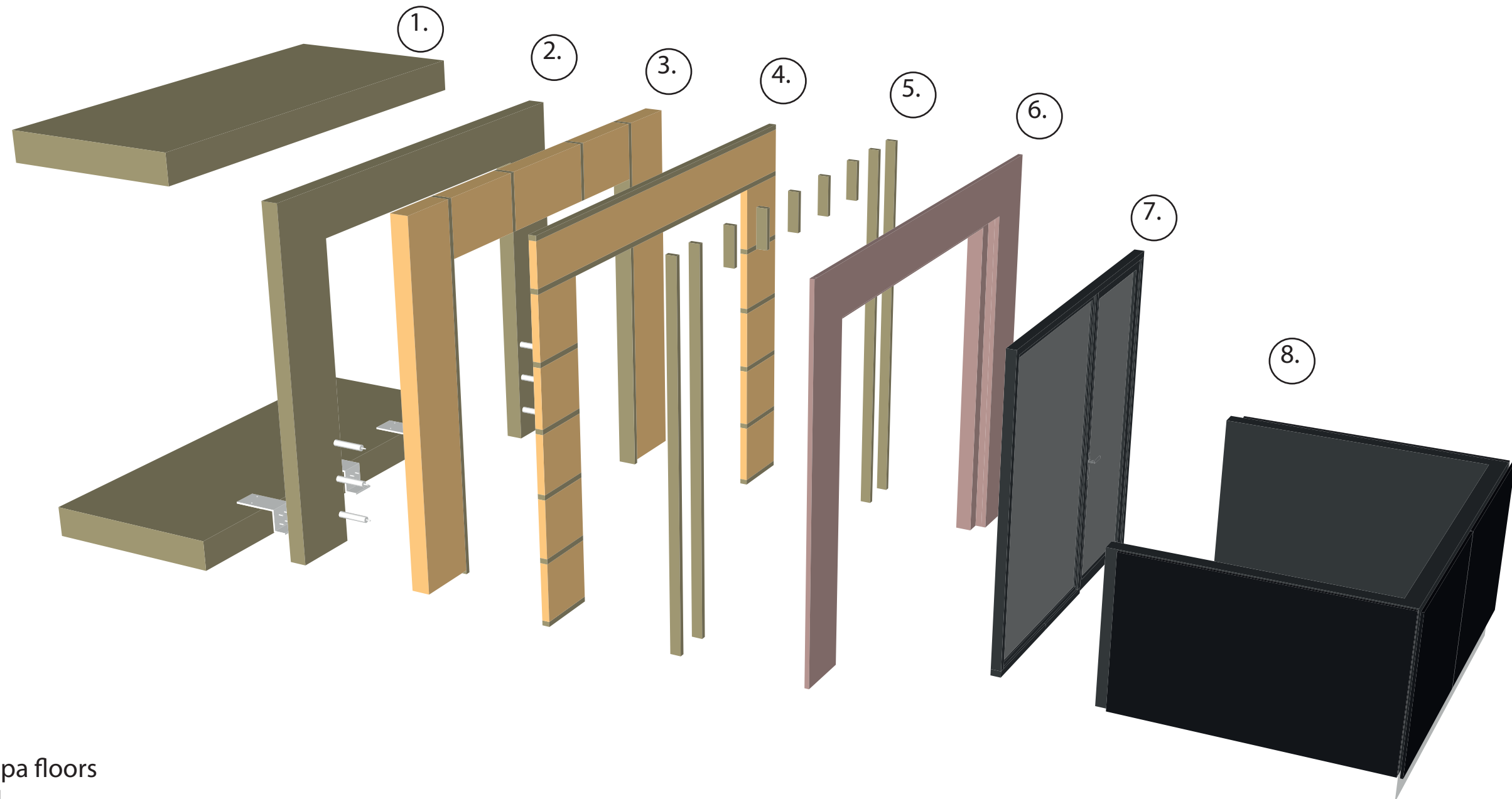




Building technology: facade fragment

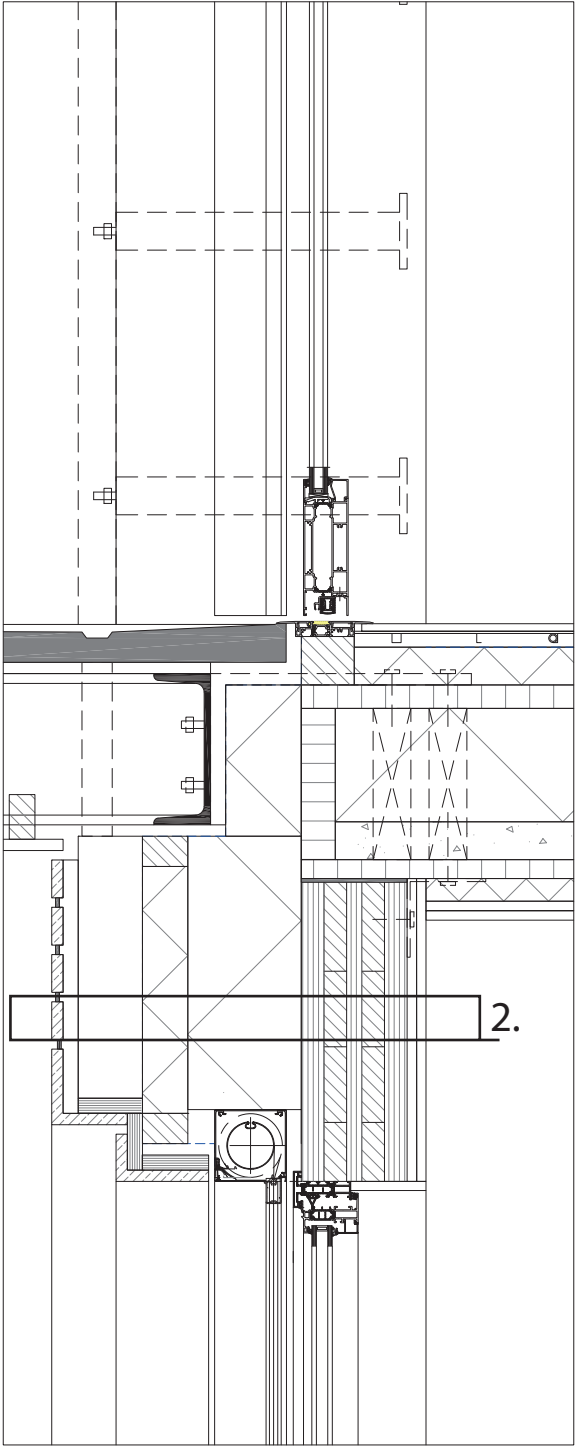
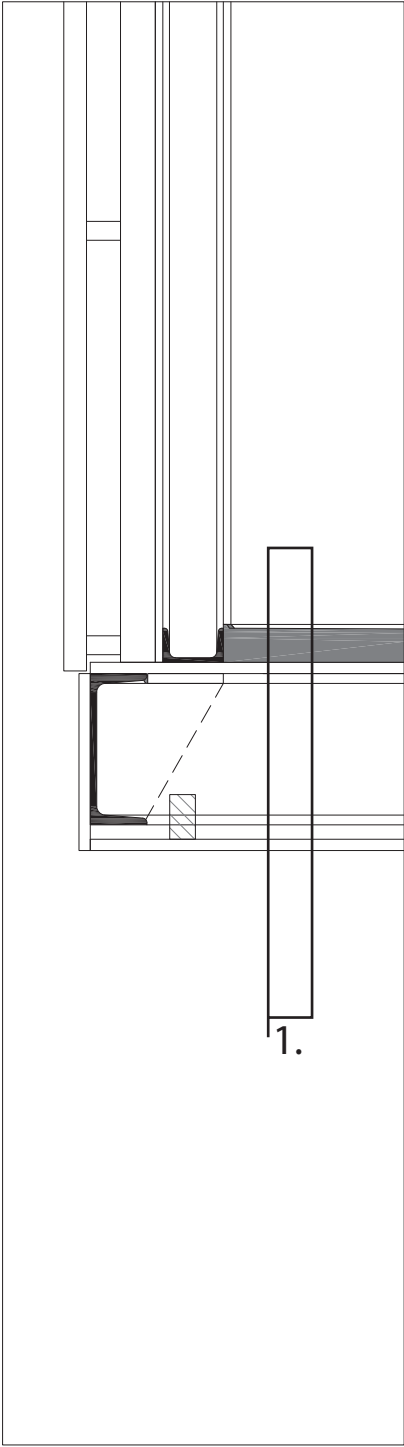
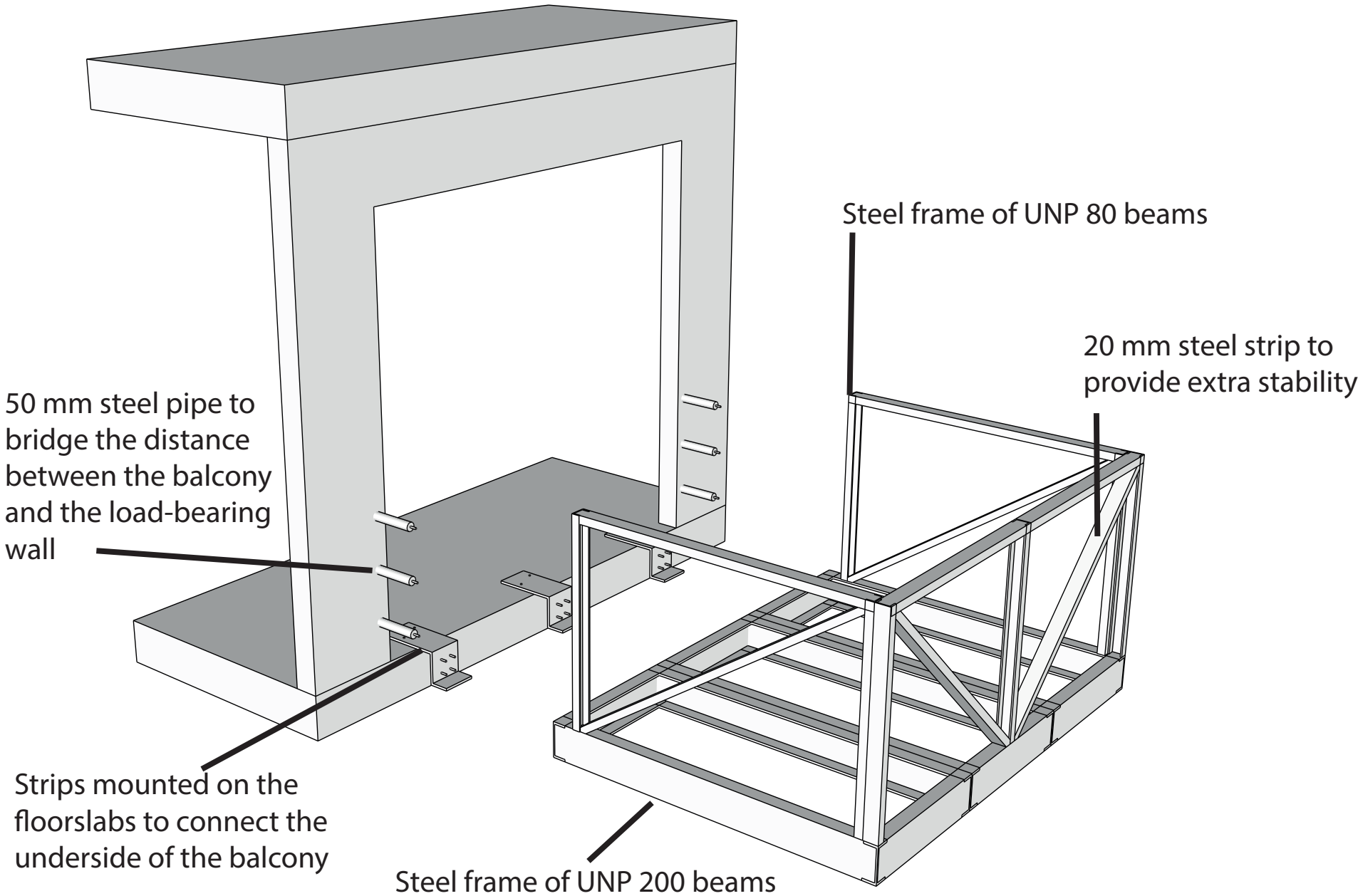


Building technology: facade fragment



1. Kerta ripa floors
2. Clt wall
3. Insulation between vertical mullions
4. Insulation between horizontal mullions
5. Vertical battens
6. Brick slips glued on panel
7. Aluminium window frame
8. steel balcony

Building technology: balcony



1. Colorcoated polyester steel plate, battens UNP 200 steel Profile, Prefabricated floor of glassfiber reinforced polyester

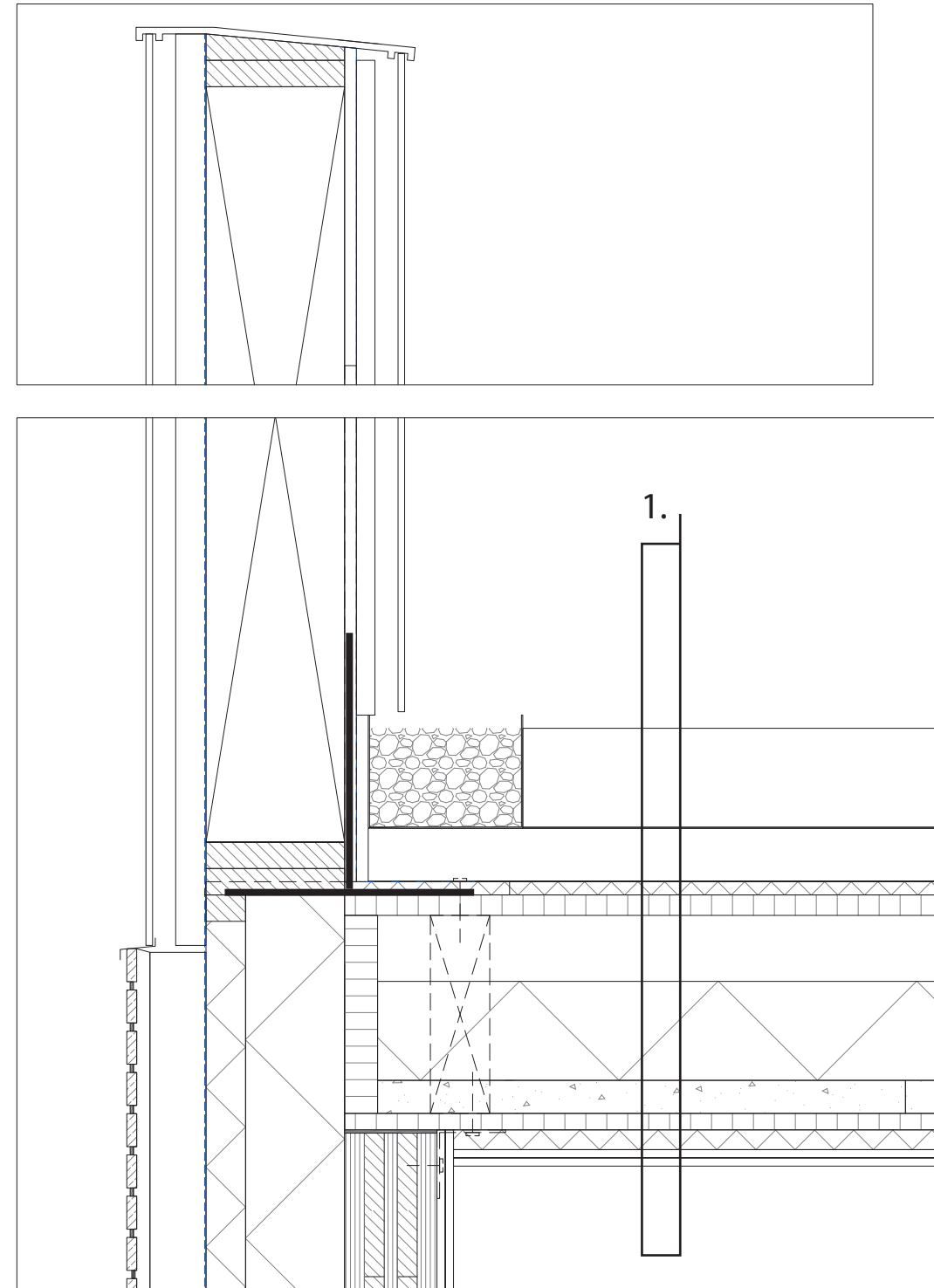
2. 2x Plasterboard 12,5 mm, 140 mm CLT wall, 150 mm insulation between vertical mullions, 60 mm insulation between horizontal mullions, 40 x 85 mm vertical battens, brick strips glued on panel

Building technology: roof detail

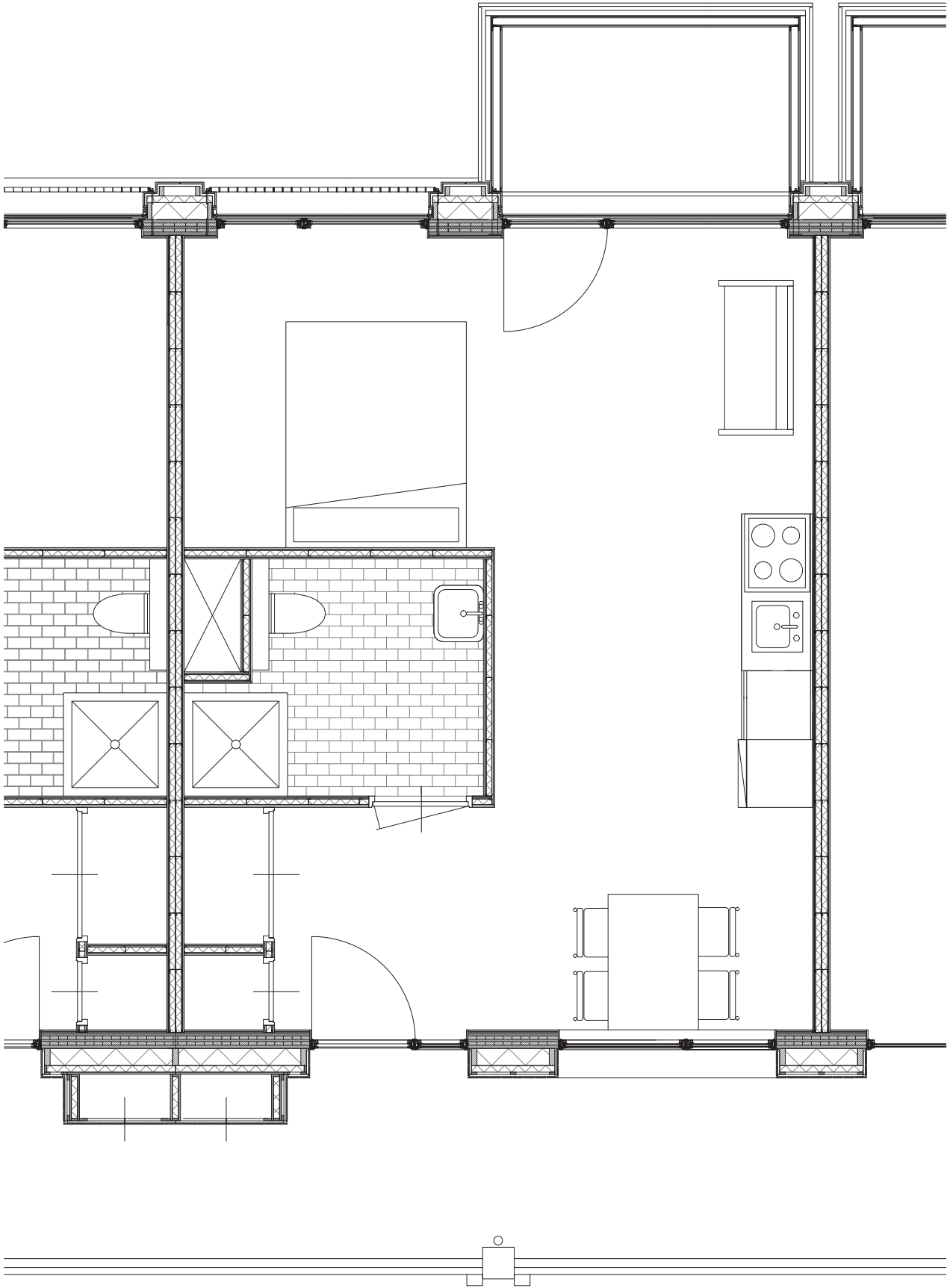
'Polderdak'

1. Plants, 120-250 mm Optigrün extensive substrate E filling mass, 3,6 mm Optigrün filter- en capillary layer RMS 500K, 80 mm Optigrün water-retention layer WRB 80F, 3 mm Optigrün protect absorption layer RMS 300, root and water barrier, 20 mm insulation, 31 mm plywood, 150 mm insulation between 45 x 300 mm gluelam ribs, 50 mm concrete tiles for acoustics, 25 mm plywood, 30 mm spring saddle insulation - 2x 15 mm plasterboard

Total thickness 664 mm



Scale 1:10



Type F: 1:50

