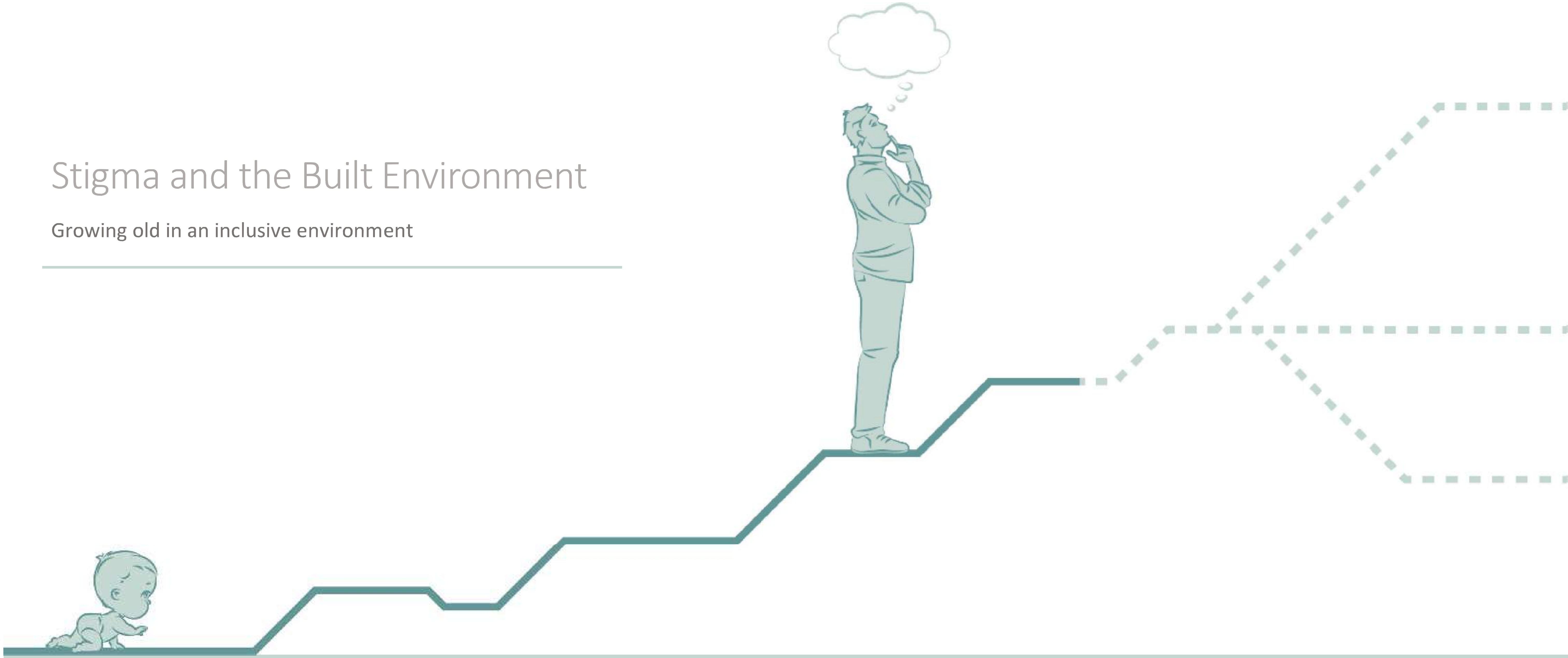
Stigma and the Built Environment

Growing old in an inclusive environment



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BUILDING TECHNOLOGY MENTOR: A.B.J. VAN DEUDEKOM

TU DELFT | | JUNE 3. 2022.

Contents

Project Description

Project background

AR3AD110 Designing for care
- towards an Inclusive Living Environment -

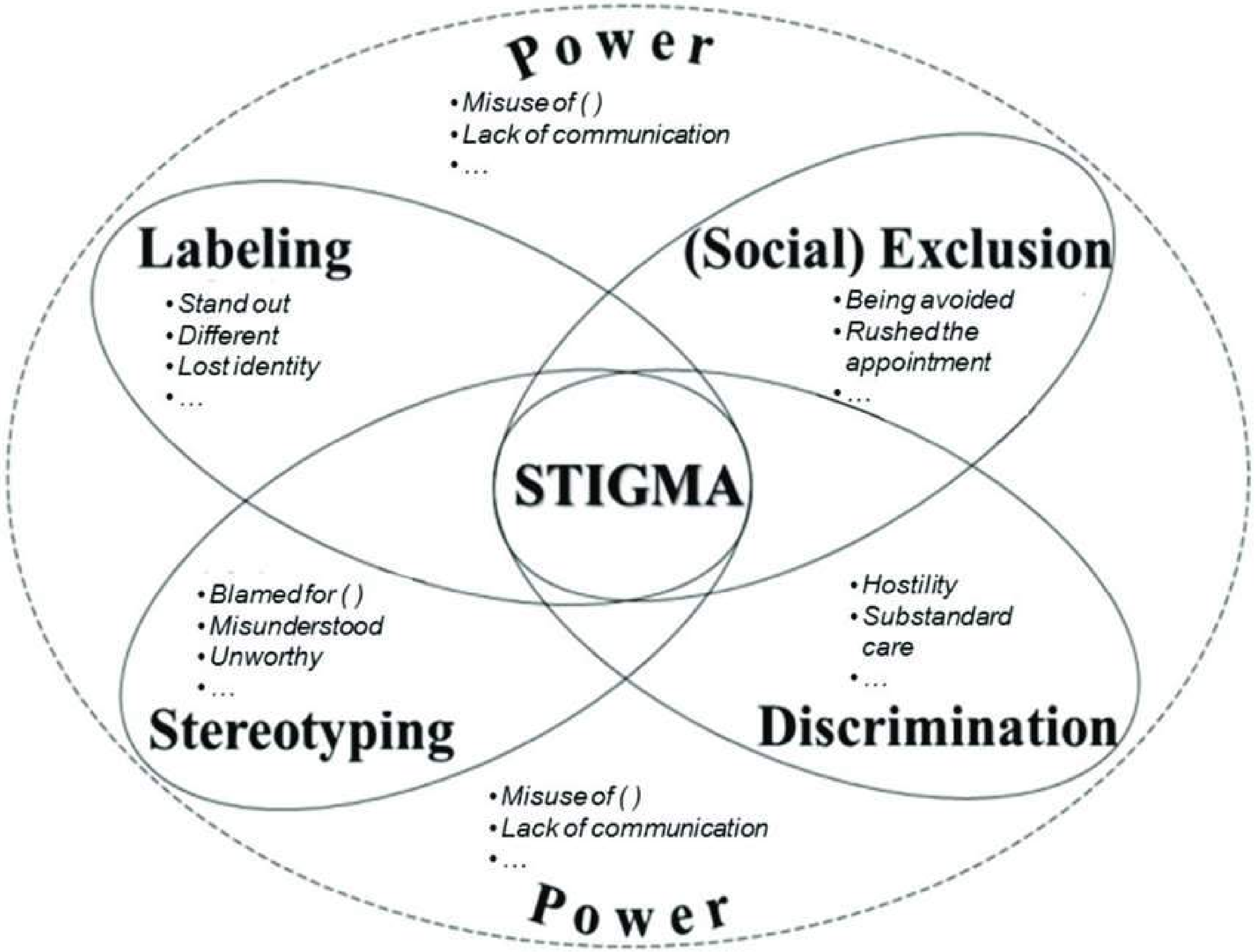
"Students will design a housing project that is dedicated to the specific topic of housing the elderly in an inclusive living environment."

Fieldwork

Research question

"How can the built environment contribute to decrease stigma about aging in society?"

Research

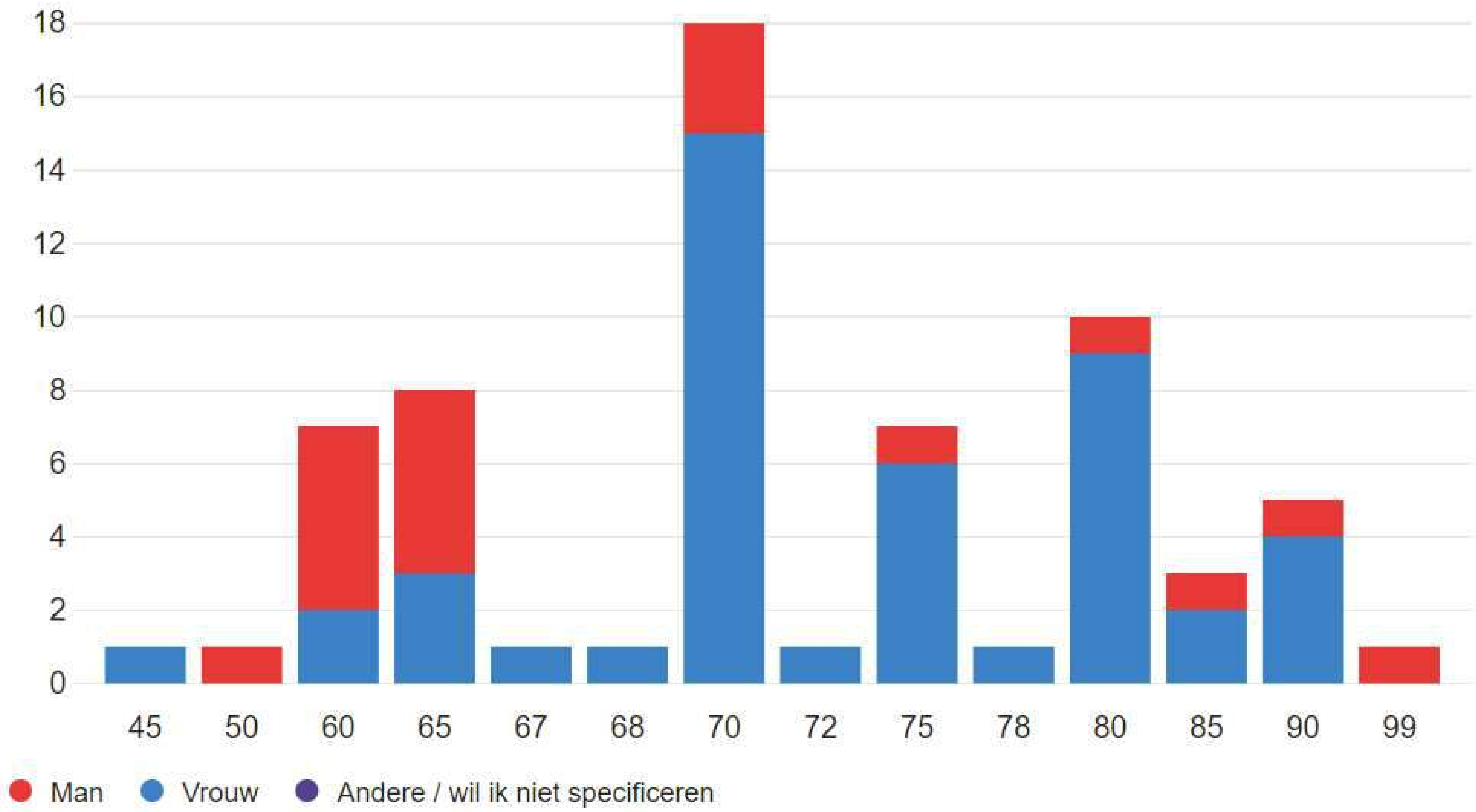


Power
• Misuse of ( )
• Lack of communication
• …
Labeling
• Stand out
• Different
• Lost identity
• …
(Social) Exclusion
• Being avoided
• Rushed the appointment
• …
STIGMA
• Blamed for ( )
• Misunderstood
• Unworthy
• …
Stereotyping
• Hostility
• Substandard care
• …
Discrimination
• Misuse of ( )
• Lack of communication
• …
Power

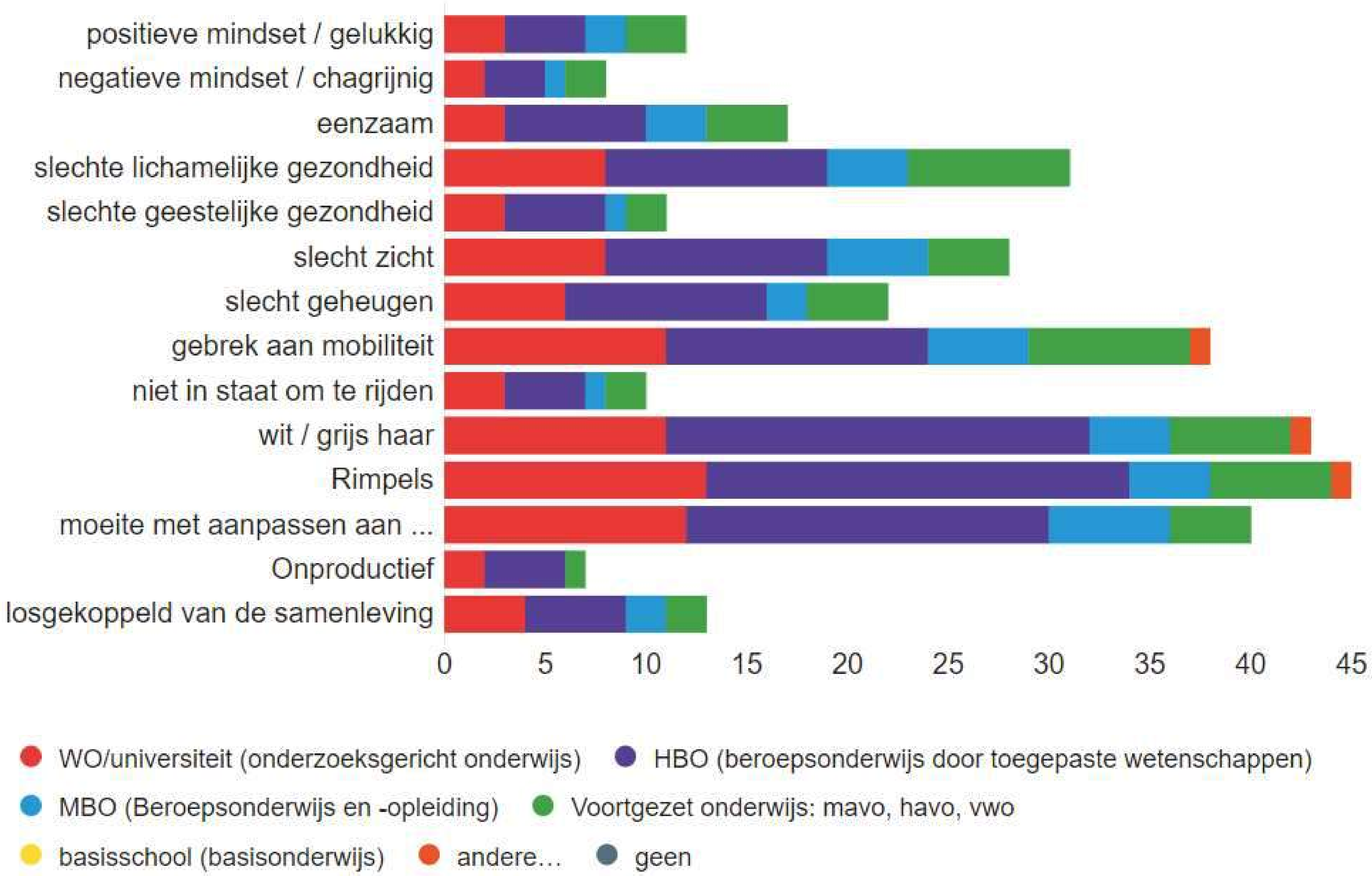
Decreasing Stigma
Using the built environemnt
Creating Value
Built an inclusive design
Do not prioritize a target group
Collect information about the different users
Challenge spatial expectations
Use universal design measurements
Design with the same value as the surrounding*
(* or an higher value than)
Empower the people
Grant possibilities
Allow self control
Apply visual landmarks
Provide options
Give the ability to make (life-)choices
Supply for social cohesion
Making contact
Develop communities
Creating sightlines and visual connections
Combine multiple functions
Connect transportation routes
Invite people inside by opening the facade
Create a pleasant atmosphere
or an attractive experience
Accept the individual
Provide for life
Supply for the necassary needs
Give space for different lifestyles
Create for adaptation and aid
Allow for ikigai
Show awareness
Teach a society by providing:
Contact
Visibility
Education
Experience

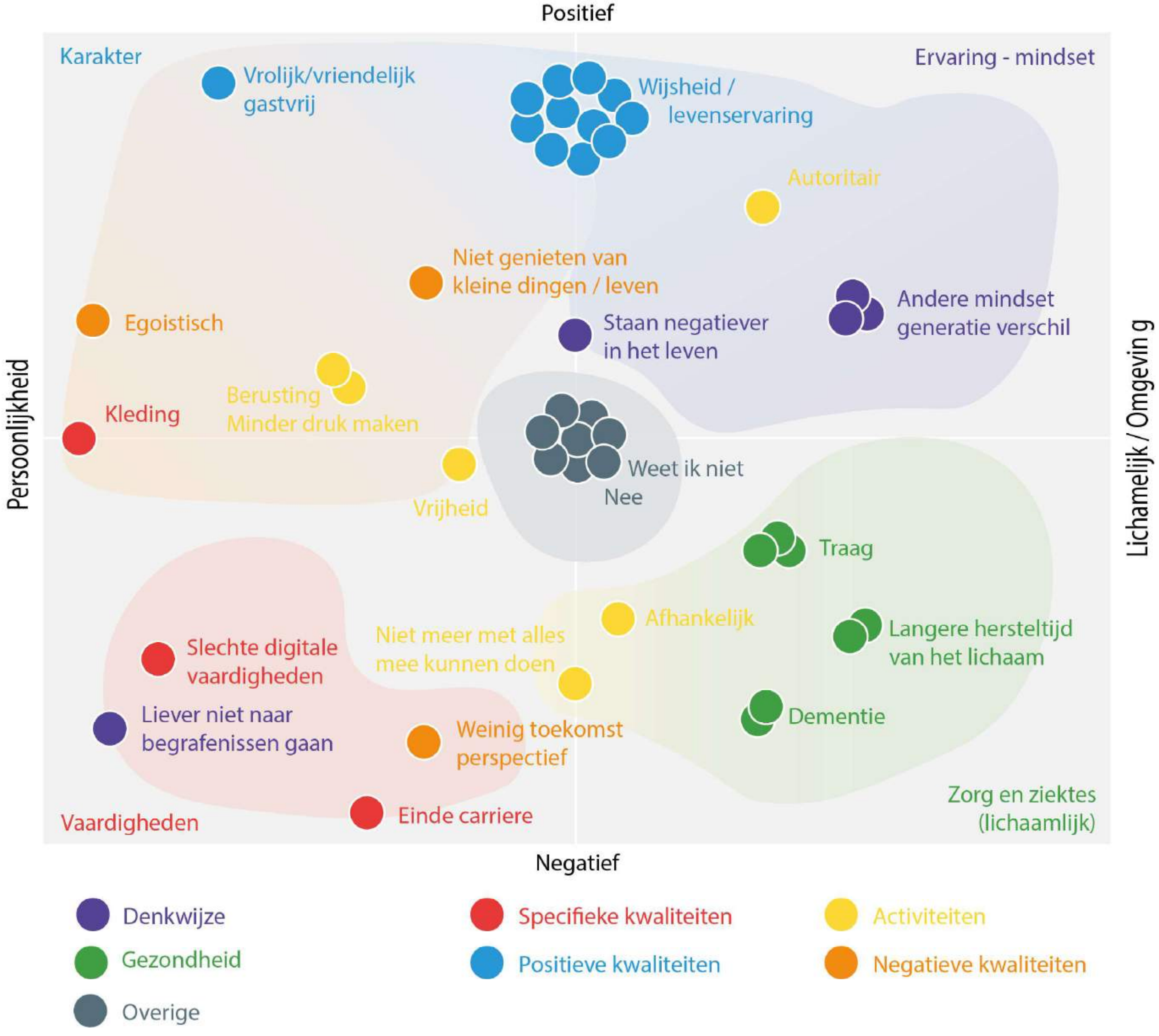
Survey

Old Age

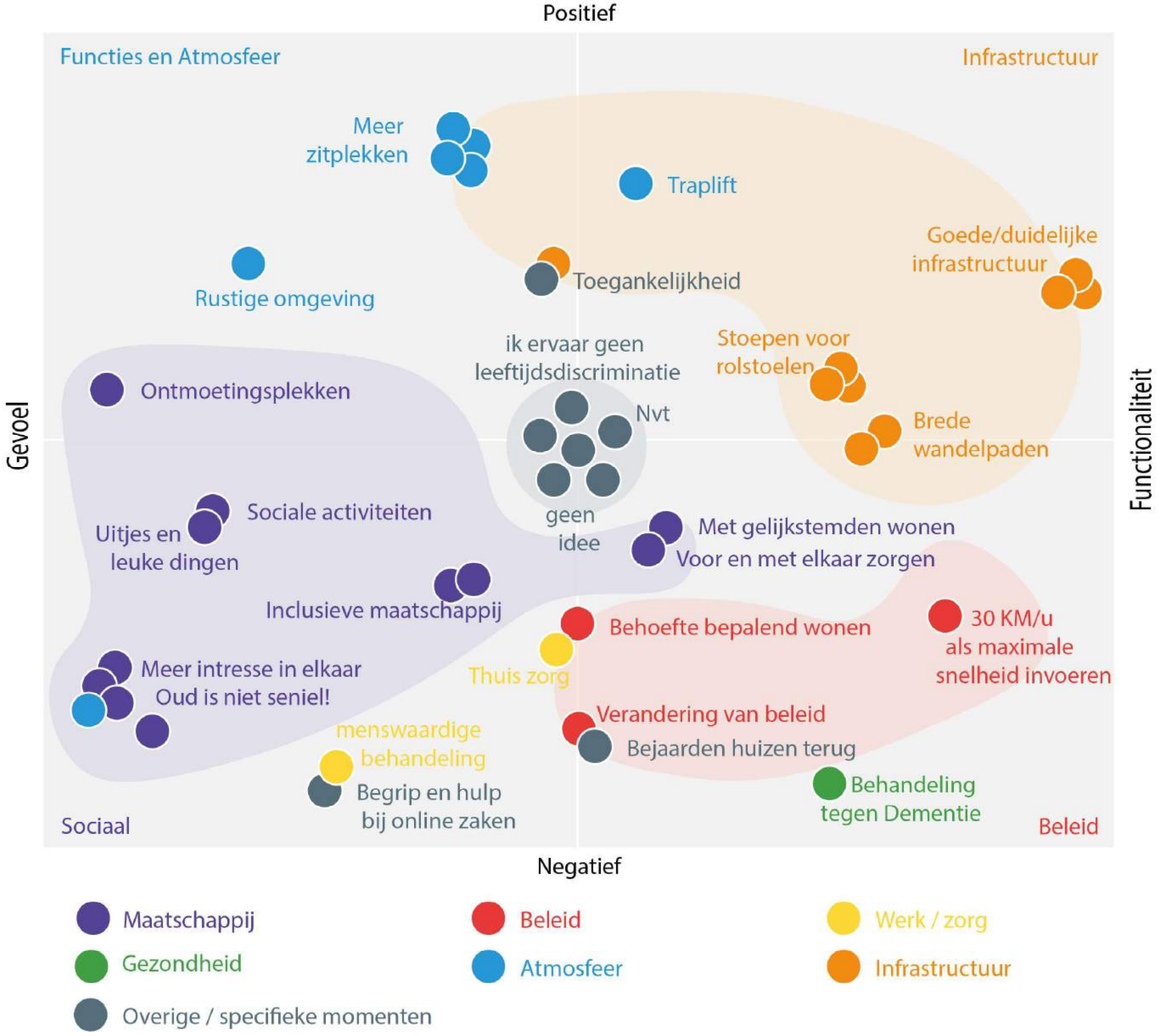


Characteristics of the elderly

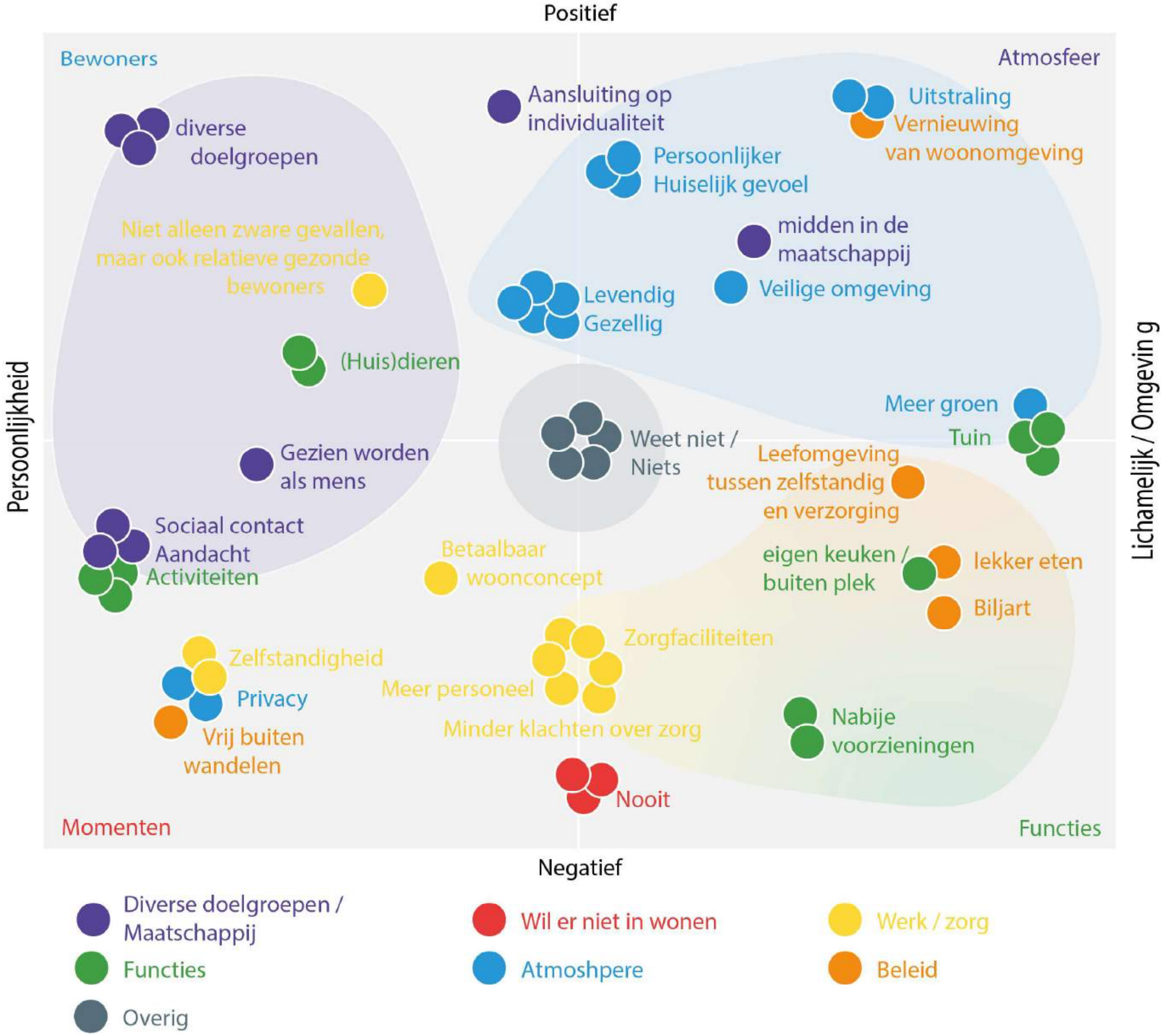



Positief
Karakter
Ervaring - mindset
Vrolijk/vriendelijk gastvrij
Wijsheid / levenservaring
Autoritair
Niet genieten van kleine dingen / leven
Egoistisch
Andere mindset generatie verschil
Staan negatiever in het leven
Berusting
Minder druk maken
Kleding
Persoonlijkheid
Lichamelijk / Omgevin g
Weet ik niet
Nee
Vrijheid
Traag
Afhankelijk
Niet meer met alles mee kunnen doen
Slechte digitale vaardigheden
Langere hersteltijd van het lichaam
Liever niet naar begrafenissen gaan
Dementie
Weinig toekomst perspectief
Zorg en ziektes (lichaamlijk)
Vaardigheden
Einde carriere
Negatief
Denkwijze
Gezondheid
Overige
Specifieke kwaliteiten
Positieve kwaliteiten
Activiteiten
Negatieve kwaliteiten

Adaptations for the environment

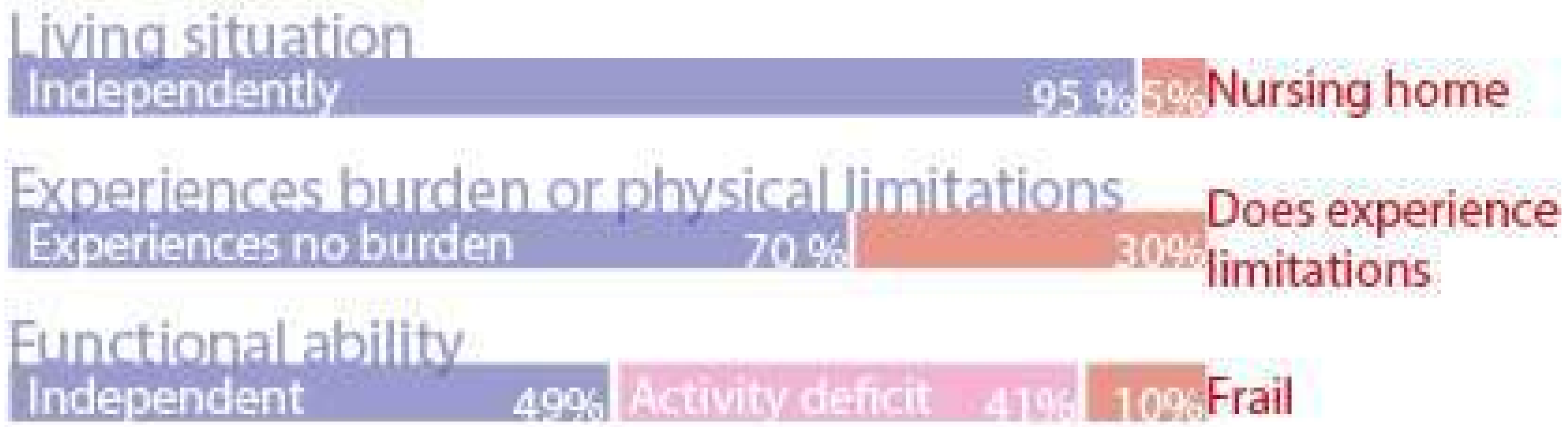


Adaptations to life in a Nursing home



The Elderly


Independent
Activity Deficit
Frail


Living situation
Independently
95 %
5%
Nursing home
Experiences burden or physical limitations
Experiences no burden
70 %
30%
Does experience limitations
Functional ability
Independent
49%
Activity deficit
41%
10%
Frail

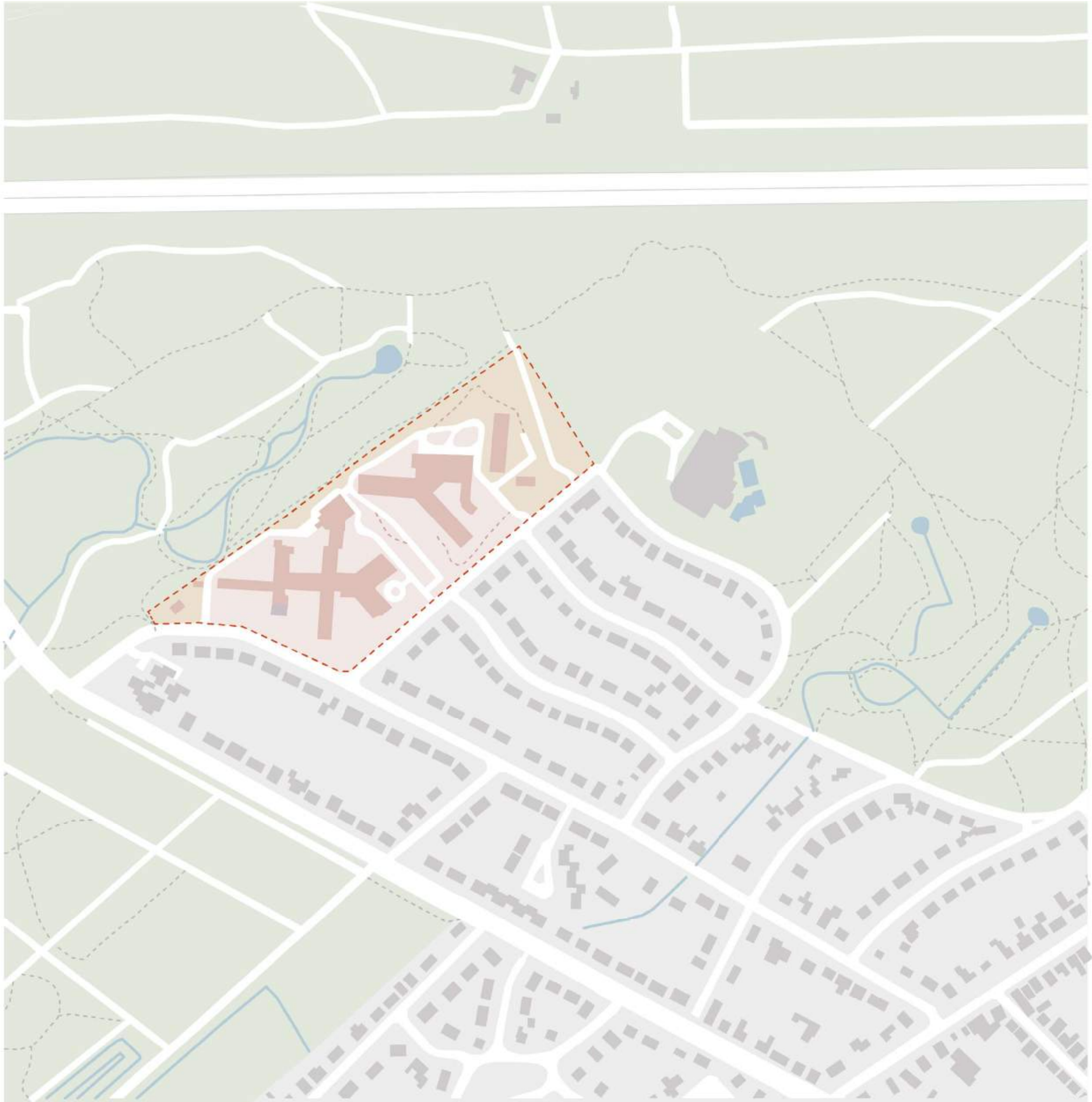
Goal:

To create a representation of elderly
in an environment designed
with the same value as the surrounding

FINAL DESIGN

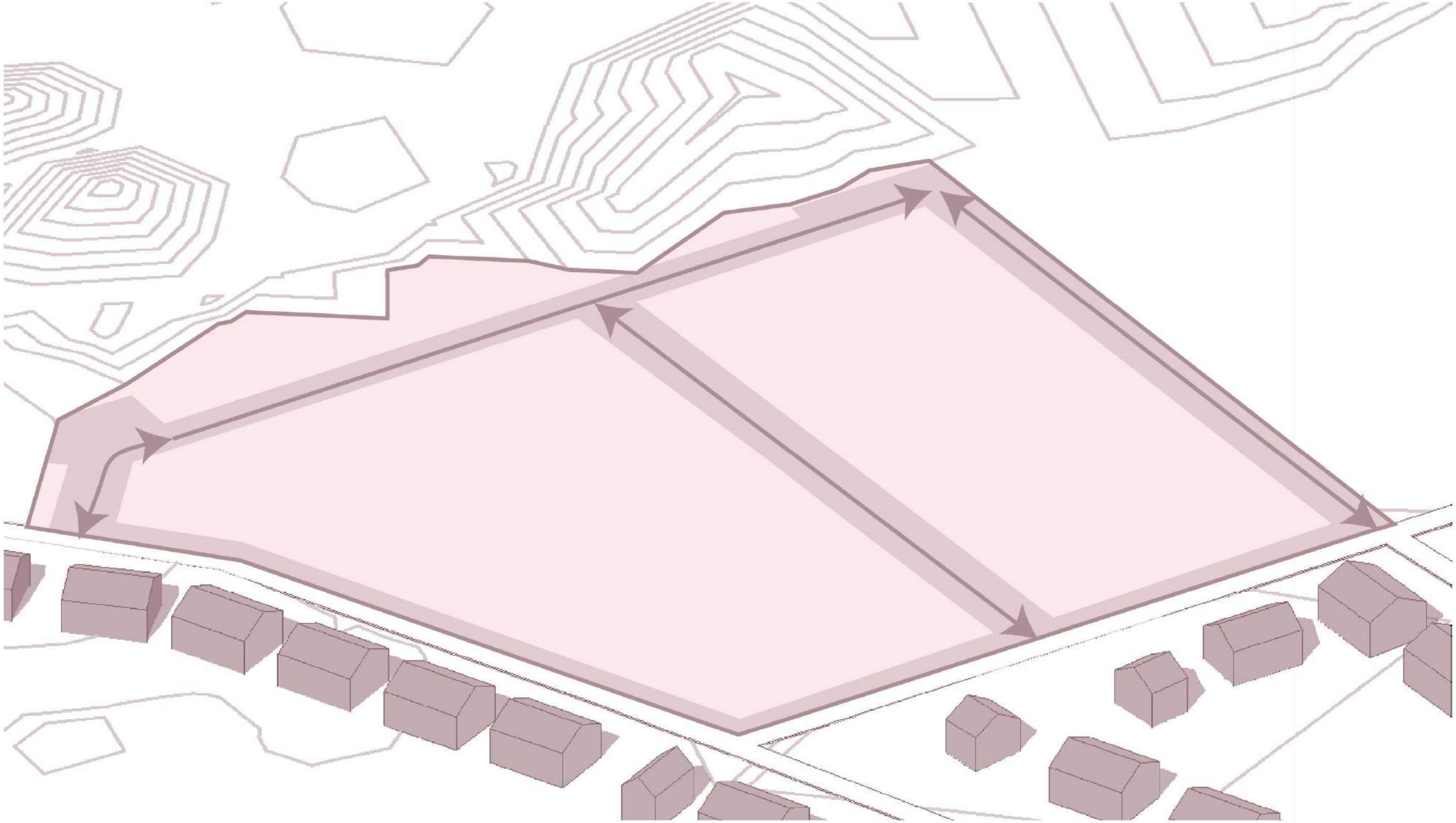
Location

Driebergen-Rijsenburg, Sparrenheide

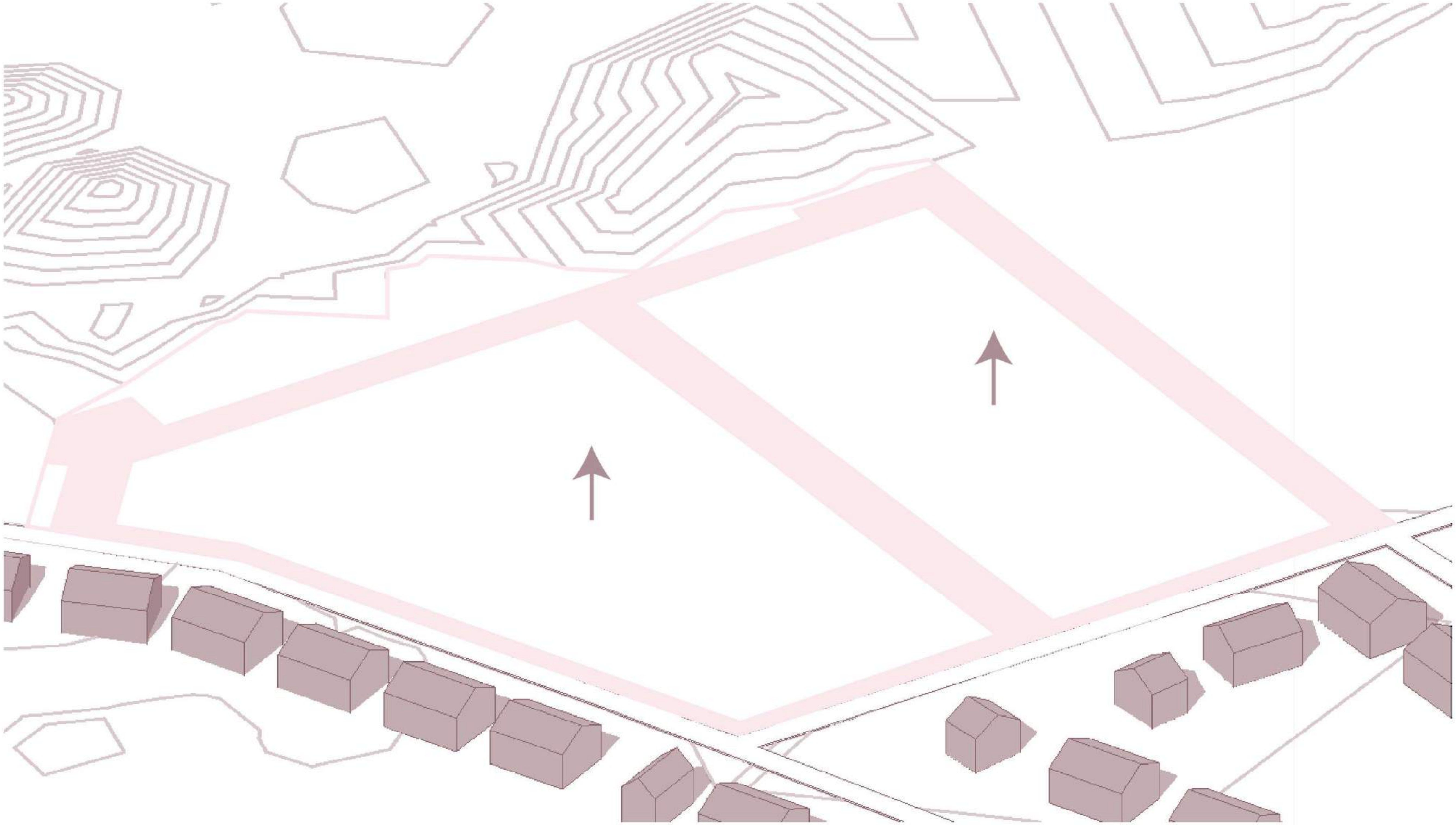


Design process

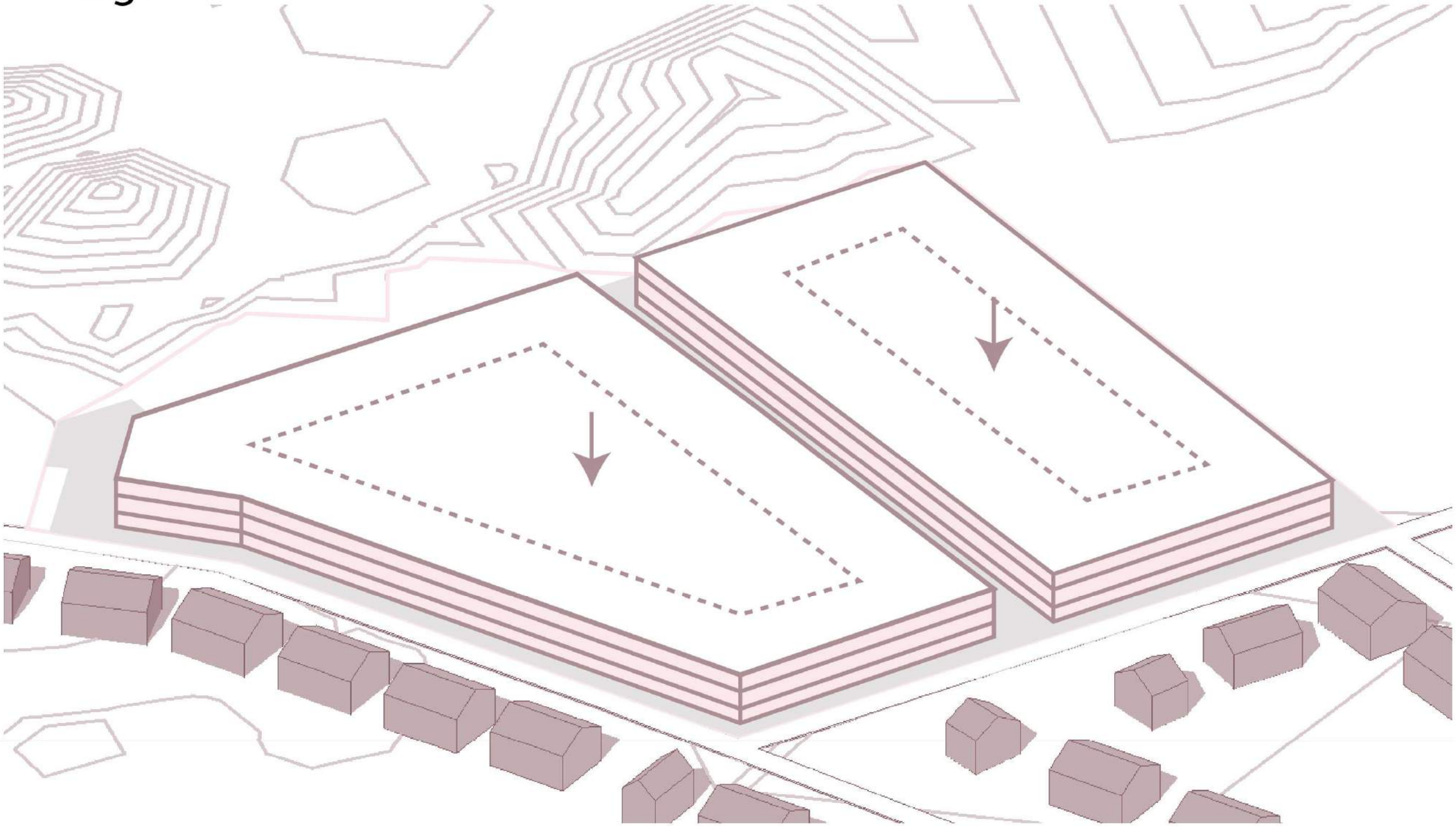
Plot access



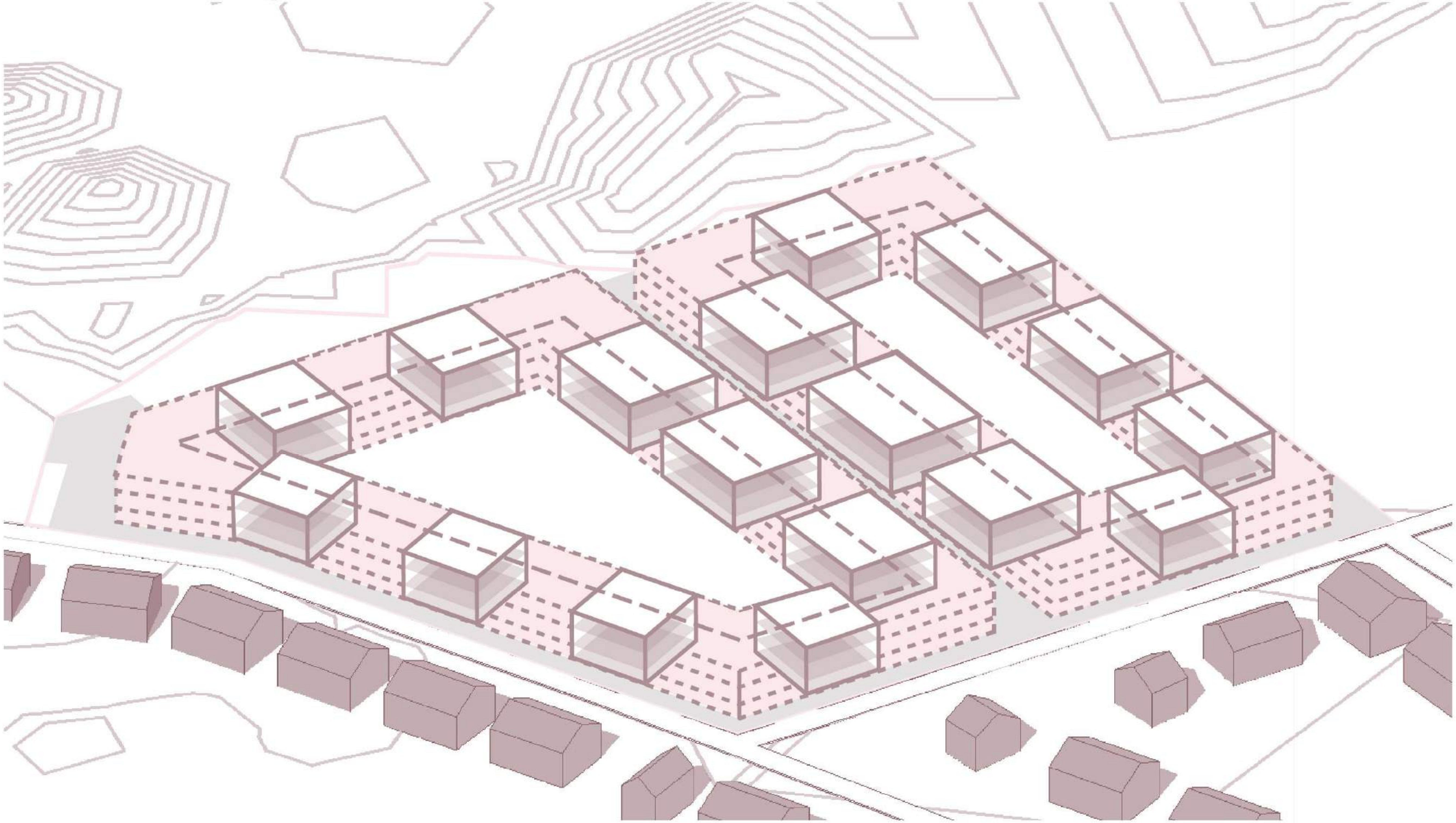
Volume



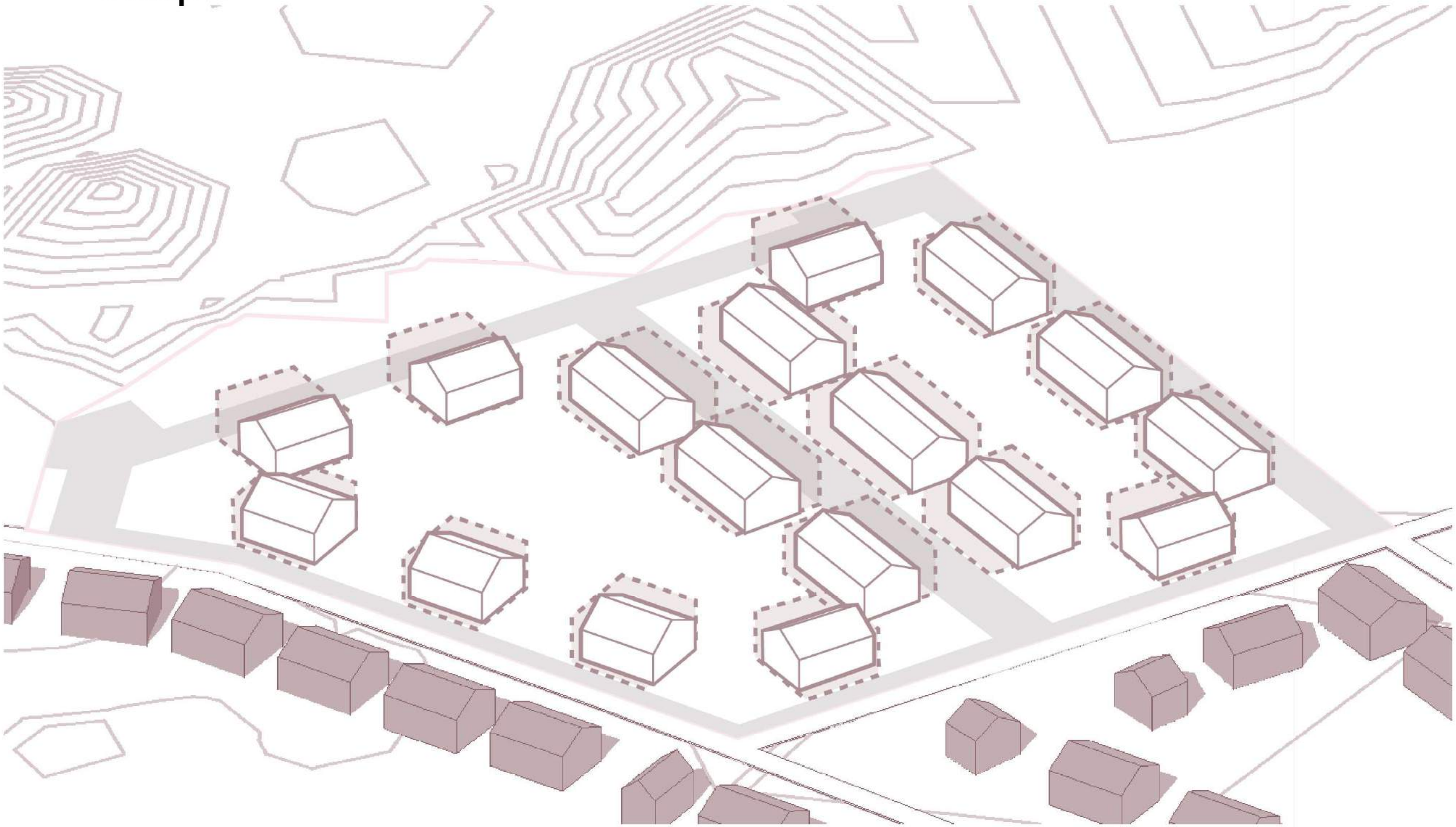
Light



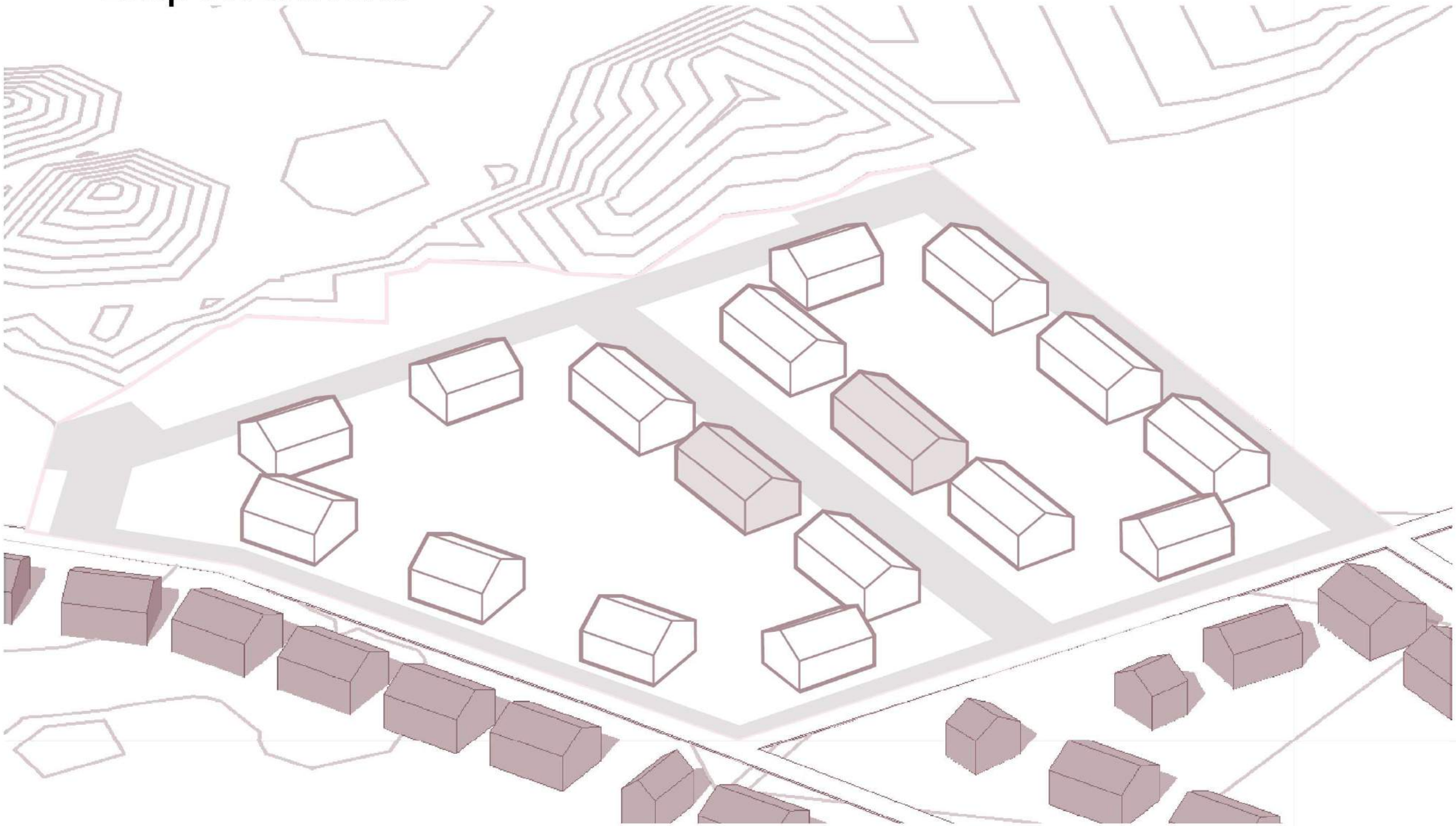
Building sizes



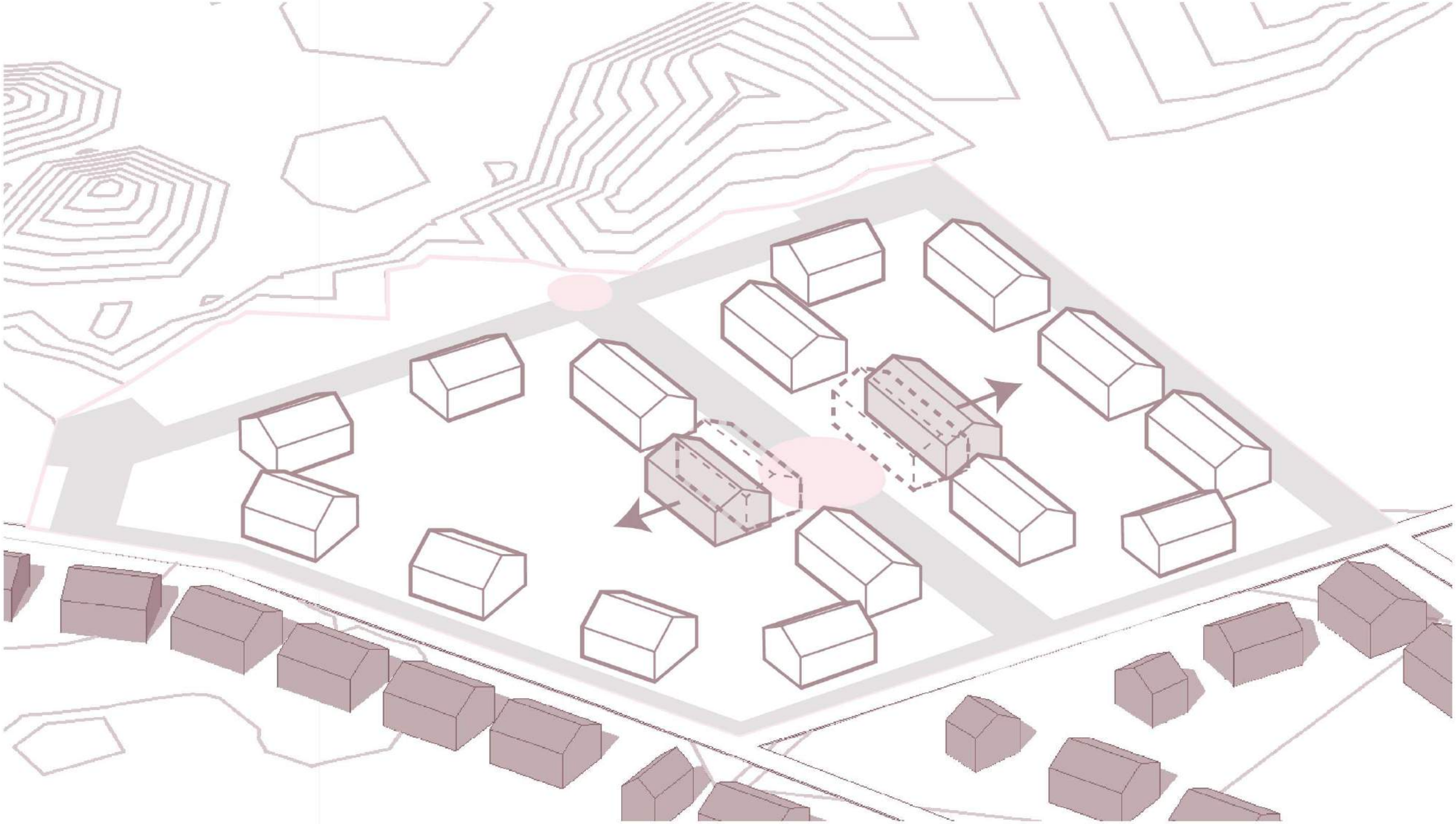
Shape



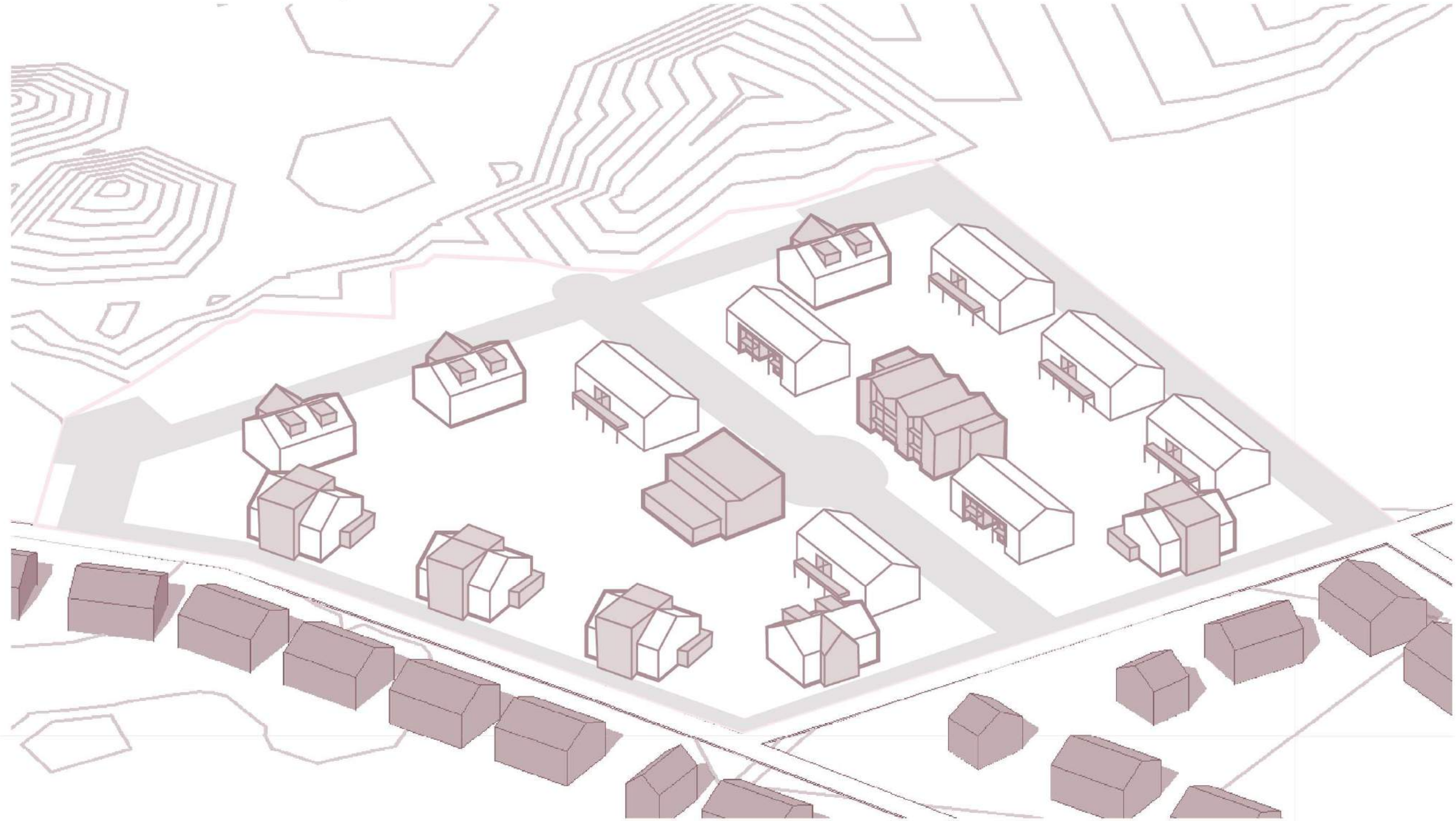
Empowerment



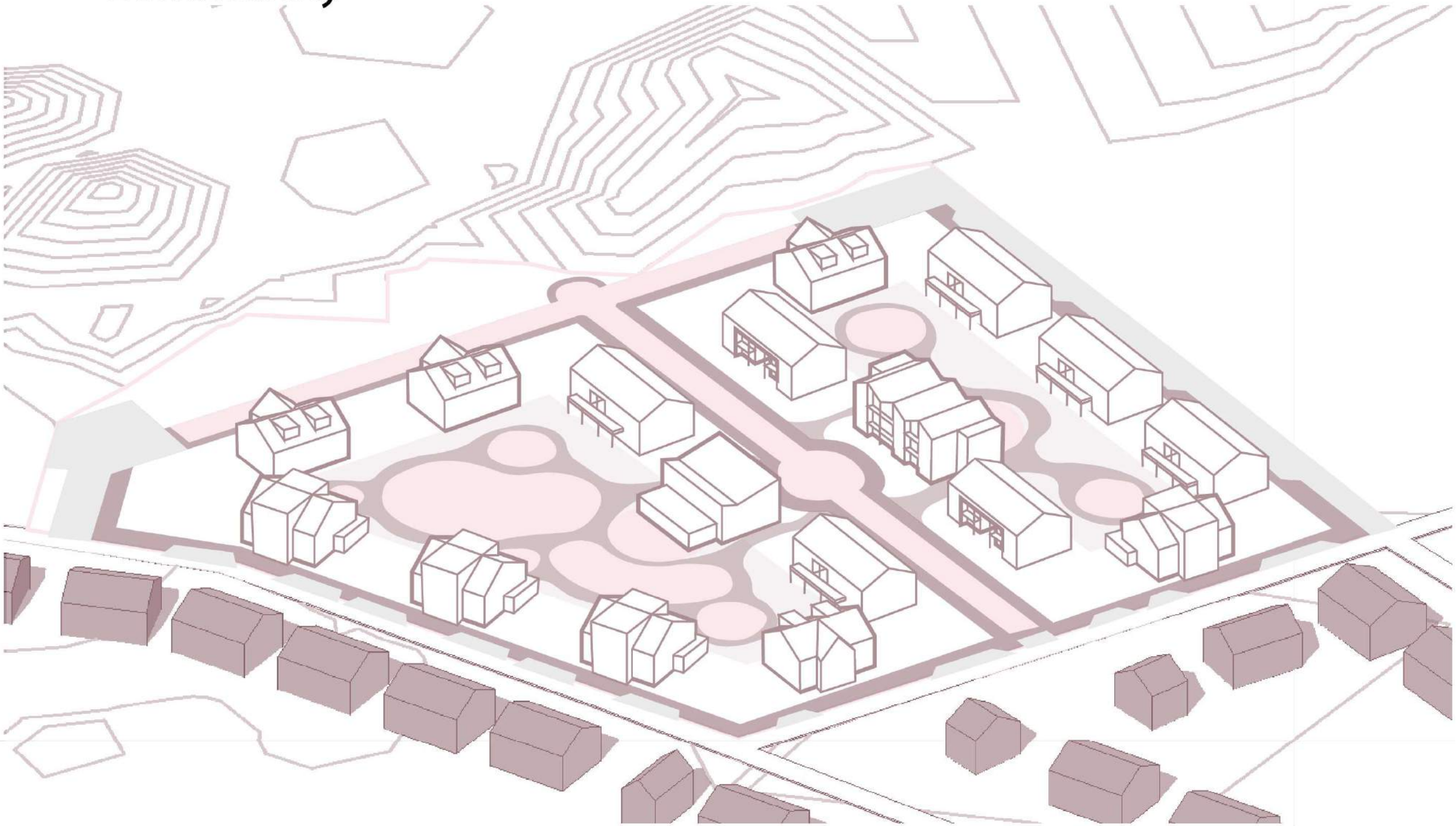
Awareness



Individuality



Community

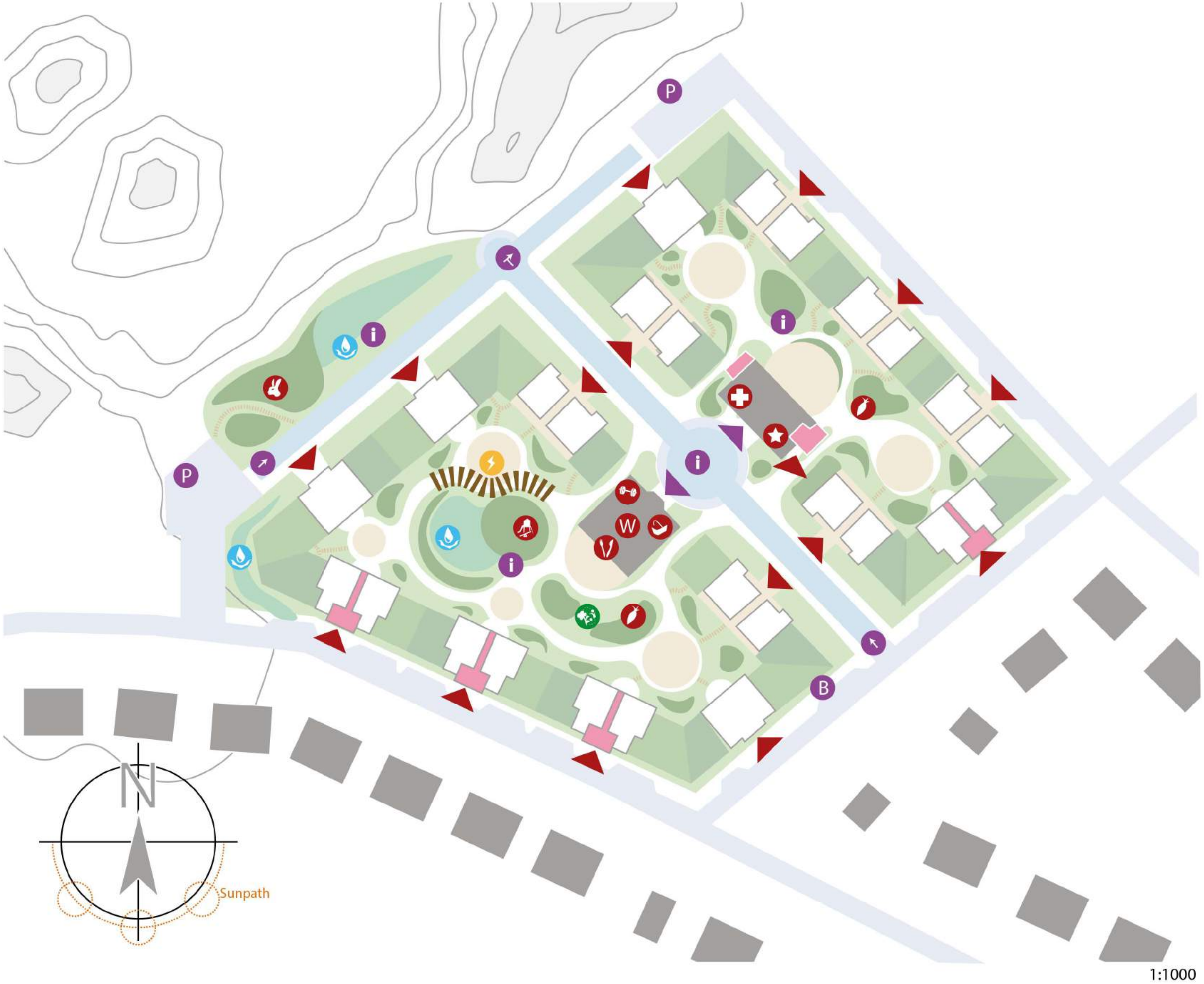


Streetscape

Materiality

Greenery

Sl. 28



Residential types

Public

Semi-public

Private / Residential

Residential entrance

Public entrance

Traffic and wayfinding

Information Board

One way road (car is guest)

Bus

Parking

Community

Workshop

Experience room

Restaurant

Care facility

Playground

Grocery shop

Petting zoo

Sport / Rehab

Vegetable garden

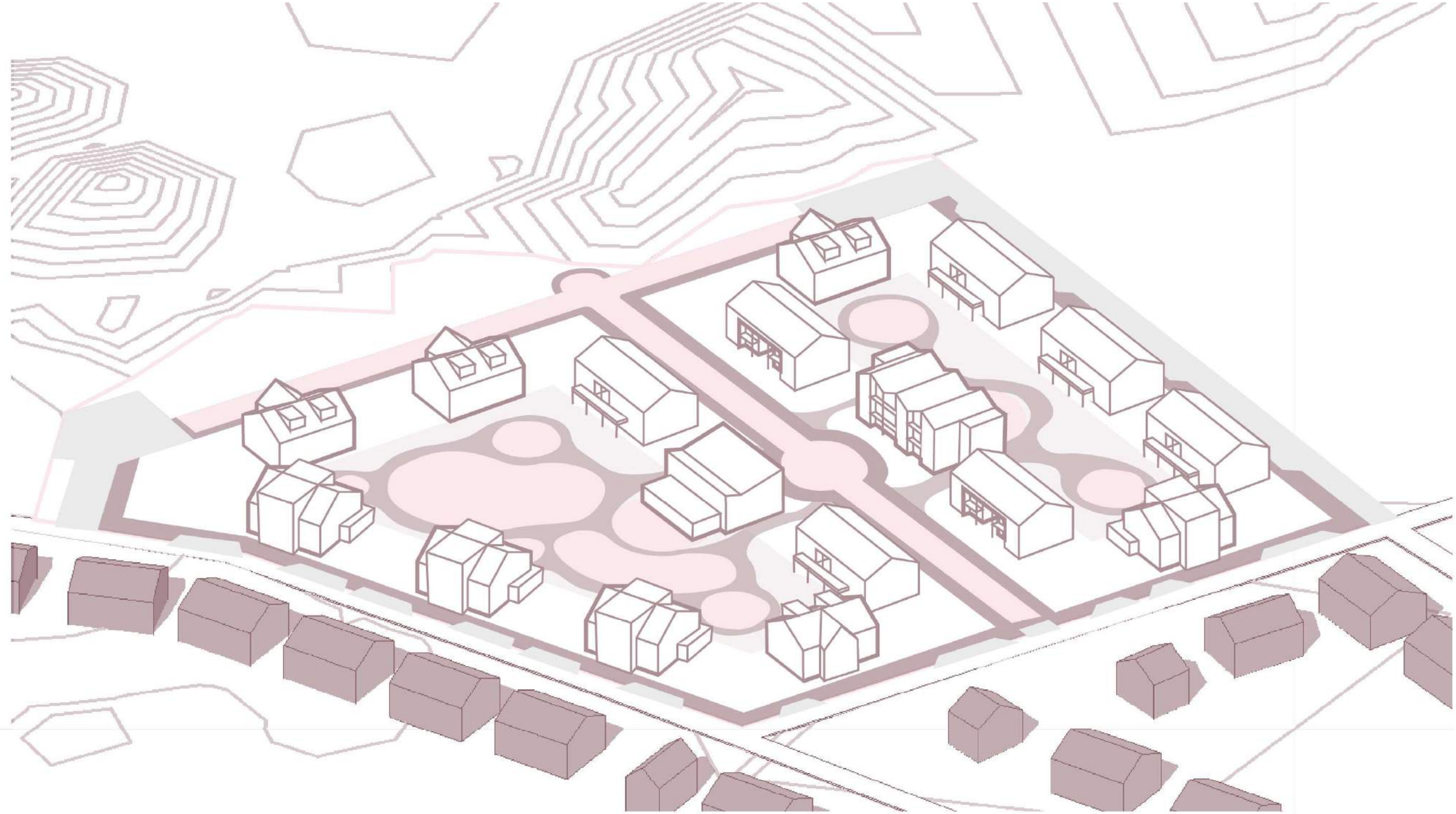
Sustainability

Rain garden or bioswale (Wadi)

Insect garden

Covered solar panel path

Sl. 30



Community squares


Sustainable

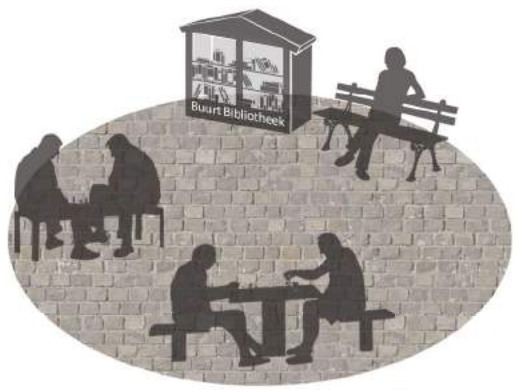

Biodiversity


Food production


Water management


Community

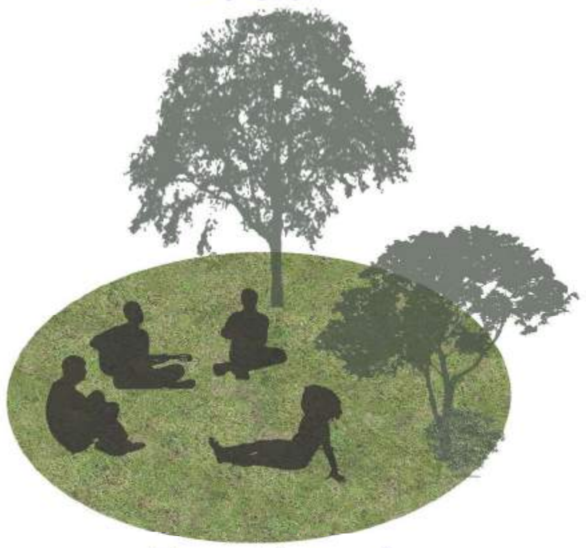

Social



Intellectual


Recreation

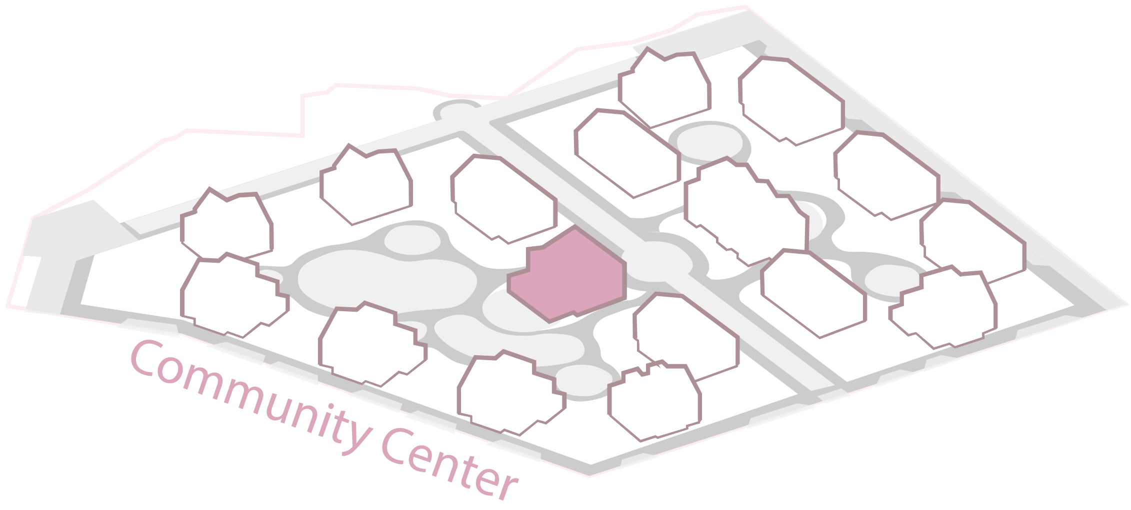

Wellbeing

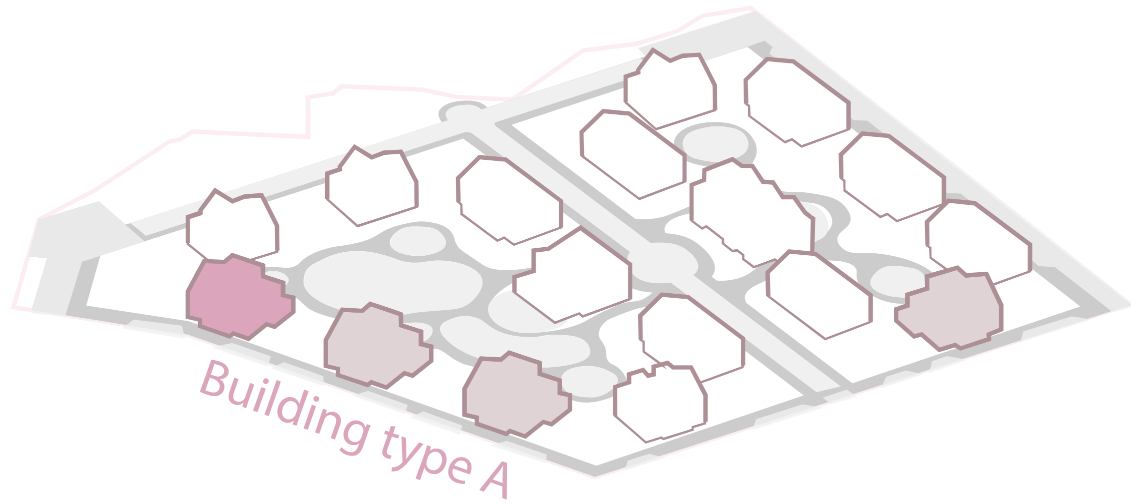

Emotional

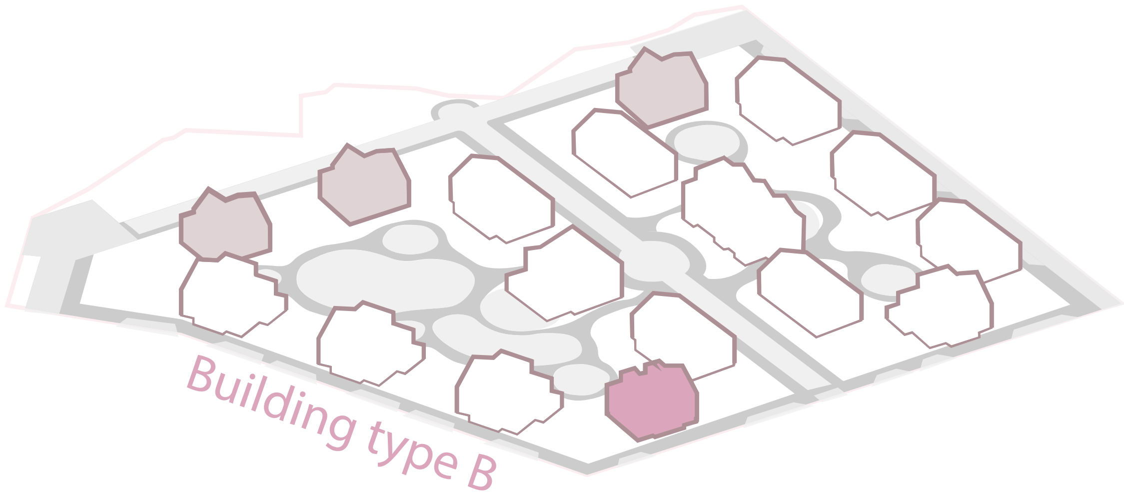

Physical

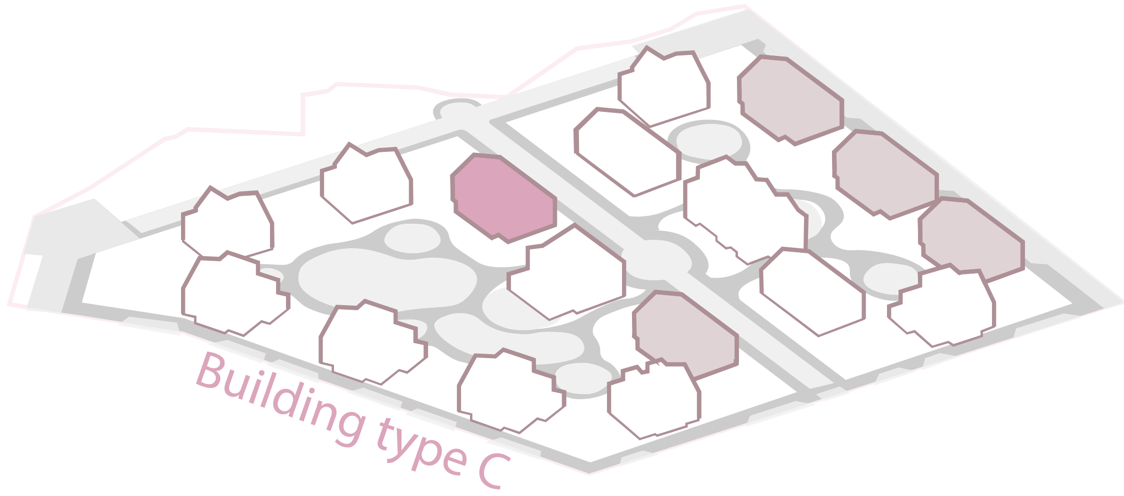

Spirtiual

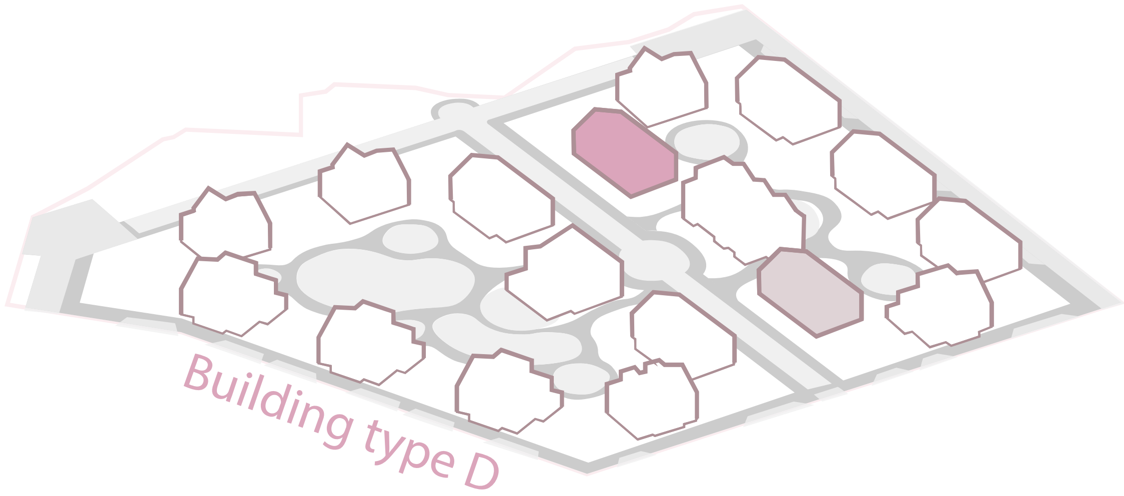
Sl. 33

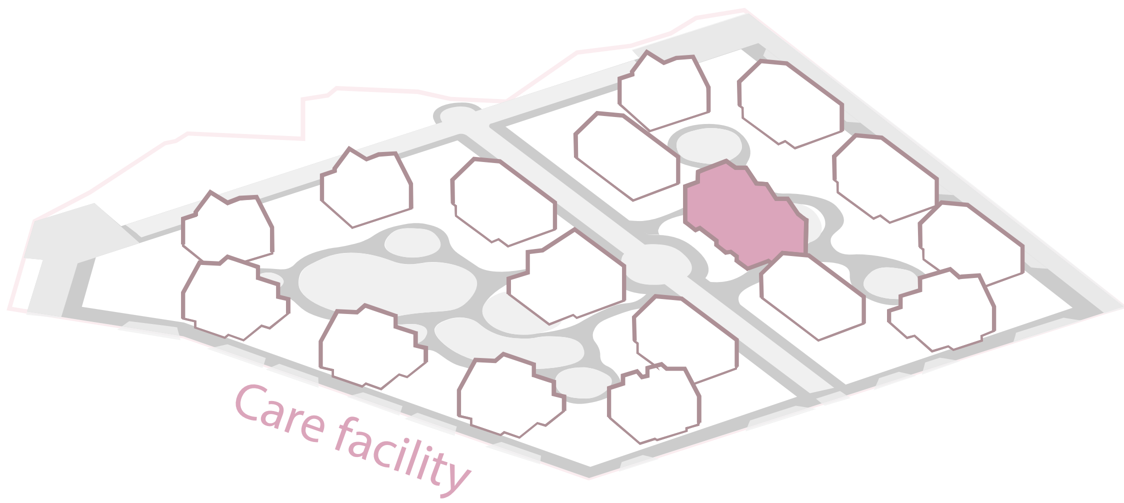

Community Center


Building type A


Building type B

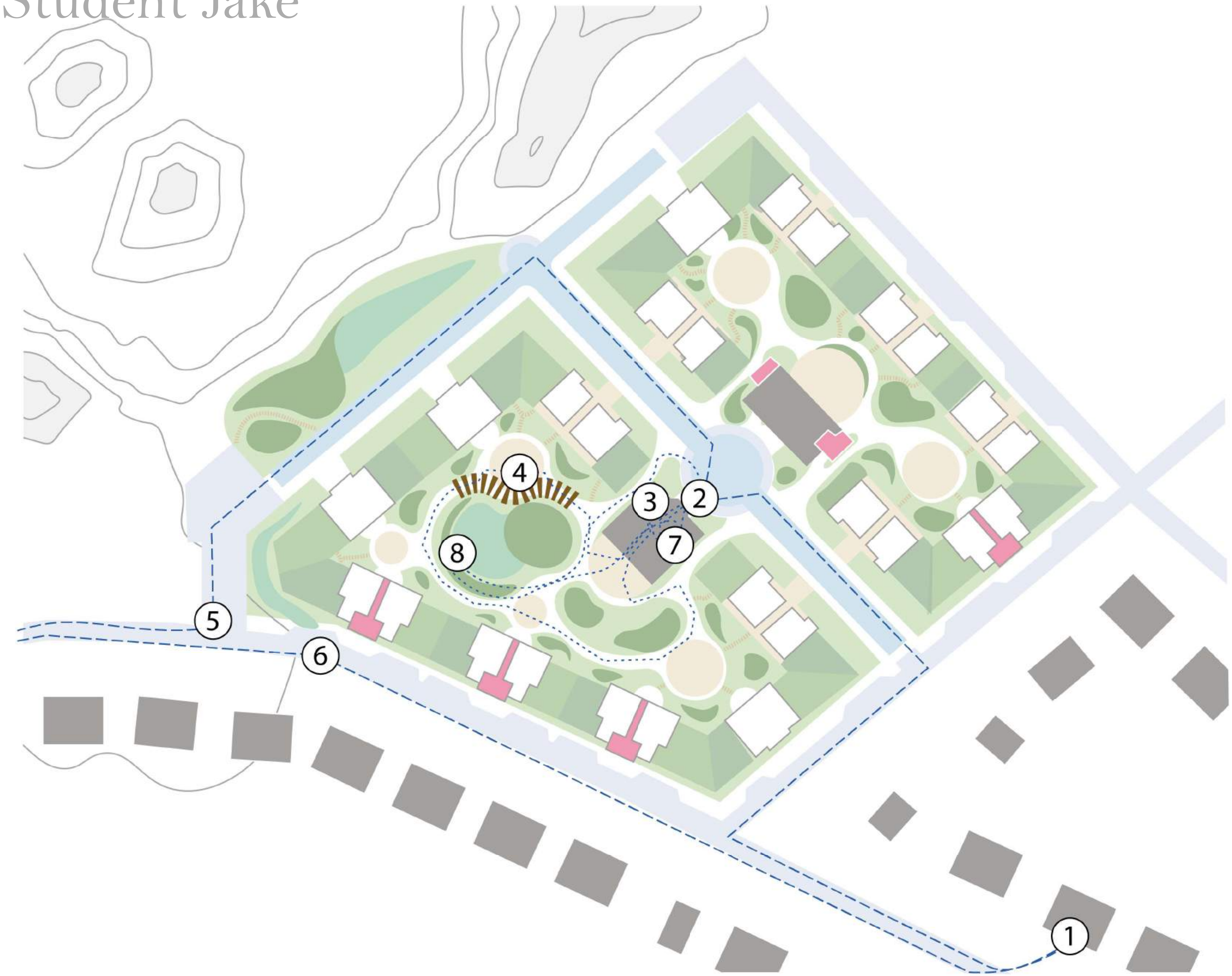

Building type C

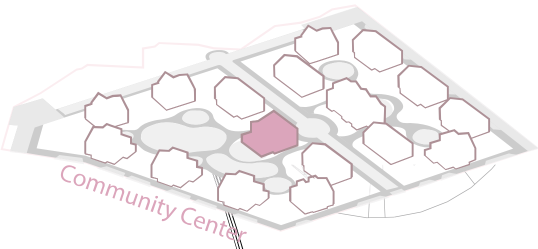

Building type D


Care facility

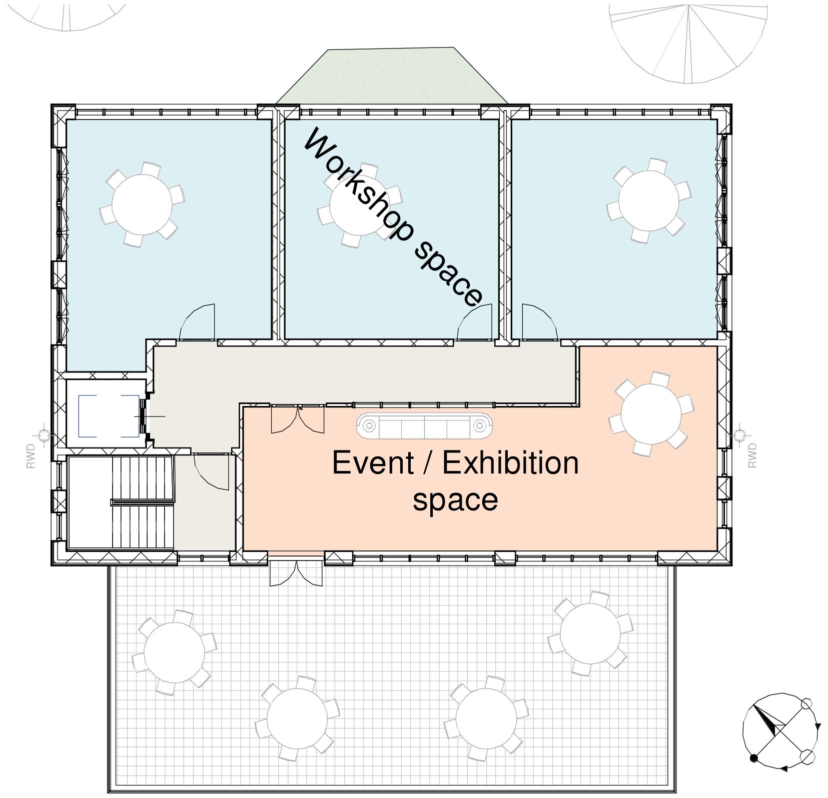
Community Center

Student Jake

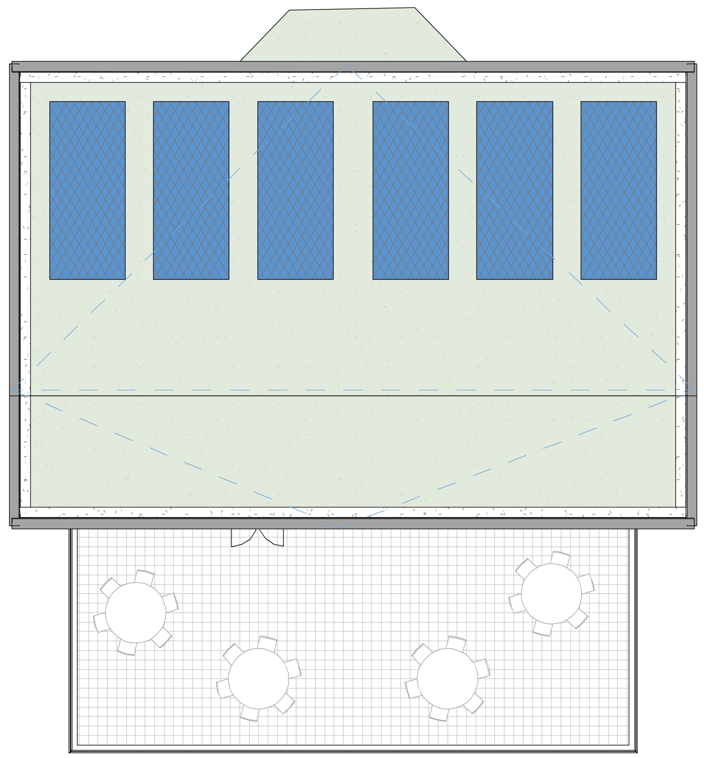




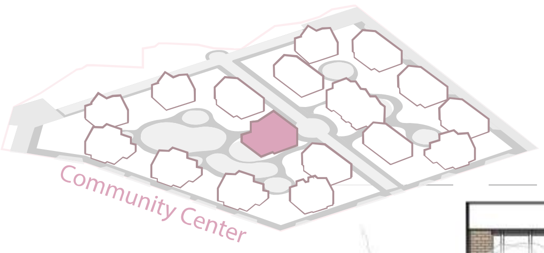
1 Ground floor
1 : 100



2 F1 - CH
1 : 200



3 Roofplan
1 : 200



1 CH North
1 : 200

2 CH West
1 : 200

3 CH South
1 : 200

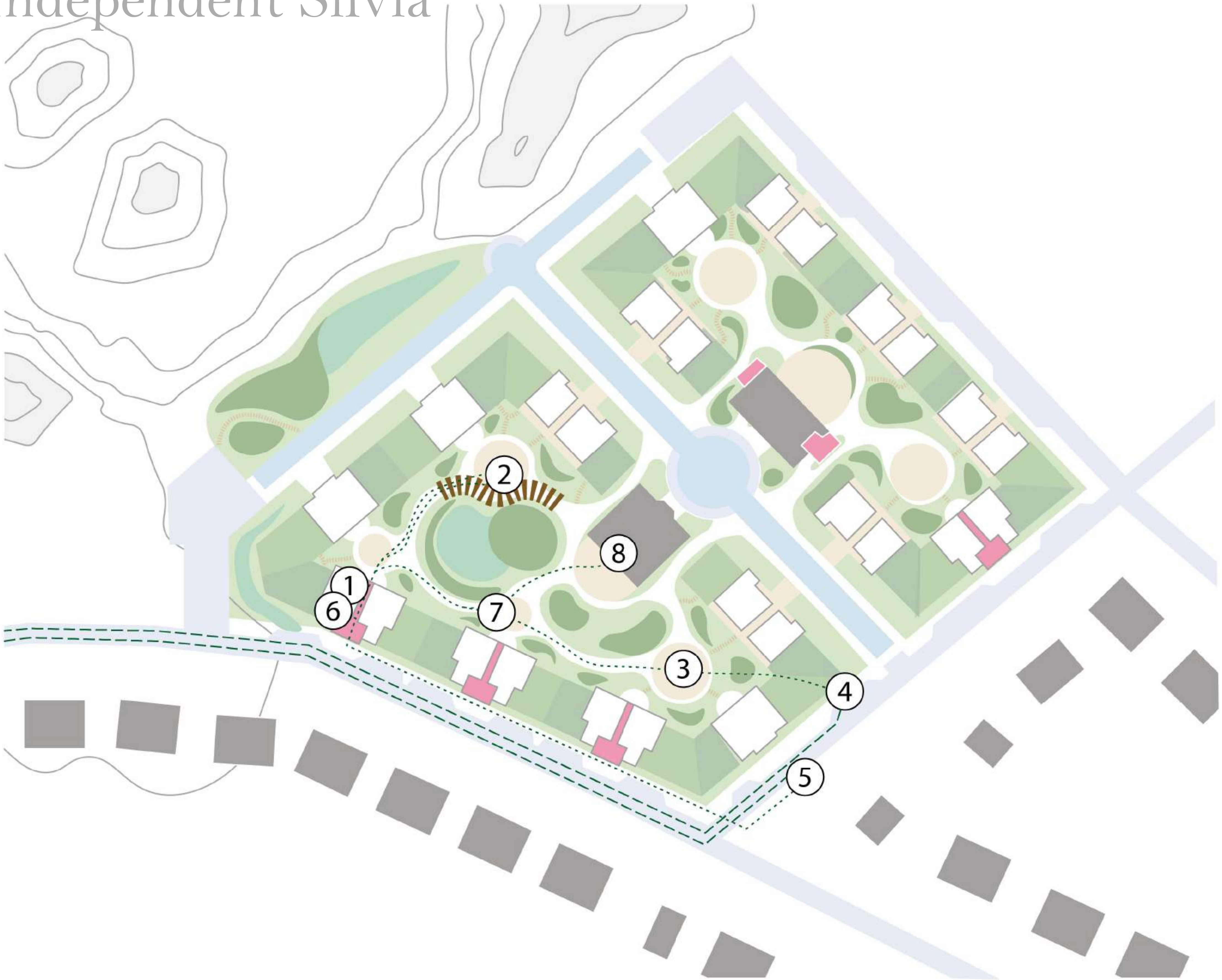
4 CH East
1 : 200

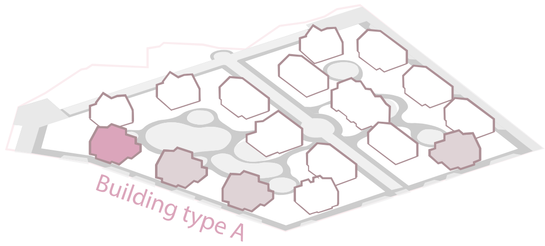
5 Section 2
1 : 200

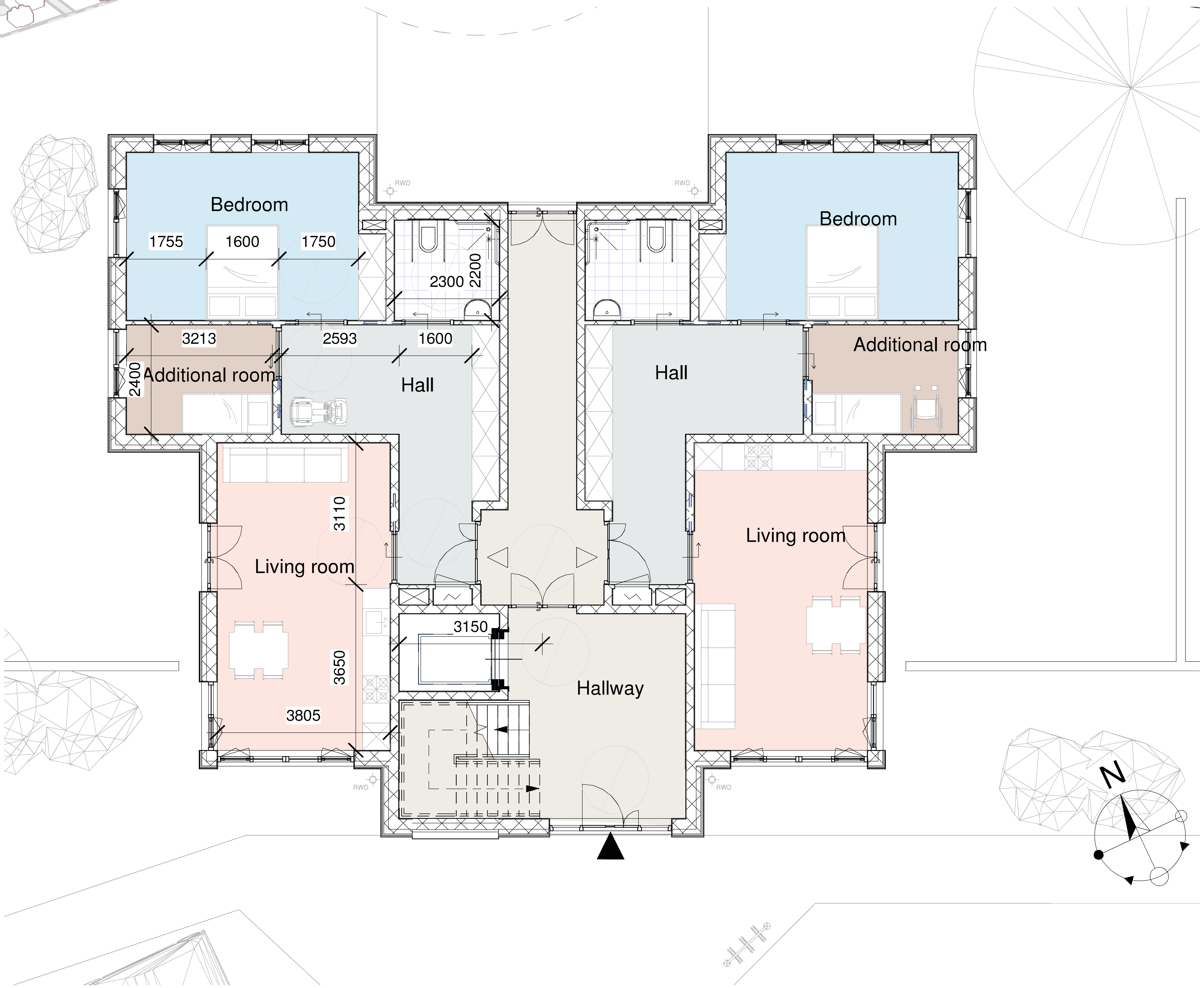
6 Section 1
1 : 200

Building type A

Independent Silvia

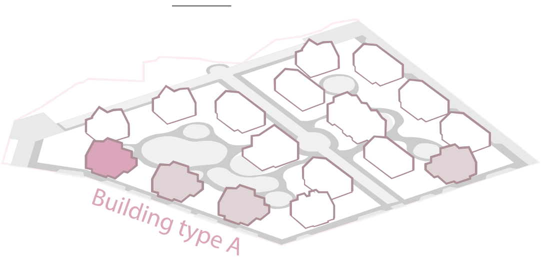


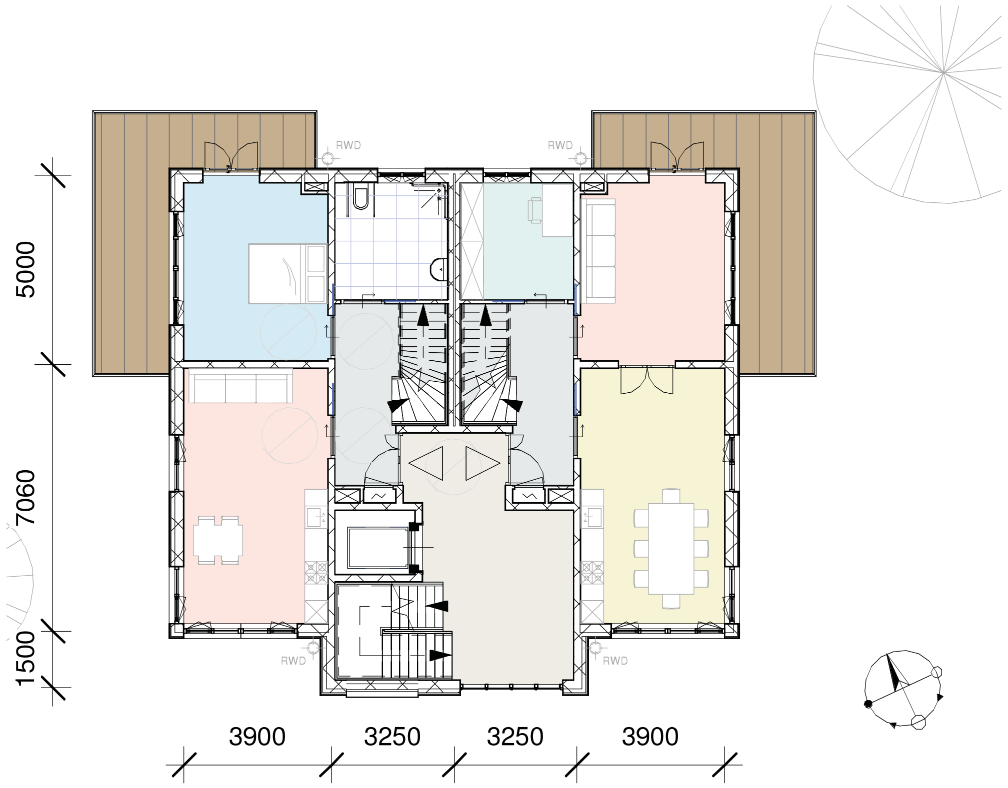




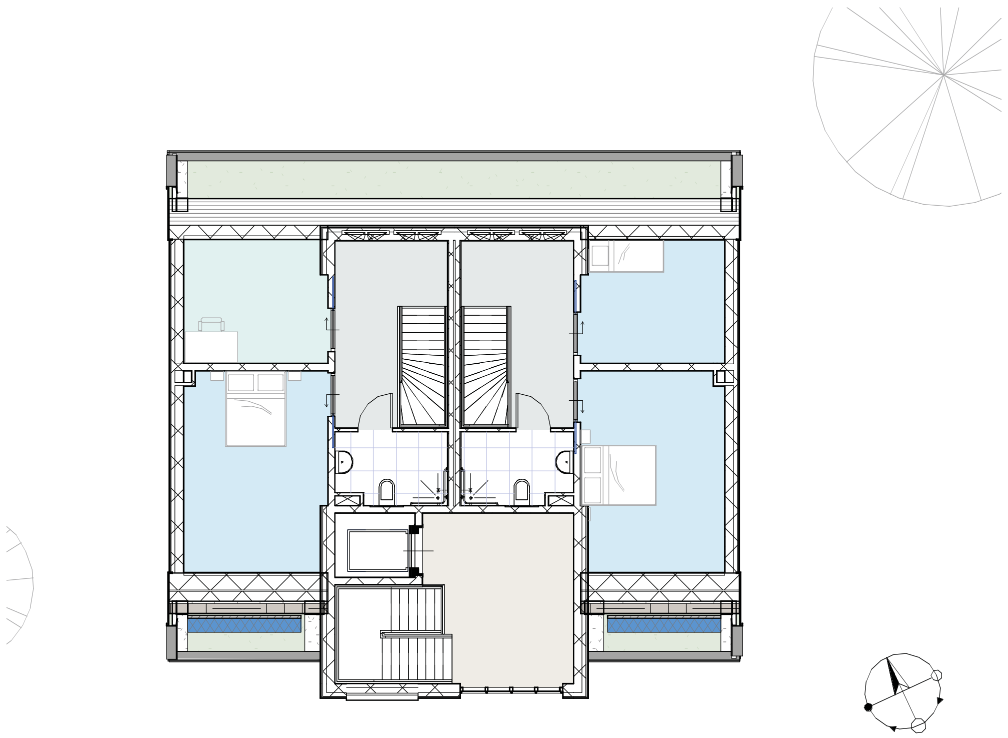
1 Ground floor

1 : 100

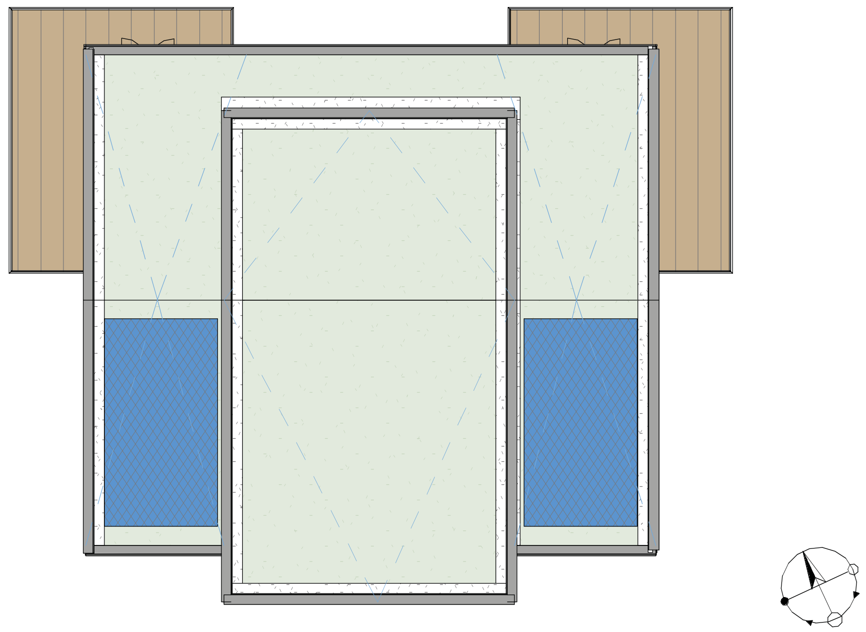




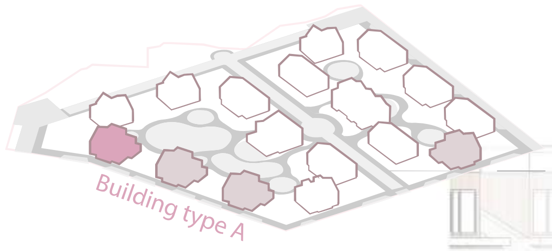
1 First floor
1 : 200



2 Second floor
1 : 200



3 Roofplan
1 : 200



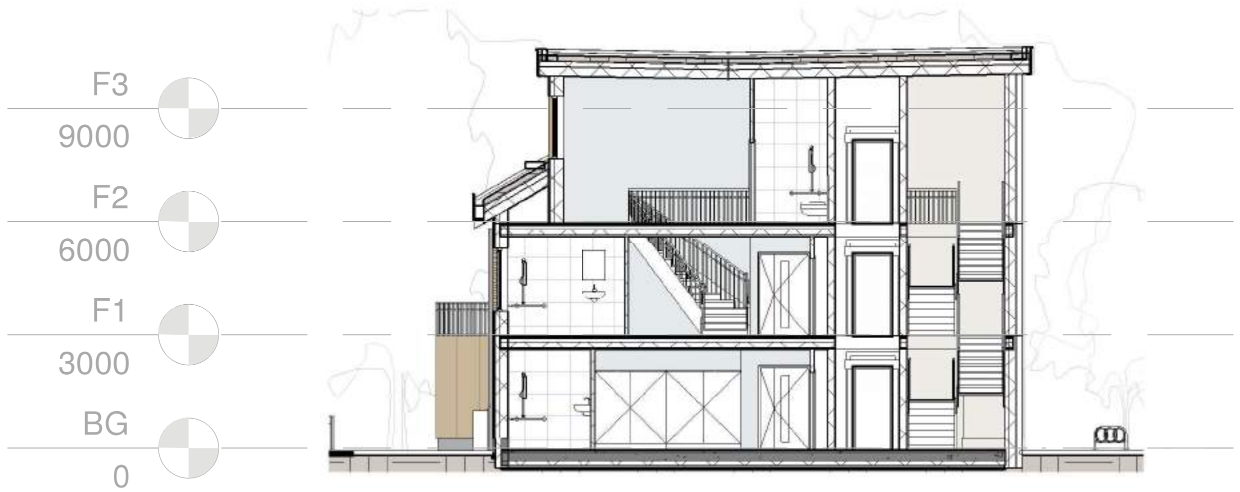
1 HA South
1 : 200

3 HA East
1 : 200

2 HA North
1 : 200

4 HA West
1 : 200

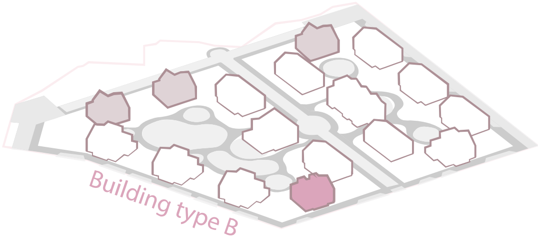
6 HA section B
1 : 200

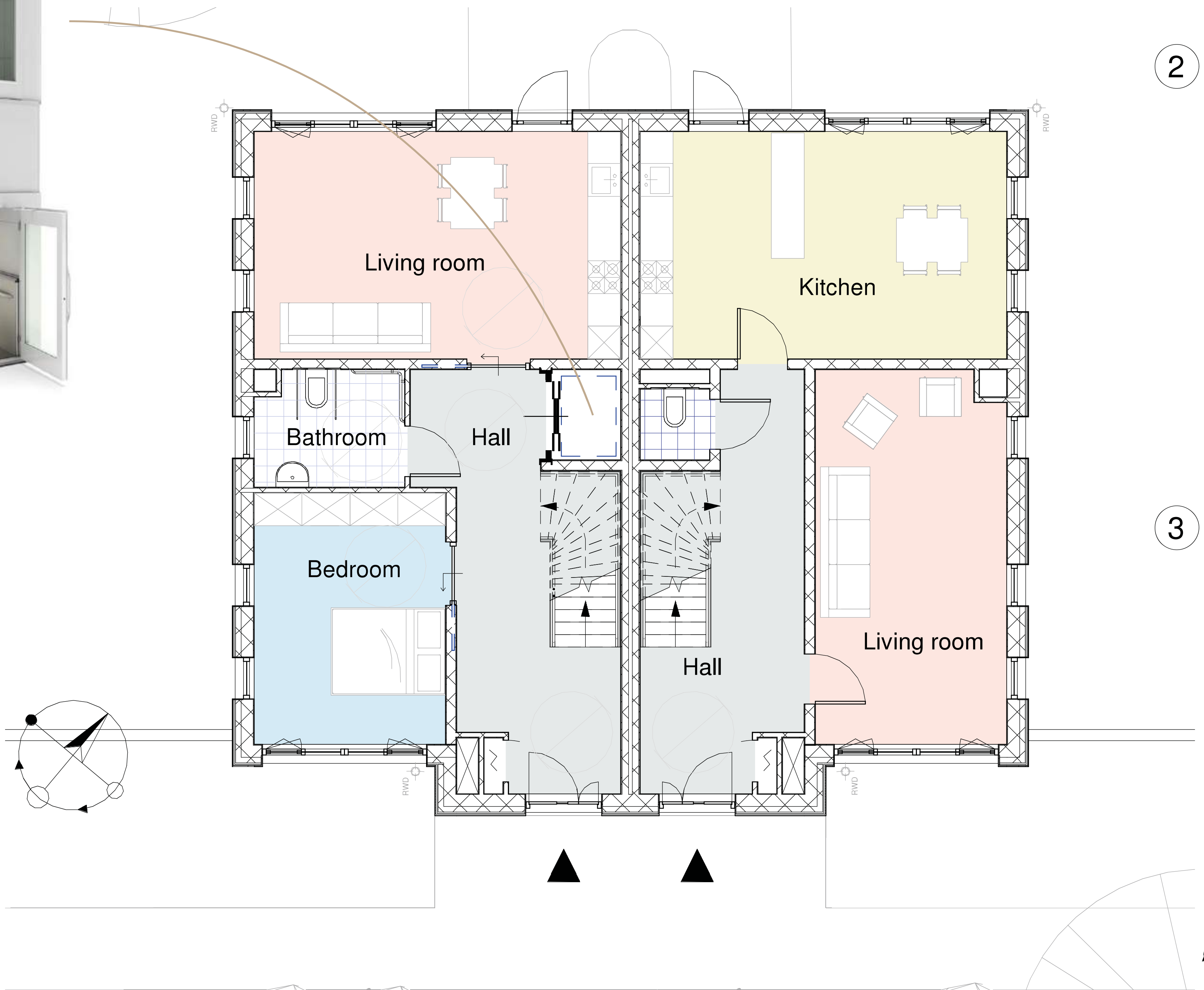


5 HA Section A
1 : 200

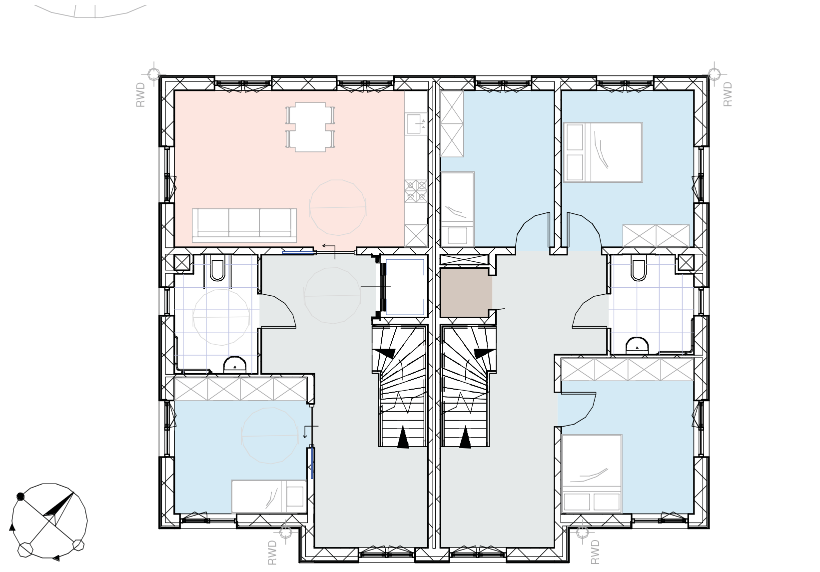
Building type B

Mother Patricia

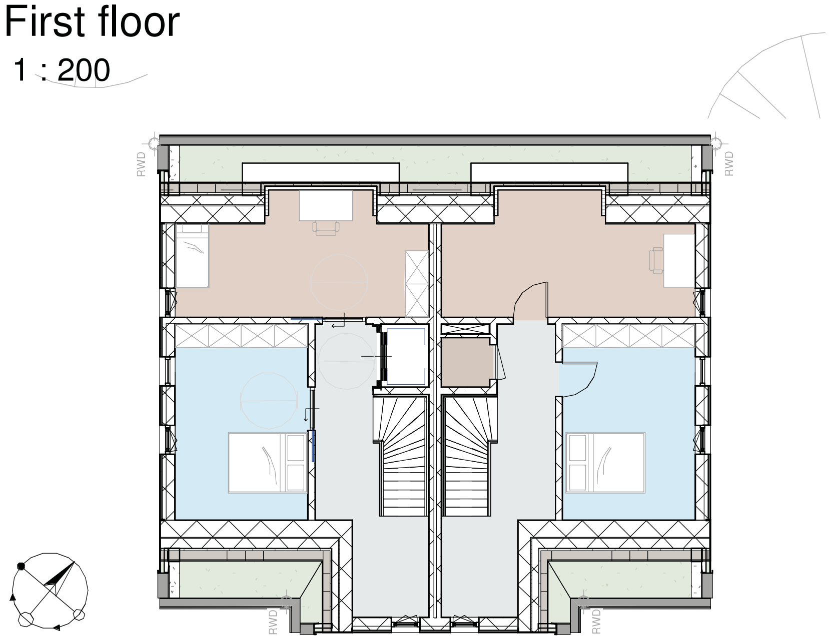




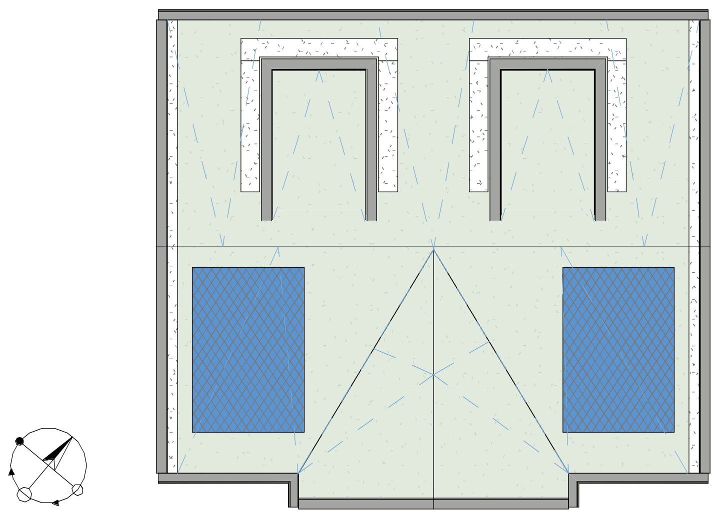
1 Ground floor
1 : 100



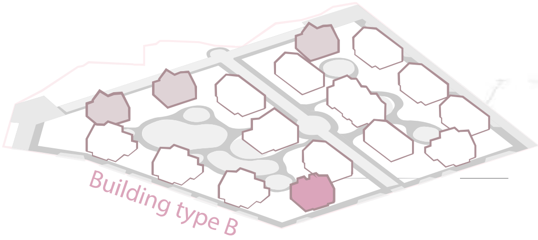
2 First floor
1 : 200



3 Second floor
1 : 200



4 Roofplan
1 : 200

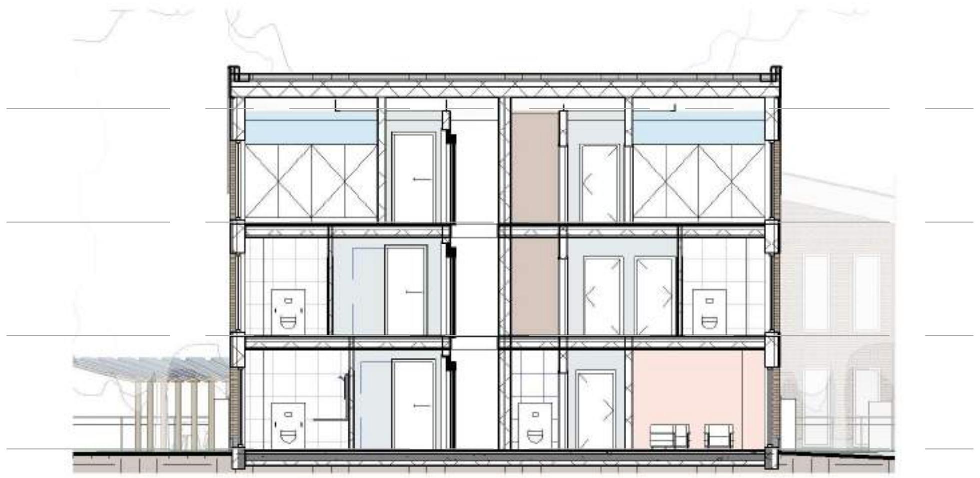


1 B South
1 : 200

3 B East
1 : 200

2 B North
1 : 200

4 B West
1 : 200

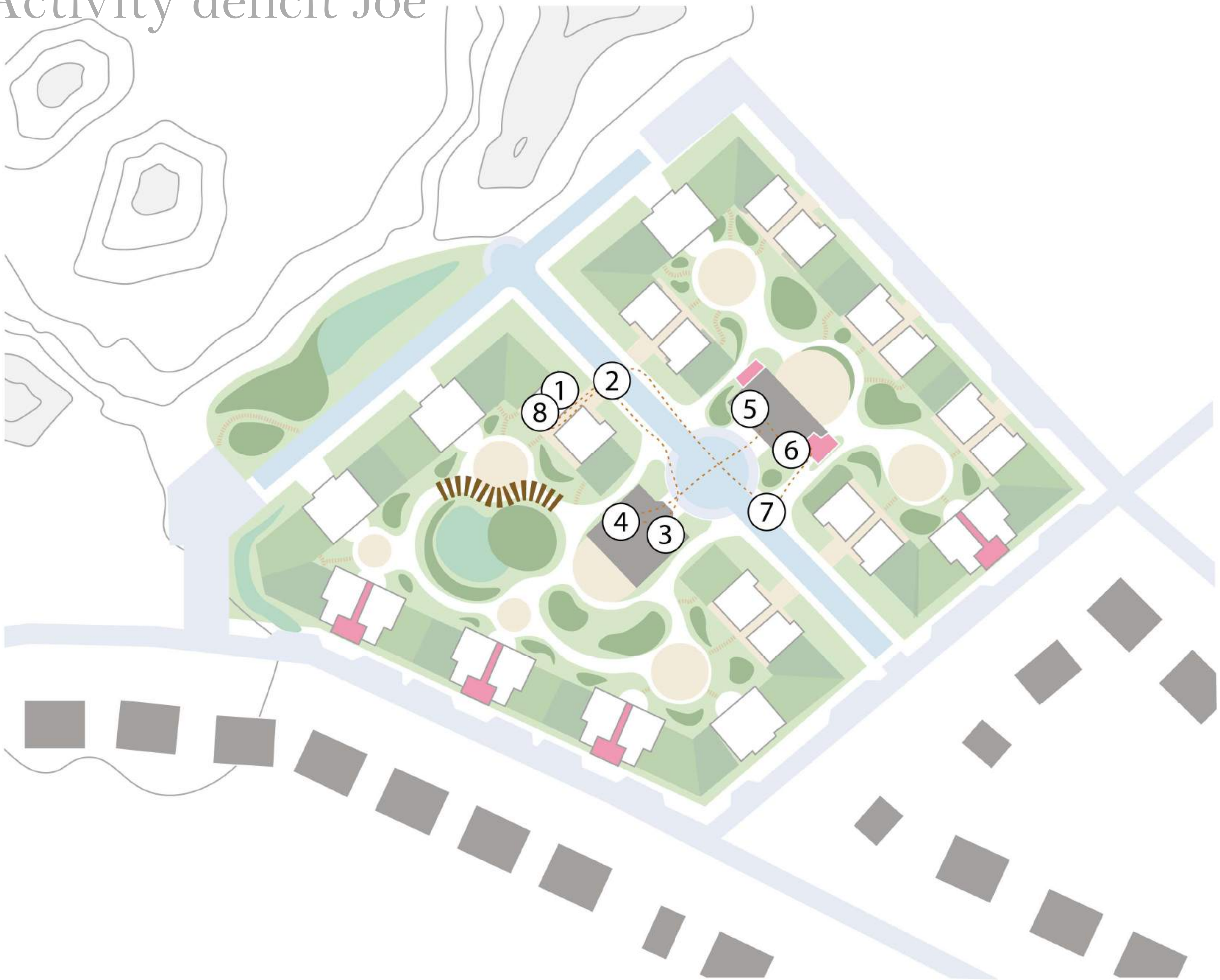


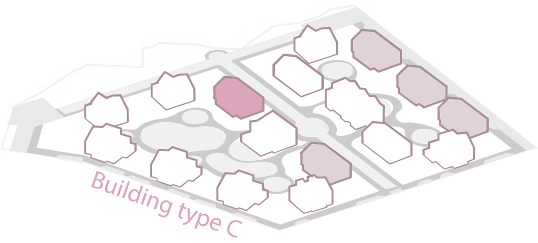
5 HB section A
1 : 200

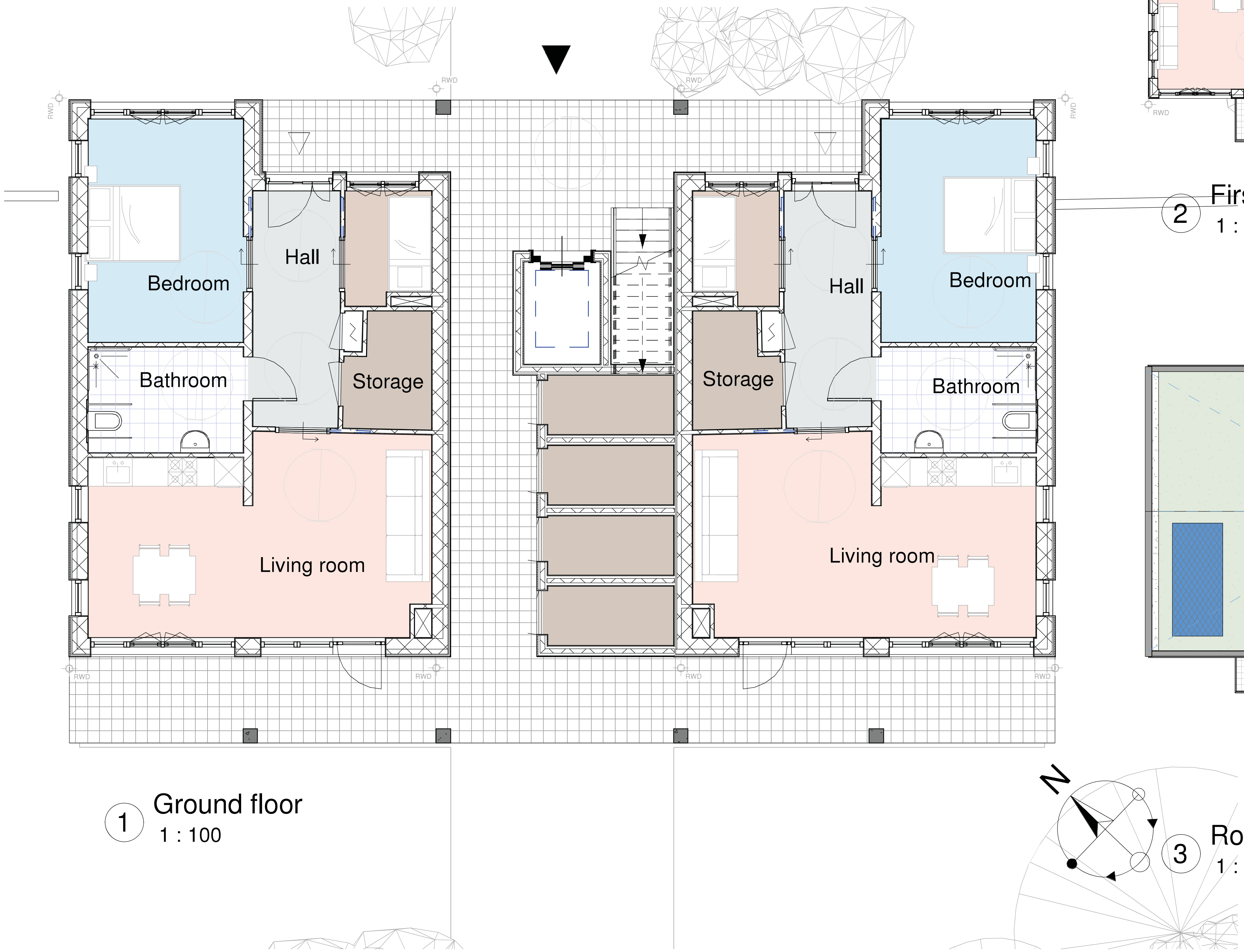
6 HB section B
1 : 200

Building type C

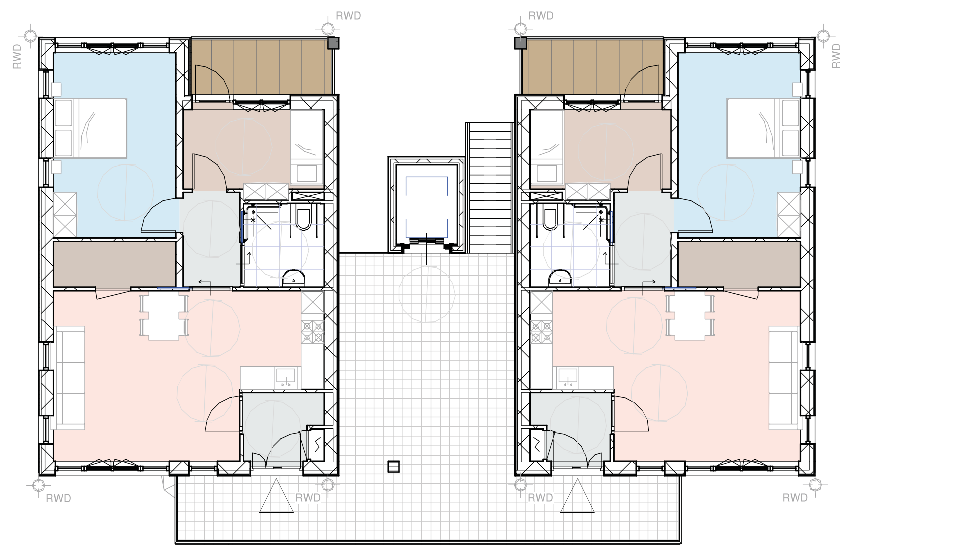
Activity deficit Joe



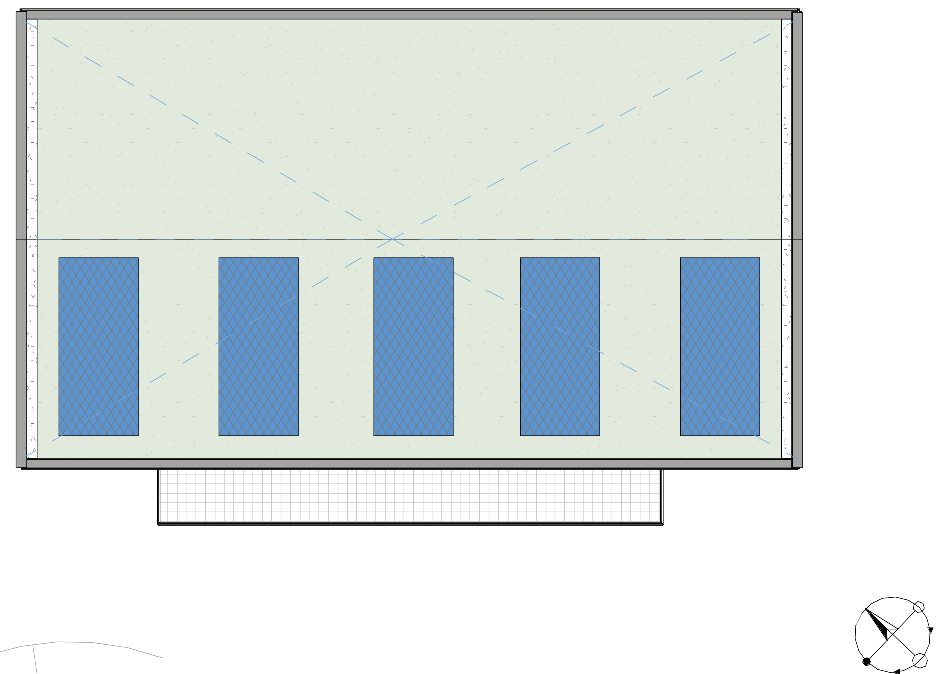




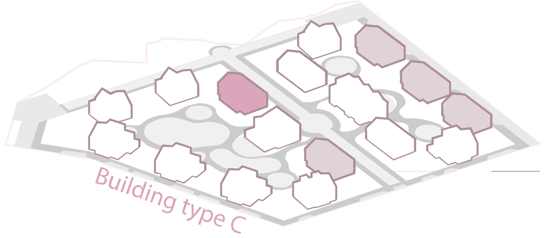
1 Ground floor
1 : 100



2 First floor
1 : 200



3 Roofplan
1 : 200

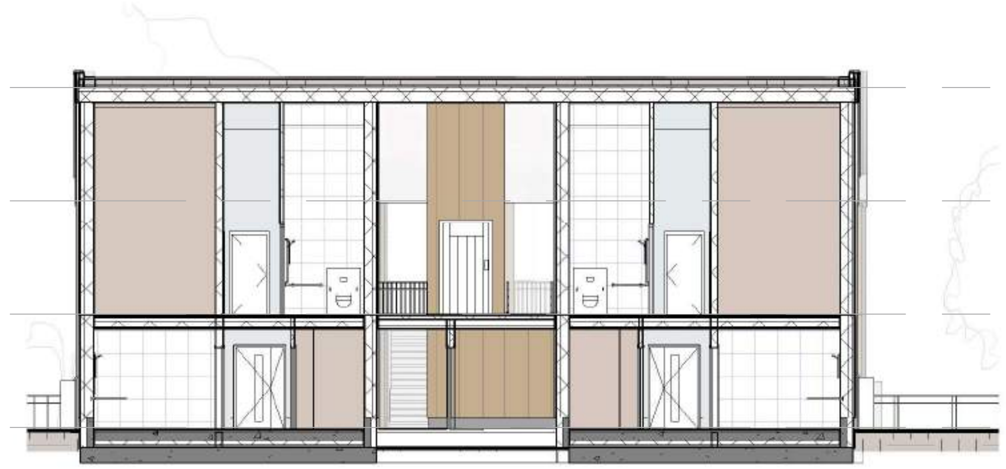


1 C North
1 : 200

3 C West
1 : 200

2 C South
1 : 200

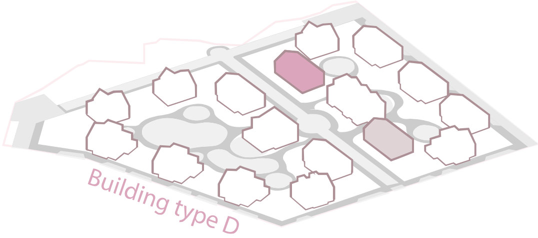
4 C East
1 : 200

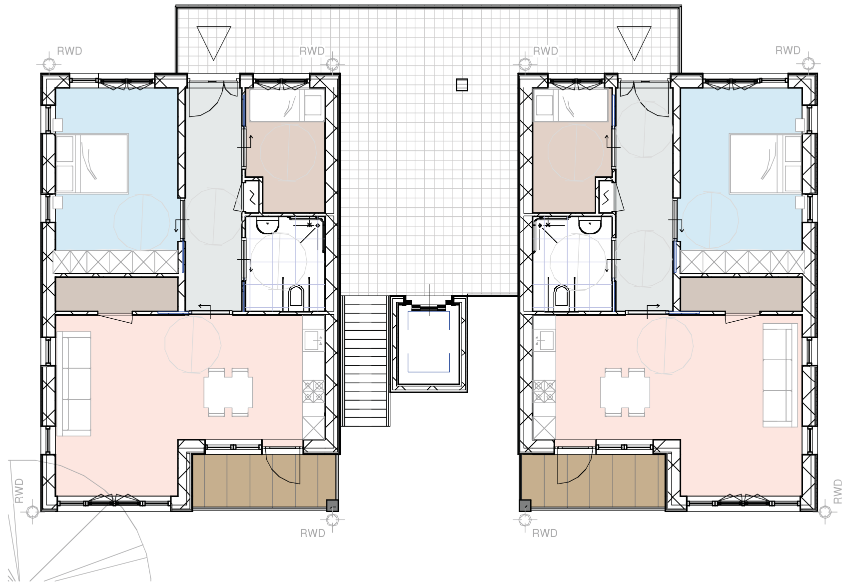


6 HC section A
1 : 200

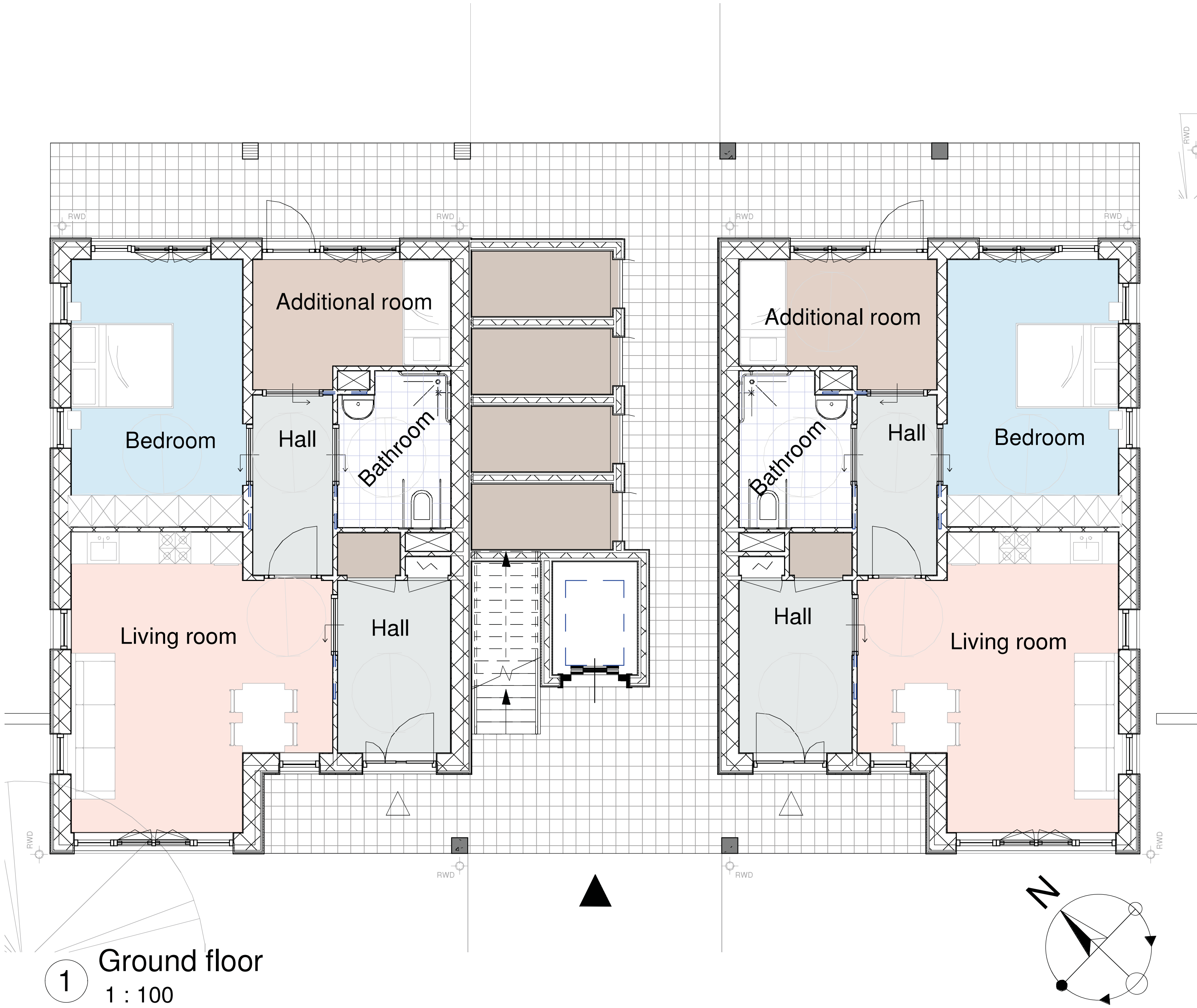
5 HC section B
1 : 200

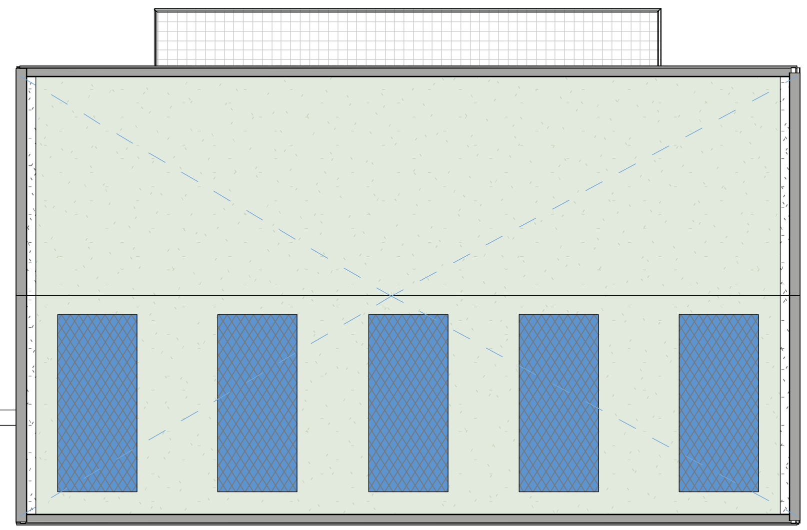
Building type D





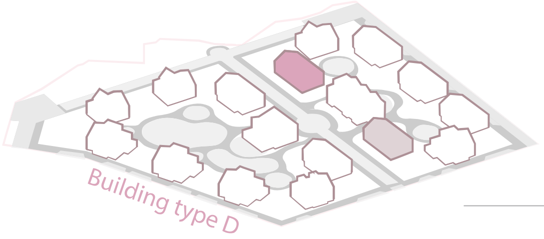
3 First floor
1 : 200





2 Roofplan
1 : 200

1 Ground floor
1 : 100



1 HD South
1 : 200

2 HD East
1 : 200

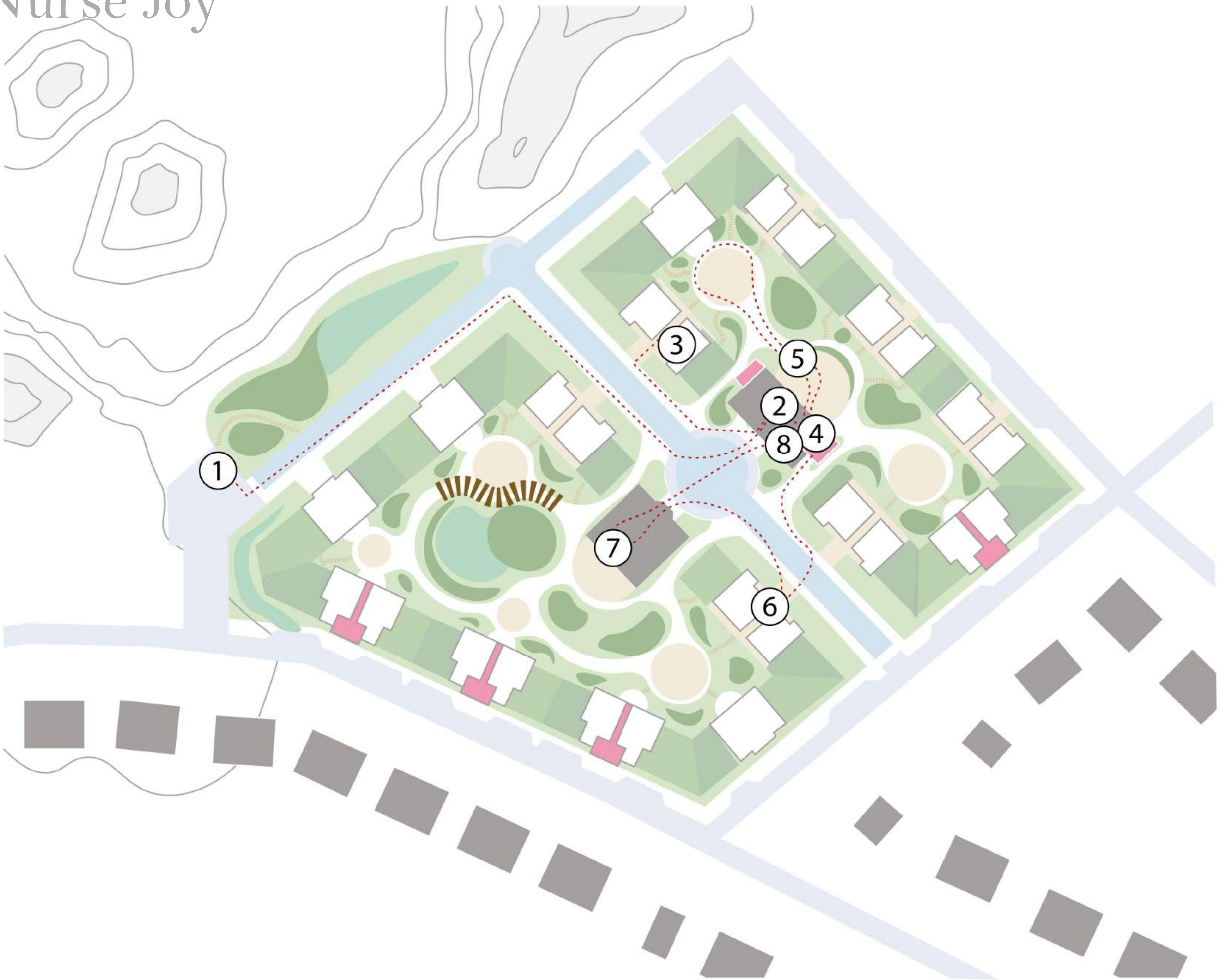
3 HD North
1 : 200

4 HD west
1 : 200

6 HD section B
1 : 200

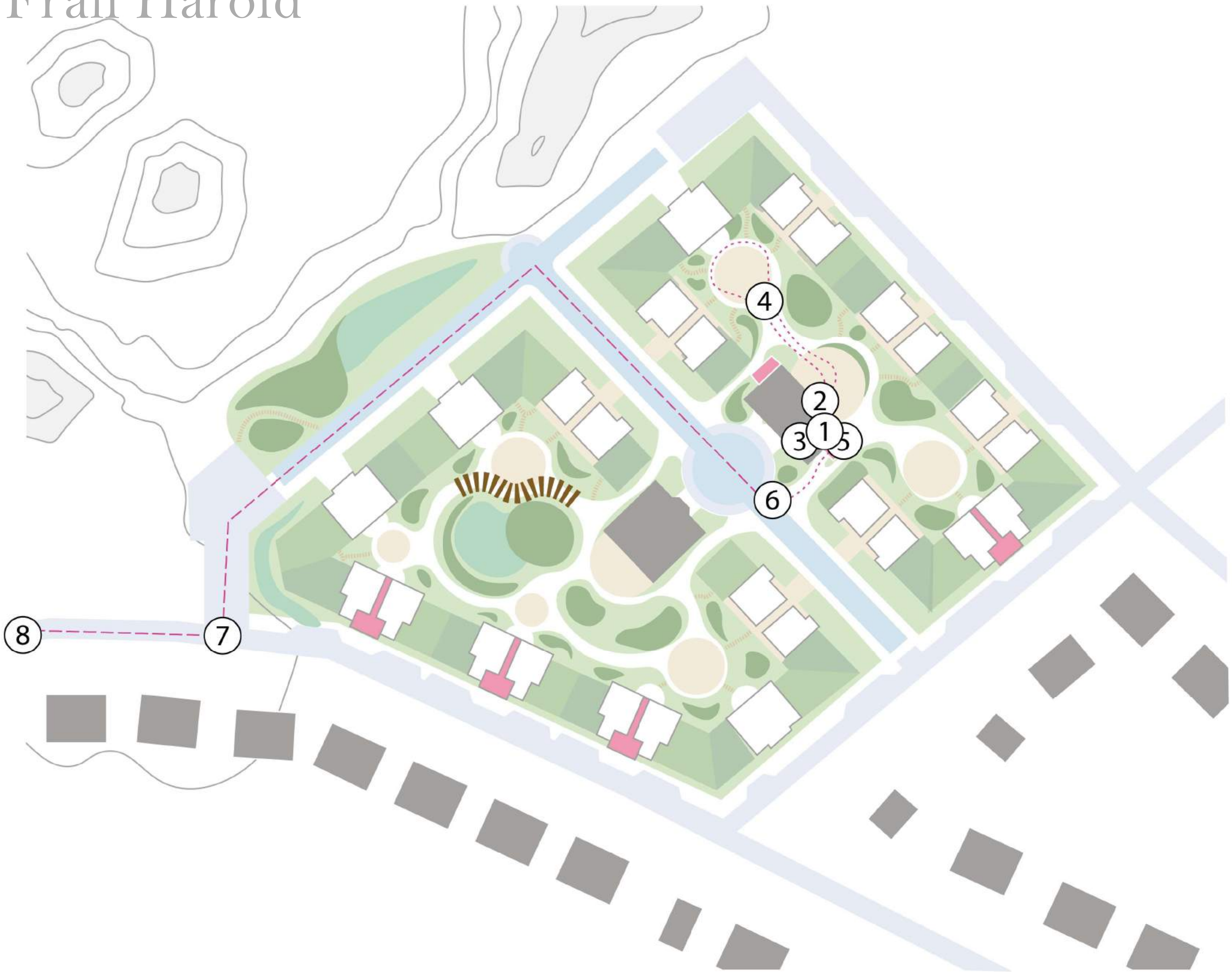
5 HD section A
1 : 200

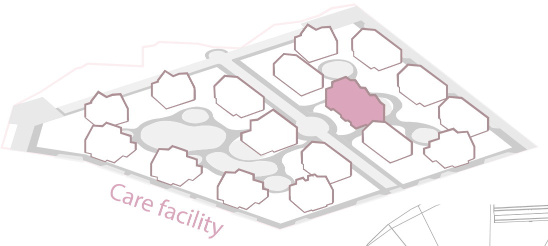
Nurse Joy

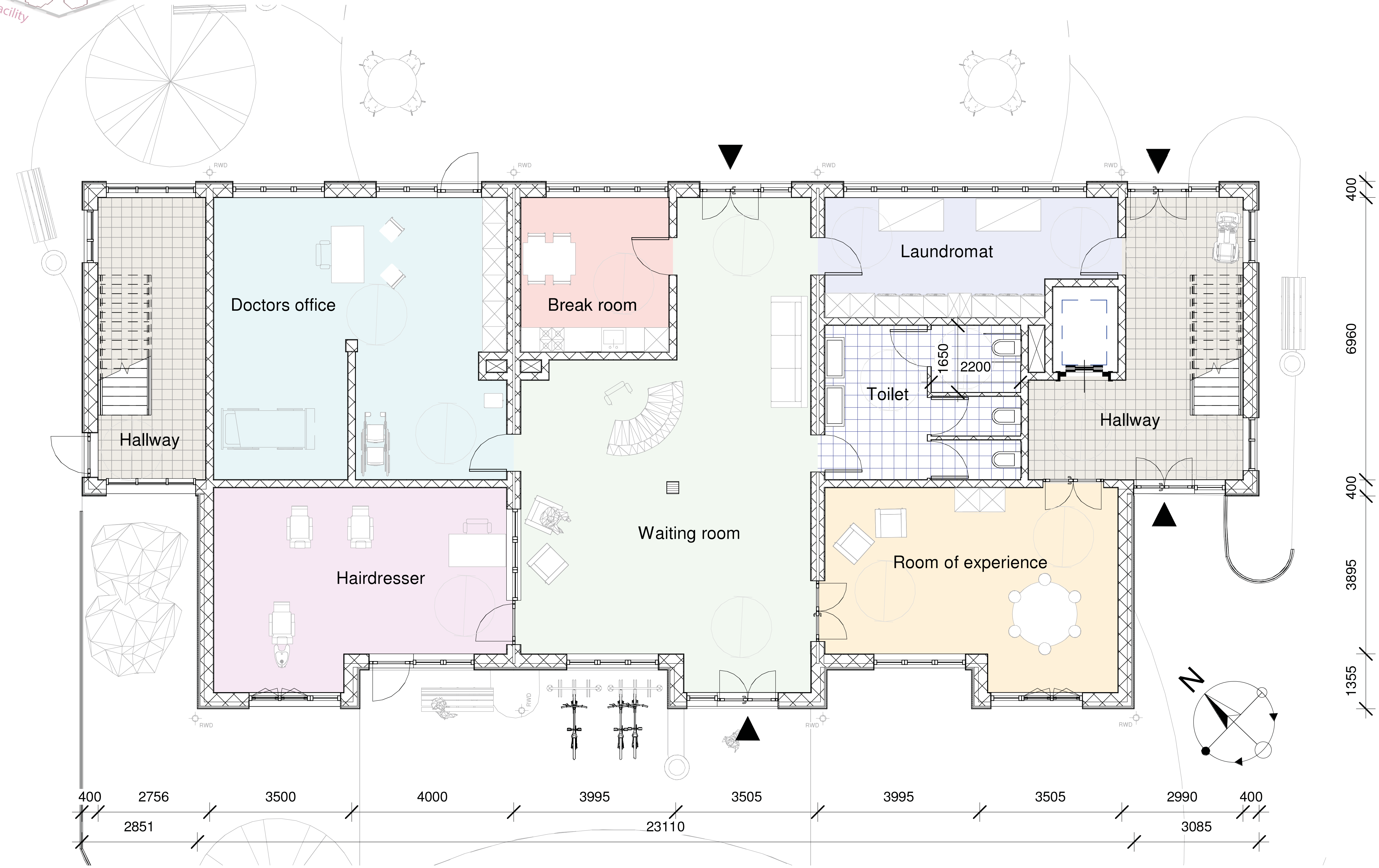


Care facility

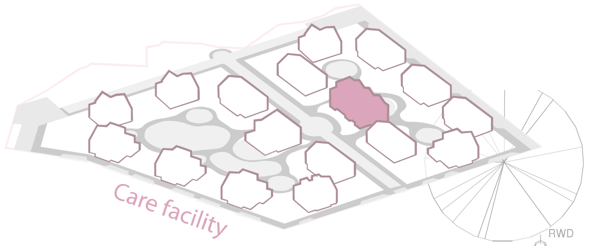
Frail Harold



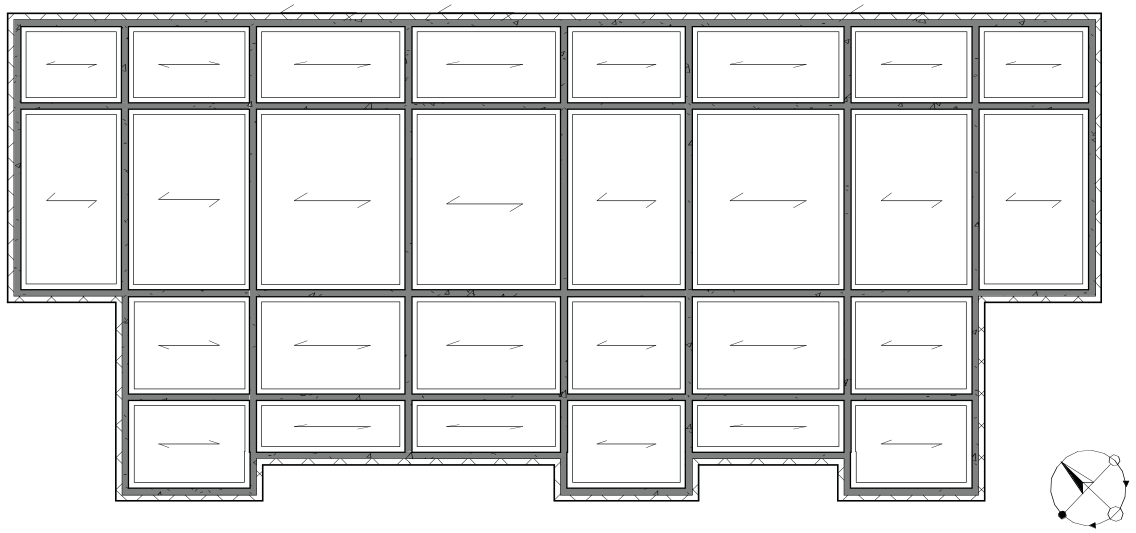

Care facility


Doctors office
Break room
Laundromat
Toilet
1650
2200
Hallway
Hallway
Hairdresser
Waiting room
Room of experience
RWD
N
400
6960
400
3895
1355
400
2756
3500
4000
3995
3505
3995
3505
2990
400
2851
23110
3085

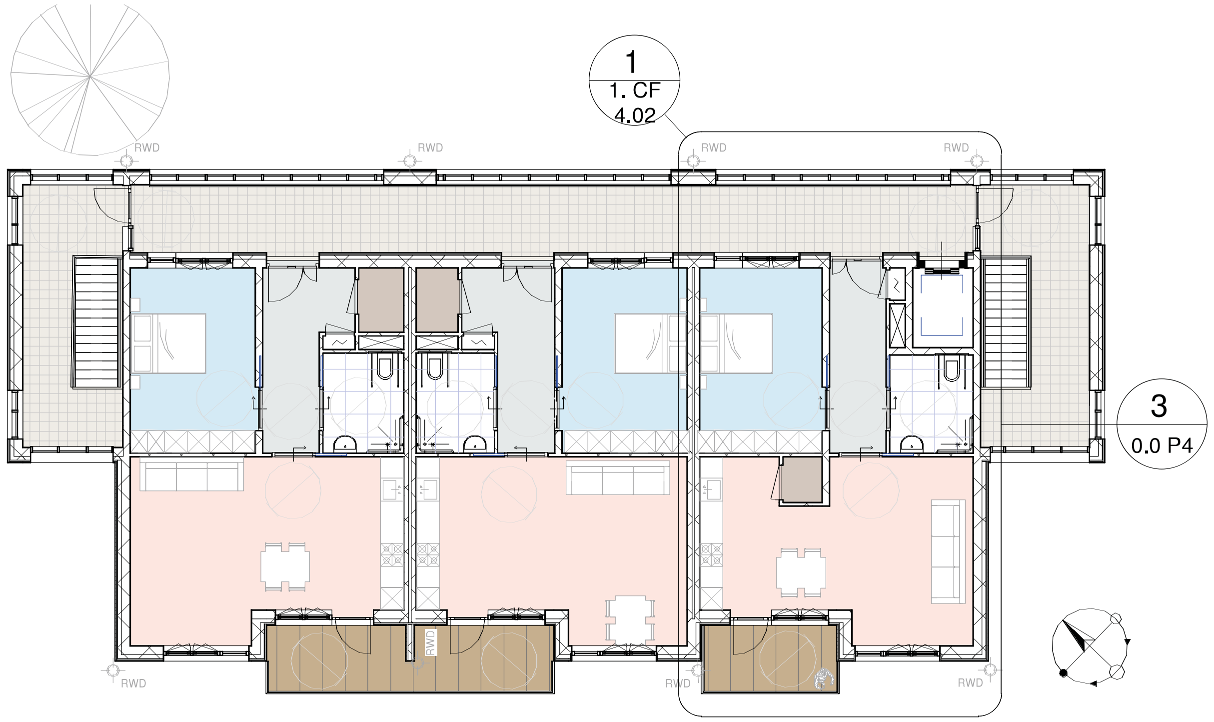
1 BG - CF
1 : 100



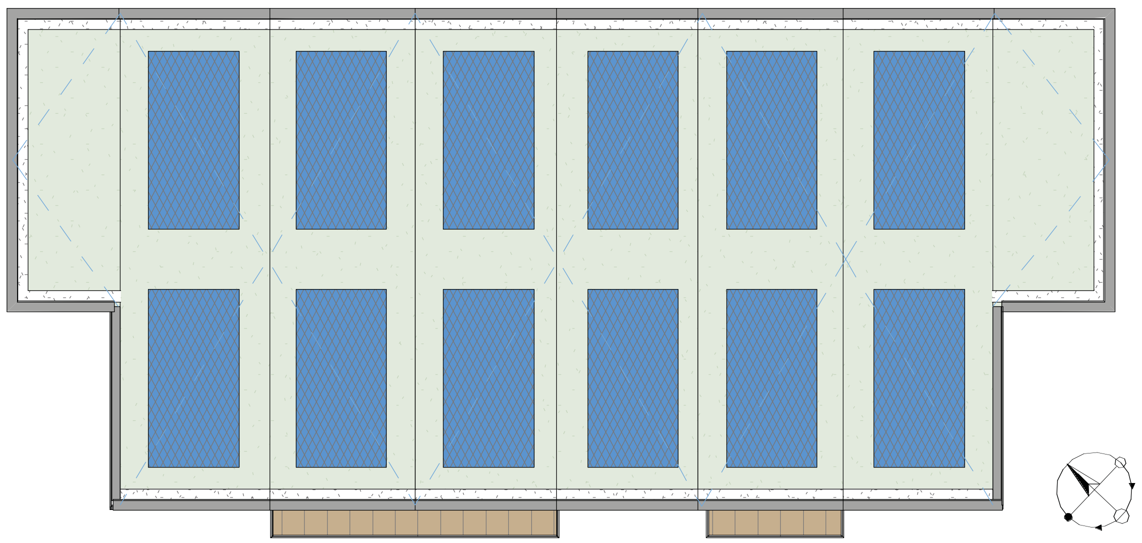
1 First floor
1 : 200



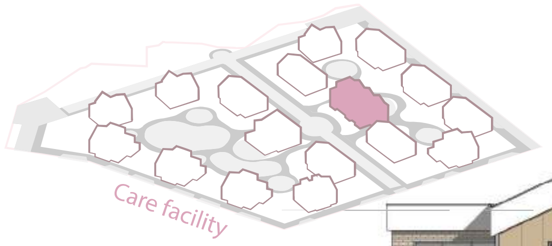
4 Foundation
1 : 200



2 Second floor
1 : 200



3 Roofplan
1 : 200



1 CF South
1 : 200

2 CF East
1 : 200

3 CF North
1 : 200

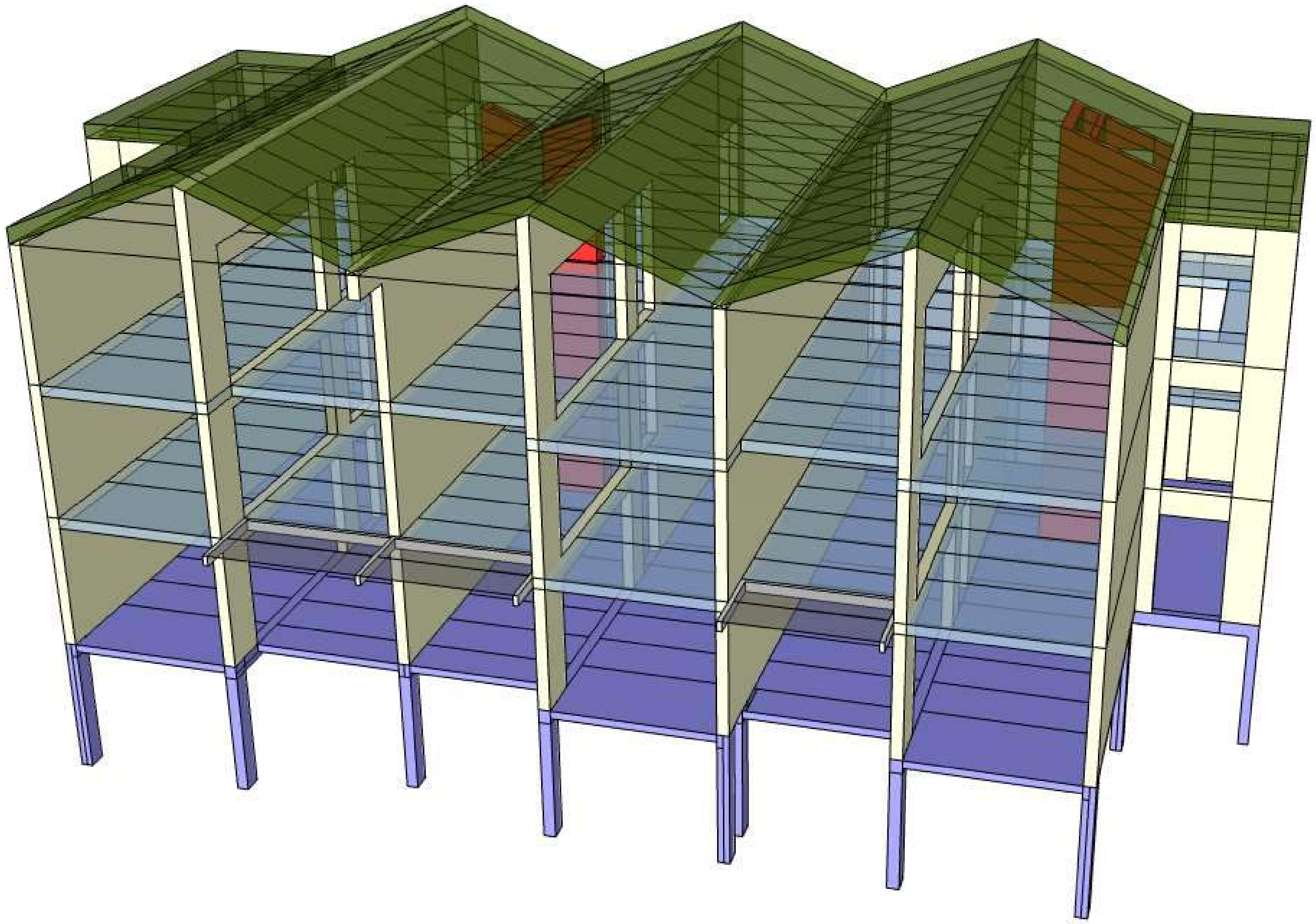
4 CF West
1 : 200

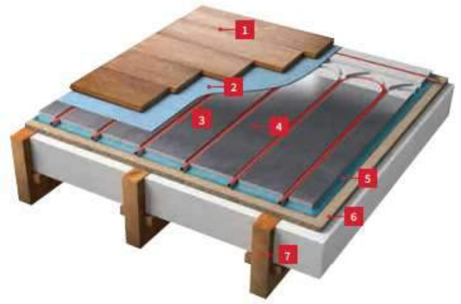
5 CF section B
1 : 200

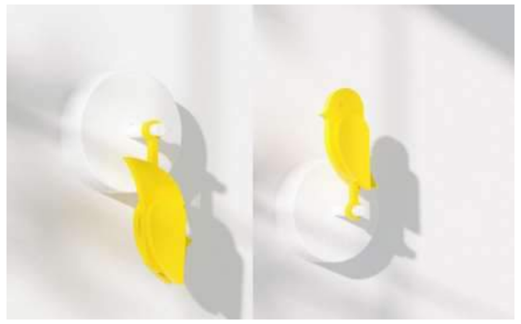
6 CF section A
1 : 200

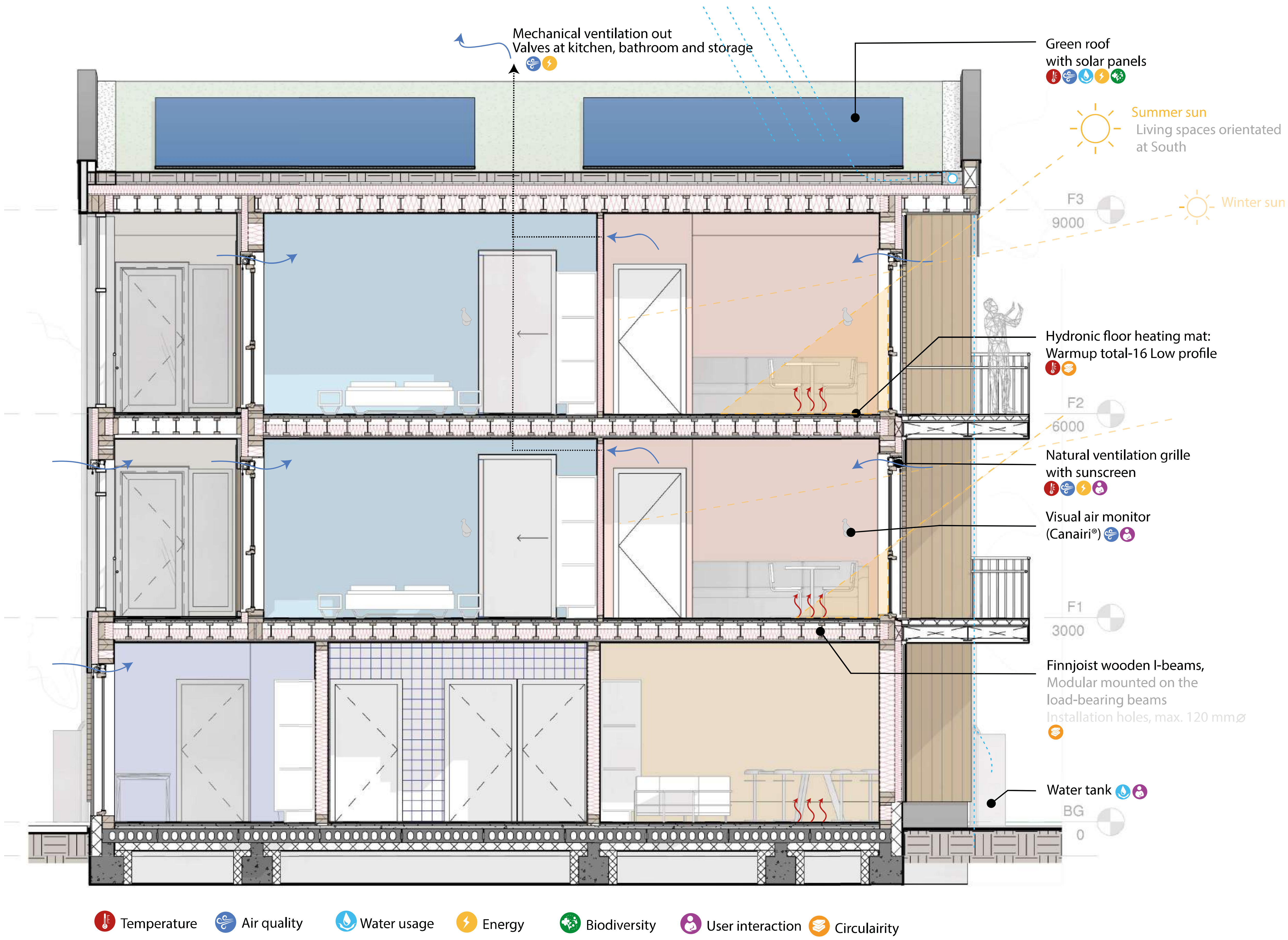
Sl. 61

Reuse/Recycle
Energy Recovery
Disposal
End of life
Raw Material Supply
Waste
By-products
Production
LVL products
Construction
Waste
Use
Maintenance
Deconstruction

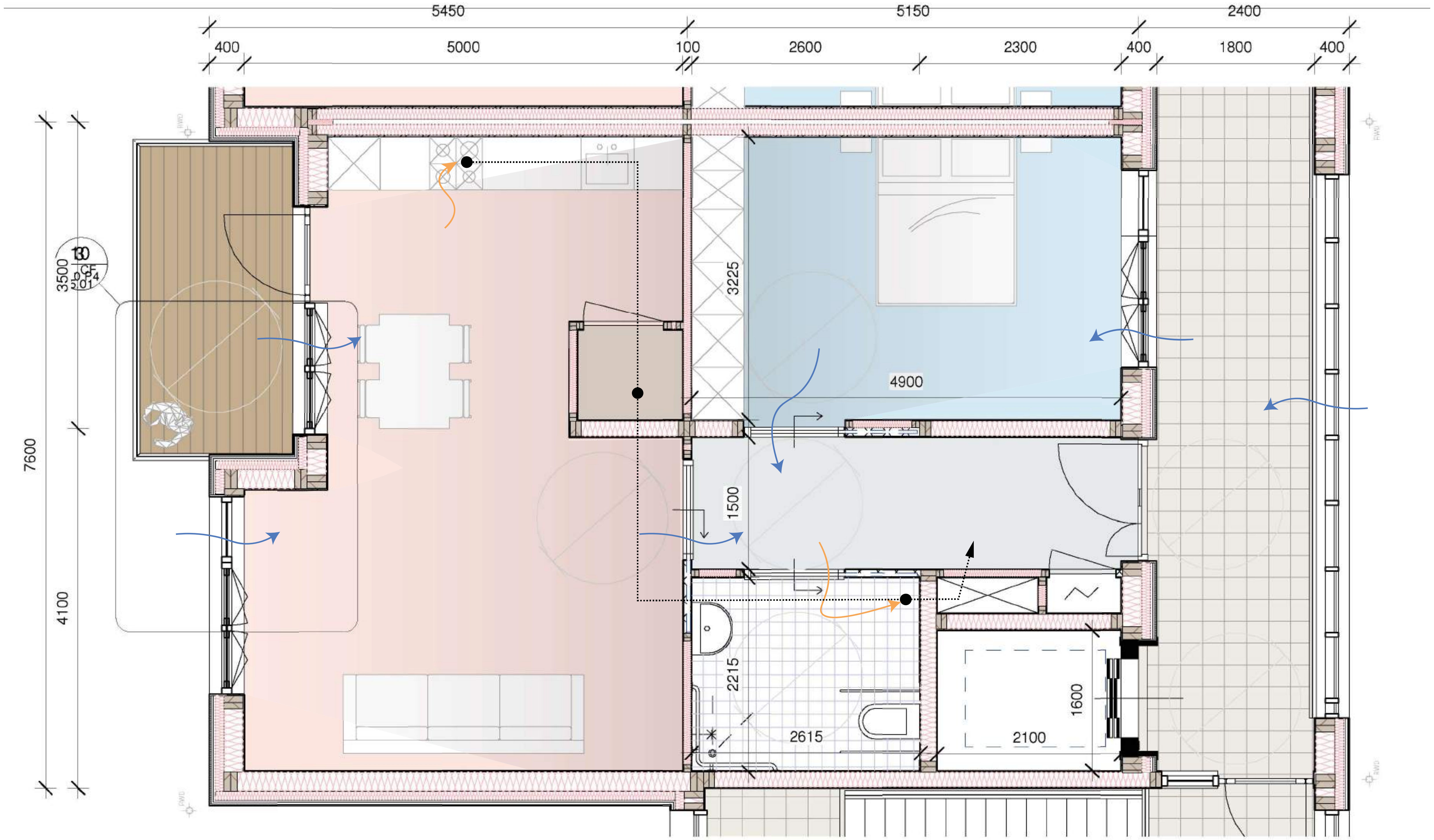







Mechanical ventilation out
Valves at kitchen, bathroom and storage
Green roof
with solar panels
Summer sun
Living spaces orientated
at South
Winter sun
F3
9000
Hydronic floor heating mat:
Warmup total-16 Low profile
F2
6000
Natural ventilation grille
with sunscreen
Visual air monitor
(Canairi®)
F1
3000
Finnjoist wooden I-beams,
Modular mounted on the
load-bearing beams
Installation holes, max. 120 mmø
Water tank
BG
0
Temperature
Air quality
Water usage
Energy
Biodiversity
User interaction
Circulairity

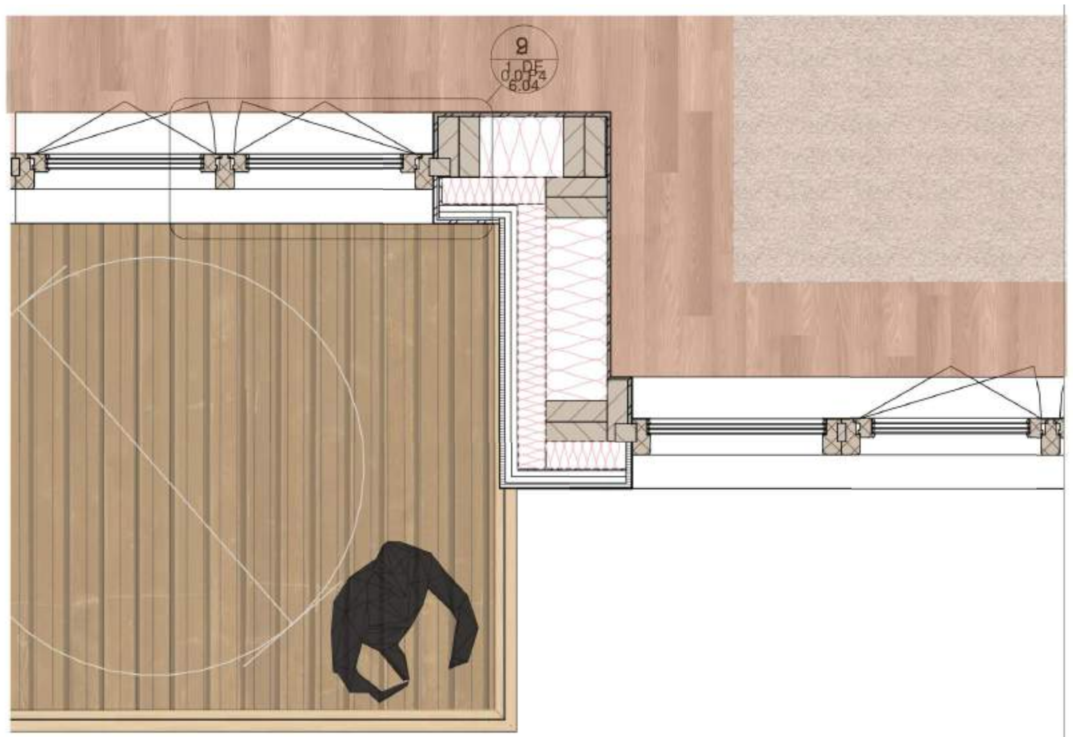
1:50 Section

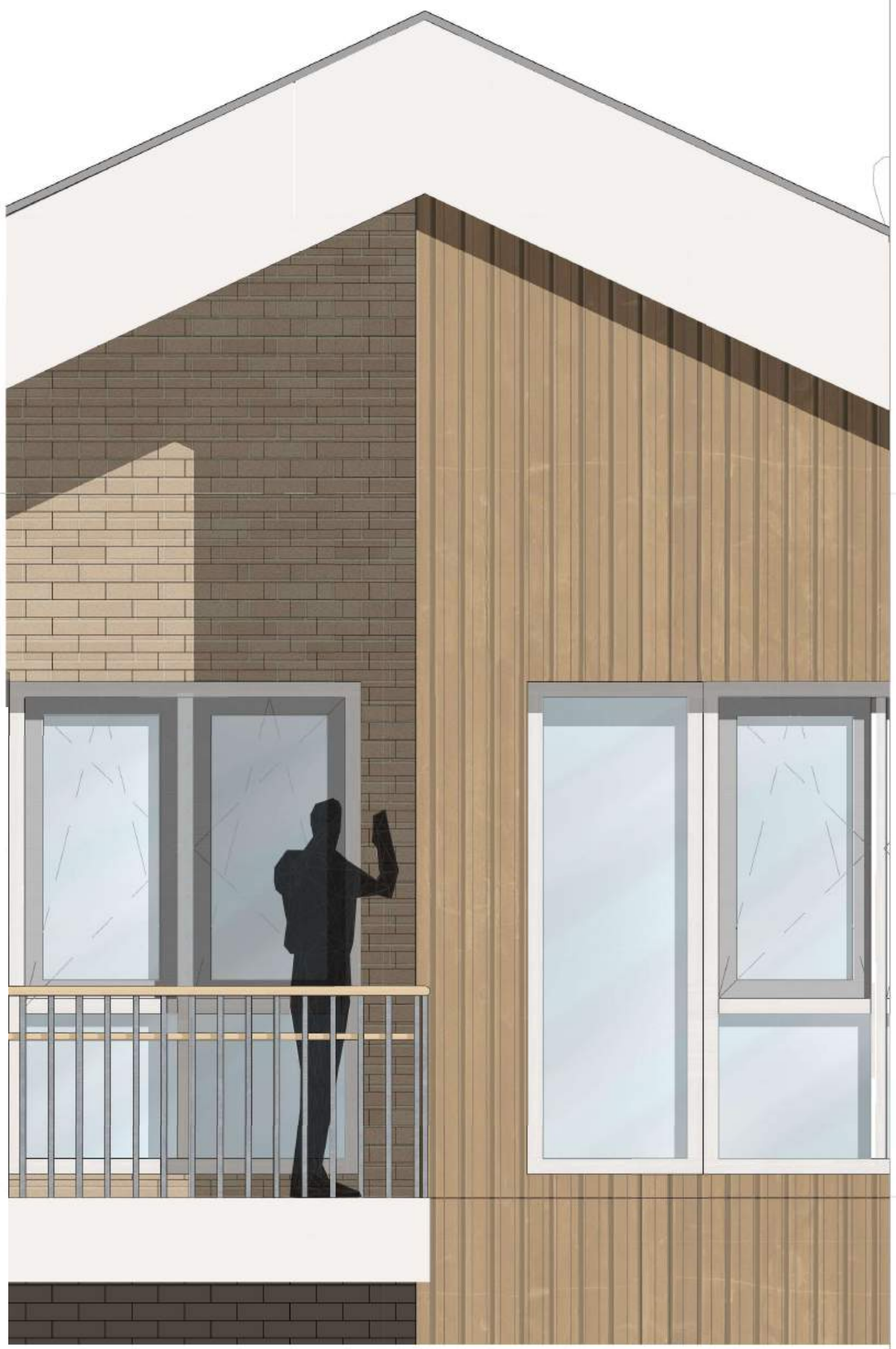


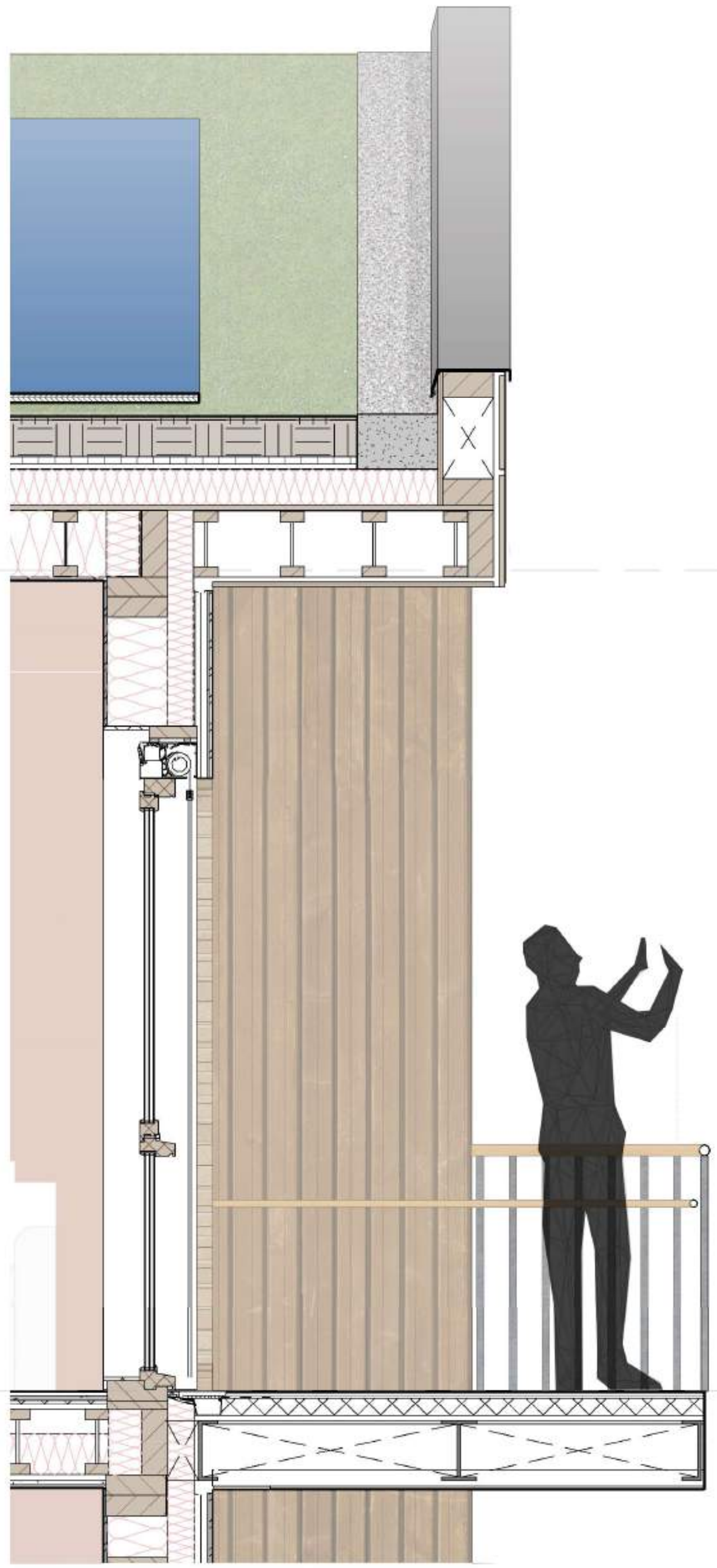
1:50 Floorplan

Details

Fragment



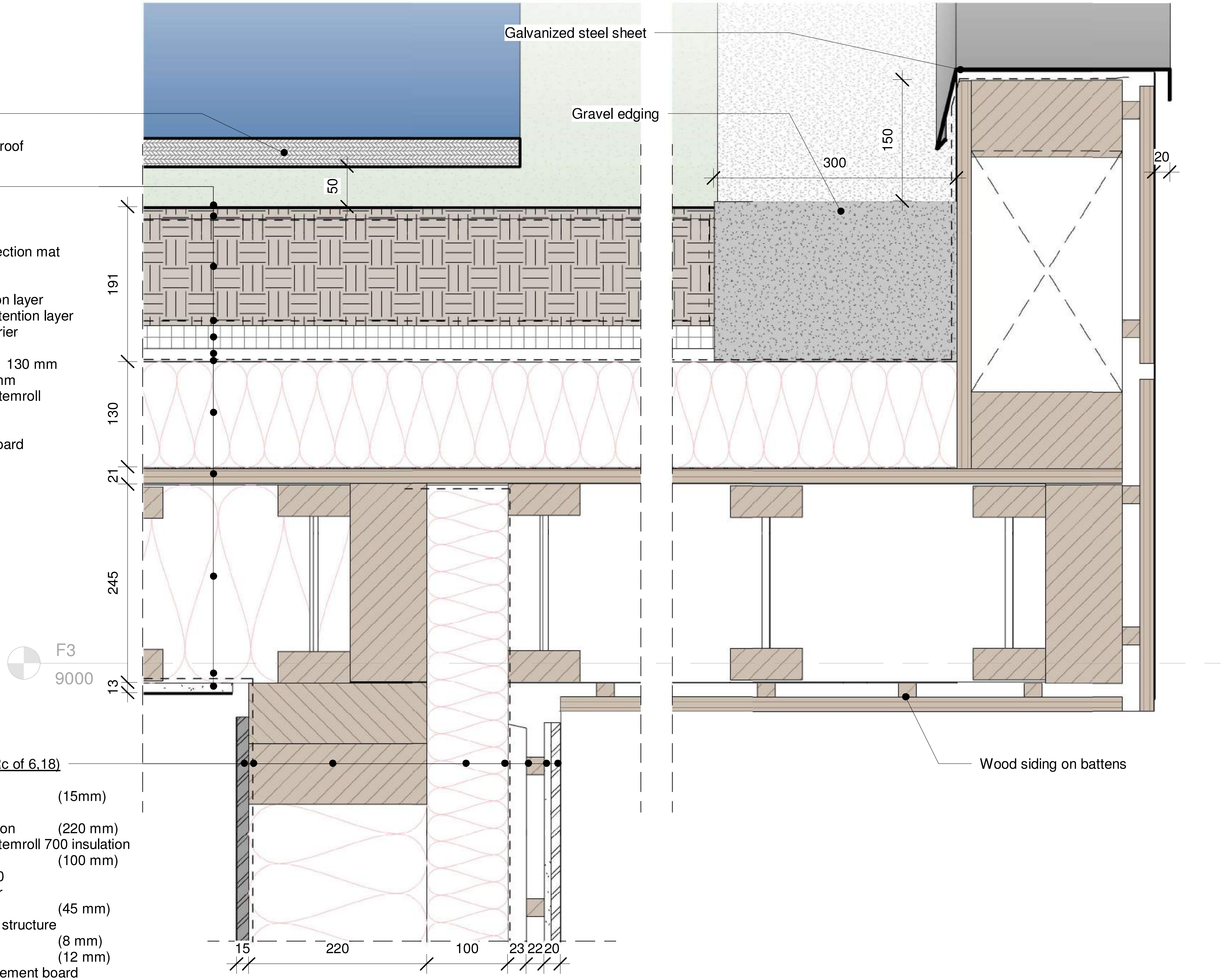




Solar panel
Raised 50 mm
from the green roof

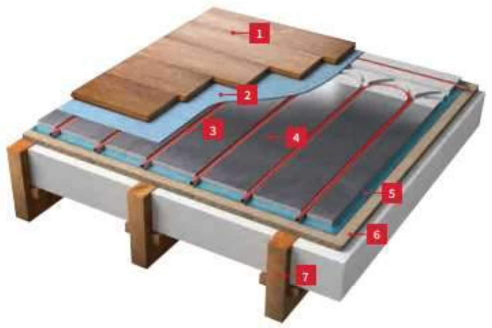
Roof construction:
Vegetation
Anti-erosion net
Soil layer with
Georaster protection mat
WSM 150
Filter fleece
Drainage /water retention layer
Protection / moisture retention layer
Root resistant waterbarrier

Sloped Insulation 130 mm
FJI 89x240 h.o.h. 300 mm
with Inover Systemroll
700 insulation
Air/Vapor barrier
Fire protective plasterboard



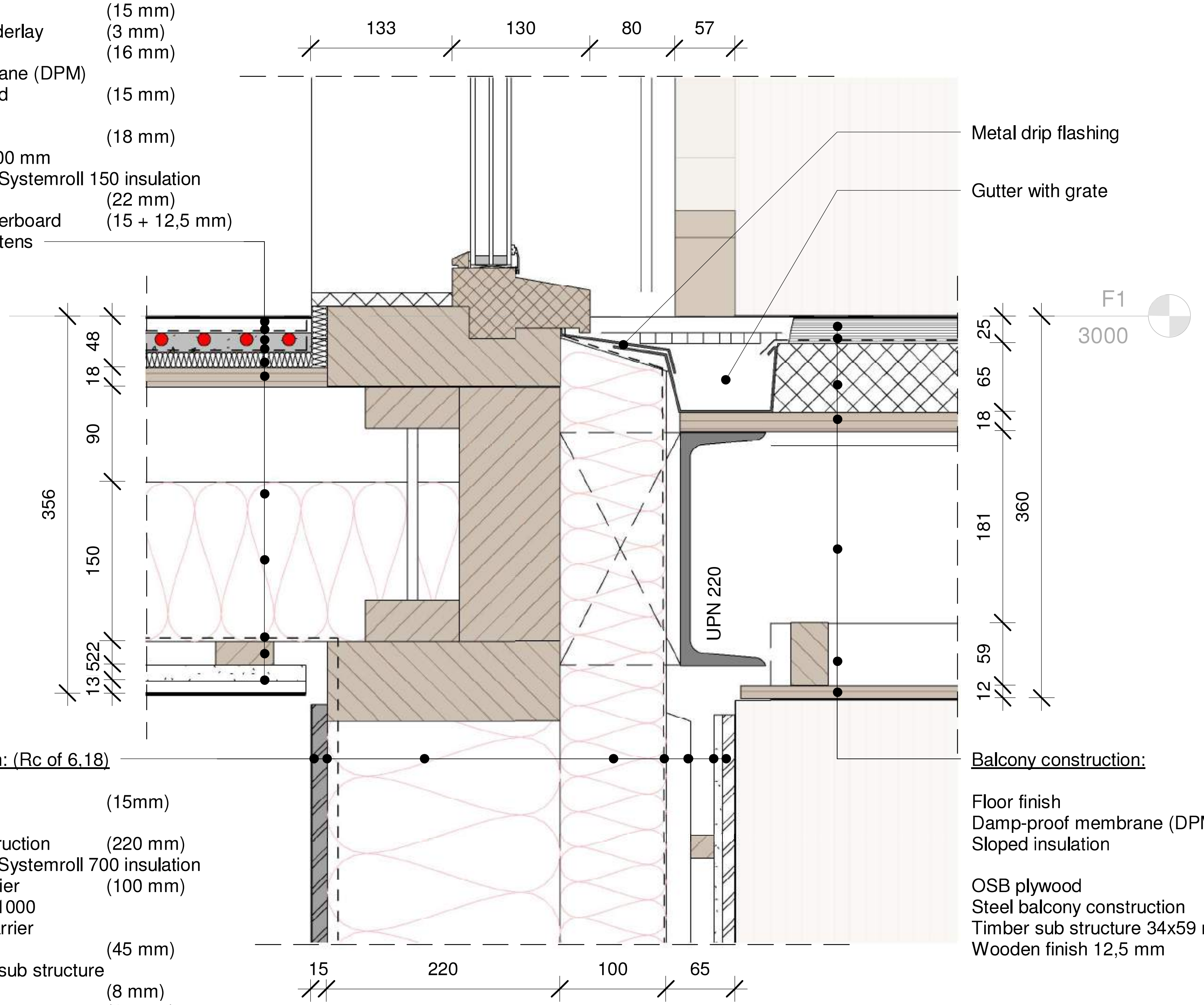
Facade construction: (Rc of 6,18)

Multiplex (15mm)
Air/Vapor barrier
Timberframe Construction (220 mm)
with Inover Systemroll 700 insulation
Extra insulation barrier (100 mm)
Systemroll 1000
Breathable water barrier
Ventilation cleft (45 mm)
with timber sub structure
Fiber cement board (8 mm)
Stonestrips (12 mm)
glued on fiber cement board
with reinforcement mesh



Floor construction:

Floor finish	(15 mm)
UFH compatible underlay	(3 mm)
Floor heating mat	(16 mm)
Damp-proof membrane (DPM)	
XPS-insulation board	(15 mm)
OSB plywood	(18 mm)
FJI 89x240 h.o.h. 300 mm with Inover Systemroll 150 insulation	
Ventilation air gap	(22 mm)
Fire protective plasterboard fixed on battens	(15 + 12,5 mm)



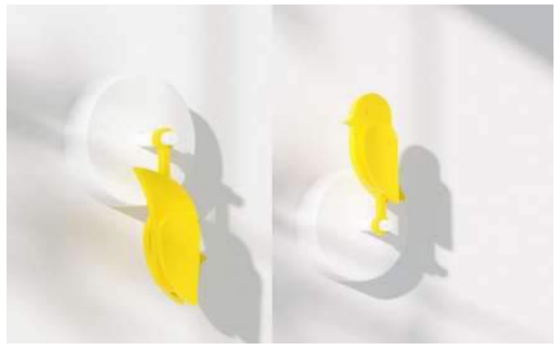
Facade construction: (Rc of 6,18)

Multiplex	(15mm)
Air/Vapor barrier	
Timberframe Construction with Inover Systemroll 700 insulation	(220 mm)
Extra insulation barrier Systemroll 1000	(100 mm)
Breathable water barrier	
Ventilation cleft with timber sub structure	(45 mm)
Fiber cement board	(8 mm)
Stonestrips glued on fiber cement board with reinforcement mesh	(12 mm)

Balcony construction:

Floor finish	(25 mm)
Damp-proof membrane (DPM)	
Sloped insulation	(65 mm)
OSB plywood	(18 mm)
Steel balcony construction	
Timber sub structure 34x59 mm	
Wooden finish 12,5 mm	

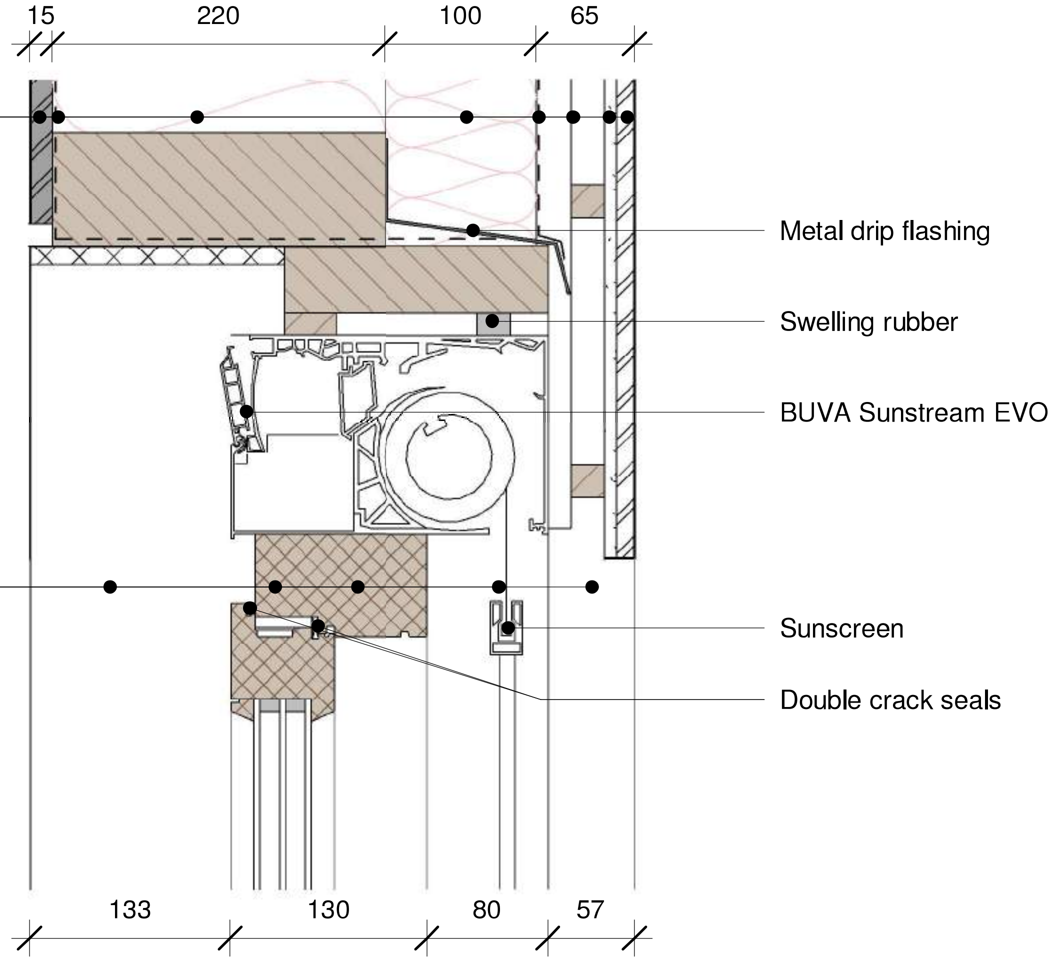
Balcony detail



Facade construction: (Rc of 6,18)

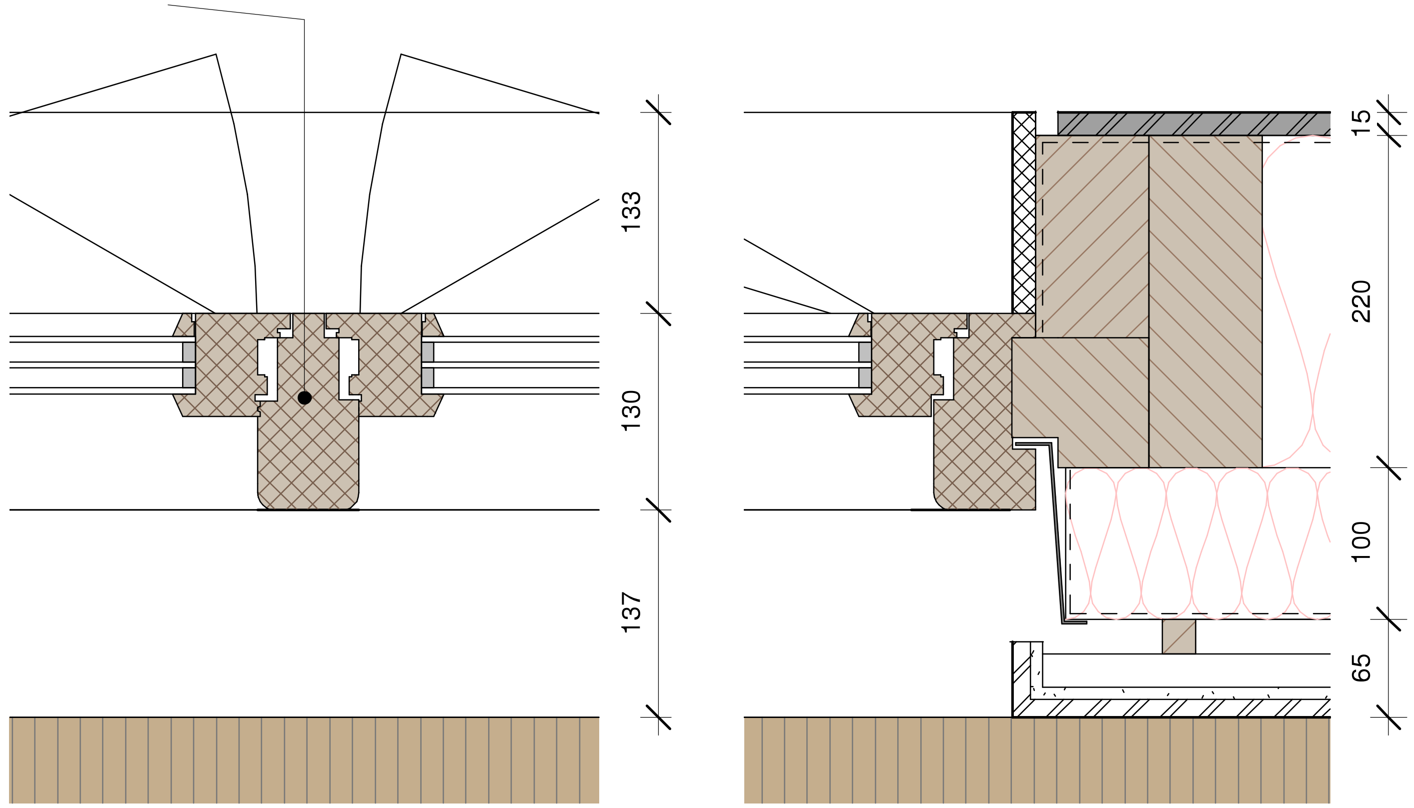
Multiplex (15mm)
Air/Vapor barrier
Timberframe Construction (220 mm)
with Inover Systemroll 700 insulation
Extra insulation barrier (100 mm)
Systemroll 1000
Breathable water barrier
Ventilation cleft (45 mm)
with timber sub structure
Fiber cement board (8 mm)
Stonestrips (12 mm)
glued on fiber cement board
with reinforcement mesh

Window opening:
Outside reveal depth
Hardwood windowframe 67x114 mm
Hardwood window with triple glazing 84x90 mm
Inside reveal depth



1 Detail - Window head
1 : 5

Hardwood mullion 90x114 mm



2 Details - Window horizontal
1 : 5

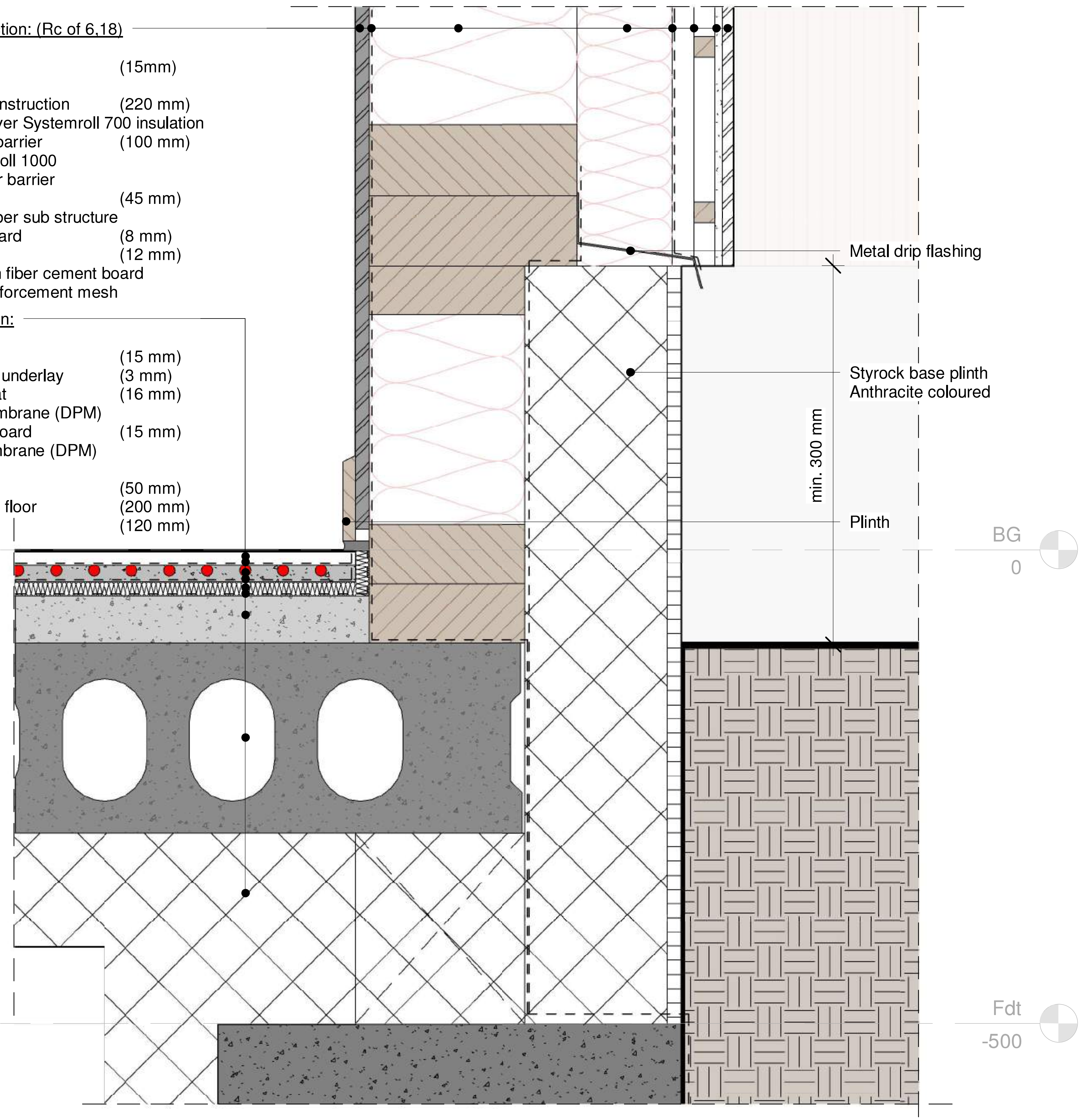
Facade construction: (Rc of 6,18)

Multiplex (15mm)
Air/Vapor barrier
Timberframe Construction (220 mm)
with Inover Systemroll 700 insulation
Extra insulation barrier (100 mm)
Systemroll 1000
Breathable water barrier
Ventilation cleft (45 mm)
with timber sub structure
Fiber cement board (8 mm)
Stonestrips (12 mm)
glued on fiber cement board
with reinforcement mesh

Floor construction:

Floor finish (15 mm)
UFH compatible underlay (3 mm)
Floor heating mat (16 mm)
Damp-proof membrane (DPM)
XPS-insulation board (15 mm)
Waterproof membrane (DPM)

Screed (50 mm)
Hollow-core slab floor (200 mm)
EPS Insulation (120 mm)



Foundation detail


"Rethink growing old"