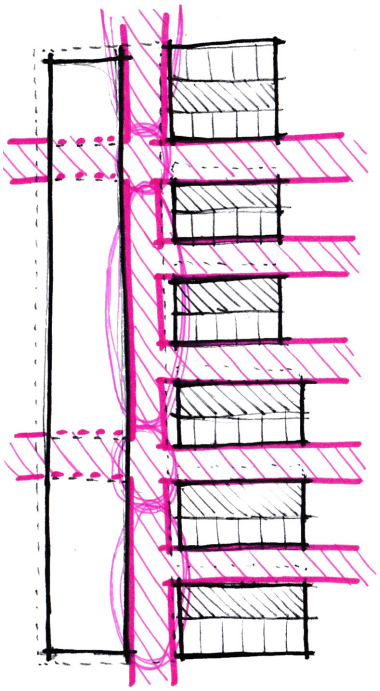
‘Multi-Generational Co-living for Care’ (Design Booklet)

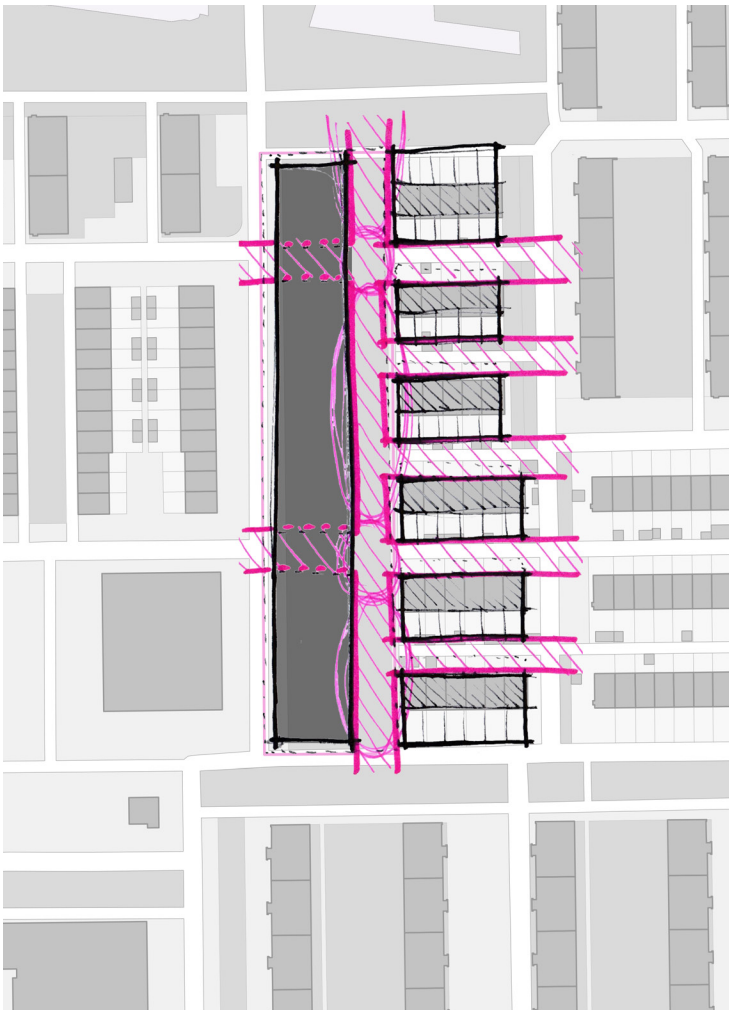
Rens van Os, 4575180

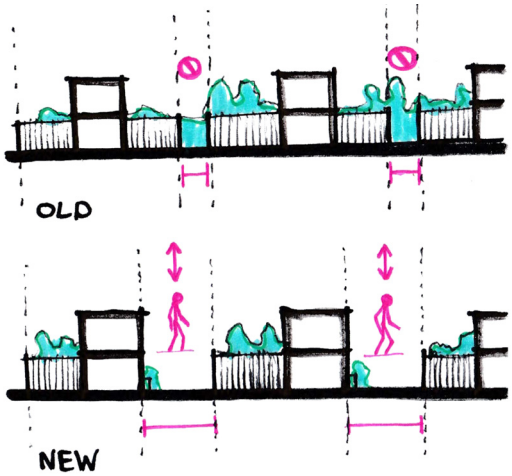
0

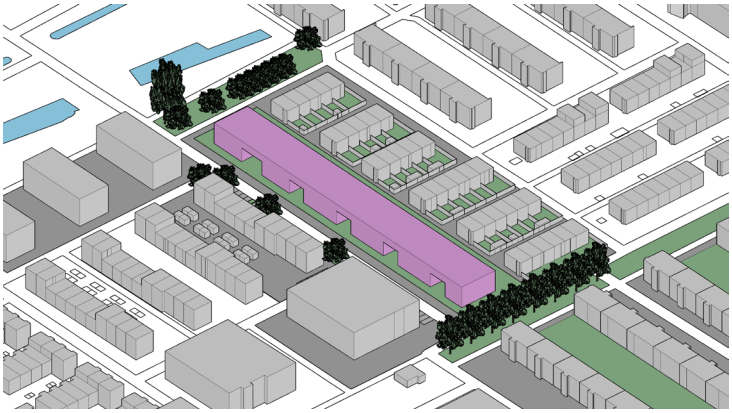
(Pre) P2

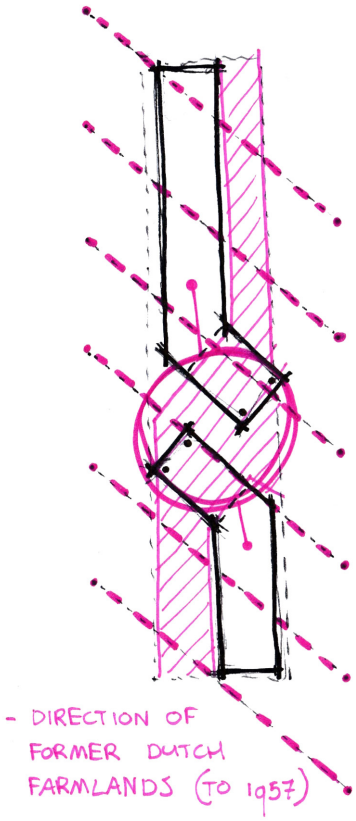


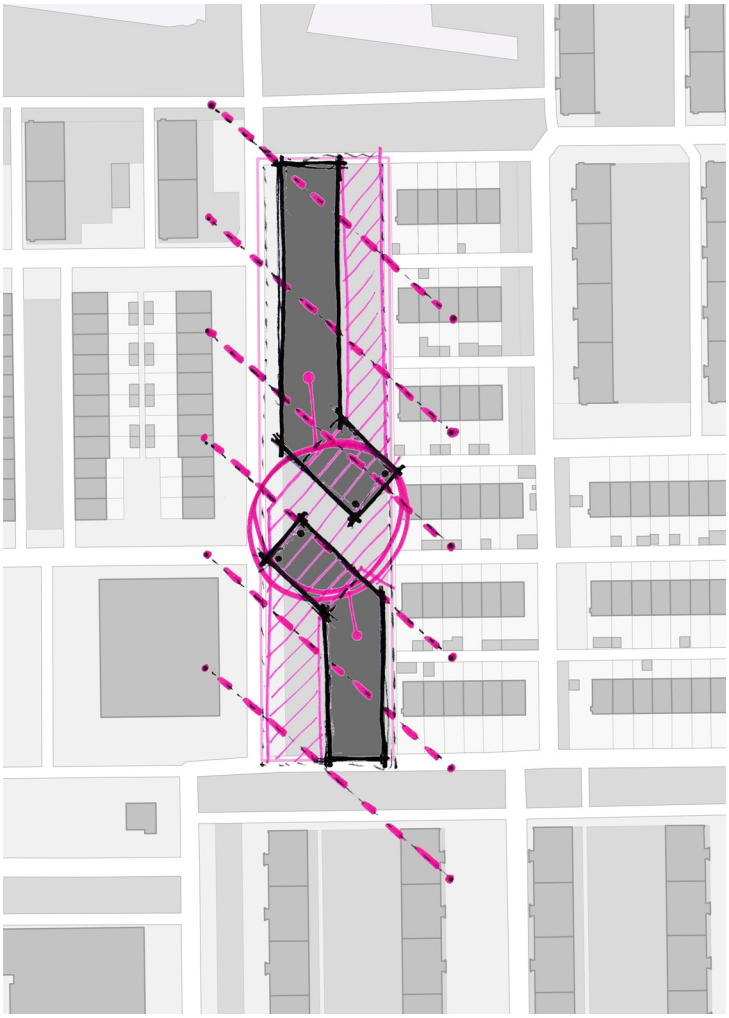
- INSPIRED BY PREVIOUS FLAT, BUT MAKE IT MORE CONNECTED IN URBAN FABRIC

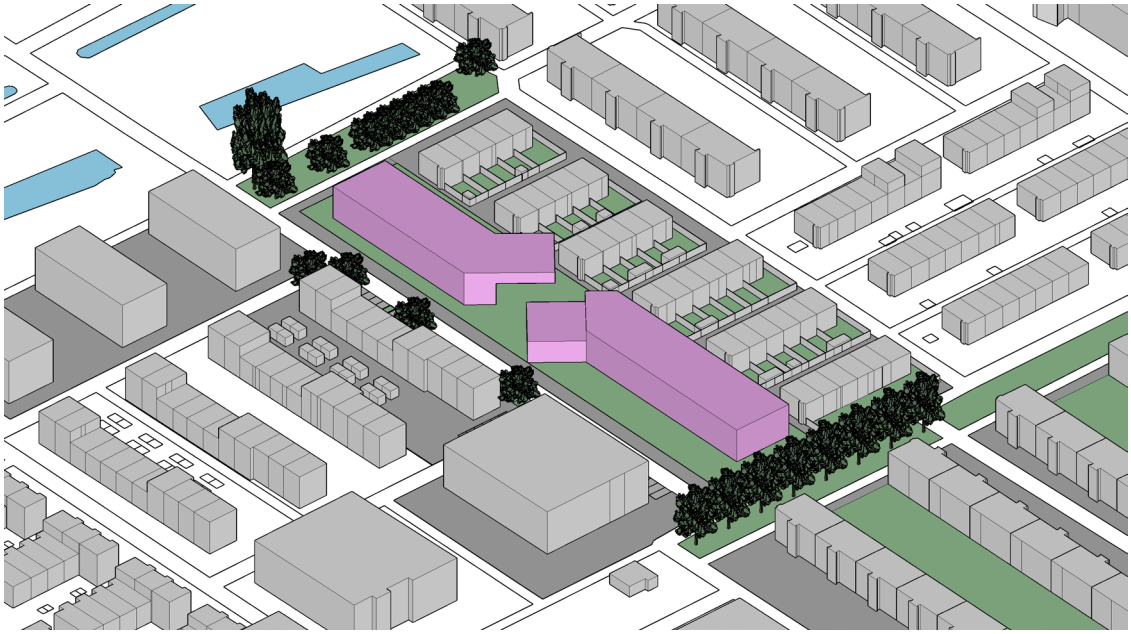


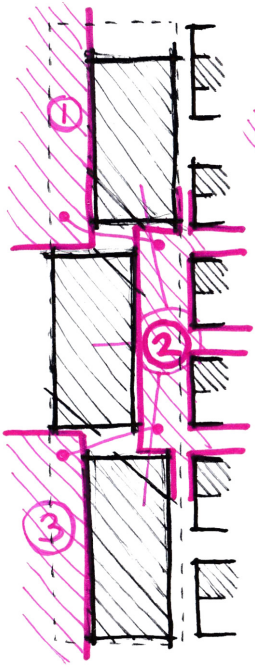




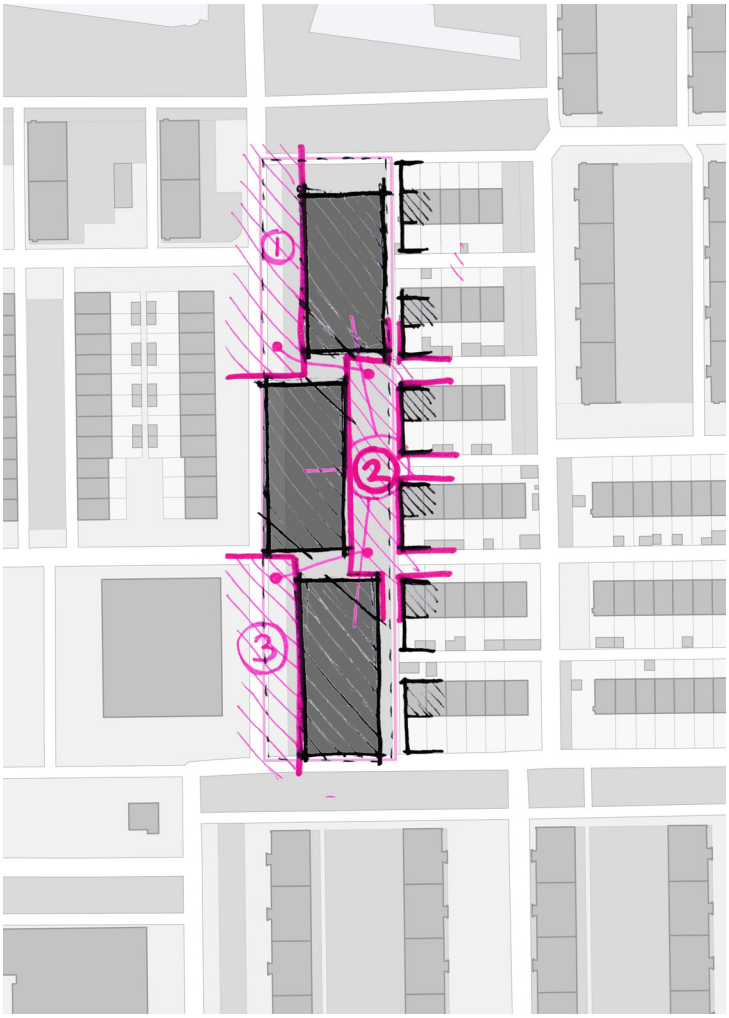

- DIRECTION OF
FORMER DUTCH
FARMLANDS (TO 1957)

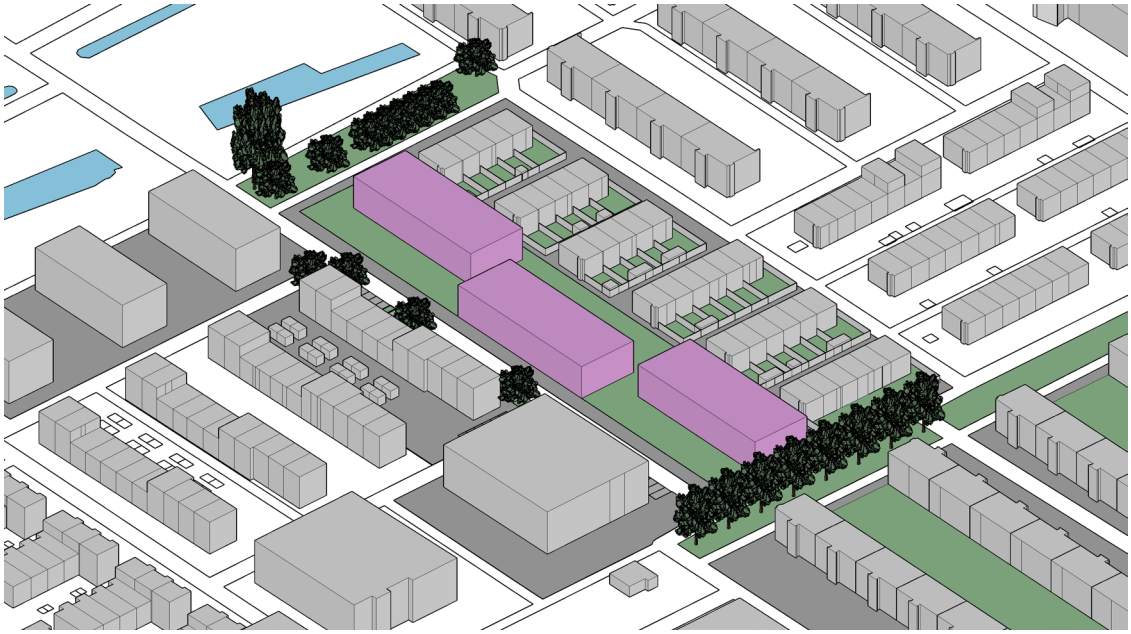


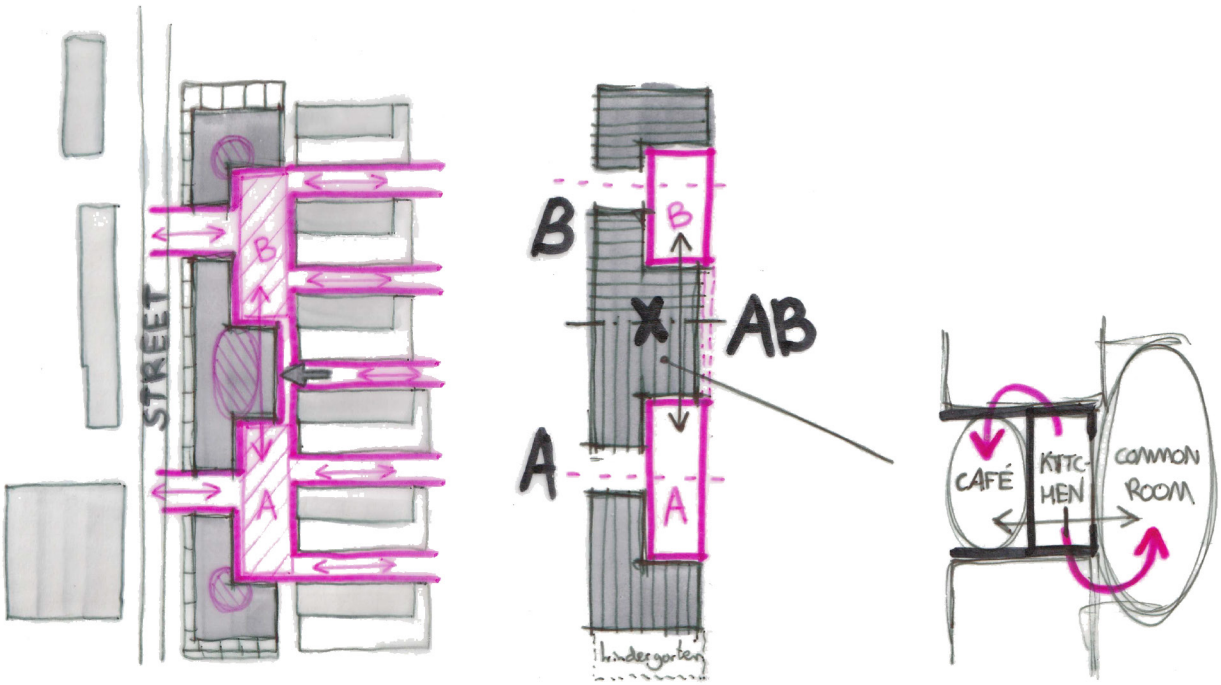


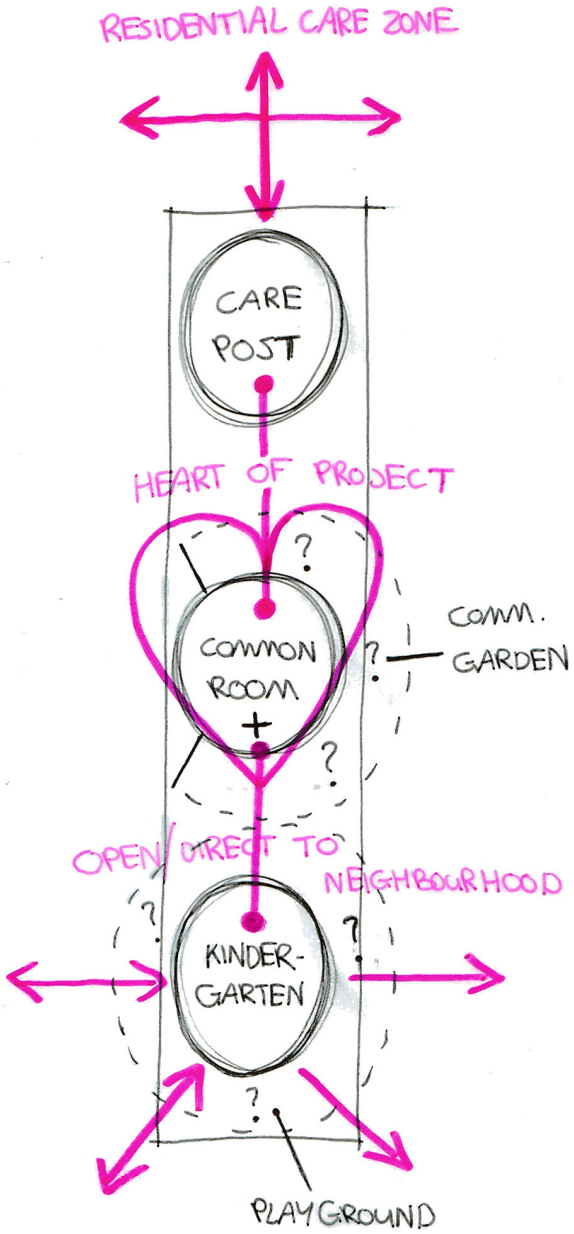


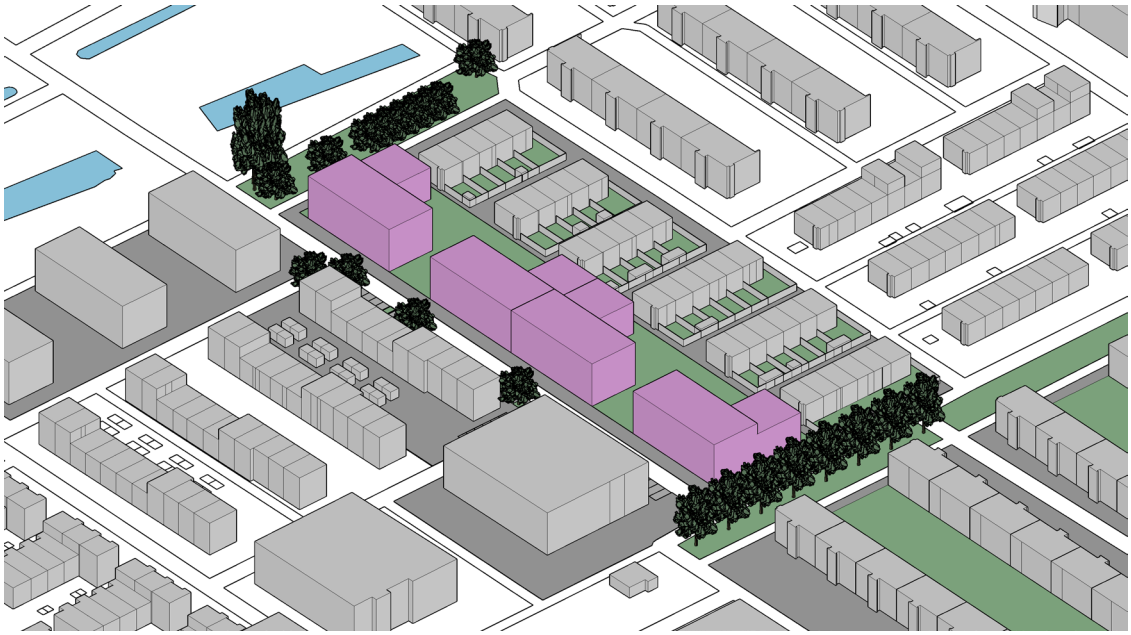
- 3 BUILDINGS, DIVERGING FROM CENTRAL AXIS TO CREATE

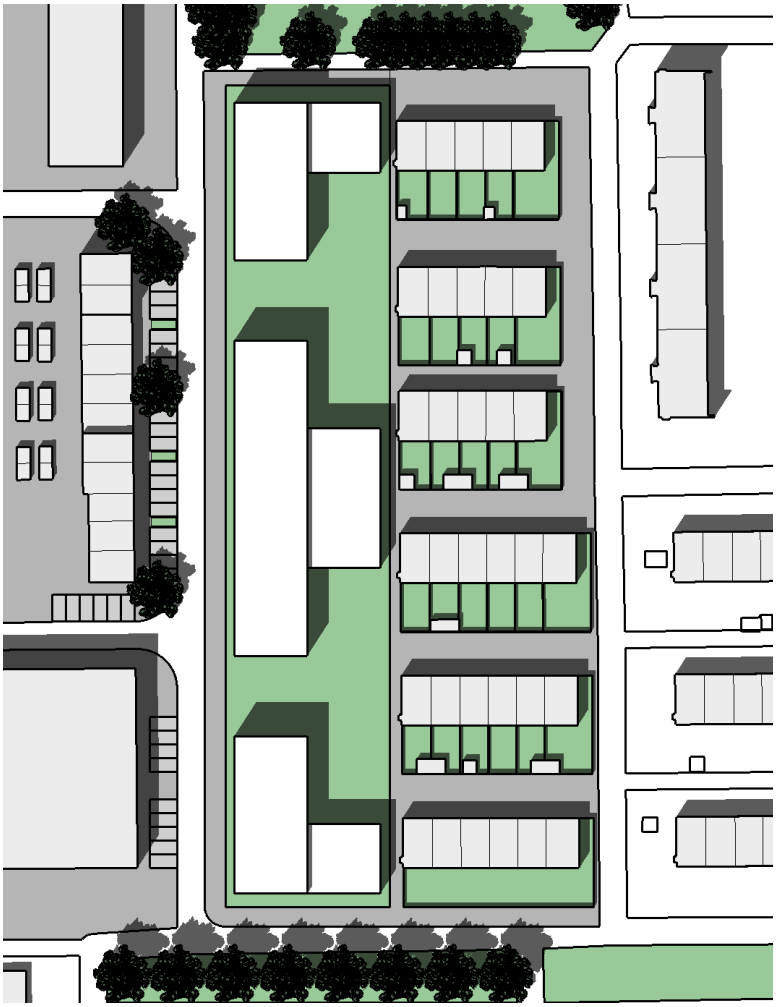


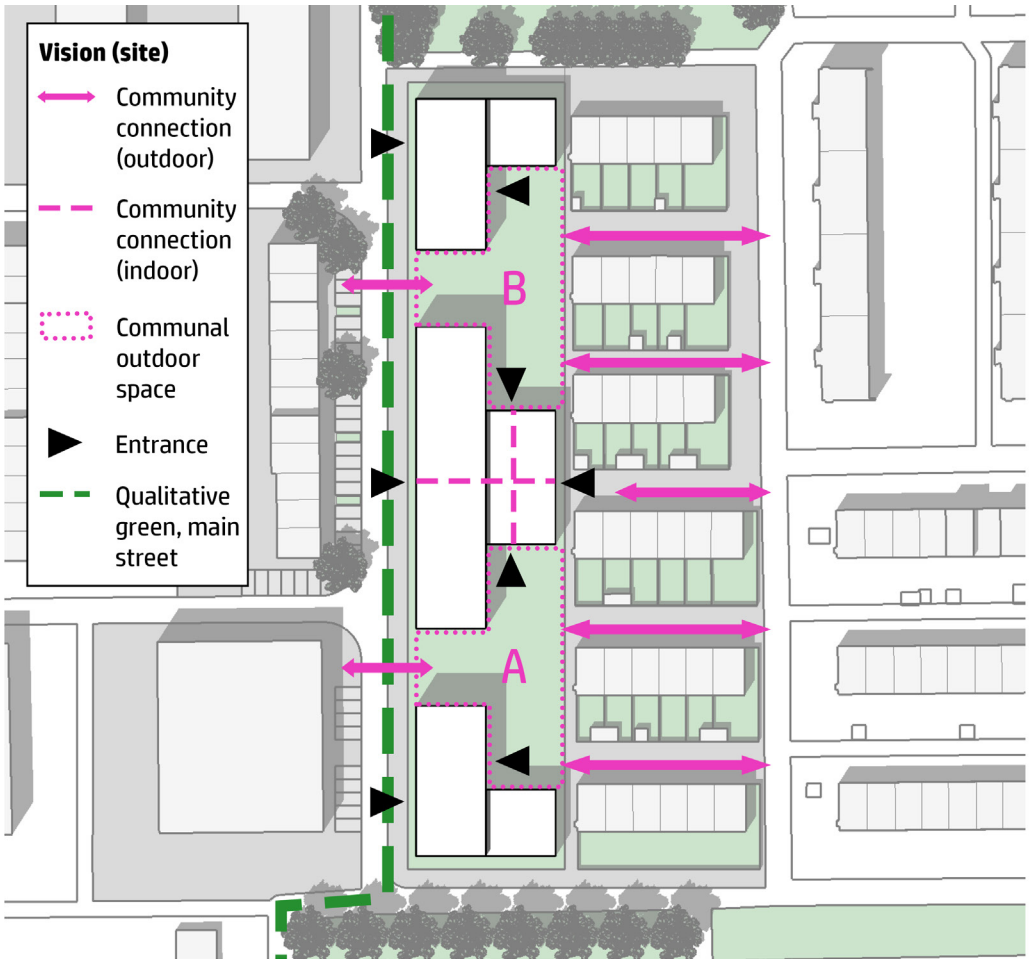


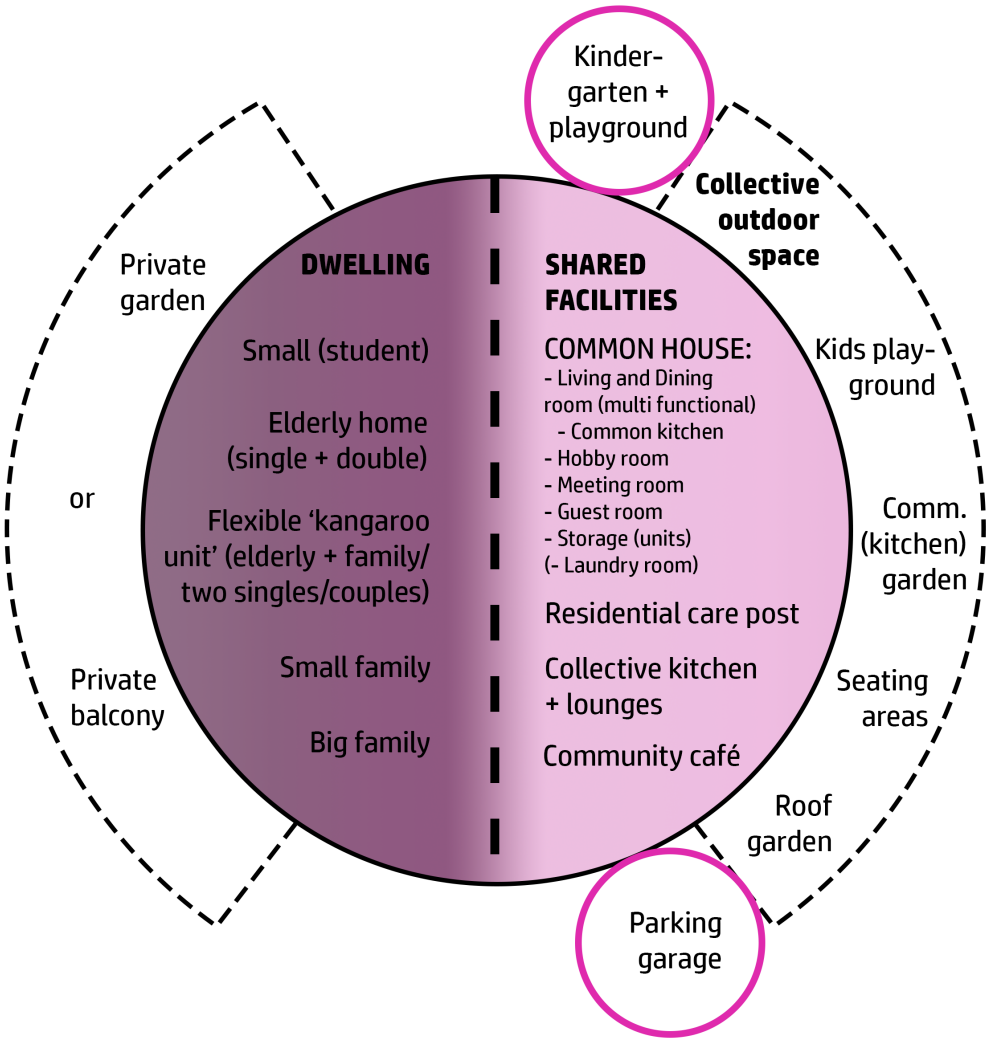

STREET
B
A
B
B
X
AB
A
A
kindergarten
CAFÉ
KITC-
HEN
COMMON
ROOM

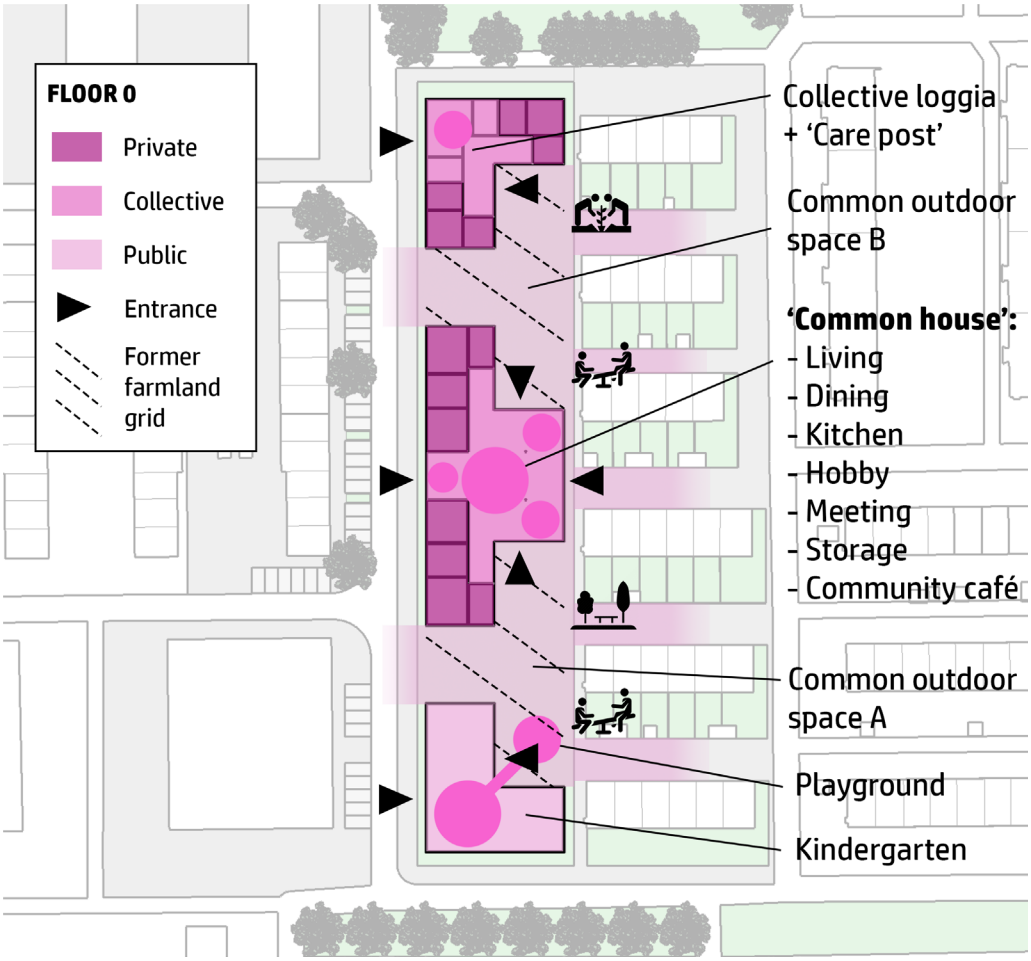

RESIDENTIAL CARE ZONE
CARE
POST
HEART OF PROJECT
COMMON
ROOM
COMM.
GARDEN
OPEN/DIRECT TO
NEIGHBOURHOOD
KINDER-
GARTEN
PLAYGROUND

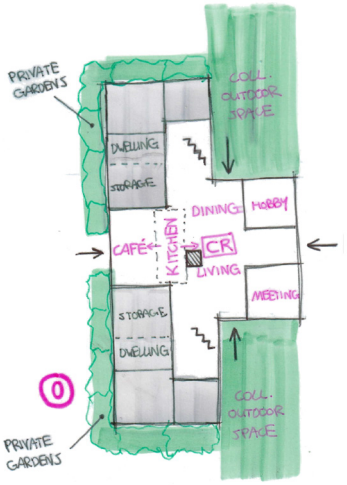


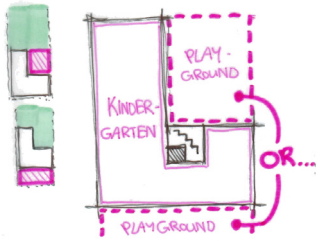



Vision (site)
Community connection (outdoor)
Community connection (indoor)
Communal outdoor space
Entrance
Qualitative green, main street
B
A

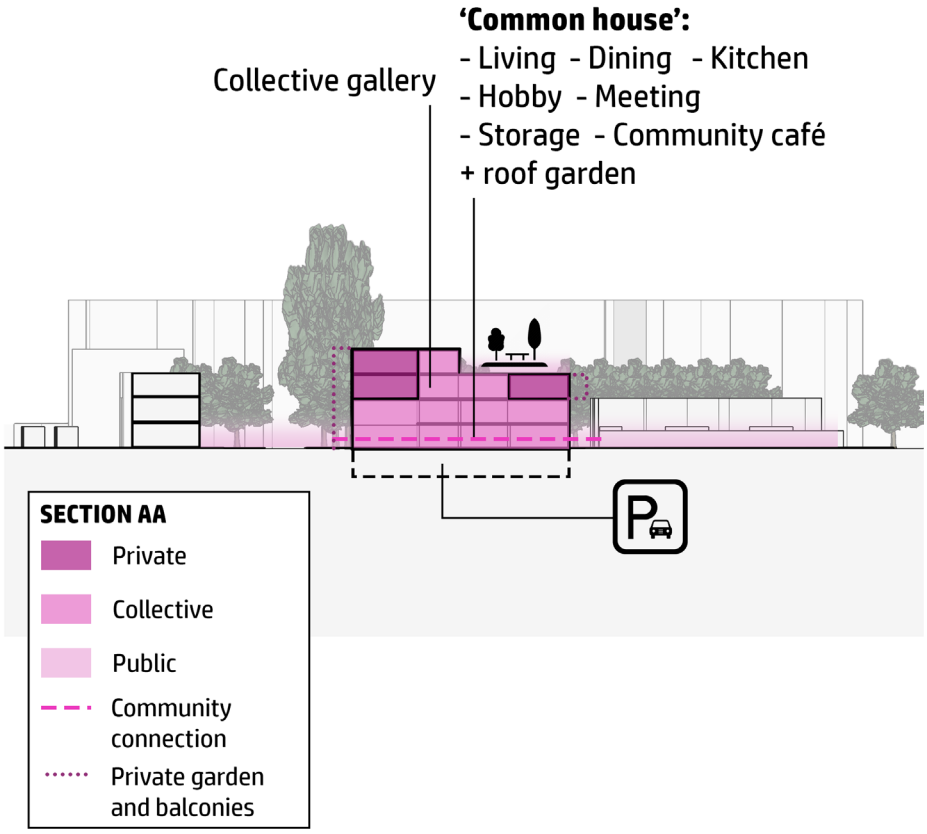

Kinder-garten + playground
Collective outdoor space
Private garden
or
Private balcony
DWELLING
Small (student)
Elderly home (single + double)
Flexible 'kangaroo unit' (elderly + family/ two singles/couples)
Small family
Big family
SHARED FACILITIES
COMMON HOUSE:
- Living and Dining room (multi functional)
- Common kitchen
- Hobby room
- Meeting room
- Guest room
- Storage (units)
(- Laundry room)
Residential care post
Collective kitchen + lounges
Community café
Kids play-ground
Comm. (kitchen) garden
Seating areas
Roof garden
Parking garage

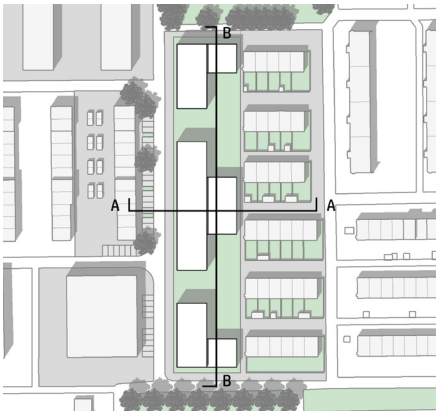

FLOOR 0
Private
Collective
Public
Entrance
Former farmland grid
Collective loggia + 'Care post'
Common outdoor space B
'Common house':
- Living
- Dining
- Kitchen
- Hobby
- Meeting
- Storage
- Community café
Common outdoor space A
Playground
Kindergarten

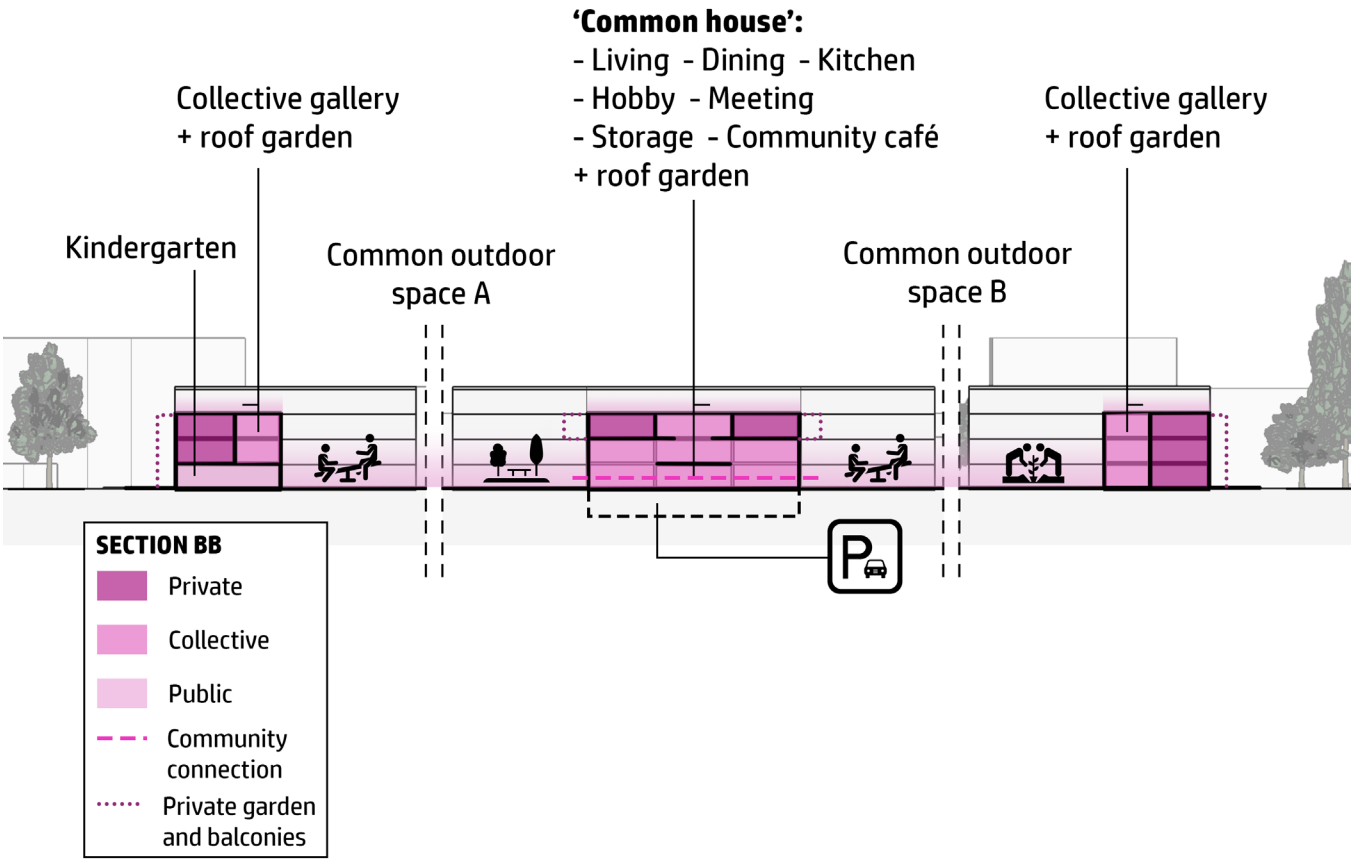

PRIVATE GARDENS
COLL. OUTDOOR SPACE
DWELLING
STORAGE
DINING
HOBBY
CAFÉ
KITCHEN
CR
LIVING
MEETING
STORAGE
DWELLING
0
COLL. OUTDOOR SPACE
PRIVATE GARDENS


PLAY-GROUND
KINDER-GARTEN
OR...
PLAYGROUND


FLOOR 1
Private dwelling
Collective space
Private balcony (1+) or garden (0)
Shared facility
Vertical circulation
Common kitchen + dining
Common lounge
Common kitchen + dining
Common lounge
Common kitchen + dining
Common lounge
Common kitchen + dining


'Common house':
- Living - Dining - Kitchen
- Hobby - Meeting
- Storage - Community café
+ roof garden
Collective gallery
SECTION AA
Private
Collective
Public
Community connection
Private garden and balconies


B
A
A
B


'Common house':
- Living - Dining - Kitchen
- Hobby - Meeting
- Storage - Community café
+ roof garden
Collective gallery
+ roof garden
Collective gallery
+ roof garden
Kindergarten
Common outdoor space A
Common outdoor space B
SECTION BB
Private
Collective
Public
Community connection
Private garden and balconies

AXO: COMMON HOUSE

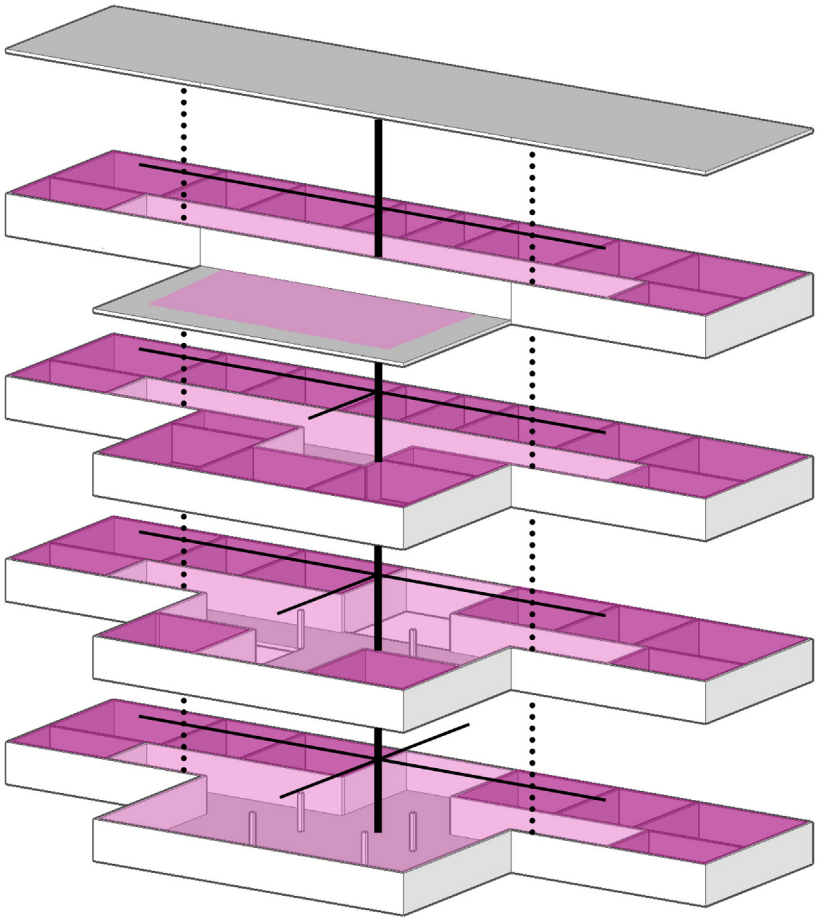
Private

Collective/Public

Stairway

Lift

Circulation



AXO: L-SHAPE BLOCKS

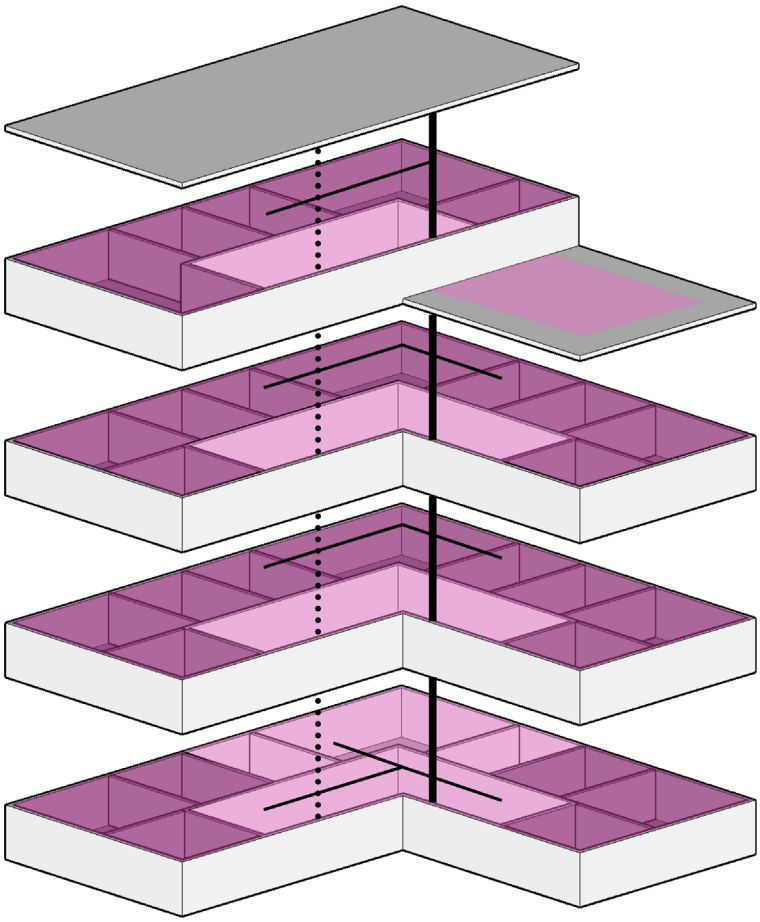
Private

Collective/Public

Stairway

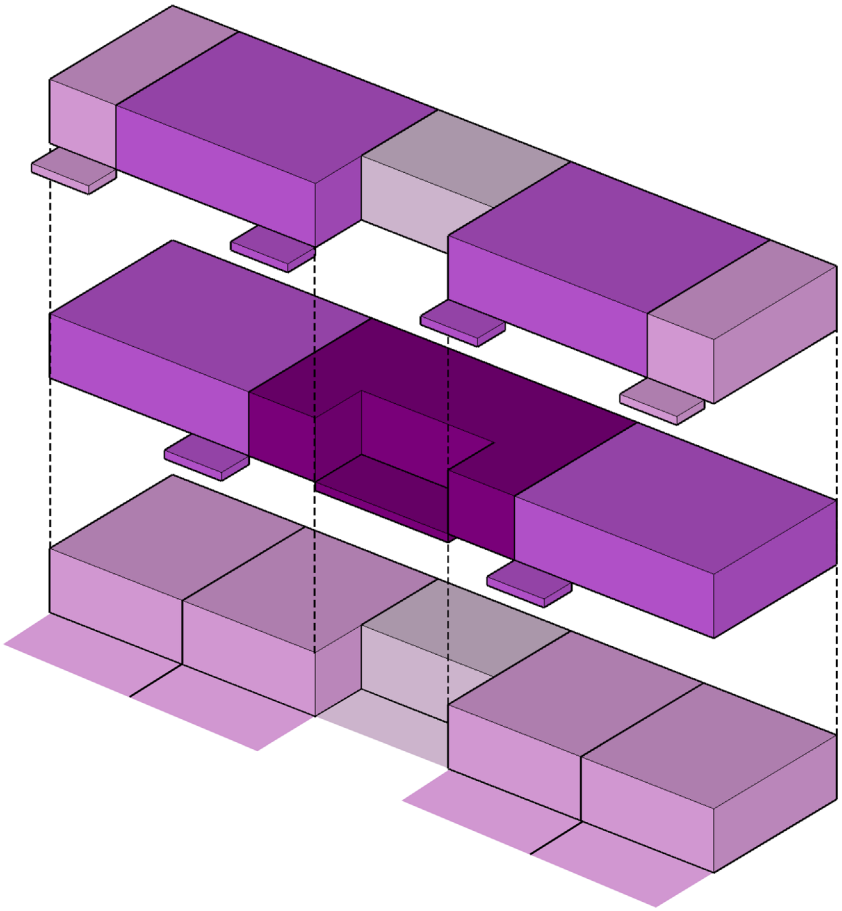
Lift

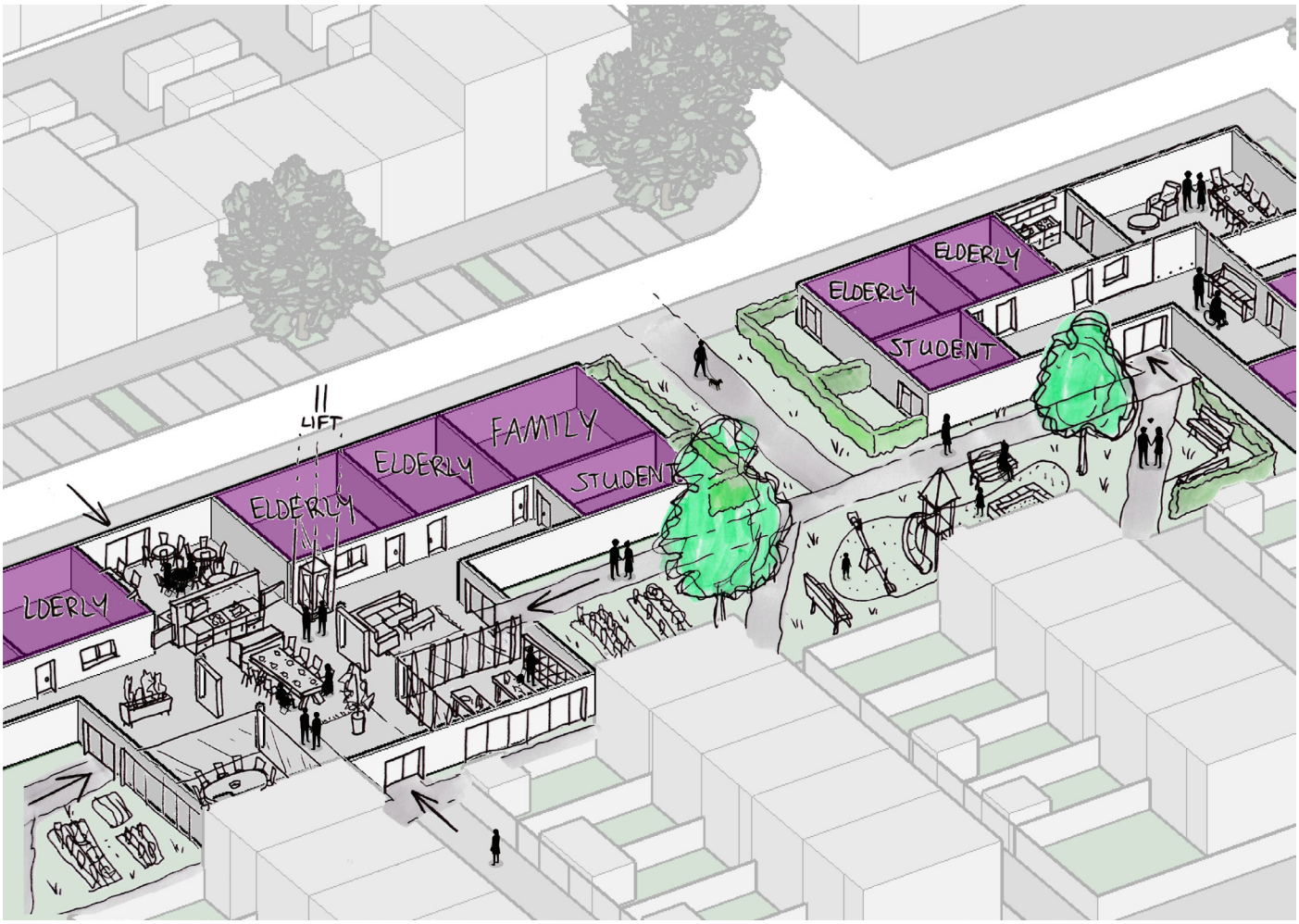
Circulation



AXO: DWELLING TYPES

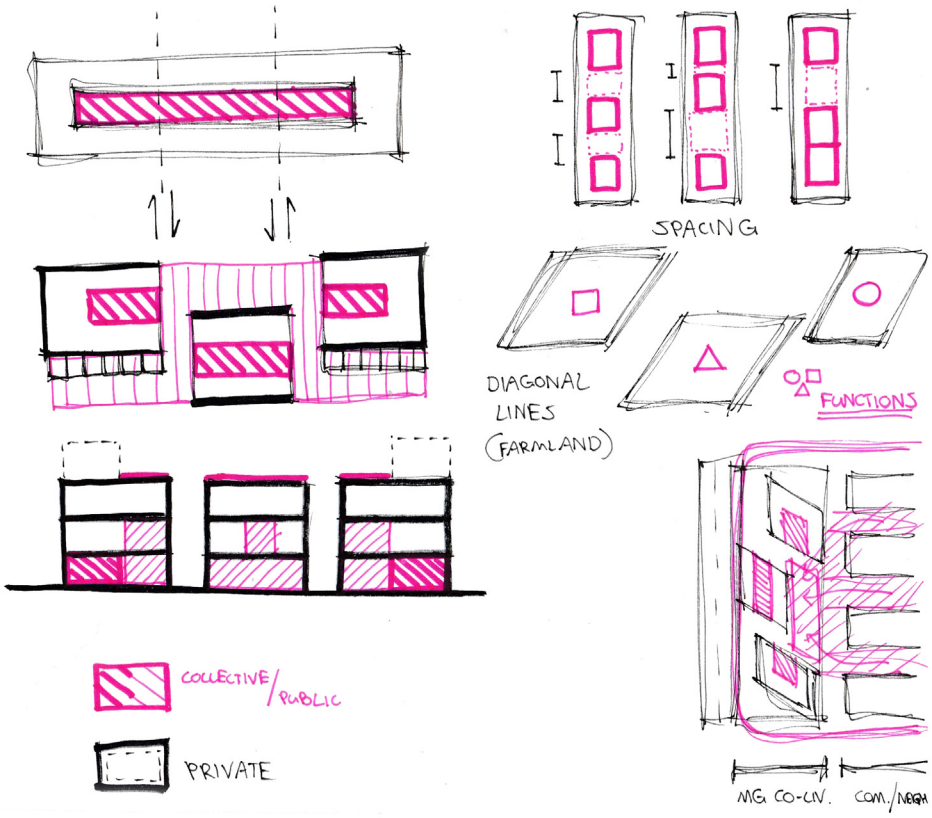
- 'Kangaroo' unit
- Family unit
- Elderly unit
- Student unit

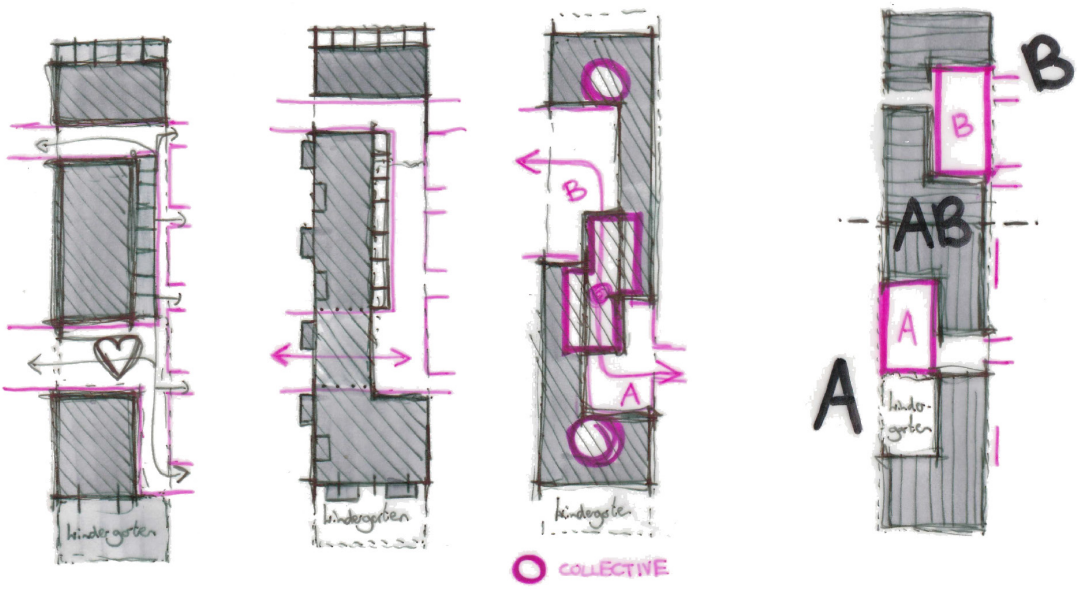


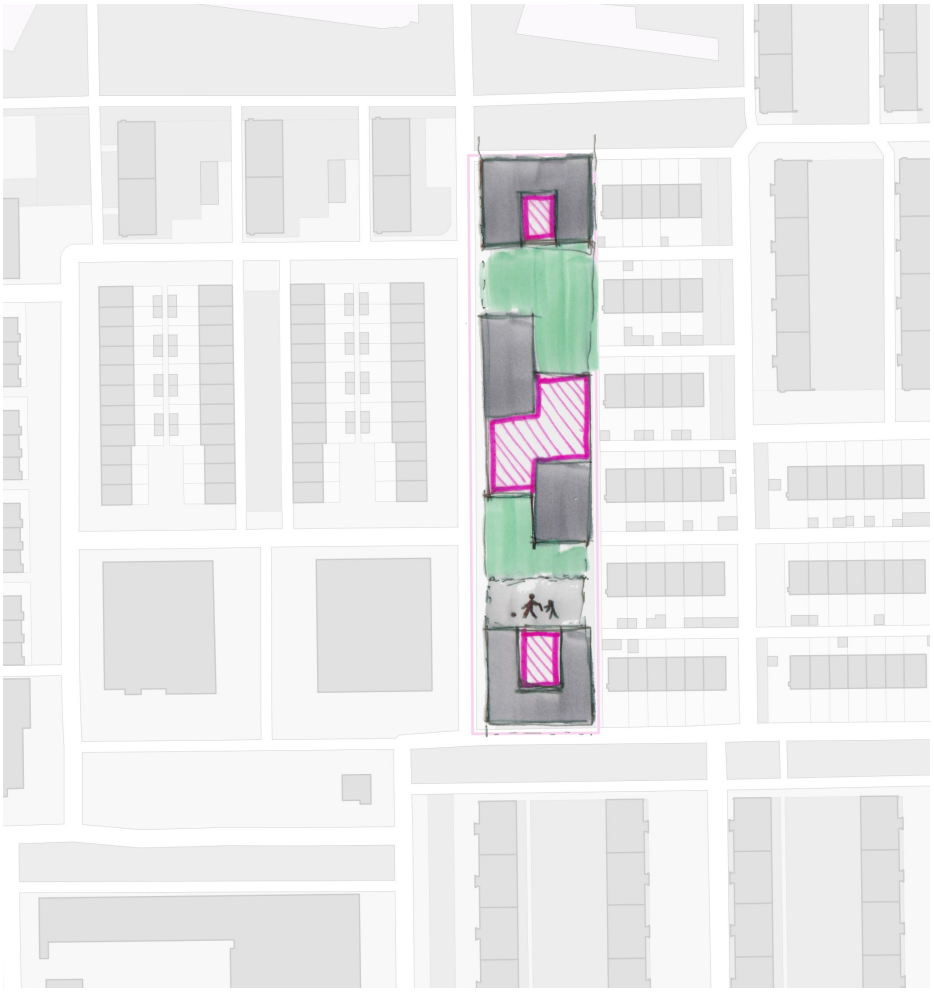


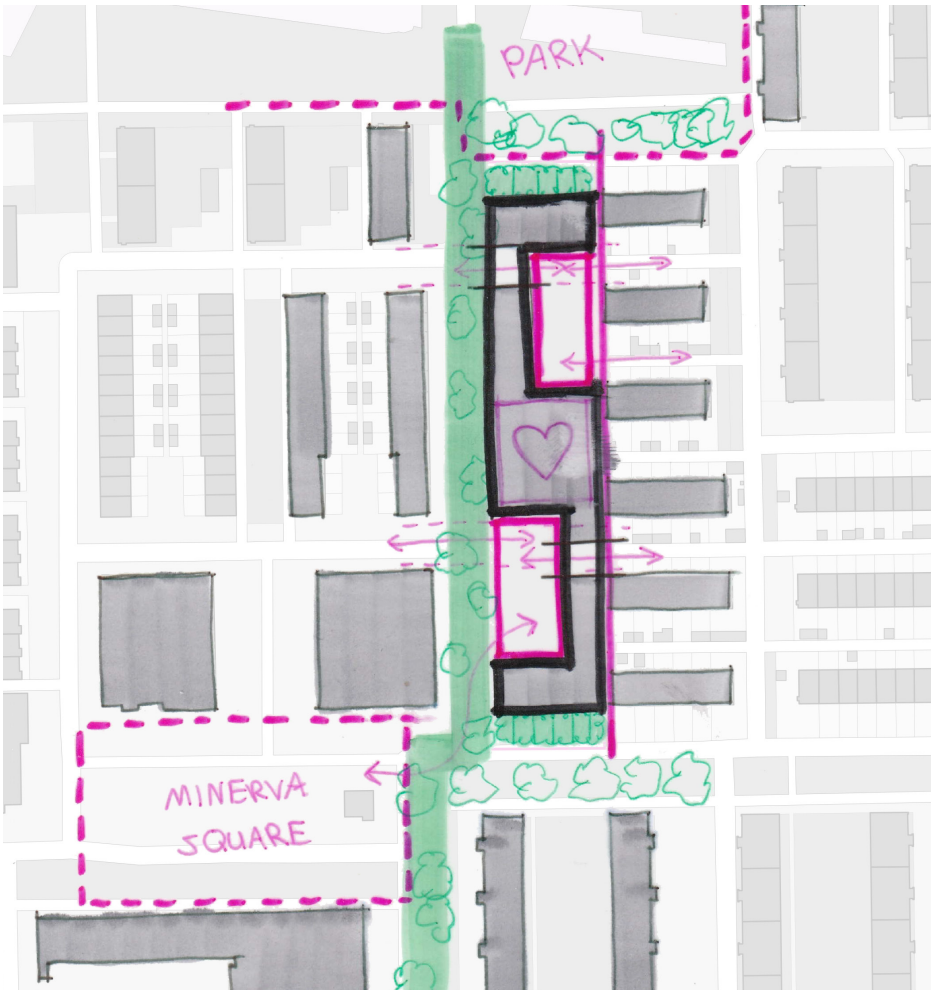
1

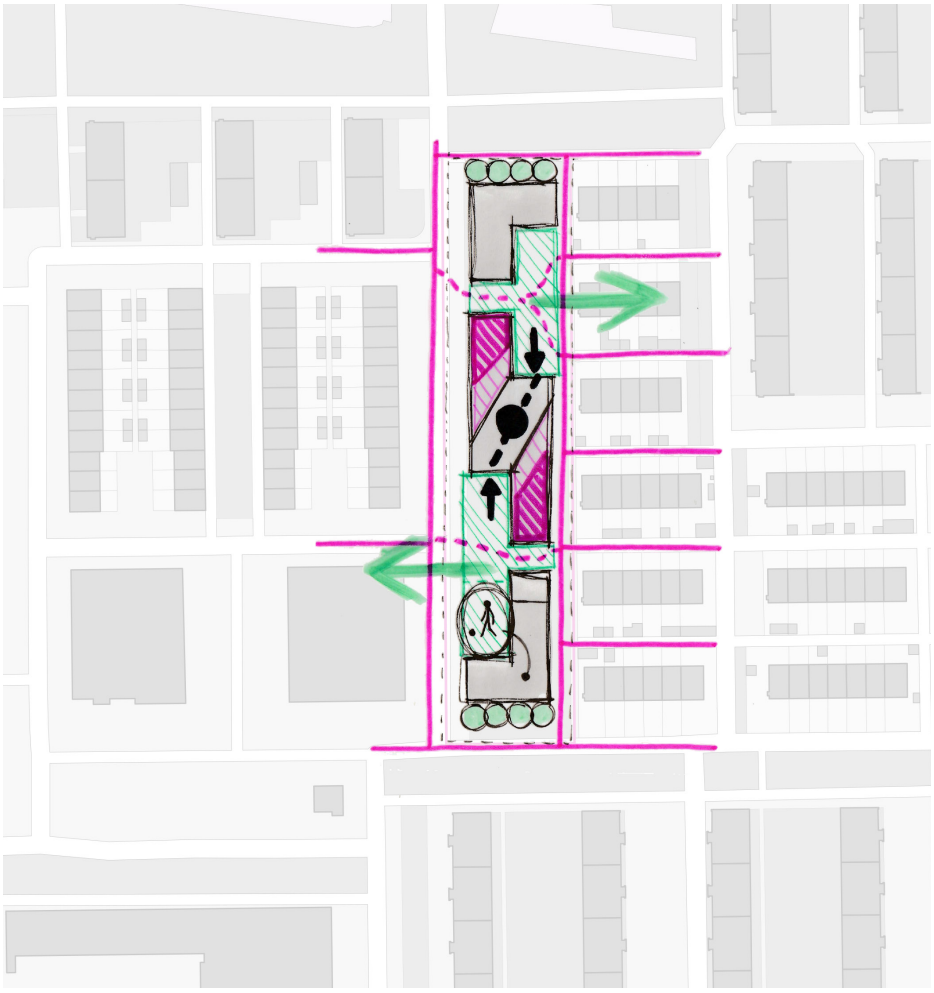
Week 1

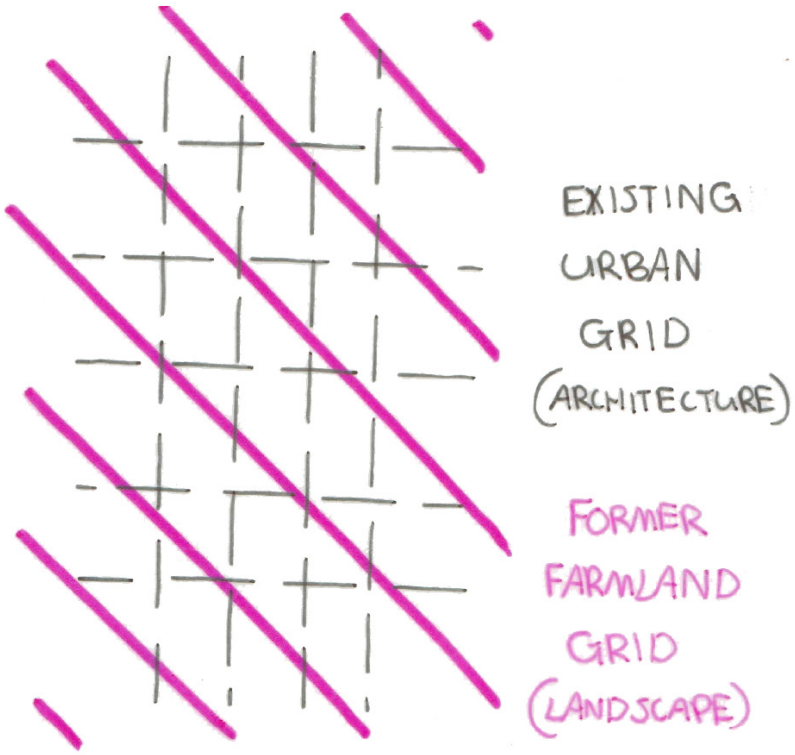

SPACING
DIAGONAL LINES (FARMLAND)
FUNCTIONS
COLLECTIVE/PUBLIC
PRIVATE
MG. CO-CIV.
COM./NGRH

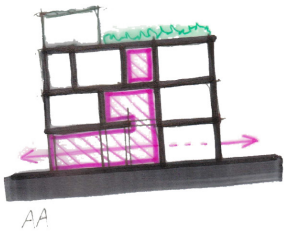

kindergarten
kindergarten
kindergarten
B
A
COLLECTIVE
B
AB
A
A
kindergarten

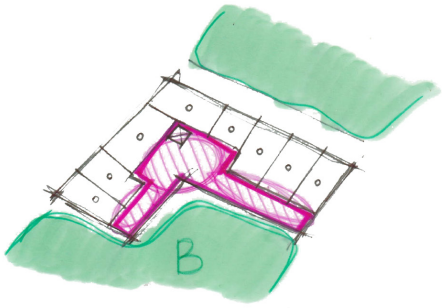



PARK
MINERVA
SQUARE

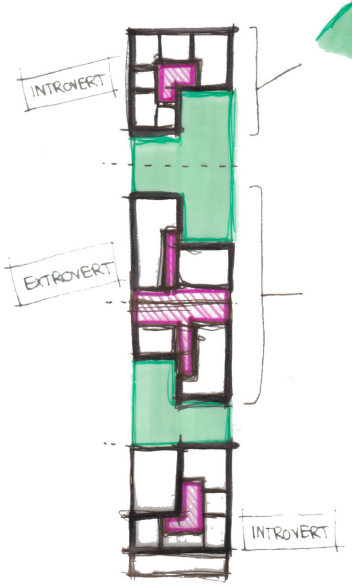


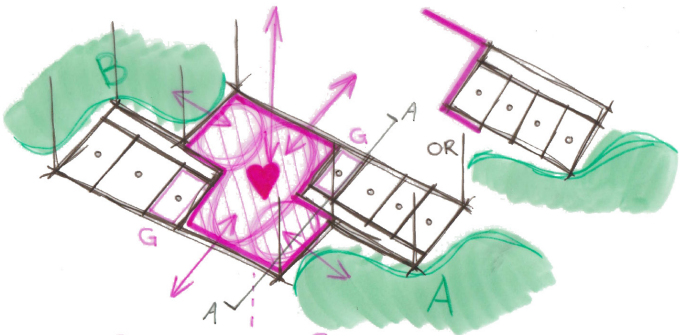

EXISTING
URBAN
GRID
(ARCHITECTURE)
FORMER
FARMLAND
GRID
(LANDSCAPE)

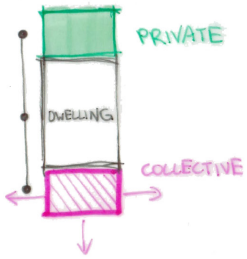




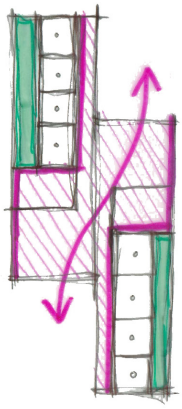
- COMMON SPACE:
  - LIVING/DINING + KITCHEN
  - (STORAGE + LAUNDRY)

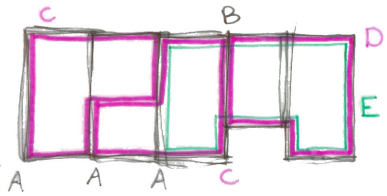


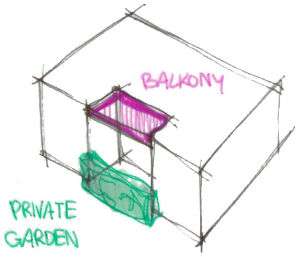


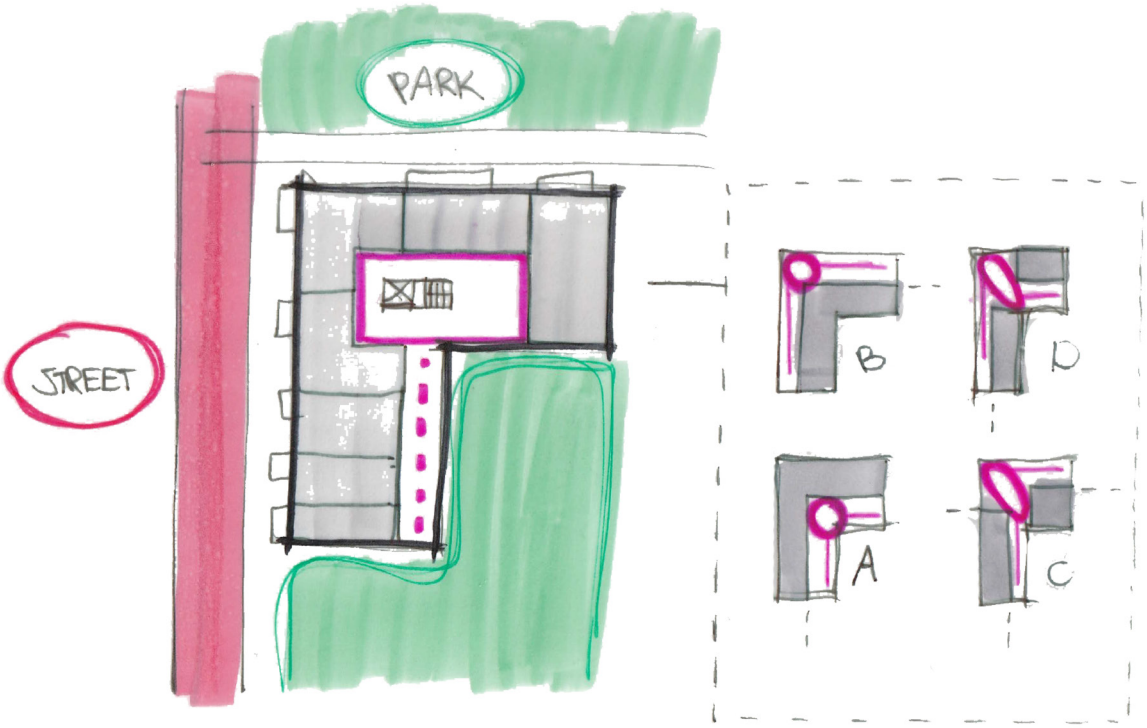


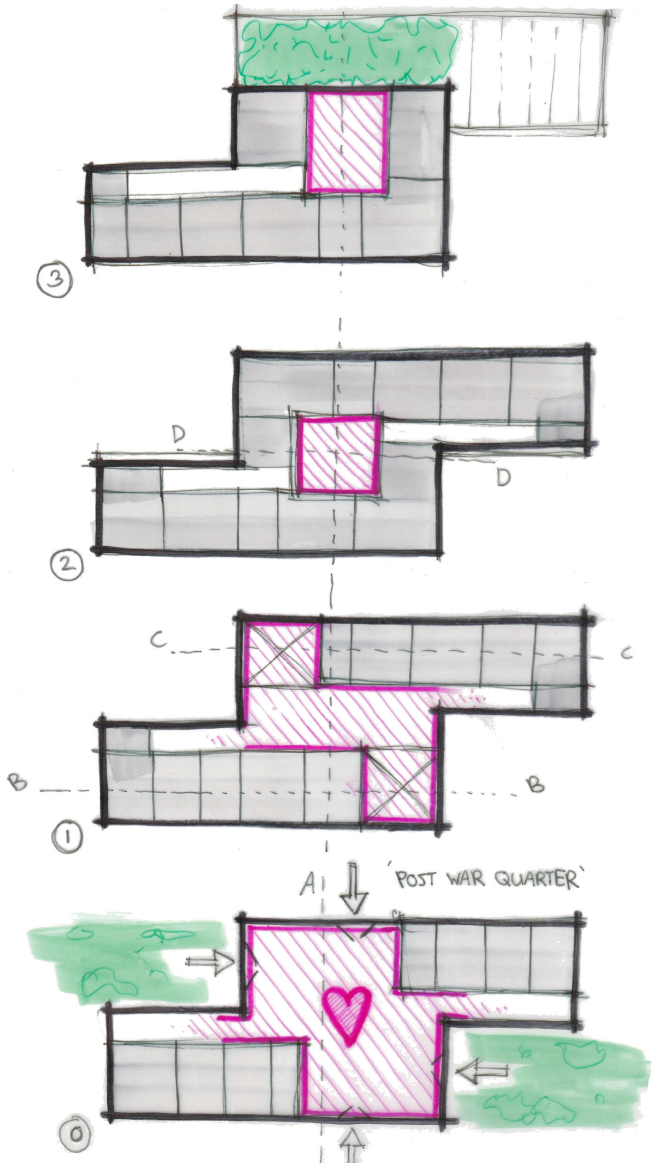
- COMMON HOUSE:
  - LIVING + DINING → MULTIFUNCTIONAL
  - KITCHEN (+ BAR → CAFÉ)
  - GUEST ROOM
  - HOBBY ROOM
  - MEETING ROOM
  - (STORAGE)
  - (LAUNDRY)

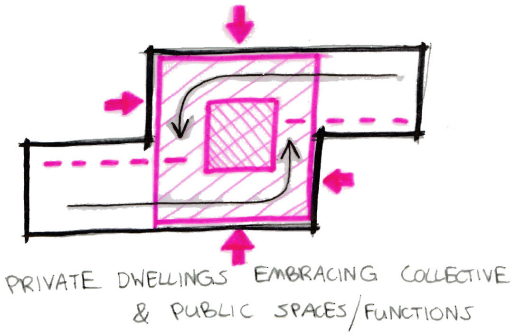




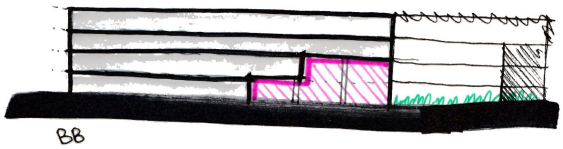





3
D
D
2
C
C
B
B
1
A
'POST WAR QUARTER'
0


PRIVATE DWELLINGS EMBRACING COLLECTIVE
& PUBLIC SPACES/FUNCTIONS


DD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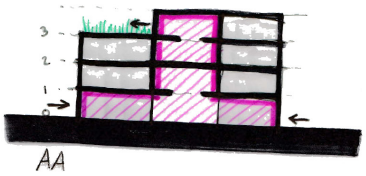
3
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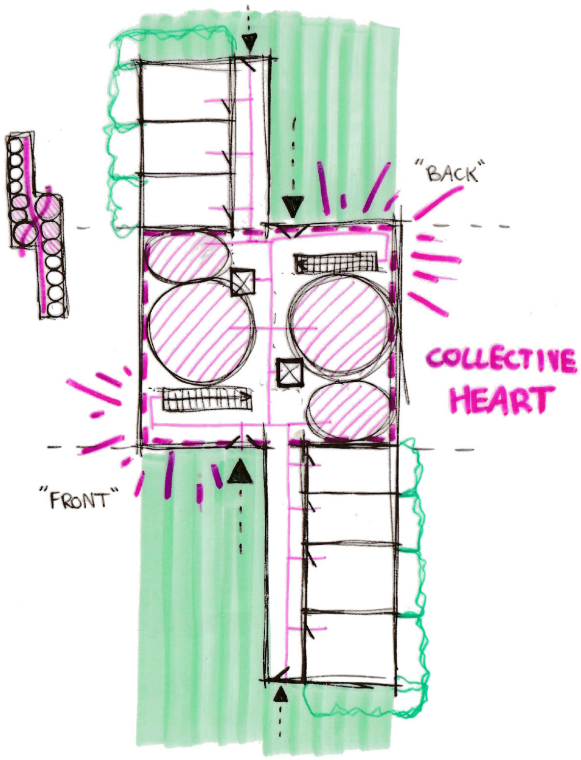
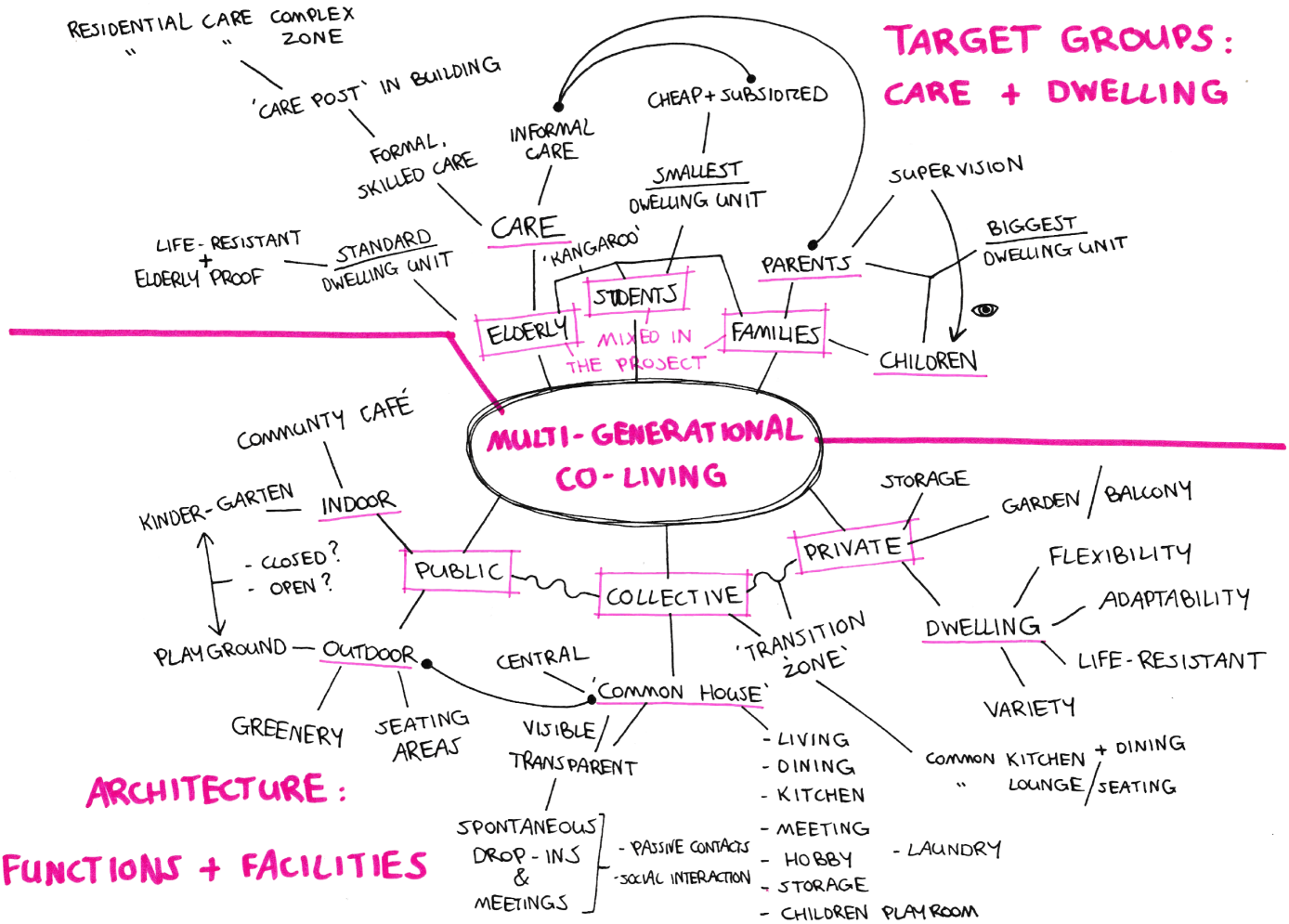
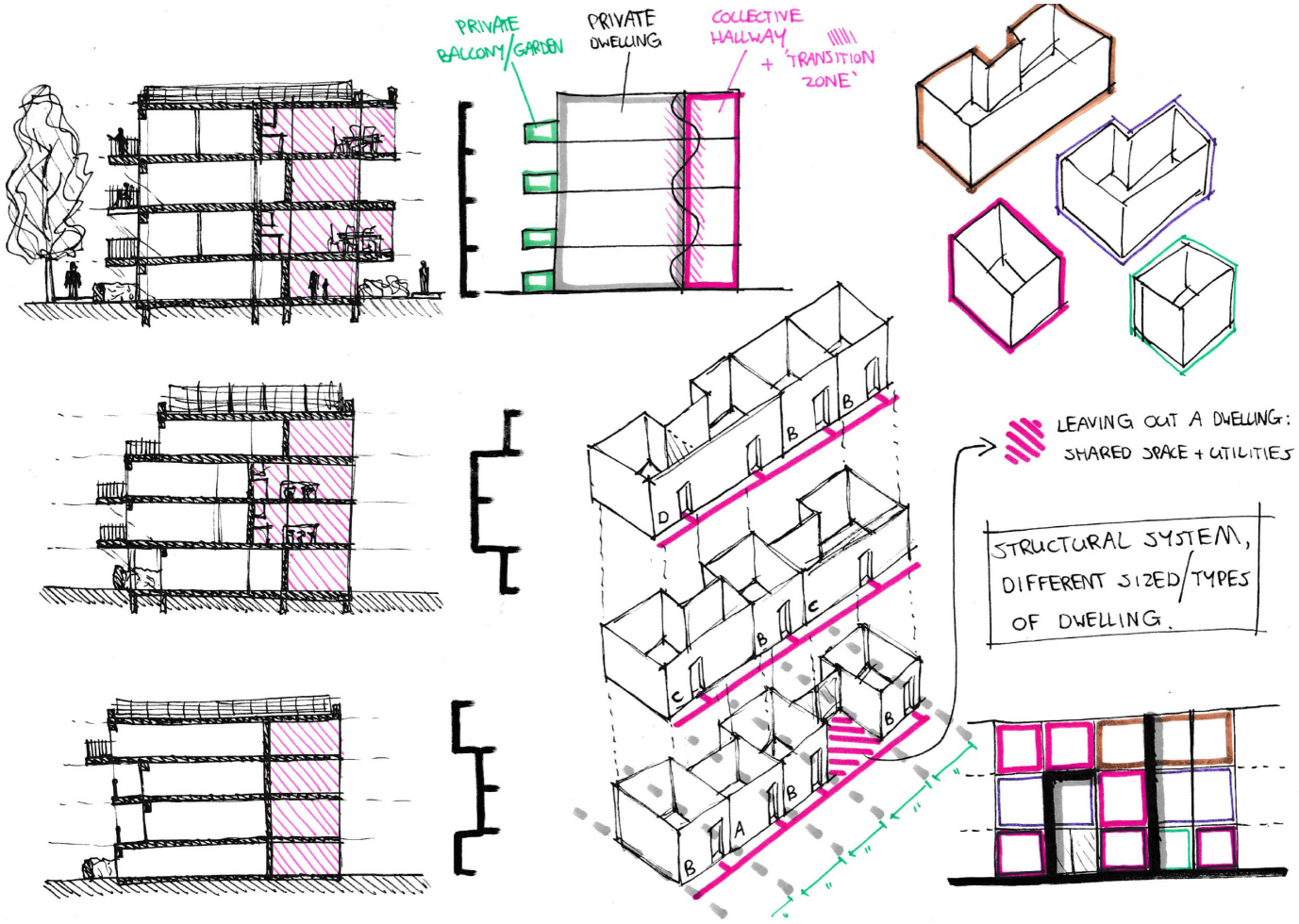
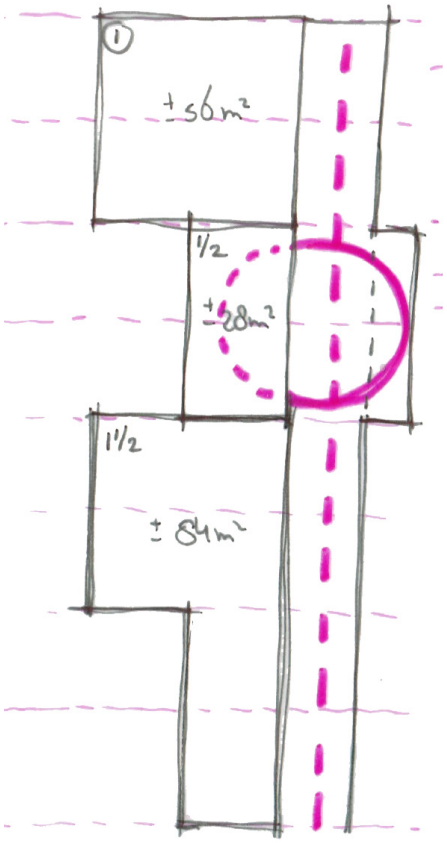
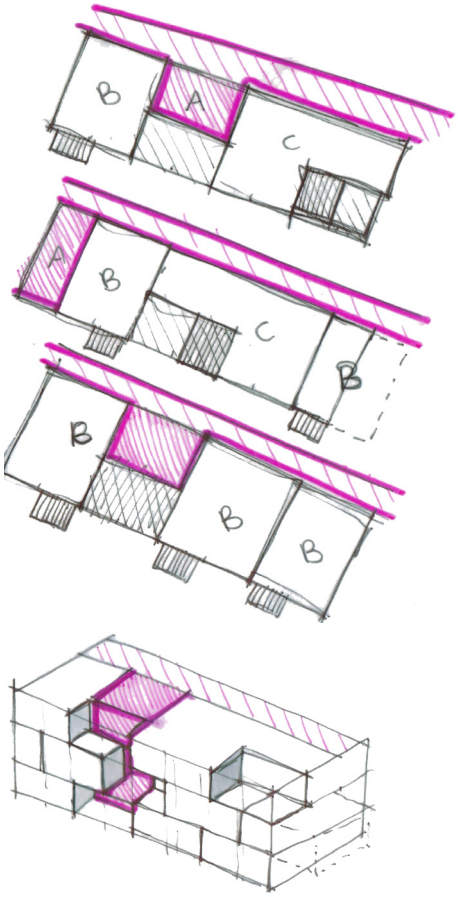
AA


"BACK"
COLLECTIVE HEART
"FRONT"

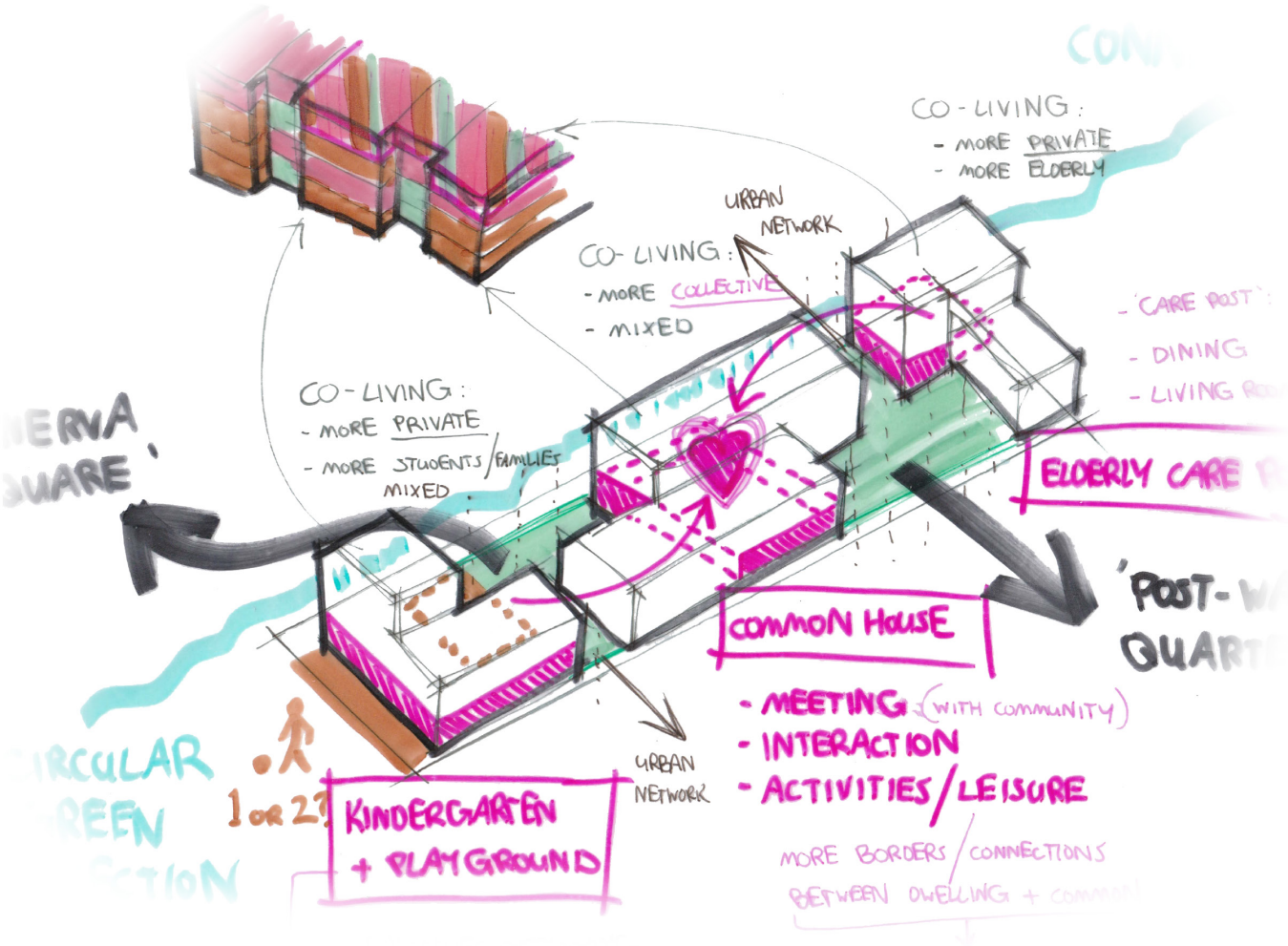

TARGET GROUPS: CARE + DWELLING
RESIDENTIAL CARE COMPLEX
" " ZONE
'CARE POST' IN BUILDING
FORMAL, SKILLED CARE
INFORMAL CARE
CHEAP + SUBSIDIZED
SMALLEST DWELLING UNIT
SUPERVISION
BIGGEST DWELLING UNIT
LIFE-RESISTANT + ELDERLY PROOF
STANDARD DWELLING UNIT
CARE
'KANGAROO'
PARENTS
STUDENTS
ELDERLY
MIXED IN THE PROJECT
FAMILIES
CHILDREN
MULTI-GENERATIONAL CO-LIVING
COMMUNITY CAFÉ
KINDER-GARTEN
INDOOR
- CLOSED?
- OPEN?
PUBLIC
COLLECTIVE
PRIVATE
STORAGE
GARDEN / BALCONY
FLEXIBILITY
ADAPTABILITY
DWELLING
LIFE-RESISTANT
VARIETY
PLAYGROUND
OUTDOOR
CENTRAL
'COMMON HOUSE'
'TRANSITION ZONE'
GREENERY
SEATING AREAS
VISIBLE / TRANSPARENT
- LIVING
- DINING
- KITCHEN
- MEETING
- HOBBY
- STORAGE
- CHILDREN PLAYROOM
COMMON KITCHEN + DINING
" LOUNGE / SEATING
- LAUNDRY
SPONTANEOUS DROP-INS & MEETINGS
- PASSIVE CONTACTS
- SOCIAL INTERACTION
ARCHITECTURE:
FUNCTIONS + FACILITIES

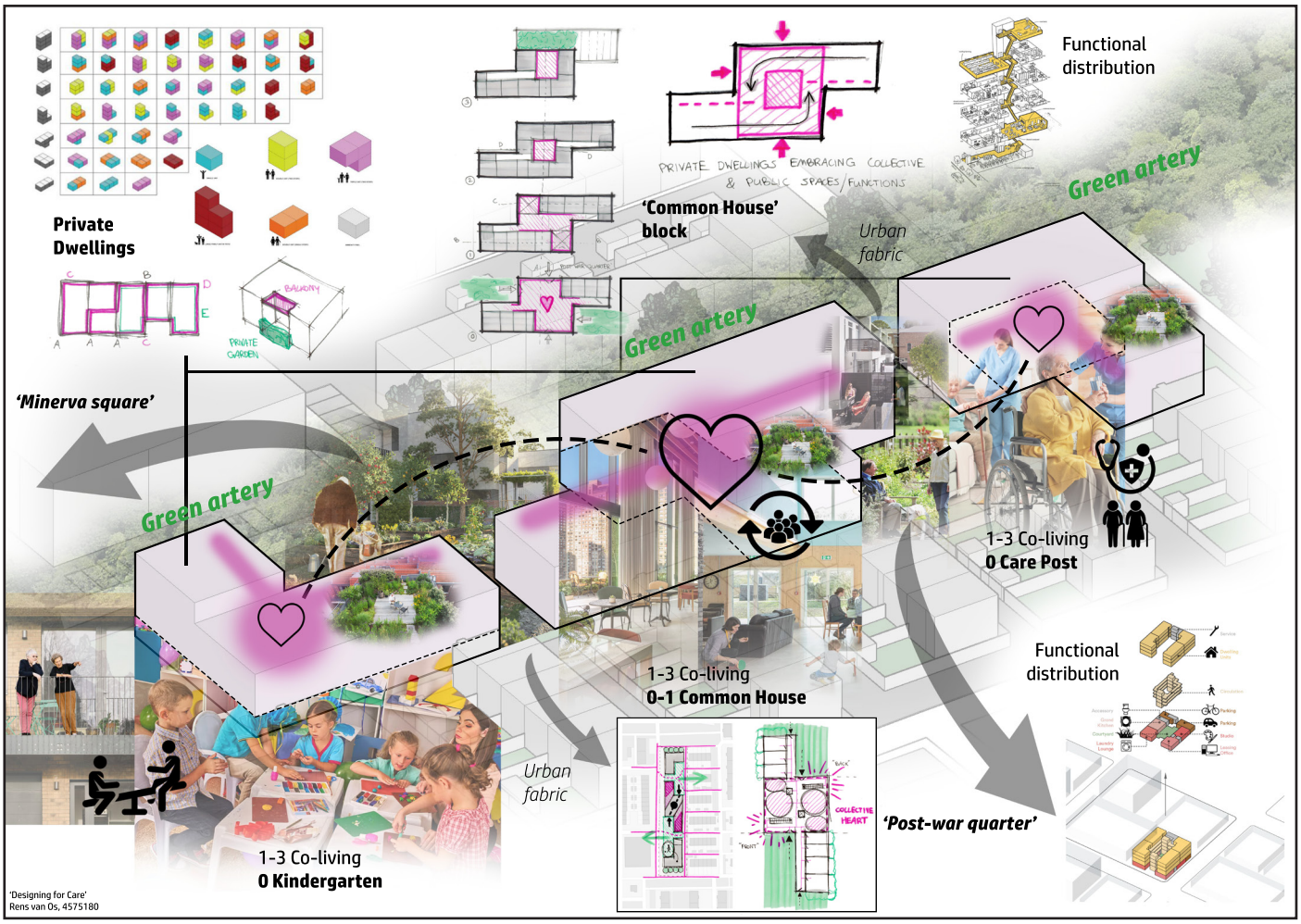

PRIVATE BALCONY/GARDEN
PRIVATE DWELLING
COLLECTIVE HALLWAY + 'TRANSITION ZONE'
LEAVING OUT A DWELLING: SHARED SPACE + UTILITIES
STRUCTURAL SYSTEM, DIFFERENT SIZED/TYPES OF DWELLING.


1
± 56m²
1/2
± 28m²
1 1/2
± 84m²

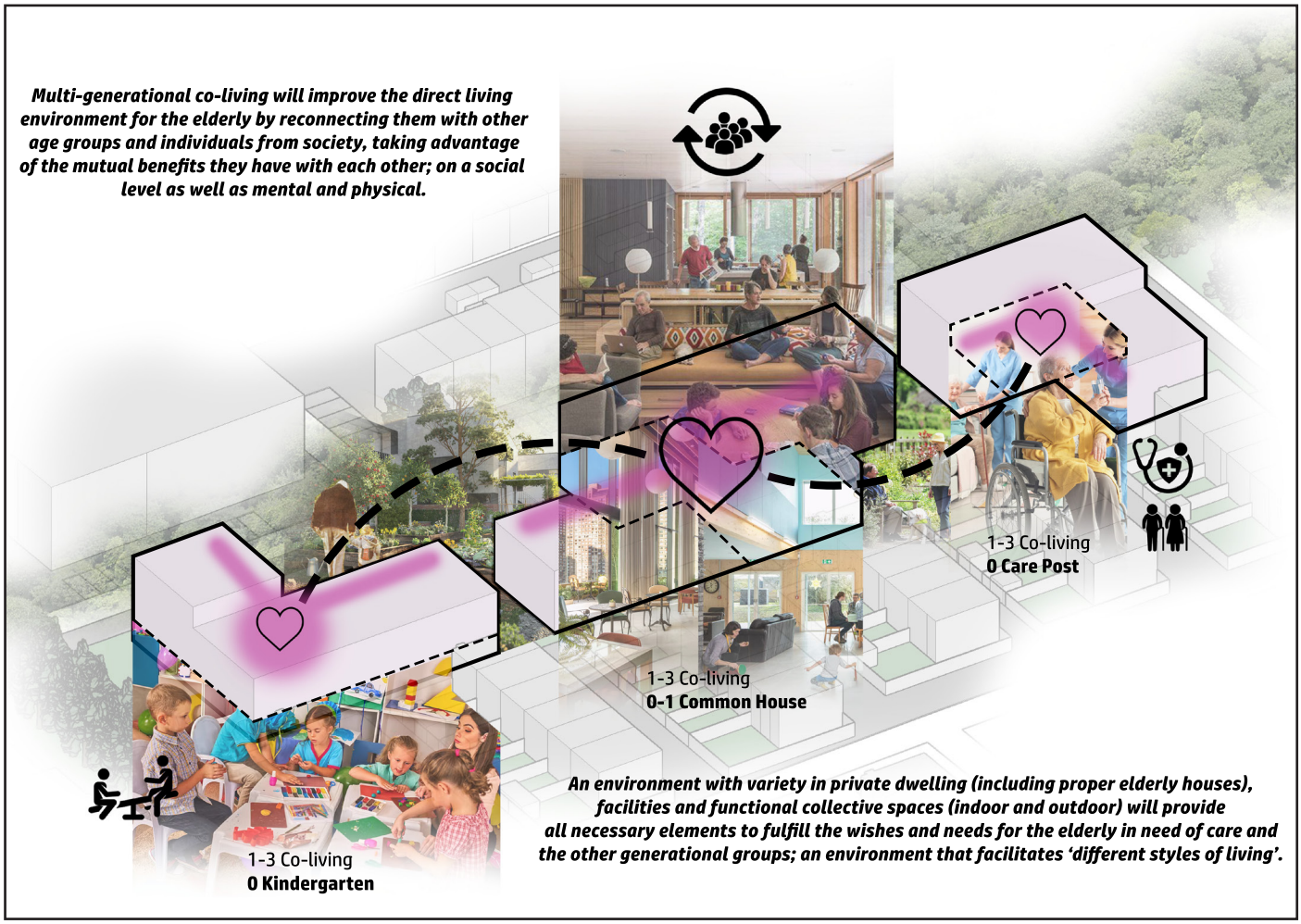


2 Week 2

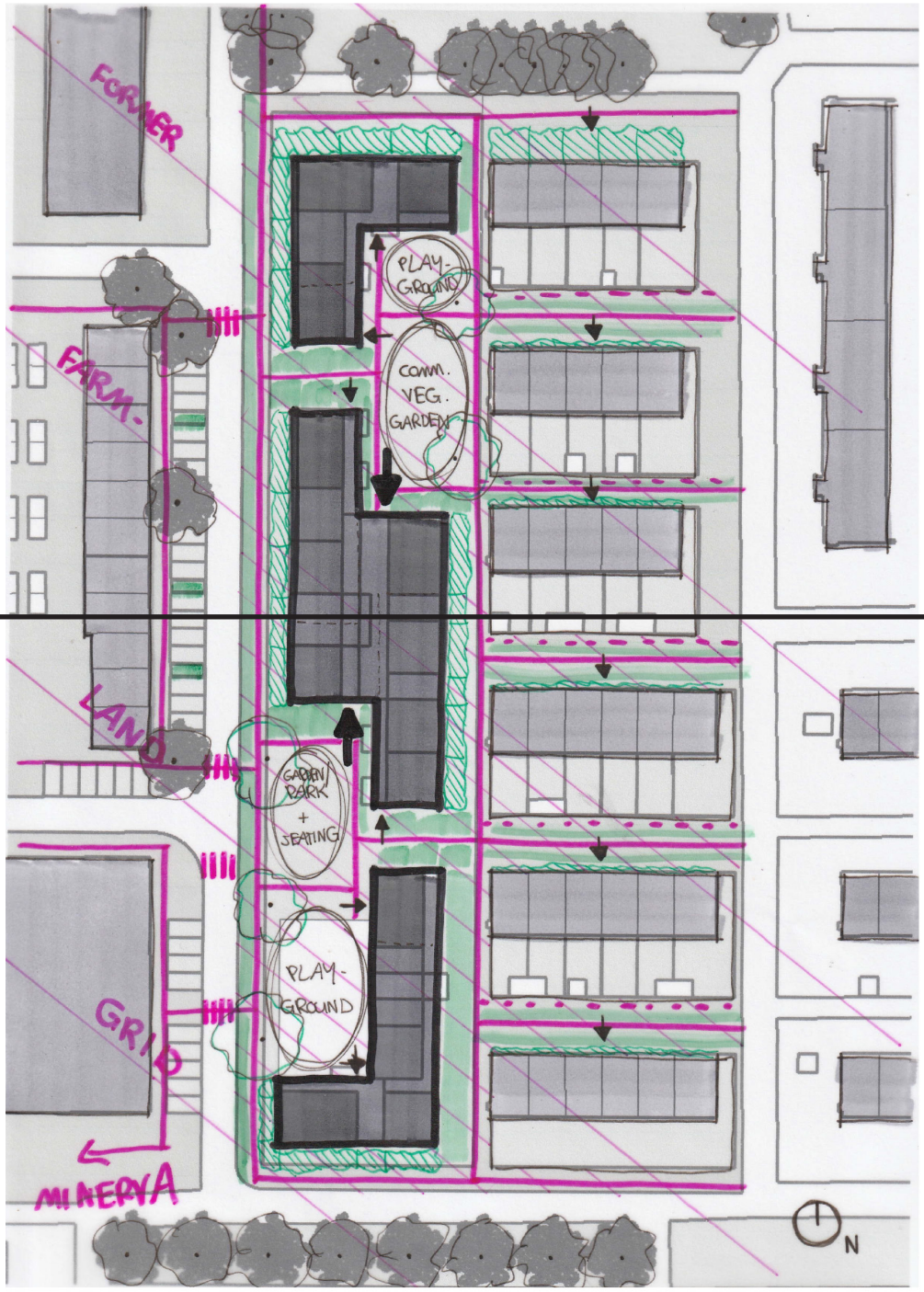

CO-LIVING:
- MORE PRIVATE
- MORE ELDERLY
URBAN NETWORK
CO-LIVING:
- MORE COLLECTIVE
- MIXED
CO-LIVING:
- MORE PRIVATE
- MORE STUDENTS/FAMILIES
MIXED
- 'CARE POST':
- DINING
ELDERLY CARE
COMMON HOUSE
- MEETING (WITH COMMUNITY)
- INTERACTION
- ACTIVITIES/LEISURE
URBAN NETWORK
1 OR 2?
KINDERGARTEN
+ PLAYGROUND
MORE BORDERS/CONNECTIONS
BETWEEN DWELLING +

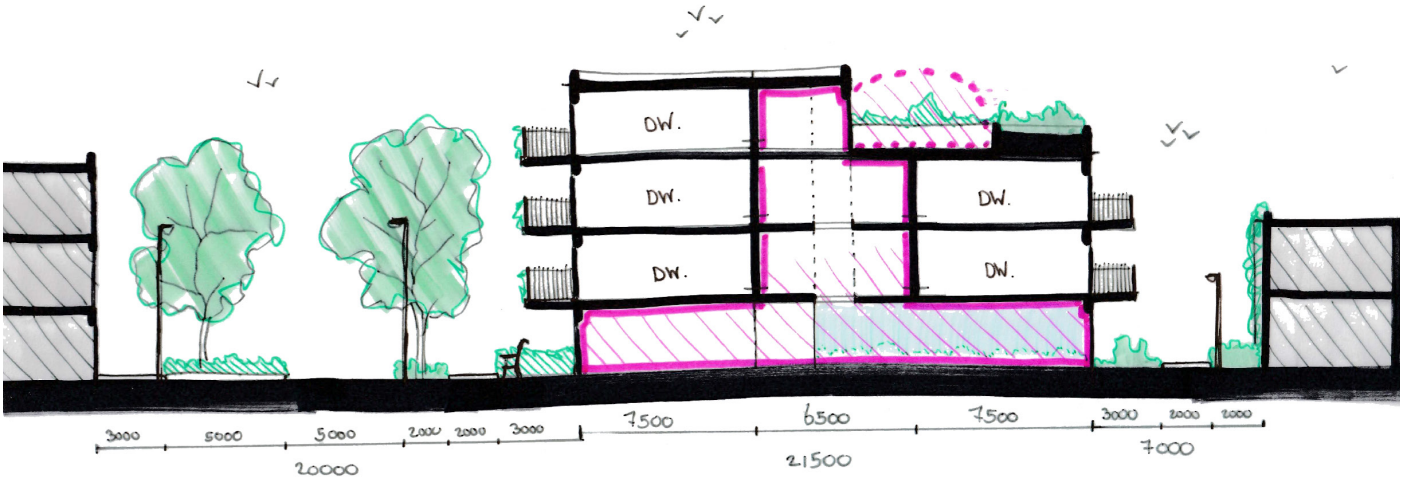


Multi-generational co-living will improve the direct living environment for the elderly by reconnecting them with other age groups and individuals from society, taking advantage of the mutual benefits they have with each other; on a social level as well as mental and physical.



An environment with variety in private dwelling (including proper elderly houses), facilities and functional collective spaces (indoor and outdoor) will provide all necessary elements to fulfill the wishes and needs for the elderly in need of care and the other generational groups; an environment that facilitates 'different styles of living'.


FORMER
FARM-
LAND
GRID
MINERVA
PLAY-GROUND
COMM. VEG. GARDEN
GARDEN PARK + SEATING
PLAY-GROUND
N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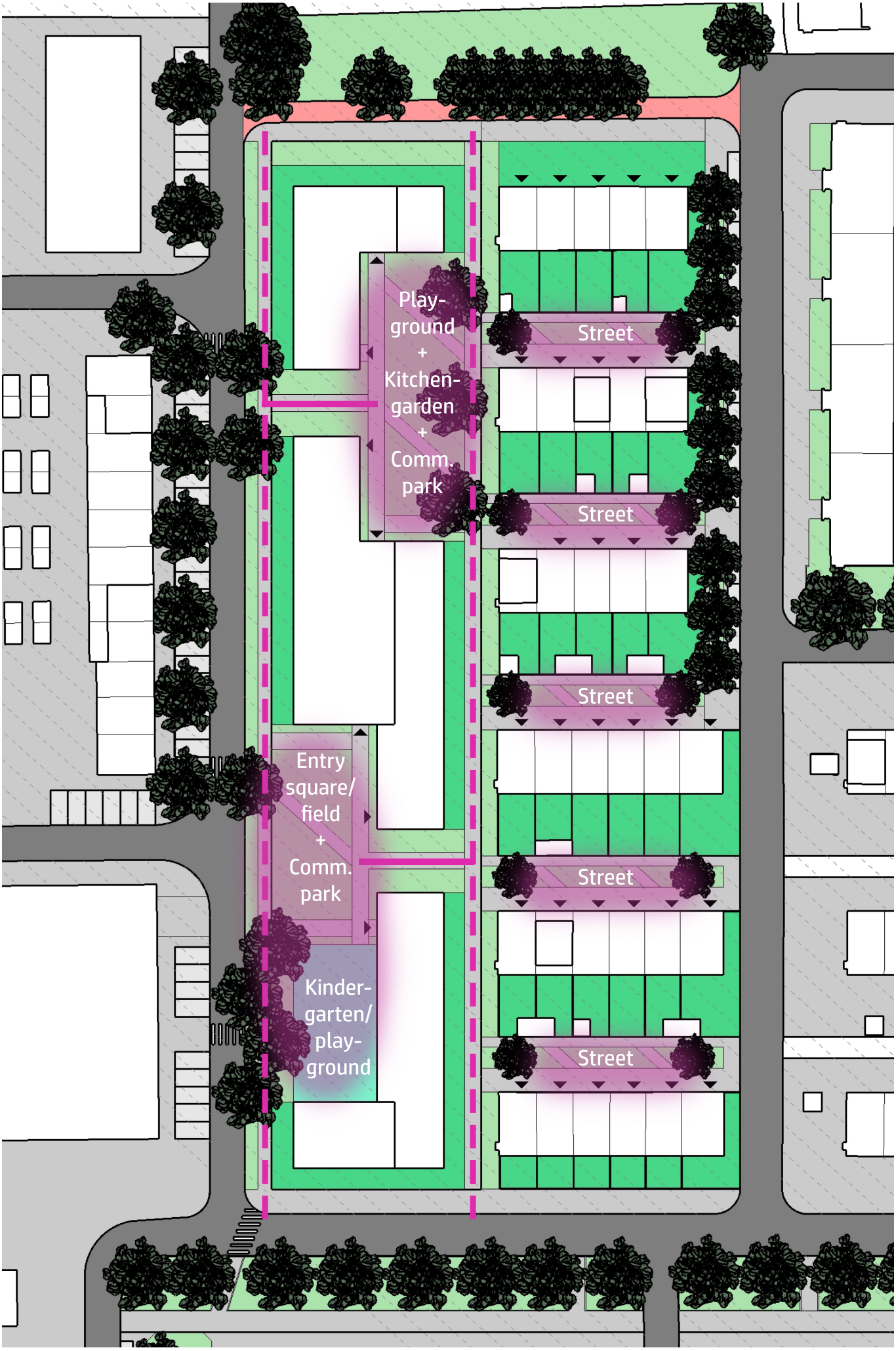
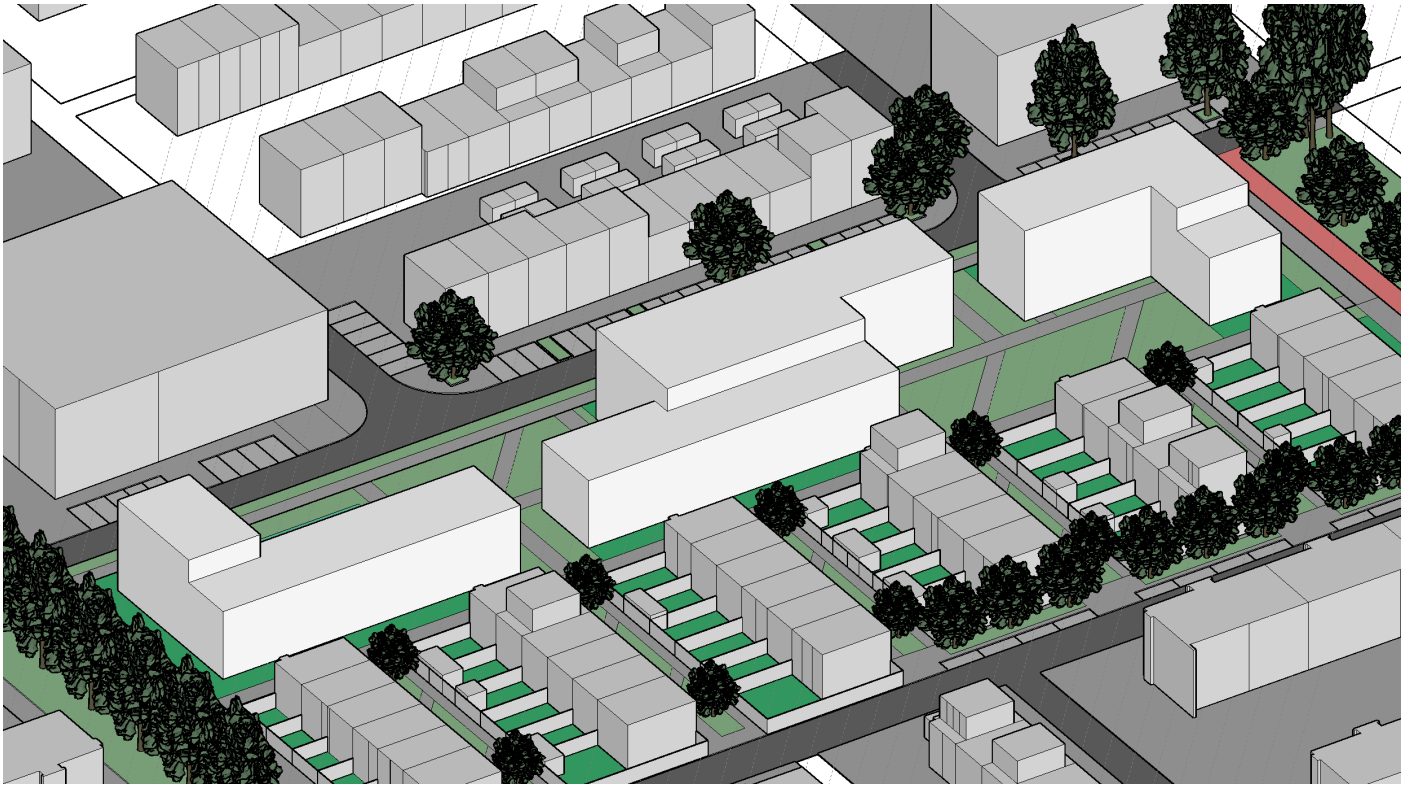
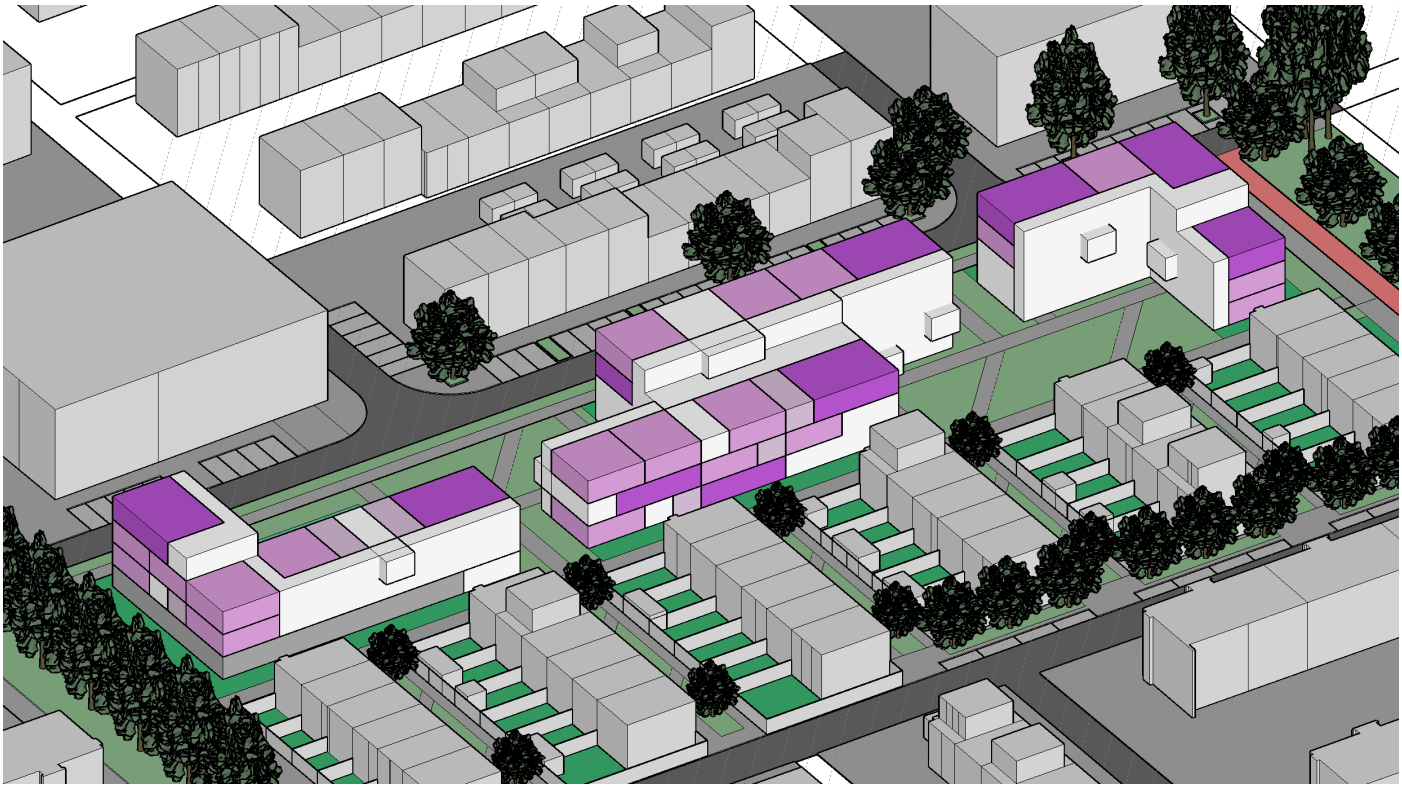
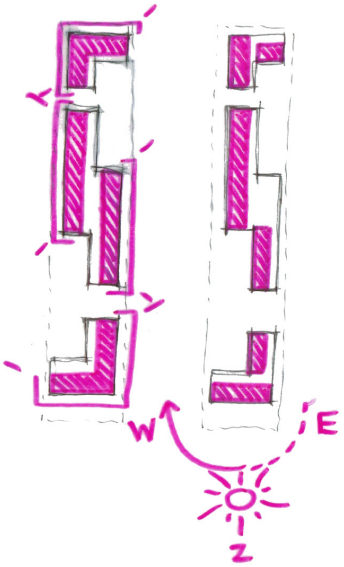
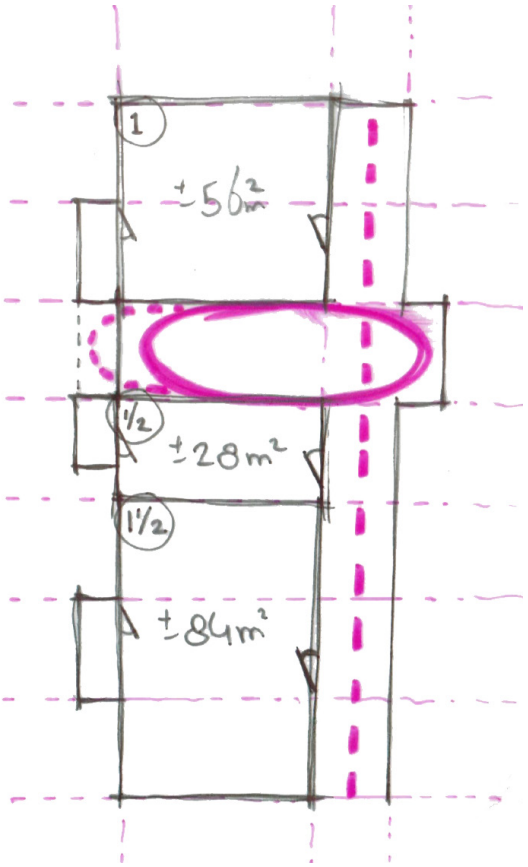
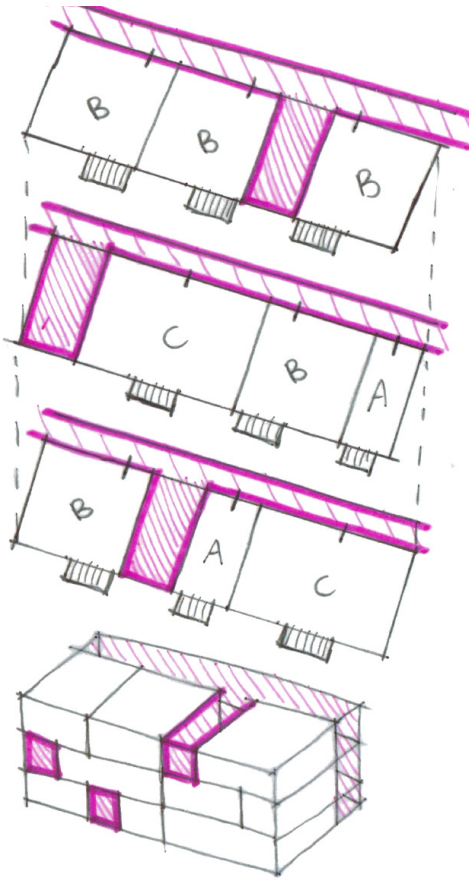

Play-
ground
+
Kitchen-
garden
+
Comm.
park
Entry
square/
field
+
Comm.
park
Kinder-
garten/
play-
ground
Street
Street
Street
Street
Street

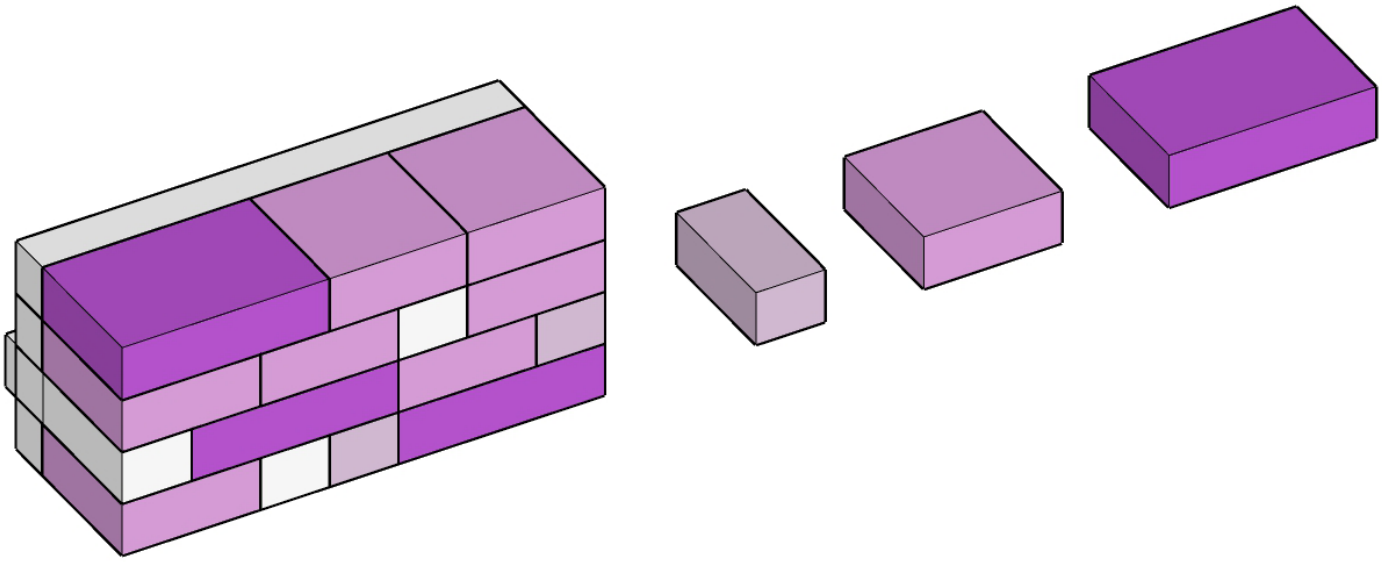


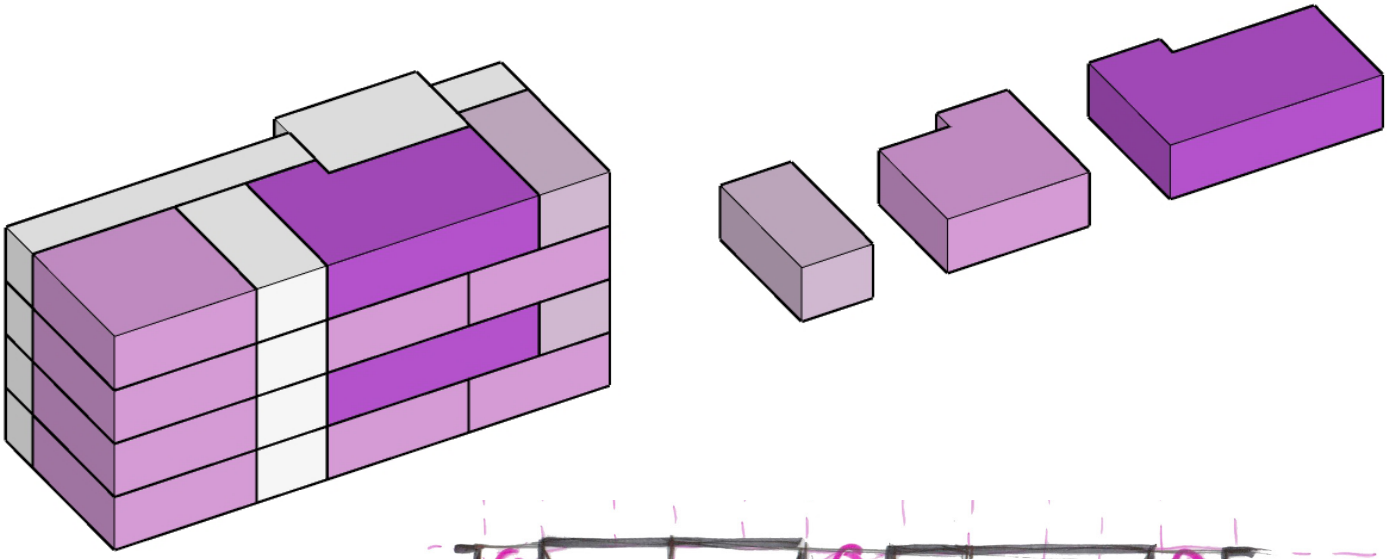


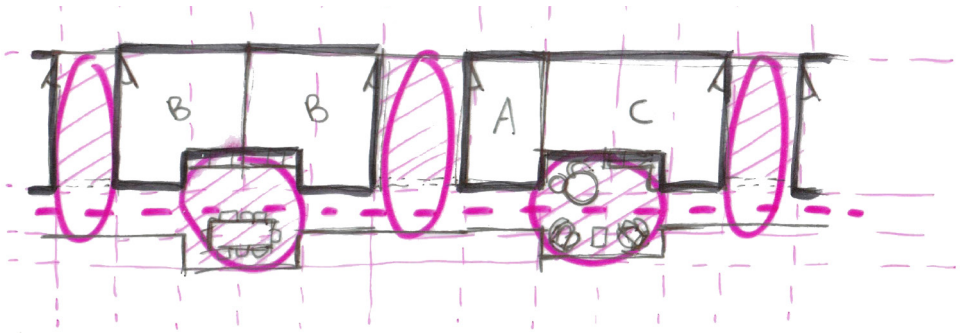

W
E
Z

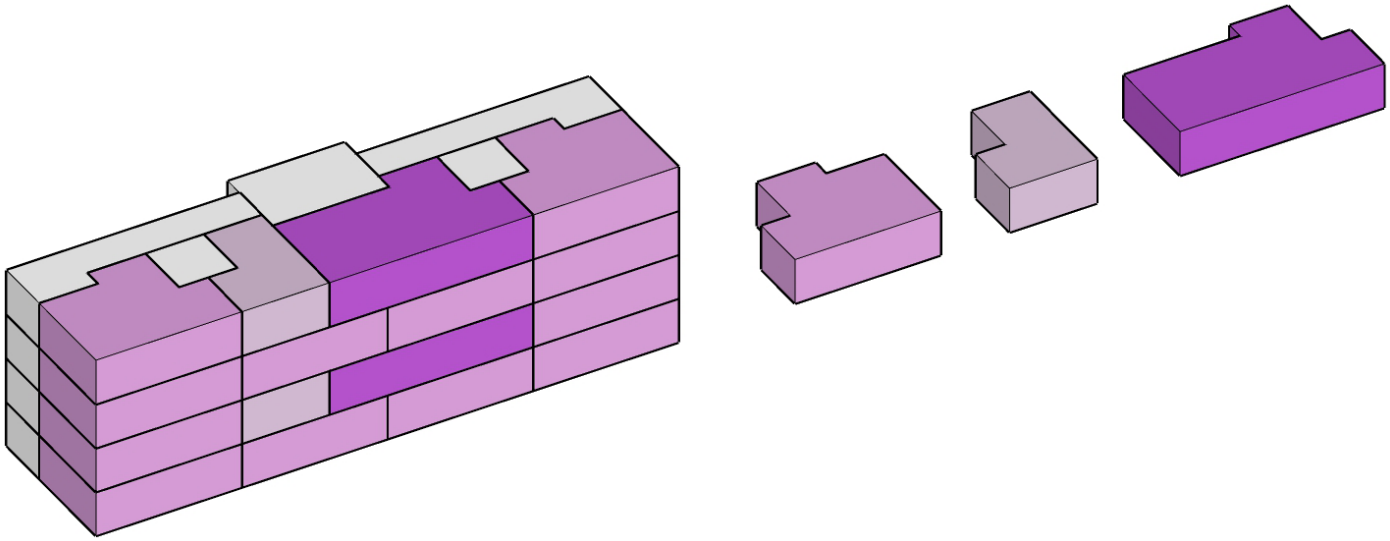

1
±56m²
1/2
±28m²
1 1/2
±84m²

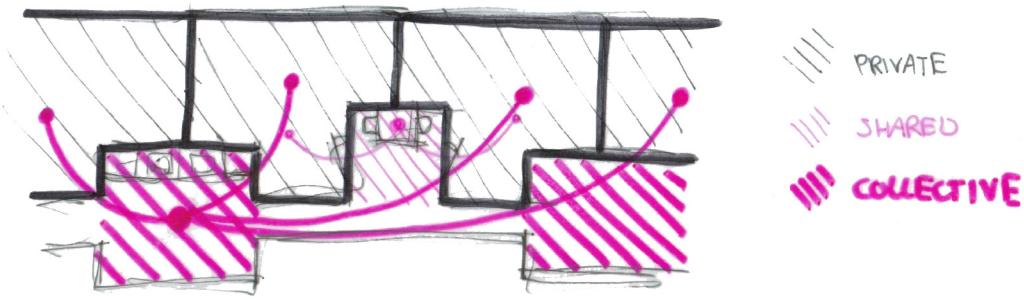

B
B
B
C
B
A
B
A
C

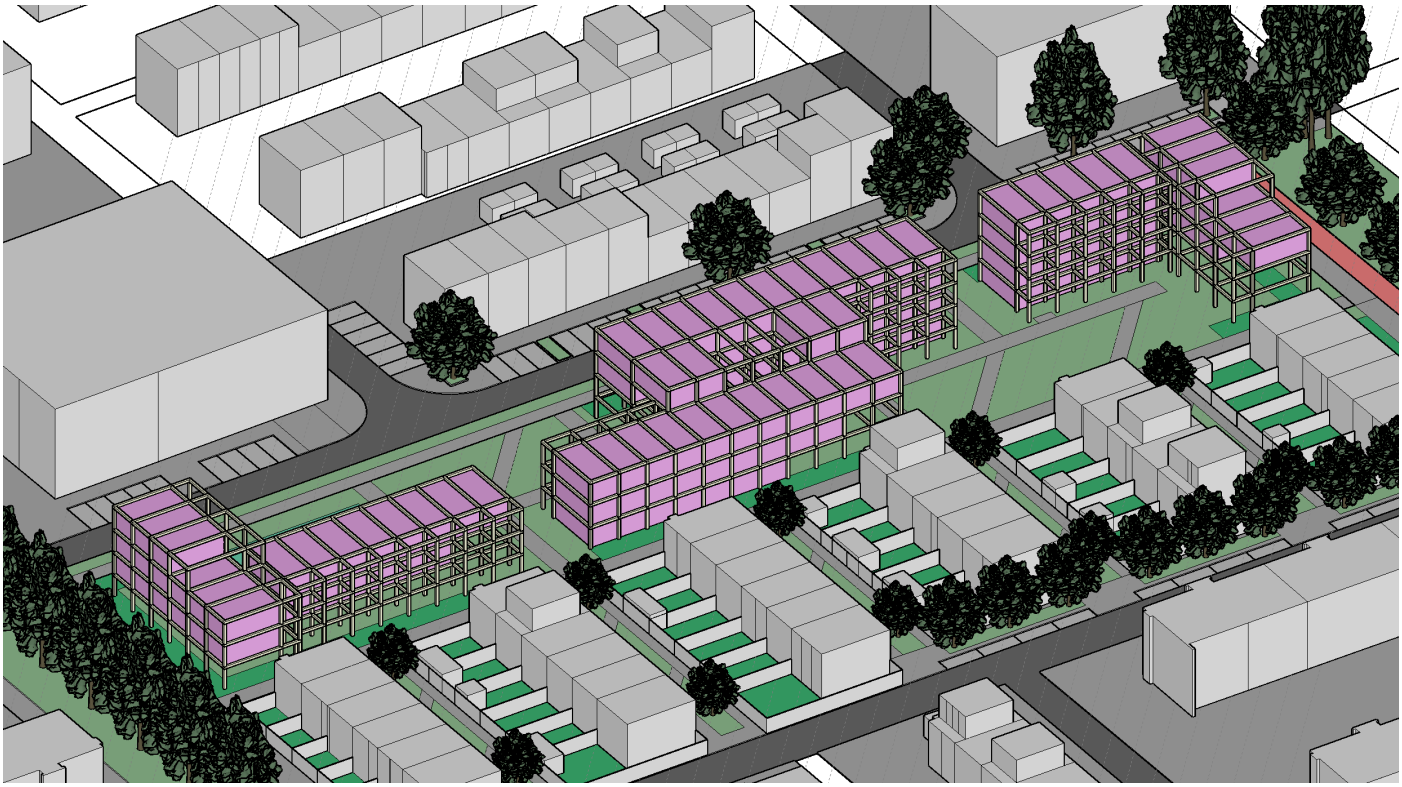


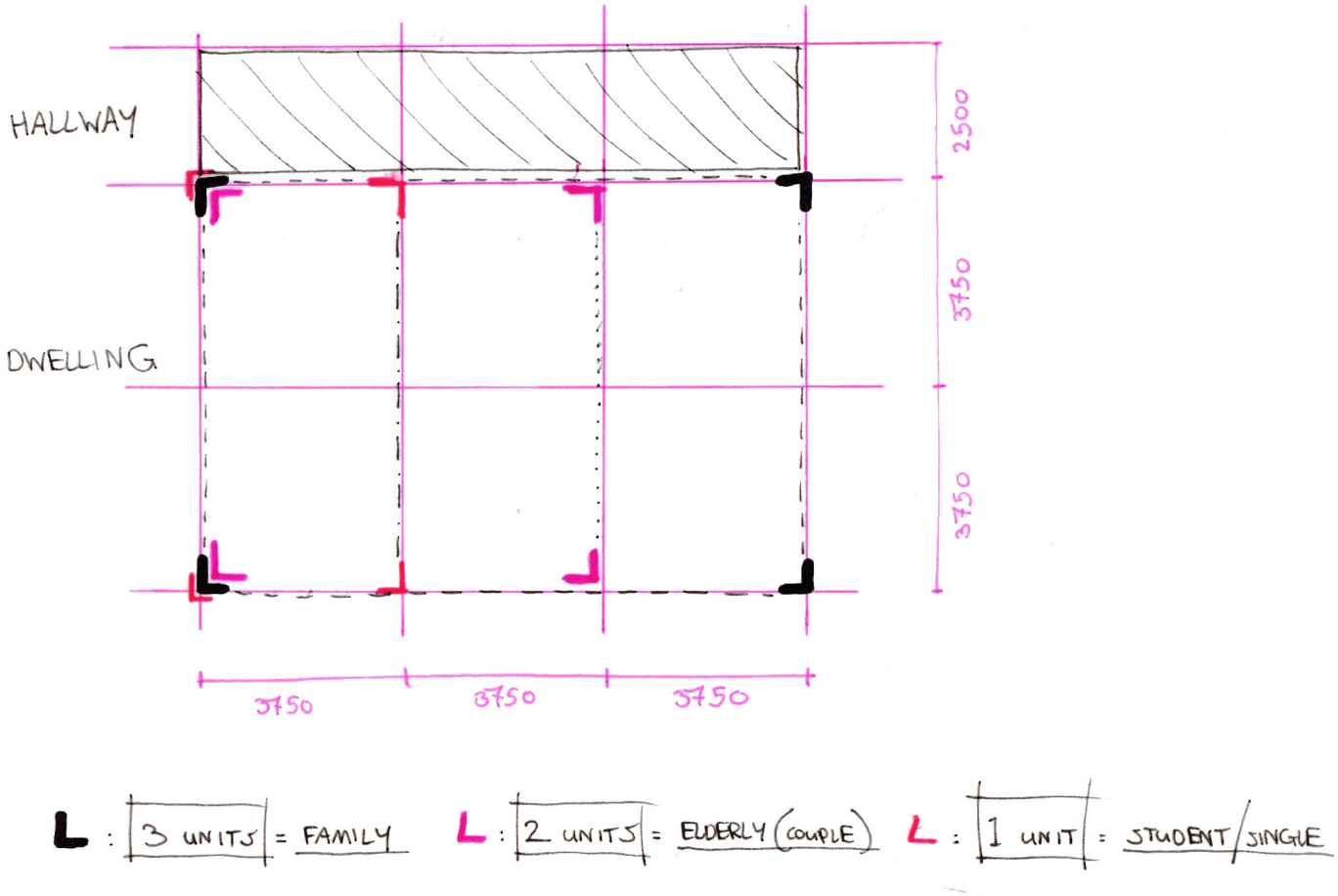



B
B
A
C

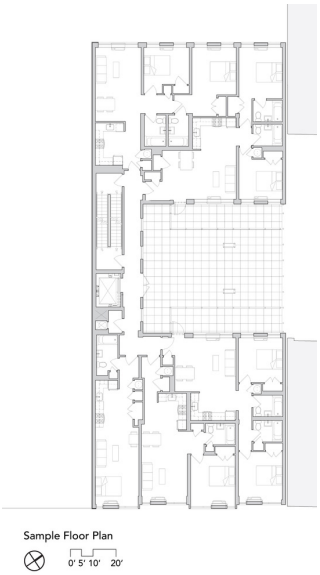


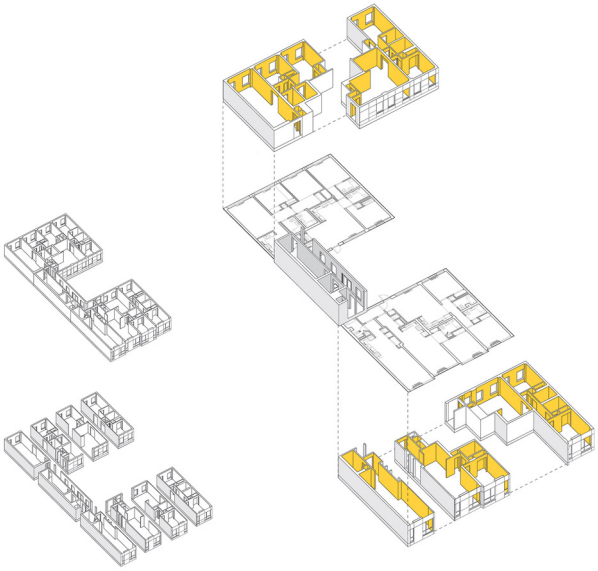

PRIVATE
SHARED
COLLECTIVE





'The Stack'
Gluck+ Architects
(Manhattan, New York)





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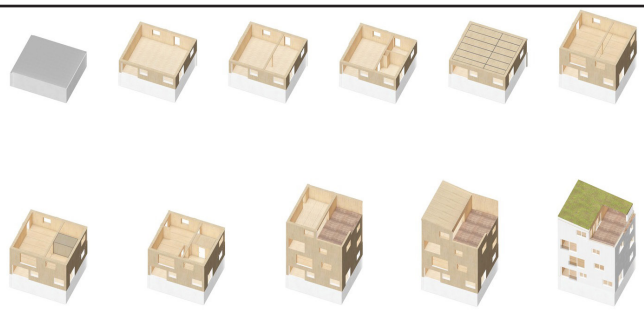
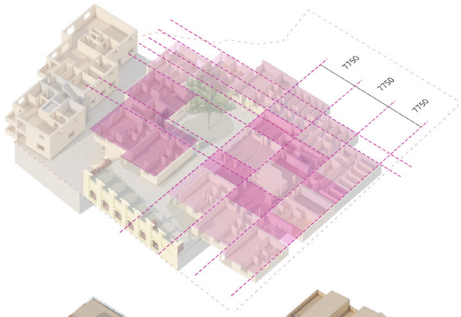
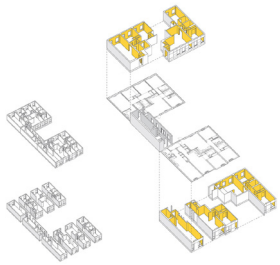




'The Stack', Gluck+ Architects (Manhattan, New York)



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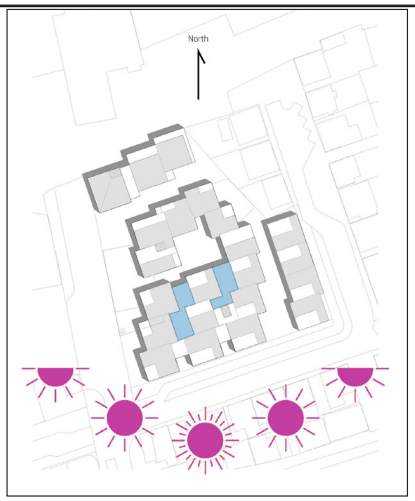
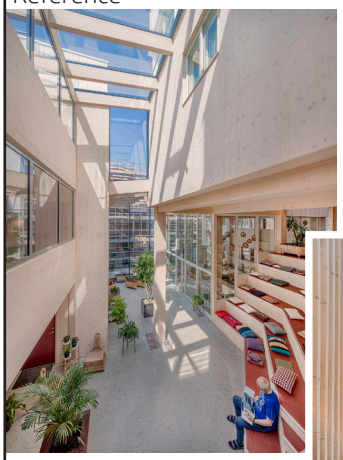
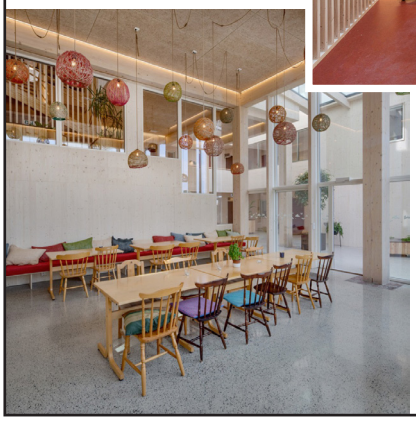
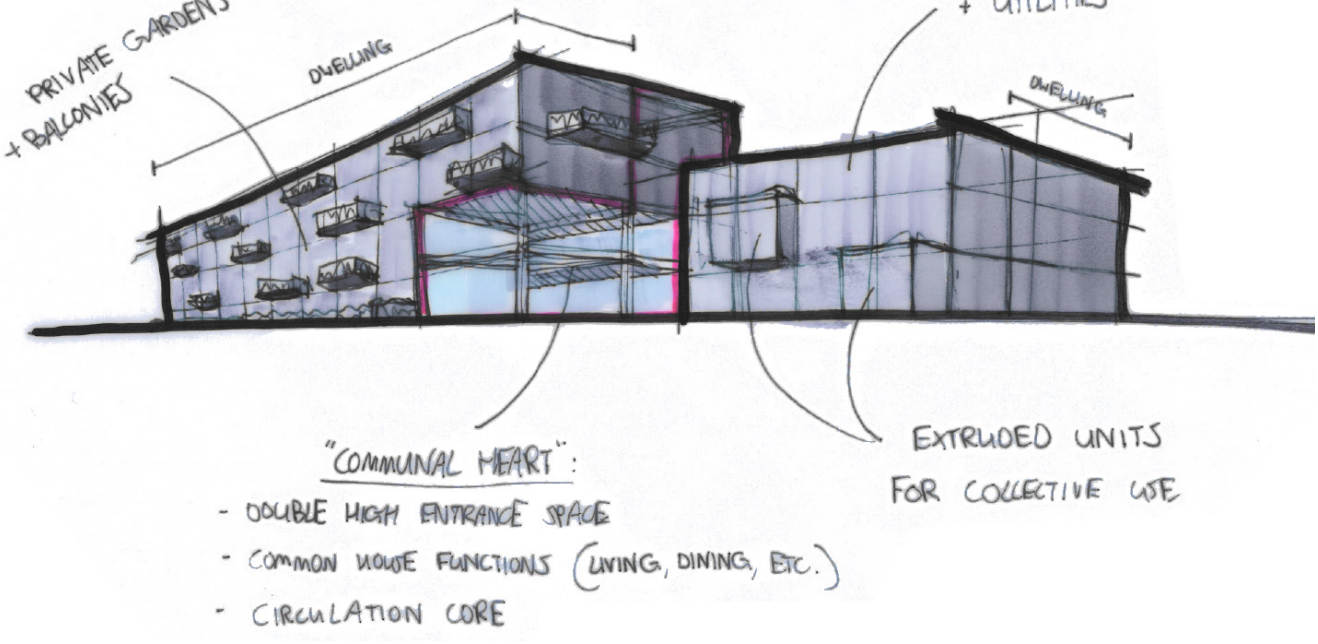


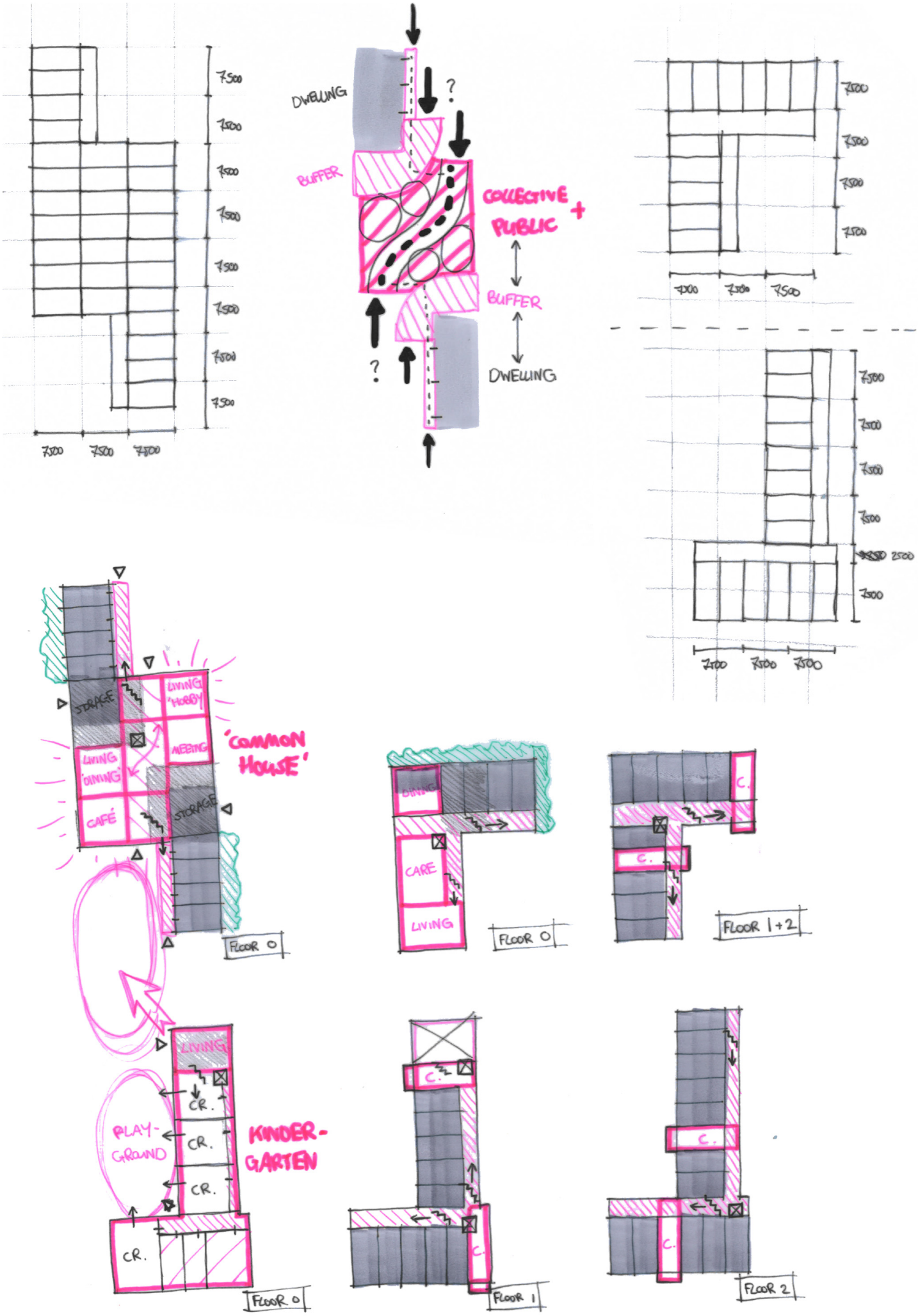
Reference





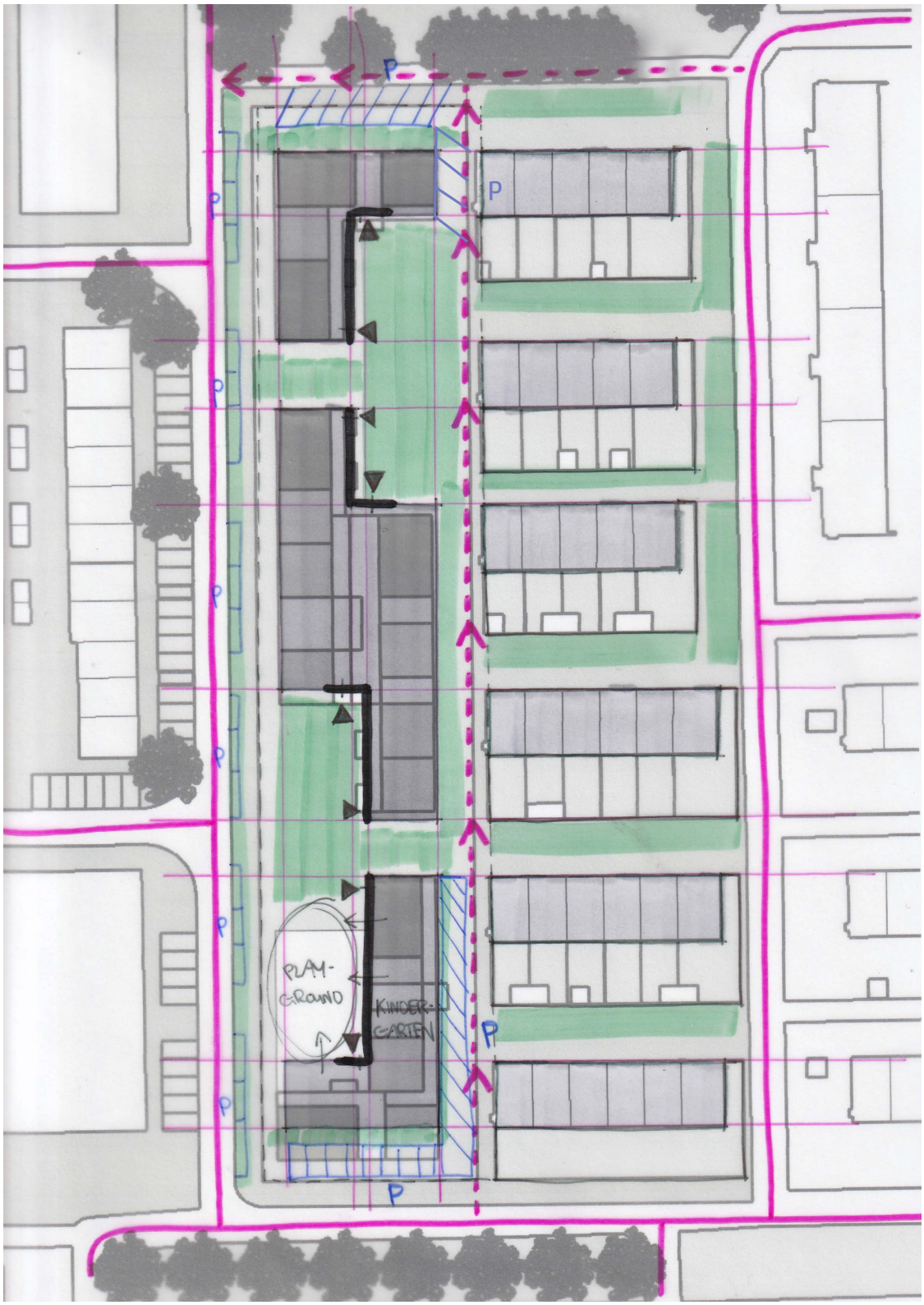
'SilviaBo', Skanska and IKEA, Stockholm, Sweden

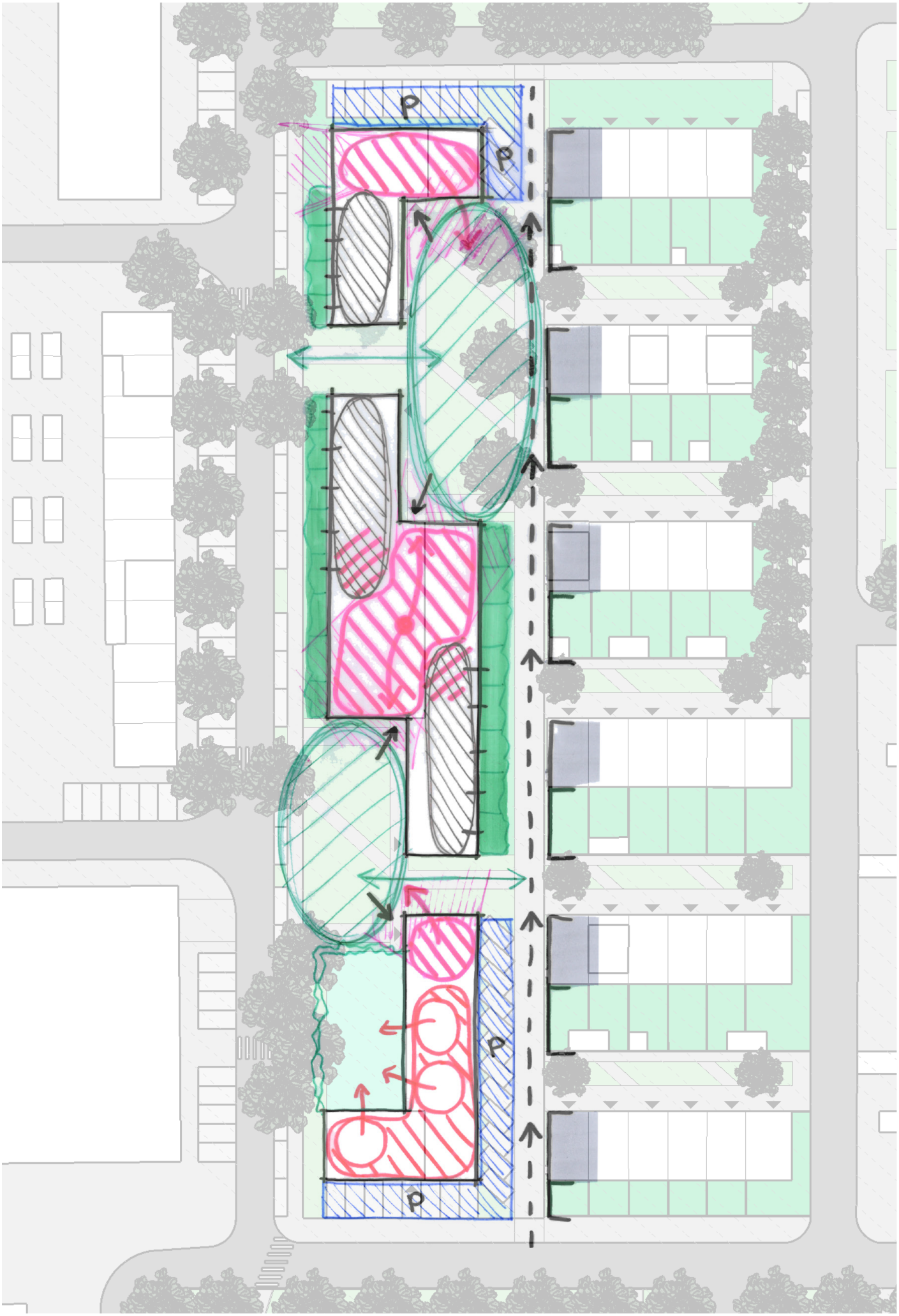



7500
DWELLING
?
BUFFER
COLLECTIVE + PUBLIC
BUFFER
DWELLING
STORAGE
LIVING 'HOBBY'
MEETING
LIVING 'DINING'
CAFÉ
STORAGE
'COMMON HOUSE'
FLOOR 0
DINING
CARE
LIVING
FLOOR 0
C.
FLOOR 1+2
LIVING
CR.
PLAY-GROUND
KINDER-GARTEN
FLOOR 0
FLOOR 1
FLOOR 2

3

Week 3

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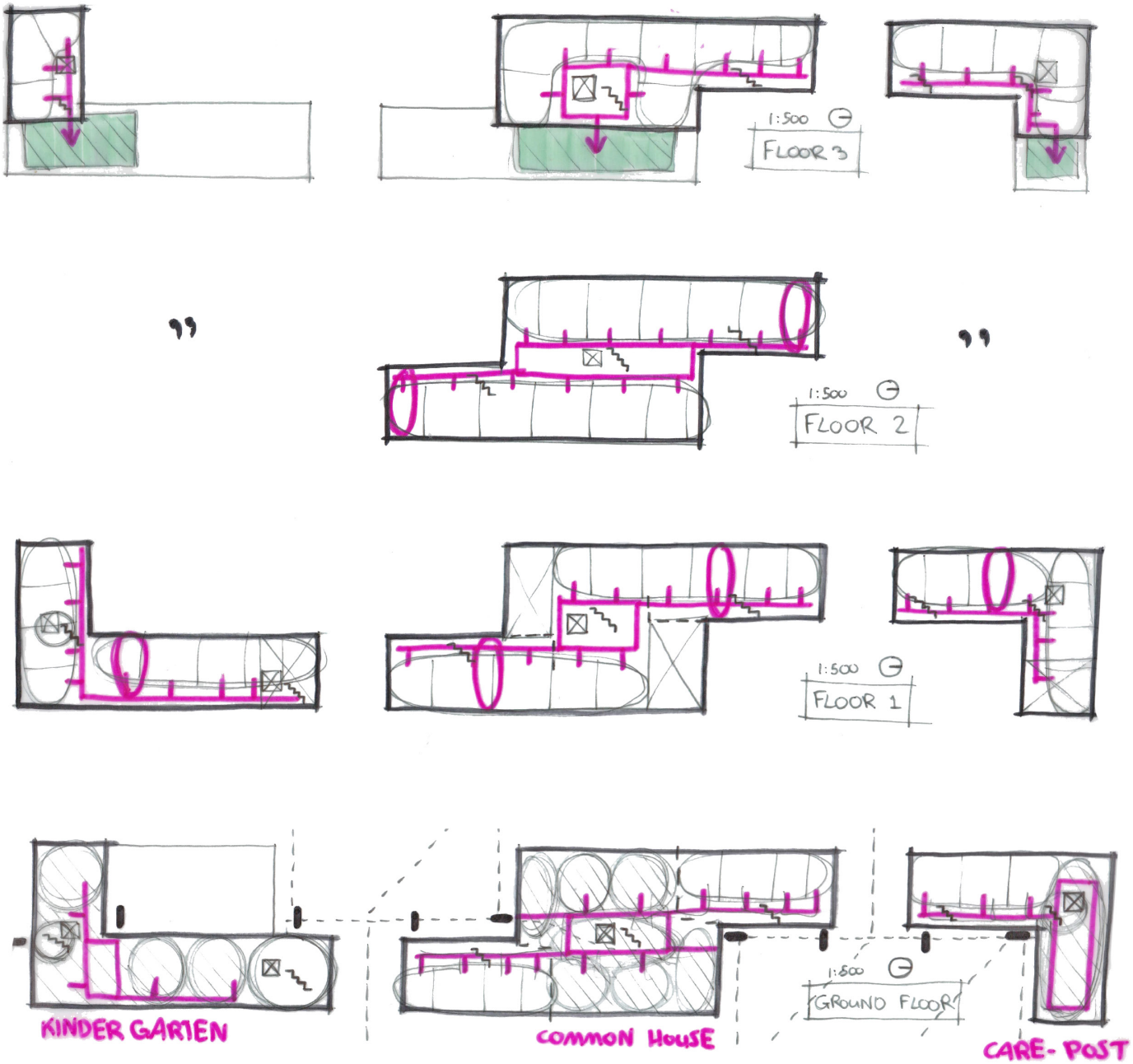
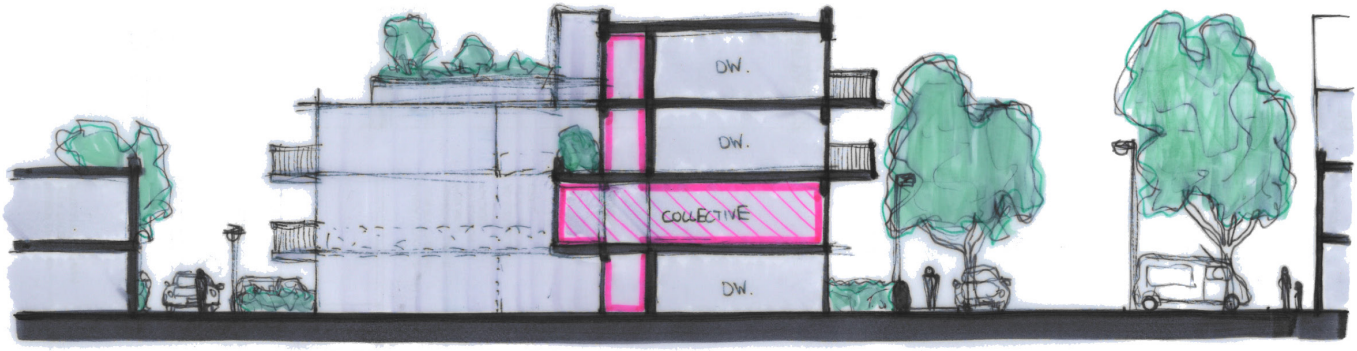
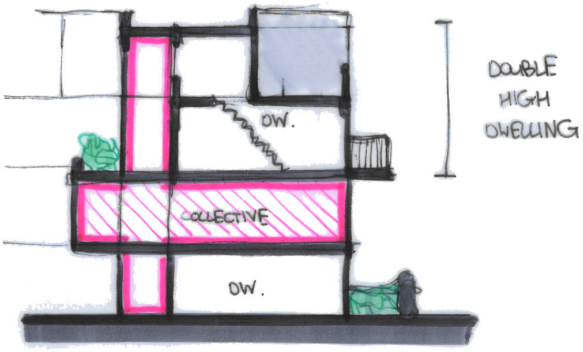
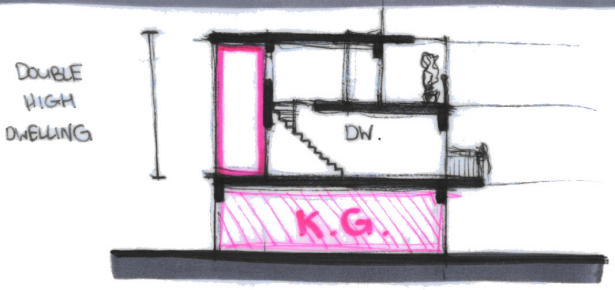

1:500
FLOOR 3
1:500
FLOOR 2
1:500
FLOOR 1
1:500
GROUND FLOOR
KINDER GARTEN
COMMON HOUSE
CARE- POST

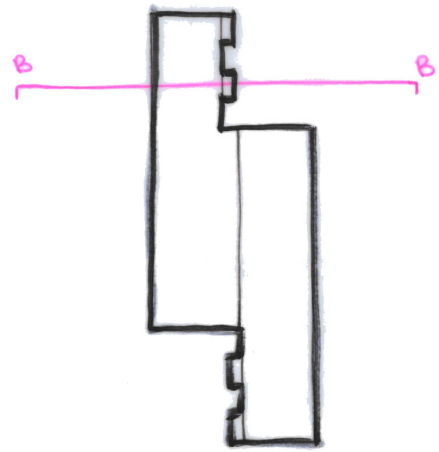


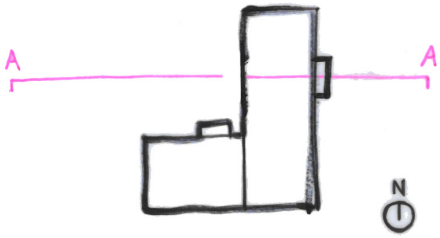
SECTION BB



SECTION AA

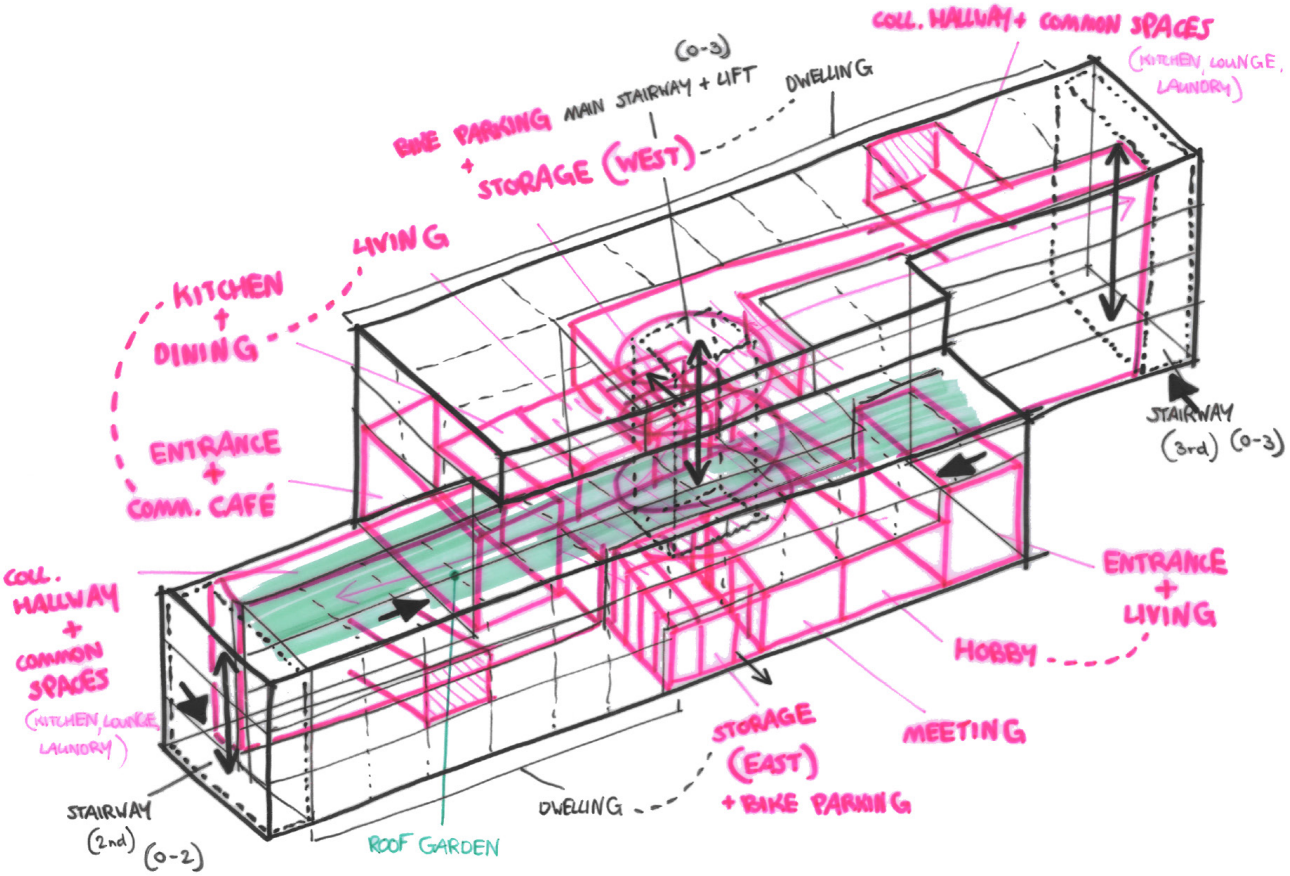


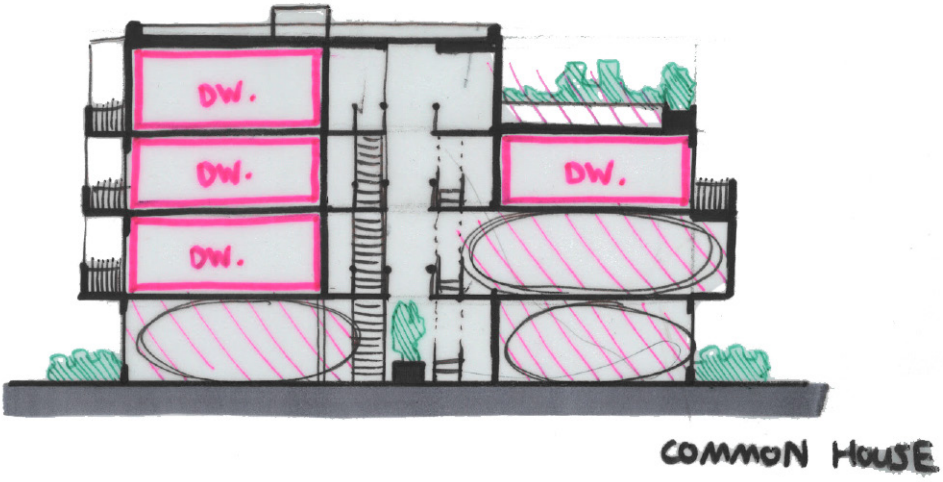




4

Week 4


COLL. HALLWAY + COMMON SPACES
(KITCHEN, LOUNGE, LAUNDRY)
(0-3)
MAIN STAIRWAY + LIFT
DWELLING
BIKE PARKING + STORAGE (WEST)
LIVING
KITCHEN + DINING
ENTRANCE + COMM. CAFÉ
STAIRWAY (3rd) (0-3)
COLL. HALLWAY + COMMON SPACES
(KITCHEN, LOUNGE, LAUNDRY)
ENTRANCE + LIVING
HOBBY
MEETING
STORAGE (EAST) + BIKE PARKING
DWELLING
ROOF GARDEN
STAIRWAY (2nd) (0-2)


DW.
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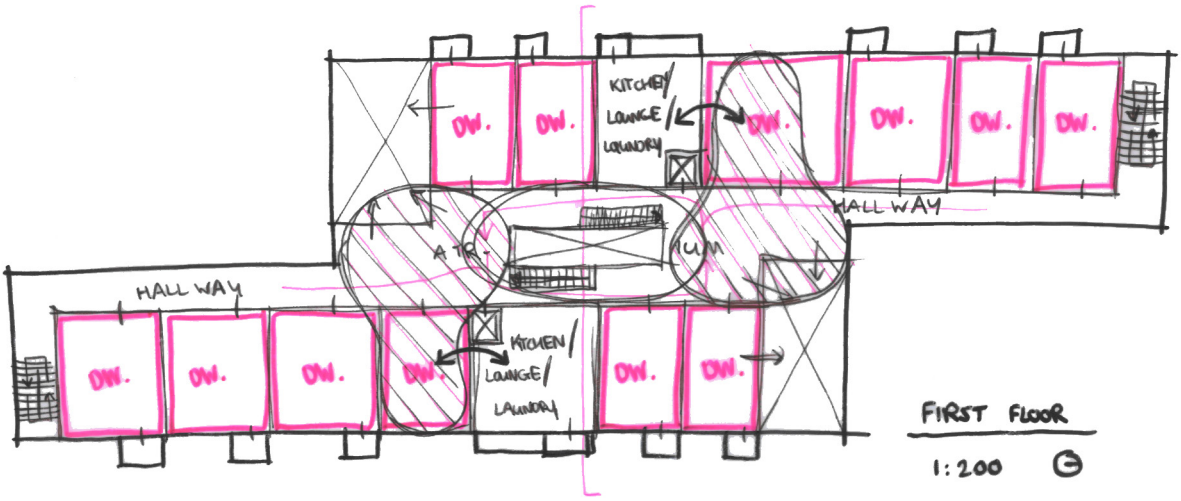
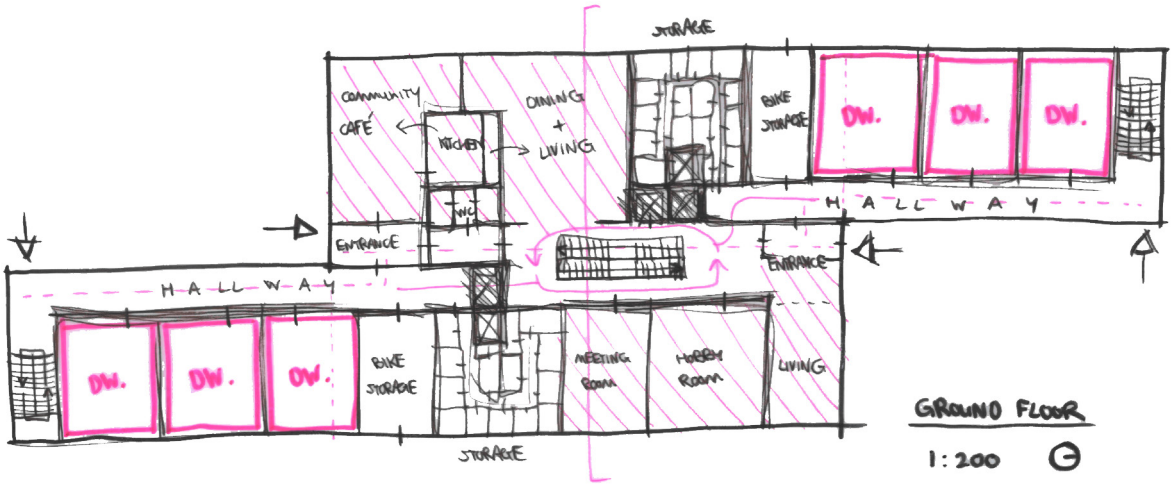
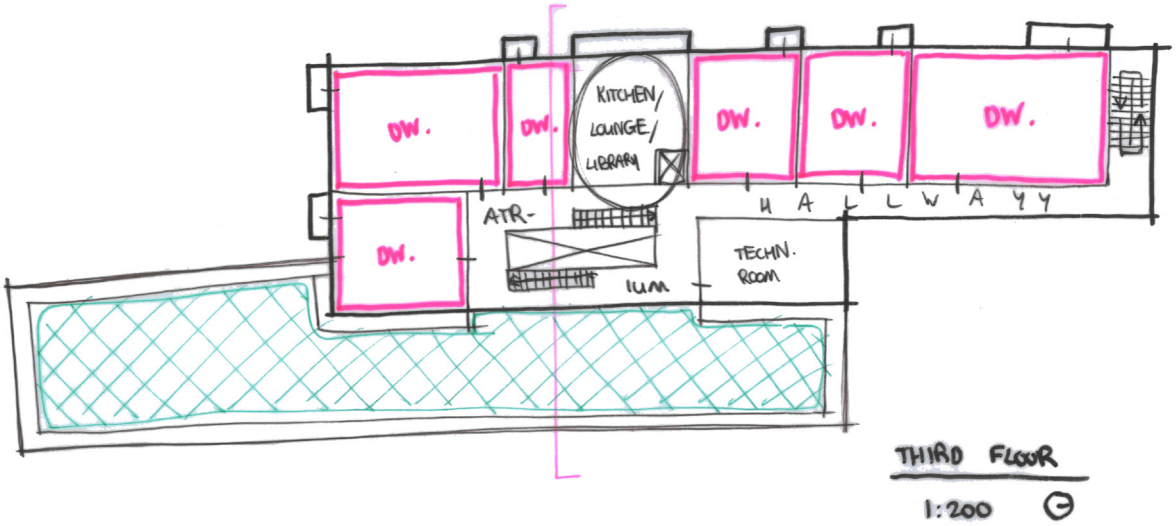
COMMON HOUSE


DW.
KITCHEN/
LOUNGE/
LAUNDRY
HALL WAY
ATR.
ILUM
KITCHEN/
LOUNGE/
LAUNDRY
FIRST FLOOR
1:200


STORAGE
COMMUNITY
CAFÉ
KITCHEN
DINING
+
LIVING
BIKE
STORAGE
DW.
WC
HALLWAY
ENTRANCE
ENTRANCE
HALLWAY
BIKE
STORAGE
MEETING
ROOM
HOBBY
ROOM
LIVING
STORAGE
GROUND FLOOR
1:200


DW.
DW.
KITCHEN/
LOUNGE/
LIBRARY
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HALLWAYY
ATR-
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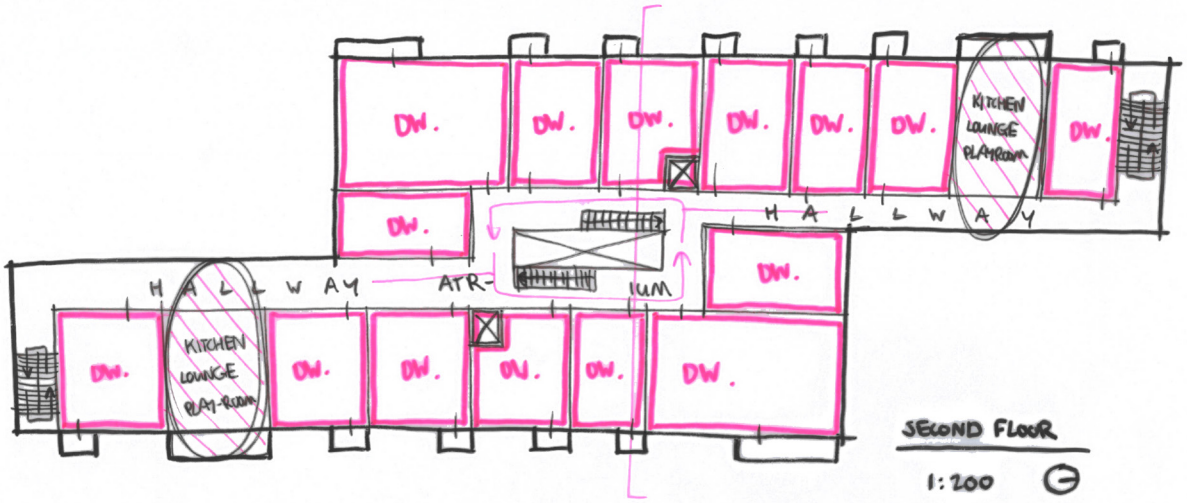
TECHN.
ROOM
ium
THIRD FLOOR
1:200


DW.
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KITCHEN
LOUNGE
PLAYROOM
DW.
DW.
HALLWAY
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HALLWAY
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ium
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KITCHEN
LOUNGE
PLAY-ROOM
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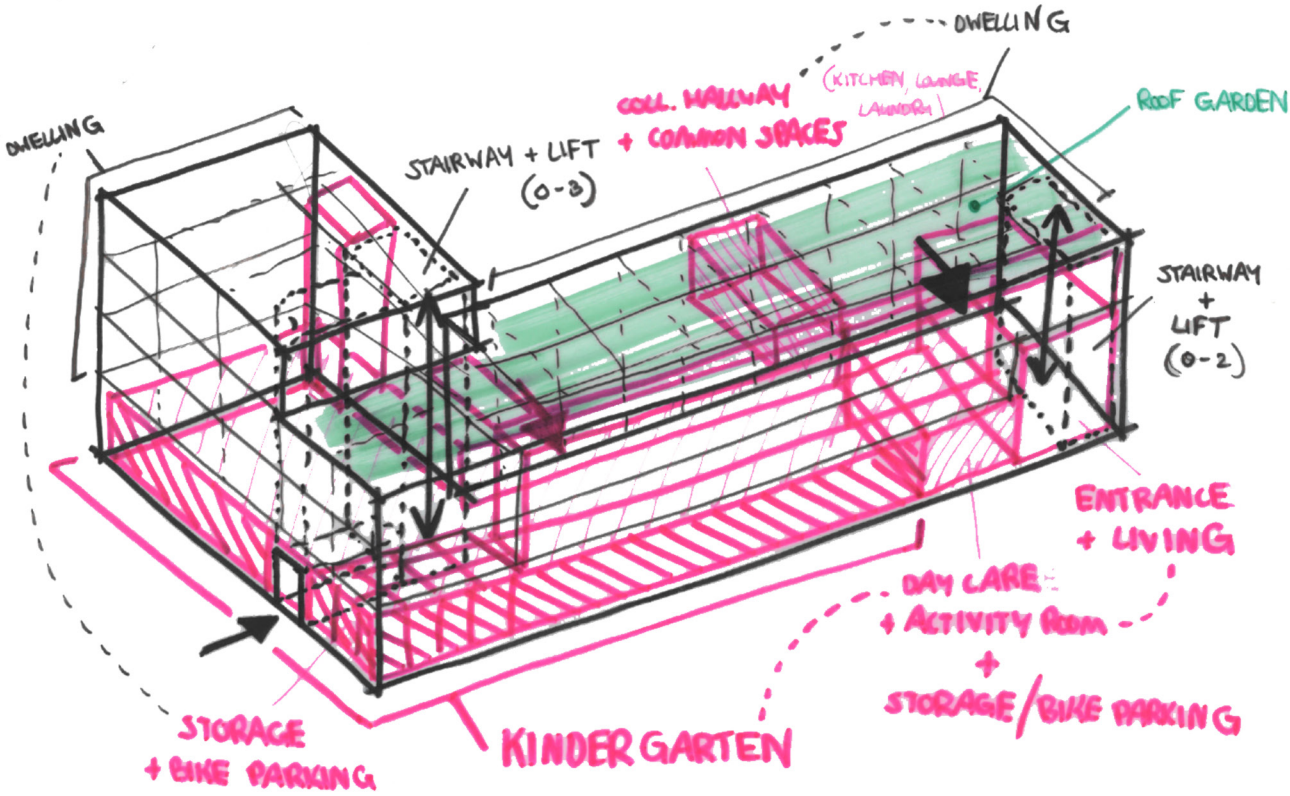
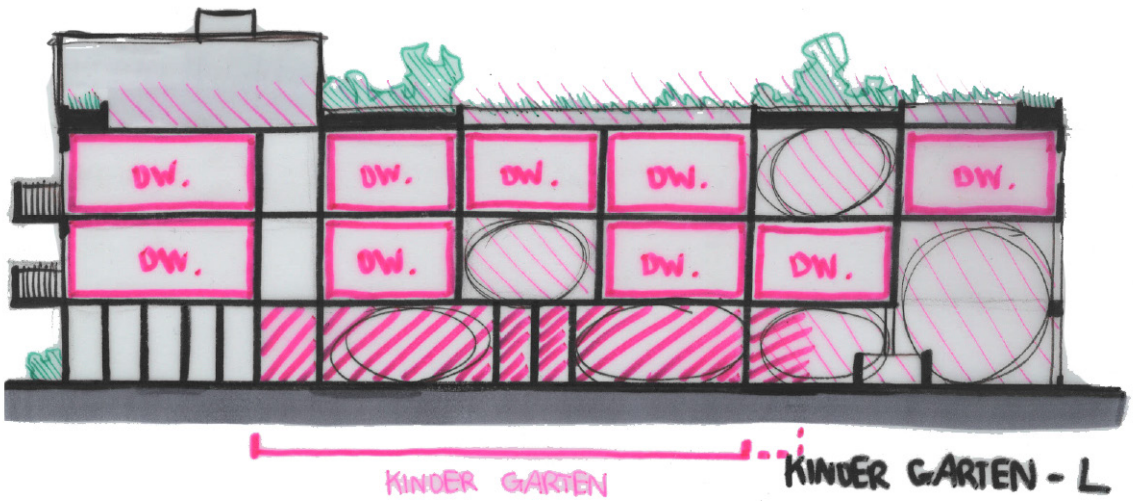
SECOND FLOOR
1:200


DWELLING
DWELLING
(KITCHEN, LOUNGE, LAUNDRY)
COLL. HALLWAY
+ COMMON SPACES
ROOF GARDEN
STAIRWAY + LIFT
(0-3)
STAIRWAY
+
LIFT
(0-2)
ENTRANCE
+ LIVING
DAY CARE
+ ACTIVITY ROOM
+
STORAGE/BIKE PARKING
STORAGE
+ BIKE PARKING
KINDERGARTEN


DW.
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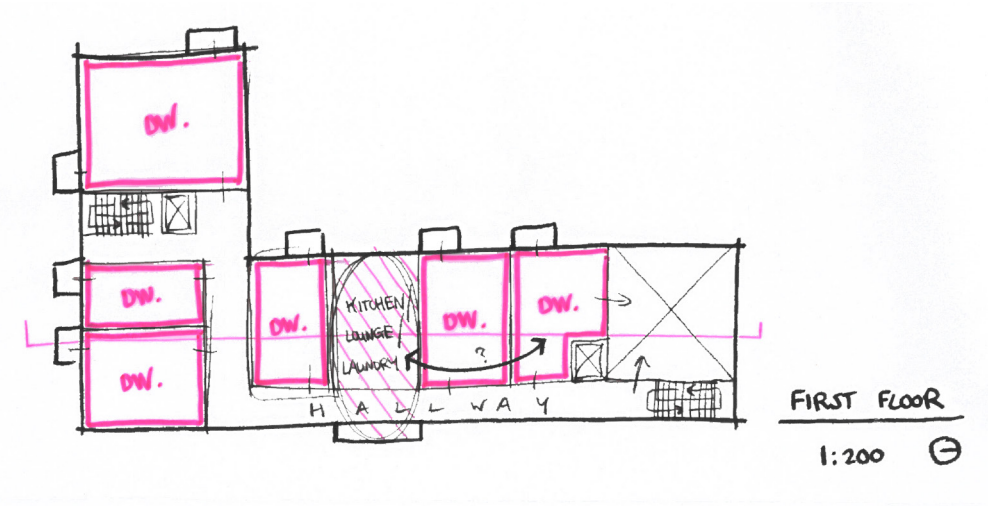
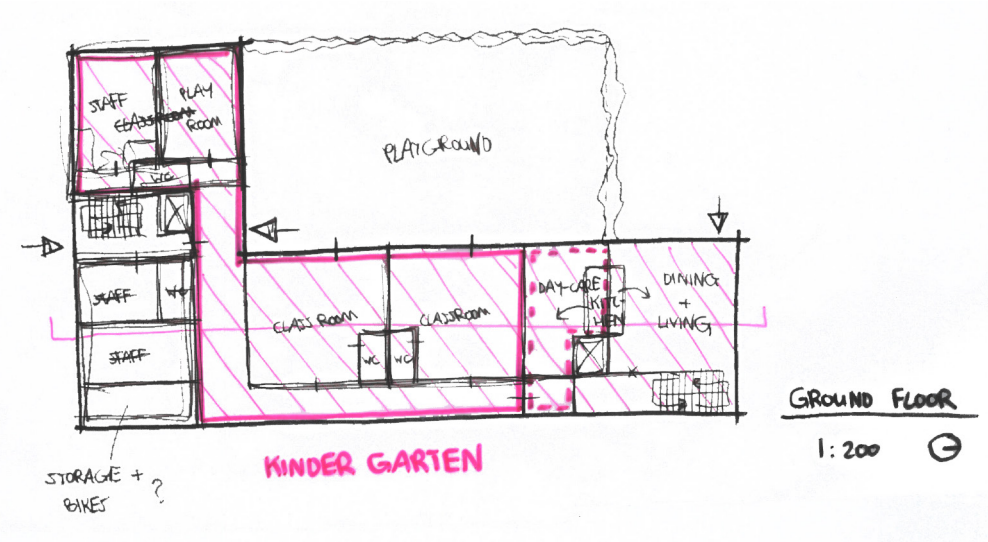
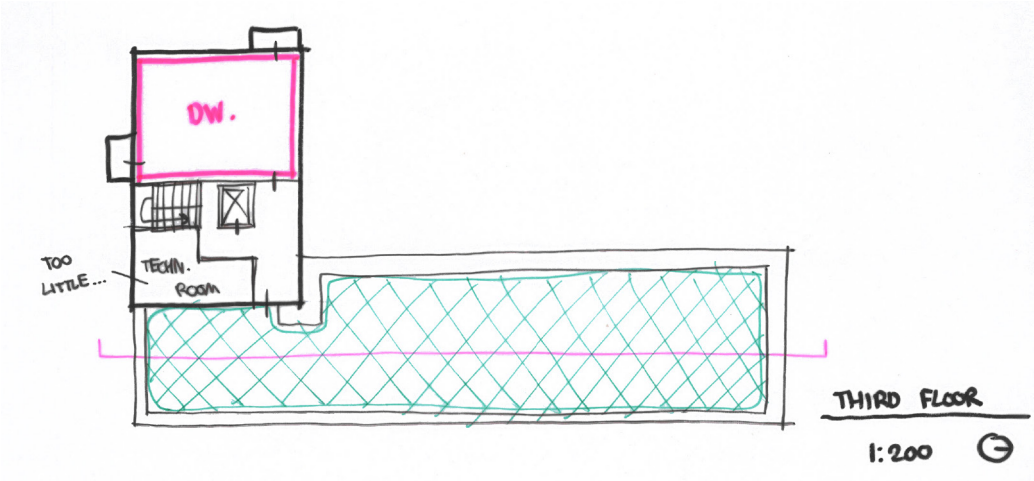
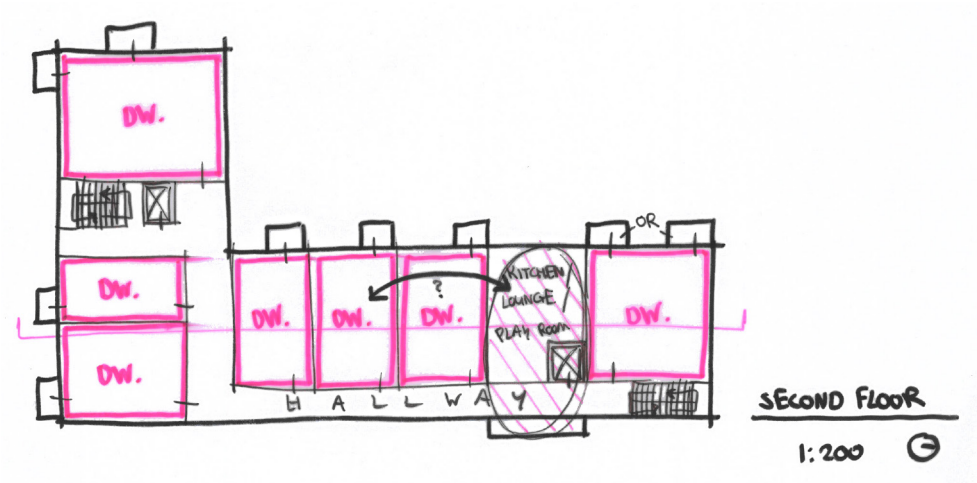
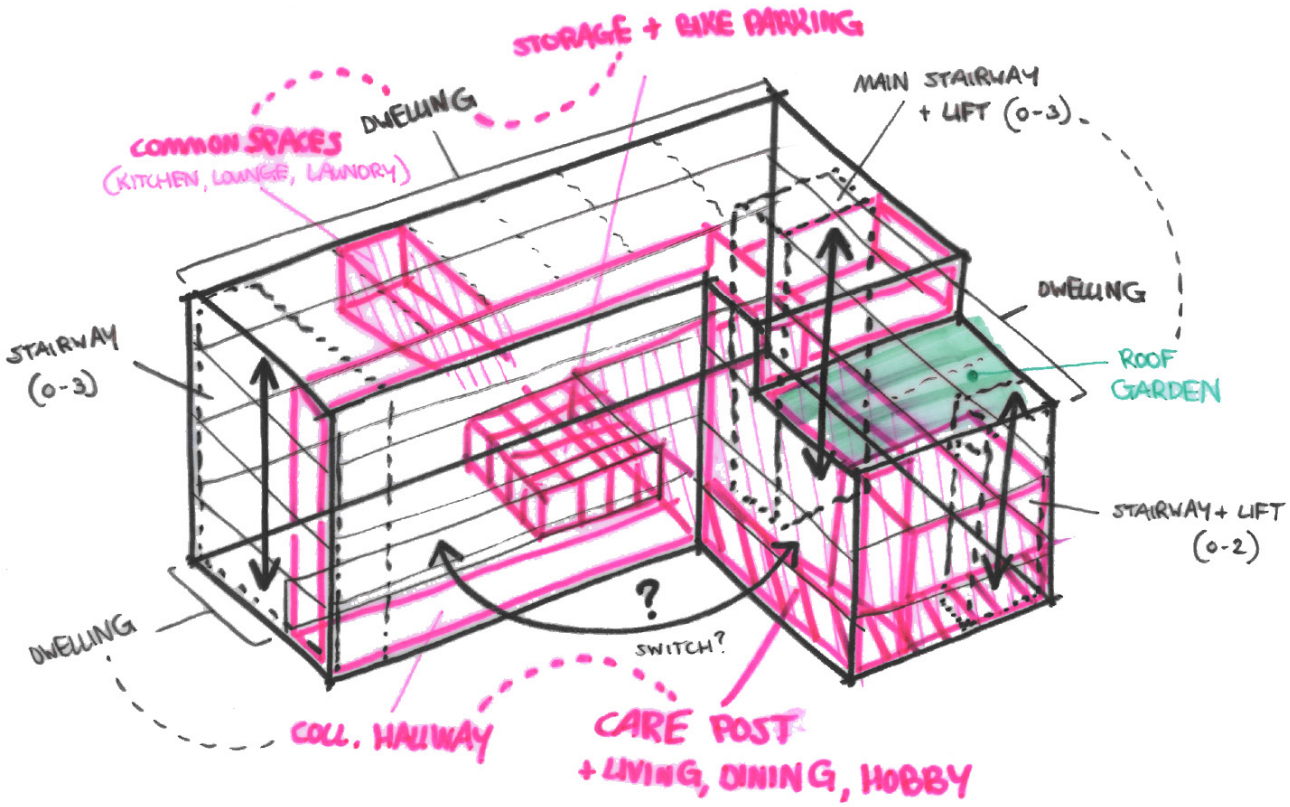
DW.
KINDER GARTEN
KINDER GARTEN - L

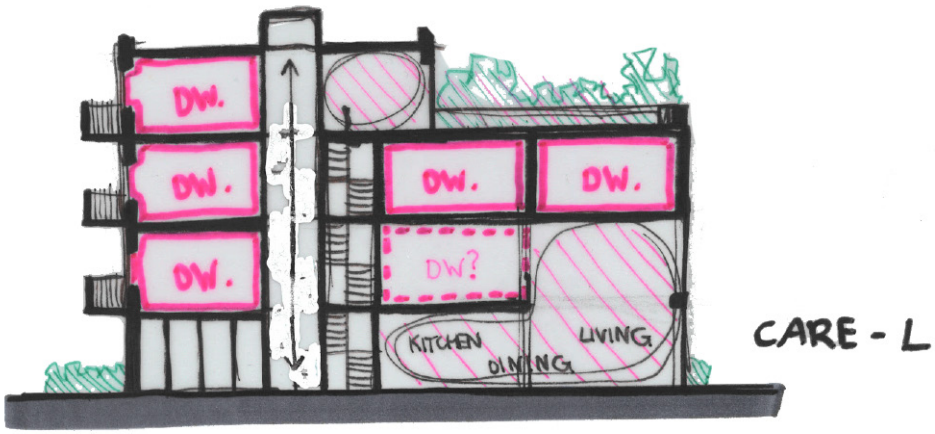

DW.
DW.
DW.
DW.
KITCHEN
LOUNGE
LAUNDRY
?
DW.
DW.
HALLWAY
FIRST FLOOR
1:200

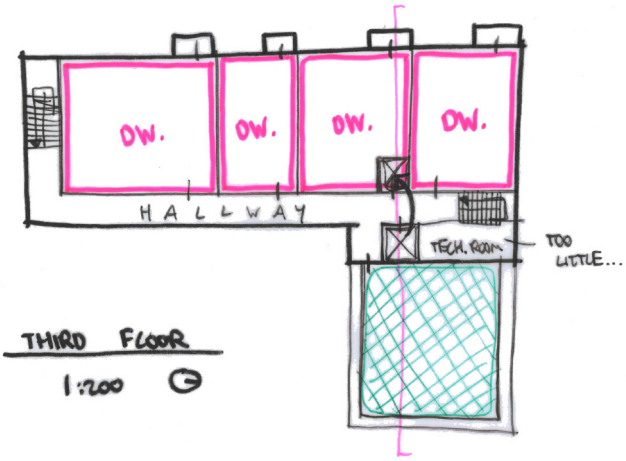

STAFF
PLAY ROOM
WC
PLAYGROUND
STAFF
WC
STAFF
CLASS ROOM
CLASSROOM
WC
WC
DAY-CARE
KITCHEN
DINING + LIVING
STORAGE + BIKES
?
KINDER GARTEN
GROUND FLOOR
1:200

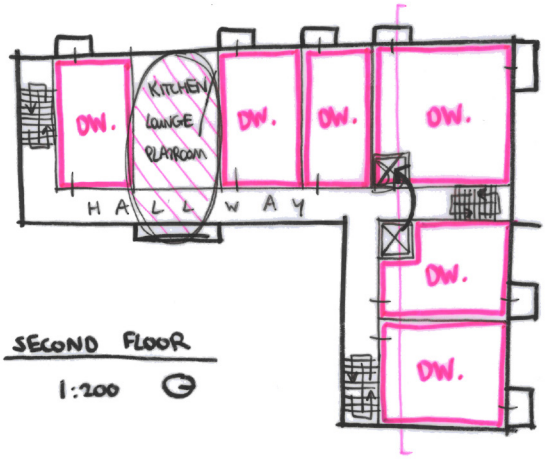

DW.
TOO LITTLE...
TECHN. ROOM
THIRD FLOOR
1:200

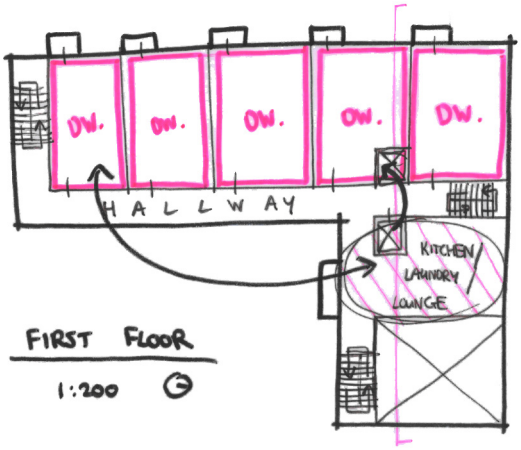

DW.
DW.
DW.
DW.
DW.
DW.
DW.
?
KITCHEN
LOUNGE
PLAY ROOM
OR
HALLWAY
SECOND FLOOR
1:200

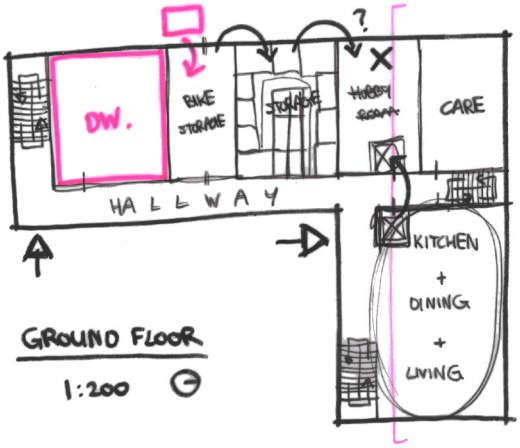

STORAGE + BIKE PARKING
DWELLING
COMMON SPACES
(KITCHEN, LOUNGE, LAUNDRY)
MAIN STAIRWAY
+ LIFT (0-3)
DWELLING
STAIRWAY
(0-3)
ROOF
GARDEN
STAIRWAY + LIFT
(0-2)
?
SWITCH?
DWELLING
COLL. HALLWAY
CARE POST
+ LIVING, DINING, HOBBY

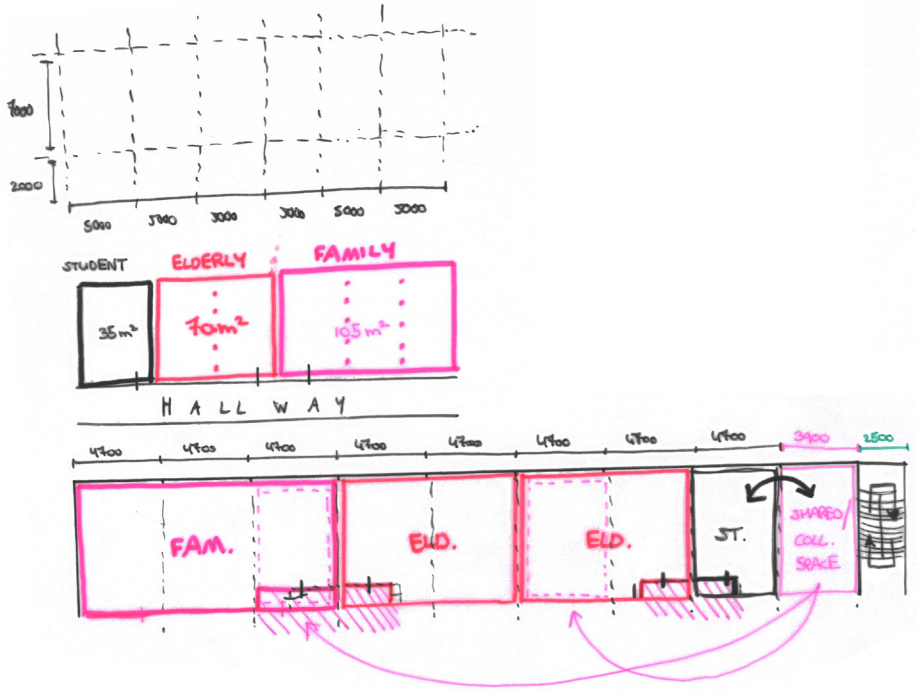

DW.
DW.
DW.
DW.
DW.
DW?
KITCHEN
LIVING
DINING
CARE - L

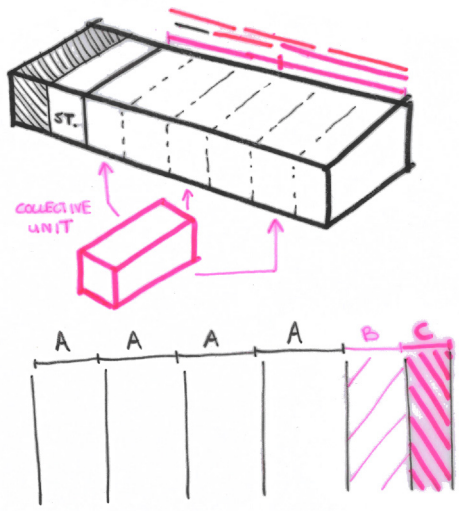

DW.
DW.
DW.
DW.
HALLWAY
TECH. ROOM
TOO LITTLE...
THIRD FLOOR
1:200

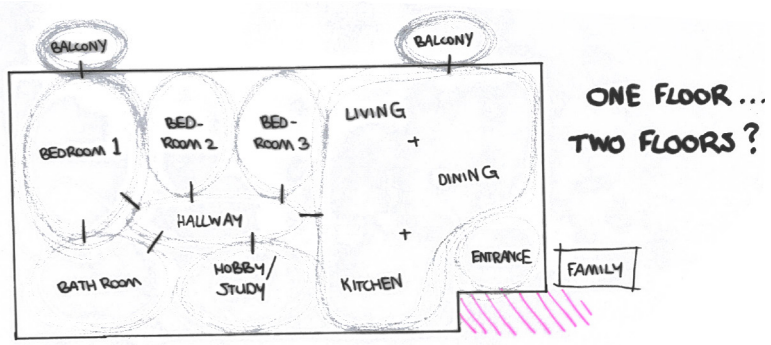

DW.
KITCHEN/ LOUNGE/ PLAYROOM
DW.
DW.
DW.
HALLWAY
DW.
DW.
SECOND FLOOR
1:200


DW.
DW.
DW.
DW.
DW.
HALLWAY
KITCHEN/ LAUNDRY/ LOUNGE
FIRST FLOOR
1:200

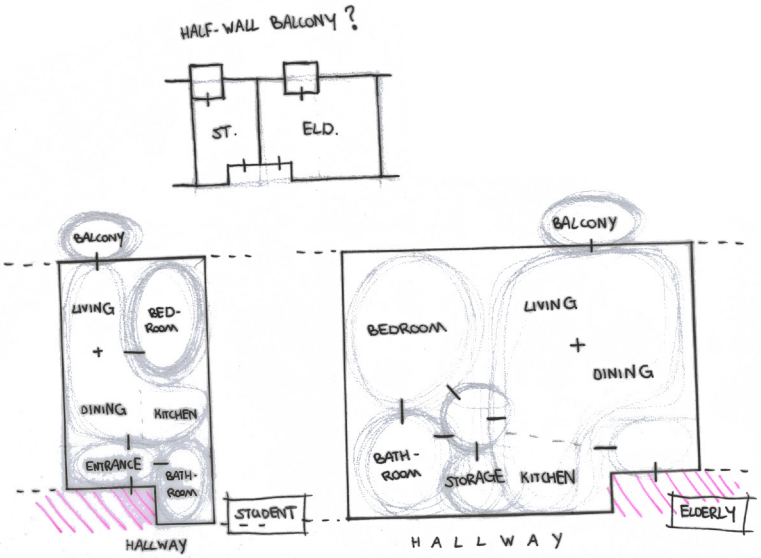

DW.
BIKE STORAGE
STORAGE
HOBBY ROOM
CARE
HALLWAY
KITCHEN + DINING + LIVING
GROUND FLOOR
1:200



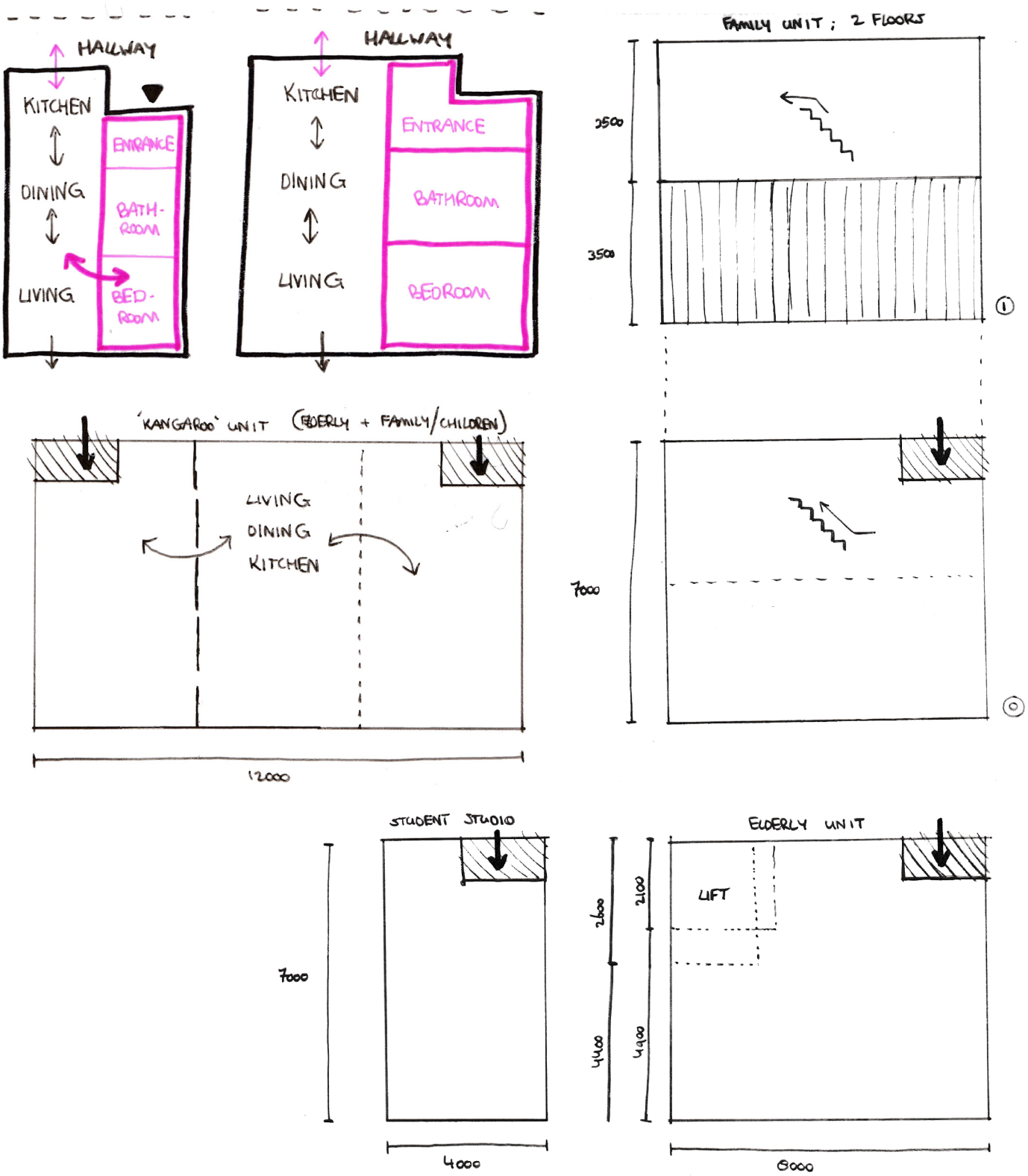


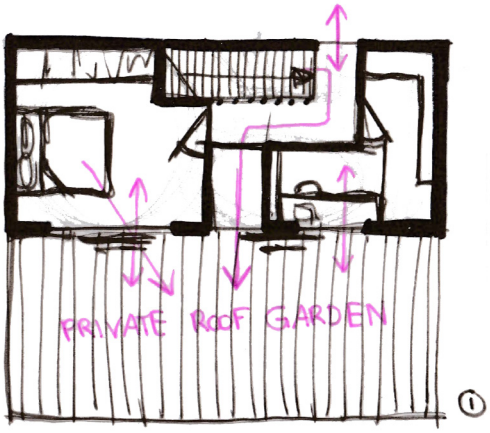


ONE FLOOR...
TWO FLOORS?

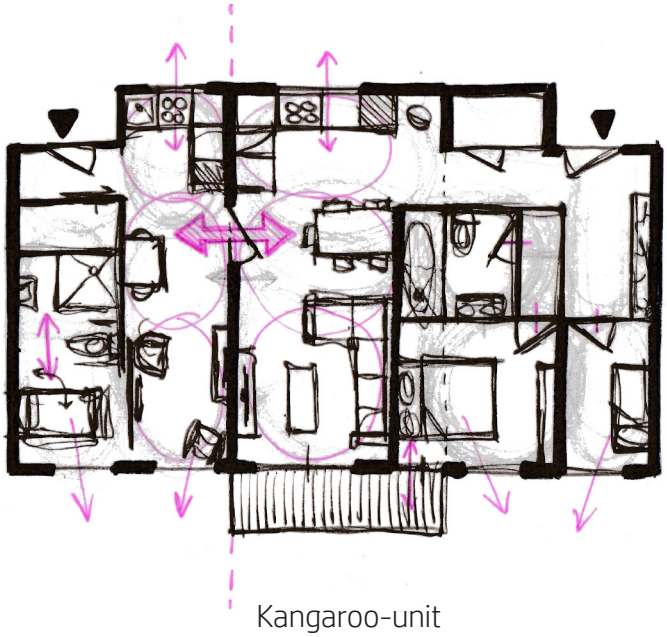


5 Week 5

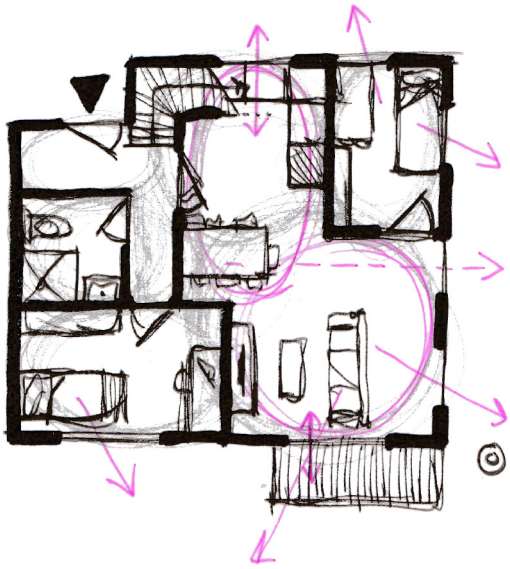

HALLWAY
KITCHEN
DINING
LIVING
ENTRANCE
BATH-ROOM
BED-ROOM
HALLWAY
KITCHEN
DINING
LIVING
ENTRANCE
BATHROOM
BEDROOM
FAMILY UNIT ; 2 FLOORS
2500
3500
7000
'KANGAROO' UNIT (ELDERLY + FAMILY/CHILDREN)
LIVING
DINING
KITCHEN
12000
STUDENT STUDIO
7000
4000
ELDERLY UNIT
LIFT
2600
2100
4400
4900
8000



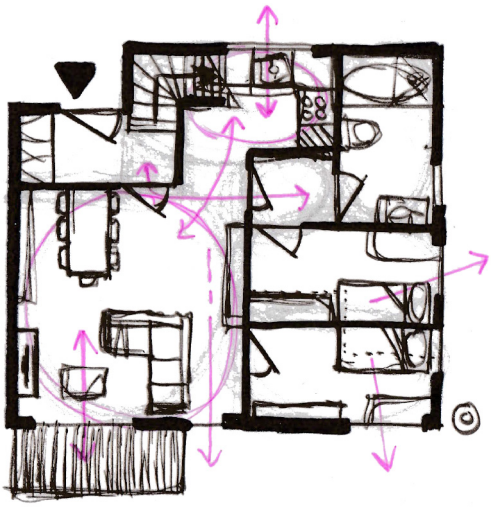
Family-unit (1, corner)



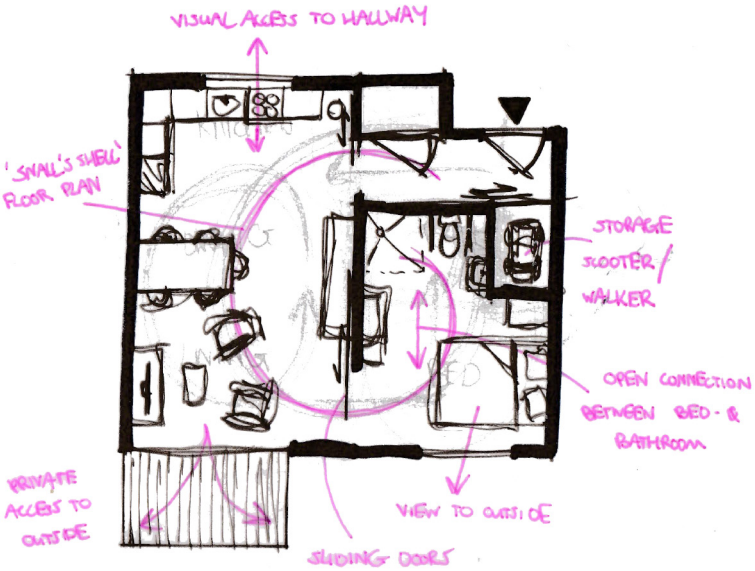
Kangaroo-unit



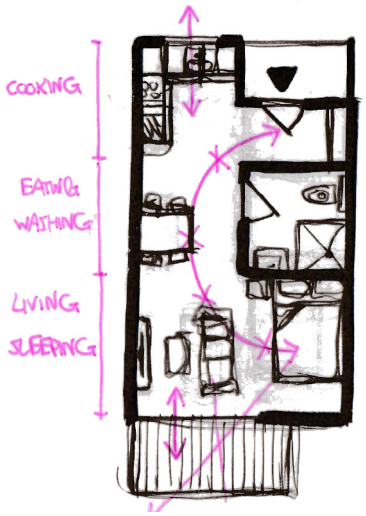
Family-unit (0, corner)



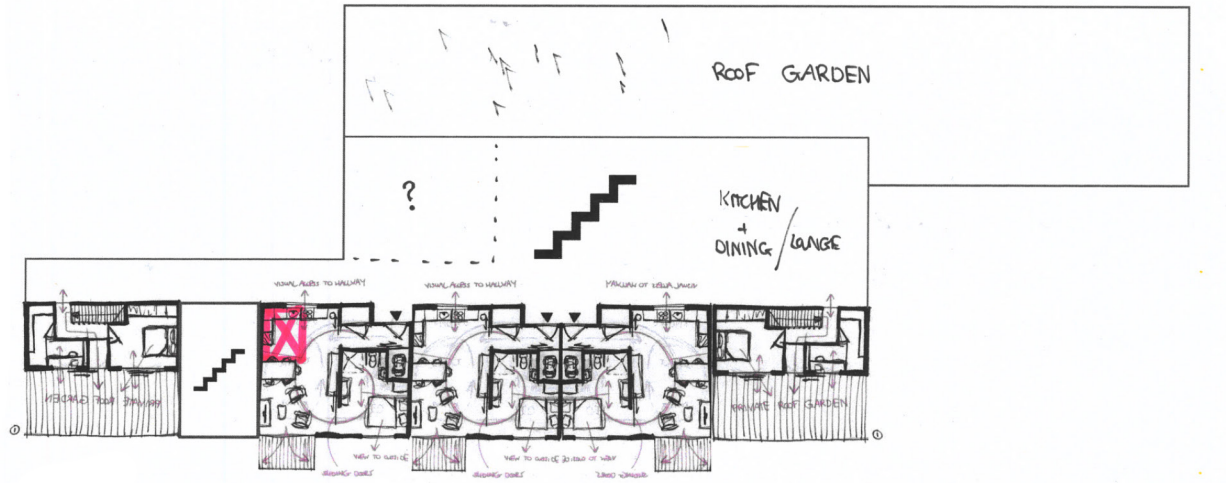
Family-unit (0, middle)

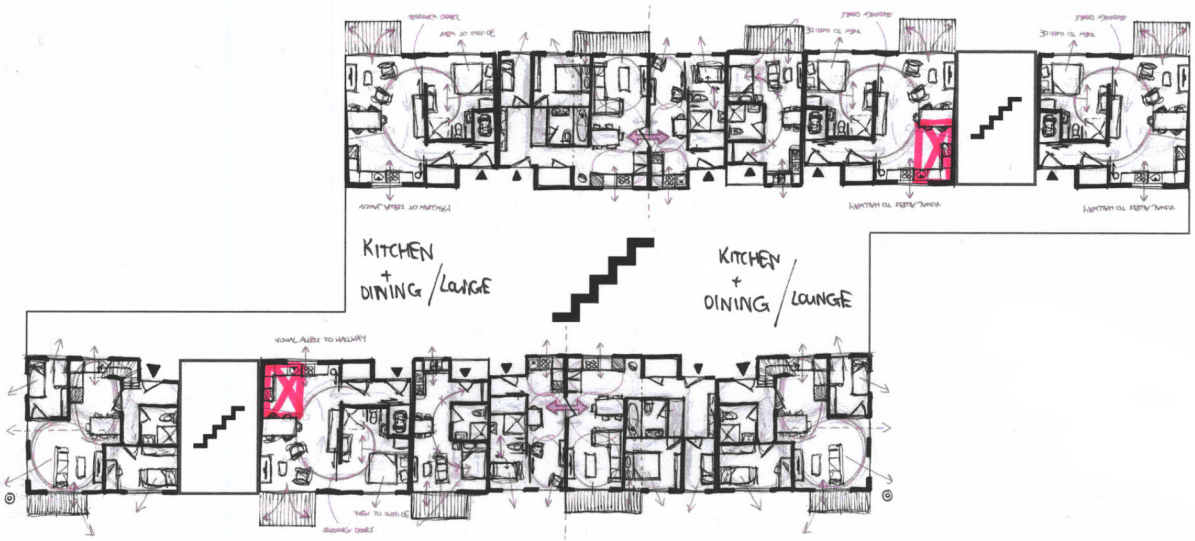


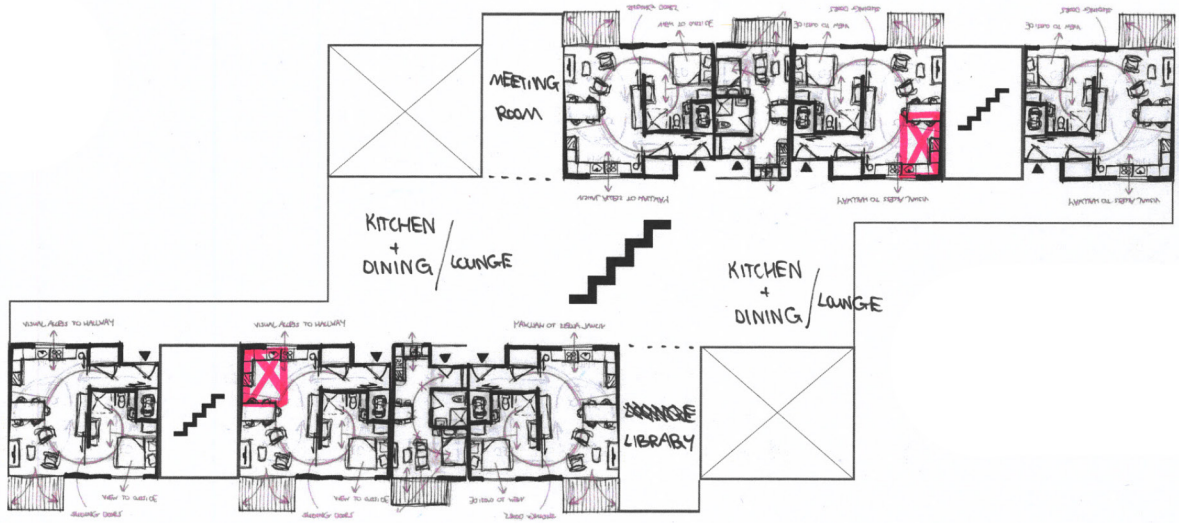
Elderly-unit

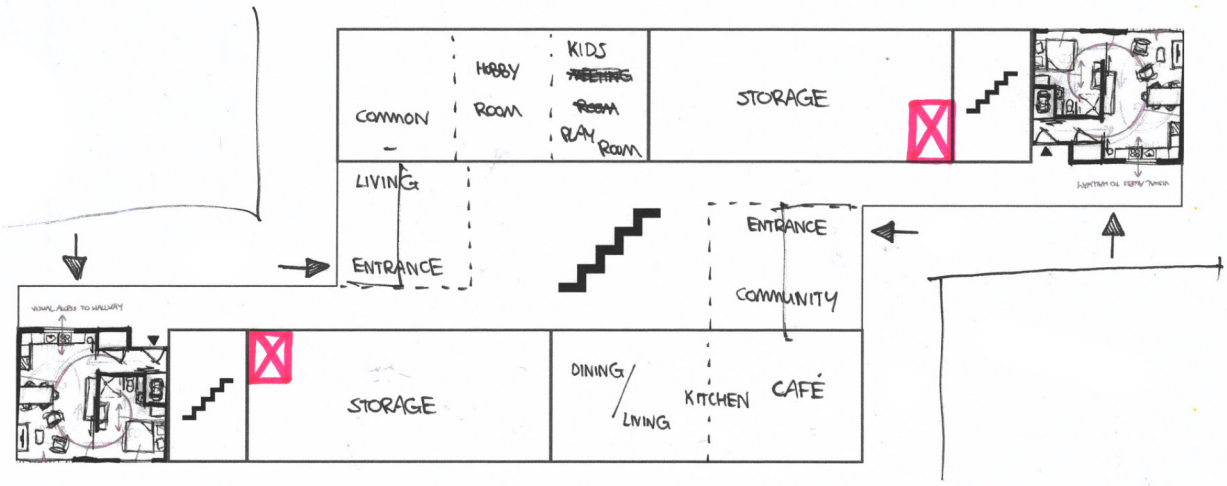


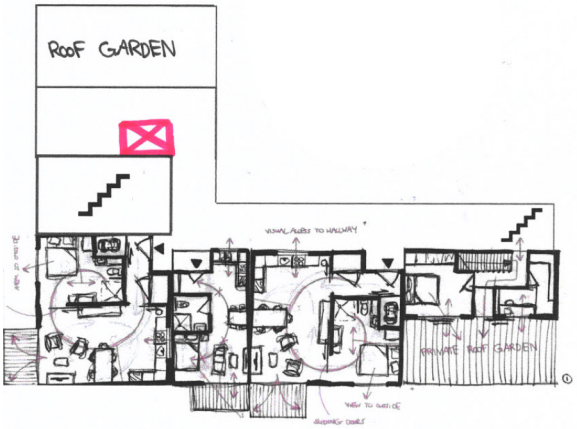
Student-unit

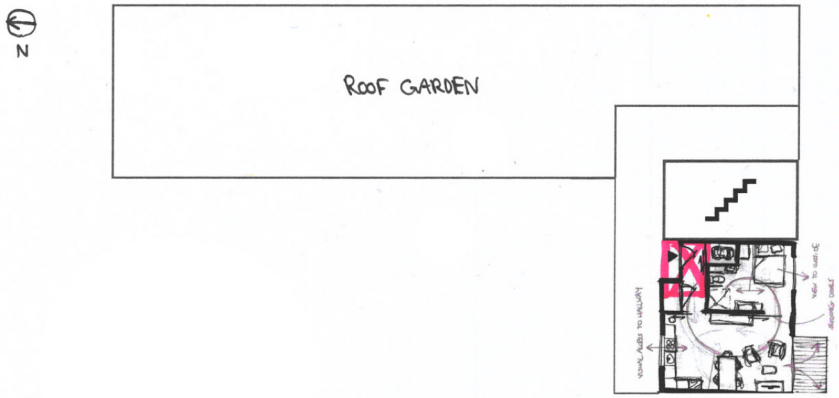

ROOF GARDEN
?
KITCHEN
+
DINING/LOUNGE

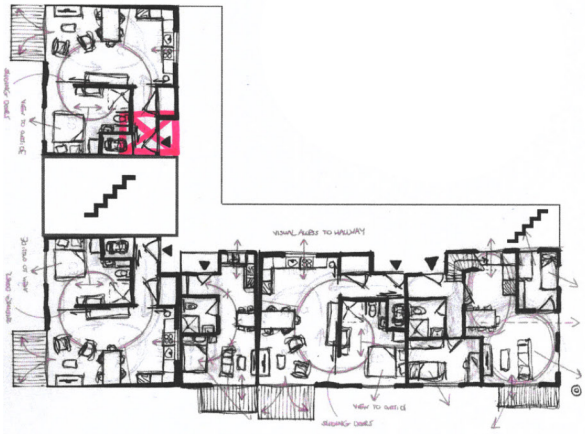

KITCHEN
+
DINING/LOUNGE
KITCHEN
+
DINING/LOUNGE

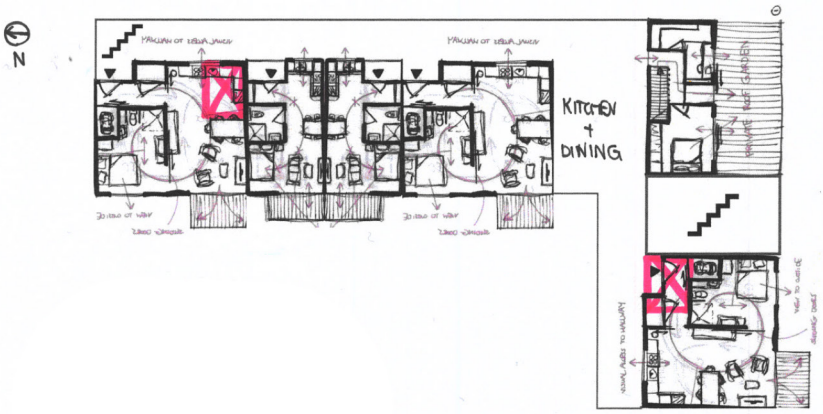

MEETING
ROOM
KITCHEN
+
DINING/LOUNGE
KITCHEN
+
DINING/LOUNGE
LIBRARY

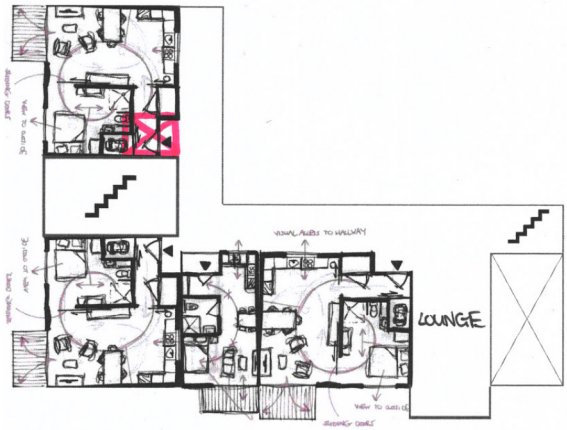

COMMON
-
LIVING
HOBBY
ROOM
KIDS
~~MEETING~~
~~ROOM~~
PLAY ROOM
STORAGE
ENTRANCE
ENTRANCE
COMMUNITY
STORAGE
DINING/
LIVING
KITCHEN
CAFÉ

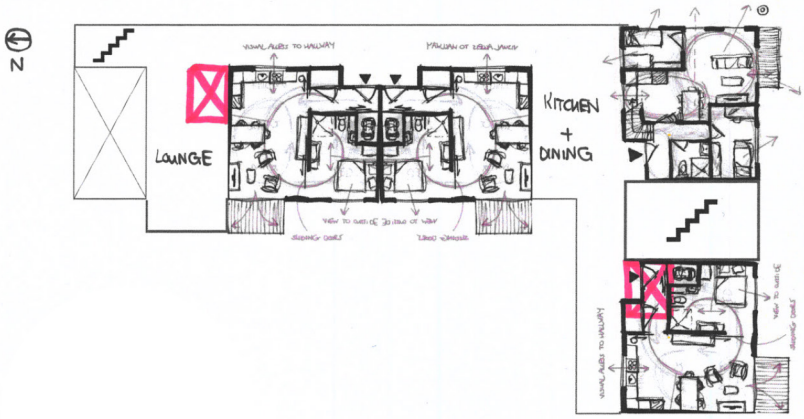

ROOF GARDEN
PRIVATE ROOF GARDEN

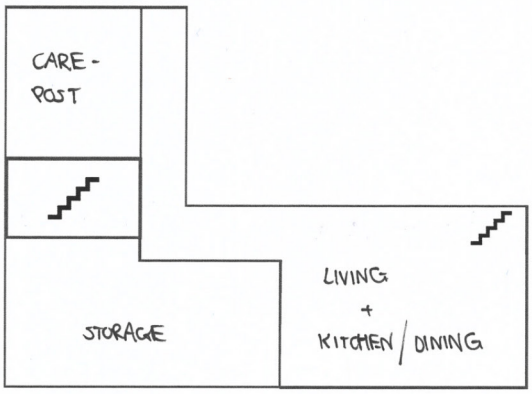

N
ROOF GARDEN

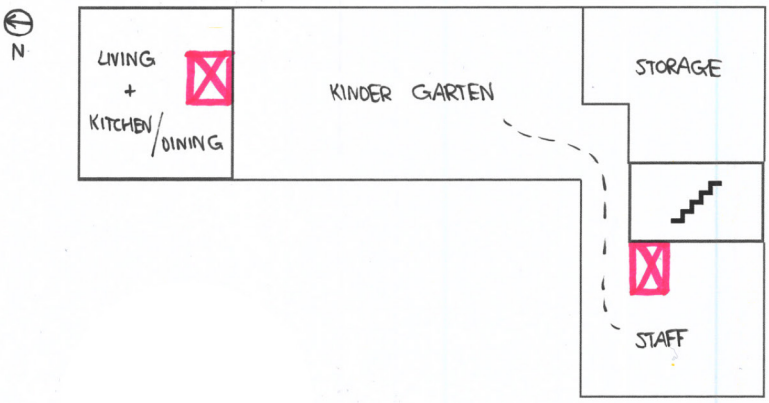


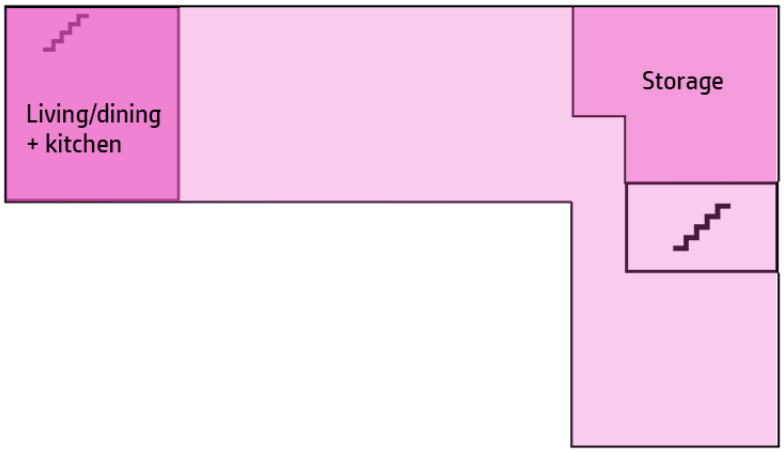

N
KITCHEN
+
DINING
PRIVATE ROOF GARDEN

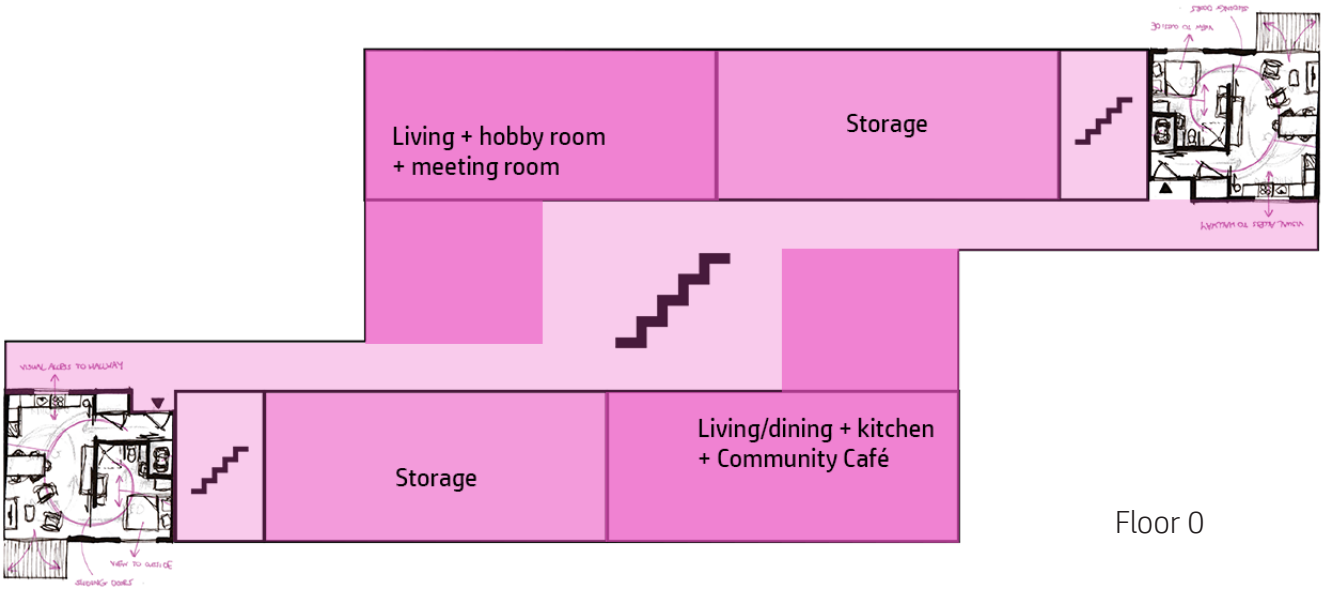

LOUNGE


N
LOUNGE
KITCHEN
+
DINING

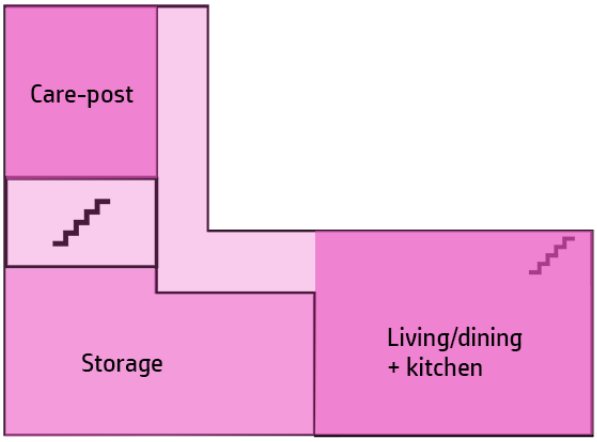

CARE-
POST
STORAGE
LIVING
+
KITCHEN / DINING

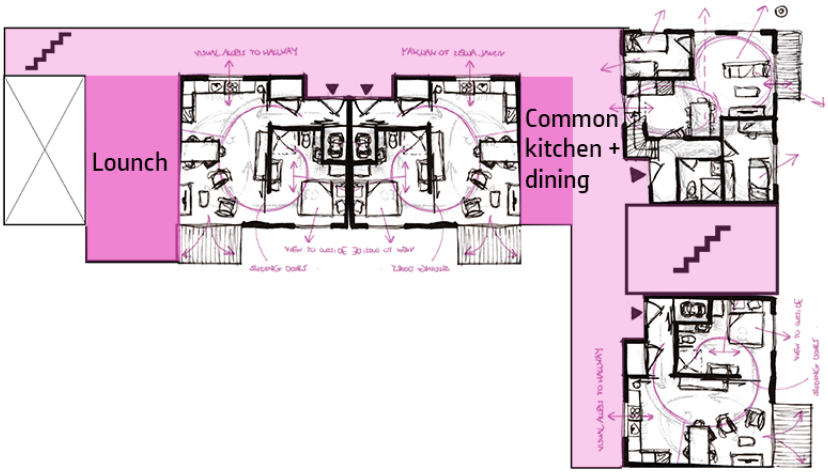

N
LIVING
+
KITCHEN / DINING
KINDER GARTEN
STORAGE
STAFF

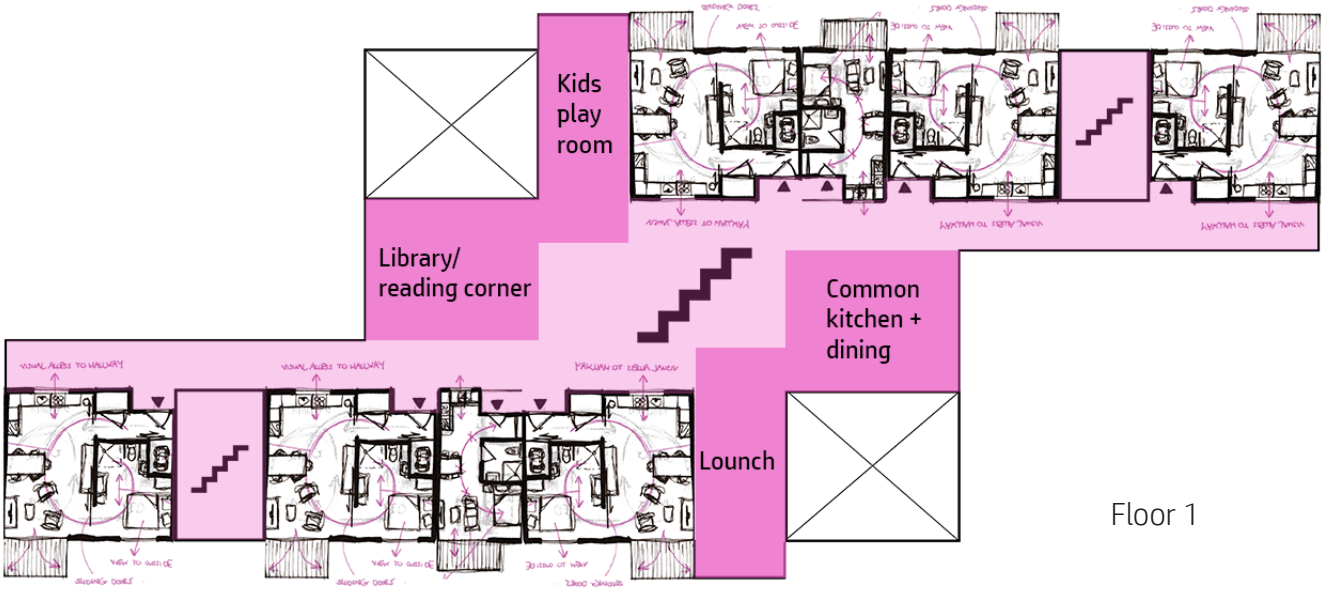

Living/dining
+ kitchen
Storage


Living + hobby room
+ meeting room
Storage
Storage
Living/dining + kitchen
+ Community Café

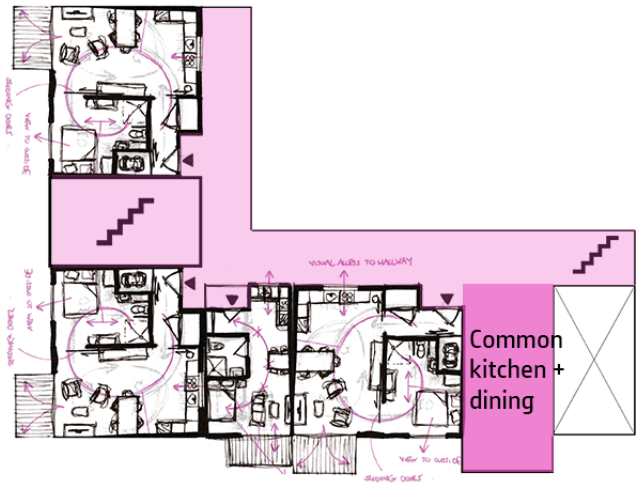
Floor 0

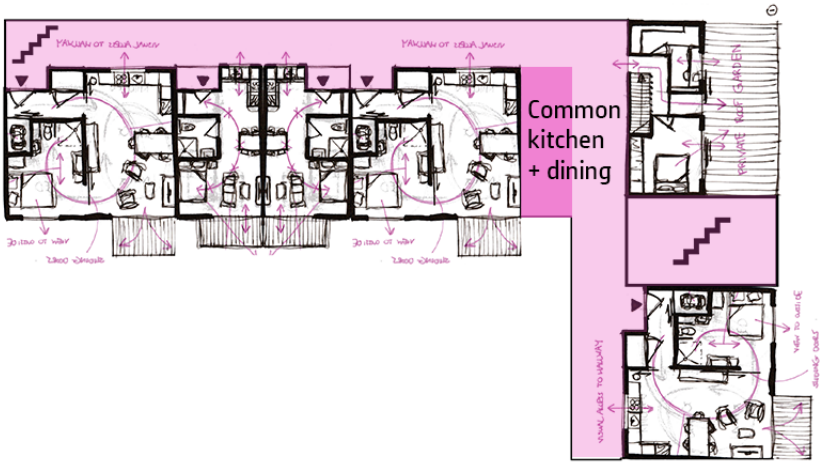

Care-post
Storage
Living/dining
+ kitchen

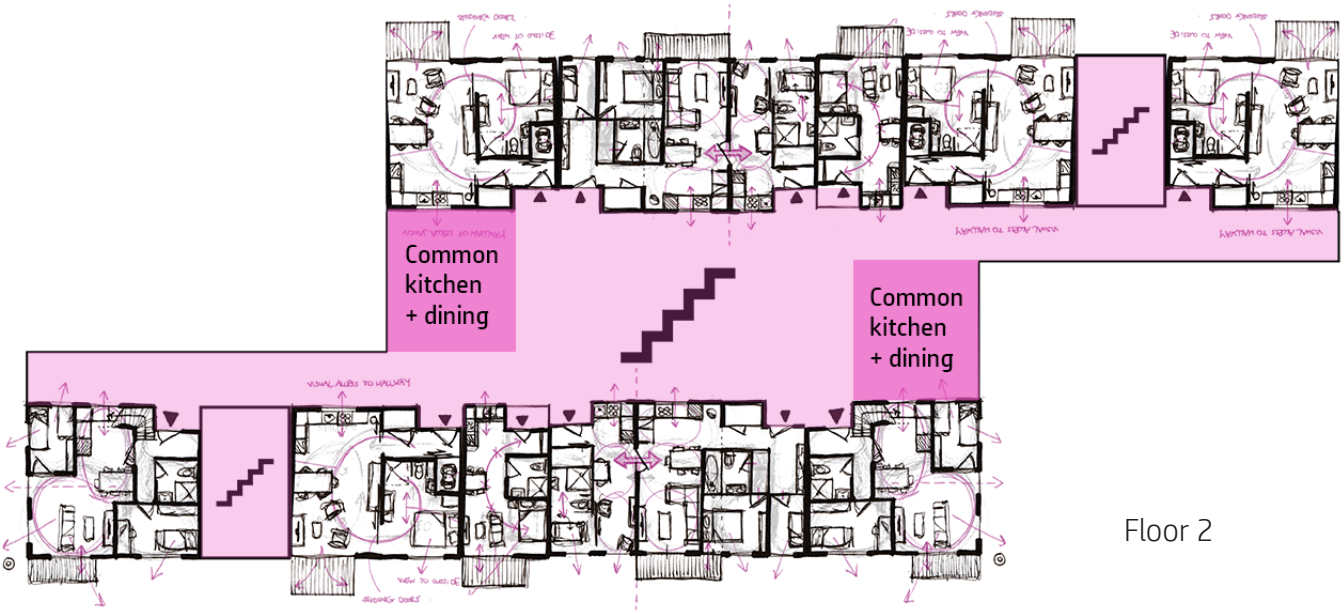

Lounch
Common kitchen + dining


Kids play room
Library/ reading corner
Common kitchen + dining
Lounch

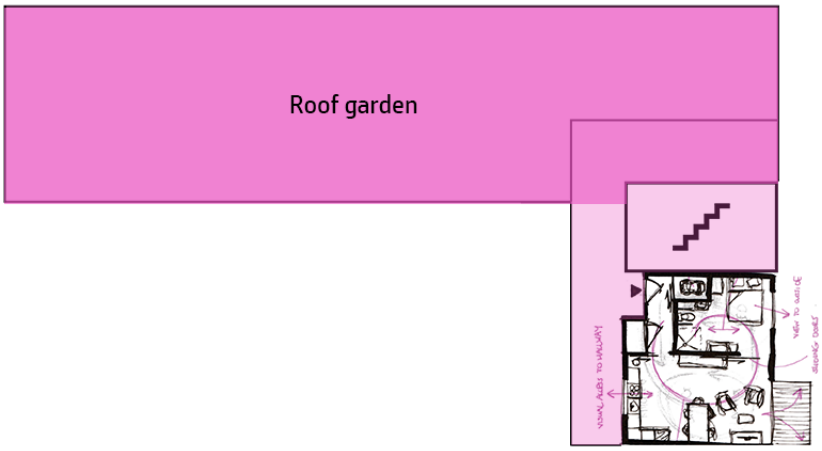
Floor 1

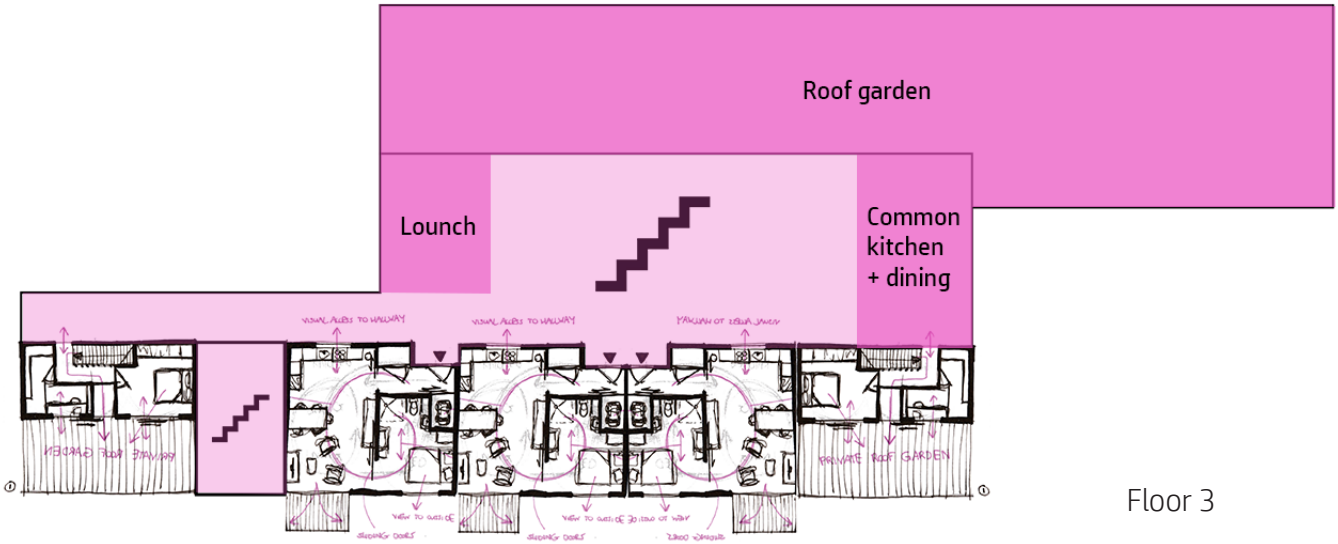

Common kitchen + dining


Common
kitchen
+ dining

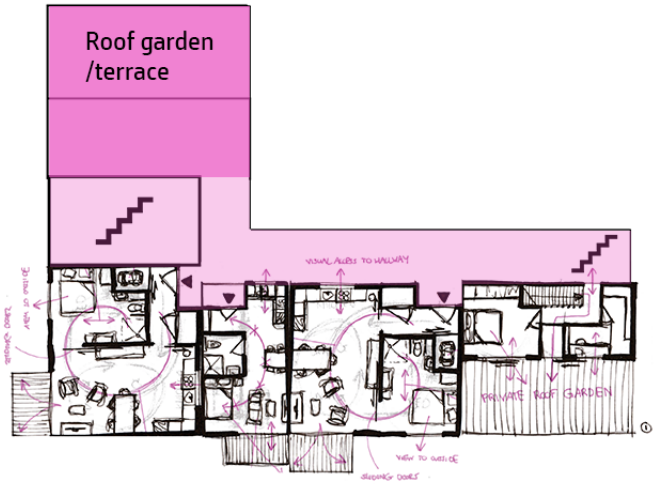

Common
kitchen
+ dining
Common
kitchen
+ dining

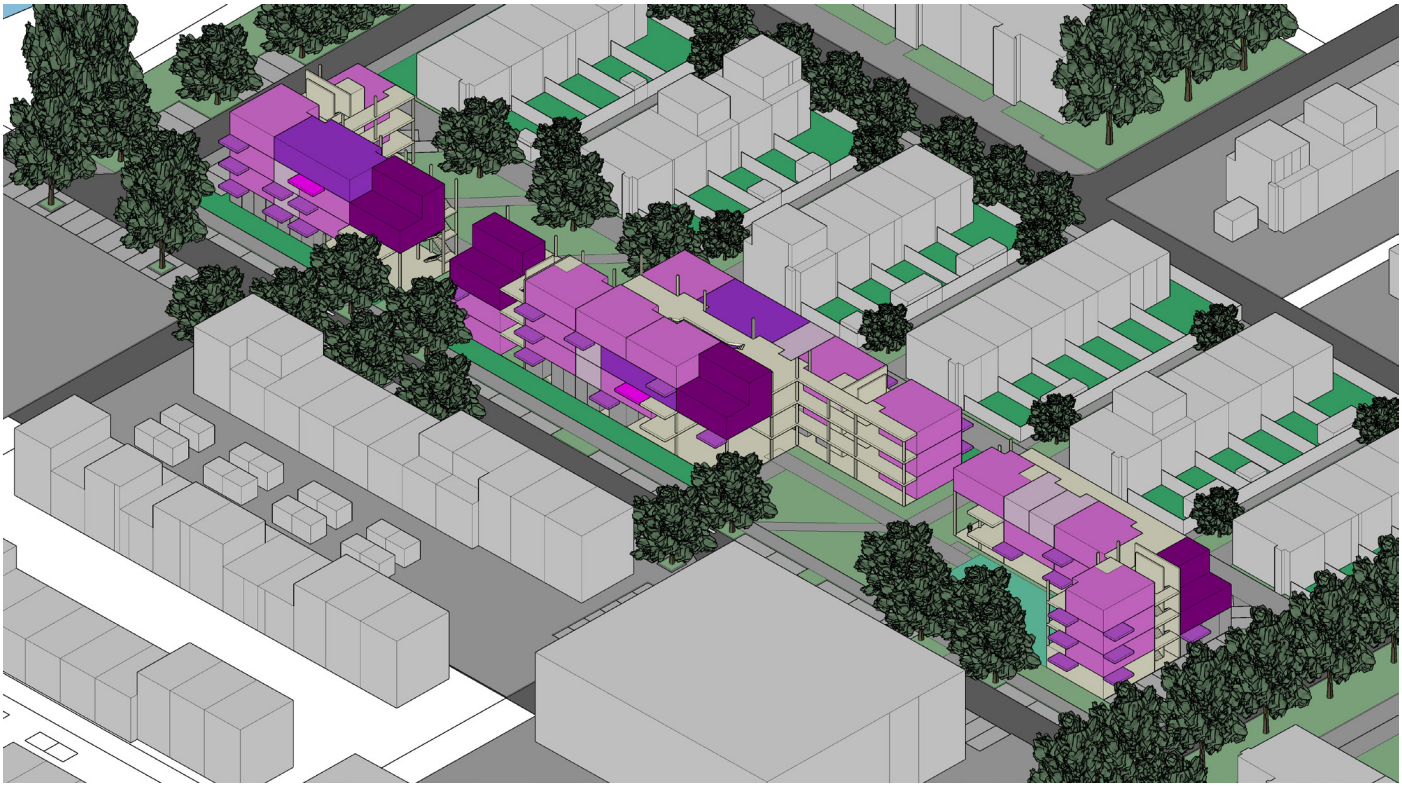
Floor 2

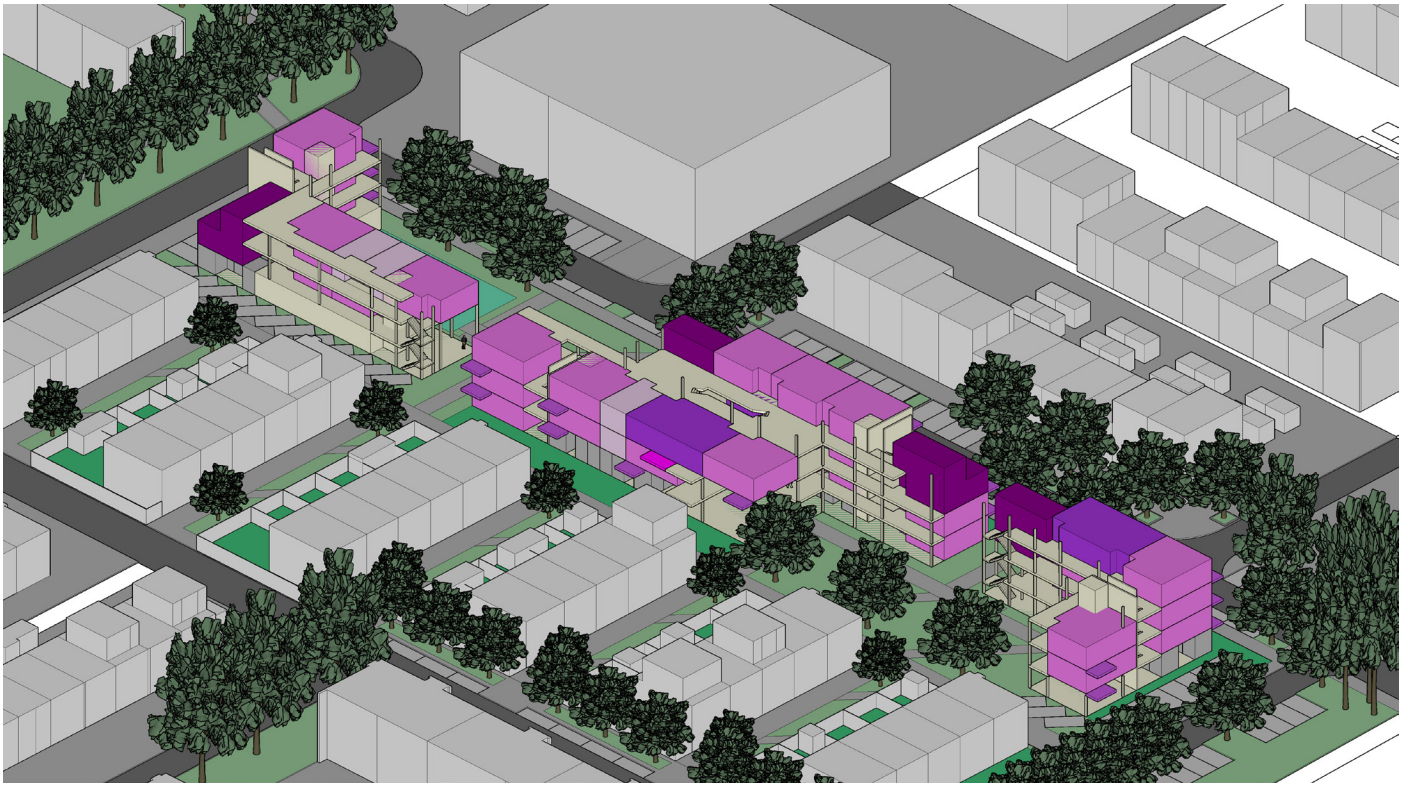

Roof garden

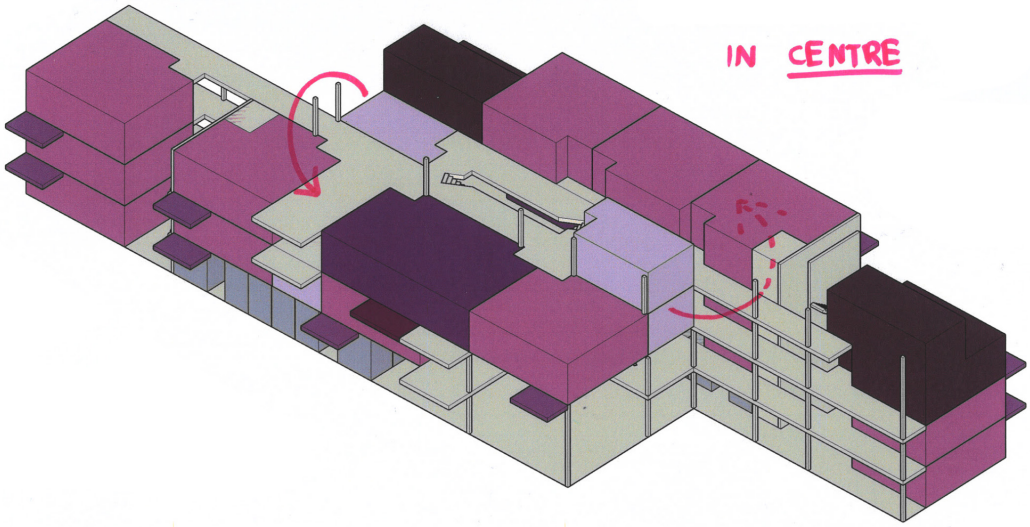

Roof garden
Lounch
Common
kitchen
+ dining
VISUAL AUDIS TO HALLWAY
VISUAL AUDIS TO HALLWAY
PRIVATE ROOF GARDEN

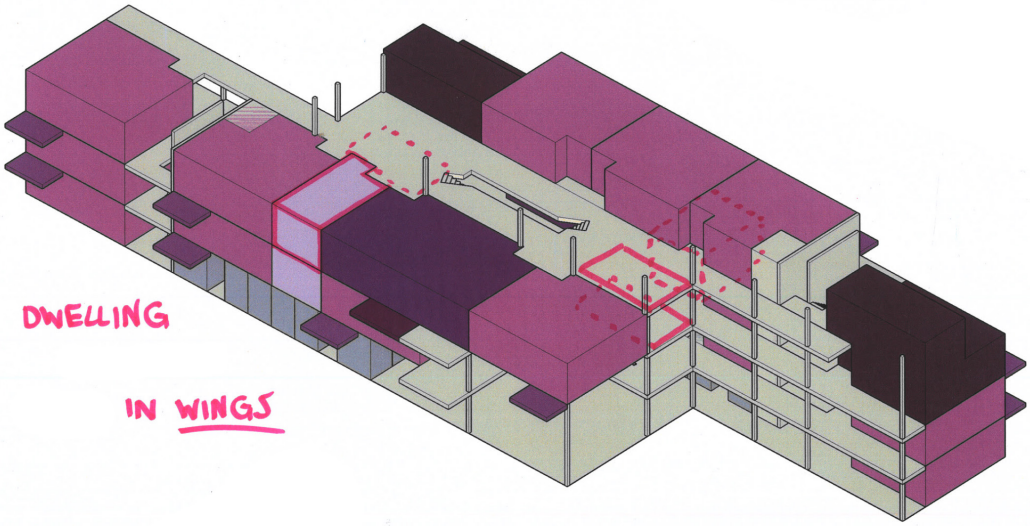
Floor 3

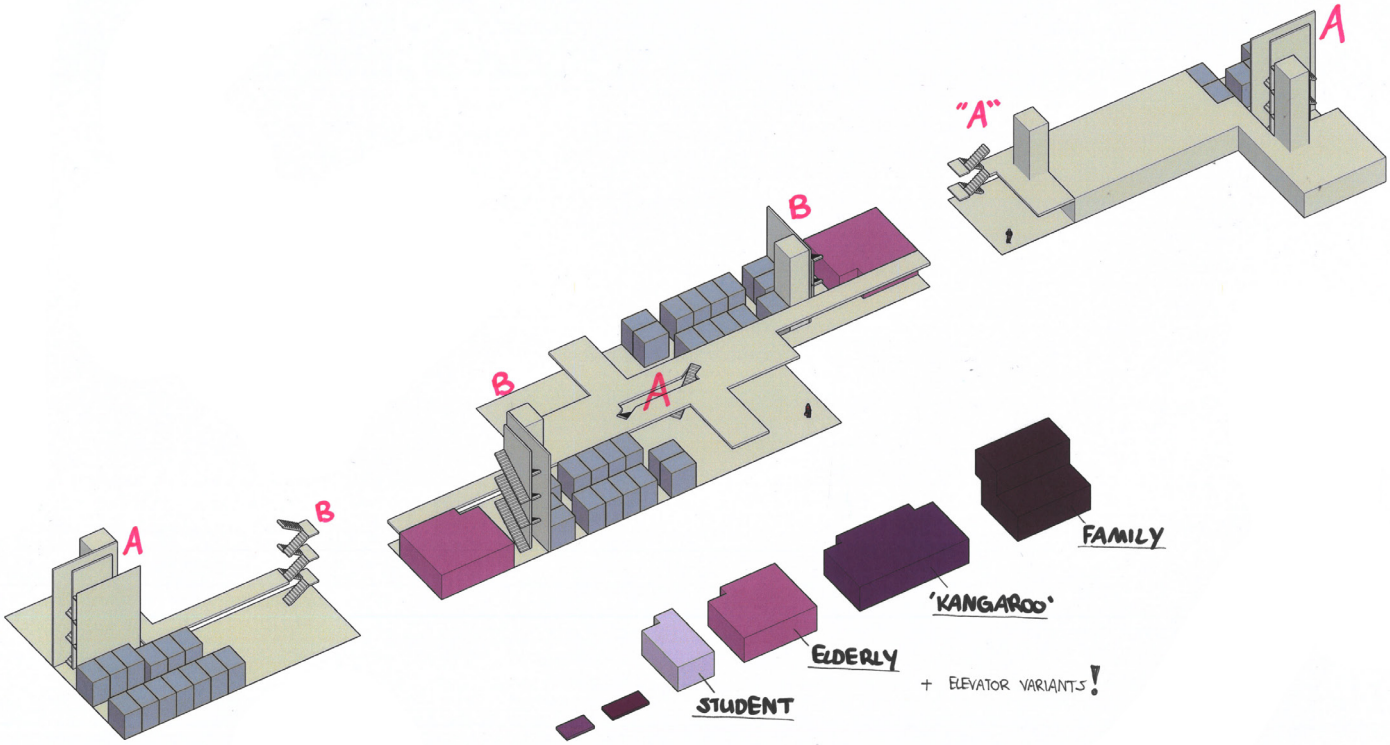

Roof garden
/terrace
VISUAL AUDIS TO HALLWAY
PRIVATE ROOF GARDEN

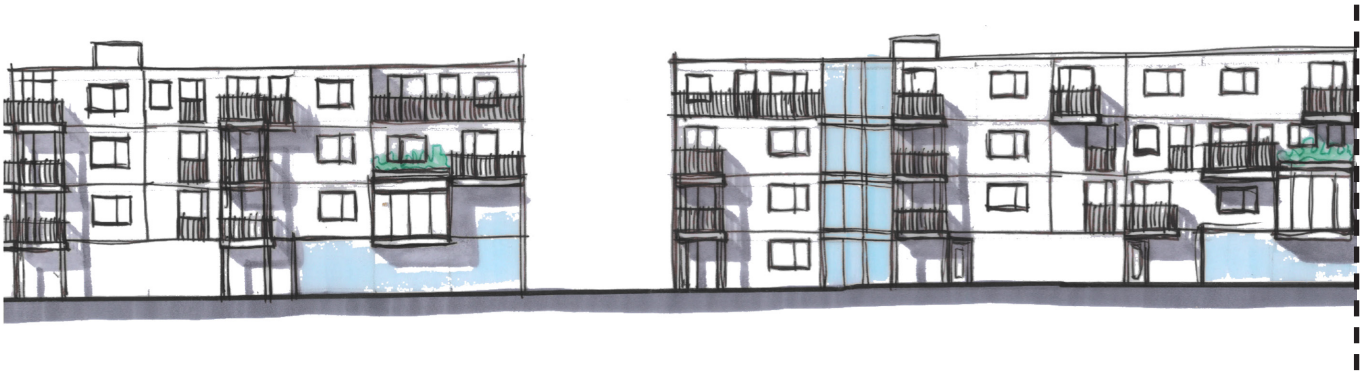


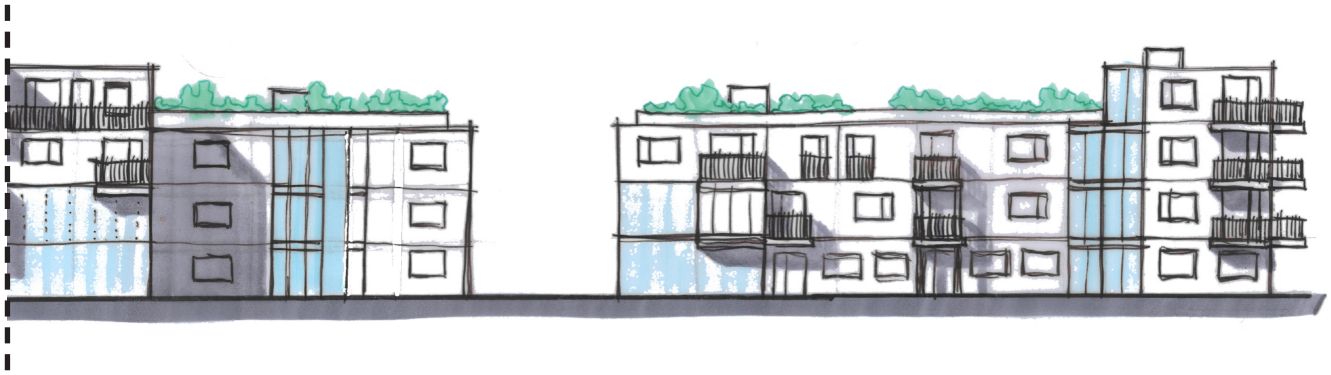


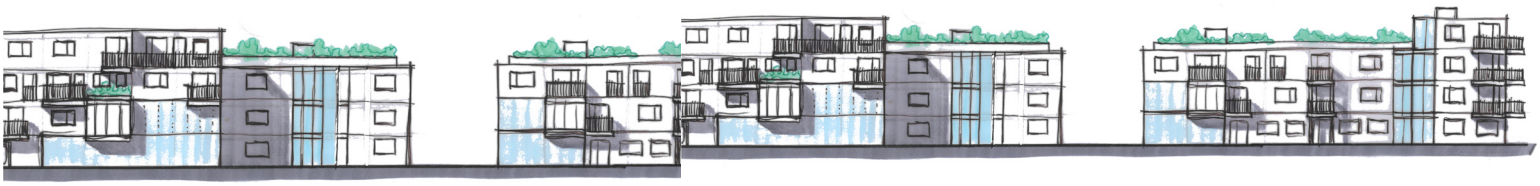

B: DWELLING
IN CENTRE


A: DWELLING
IN WINGS


"A"
A
B
A
B
A
B
FAMILY
'KANGAROO'
ELDERLY
STUDENT
+ ELEVATOR VARIANTS!

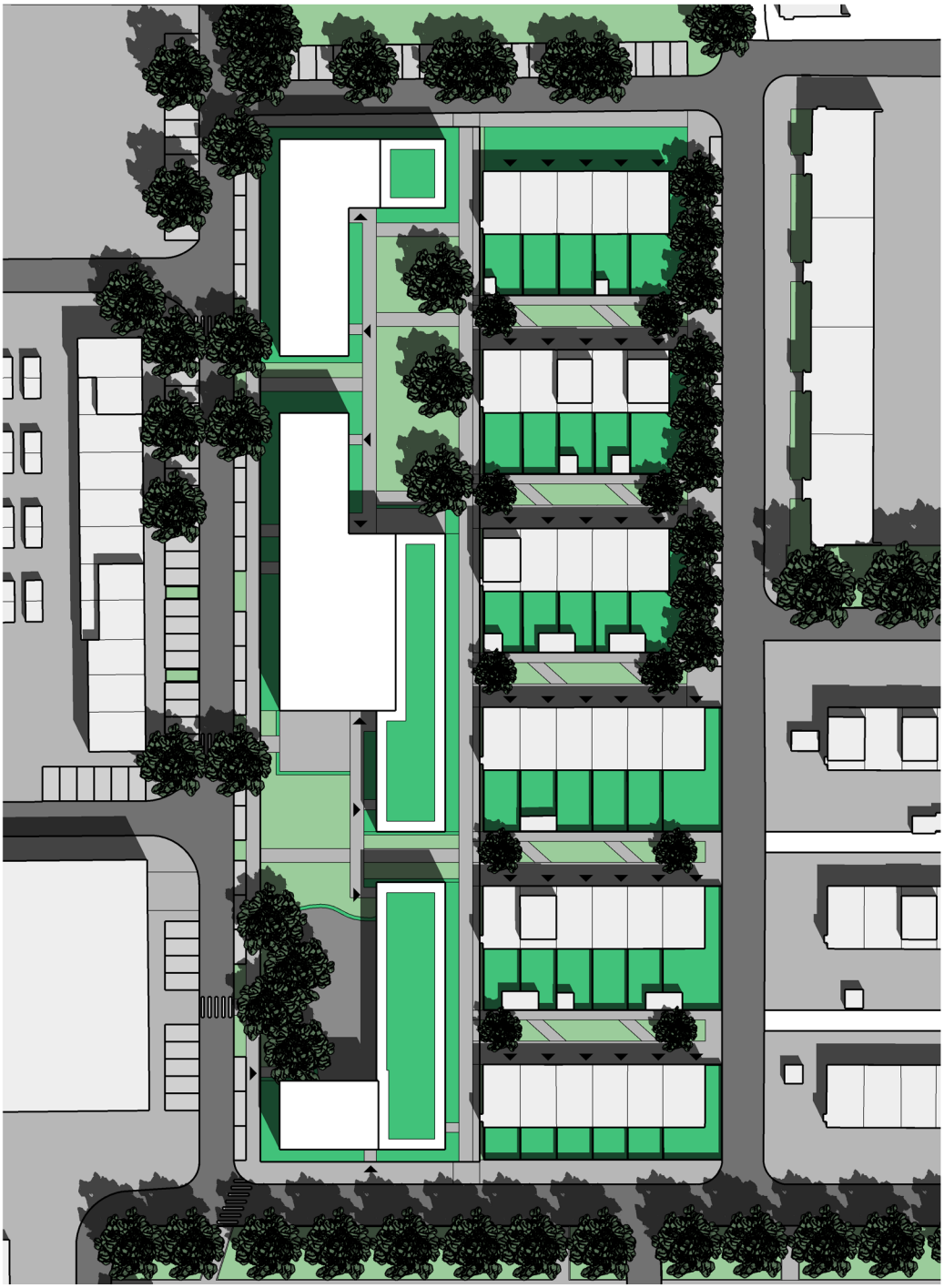


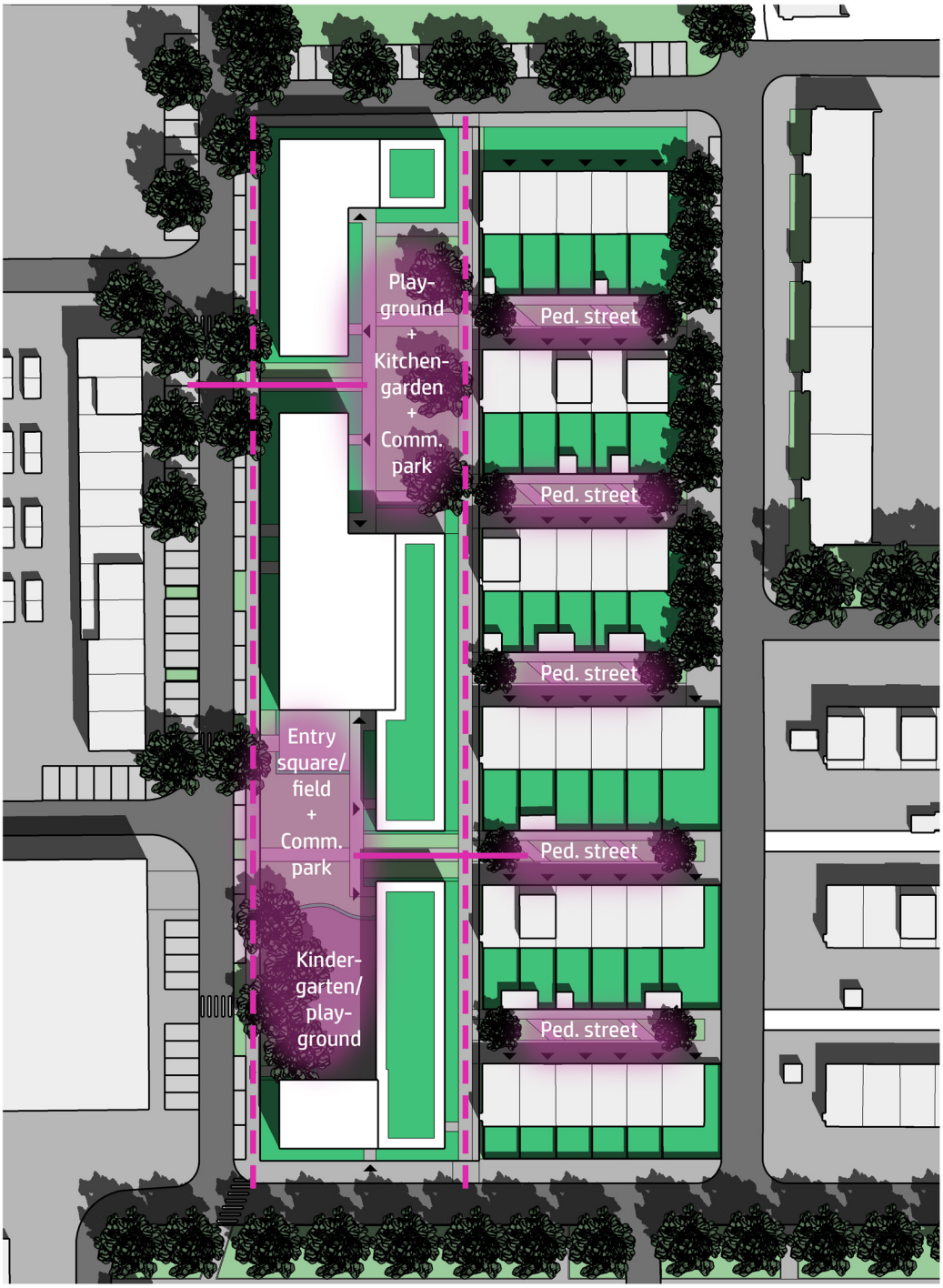


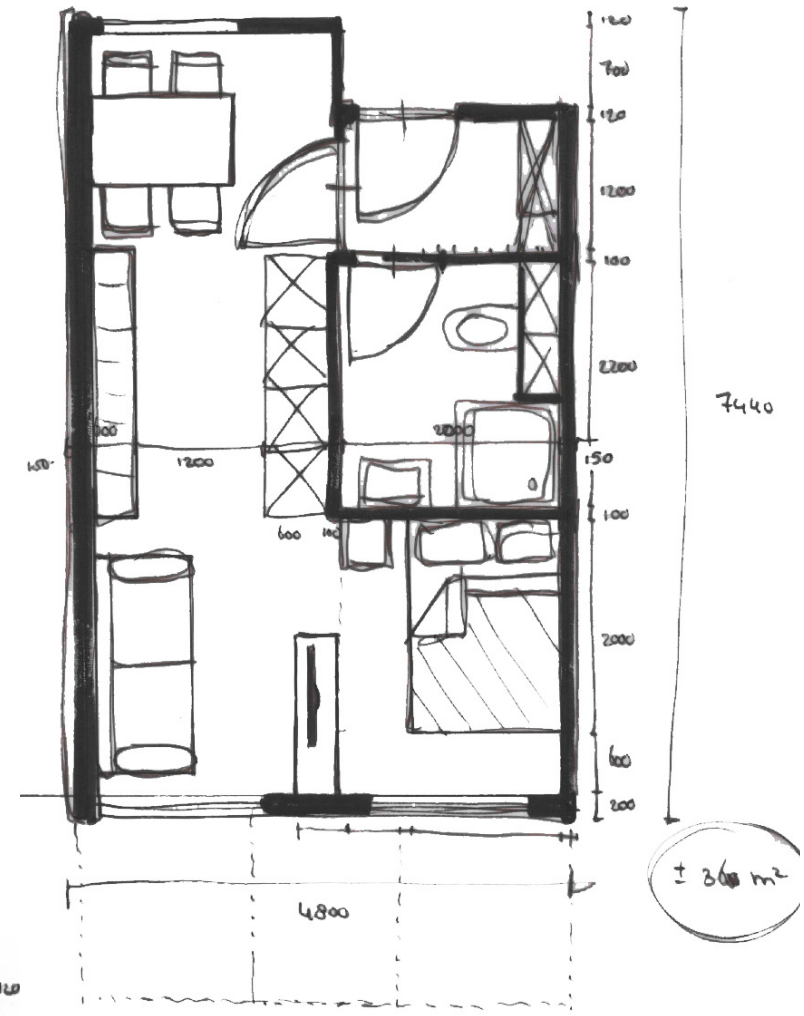


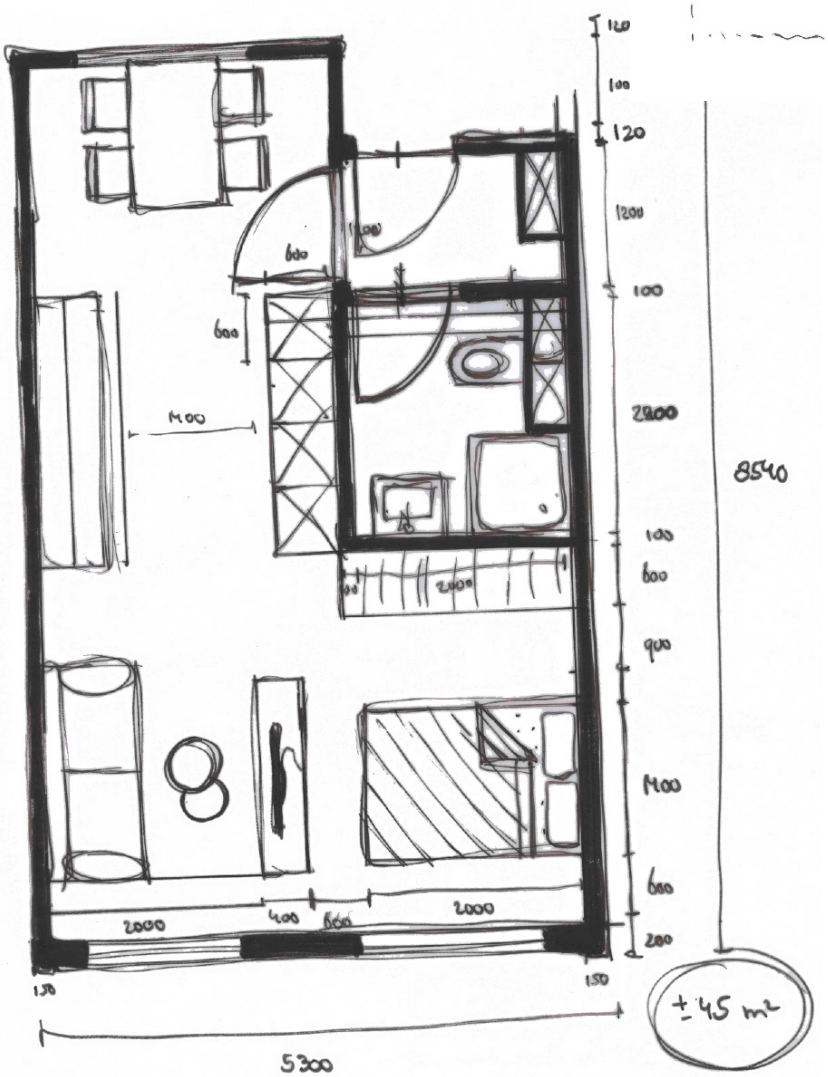
6

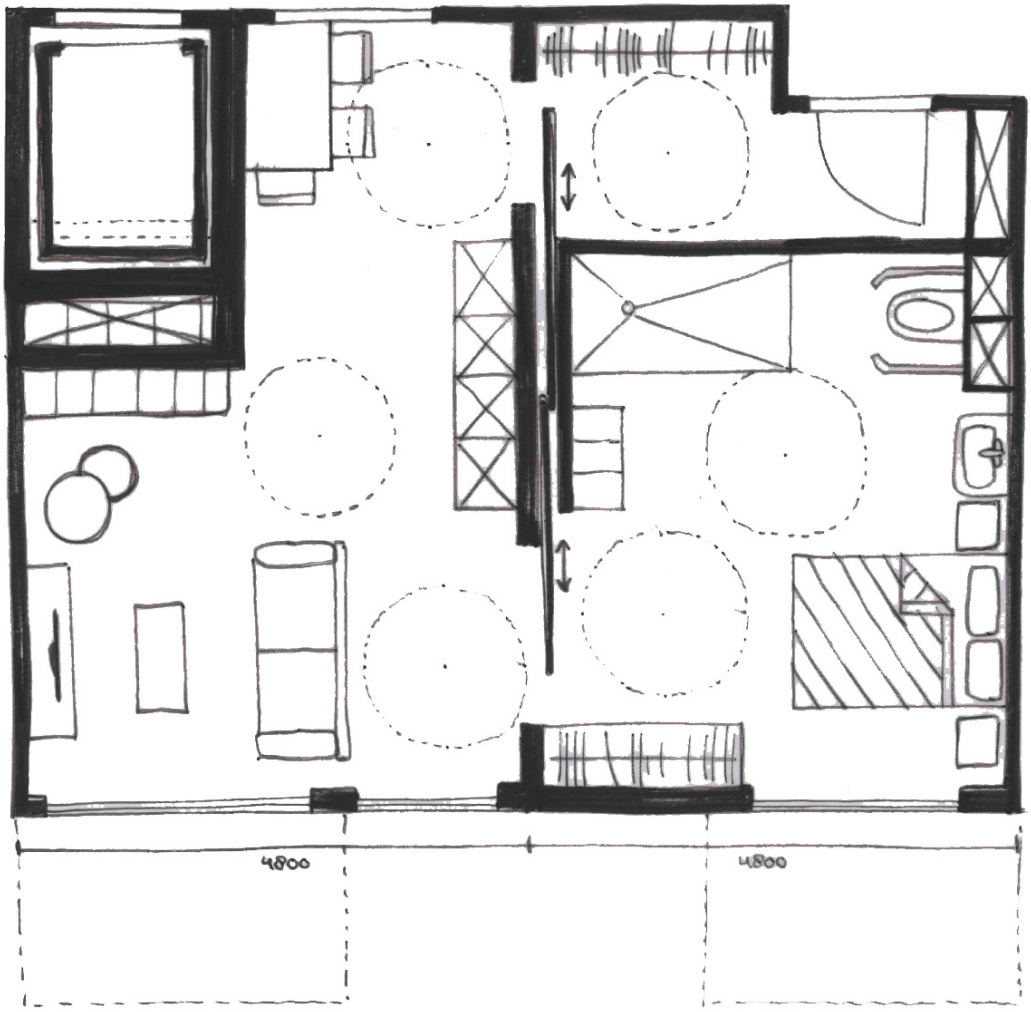
Week 6




Play-
ground
+
Kitchen-
garden
+
Comm.
park
Ped. street
Ped. street
Ped. street
Entry
square/
field
+
Comm.
park
Ped. street
Kinder-
garten/
play-
ground
Ped. street


7440
4800
1200
150
± 36 m²


8540
5300
2000
400
600
1400
2800
150
± 45 m²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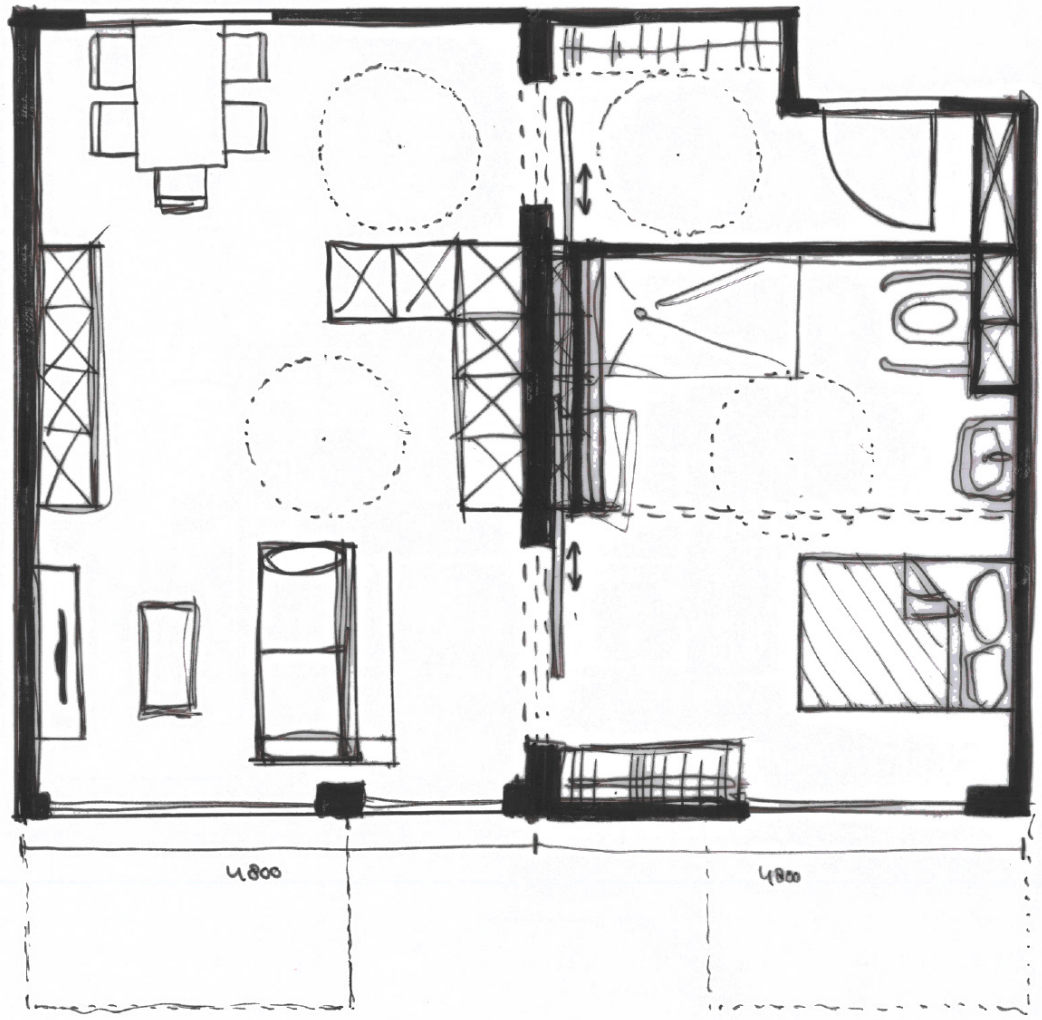
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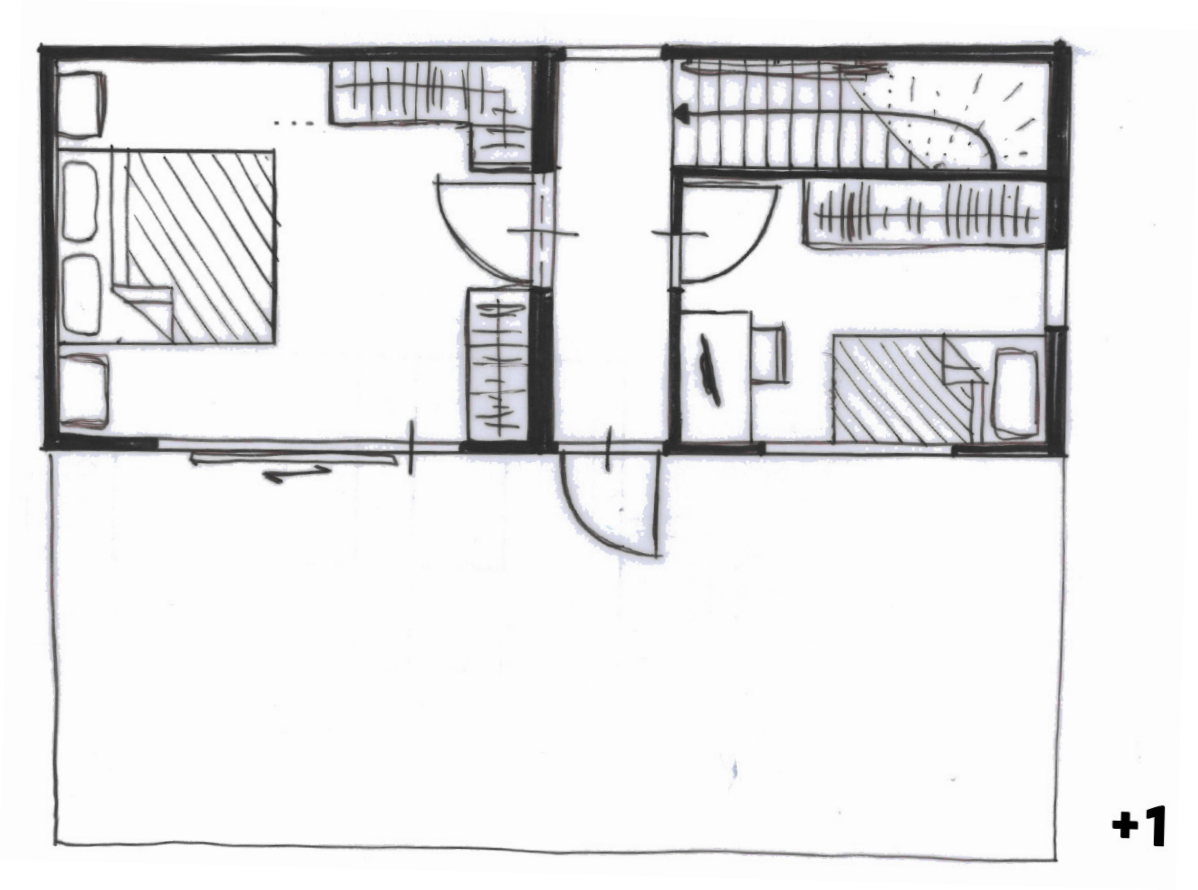
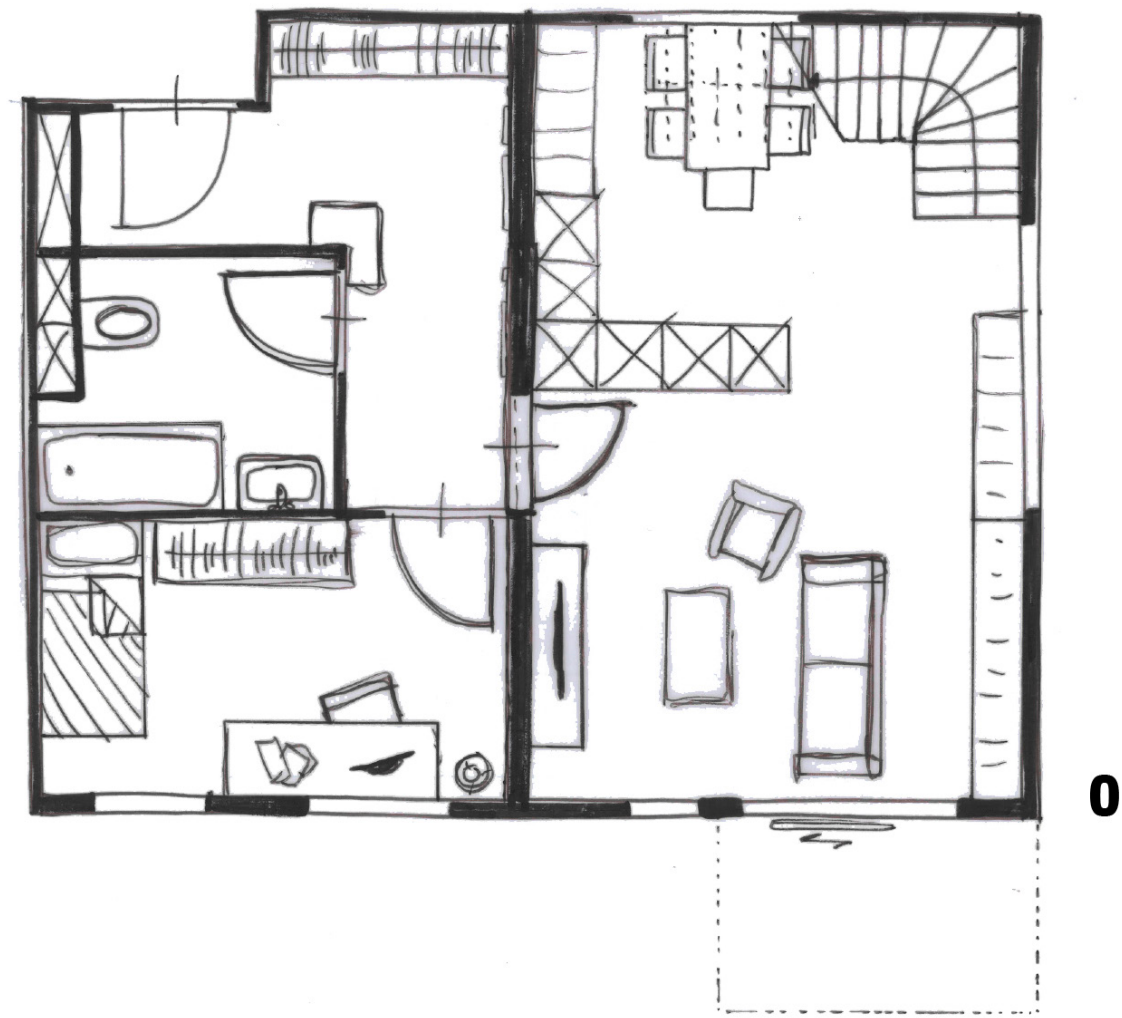

+1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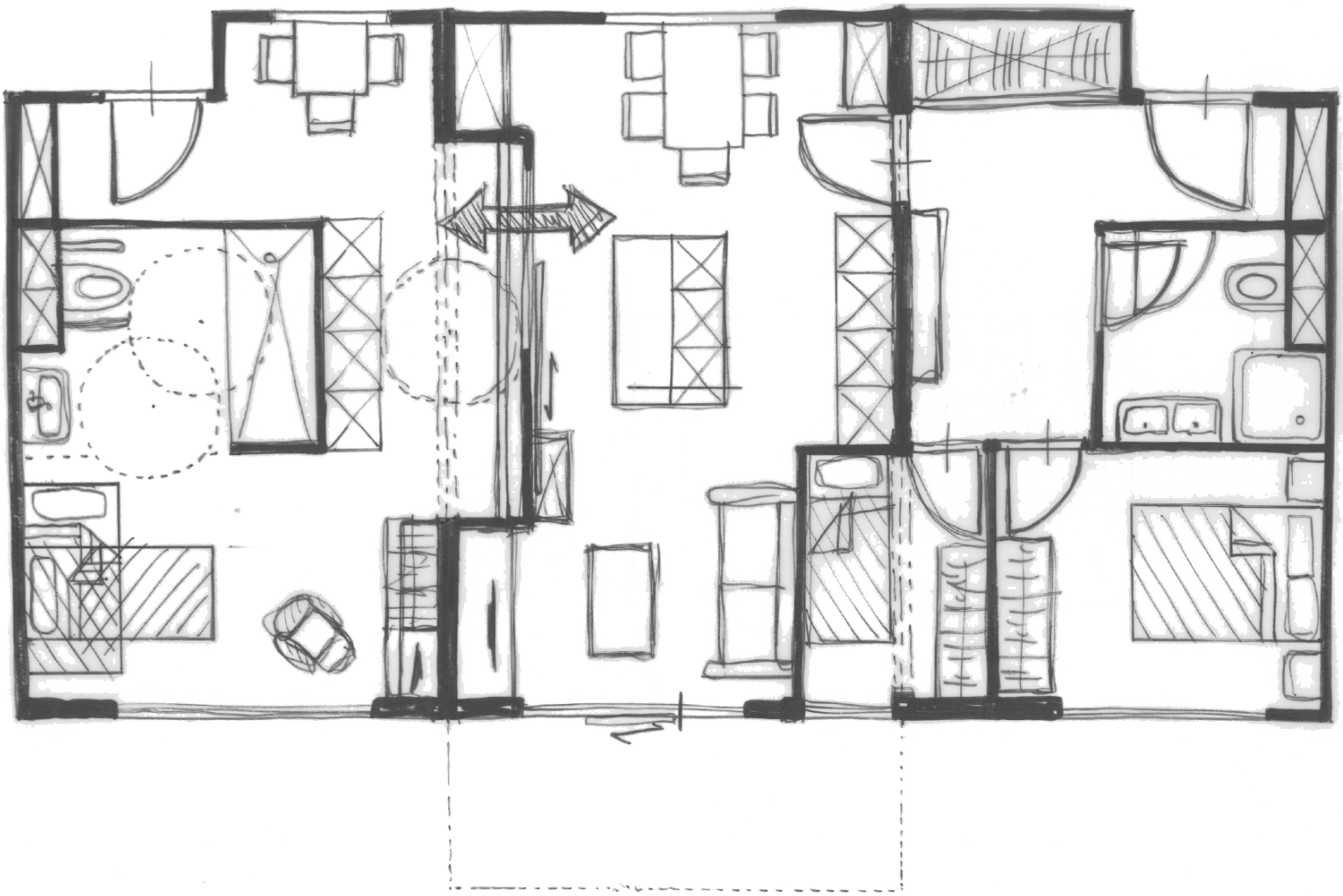
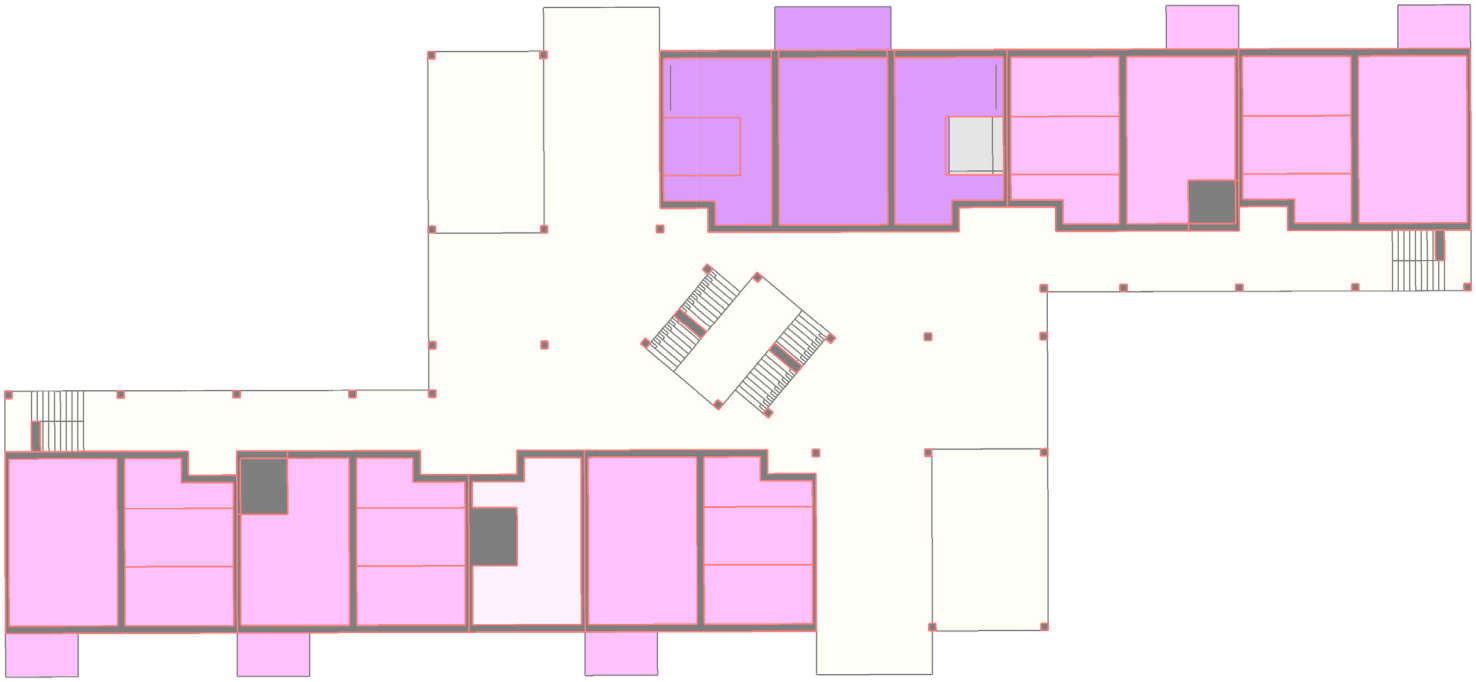
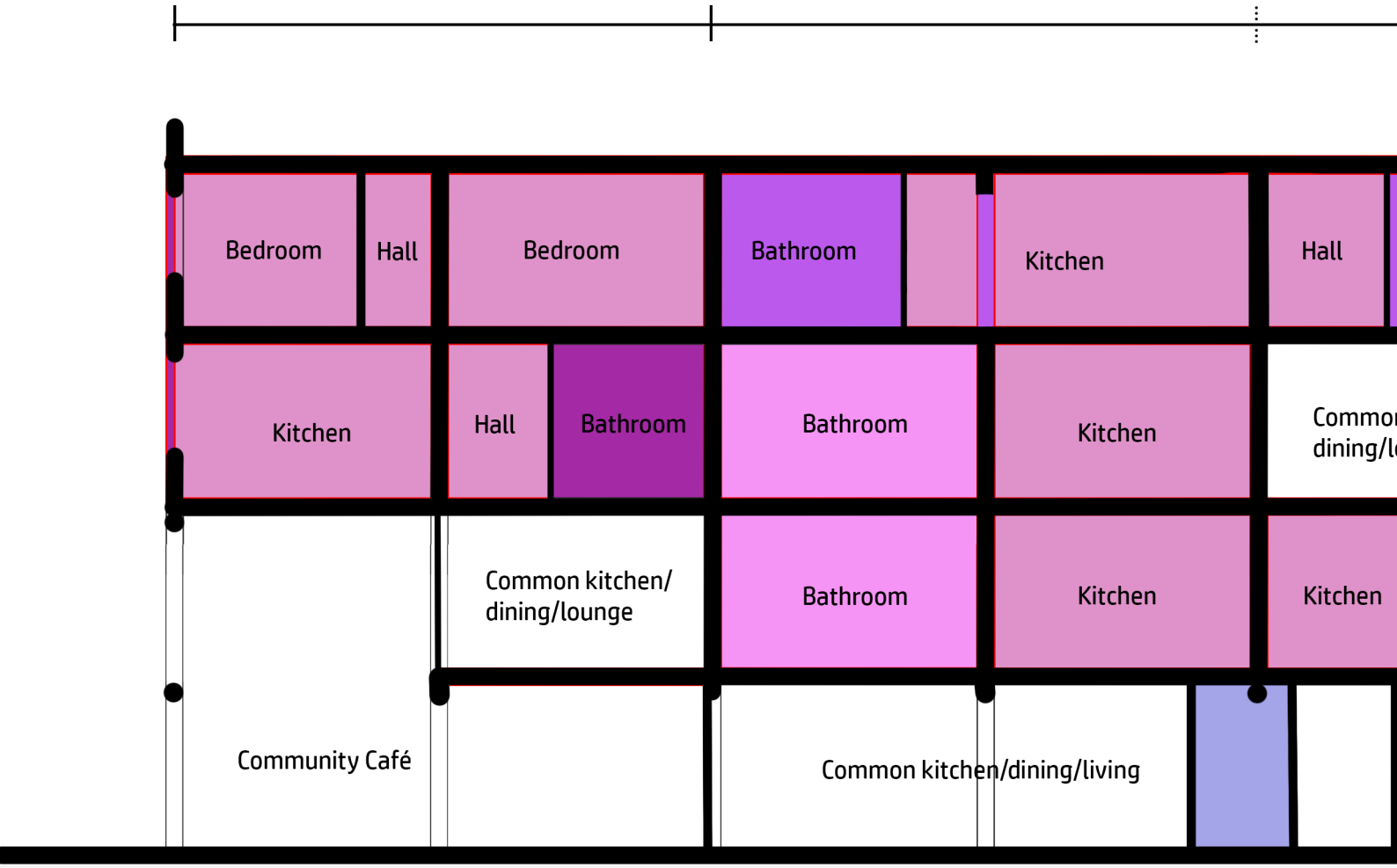
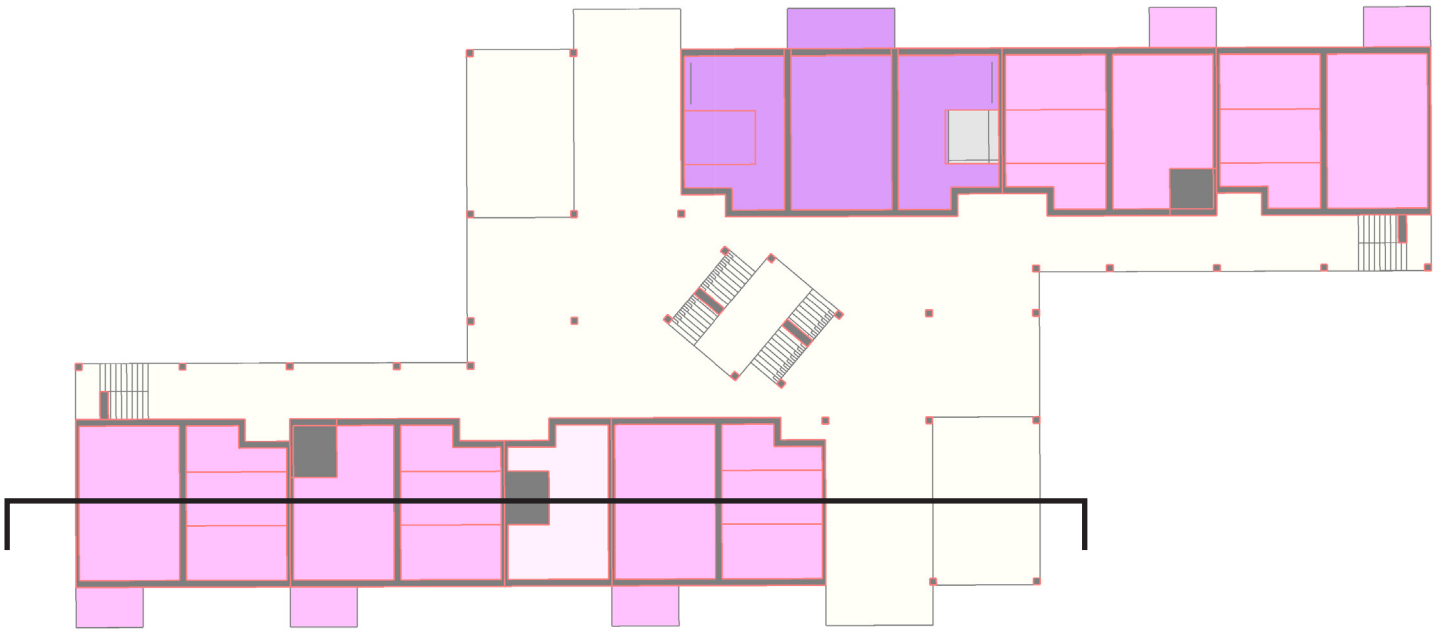
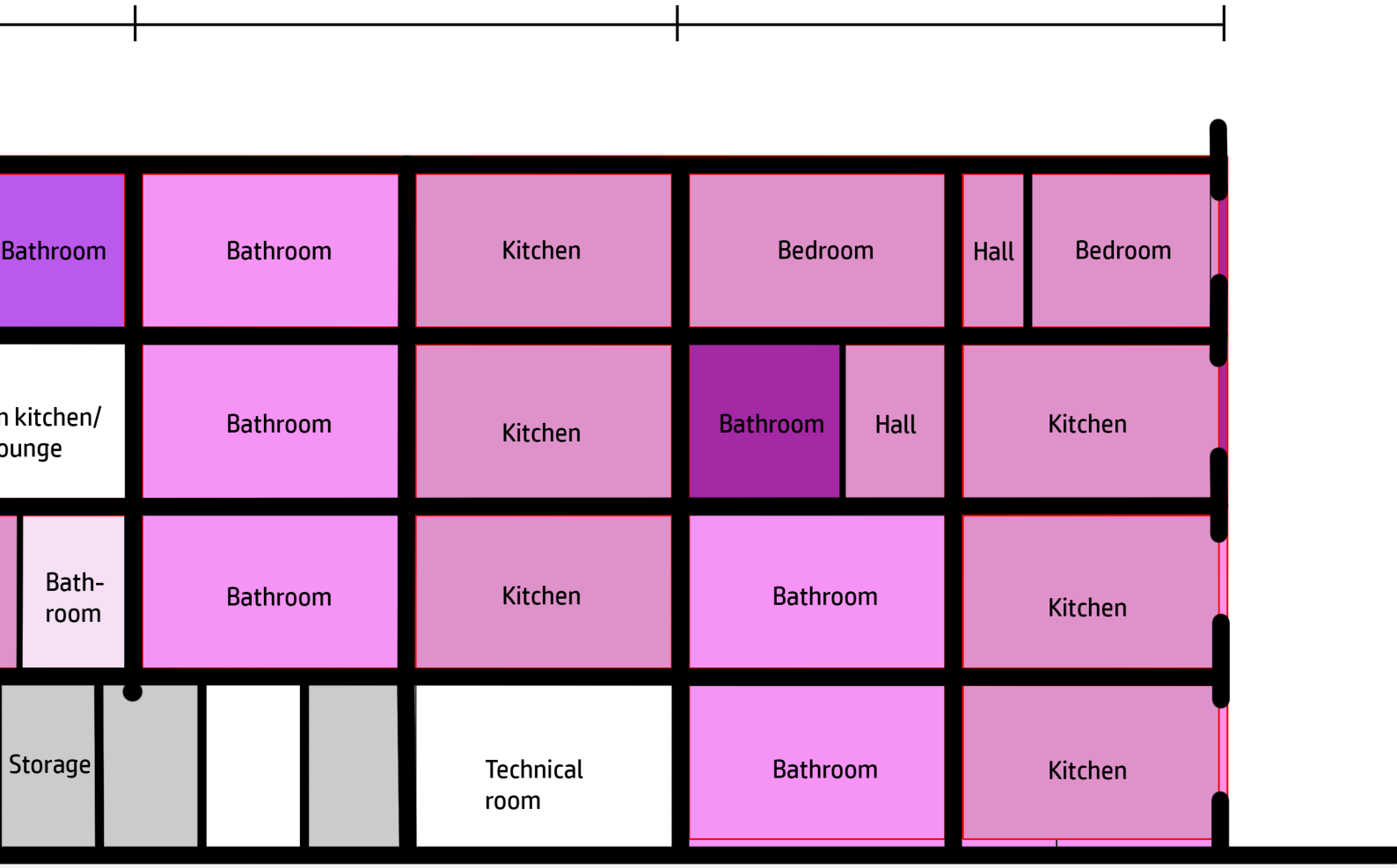
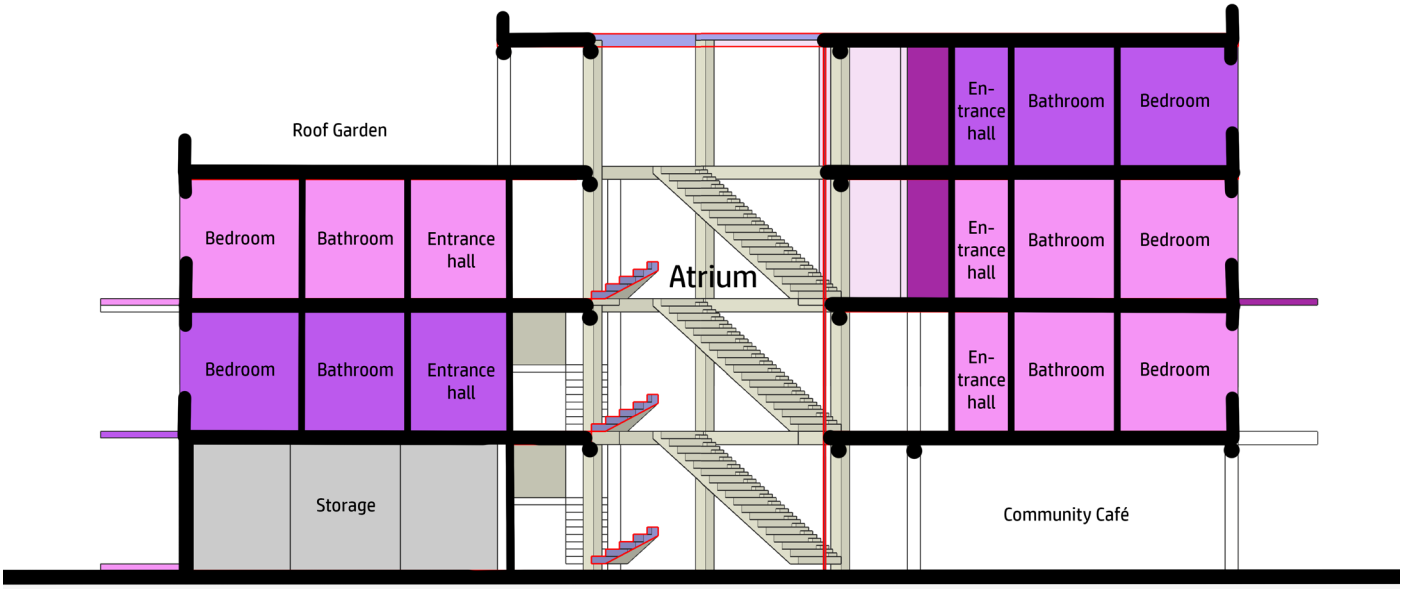




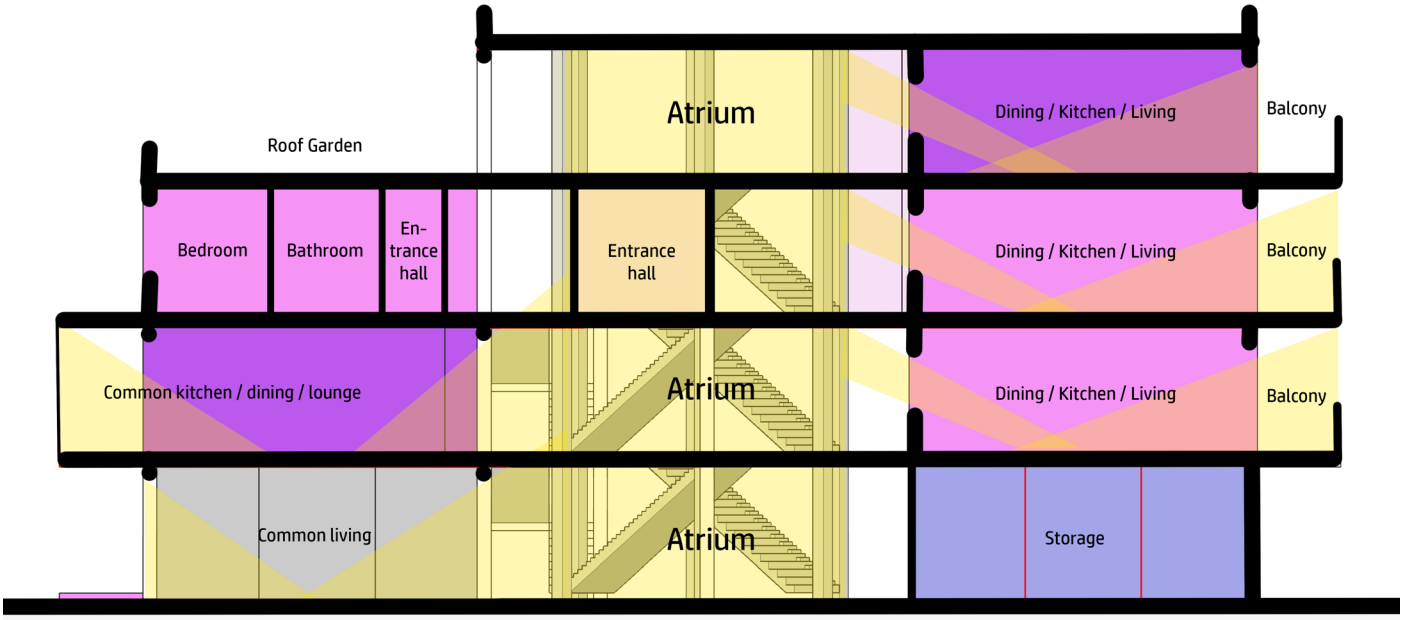

Bedroom
Hall
Bedroom
Bathroom
Kitchen
Hall
Kitchen
Hall
Bathroom
Bathroom
Kitchen
Common kitchen/
dining/lounge
Bathroom
Kitchen
Kitchen
Community Café
Common kitchen/dining/living



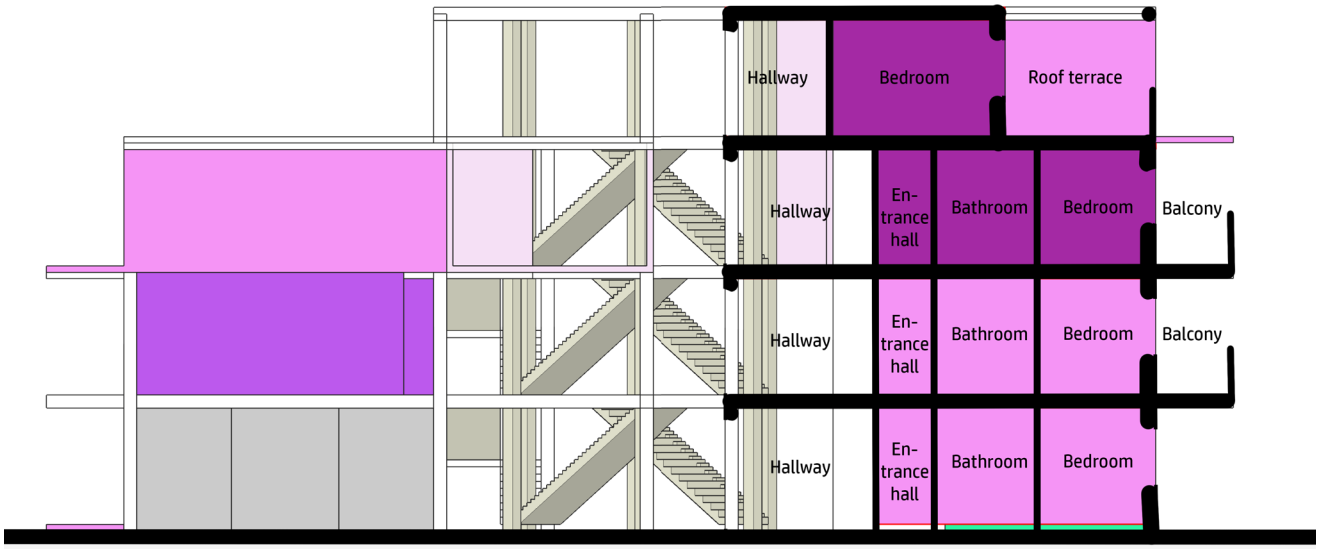

Bathroom
Bathroom
Kitchen
Bedroom
Hall
Bedroom
n kitchen/
ounge
Bathroom
Kitchen
Bathroom
Hall
Kitchen
Bath-
room
Bathroom
Kitchen
Bathroom
Kitchen
Storage
Technical
room
Bathroom
Kitchen


Roof Garden
Bedroom
Bathroom
Entrance hall
Atrium
En-trance hall
Bathroom
Bedroom
Bedroom
Bathroom
Entrance hall
En-trance hall
Bathroom
Bedroom
En-trance hall
Bathroom
Bedroom
Storage
Community Café

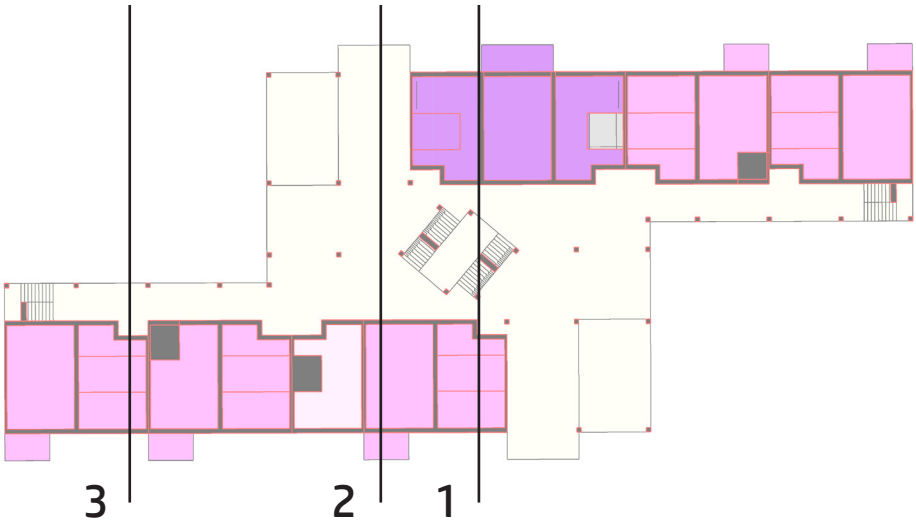
1

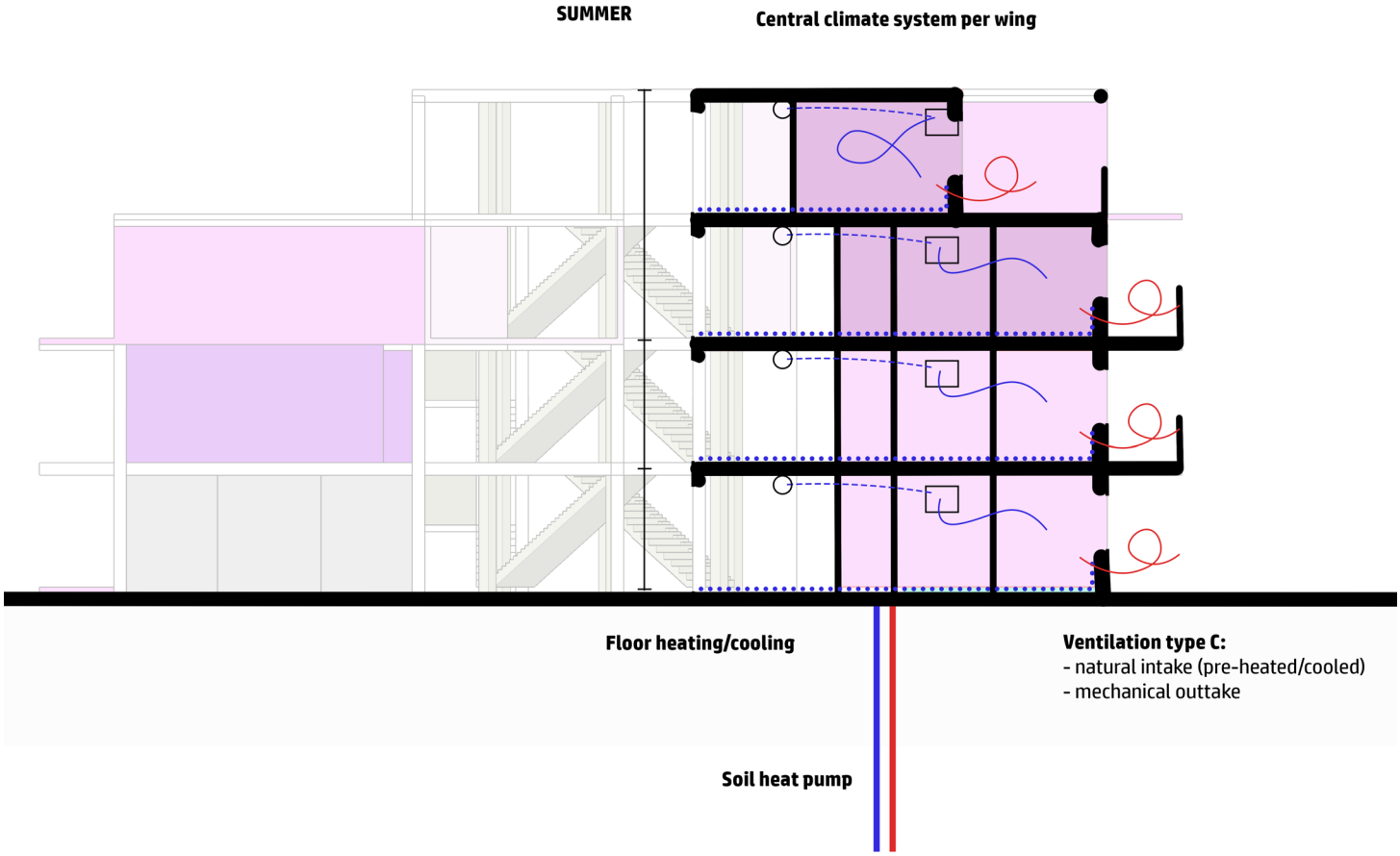

Atrium
Dining / Kitchen / Living
Balcony
Roof Garden
Bedroom
Bathroom
En-trance hall
Entrance hall
Dining / Kitchen / Living
Balcony
Common kitchen / dining / lounge
Atrium
Dining / Kitchen / Living
Balcony
Common living
Atrium
Storage

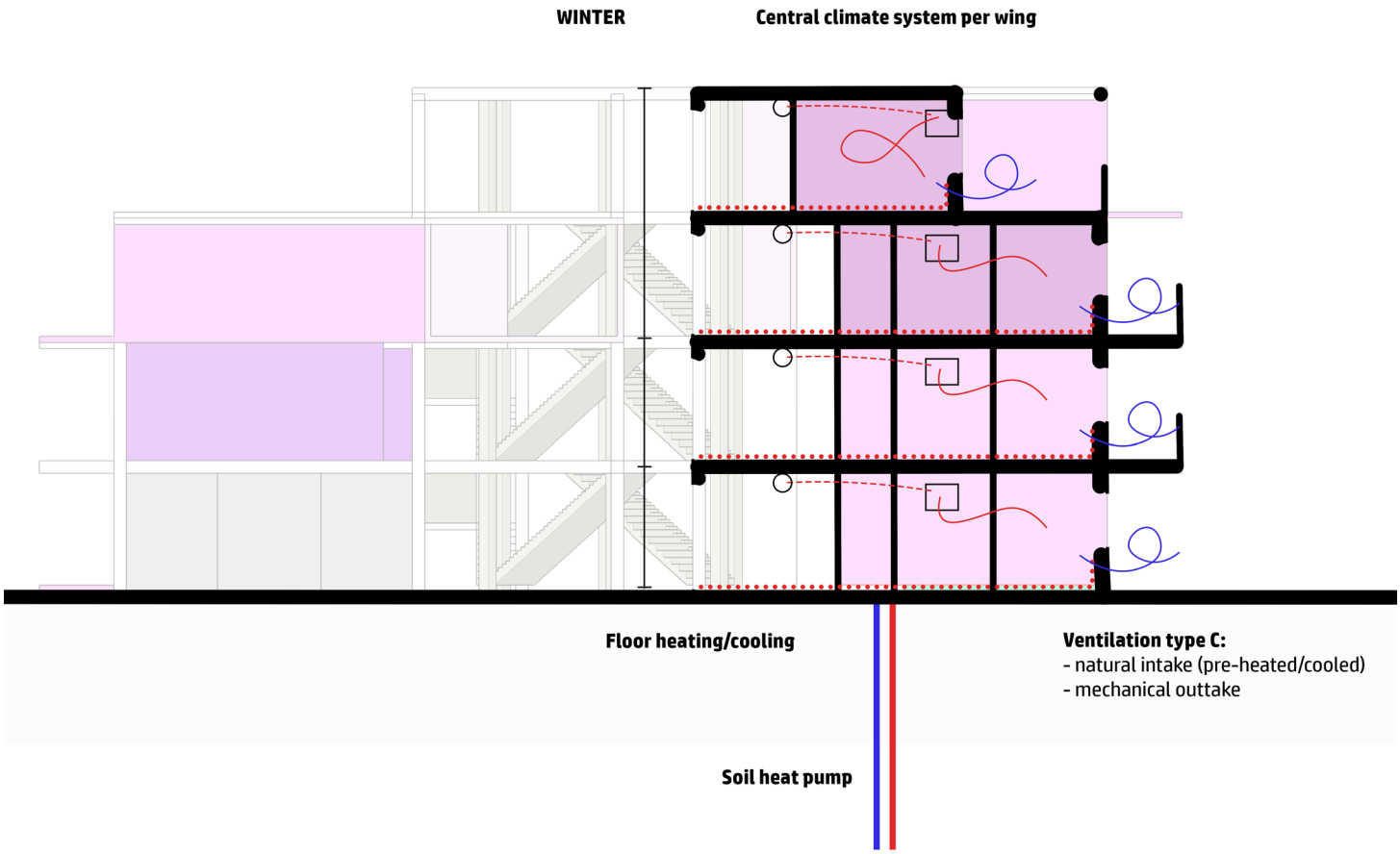
2

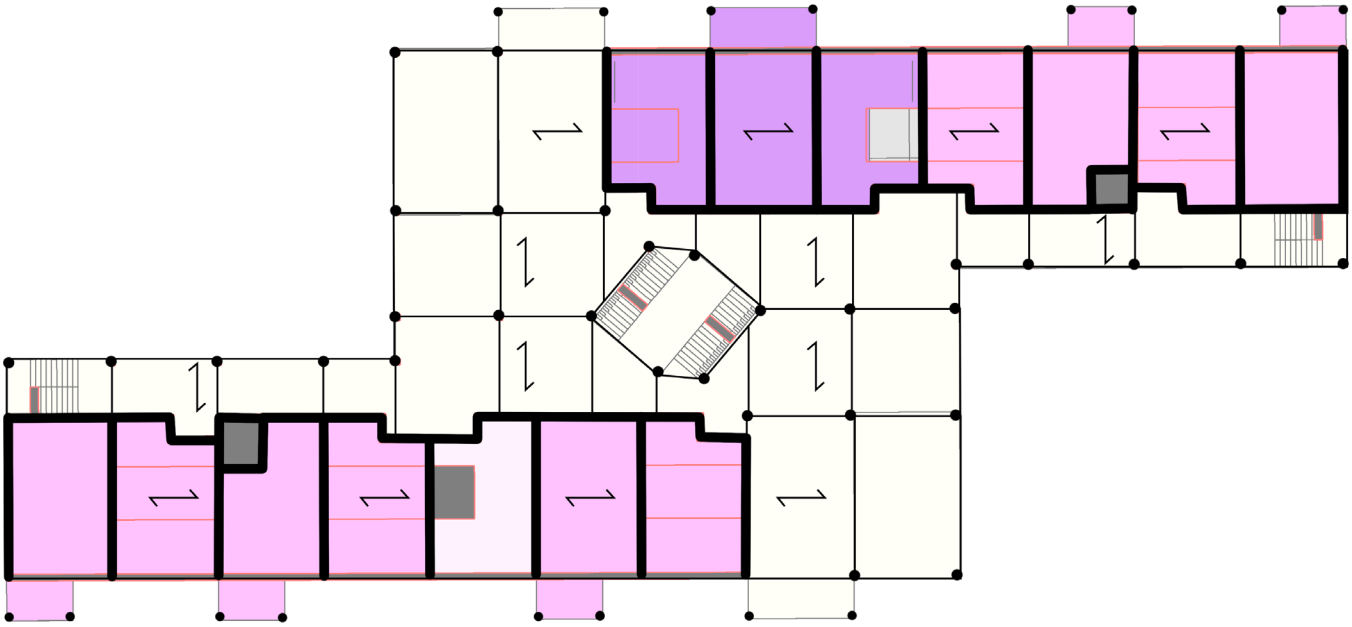

Hallway
Bedroom
Roof terrace
Hallway
En-
trance
hall
Bathroom
Bedroom
Balcony
Hallway
En-
trance
hall
Bathroom
Bedroom
Balcony
Hallway
En-
trance
hall
Bathroom
Bedroom

3

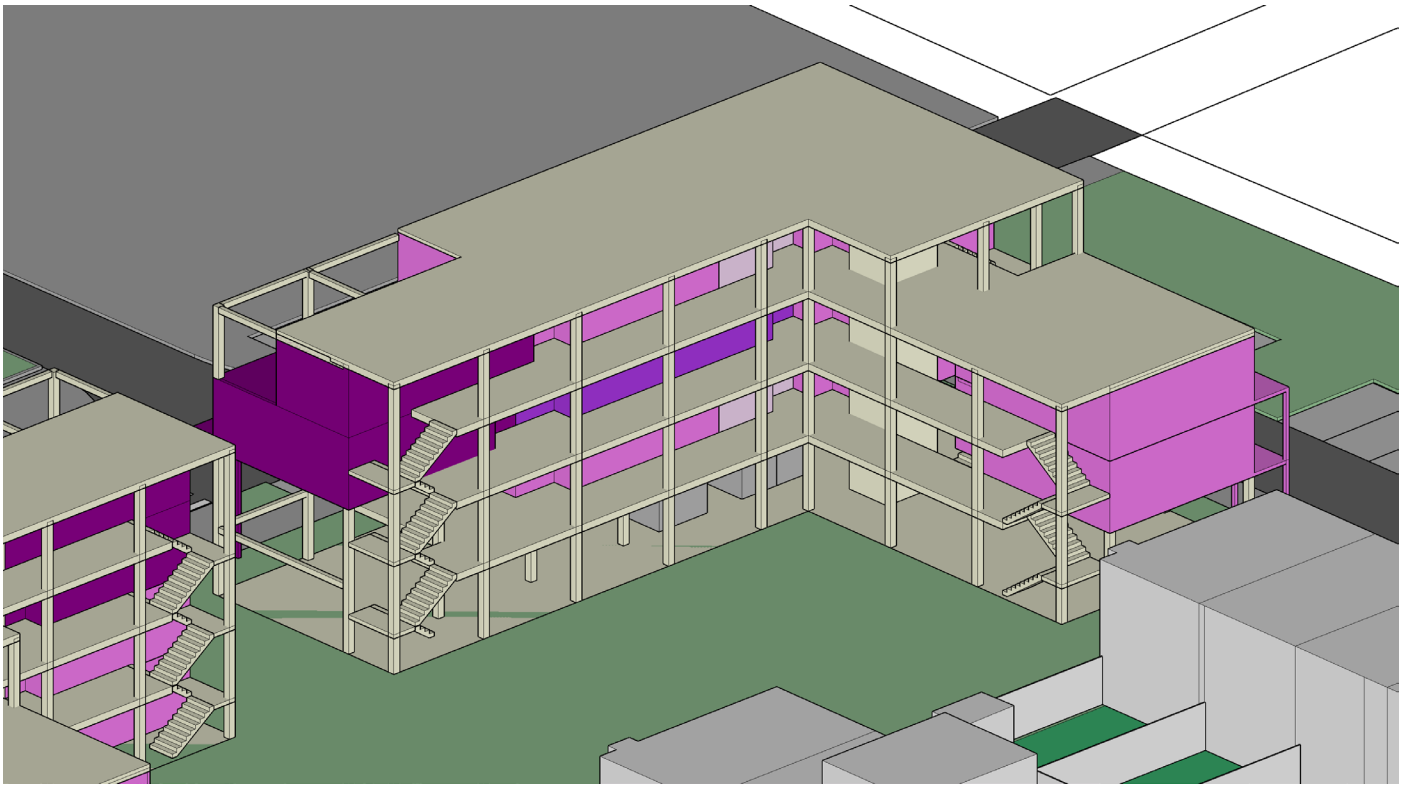

3
2
1

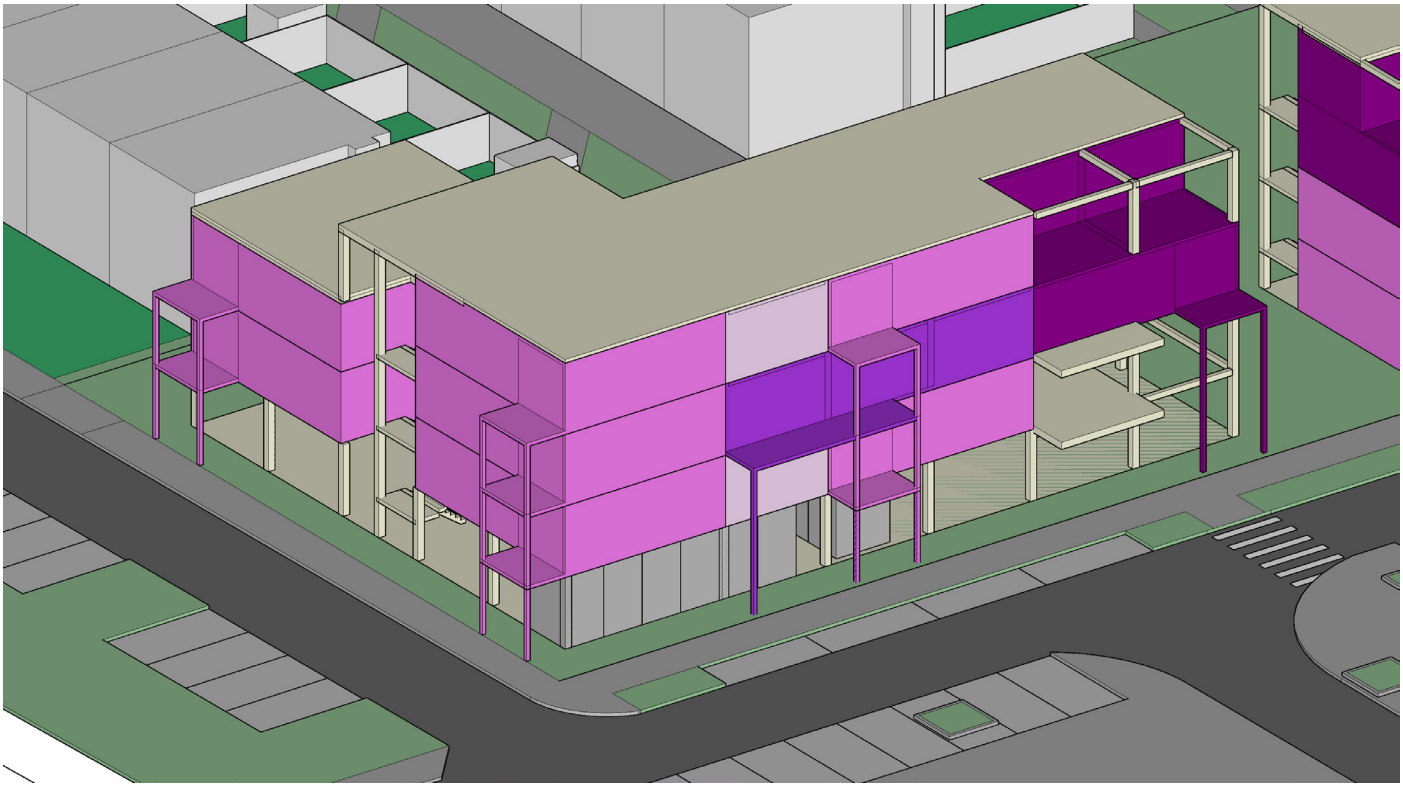

SUMMER
Central climate system per wing
Floor heating/cooling
Ventilation type C:
- natural intake (pre-heated/cooled)
- mechanical outtake
Soil heat pump

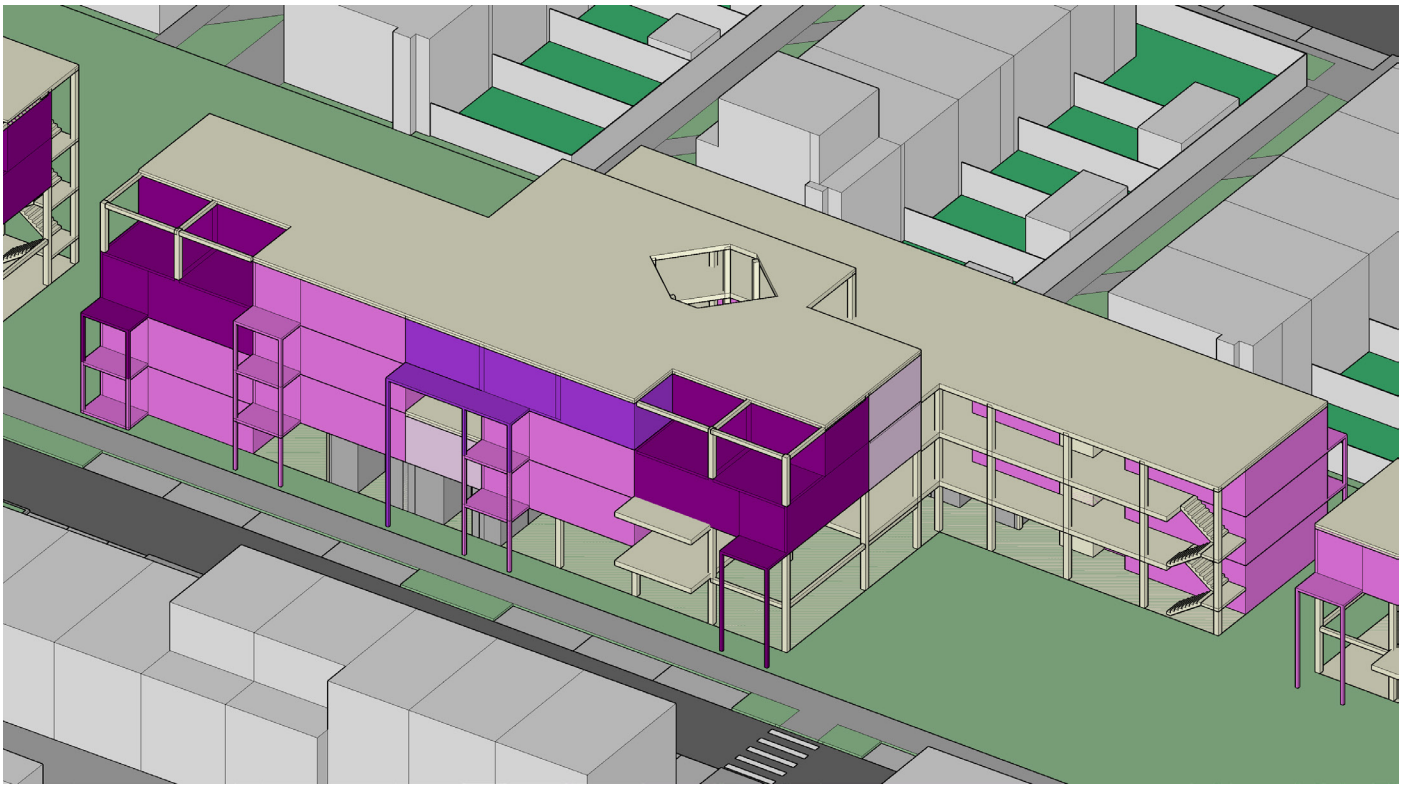

WINTER
Central climate system per wing
Floor heating/cooling
Ventilation type C:
- natural intake (pre-heated/cooled)
- mechanical outtake
Soil heat pump

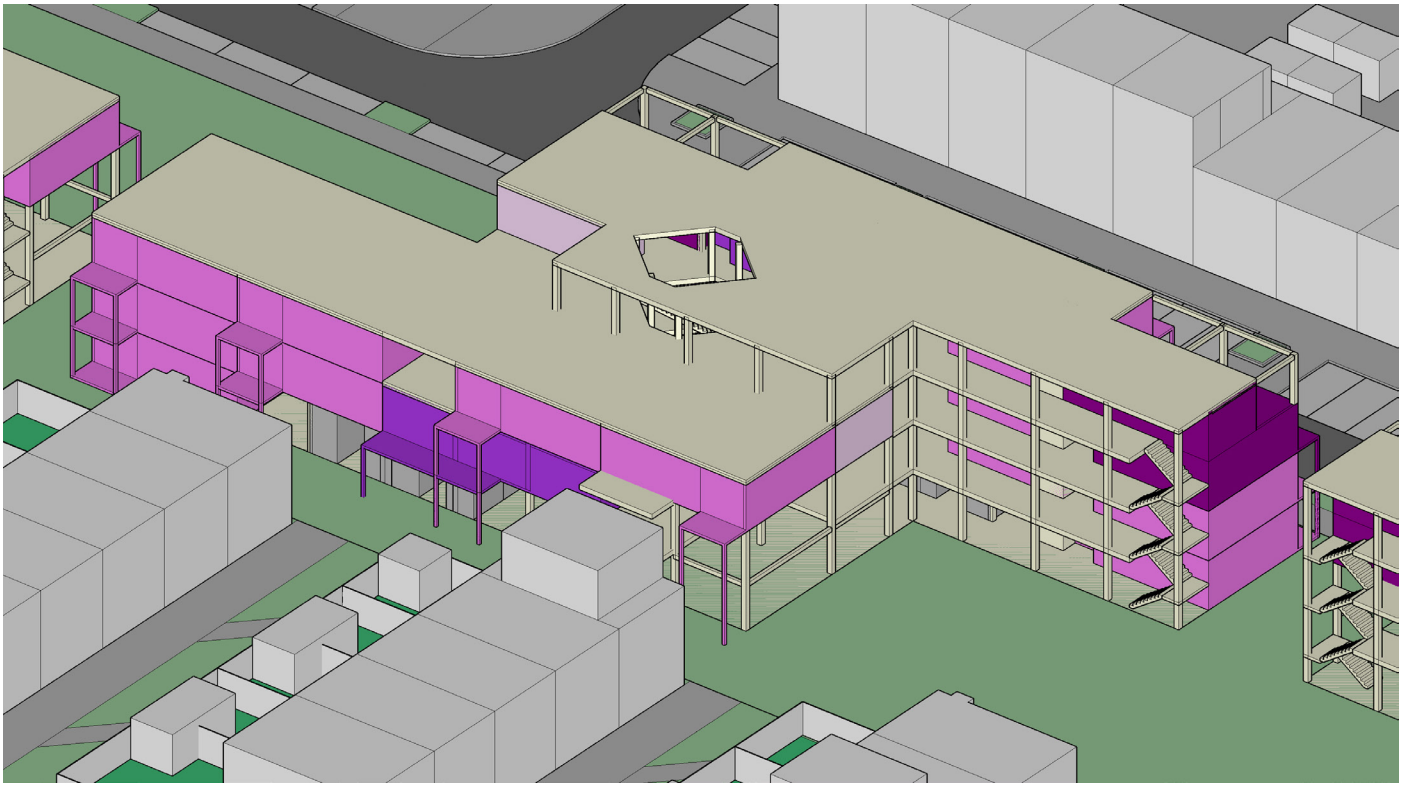


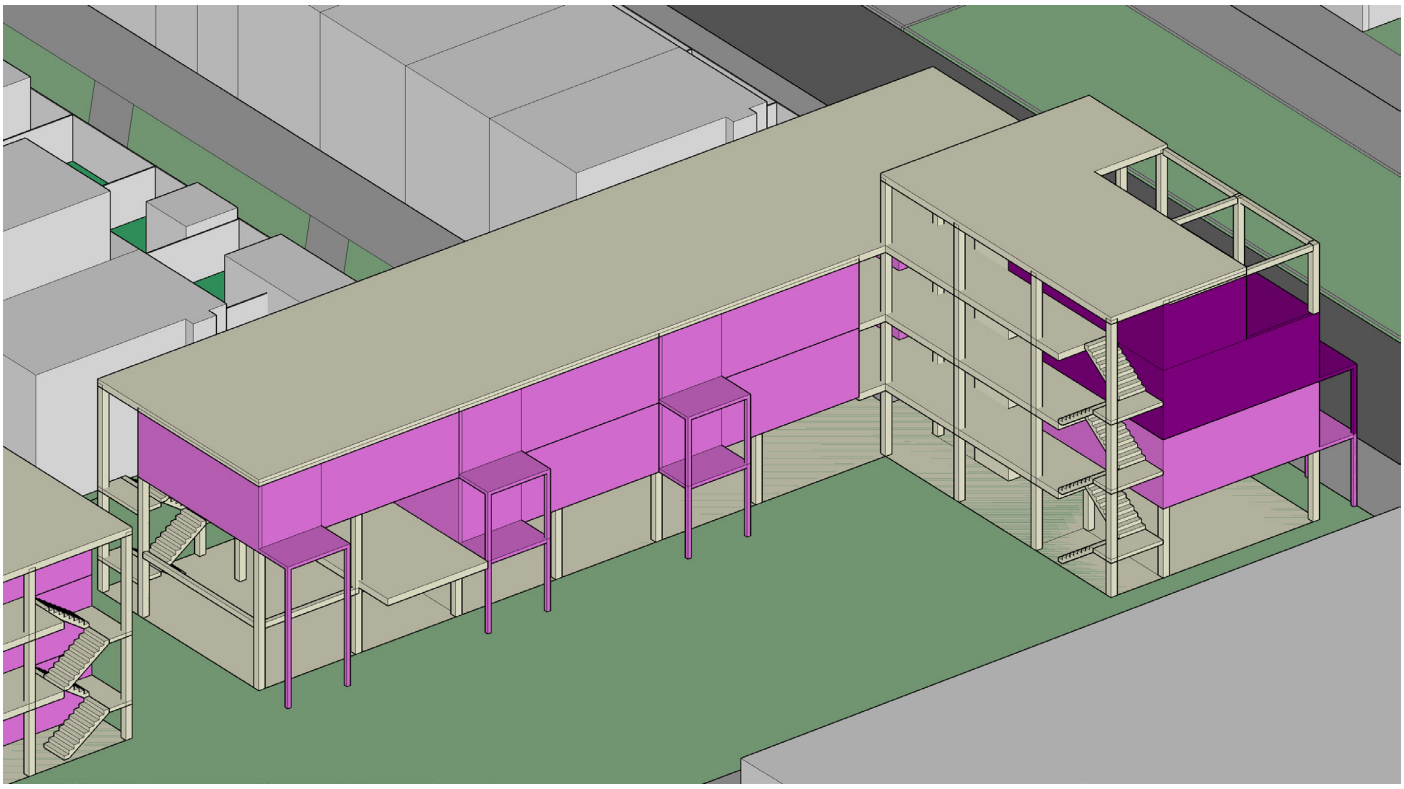
CLT slab structure (dwellings)
+
Column/beam system (shared, collective spaces)

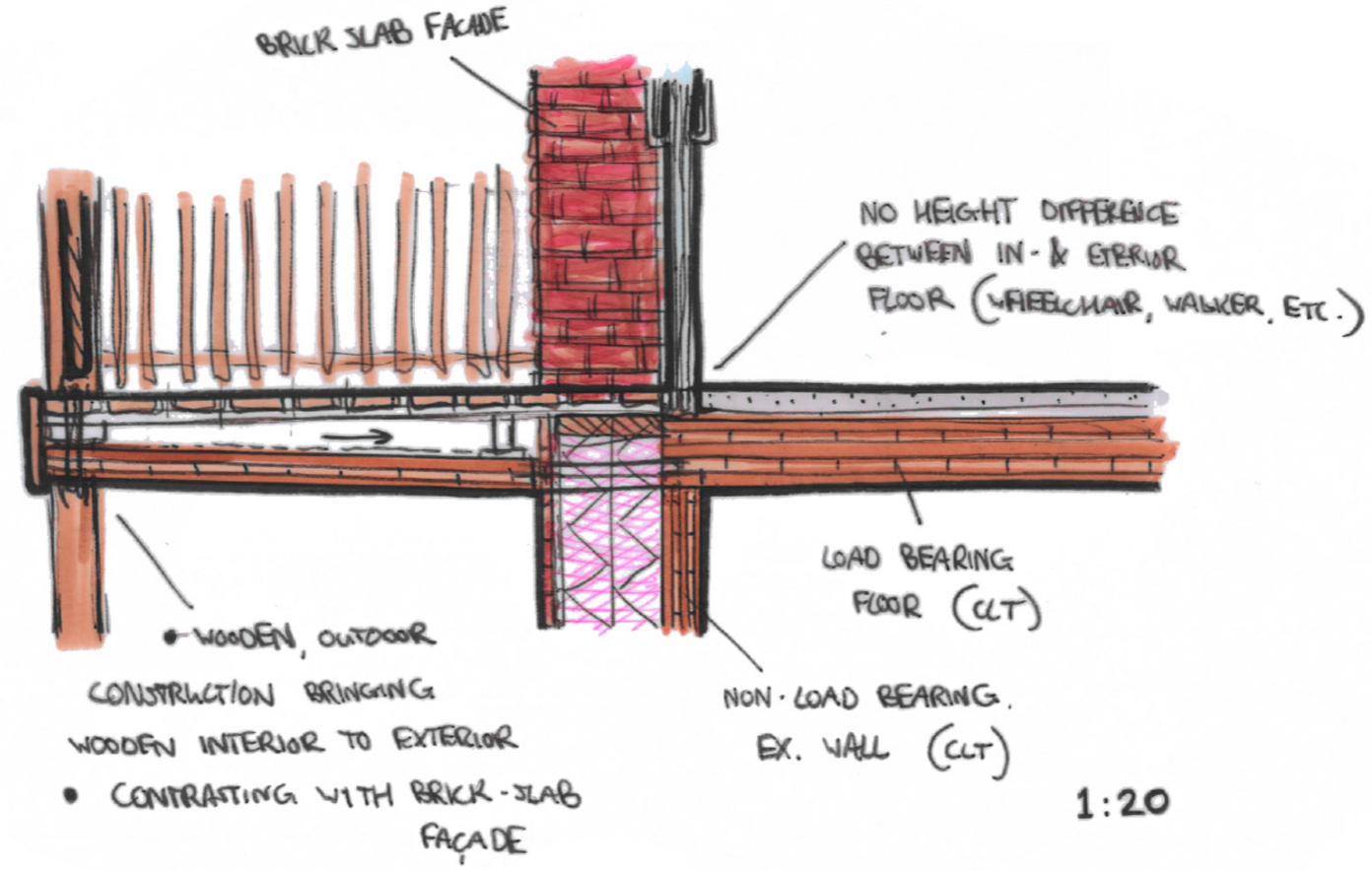


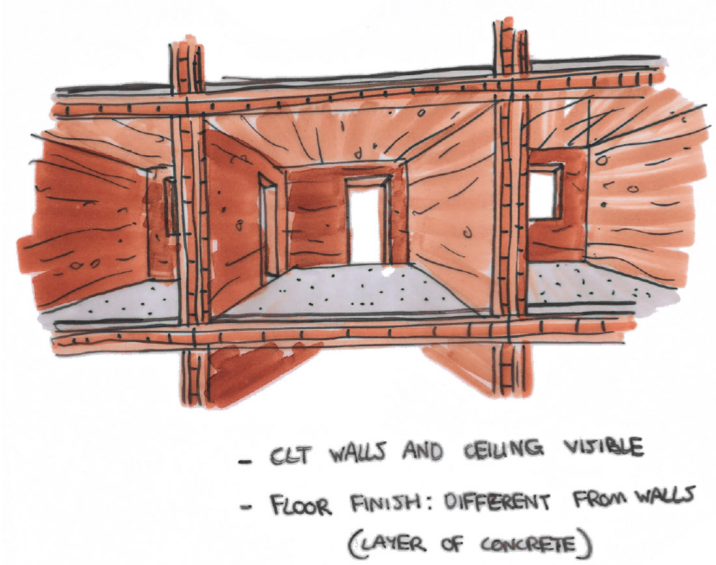












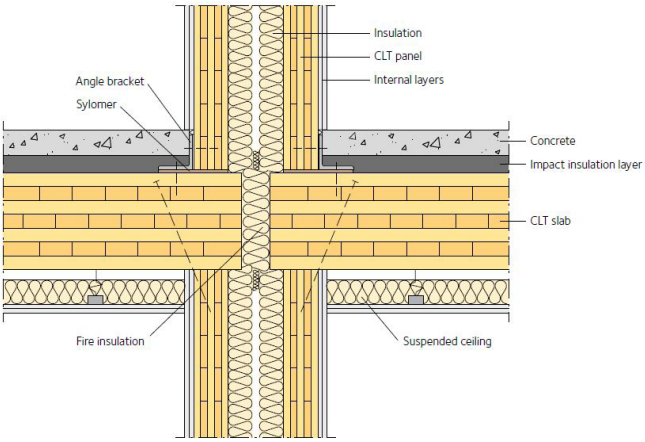


Figure 5.14 Vertical section for building with high demands, regarding sound insulation. Joint flooring to load-bearing apartment separating wall.

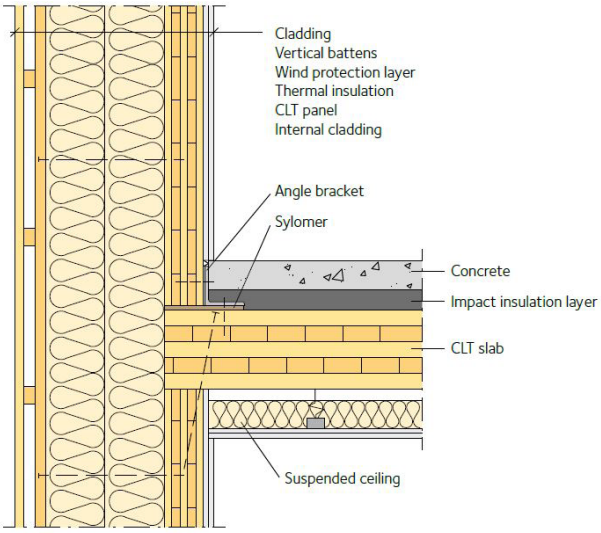
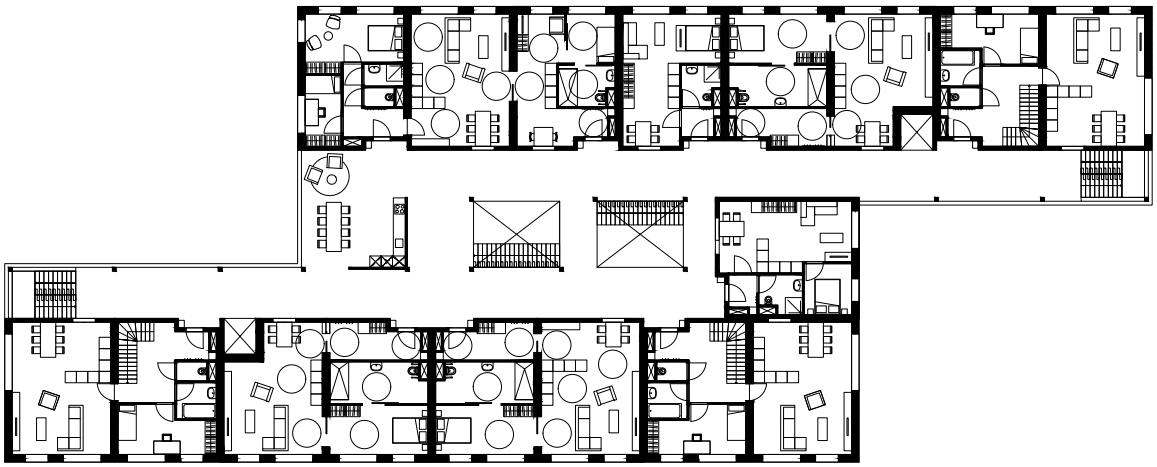


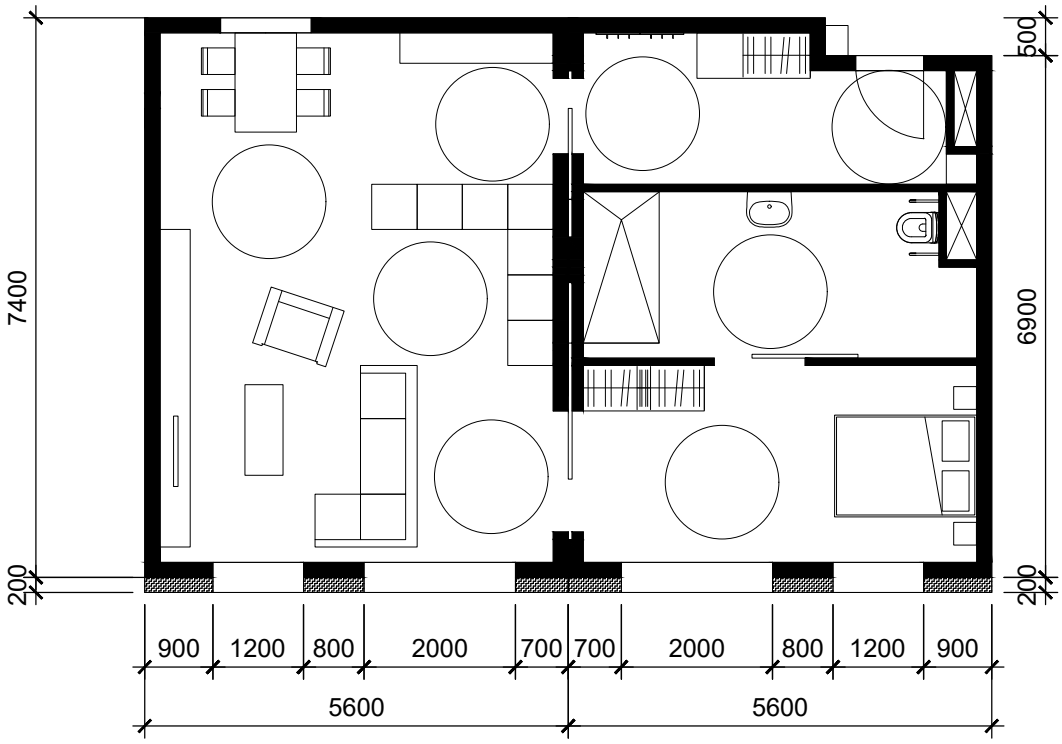
Figure 5.15 Vertical section for building with high demands regarding sound insulation. Joint to exterior wall.

7

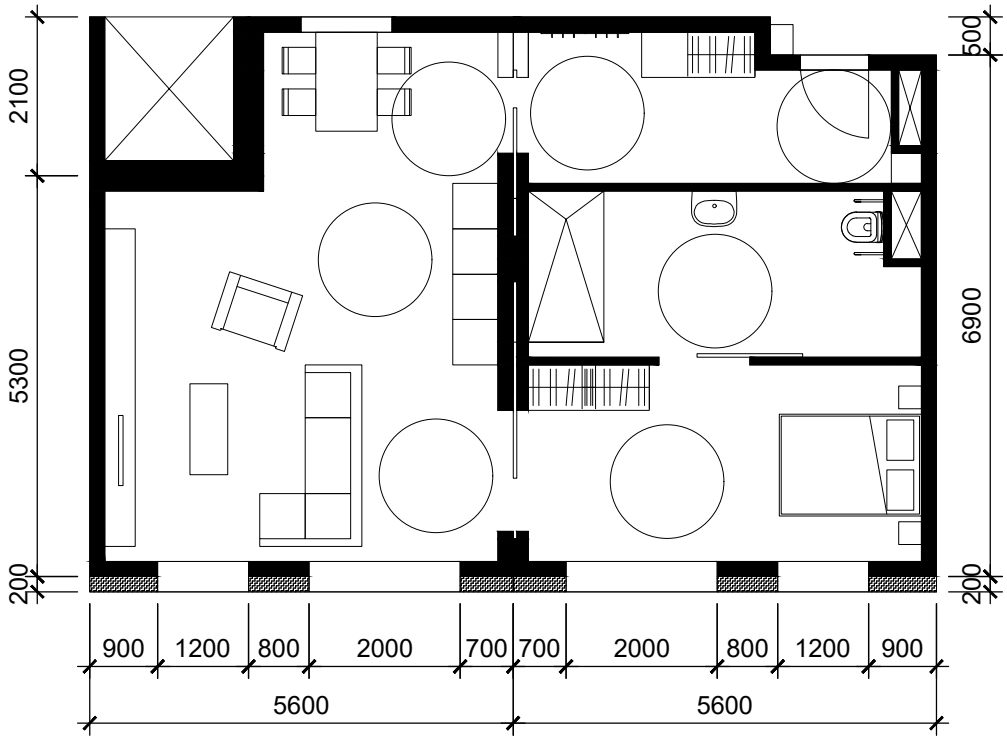
Week 7



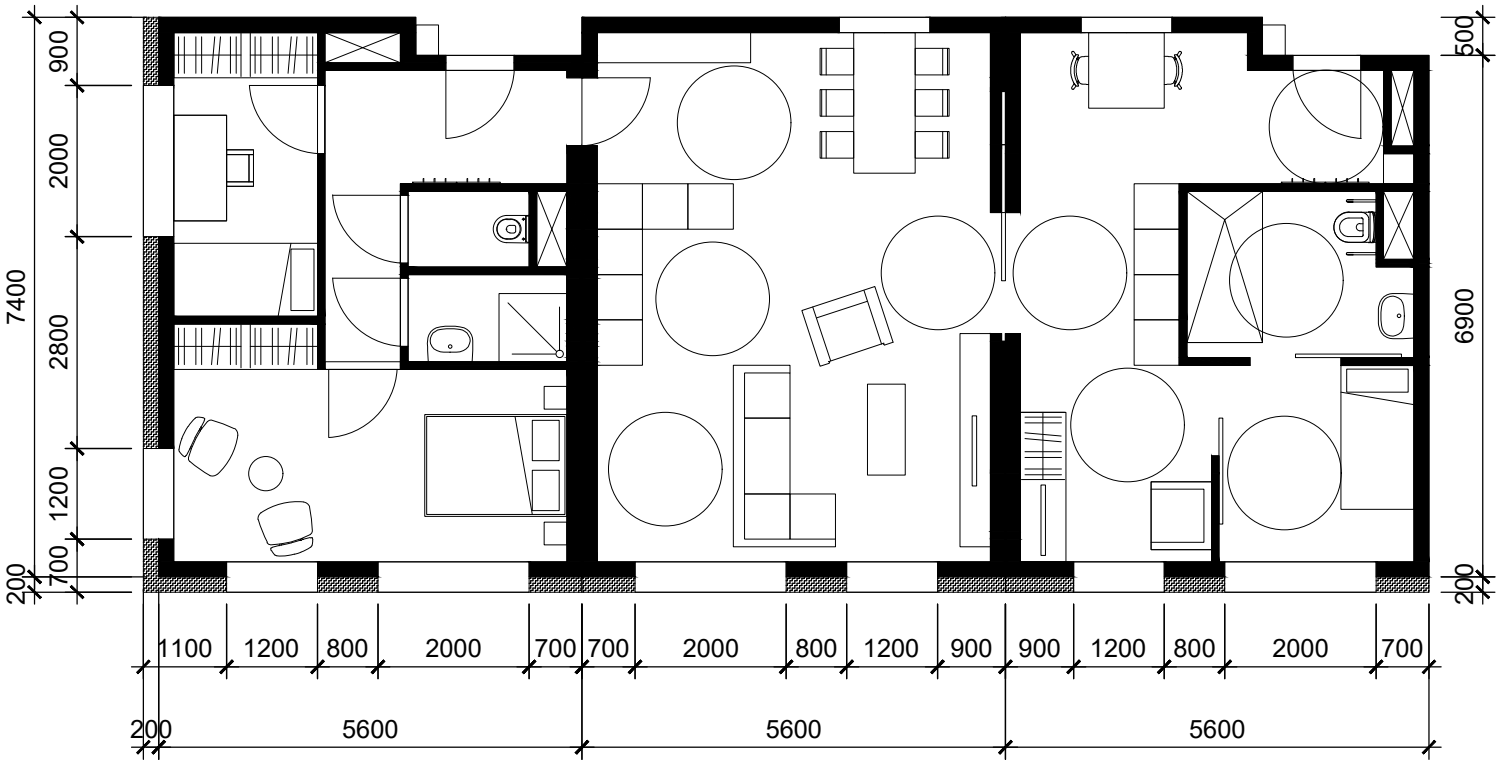
Common House: **Floor 2**



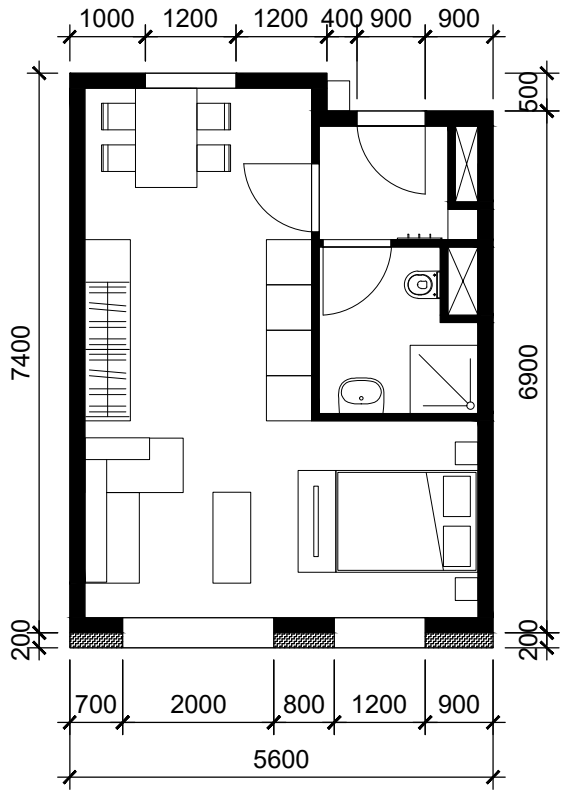
Dwelling unit: **Elderly**



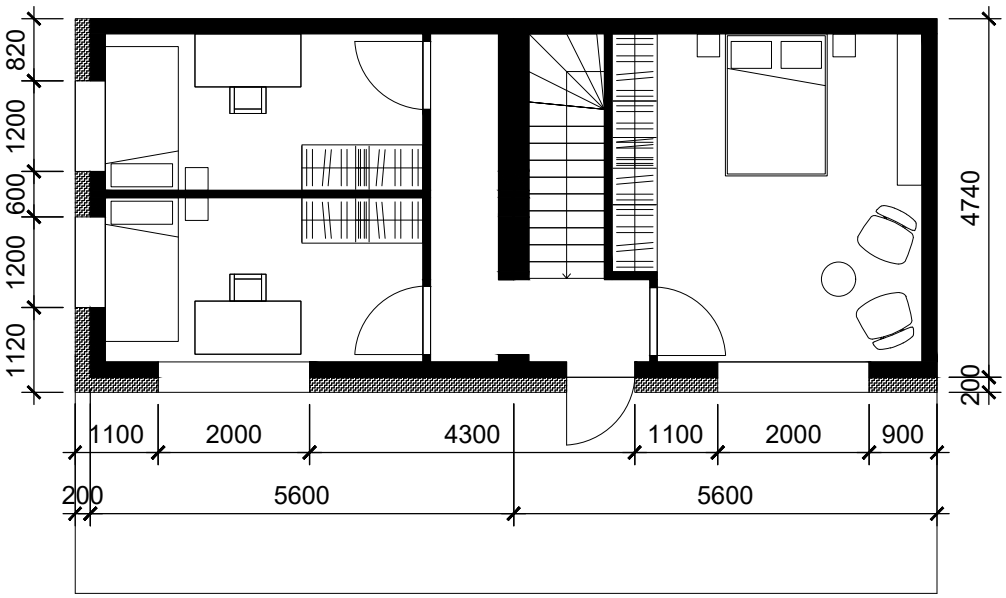
Dwelling unit: **Elderly (lift)**



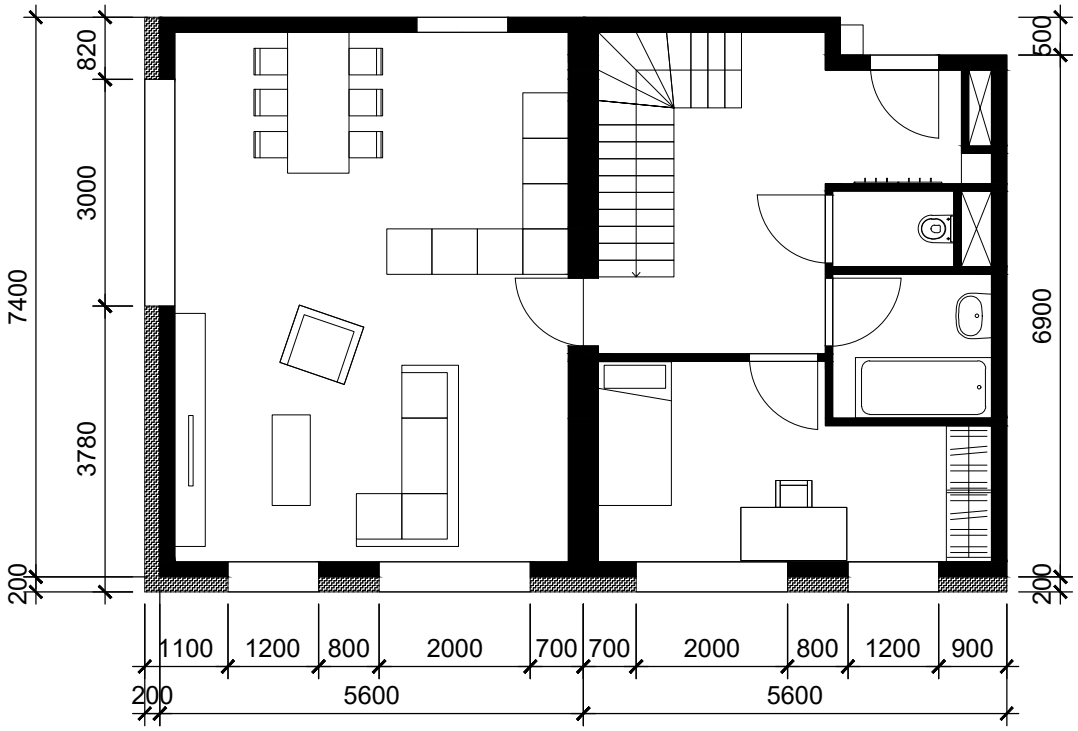
Dwelling unit: **'Kangaroo'**



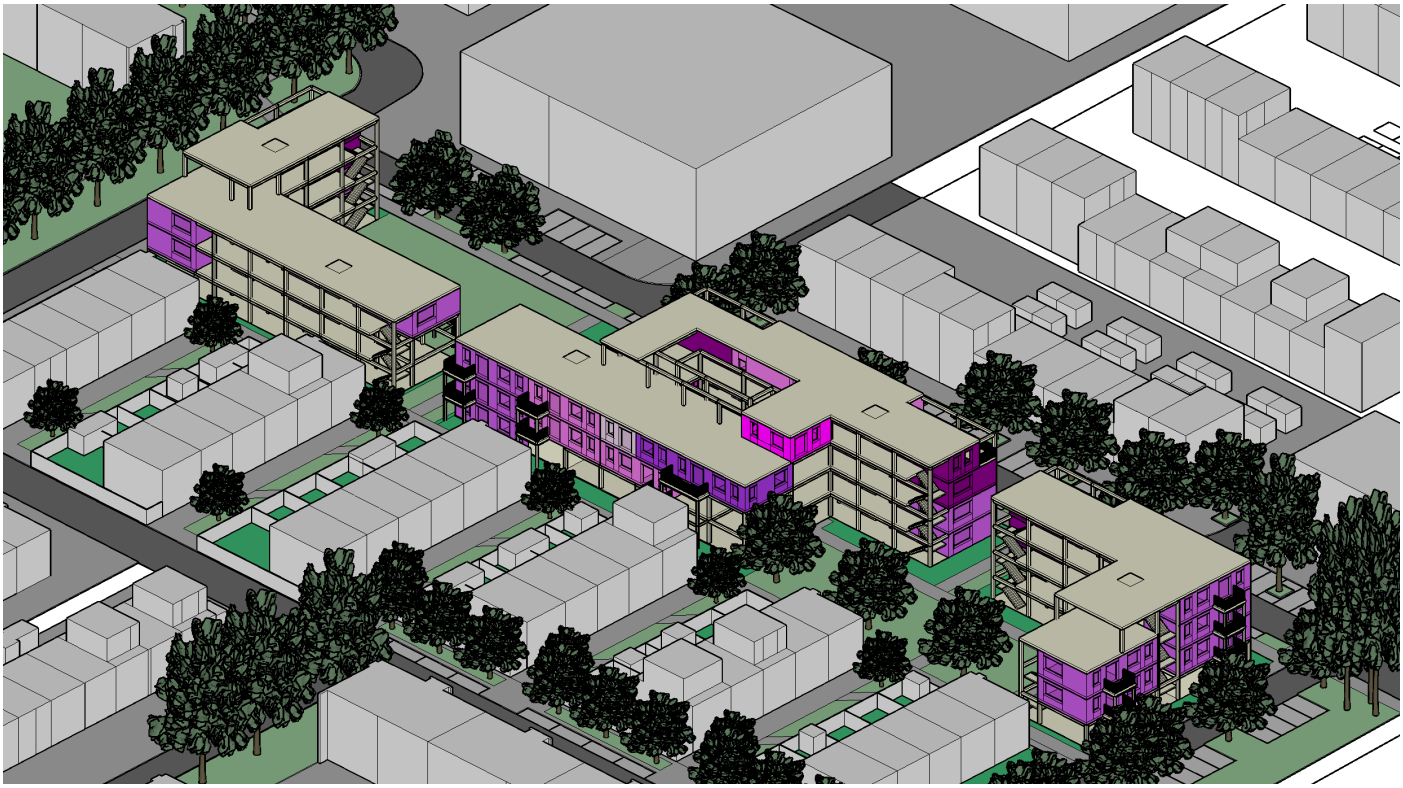
Dwelling unit: **Student**

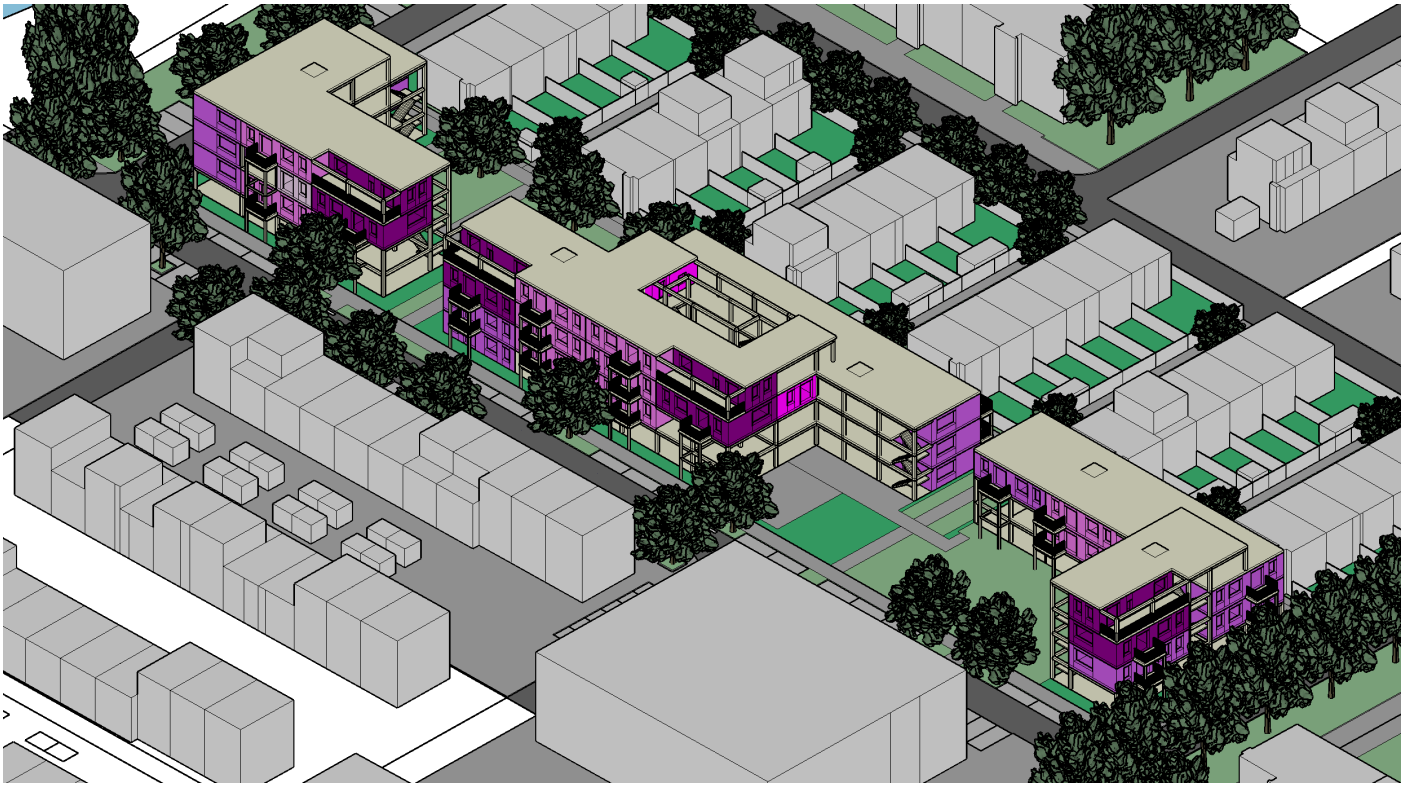


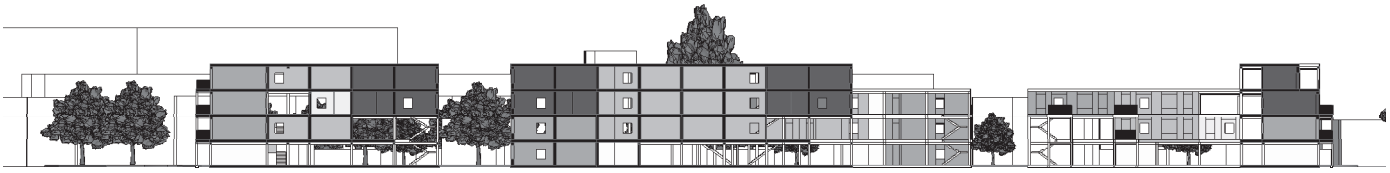
Dwelling unit: **Family maisonette (+1)**

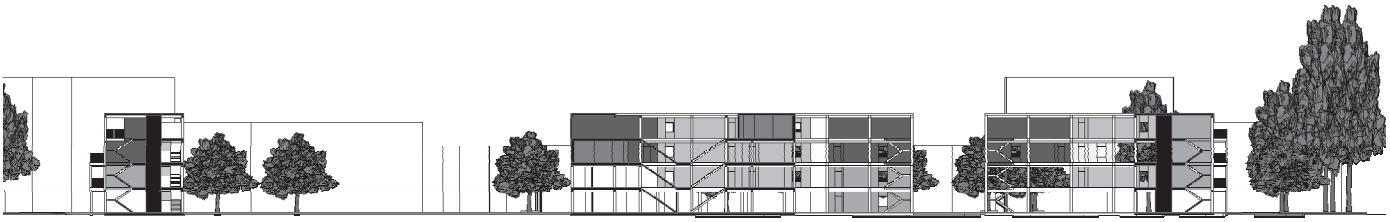


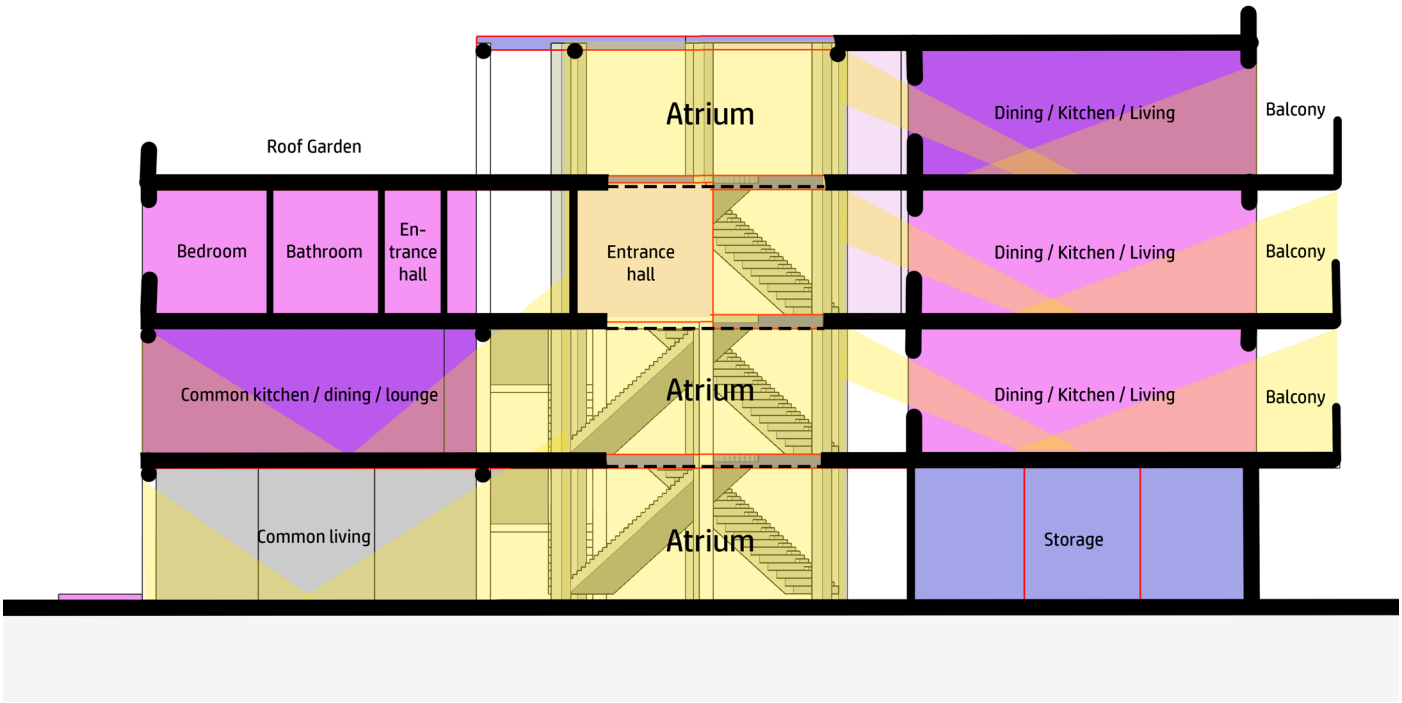
Dwelling unit: **Family maisonette (0)**

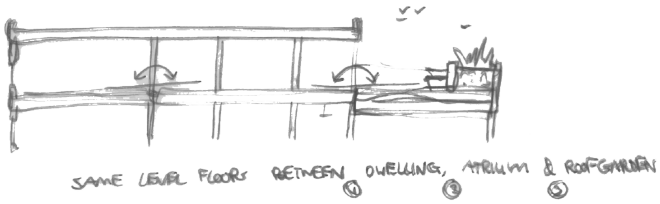


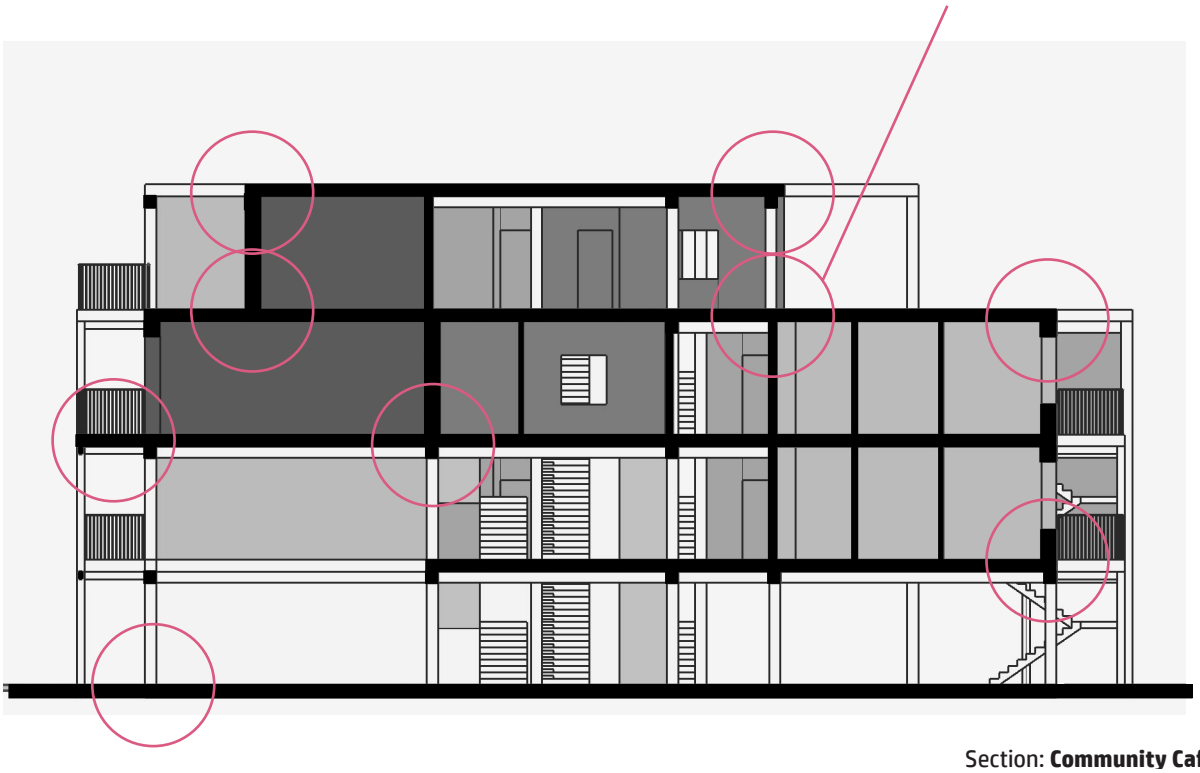




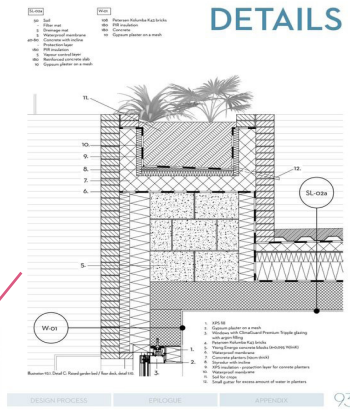


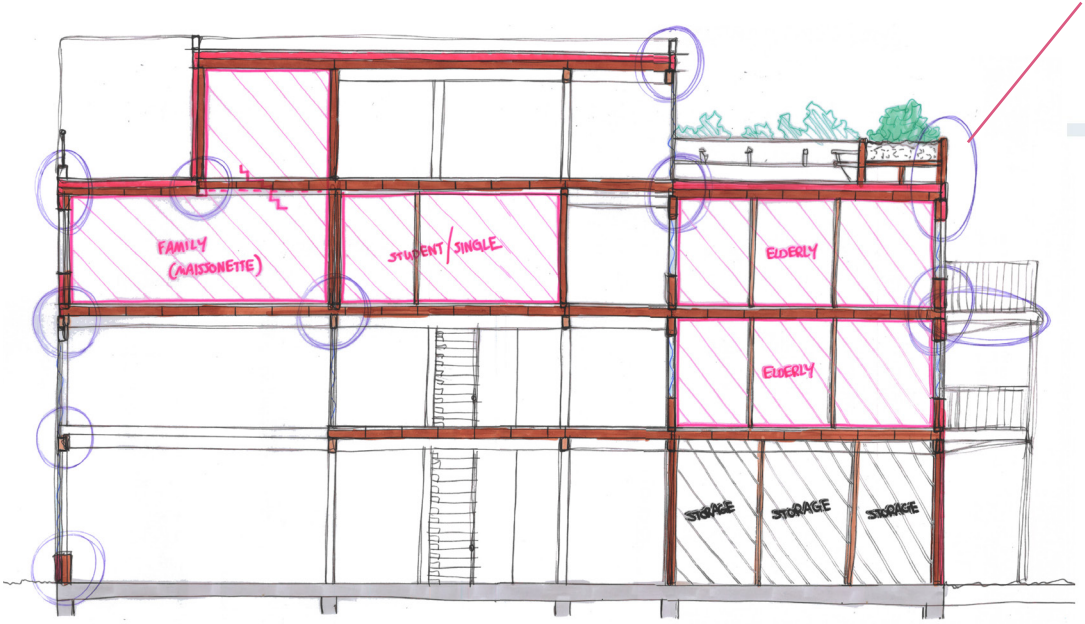

Roof Garden
Atrium
Dining / Kitchen / Living
Balcony
Bedroom
Bathroom
En-
trance
hall
Entrance
hall
Dining / Kitchen / Living
Balcony
Common kitchen / dining / lounge
Atrium
Dining / Kitchen / Living
Balcony
Common living
Atrium
Storage

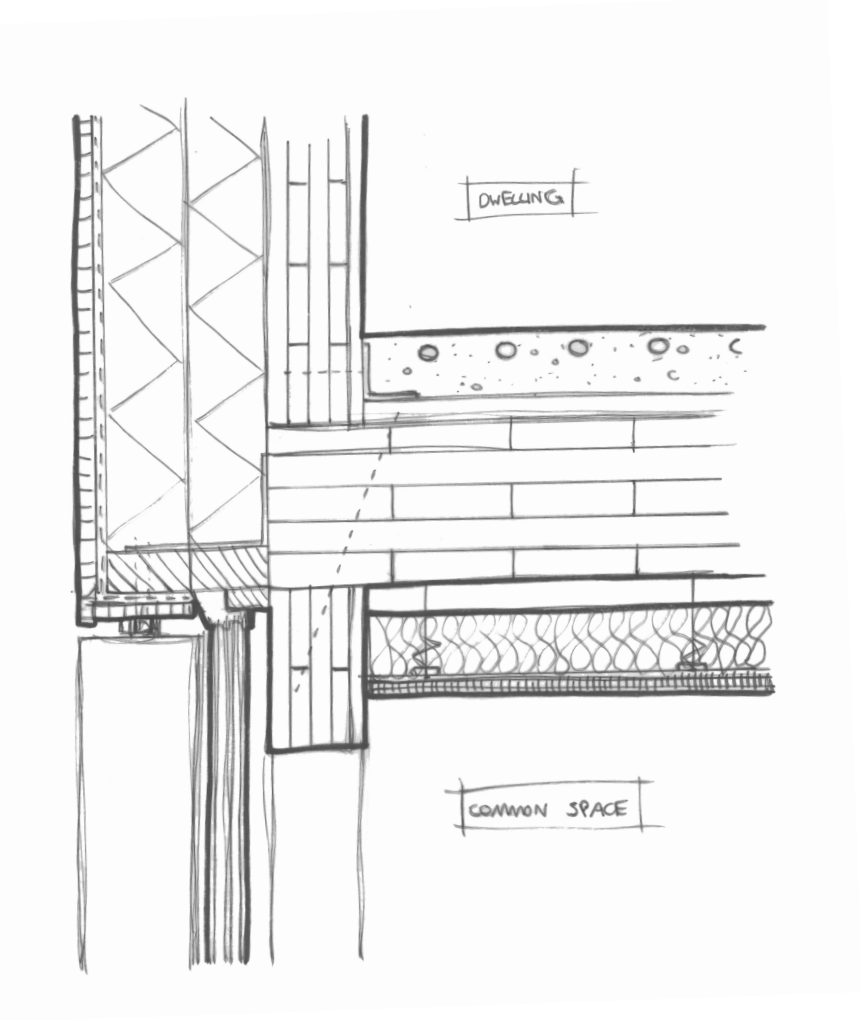




Section: **Community Café + details**







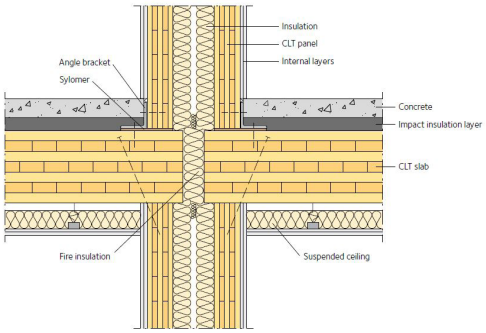


Figure 5.14 Vertical section for building with high demands, regarding sound insulation. Joint flooring to load-bearing apartment separating wall.

Woningscheidend detail - © Swedish Wood

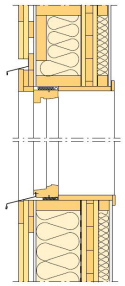


Figure 6.19 Design principle for window mounting.

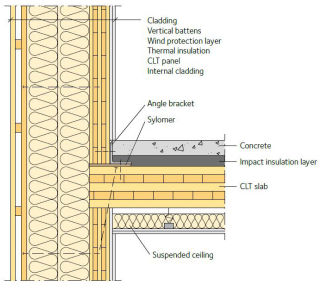
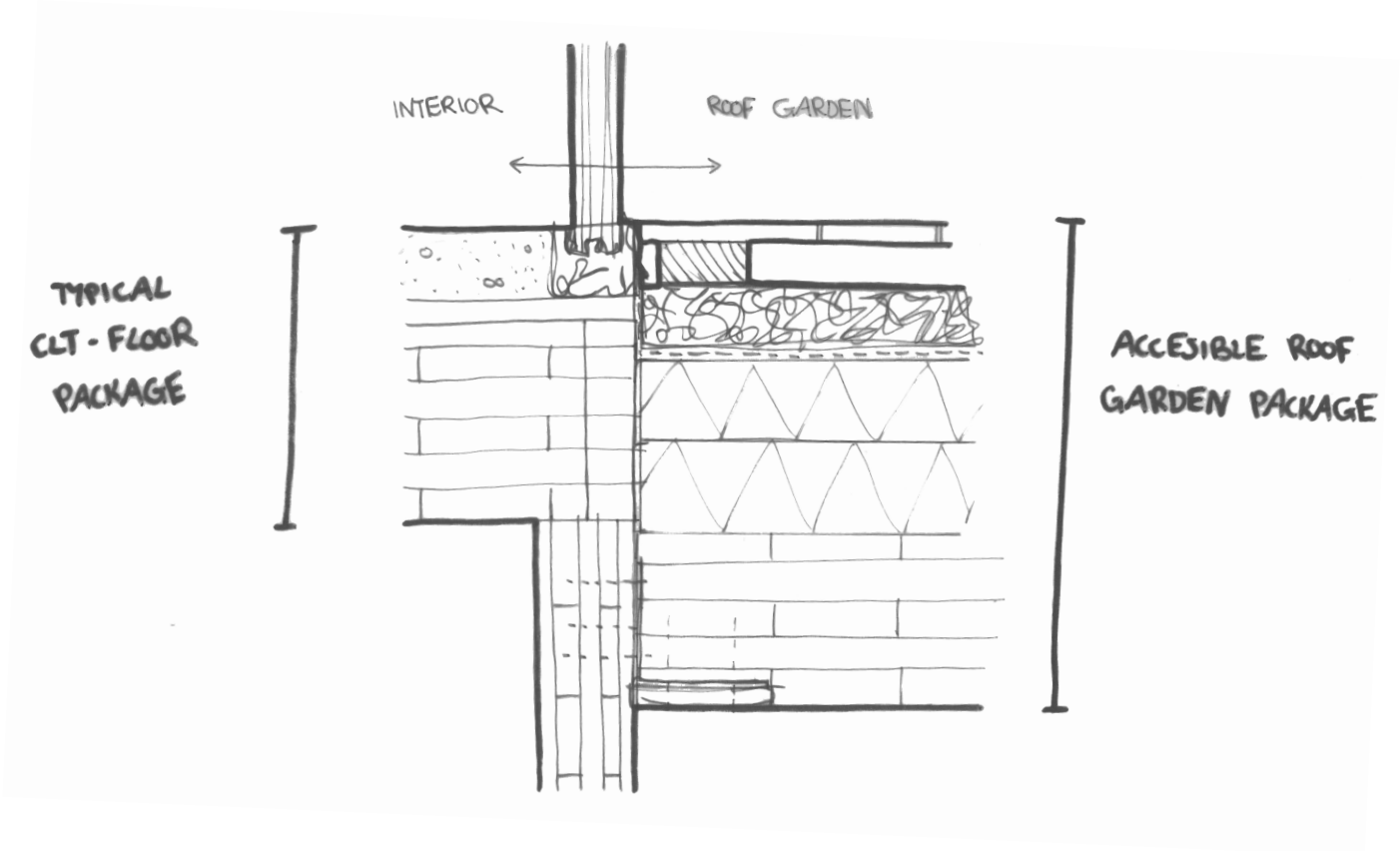


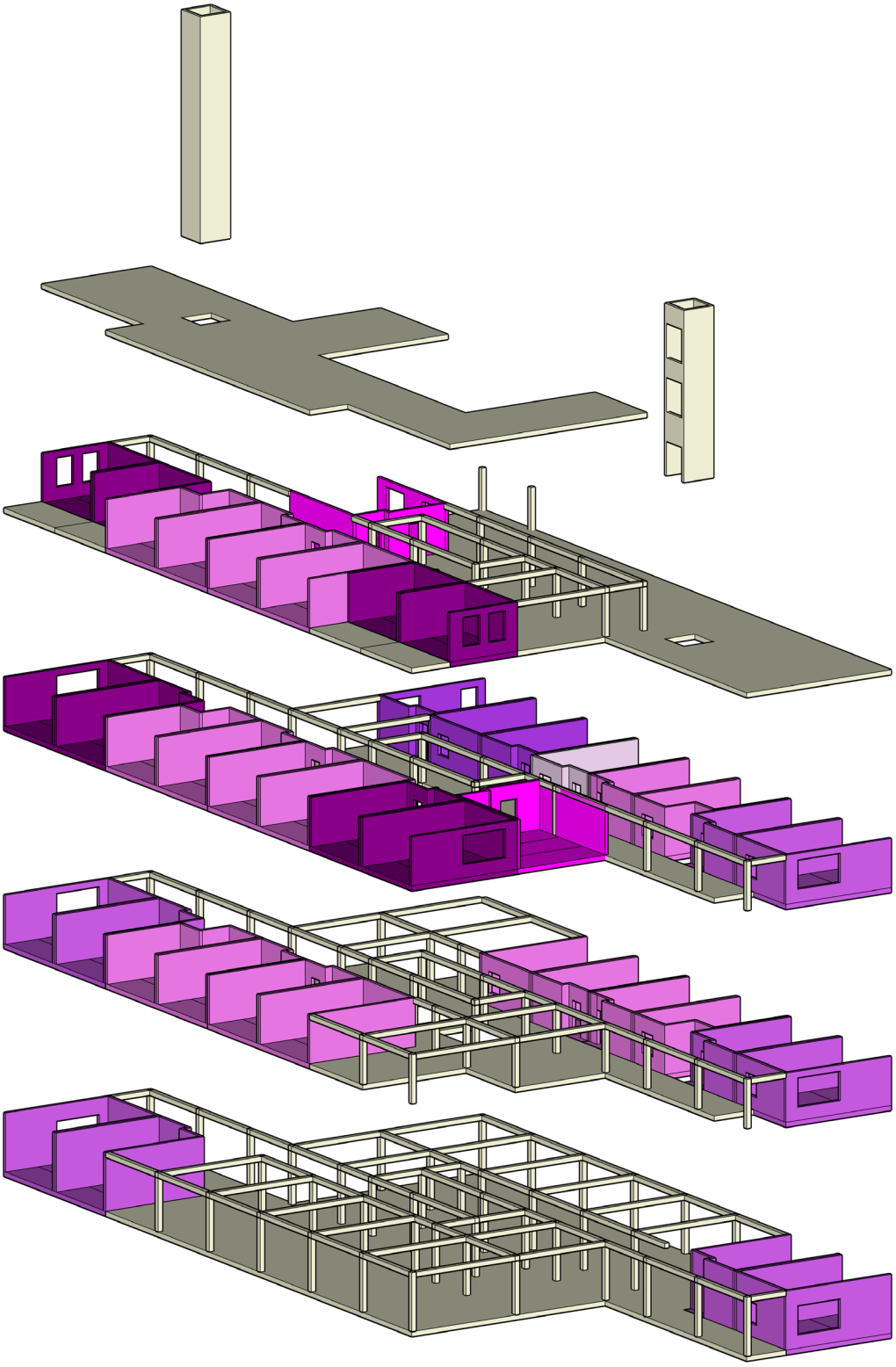
Figure 5.15 Vertical section for building with high demands regarding sound insulation. Joint to exterior wall.

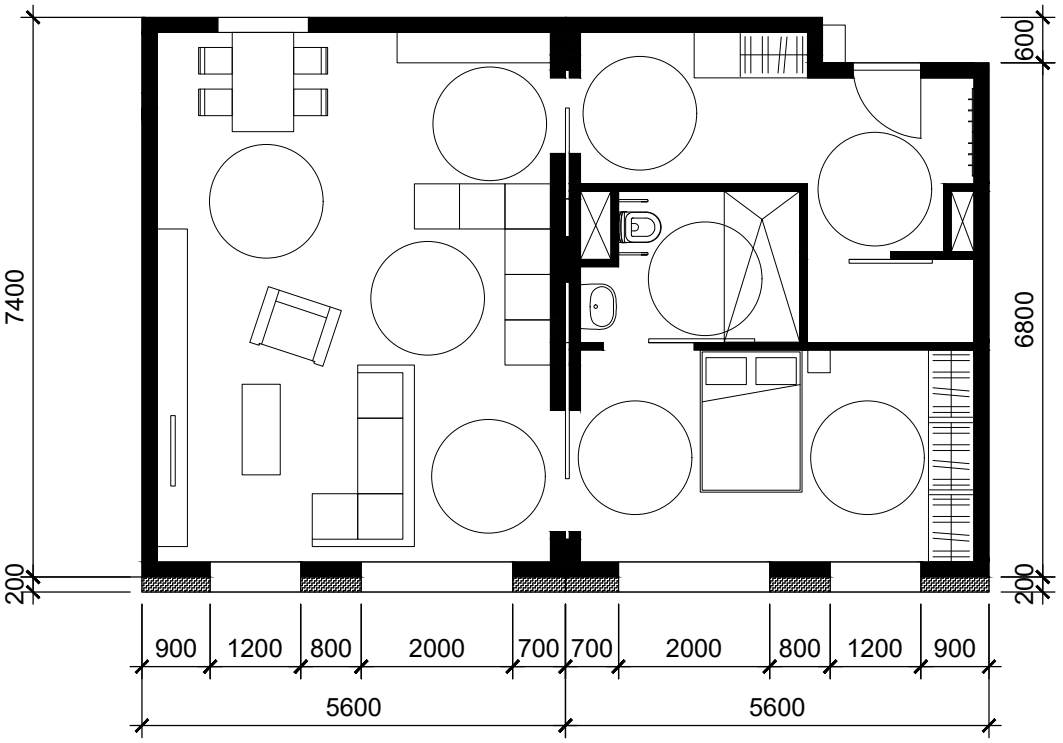
© Swedish Wood



8

Week 8

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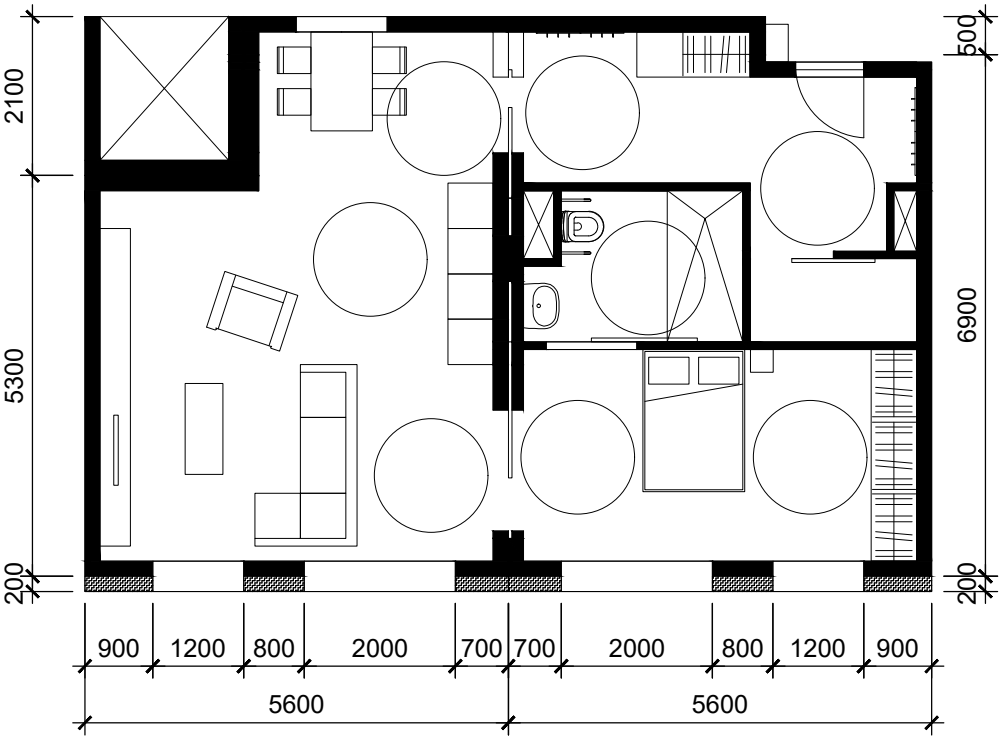
5600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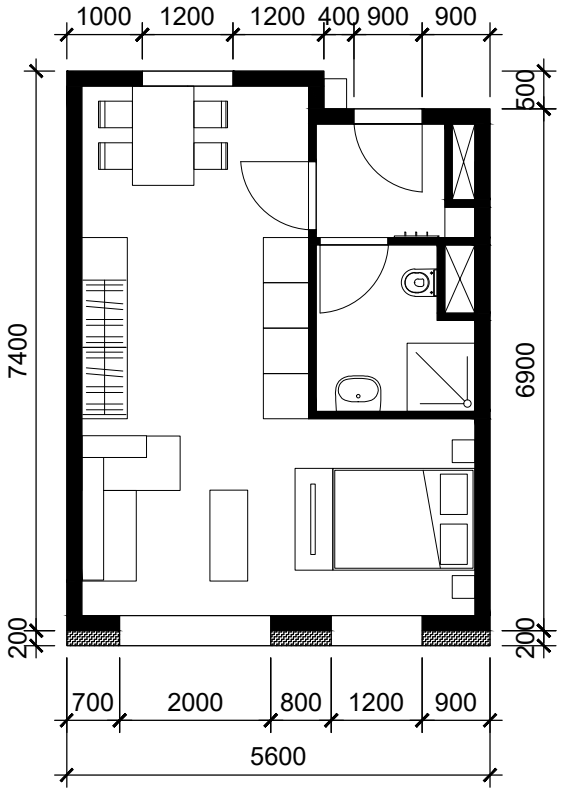
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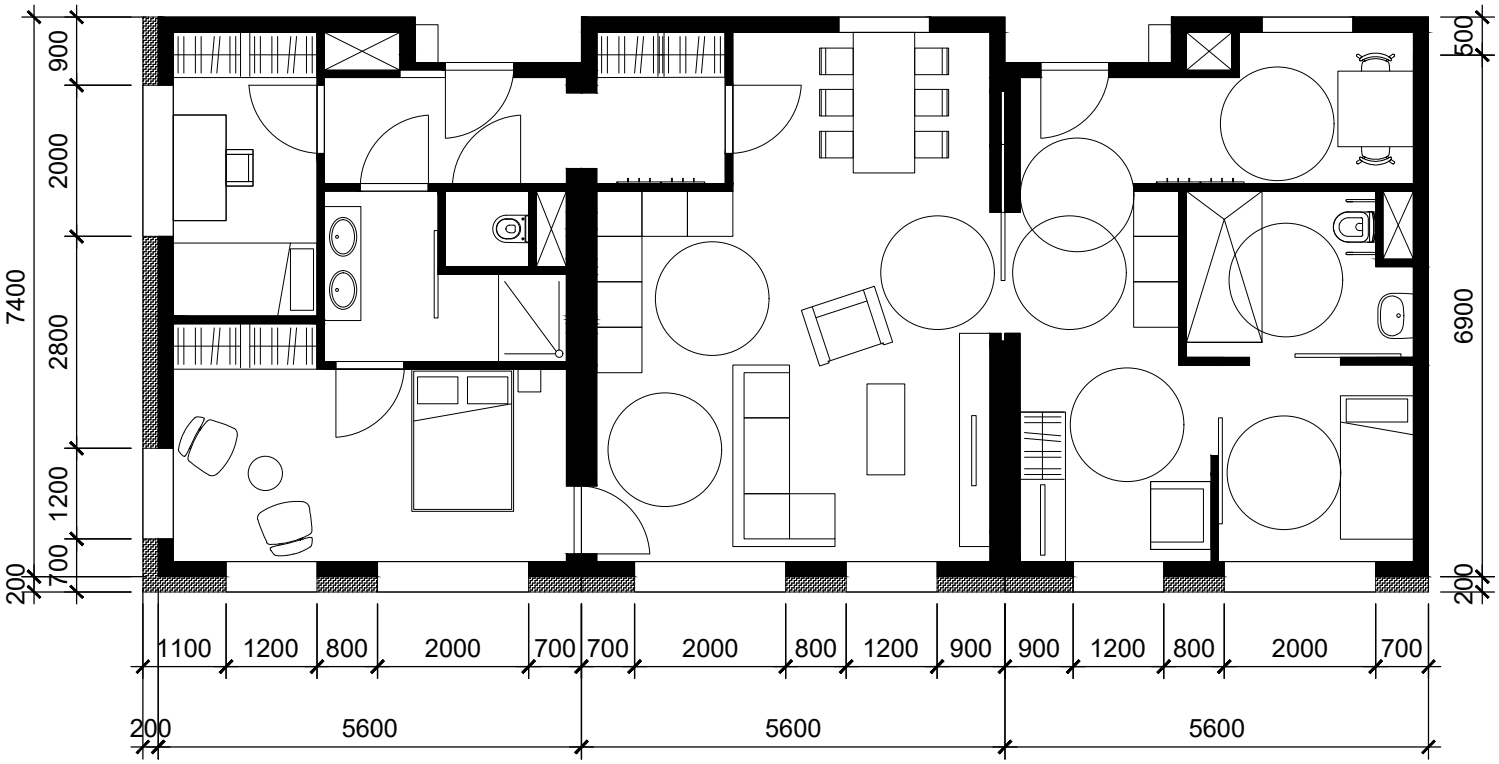
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2800
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5600
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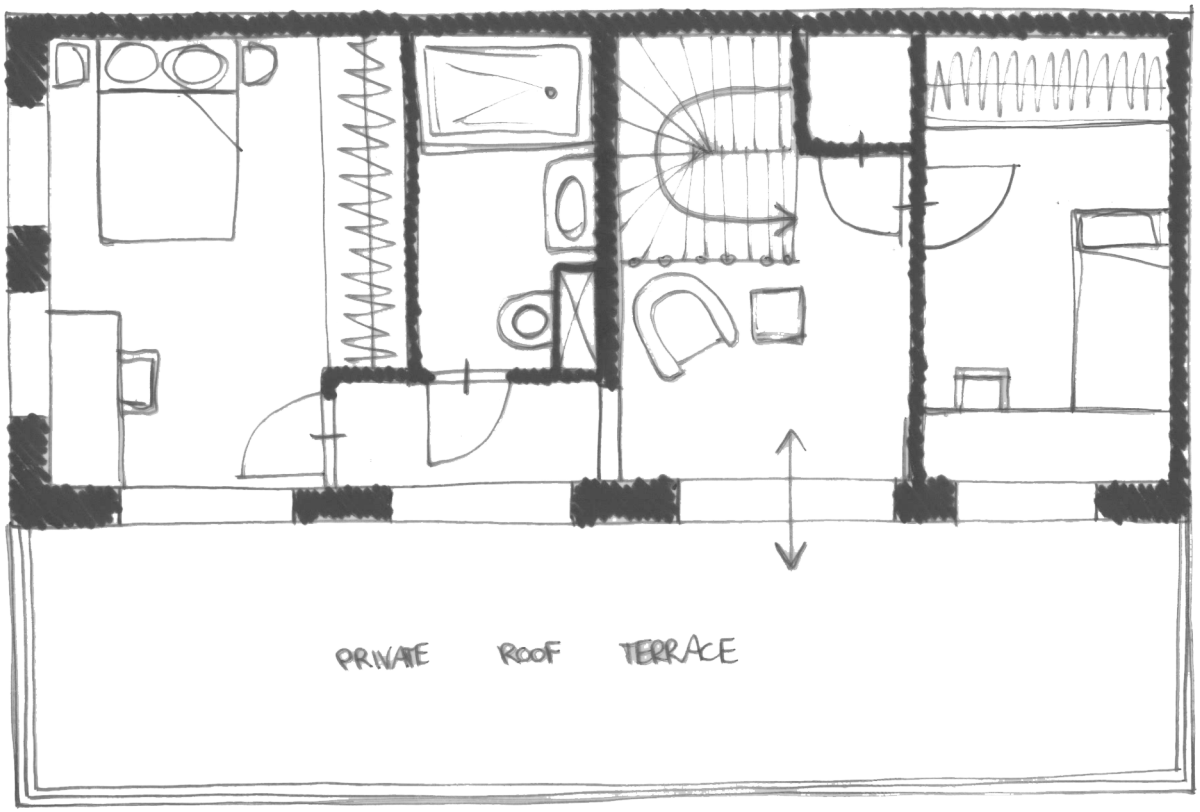
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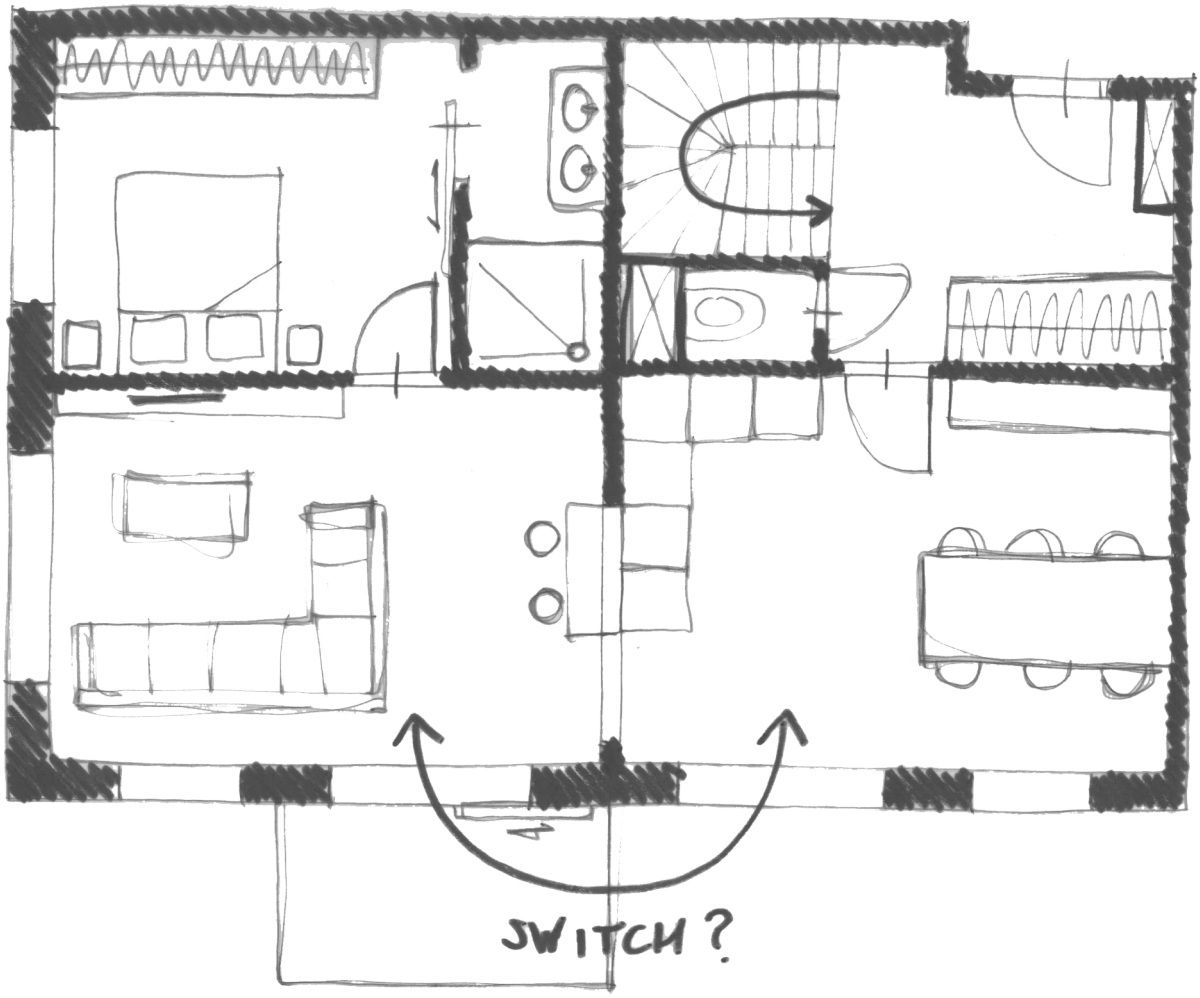
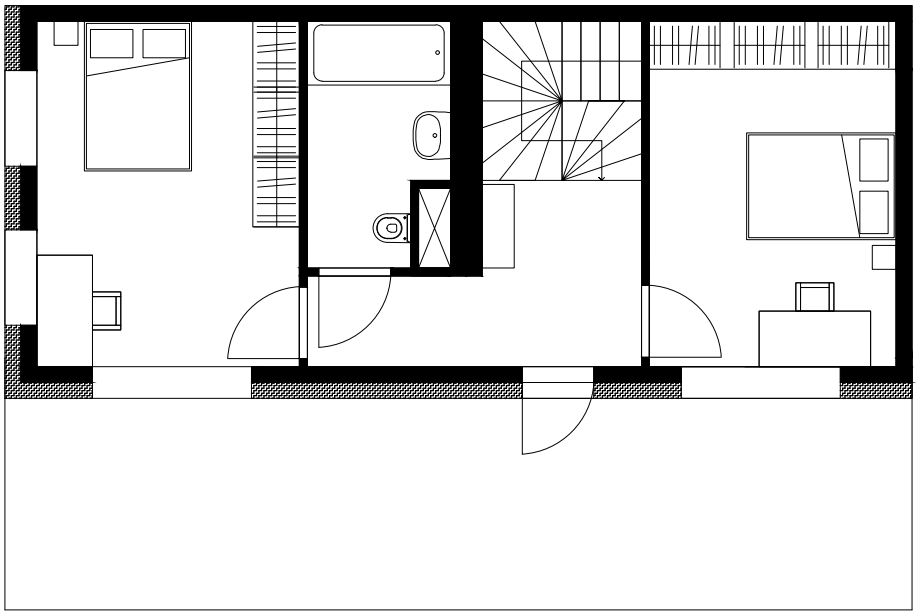
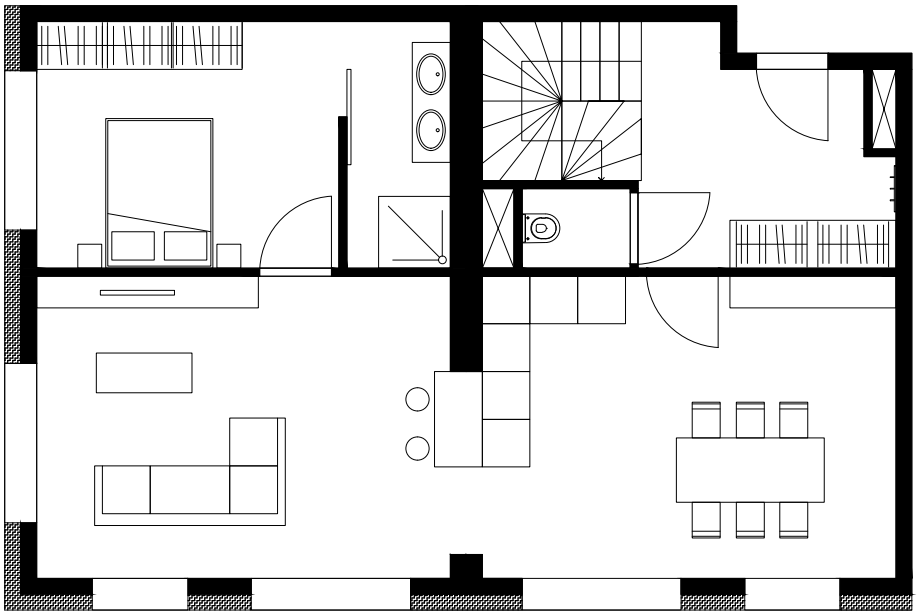
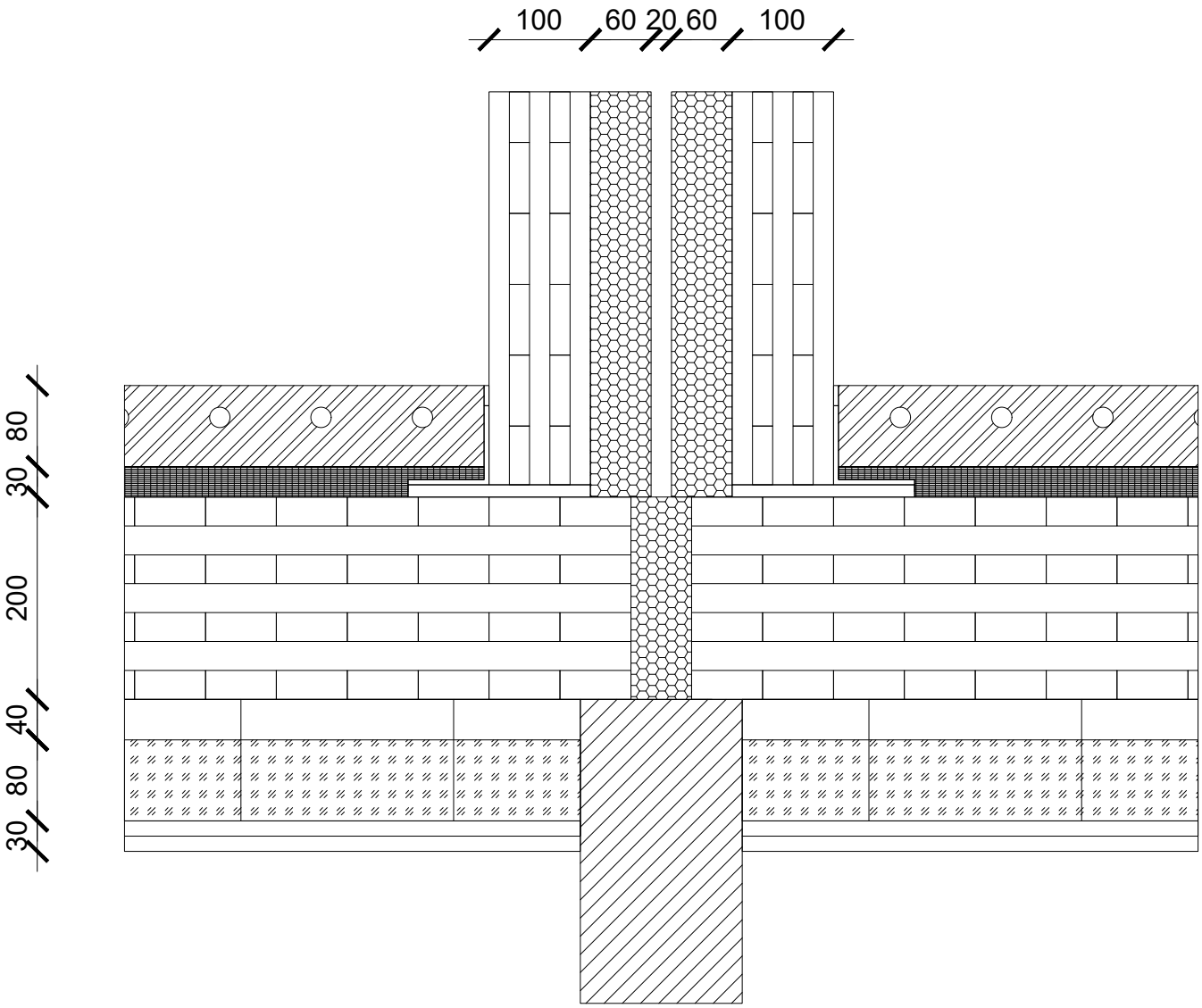

SWITCH ?



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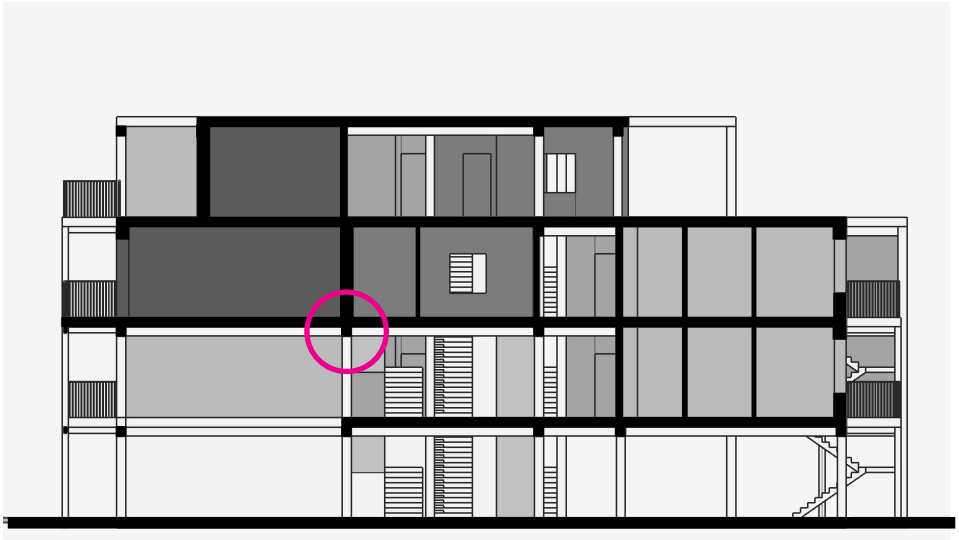

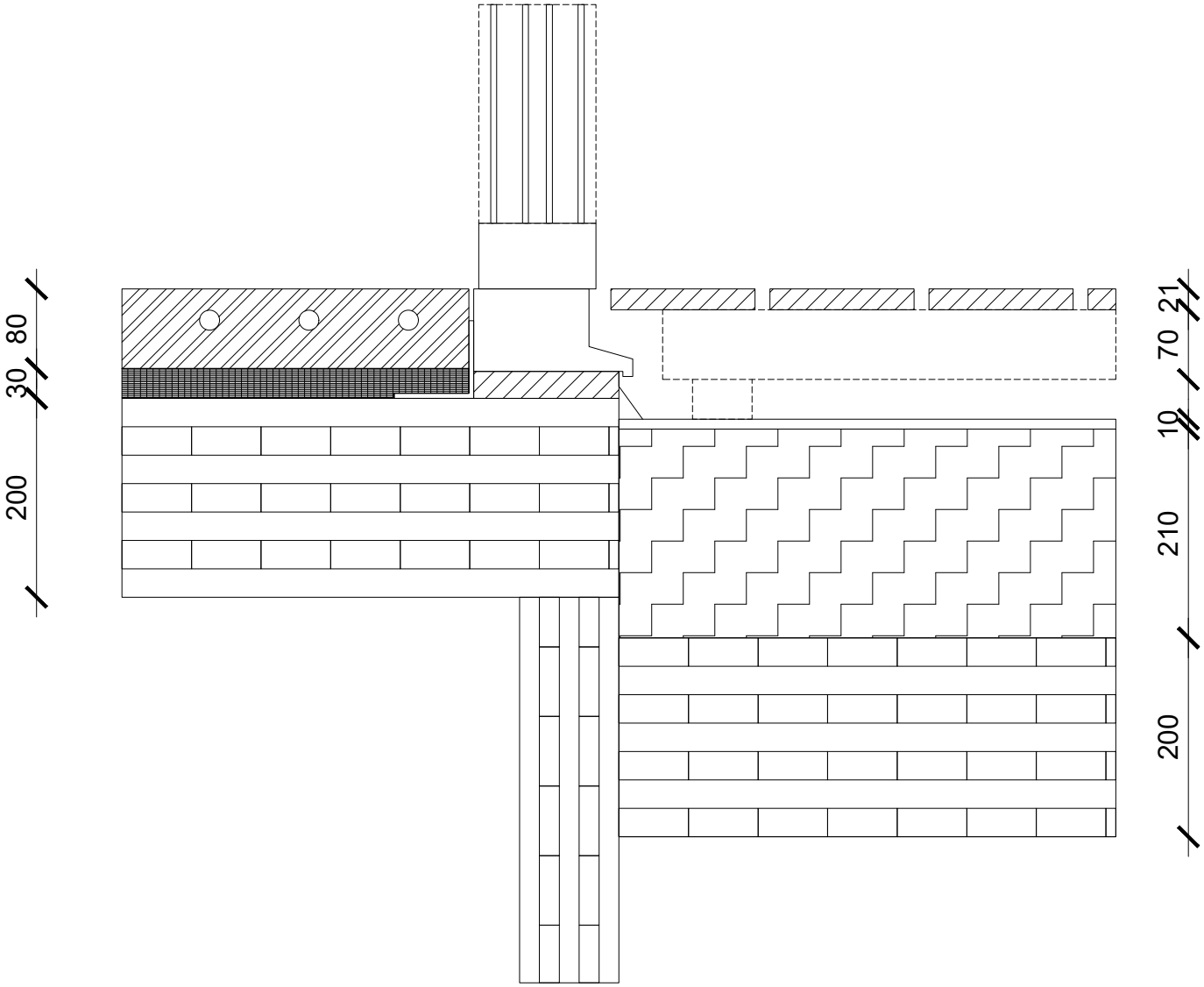
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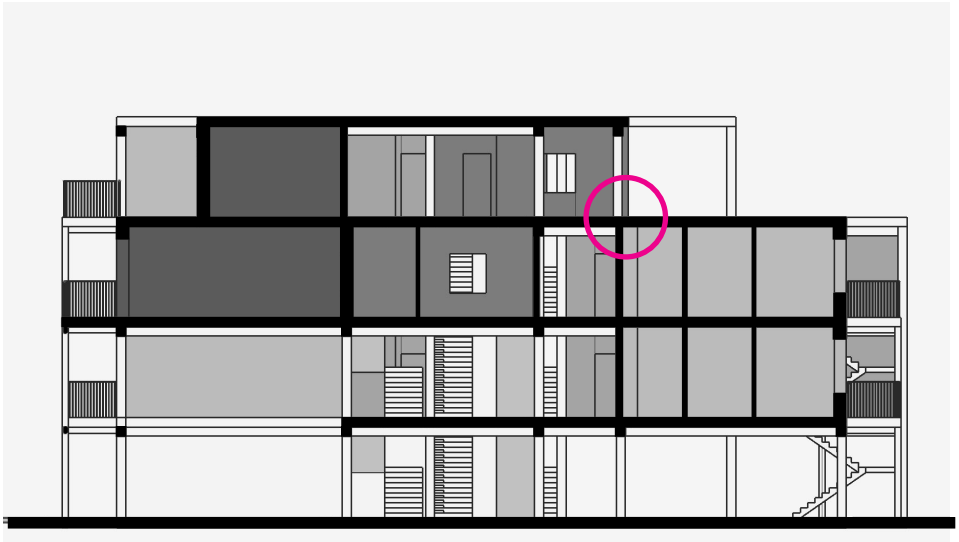

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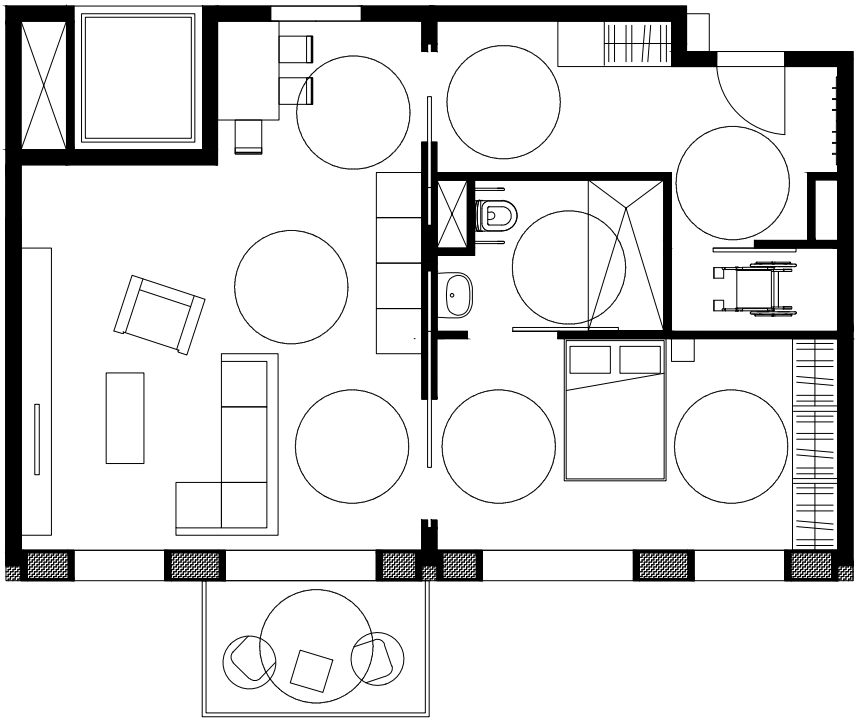
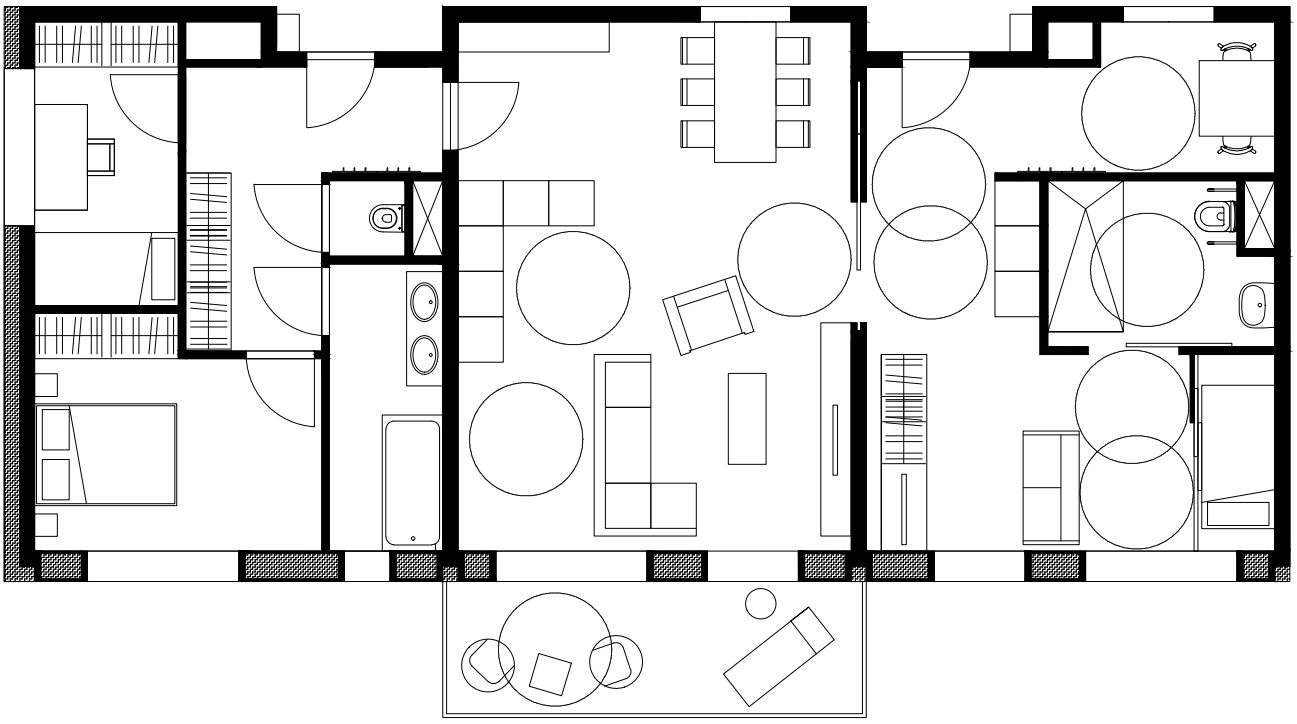
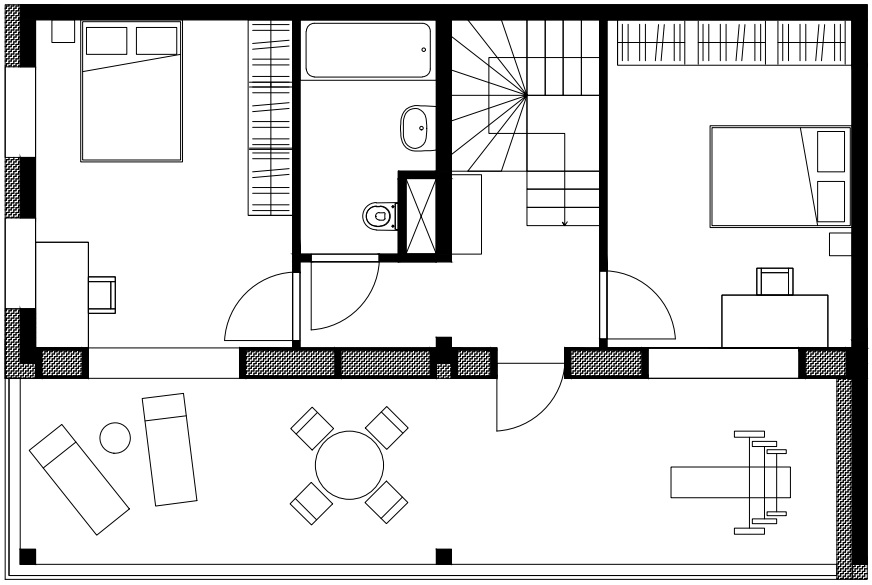
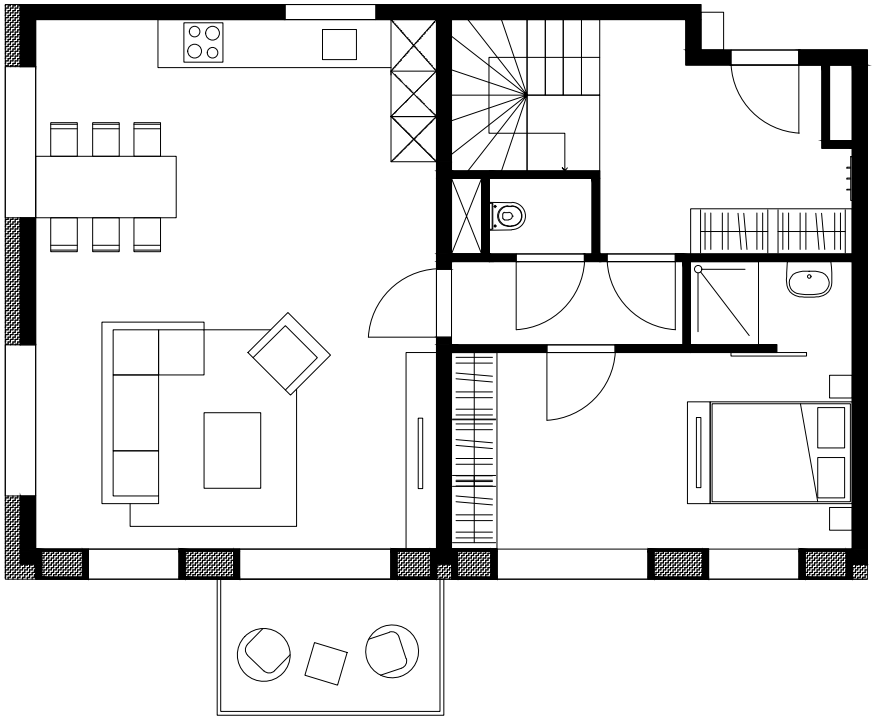
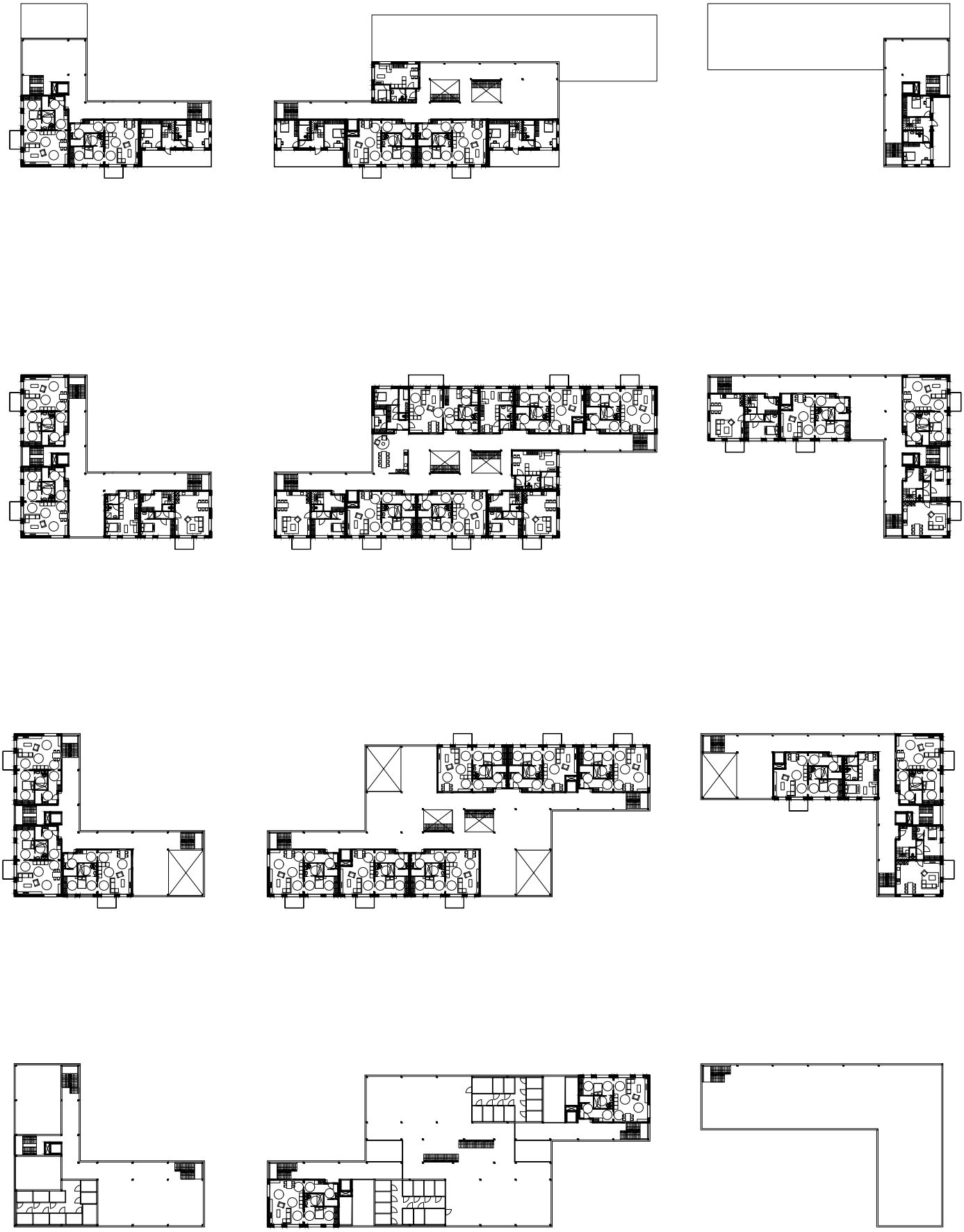
Week 9

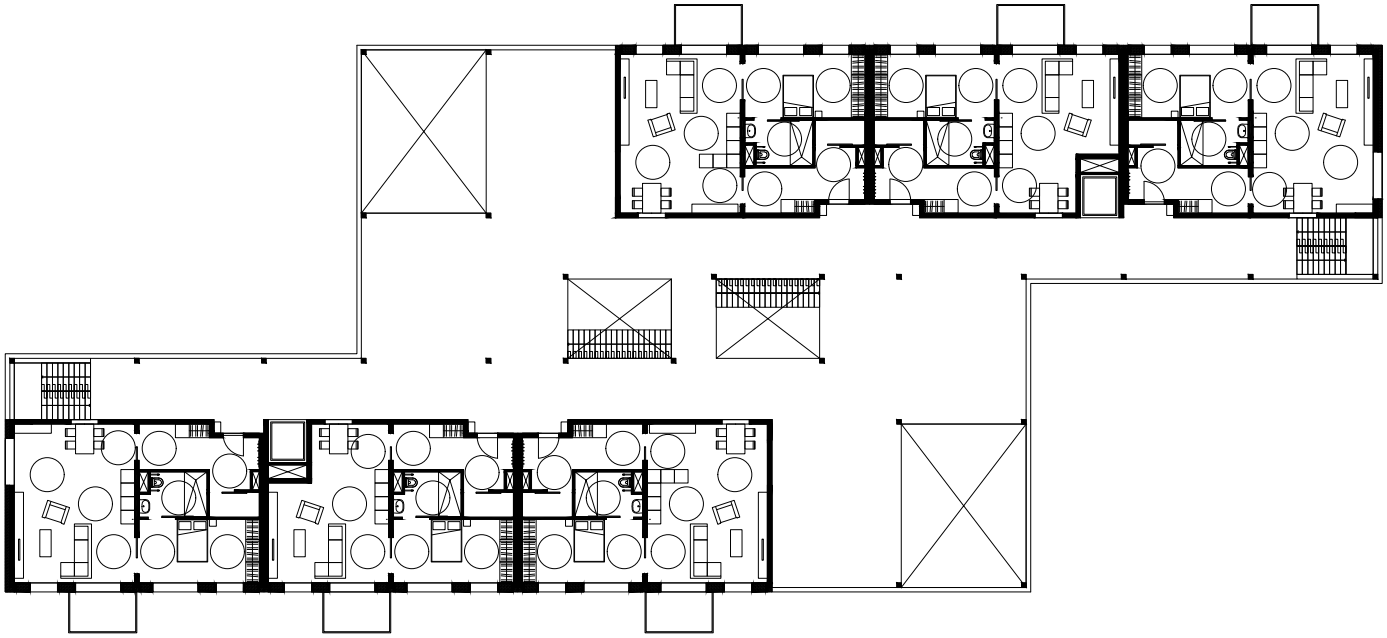


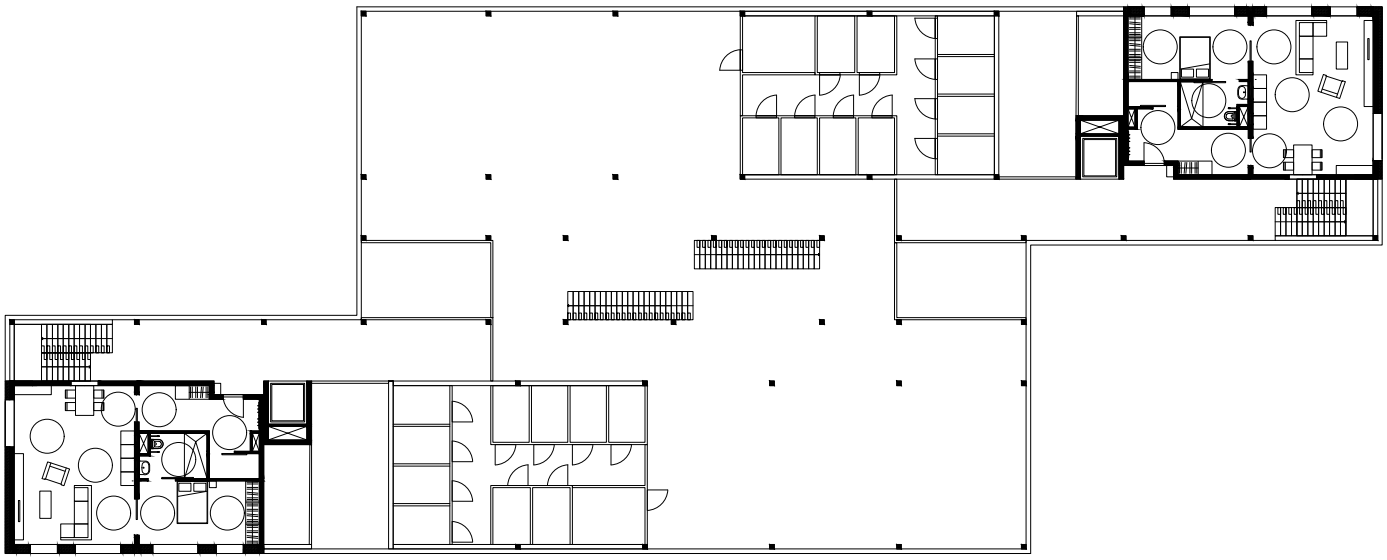


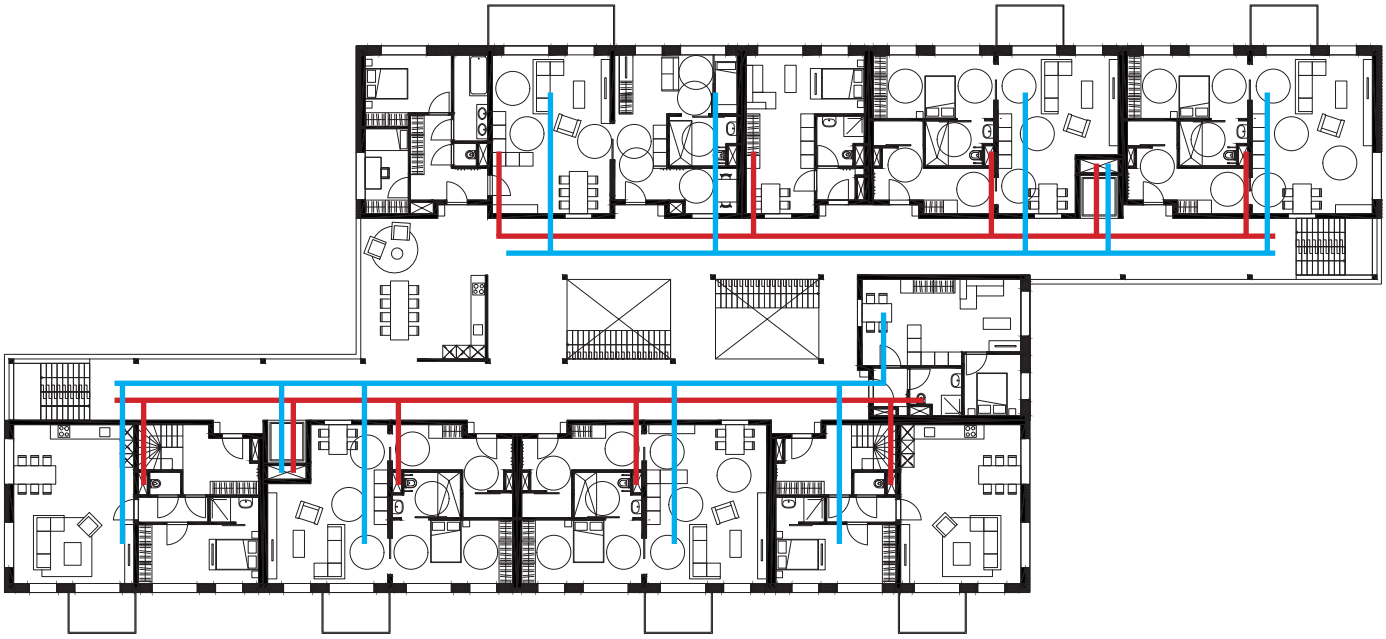


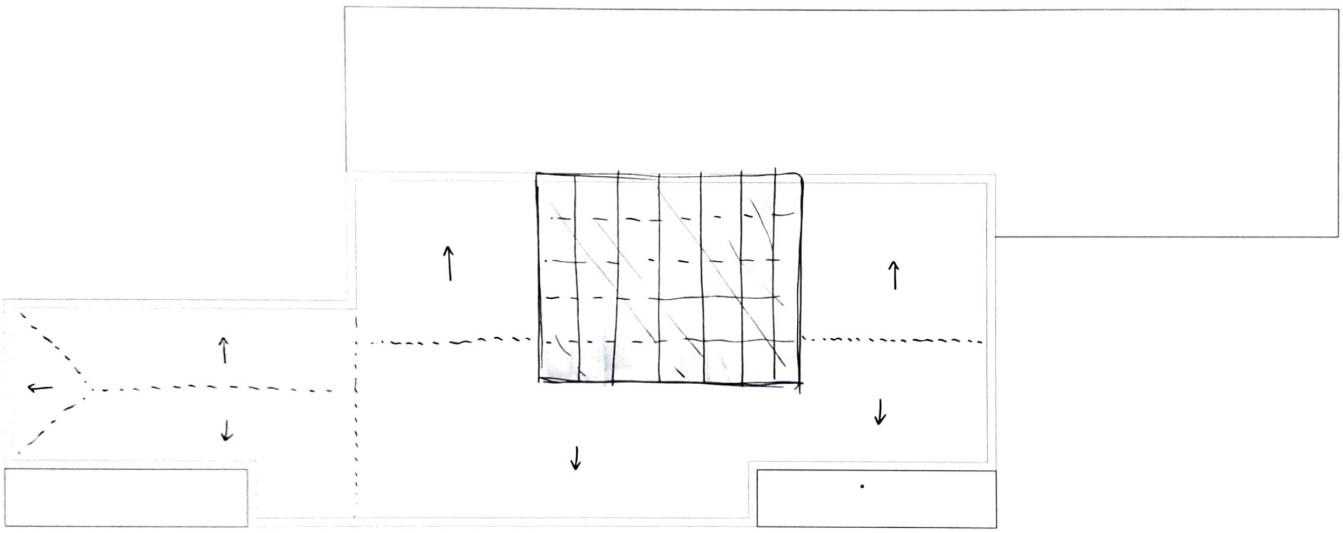


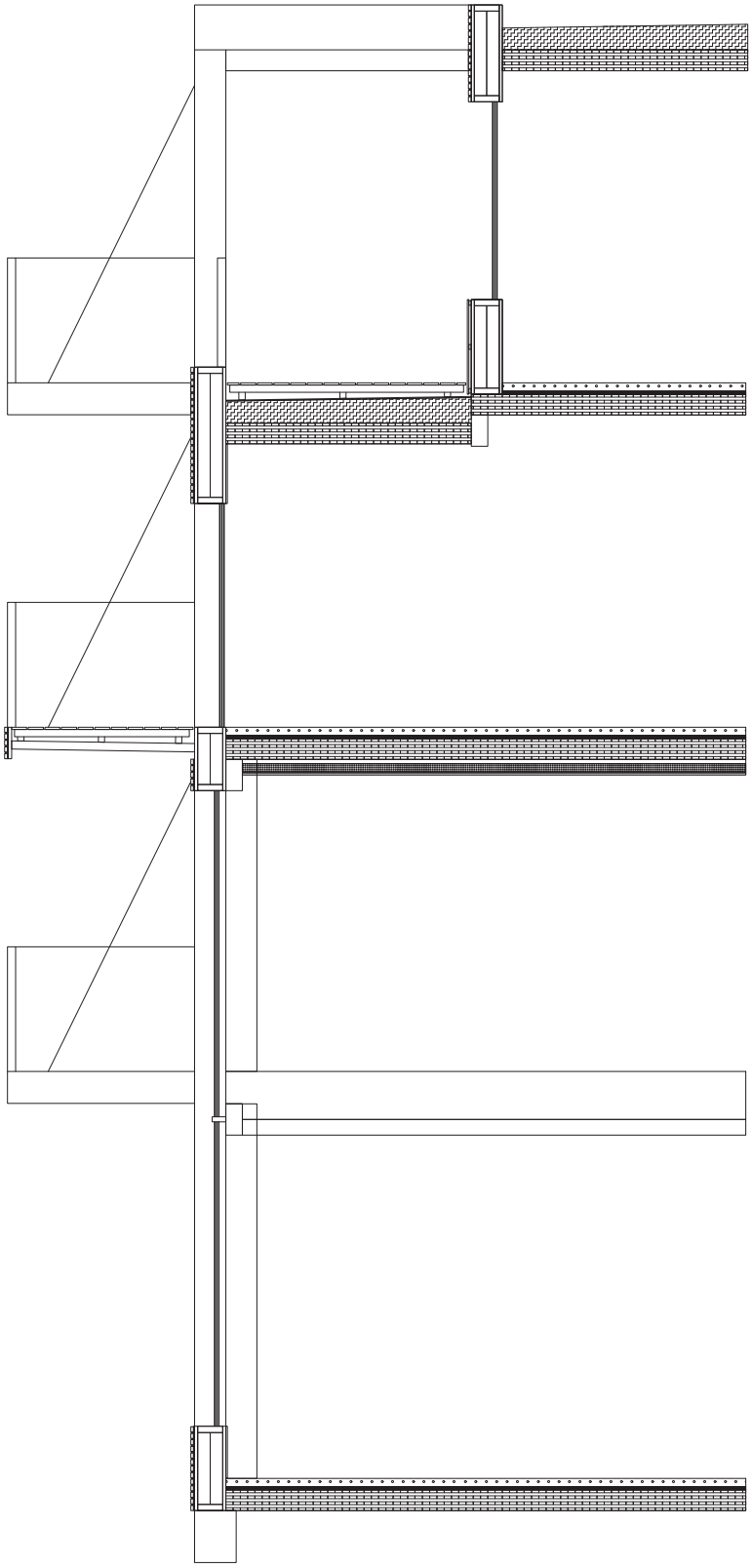


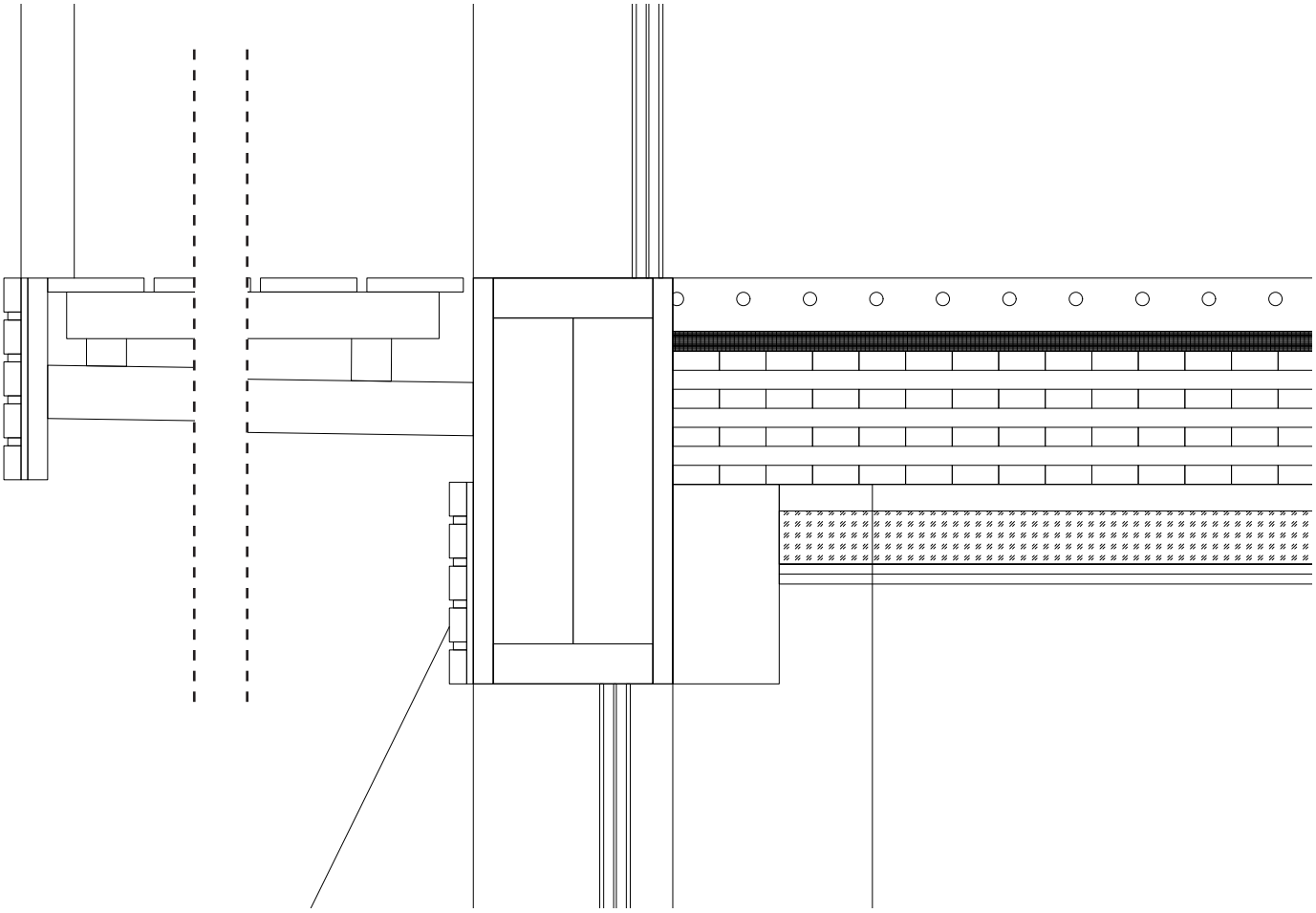


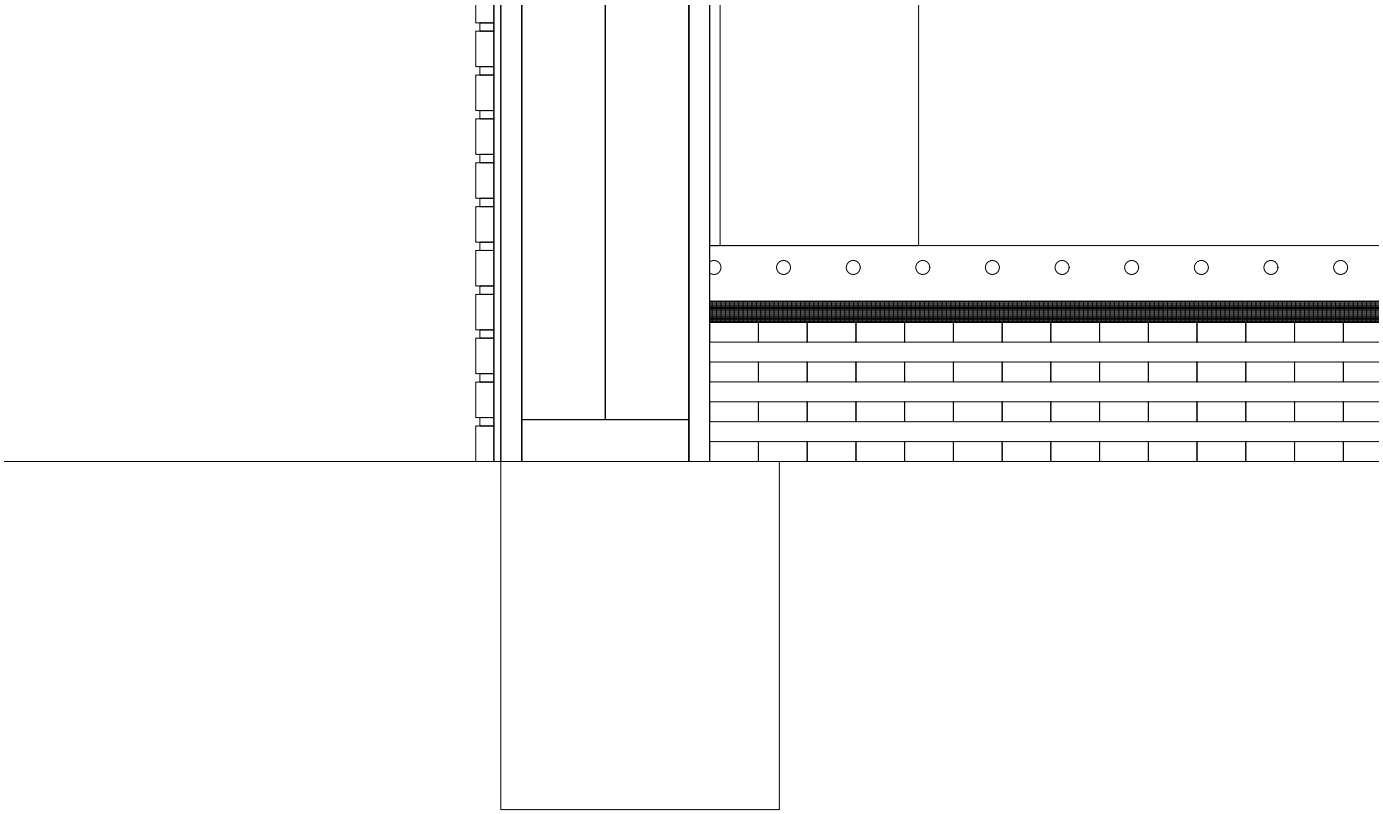


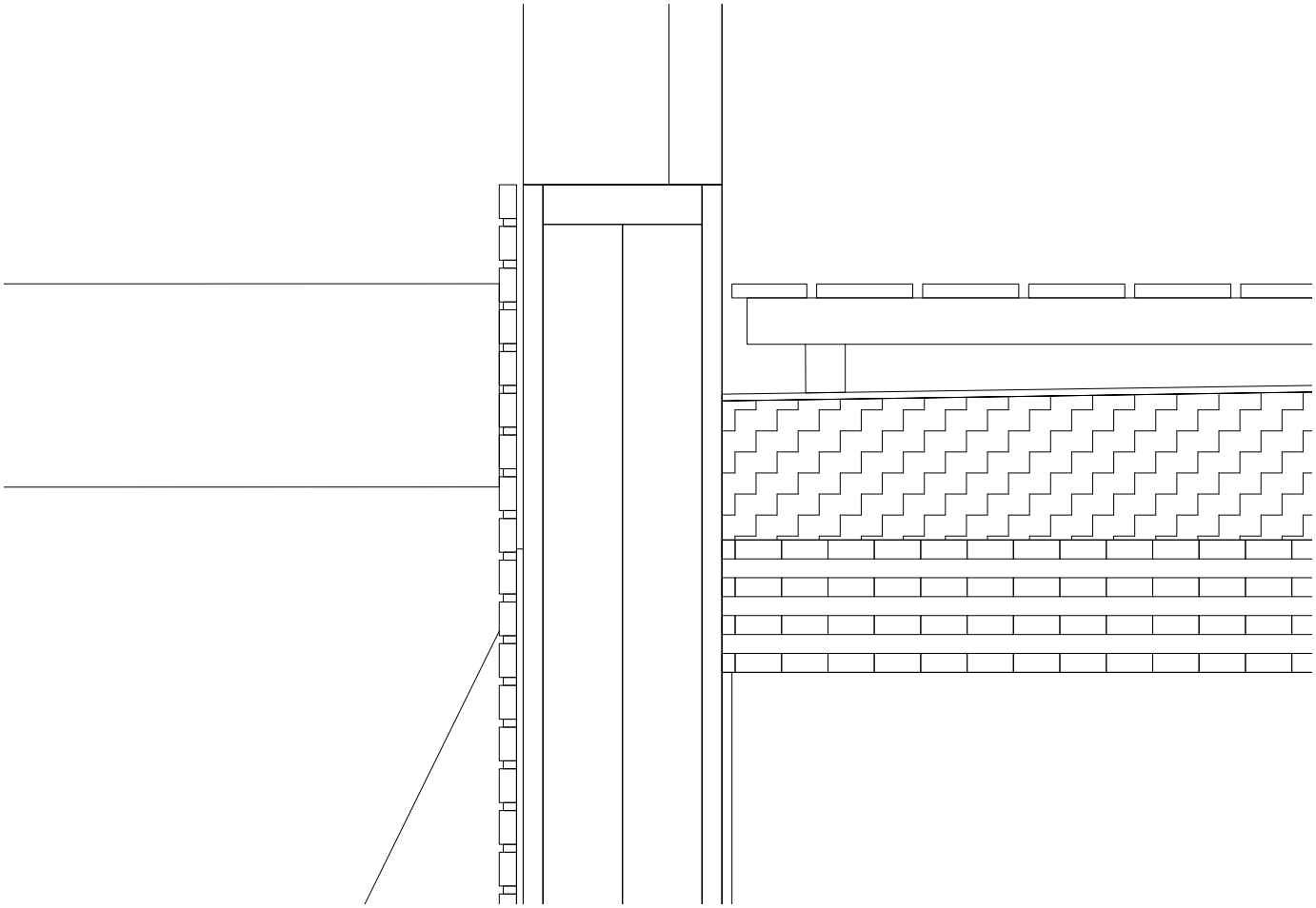


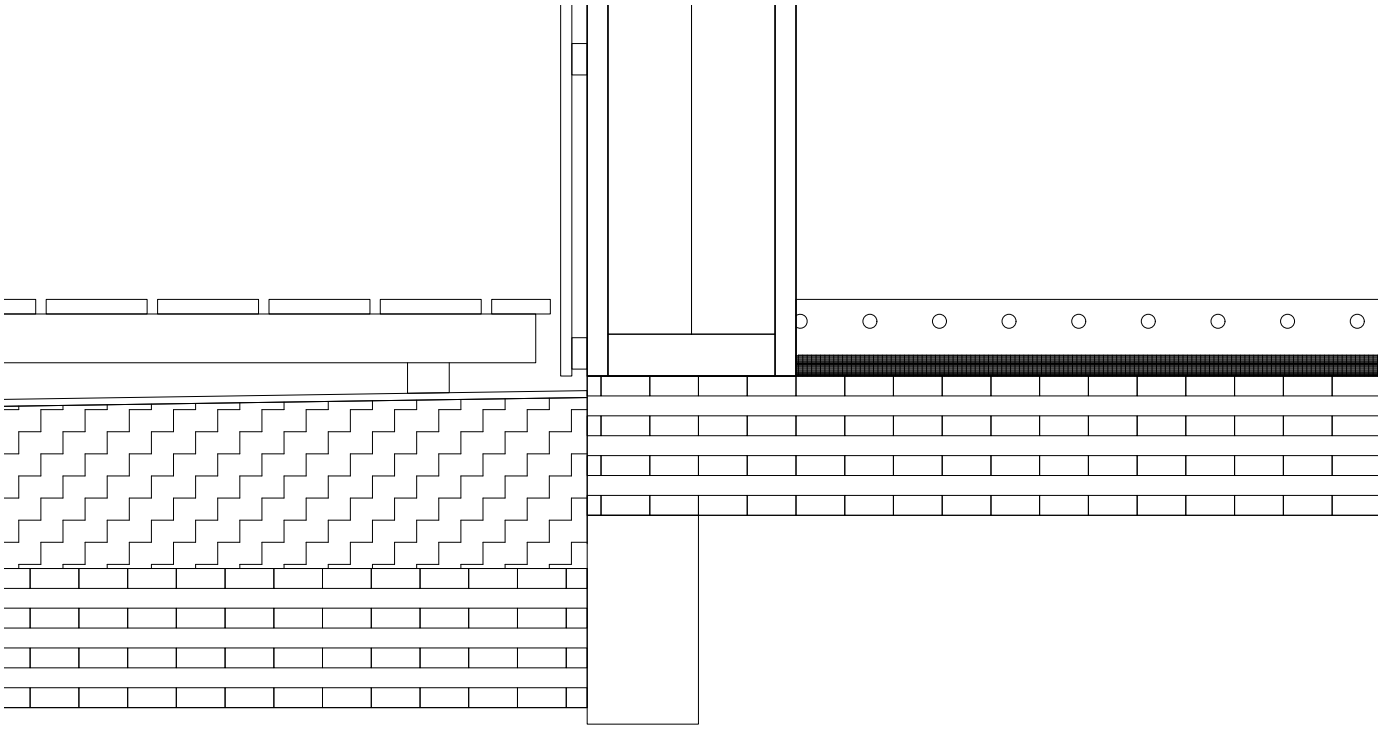


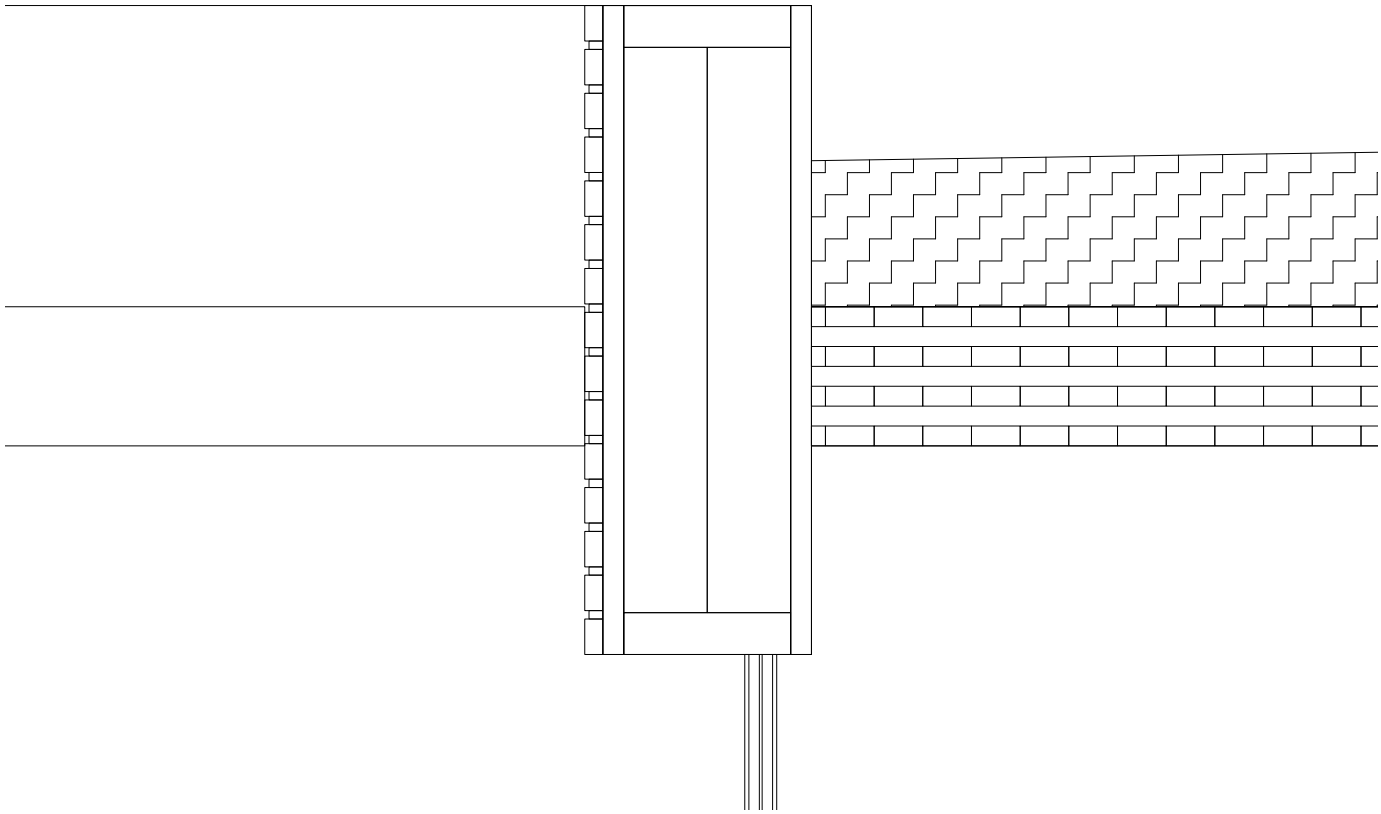












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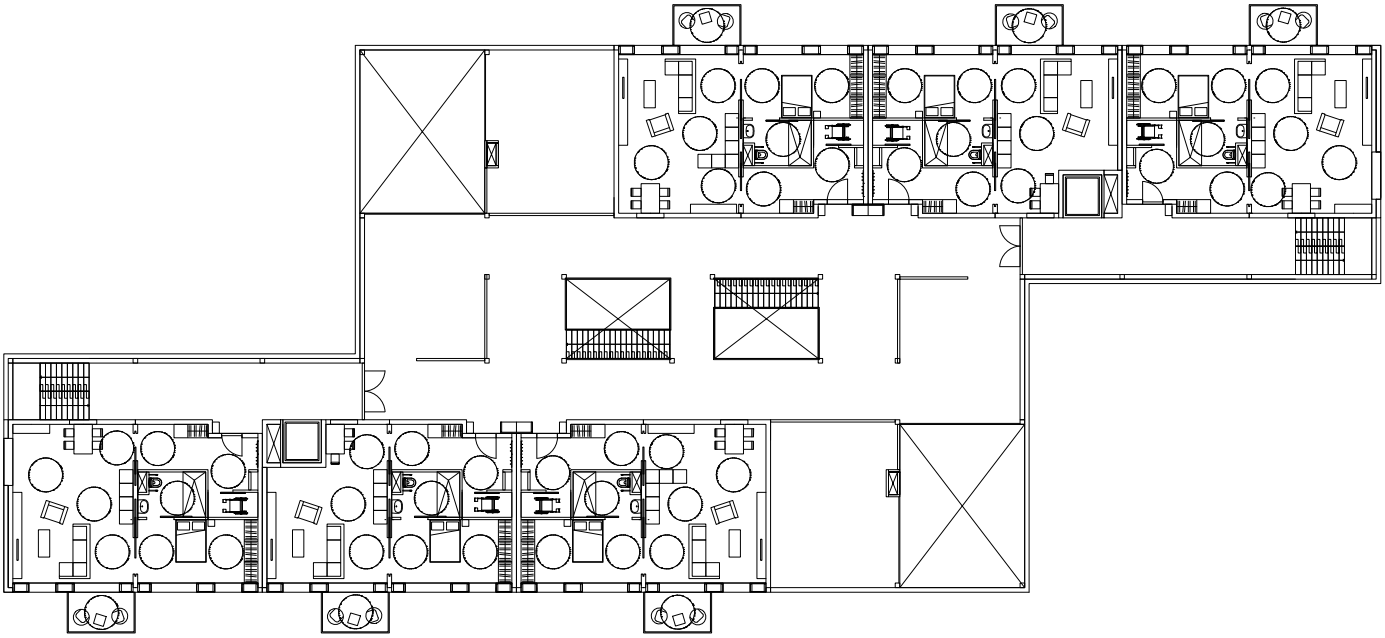
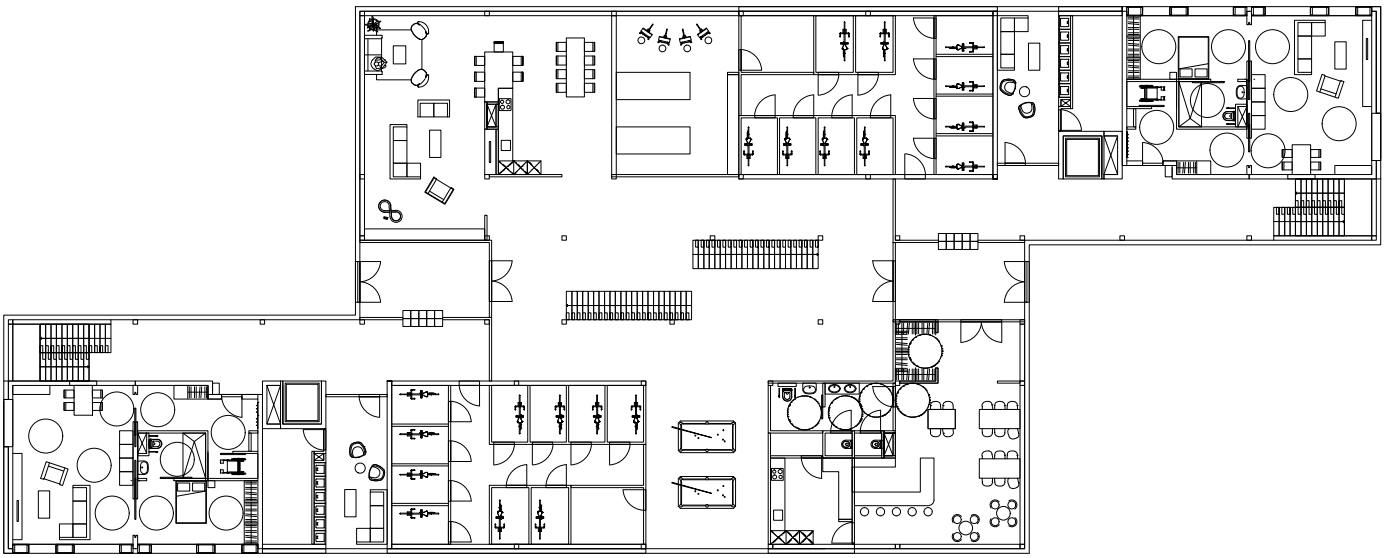
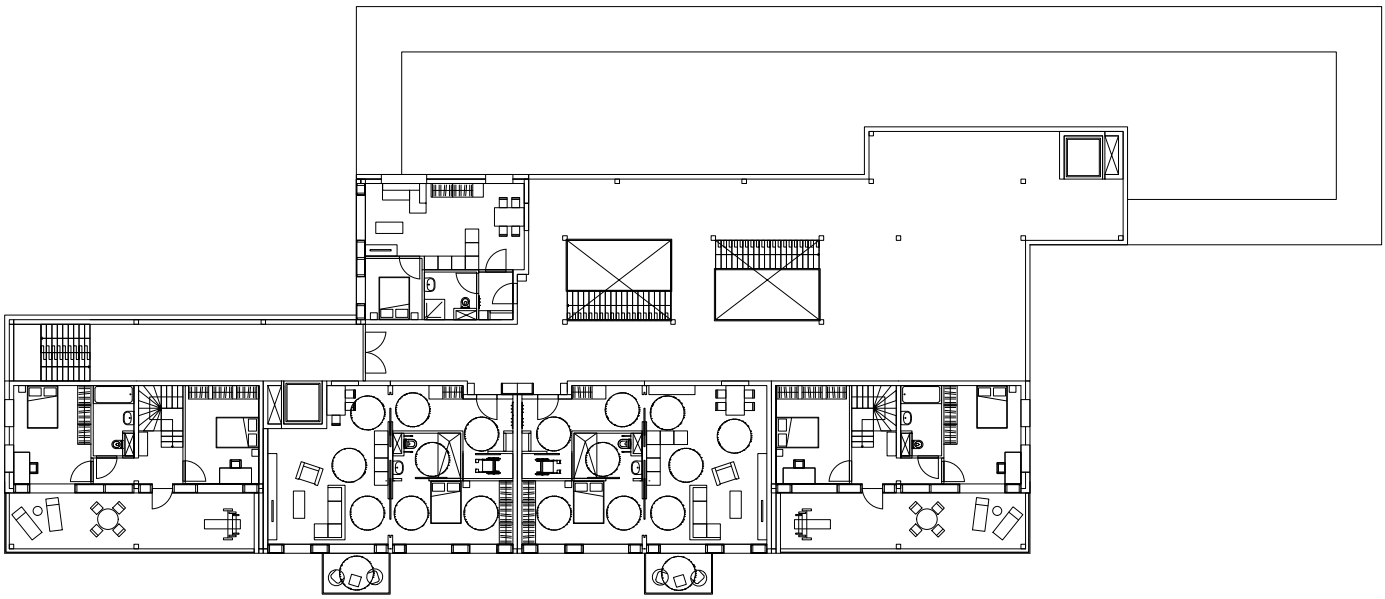
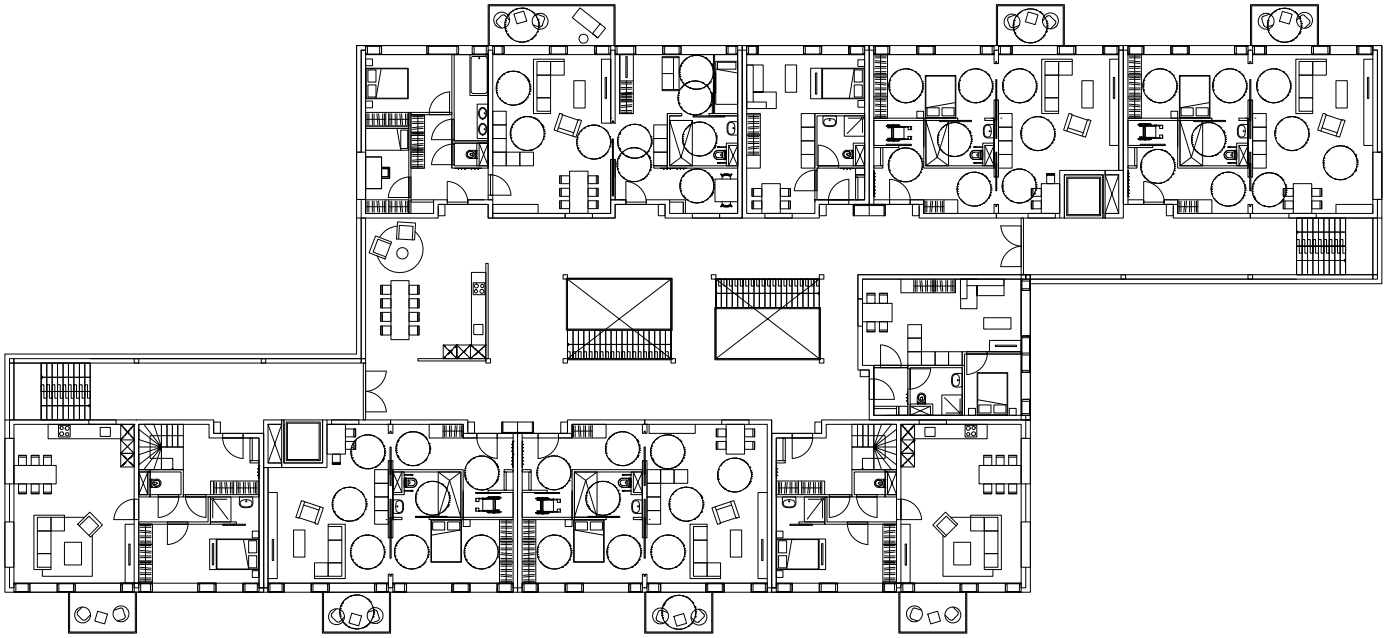
Week 10



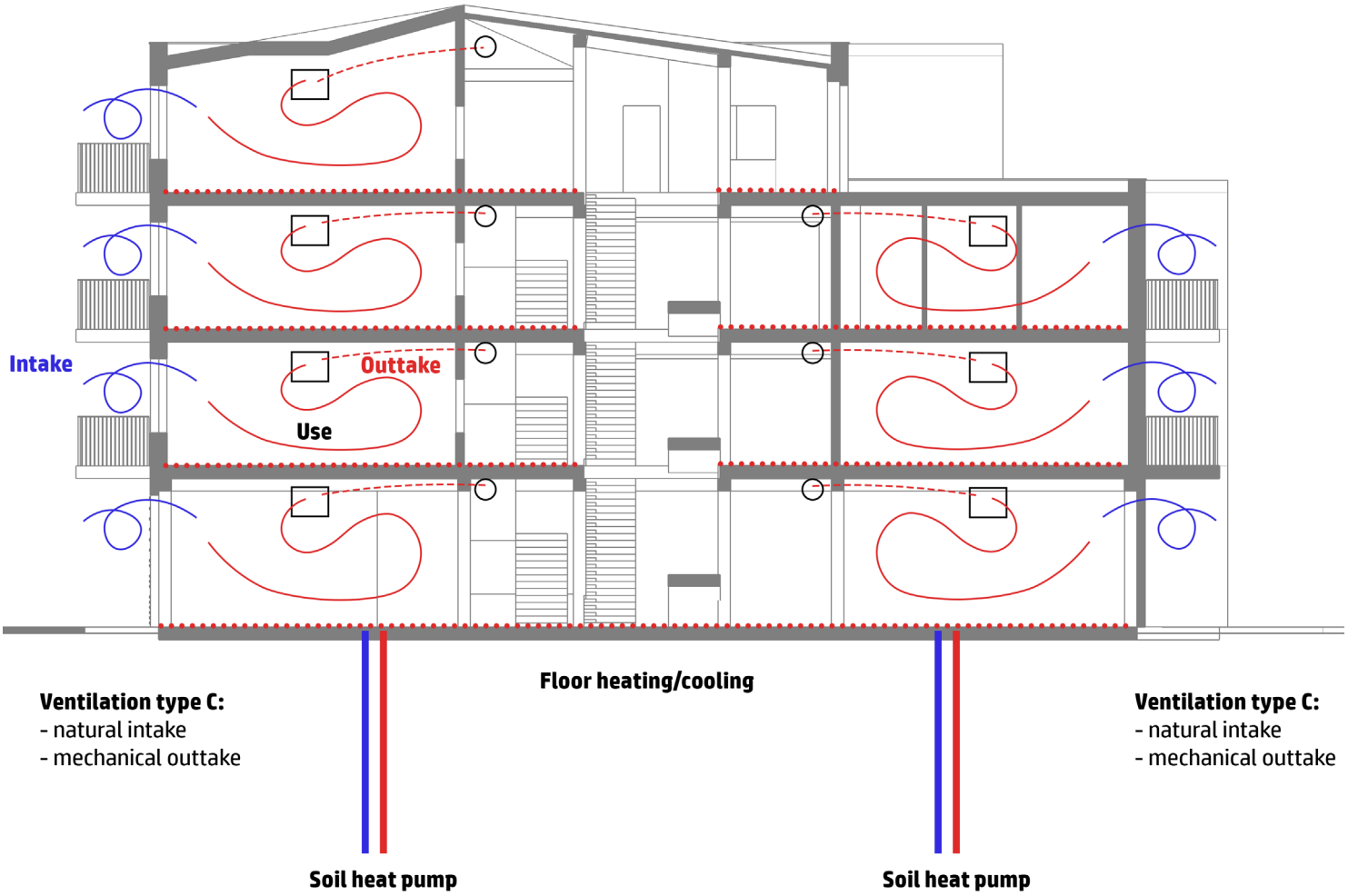


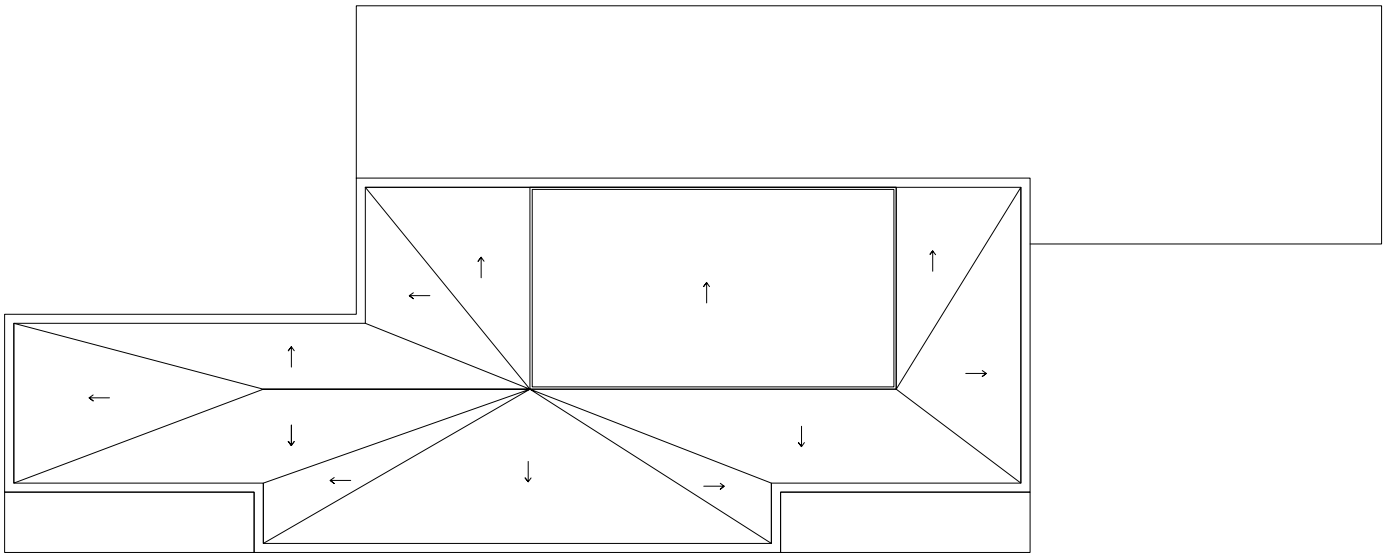


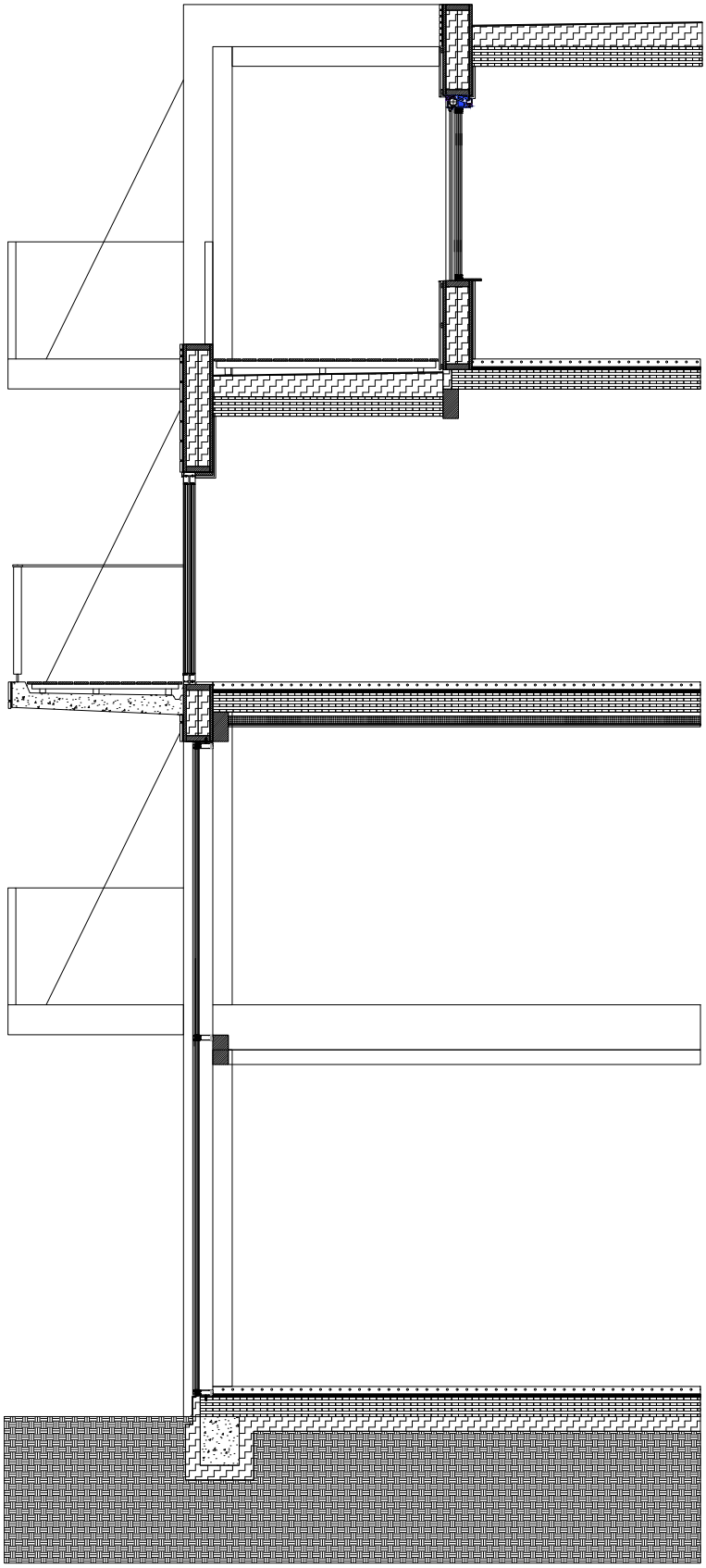


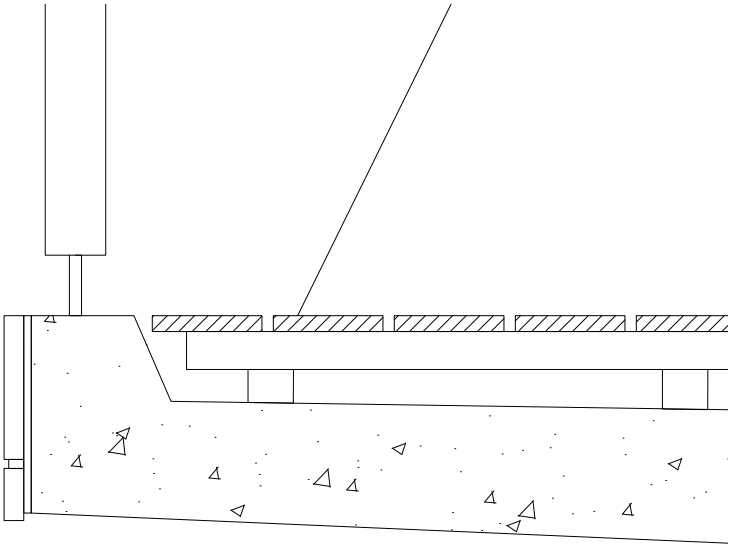
WINTER

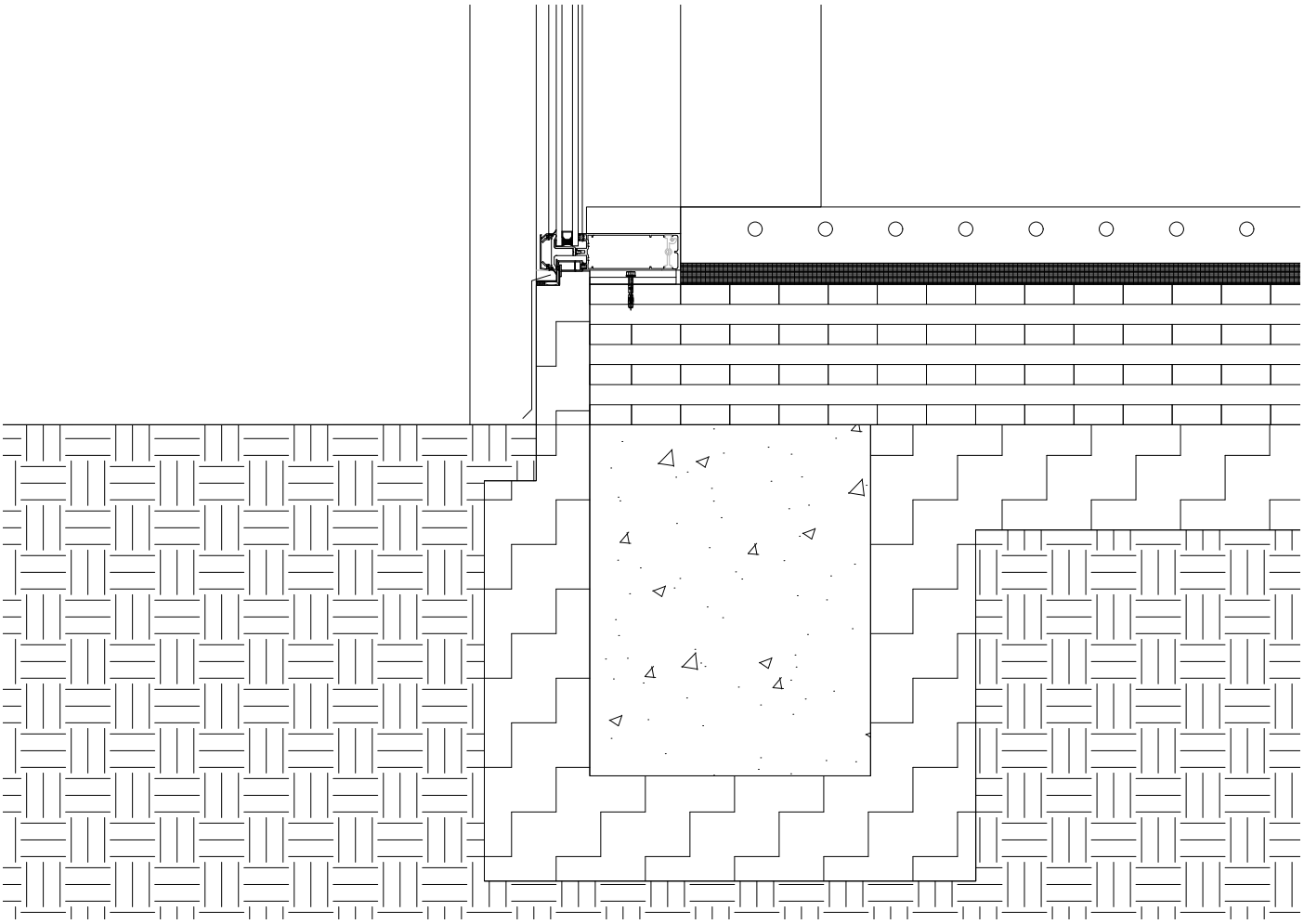
Central climate system per wing

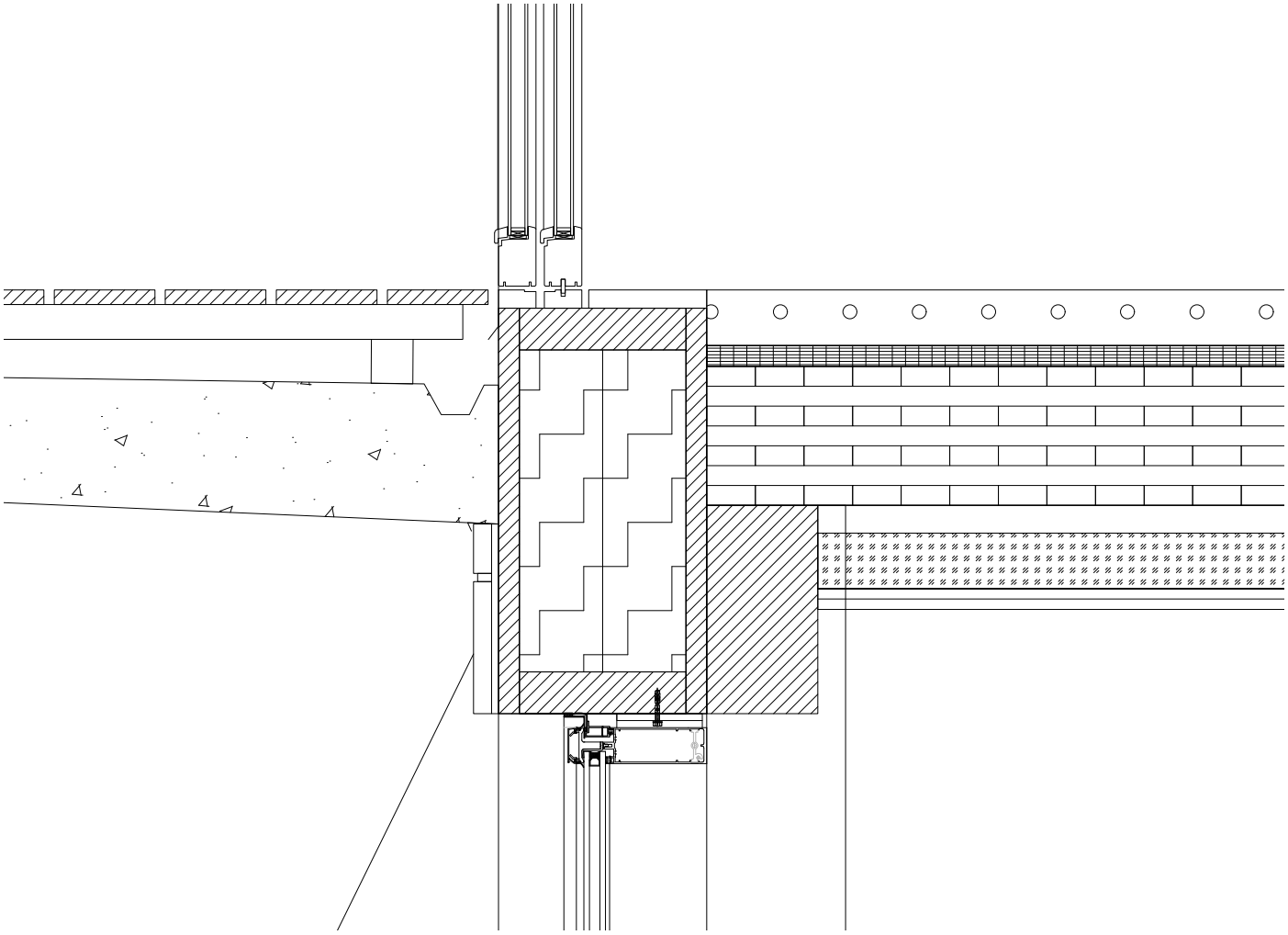


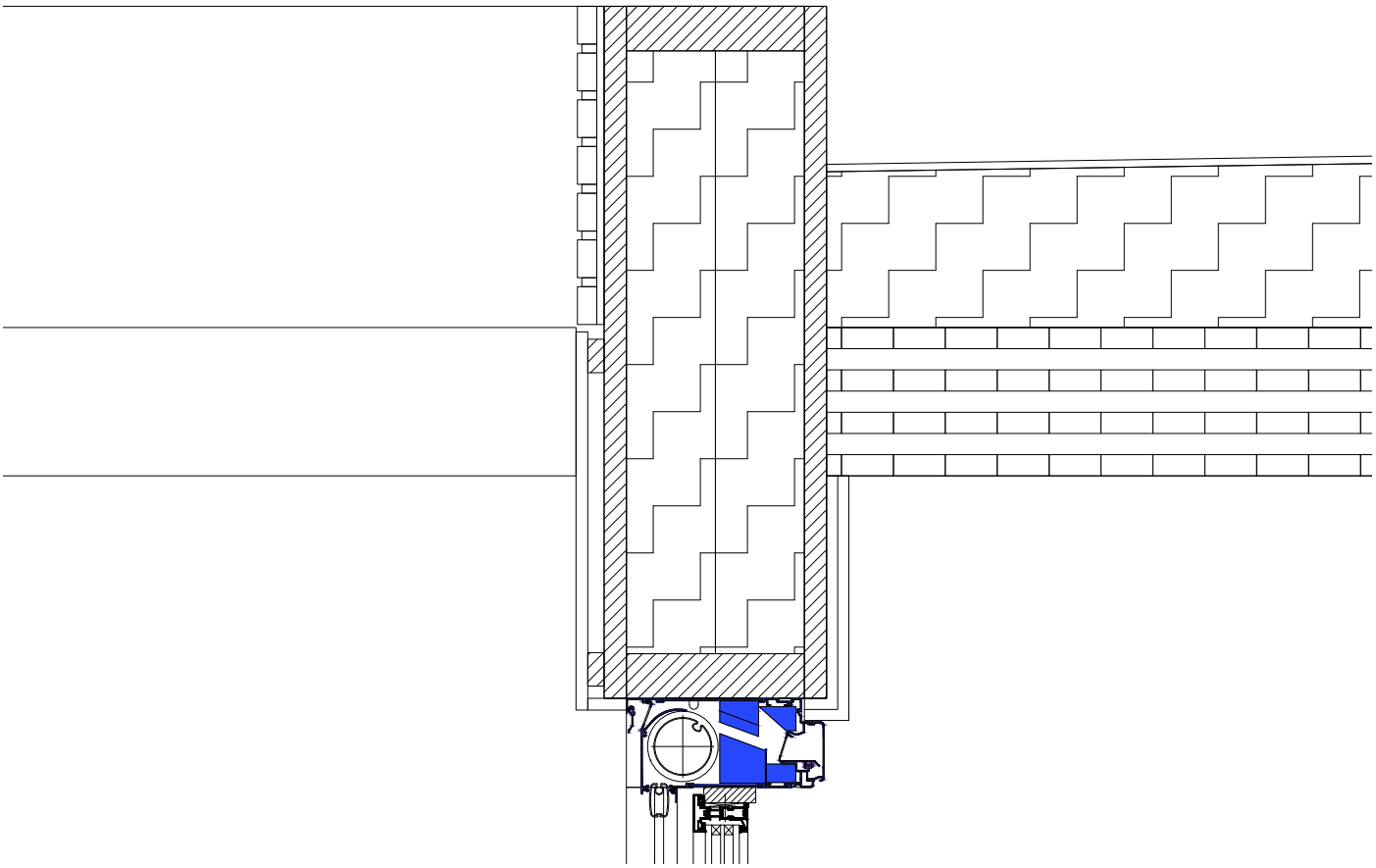


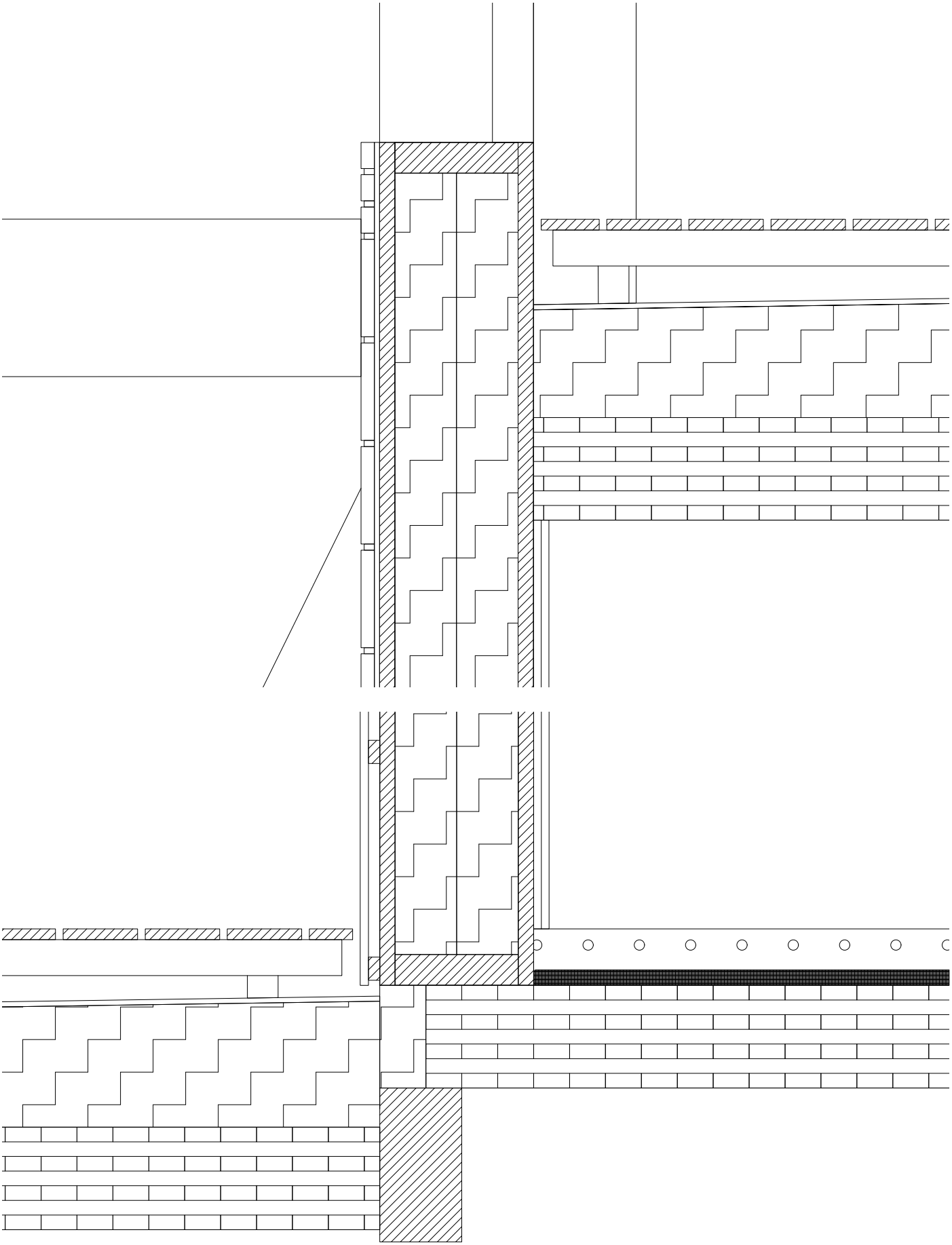


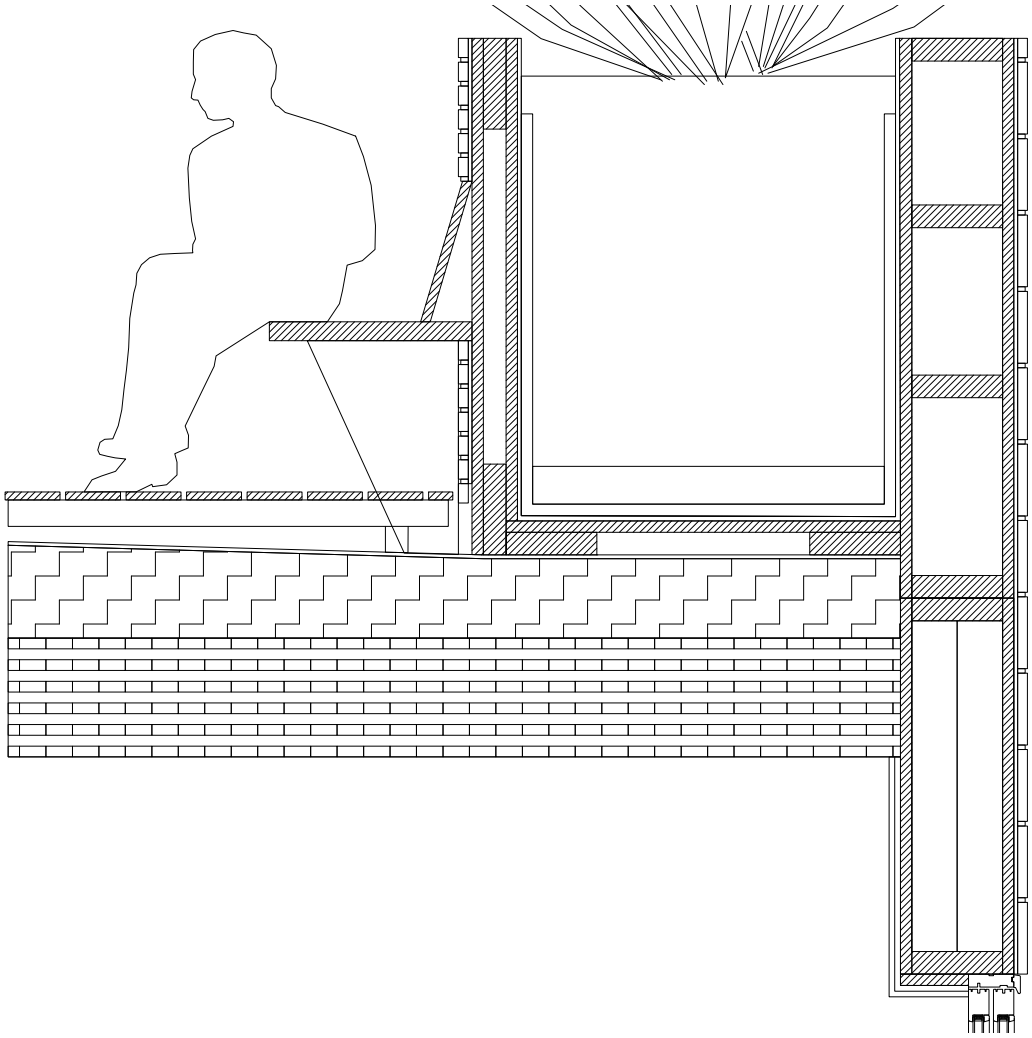


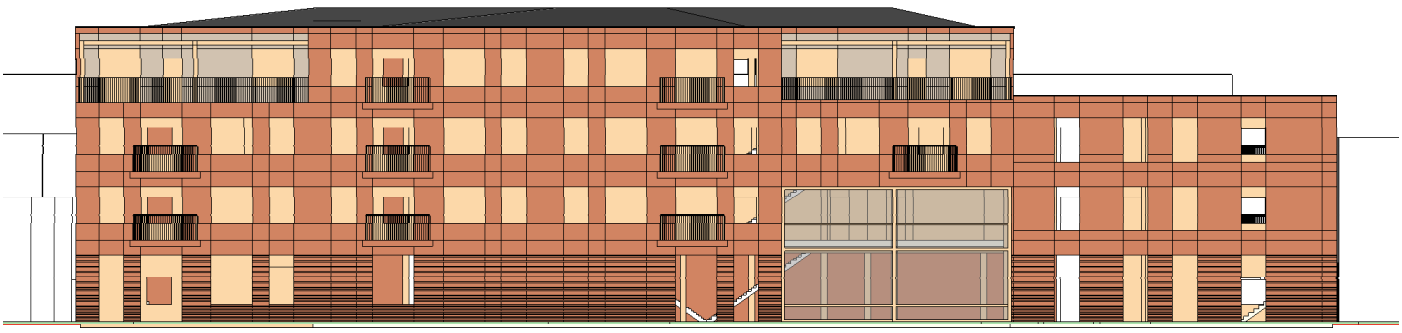












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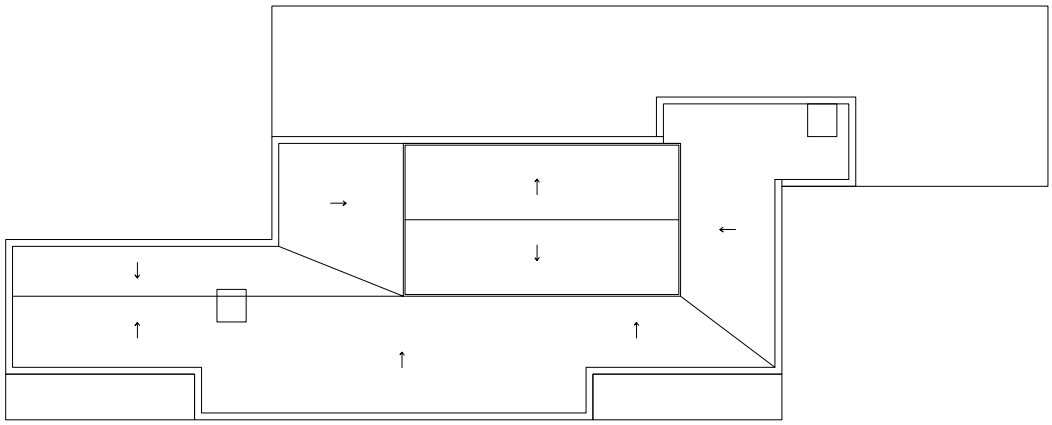
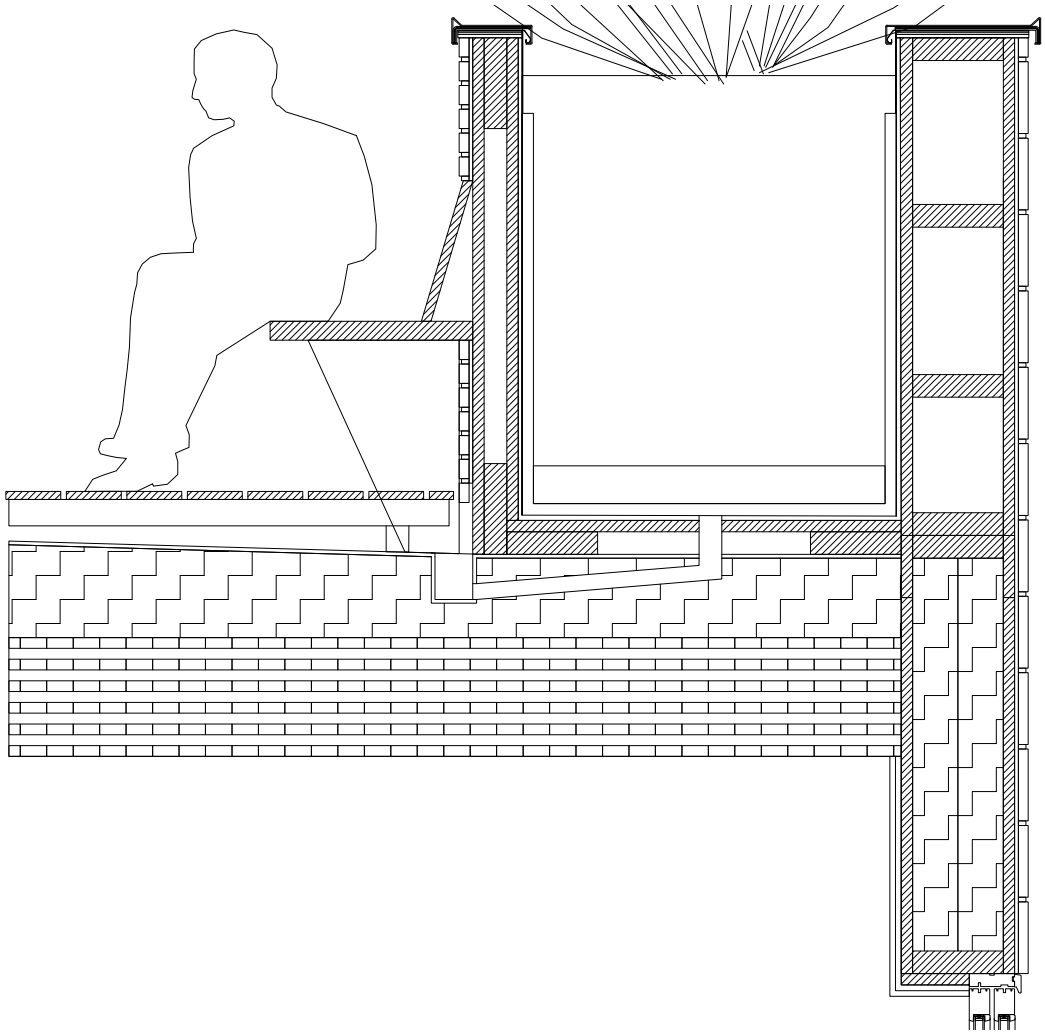
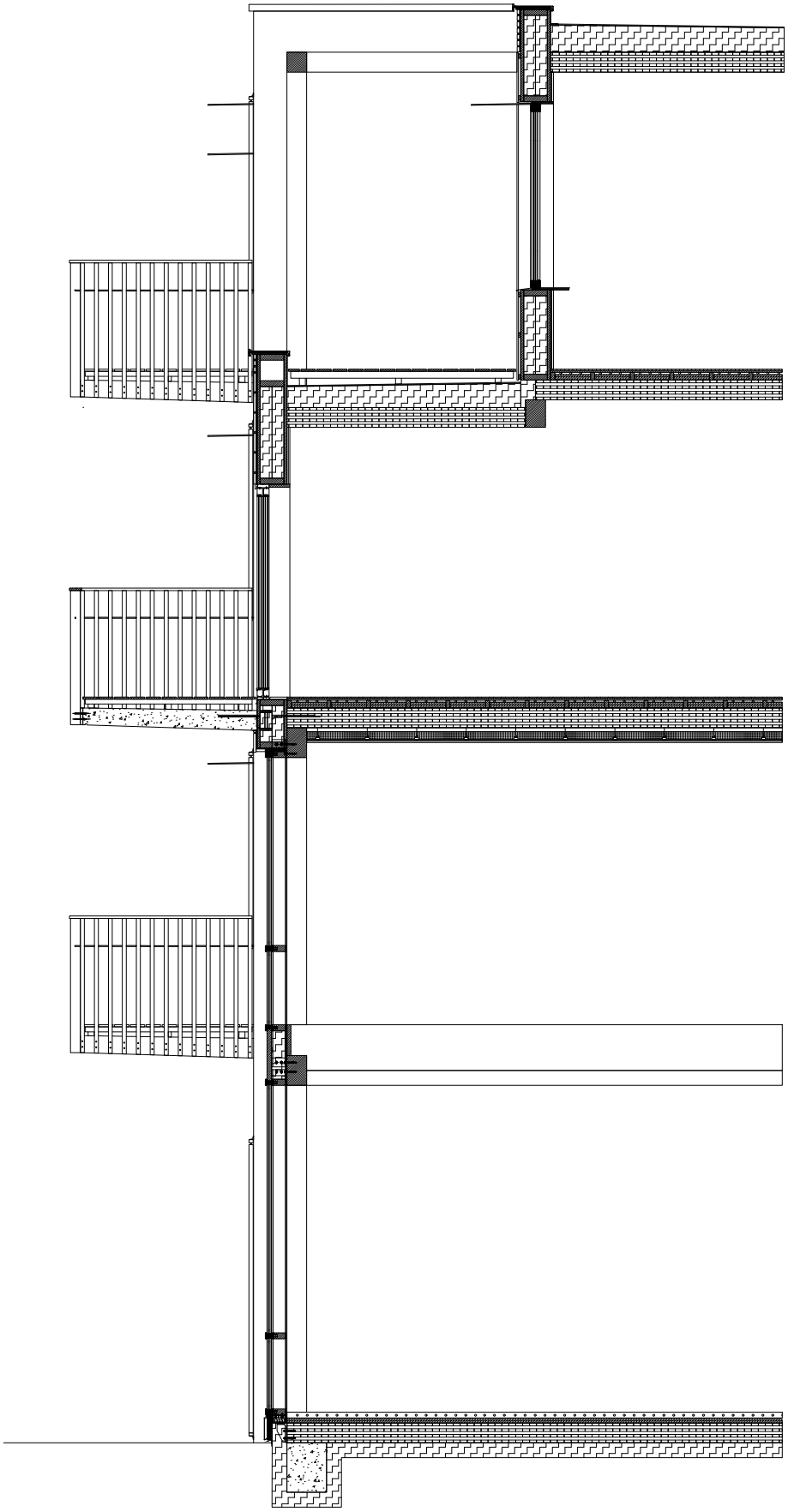
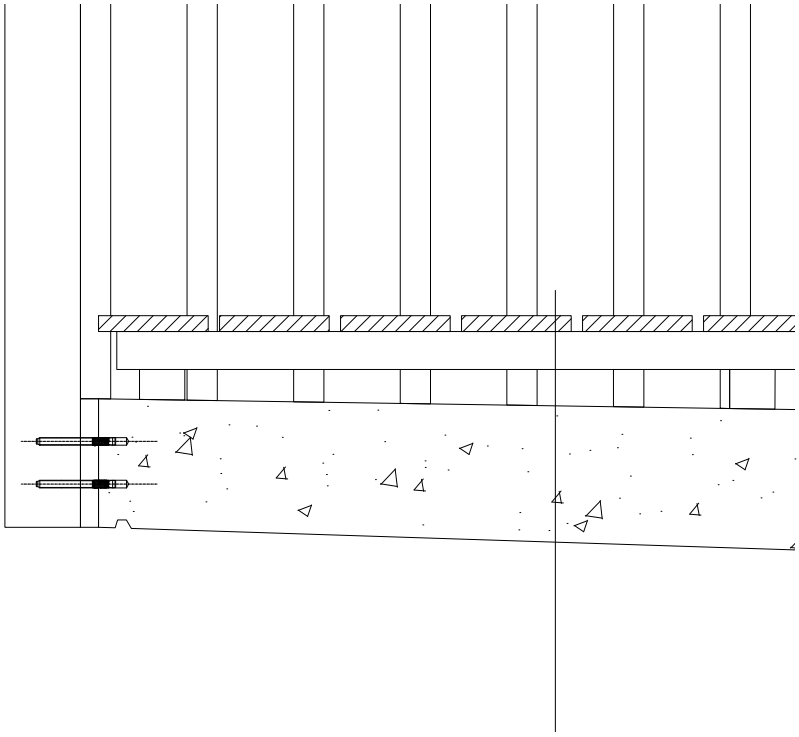
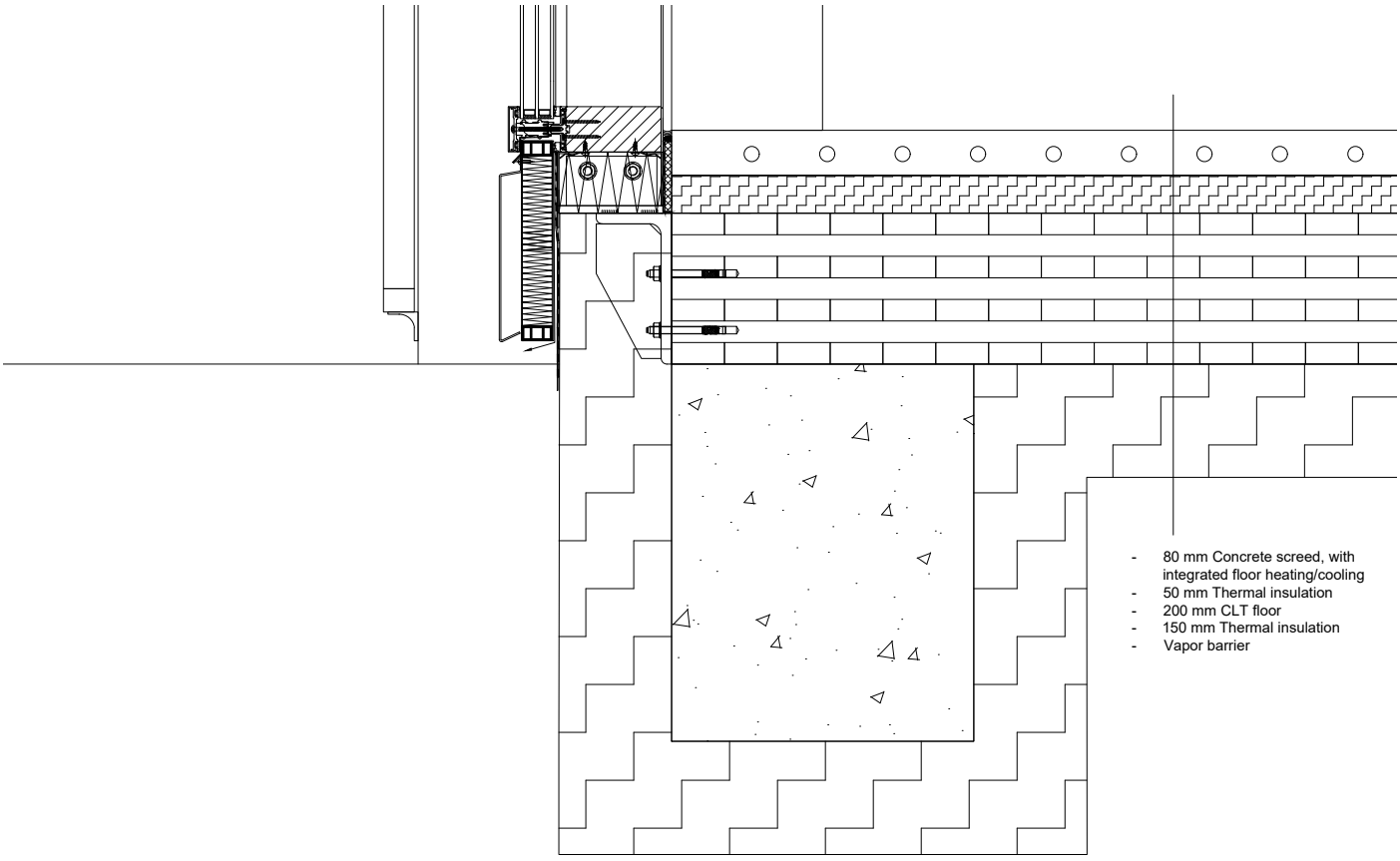
Week 11

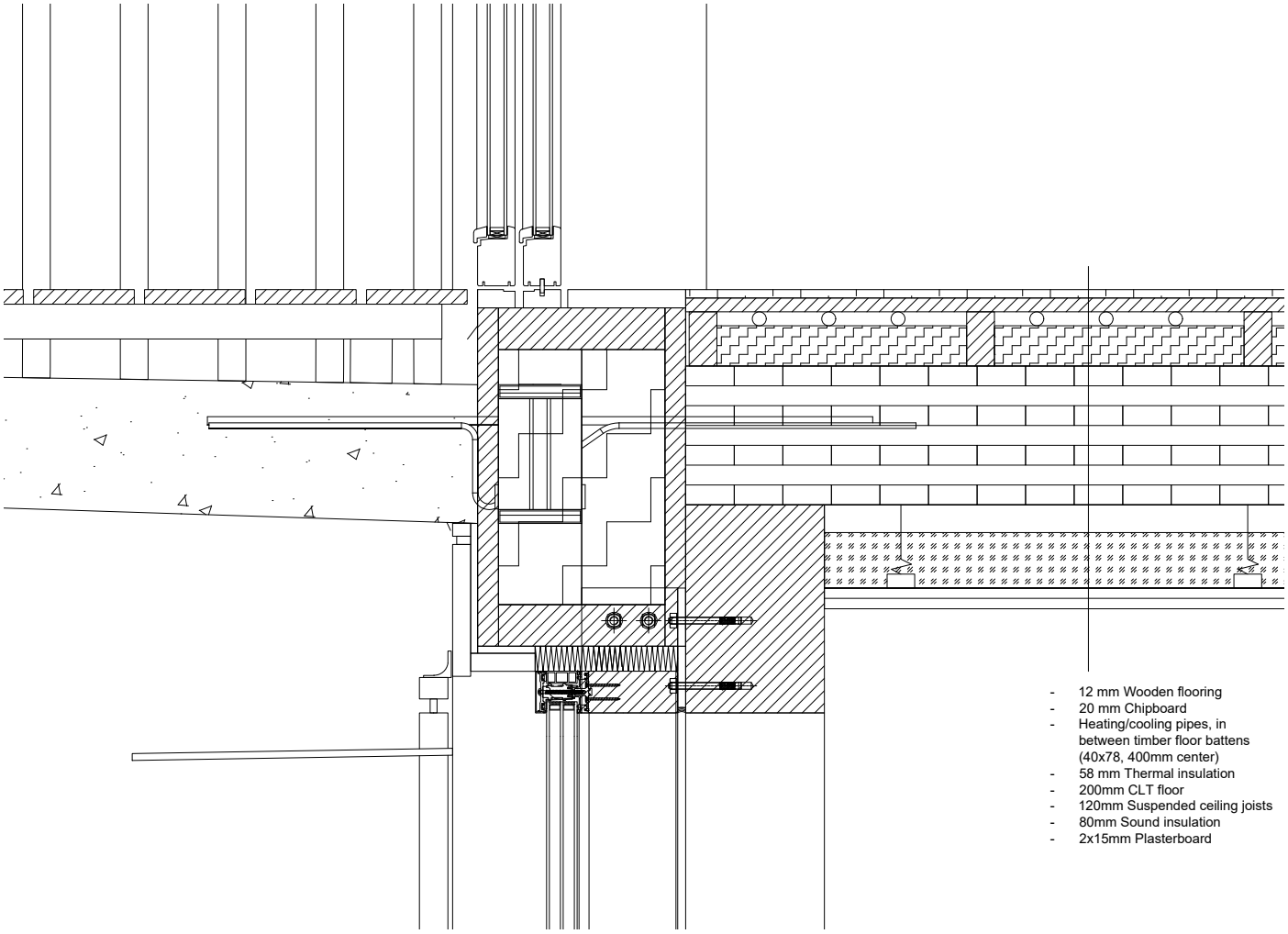


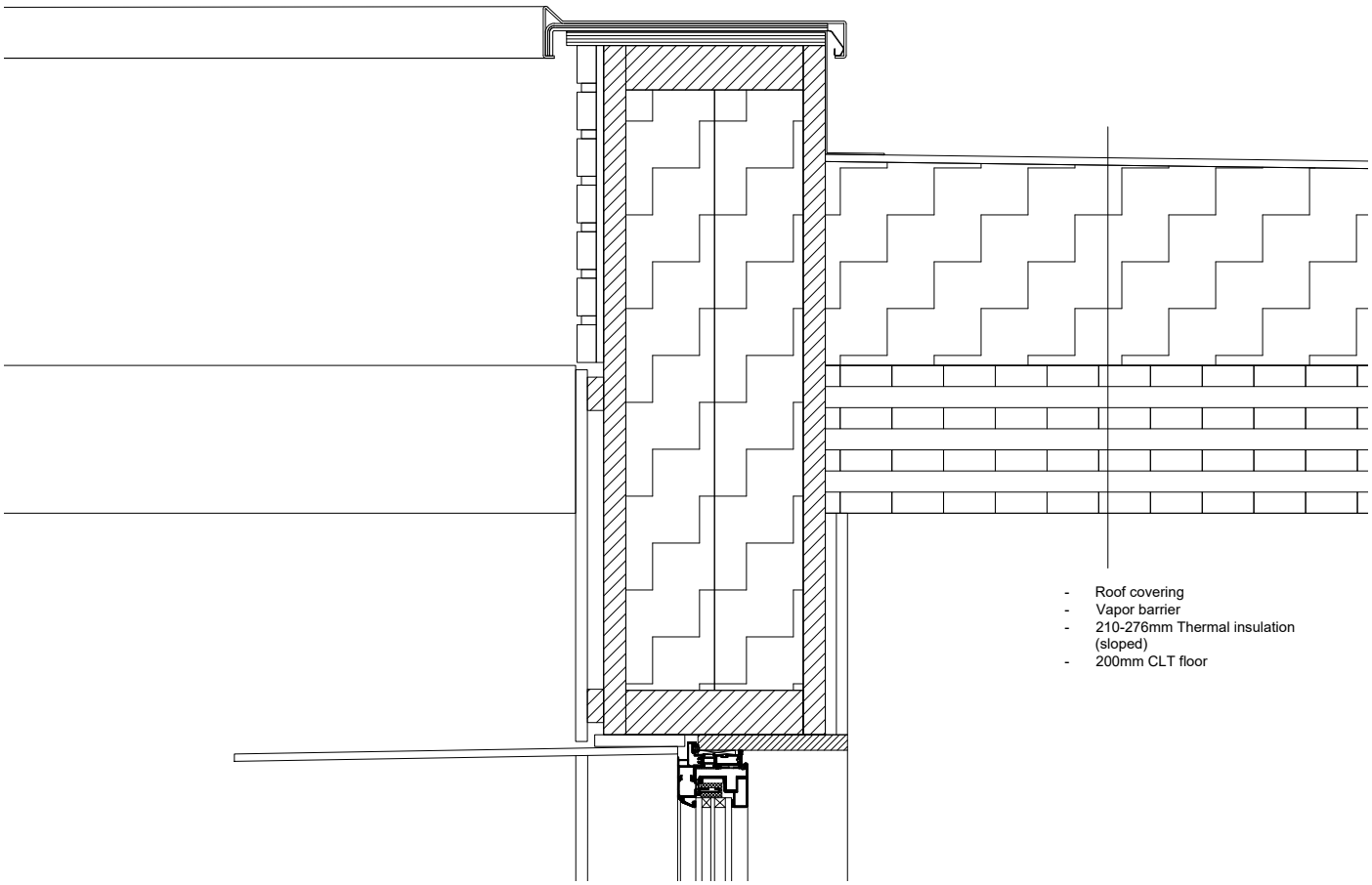


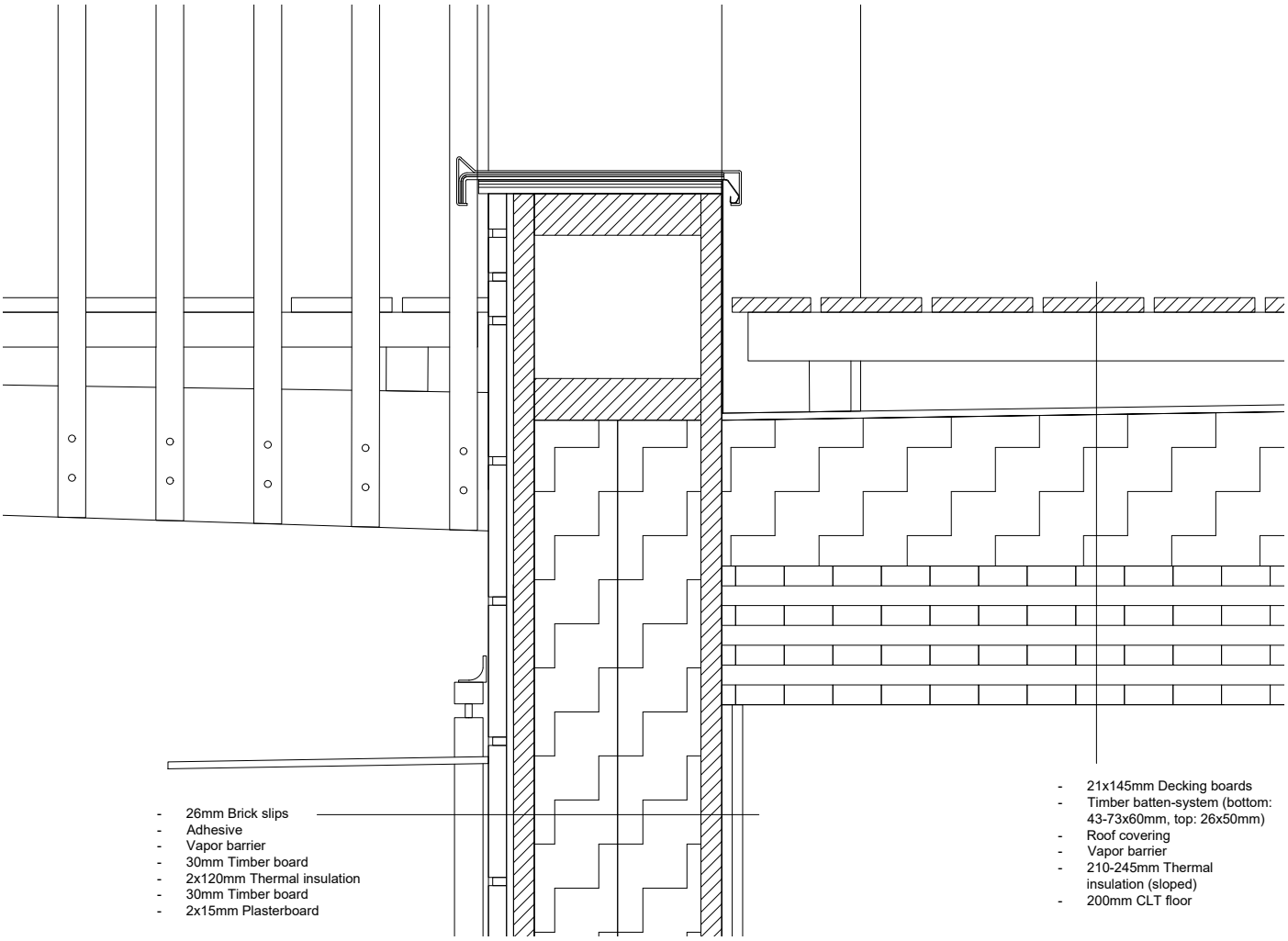


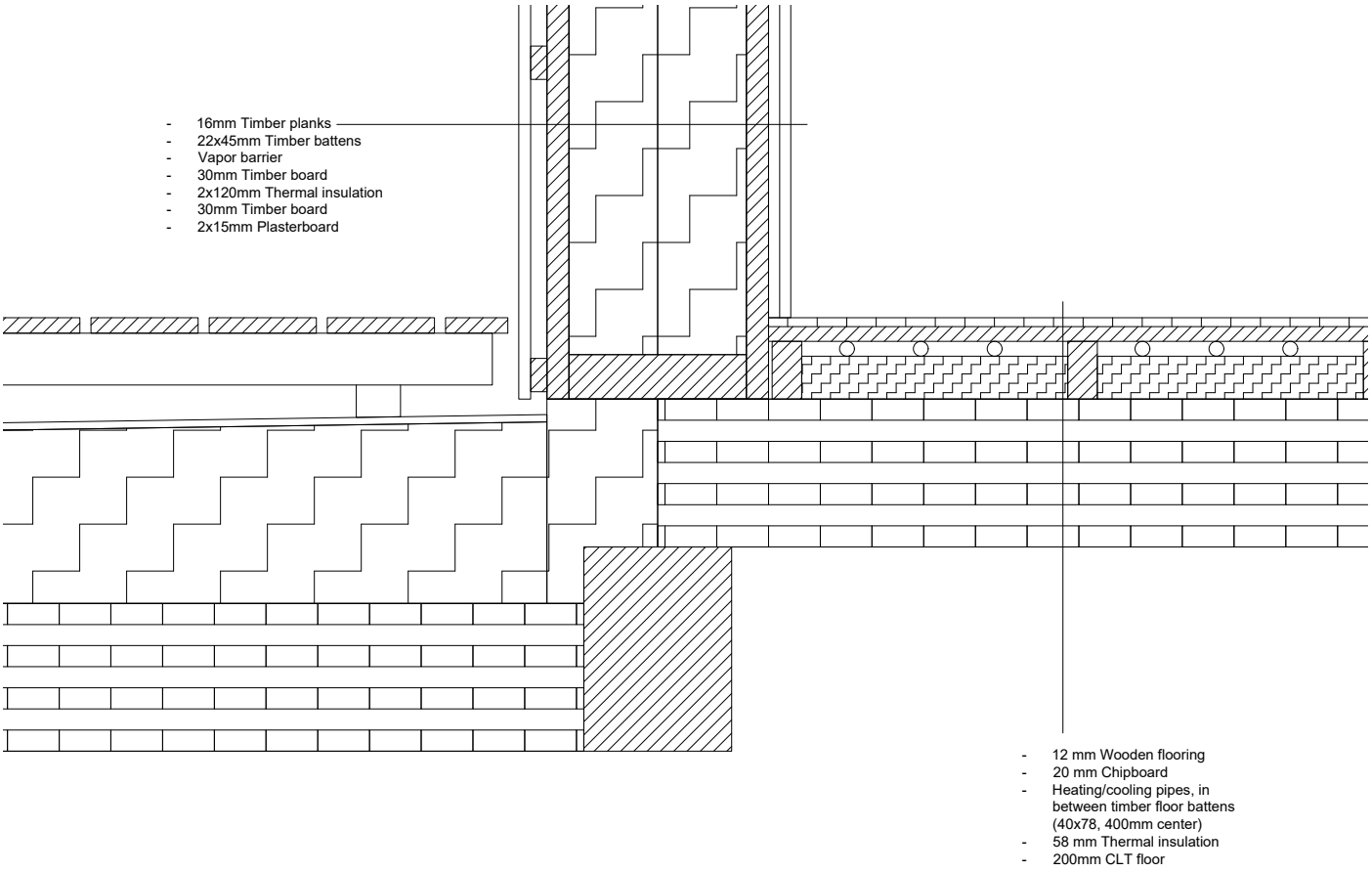

- 21x145mm Decking boards
- Timber batten-system (bottom: 40-64x60mm, top: 26x50mm)
- 170-200mm Concrete balcony slab (sloped)


- 80 mm Concrete screed, with integrated floor heating/cooling
- 50 mm Thermal insulation
- 200 mm CLT floor
- 150 mm Thermal insulation
- Vapor barrier

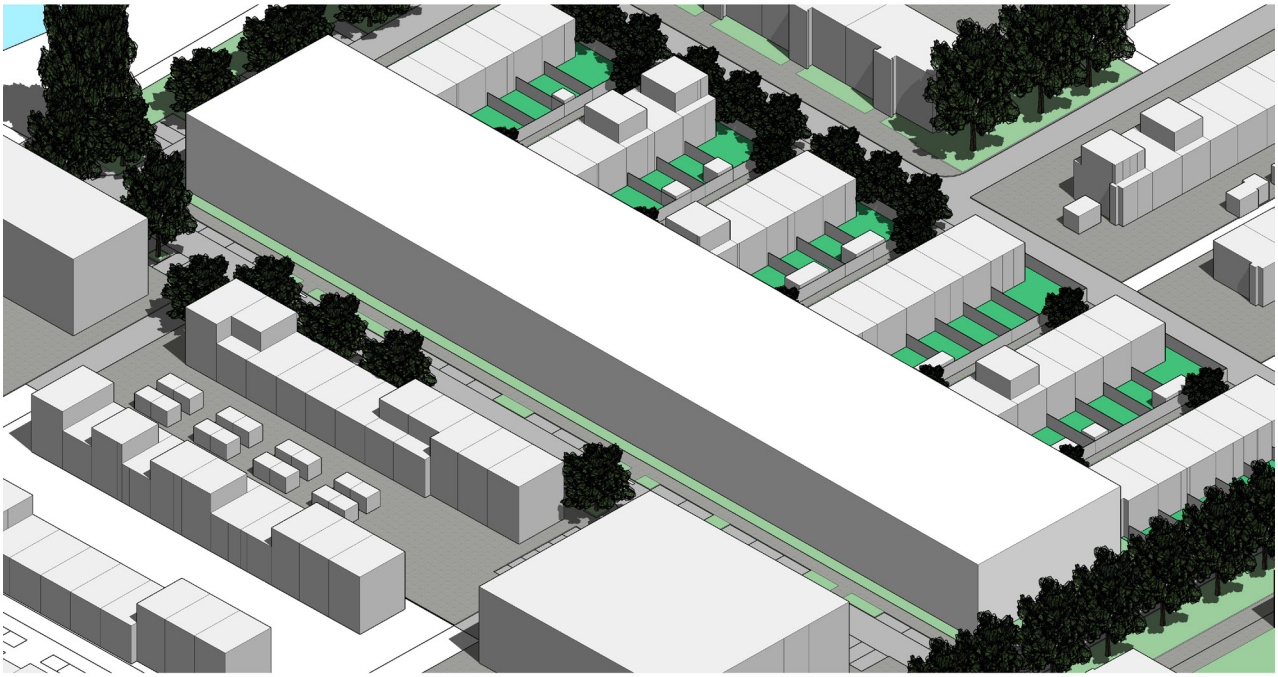

- 12 mm Wooden flooring
- 20 mm Chipboard
- Heating/cooling pipes, in between timber floor battens (40x78, 400mm center)
- 58 mm Thermal insulation
- 200mm CLT floor
- 120mm Suspended ceiling joists
- 80mm Sound insulation
- 2x15mm Plasterboard

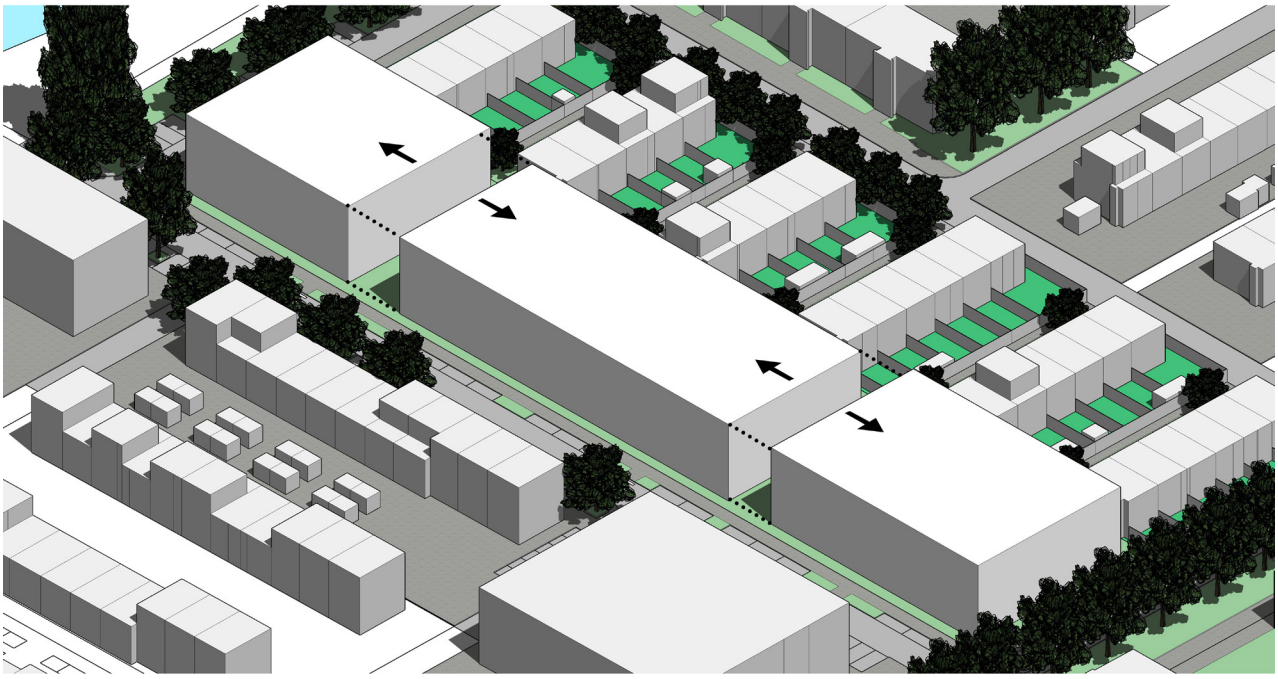

- Roof covering
- Vapor barrier
- 210-276mm Thermal insulation (sloped)
- 200mm CLT floor

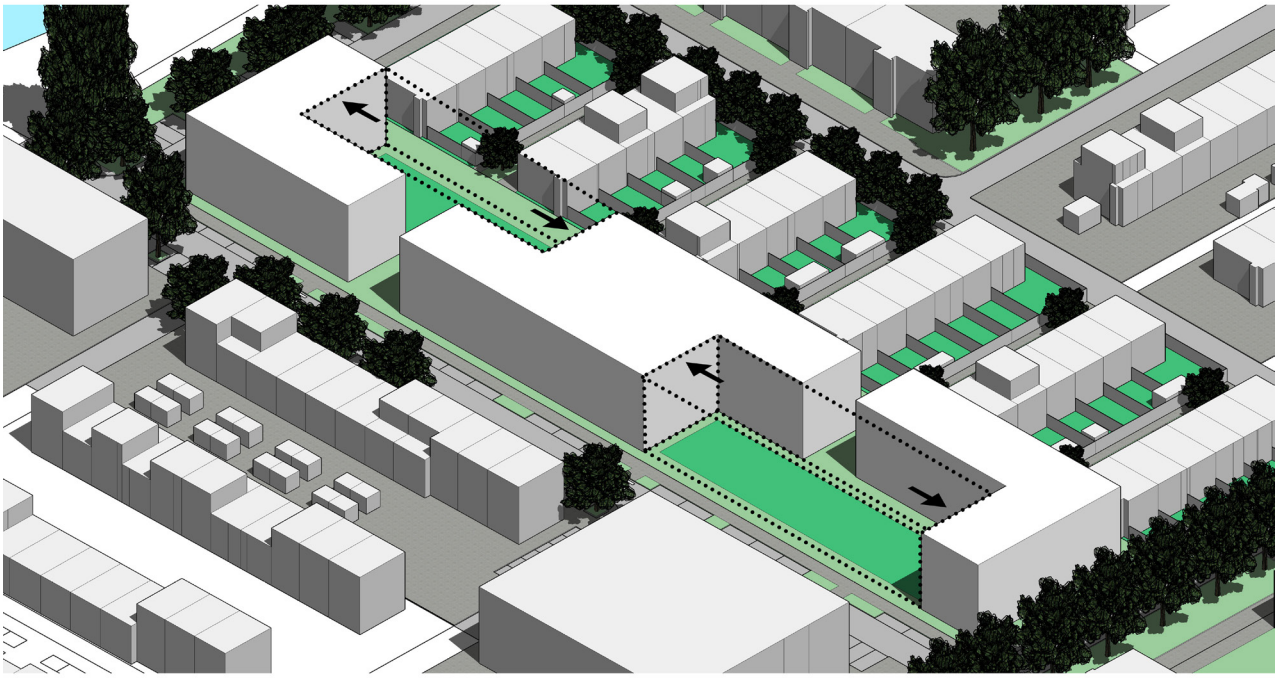

- 26mm Brick slips
- Adhesive
- Vapor barrier
- 30mm Timber board
- 2x120mm Thermal insulation
- 30mm Timber board
- 2x15mm Plasterboard
- 21x145mm Decking boards
- Timber batten-system (bottom: 43-73x60mm, top: 26x50mm)
- Roof covering
- Vapor barrier
- 210-245mm Thermal insulation (sloped)
- 200mm CLT floor

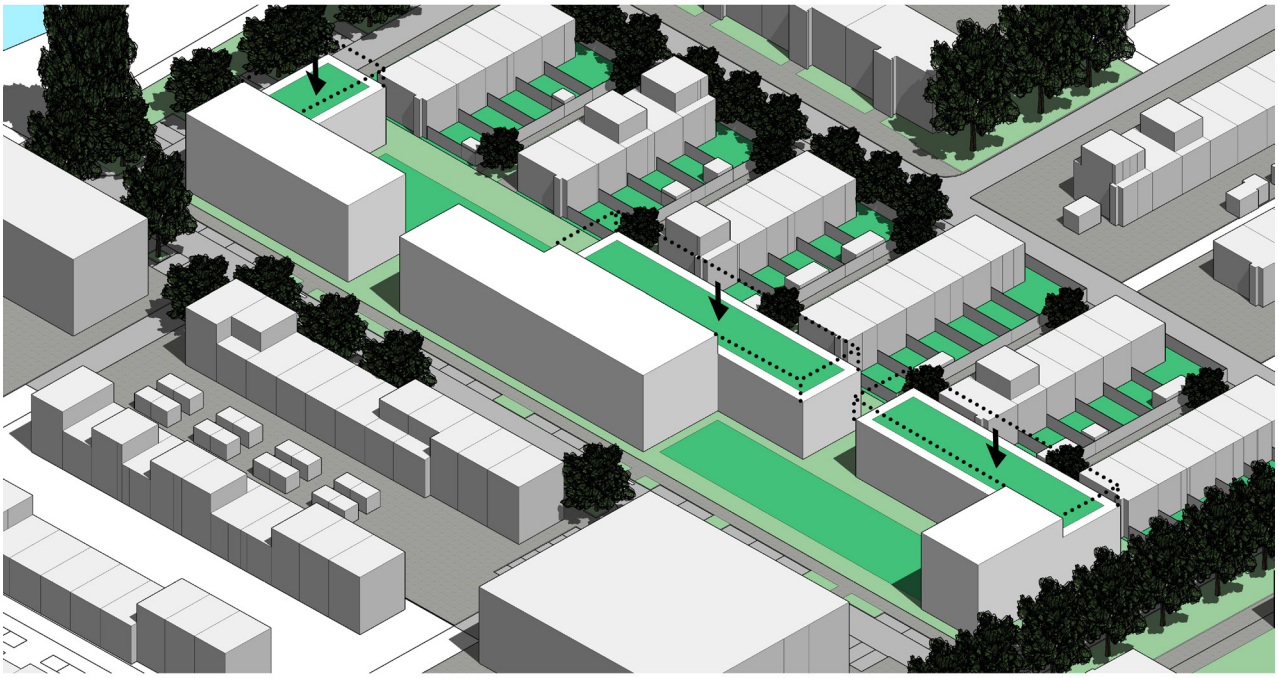

- 16mm Timber planks
- 22x45mm Timber battens
- Vapor barrier
- 30mm Timber board
- 2x120mm Thermal insulation
- 30mm Timber board
- 2x15mm Plasterboard
- 12 mm Wooden flooring
- 20 mm Chipboard
- Heating/cooling pipes, in between timber floor battens (40x78, 400mm center)
- 58 mm Thermal insulation
- 200mm CLT floor

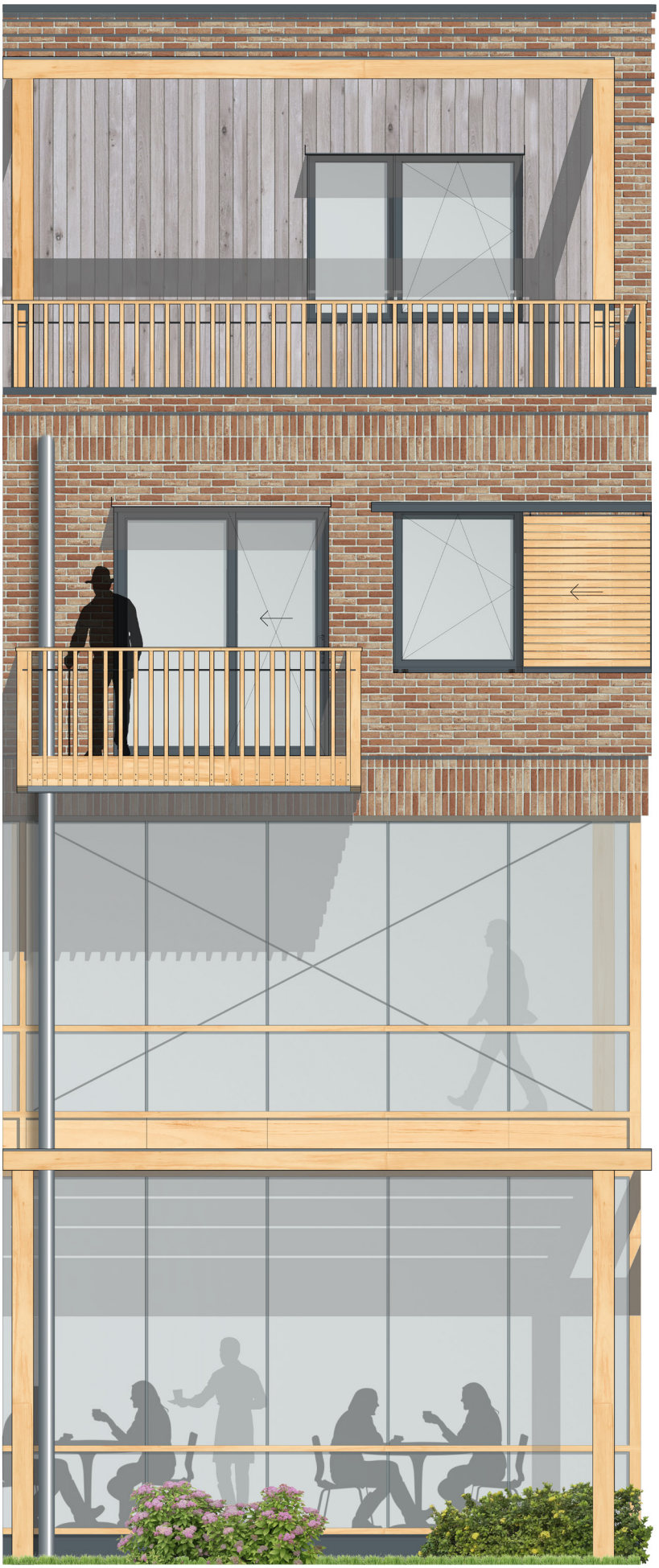
12 Final Products (P4/P5)

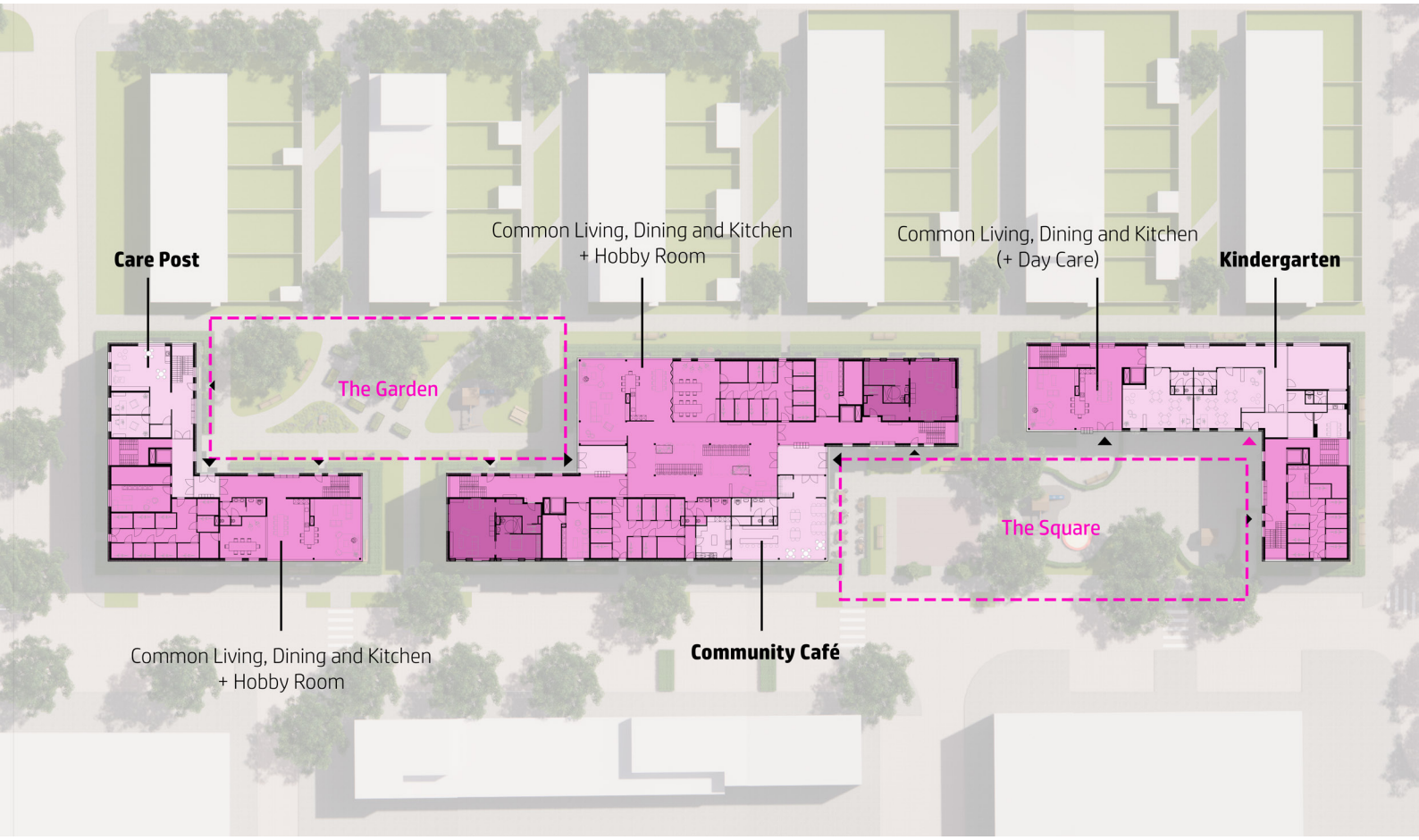










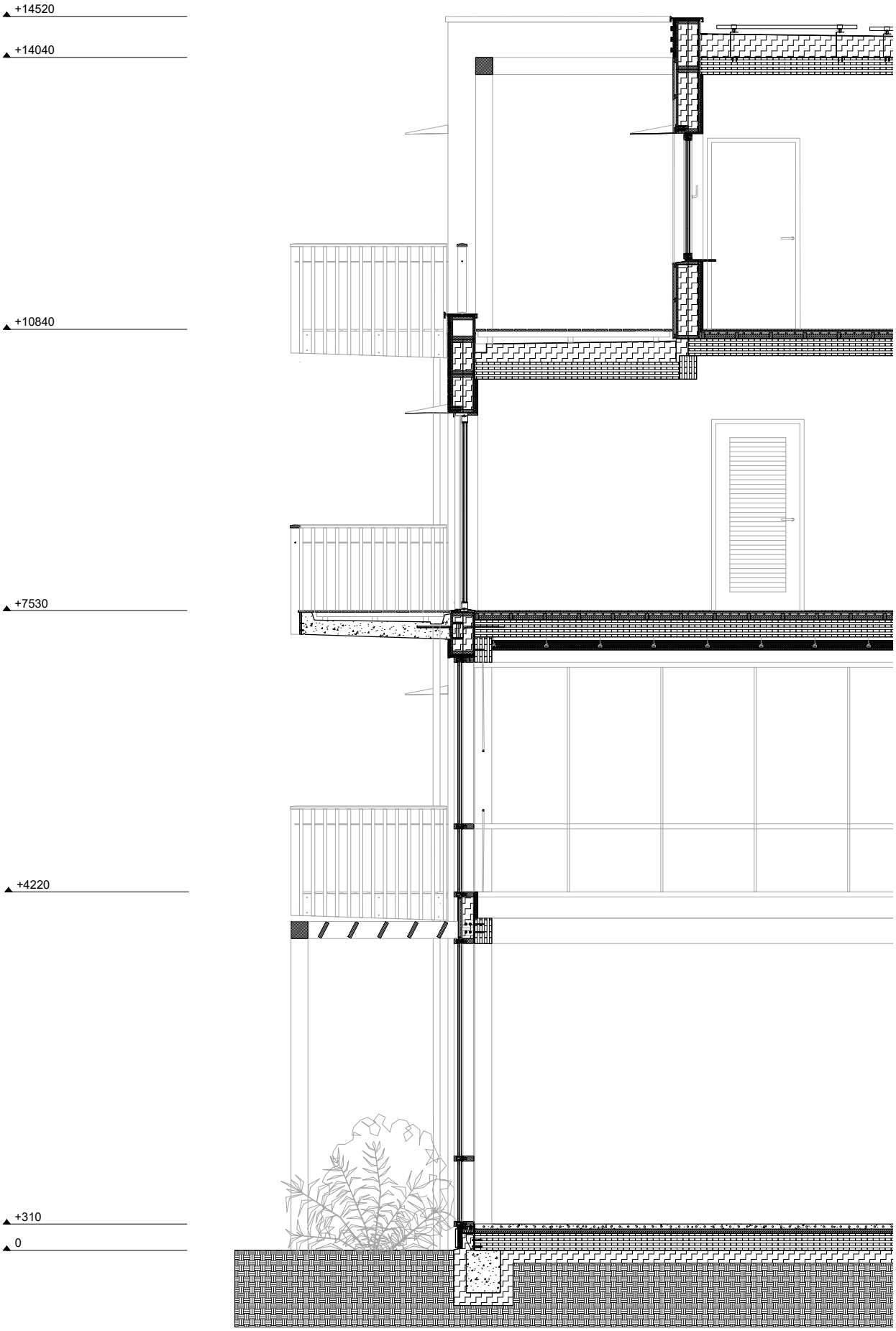

Care Post
Common Living, Dining and Kitchen
+ Hobby Room
Common Living, Dining and Kitchen
(+ Day Care)
Kindergarten
The Garden
The Square
Common Living, Dining and Kitchen
+ Hobby Room
Community Café


Meeting Room
Common Lounge
Common Kitchen, Dining + Lounge
Common Kitchen, Dining + Lounge
Enclosed Common
Living Room
Common Kitchen


Common Kitchen, Dining + Lounge
Common Kitchen, Dining + Lounge
Common Kitchen, Dining + Lounge


Common Kitchen, Dining + Lounge
Common Kitchen, Dining + Lounge
Common Kitchen, Dining + Lounge


Common Kitchen
Lounge
Roof garden
Dwelling
Dwelling
Hallway
Dwelling
Common Kitchen
Hallway
Dwelling
Community Café
Entrance
Hallway
Storage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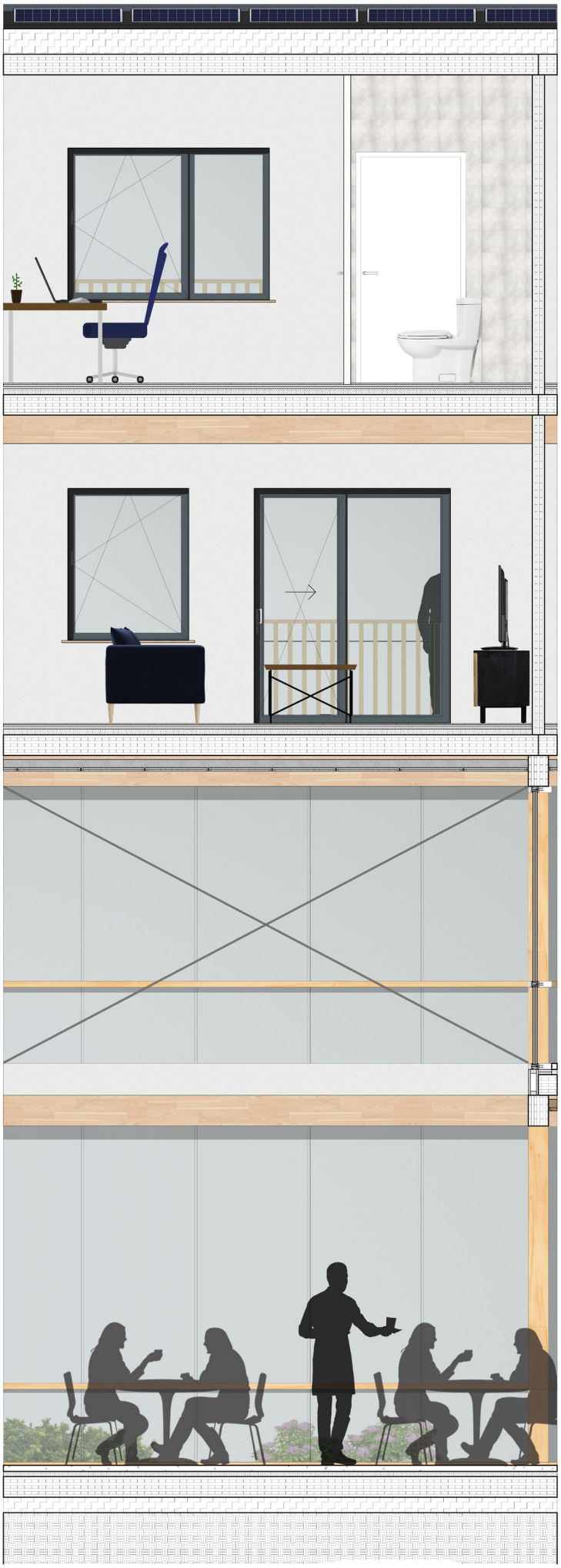
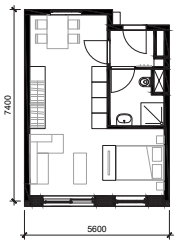
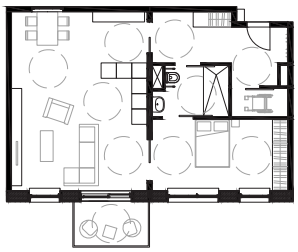




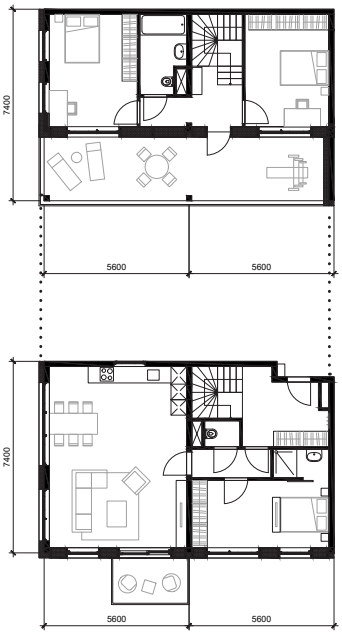
1. Student or single

5 in project



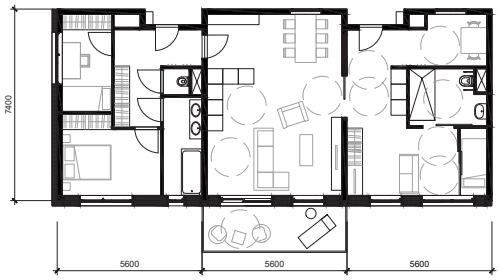
2. Elderly

27 in project



3. Family (maisonette)

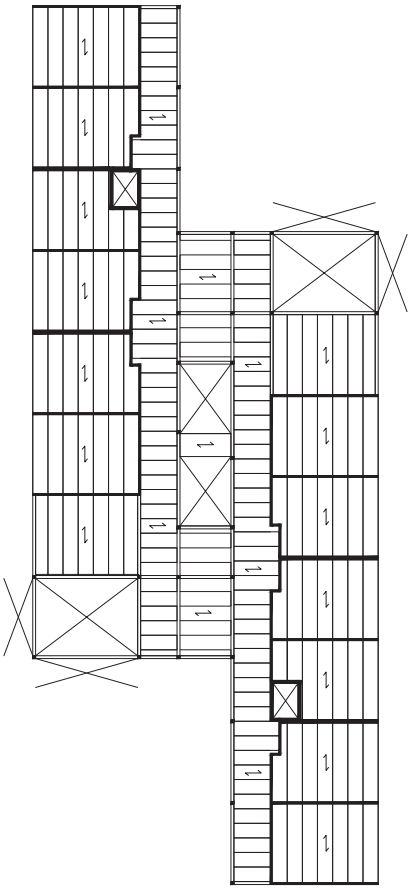
4 in project

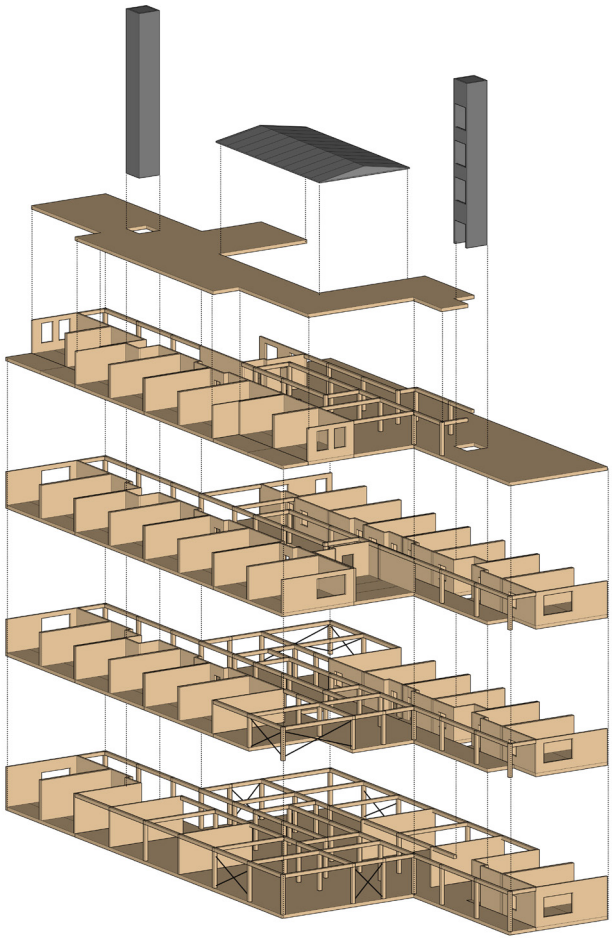


4. 'Kangaroo living': Elderly + family/their children

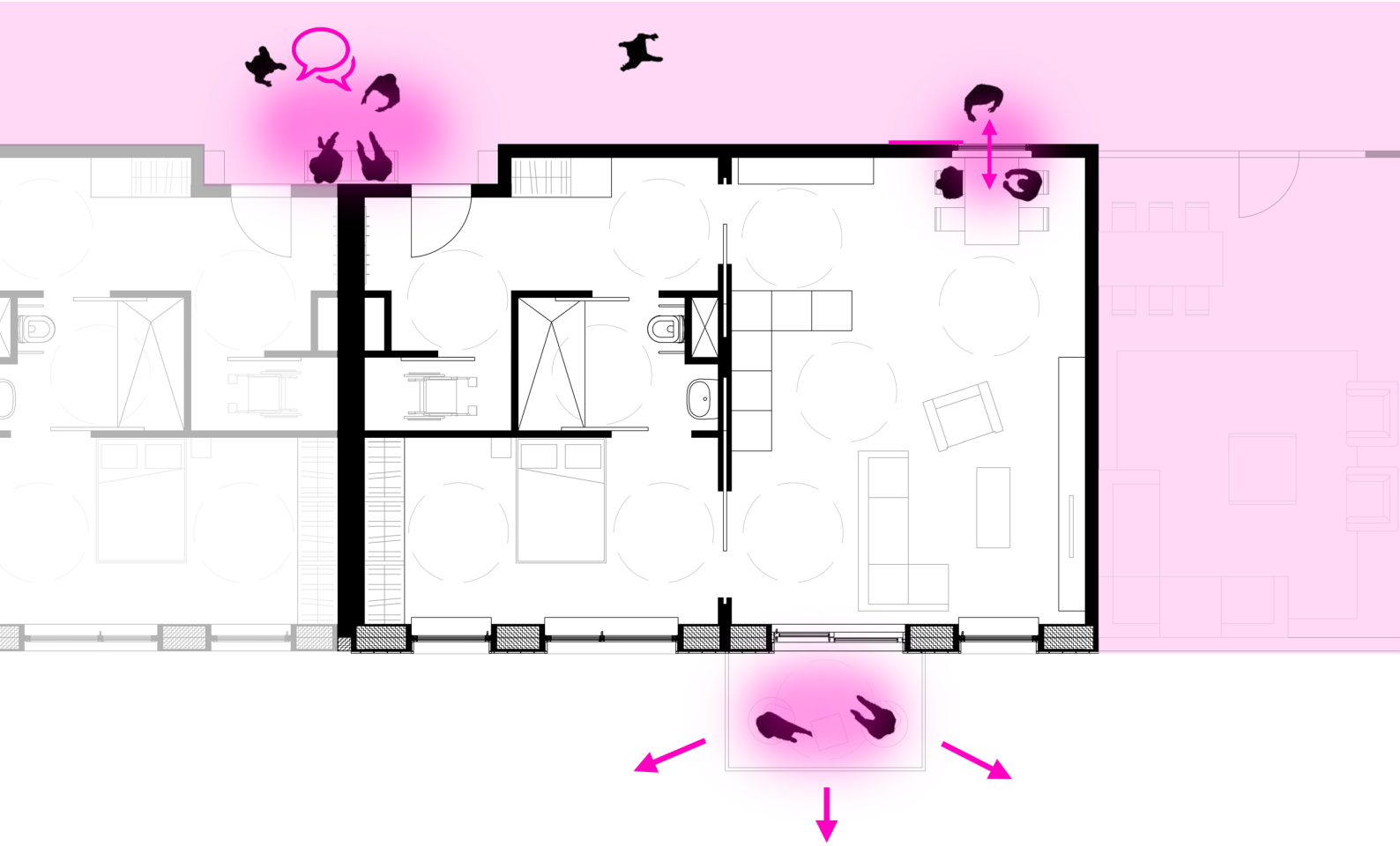
1 in project

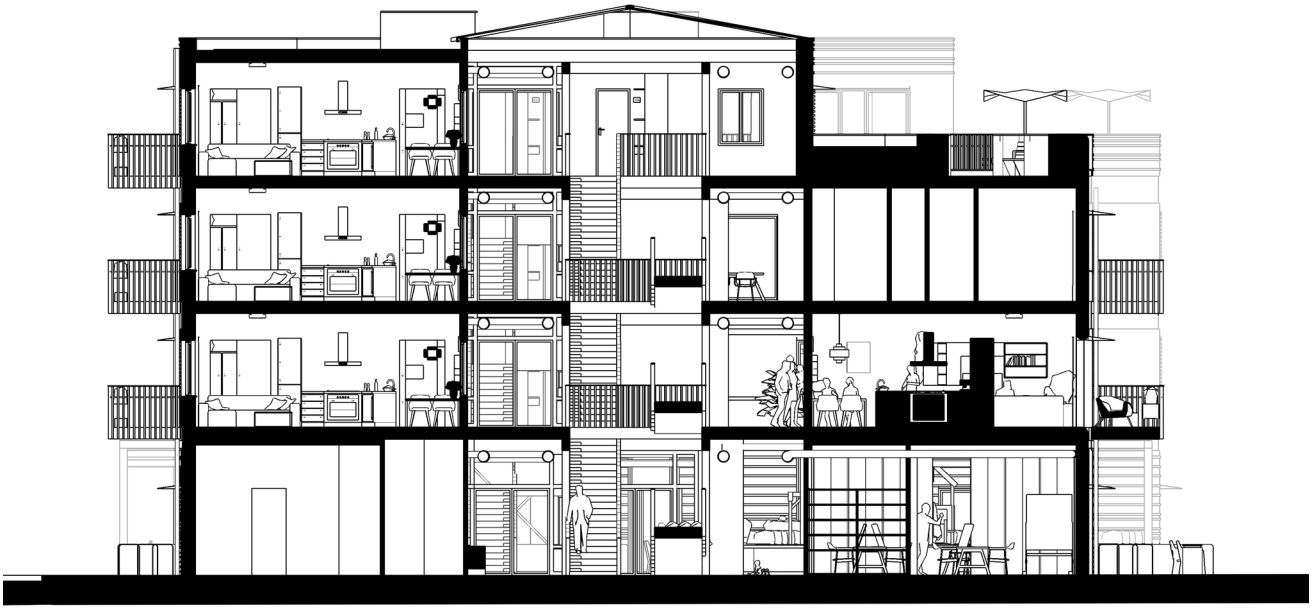
Dwelling unit types

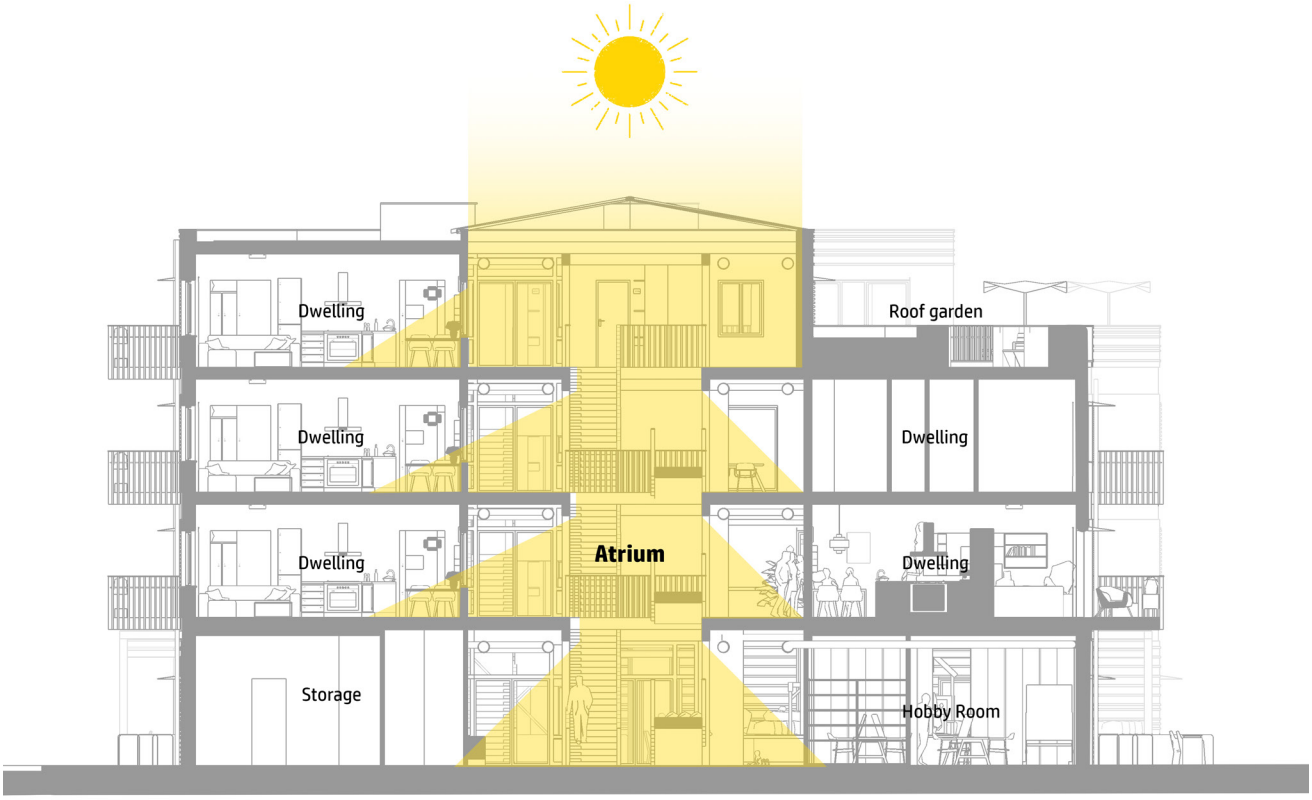


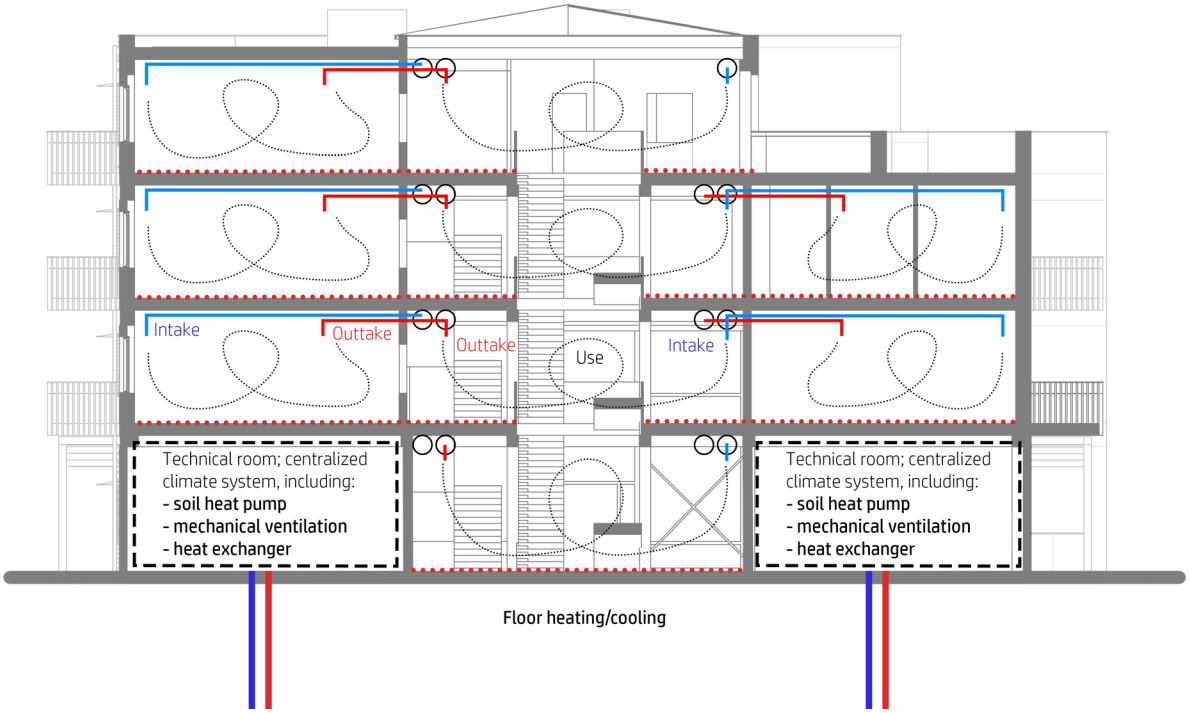


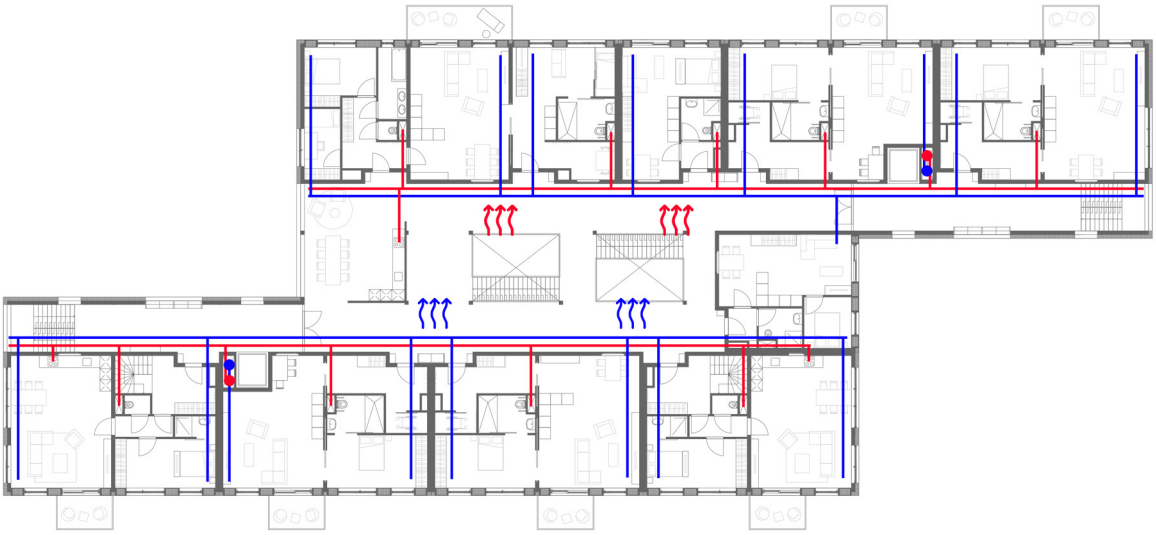

Entrance
Dining
Kitchen
Bathroom
Bedroom
Living






Dwelling
Dwelling
Dwelling
Storage
Atrium
Roof garden
Dwelling
Dwelling
Hobby Room


Intake
Outtake
Outtake
Use
Intake
Technical room; centralized climate system, including:
- soil heat pump
- mechanical ventilation
- heat exchanger
Technical room; centralized climate system, including:
- soil heat pump
- mechanical ventilation
- heat exchanger
Floor heating/cooling




Roof Kitchen/Lounge
Roof Kitchen/Lounge
Roof Kitchen/Lounge