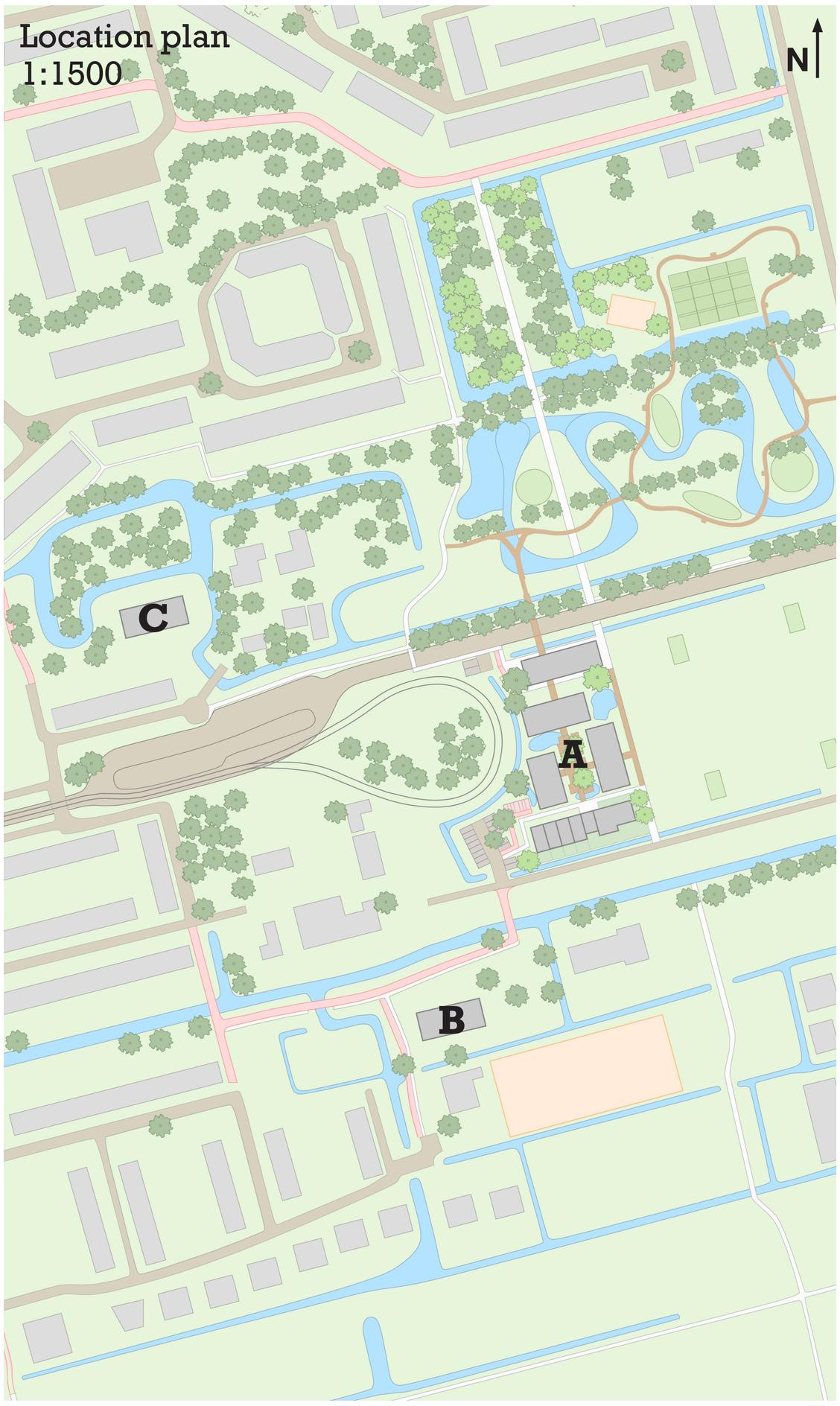
Location plan
1:1500



Situation plan plot A
1:500



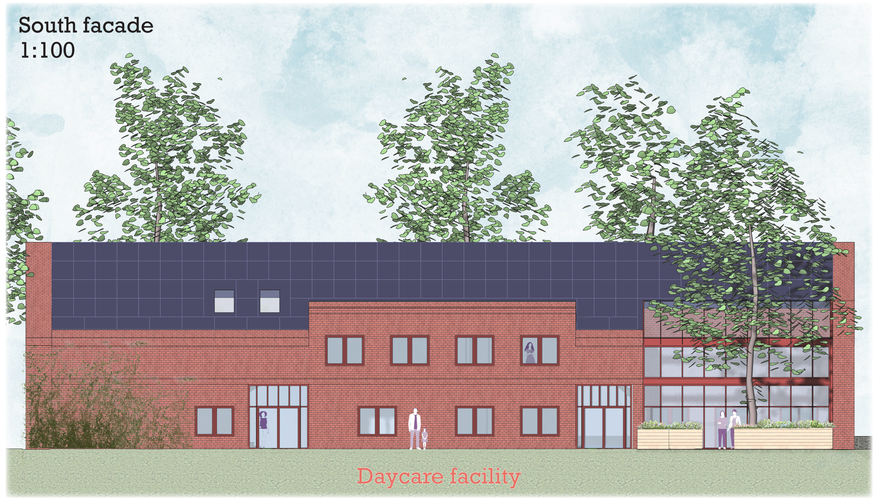
Situation & Plot overview

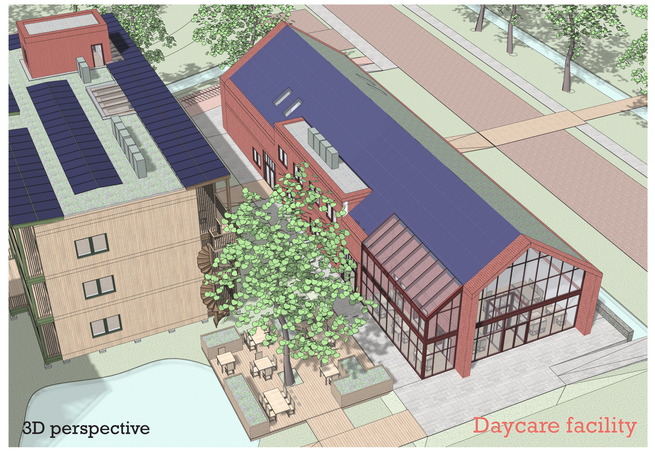
3D impression
Plot A overview



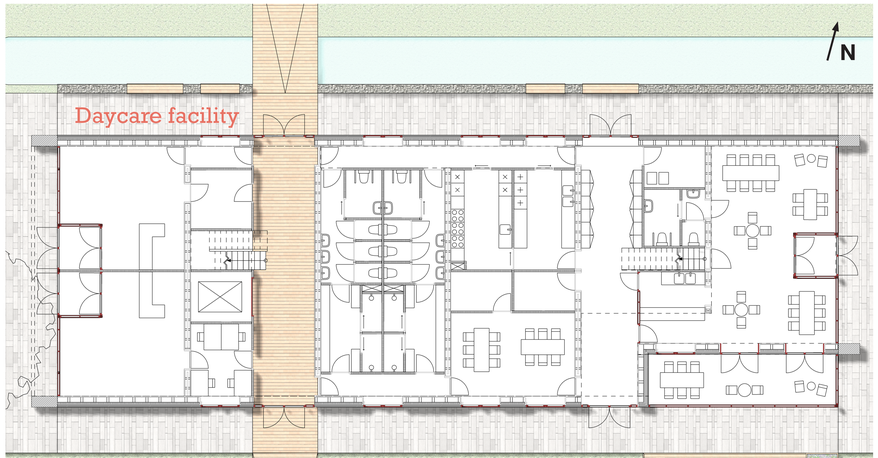
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Designing for Care in an Inclusive Environment

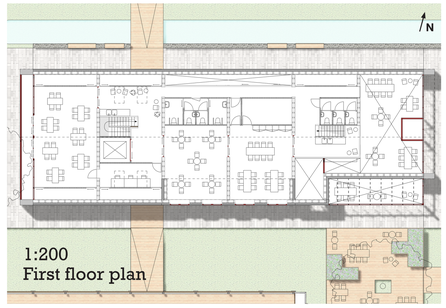








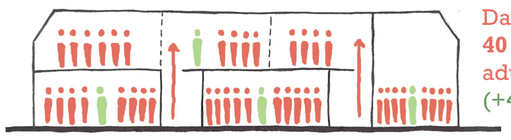




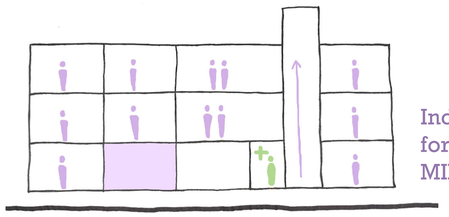
Daycare facility & Individual living MID I

+MID support

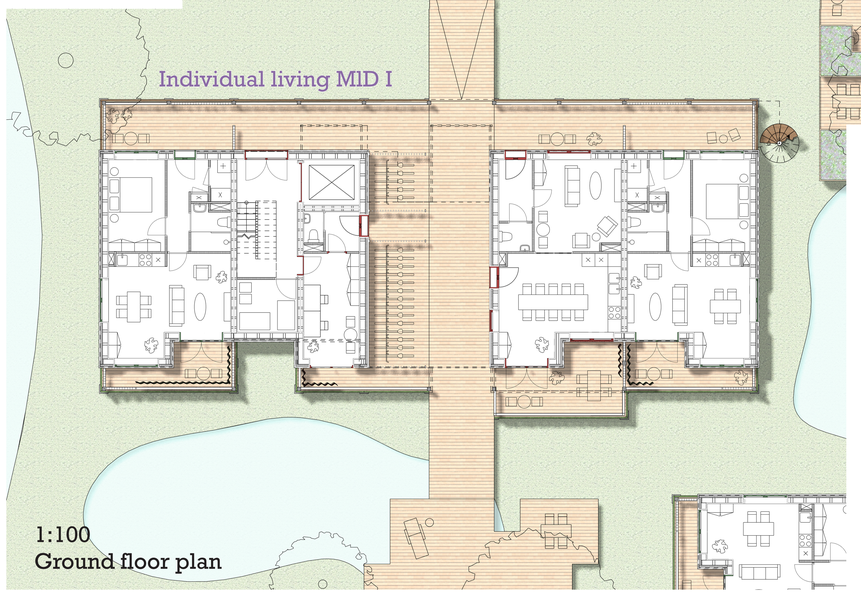
Target groups

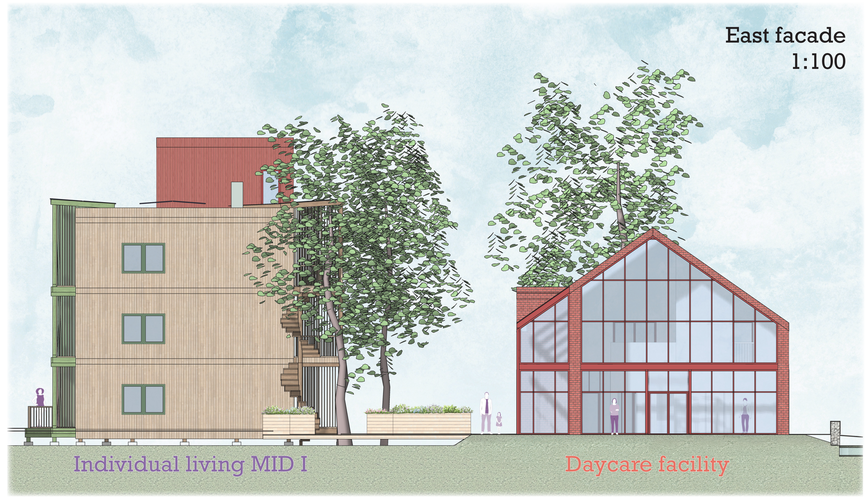


Daycare facility with **40** working places for adults with an MID (+**4** caregivers)



Individual living units for **12** adults with an MID (+**1** caregiver)



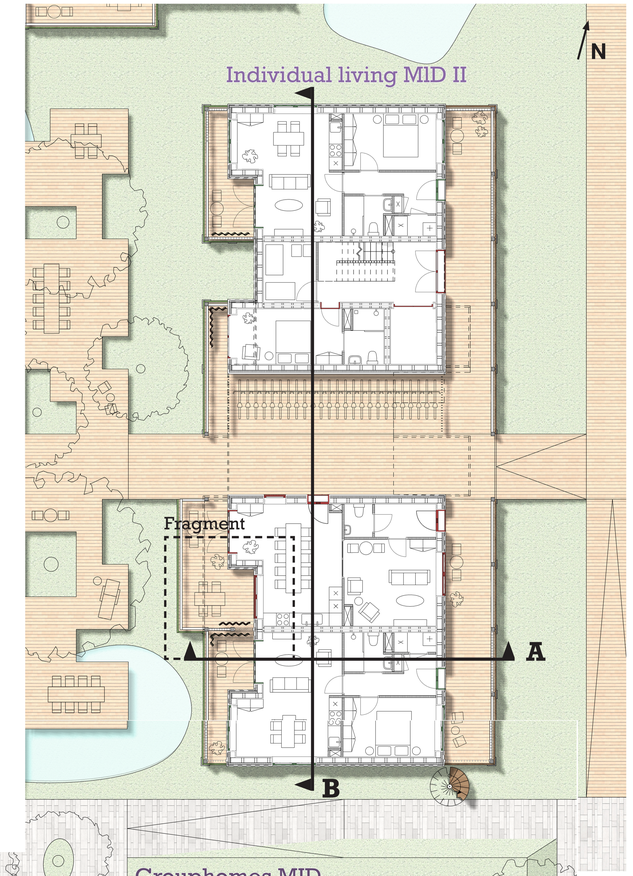


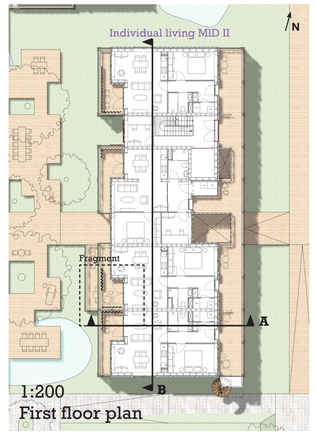
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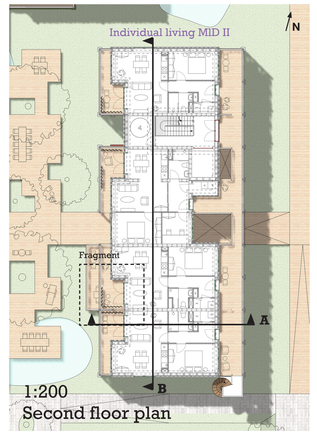






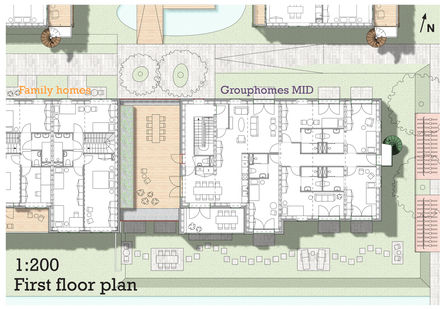






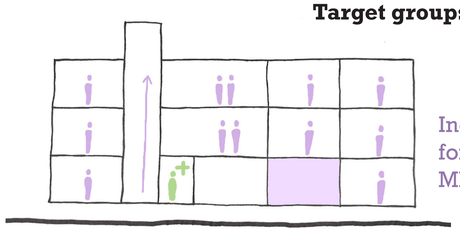
Individual living MID II & Grouphomes MID

+MID support





Target groups



Individual living units for **12** adults with an MID (+**1** caregiver)



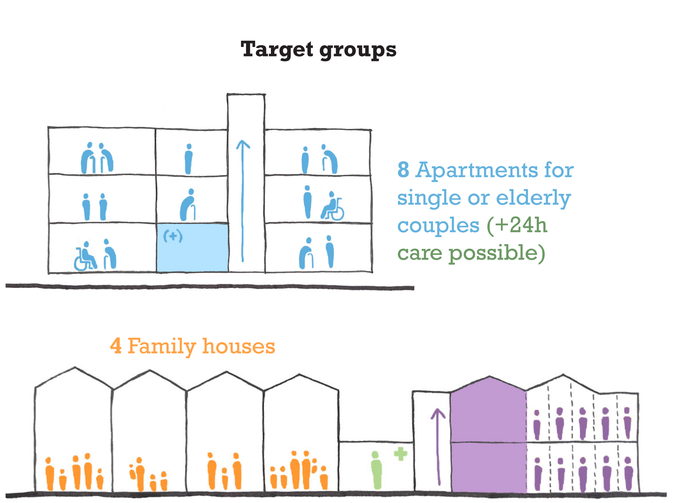
2x group homes for **5** adults with an MID each (+**1** caregiver)

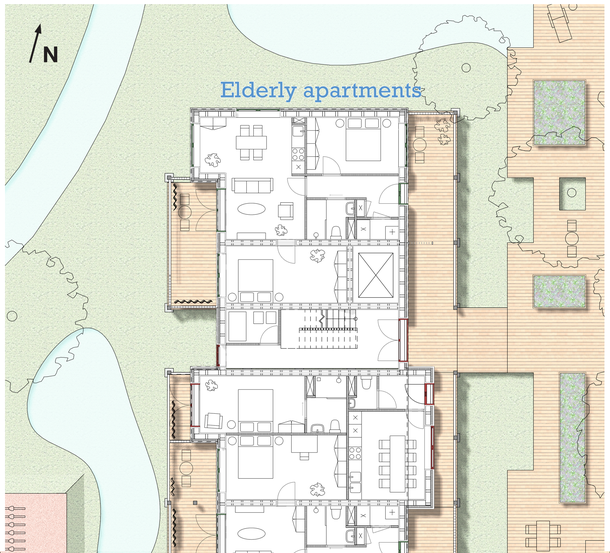


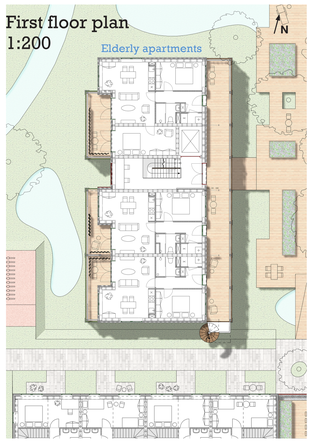




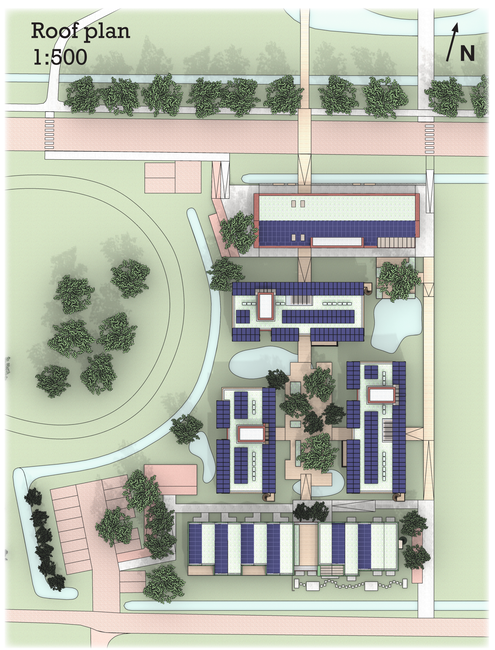


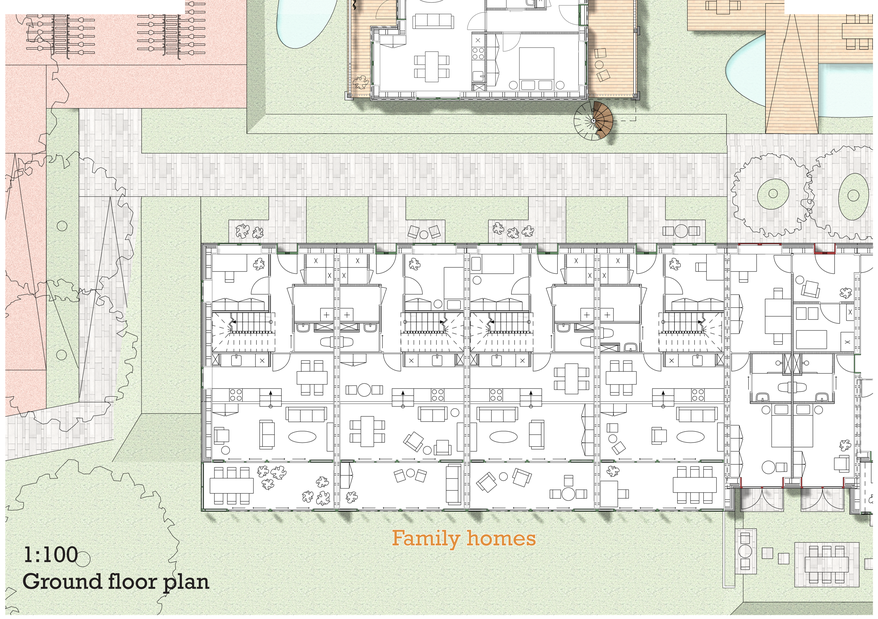




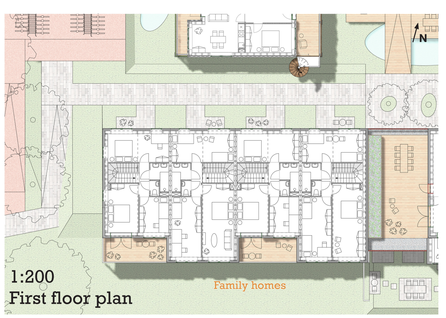


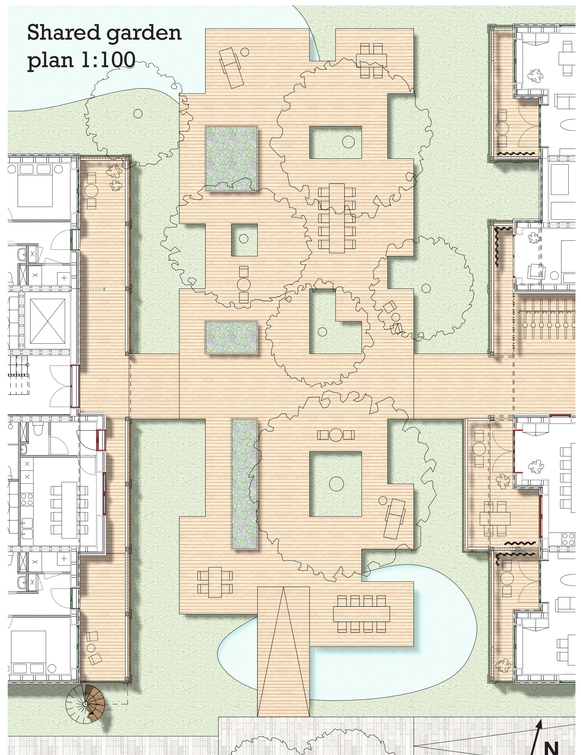






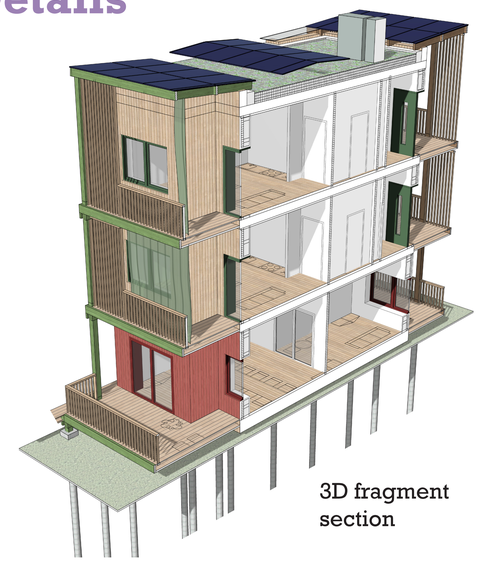
Elderly apartments
& Family homes
+ shared garden



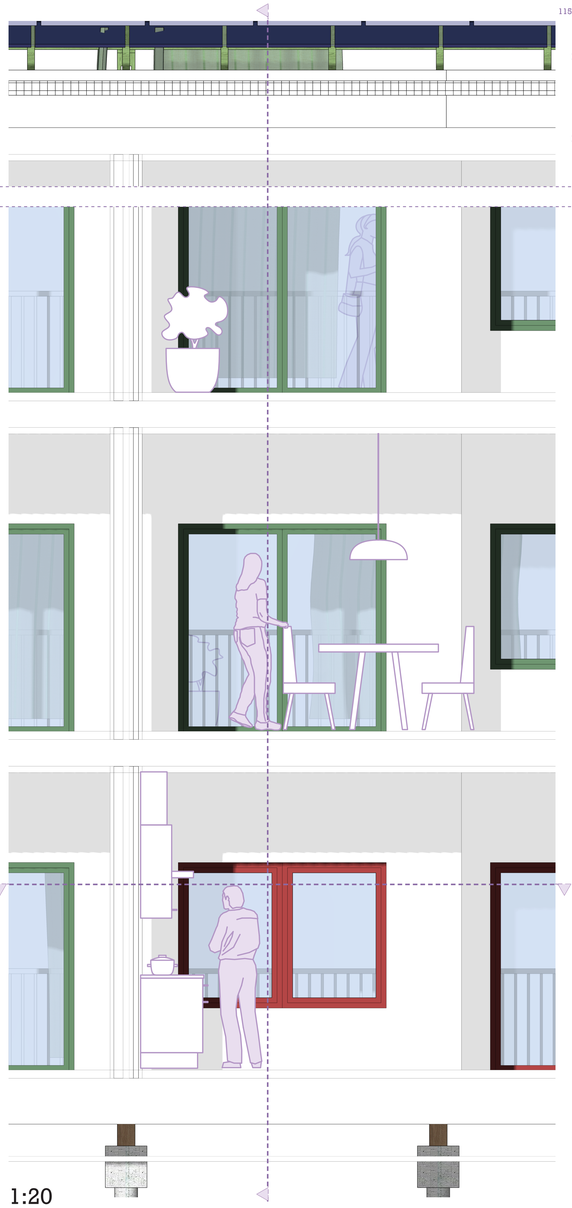


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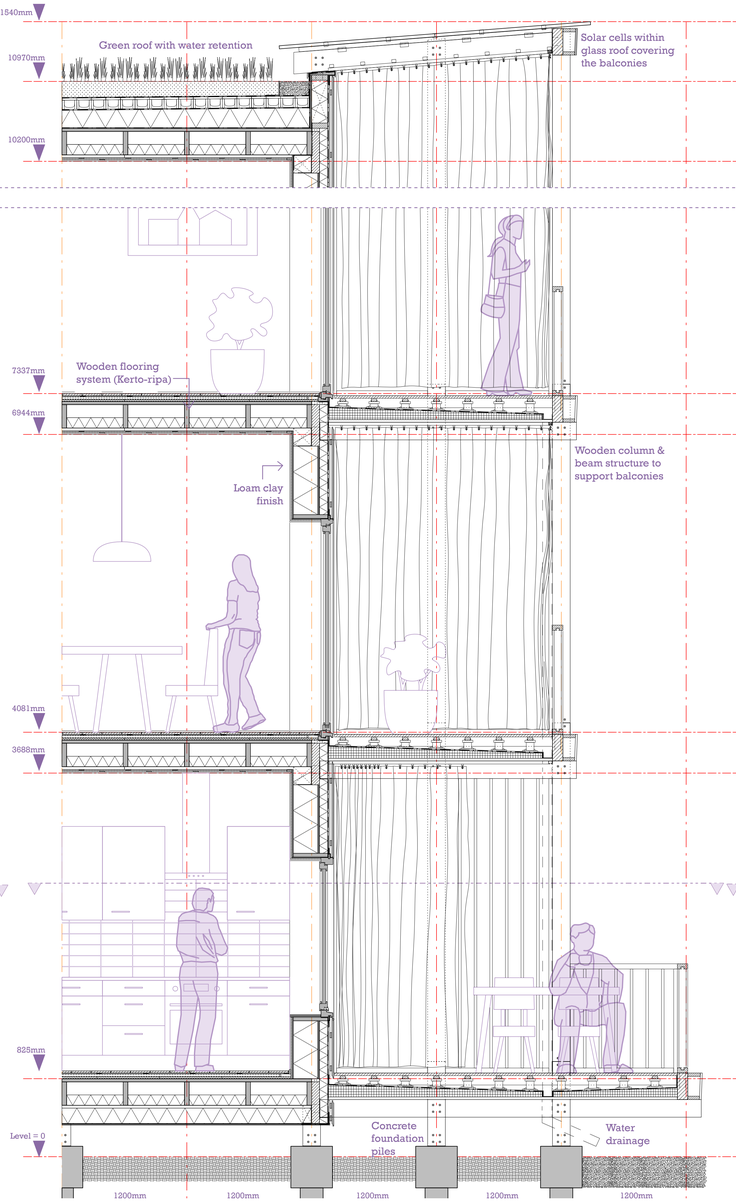
Facade fragment & Details



3D fragment section



1:20
Inner facade elevation

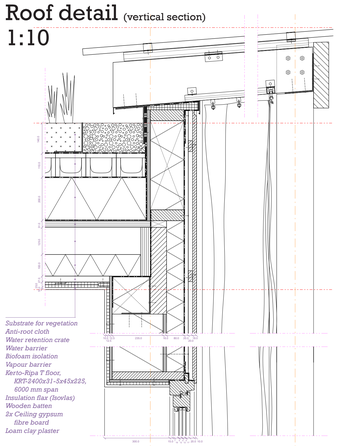


Vertical section
1:20



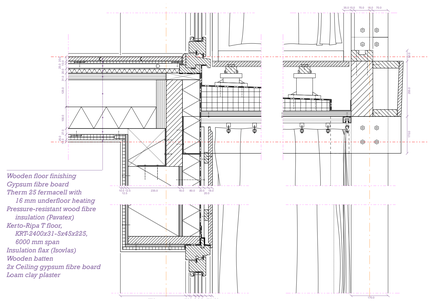
1:20
Outer facade elevation

Roof detail (vertical section)
1:10



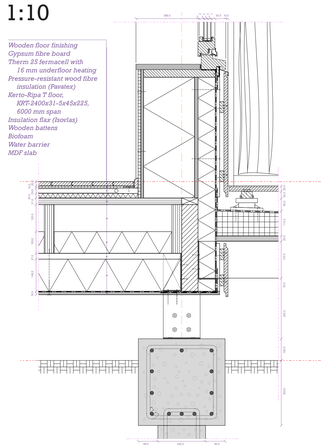
Substrate for vegetation
Anti-root cloth
Water retention crate
Water barrier
Bioloam isolation
Vapour barrier
Kerto-Ripa T floor,
KRT-2400x31-5x45x225, 6000 mm span
Insulation flax (Isovias)
Wooden batten
3x Ceiling gypsum fibre board
Loam clay plaster

Balcony detail
1:10 (vertical section)

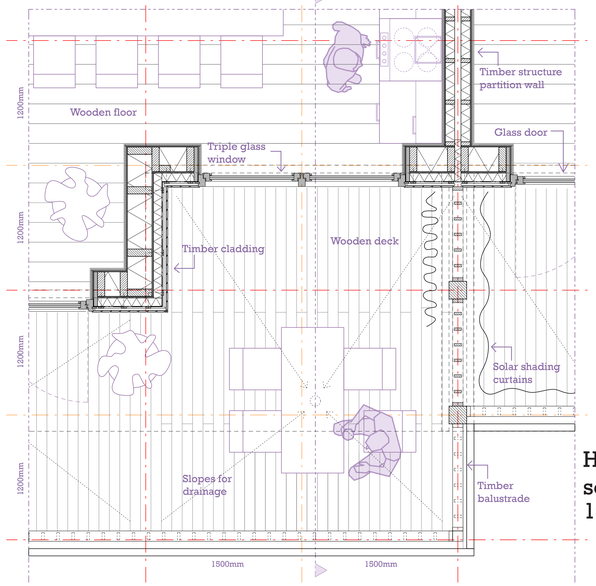


Wooden floor finishing
Gypsum fibre board
Therm 25 fermacell with 16 mm underfloor heating
Pressure-resistant wood fibre insulation (Pavatex)
Kerto-Ripa T floor,
KRT-2400x31-5x45x225, 6000 mm span
Insulation flax (Isovias)
Wooden batten
2x Ceiling gypsum fibre board
Loam clay plaster

GF floor detail (vertical section)
1:10

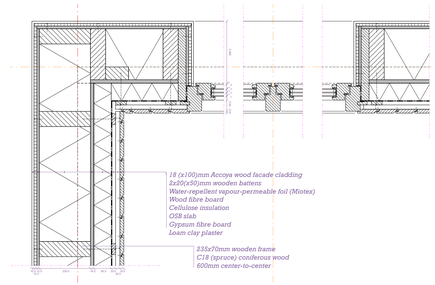


Wooden floor finishing
Gypsum fibre board
Therm 25 fermacell with 16 mm underfloor heating
Pressure-resistant wood fibre insulation (Pavatex)
Kerto-Ripa T floor,
KRT-2400x31-5x45x225, 6000 mm span
Insulation flax (Isovias)
Wooden battens
Biofoam
Water barrier
MDF slab



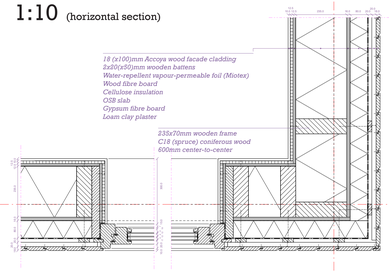
Horizontal section
1:20

Window detail
1:10 (horizontal section)



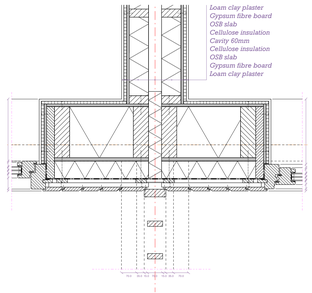
18 (x100)mm Accoya wood facade cladding
2x20(x50)mm wooden battens
Water-repellent vapour-permeable foil (Miotex)
Wood fibre board
Cellulose insulation
OSB slab
Gypsum fibre board
Loam clay plaster
235x70mm wooden frame
C18 (spruce) coniferous wood
600mm center-to-center

Door detail
1:10 (horizontal section)



18 (x100)mm Accoya wood facade cladding
2x20(x50)mm wooden battens
Water-repellent vapour-permeable foil (Miotex)
Wood fibre board
Cellulose insulation
OSB slab
Gypsum fibre board
Loam clay plaster
235x70mm wooden frame
C18 (spruce) coniferous wood
600mm center-to-center

Partition wall detail
1:10 (horizontal section)

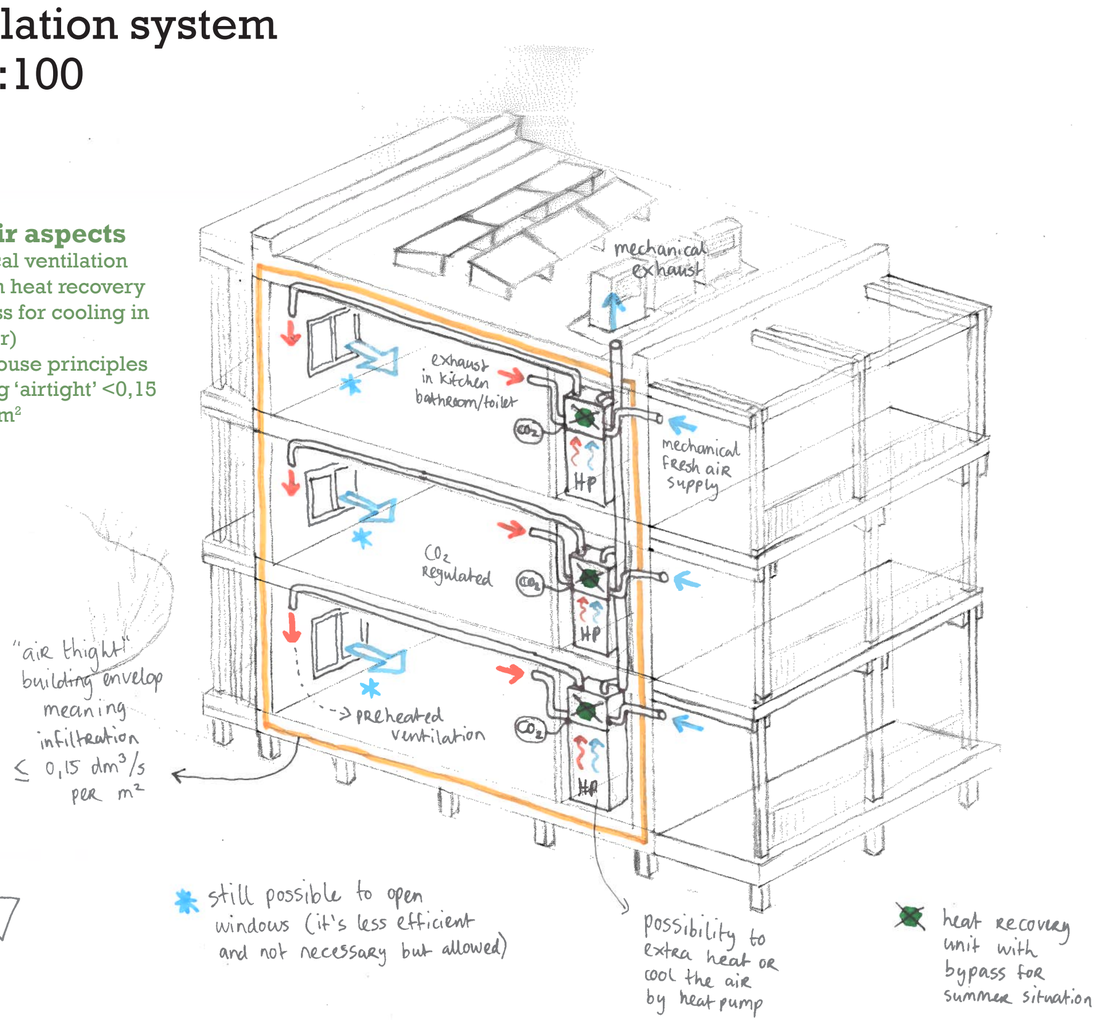


Loam clay plaster
Gypsum fibre board
OSB slab
Cellulose insulation
Cavity 60mm
Cellulose insulation
OSB slab
Gypsum fibre board
Loam clay plaster

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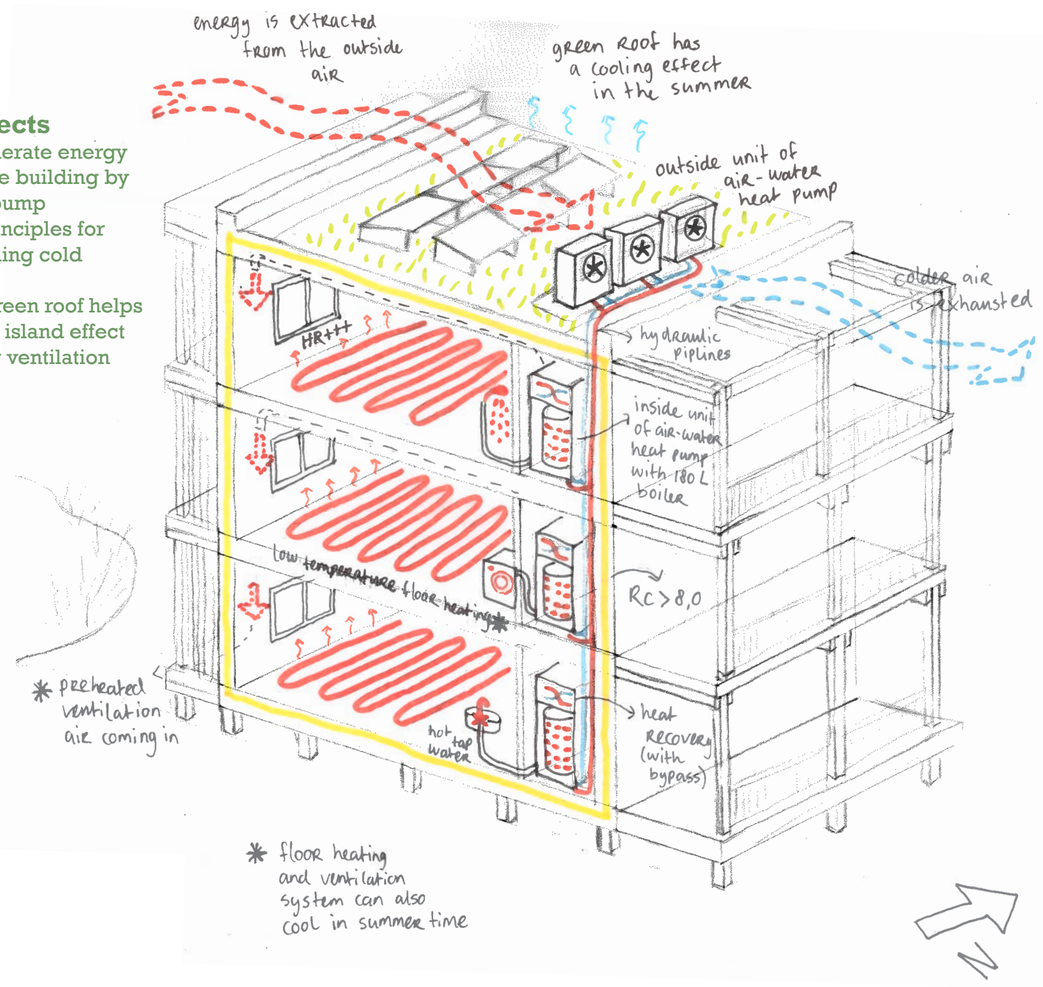
Ventilation system
+/- 1:100

Circulair aspects
- Mechanical ventilation type D with heat recovery (and bypass for cooling in the summer)
- Passive house principles for building 'airtight' <0,15 dm^3/s per m^2



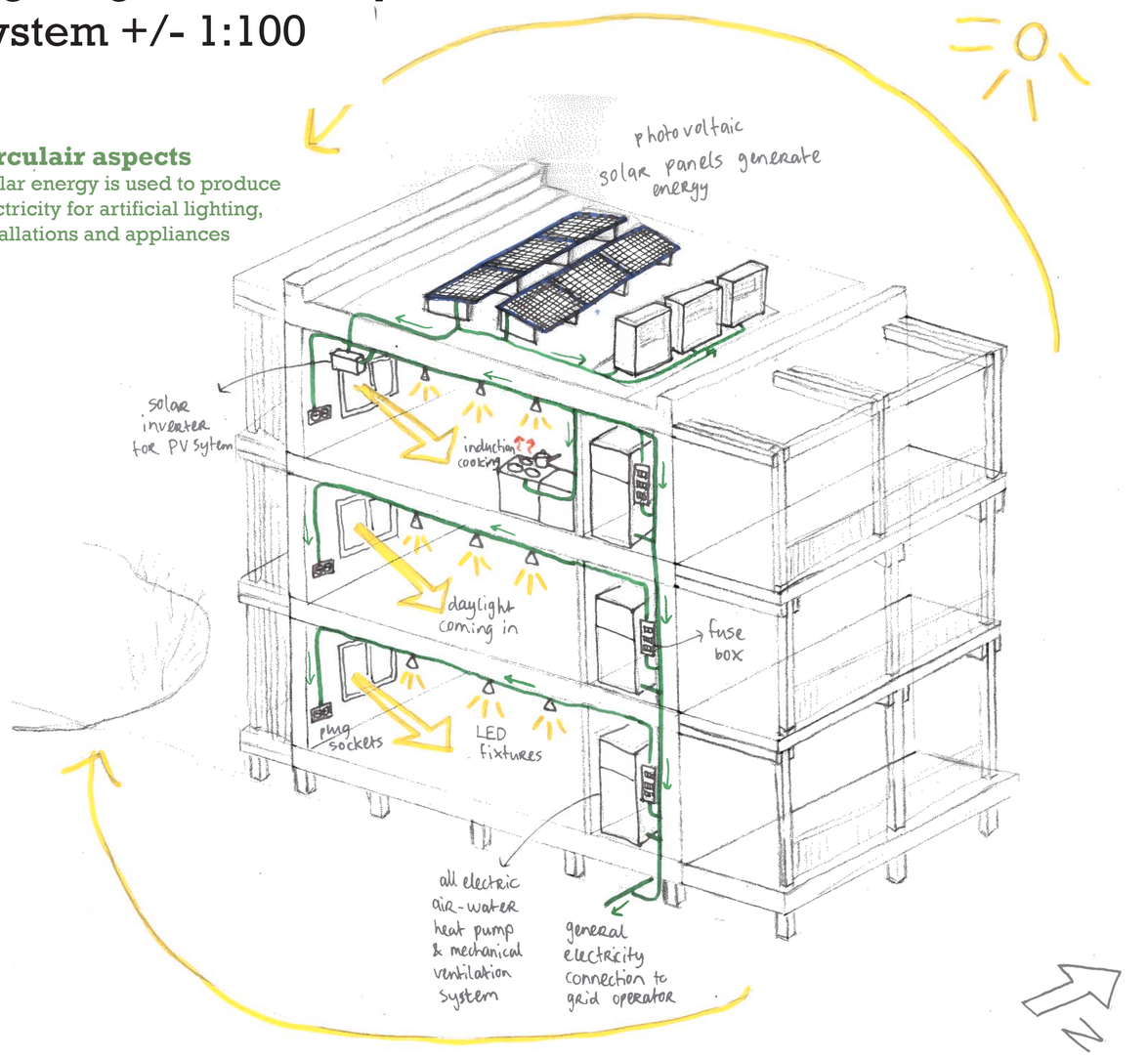
Heating & cooling system
+/- 1:100

Circulair aspects
- Air is used to generate energy to heat (or cool) the building by an air-water heat pump
- Passive house principles for isolation and avoiding cold bridges
- Waterretention green roof helps against urban heat island effect
- Heat recovery for ventilation system (type D)



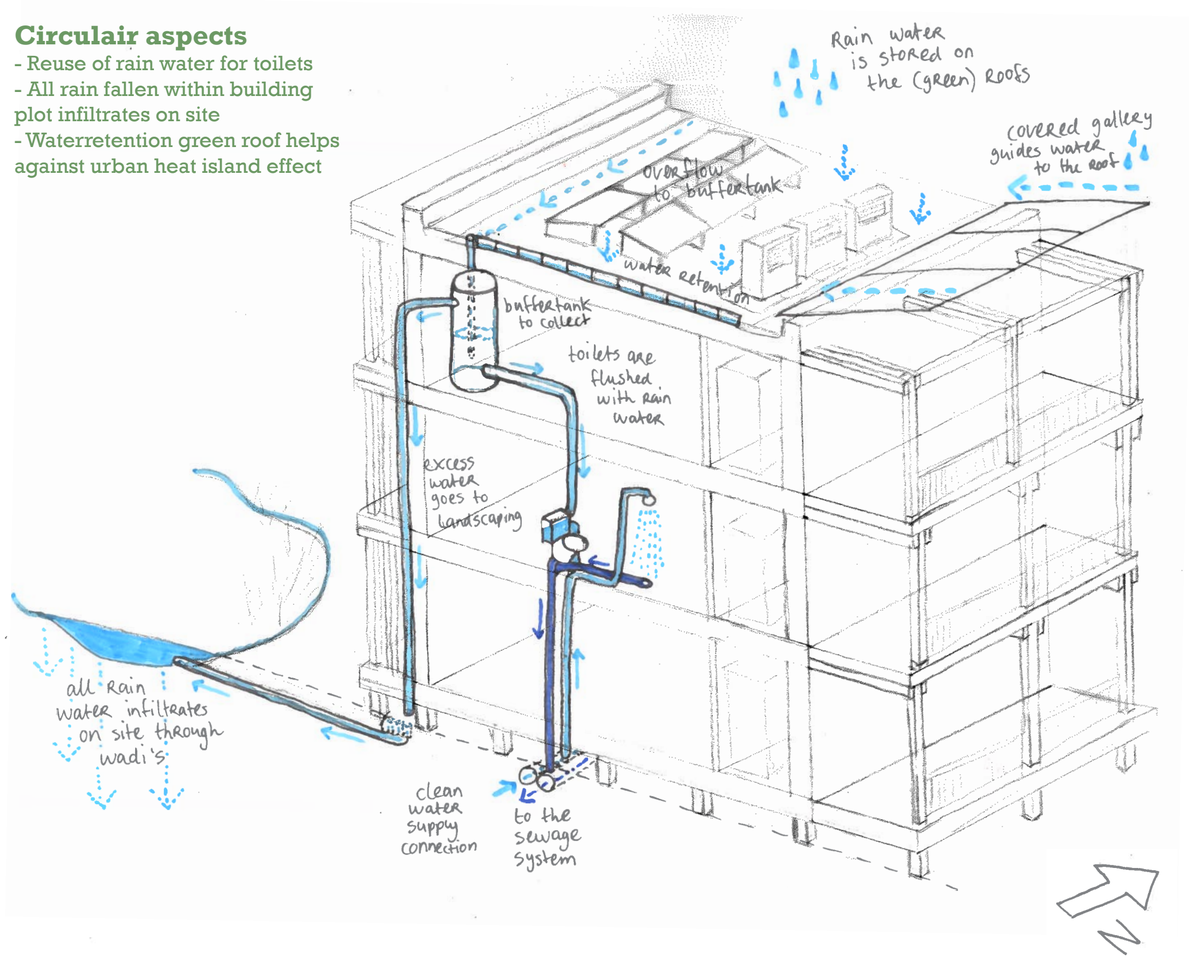
Lighting & electricity system +/- 1:100

Circulair aspects
- Solar energy is used to produce electricity for artificial lighting, installations and appliances



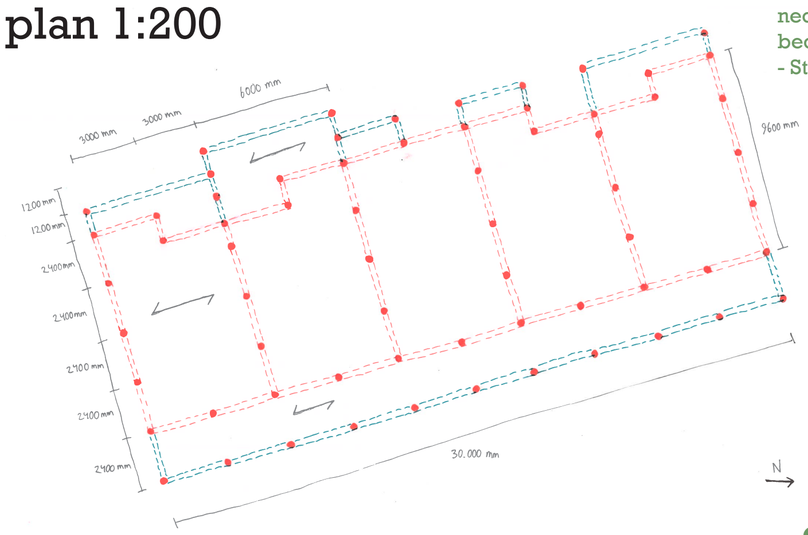
Water management system
+/- 1:100

Circulair aspects
- Reuse of rain water for toilets
- All rain fallen within building plot infiltrates on site
- Waterretention green roof helps against urban heat island effect



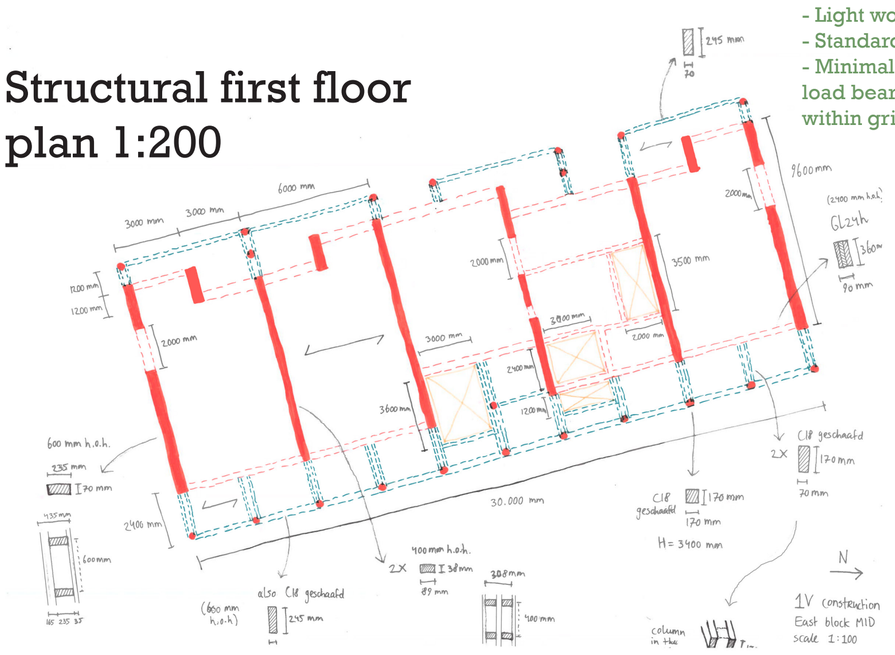
Structural foundation plan 1:200

Circulair aspect
- Minimized use of concrete (only necessary for foundation piles because of ground conditions)
- Standard grid size



Structural first floor plan 1:200

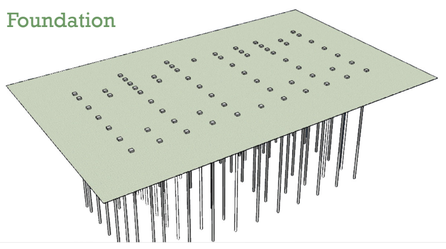
Circulair aspect
- Light wooden construction
- Standard grid size
- Minimal breakthroughs in load bearing walls & voids within grid size



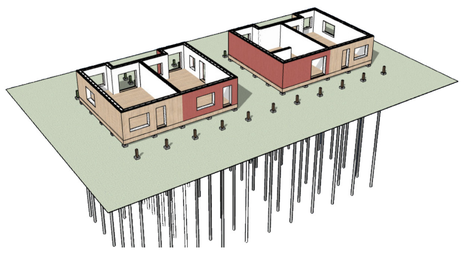
Climate & Construction

Building construction

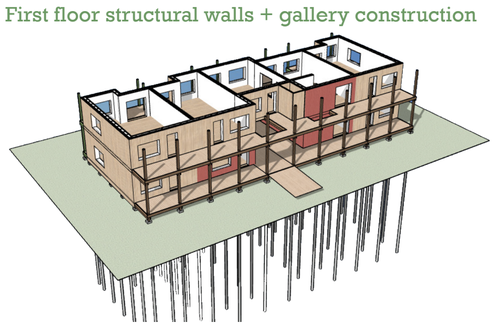
Foundation



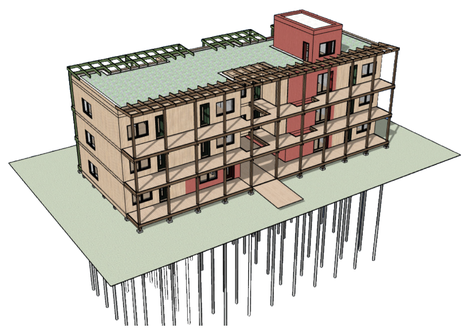
Ground floor structural walls



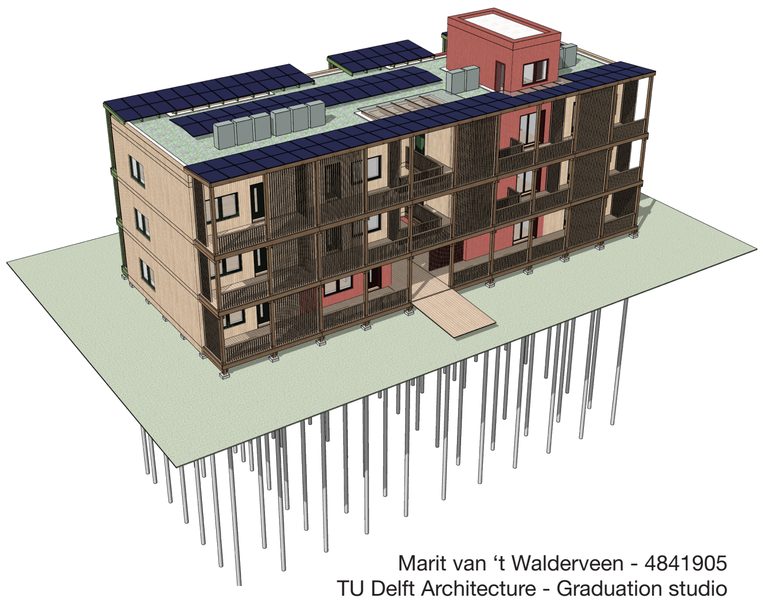
First floor structural walls + gallery construction



Second floor + roof construction



Fit-off and finishing (instalations, fences, etc.)



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Designing for Care in an Inclusive Environment

Construction (materials)

- Light wooden construction
- Prefabricated components
- Small standard grid size
- Demountable construction (dry connections)
- Biobased materials

Passive house principles

- High insulation value
- Airtight
- No cold bridges
- Windows placed according to the sun orientation
- Heat recovery (ventilation type D)

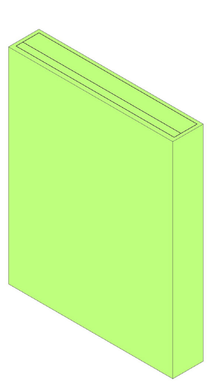
Design choices

- Green/energy roofs
- Nature inclusive
- Considerate water management system
- Use of sunspaces (winter gardens)
- Appropriate sunshading

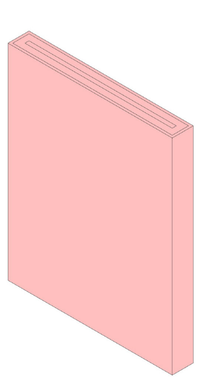
Sustainability & Construction

Most important construction components

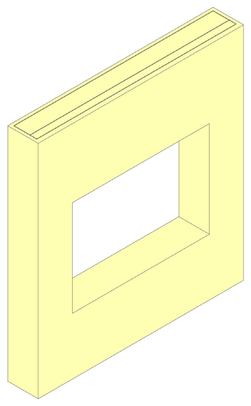
(Measurements LxWxH)



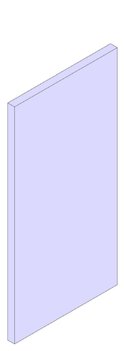
Structural timber frame facade panel (2400x424x3000mm)



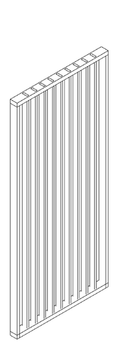
Structural timber frame partition wall panel (2400x308x3000mm)



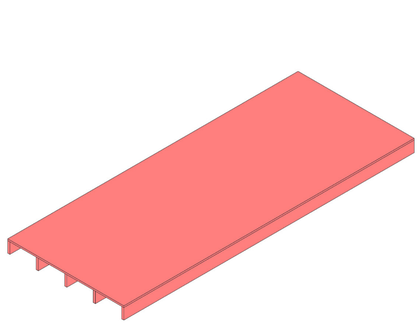
Non structural timber frame facade panel (3000x424x2825mm)



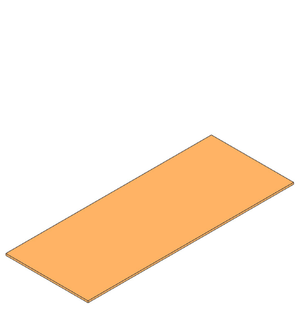
Non structural timber frame wall panel (1200x100x3000mm)



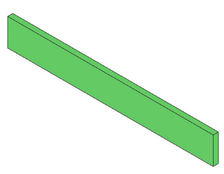
Non structural timber slats panel/railing (1200x100x3000mm)



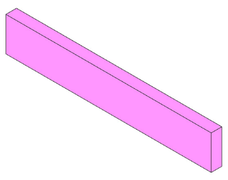
Structural timber hollow core slab floor (6000x2400x256mm)



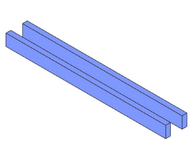
Structural timber gallery floor slab (3000x1200x25mm)



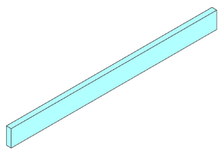
Structural glulam beam (3000x75x400m)



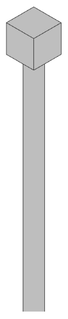
Tmber frame roof trim element (3000x155x500m)



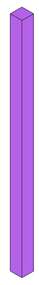
Double C18 timber structural beam (2400x70x170mm)



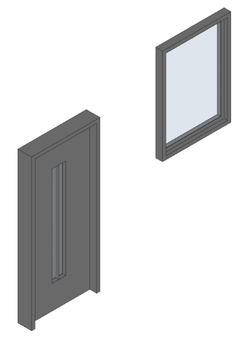
Single C18 timber structural beam (3000x100x255mm)



Prefabricated concrete foundation pile (15000xØ220mm)

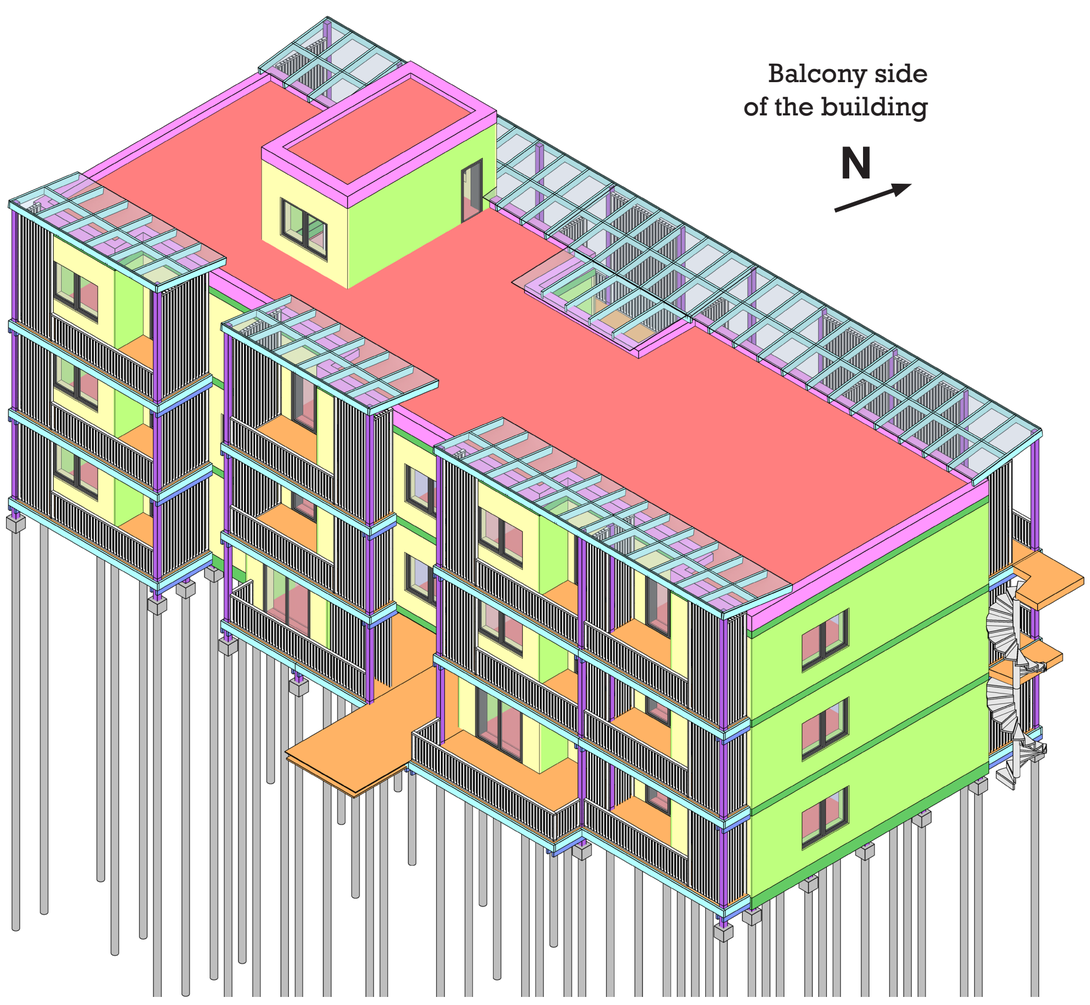


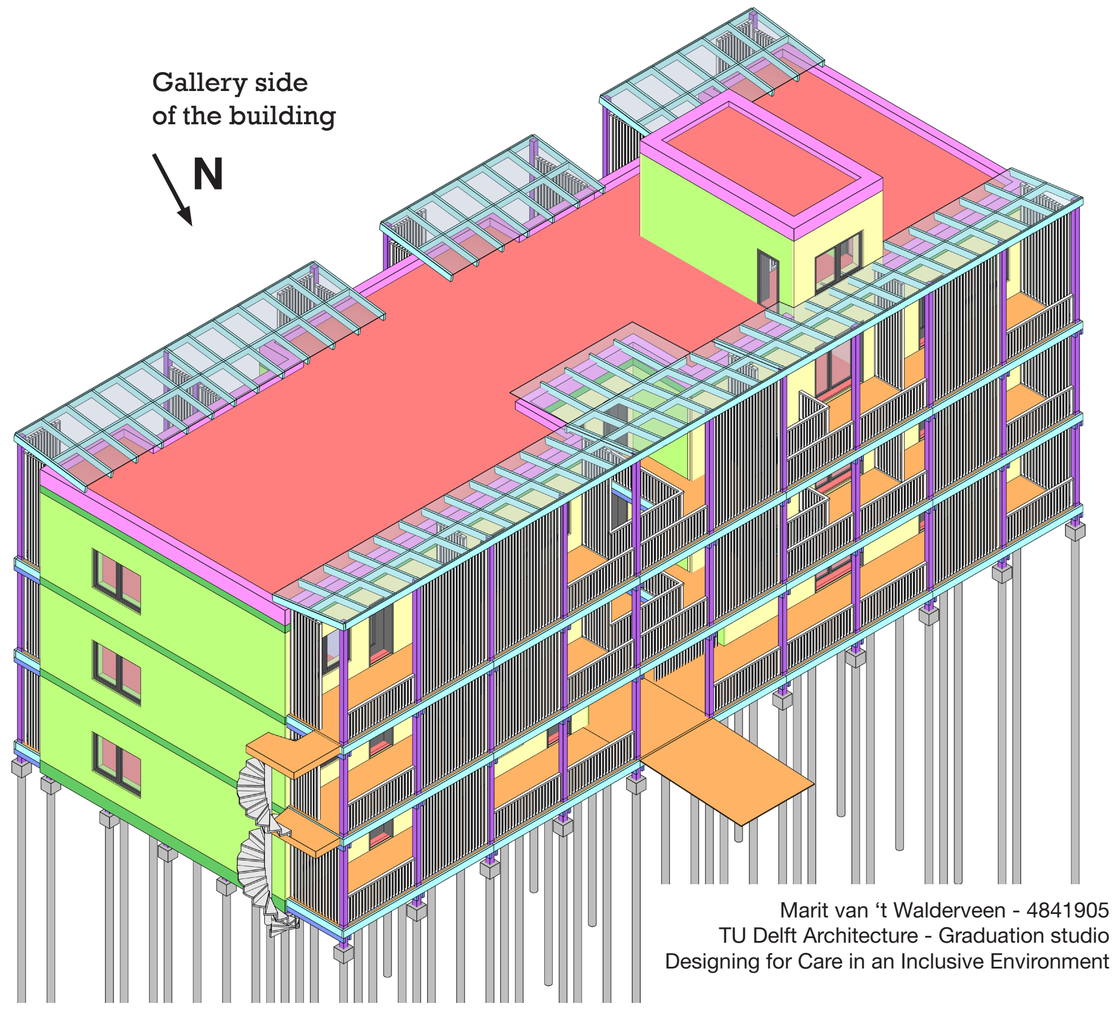
Structural glulam column (3256x170x170mm)



Wooden door & window framing (1000x(2200-1400)mm)

3D impressions colored by construction components





Marit van 't Walderveen - 4841905
TU Delft Architecture - Graduation studio
Designing for Care in an Inclusive Environment