

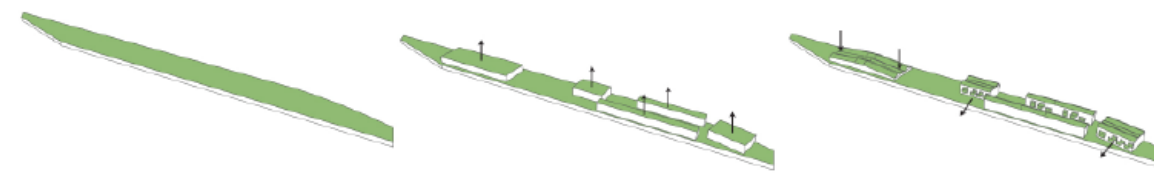
FLOURISH

GABRIEL FENN & SAM CASOLA

The existing urban layout in the southern portion of Sudbury's downtown district neglects the low income and homeless communities that inhabit the area. The proposed design intends to respond to the needs of the area by providing infrastructure to support these communities. The project provides housing for the elderly and formerly homeless. These demographics were paired due to their potential for social compatibility. Urban farming provides the residents with jobs and creates learning opportunities for the city by promoting local growth and self-sustaining communities. Common spaces promote community integration and engagement of the southern portion of the Downtown district. Urban farming and common spaces both act as mediating spaces between public and private areas.



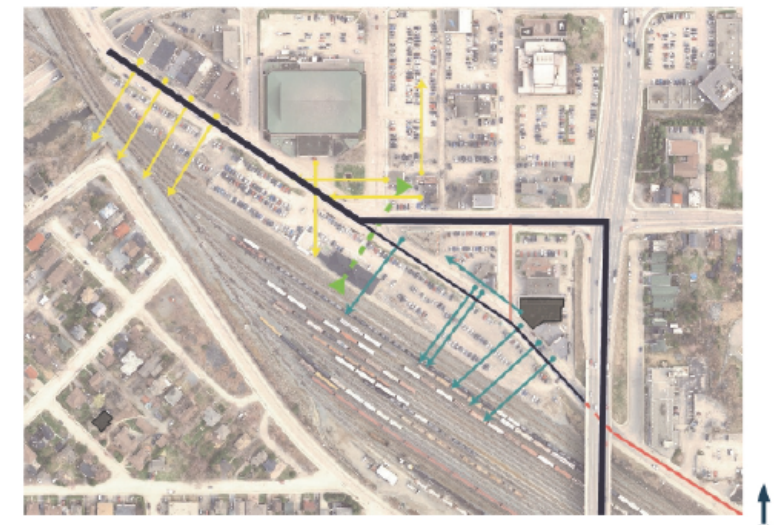
PROGRAMMATIC DIAGRAM



VISUAL PARTI



WRITTEN PARTI

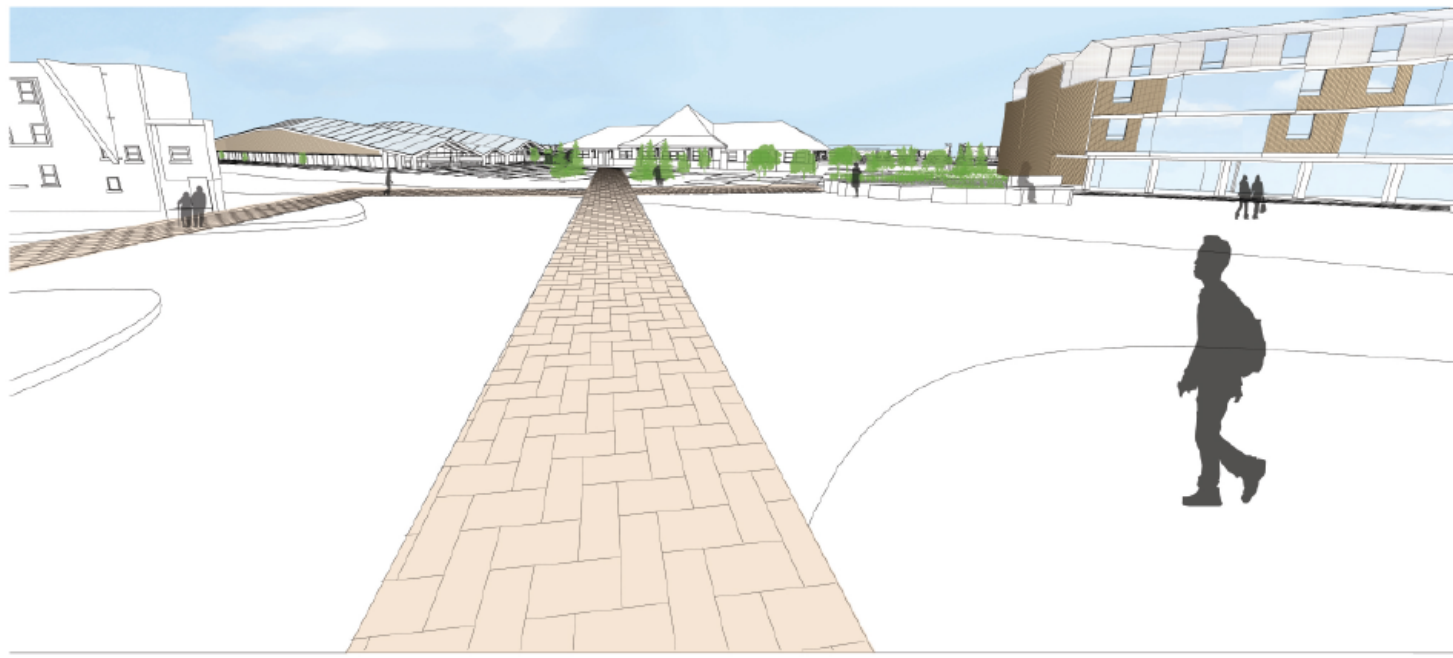
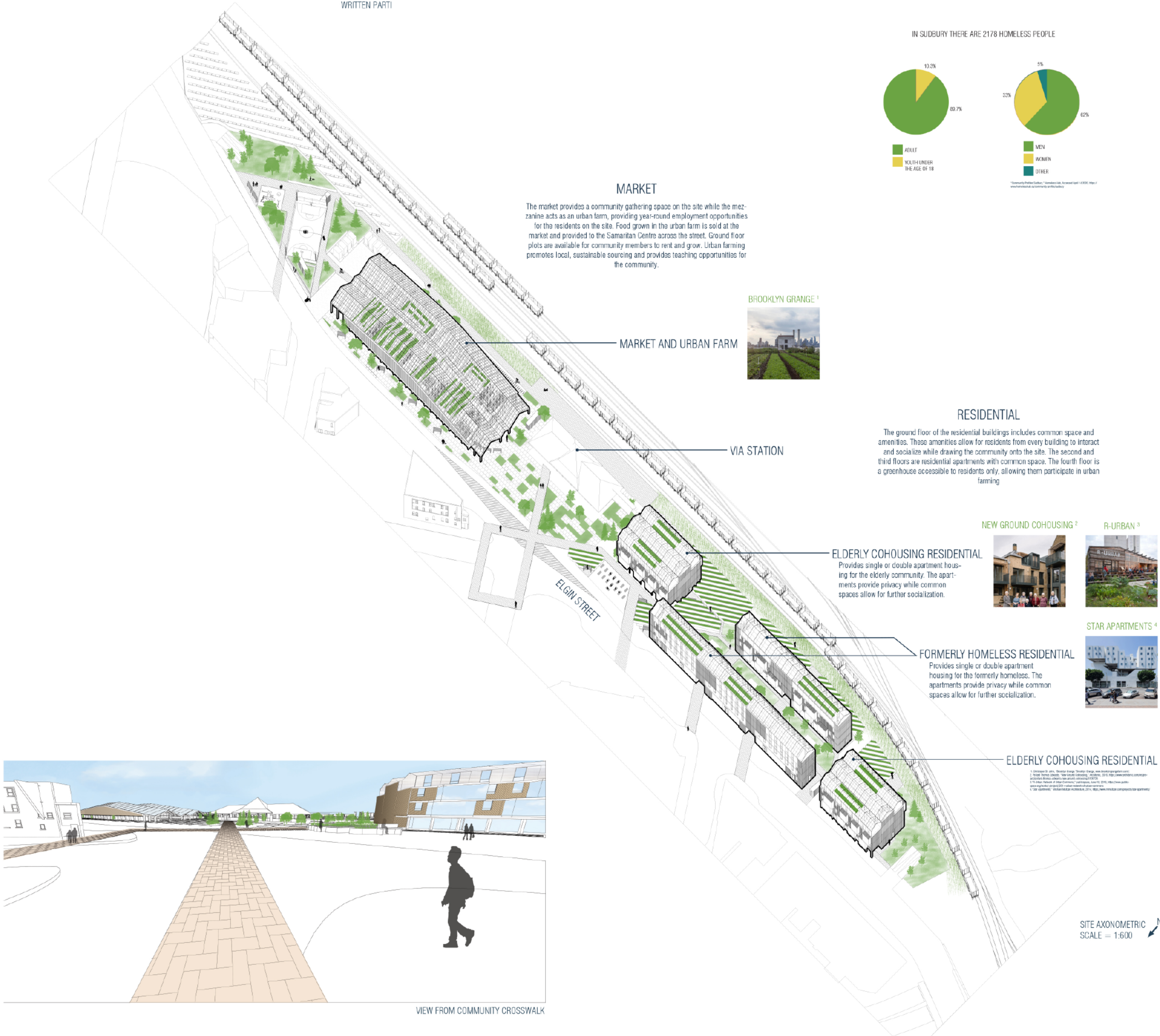
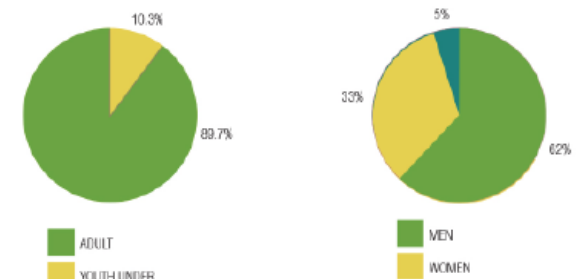


SITE ANALYSIS - BUILDING ORIENTATION



SITE ANALYSIS - FUTURE PLANS

IN SUDBURY THERE ARE 2178 HOMELESS PEOPLE



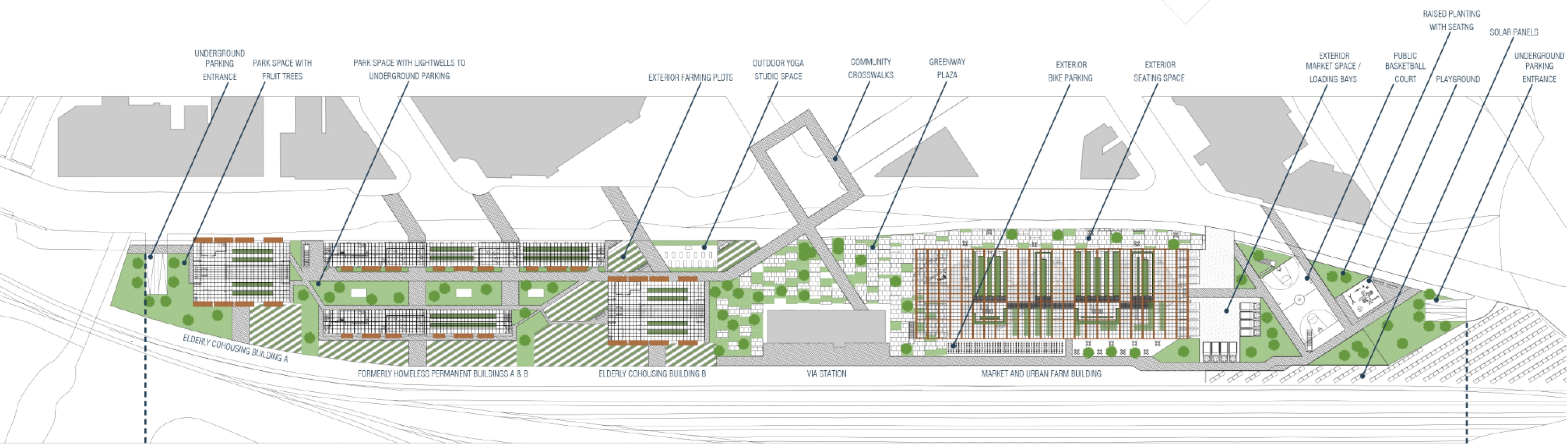
VIEW FROM COMMUNITY CROSSWALK



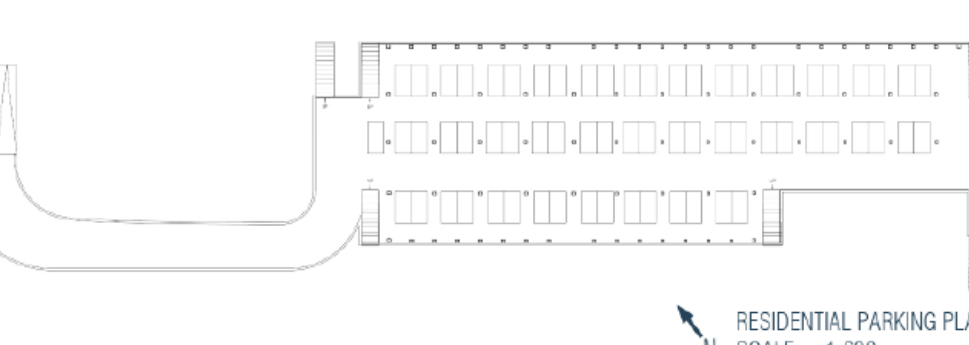
RESIDENTIAL

The ground floor of the residential buildings includes common space and amenities. These amenities allow for residents from every building to interact and socialize while drawing the community onto the site. The second and third floors are residential apartments with common space. The fourth floor is a greenhouse accessible to residents only, allowing them to participate in urban farming.

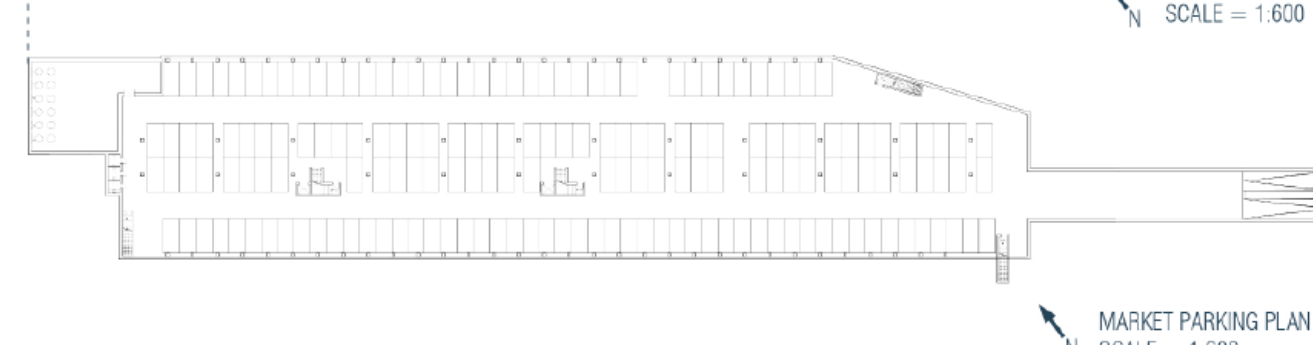
SITE AXONOMETRIC SCALE = 1:600



SITE PLAN SCALE = 1:600



RESIDENTIAL PARKING PLAN SCALE = 1:600



MARKET PARKING PLAN SCALE = 1:600

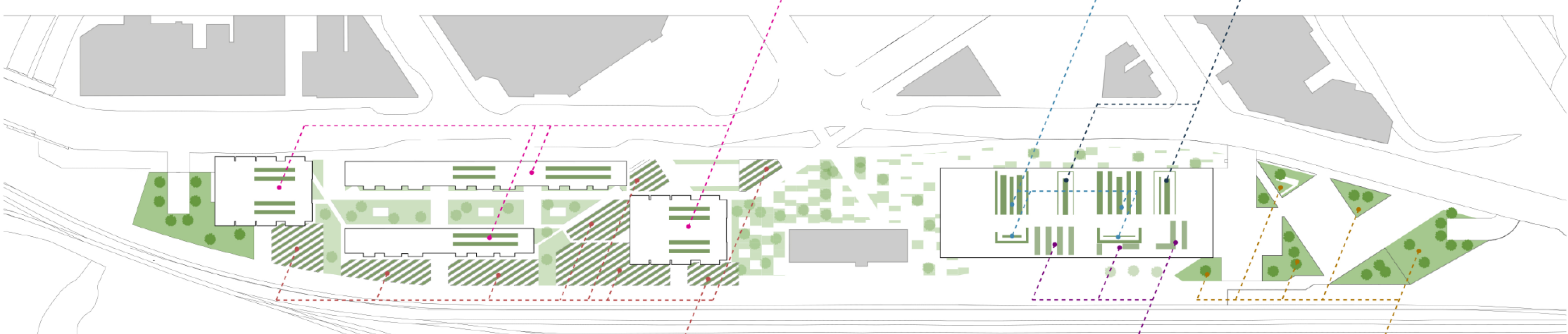


Remediation Plants:
 - Indian grass (helps to absorb biochemichals)
 - Sunflowers (helps absorb heavy metals in soil)
 - Red clover (helps absorb heavy metals in soil)

Interior Residential Farm Spaces:
 - for seniors only
 - cool season crops: lettuce, broccoli, peas, carrots (can grow well in shade and withstand cold)
 - warm season crops: cucumbers, tomatoes, peppers, zucchini
 - 321m²

Typical Interior Farming Plots:
 - potatoes, carrots, gourds, etc.
 - sold to the market local grocery stores and the Samaritan Centre
 - 302.3m²

Smaller Interior Farm Spaces:
 - flowers, herbs, mushrooms
 - sold to make a profitable economic system
 - 99m²

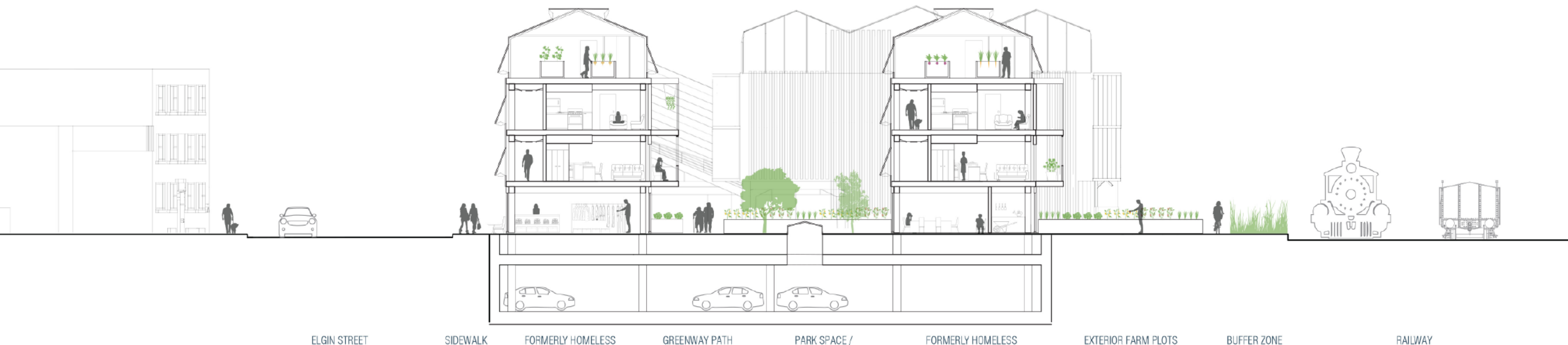


PLANTING PLAN SCALE = 1:600

Exterior Farming Plots:
 - for tenants only
 - summer: tomatoes, carrots, peppers
 - fall: squash, lettuce, broccoli, snowpeas
 - spring: cucumbers, squash, melons
 - on concrete pad
 - 500m²

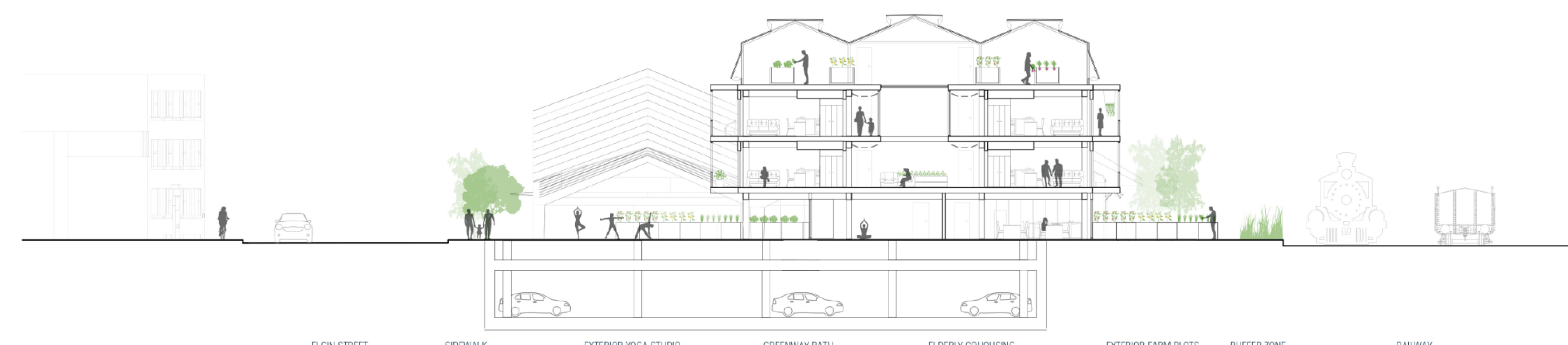
Rentable Interior Farm Spaces:
 - affordable solution to growing your own food in the city
 - any type of veggie would like to grow
 - 162m²

Exterior Park Planters:
 - sustained by tenants acting as employees
 - peas, cherry plums, peach and apple trees, blueberry bushes on underground concrete pad
 - 1163.27m²



ELGIN STREET SIDEWALK FORMERLY HOMELESS BUILDING A GREENWAY PATH PARK SPACE / UNDERGROUND PARKING FORMERLY HOMELESS BUILDING B EXTERIOR FARM PLOTS BUFFER ZONE RAILWAY

FORMERLY HOMELESS BUILDING SECTION
SCALE = 1:100

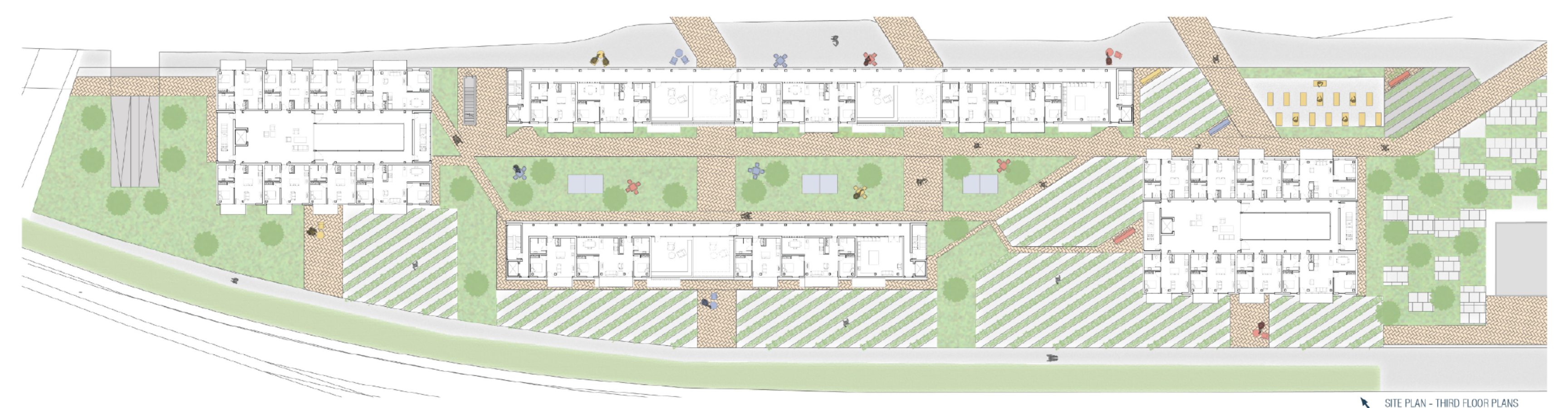


ELGIN STREET SIDEWALK EXTERIOR YOGA STUDIO SPACE GREENWAY PATH ELDERLY COHOUSING BUILDING EXTERIOR FARM PLOTS BUFFER ZONE RAILWAY

ELDERLY COHOUSING BUILDING SECTION
SCALE = 1:100



SITE PLAN - FOURTH FLOOR PLANS
SCALE = 1:300



SITE PLAN - THIRD FLOOR PLANS
SCALE = 1:300



SITE PLAN - SECOND FLOOR PLANS
SCALE = 1:300



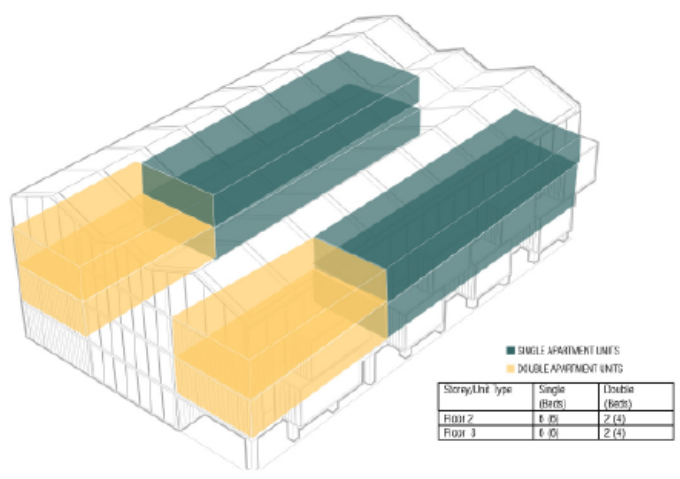
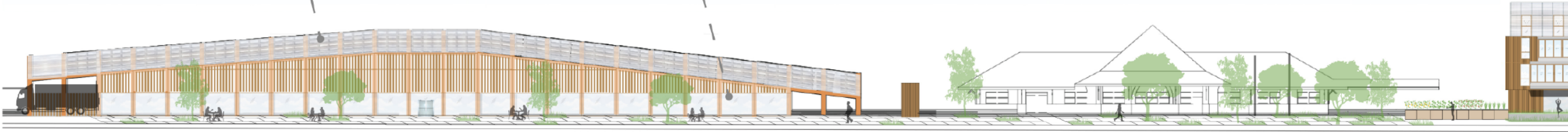
SITE PLAN - FIRST FLOOR PLANS
SCALE = 1:300



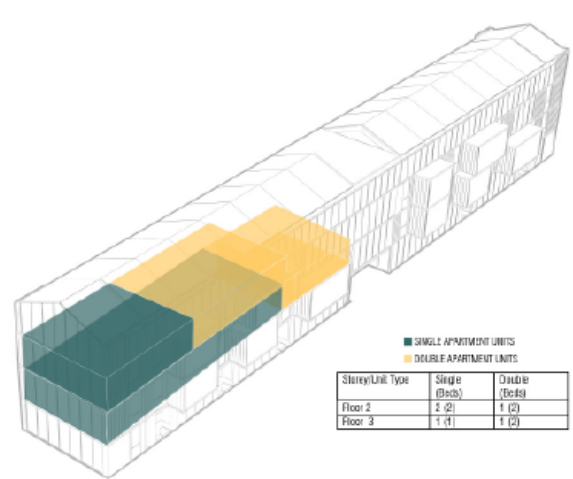
- Polycarbonate glass roof allows for diffused lighting while still being lit at an adequate level
- Much cheaper and stronger than glass
- Bolted to secondary steel structure



- All windows on the first floor allow for a clear visual connection between the interior and exterior for visitors
- Continuous connection with connection to streetscape of Elgin Street



UNIT DISTRIBUTION - ELDERLY COHOUSING BUILDING



UNIT DISTRIBUTION - FORMERLY HOMELESS BUILDING



TWO BEDROOM UNIT
SCALE = 1:50



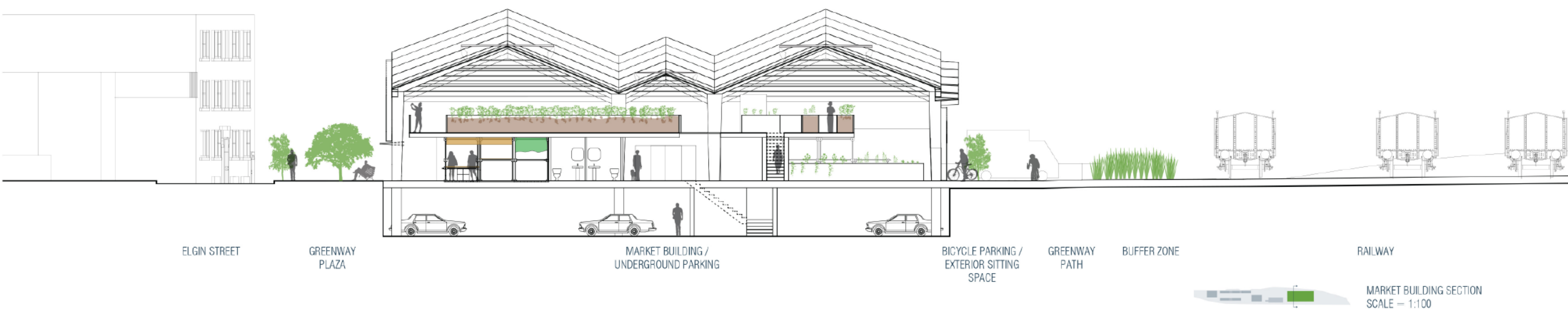
ONE BEDROOM UNIT
SCALE = 1:50



MARKET MEZZANINE PERSPECTIVE

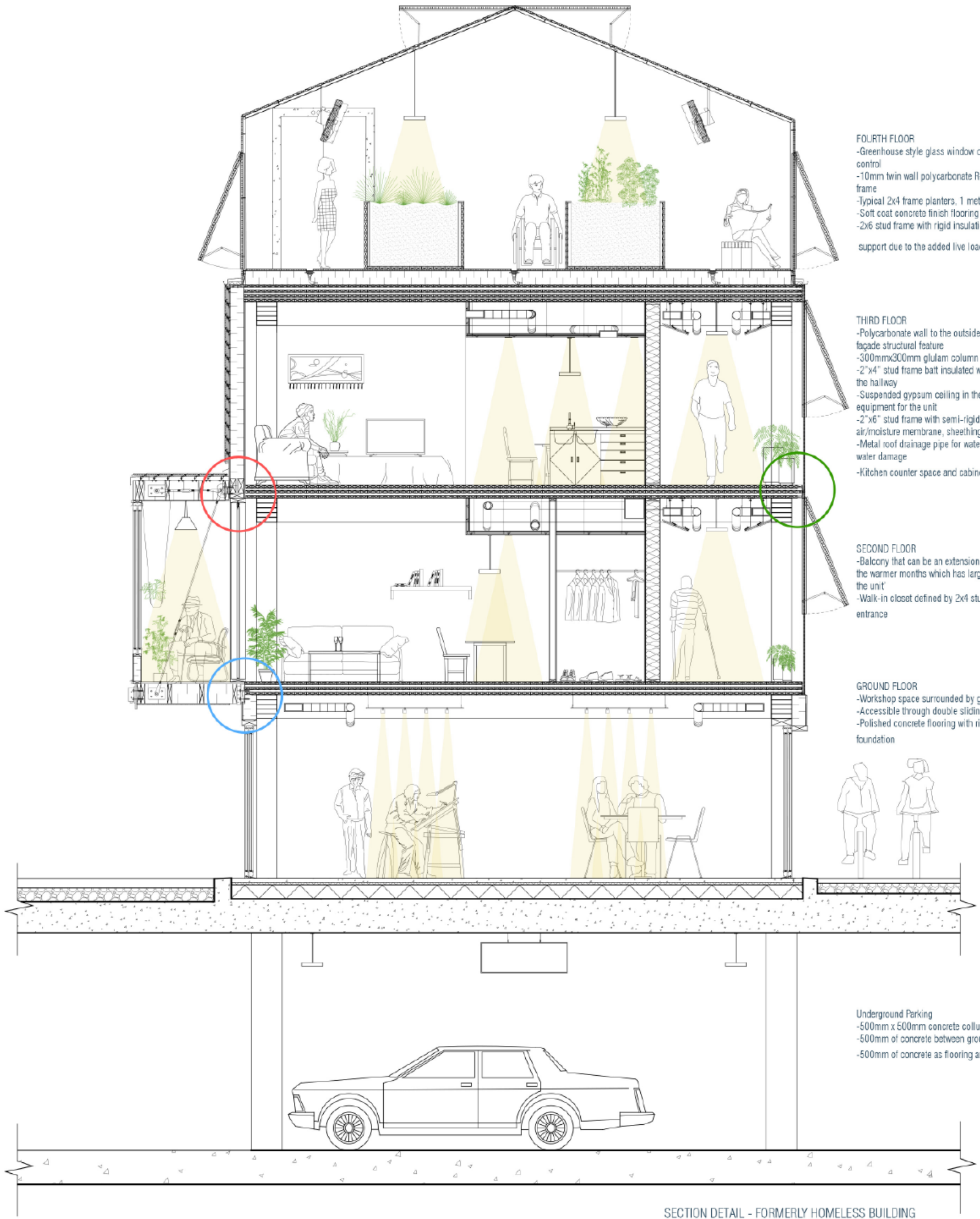


MARKET GROUND FLOOR PERSPECTIVE

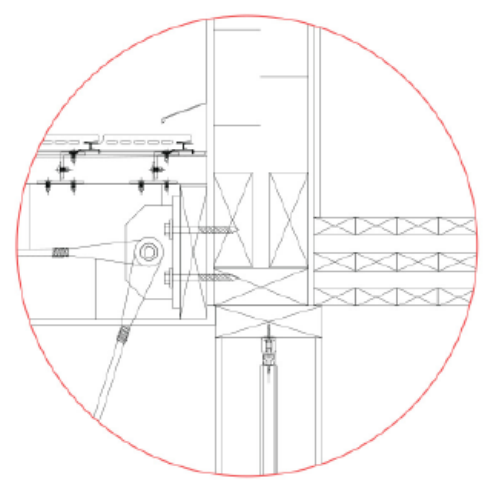
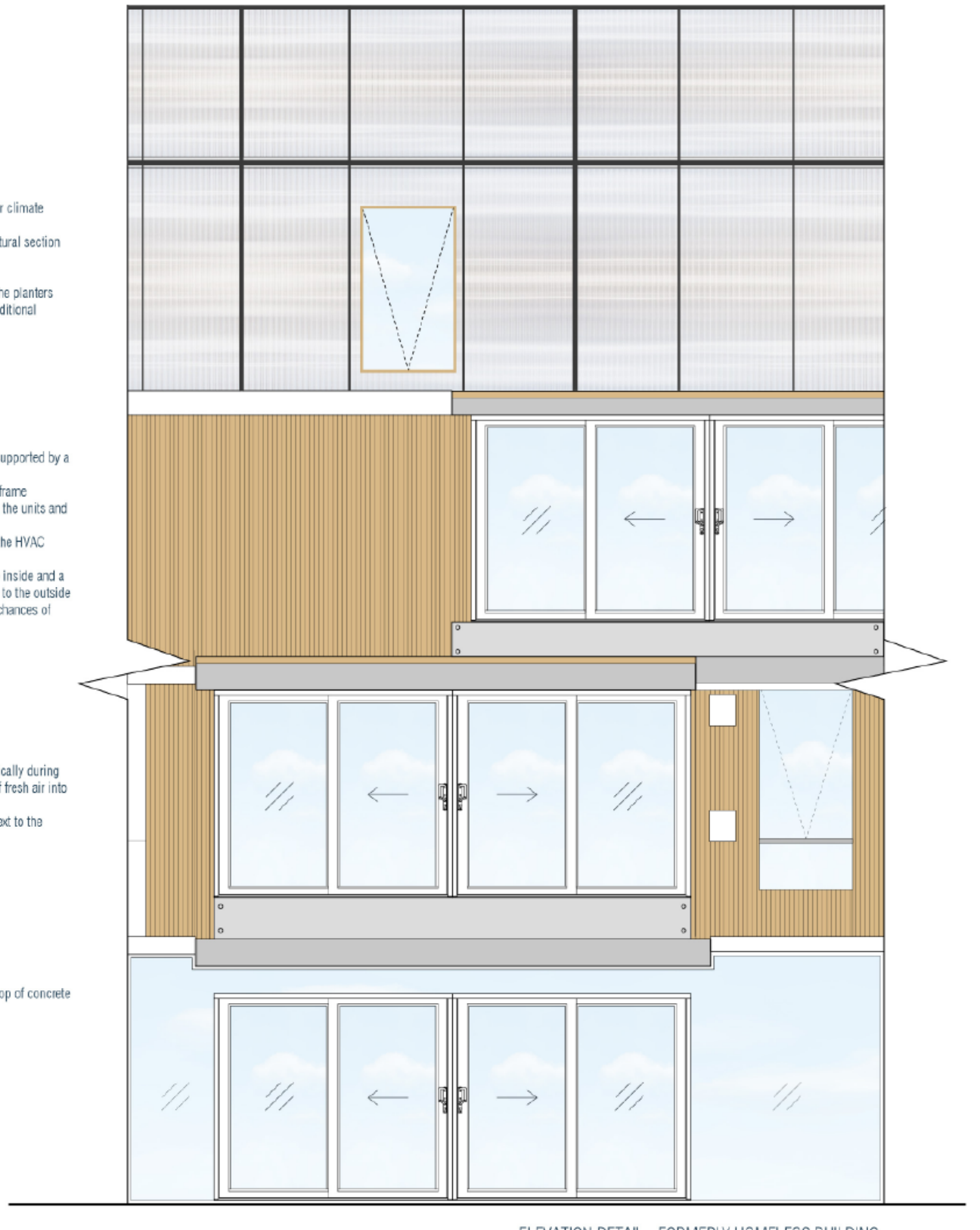




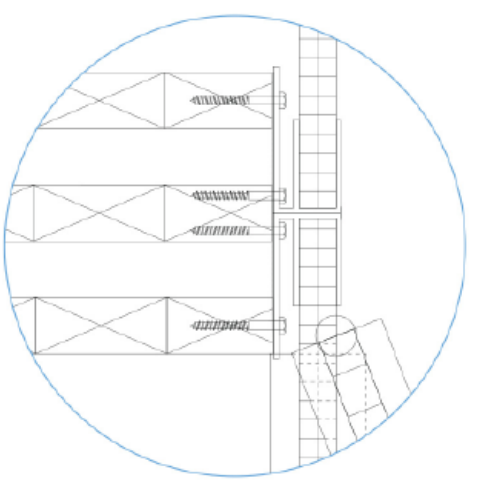
SITE ELEVATION SCALE = 1:200



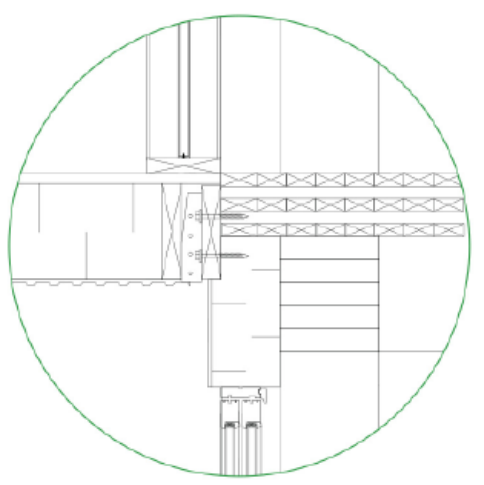
SECTION DETAIL - FORMERLY HOMELESS BUILDING SCALE = 1:25



DETAIL 1 SCALE = 1:10



DETAIL 2 SCALE = 1:5



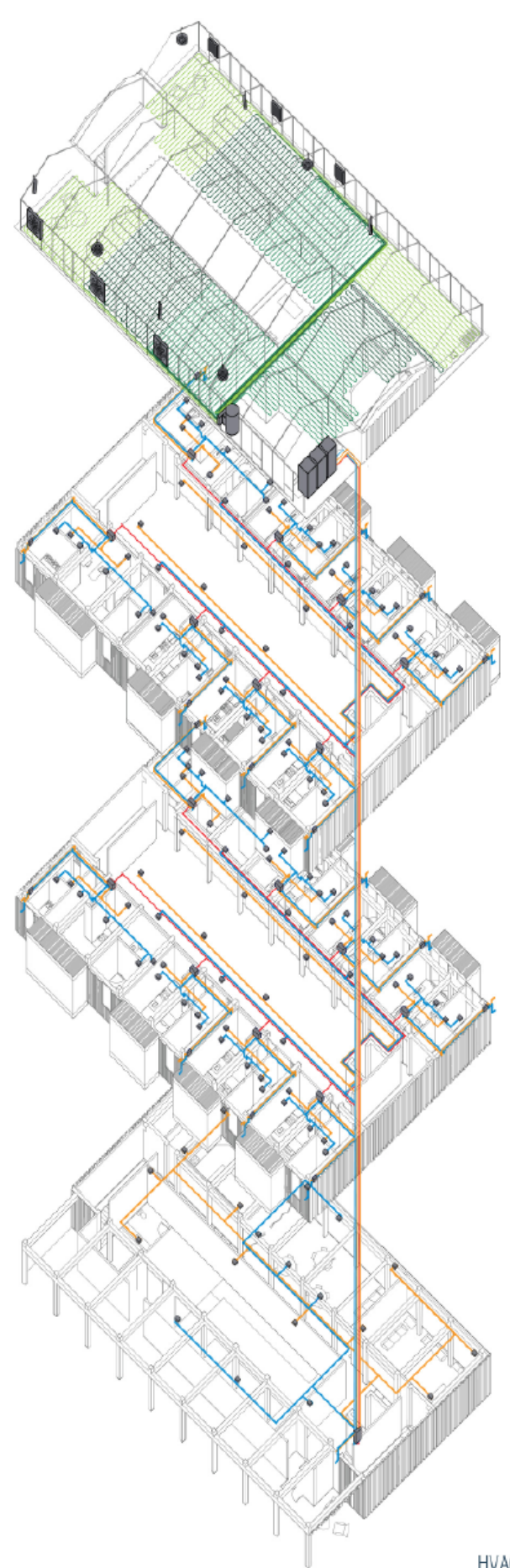
DETAIL 3 SCALE = 1:15

- COMPONENTS**
- 2x6 Stud Frame with Semi-Rigid Insulation
 - Gypsum Board
 - 5 Ply CLT Floor Plate
 - Terracotta Baguettes With Slotting Bracket System
 - Flashing
 - Air/Moisture Membrane
 - Structural Metal Mounting Bracket
 - Structural Tension Rods

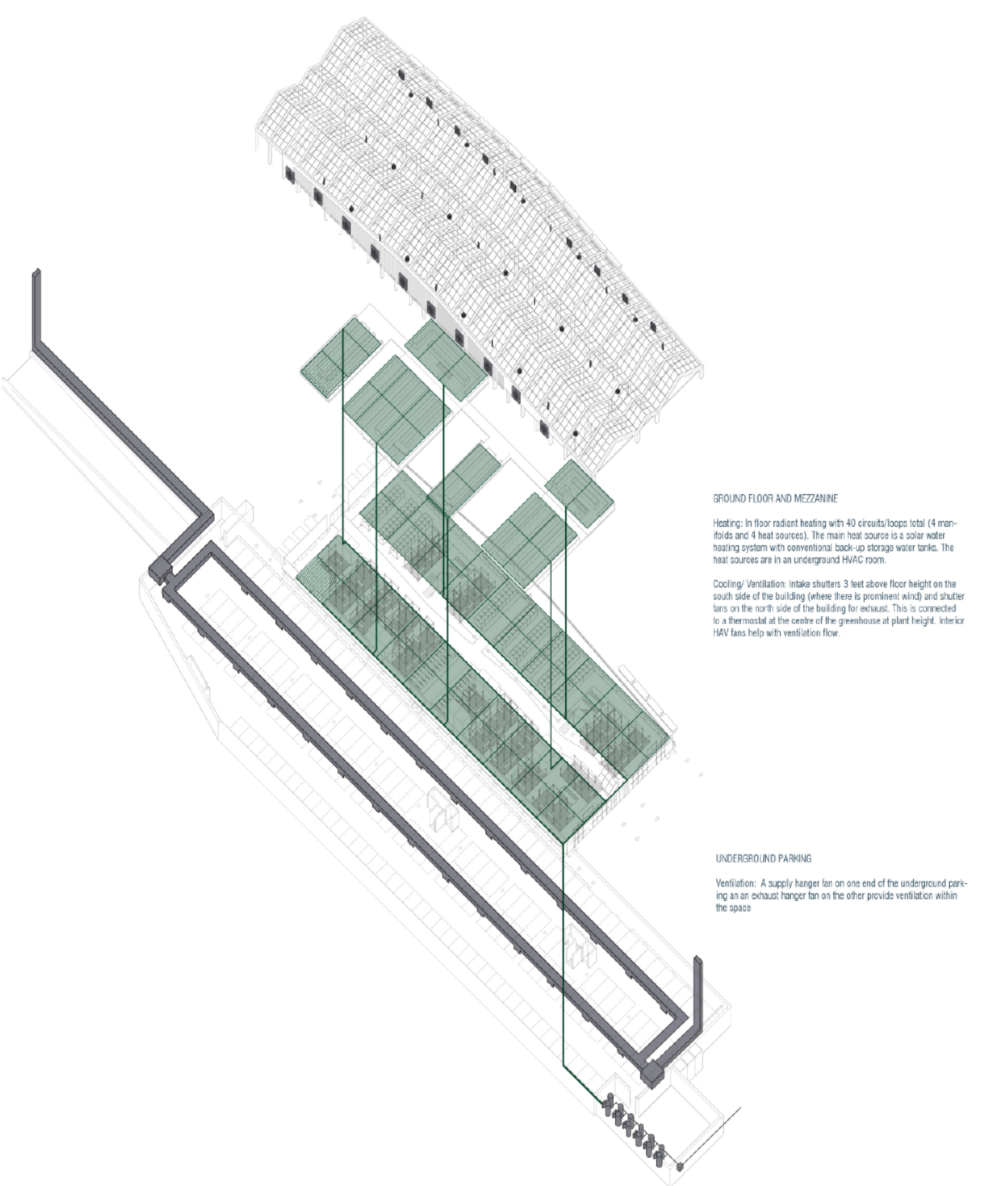
- COMPONENTS**
- 5 Ply CLT Floor Plate
 - Polycarbonate Metal Mounting Bracket
 - 10mm Twin Wall Polycarbonate R-1.89
 - Silicone
 - Awning Window Assembly

- COMPONENTS**
- Accordion Style Door
 - Rubber Sheet Flooring
 - 4"x6" Stud Frame With Rigid Insulation
 - Metal Soffit
 - Structural Metal Mounting Bracket
 - 5 Ply CLT Floor Plate
 - 300mmx300mm Glulam Column
 - 350mmx300 Glulam Beam
 - Sliding Door

HVAC

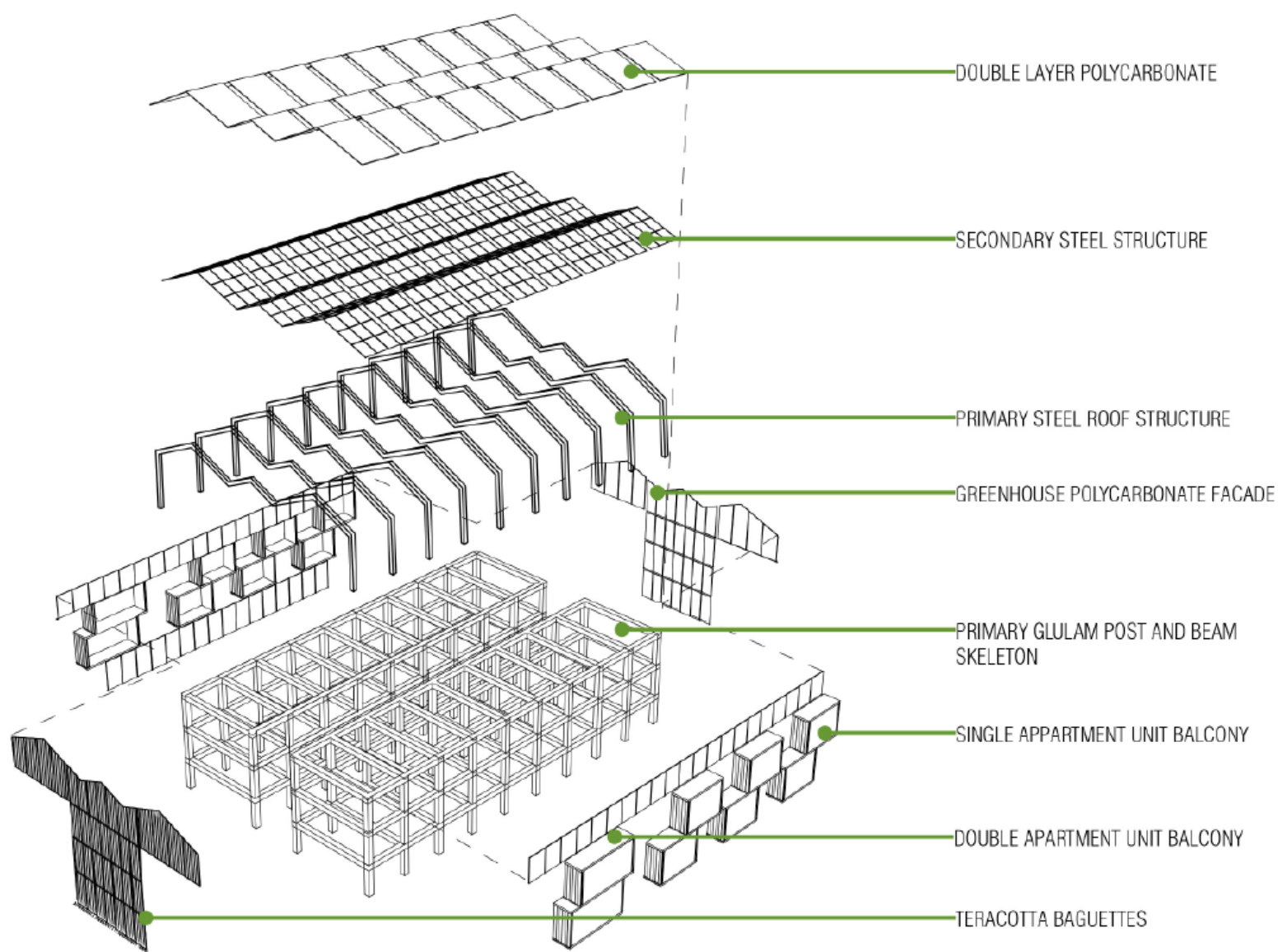


HVAC AXONOMETRIC - ELDERLY COHOUSING BUILDING

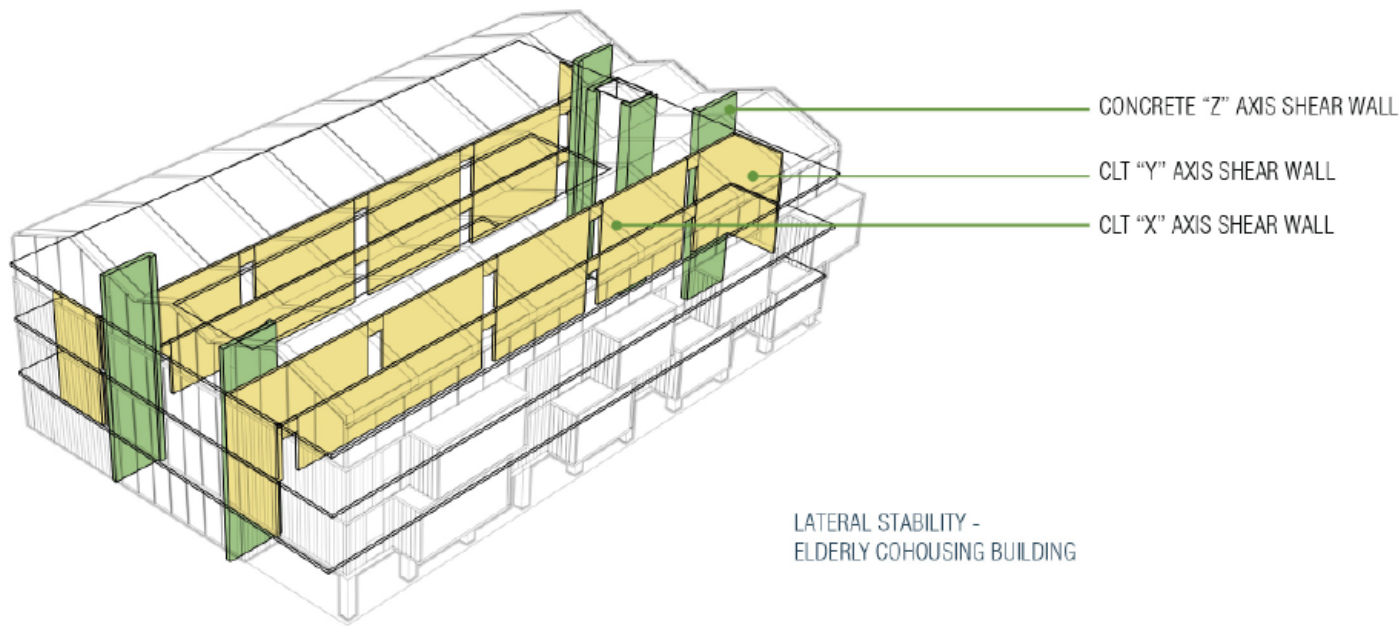


HVAC AXONOMETRIC - MARKET BUILDING AND MARKET PARKING

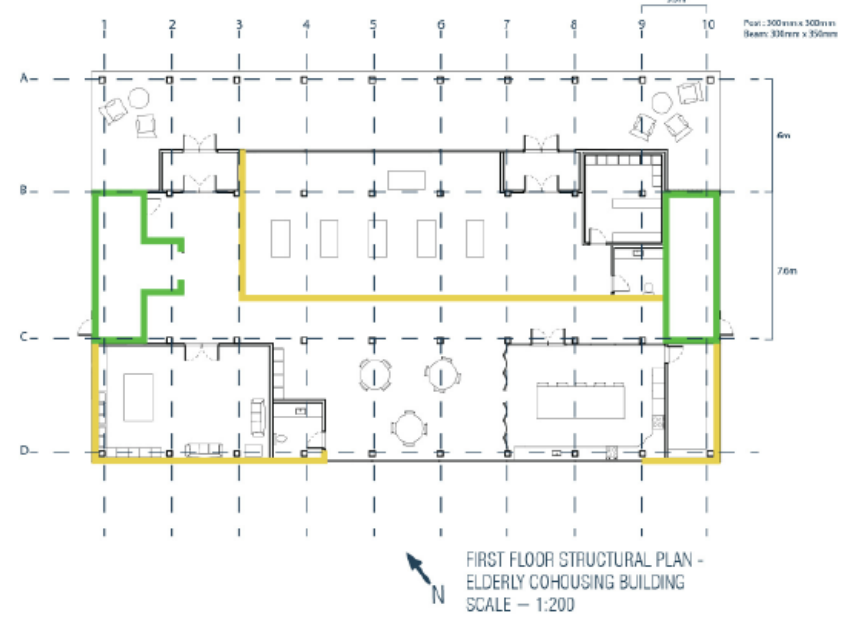
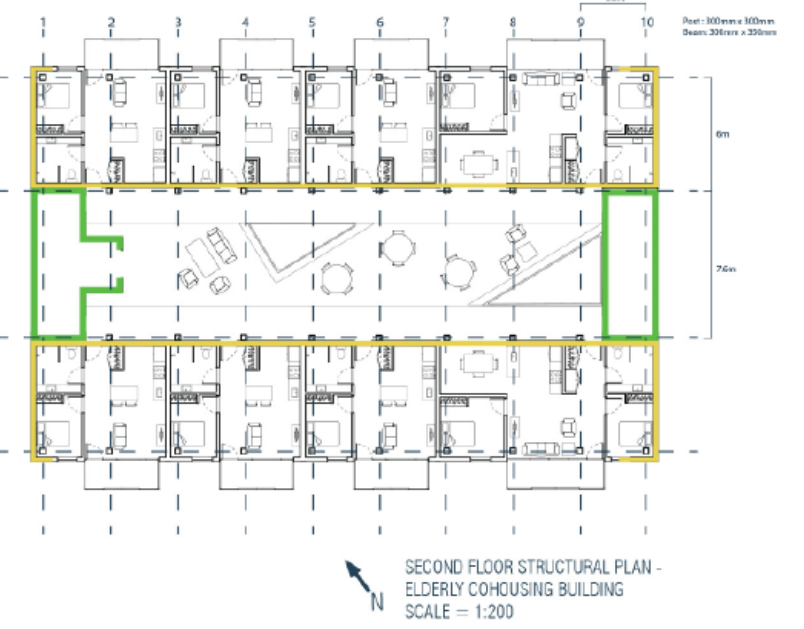
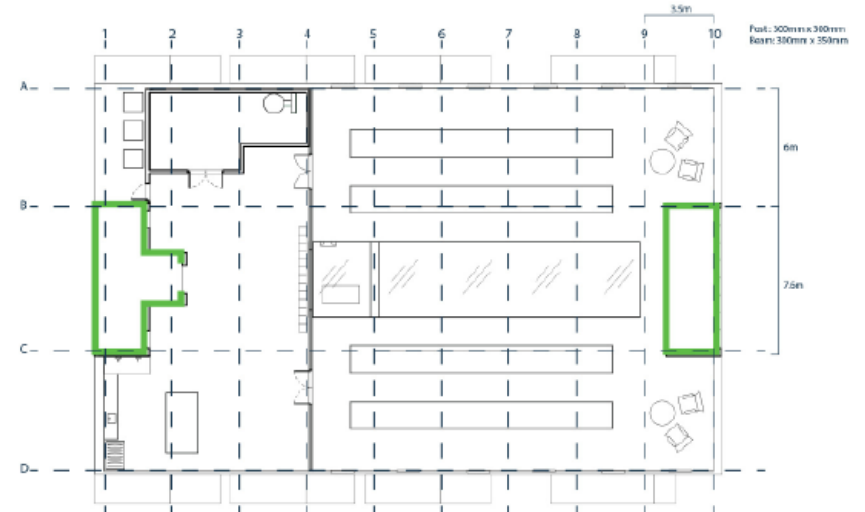
TYPICAL RESIDENTIAL STRUCTURE



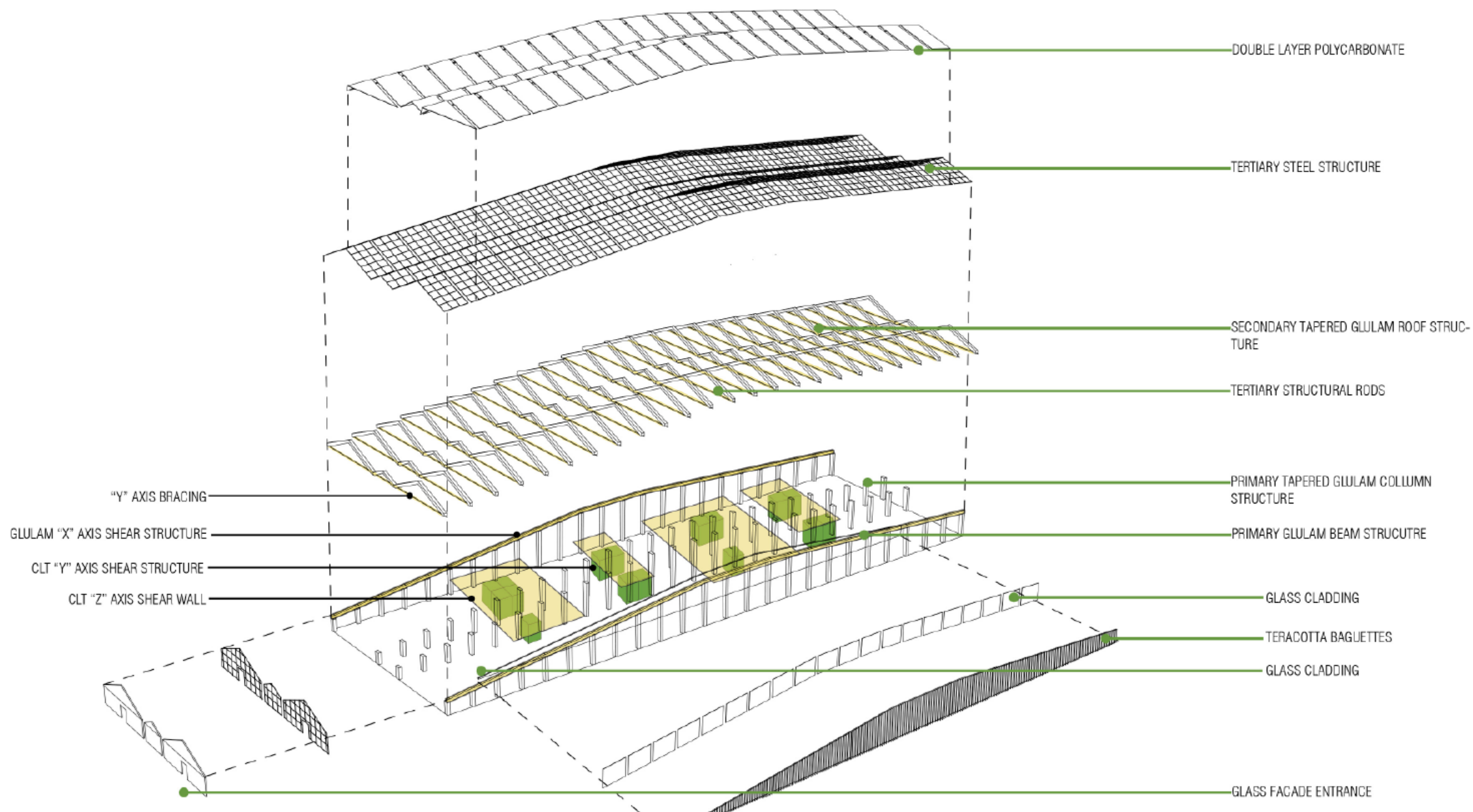
EXPLODED STRUCTURAL AXONOMETRIC - ELDERLY COHOUSING BUILDING



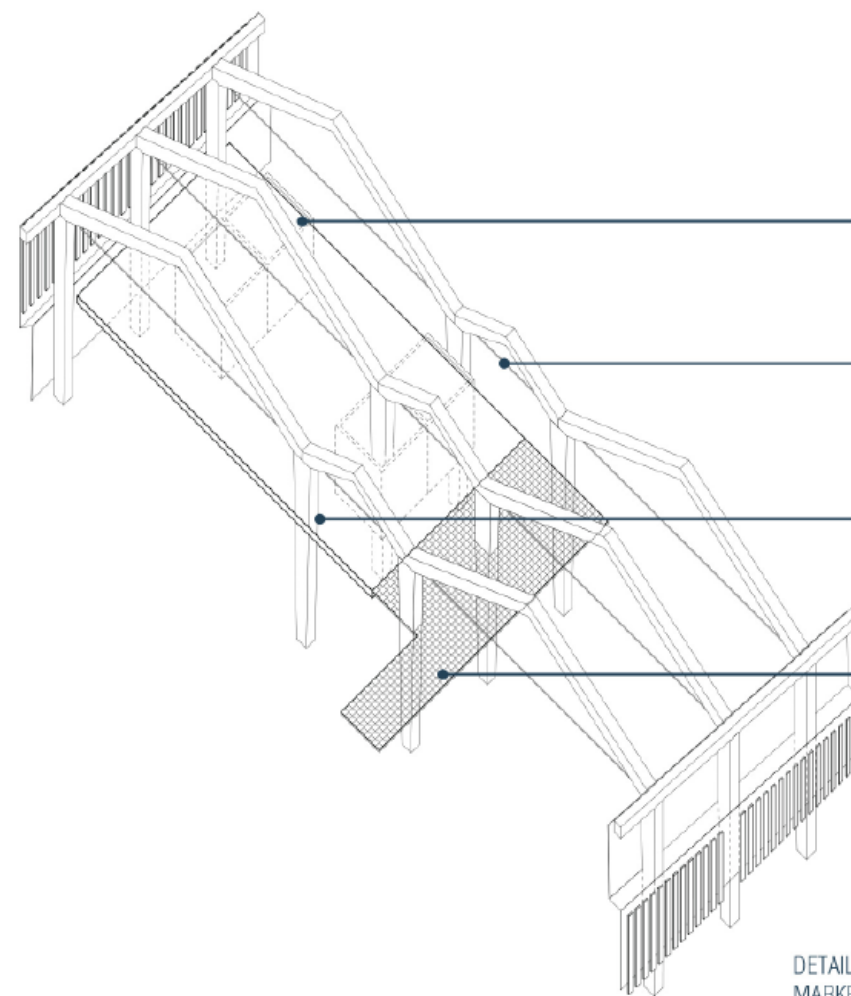
LATERAL STABILITY - ELDERLY COHOUSING BUILDING



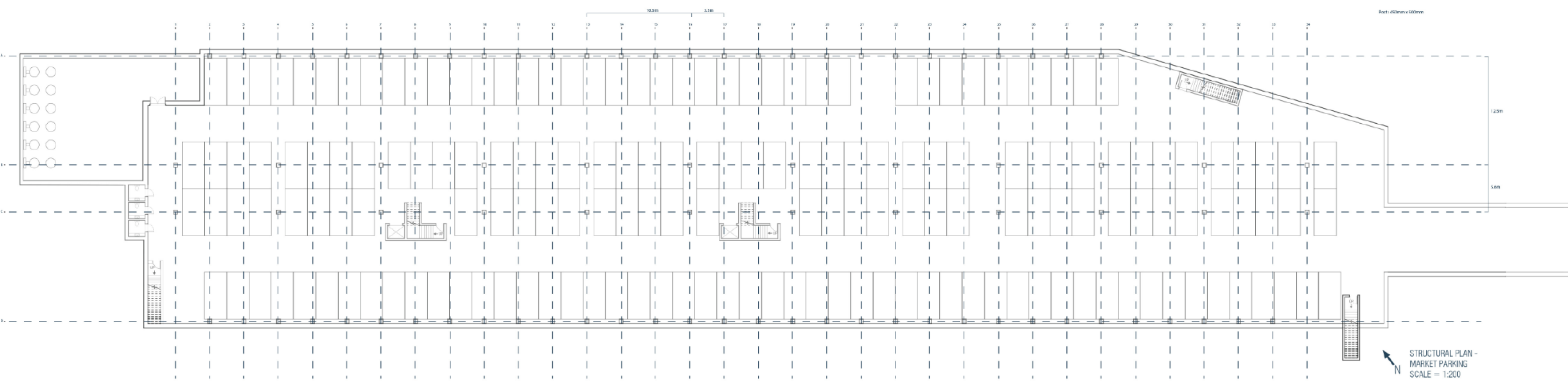
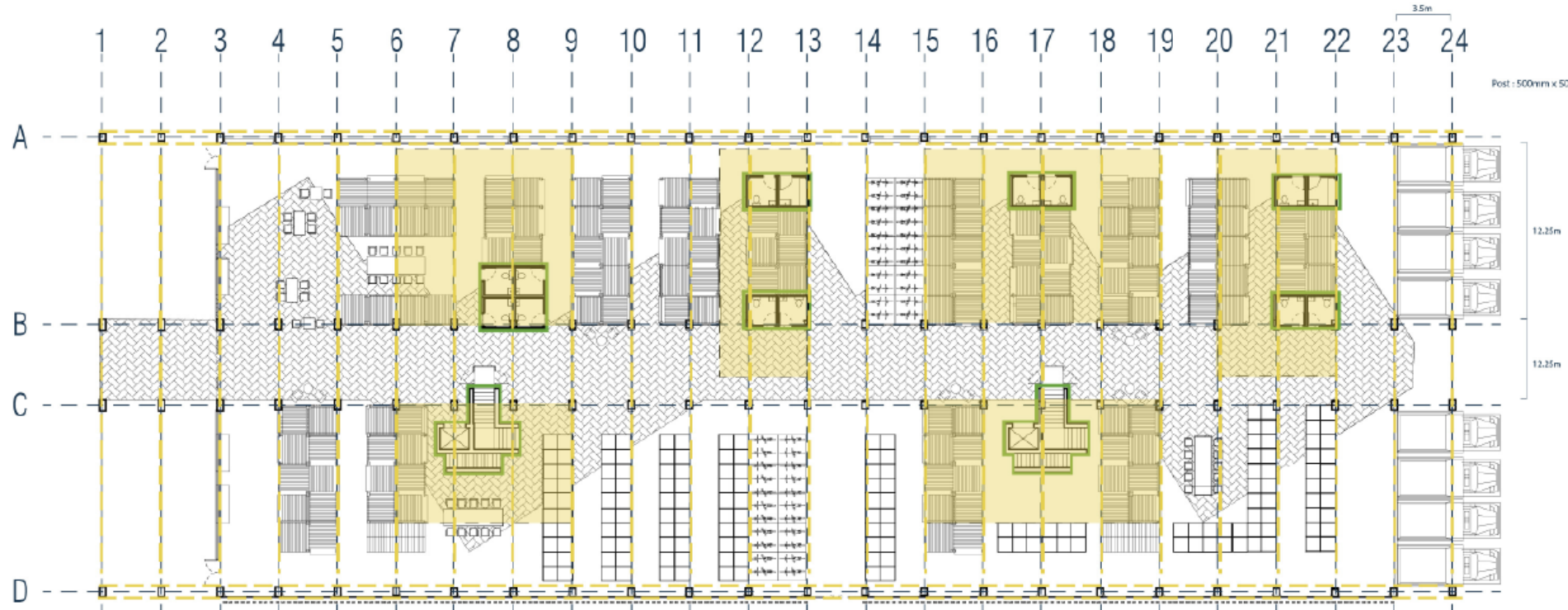
MARKET STRUCTURE

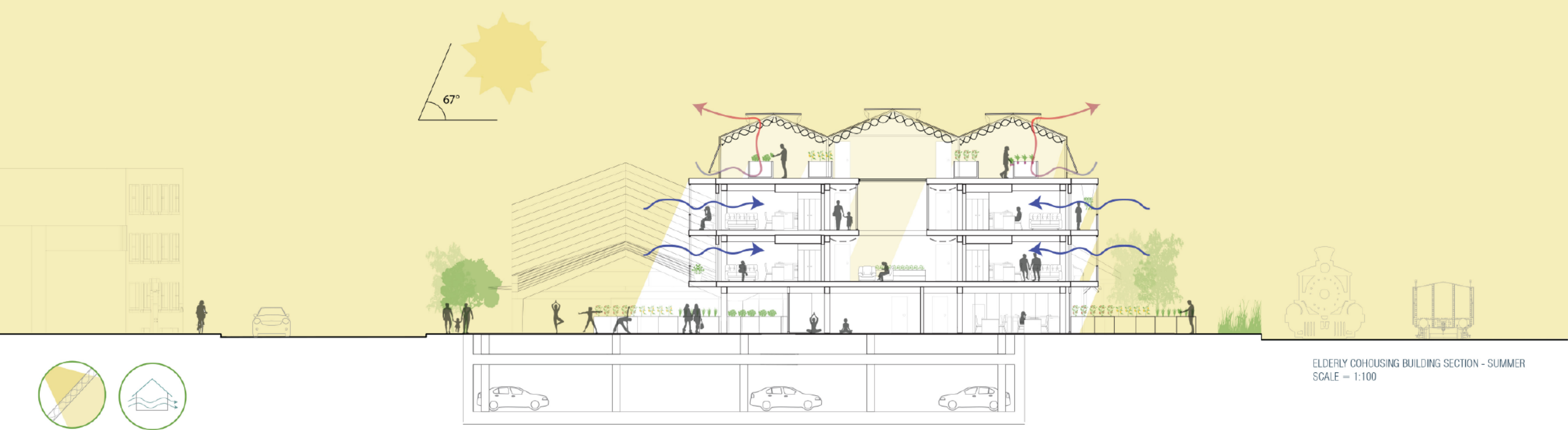


EXPLODED STRUCTURAL AXONOMETRIC - MARKET BUILDING

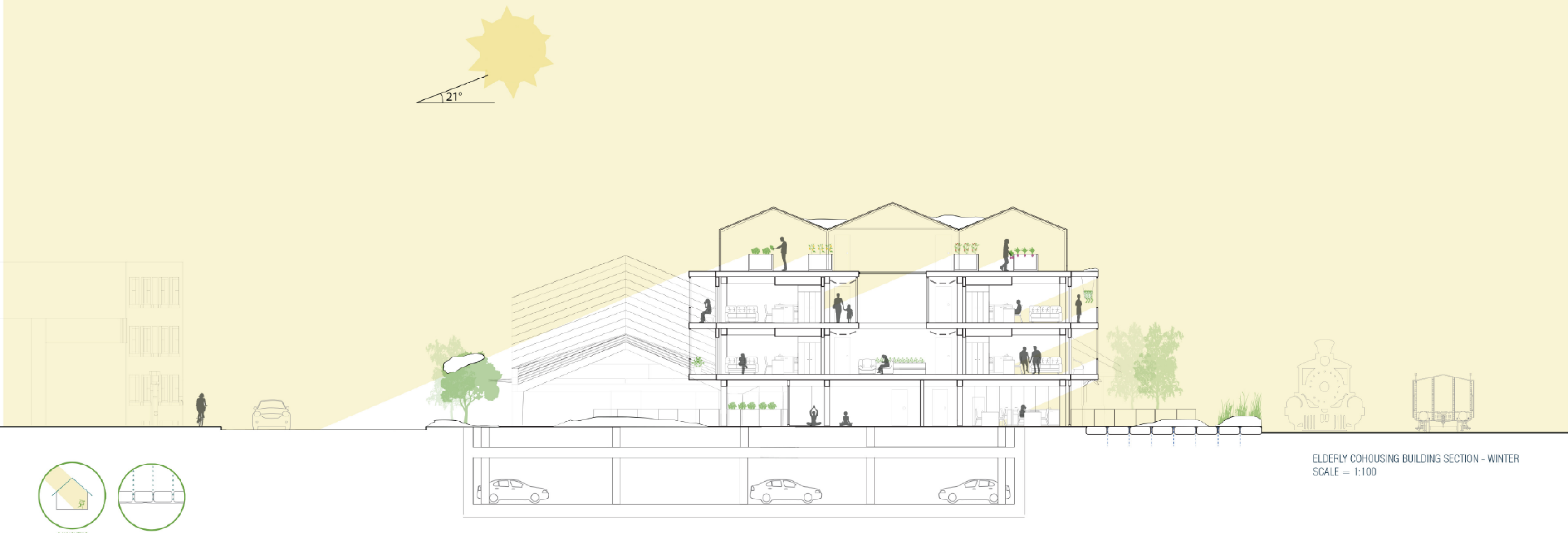
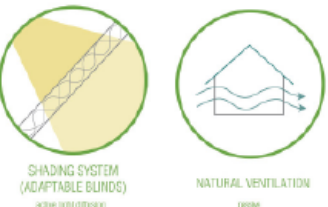


DETAILED STRUCTURAL AXONOMETRIC - MARKET BUILDING

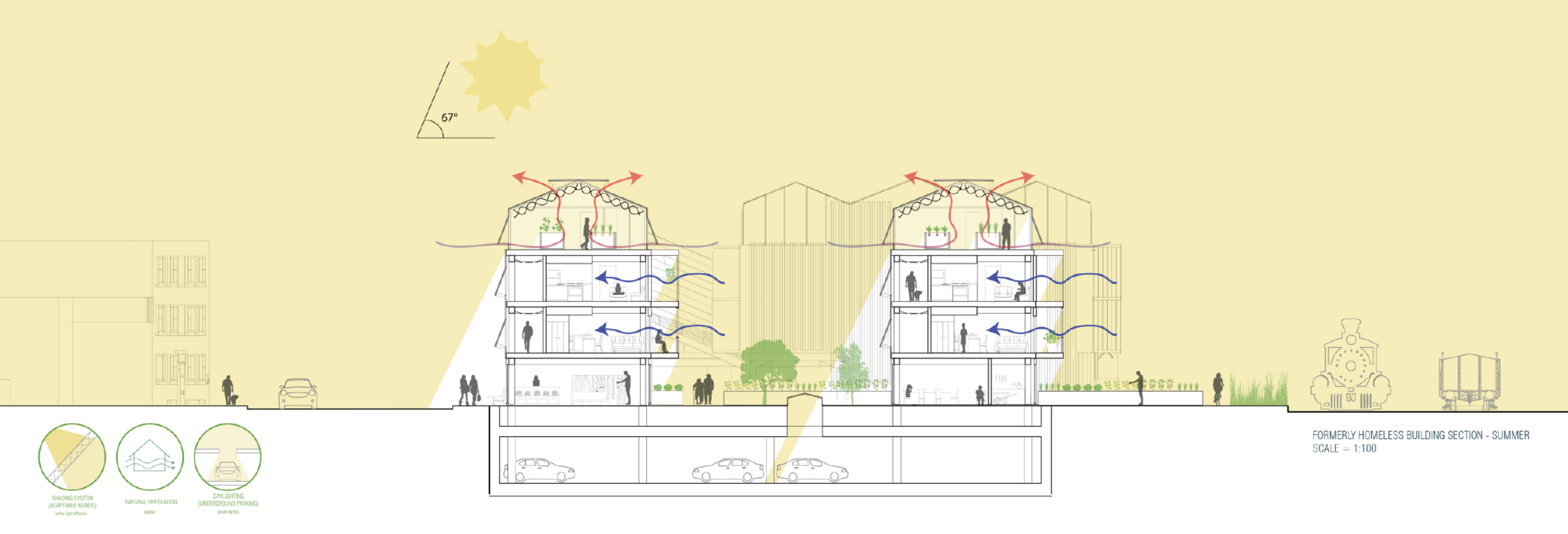
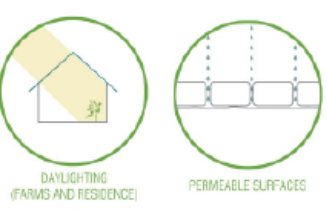




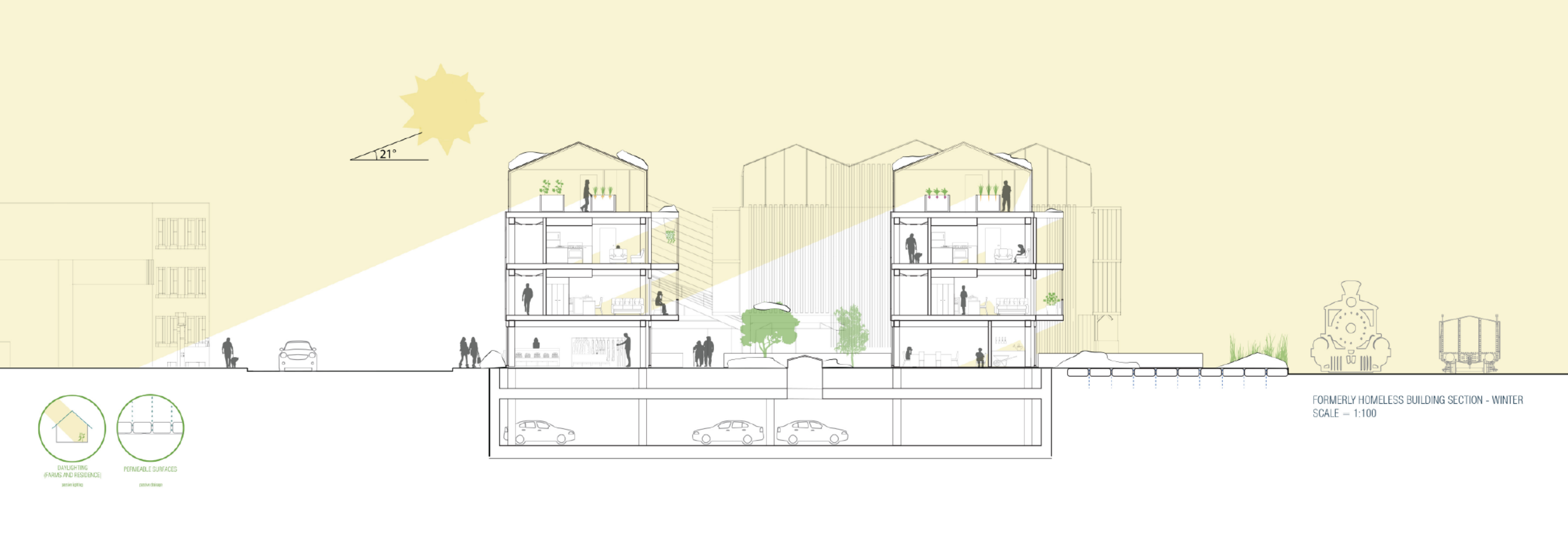
ELDERLY COHOUSING BUILDING SECTION - SUMMER
SCALE = 1:100



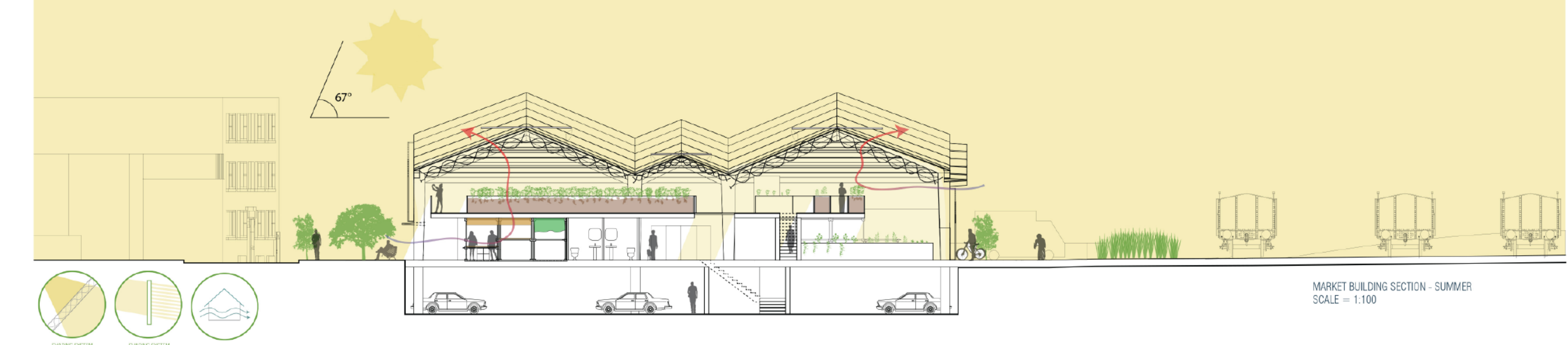
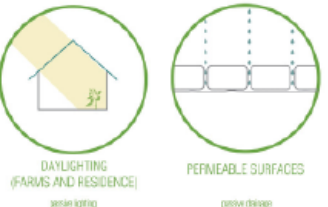
ELDERLY COHOUSING BUILDING SECTION - WINTER
SCALE = 1:100



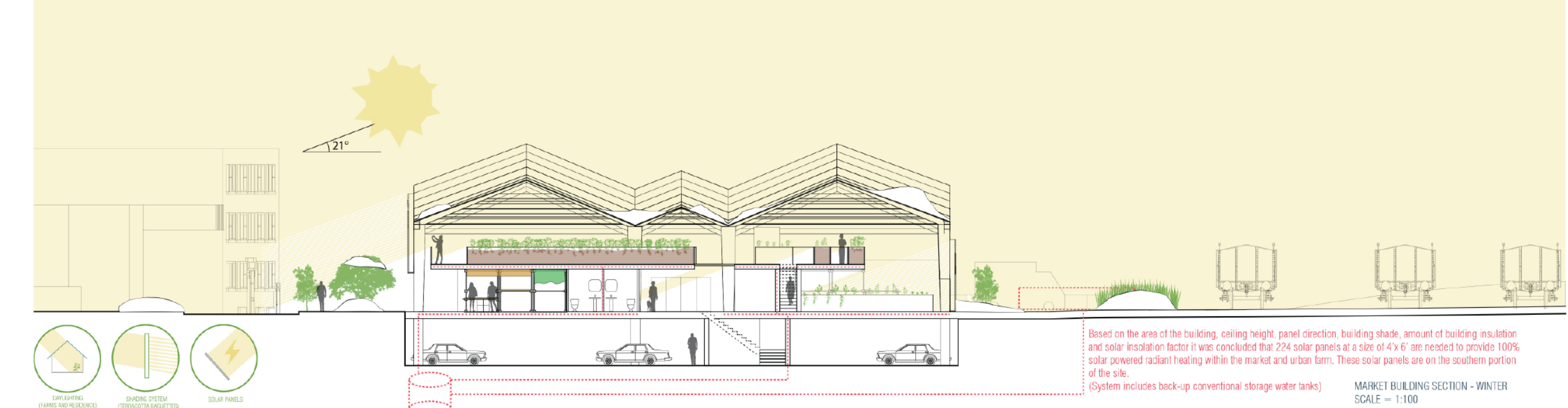
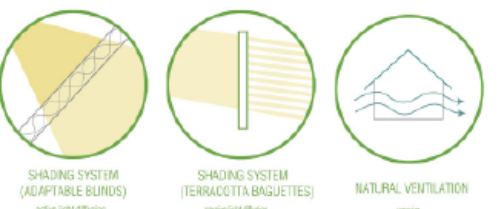
FORMERLY HOMELESS BUILDING SECTION - SUMMER
SCALE = 1:100



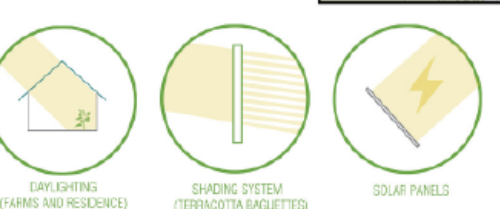
FORMERLY HOMELESS BUILDING SECTION - WINTER
SCALE = 1:100



MARKET BUILDING SECTION - SUMMER
SCALE = 1:100



MARKET BUILDING SECTION - WINTER
SCALE = 1:100

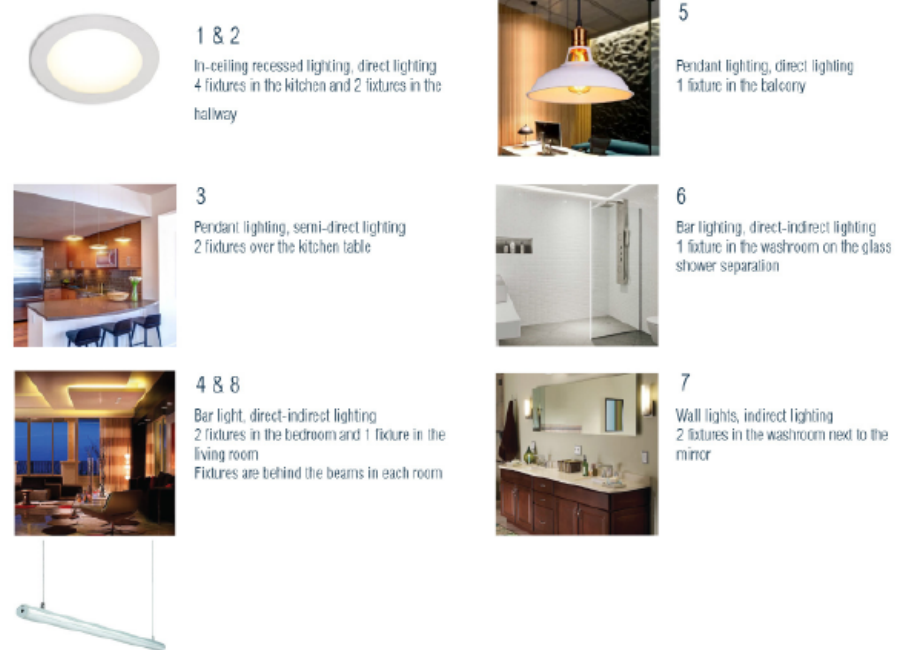
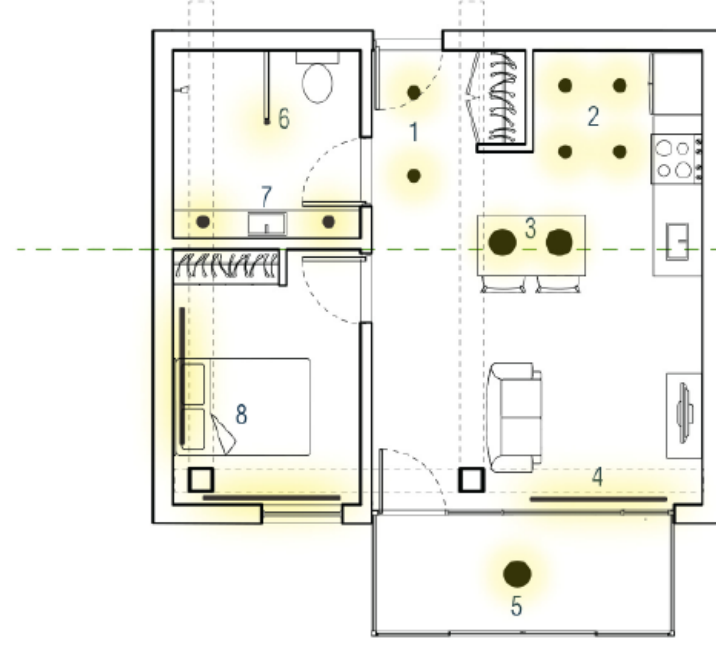
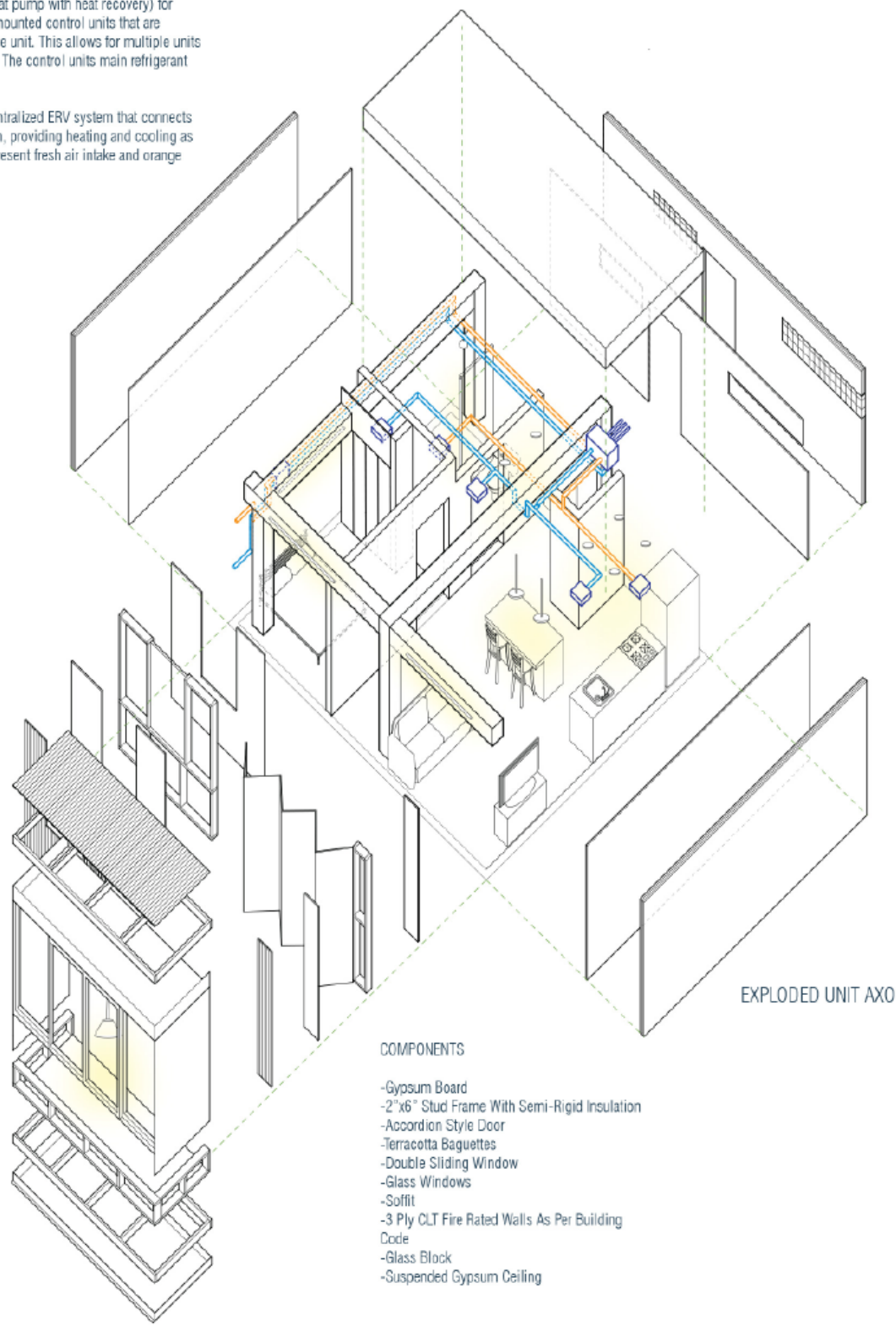


Based on the area of the building, ceiling height, panel direction, building shade, amount of building insulation and solar insolation factor it was concluded that 224 solar panels at a size of 4' x 6' are needed to provide 100% solar powered radiant heating within the market and urban farm. These solar panels are on the southern portion of the site. (System includes back-up conventional storage water tanks)

HVAC

Heating/ Cooling: VRF-system (heat pump with heat recovery) for every unit with individual ceiling mounted control units that are ducted to different rooms within the unit. This allows for multiple units to heat and cool at the same time. The control units main refrigerant lines connect to a rooftop unit.

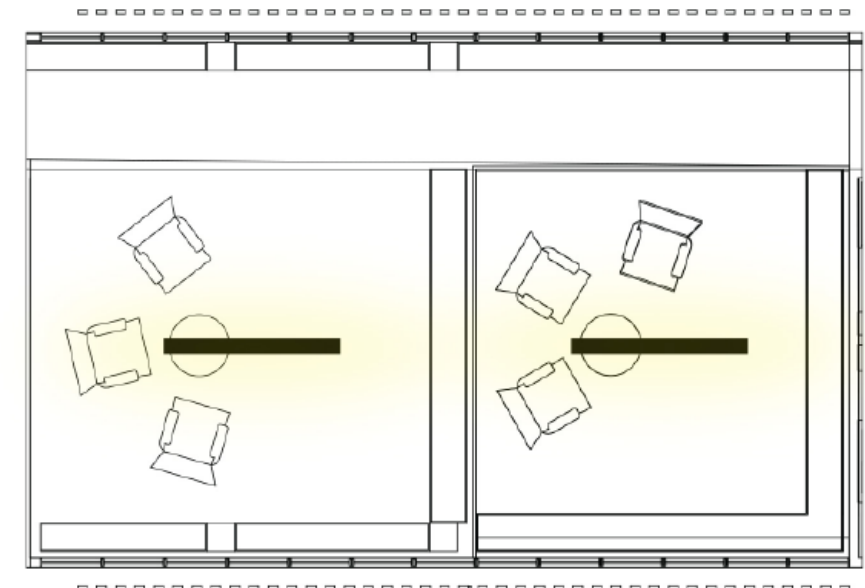
Ventilation: Every unit has a decentralized ERV system that connects to the duct work of the VRF system, providing heating and cooling as well as ventilation. Blue ducts represent fresh air intake and orange ducts represent exhaust.



UNIT LIGHTING PLAN SCALE = 1:50



COMMON SPACE LIGHTING SECTION SCALE = 1:50



COMMON SPACE LIGHTING PLAN SCALE = 1:50



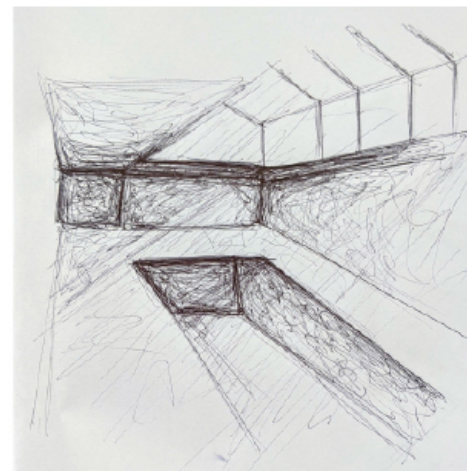
HALLWAY - ARTIFICIAL LIGHTING Greenhouse fixtures, direct lighting



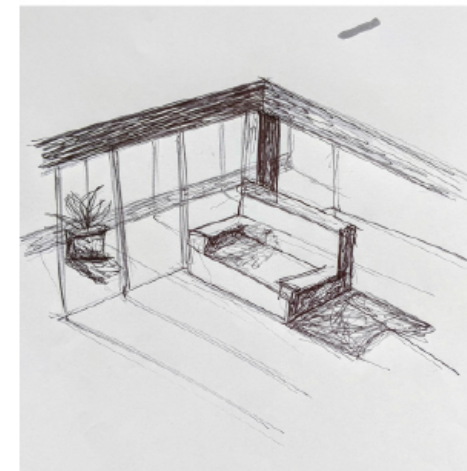
UNIT - ARTIFICIAL LIGHTING Pendant fixtures, semi-direct lighting



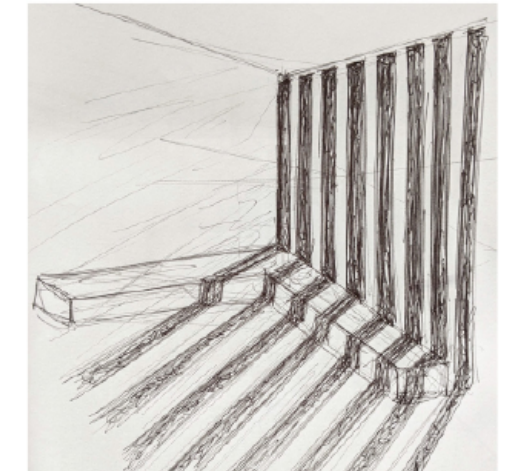
COMMON SPACE- ARTIFICIAL LIGHTING Greenhouse fixtures, direct lighting



COHOUSING ATRIUM - DAYLIGHTING Direct light into atrium space from the rooftop greenhouse



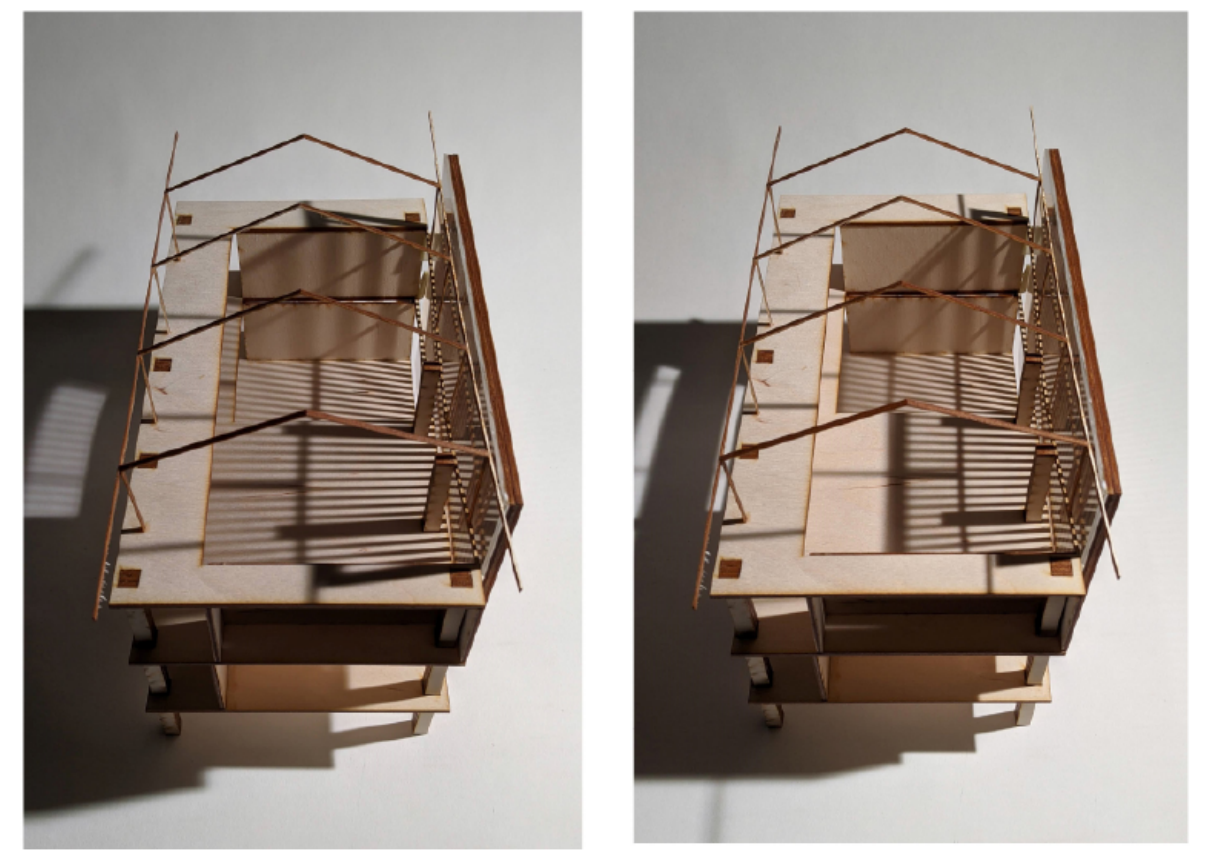
UNIT - DAYLIGHTING Direct light into unit the large accordion doors leading onto the balcony



COMMON SPACE - DAYLIGHTING Terracotta baguettes diffuse direct sunlight in the common space



COMMON SPACE DAYLIGHTING AMBIENCE



DAYLIGHT STUDY MODEL



DAYLIGHT STUDY MODEL



EXTERIOR RESIDENTIAL PERSPECTIVE