

· H O M E L E S S C I T Y ·

P5 PRESENTATION

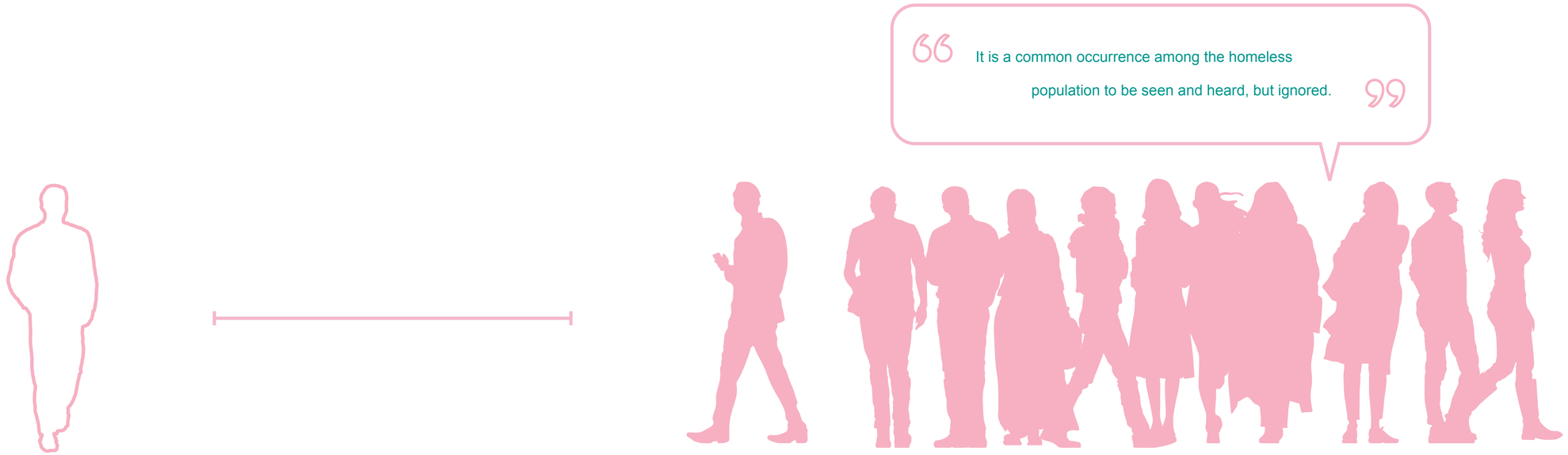
Edmund Thomas Green
5150043
6th July 2021

PROBLEM
HOMELESSNESS



https://centrepointorguk.azureedge.net/cache/c/a/9/9/0/5/ca9905a936ac36a1a0a6daf8e91c83b47251b2b2.jpg

PROBLEM
STIGMA / PREJUDICE



Tasha R. Rennels & David F. Purnell (2015, p. 490)

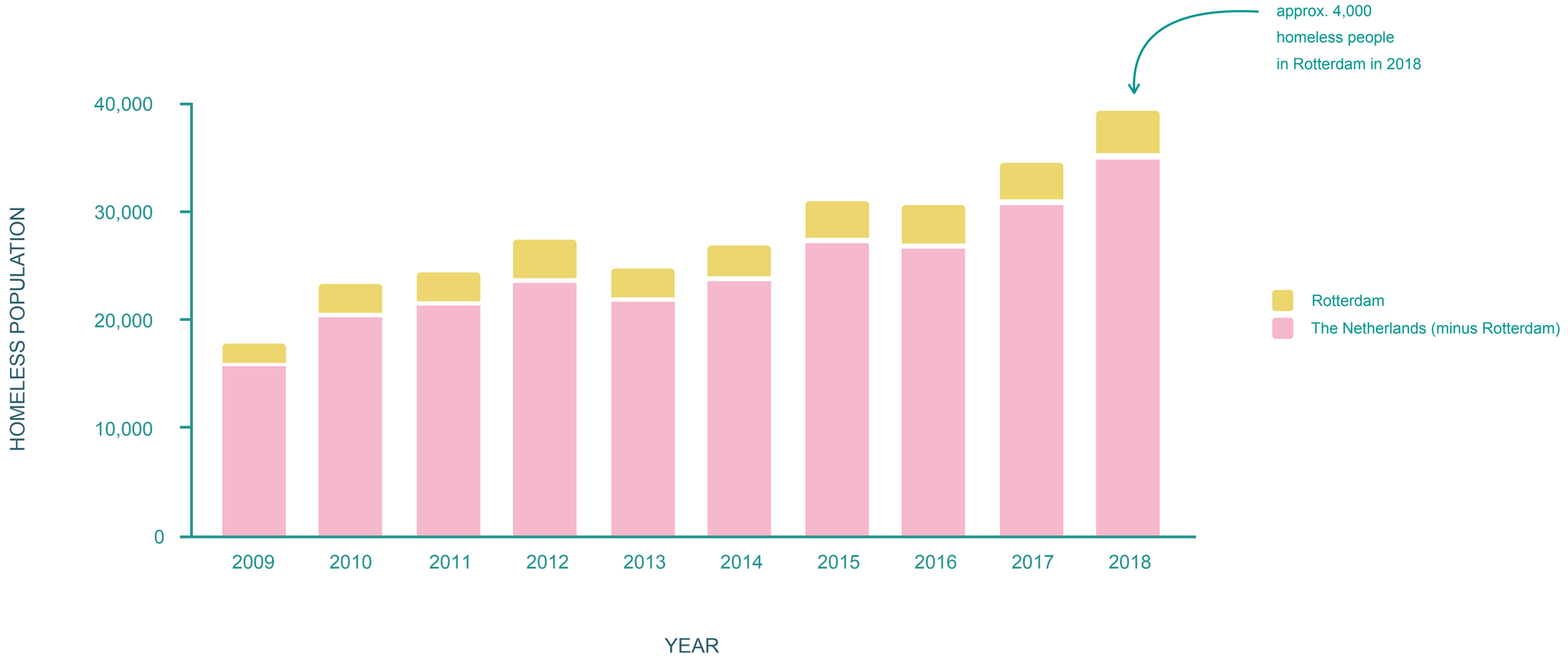
PROBLEM
INVISIBILITY





https://www.standard.co.uk/news/uk/hardhitting-posters-highlight-how-homeless-people-are-treated-as-invisible-a4086701.html

HOMELESSNESS STATISTICS



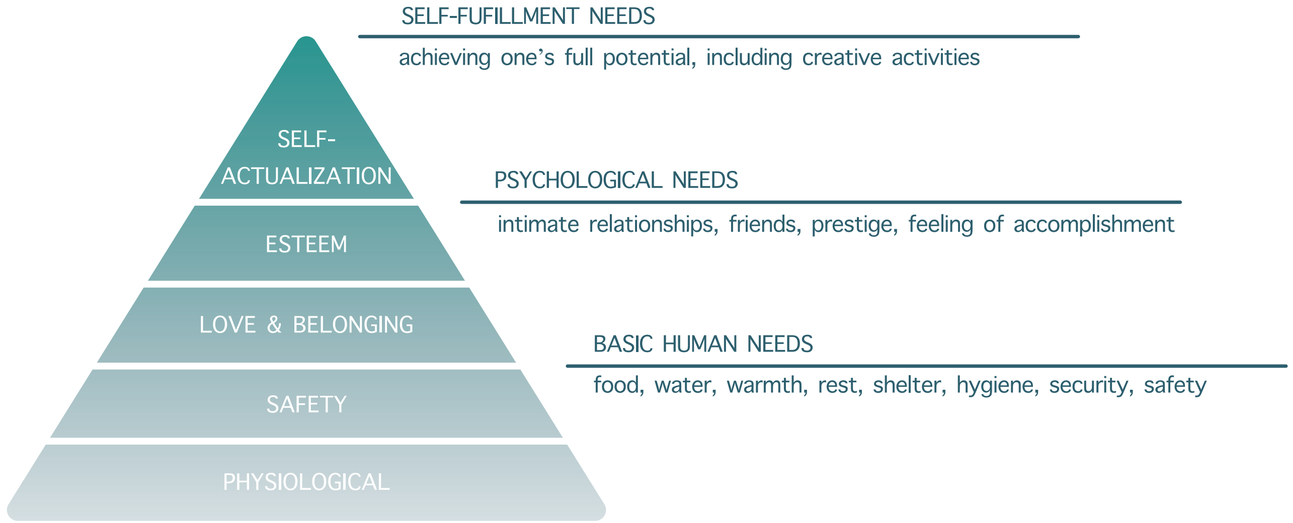
Data sourced from CBS, 2019

Month	Total Count	Structural basis (>2 months)	Maasilo Emergency Shelter Open?	Dutch Citizens		EU Migrants		Undocumented persons	
				#	%	#	%	#	%
January	134	41%	No	40	30%	84	63%	10	7%
February	163	36%	No	48	29%	103	63%	12	7%
March	164	N/A	No	43	26%	106	65%	15	9%
April	217	N/A	Yes	79	36%	119	55%	19	9%
May	224	N/A	Yes	96	43%	104	46%	24	11%
June	240	N/A	Yes	119	50%	102	43%	19	8%
July	137	N/A	No	29	21%	100	73%	8	6%
August	131	N/A	No	30	23%	95	73%	6	5%
September	146	N/A	No	34	23%	95	65%	17	12%
October	156	N/A	No	36	23%	98	63%	22	14%
November	261	N/A	Yes	79	30%	148	57%	34	13%

ROTTERDAM ROUGH SLEEPERS COUNT, 2020

Data provided by Ineke Bergsma

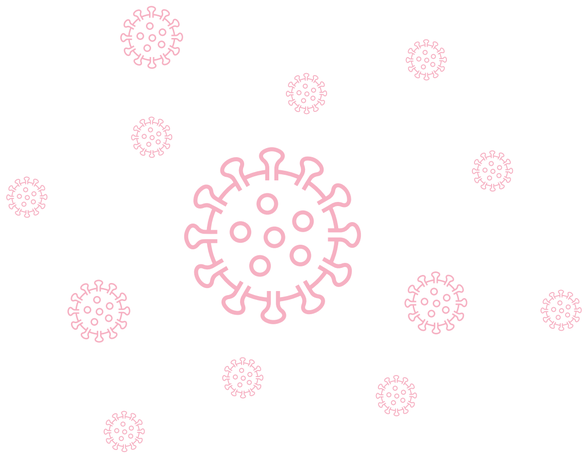
PROBLEM
HOMELESS NEEDS

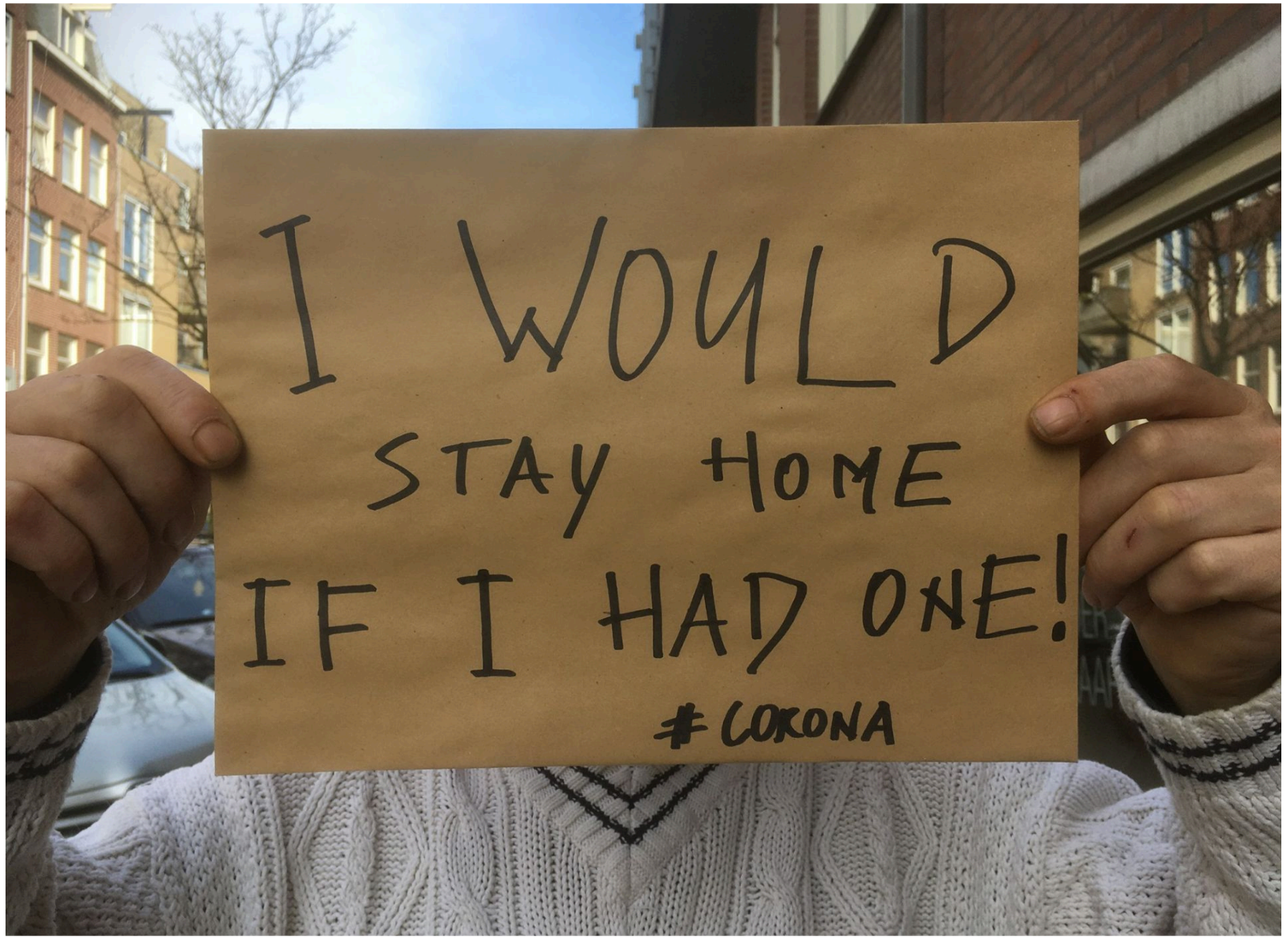


MASLOW'S HIERARCHY OF NEEDS

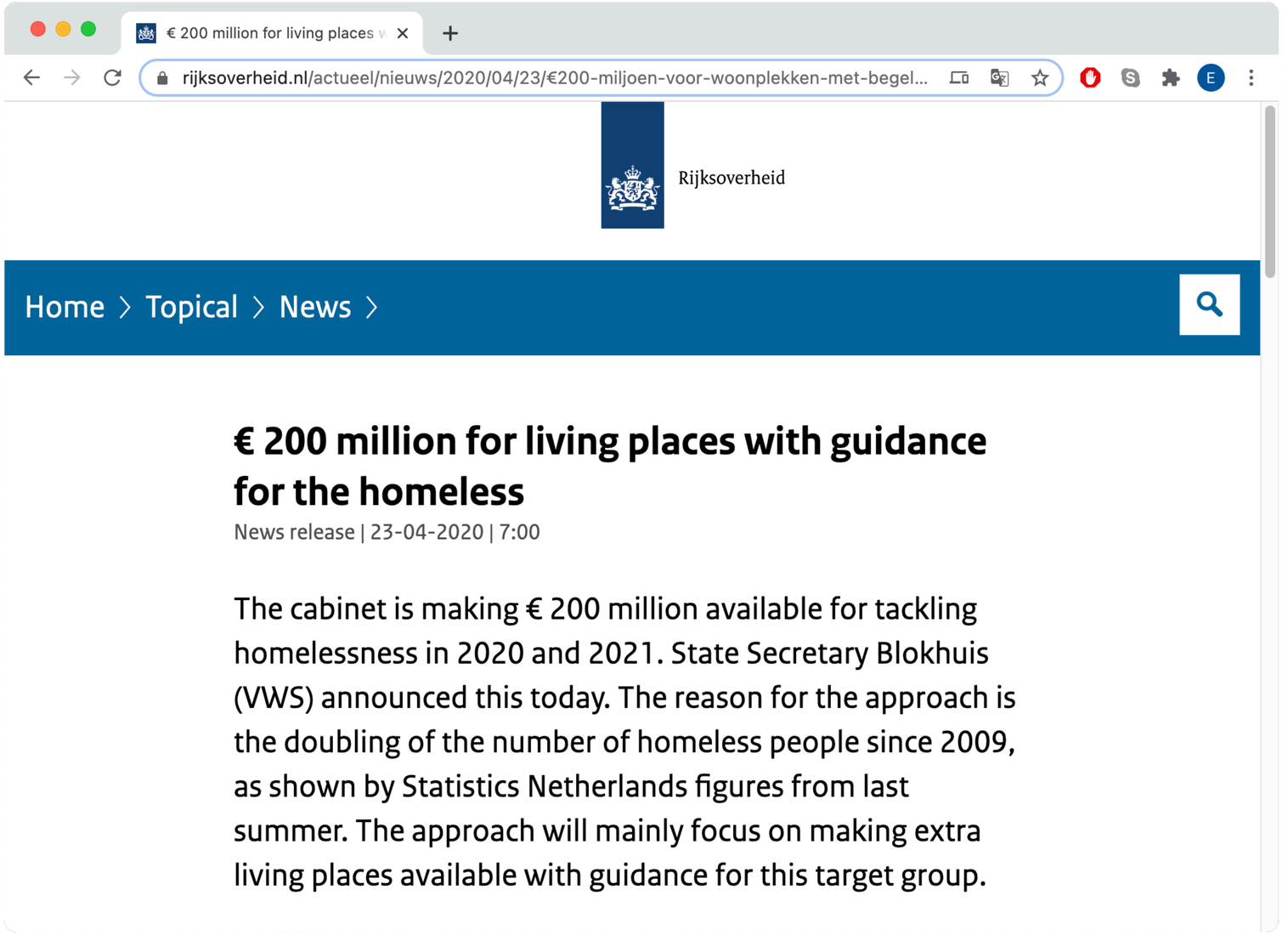
Data sourced from McLeod, 2018



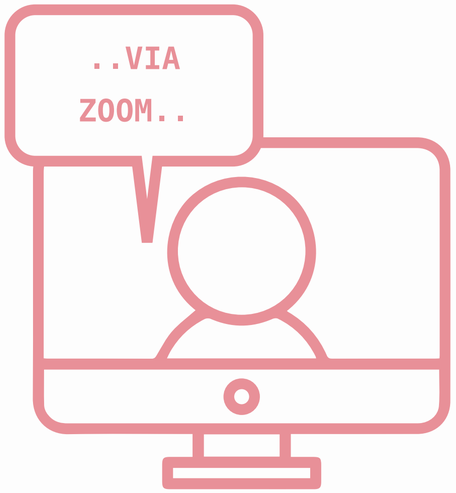




https://www.villamedia.nl/artikel/natascha-frensch-hoofdredacteur-straatnieuws-den-haag-rotterdam-op-zon-klap-als-deze-waren-we-geen-van-allen-voorbereid


€ 200 million for living places w
rijksoverheid.nl/actueel/nieuws/2020/04/23/€200-miljoen-voor-woonplekken-met-begel...
Rijksoverheid
Home › Topical › News ›
€ 200 million for living places with guidance for the homeless
News release | 23-04-2020 | 7:00
The cabinet is making € 200 million available for tackling homelessness in 2020 and 2021. State Secretary Blokhuis (VWS) announced this today. The reason for the approach is the doubling of the number of homeless people since 2009, as shown by Statistics Netherlands figures from last summer. The approach will mainly focus on making extra living places available with guidance for this target group.

HOW CAN ARCHITECTURE BE USED AS A TOOL TO HELP ROTTERDAM'S HOMELESS POPULATION?



INTERVIEWS

with actors in the homeless sector









Images provided by interviewees





VOLUNTEERING

Pauluskerk, Rotterdam



HOMELESSNESS
CLASSIFICATION



social



physical



legal

ETHOS CLASSIFICATION SYSTEM

(European Typology of Homelessness and Housing Exclusion)

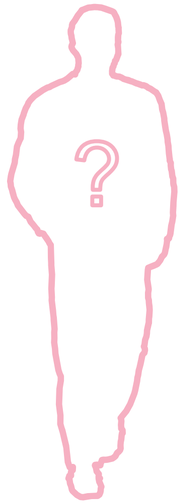
Data sourced from FEANTSA, 2005

HOMELESSNESS
CLASSIFICATION





HOUSING EXCLUSION



HOMELESS

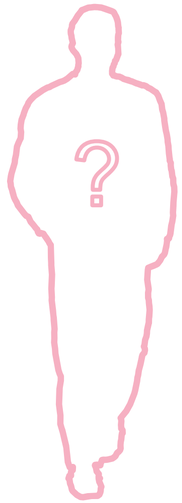
ETHOS CLASSIFICATION SYSTEM

(European Typology of Homelessness and Housing Exclusion)

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HOMELESSNESS CLASSIFICATION

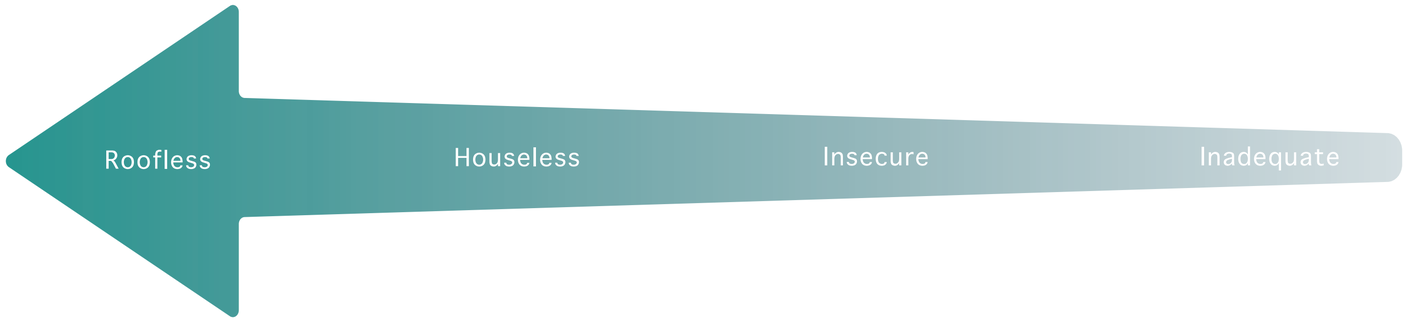
- **HOMELESS**
  - **ROOFLESS**
    - sleeping rough
    - emergency nightshelters
  - **HOUSELSSS**
    - homeless accomodation
    - women's shelters
    - immigrant reception centres
    - due for release from penal/medical institutions
- **HOUSING EXCLUSION**
  - **INSECURE**
    - sofa-surfers w. friends/family
    - illegal occupation of land
    - threat of eviction/violence
    - long-term homeless accomodation
  - **INADEQUATE**
    - mobile homes
    - non-conventional structures
    - overcrowding
    - unfit for inhabitation



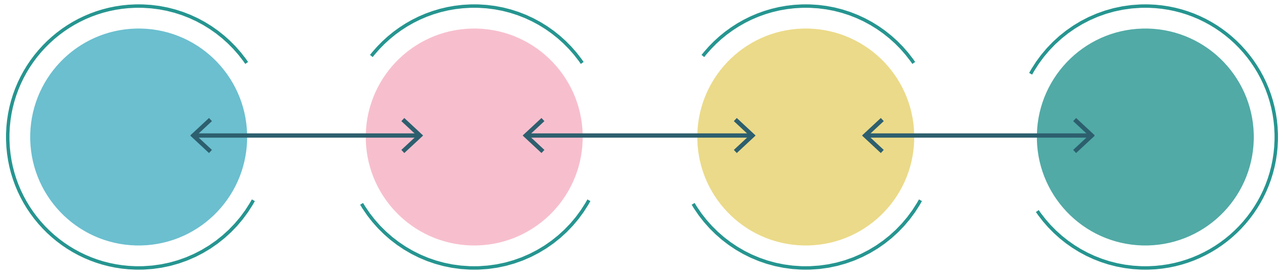
ETHOS CLASSIFICATION SYSTEM

(European Typology of Homelessness and Housing Exclusion)

Data sourced from FEANTSA, 2005



EXISTING



PROPOSED

HOMELESS PATHWAYS
WHAT SOLUTION?



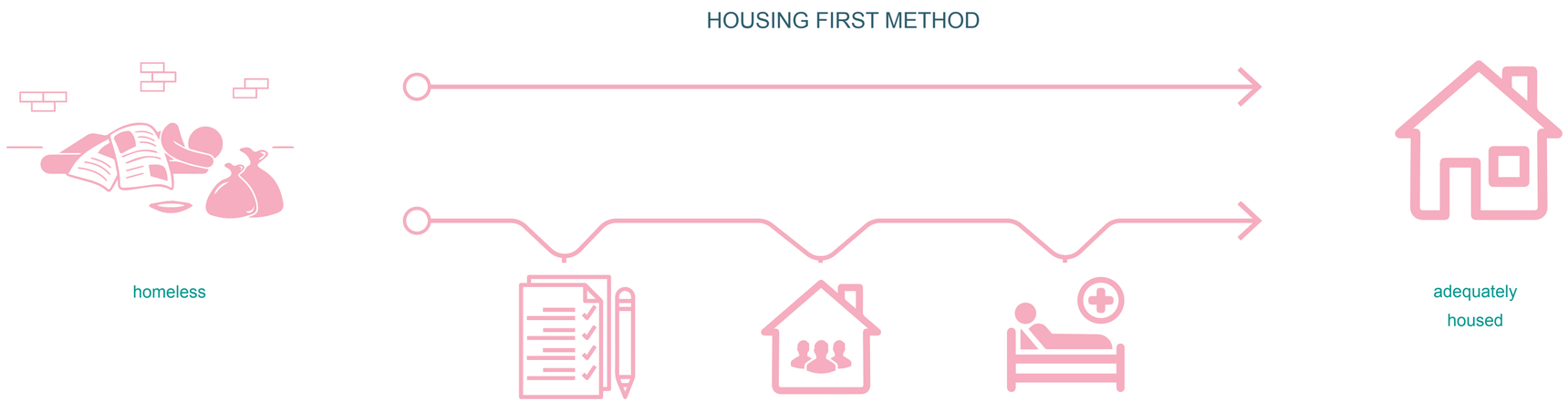
homeless





adequately
housed

HOMELESS PATHWAYS
APPROVED SOLUTION



HOMELESS PATHWAYS
APPROVED SOLUTION

HOUSING FIRST METHOD



homeless

goal
focused

limited
privacy

institutionalised
care

adequately
housed

ROTTERDAM HOMELESS MAPS
SERVICES NETWORK



- Maassilo emergency shelter
- day / night shelter & facilities
- night shelter & facilities
- day shelter & facilities
- youth institution
- home ports / shelter homes
- shelter break-out activity
- Centraal Onthaal
- advice / support
- hot food
- coffee / warm drinks

EXISTING SERVICES
MAASSILO EMERGENCY SHELTER



https://architectureofdoom.tumblr.com/post/634127640037654528/maassilo-rotterdam-temporarily-used-as-a?is_related_post=1

ROTTERDAM HOMELESS MAPS
HOSTILE CITY





instance of hostile design ▲

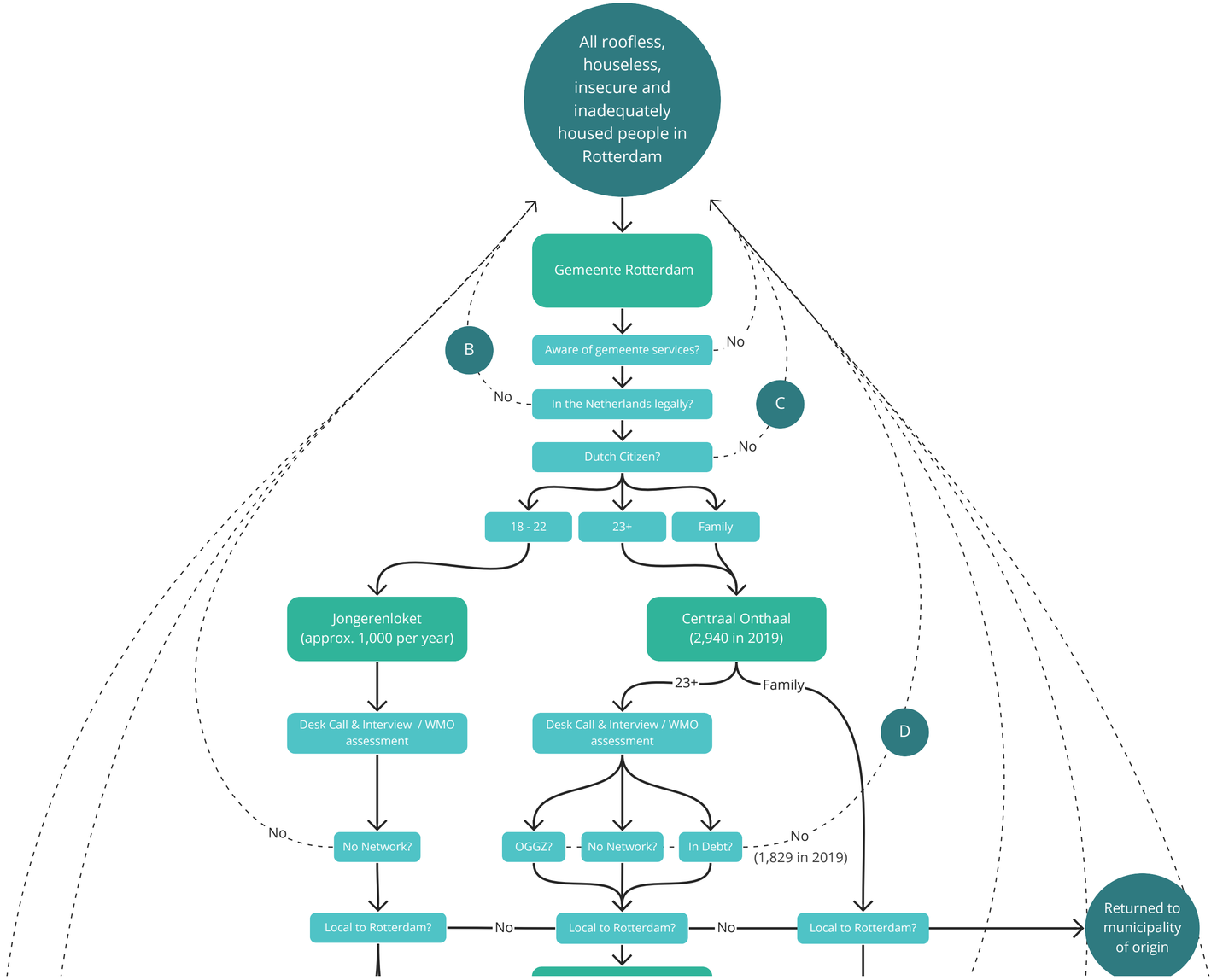


ROTTERDAM HOMELESS MAPS
OVERVIEW



instance of hostile design
Maassilo emergency shelter
day / night shelter & facilities
night shelter & facilities
day shelter & facilities
youth institution
home ports / shelter homes
shelter break-out activity
Centraal Onthaal
advice / support
hot food
coffee / warm drinks

HOMELESS PATHWAYS
ROTTERDAM MASTER FLOW



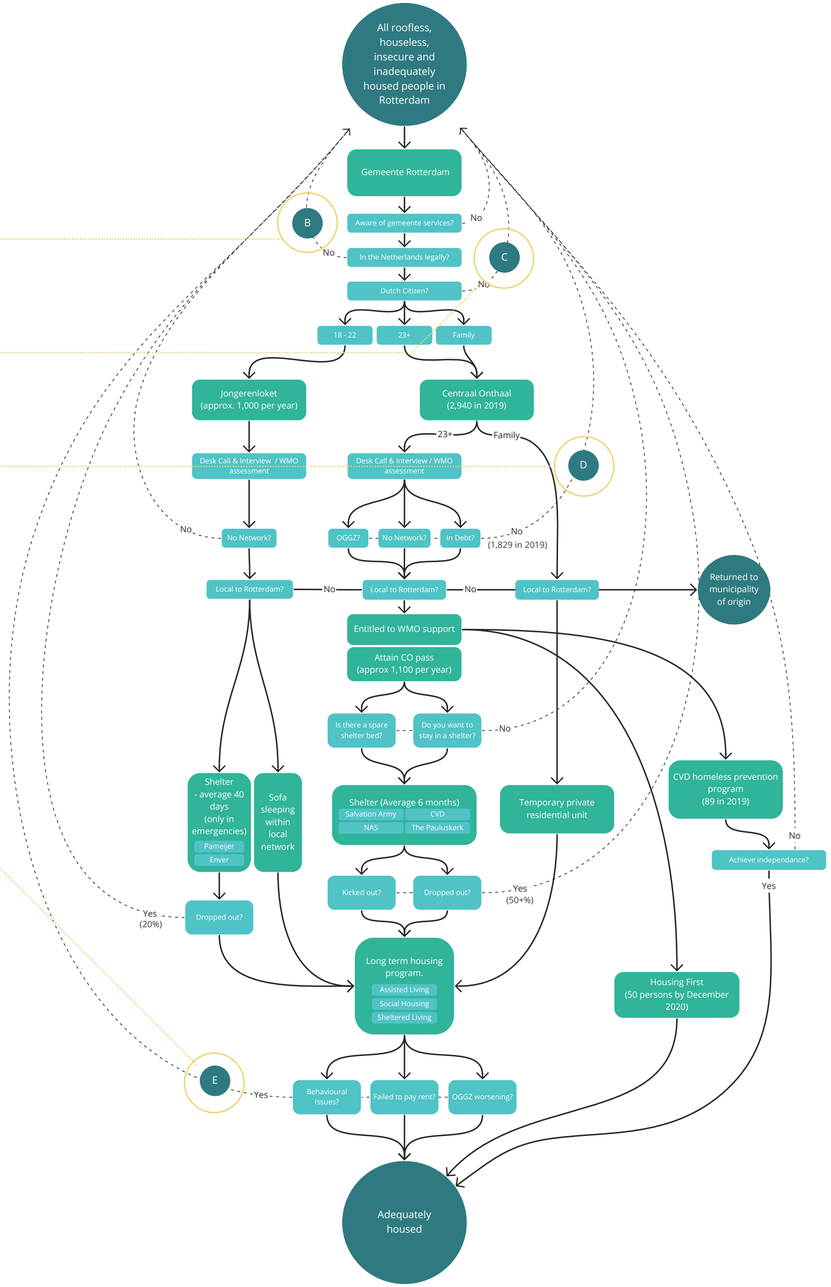
HOMELESS PATHWAYS
MASTER FLOW

undocumented people

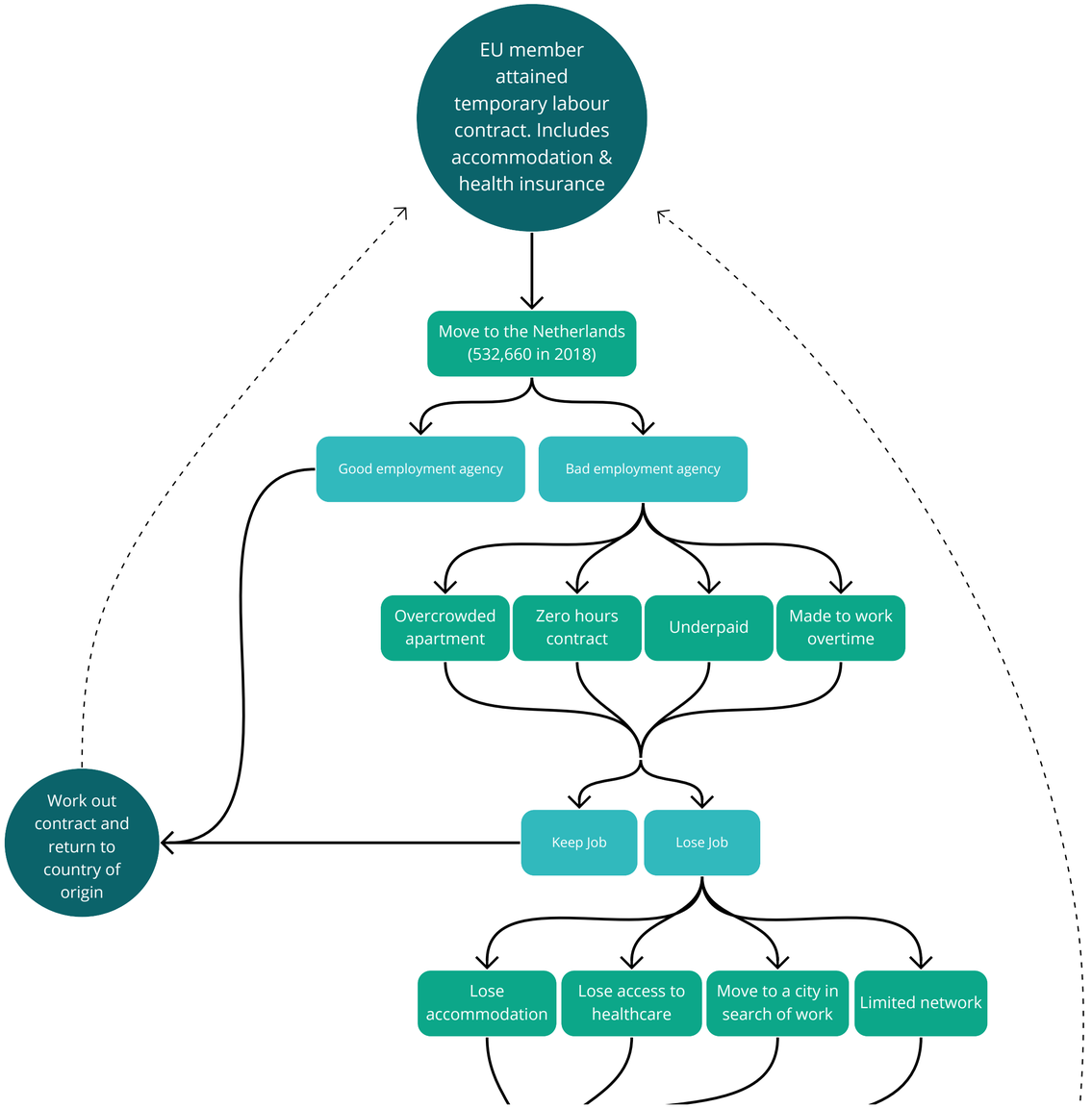
EU labour migrants

sofa sleepers

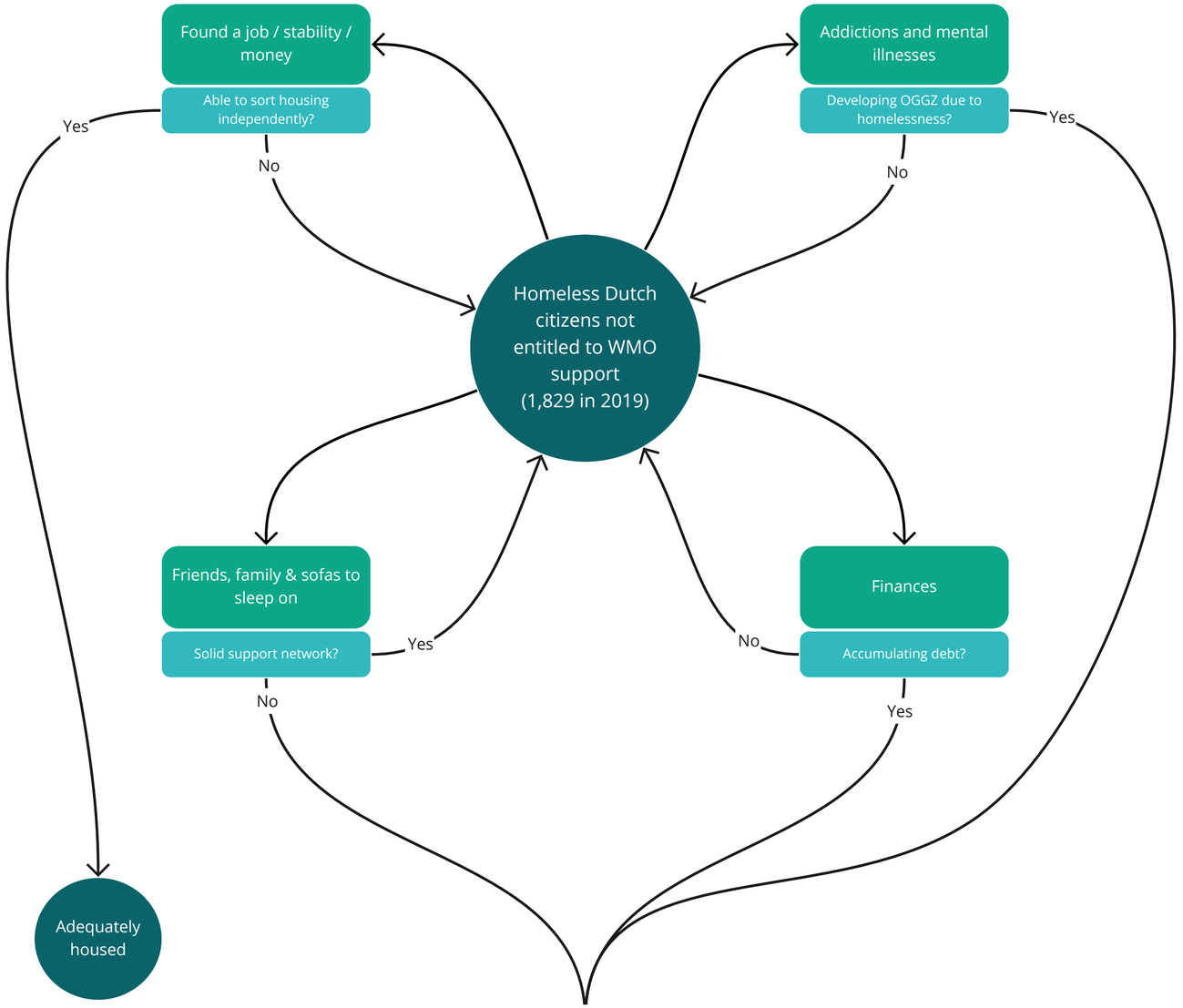
long term homeless



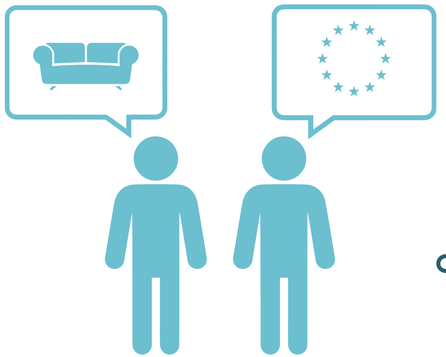
HOMELESS PATHWAYS
EU LABOUR MIGRANTS



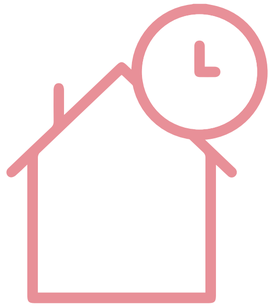
HOMELESS PATHWAYS
ECONOMICALLY HOMELESS / SOFA SLEEPERS



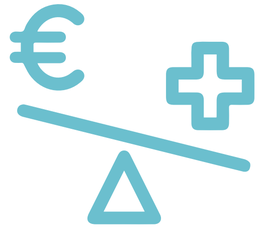
CHOSEN HOMELESS GROUPS
EU LABOUR MIGRANTS & SOFA SLEEPERS



EU labour migrants & sofa sleepers /
economically homeless



transitional housing



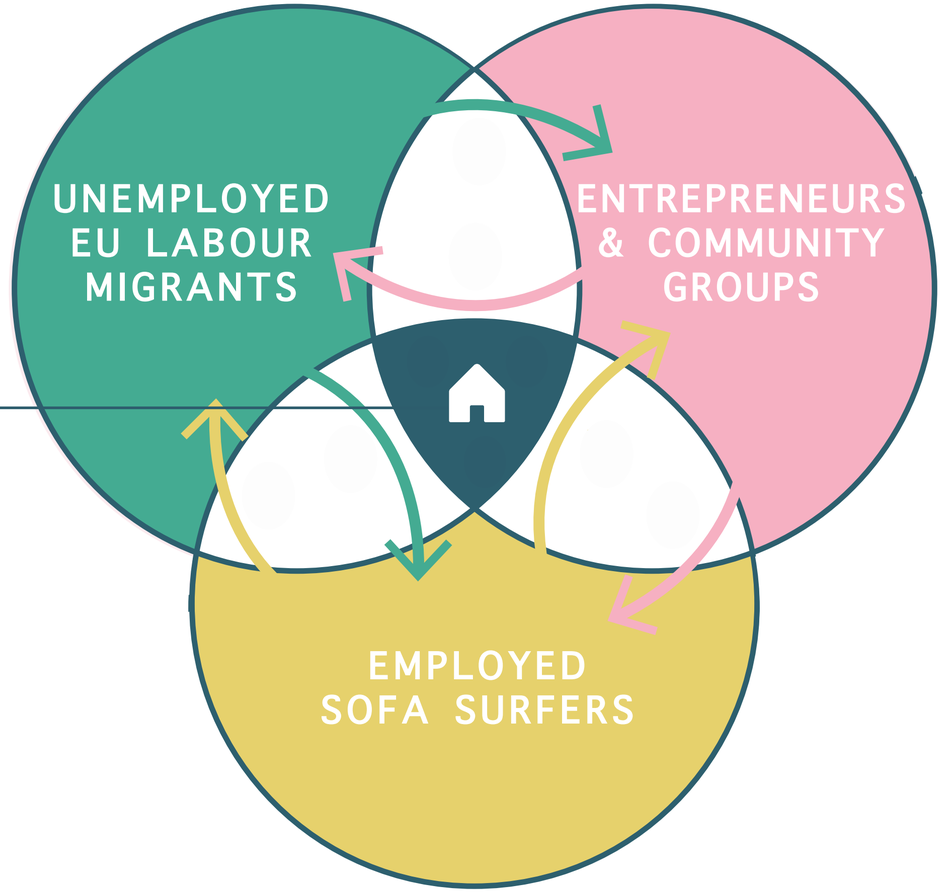
financial stability



social autonomy

DESIGN PROPOSAL
SYMBIOTIC COMMUNITY STRUCTURE

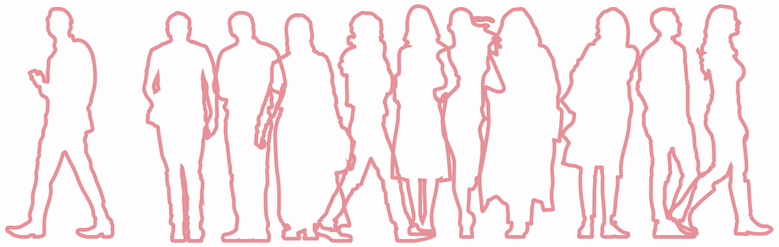
ARCHITECTURAL SCHEME
=
GRADUATION DESIGN THESIS



DESIGN PROPOSAL
REQUIREMENTS



bottom-up organisation structure



public engagement & integration



a hand-up, not a hand-out



collaborative activation



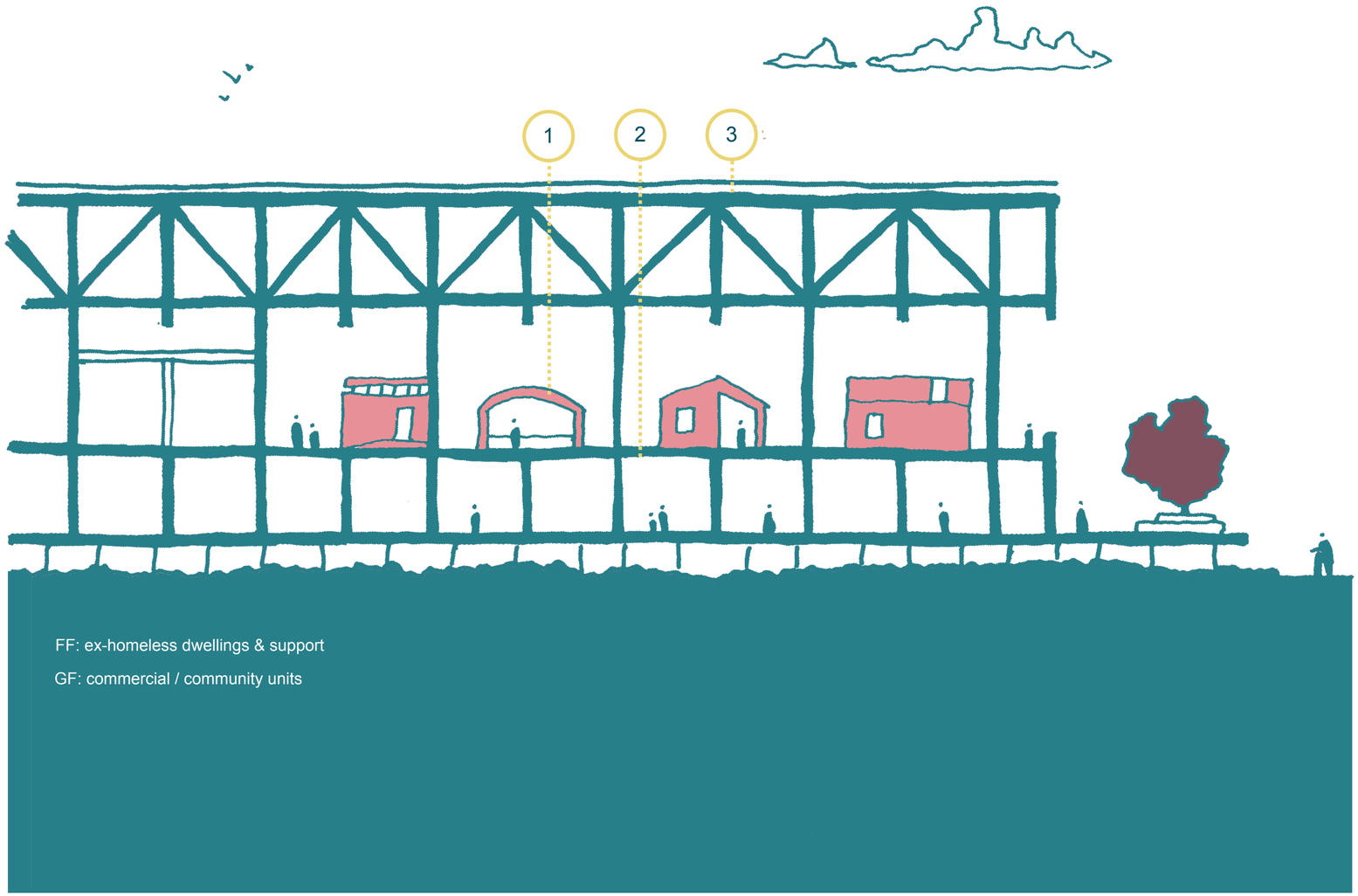
3 domains of home

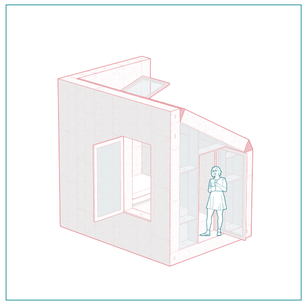


maslows hierarchy of needs

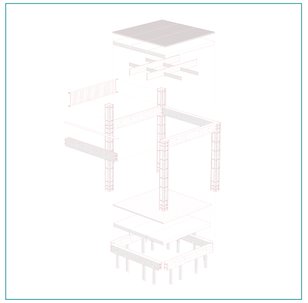


BUILDING SYSTEM CONCEPT
OVERVIEW

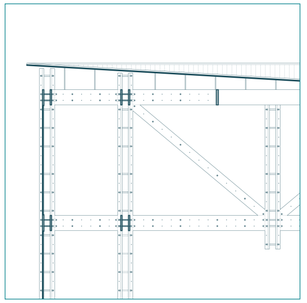




1. INFILL

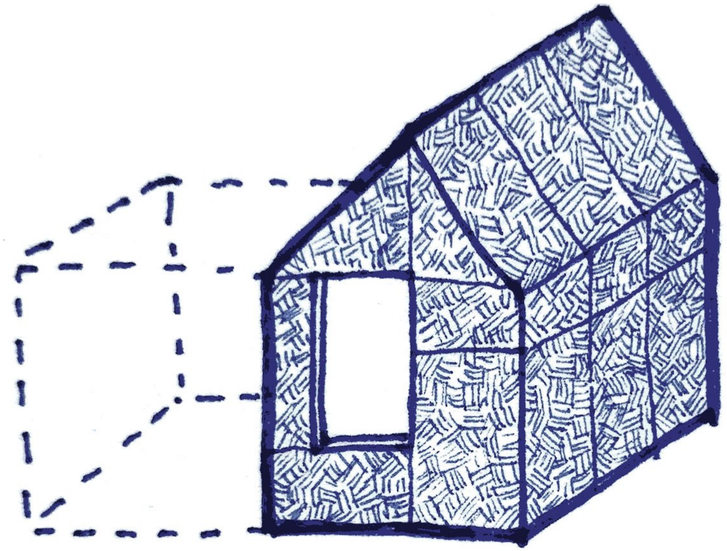


2. FRAME



3. CANOPY

INFILL
CONCEPT



INFILL REQUIREMENTS

- sleeping / resting
- customisable / personal
- warm & dry
- opportunity for expansion
- storage
- privacy & comfort





the shed

STUDIO BARK

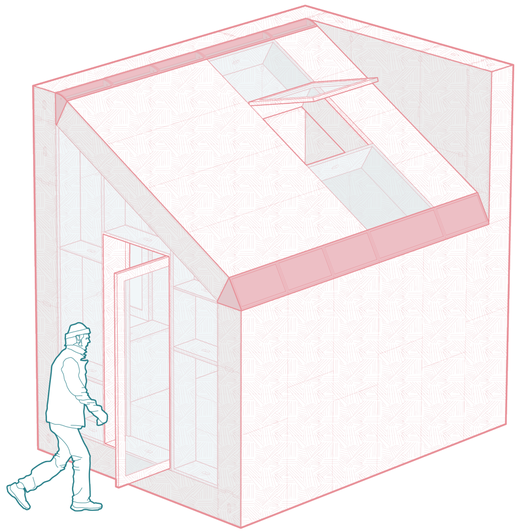


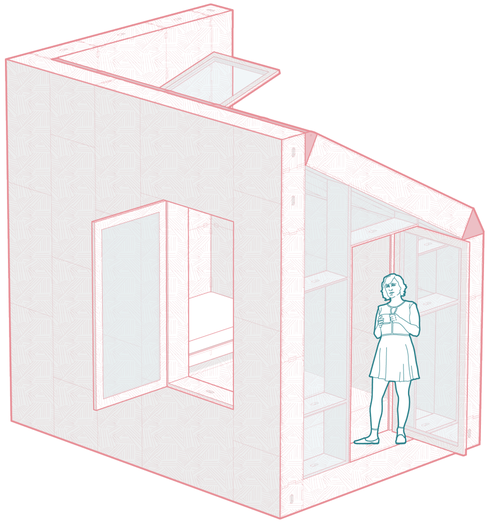


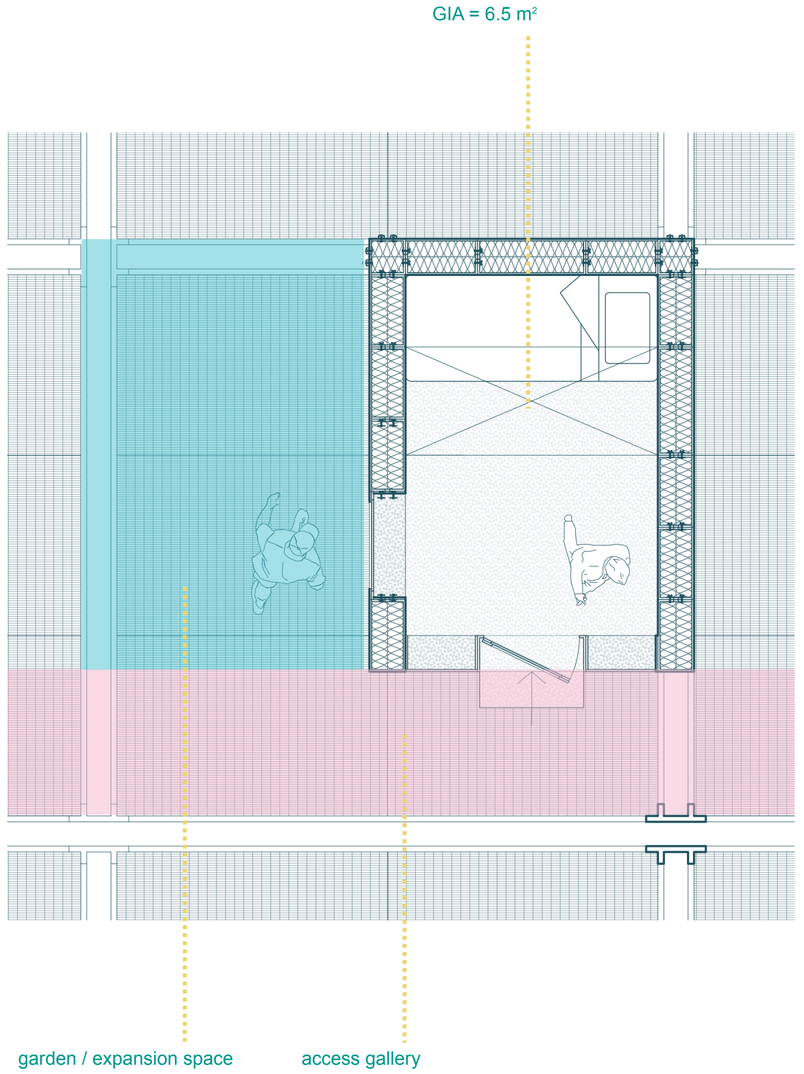
quita monroy

ELEMENTAL

INFILL
BASIC SINGLE DWELLING UNIT







BASIC SINGLE
CLIMATE STRATEGY



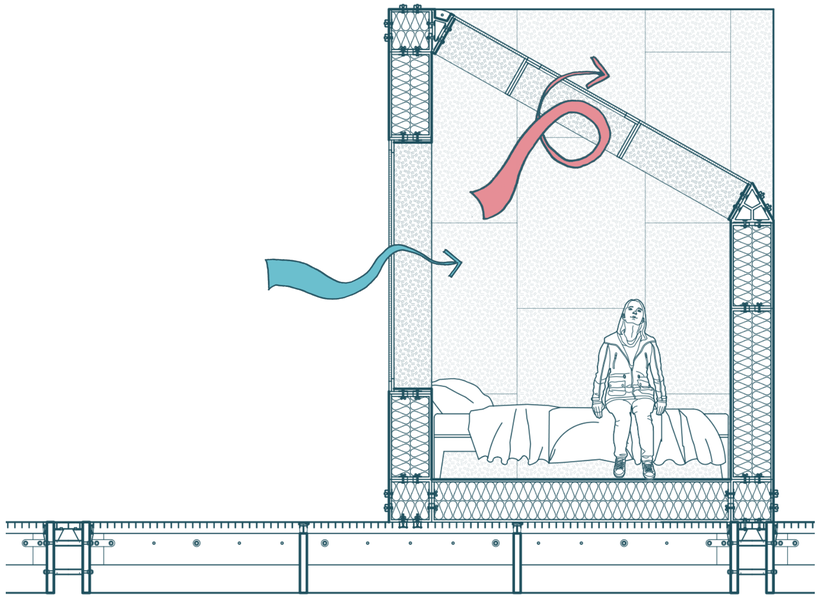
ventilation grill

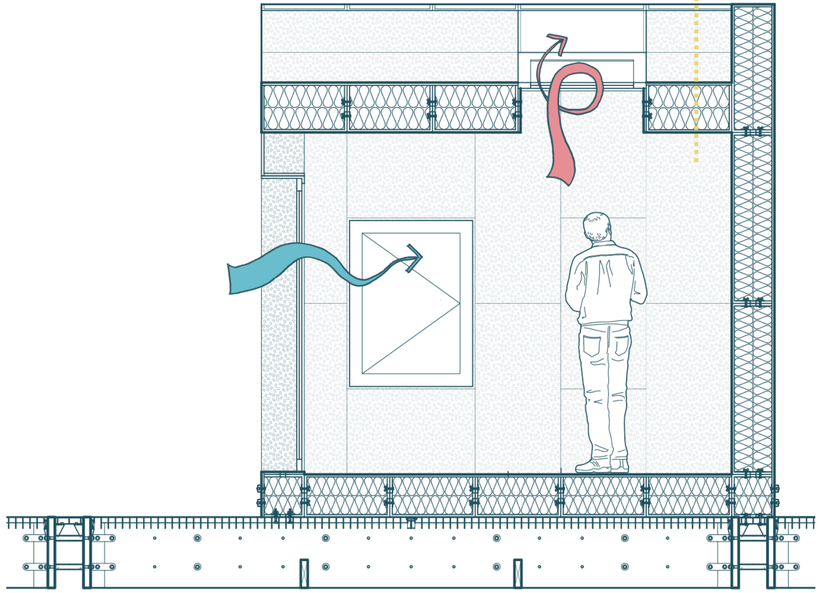


extractor fan



infrared heater

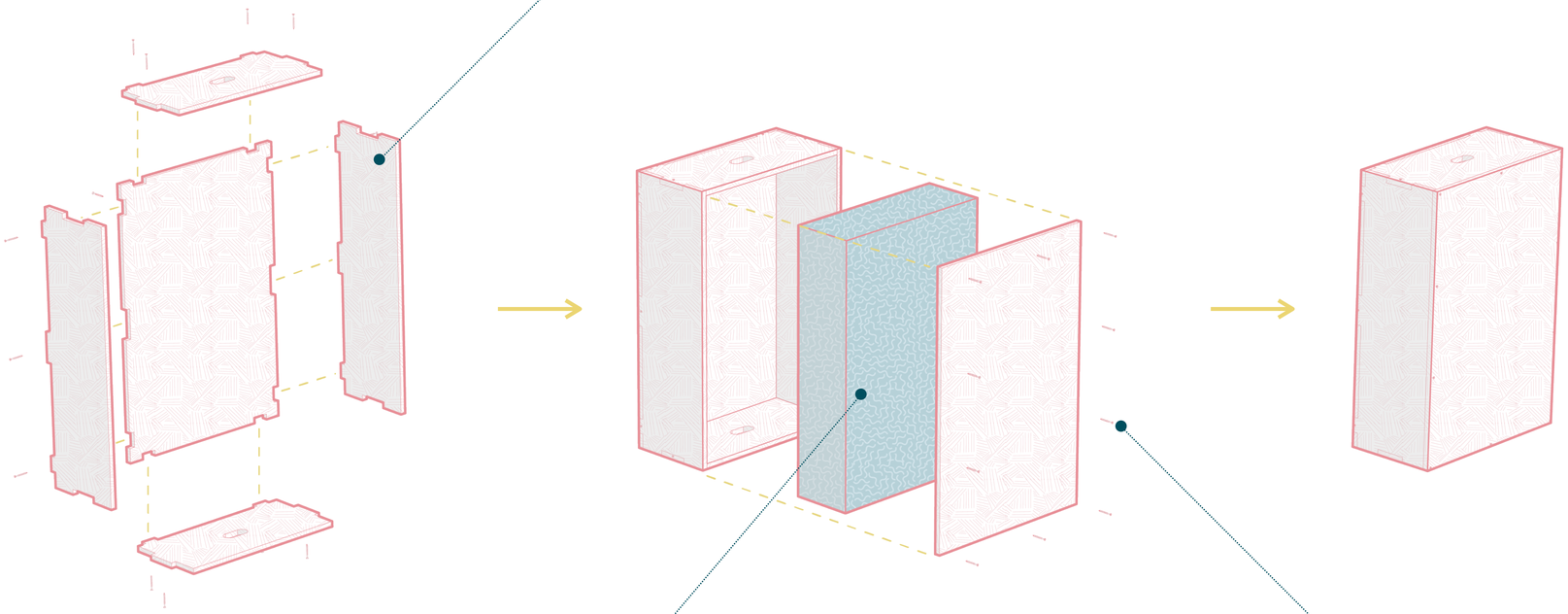




INFILL UNITS
COMPONENTS



18mm oriented
strand board (OSB)

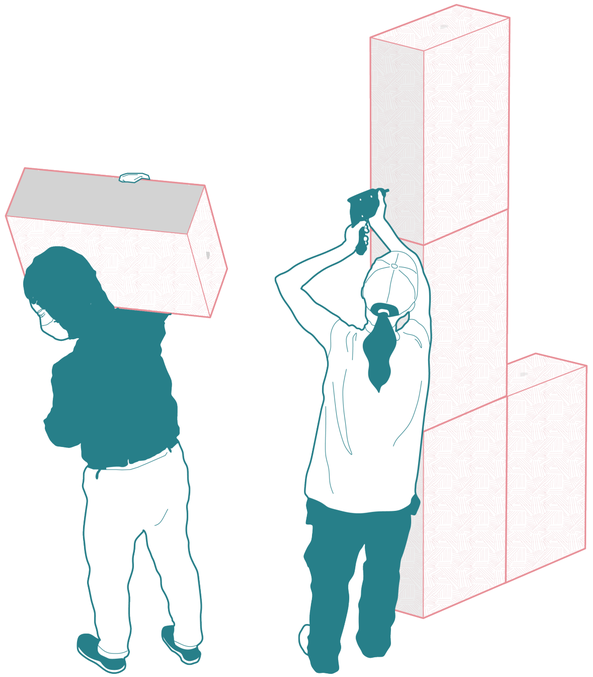




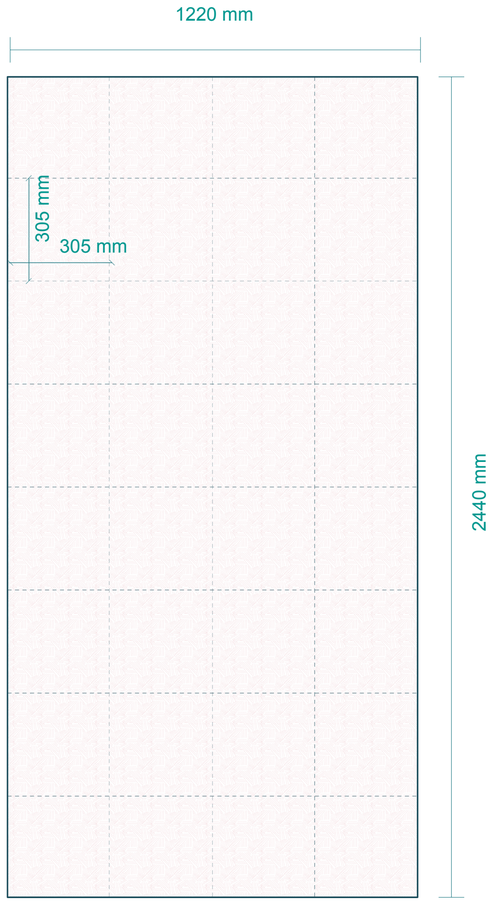
200mm hemp
quilt insulation



M6 50mm brass
wood screws

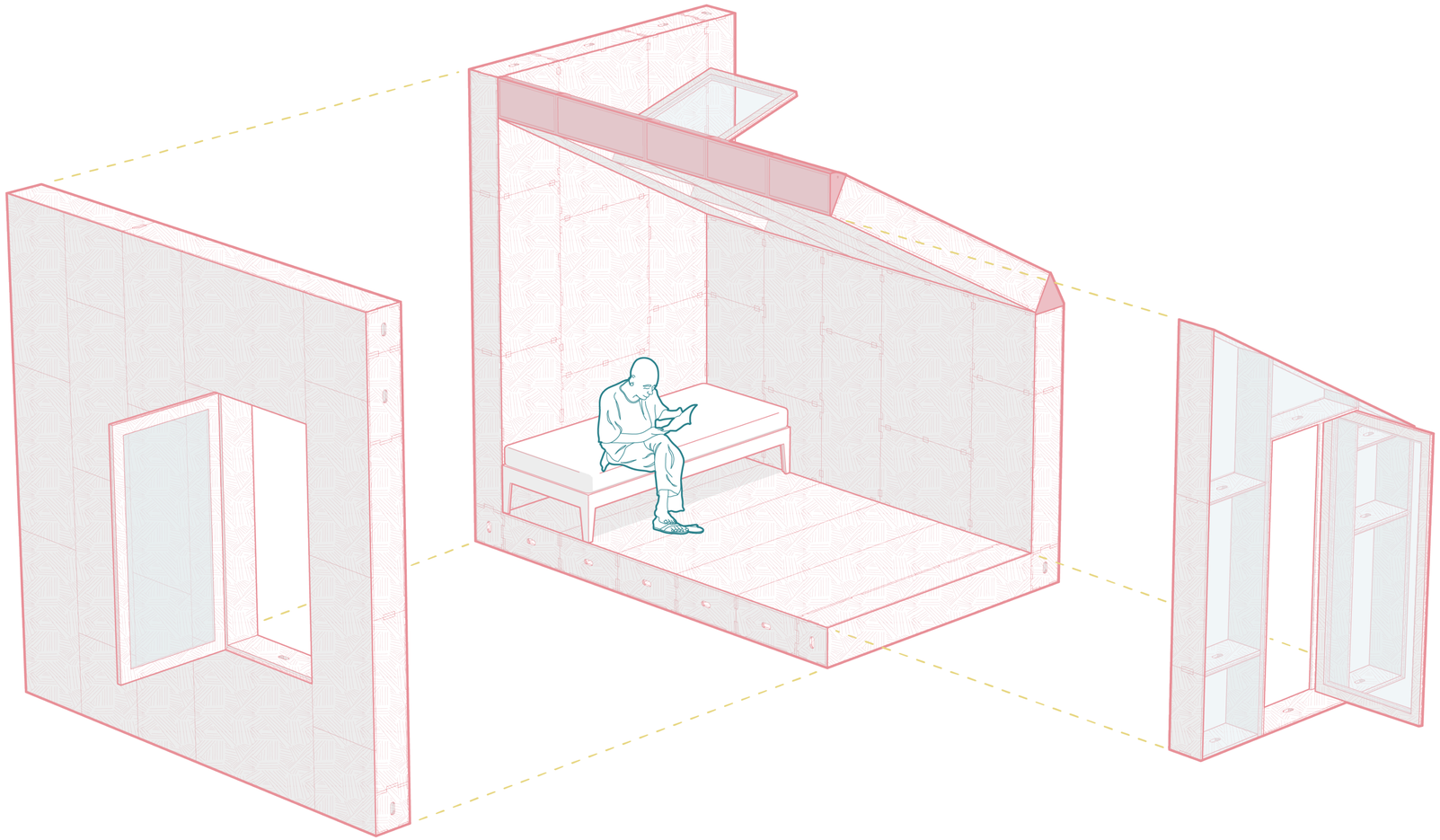


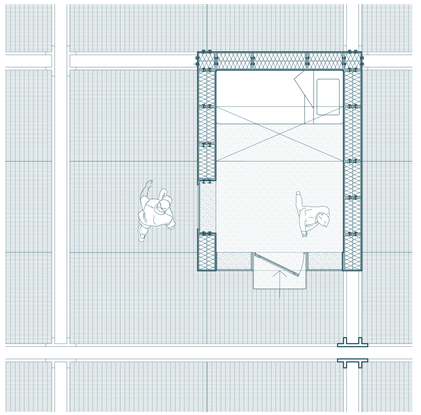
COMPONENTS APPROPRIATELY SCALED



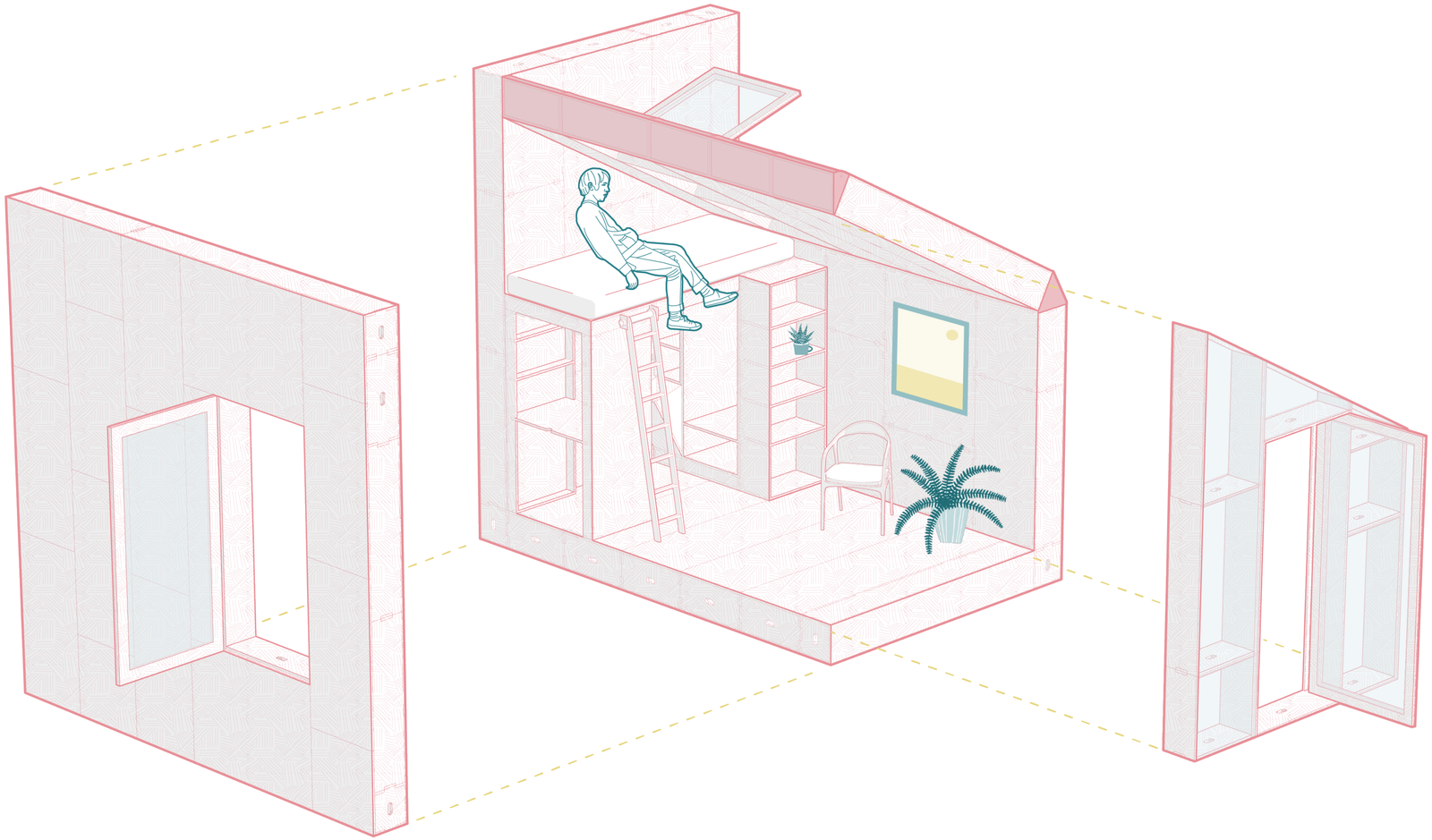
INDUSTRY STANDARD OSB SHEET SIZE

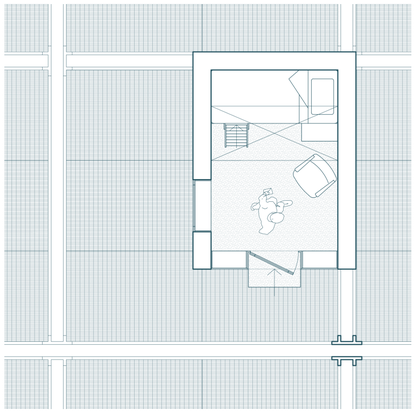
BASIC SINGLE UNIT
INTERNAL ADAPTATIONS



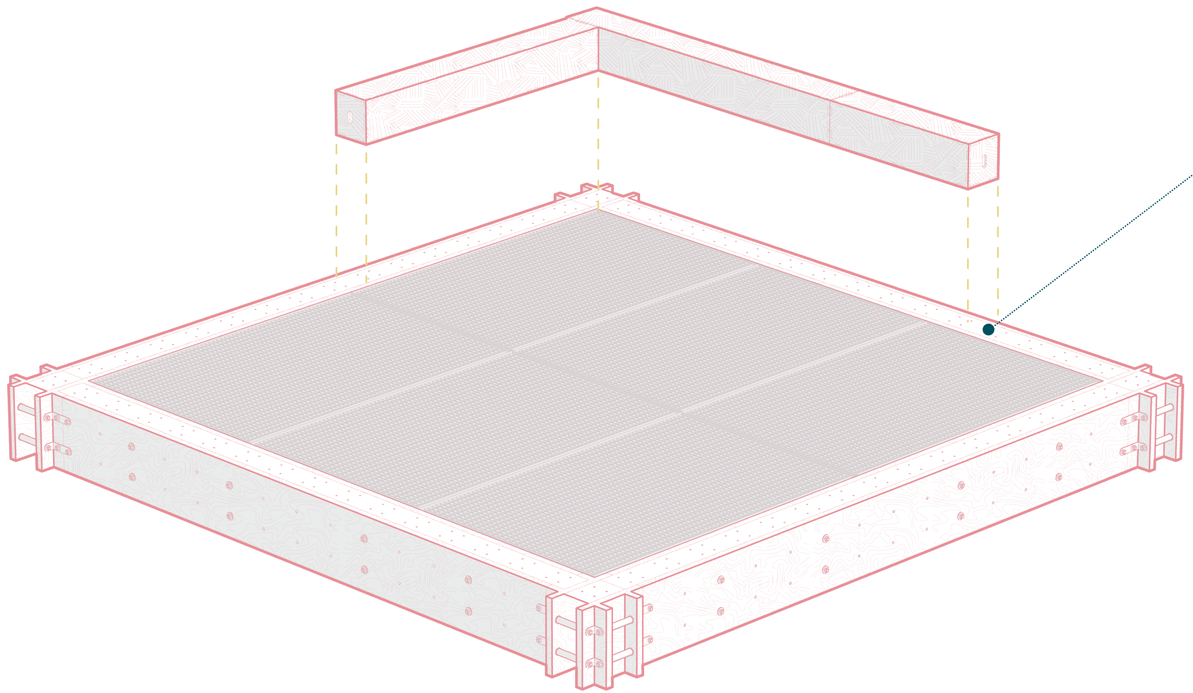


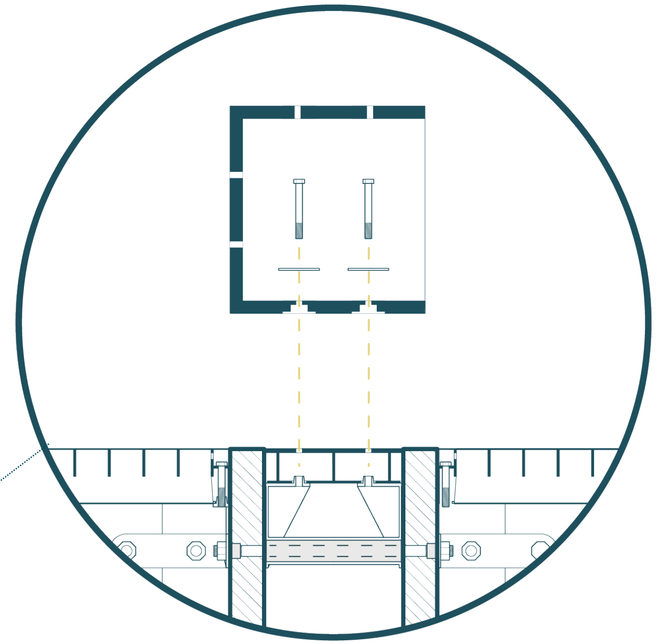
BASIC SINGLE UNIT
INTERNAL ADAPTATIONS



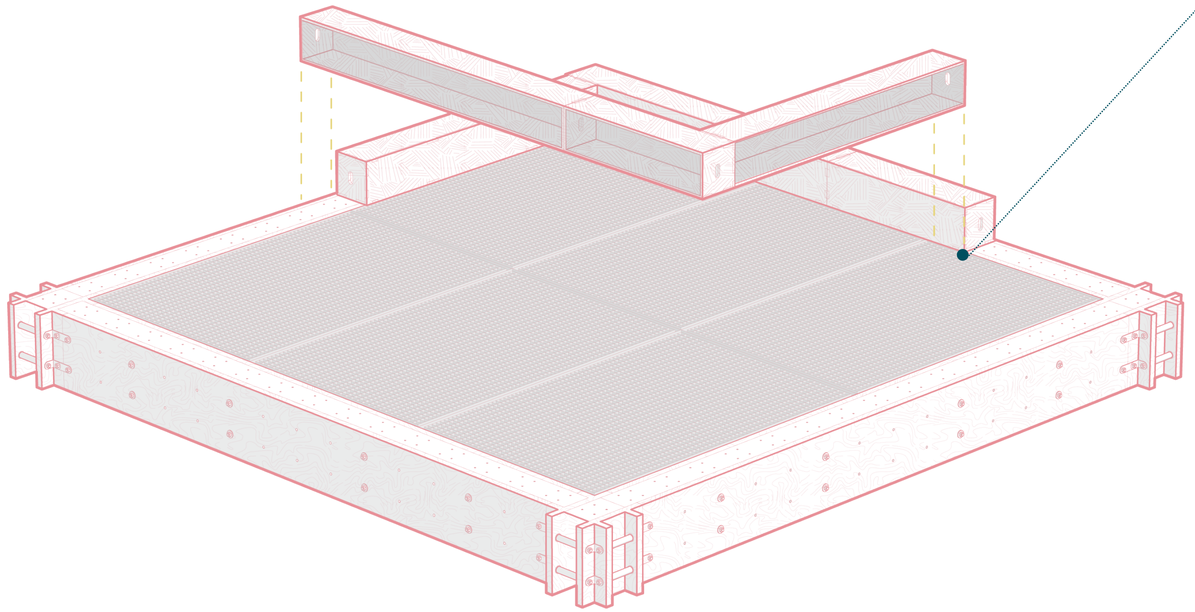


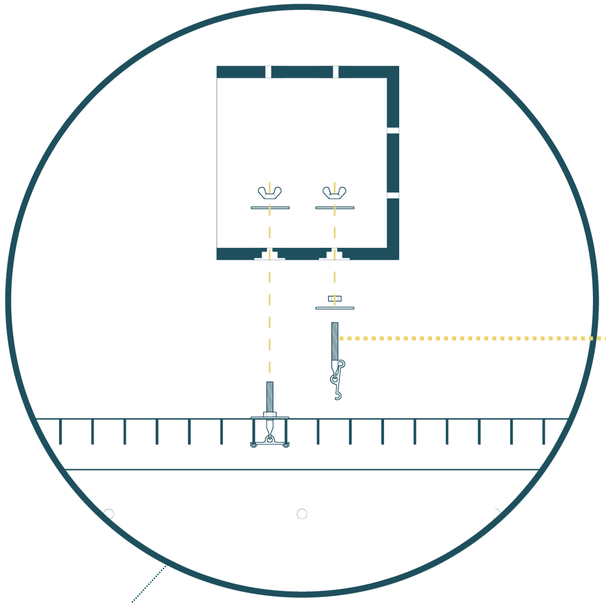
BASIC SINGLE UNIT
ASSEMBLY PROCESS

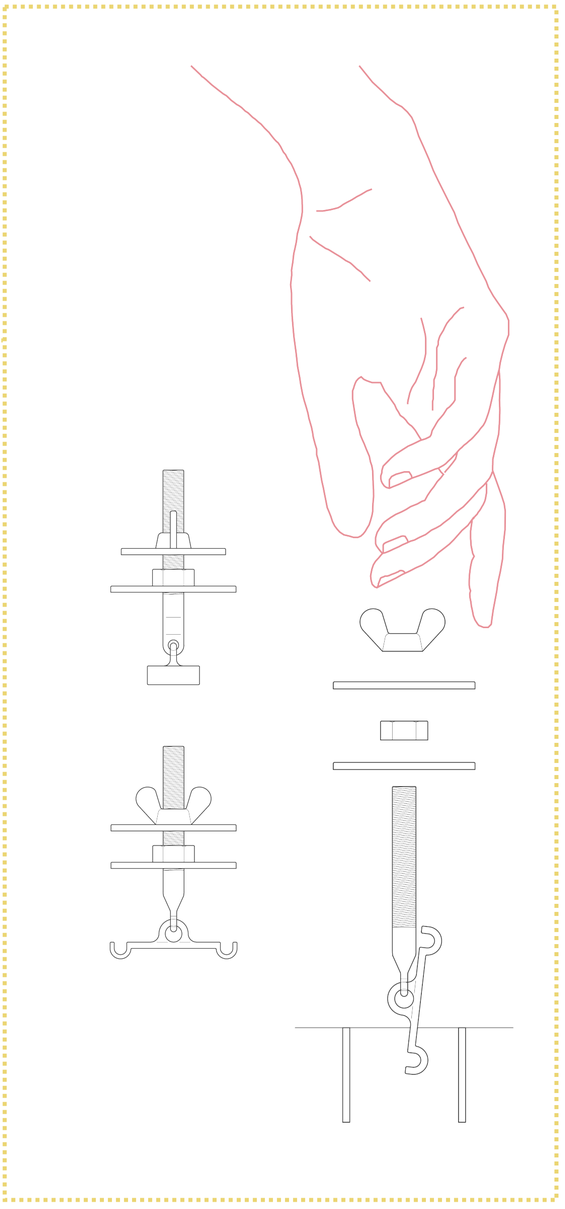




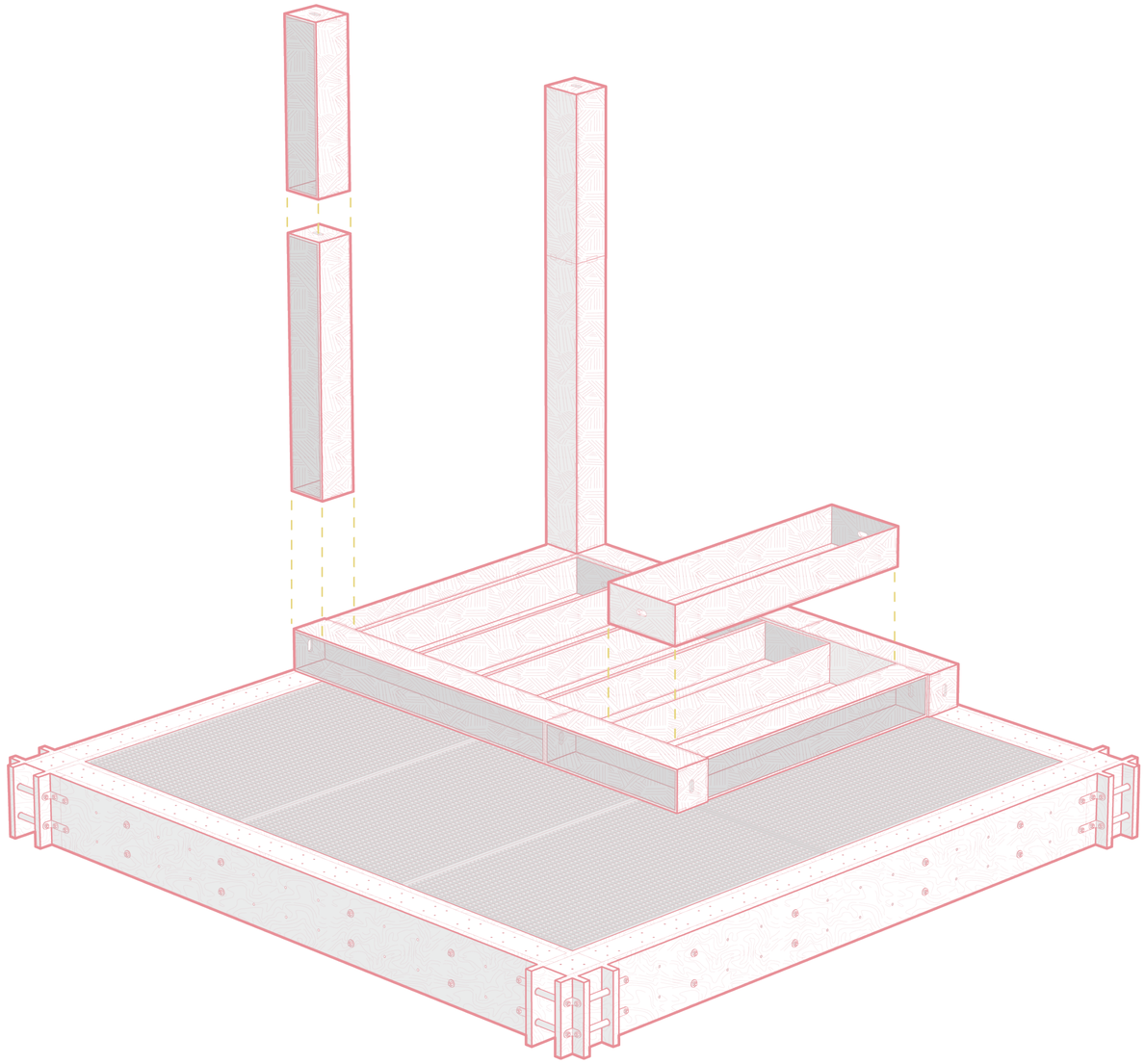
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ASSEMBLY PROCESS



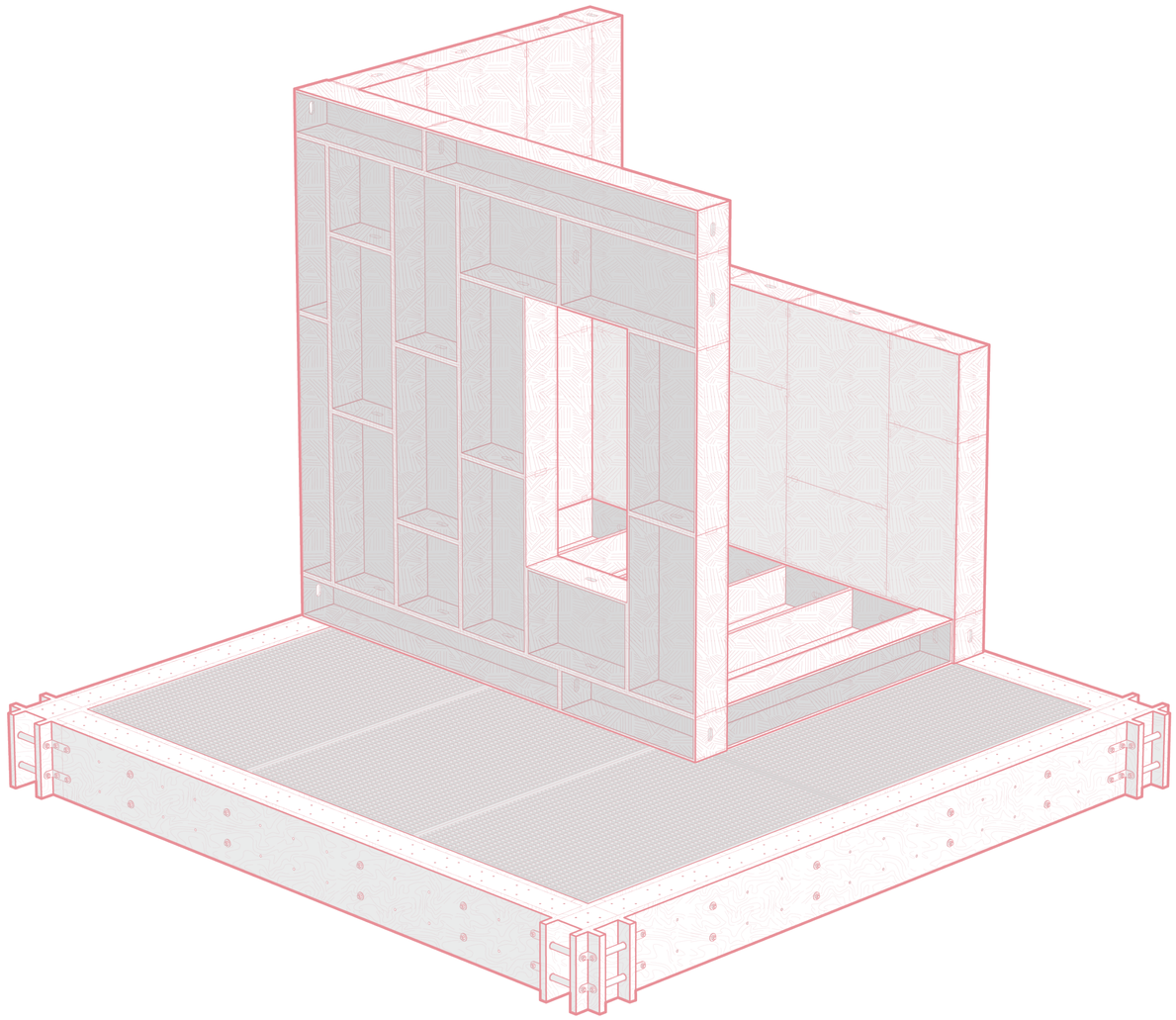




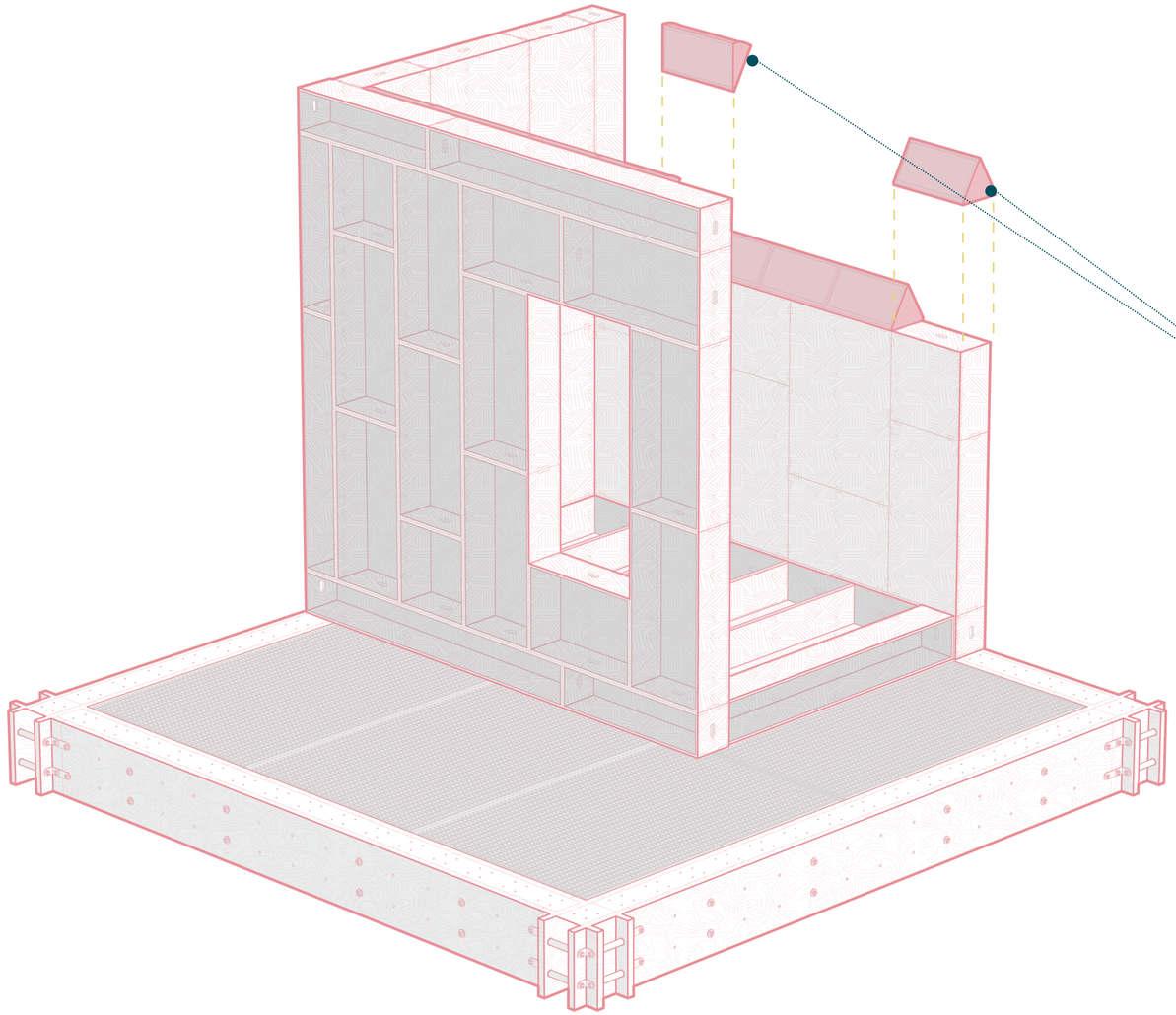
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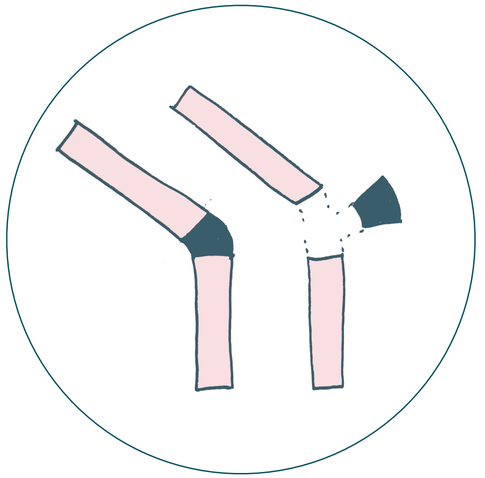


BASIC SINGLE UNIT
ASSEMBLY PROCESS



BASIC SINGLE UNIT
ASSEMBLY PROCESS

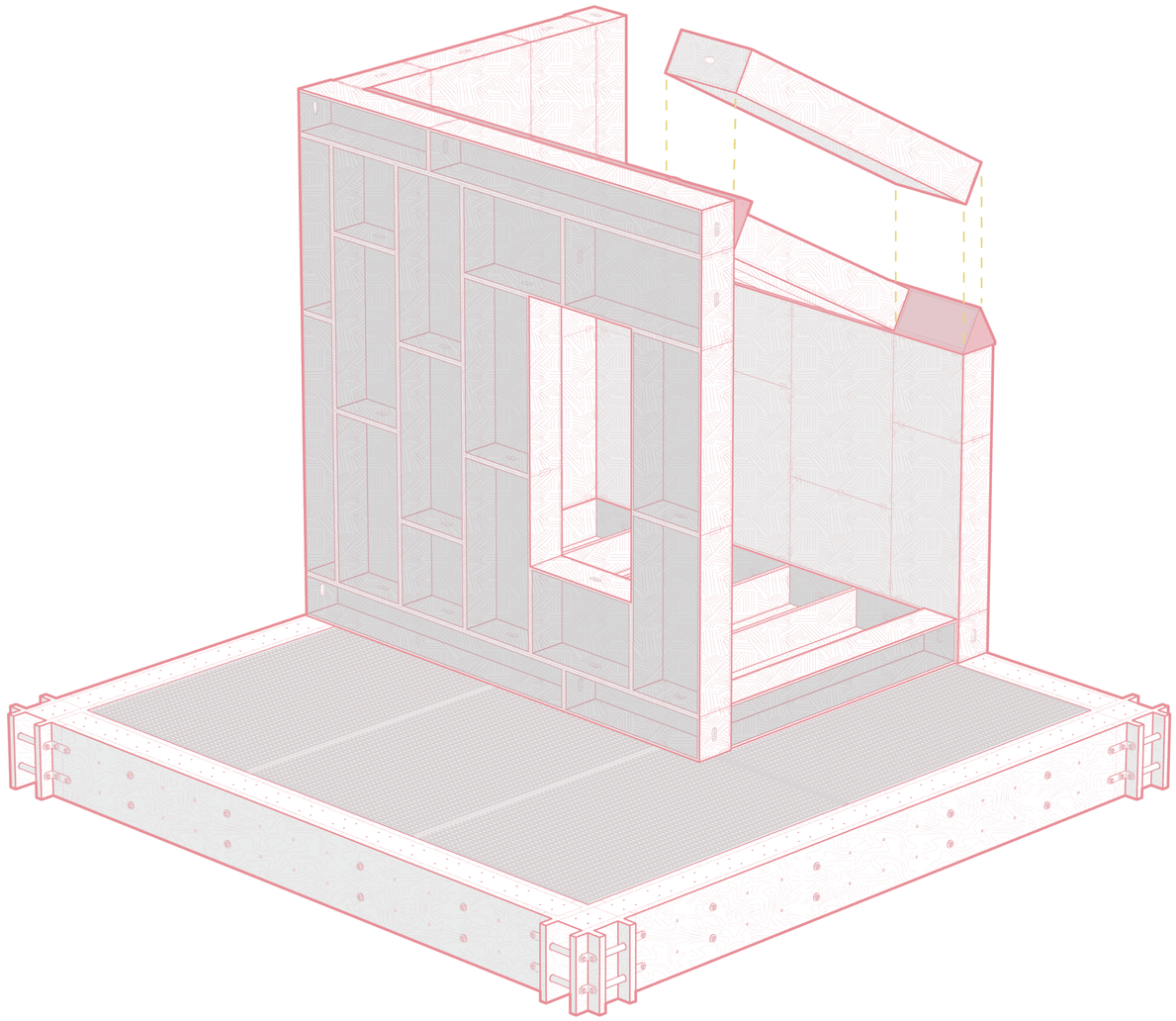




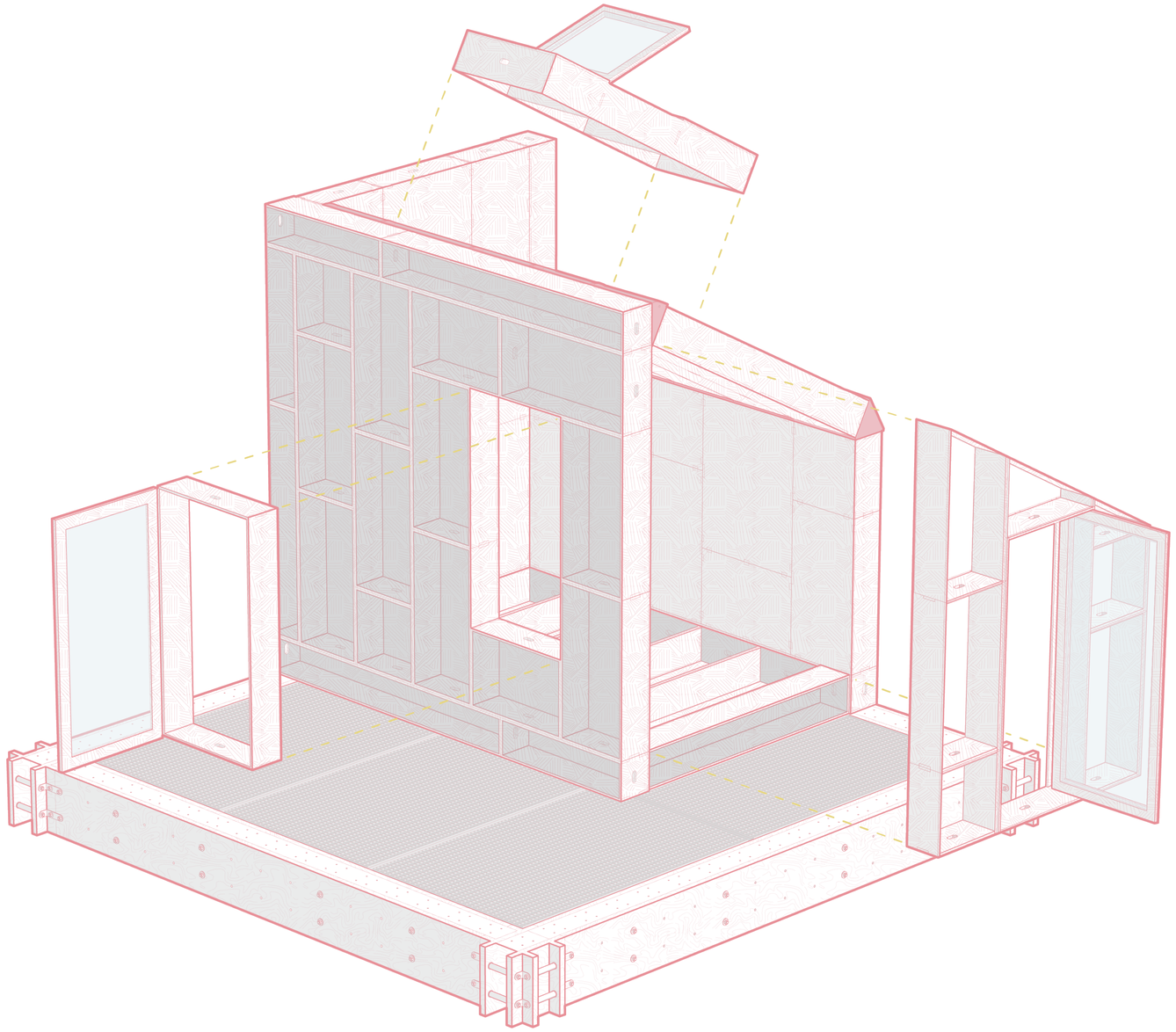


18mm birch
plywood

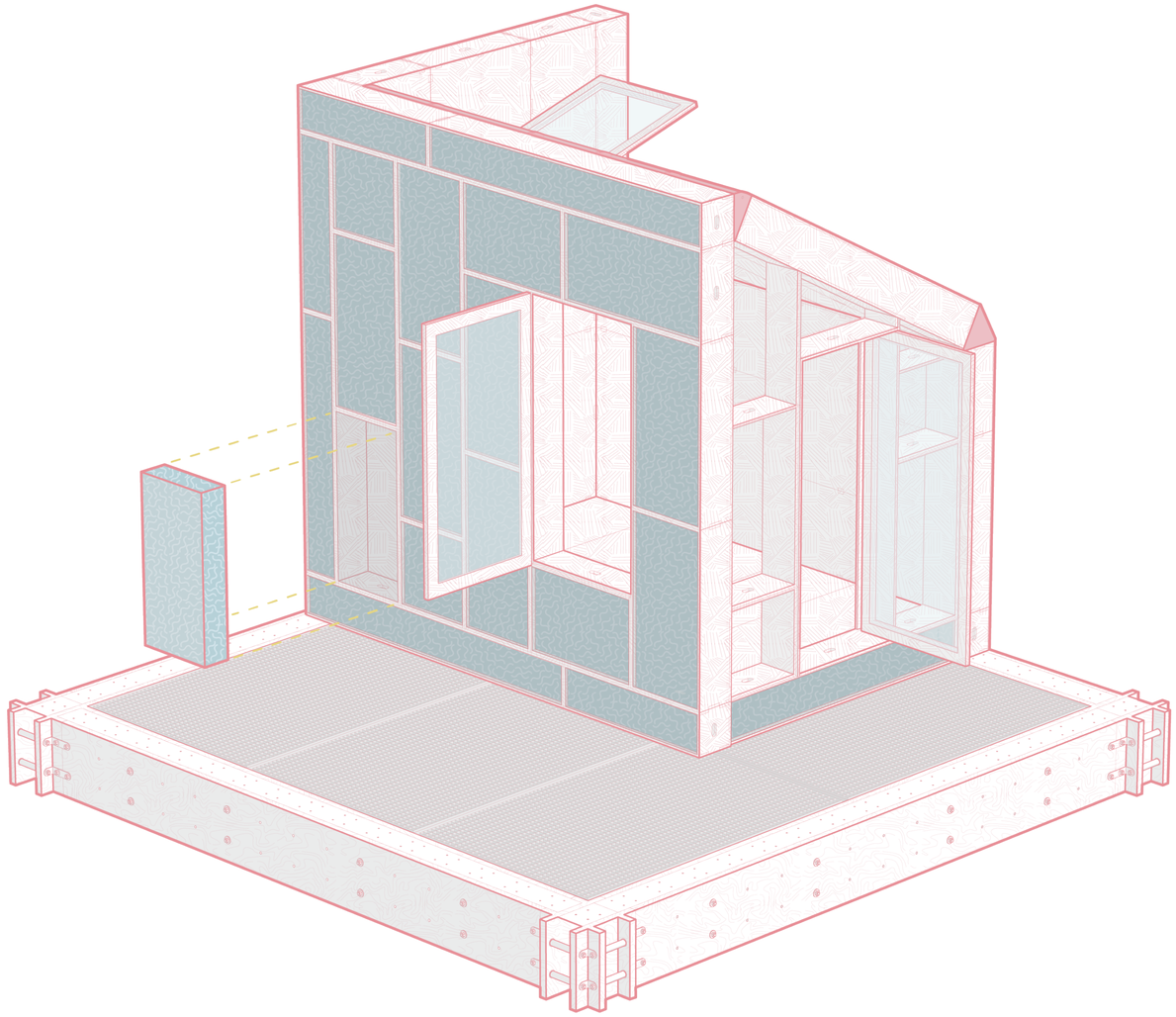
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ASSEMBLY PROCESS



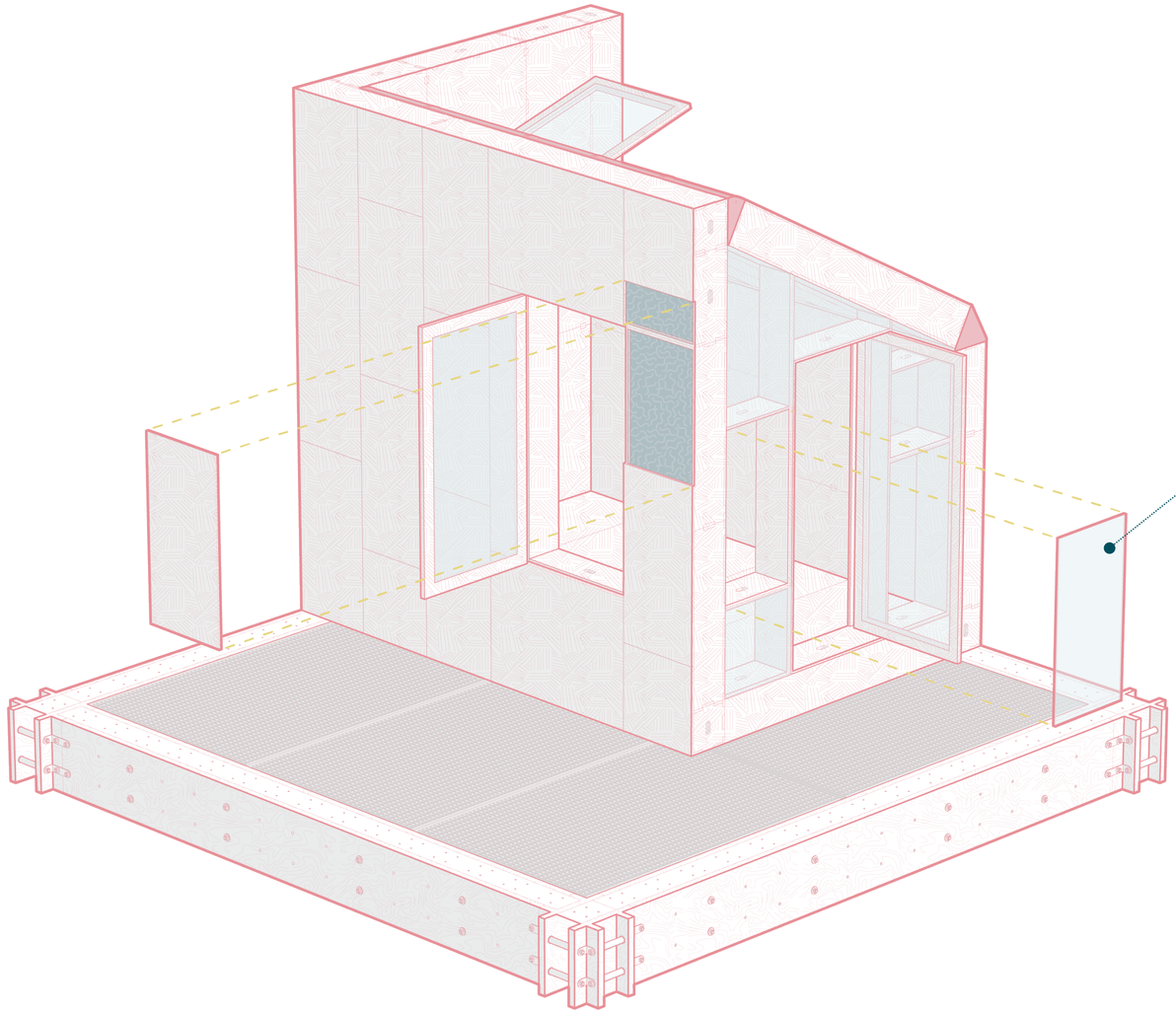
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ASSEMBLY PROCESS

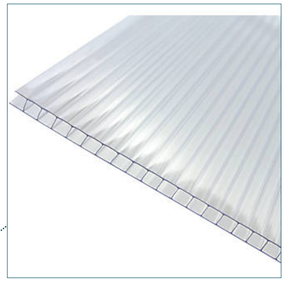


BASIC SINGLE UNIT
ASSEMBLY PROCESS



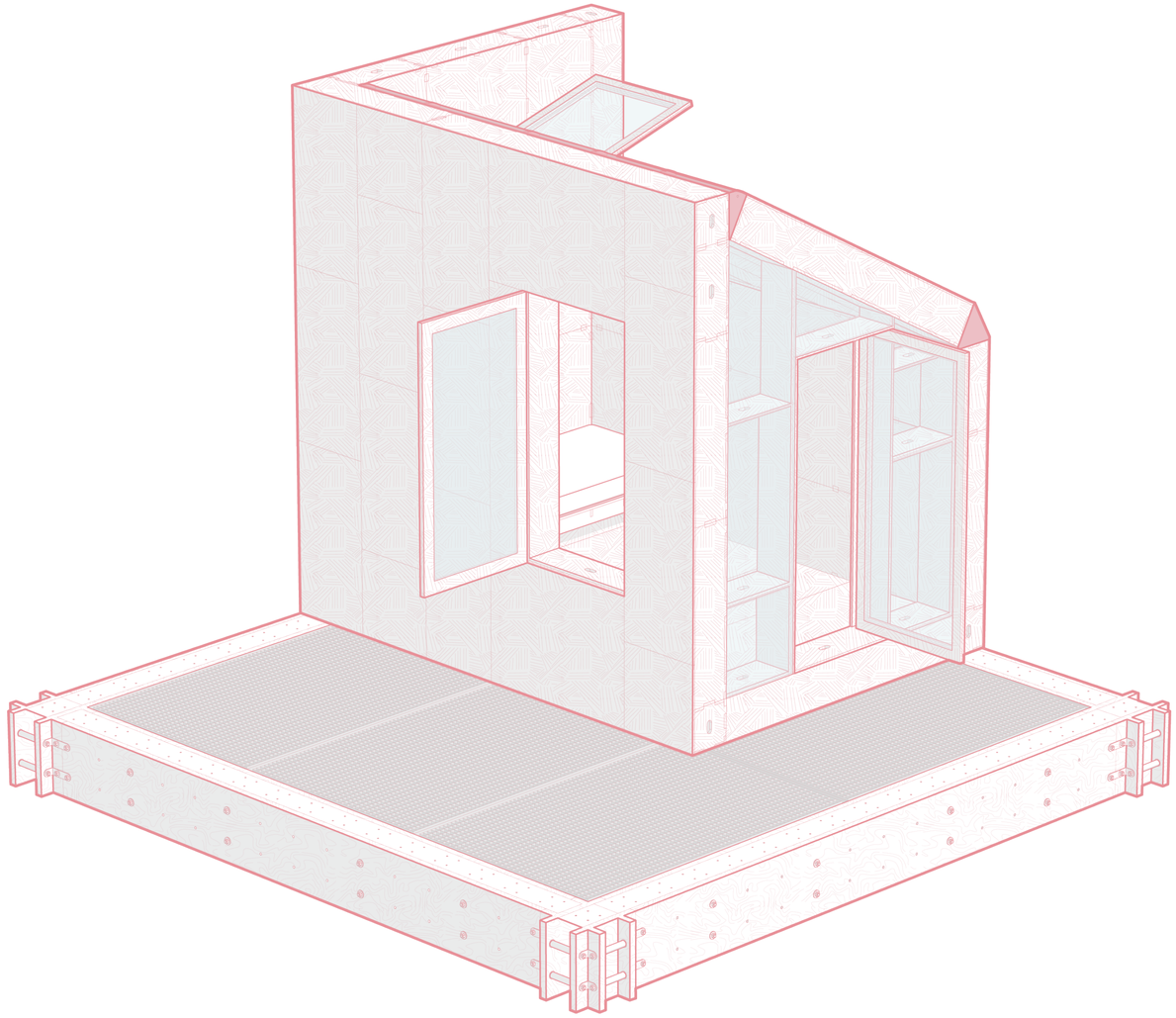
BASIC SINGLE UNIT
ASSEMBLY PROCESS

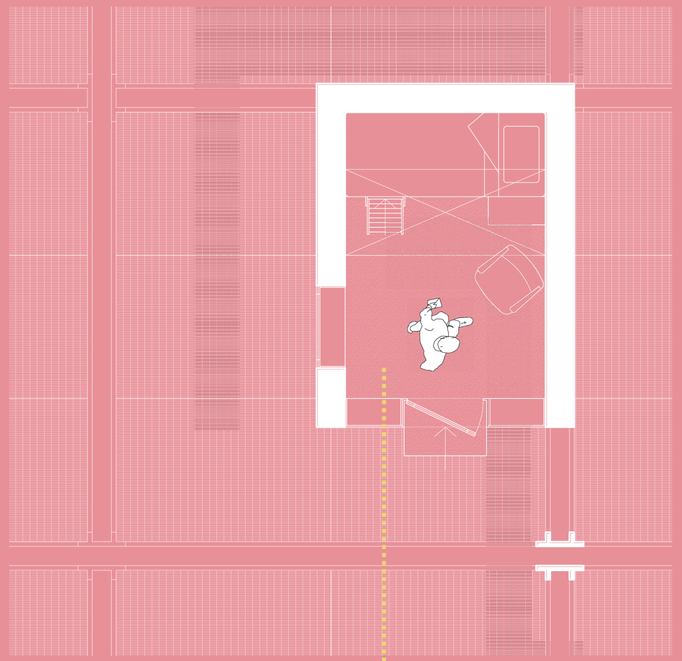




16mm twin walled
polycarbonate sheeting
(clear or opaque)

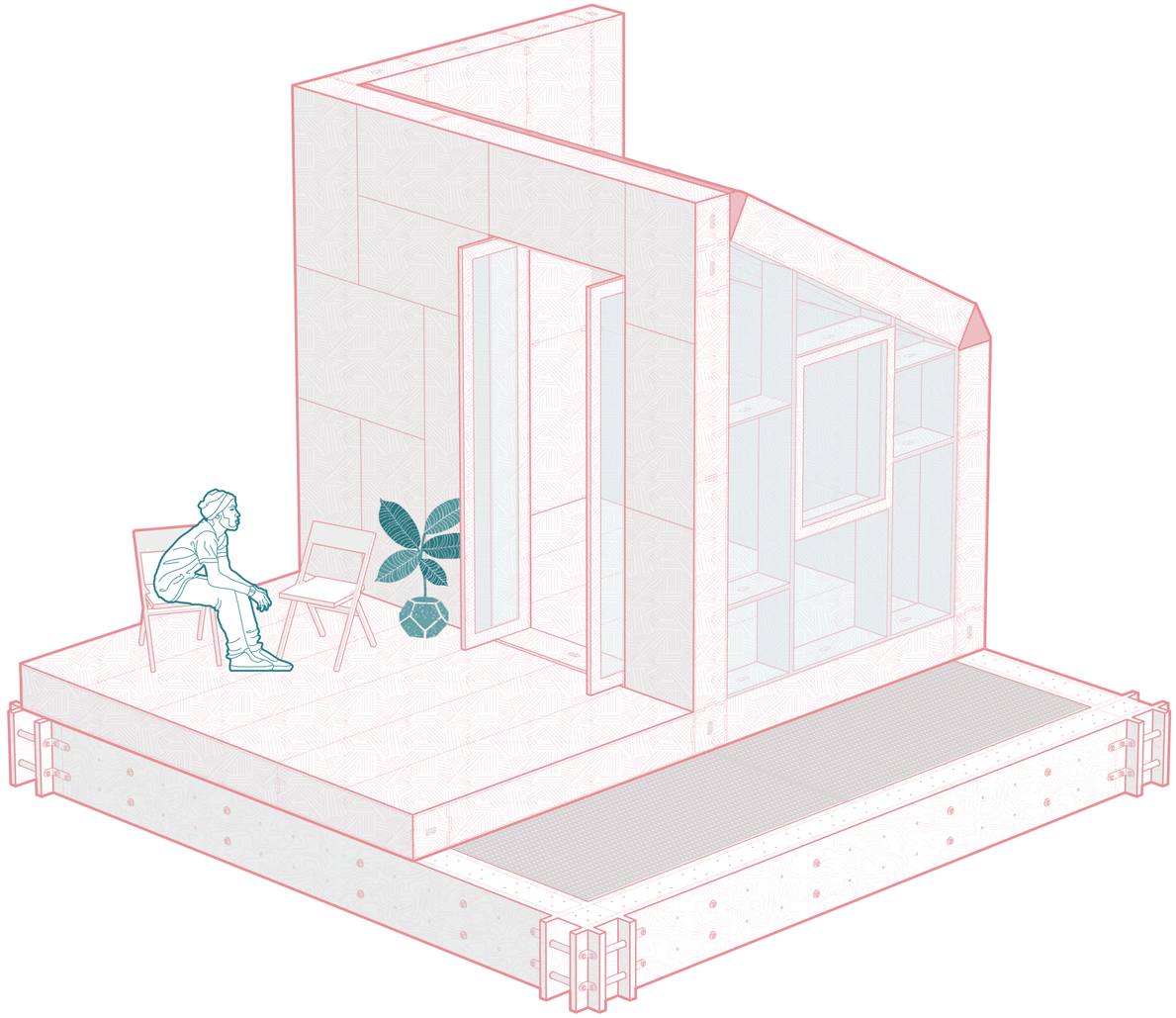
BASIC SINGLE UNIT
EXTERNAL ADAPTATIONS

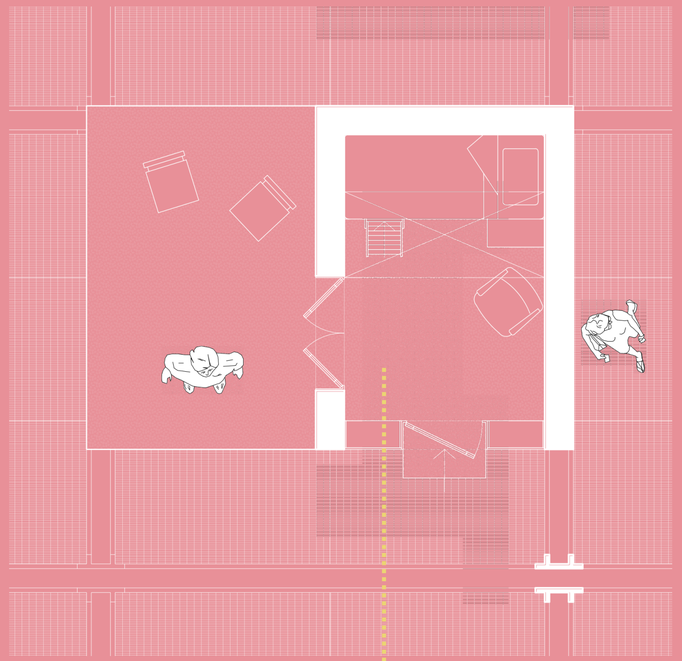




GIA = 6.5m^2

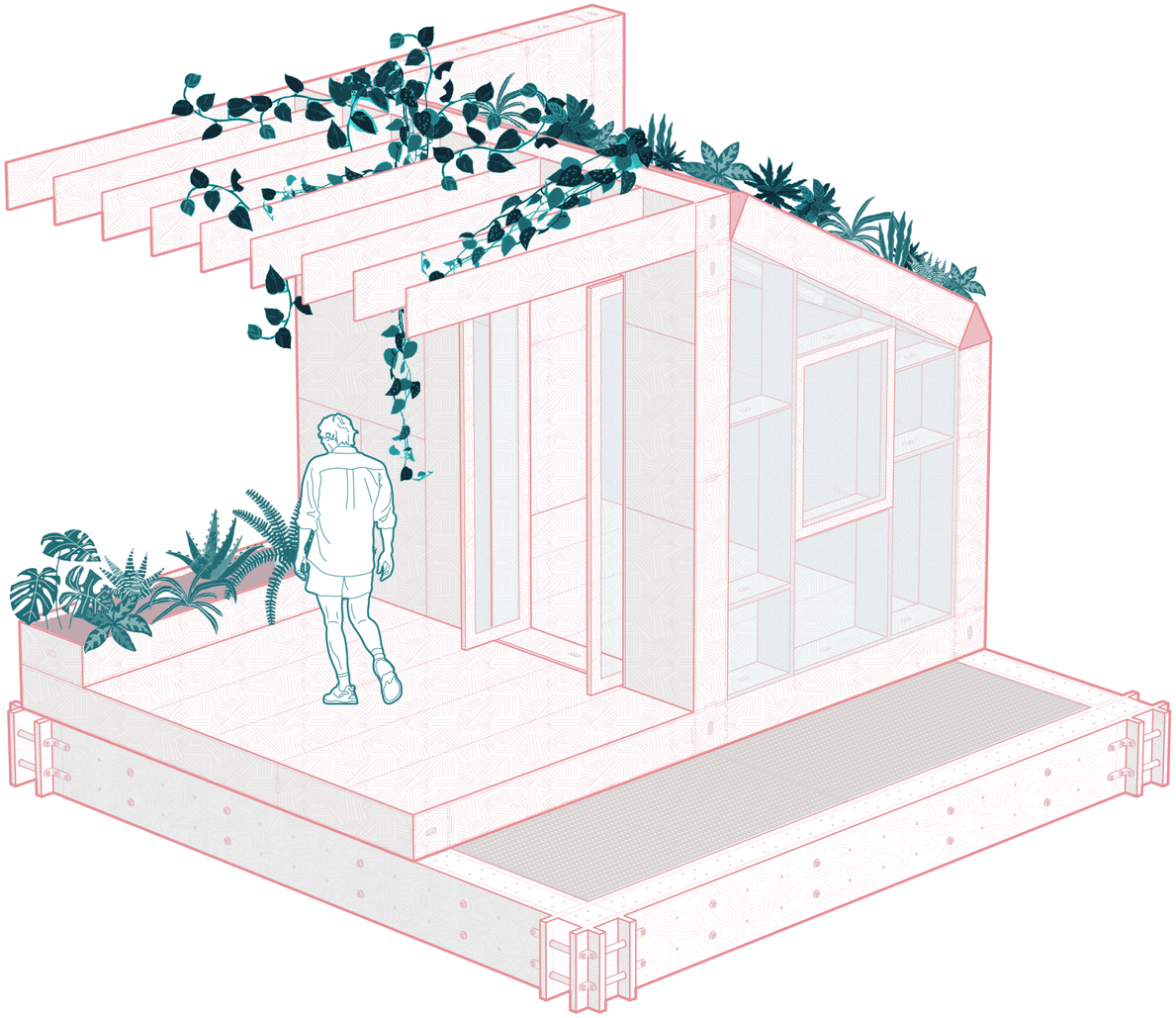
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EXTERNAL ADAPTATIONS

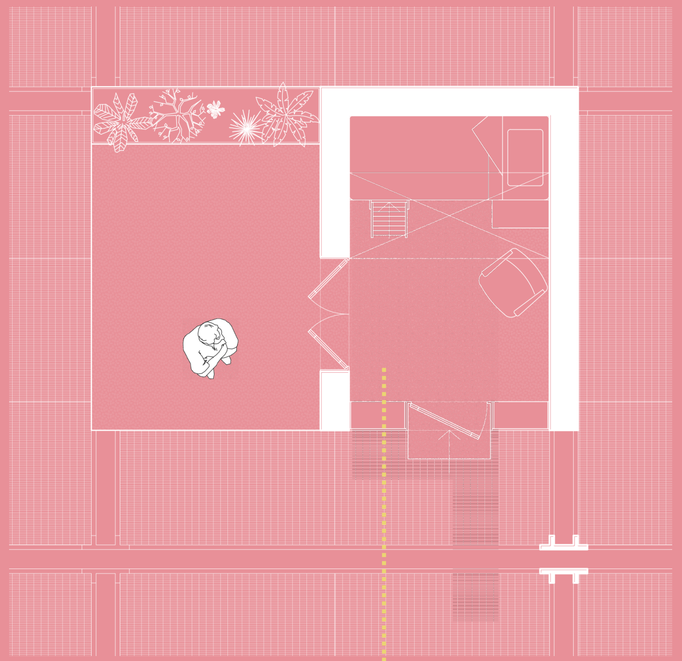




GIA = 6.5m^2

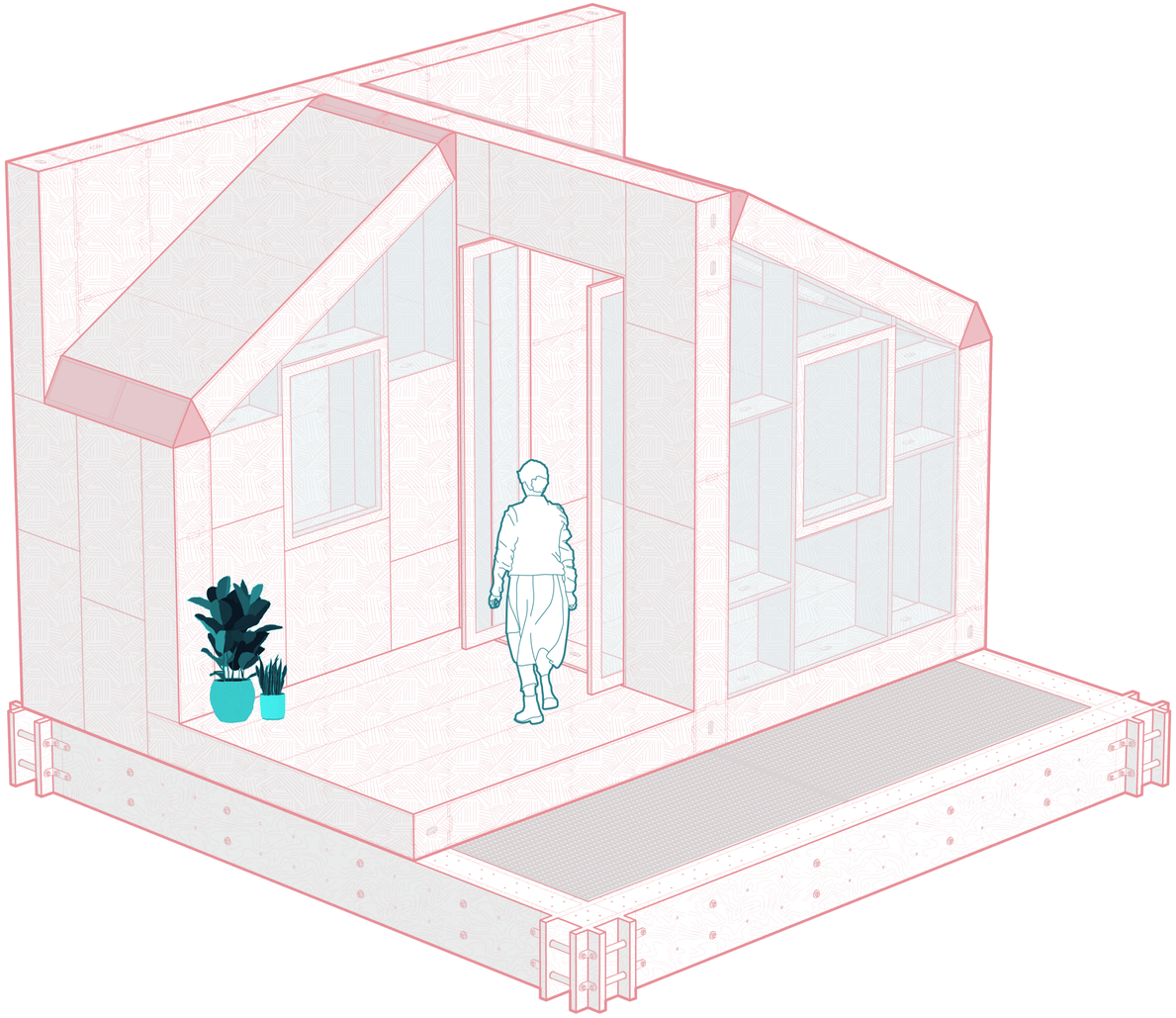
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EXTERNAL ADAPTATIONS

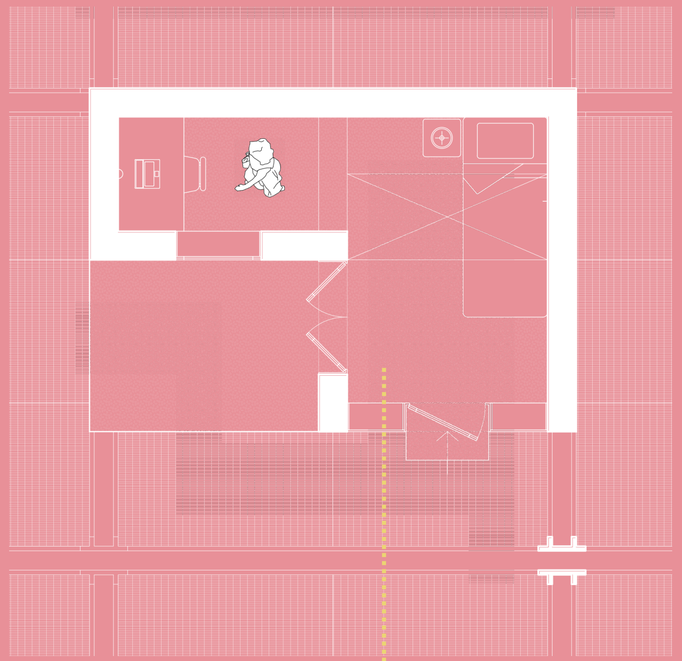




GIA = 6.5m^2

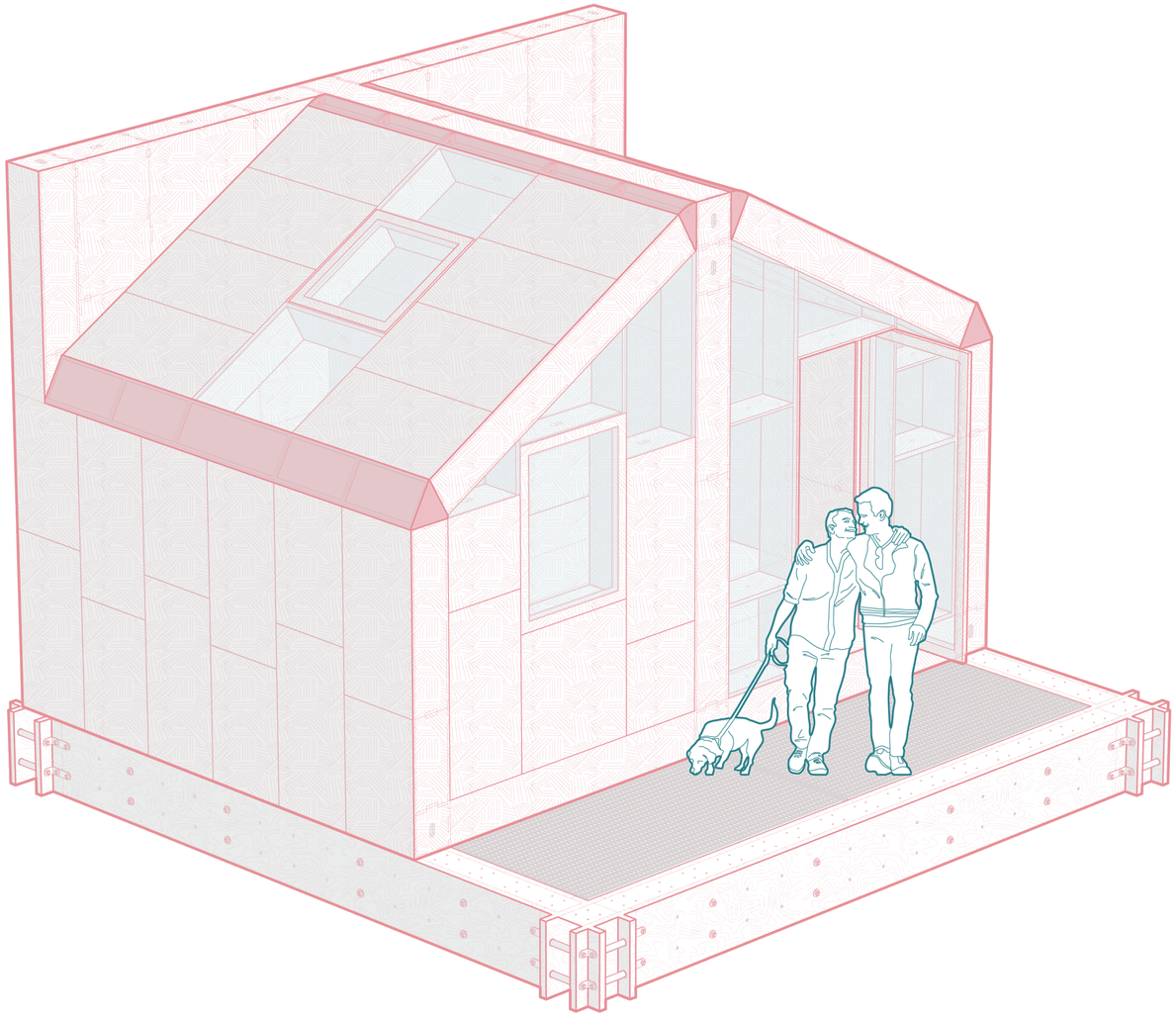
BASIC SINGLE UNIT
EXTERNAL ADAPTATIONS

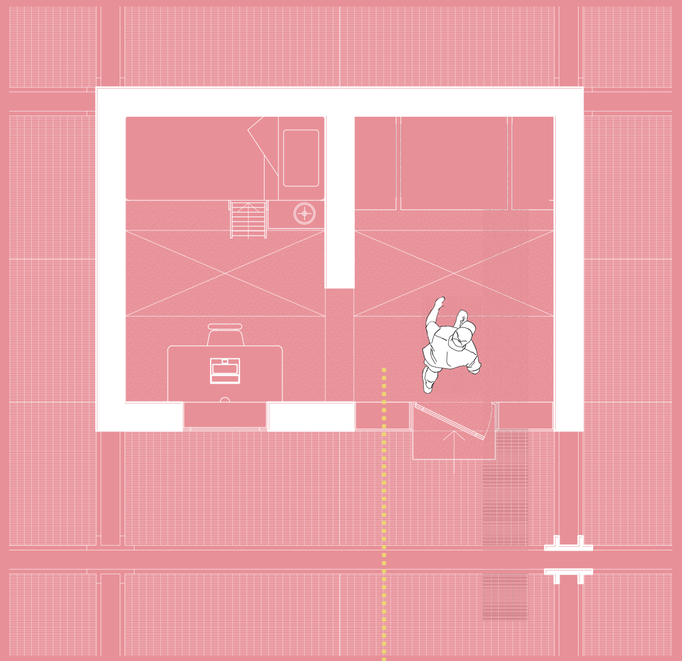




GIA = 9.5m^2

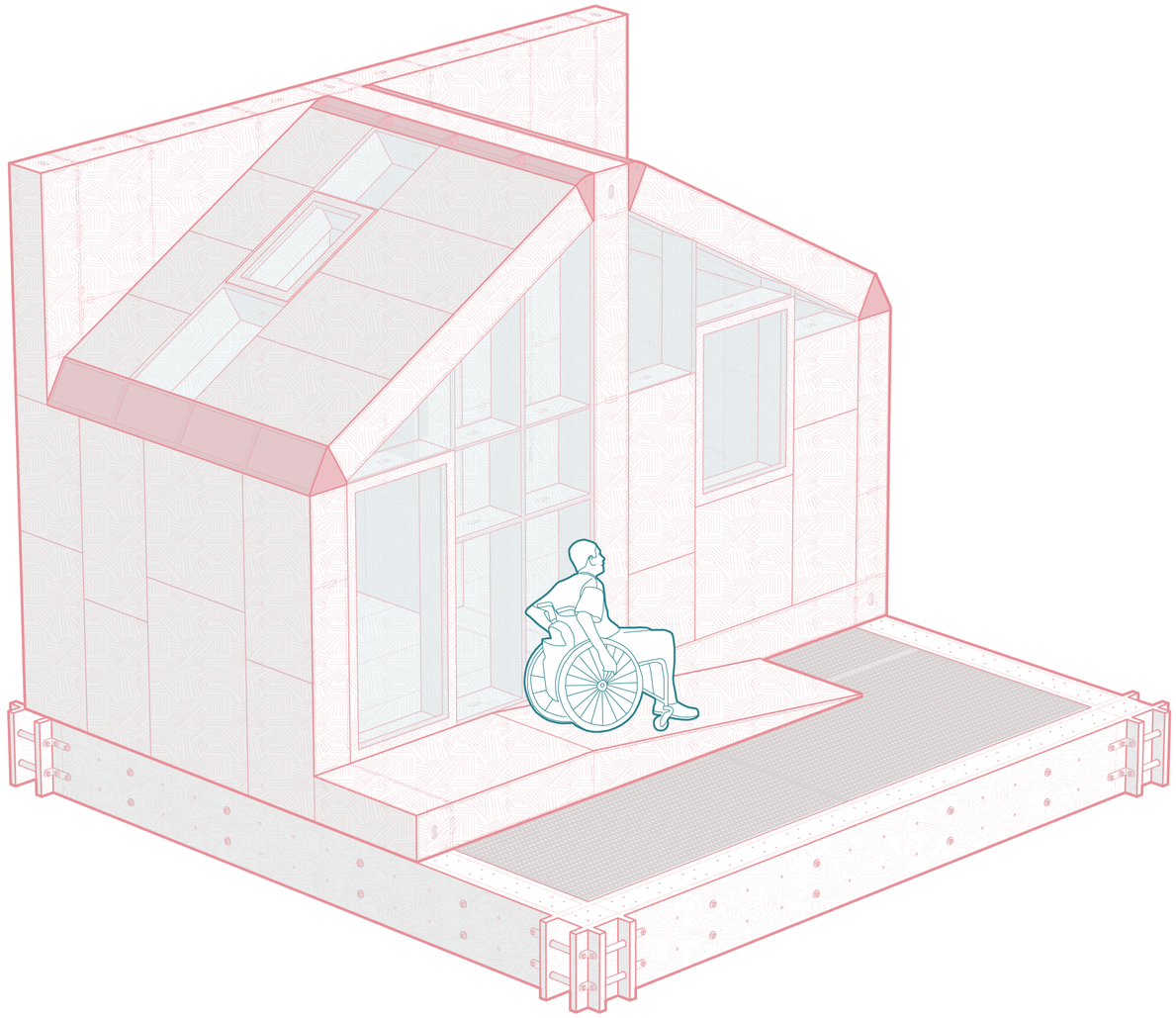
BASIC SINGLE UNIT
EXTERNAL ADAPTATIONS

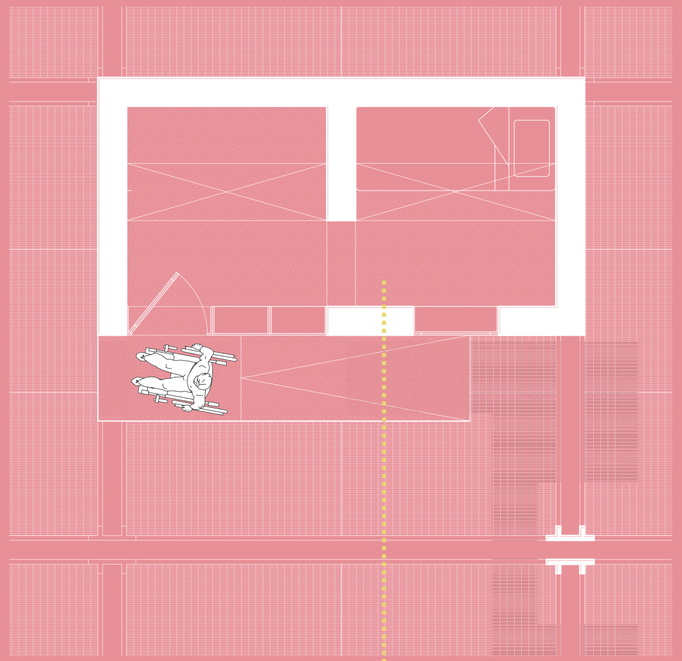




GIA = 13.5m^2

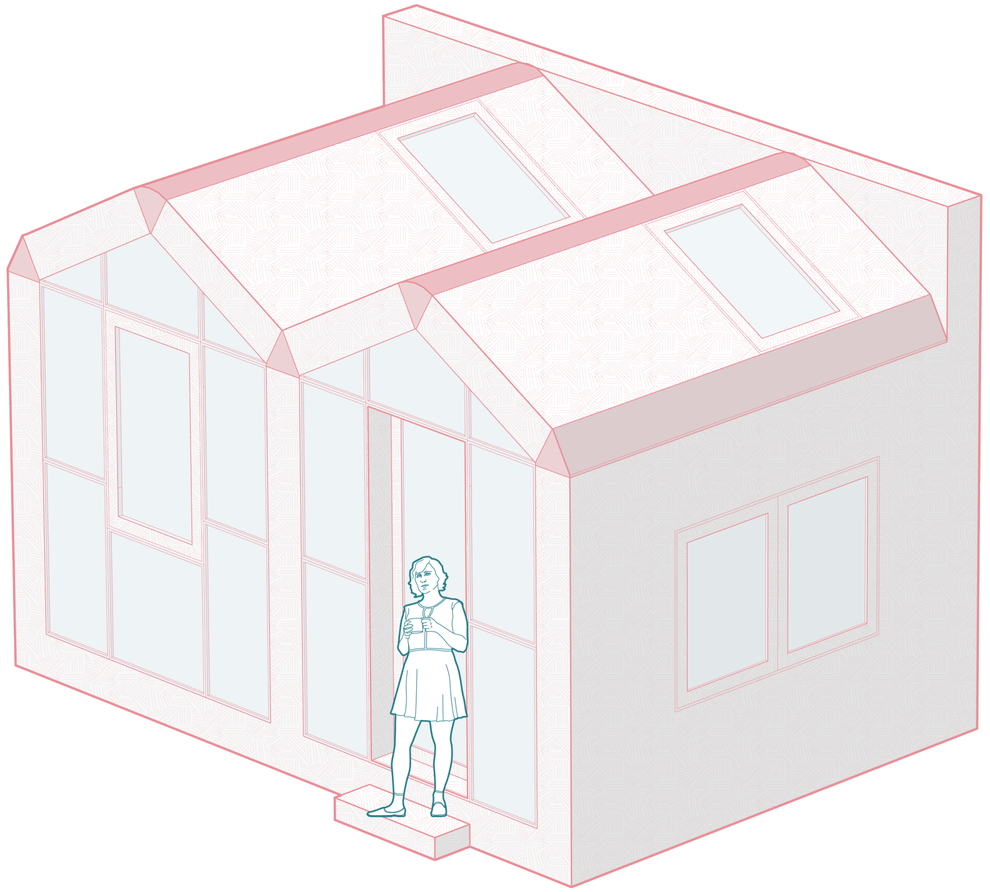
BASIC SINGLE UNIT
EXTERNAL ADAPTATIONS

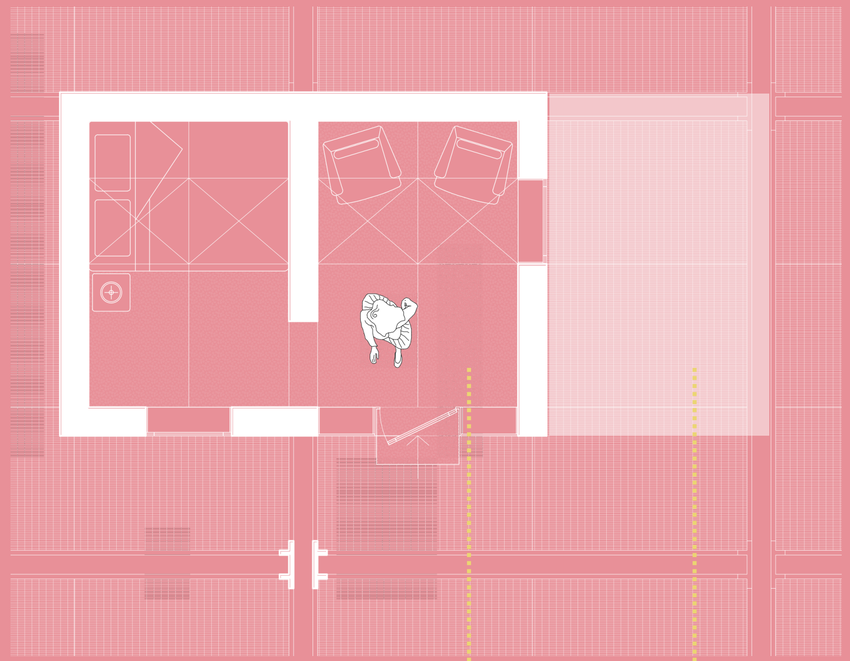




GIA = 9.4m^2

INFILL
DOUBLE UNIT

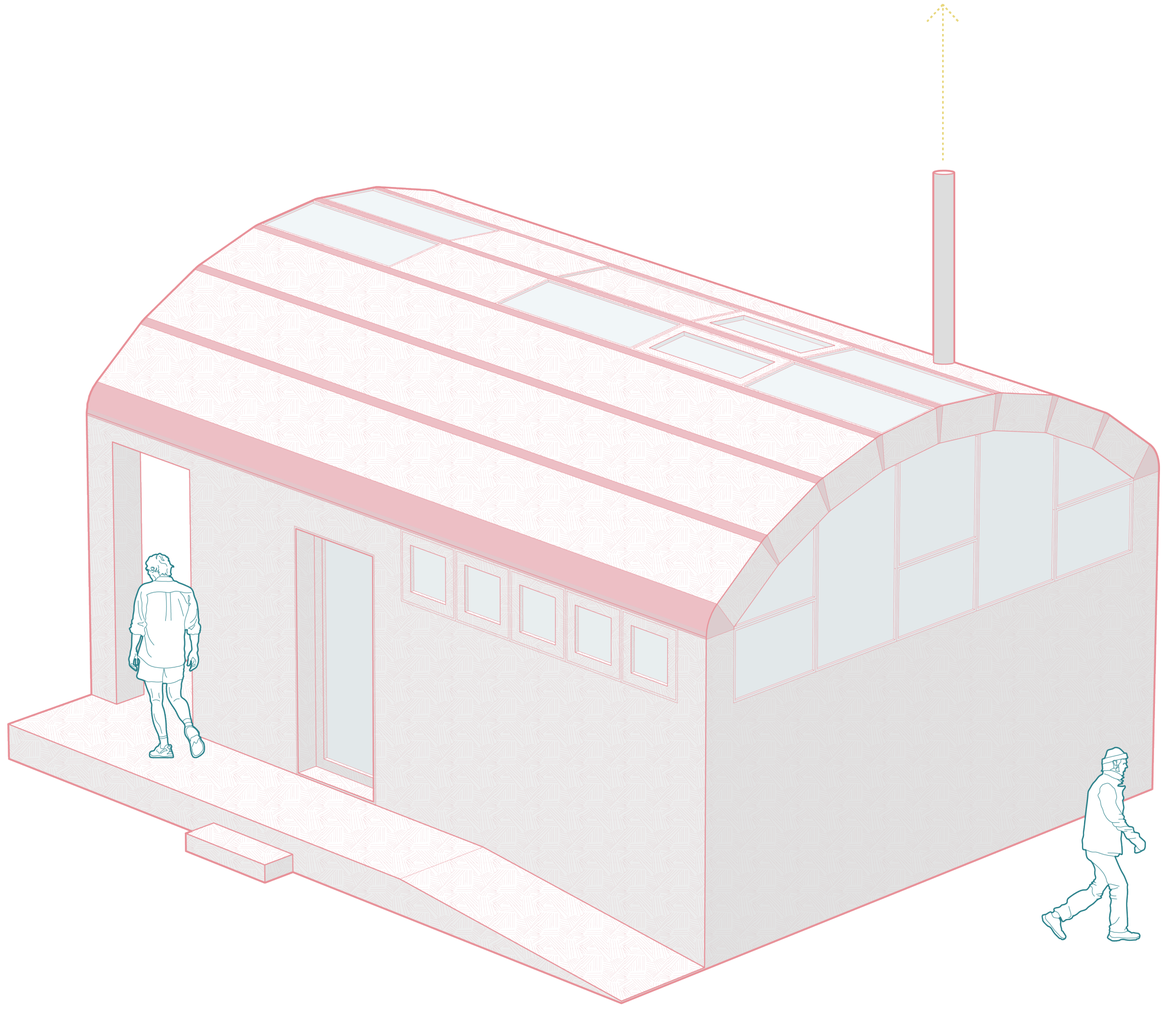


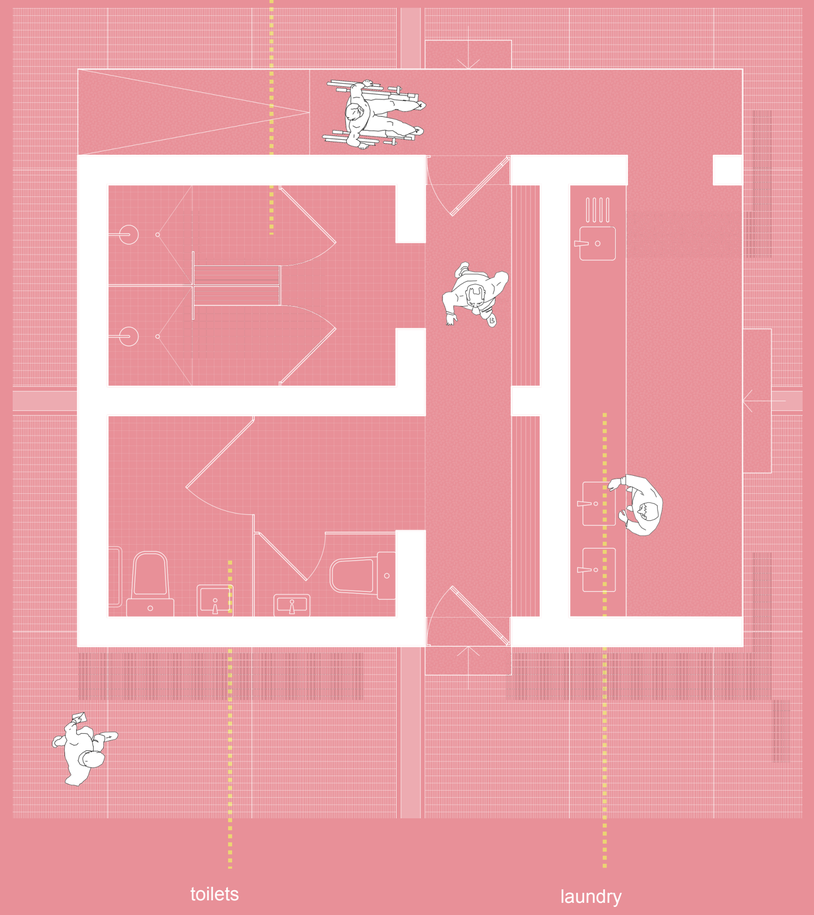


GIA = 13.5m^2

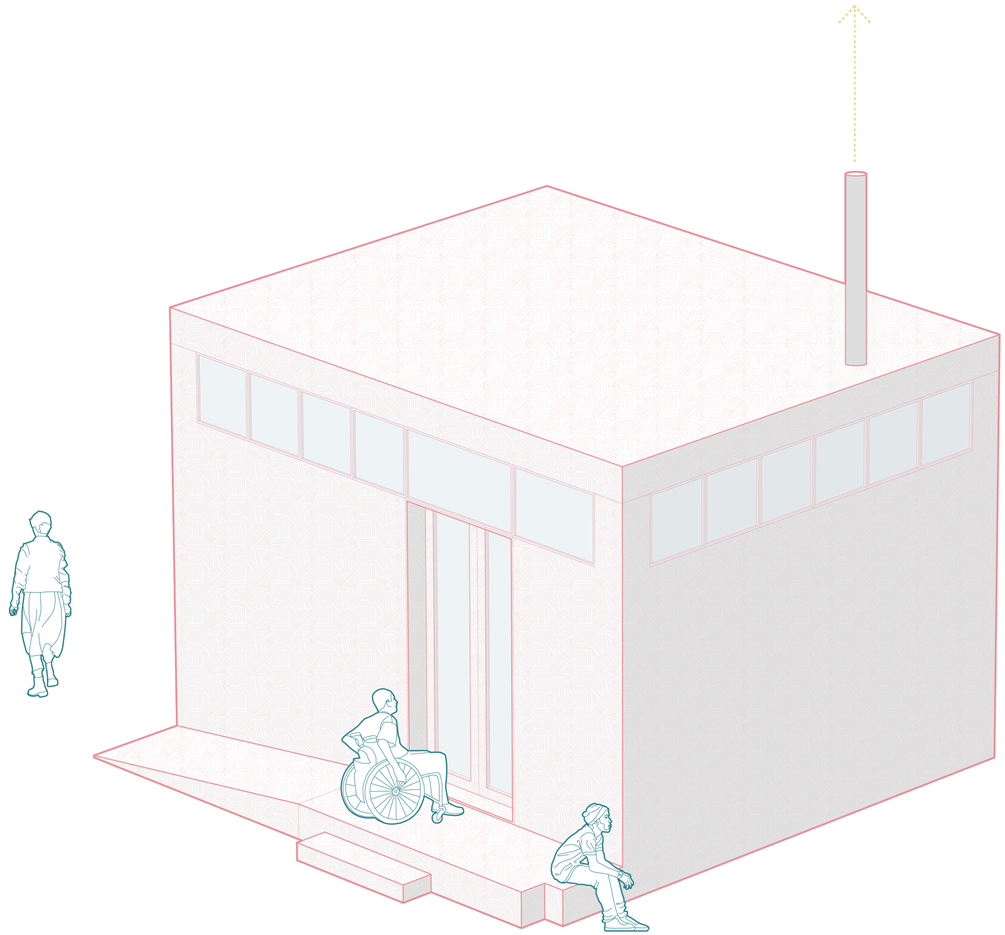
garden / expansion space

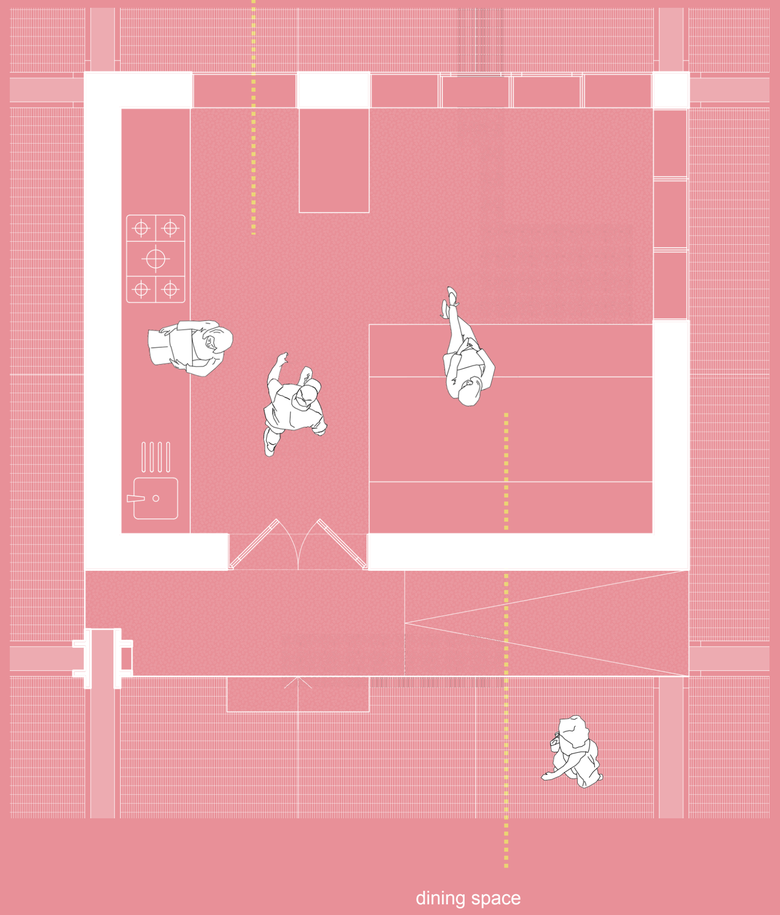
INFILL
SANITATION UNIT



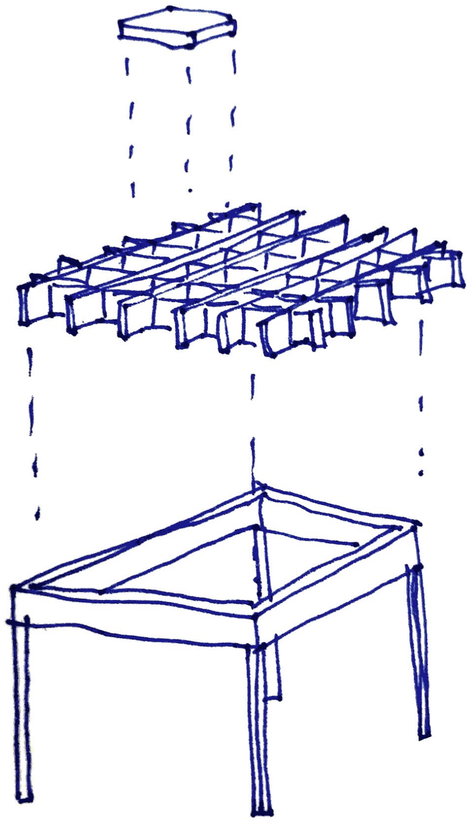


INFILL
DINING UNIT





FRAME
CONCEPT

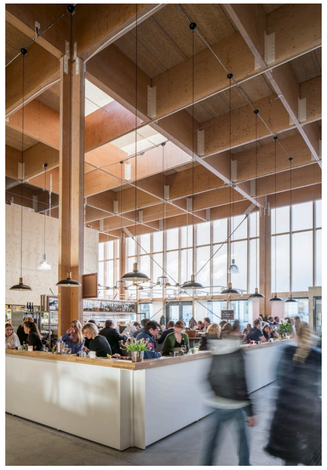


FRAME REQUIREMENTS

- modular
- opensource
- carry services
- open aesthetic
- plug and play
- fully circular / demountable





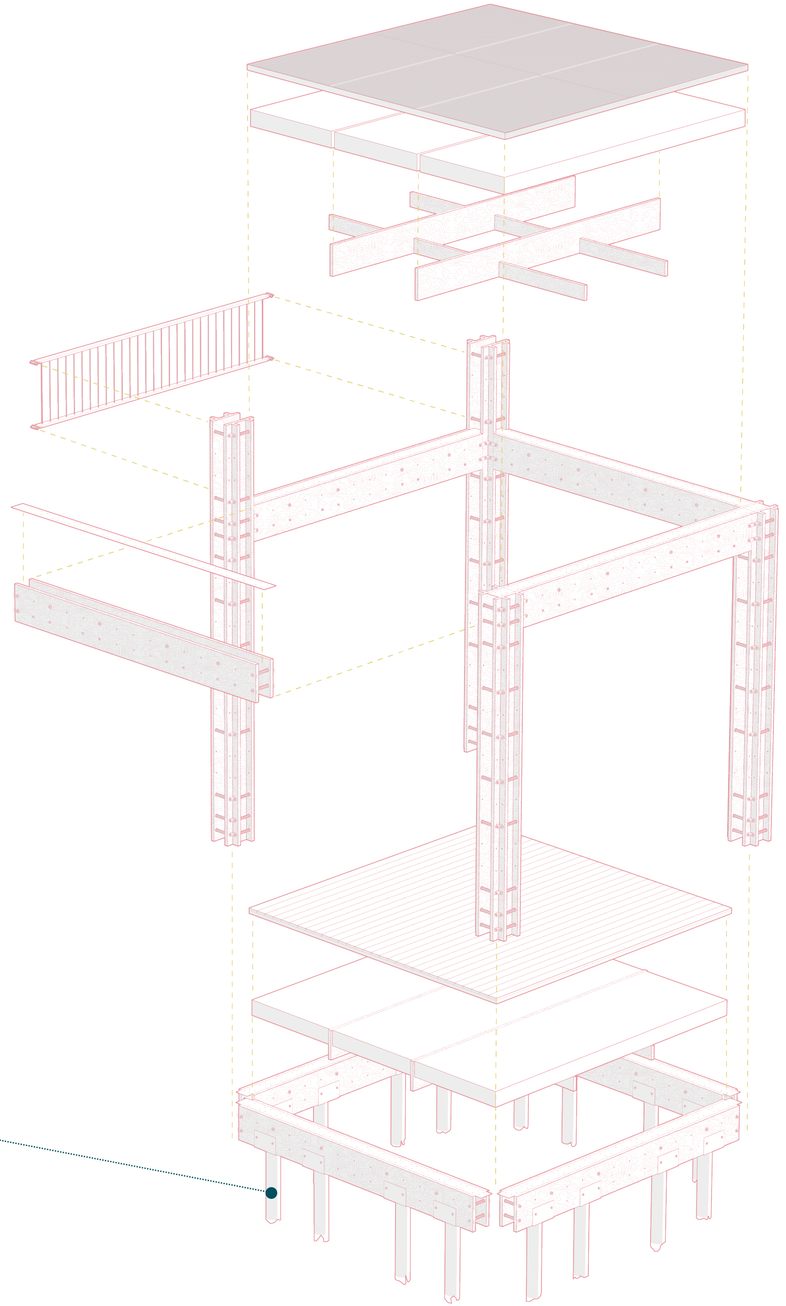


Östermalm's temporary market hall
TENGBOM ARCHITECTS

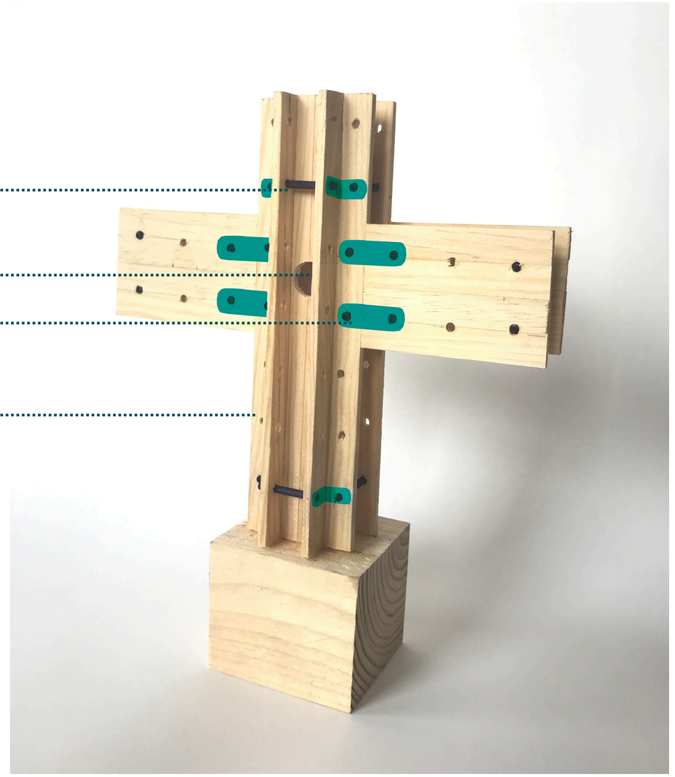
FRAME
ASSEMBLY PROCESS



screw piles

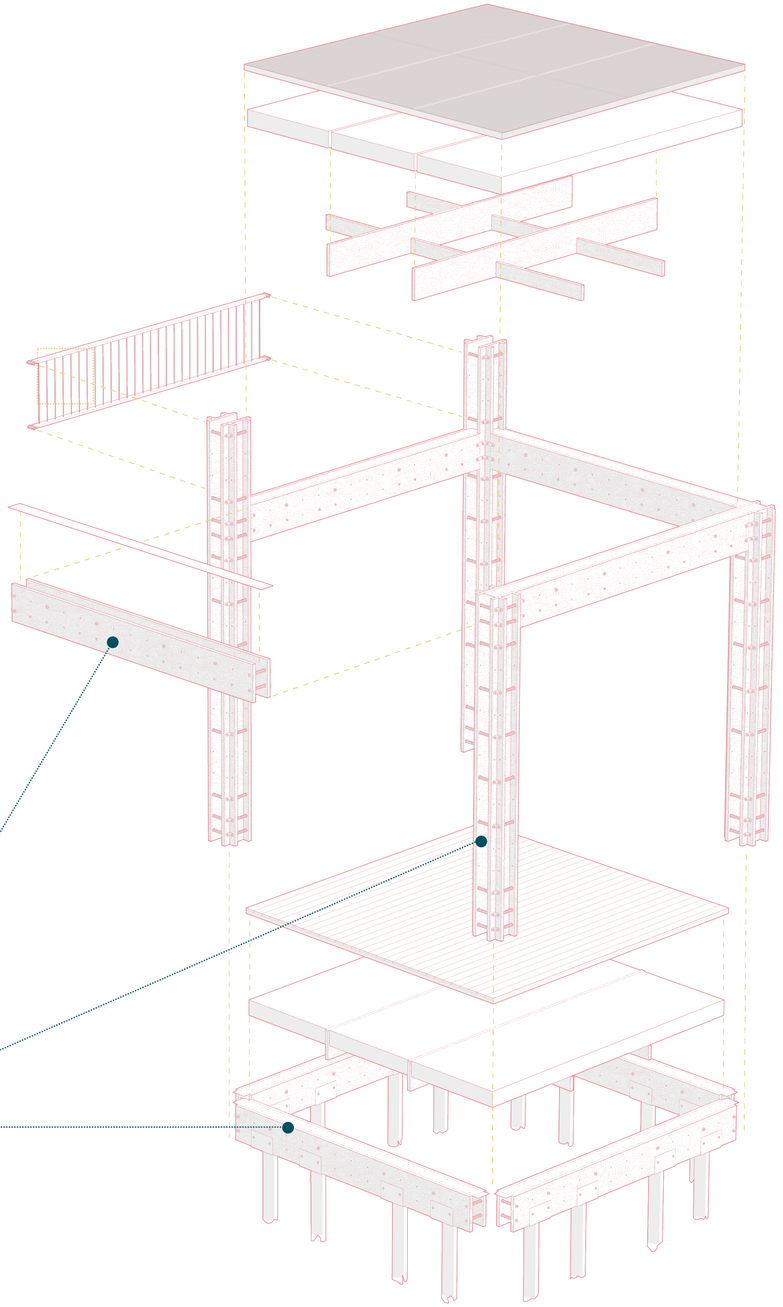


FRAME
ASSEMBLY PROCESS

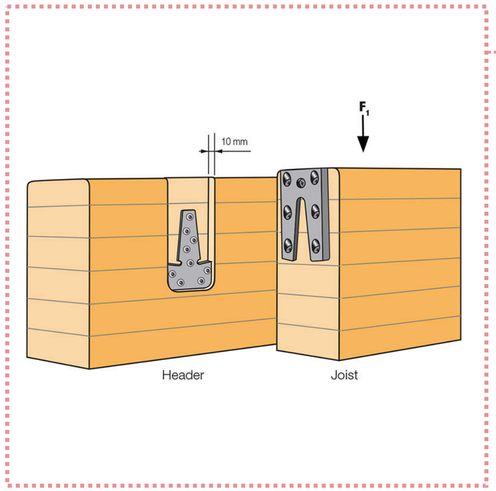




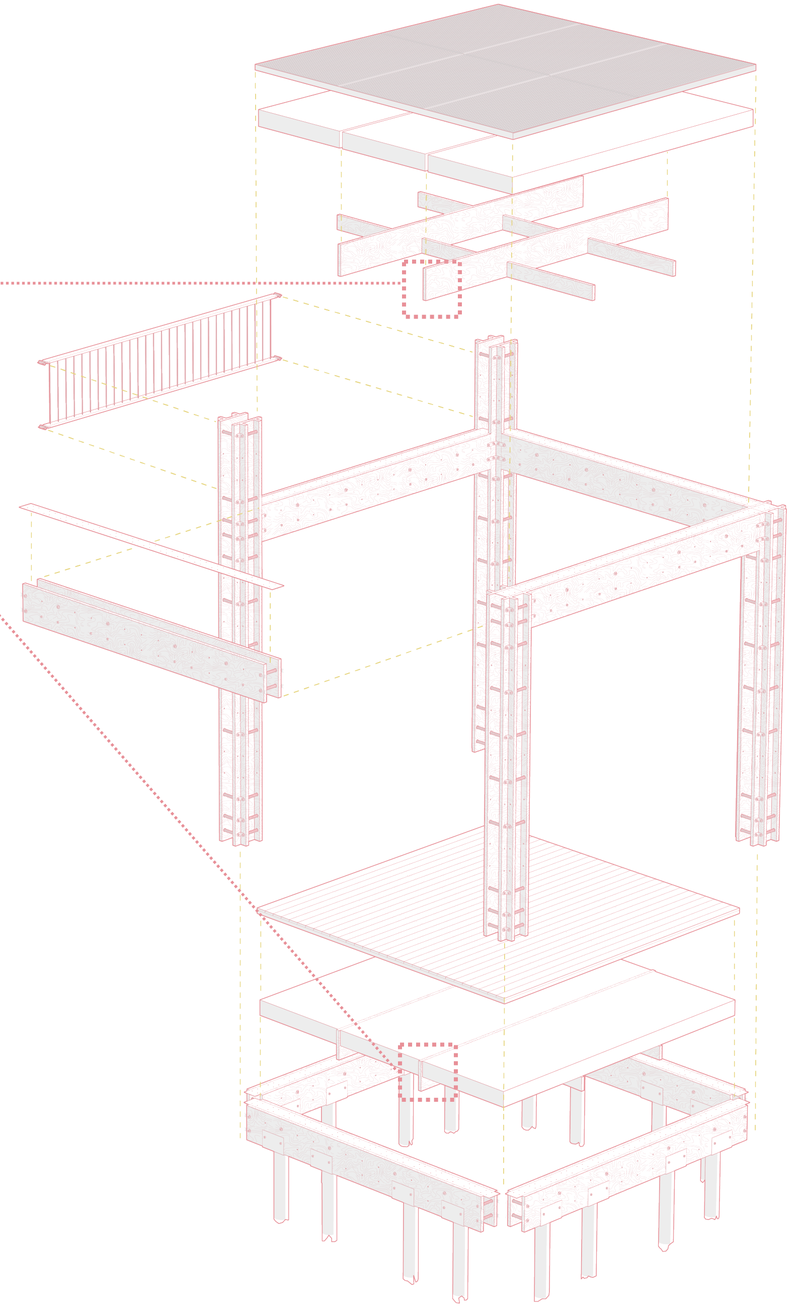
laminated veneer
lumber (LVL)



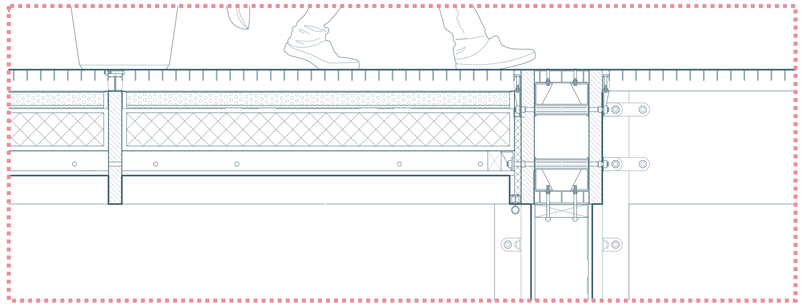
FRAME
ASSEMBLY PROCESS



demountable joist hangers



FRAME
ASSEMBLY PROCESS



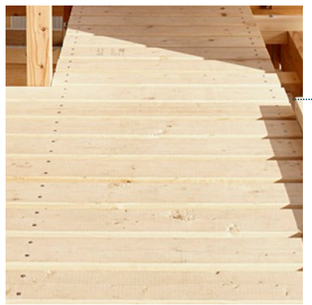
FF insulated timber cassette
w. granulated cork drip tray



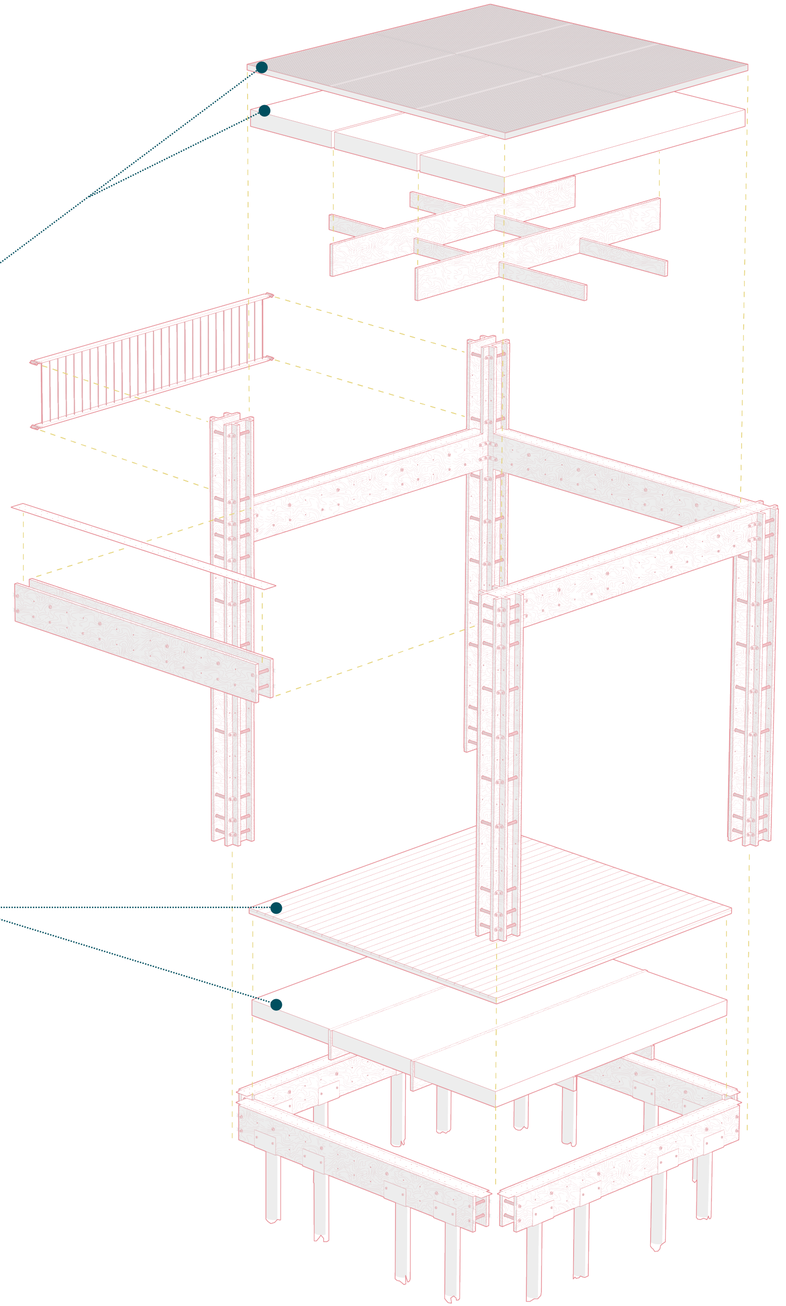
elephant grating



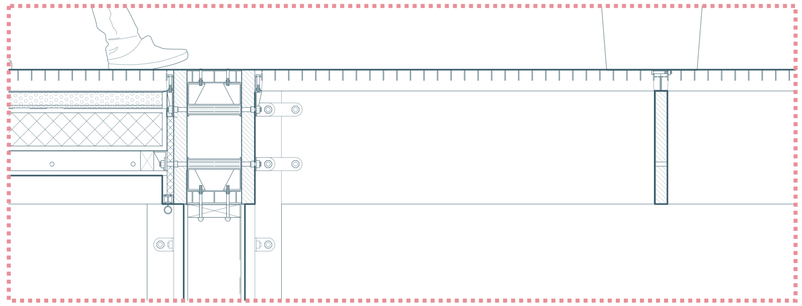
GF insulated timber cassette
w. under floor heating



timber floor panel



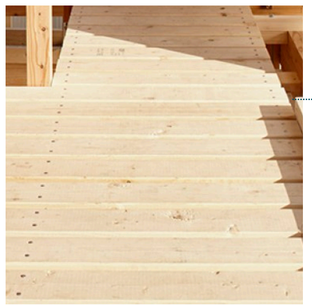
FRAME
ASSEMBLY PROCESS



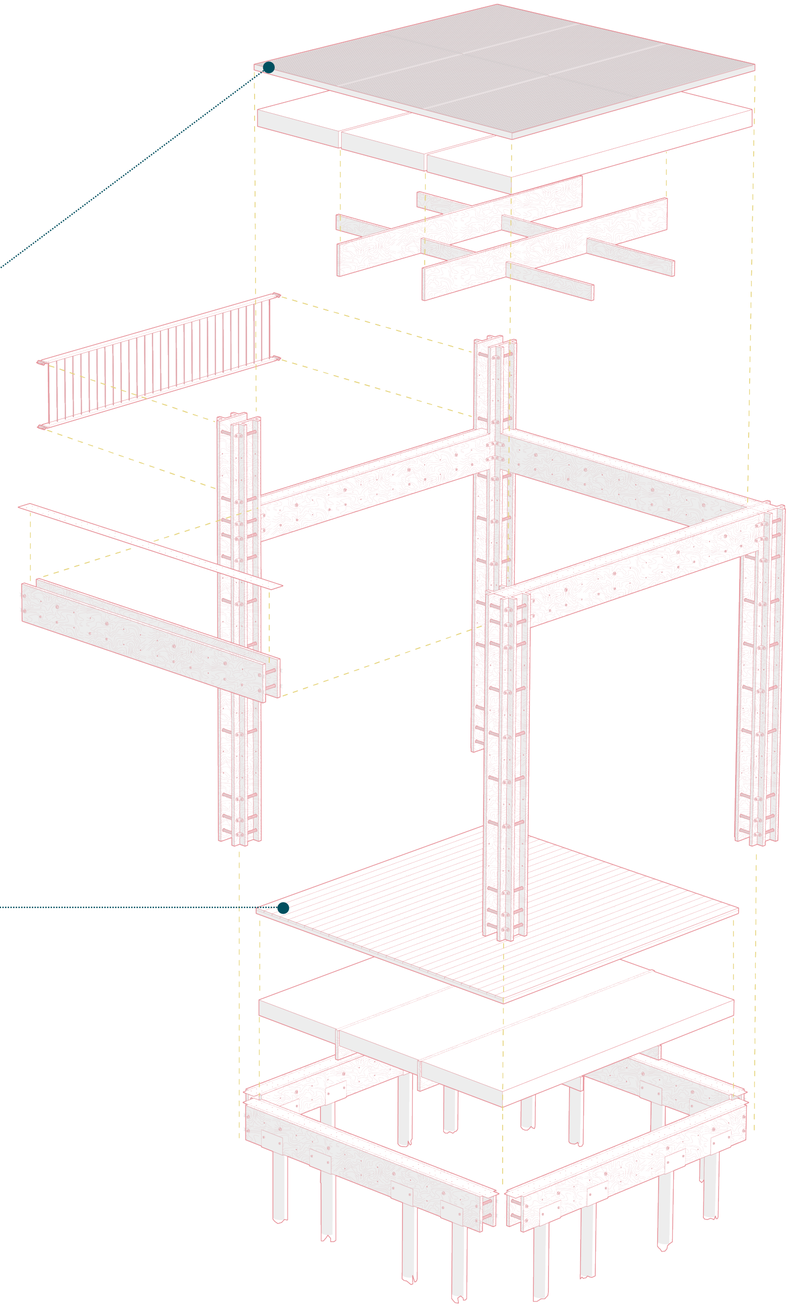


elephant grating

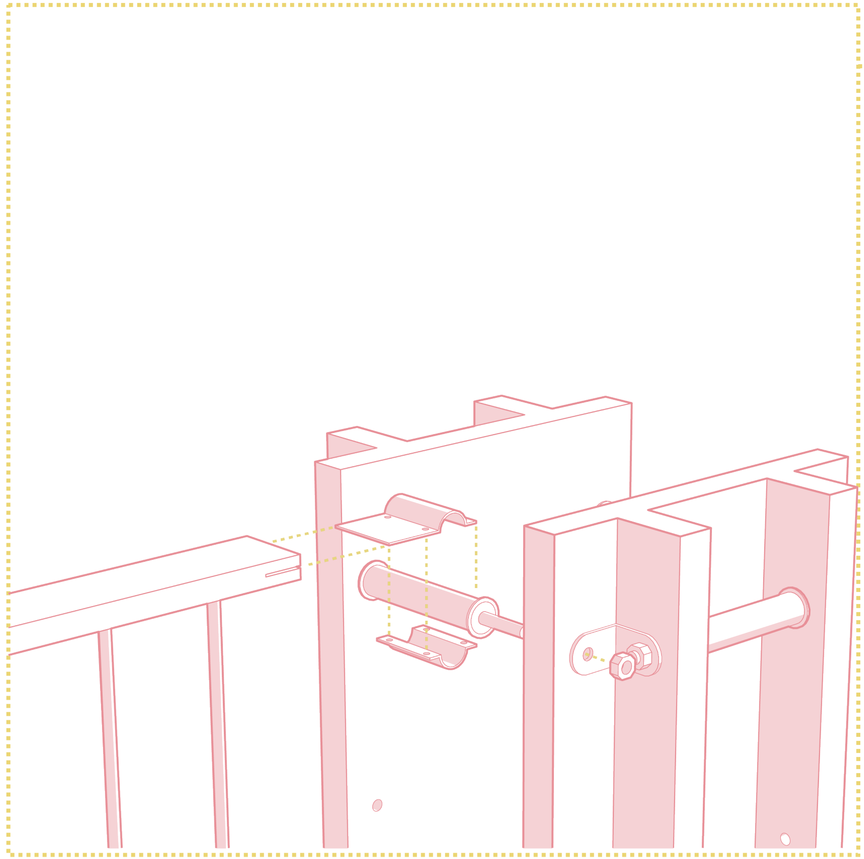




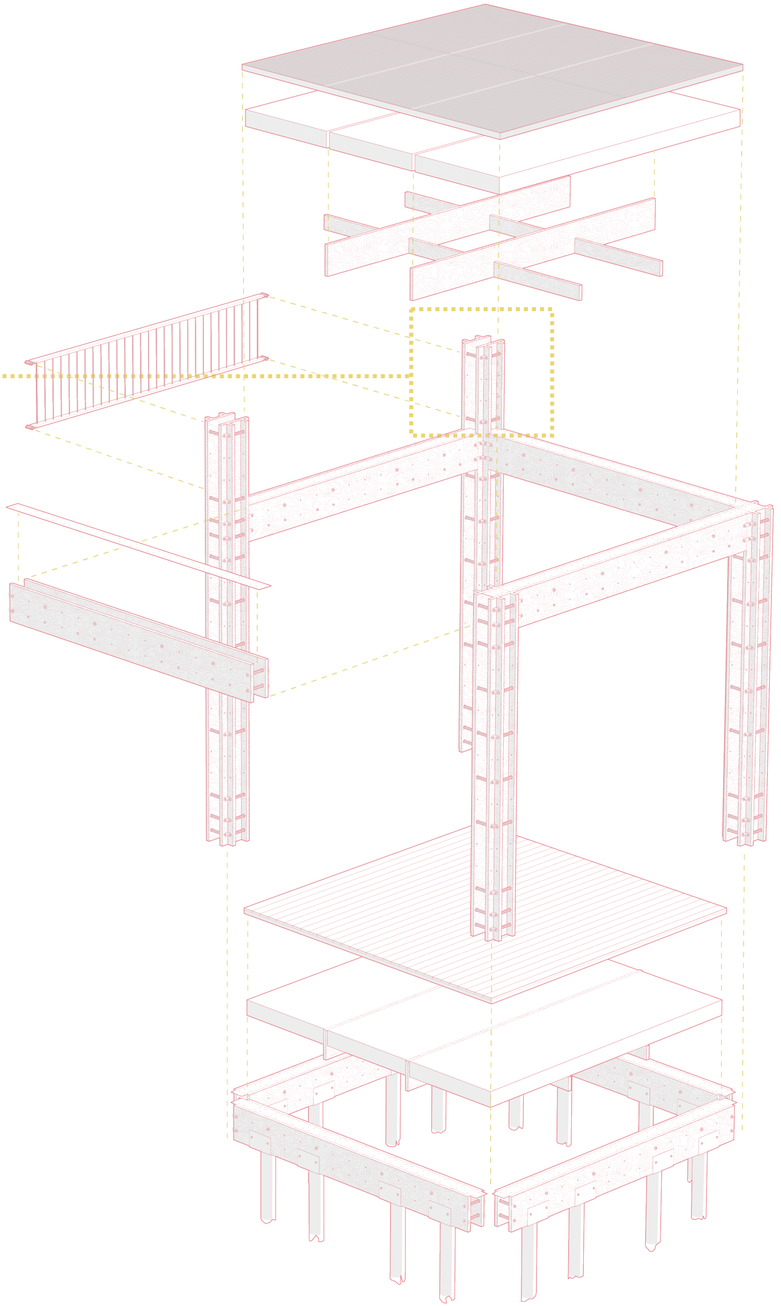
timber floor panel



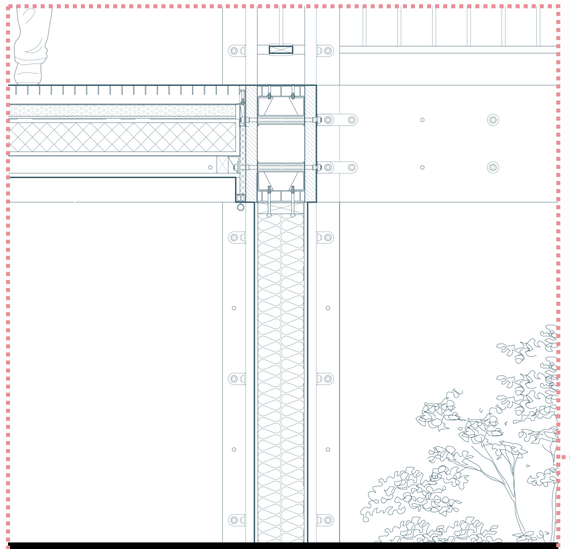
FRAME
ASSEMBLY PROCESS



plug-and-play hand rail exploded detail



FRAME
ASSEMBLY PROCESS





ventilation grill

chosen facing material

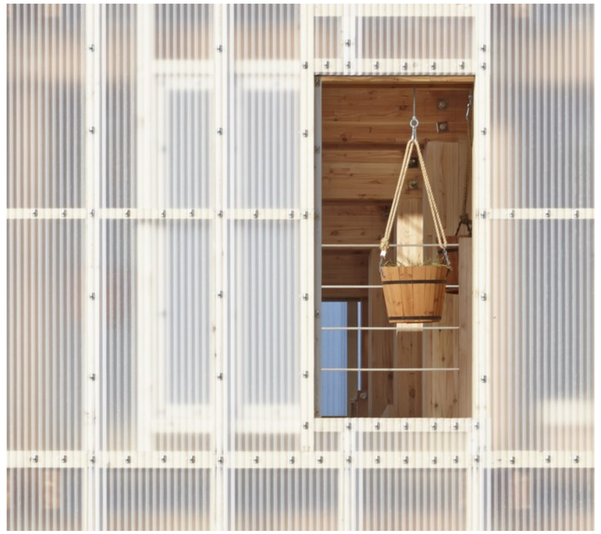
timber studs

CANOPY
CONCEPT



CANOPY REQUIREMENTS

- modular
- weather resistant
- harvest rain & solar
- demountable
- climate comfort
- support open building system

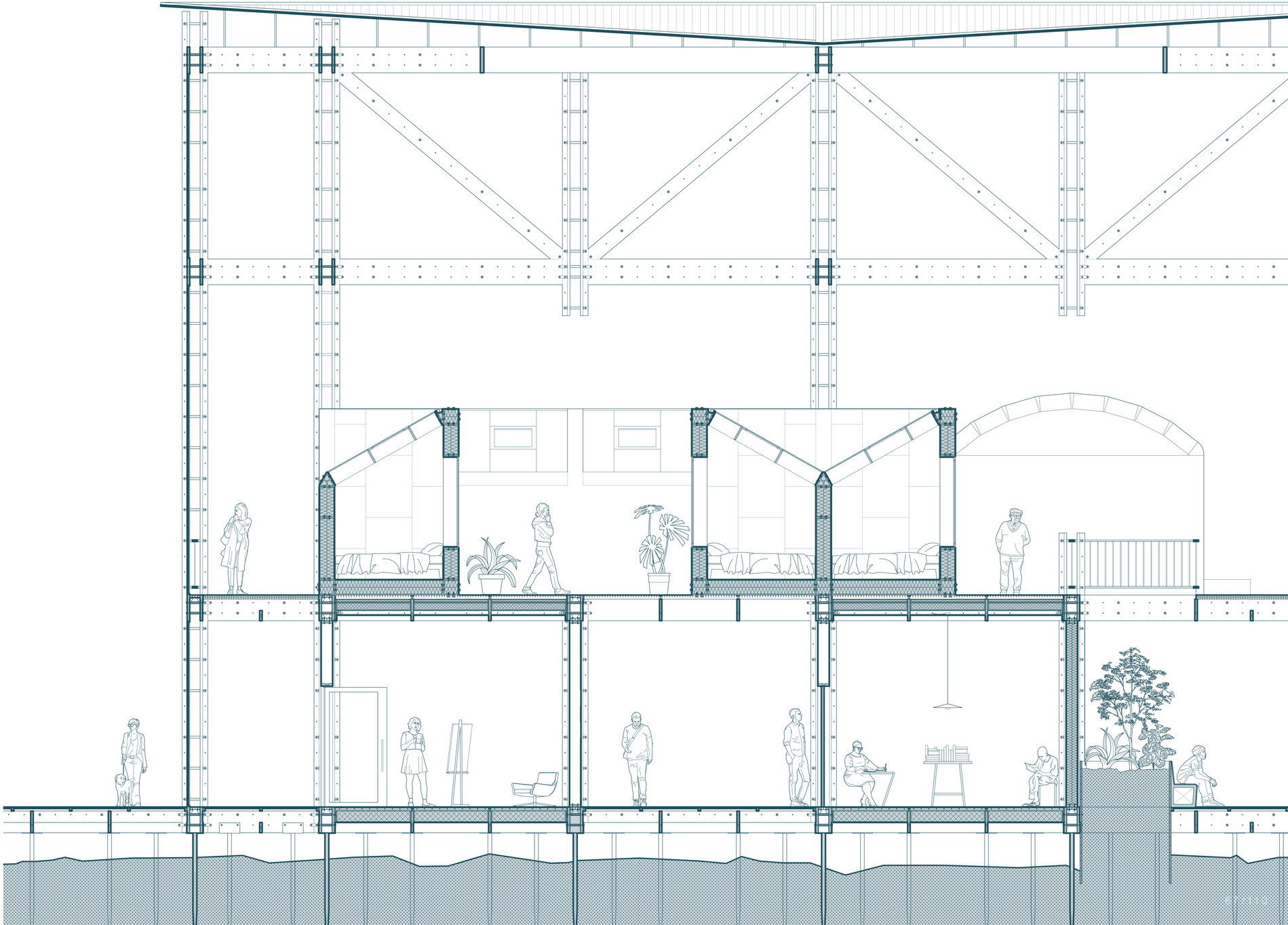




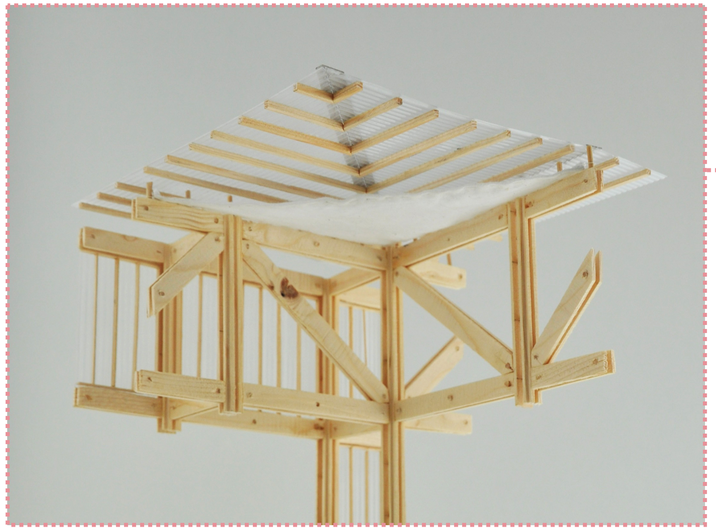
nest we grow

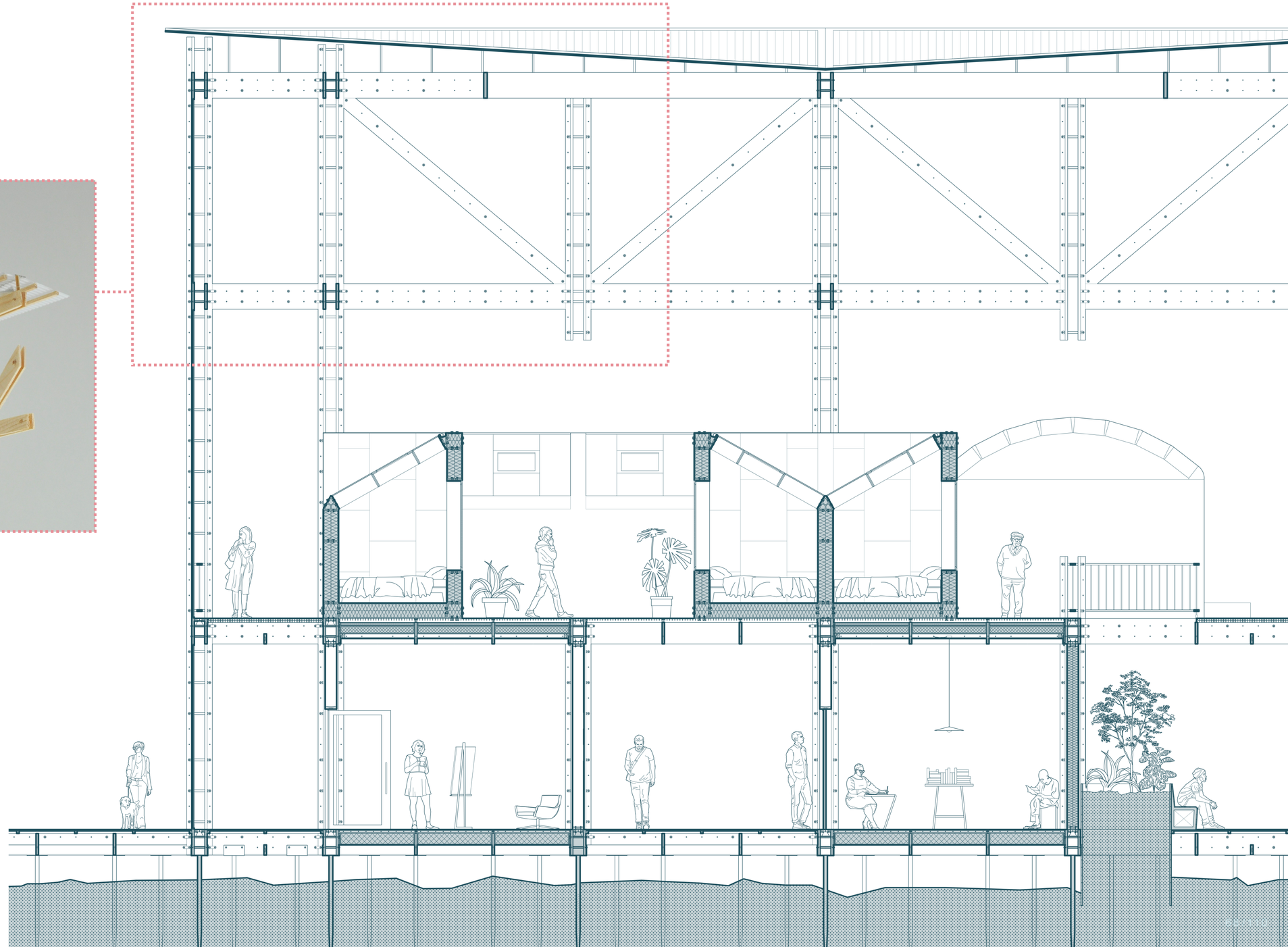
KENGO KUMA & ASSOCIATES

CANOPY
DETAIL SECTION



CANOPY
STRUCTURE

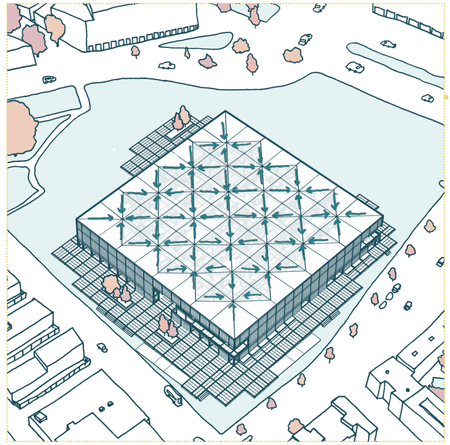


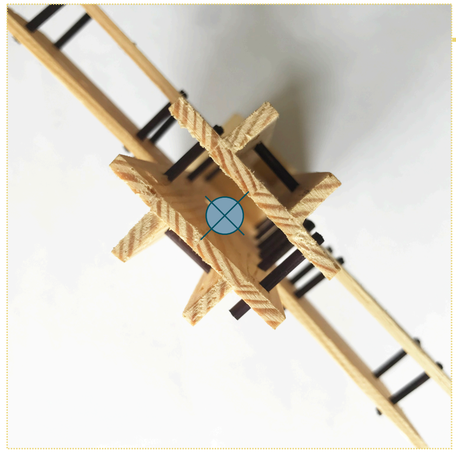


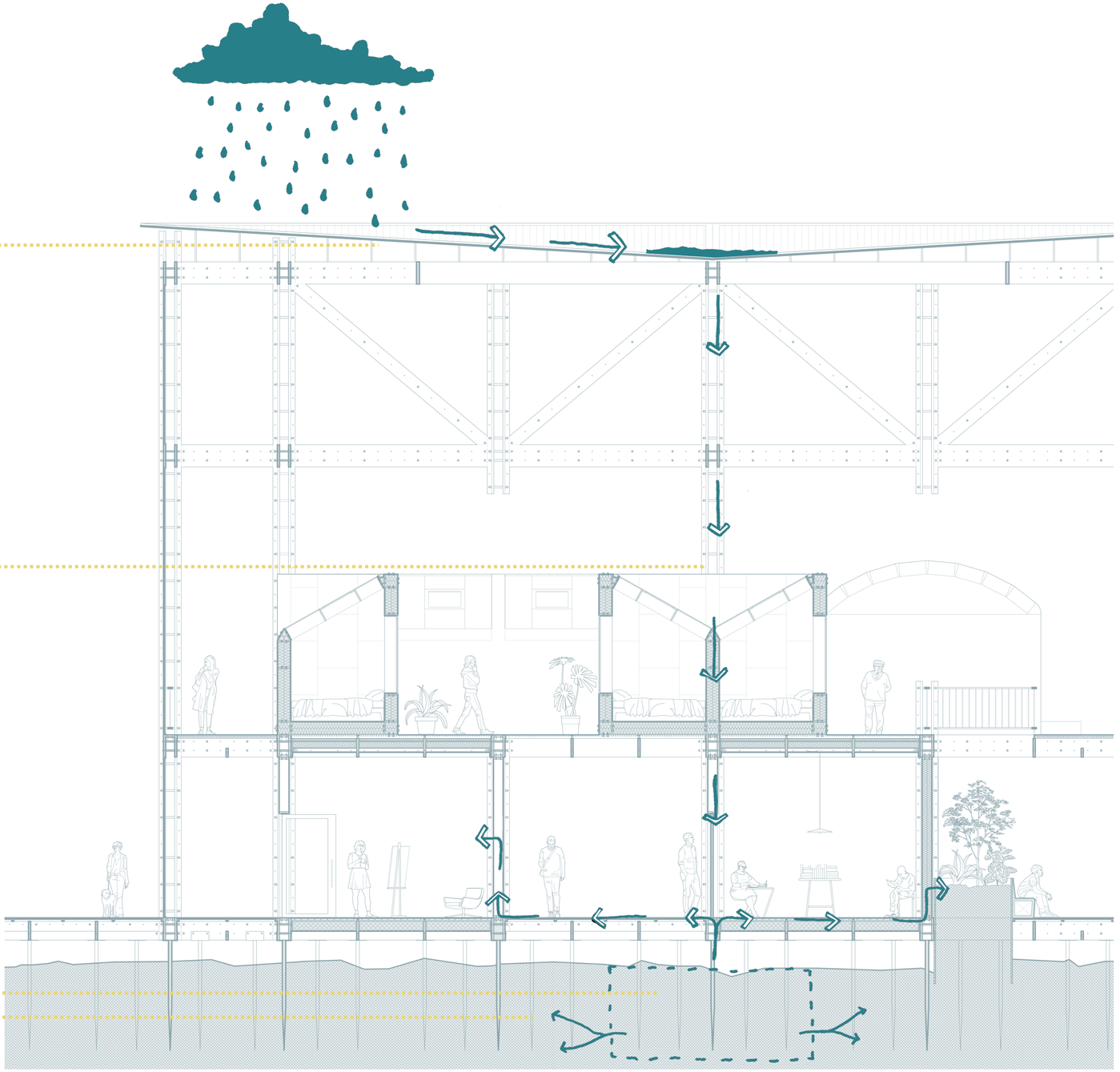
BUILDING TECHNOLOGY
RAIN WATER STRATEGY

7,120m^2 = approx. 6,000,000
litres rain water collected per year

500,000 litres required
per 12 dwelling units

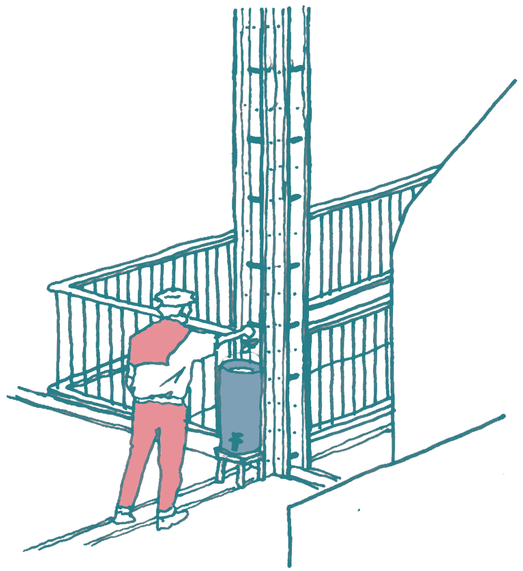




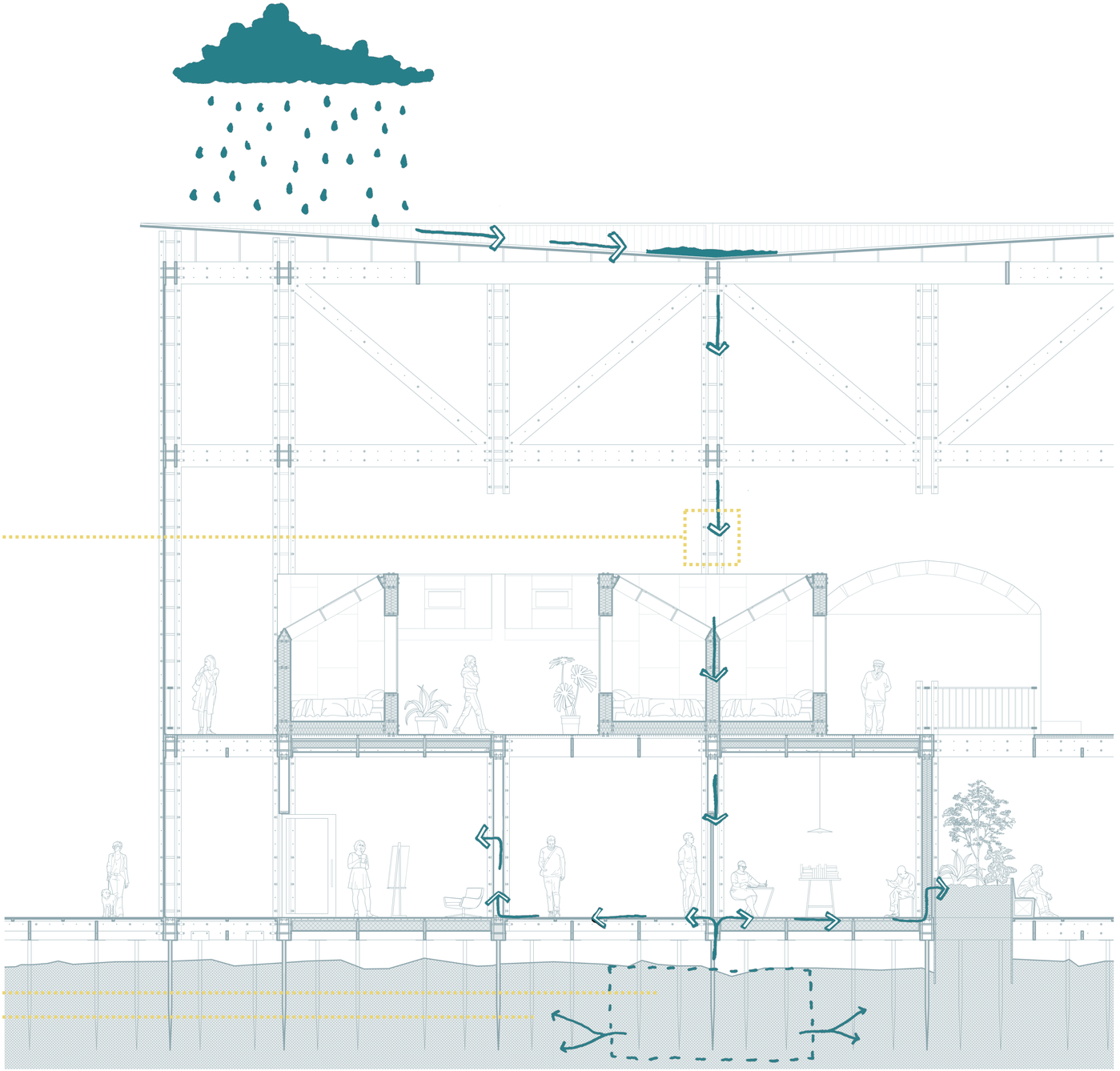


rain water storage
overflow soak away

BUILDING TECHNOLOGY
RAIN WATER STRATEGY

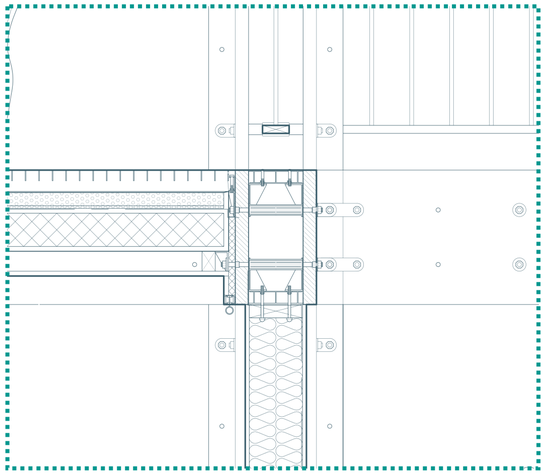


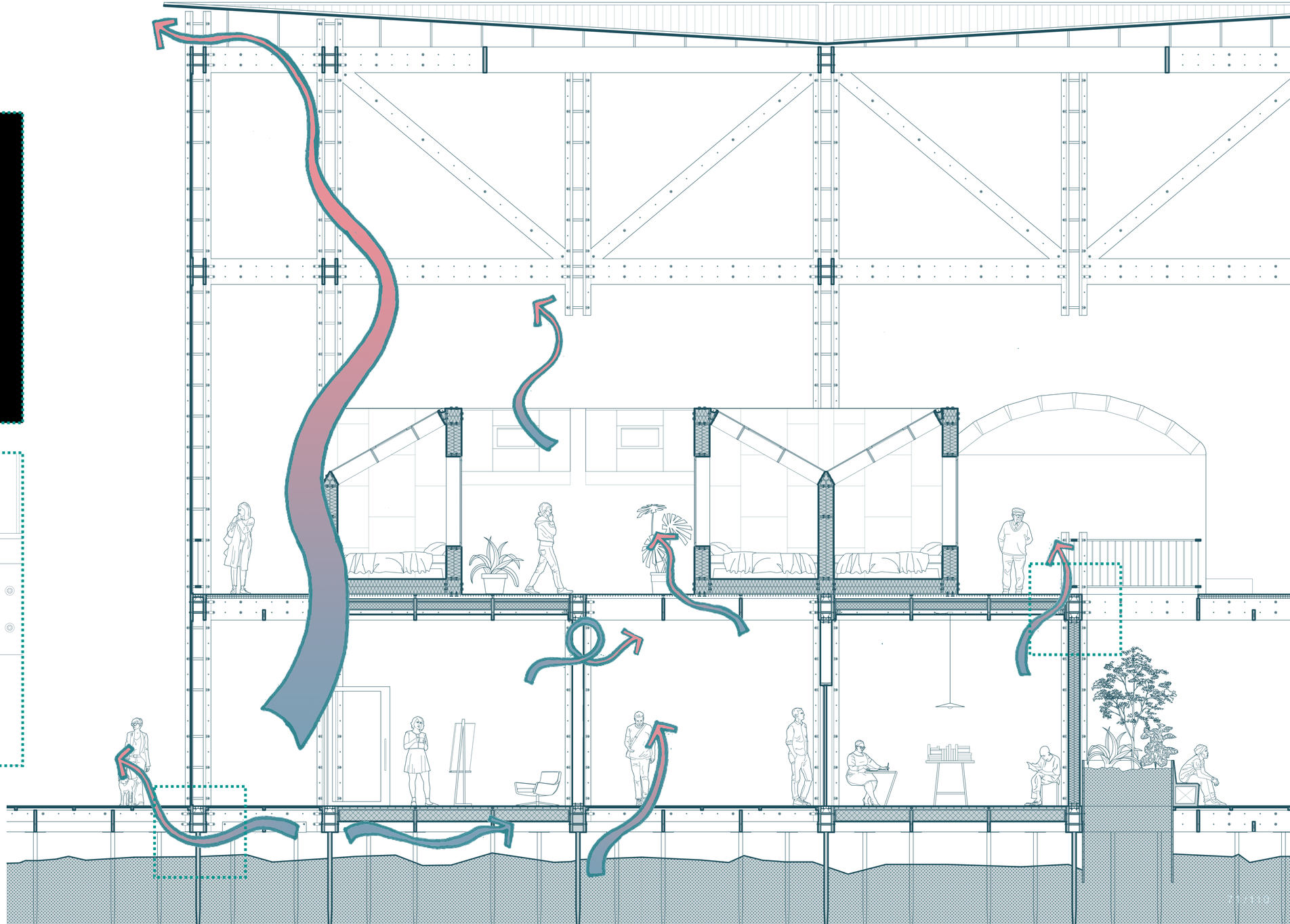
water butts at FF are tapped from rain water



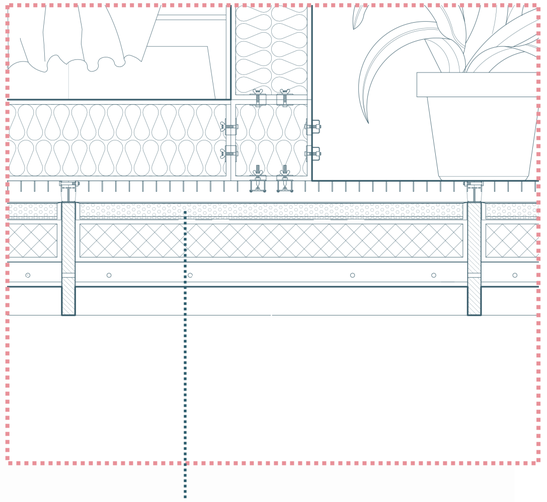
BUILDING TECHNOLOGY
VENTILATION STRATEGY



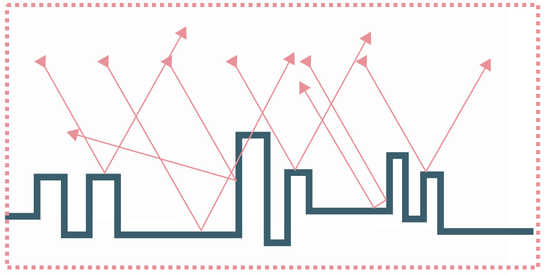




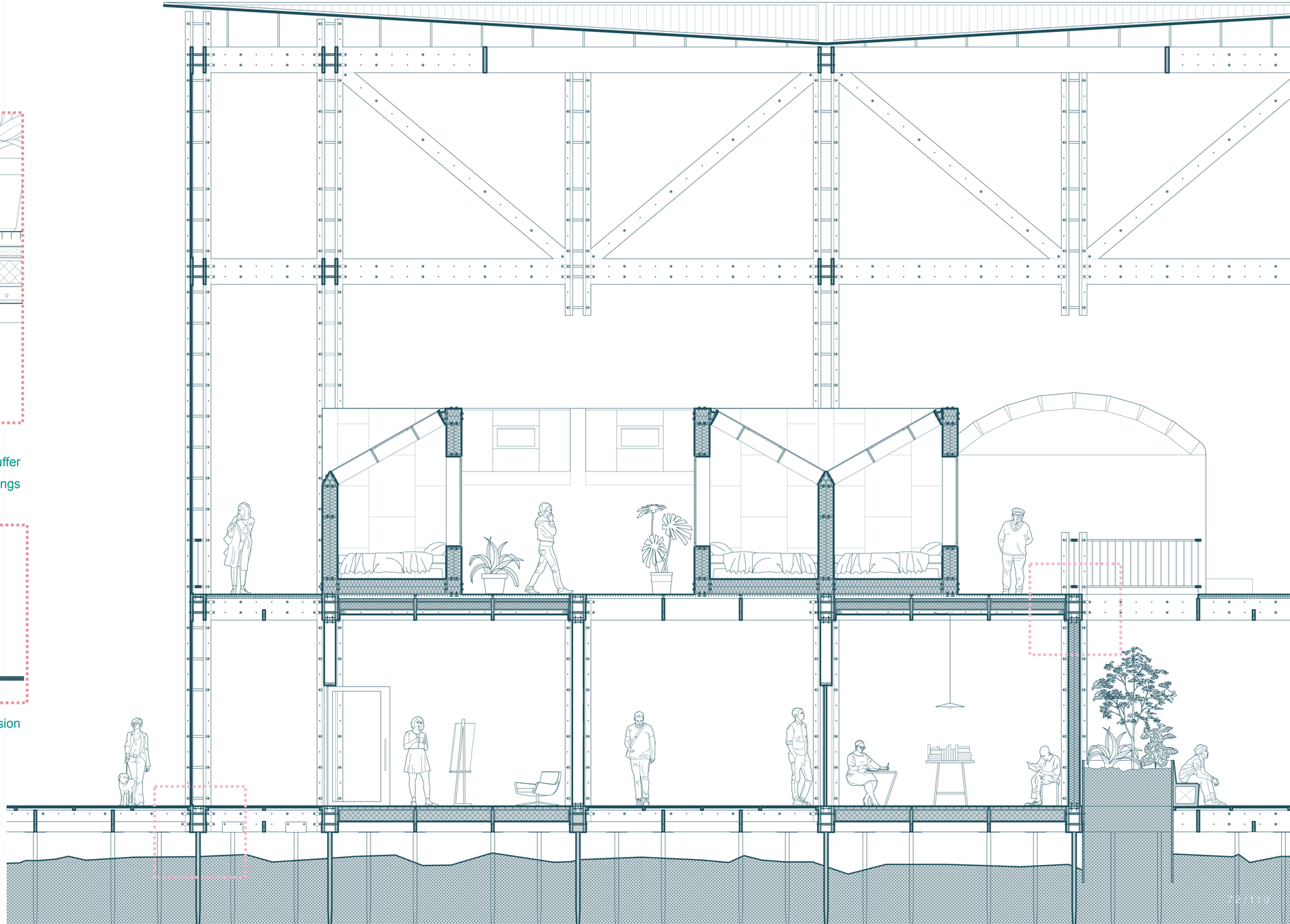
BUILDING TECHNOLOGY
ACOUSTIC STRATEGY



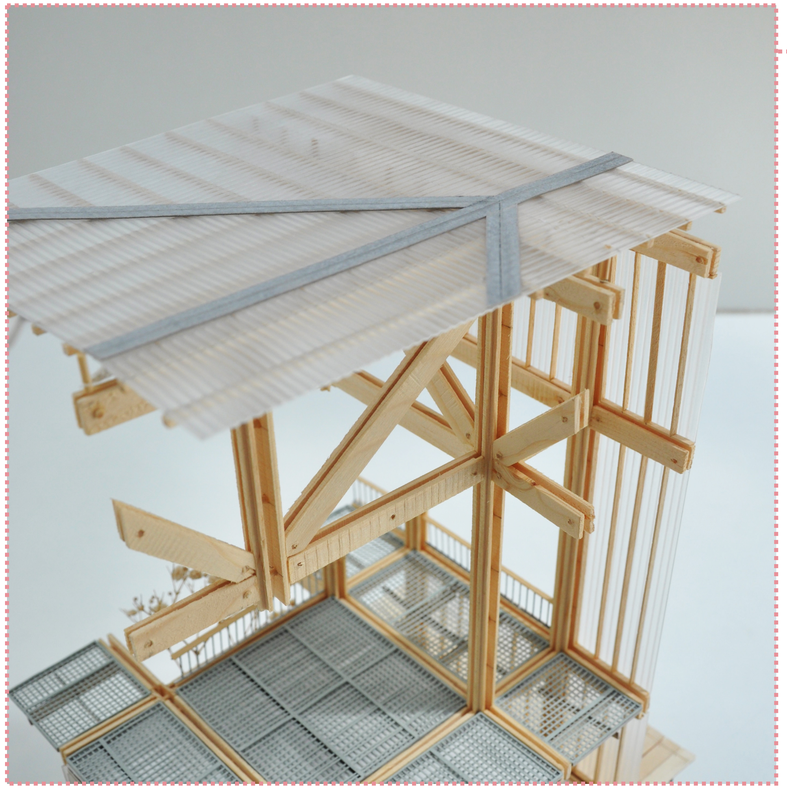
Cork drip tray also works as an acoustic buffer
between inhabited GF units and FF dwellings



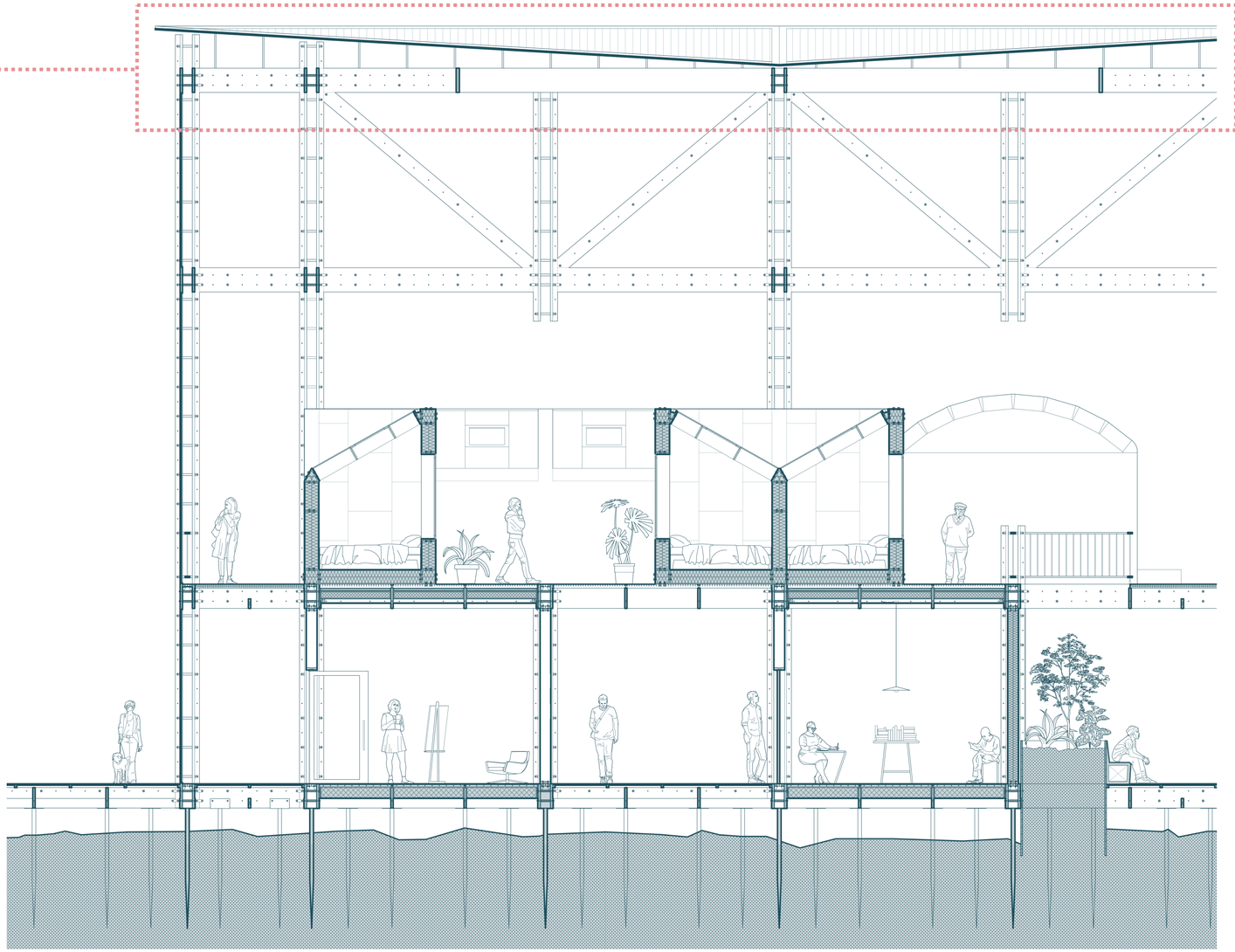
sound diffusion



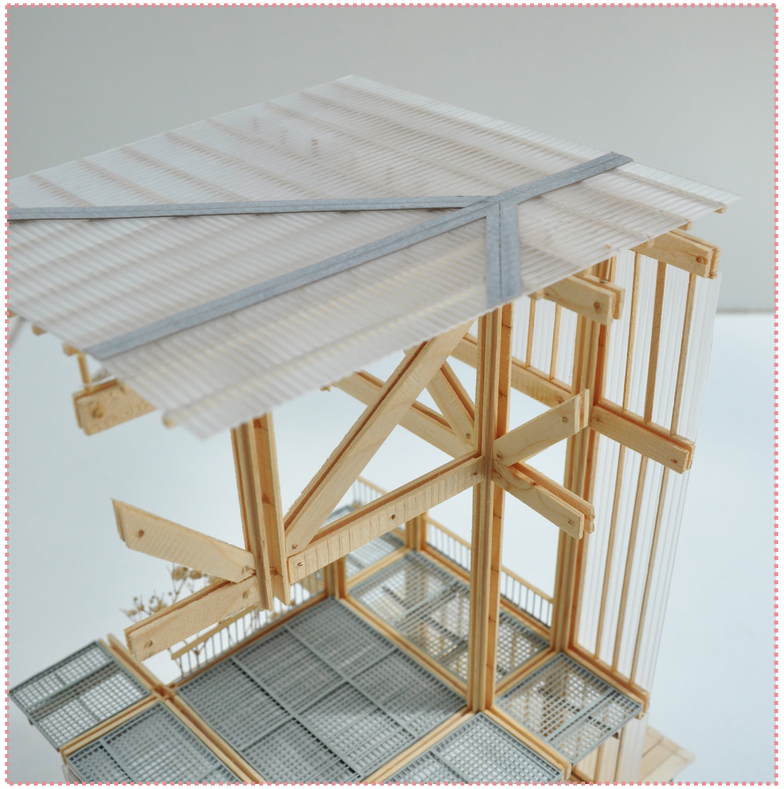
BUILDING TECHNOLOGY
CANOPY SKIN

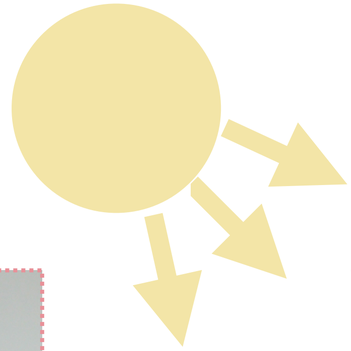


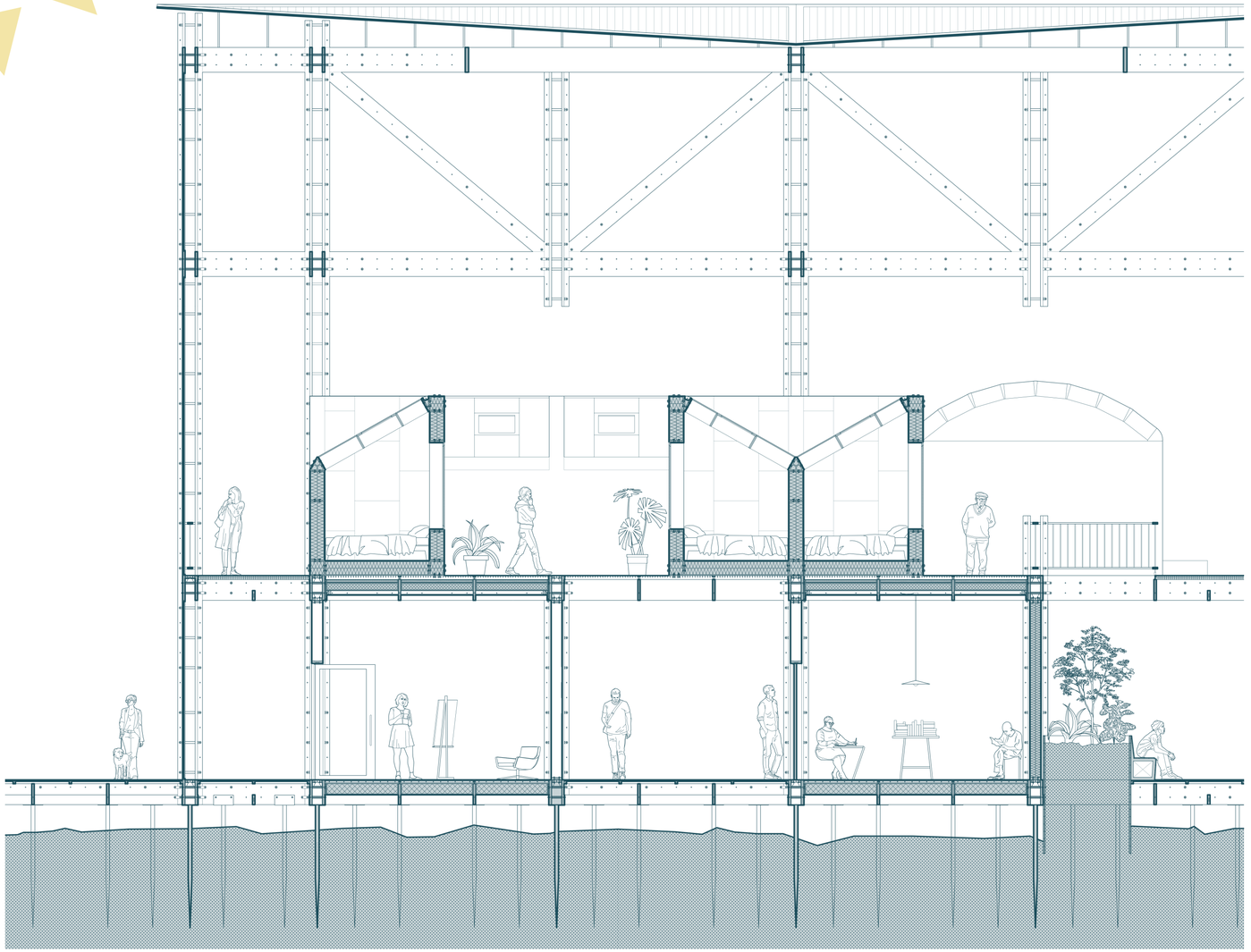
translucent corrugated polycarbonate sheets



BUILDING TECHNOLOGY
SOLAR/SUMMER STRATEGY





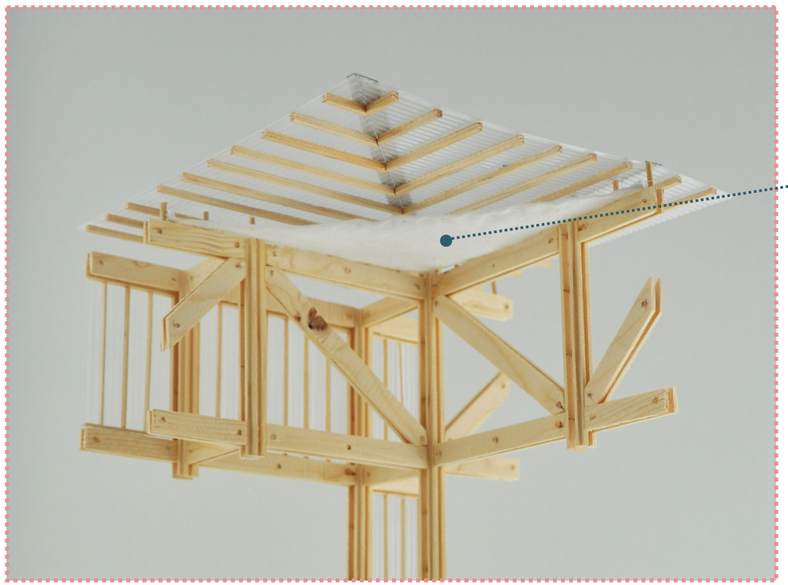


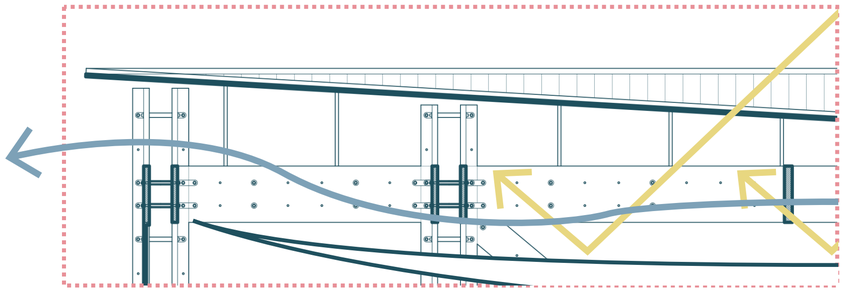
7,120m^2 = max. 700,000 kWh per year

200,000 kWh required per year

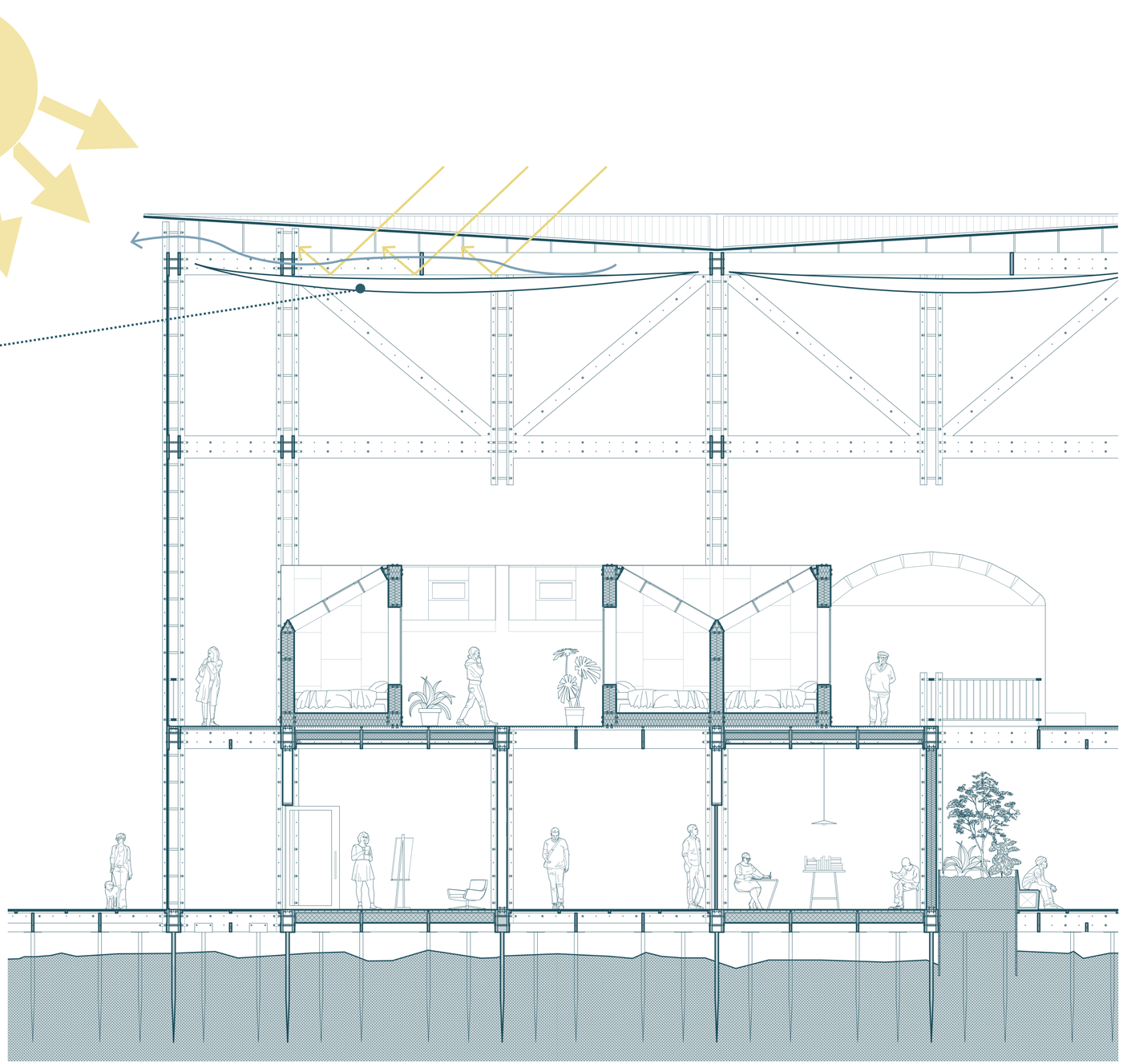
30% of roof surface must be covered in solar cells

BUILDING TECHNOLOGY
SOLAR/SUMMER STRATEGY





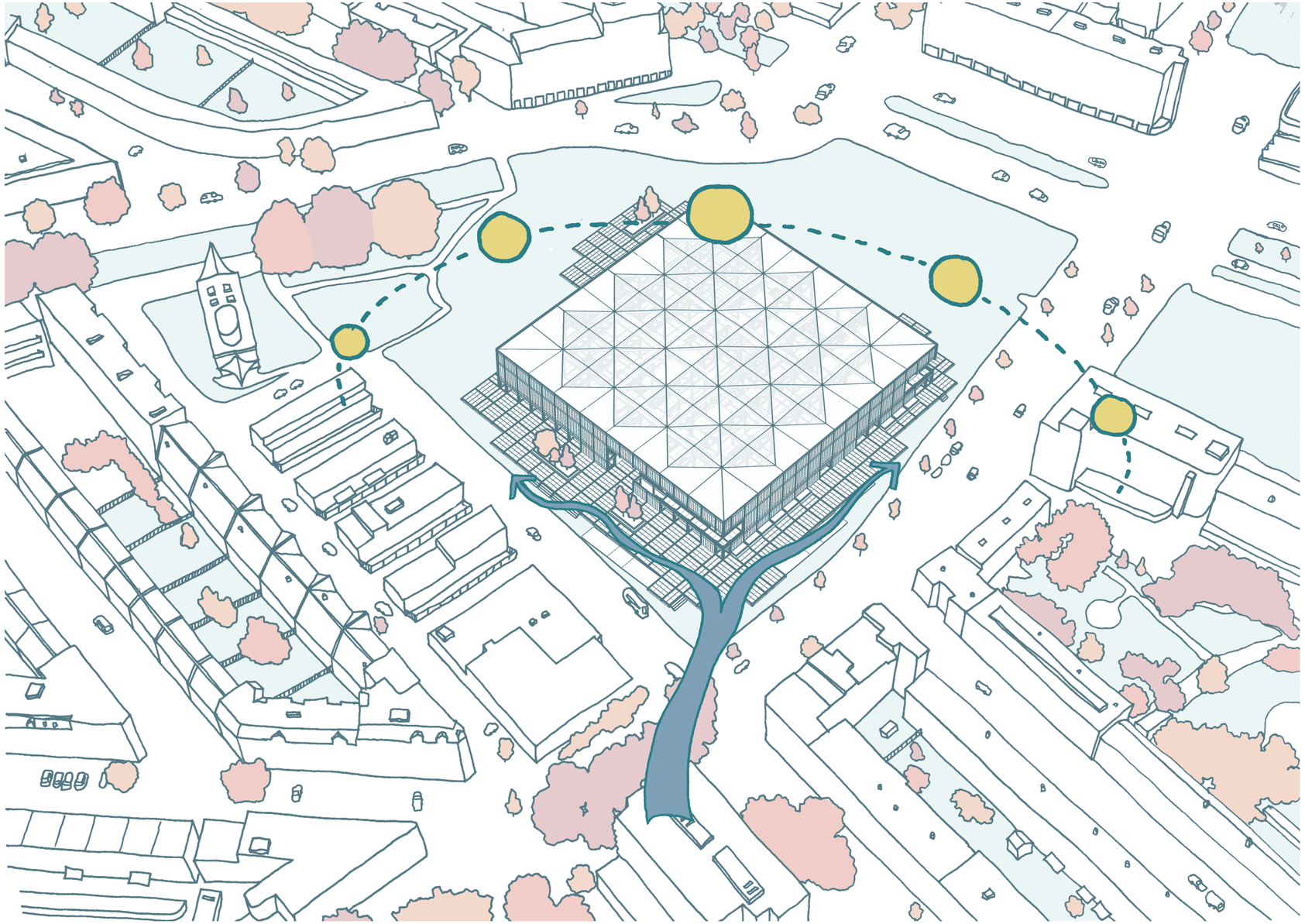
sun shading



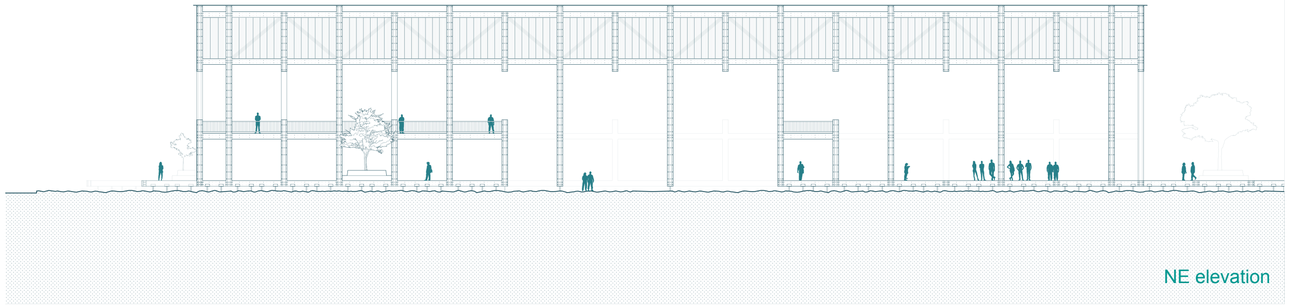




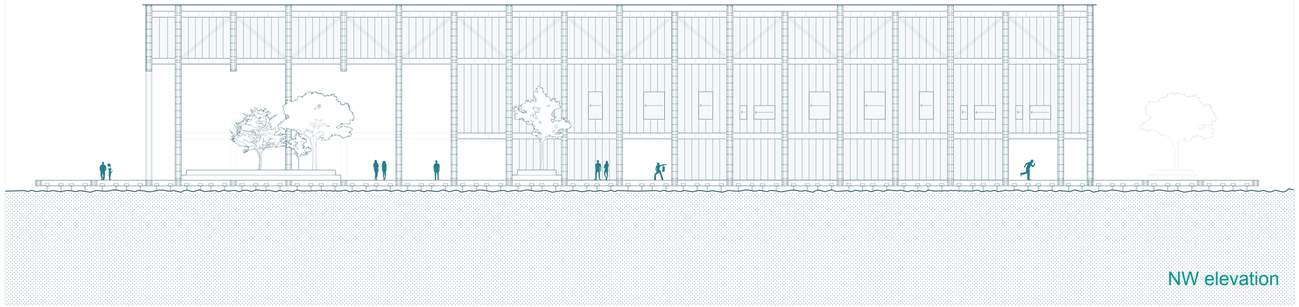
CANOPY
SITE STRATEGY



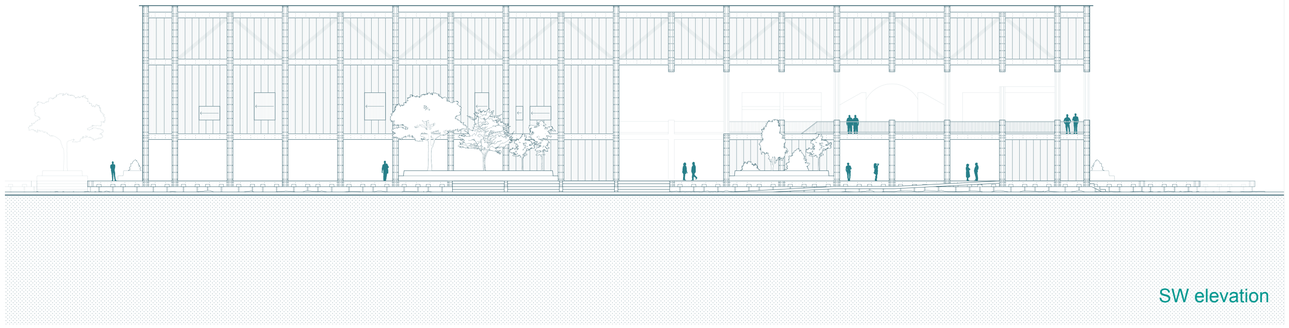




NE elevation

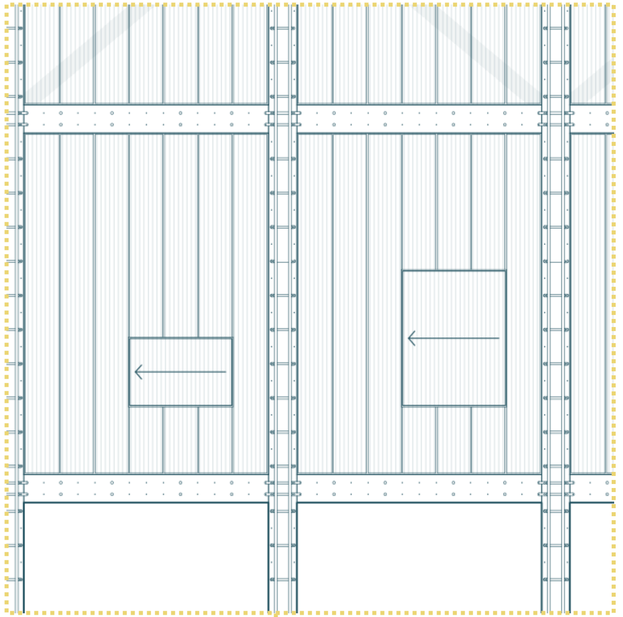


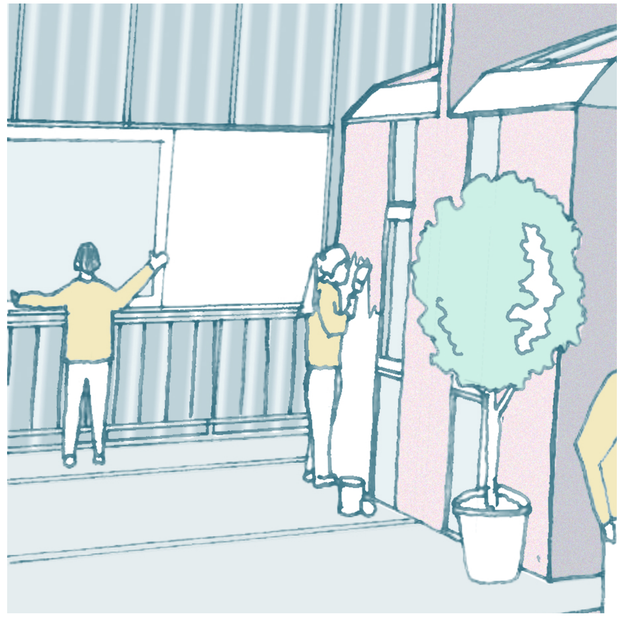
NW elevation

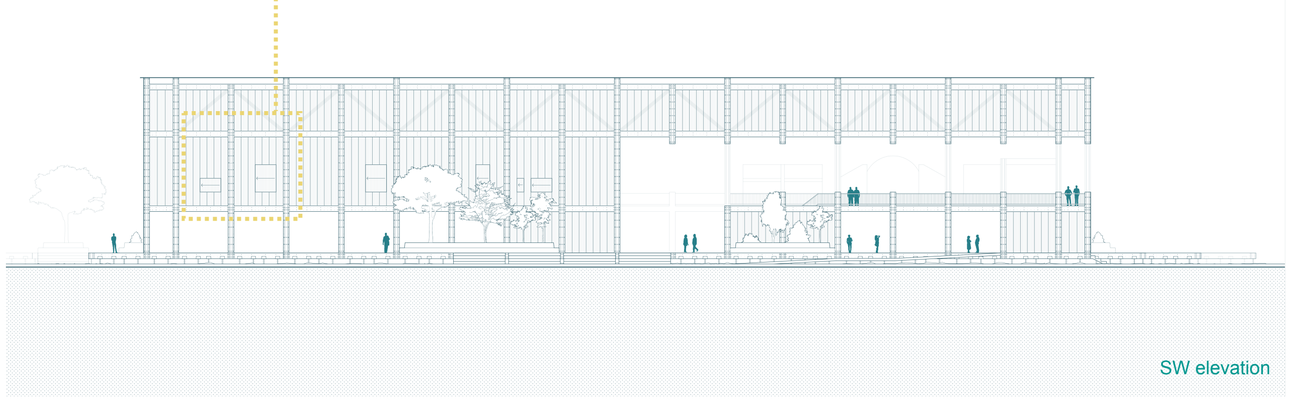


SW elevation



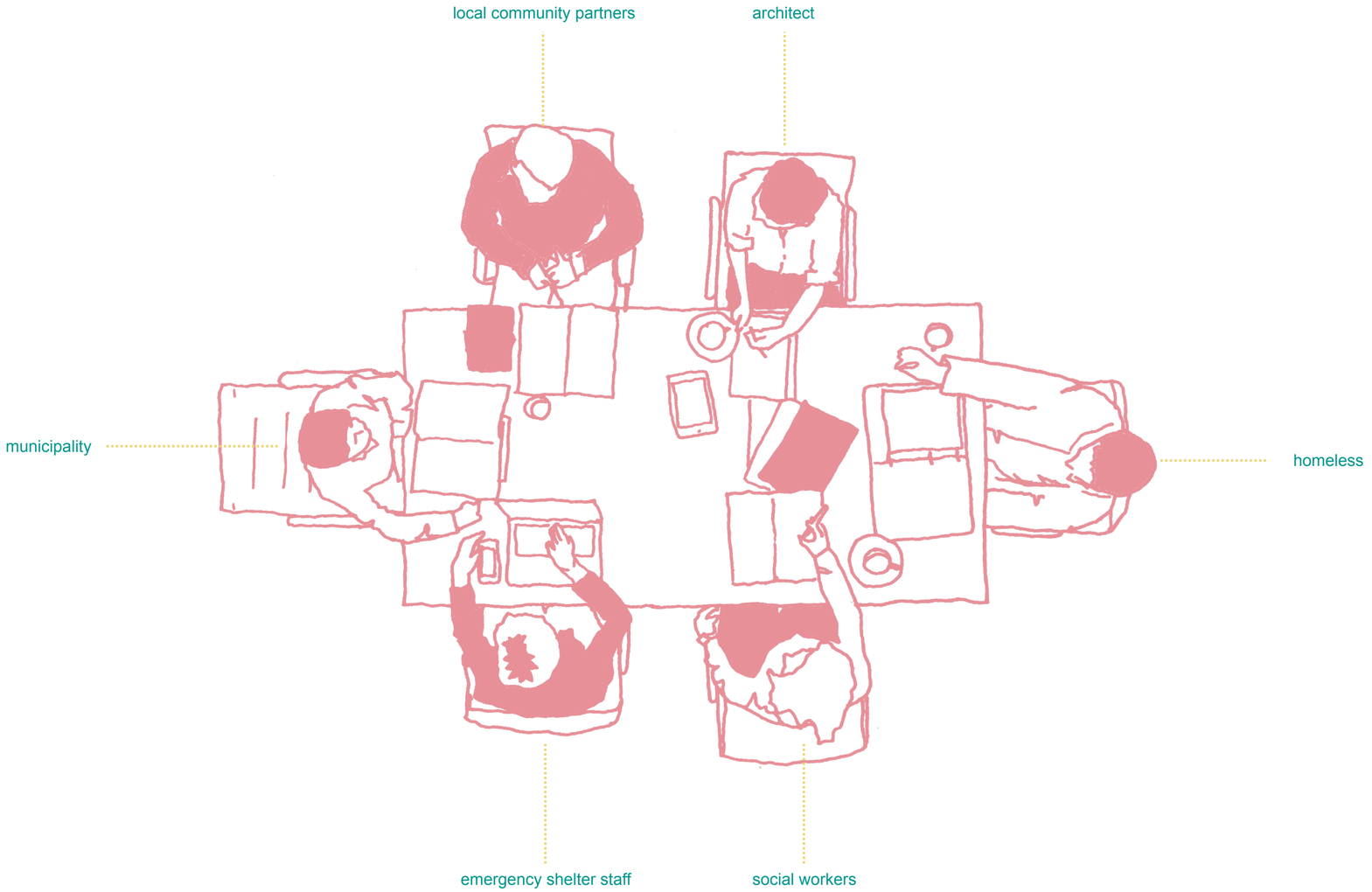






SW elevation

DESIGN PROCESS
COLLABORATION



FINDING A SITE
ROTTERDAM HOMELESS MAP: OVERVIEW



instance of hostile design
Maassilo emergency shelter
day / night shelter & facilities
night shelter & facilities
day shelter & facilities
youth institution
home ports / shelter homes
shelter break-out activity
Centraal Onthaal
advice / support
hot food
coffee / warm drinks

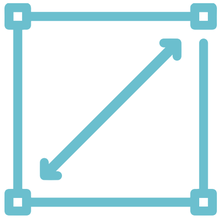
SITE
REQUIREMENTS



low income neighbourhoods
(South Rotterdam)



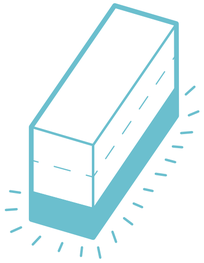
brownfield site
scheduled for development in 2-5 years



appropriate scale

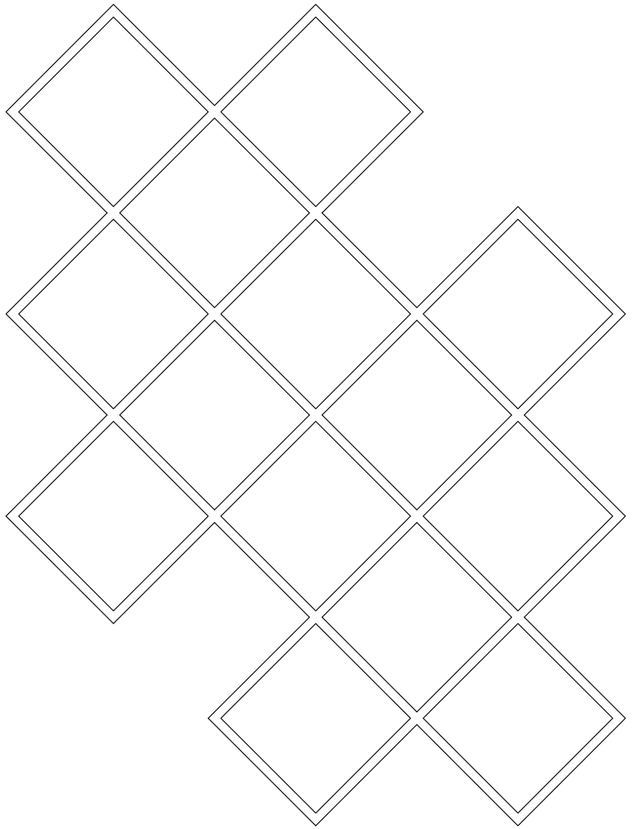


existing active community

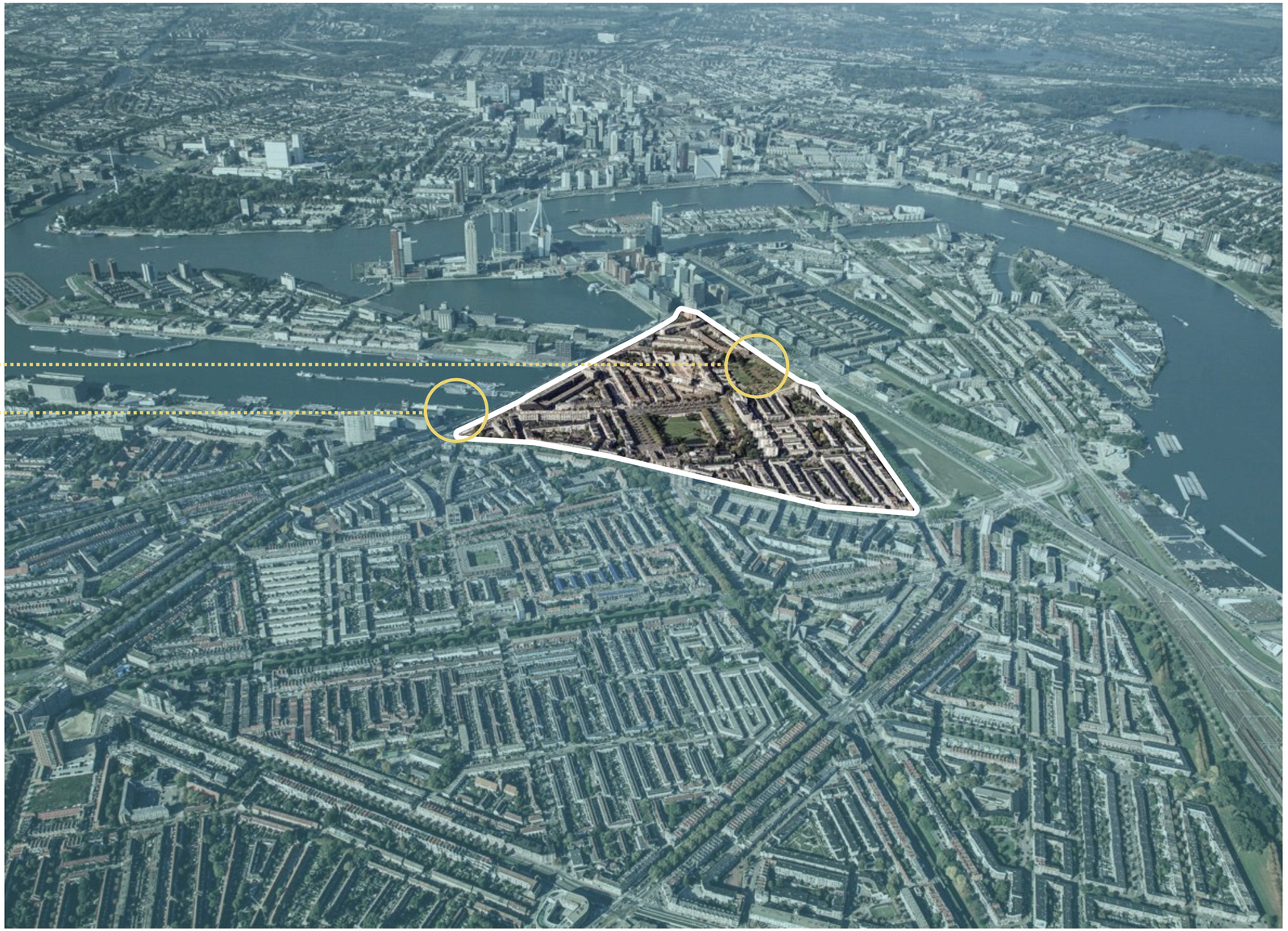


viable for active ground floor

DESIGN PROCESS
SITE FOOTPRINT

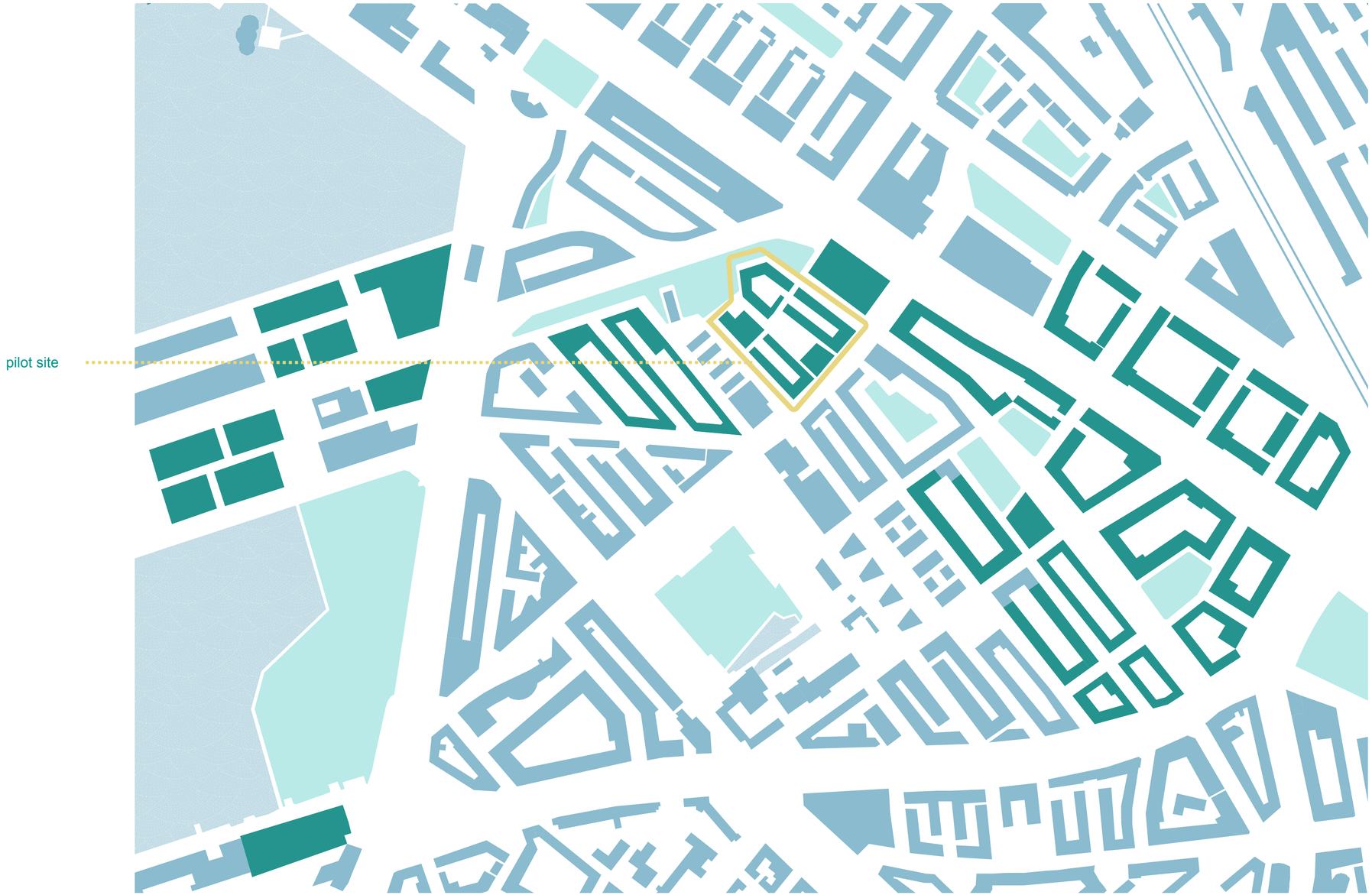


CHOSEN SITE
AFRIKAANDERWIJK



https://files.erasmusmagazine.nl/app/uploads/2017/03/07171103/Rotterdam-onbewolkt-Peter-Elenbaas-1-1280x854.jpg

AFRIKAANDERWIJK
PLANNED DEVELOPMENTS



DESIGN PROCESS
OPEN BUILDING MODEL



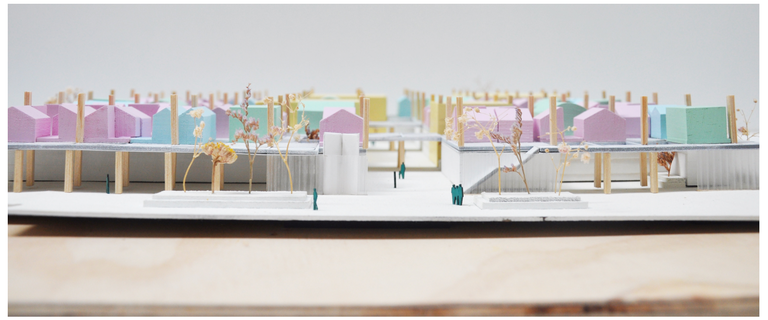
1:200 OPEN BUILDING GAME BOARD MODEL

model game pieces can be rearranged with ease…



DESIGN PROCESS
OPEN BUILDING MODEL



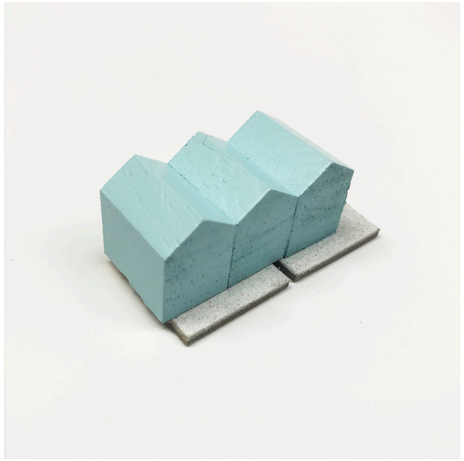




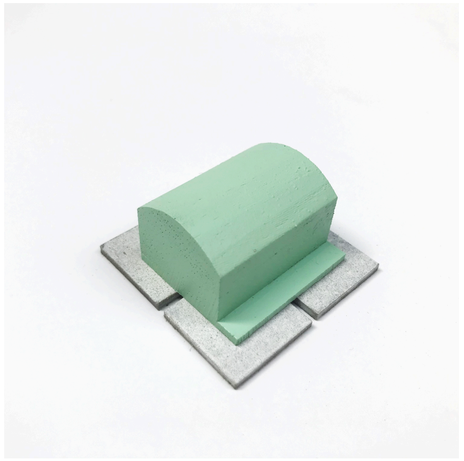




single unit
(and variations)



double unit
(and variations)

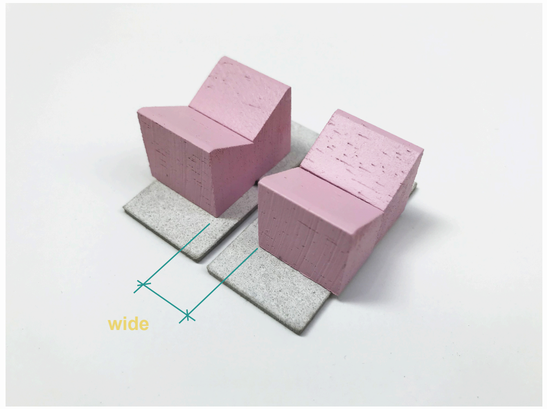


sanitation unit



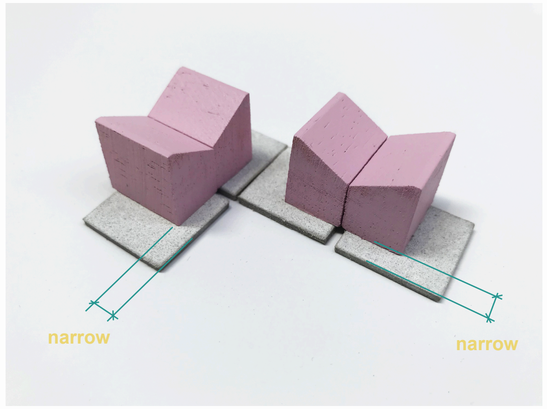
dining unit

1:200 OPEN BUILDING DESIGN MODEL UNIT TYPES

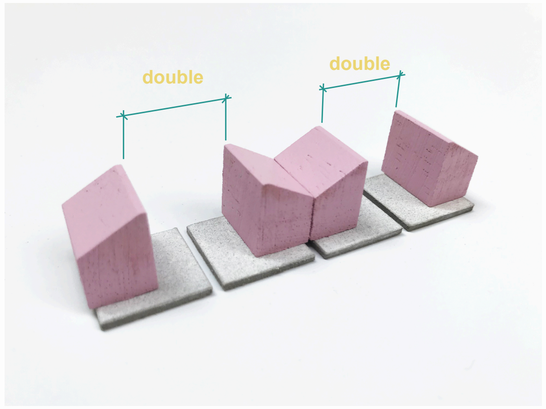


double width gallery

OR

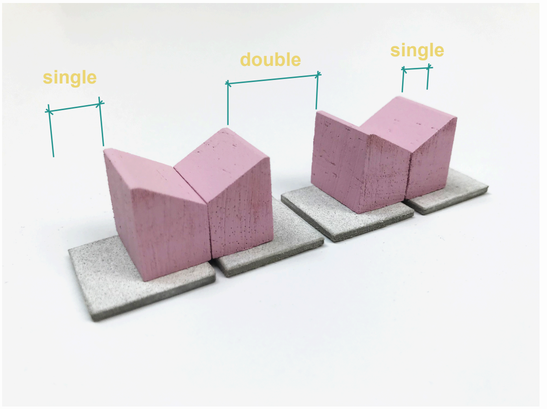


single width gallery



2 x single gardens
& 1 x double garden

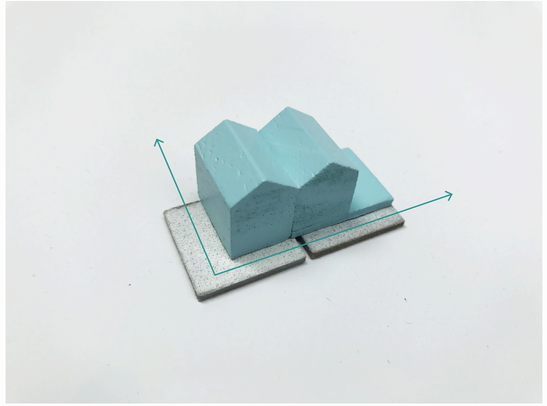
OR



2 x double gardens

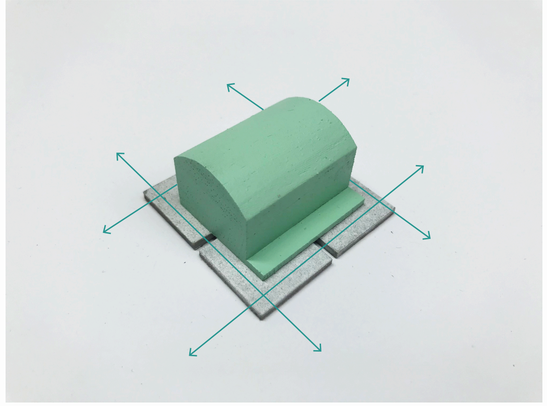
POSITIONING OF SINGLE UNITS

DESIGN PROCESS
OPEN BUILDING RULES

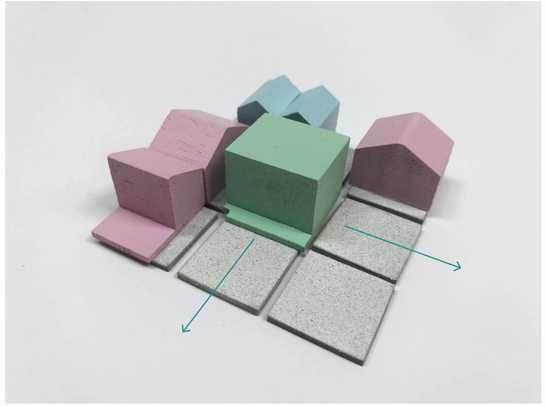


double unit allows corner gallery

OR

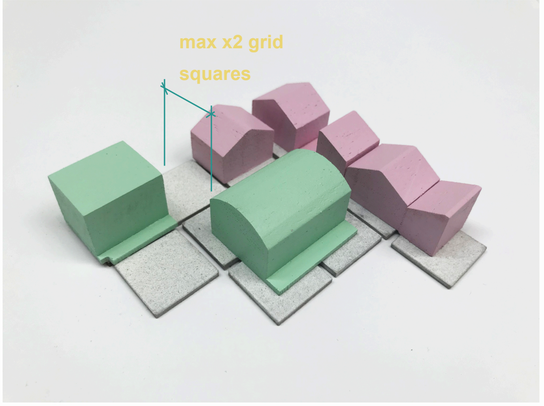


sanitation unit acts as gallery roundabout



dining unit spacing

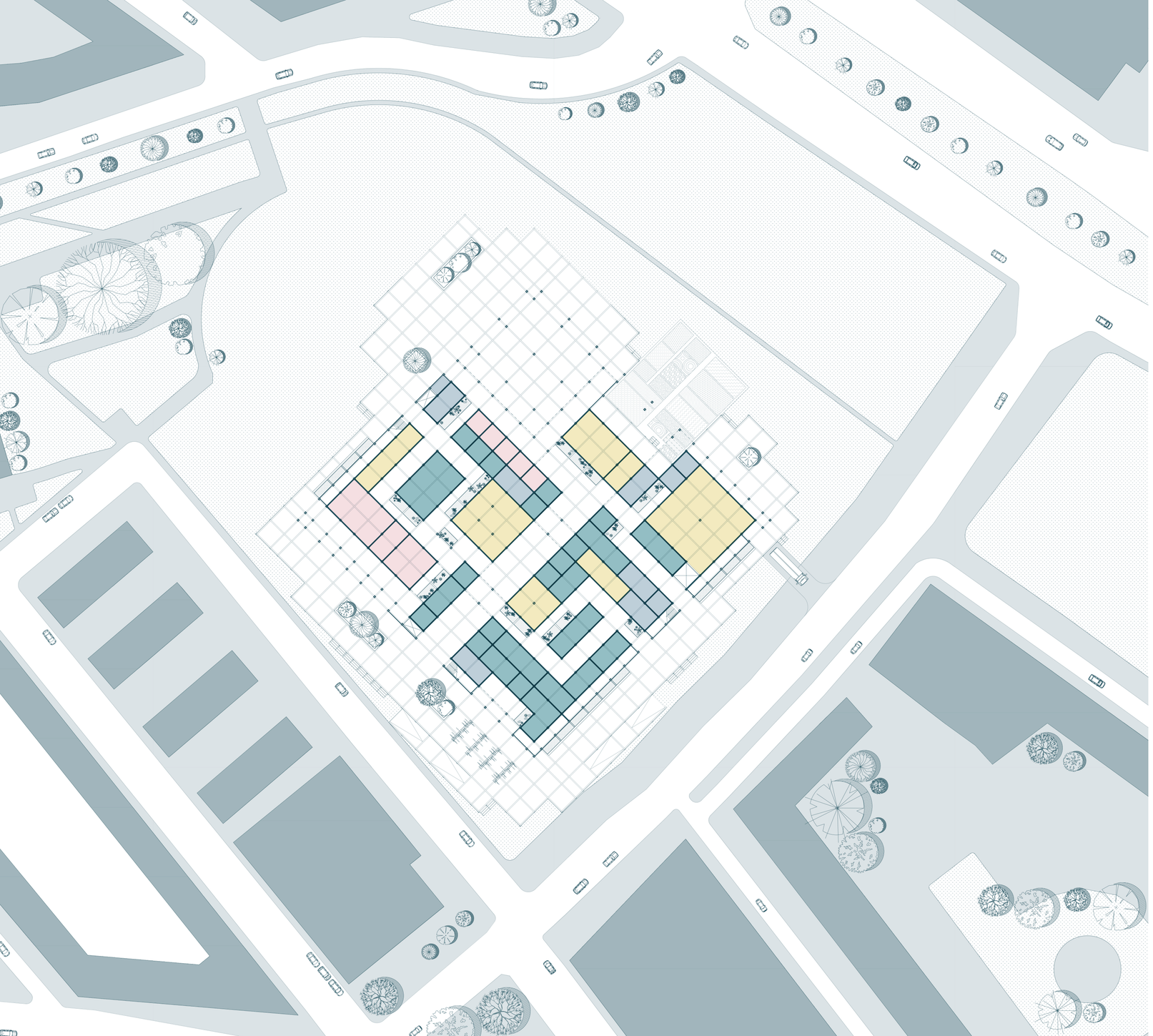
OR



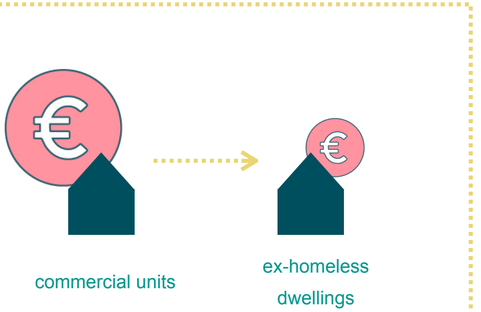
dining & sanitation units separation

POSITIONING OF DOUBLE, DINING & SANITATION UNITS

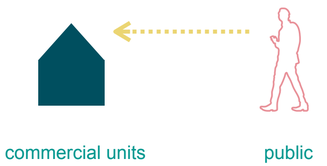




PROGRAM
GROUND FLOOR



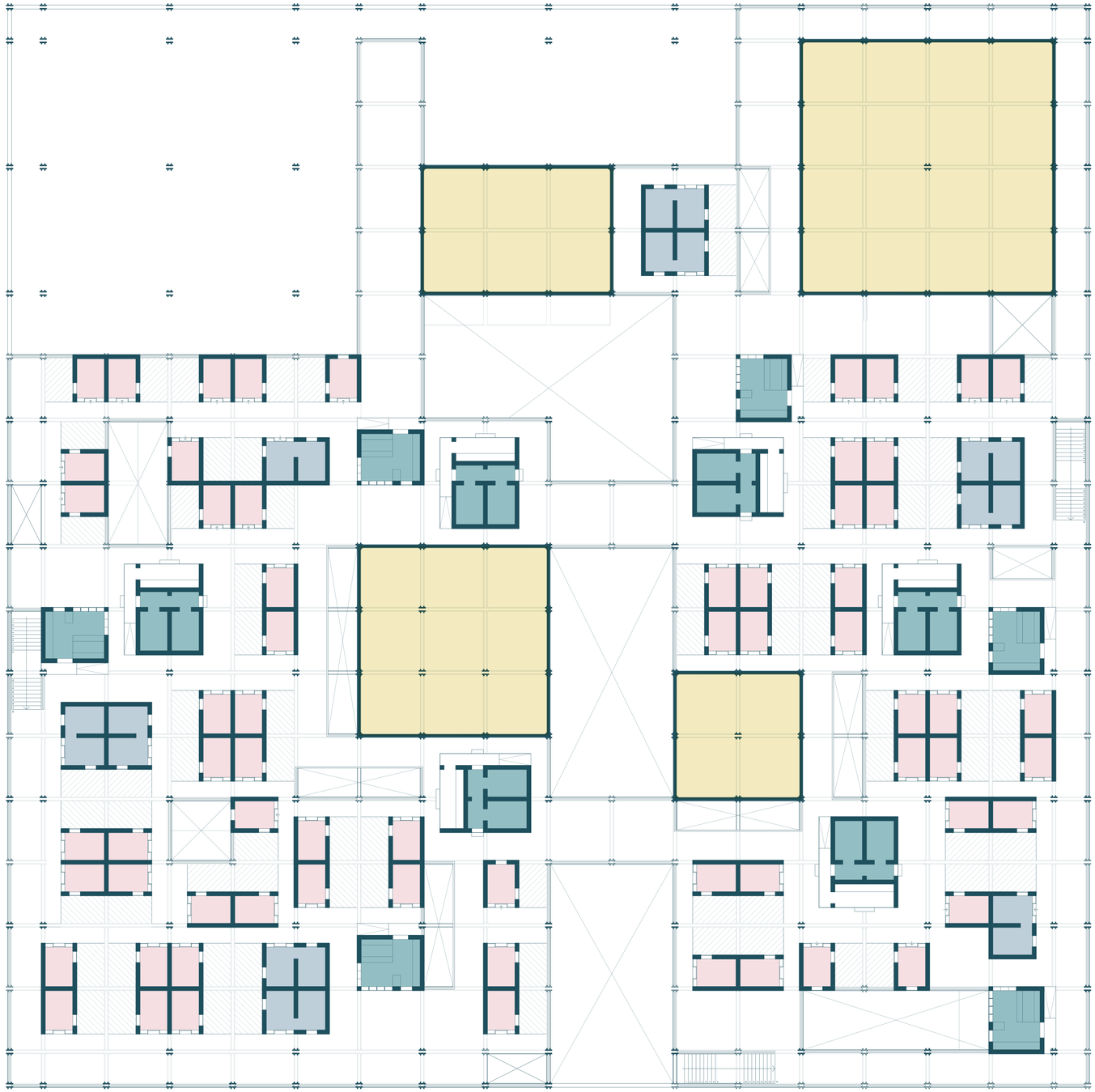
SUBSIDISED RENT



INTEGRATE LOCAL COMMUNITY

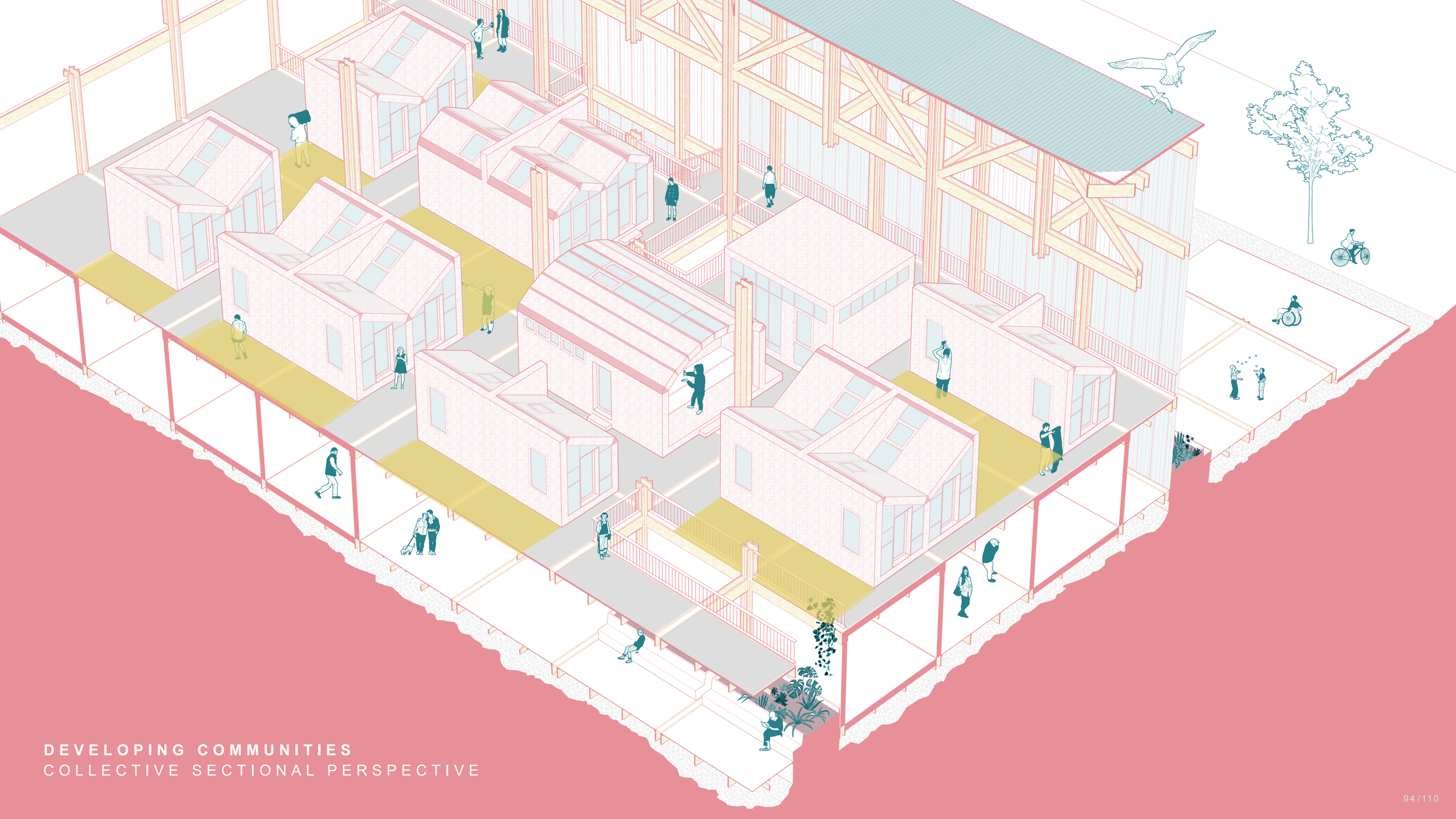
FIGURE GROUND PLAN

- homeless program support units
- commercial units
- eating/drinking units
- building services



FIRST FLOOR PLAN

- homeless program support units
- communal units
- single dwelling units
- double dwelling units



DEVELOPING COMMUNITIES
COLLECTIVE SECTIONAL PERSPECTIVE



COLLECTIVE
RELATIONSHIP W. GROUND FLOOR



PROGRAM
OVERVIEW

single units x 66

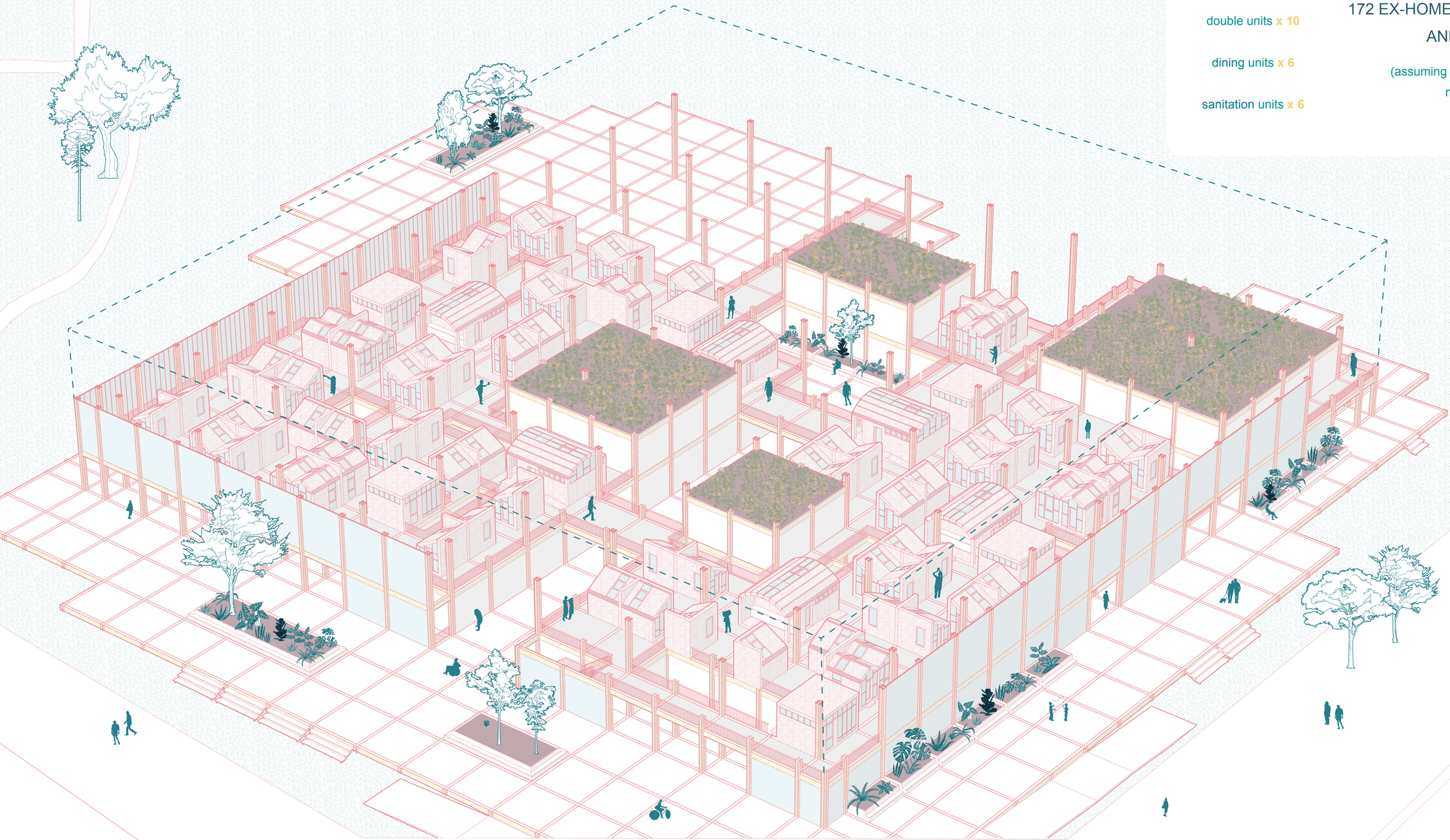
double units x 10

dining units x 6

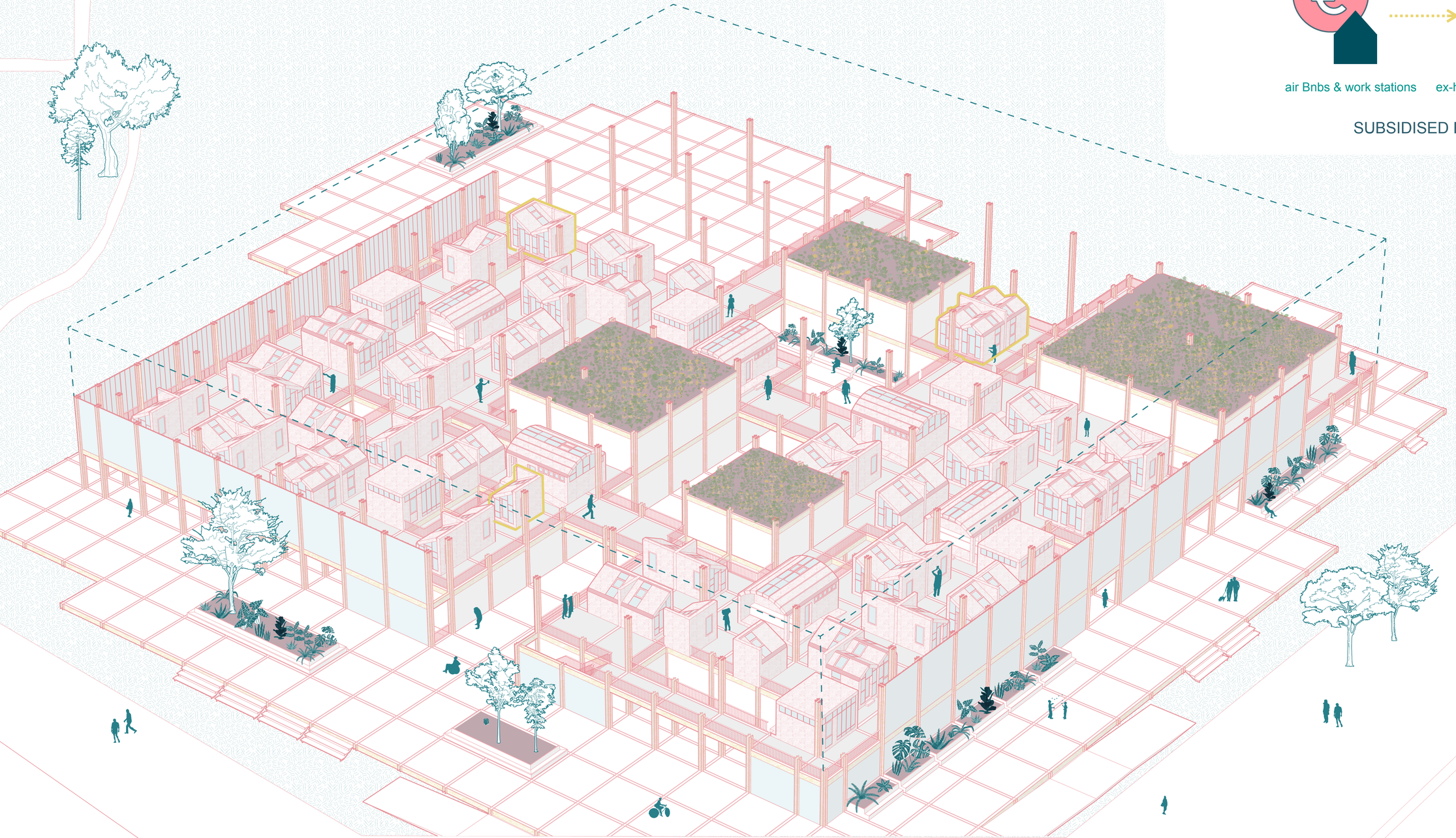
sanitation units x 6

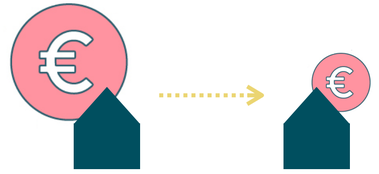
172 EX-HOMELESS RESIDENTS ANNUALLY

(assuming average stay of 6 months)



PROGRAM
FIRST FLOOR PUBLIC FUNCTIONS





air Bnbs & work stations ex-homeless dwellings

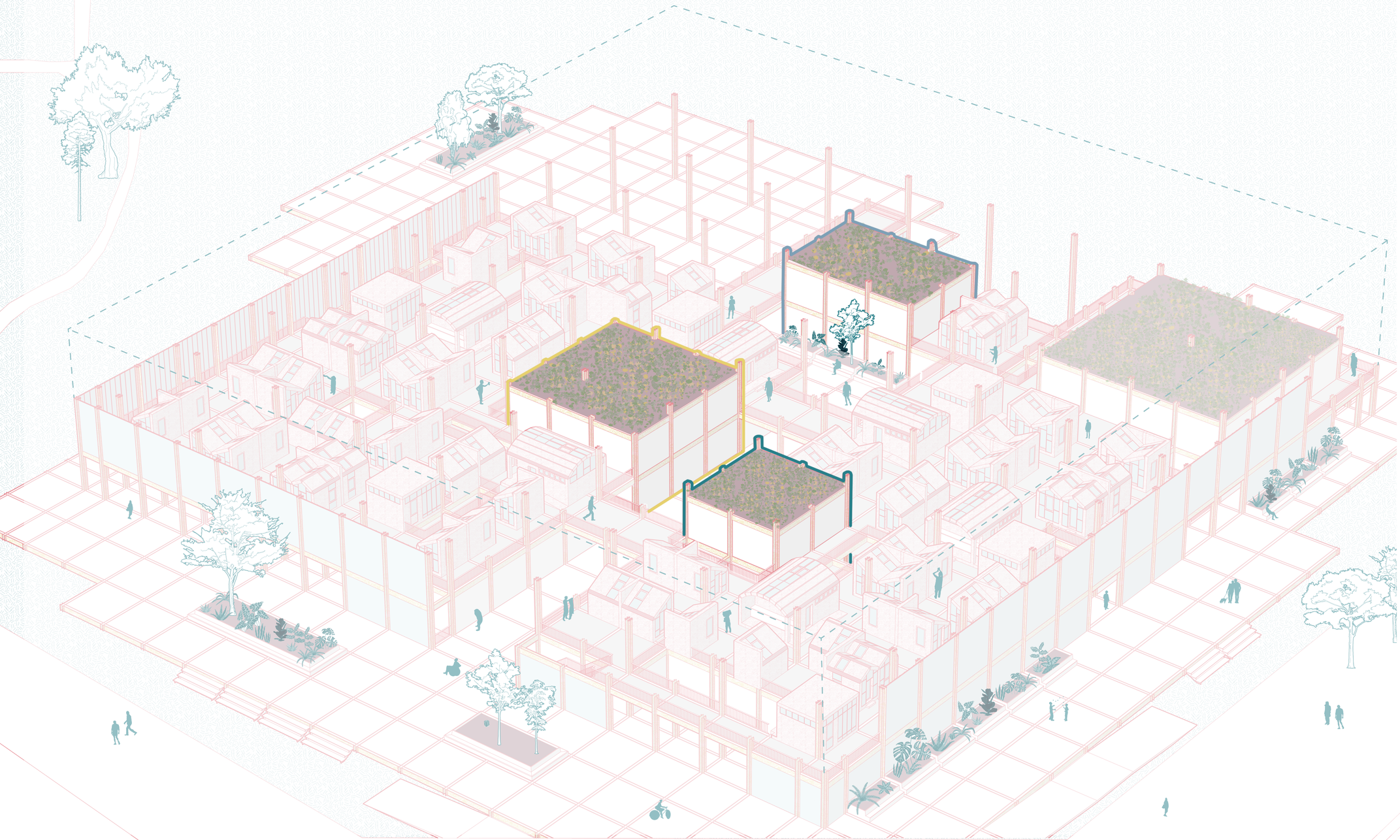
SUBSIDISED RENT

PROGRAM
WORKSHOP

CNC MILLING MACHINES
for production of
Infill components



PROGRAM
DOJO, STREET NEWSPAPER & FOOD HALL





FOOD HALL

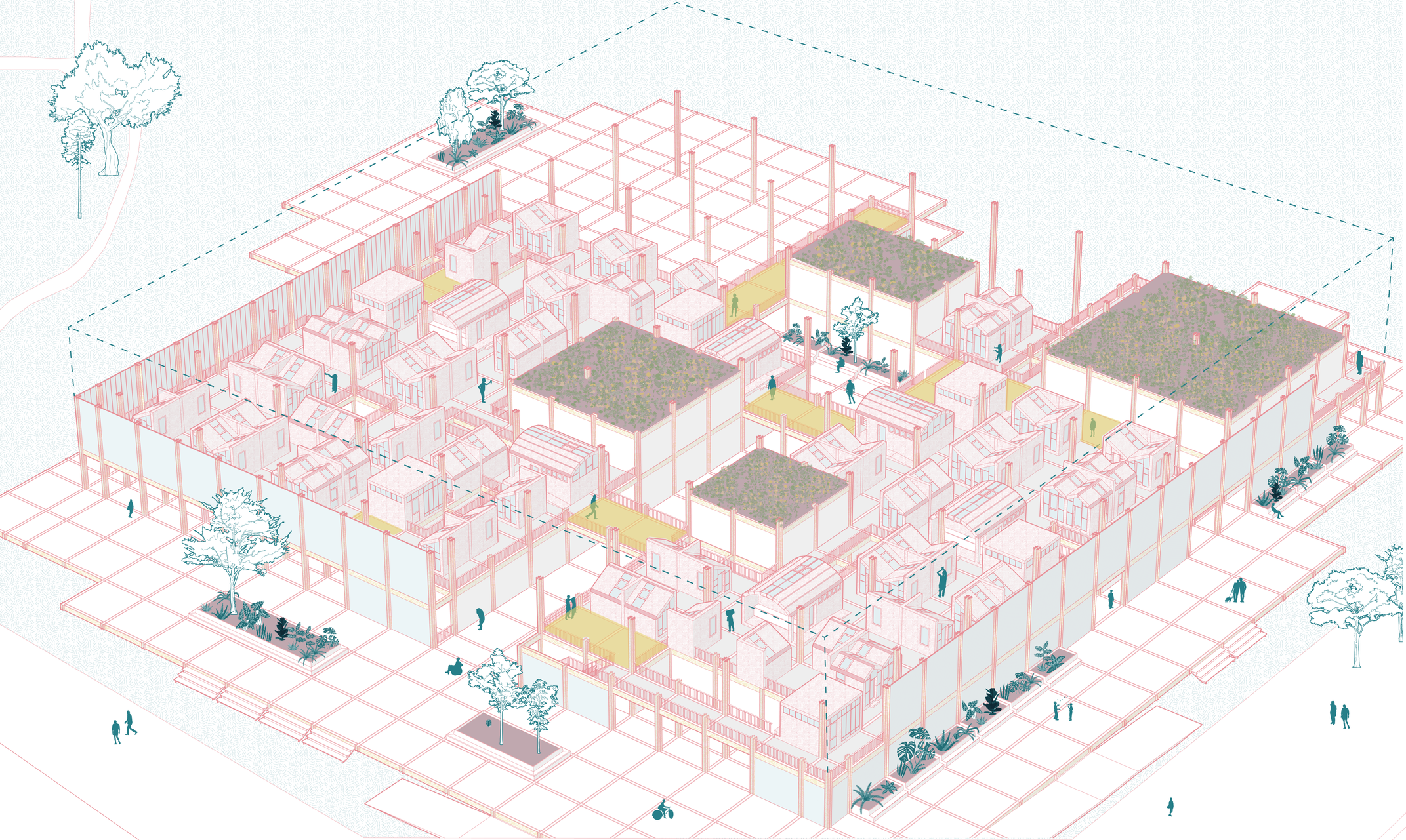


DOJO



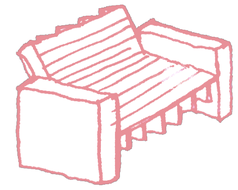
STREET NEWSPAPER

PROGRAM
PLUG 'N' PLAY POP-UP





book swap



public furniture

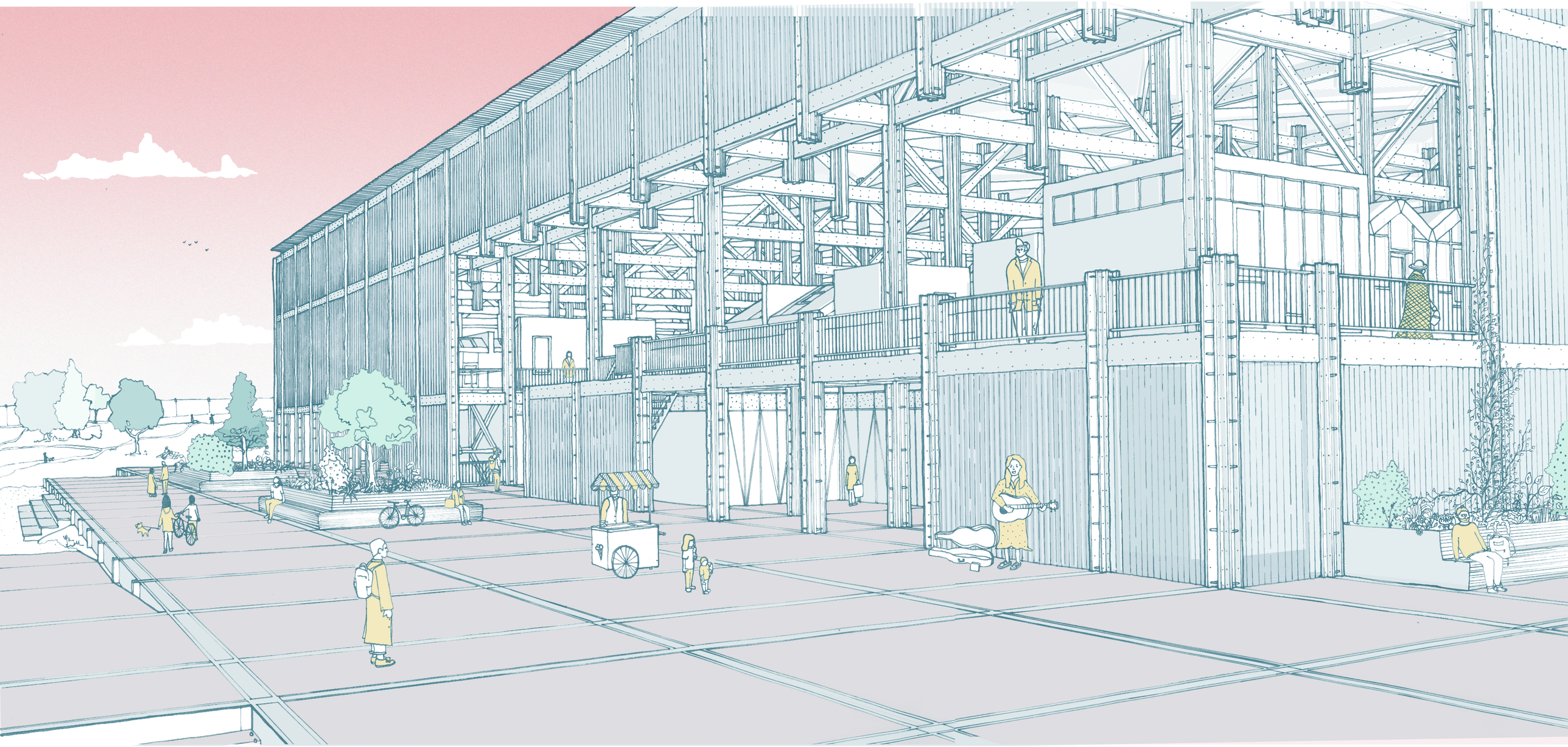


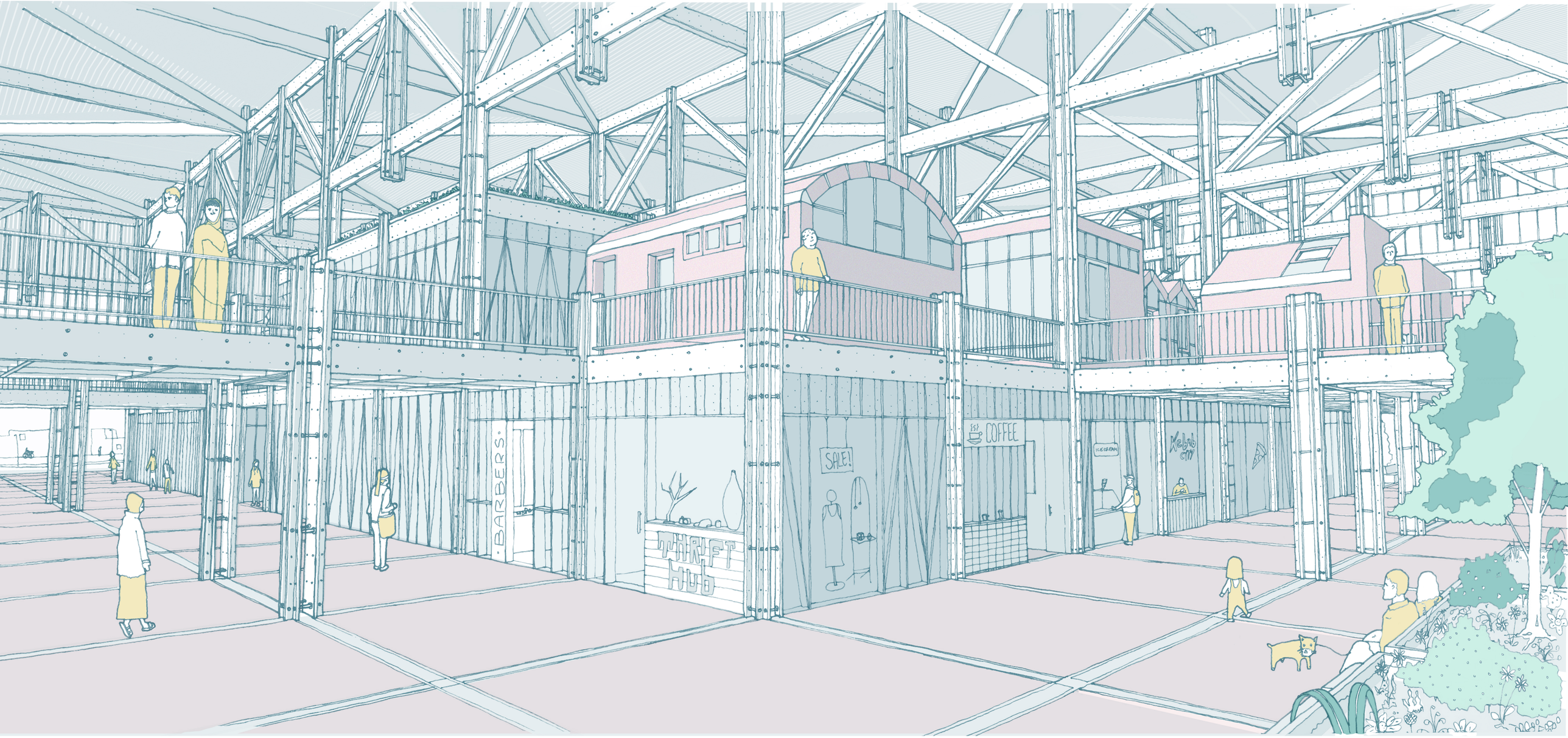
planters



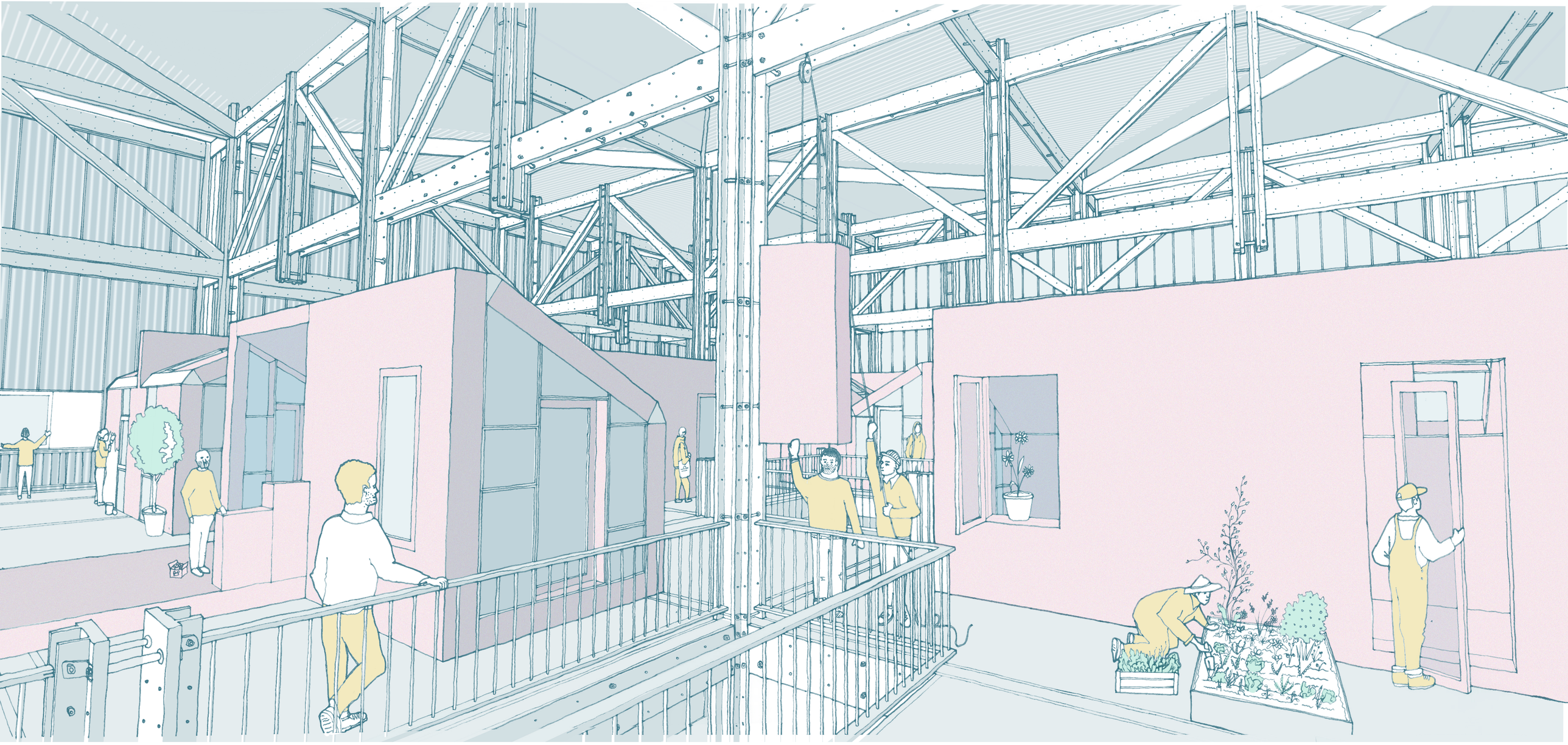
refuse & recycling

HOMELESS CITY
APPROACH FROM AFRIKAANDERWIJK

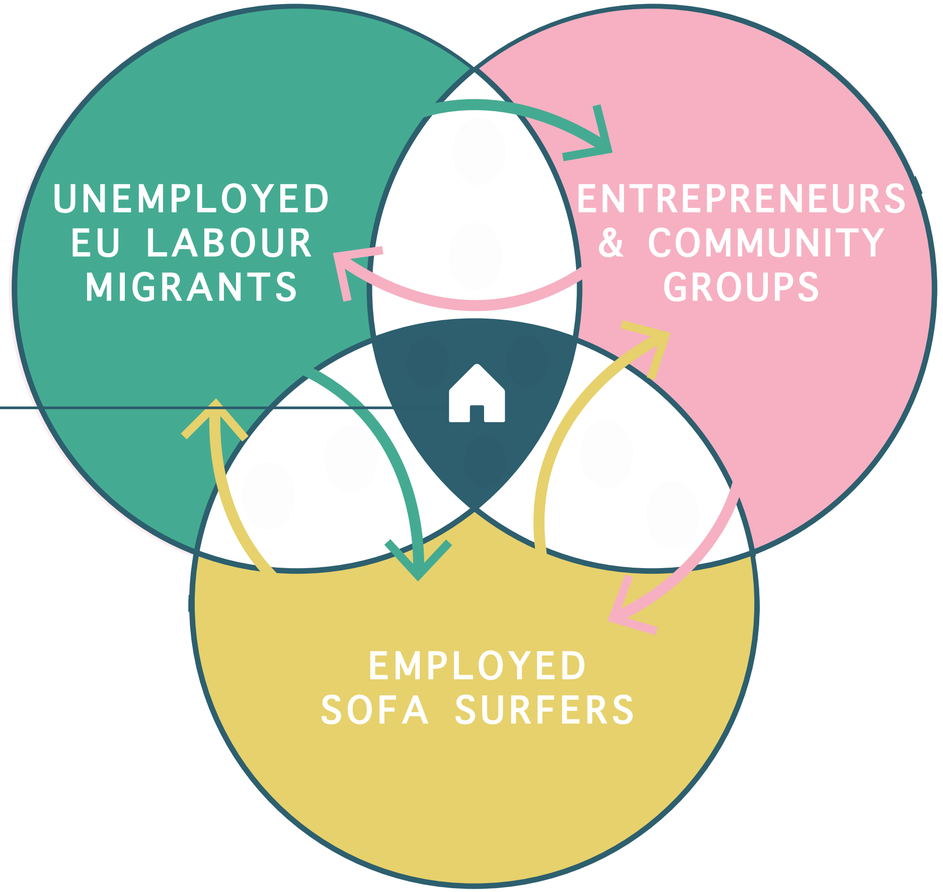


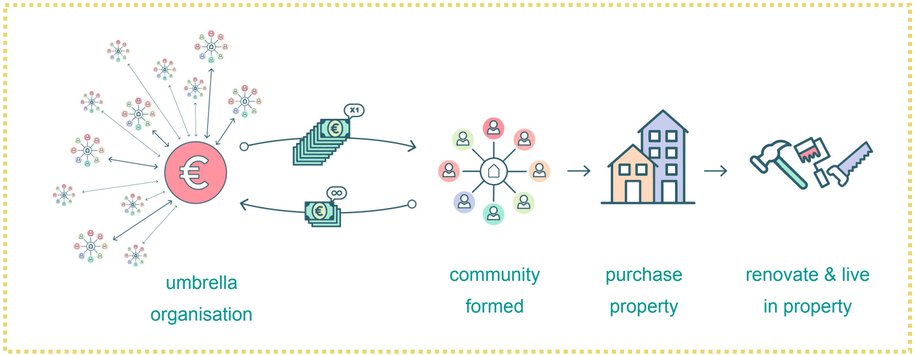

BARBERS
THRIFT HUB
SALE!
COFFEE
ICE CREAM
Kebab

HOMELESS CITY
DYNAMIC BUILDING ACTIVITY

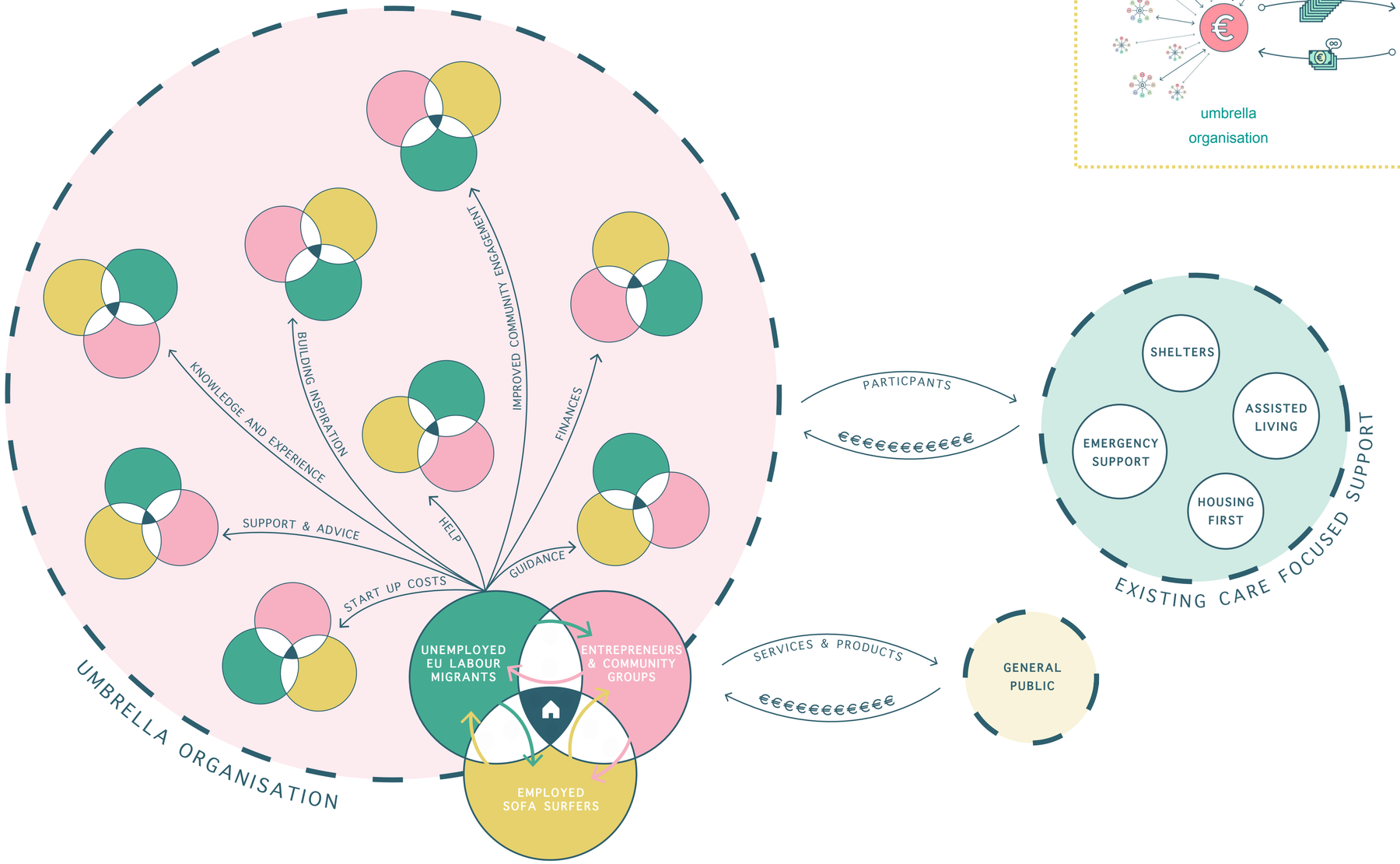


PILOT ARCHITECTURAL SCHEME
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GRADUATION DESIGN THESIS



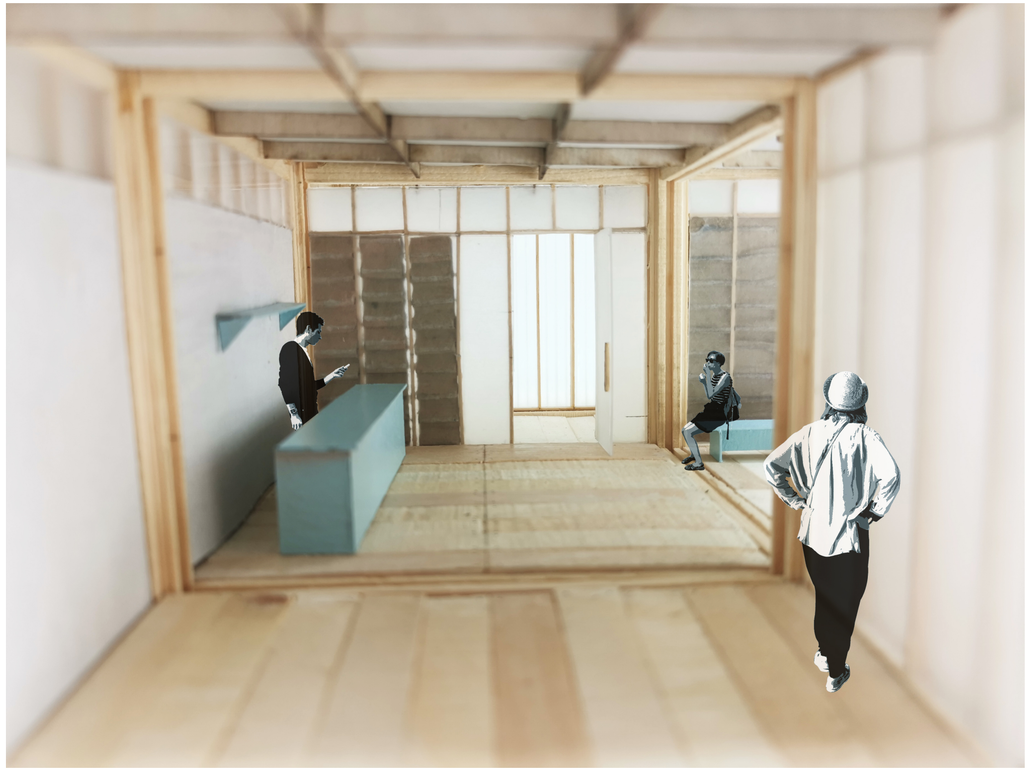


Inspired by the Mietshäuser Syndikat

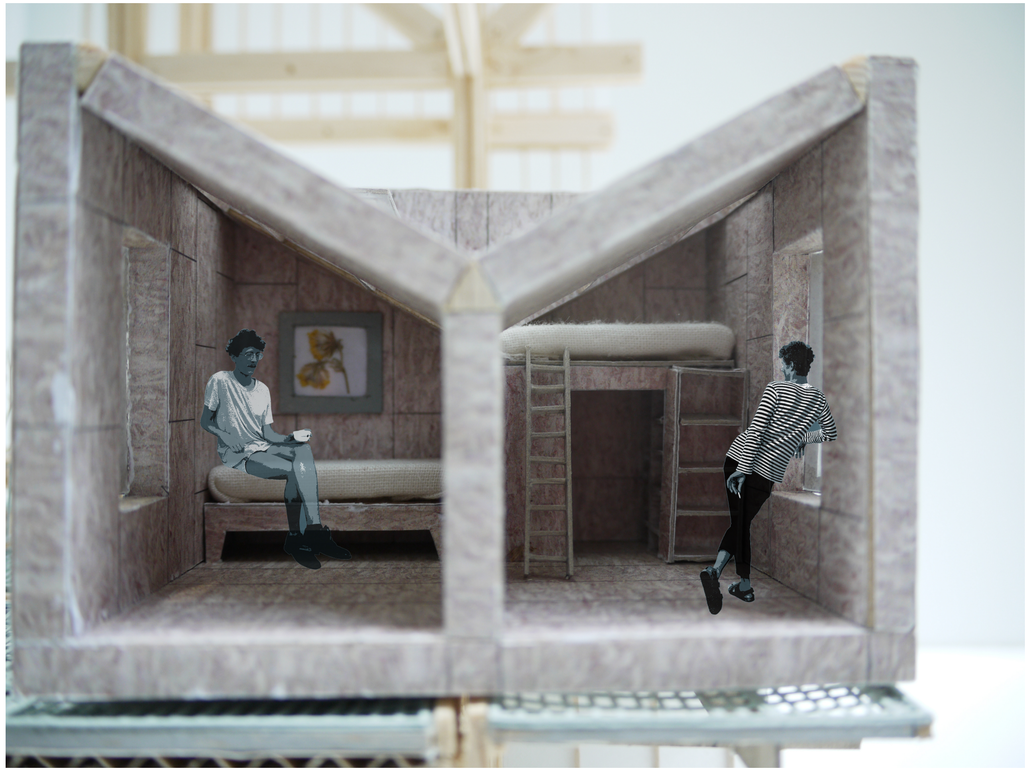








HOMELESS CITY
ON MY SHOULDERS...







· THANK YOU ·

FOR ALL YOUR HELP AND GUIDANCE