

BEIRUT'S LIVING ROOM

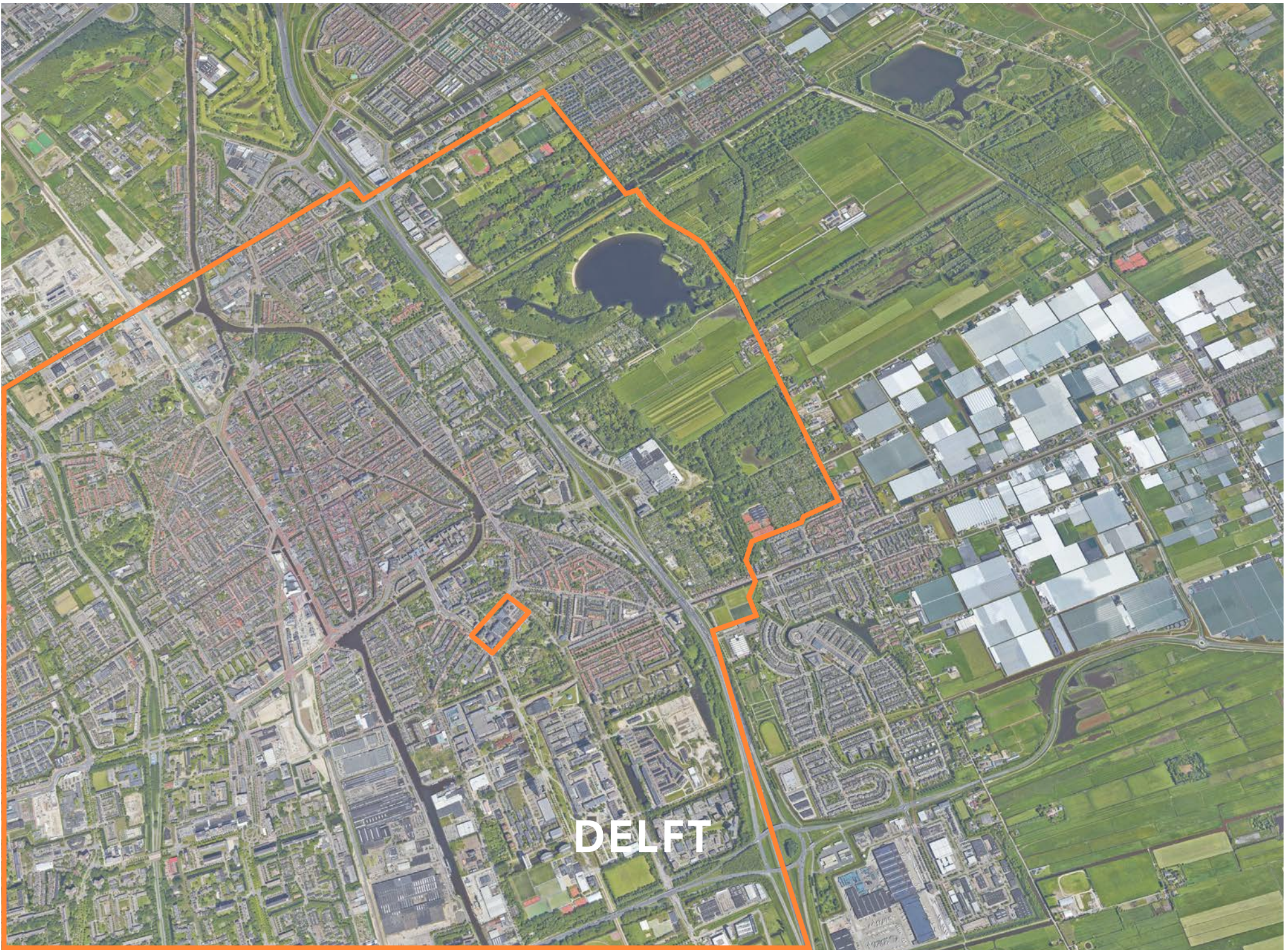
COMPLEX PROJECTS

Loy Dönne 24 | 06 | 2022 | P5



An aerial photograph of a university campus. The central focus is a large, interconnected complex of buildings with dark grey roofs and light-colored walls. To the right of this complex is a large, rectangular parking lot filled with numerous cars. The campus is surrounded by lush green trees and grassy areas. In the background, a multi-lane road with a roundabout is visible. The overall scene is bright and clear, suggesting a sunny day.

FACULTY OF ARCHITECTURE



DELFT



THE NETHERLANDS



EUROPE



EUROPE



LEBANON



BEIRUT



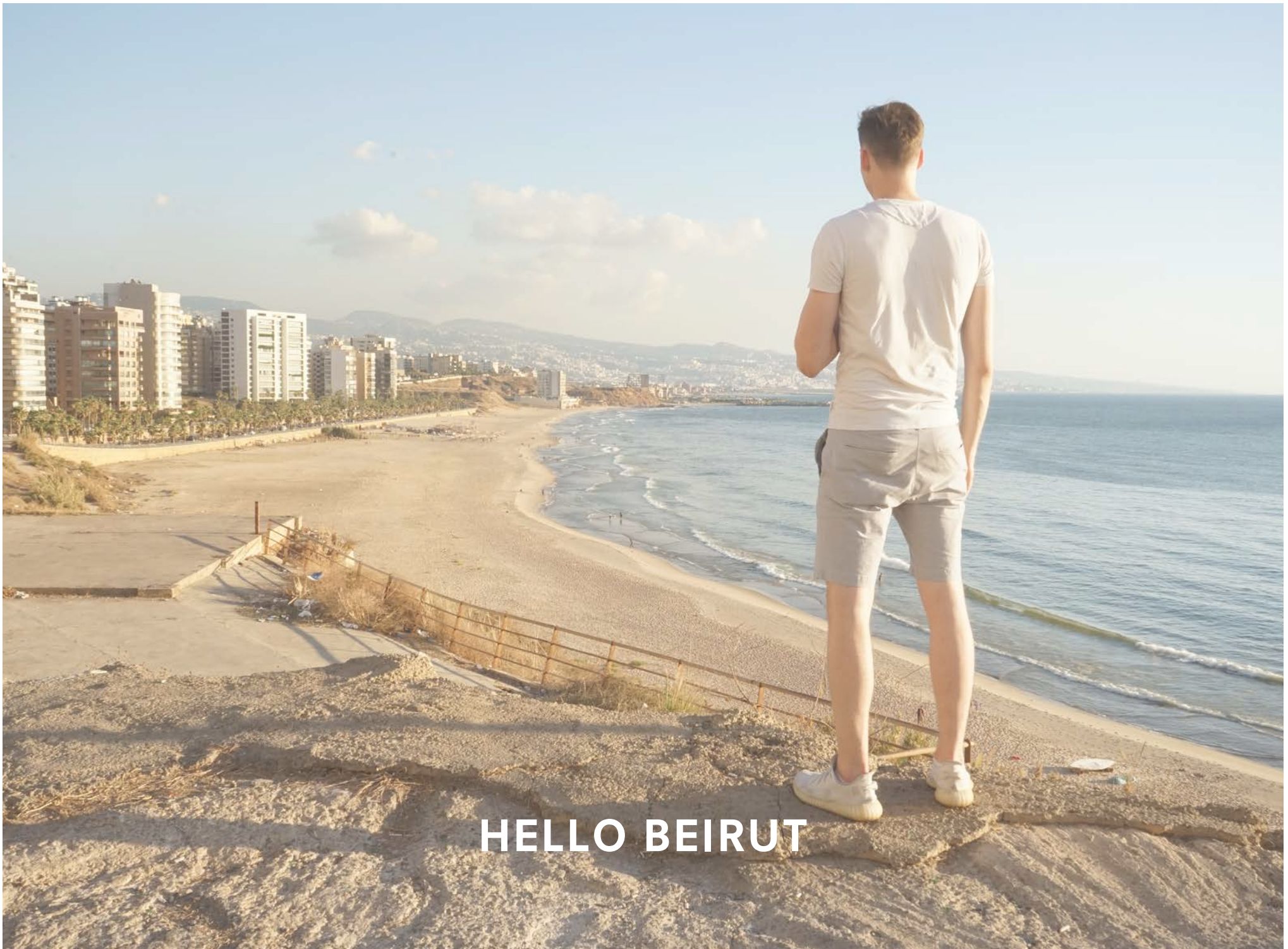
BEIRUT



SUBURB



PLOT



HELLO BEIRUT



PARIS OF THE MIDDLE EAST?



BLAST



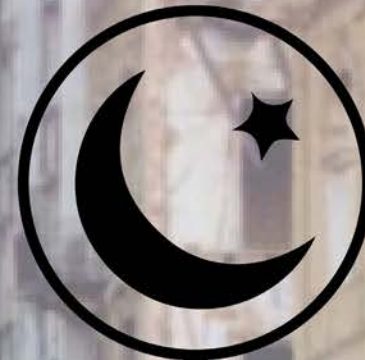
INFLATION



SIKH



CHRISTIAN



MUSLIM



SEGREGATION



LUXURIOUS HIGHRISE



REFUGEE CAMPS



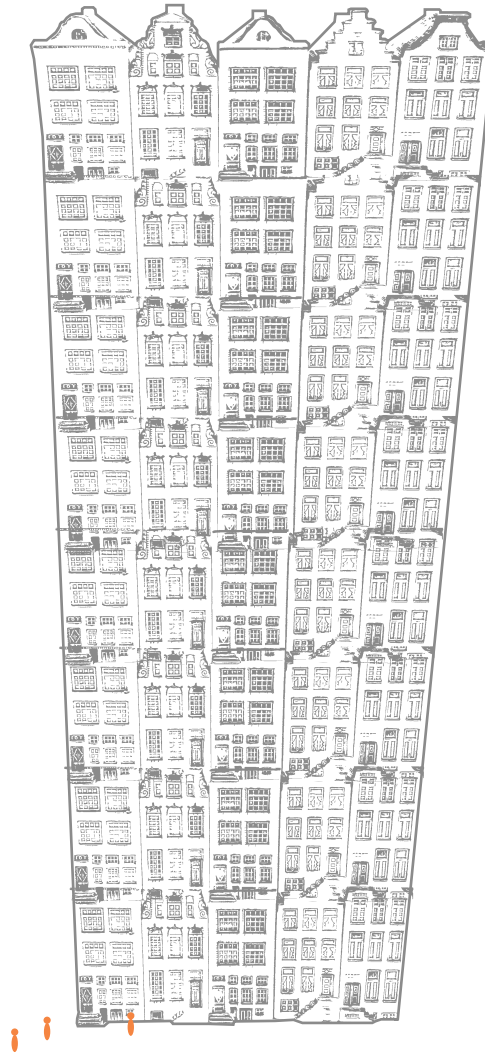
PUBLIC SPACE?!

density

DELFT VS BEIRUT



Delft density
45/ha

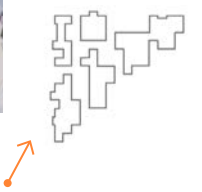


Beirut density in Delft
362/ha



**HOW SHOULD AFFORDABLE HOUSING BE
DESIGNED IN A SOCIO-ECONOMICALLY
SEGREGATED CONTEXT SUCH AS
BEIRUT?**

DESIGN



RESEARCH

dwelling development

HIGH INCOME



ECONOMIC SEGREGATION

dwelling development

MIDDLE INCOME



ECONOMIC SEGREGATION

dwelling development

POOR INCOME



ECONOMIC SEGREGATION

dwelling development

NO INCOME



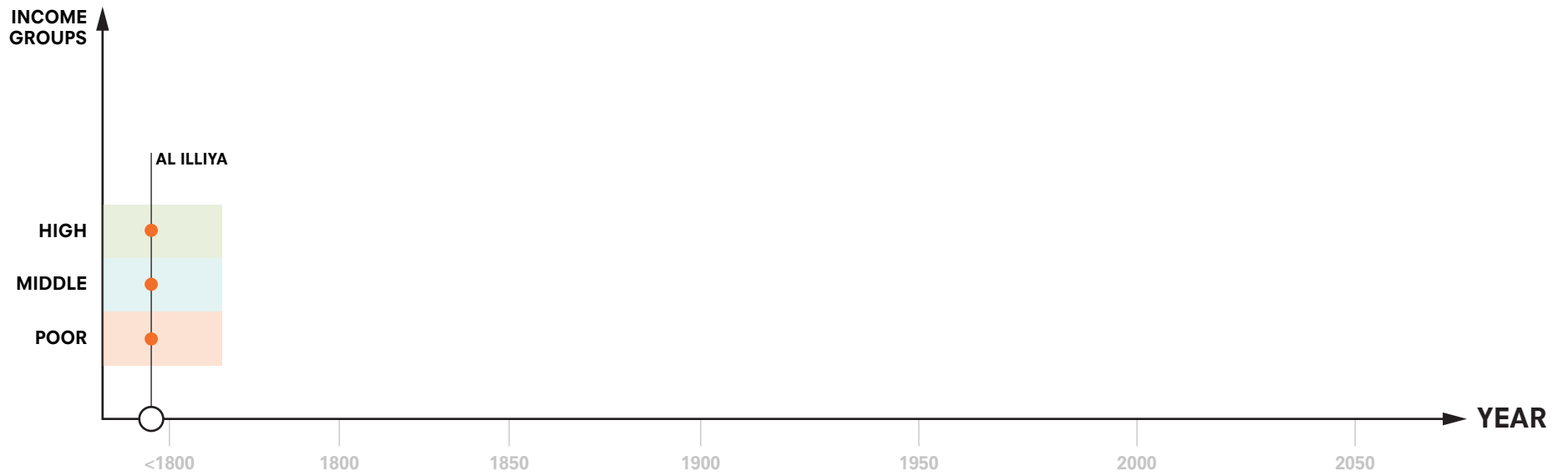
ECONOMIC SEGREGATION

An aerial photograph of a densely populated city, likely Taipei, Taiwan, showing a vast expanse of high-rise buildings and skyscrapers. The city is viewed from an elevated position, with lush green trees in the foreground. The sky is clear with some light clouds. The text "DWELLING DEVELOPMENT" is overlaid in white, bold, sans-serif font at the bottom center of the image.

DWELLING DEVELOPMENT

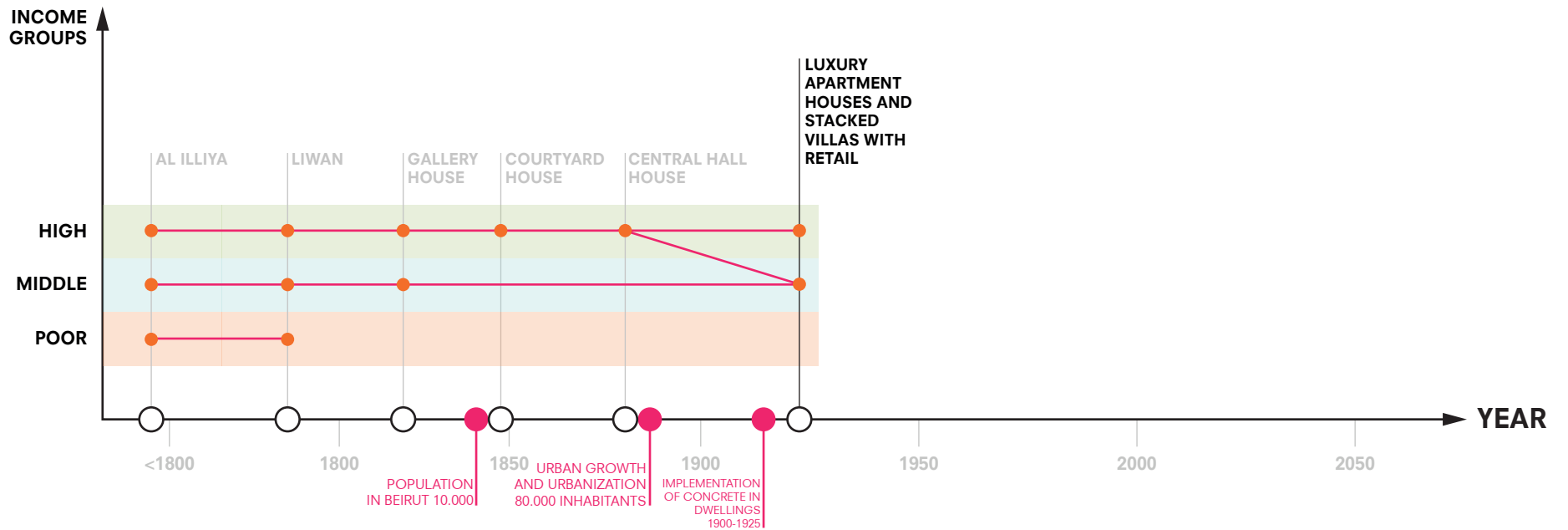
dwelling development

AL ILLIYA



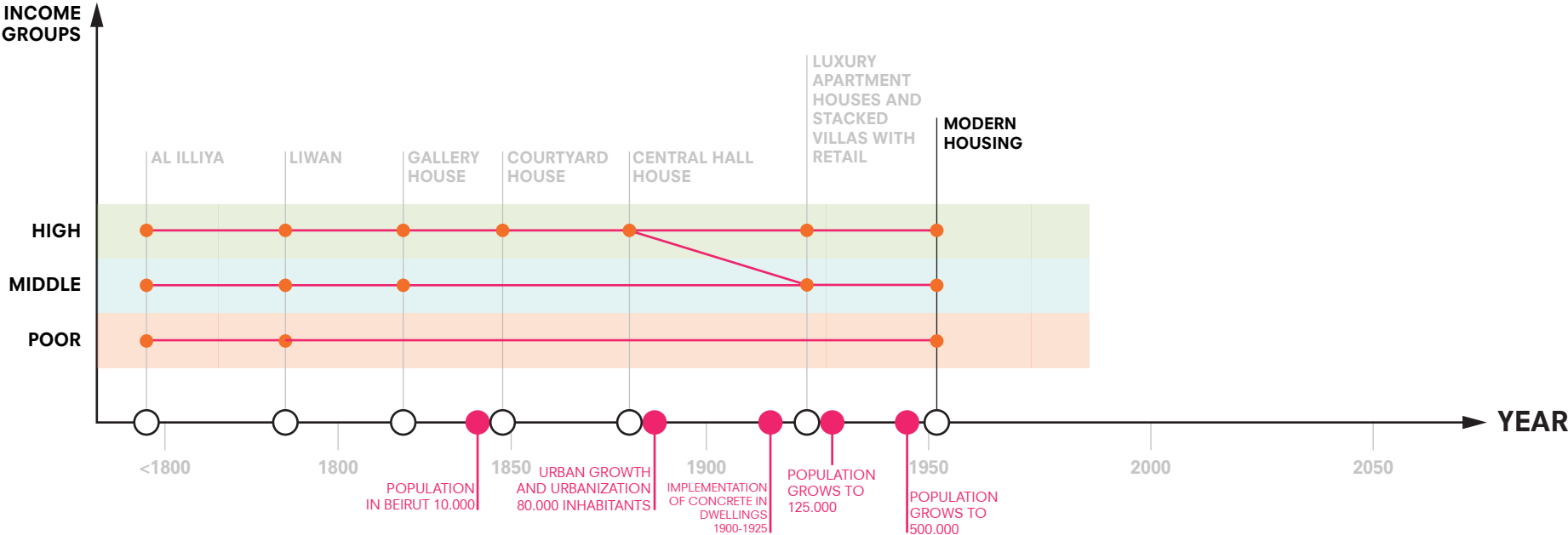
dwelling development

LUXURY HOUSES AND STACKED VILLAS



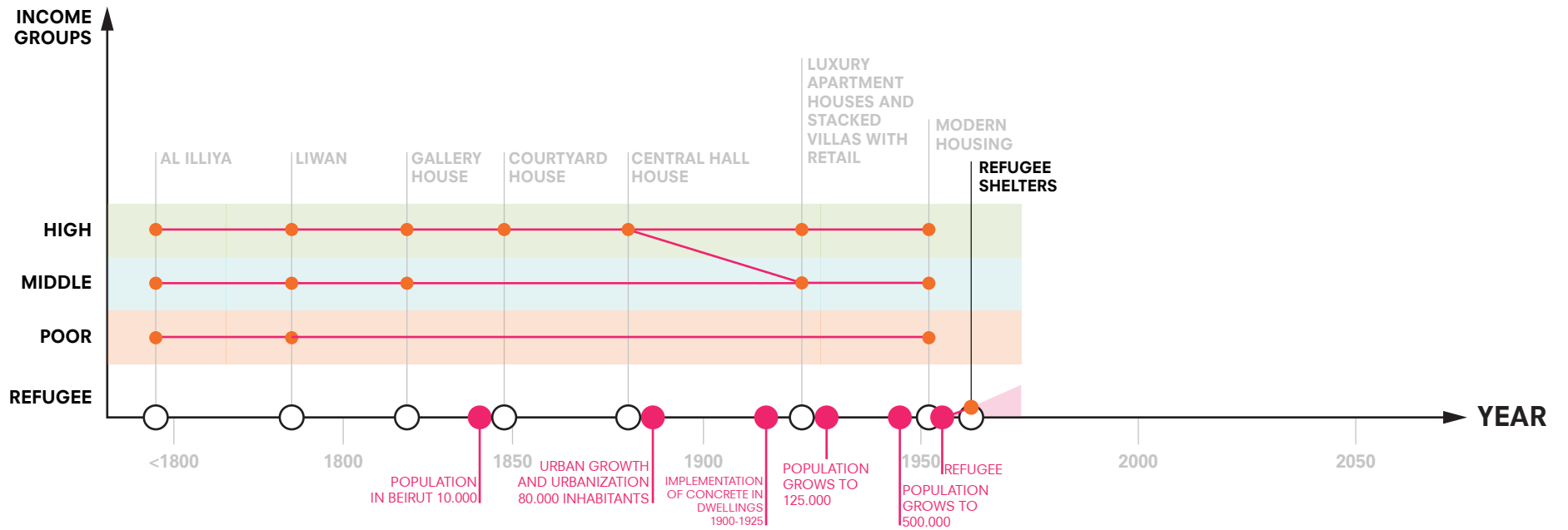
dwelling development

MODERN HOUSING



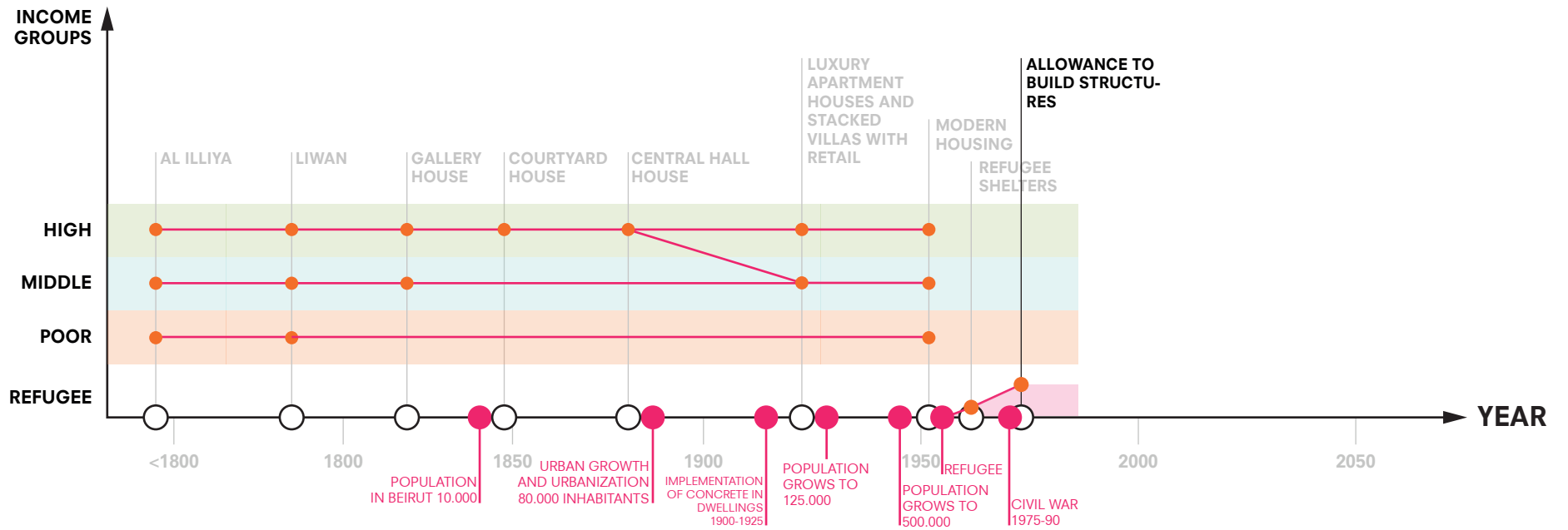
dwelling development

PALESTINIAN REFUGEES



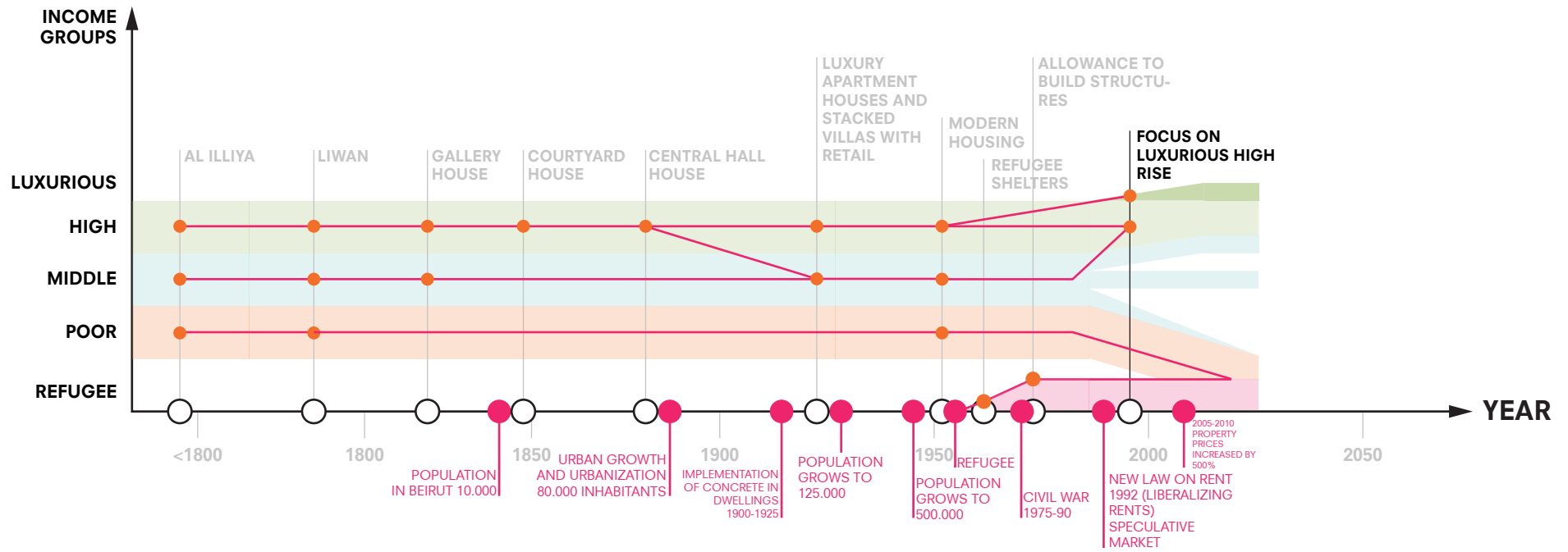
dwelling development

TODAY: PART OF URBAN FABRIC



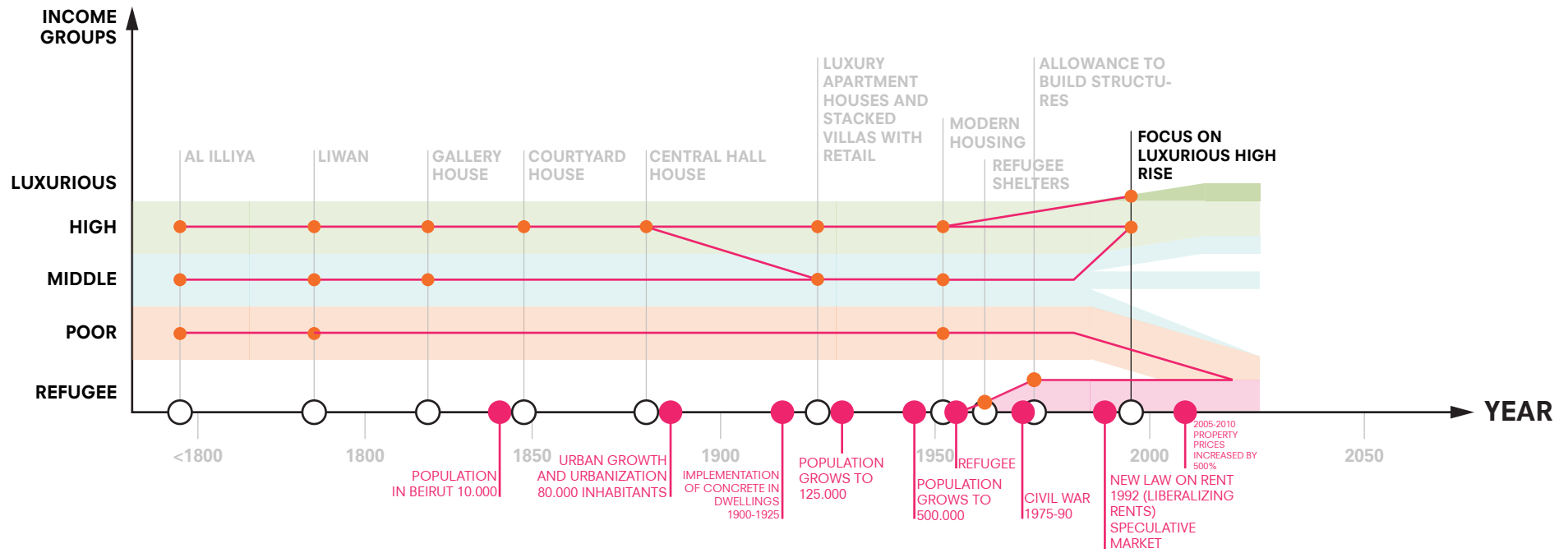
dwelling development

LUXURIOUS HIGH RISE



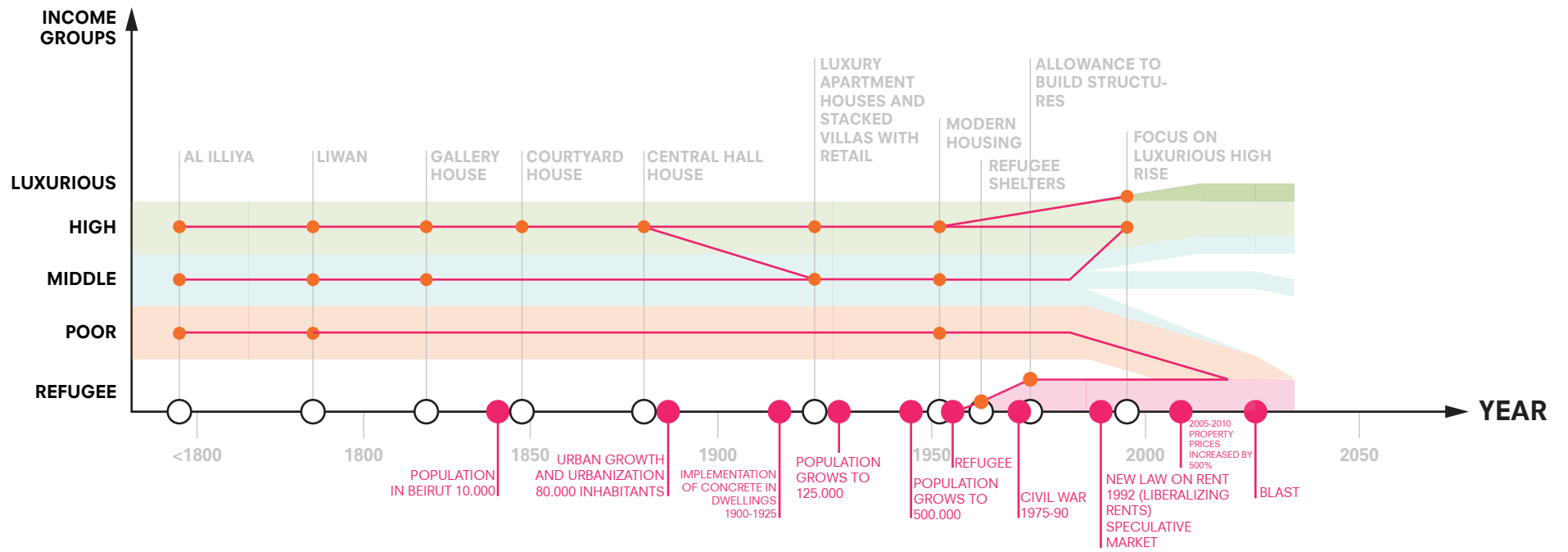
dwelling development

LUXURIOUS HIGH RISE



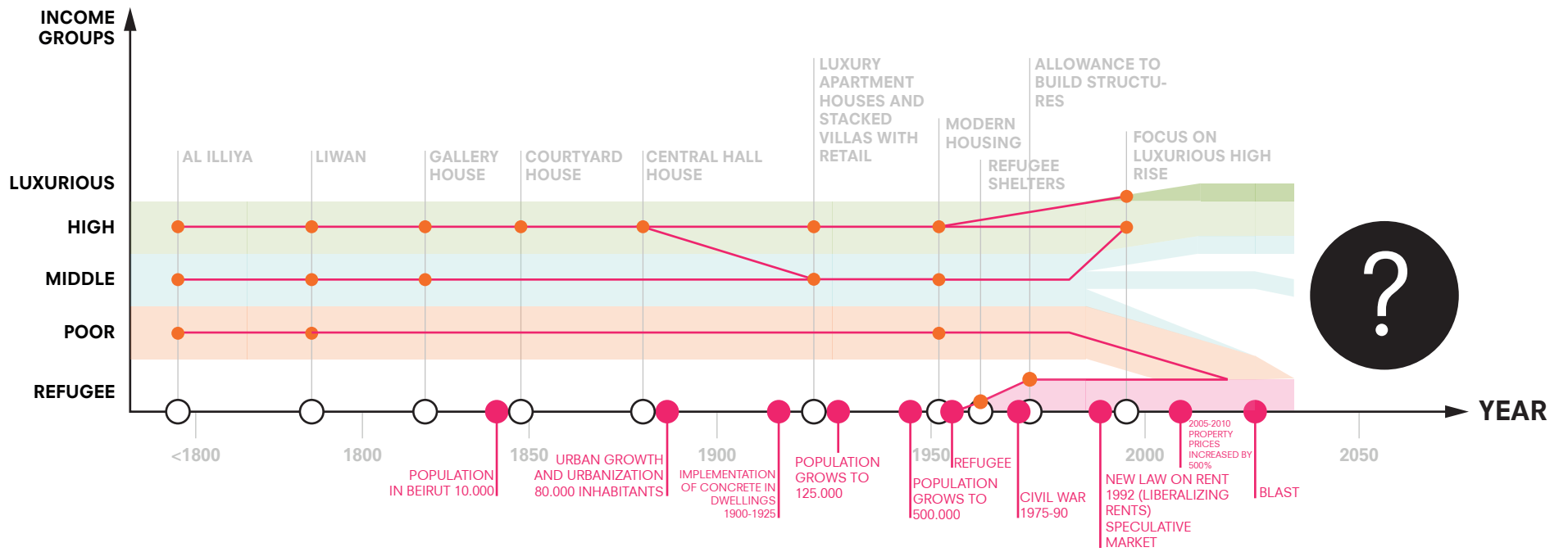
dwelling development

BLAST



dwelling development

?





**“HOW SHOULD AFFORDABLE HOUSING
BE DESIGNED IN A SOCIO-ECONOMICALLY
SEGREGATED CONTEXT SUCH AS BEIRUT?”**

PUBLIC SPACE AGAINST SEGREGATION



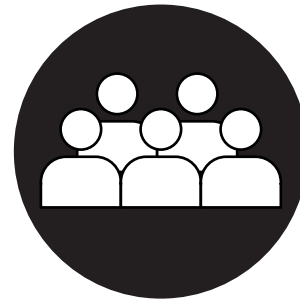
CREATE HOUSING



MIXED INCOME



**INCLUSIVE
APPROACH
FOR LESS TENSION**



**INVOLVE LOCAL
COMMUNITY**



**ACT AS INITIATOR
FOR FUTURE
PROJECTS**

research

AFFORDABLE HOUSING COMPARISON



AFFORDABLE HOUSING COMPARISON

MEXICO



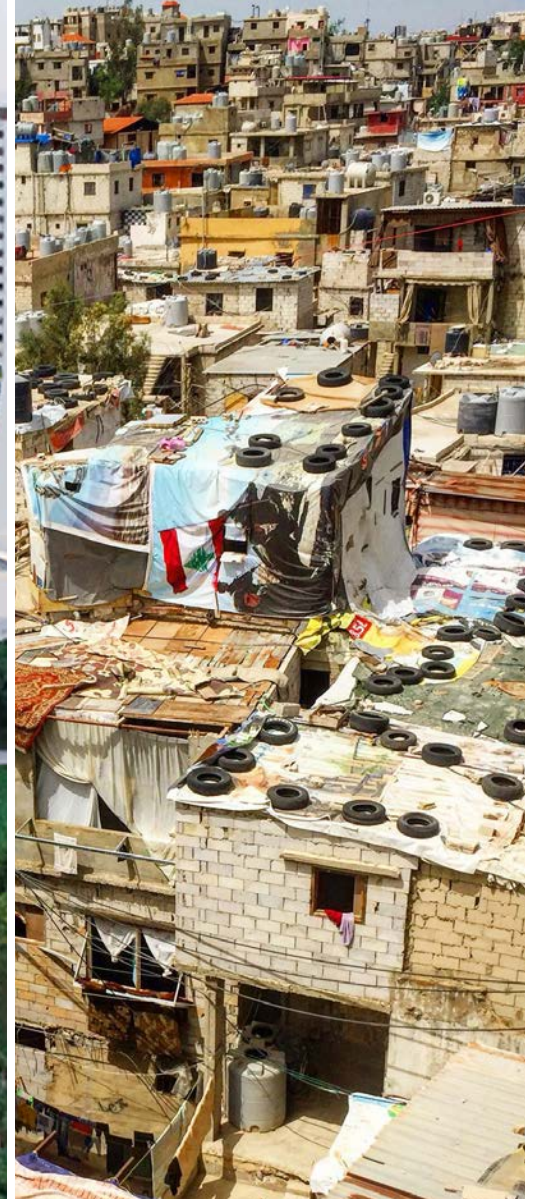
BRAZIL



VIENNA



BEIRUT COMPETITION



research

AFFORDABLE HOUSING CHARACTERS



MODULARITY



MASS
DEVELOPMENT



LONGTERM



QUALITY
OF THE
DWELLINGS



LOCAL LABOR

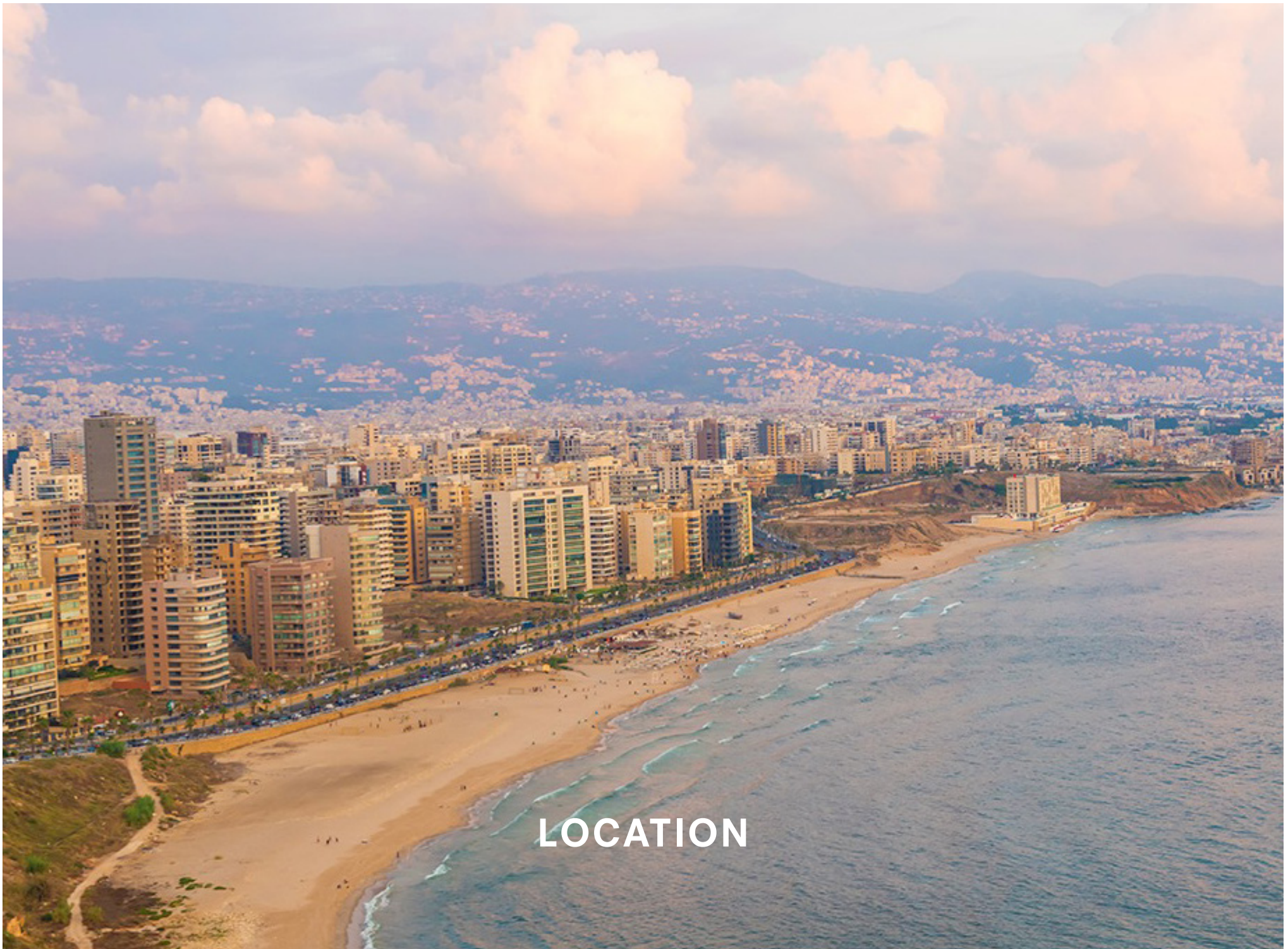


LOCATION



DECREASE
NEEDED SPACE

DESIGN BRIEF



LOCATION

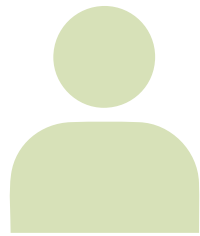
location

G3 SUBURB LOCATION

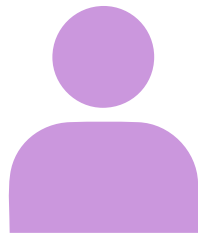


location

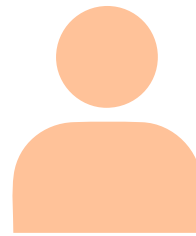
ECONOMIC SEGREGATION SUBURB



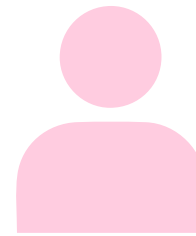
high



middle



poor



refugee
no income

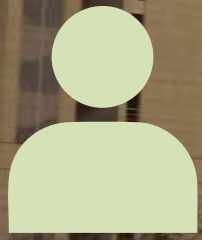
location

HIGH INCOME



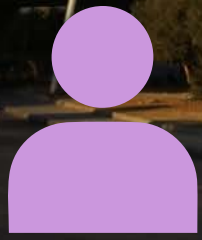
location

HIGH INCOME



location

MIDDLE INCOME



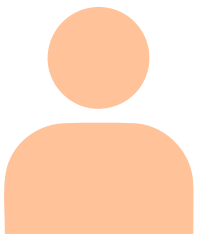
location

MIDDLE INCOME



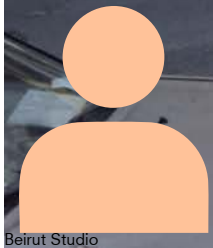
location

LOW INCOME



location

LOW INCOME



location

REFUGEE / NO INCOME



location

REFUGEE / NO INCOME



location

MASTERPLAN AMBITION



**ENHANCE MOSAIC
CHARACTER**



**PEDESTRIAN FRIENDLY
CONNECTIONS**



**2 KEY PUBLIC SPACES :
BEACH AND PARK**



**AFFORDABLE HOUSING
AND EDUCATION**

location

MASTERPLAN



DESIGN BRIEF

location

WATA MOUSSEITBEH REFUGEE CAMP



location

WATA MOUSSEITBEH REFUGEE CAMP



location

DISUSED SPORTS AREA



location

EVENT SQUARE

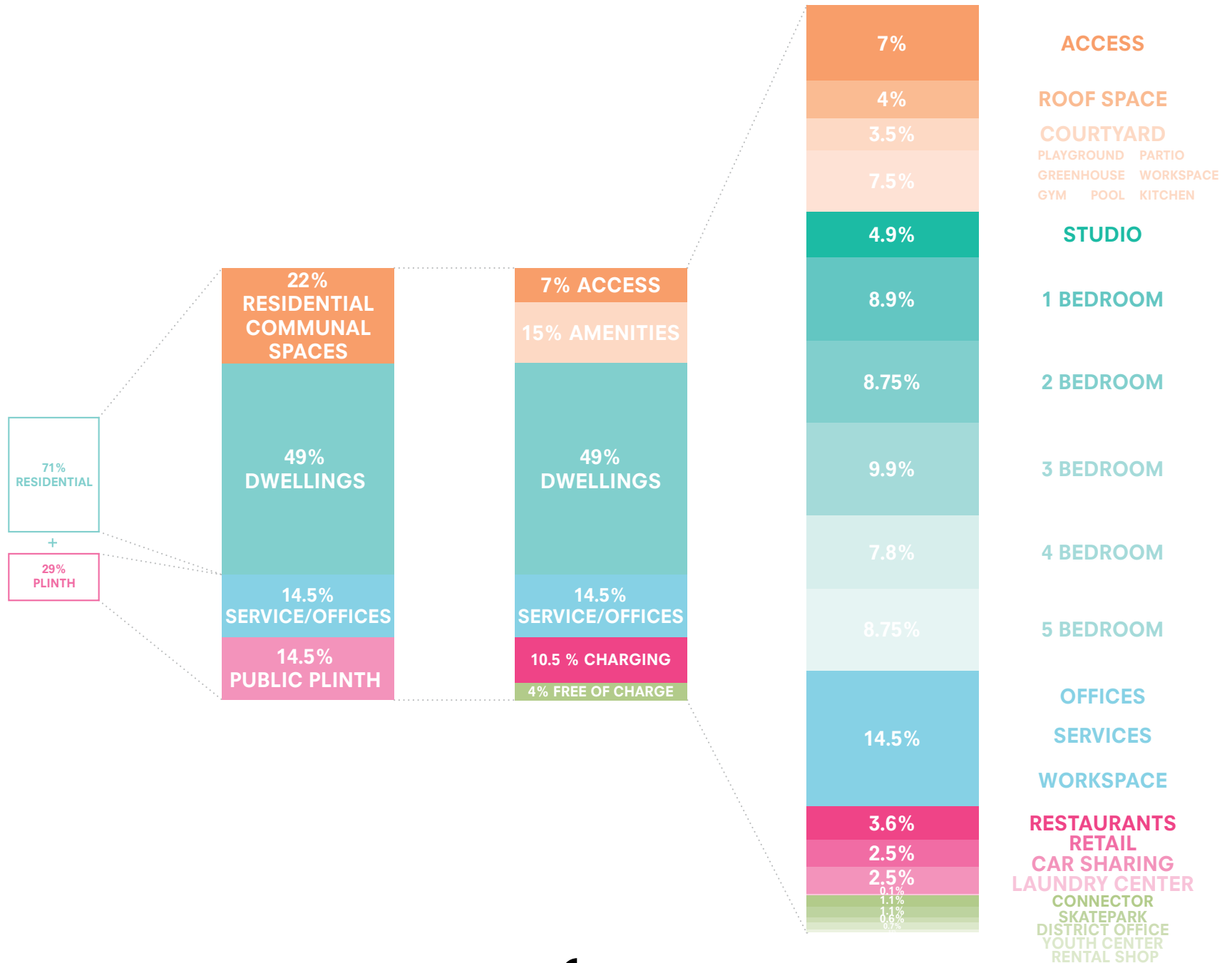


location

BEIRUT'S LIVING ROOM



program ambition
PROGRAM BAR

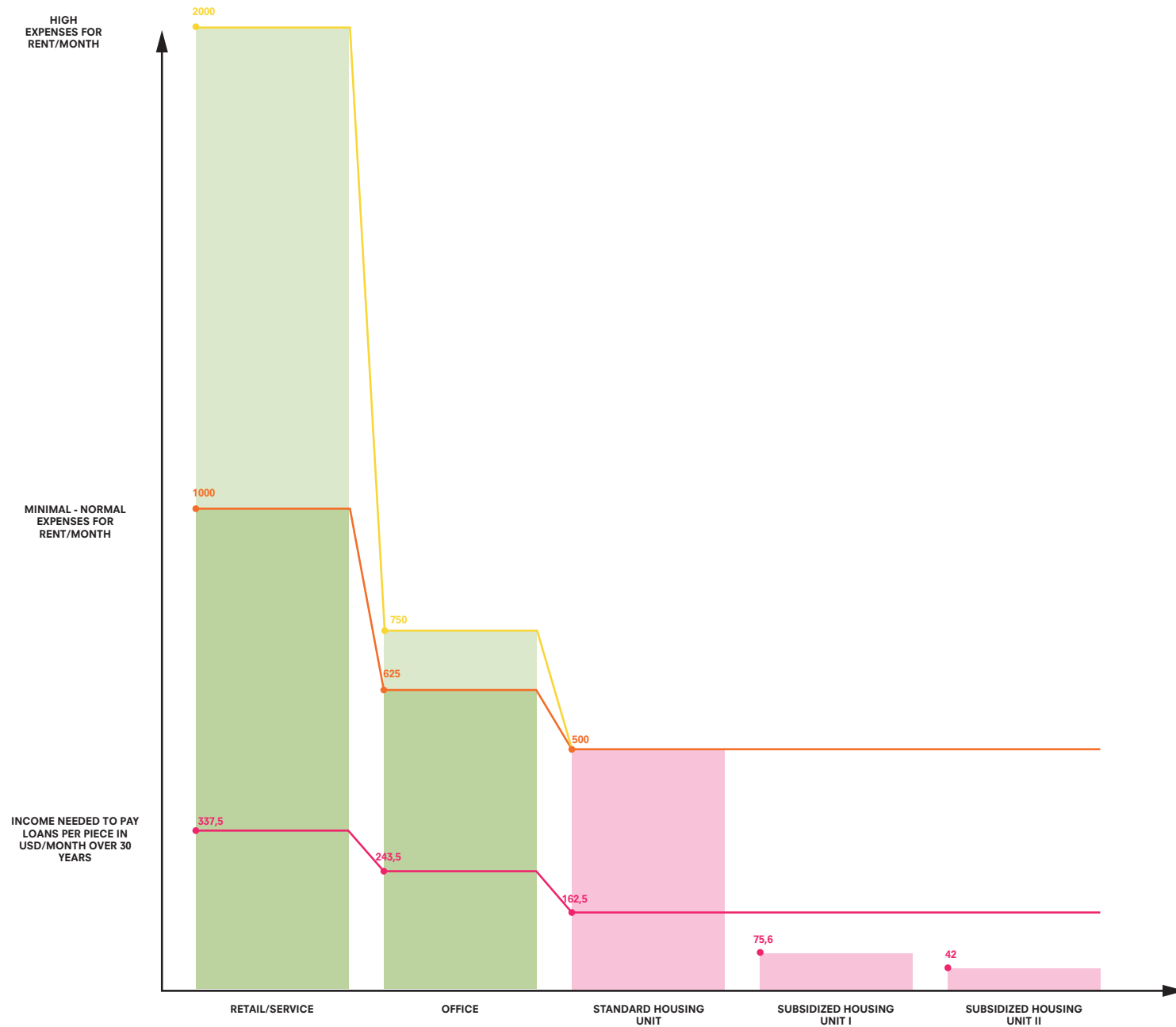


financial ambition

ARRANGEMENT

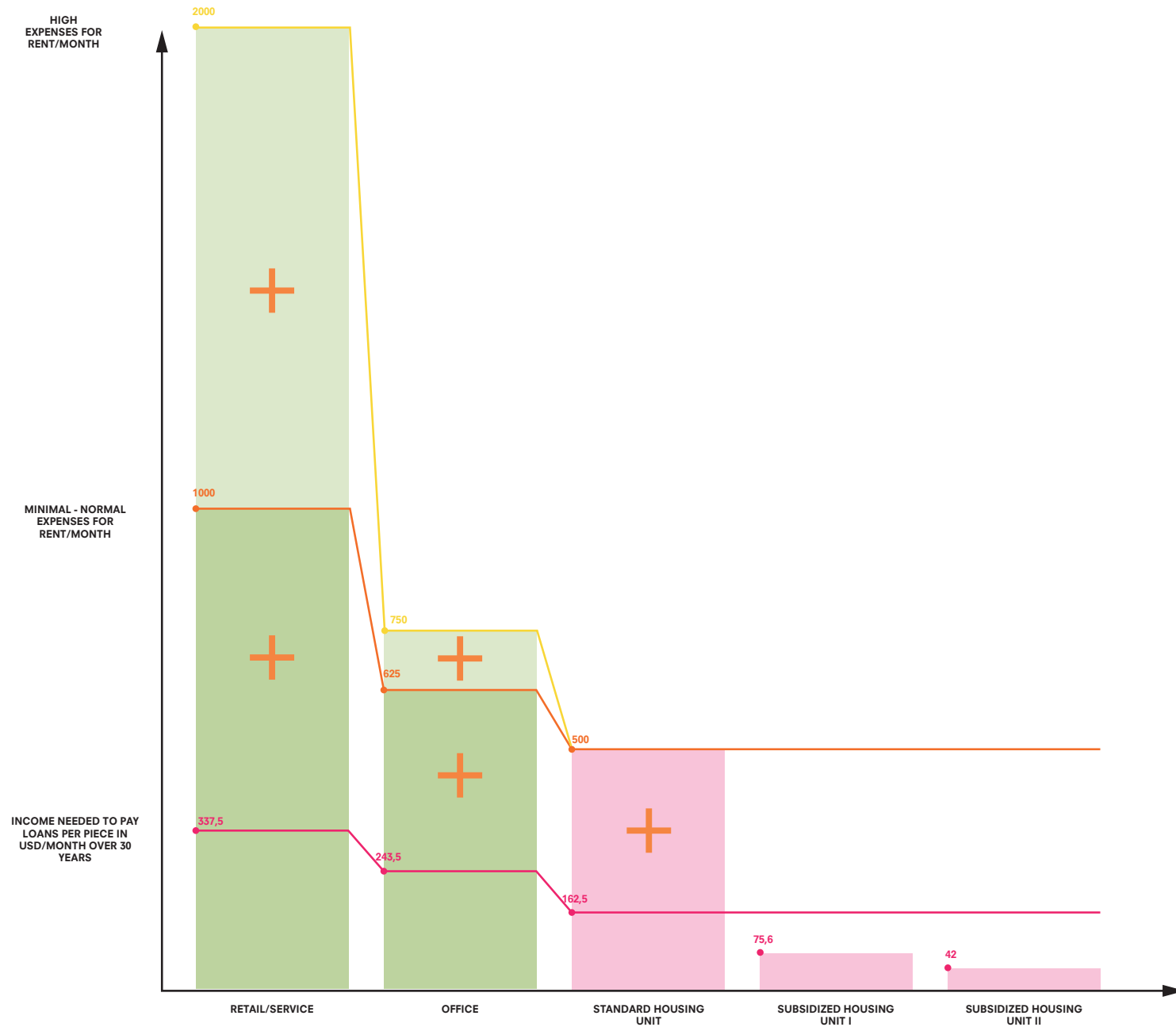


RENT INCOME BY PROGRAM

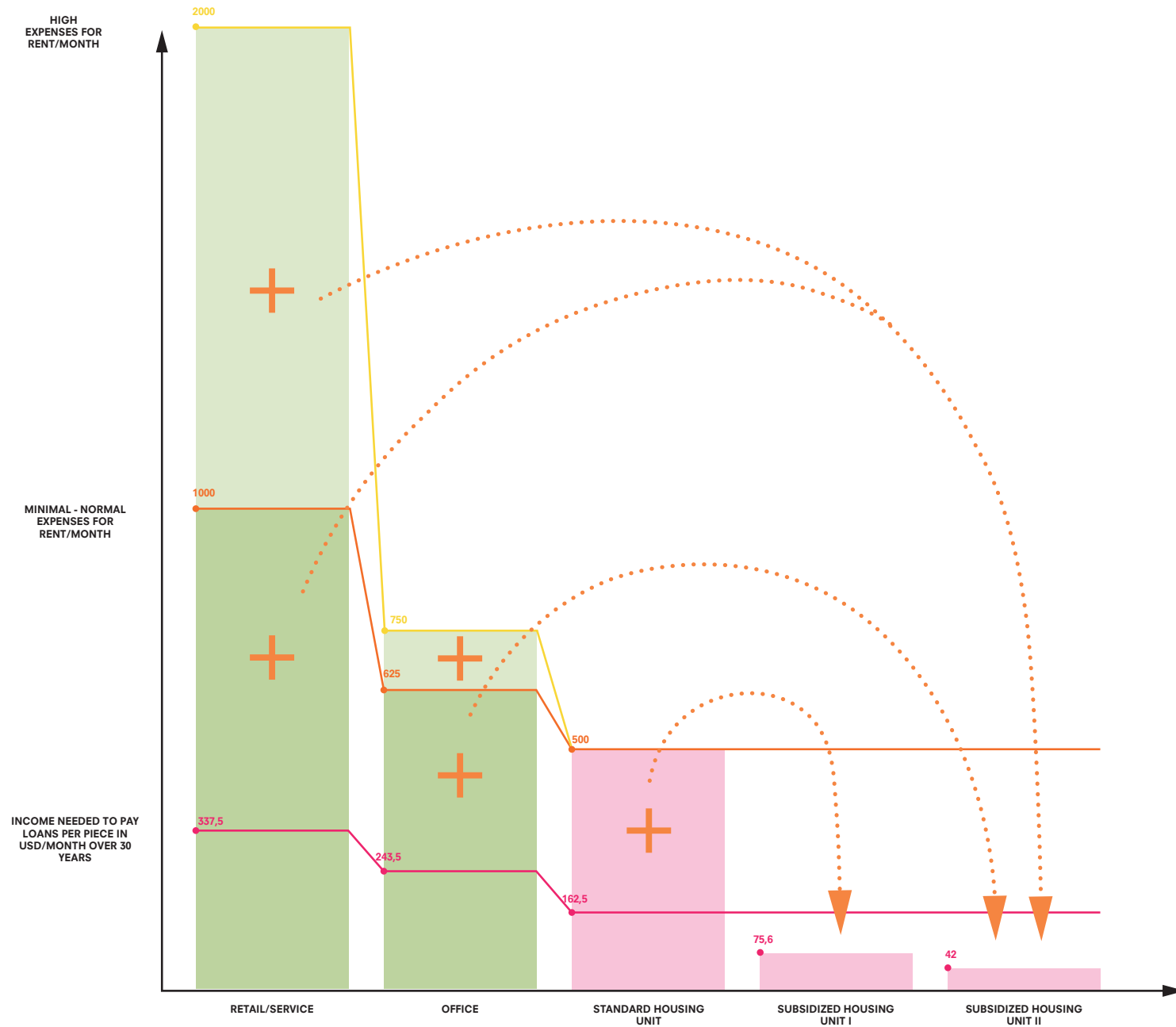


financing strategy

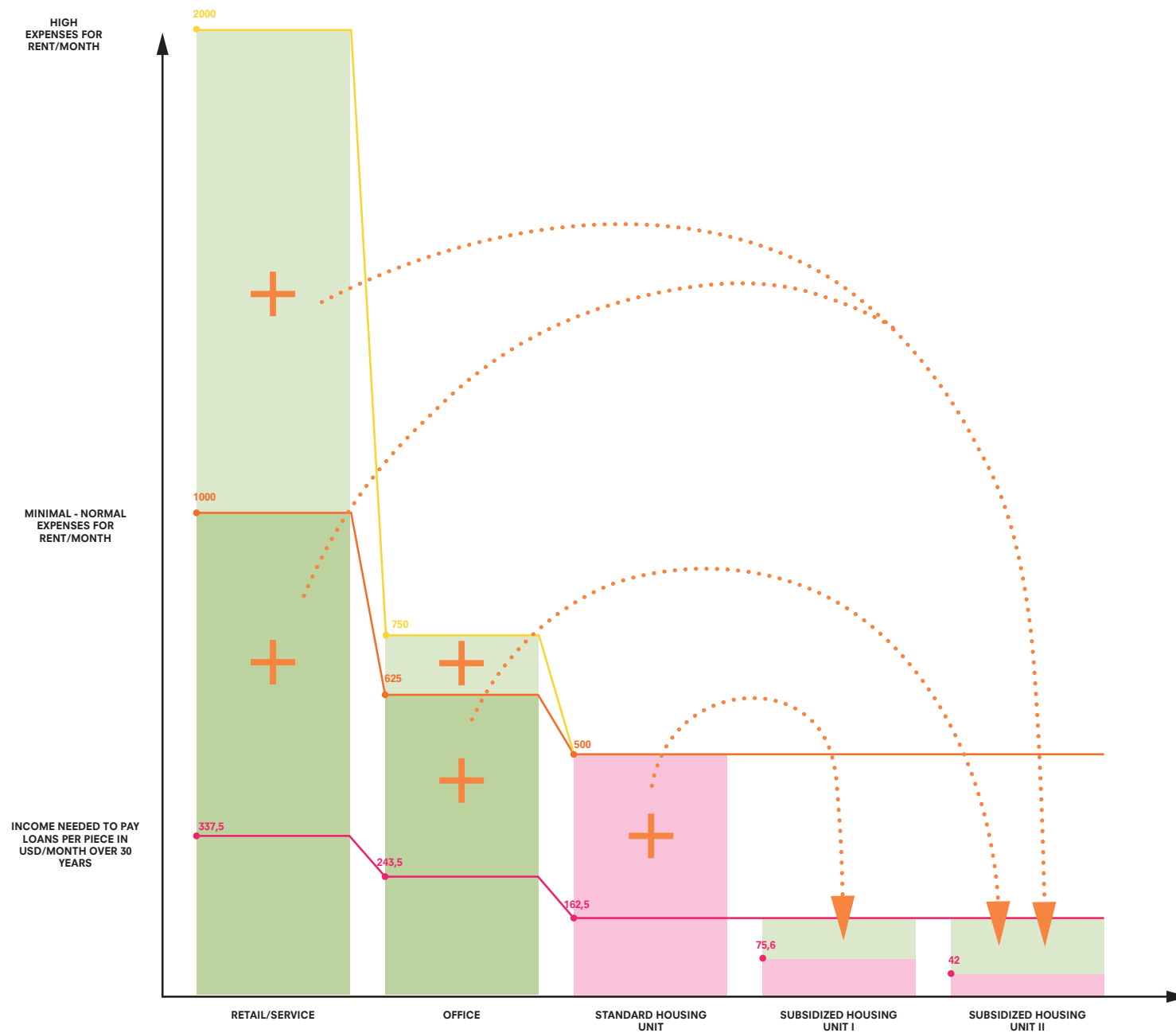
GAIN TO SUBSIDIZE



GAIN TO SUBSIDIZE AFF. HOUSING



GAIN TO SUBSIDIZE AFF. HOUSING

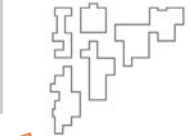


CONCEPT

concept
RETAIL



concept
OFFICE



concept
ROOF GARDEN



concept

SHARED SPACES



concept
DWELLINGS



DESIGN CONCEPT

design concept

BEIRUT



design concept

BEIRUT



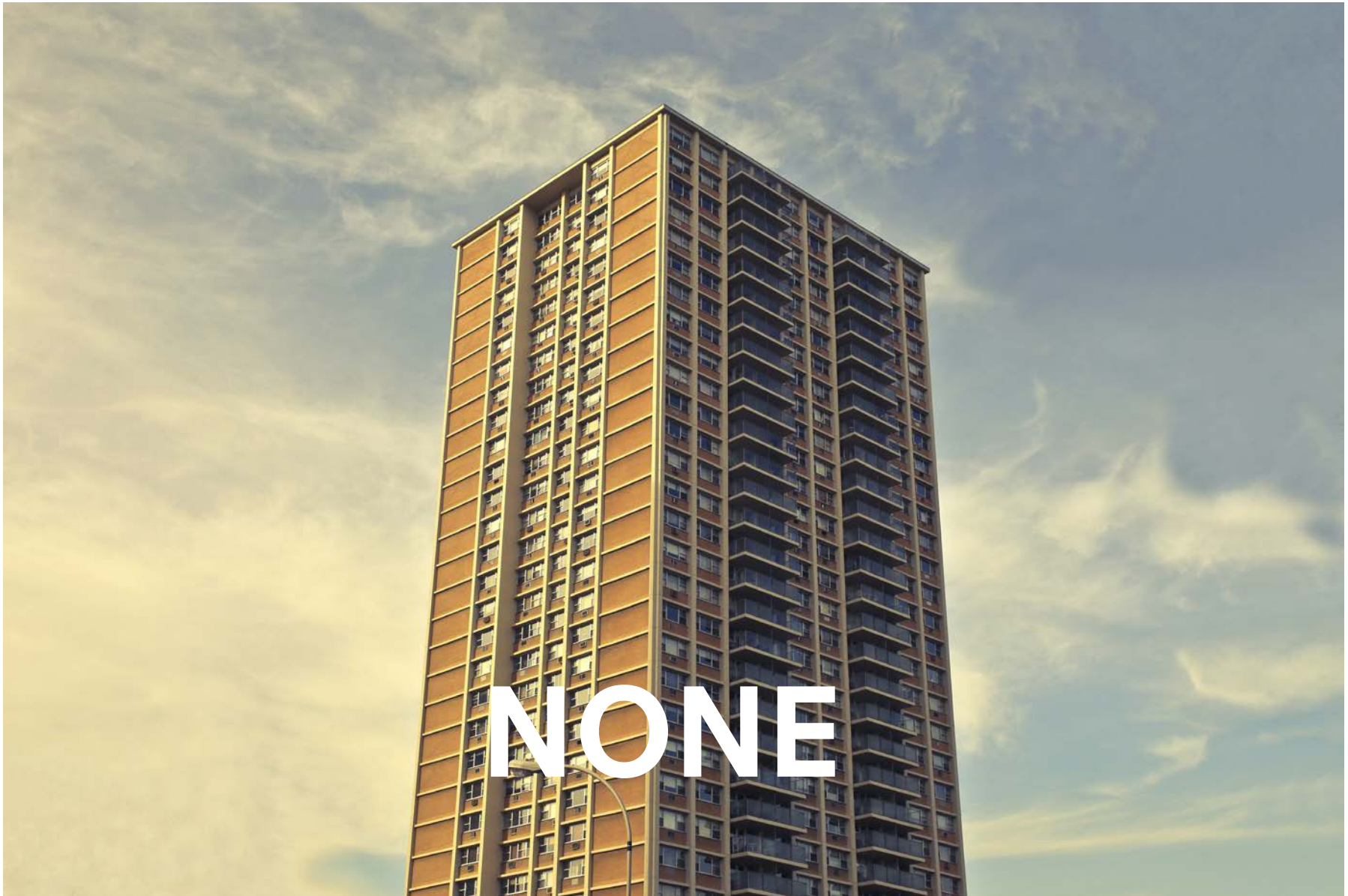
design concept

INTERACTION OR BREAKING UP THE MASS?



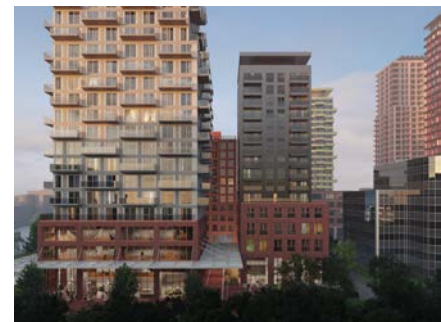
design concept

INTERACTION OR BREAKING UP THE MASS?



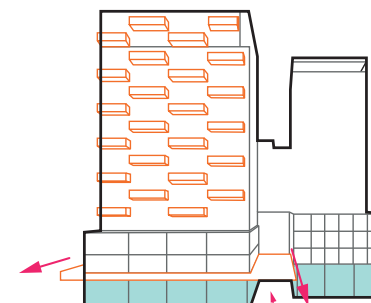
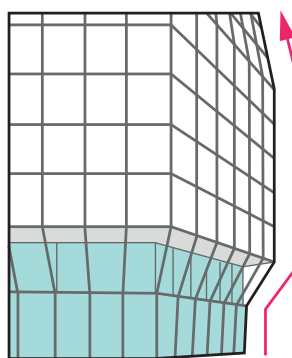
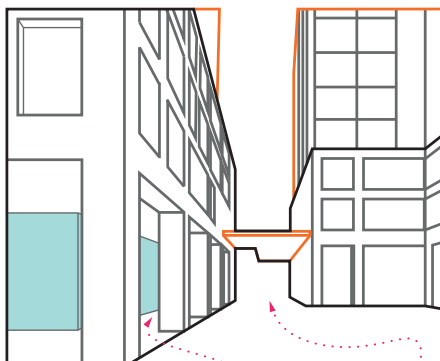
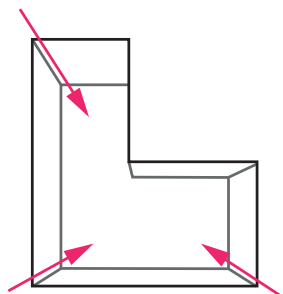
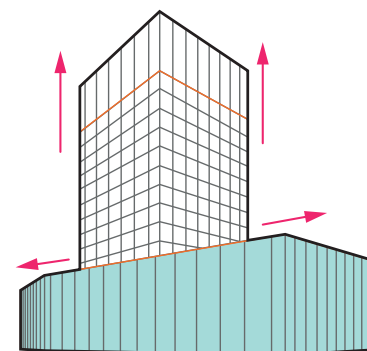
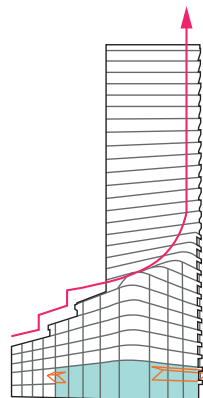
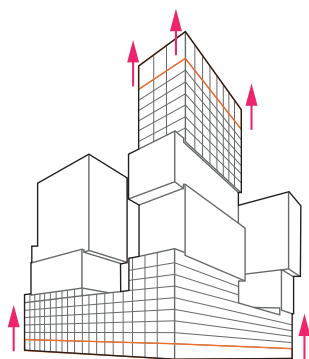
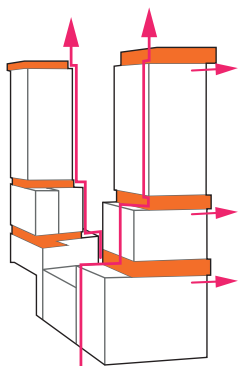
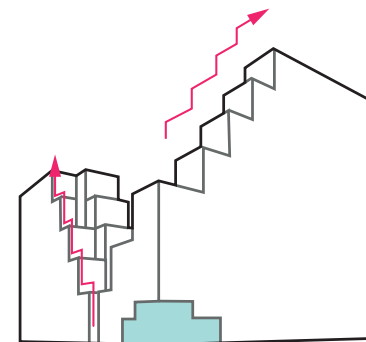
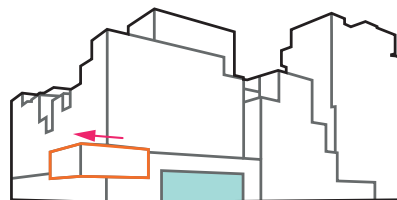
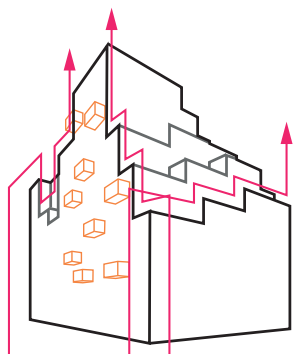
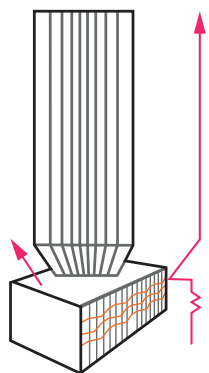
design concept

HYBRID BUILDINGS



design concept

VOLUME JUMPS

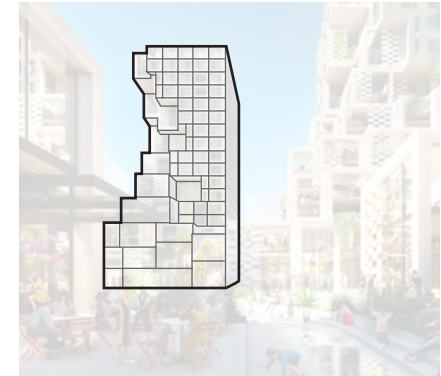
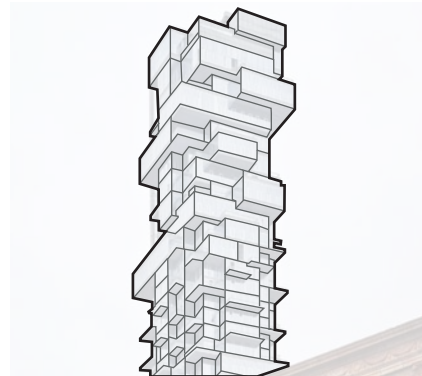
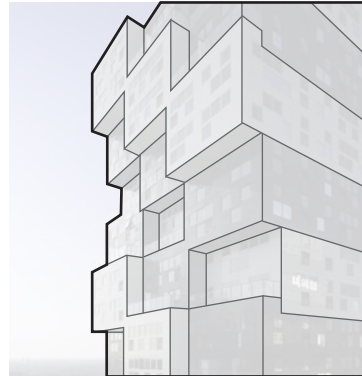
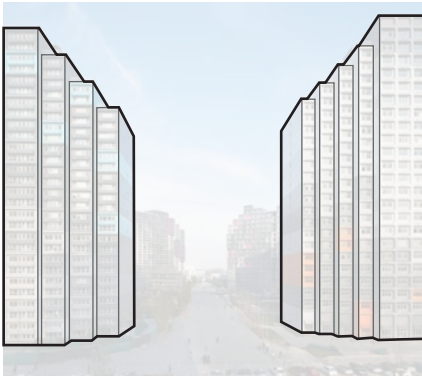
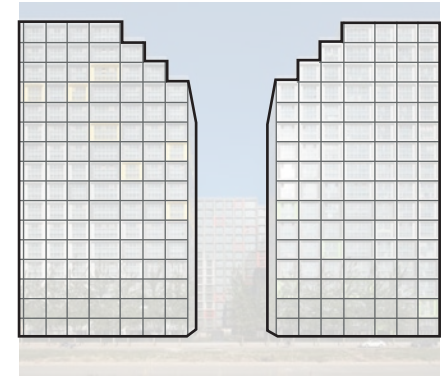
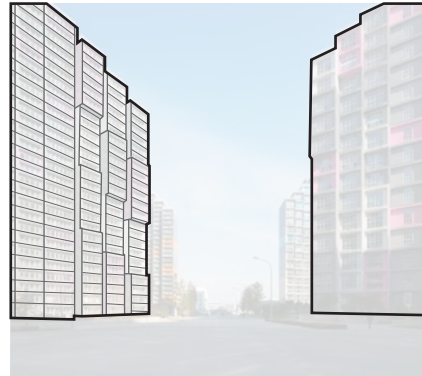
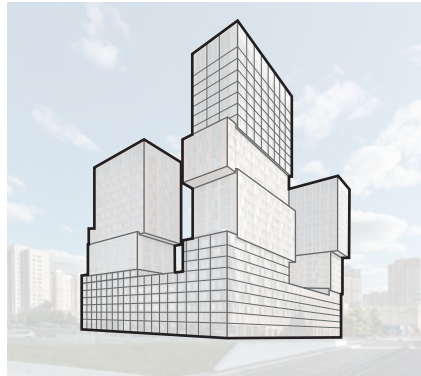
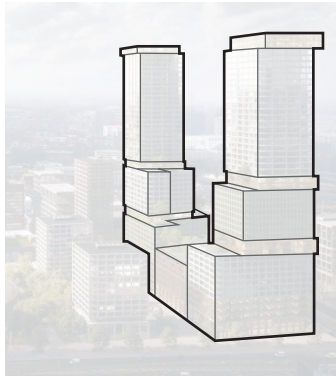
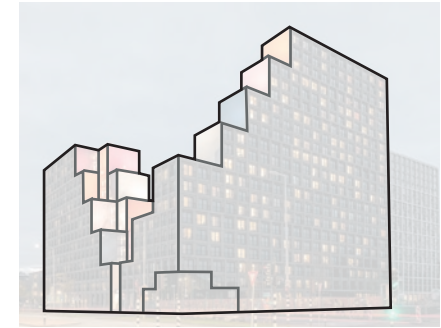
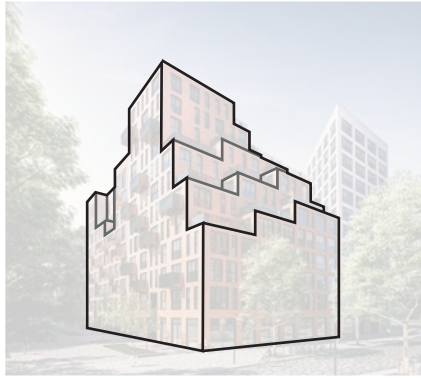
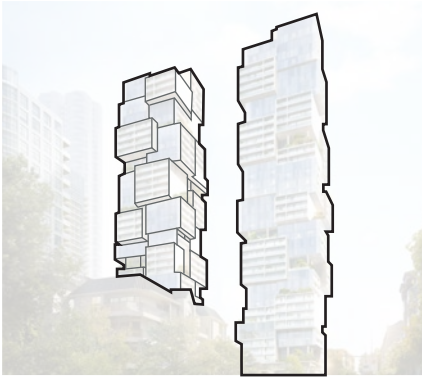


design concept
PIXEL BUILDINGS



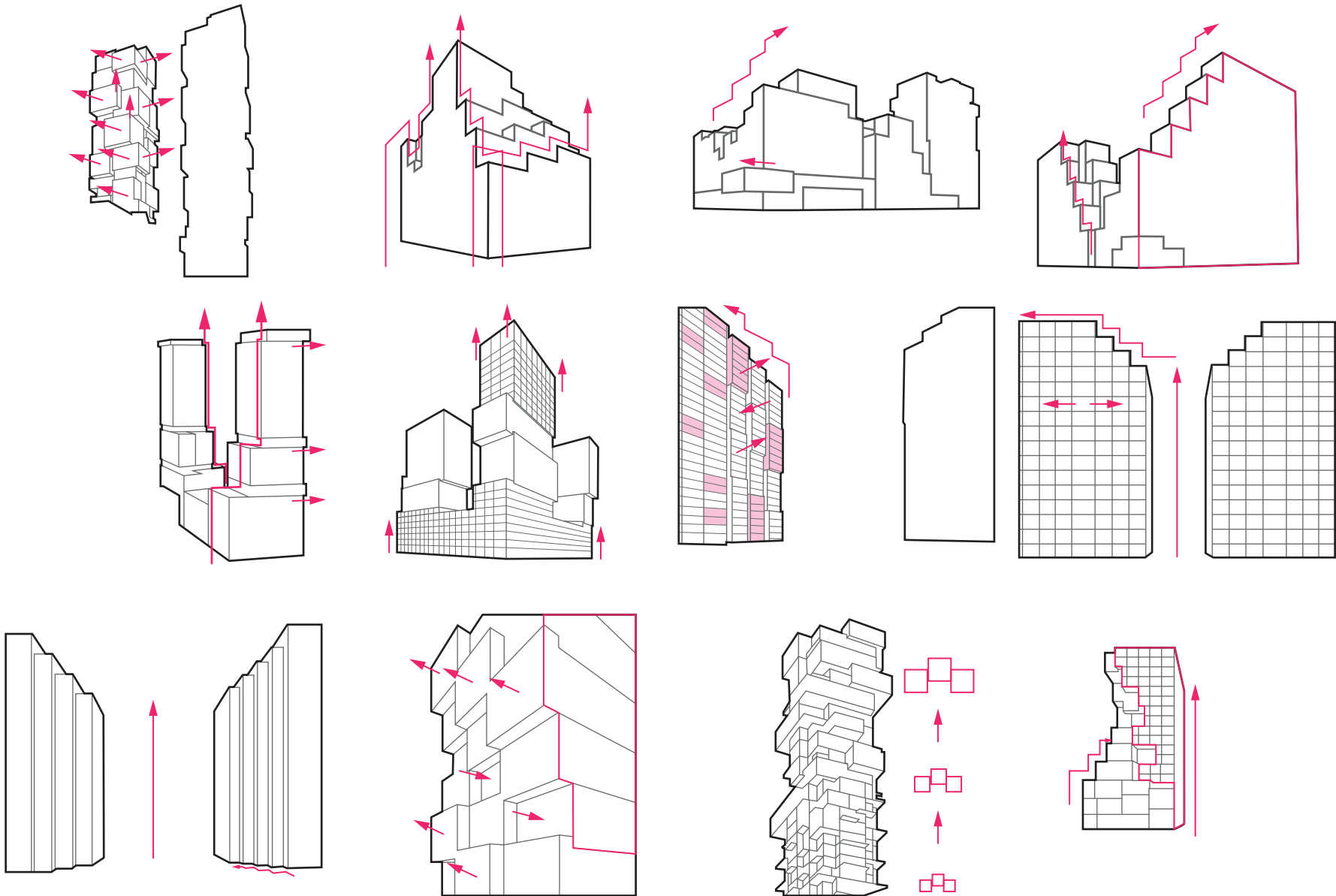
design concept

PIXEL BUILDINGS



design concept

PIXEL BUILDINGS



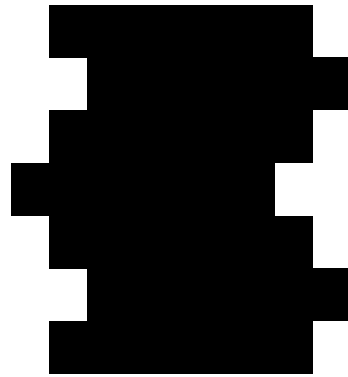
design concept

TOWER



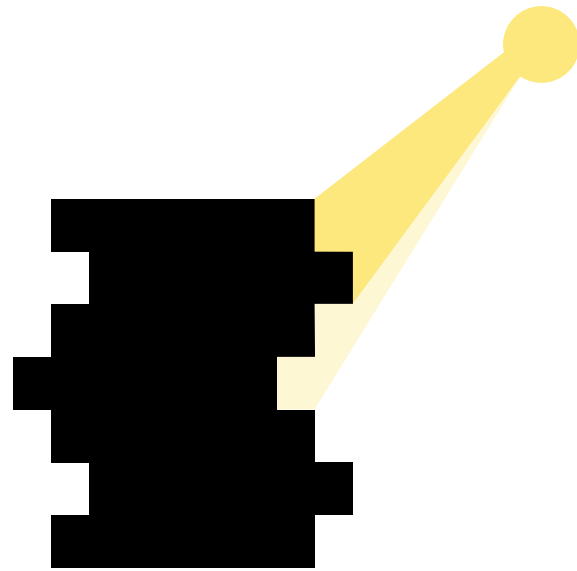
design concept

BREAKING UP



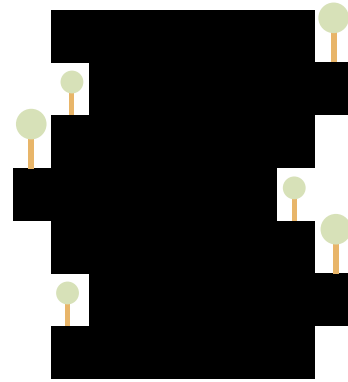
design concept

SUN PROTECTION



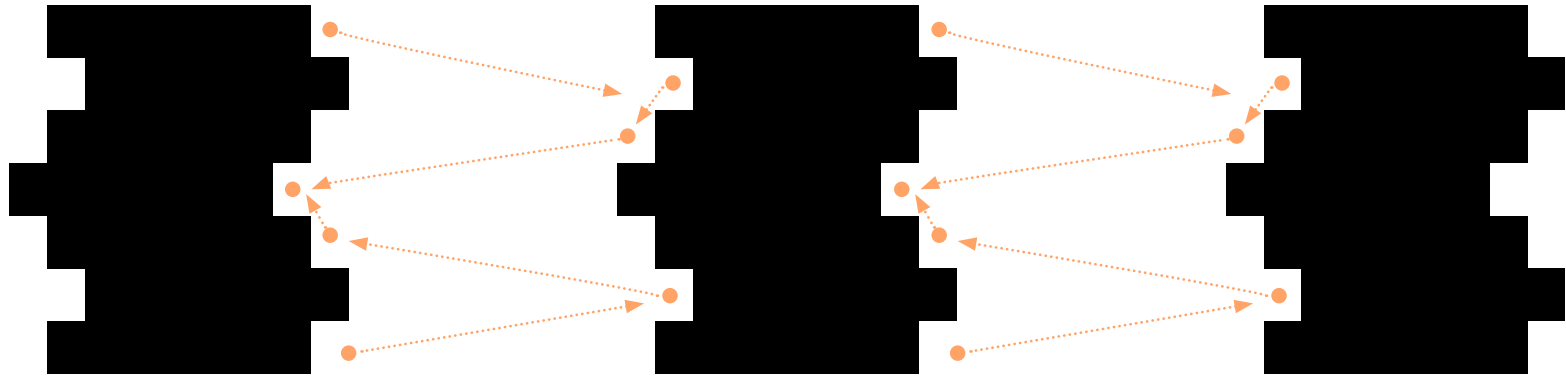
design concept

TERRACES THROUGH SHIFTS



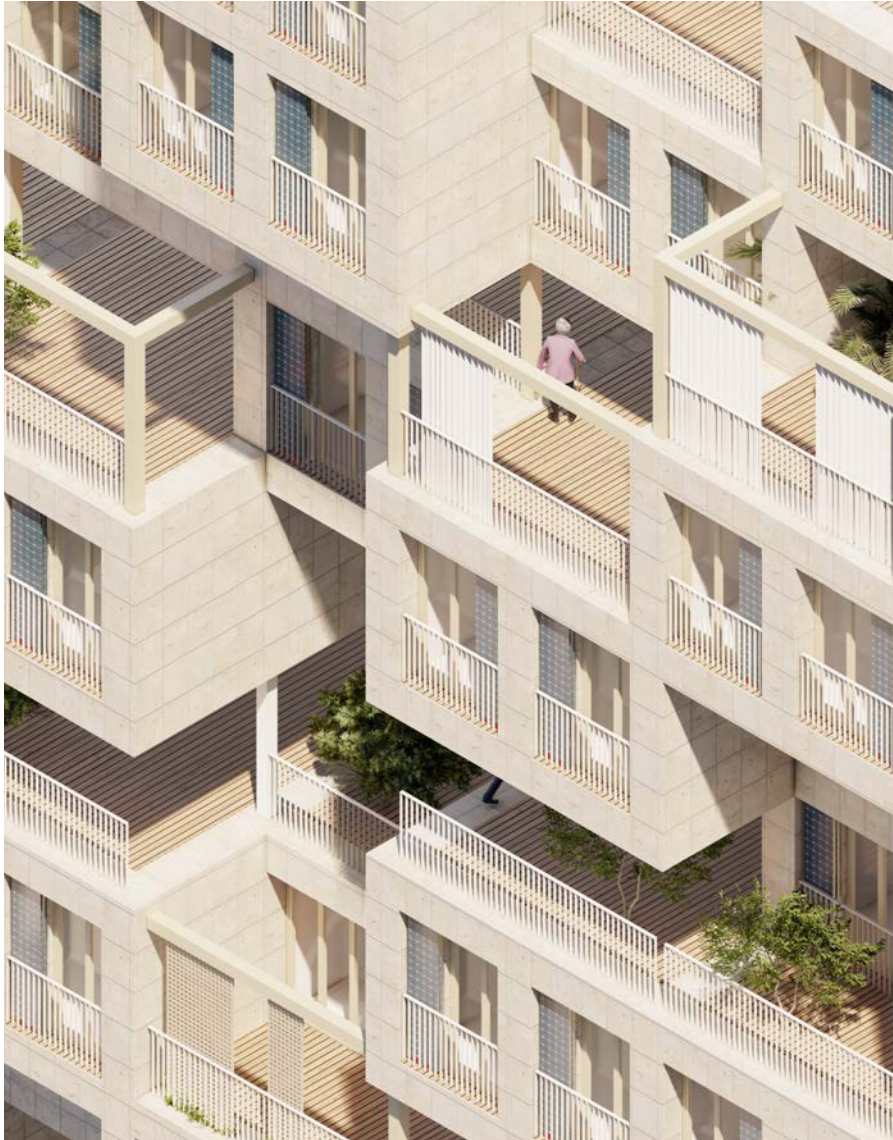
shifts

VISUAL RELATIONS - INTERACTION



facade system

TRADITIONAL EXAMPLES

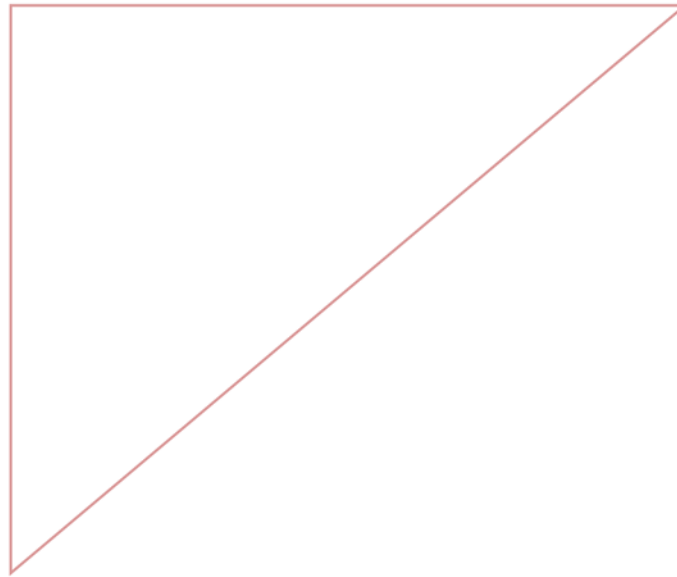


PLINTH

ARRANGEMENT

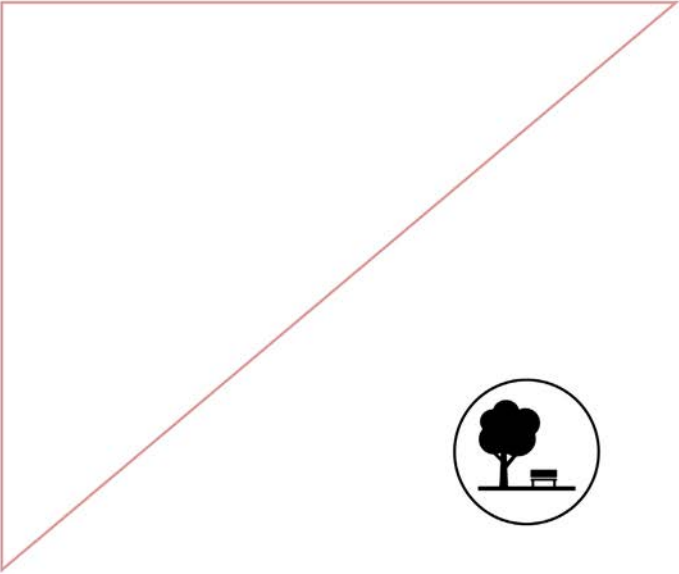


plinth
PLOT

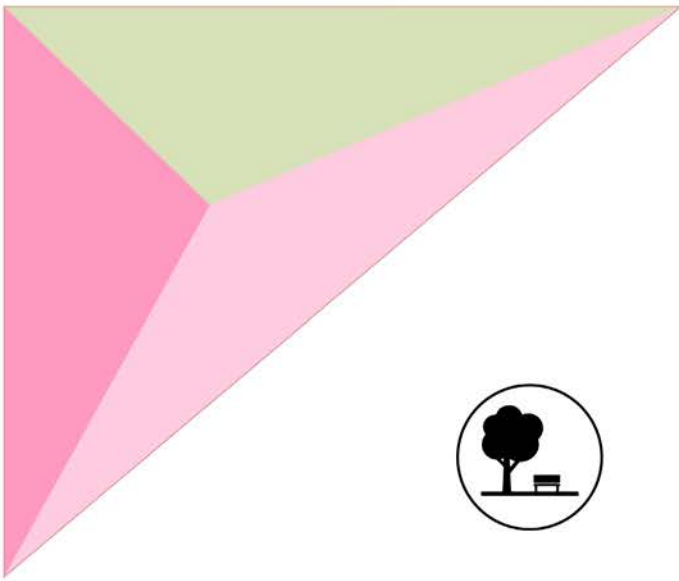


plinth

SURROUNDINGS



plinth
PROGRAM SPLIT

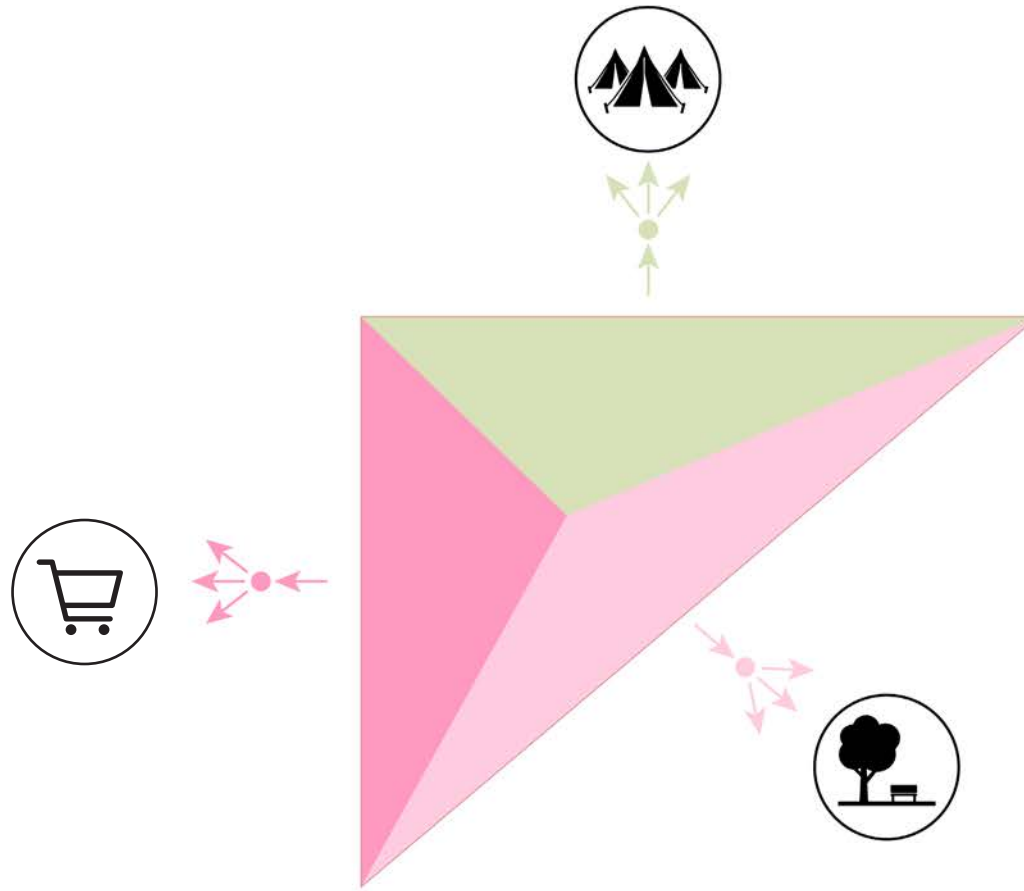


RETAIL

RESTAURANTS

FREE OF CHARGE

PLACEMENT TO BENEFIT OF SURROUNDINGS

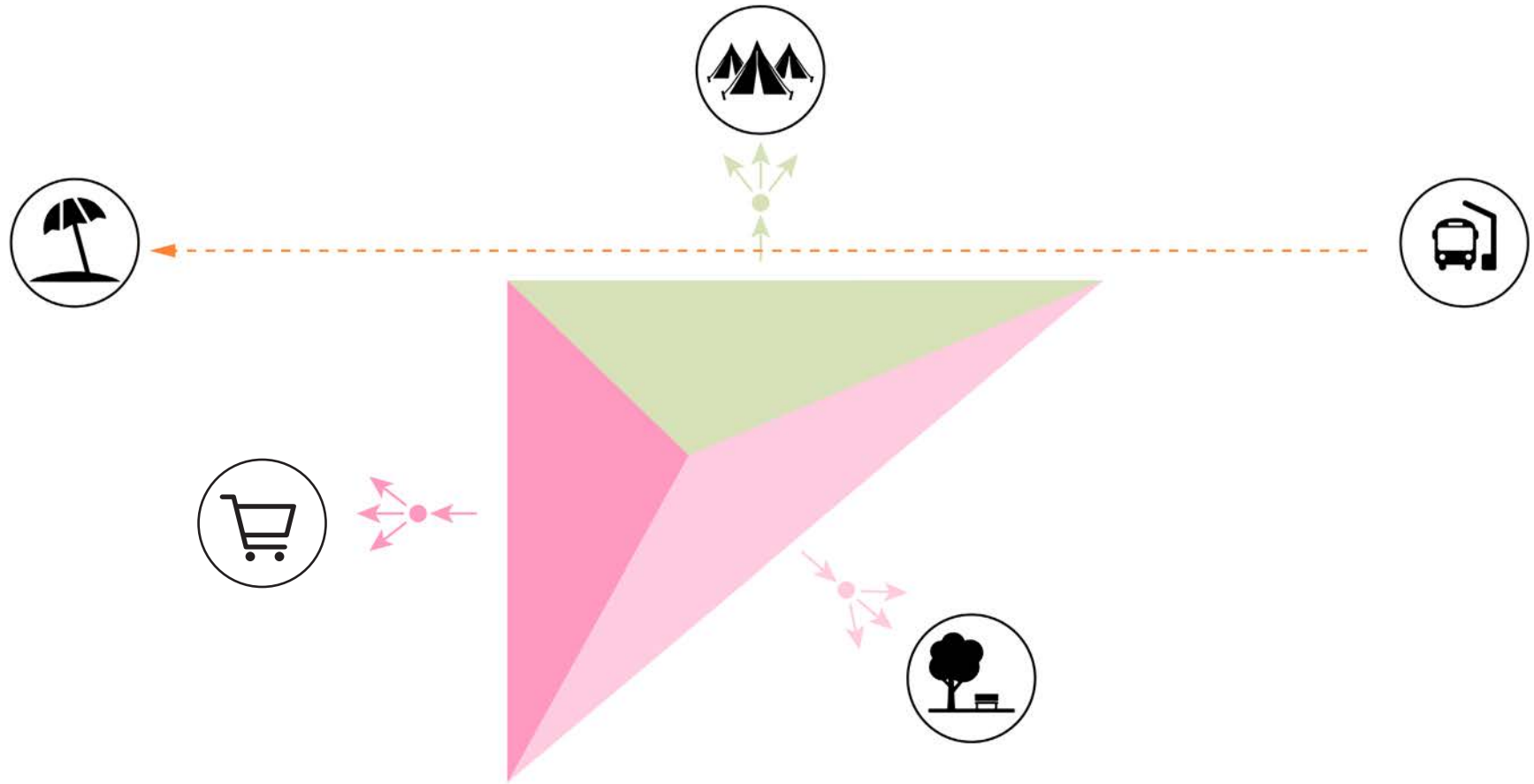


RETAIL

RESTAURANTS

FREE OF CHARGE

COLA - BEACH CONNECTION - INTERACTION

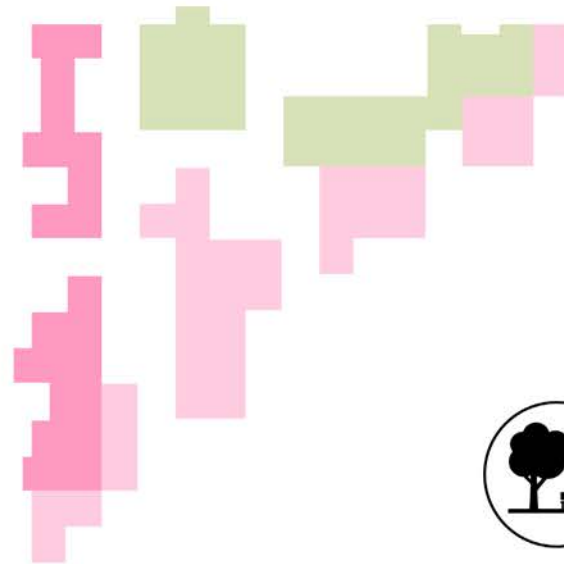


RETAIL

RESTAURANTS

FREE OF CHARGE

plinth
BREAKING IT UP

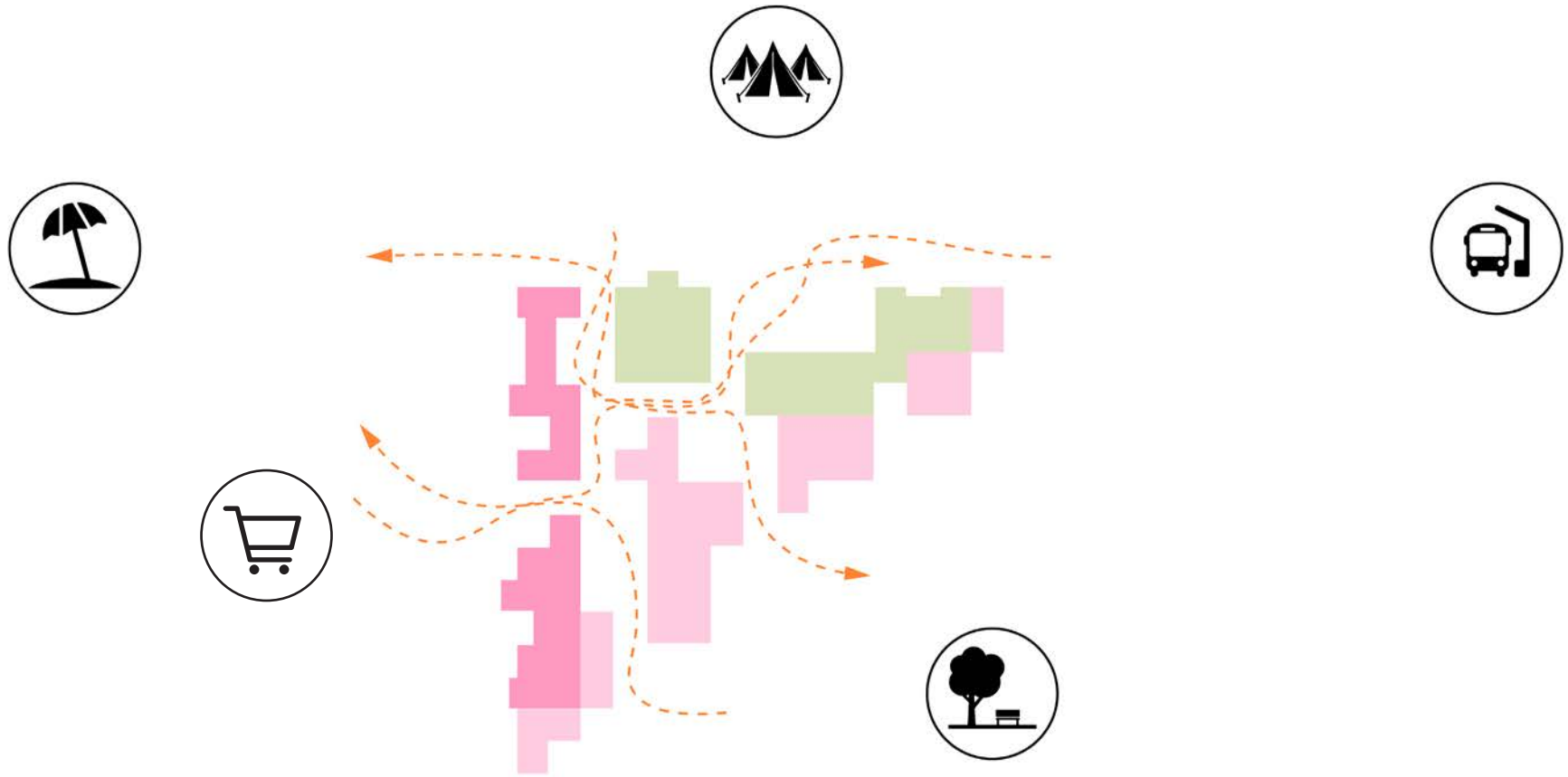


RETAIL

RESTAURANTS

FREE OF CHARGE

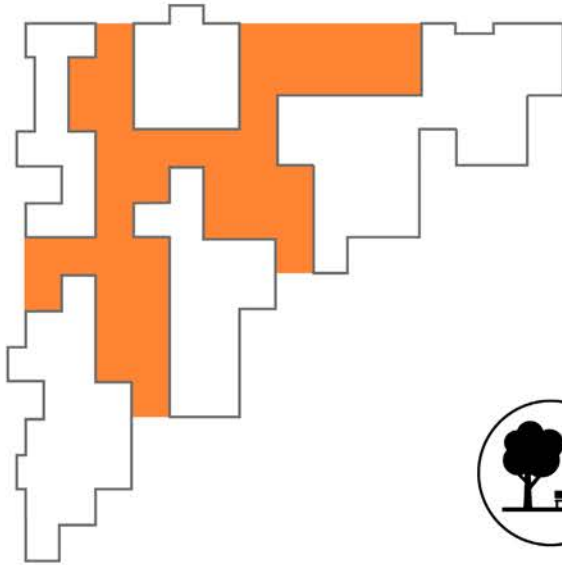
plinth
FLOW



RETAIL

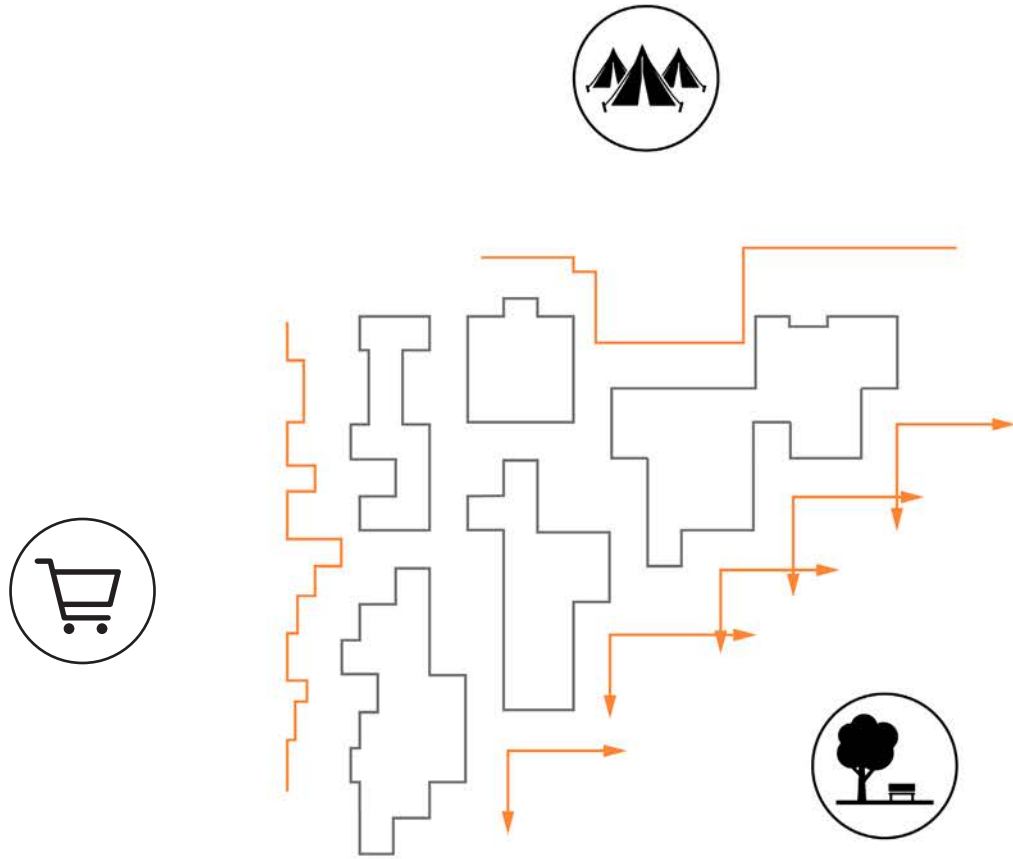
RESTAURANTS

plinth
COURTYARDS



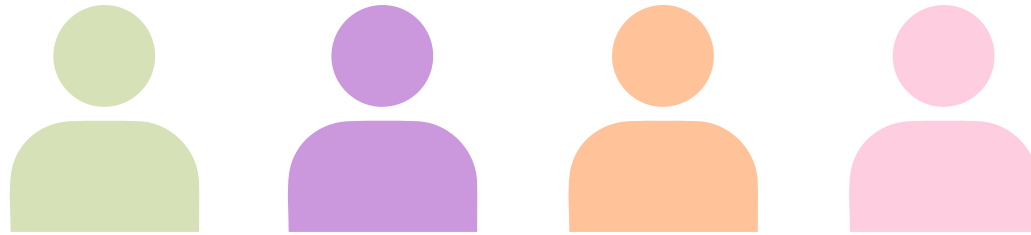
plinth

REACTION TO SIDES



plinth

USER GROUPS PLINTH

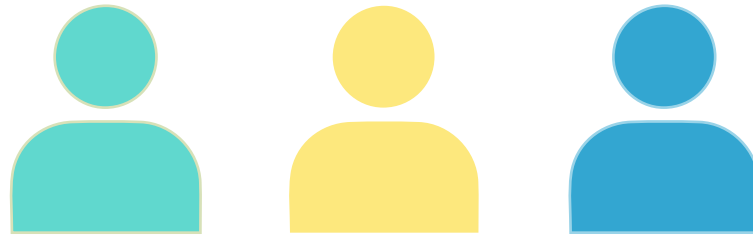


high

middle

poor

refugee
no income

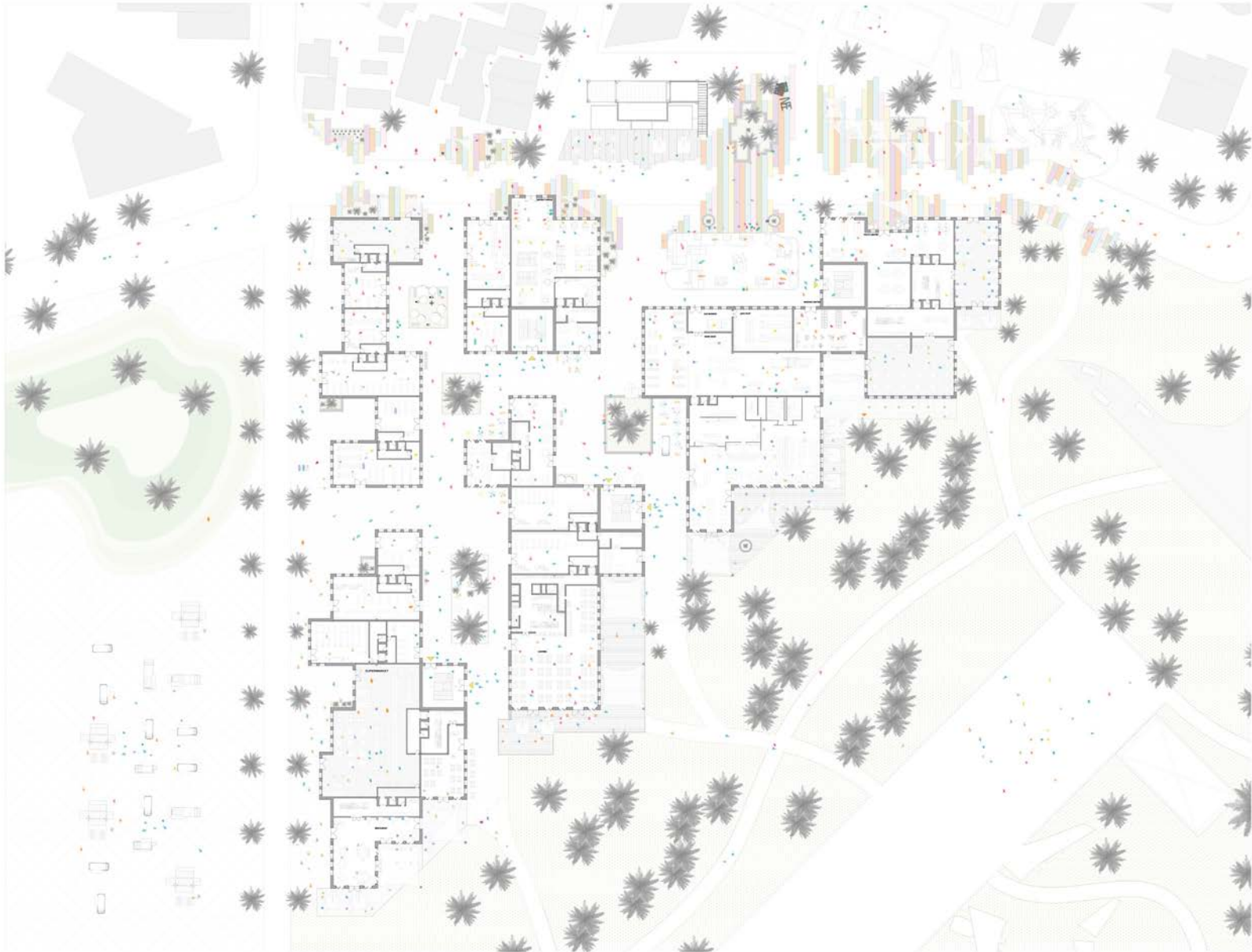


resident of BLR

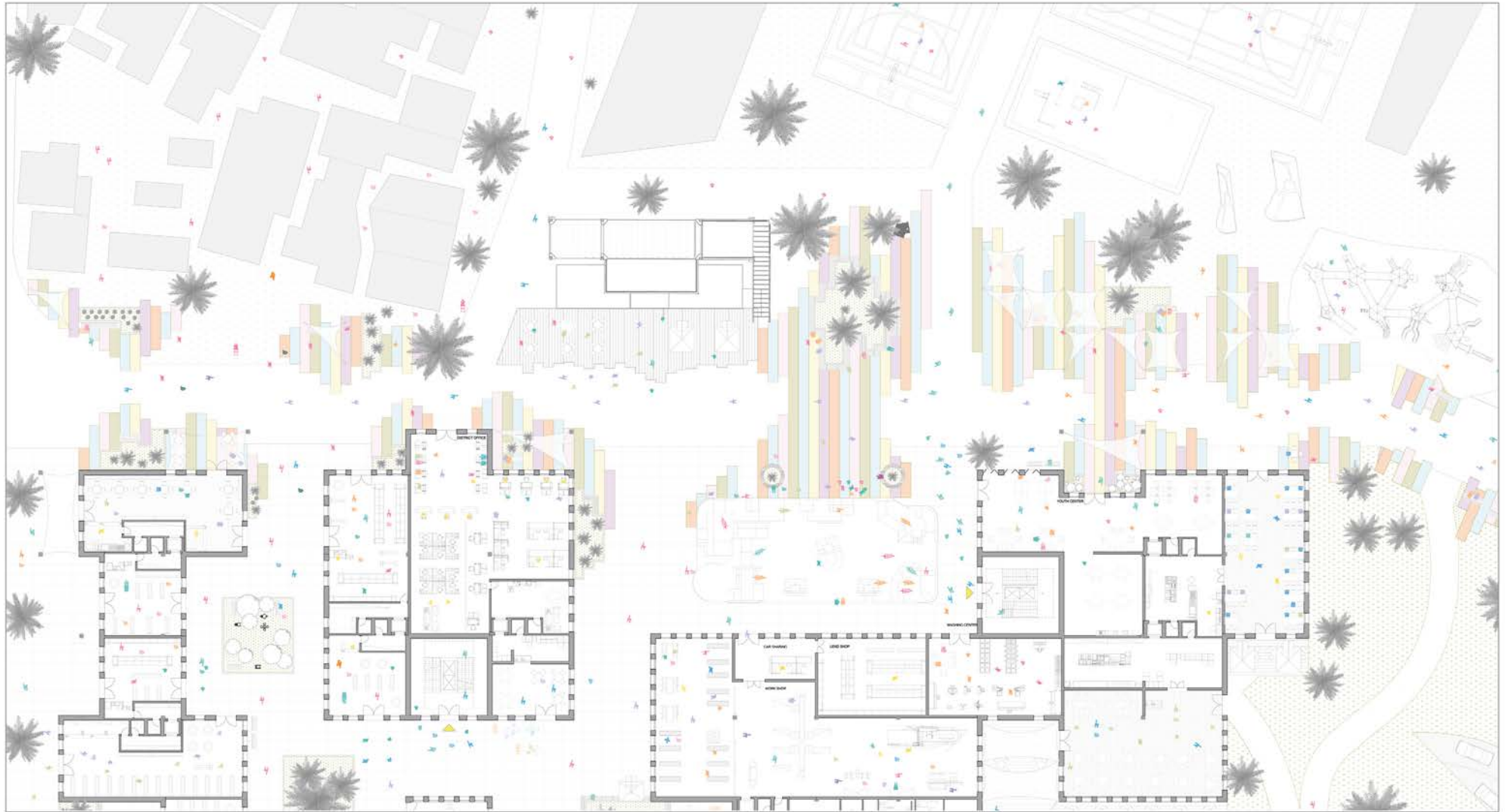
plinth employee

office employee

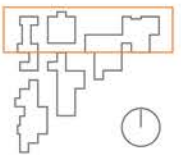
plinth
GROUND FLOOR



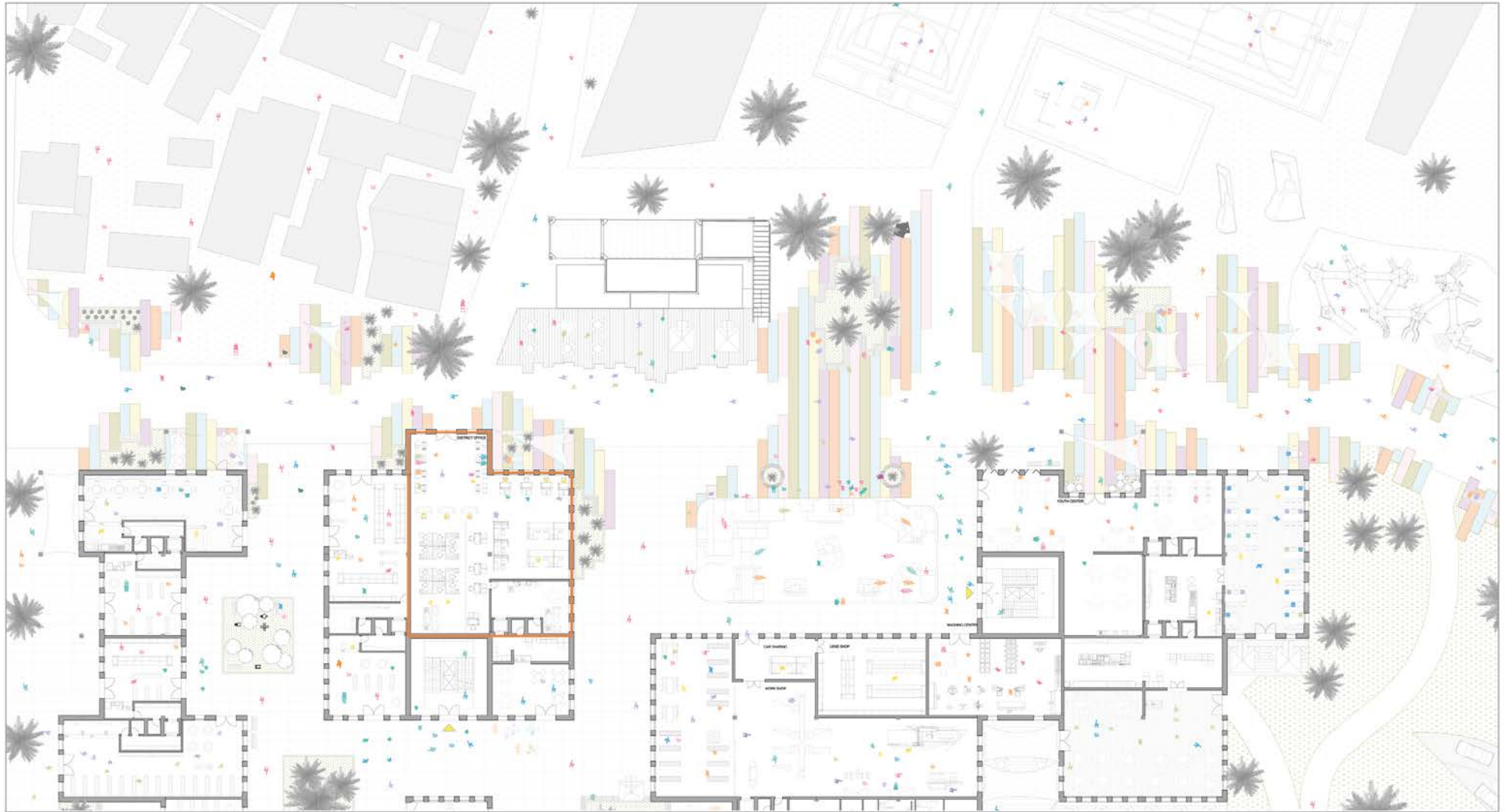
plinth
INTERACTION ZONE



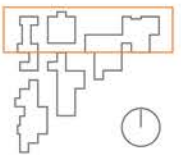
- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee



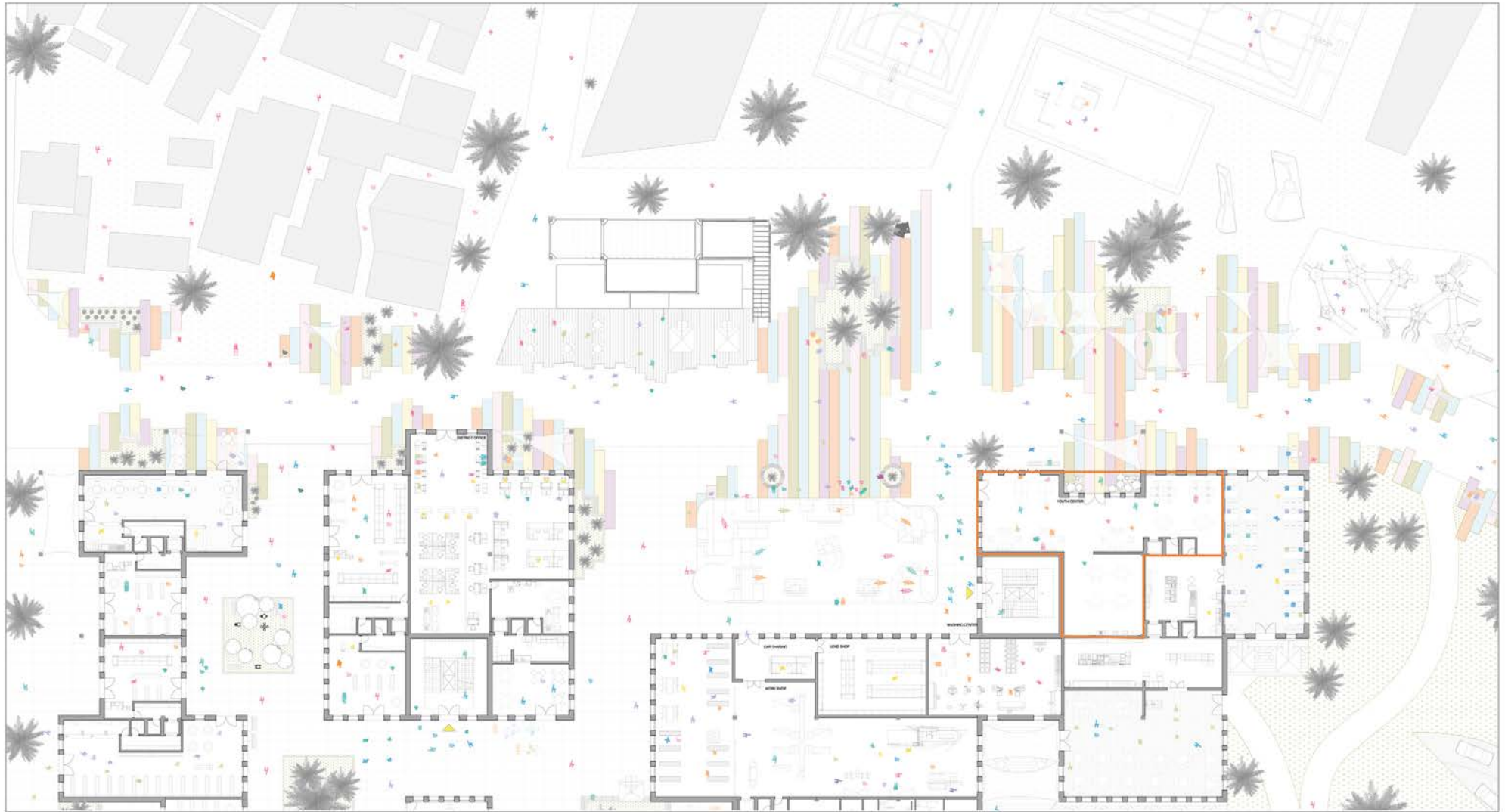
plinth
DISTRICT OFFICE










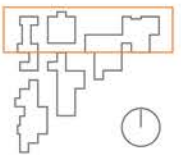
- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee



plinth
YOUTH CENTER

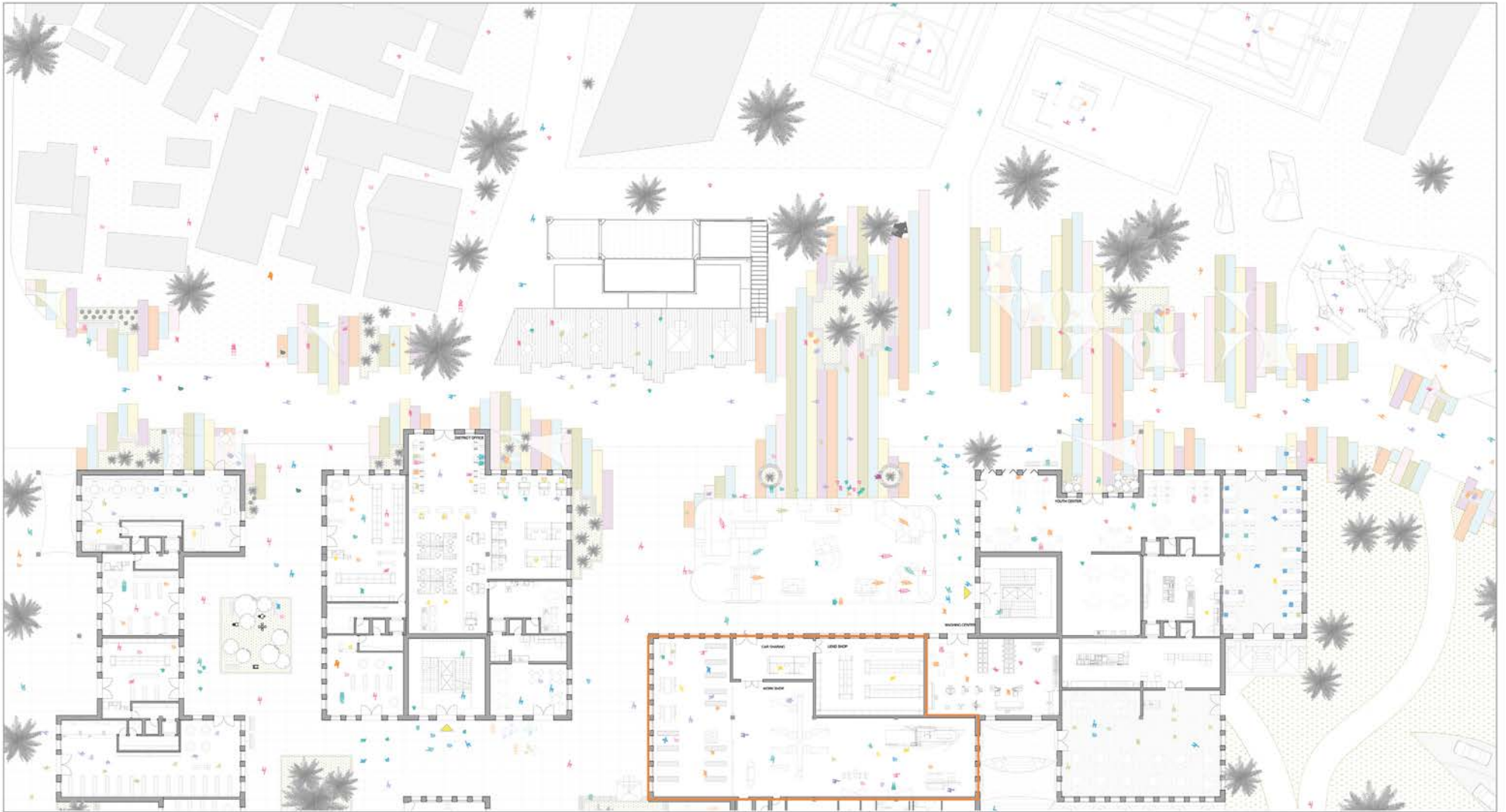


- 
high
- 
middle
- 
poor
- 
refugee
- 
resident of BLR
- 
plinth employee
- 
office employee

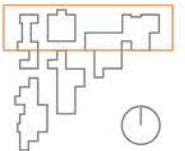


plinth

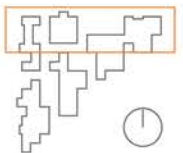
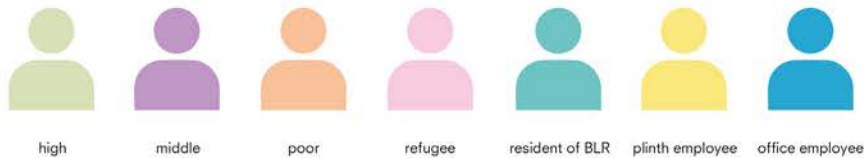
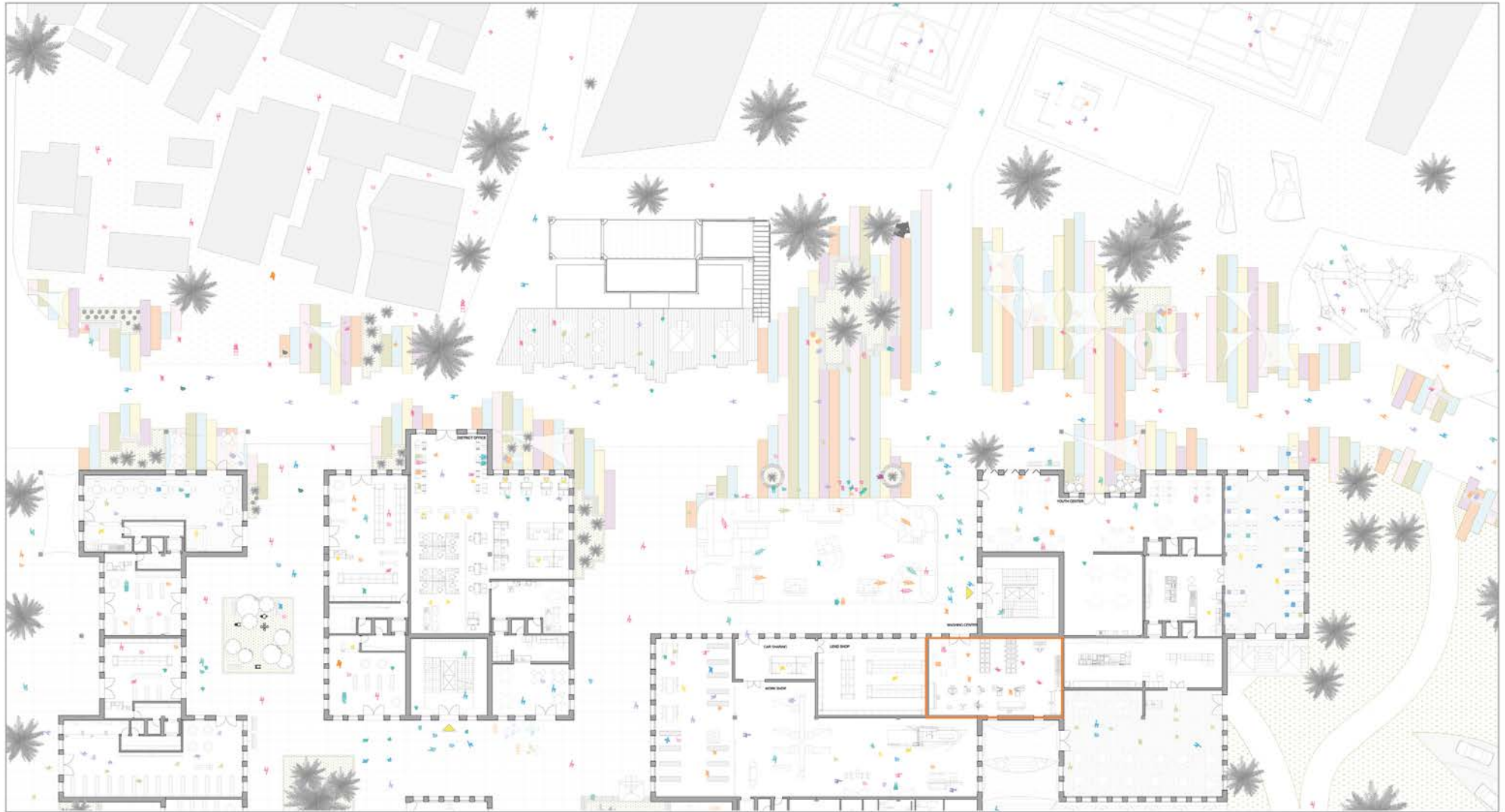
WORK- AND LENDSHOP



- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee

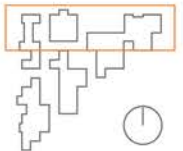
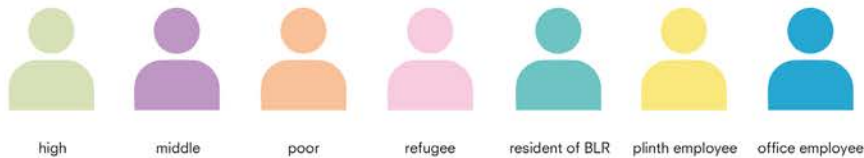
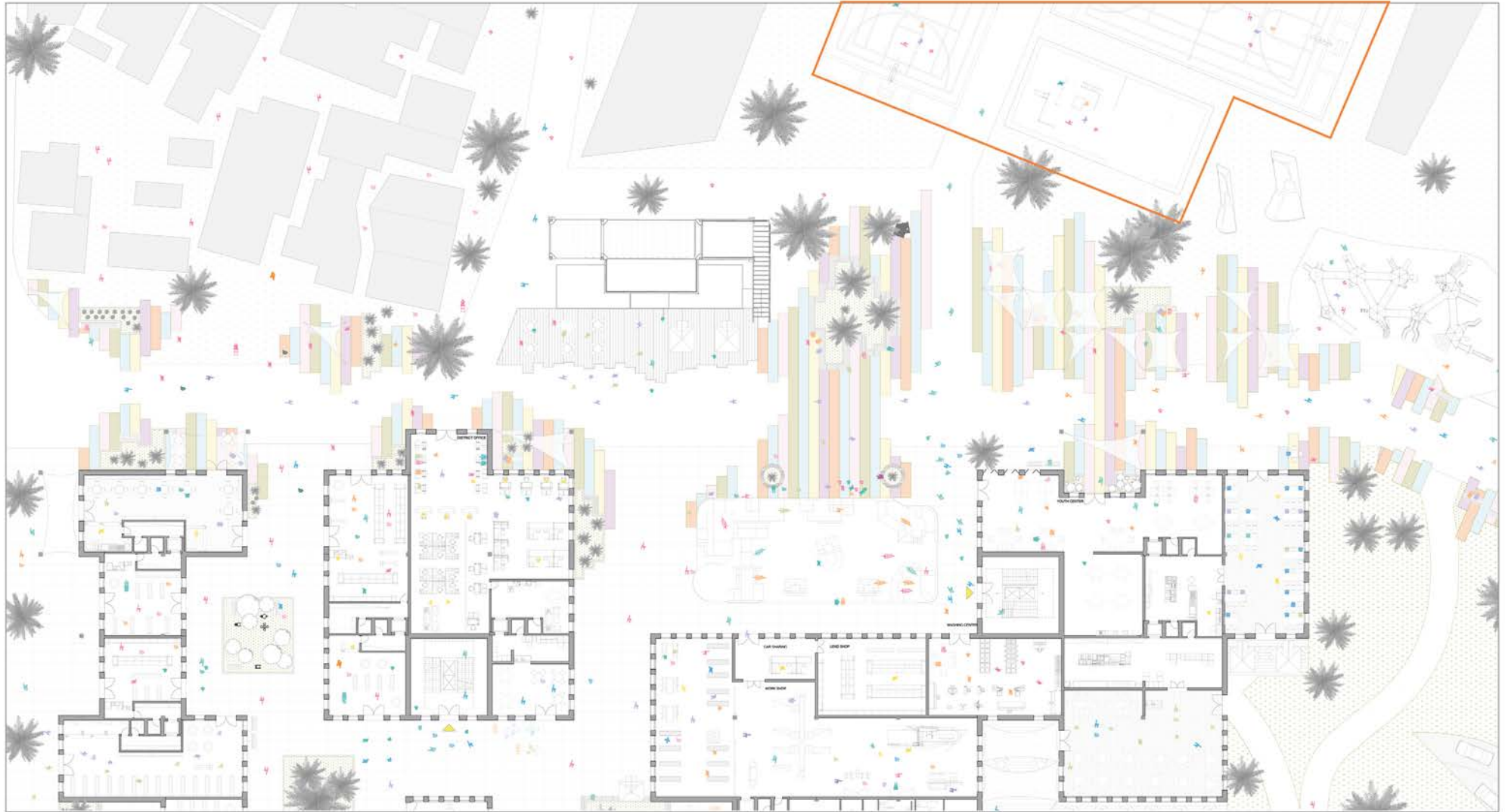


plinth
WASHING CENTER

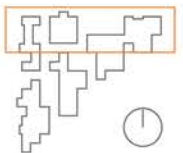
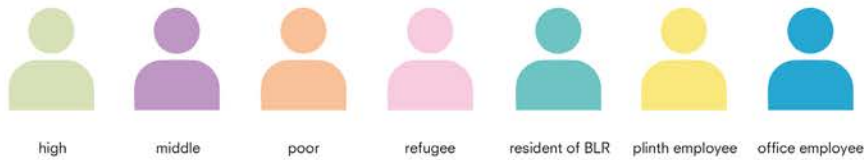
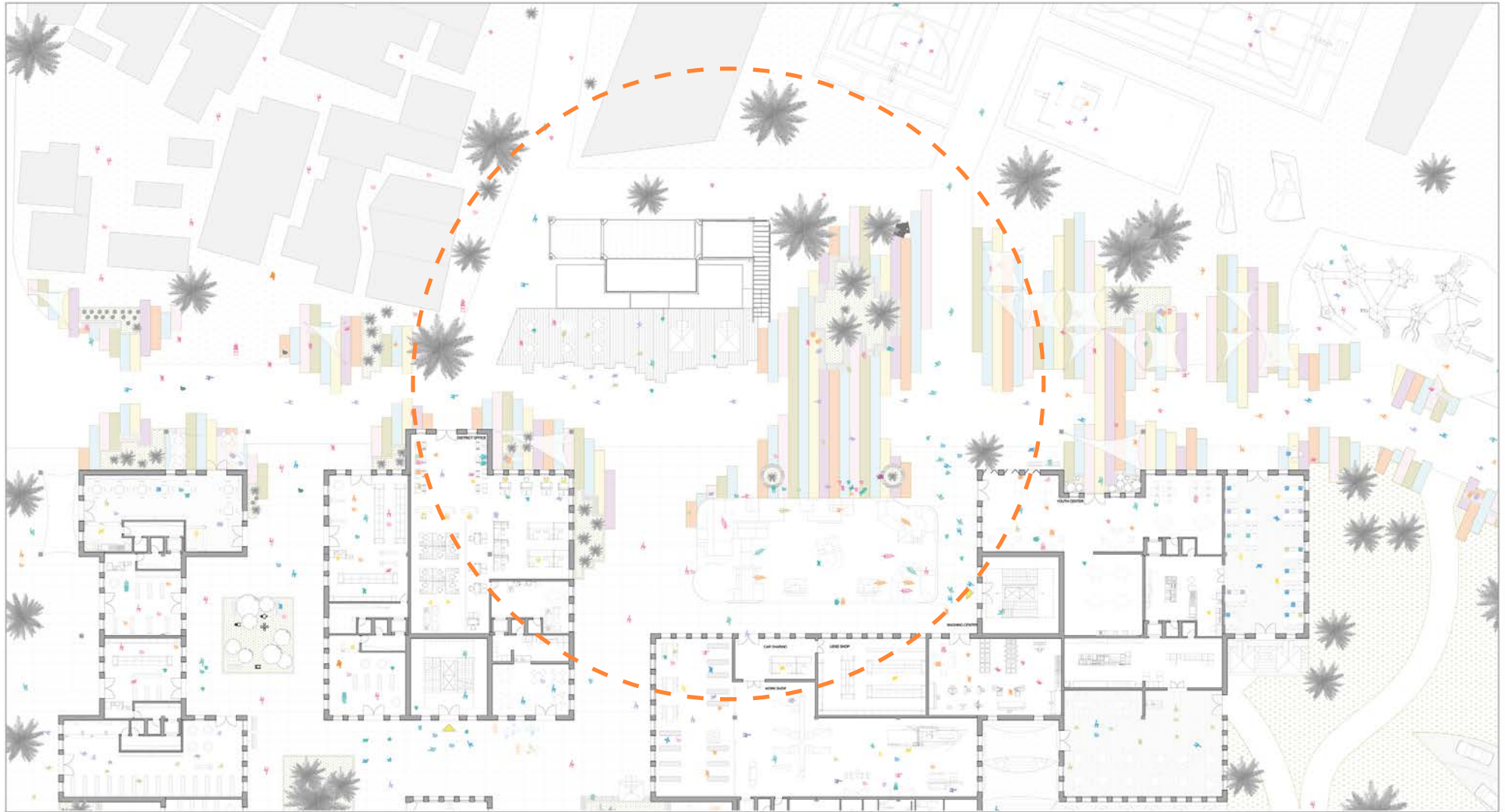


plinth

REACTIVATING SPORTS AREA

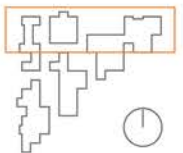
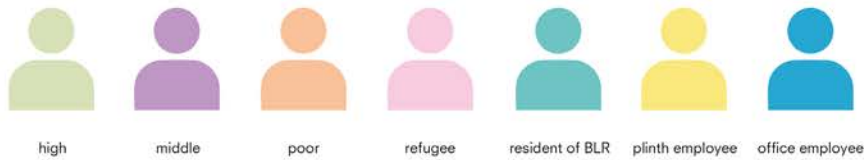
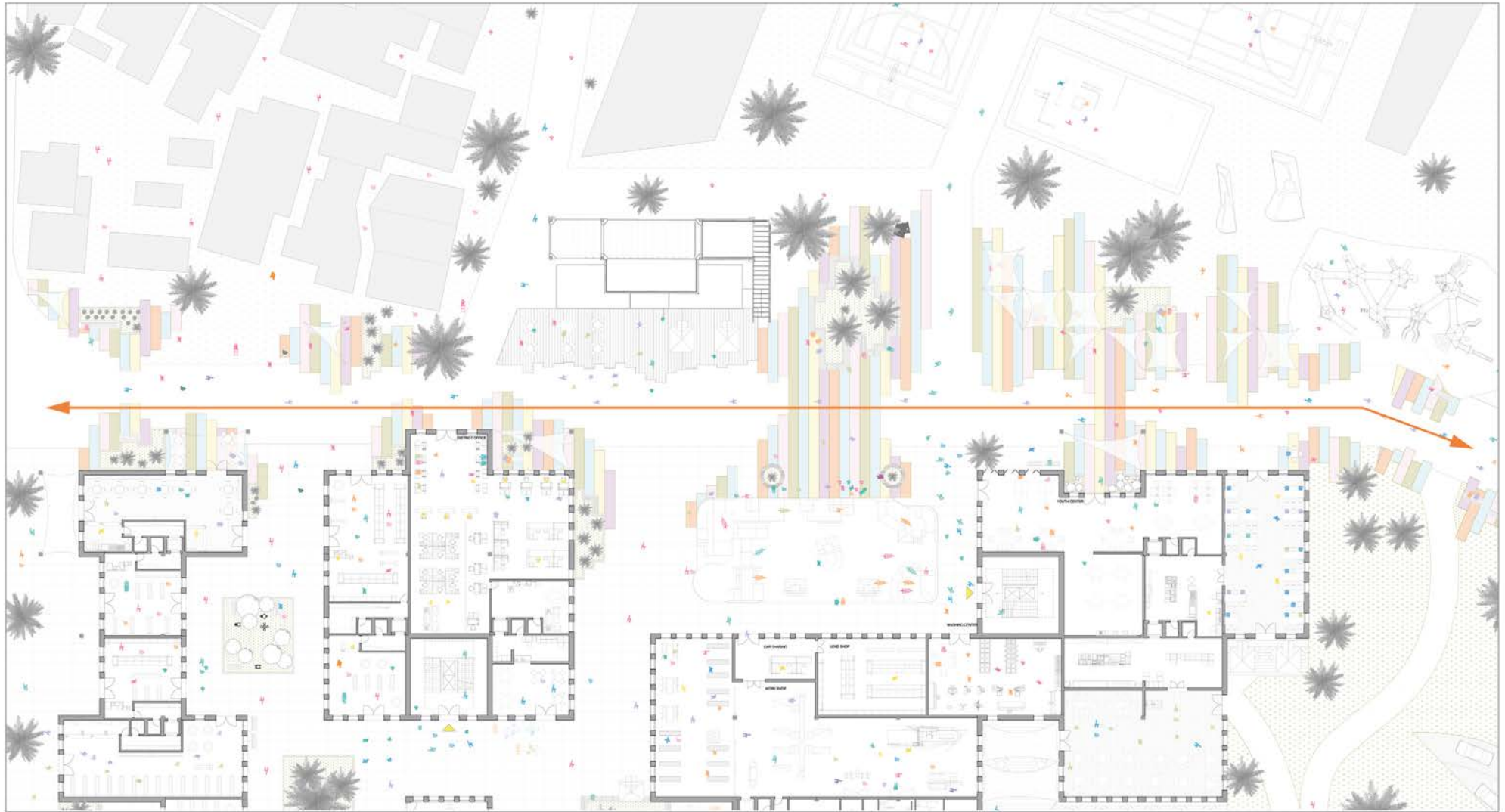


plinth
PUBLIC ASSET



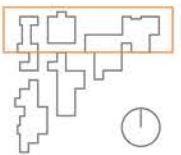
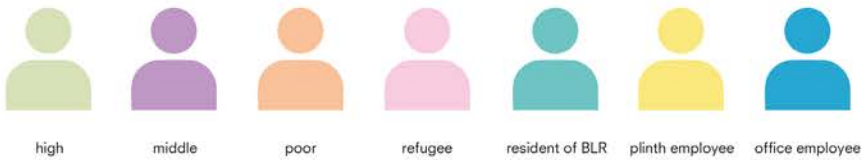
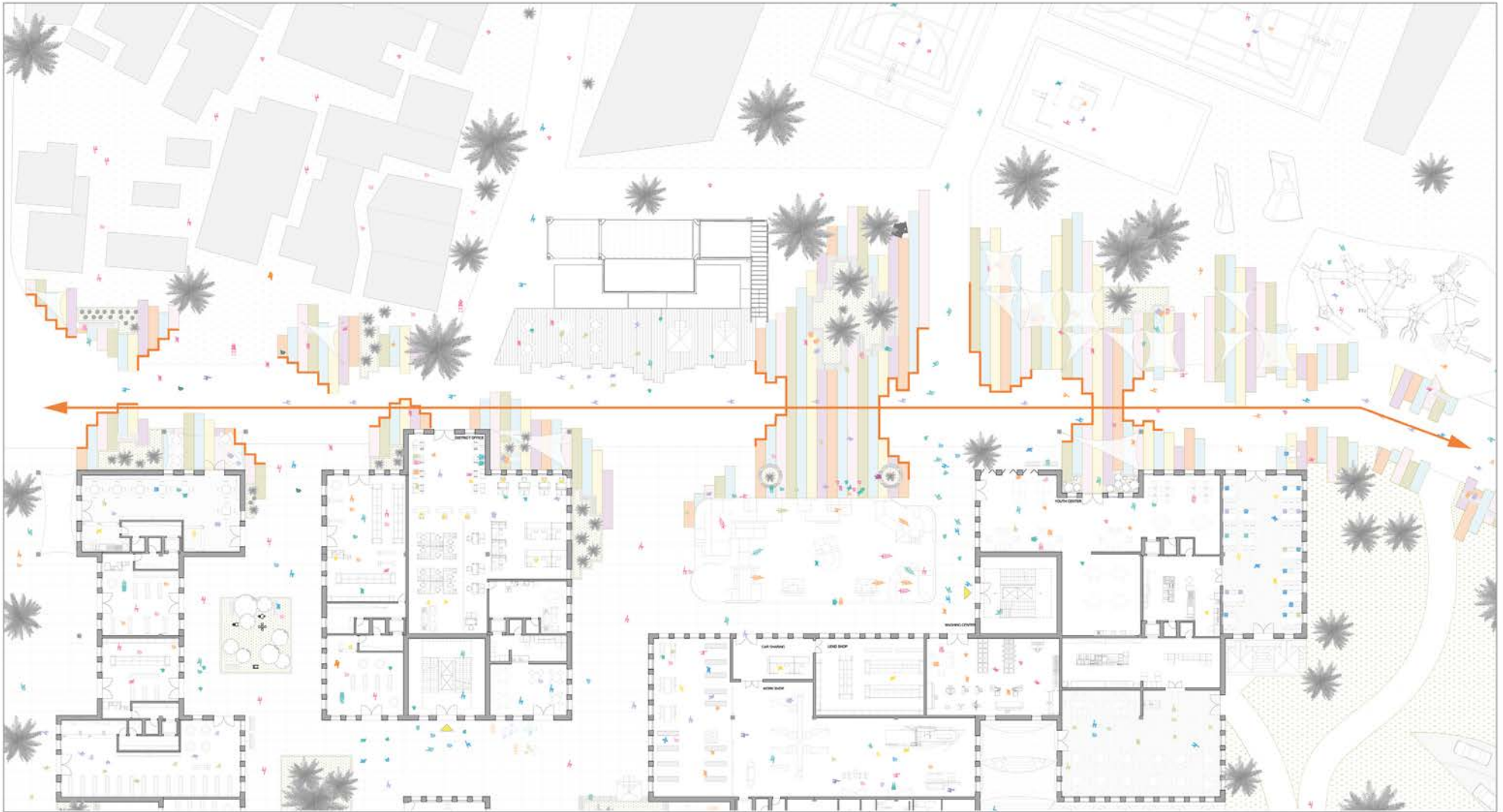
plinth

FAST WAY - COLA - BEACH



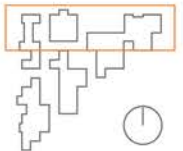
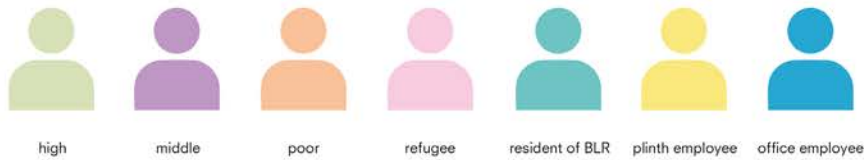
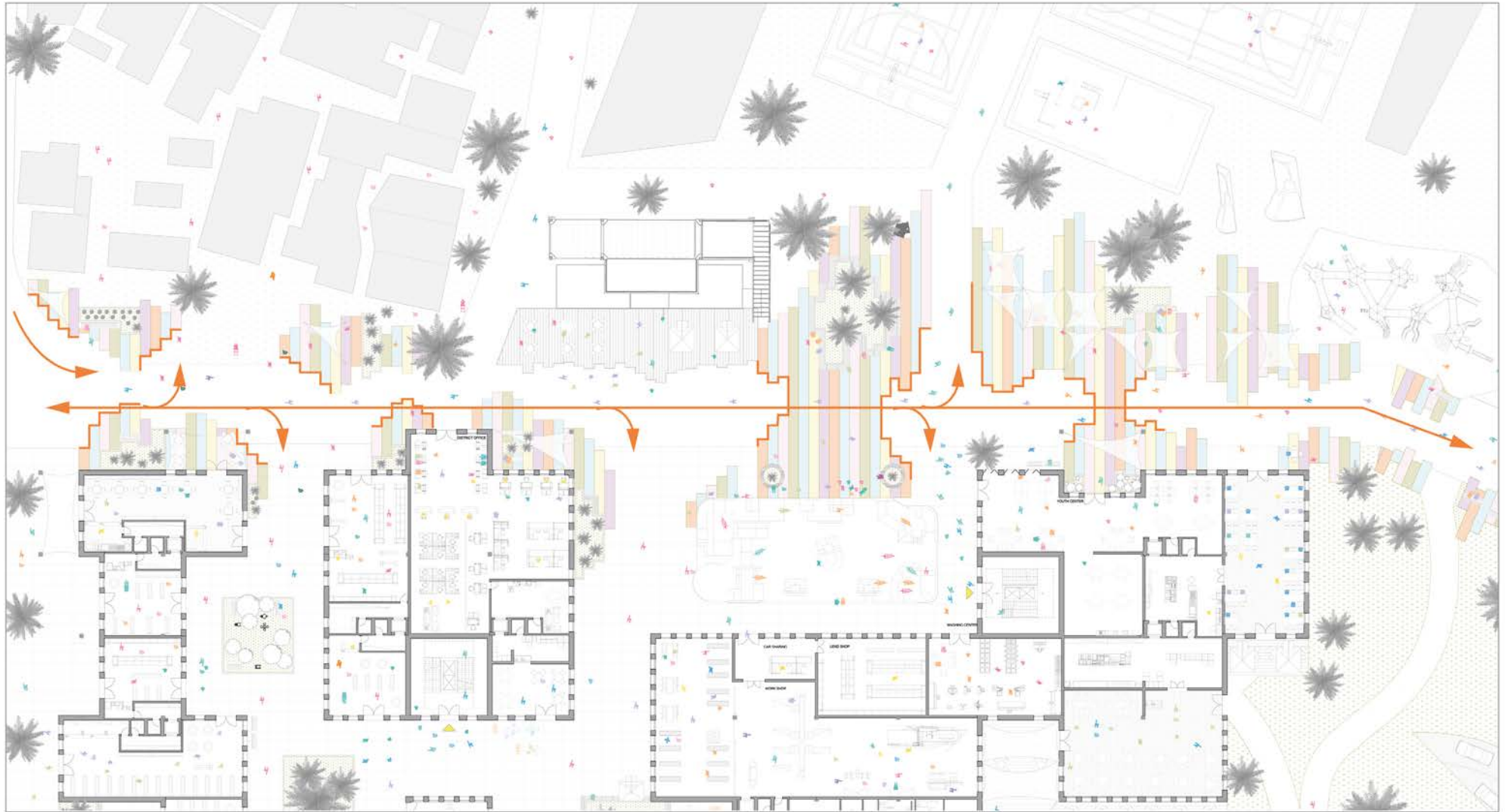
plinth

INTERACTION ISLANDS



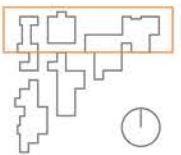
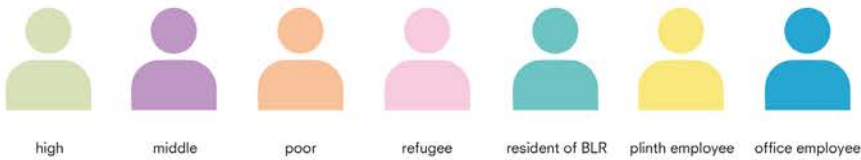
plinth

IN- AND DECREASE TO GUIDE

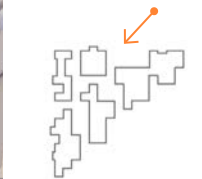


plinth

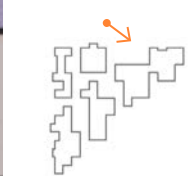
BREAKING FAST WAY



plinth
INTERACTION ZONE

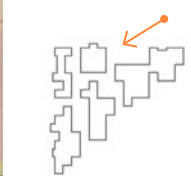


plinth
INTERACTION ZONE

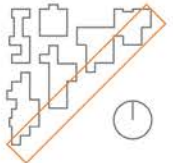
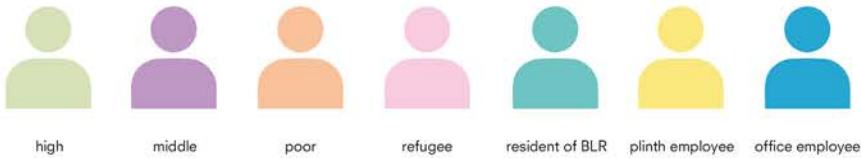
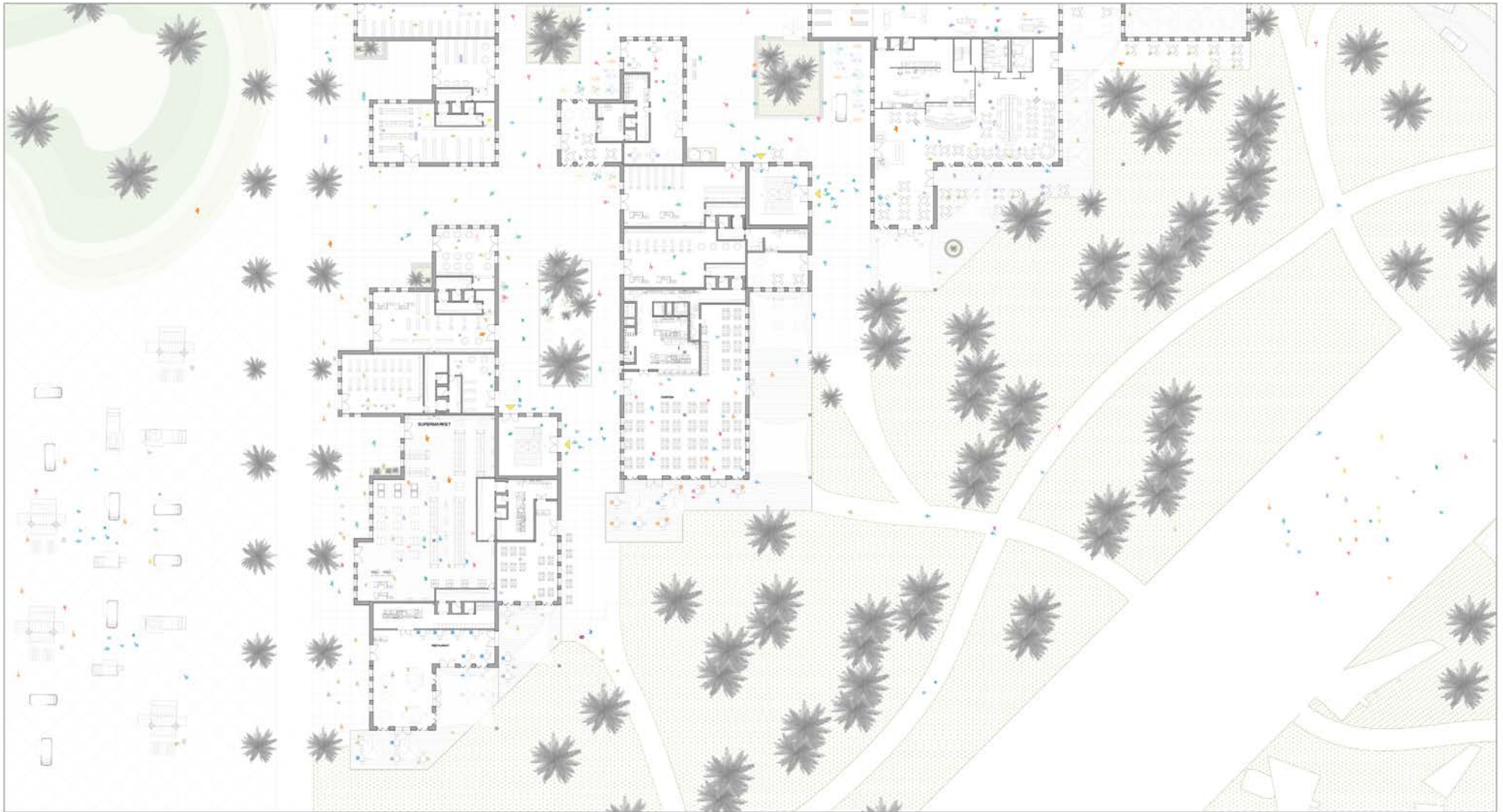


plinth

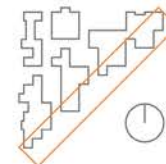
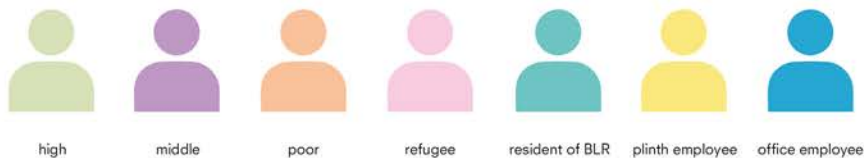
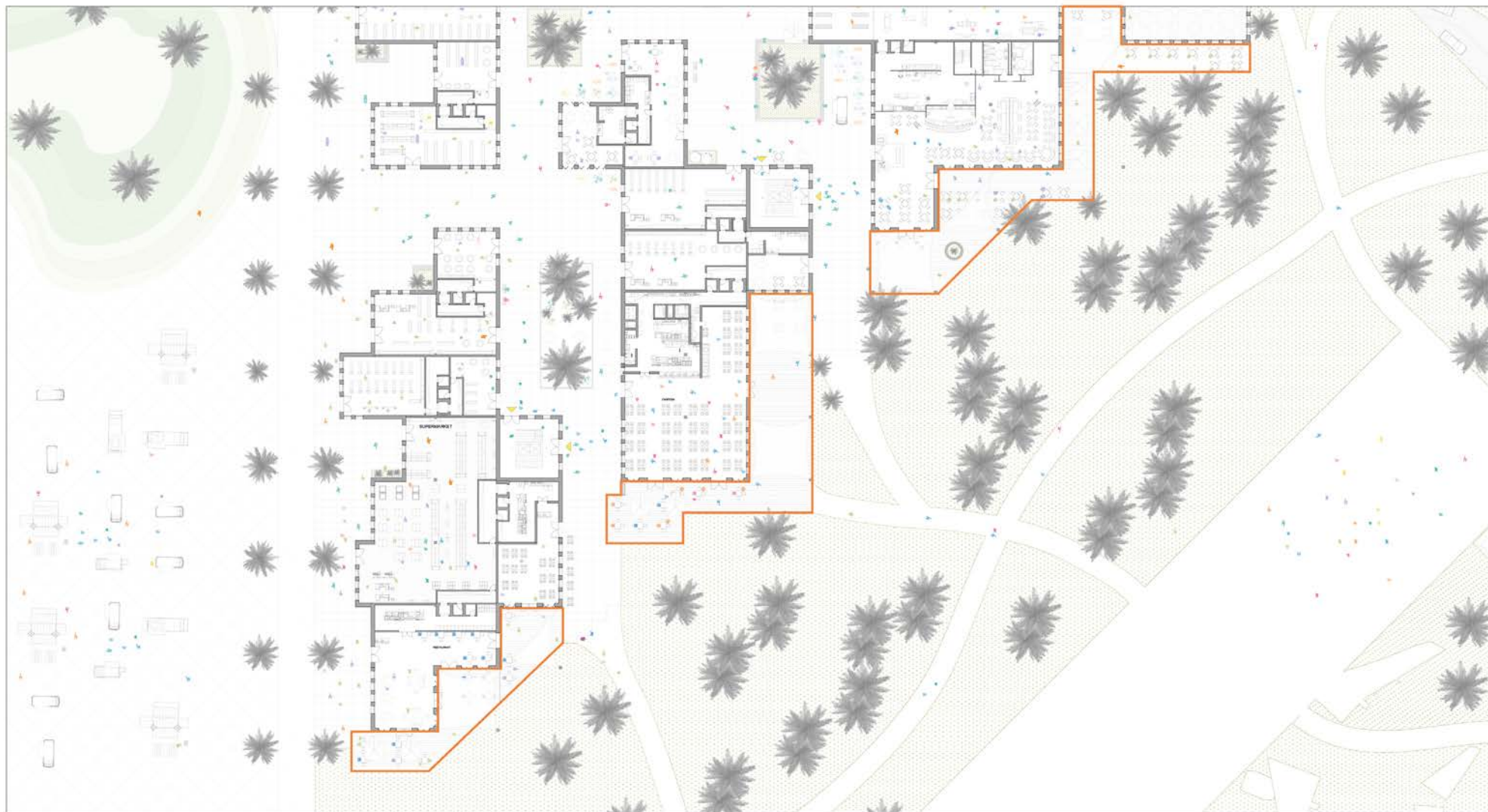
INTERACTION ZONE



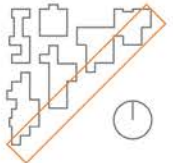
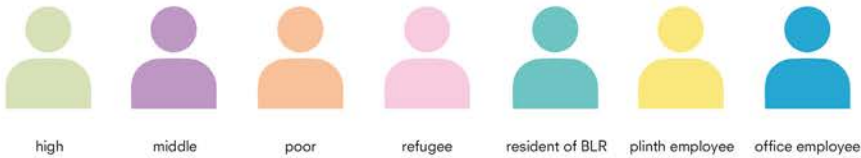
plinth
AIR PARK



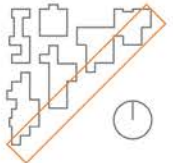
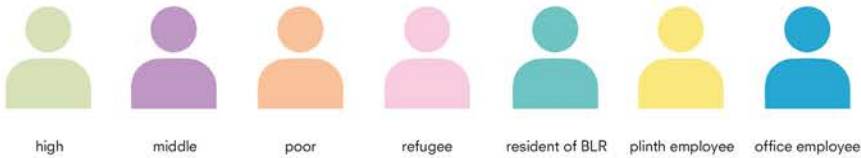
plinth
TERRACE



plinth VIEW

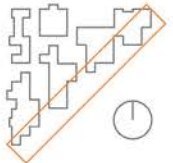
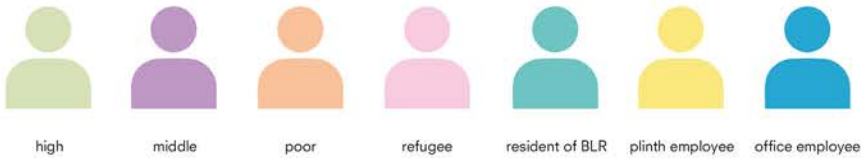


plinth
SHADING

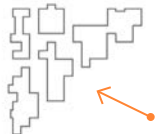


plinth

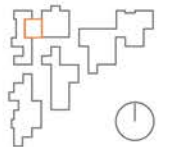
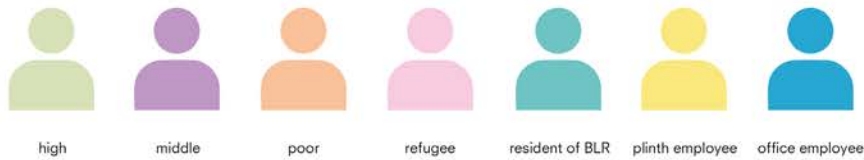
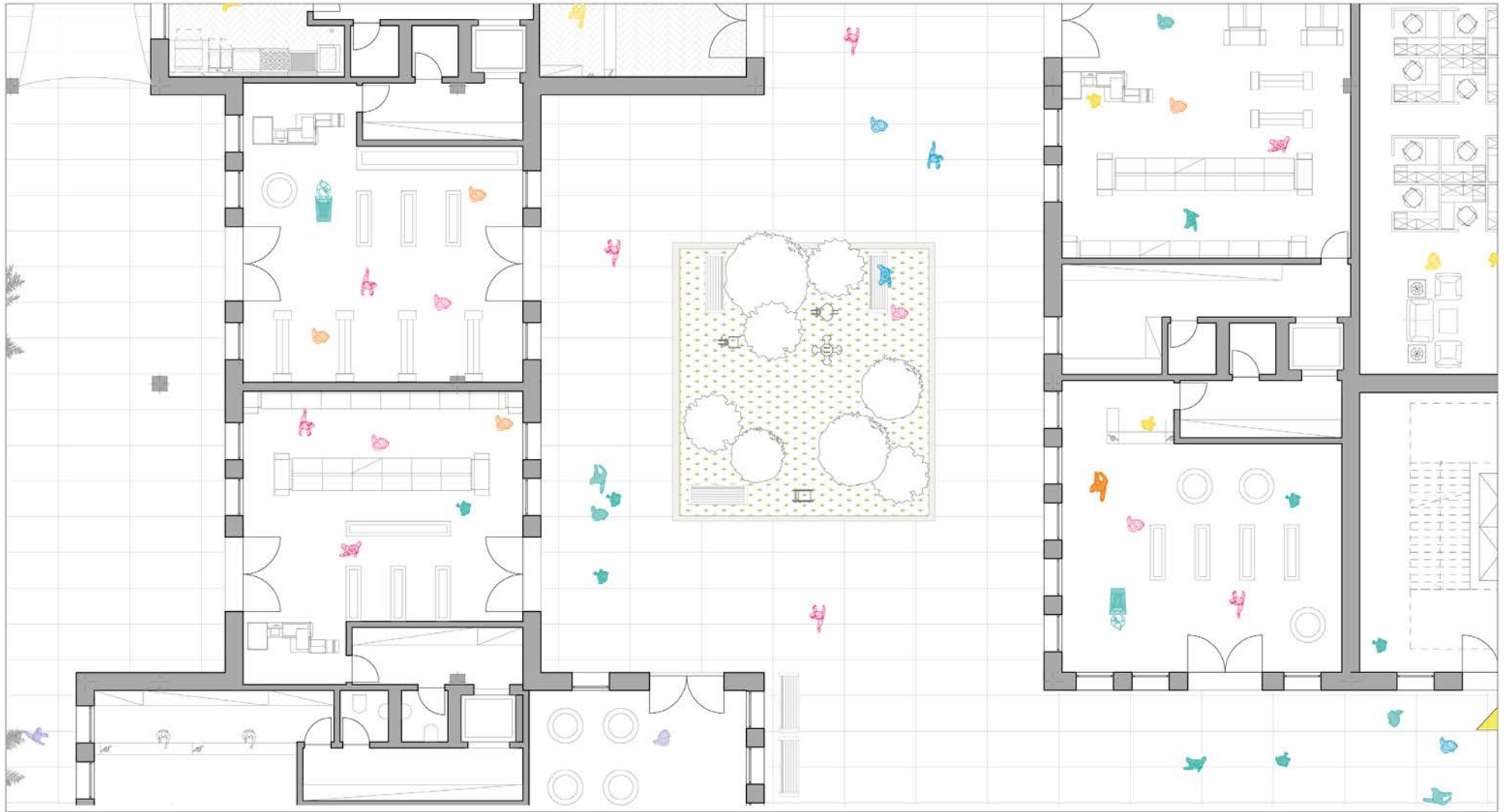
AFFORDABLE CANTEN



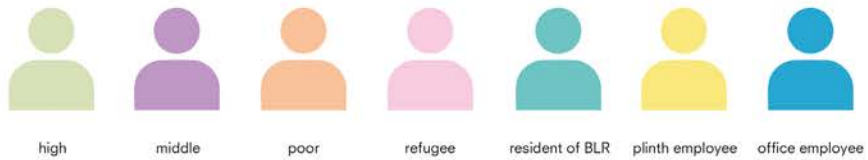
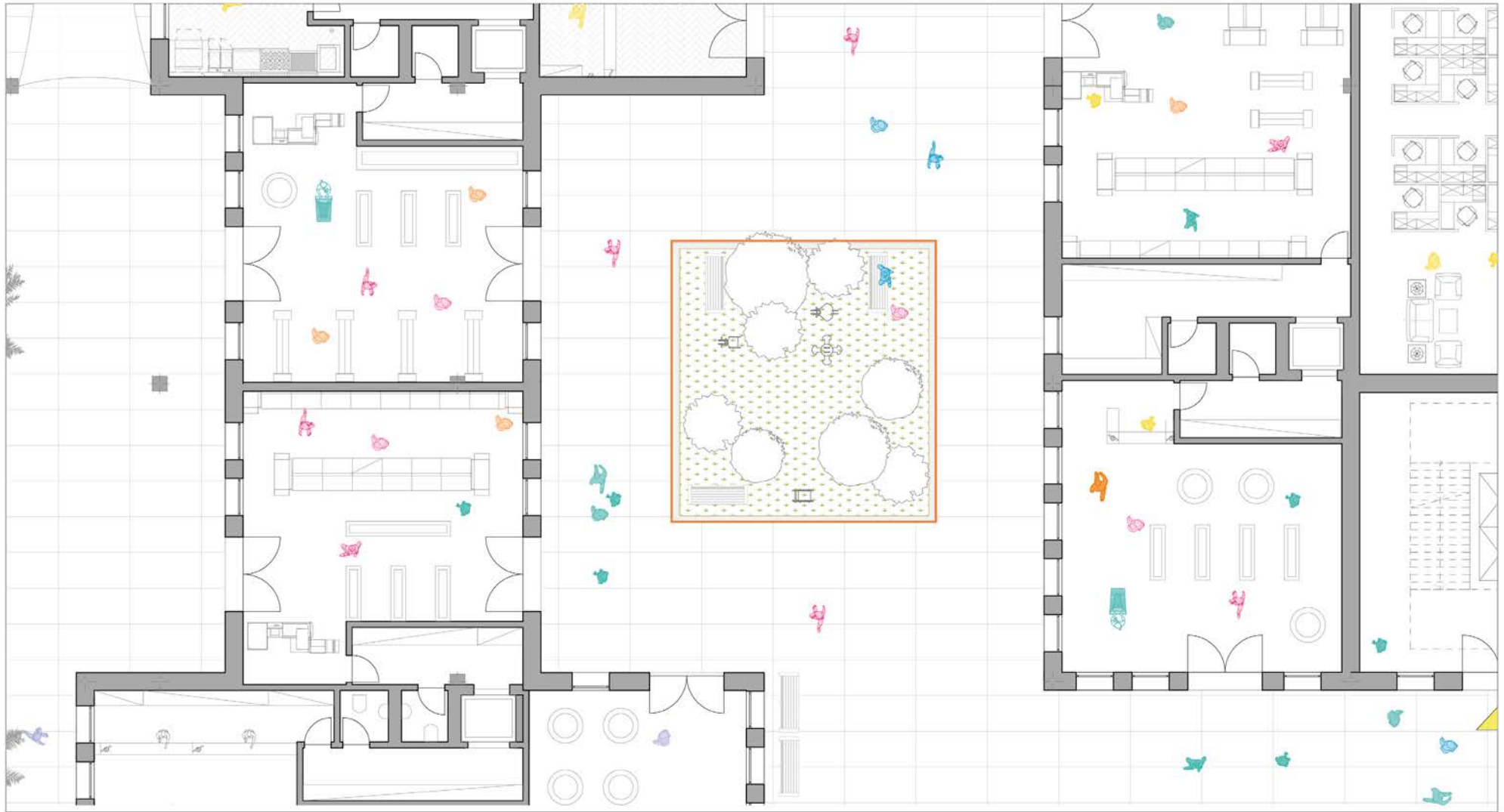
plinth
AIR PARK



plinth
SQUARES

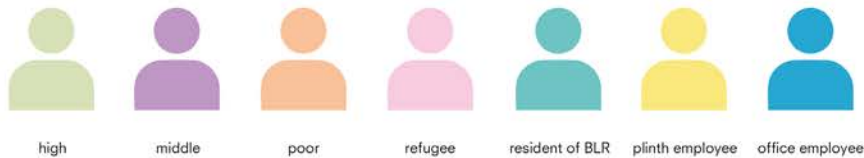
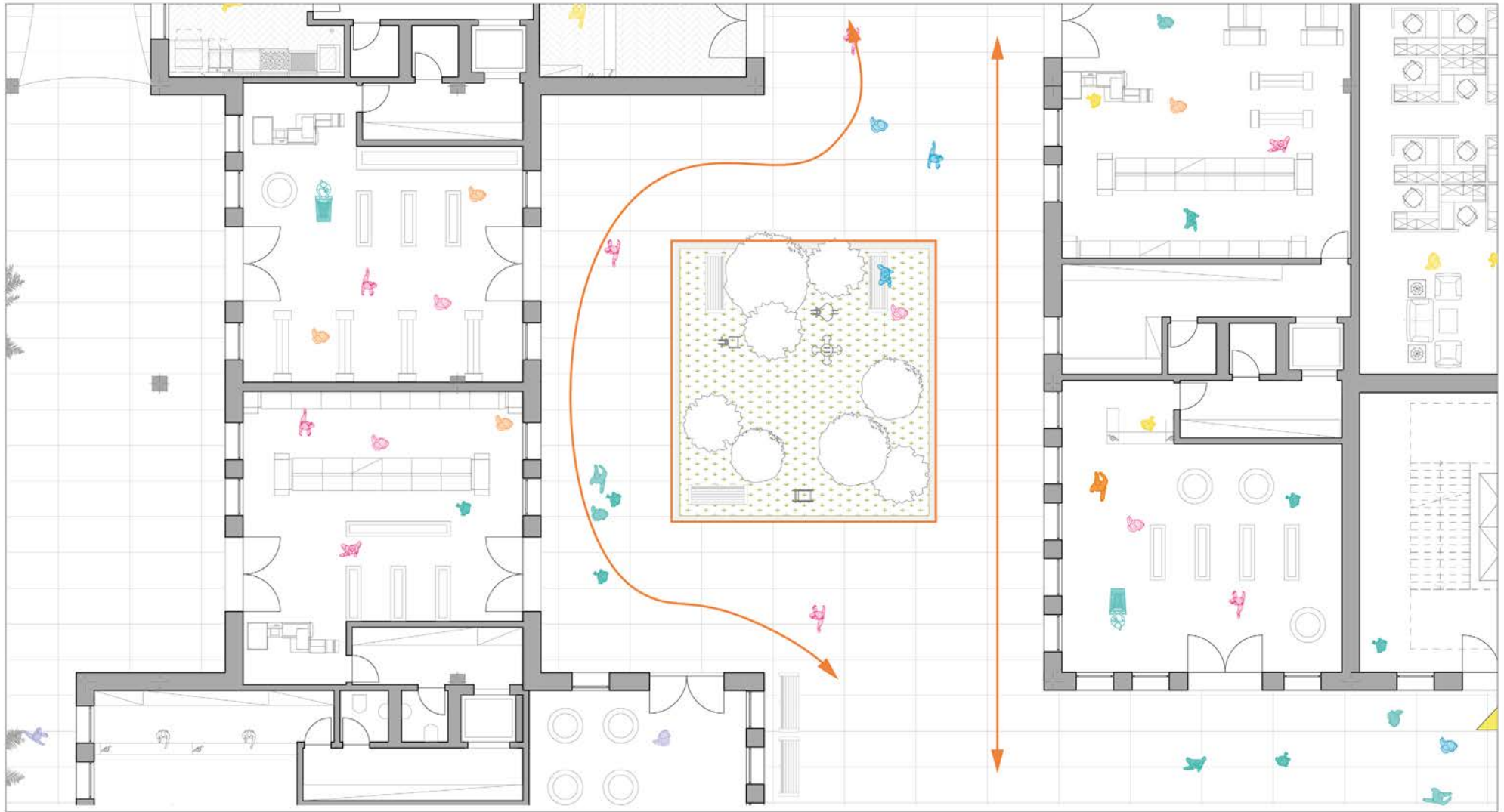


plinth
FRAMING

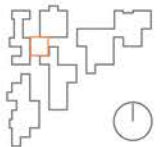
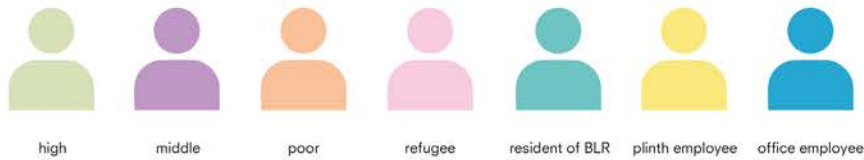
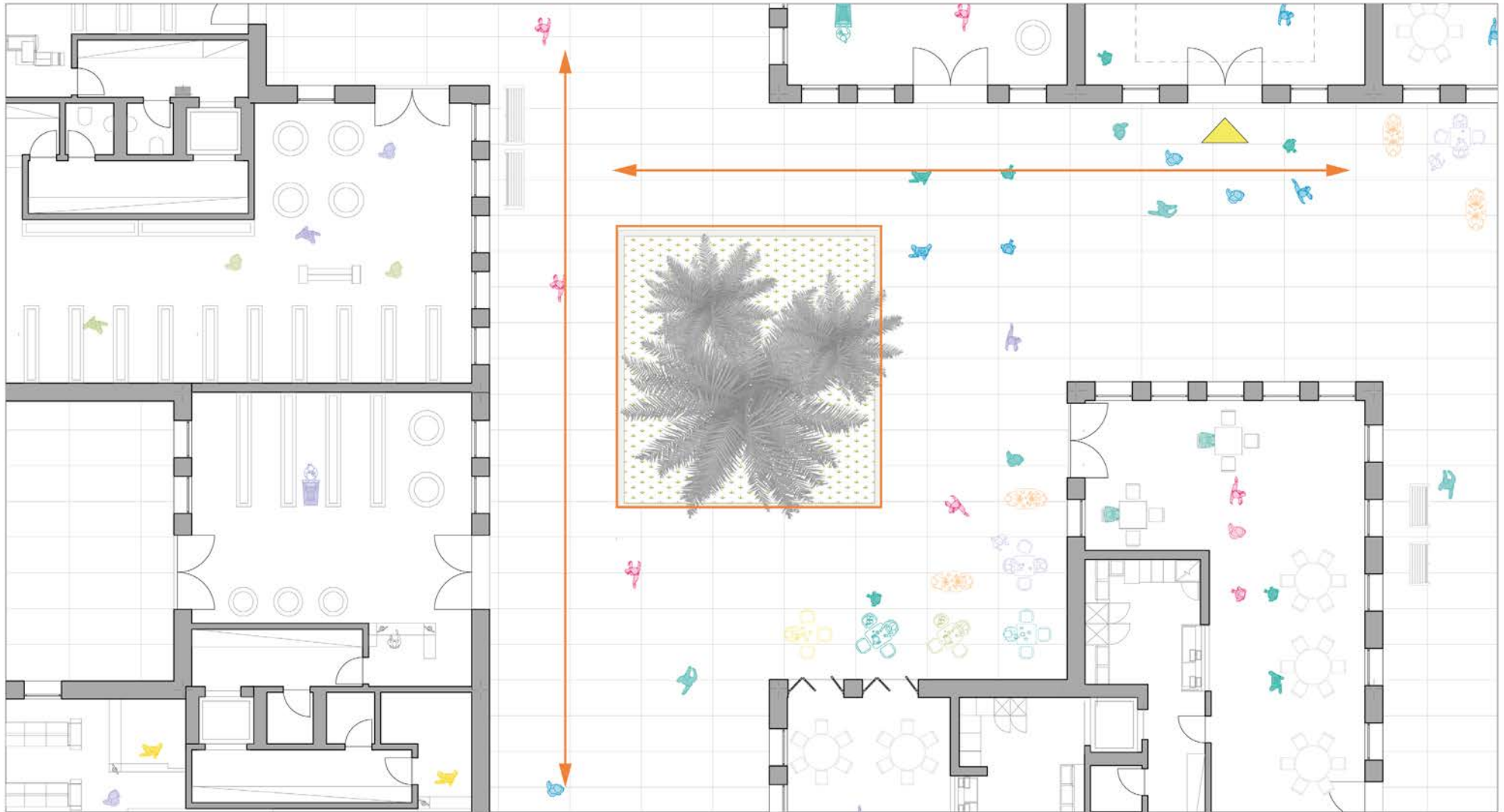


plinth

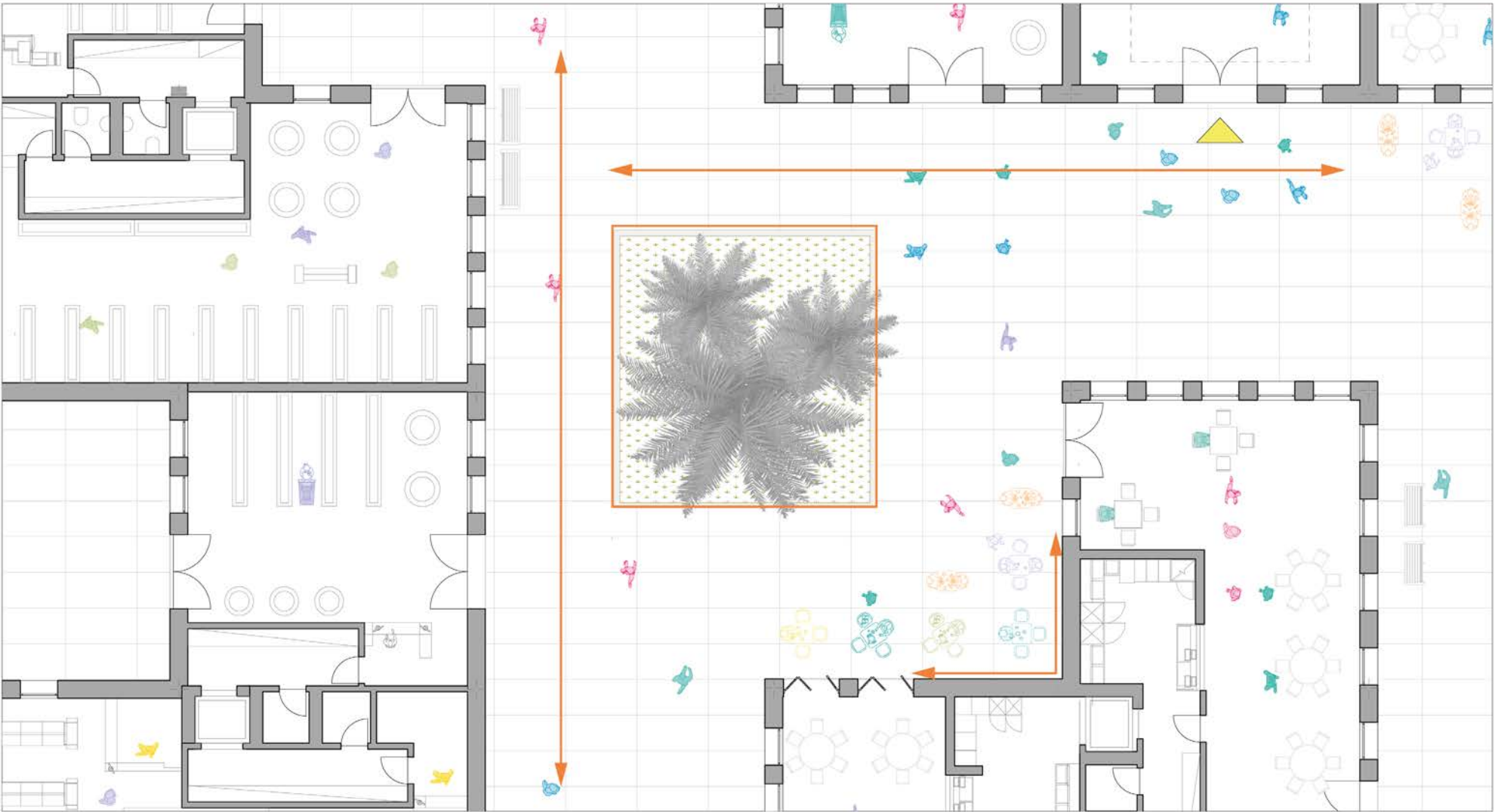
FLOW AND GUIDANCE



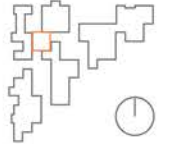
plinth
SQUARE 2



plinth
SAFE CORNERS

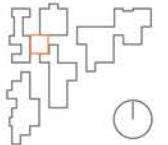
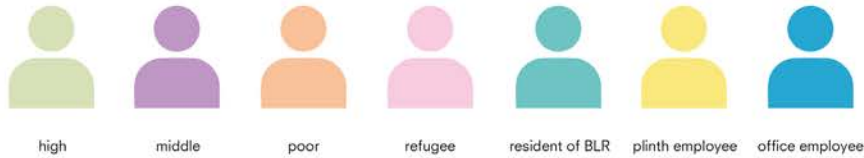
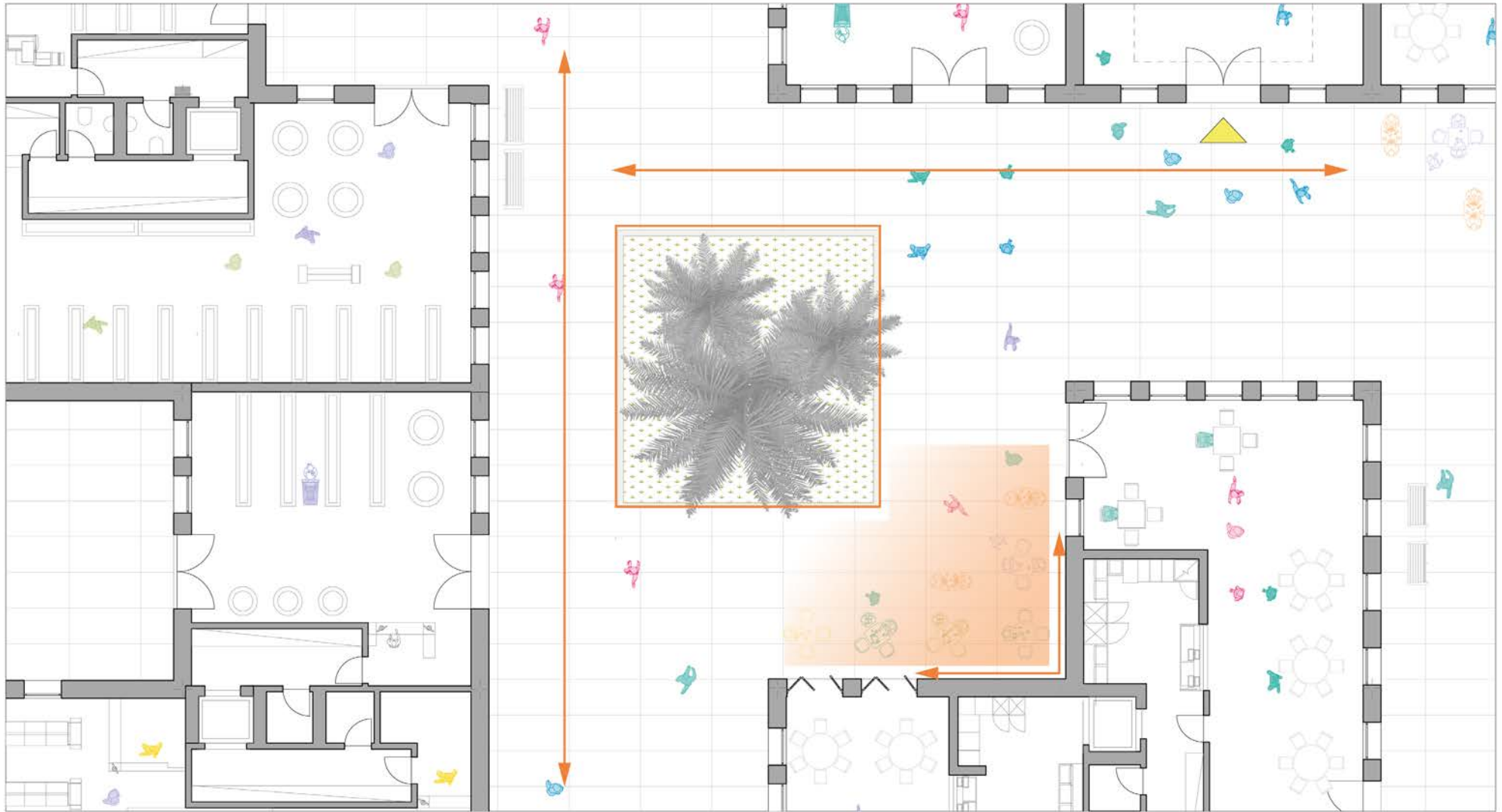


- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee

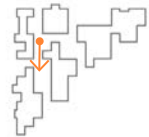


plinth

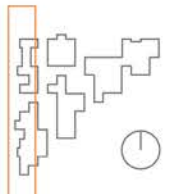
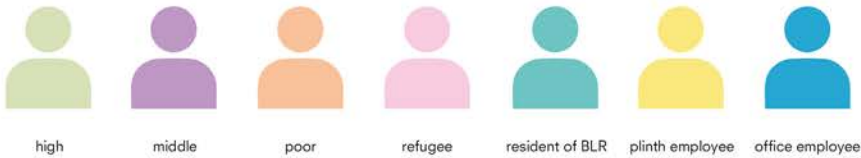
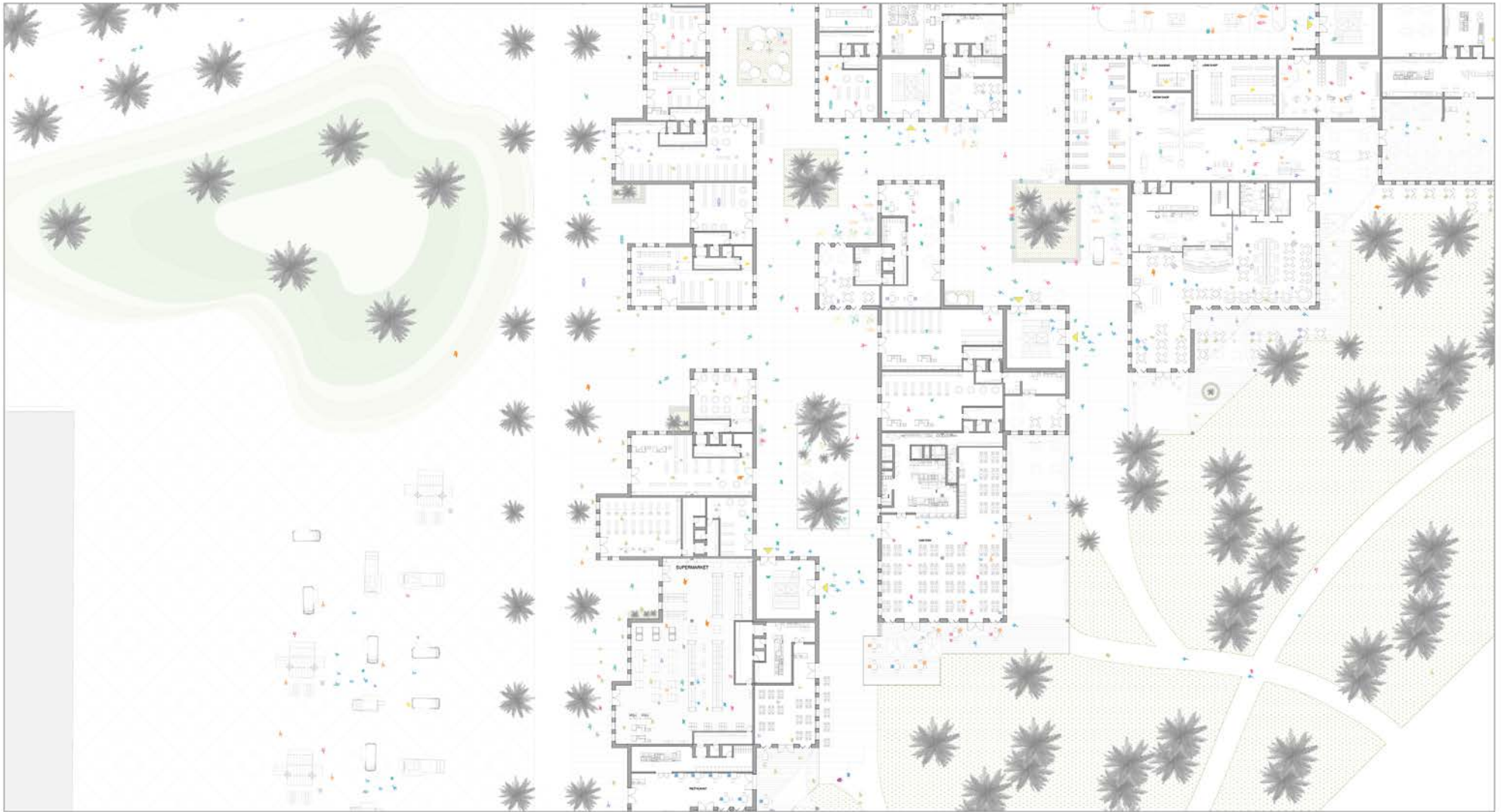
QUALITY OF STAY



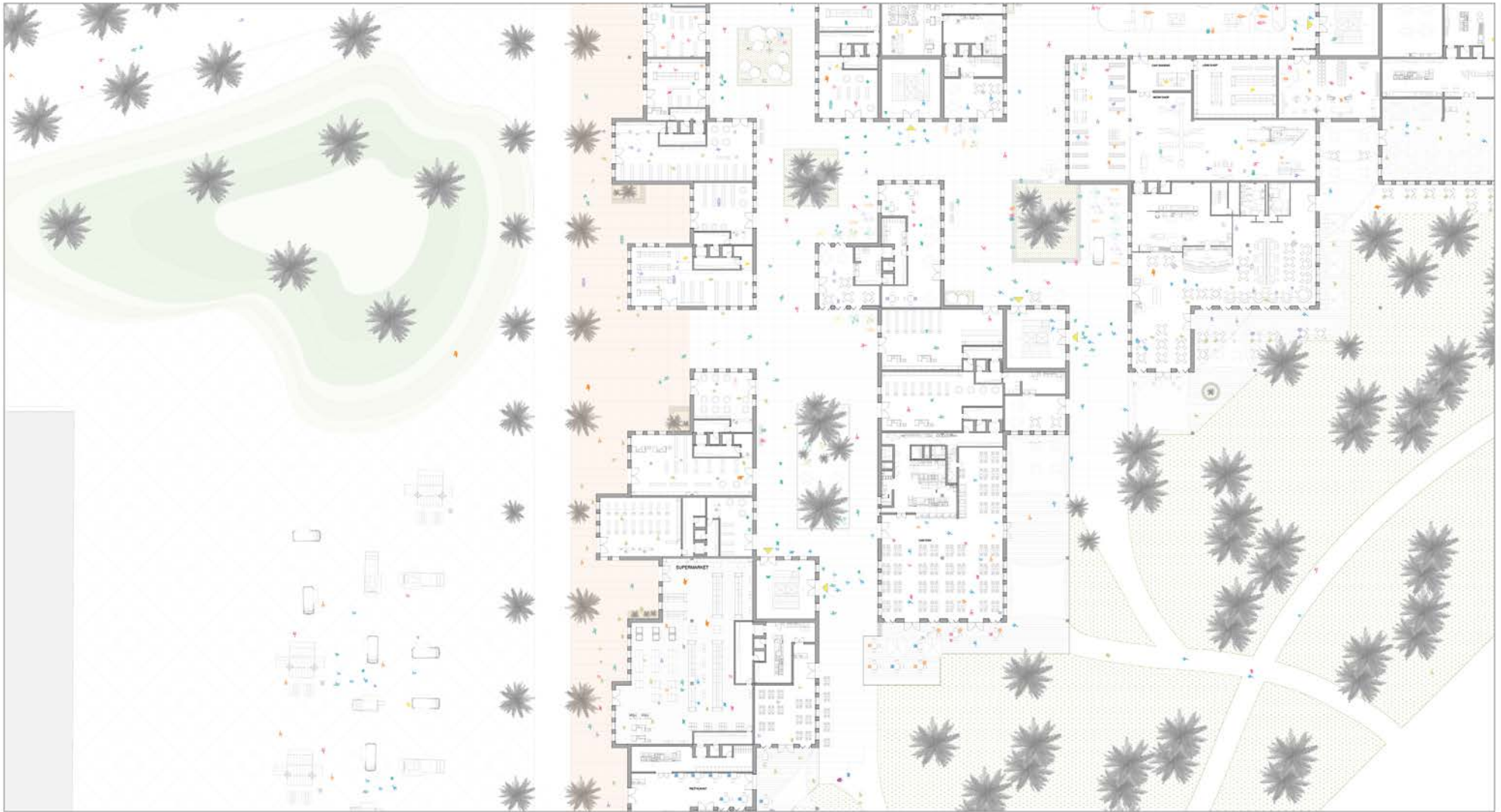
plinth
SQUARES



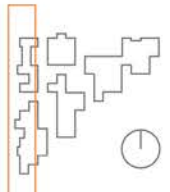
plinth
RETAIL



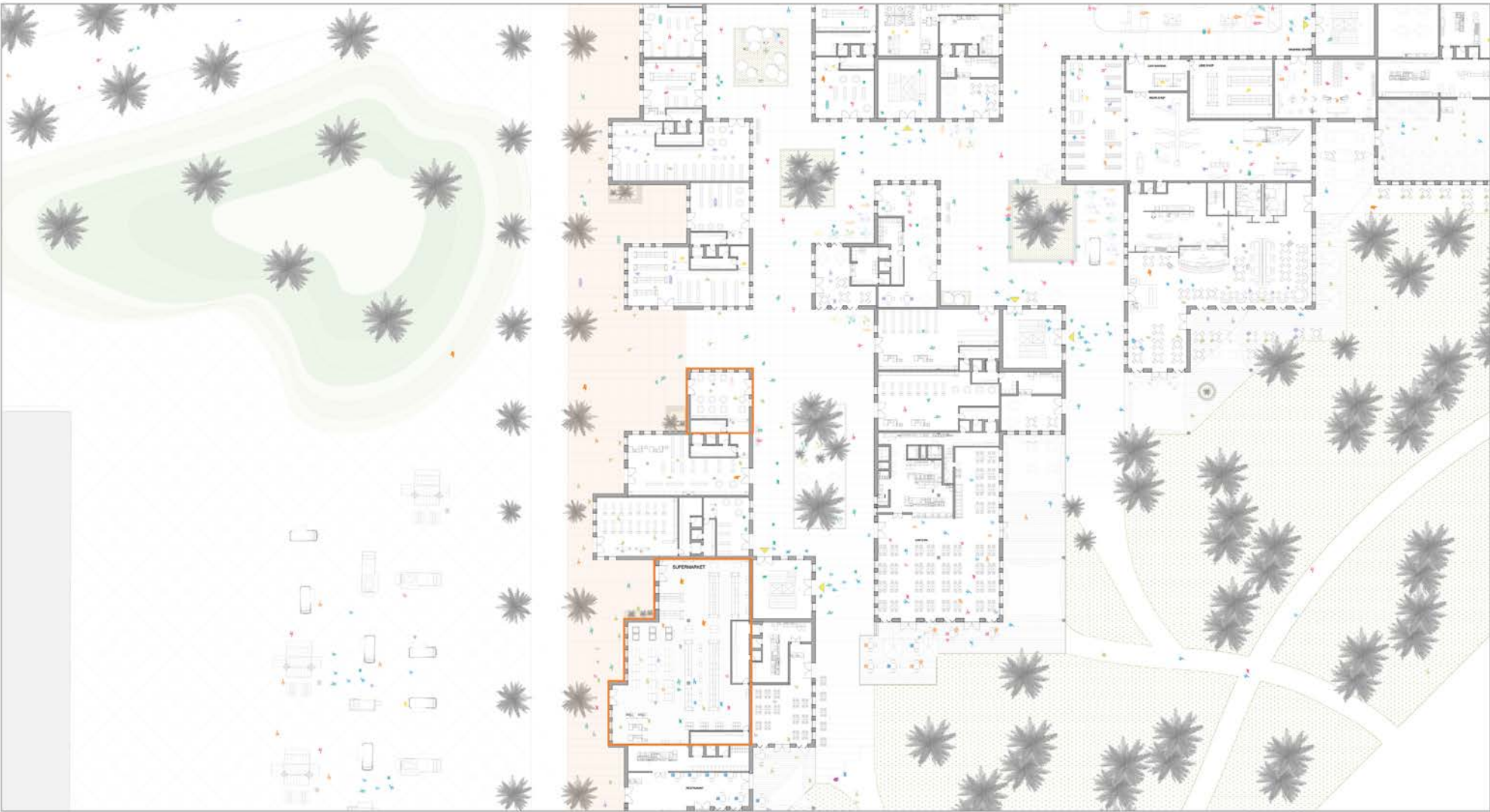
plinth
COVERED PASSAGE



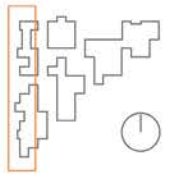
- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee



plinth
FLEXIBLE SIZES



- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee

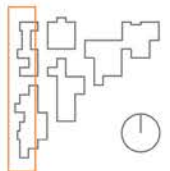


plinth

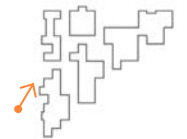
ACCESSIBLE BY BOTH SIDES



- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee

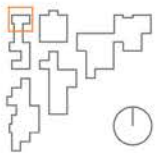
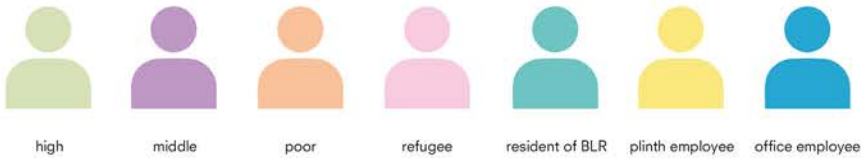
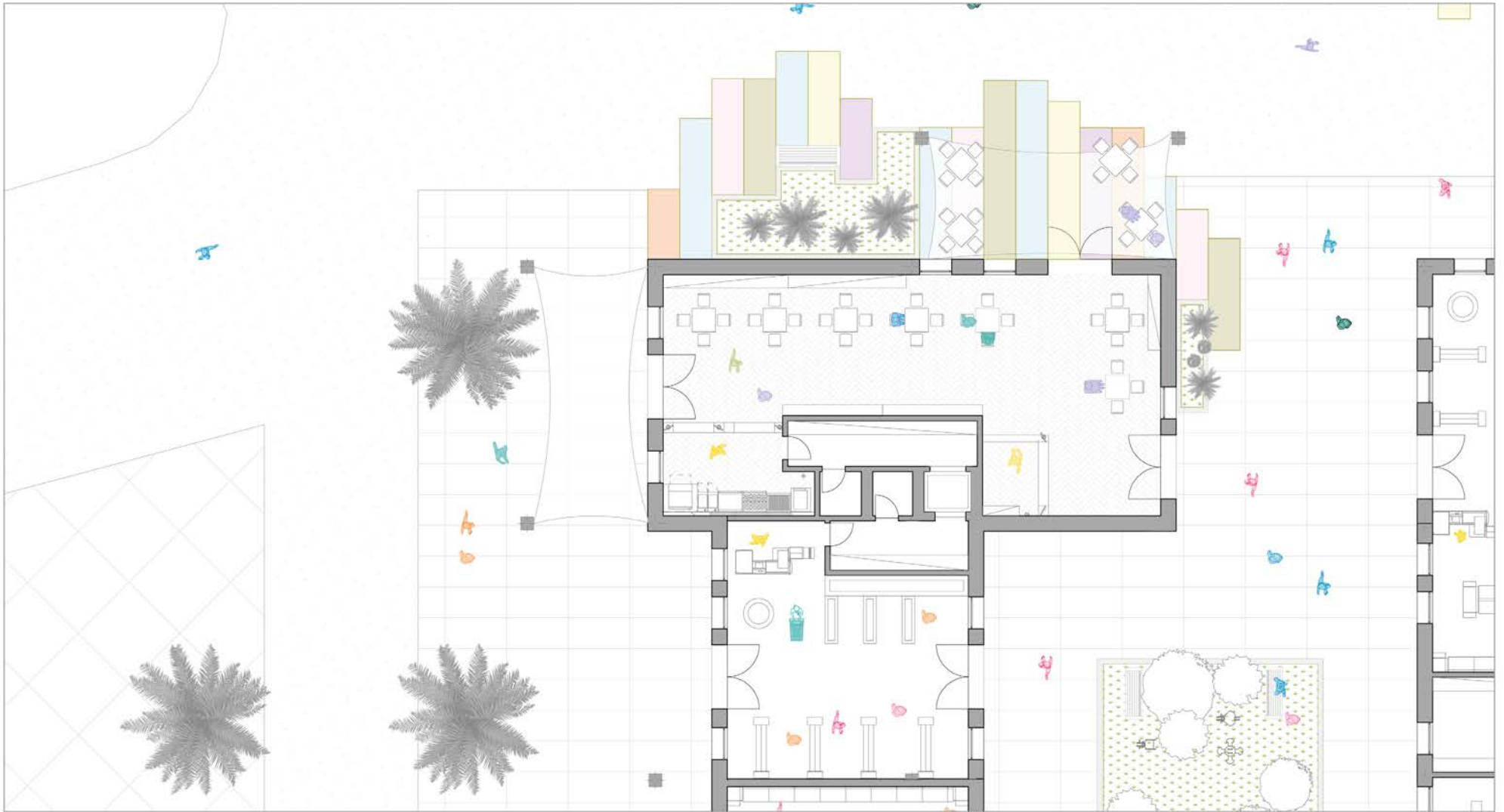


plinth
RETAIL



plinth

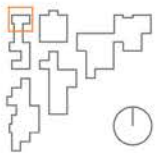
STORAGE SYSTEM - INCREASING RENT INCOME



plinth
STORAGE CORE



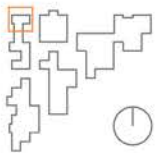
- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee



plinth
BATHROOM



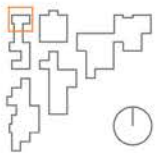
- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee



plinth
ELEVATOR



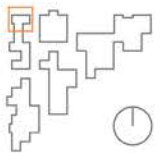
- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee



plinth
SMALL STORAGE



- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee

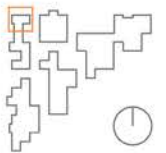


plinth

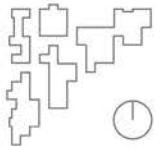
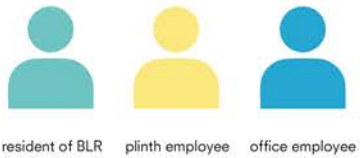
SHARED BETWEEN TWO STORES



- high
- middle
- poor
- refugee
- resident of BLR
- plinth employee
- office employee

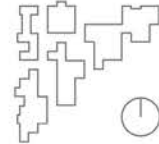
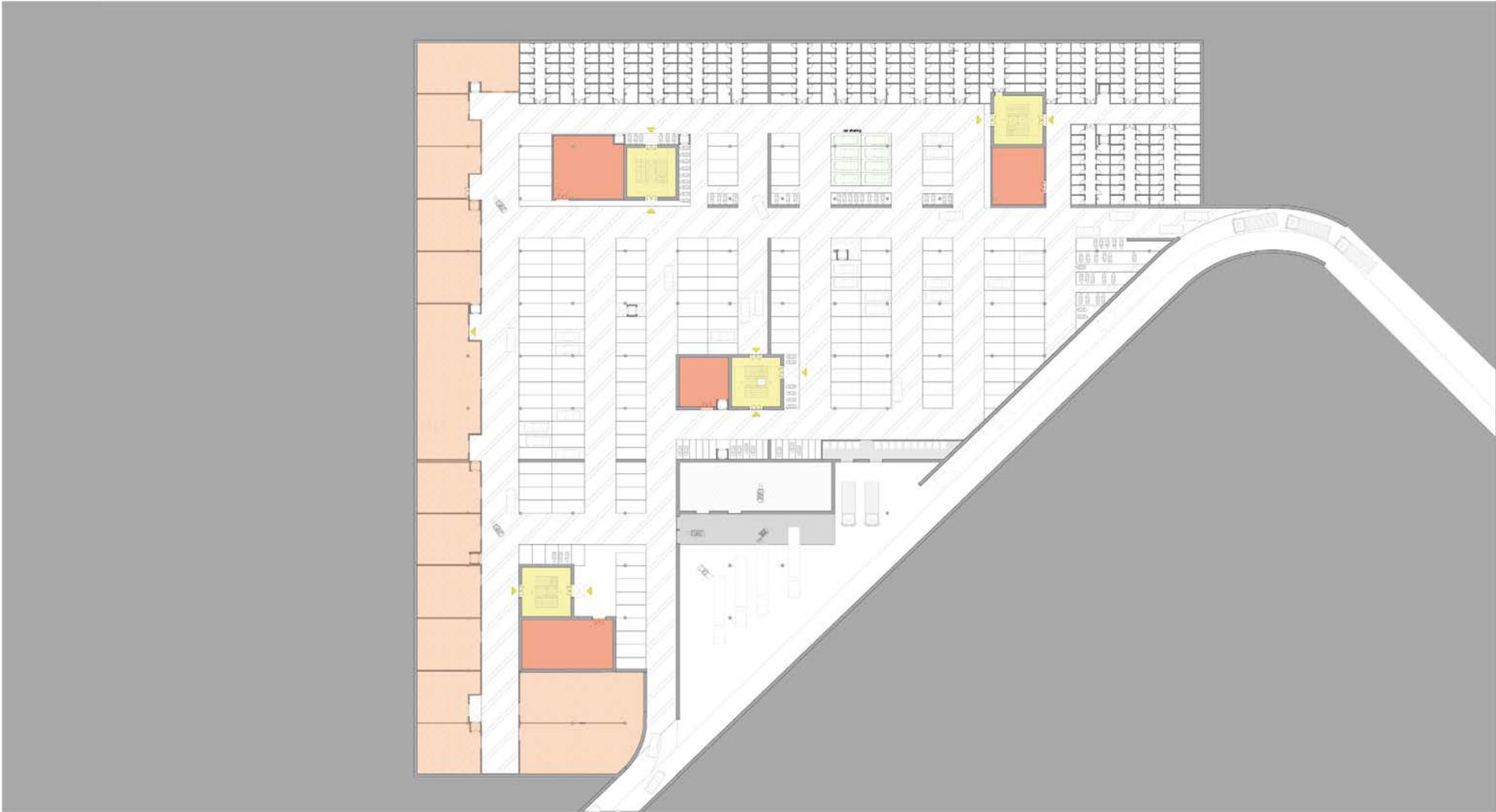


plinth
BASEMENT

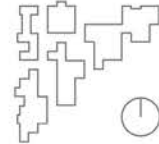
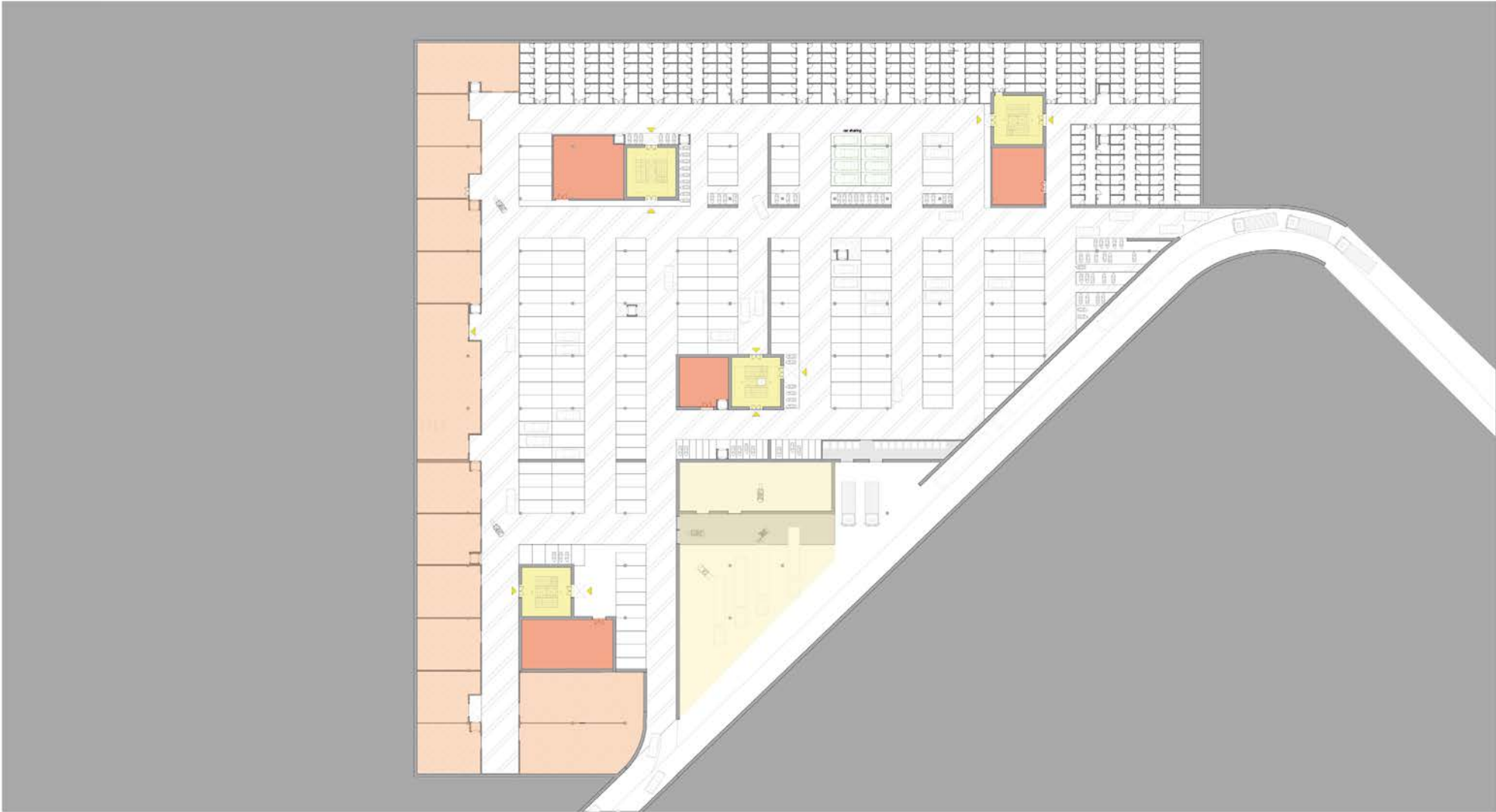


plinth

STORAGE BUSINESS

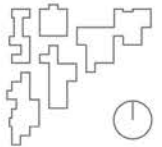
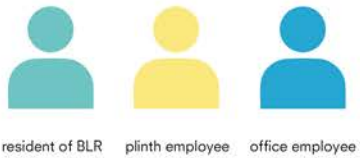
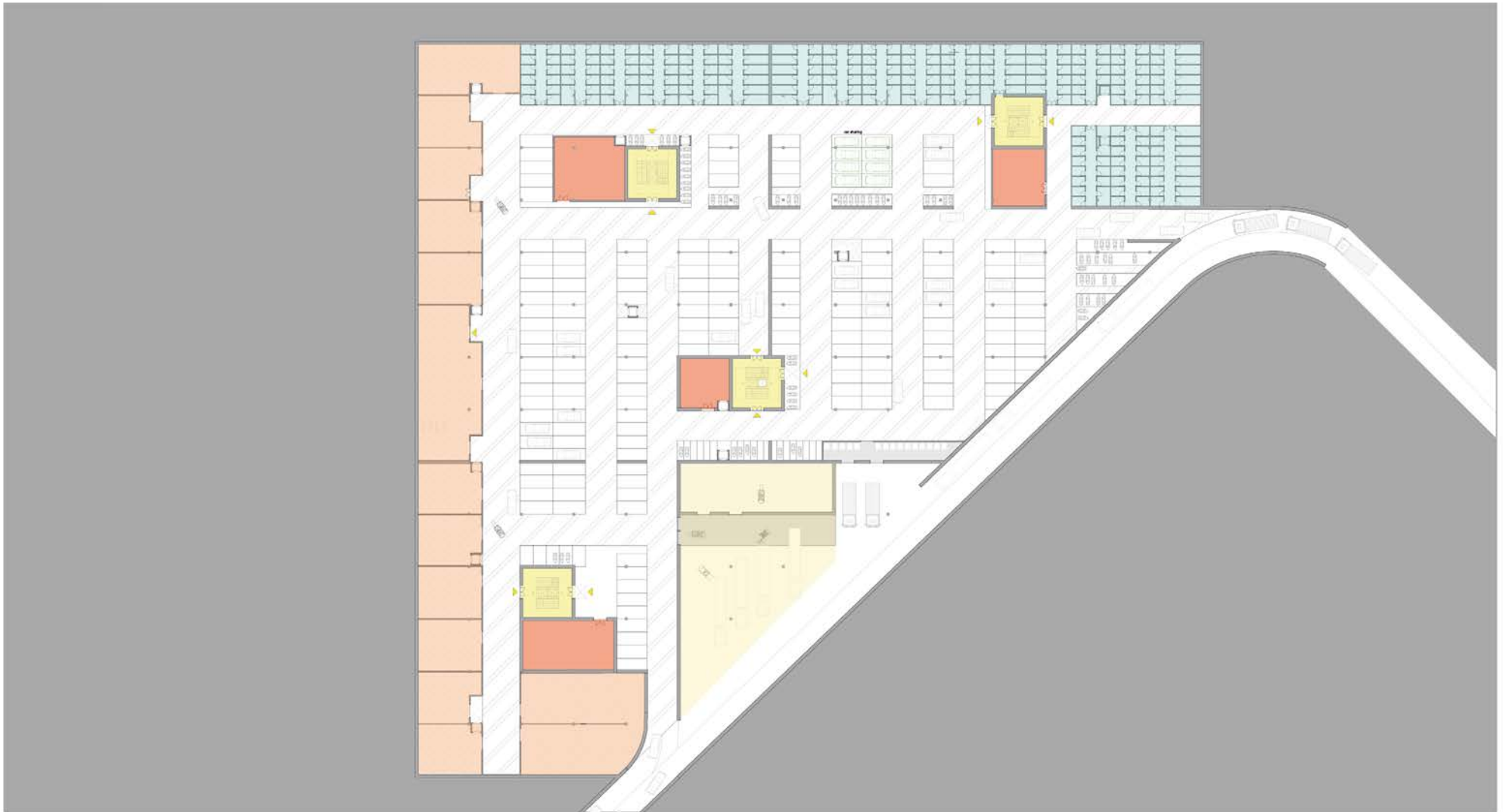


plinth
LOADING BAY



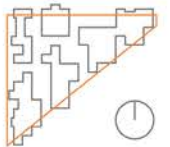
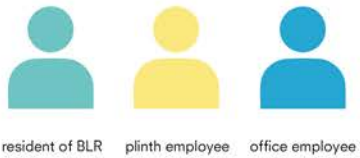
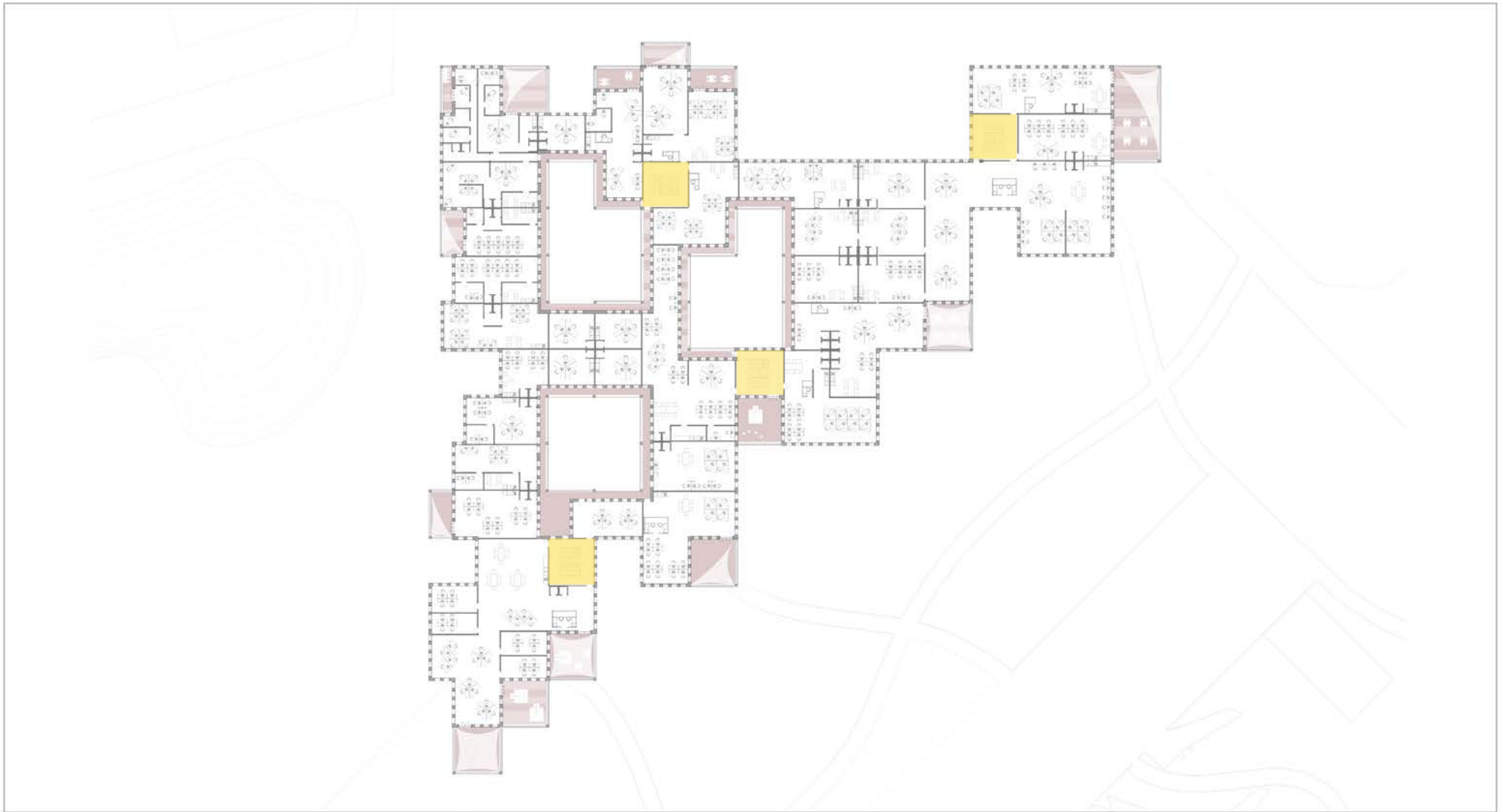
plinth

STORAGE RESIDENTS



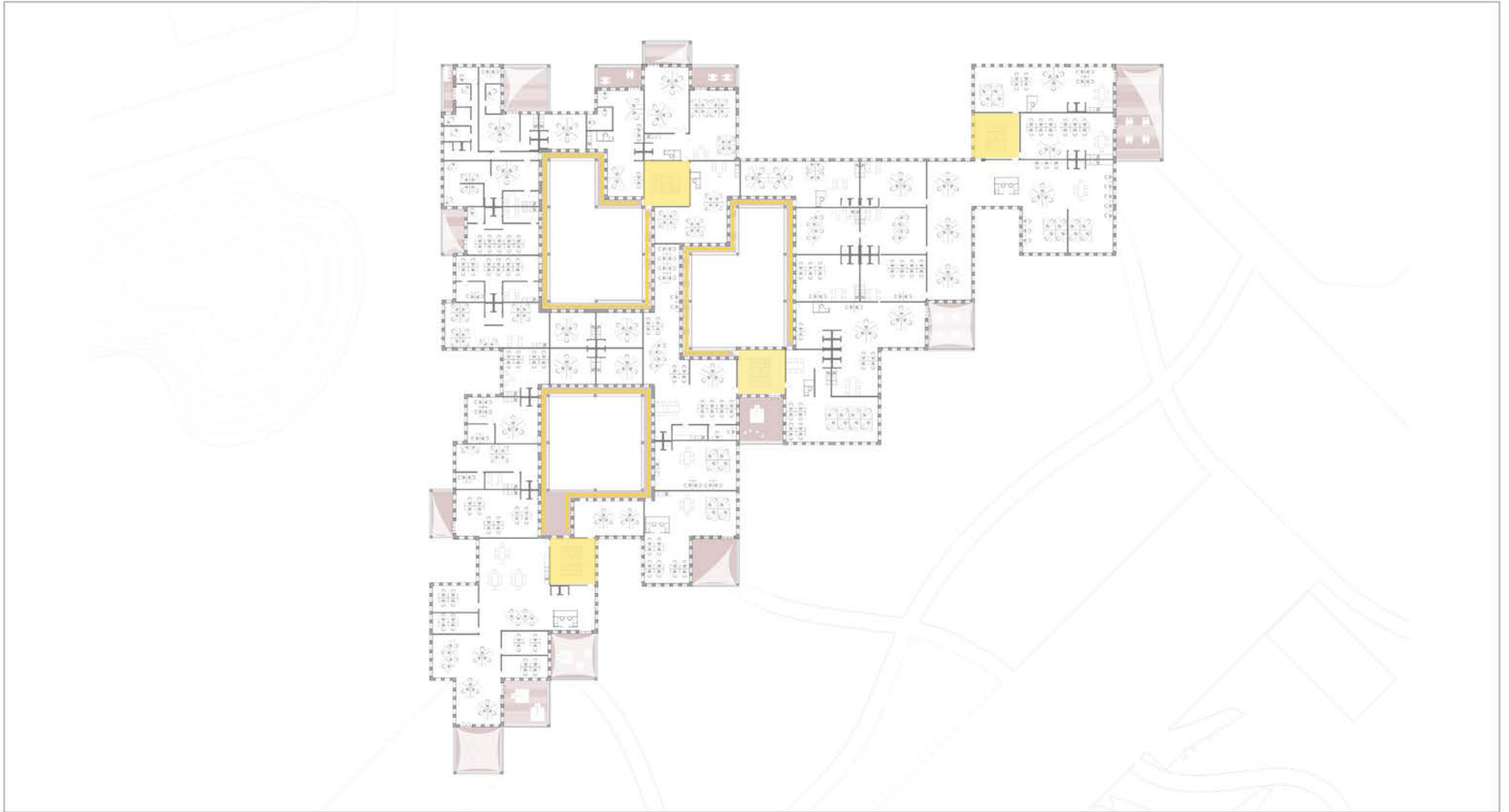
plinth

CIRCULATION CORES

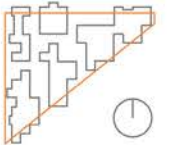


plinth

ARCADE ACCESS

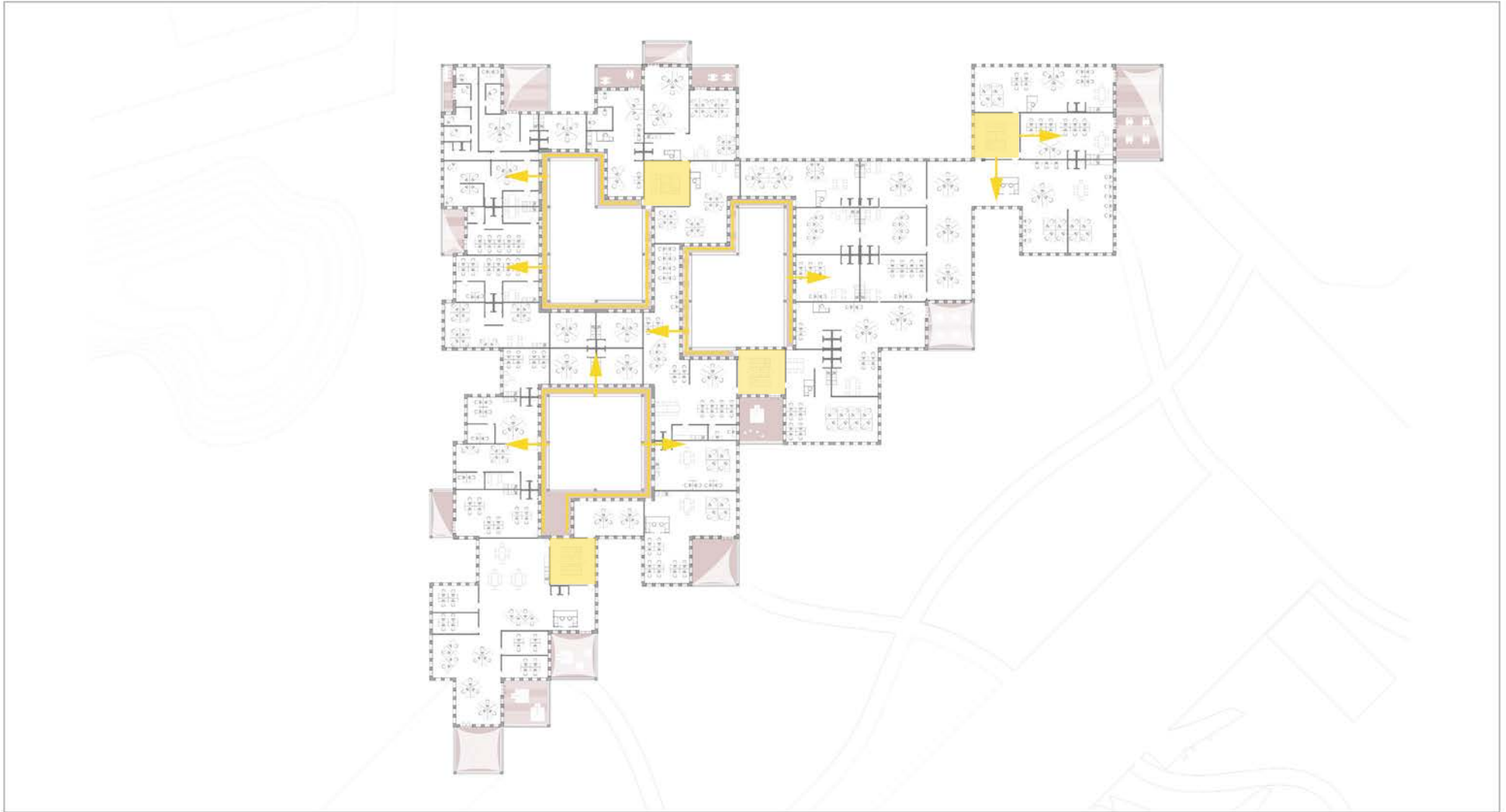


office employee

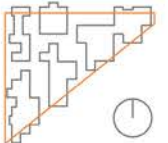


plinth

ARCADE ACCESS



office employee



plinth

FLEXIBLE SPACES

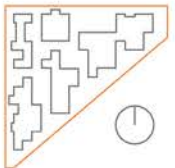
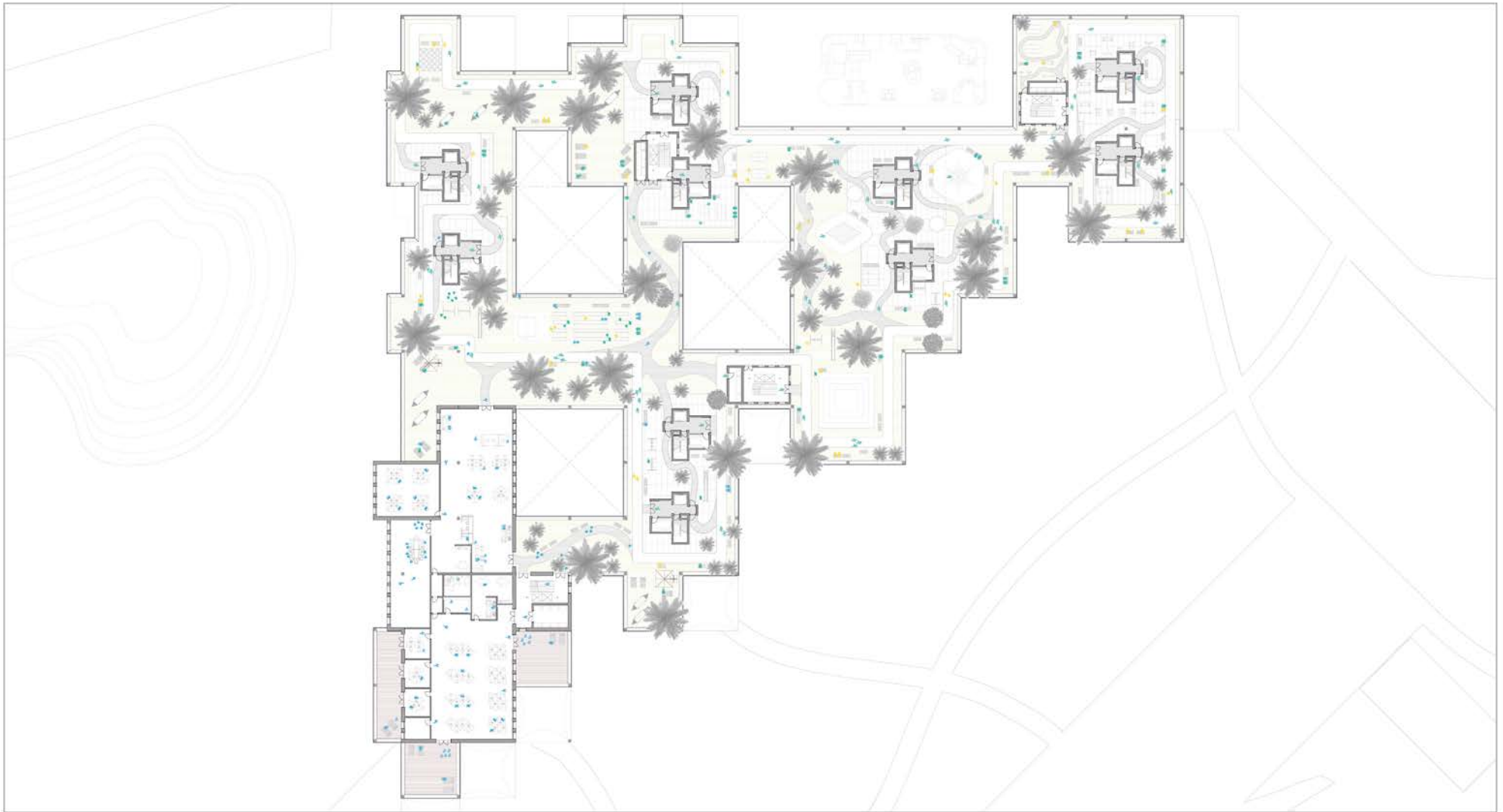


SHARED ROOF GARDEN



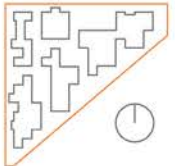
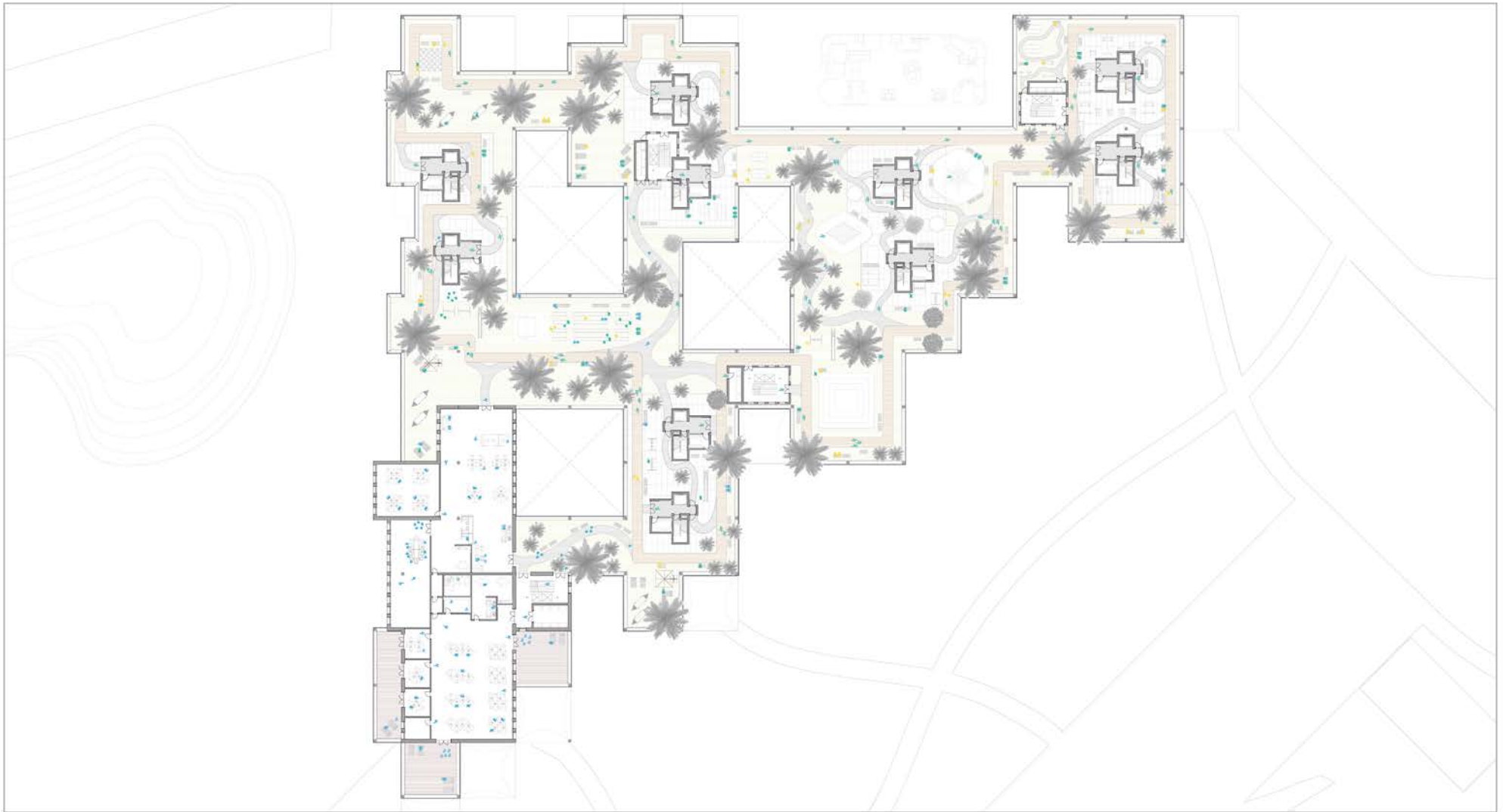
roof garden

PLINTH ROOF - SHARED SPACE RESIDENTS



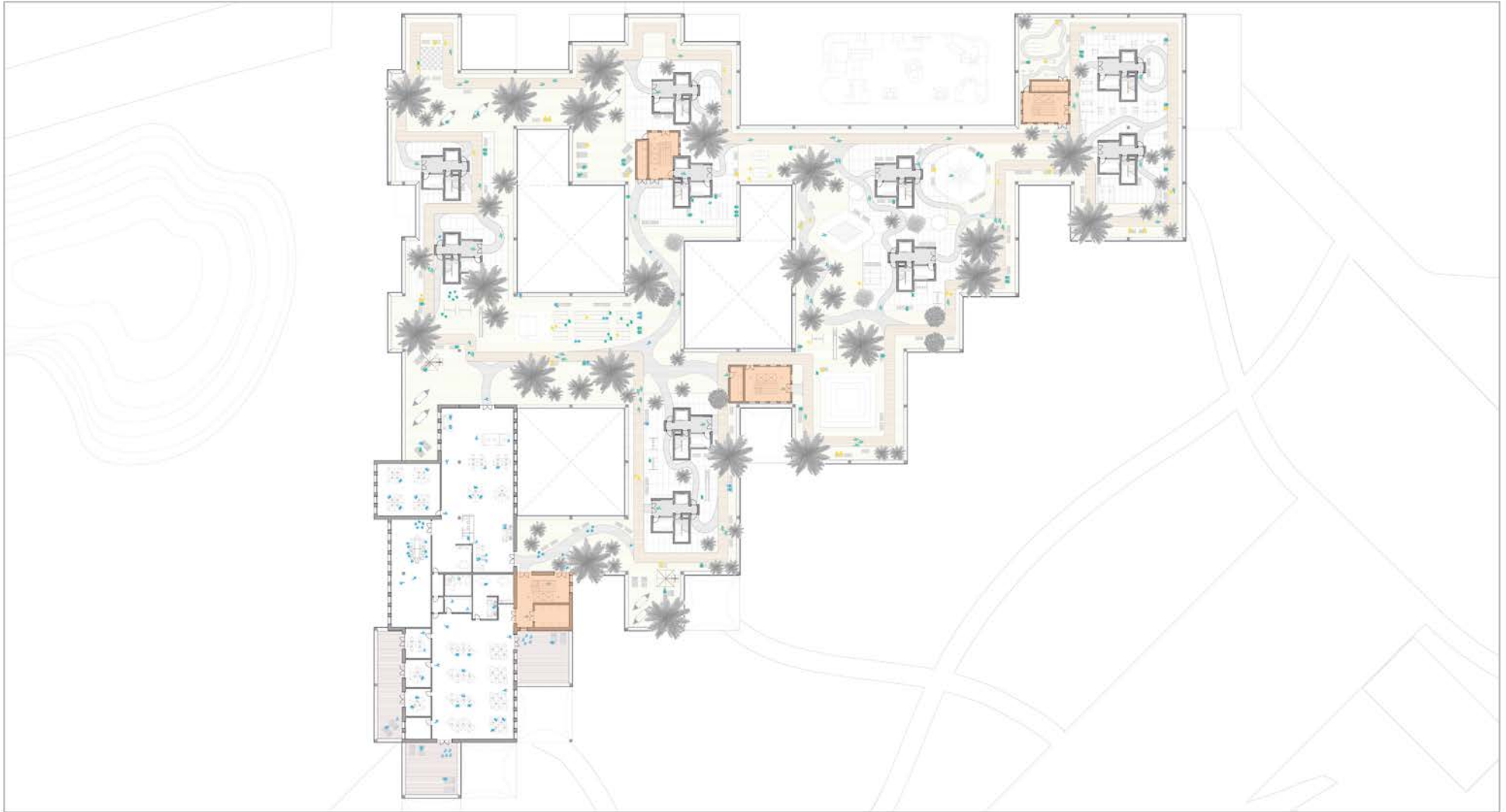
roof garden

MAIN CIRCULATION PATH

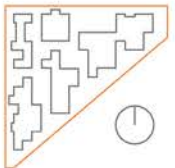


roof garden

CENTRAL CORES

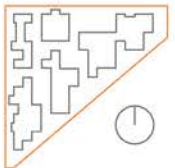
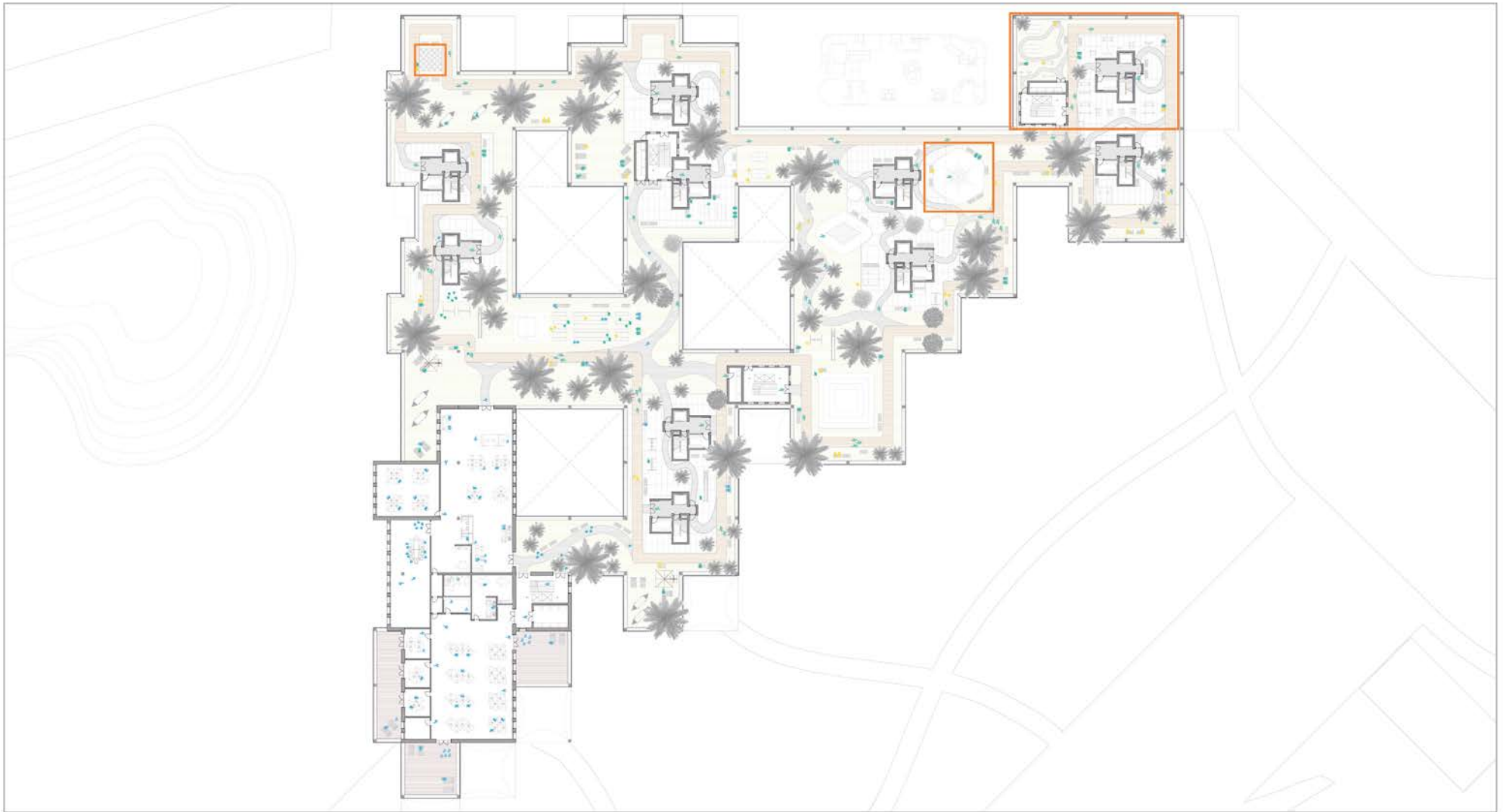


resident of BLR plinth employee office employee



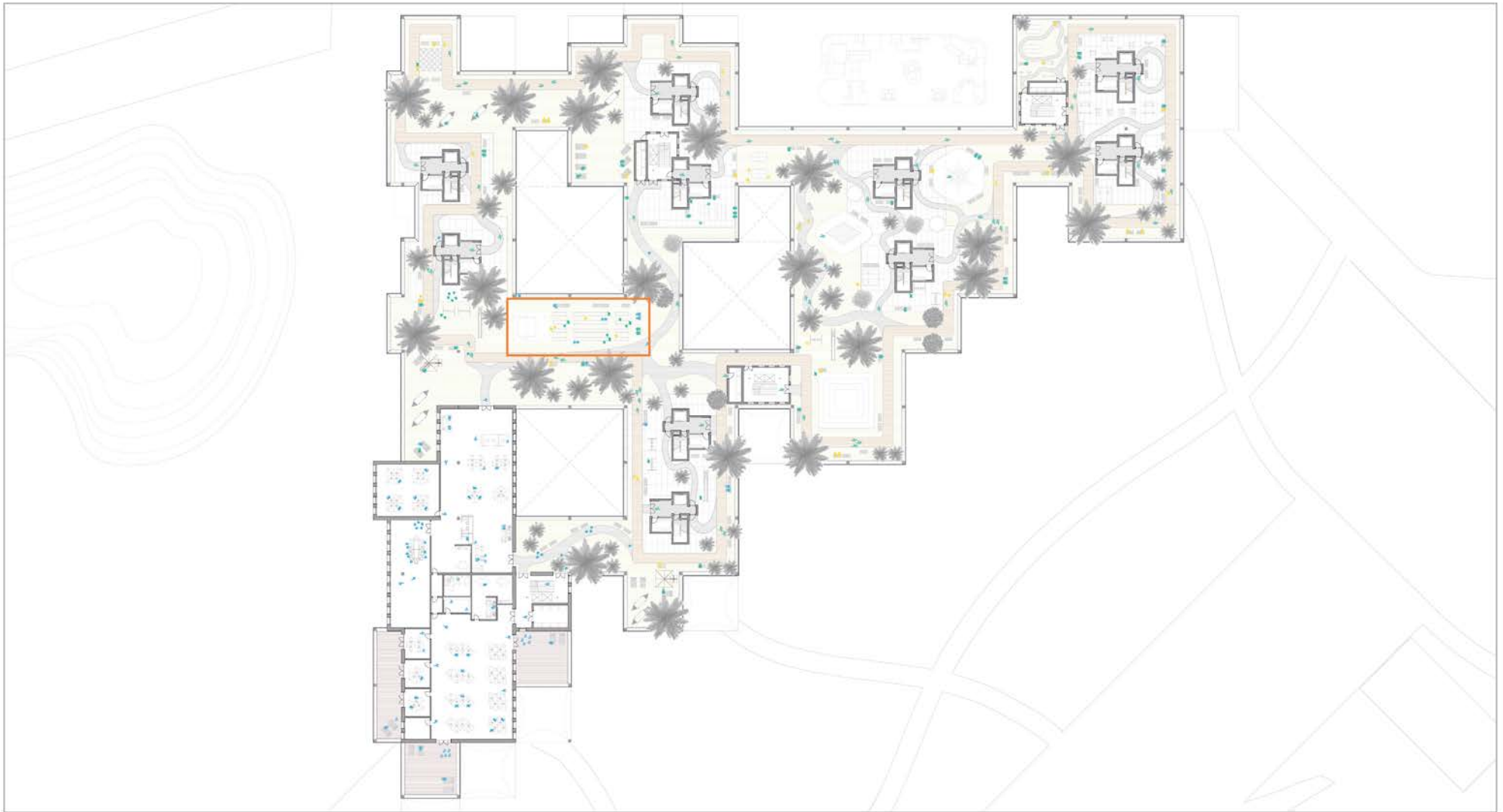
roof garden

ACTIVITY ZONES

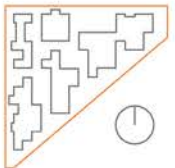


roof garden

URBAN GARDENING

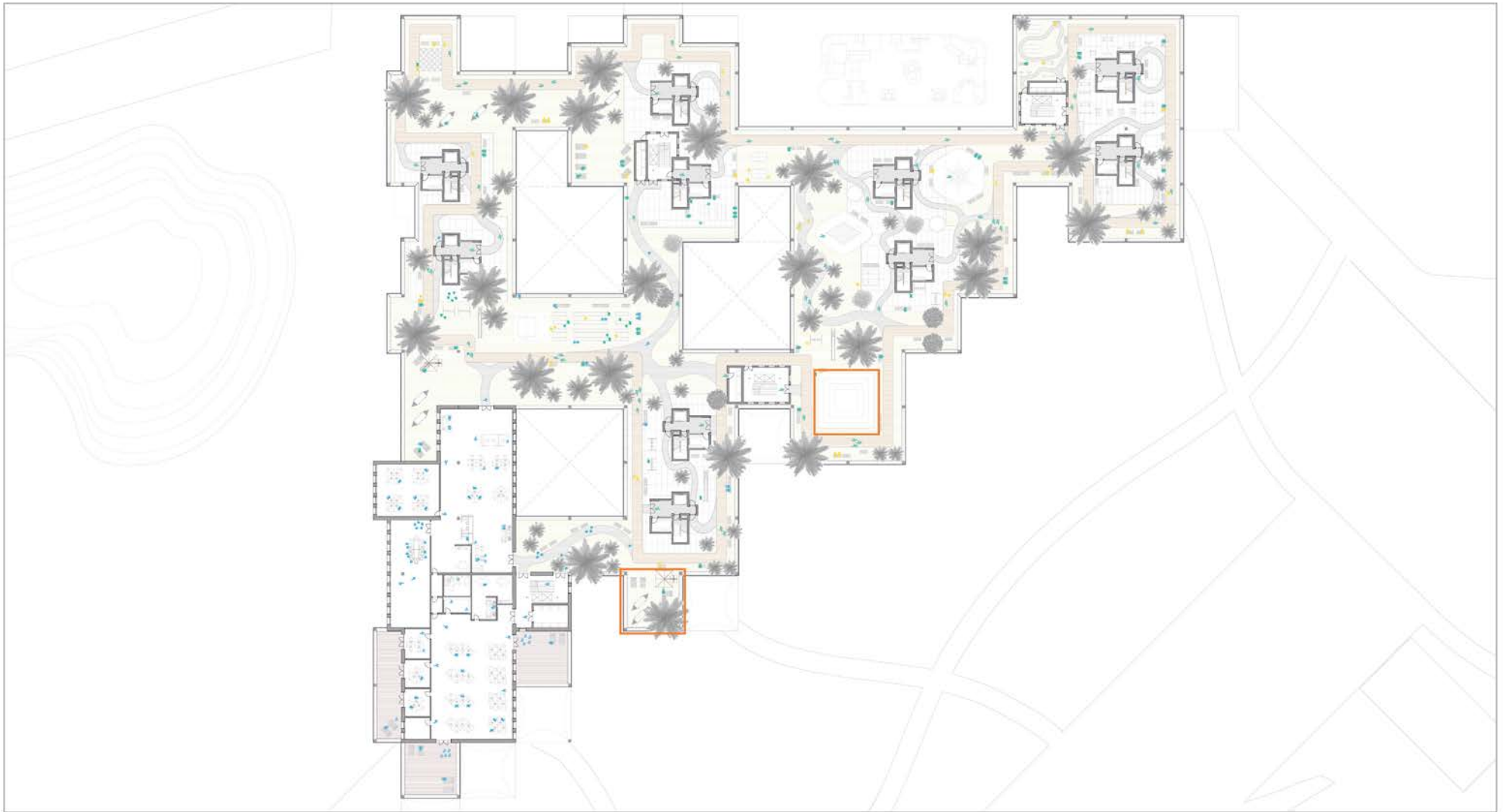


resident of BLR plinth employee office employee

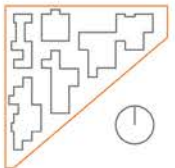


roof garden

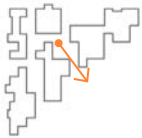
RECREATIONAL ZONES



resident of BLR plinth employee office employee



roof garden
COURTYARDS



ARRANGEMENT



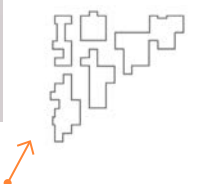


ONE COMMUNITY?

ARRANGEMENT



2000 RESIDENTS



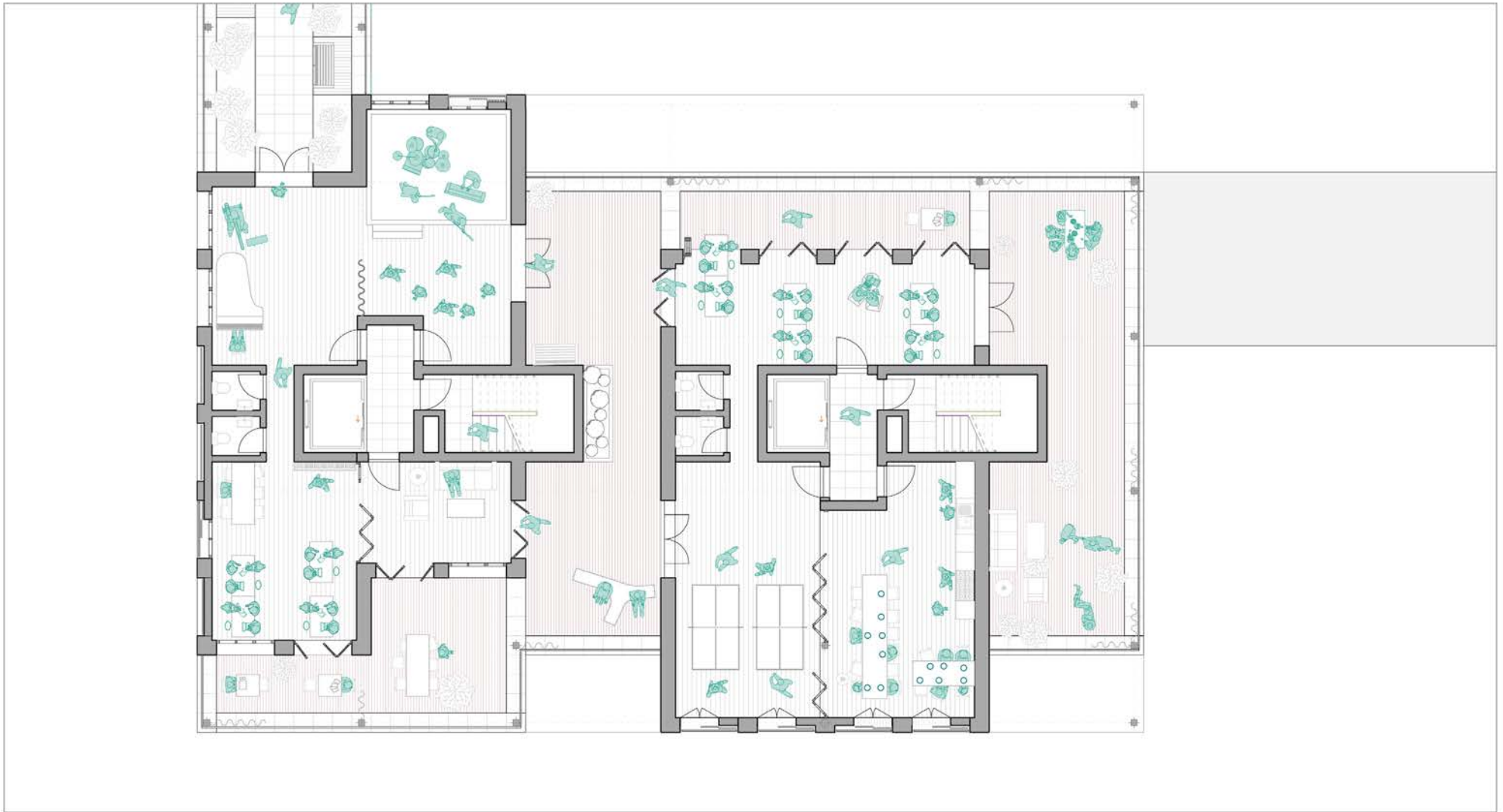
new approach

PLINTH ROOF - SHARED SPACE RESIDENTS

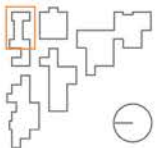


dwelling

SHARED SPACE 1. LEVEL



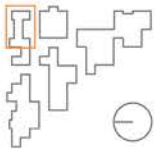
resident of BLR



dwelling
2 TOWERS

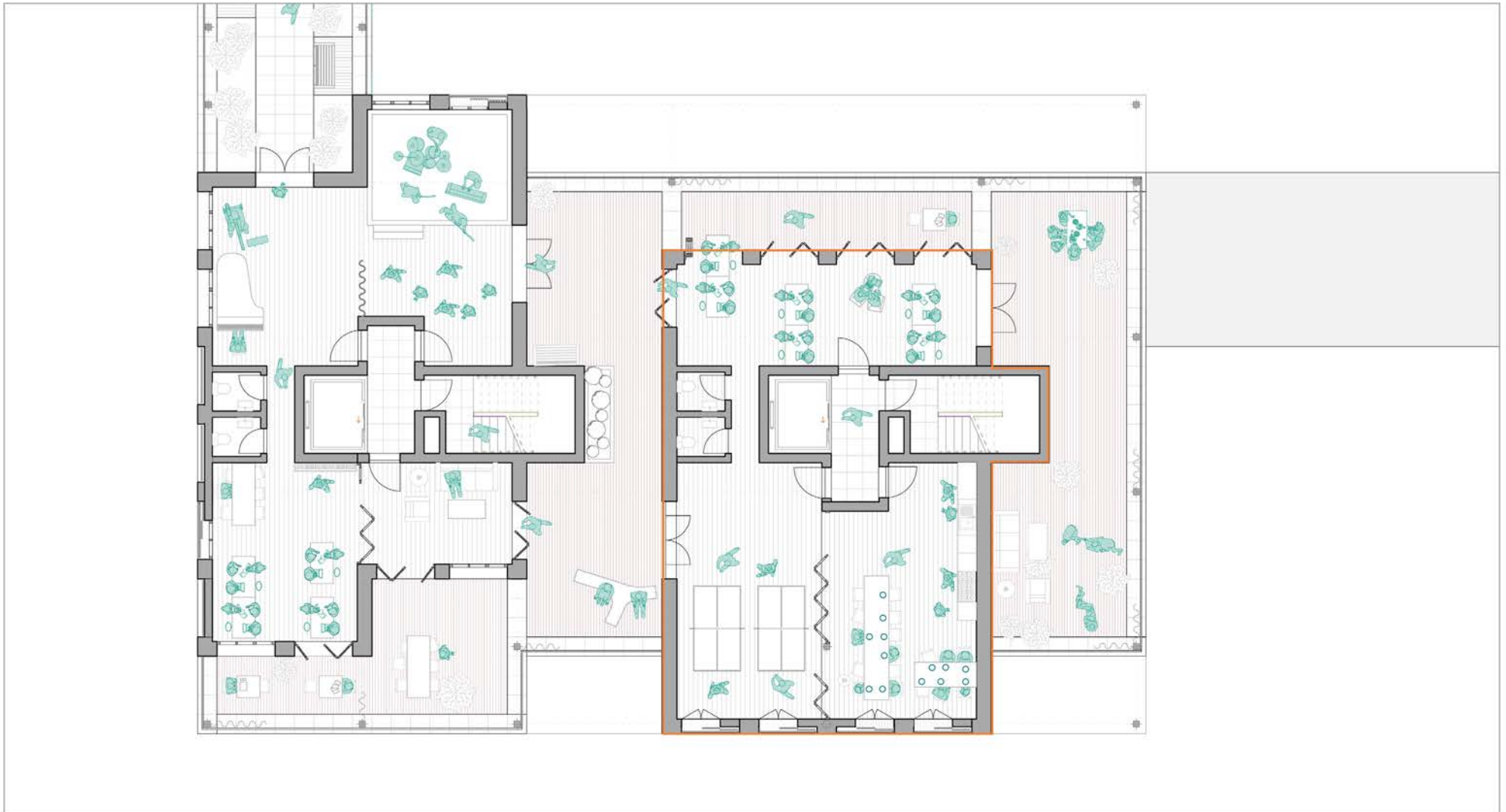


resident of BLR

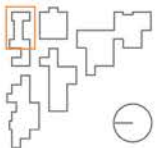


dwellings

SHARED KITCHEN + STUDY ROOMS



resident of BLR

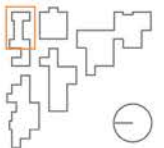


dwellings

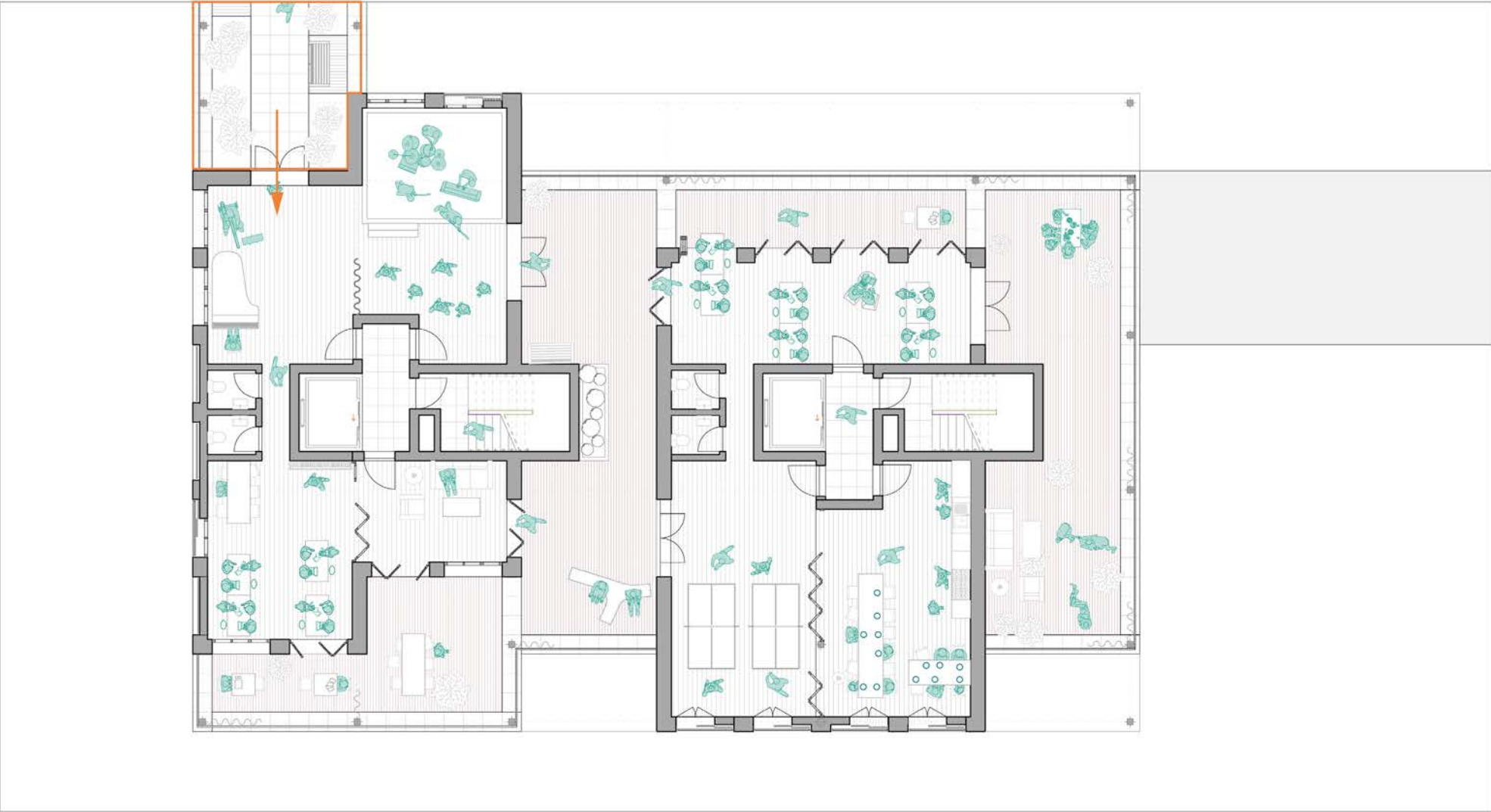
SHARED SPECIAL SPACE



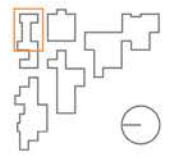
resident of BLR



dwelling
BRIDGE ADDING



resident of BLR

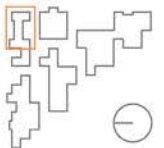


dwelling

SHARED SPACE 1. LEVEL



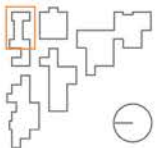
resident of BLR



SHARED SPECIAL SPACE 1. LEVEL



resident of BLR

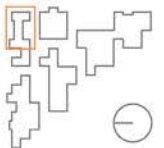


dwelling

OUTDOOR EXTENTION

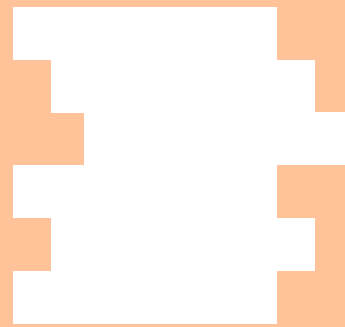


resident of BLR



safety
FIRESAFETY

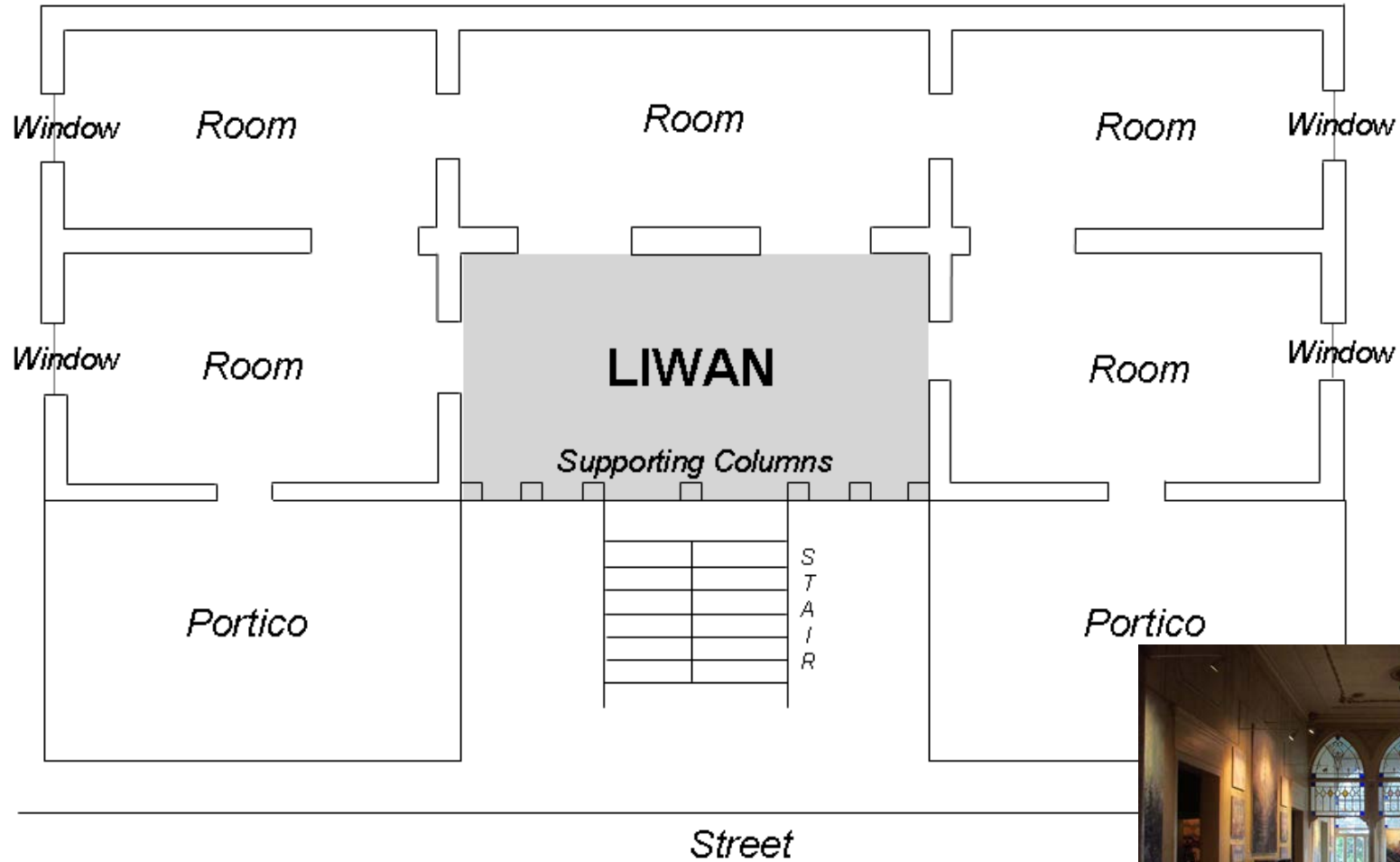




APARTMENTS

research

TRADITIONAL FLOORPLAN DESIGNS BEIRUT



dwelling system

TRADITIONAL SOCIAL HOUSING



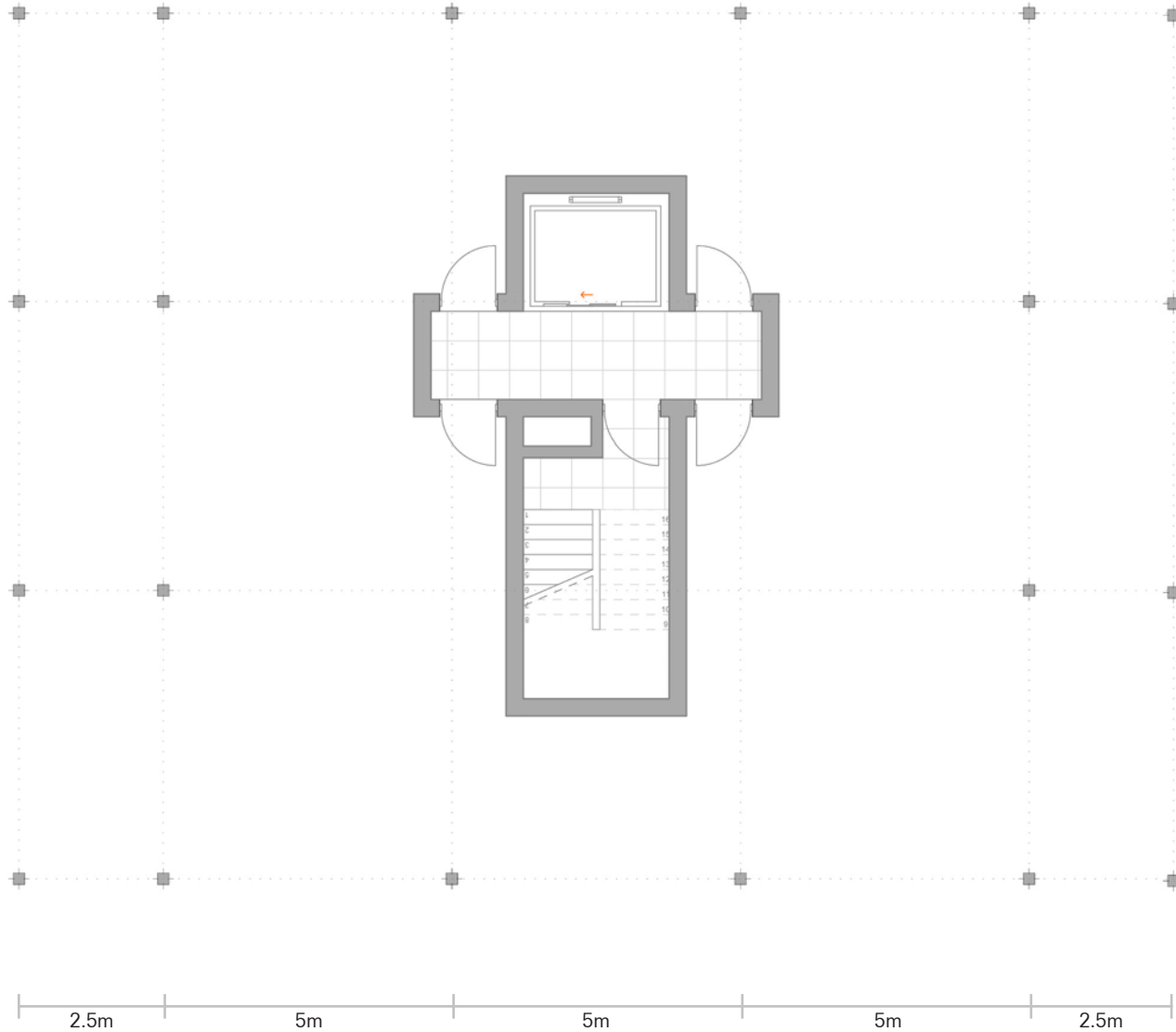
dwelling system

TRADITIONAL SOCIAL HOUSING



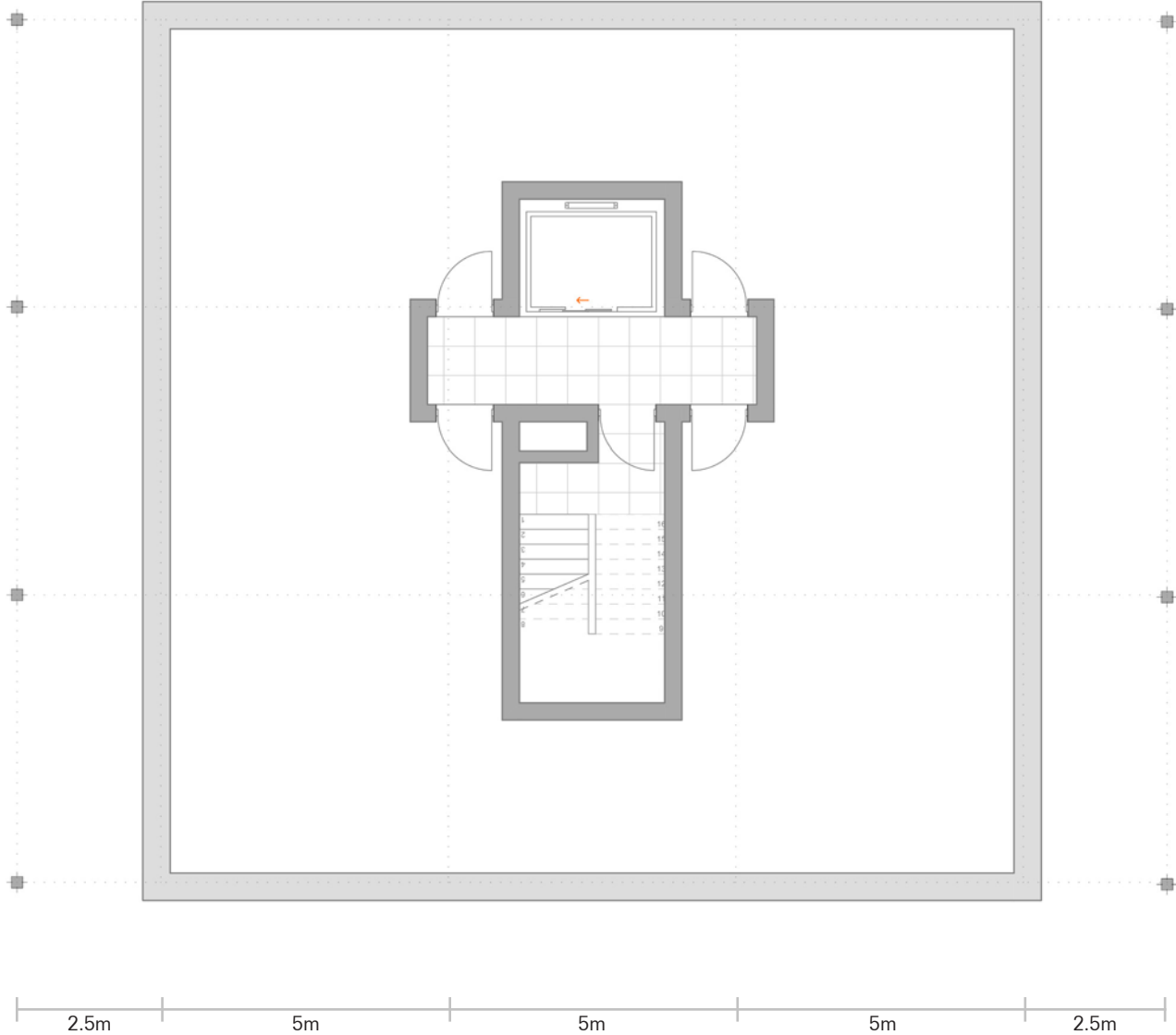
dwelling system

GRID + CIRCULATION



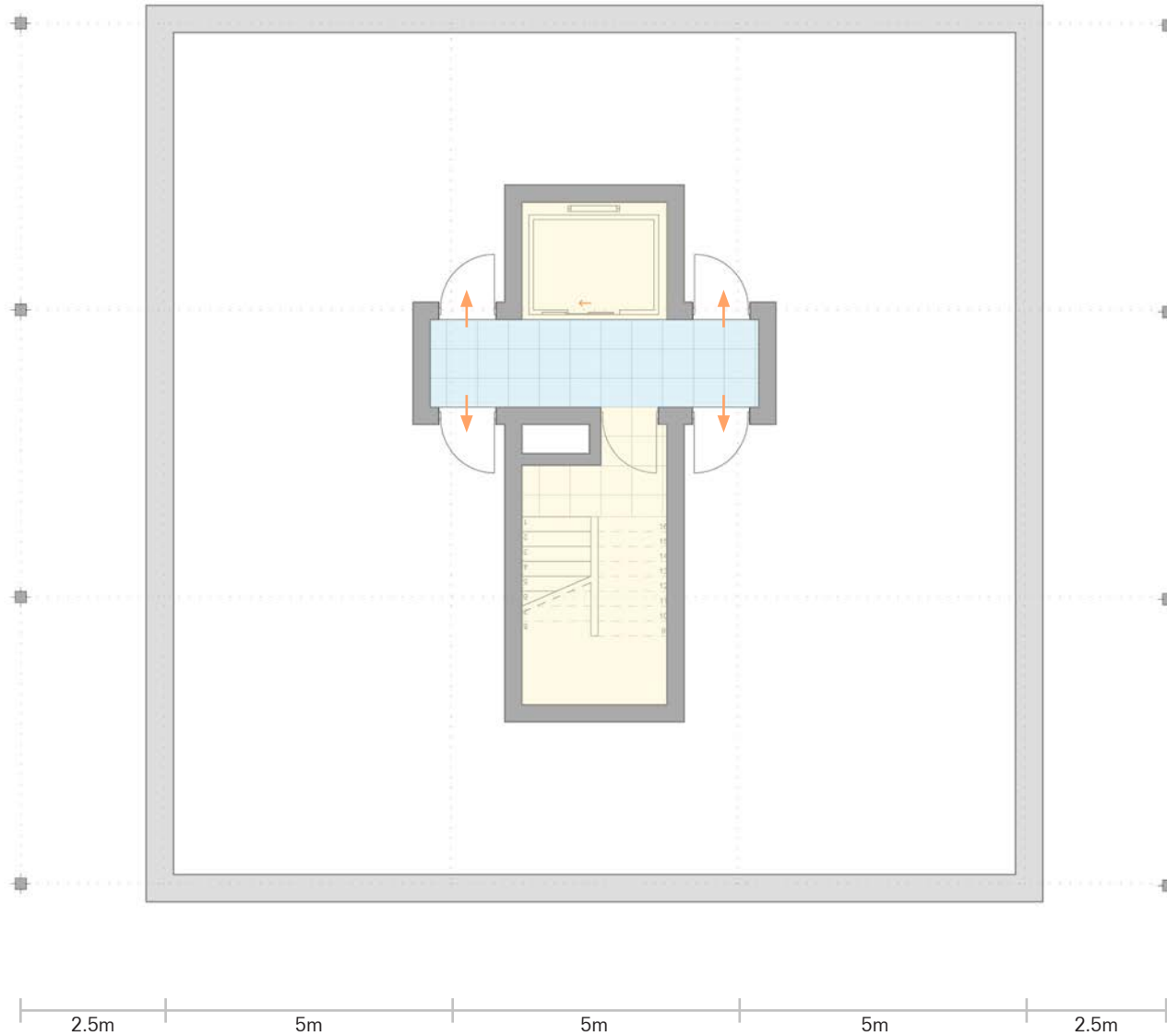
dwelling system

STANDARD MODULE



dwelling system

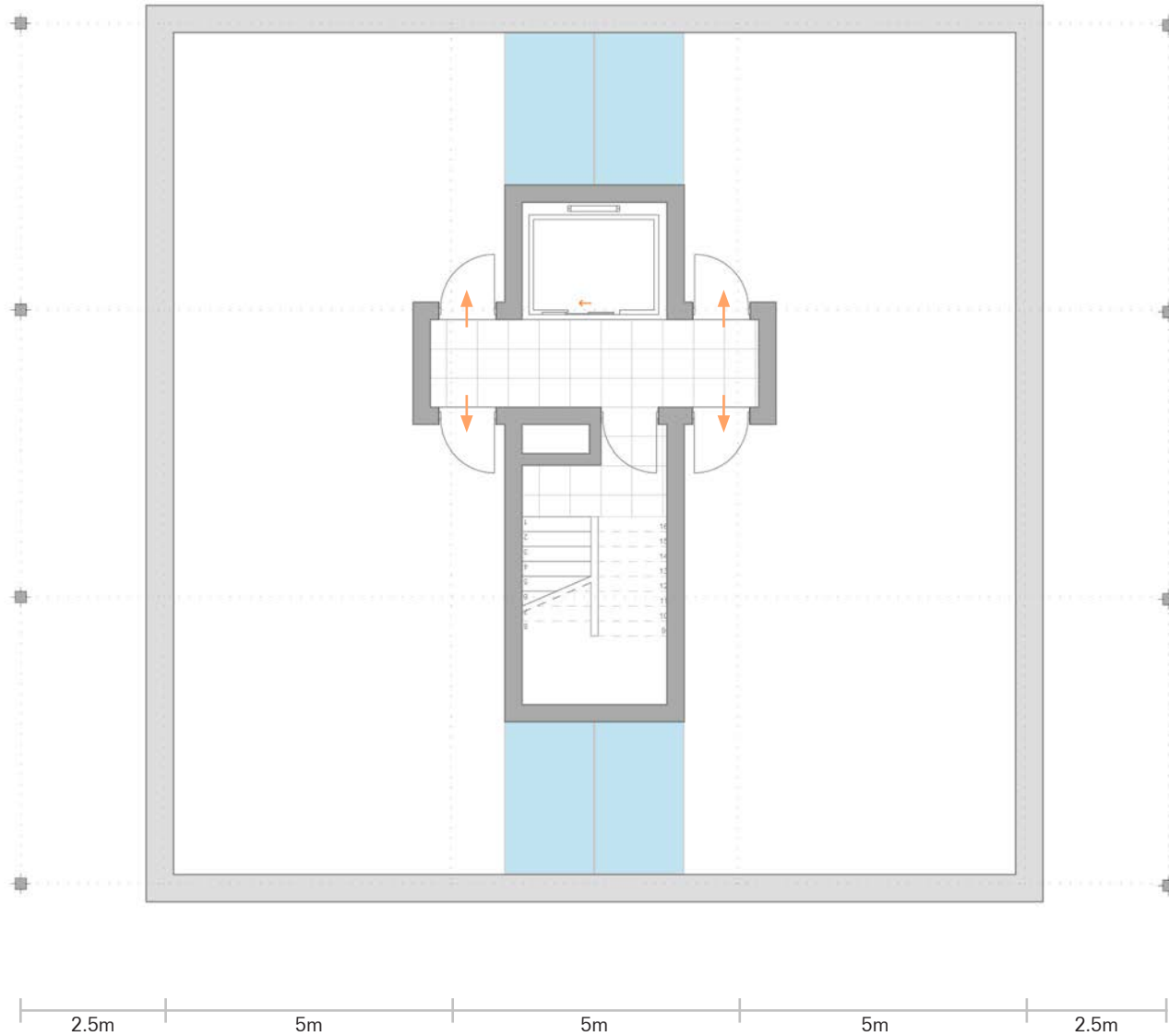
CIRCULATION CORE SYSTEM



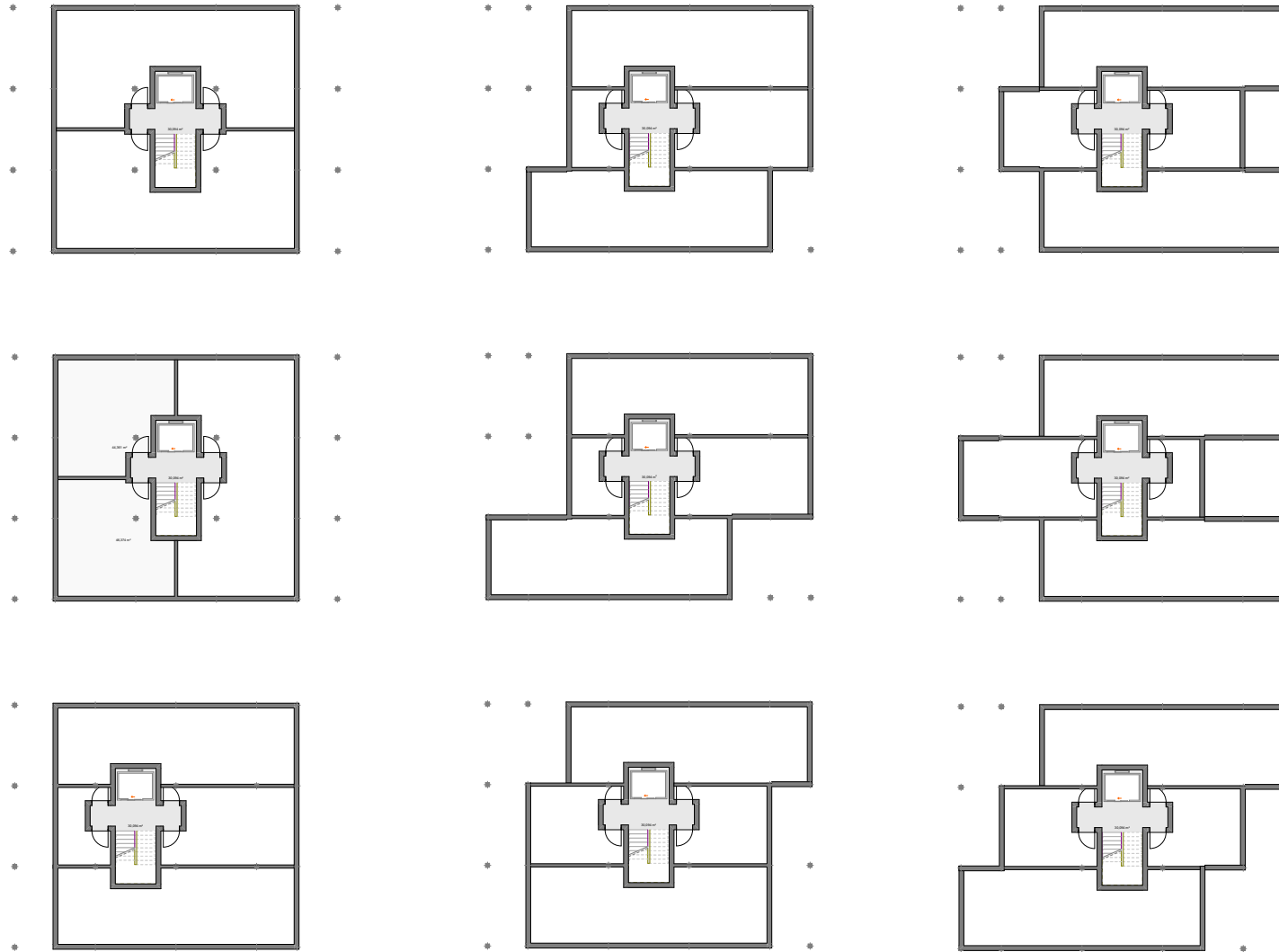
PRIVATE

PUBLIC

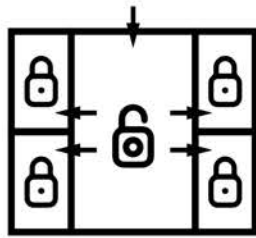
dwelling system
BATHROOM AREA



dwelling system
DIVISION OPTIONS



DWELLING CONCEPTS



FROM PUBLIC TO
PRIVATE



LIVING ROOM > BEDROOM
> KITCHEN



TERRACE AS
EXTENSION OF
LIVING ROOM



CLUSTER LIVING



INDIVIDUALIZATION
OPPORTUNITIES

dwelling system

APARTMENT TYPOLOGY DEVELOPMENT



dwelling system
3 APARTMENTS



dwelling system
SHIFTING



dwelling system
FAMILY APARTMENT



104m²

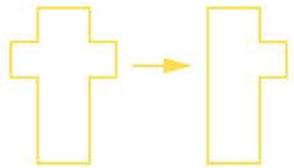


dwelling system

MODIFIED CIRCULATION CORE



104m²

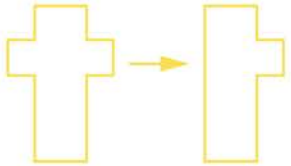


dwelling system

LIVING ROOM - PUBLIC



104m²

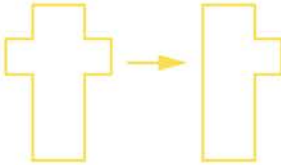


dwelling system

LIVING ROOM EXPANDS ON TERRACE



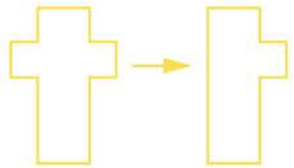
104m²



dwelling system
PRIVATE ROOMS

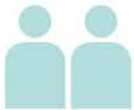


104m²



dwelling system

2 APARTMENTS - CLUSTER LIVING



37m²



37m²

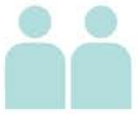


dwelling system

FOLDABLE PARTITION WALL



37m²



37m²



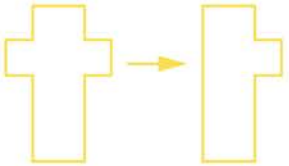
dwelling system
SHARED SPACE



37m²



37m²

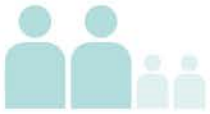


dwelling system
4 APARTMENTS



dwelling system

FAMILY + GRANDPARENTS



68m²



31m²



dwelling system
3 APARTMENTS

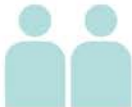


dwelling system

PRIVATE APARTMENTS



26m²



45m²

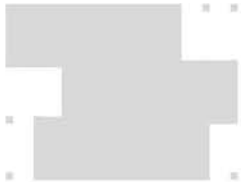


dwelling system
CRAZY SHIFT



dwelling system

DWELLING CONCEPTS



66m²



dwelling

OPPORTUNITIES FOR INDIVIDUALIZATION



dwelling

OPPORTUNITIES FOR INDIVIDUALIZATION



dwelling

OPPORTUNITIES FOR INDIVIDUALIZATION



dwelling

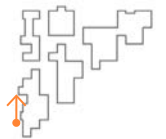
CLUSTER LIVING?



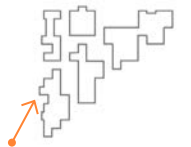
dwelling
NOT TODAY



dwelling
TERRACE

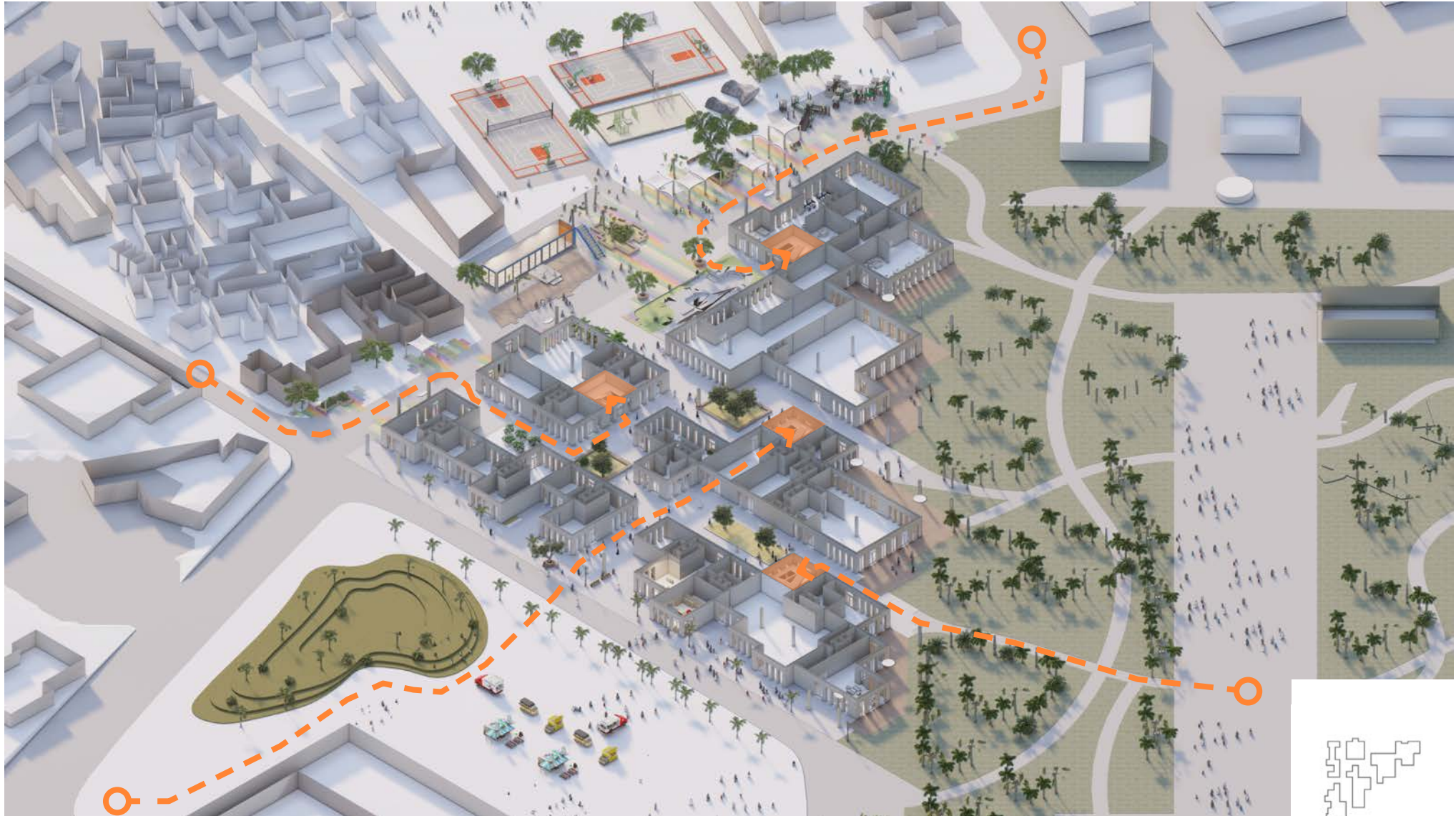


facade
BALCONY SYSTEM



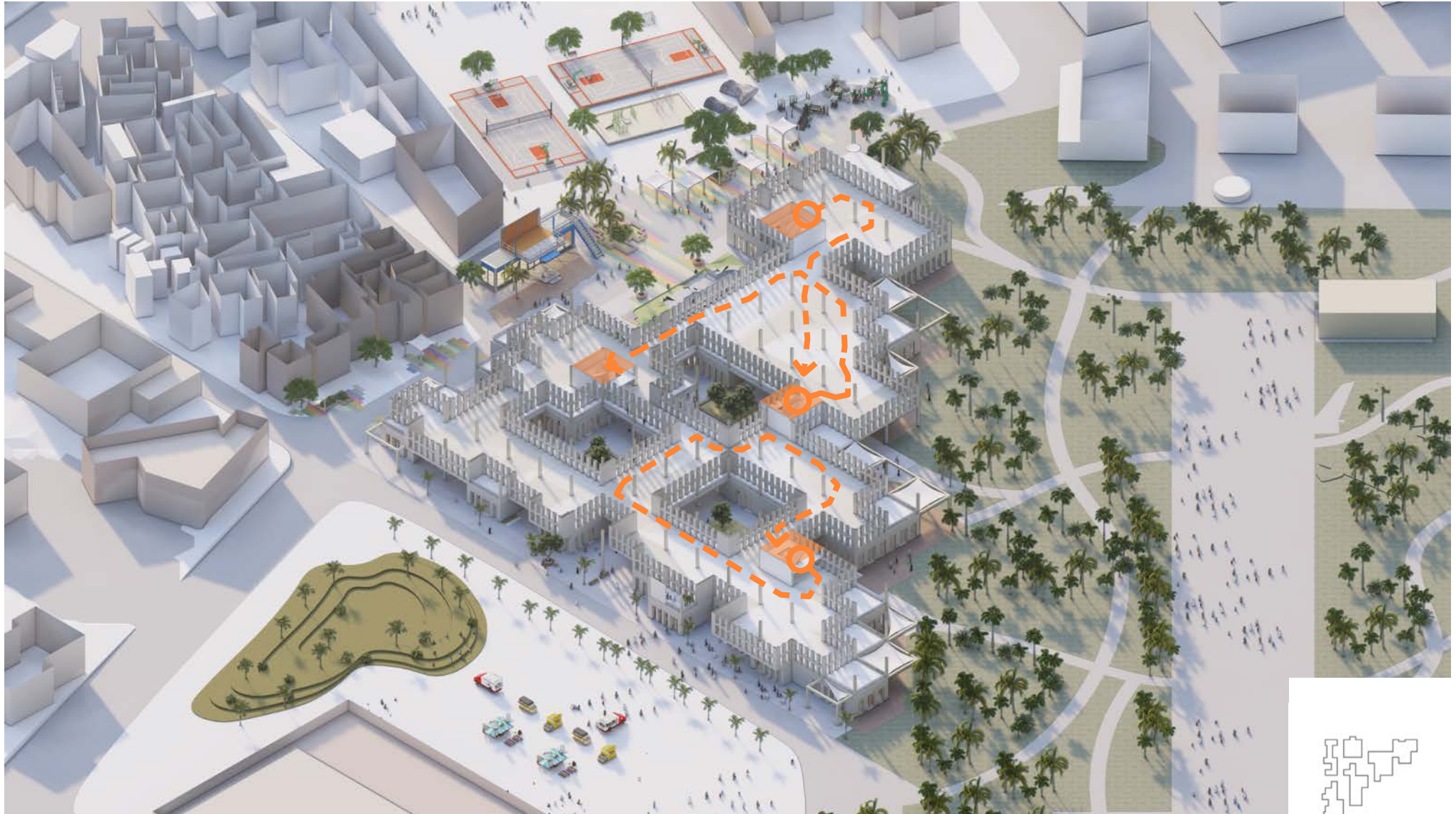
circulation principles

PLINTH



circulation principles

OFFICE

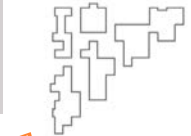


circulation principles
ROOF GARDEN



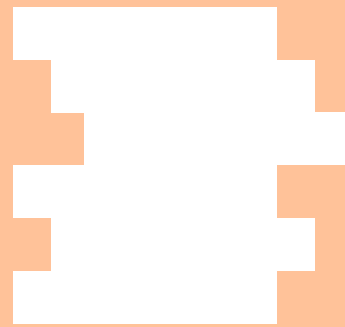
circulation principles

SHARED SPACES



circulation principles
DWELLINGS

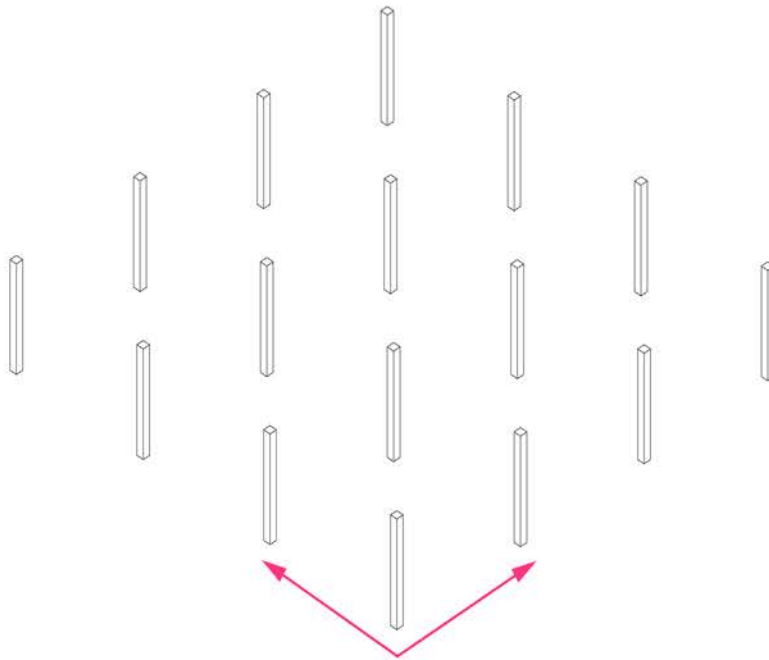




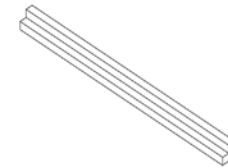
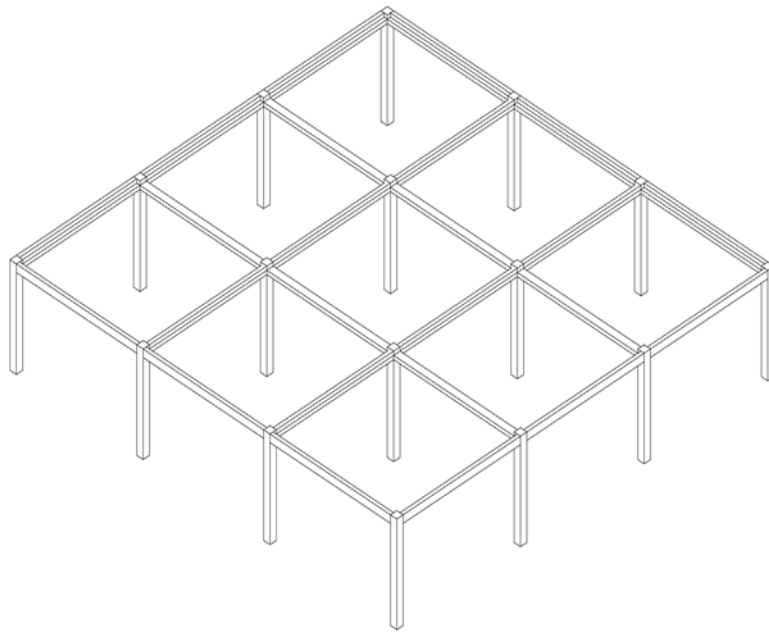
CONSTRUCTION

construction

PLINTH 10 X 10M CONCRETE COLUMNS

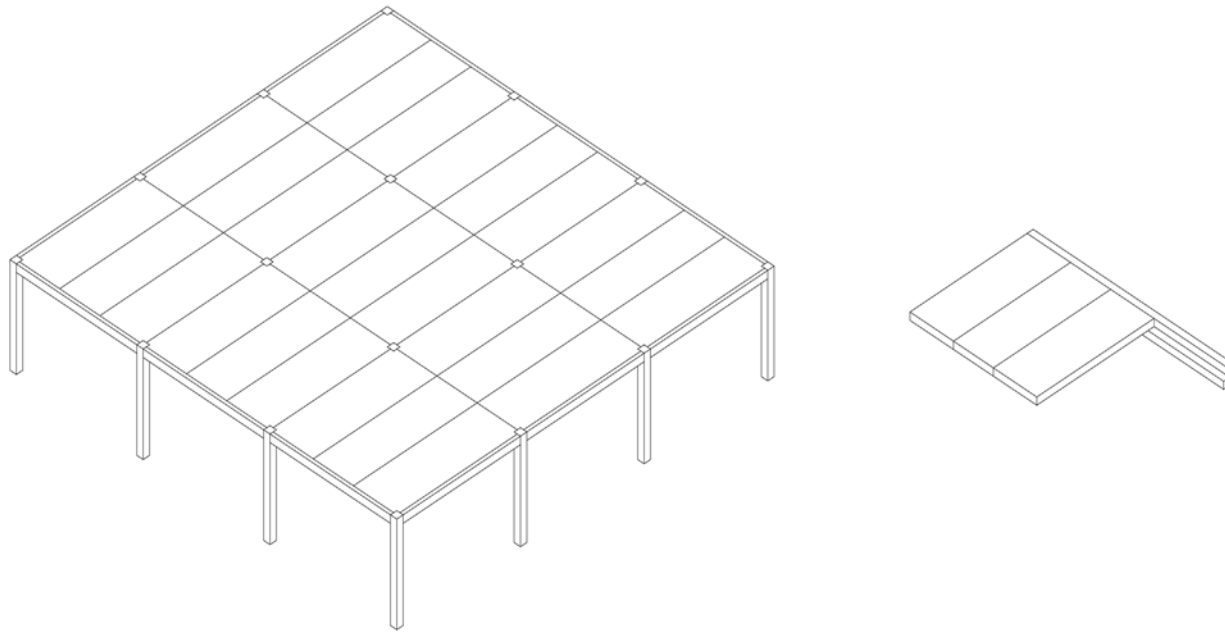


construction
L - BEAM



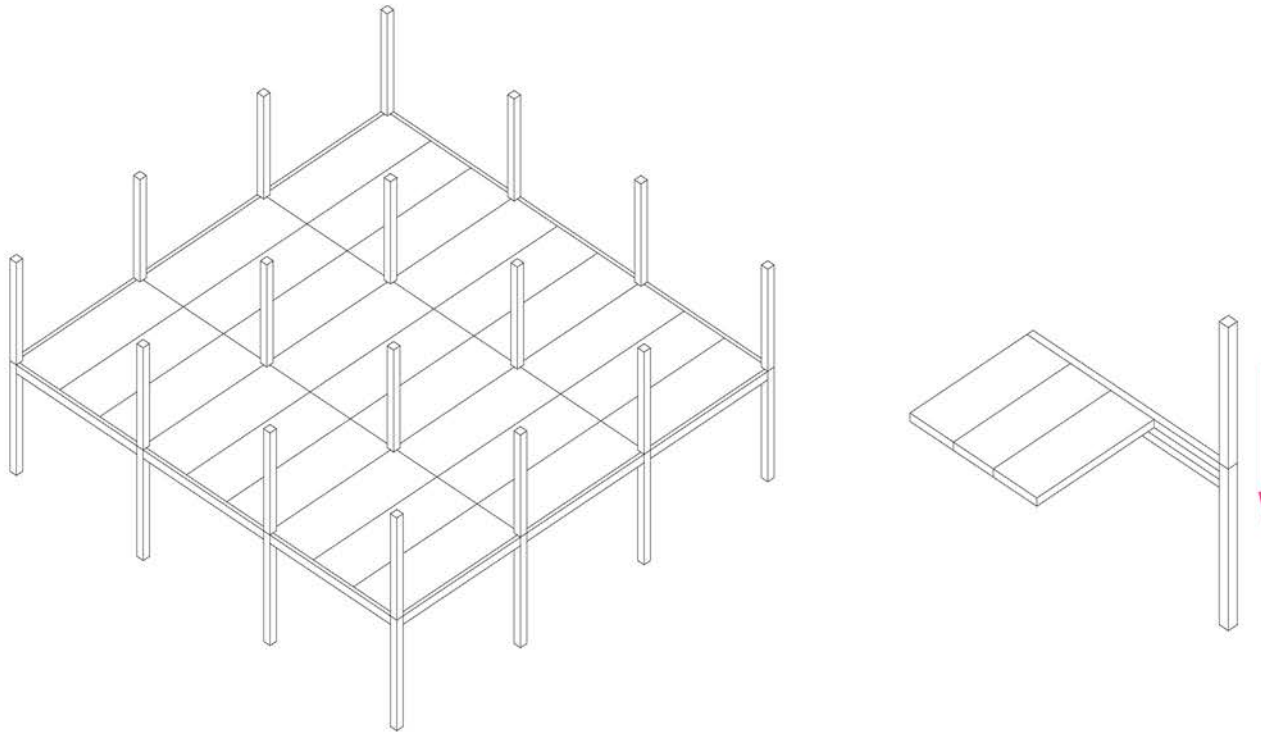
construction

CONCRETE SLAB



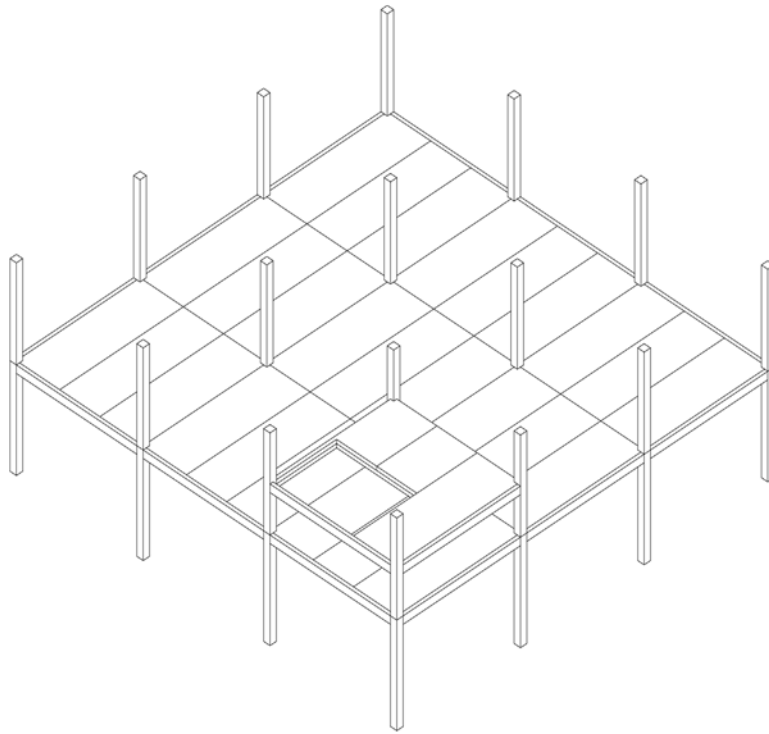
construction

DIRECT VERTICAL LOAD TRANSFER



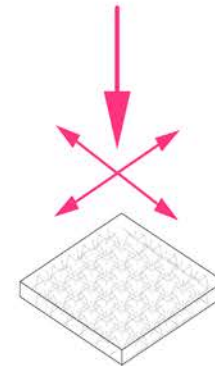
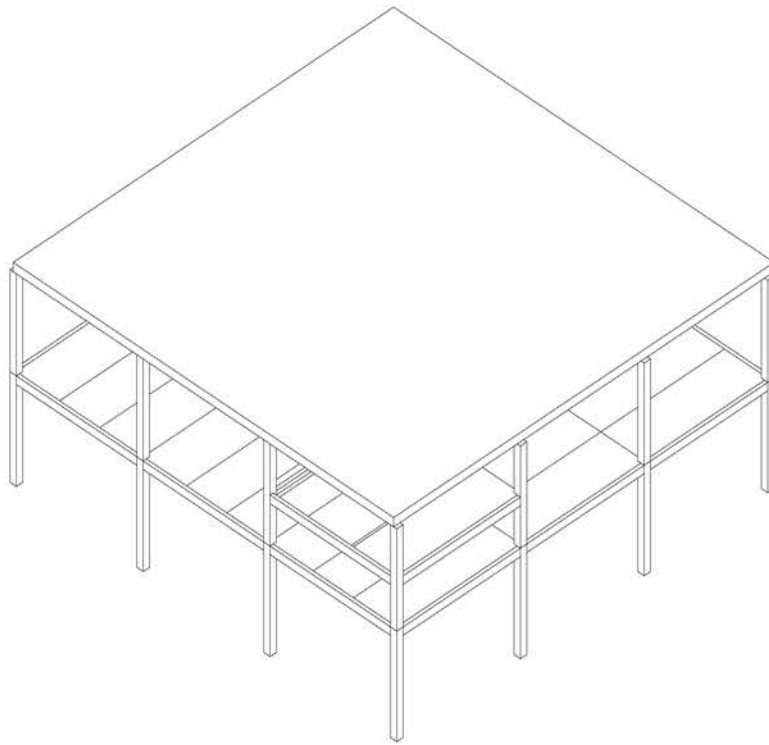
construction

INTERMEDIATE LEVEL OFFICE



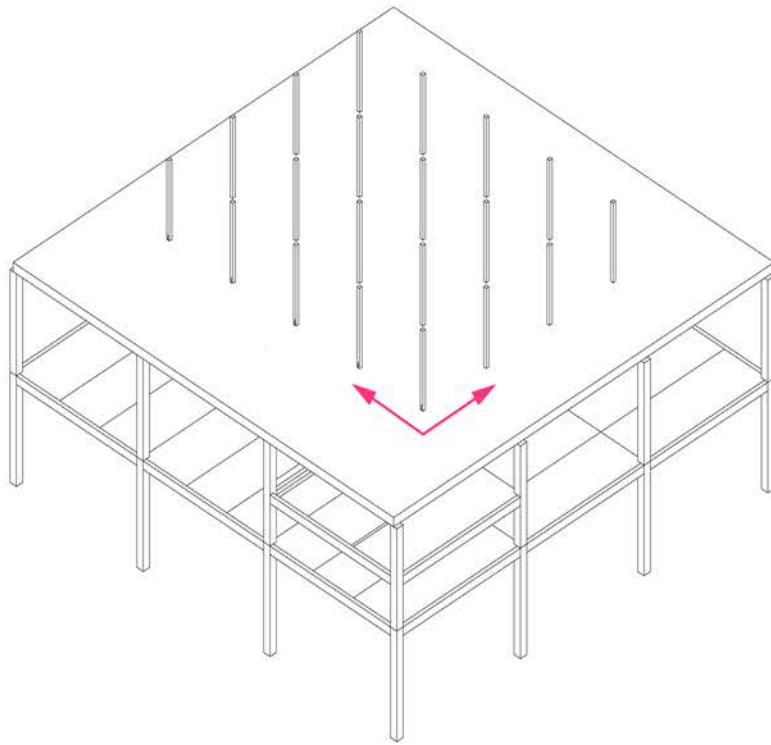
construction

WAFFLE STRUCTURE TO SPREAD THE LOAD

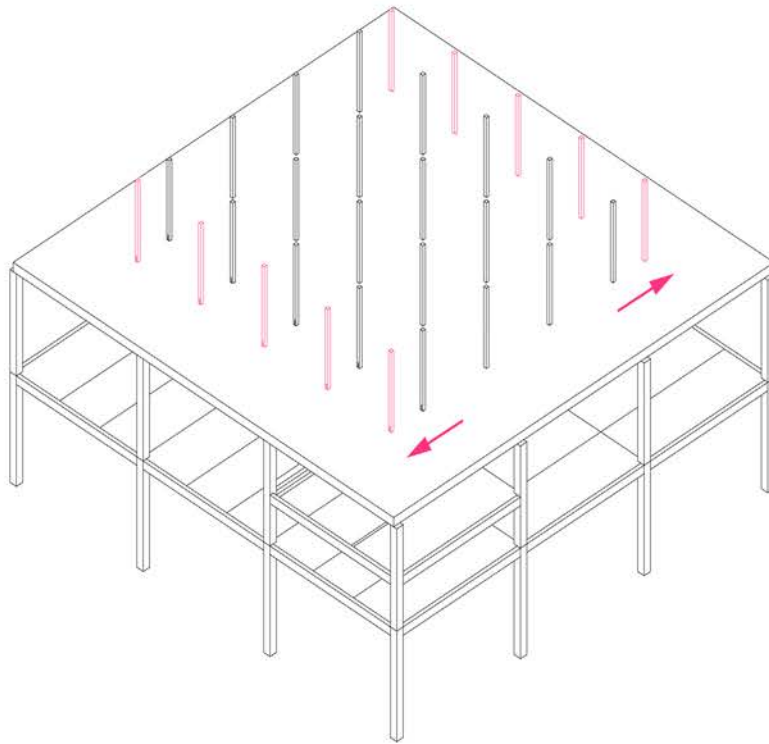


construction

5 X 5M DWELLING GRID

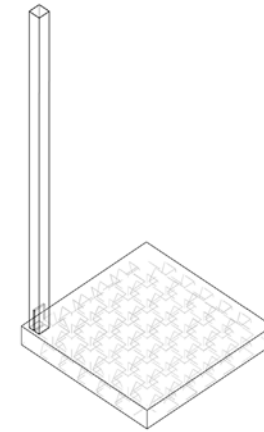
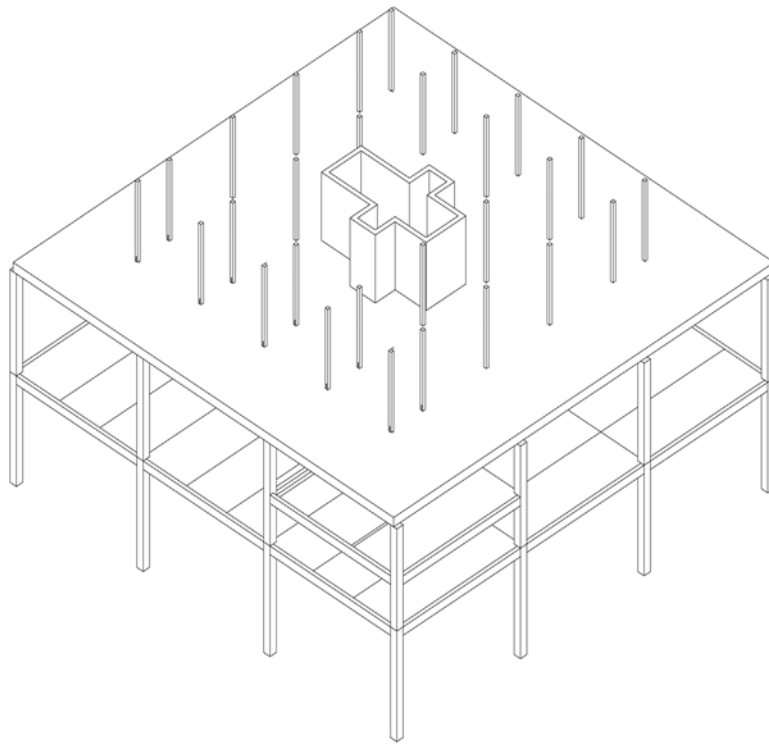


construction
ADDING 2.5M



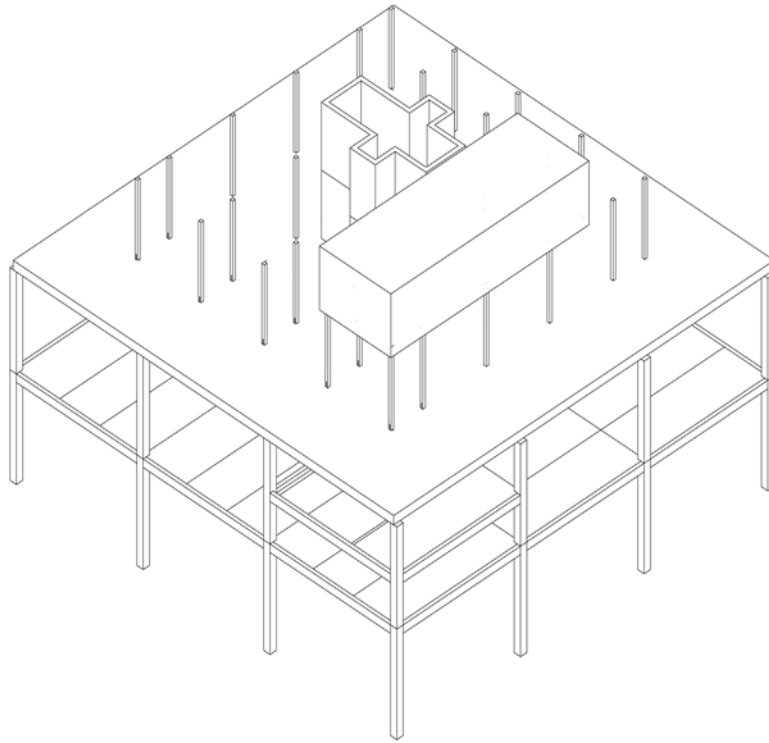
construction

WAFFLE REINFORCEMENT

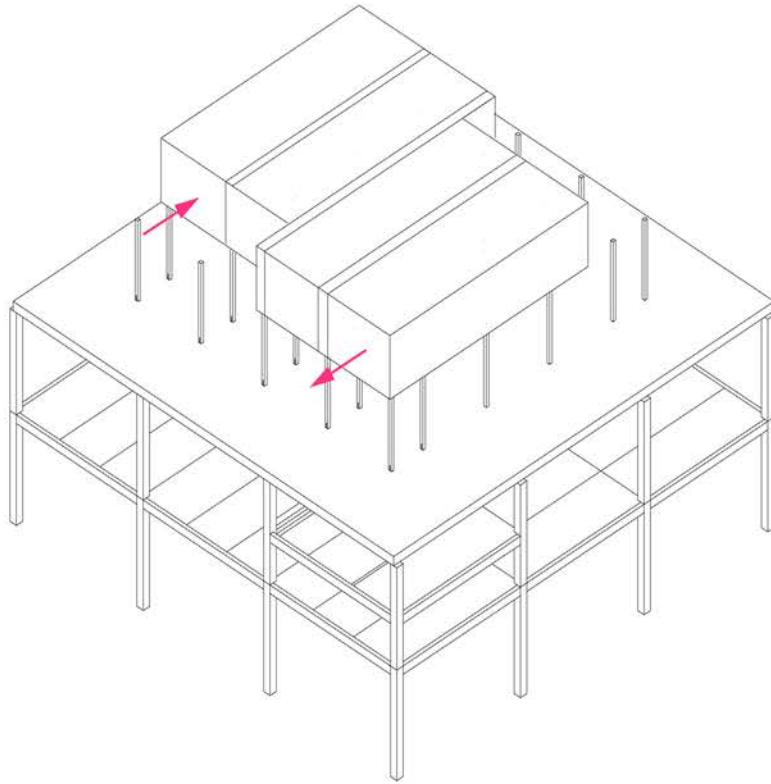


construction

MODULE 5.625 X 15.625

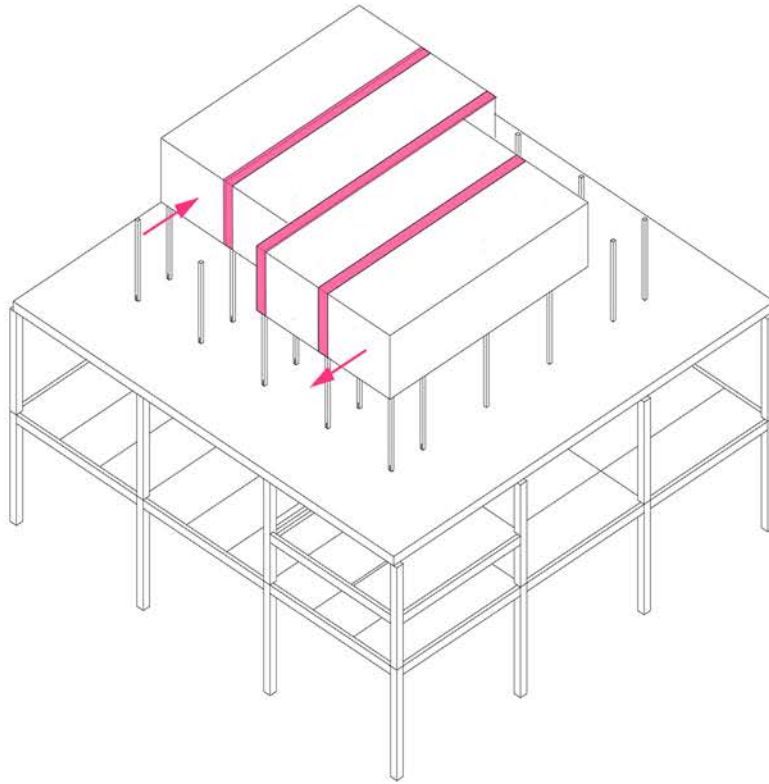


construction
SHIFTING

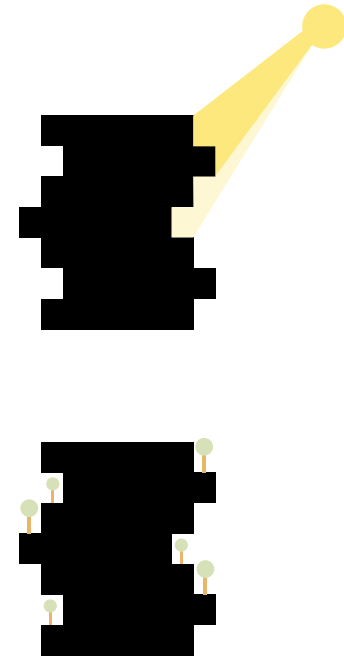
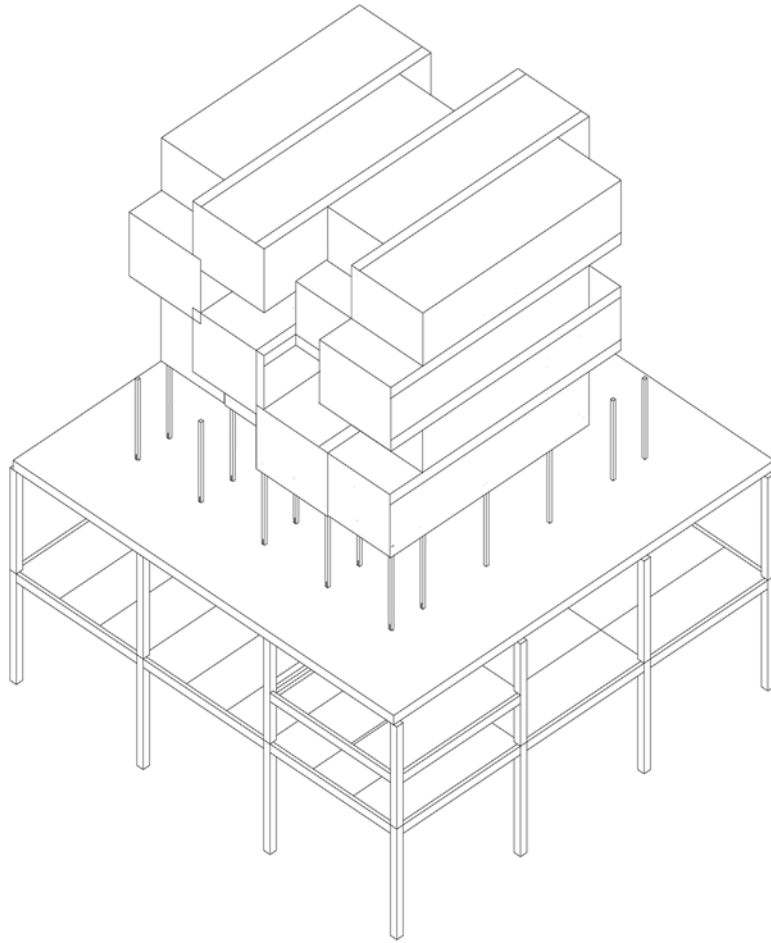


construction

CONSTRUCTION LAYER

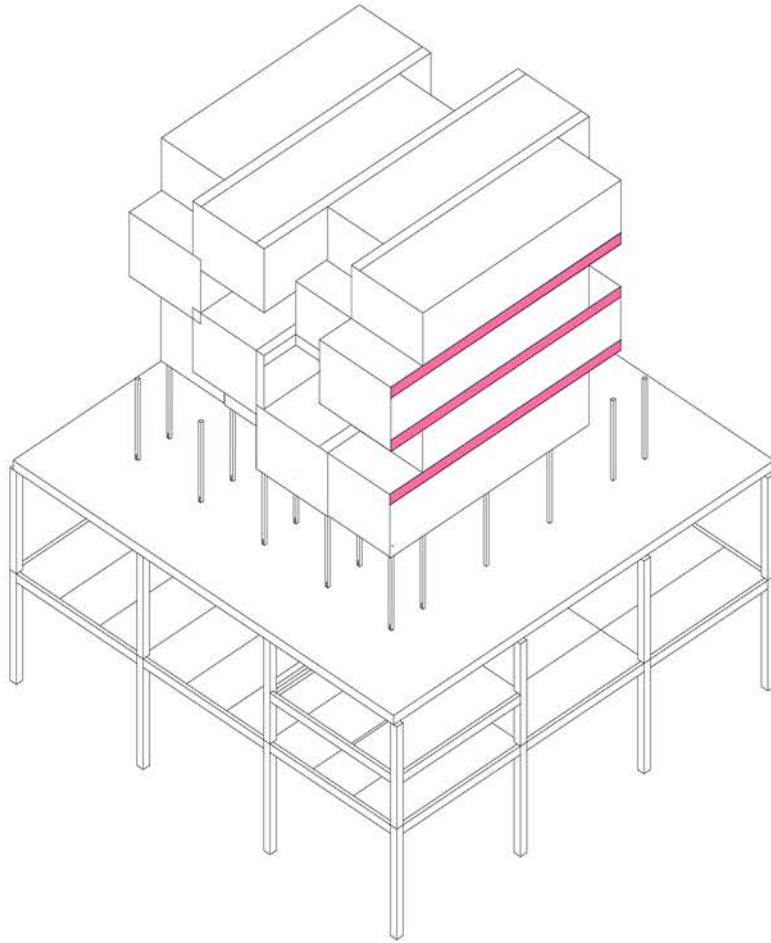


construction
STACKING



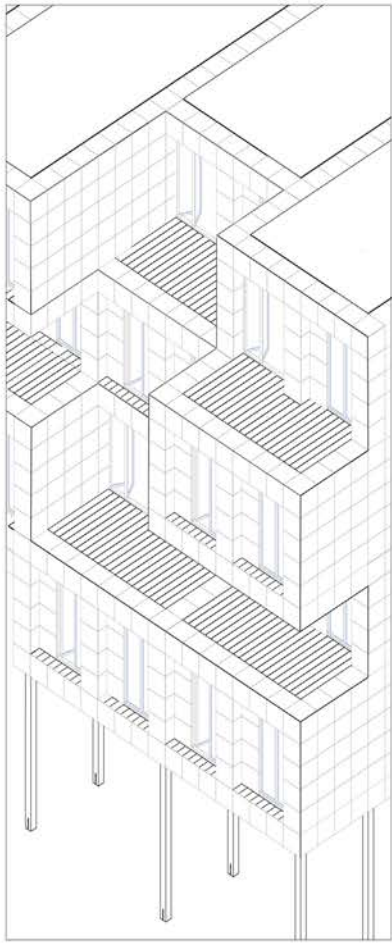
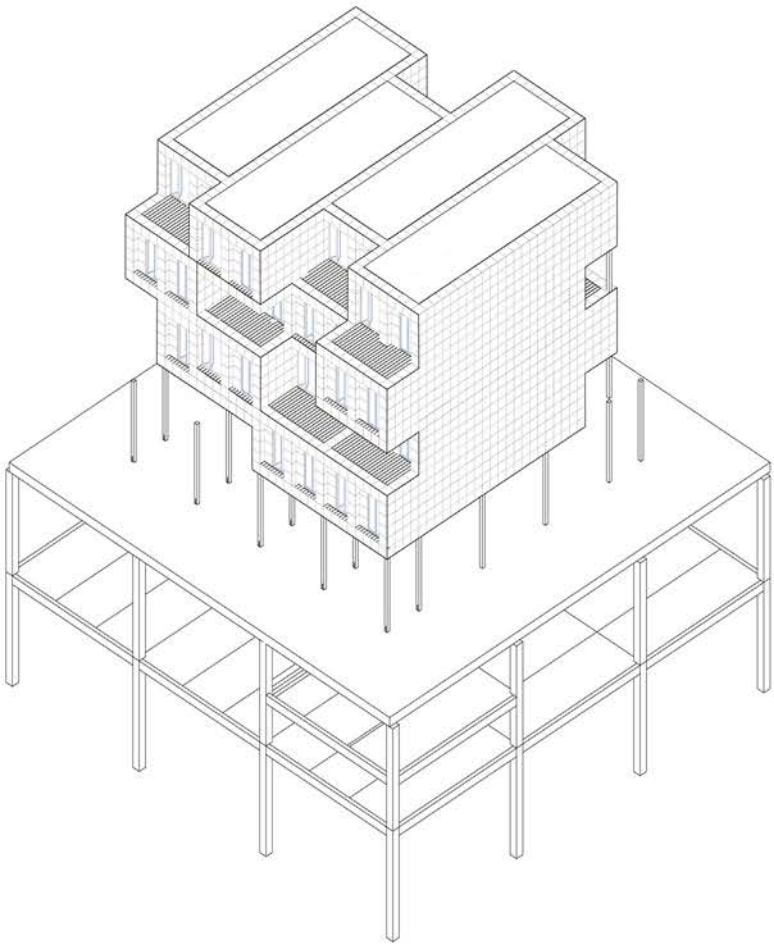
construction

VERTICAL CONSTRUCTION LAYER



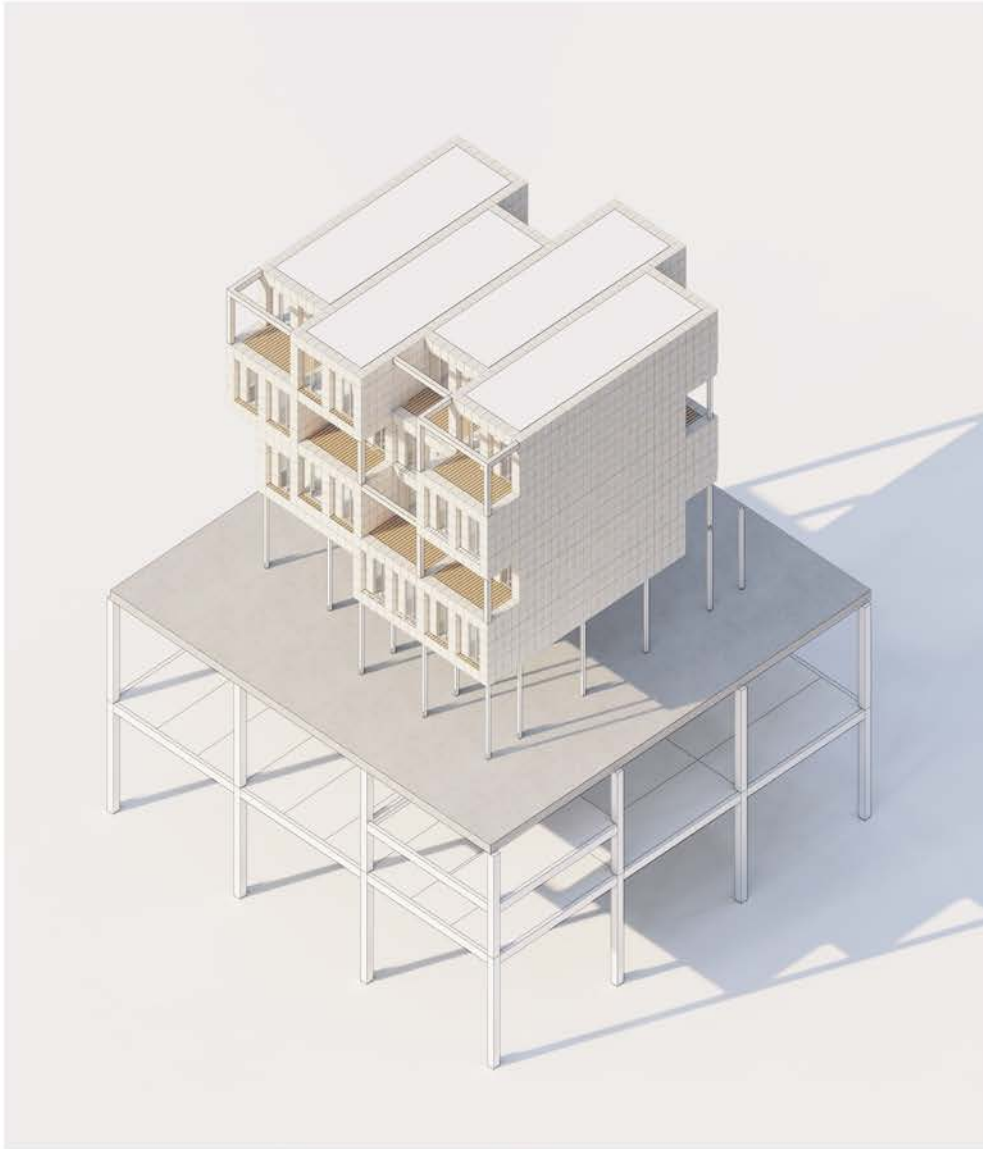
construction

FACADE DESIGN



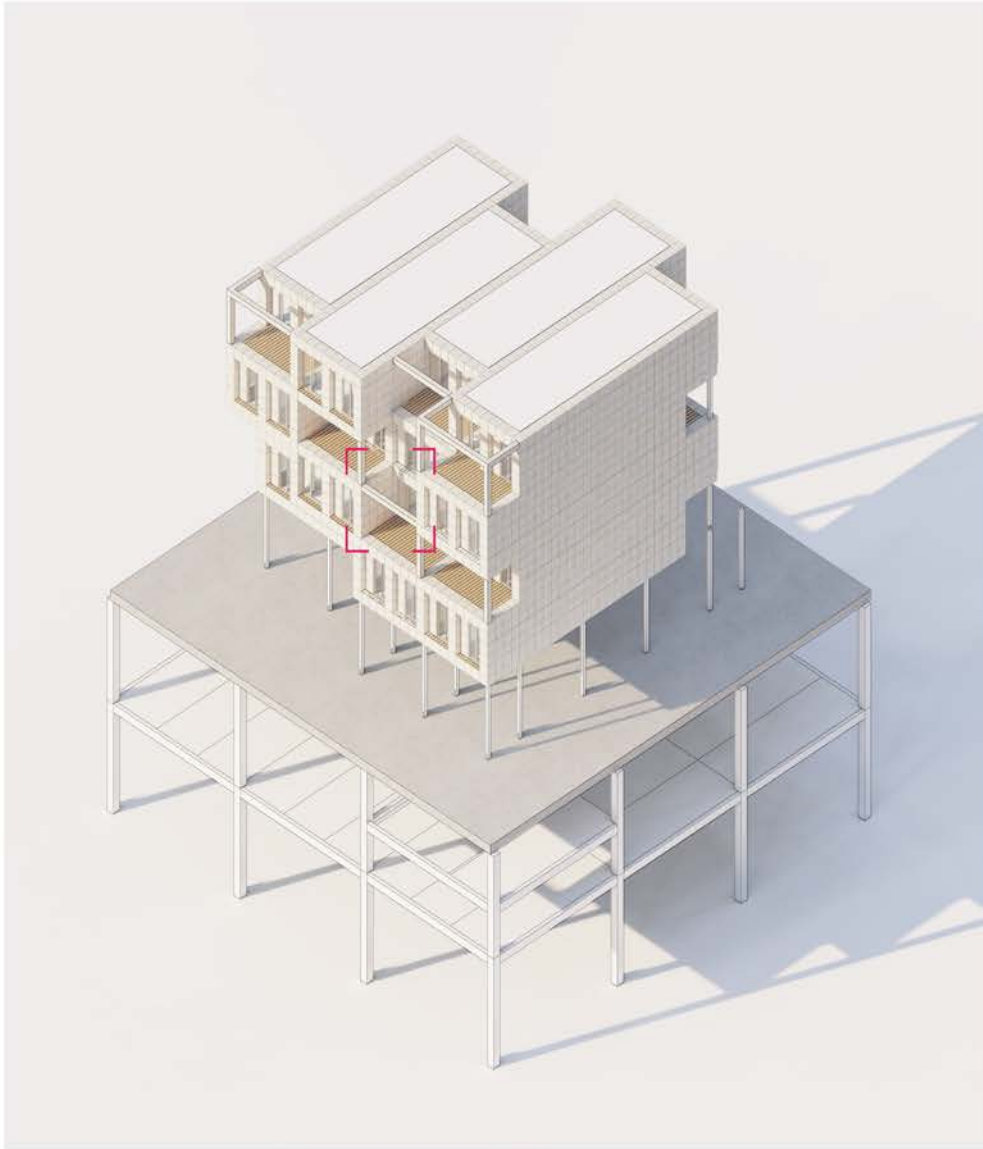
construction

OUTER LOAD BEARING SYSTEM



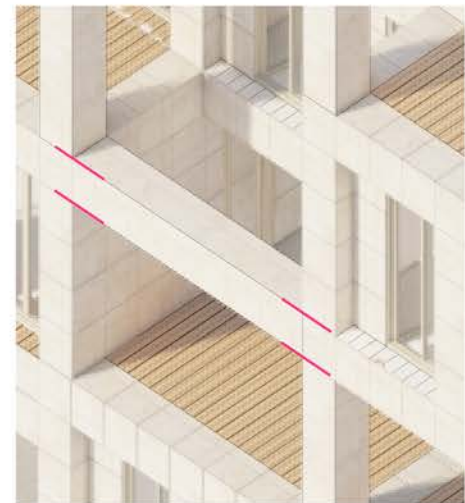
construction

SHIFTING CHALLENGE



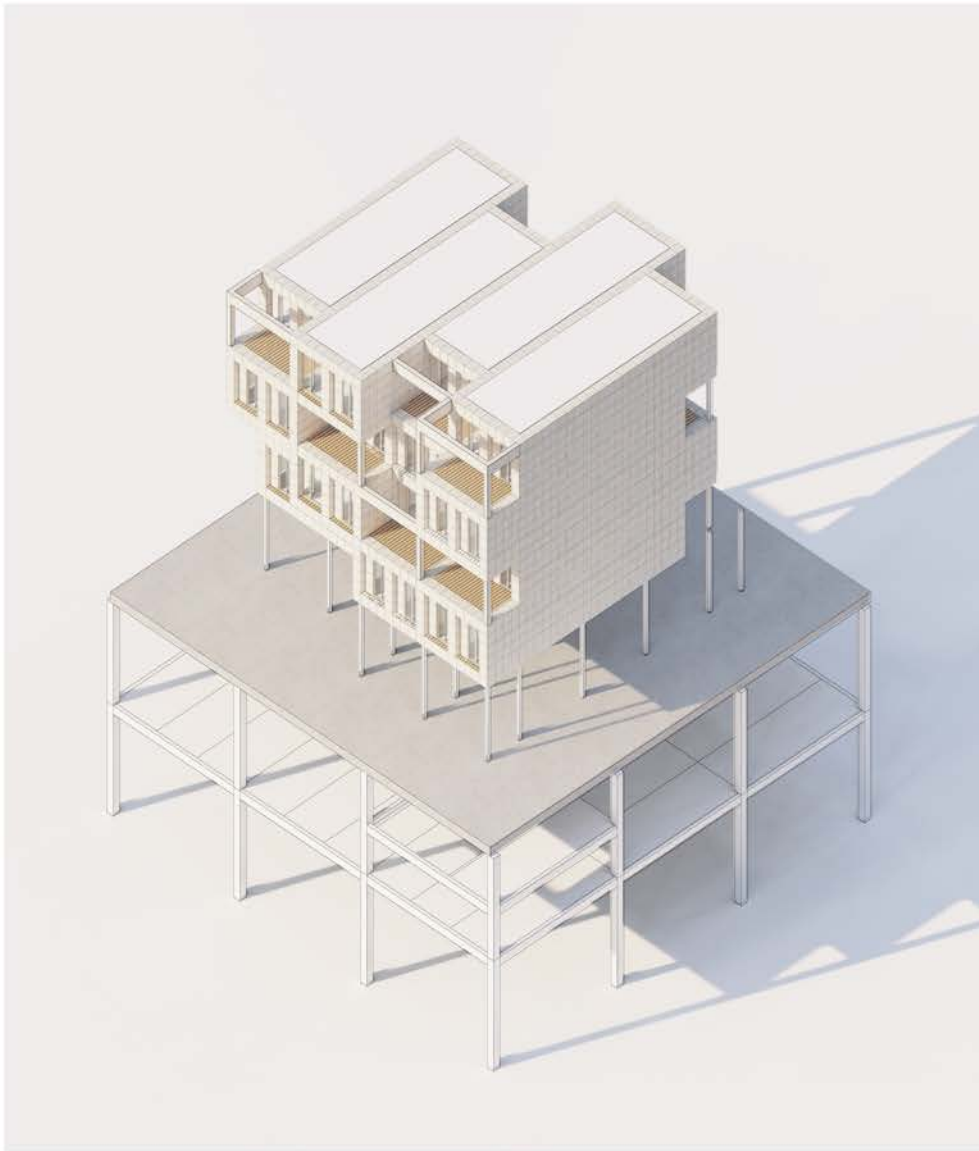
construction

CHALLENGE OPTION MASSIVE



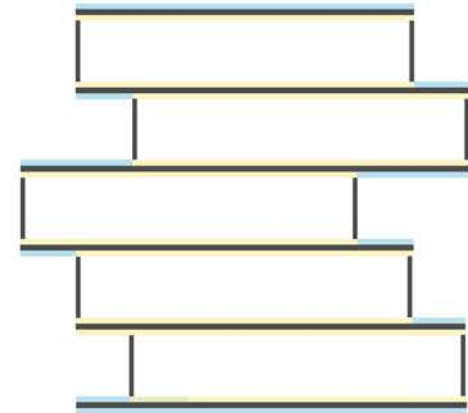
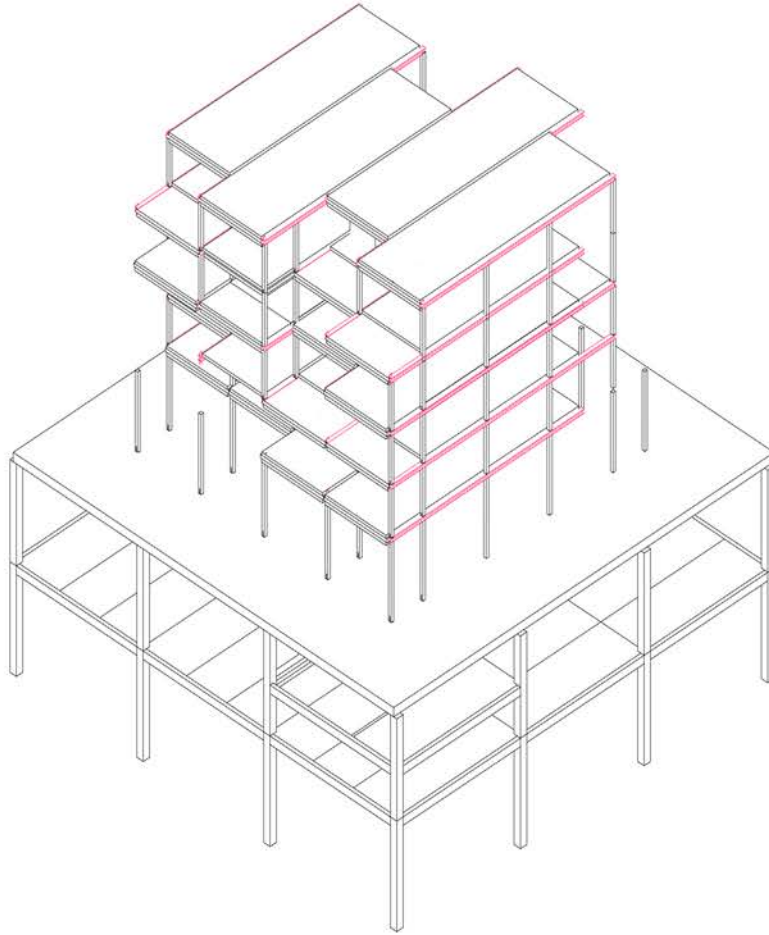
construction

CHALLENGE OPTION HYBRID



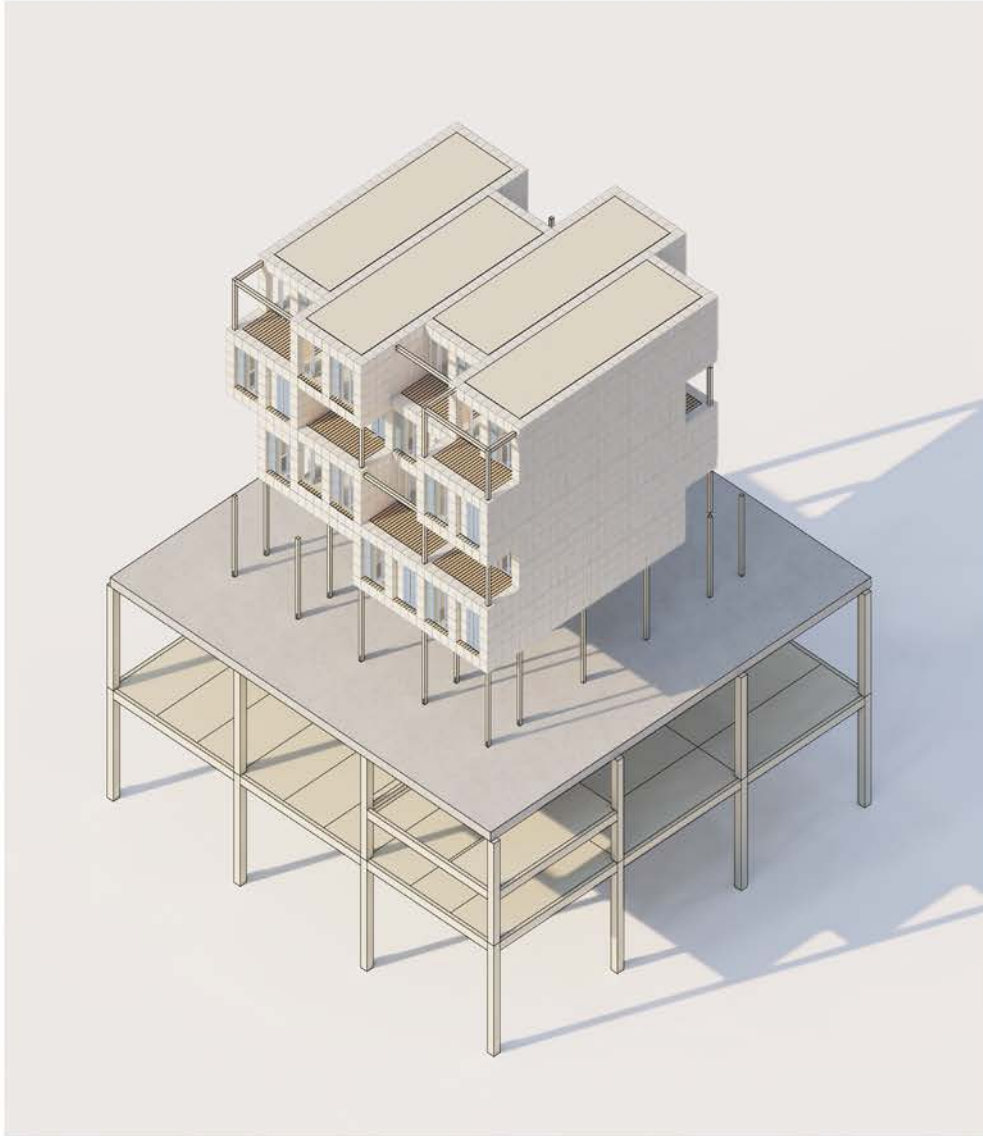
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INSULATION SHIFTS



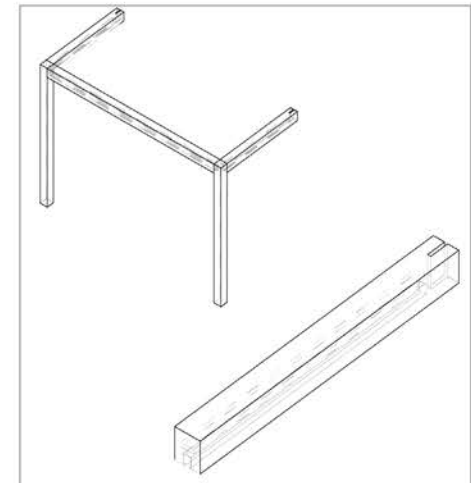
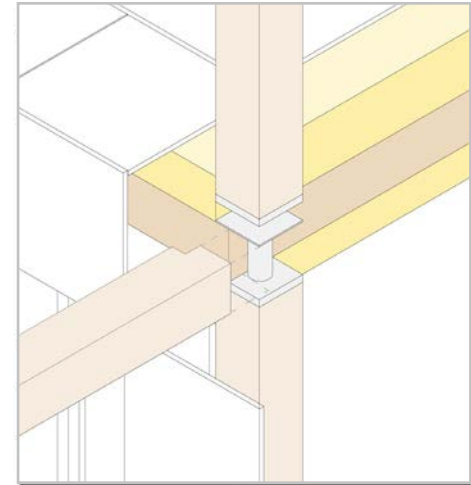
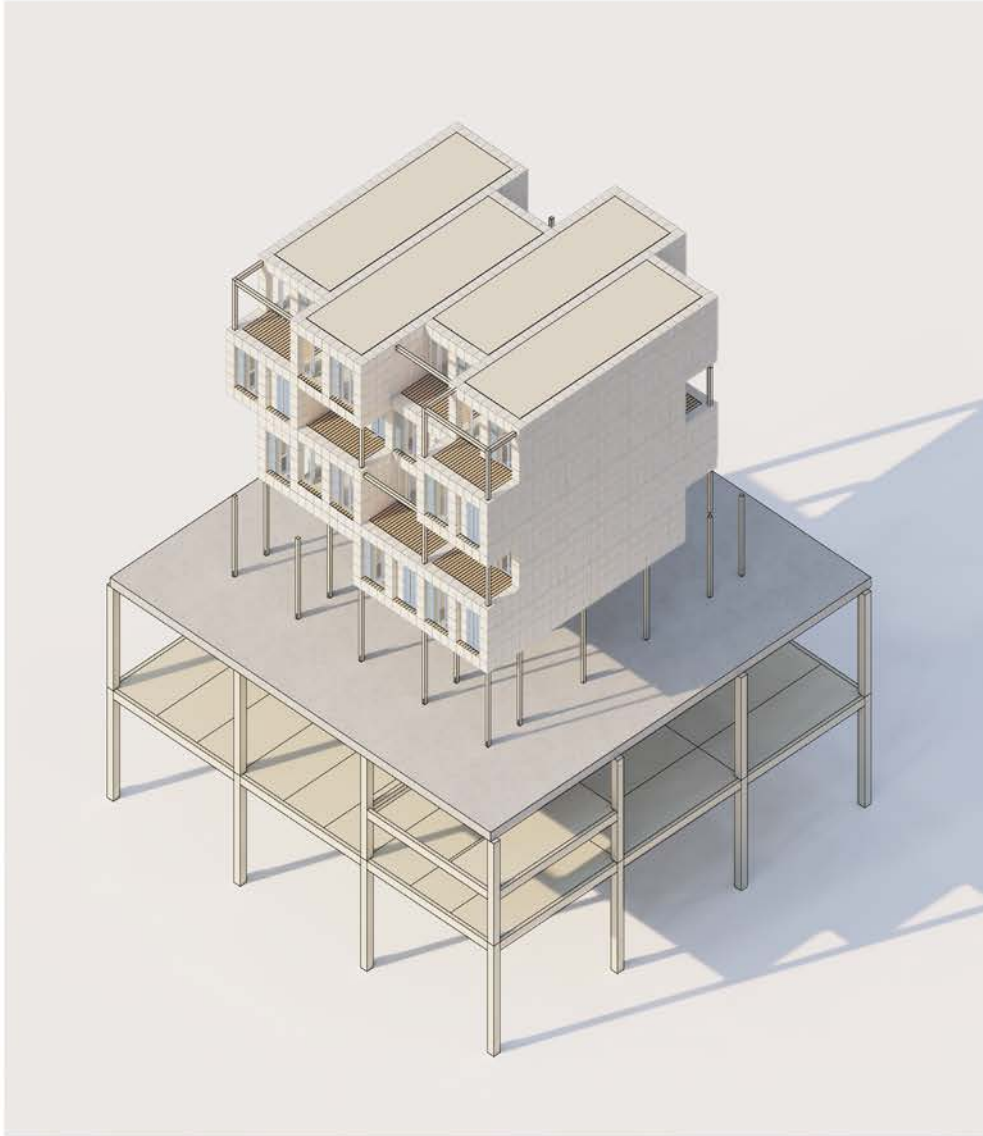
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CHALLENGE SOLUTION



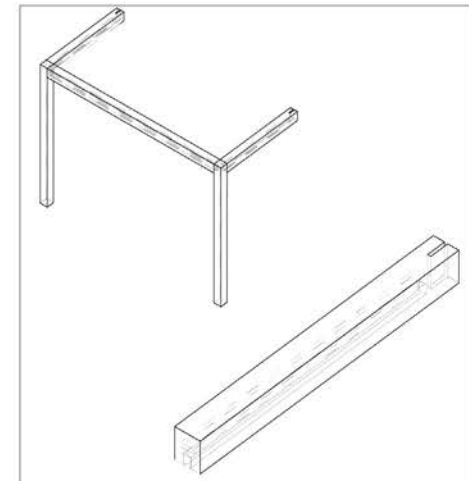
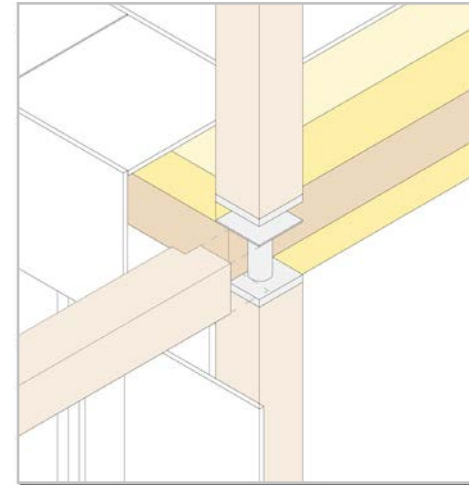
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LOAD-BEARING SYSTEM



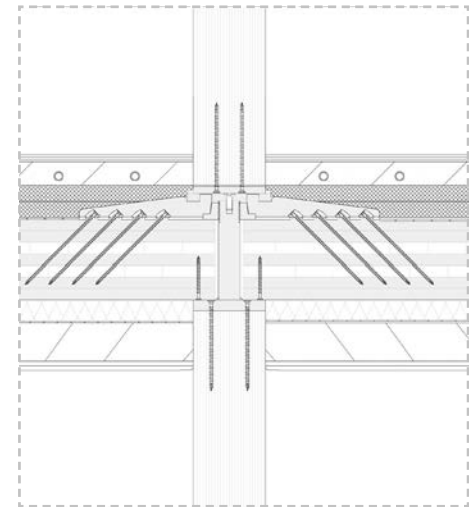
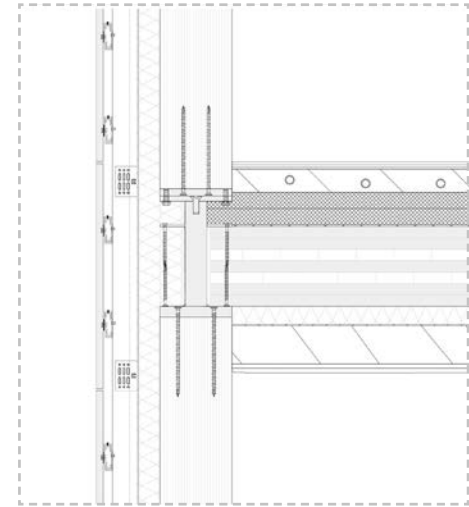
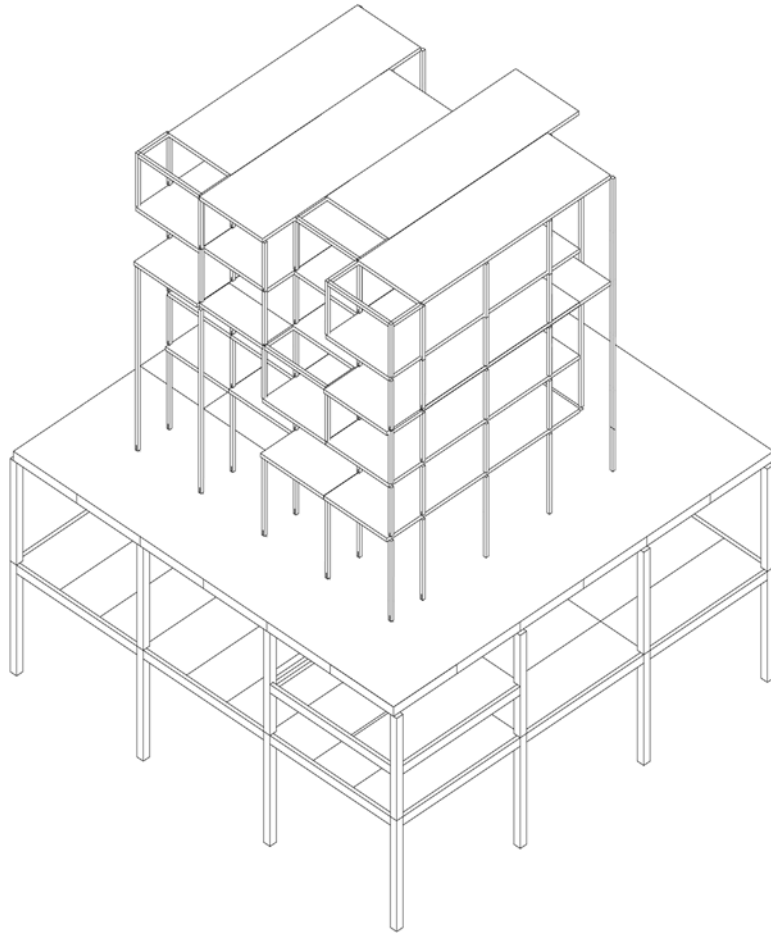
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MODULAR POSSIBILITIES



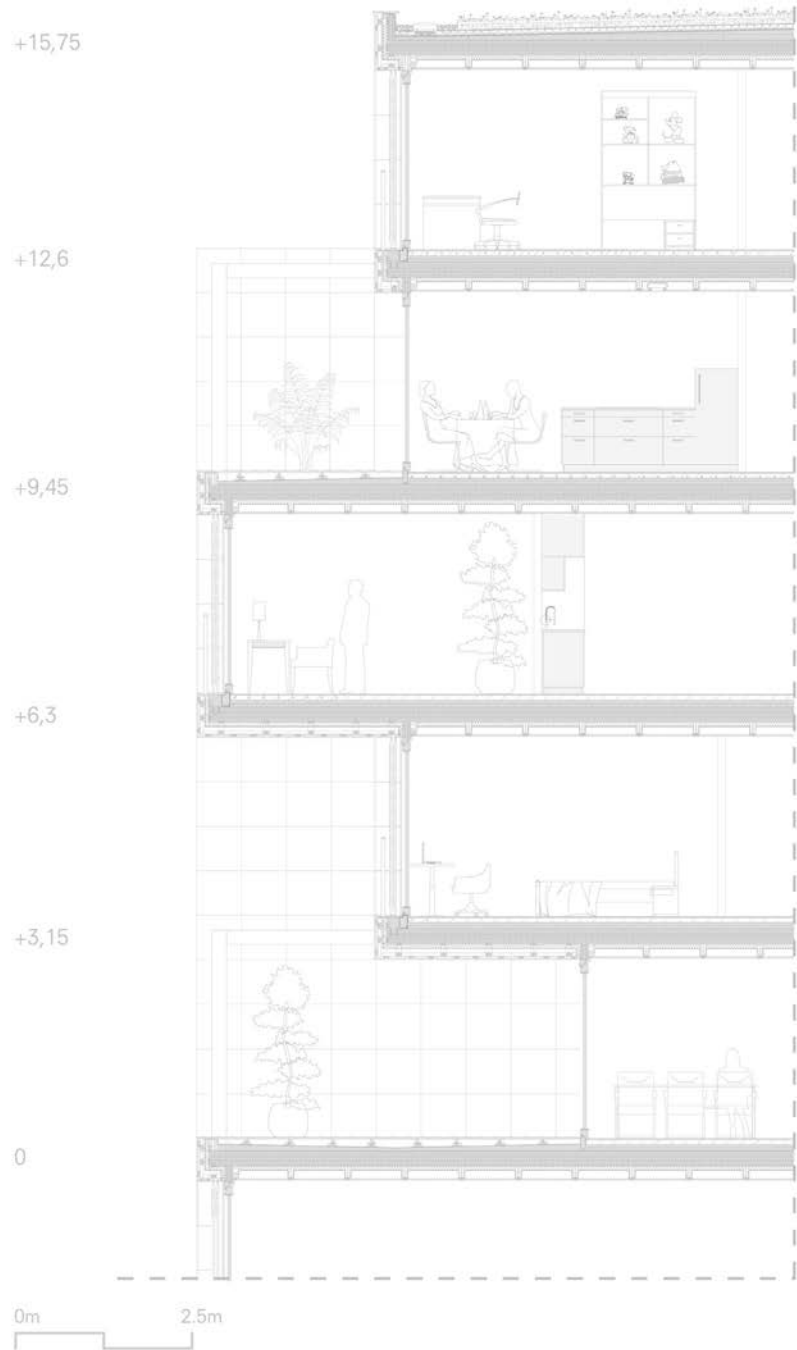
construction

COLUMNS + CLT SLAB

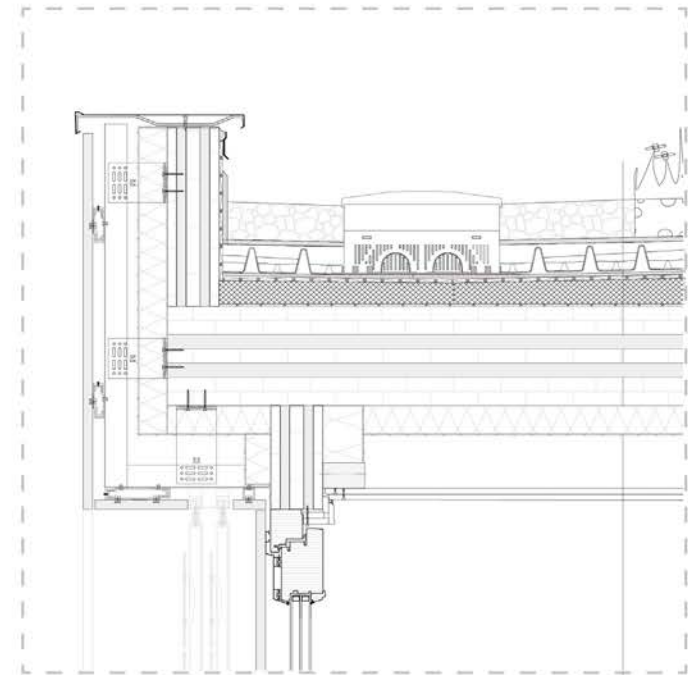
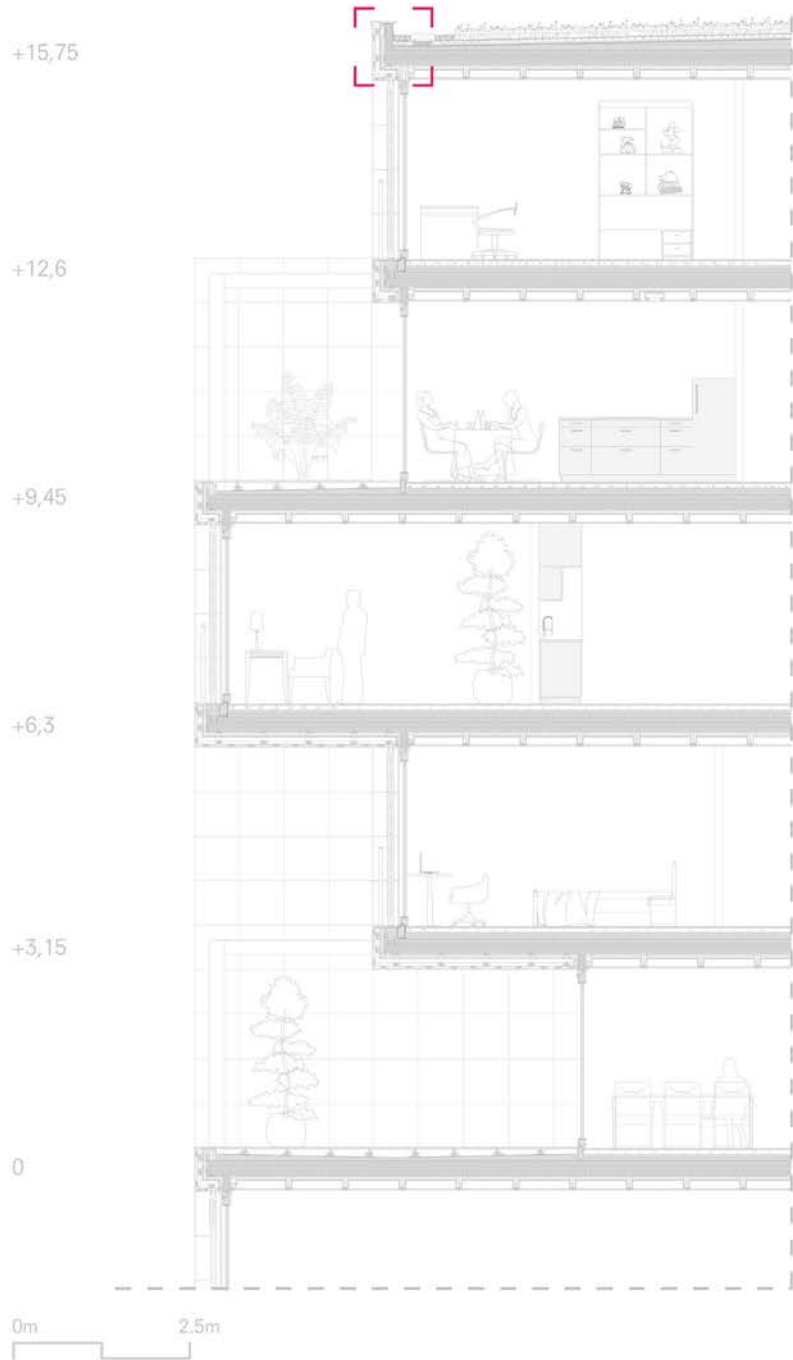


construction

ENVELOPE FRAGMENT 1:20



construction
ROOF 1:5

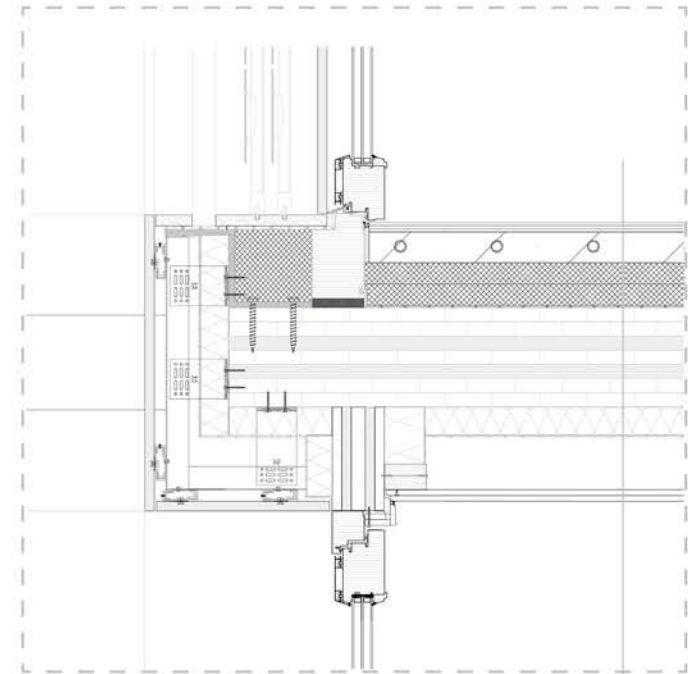
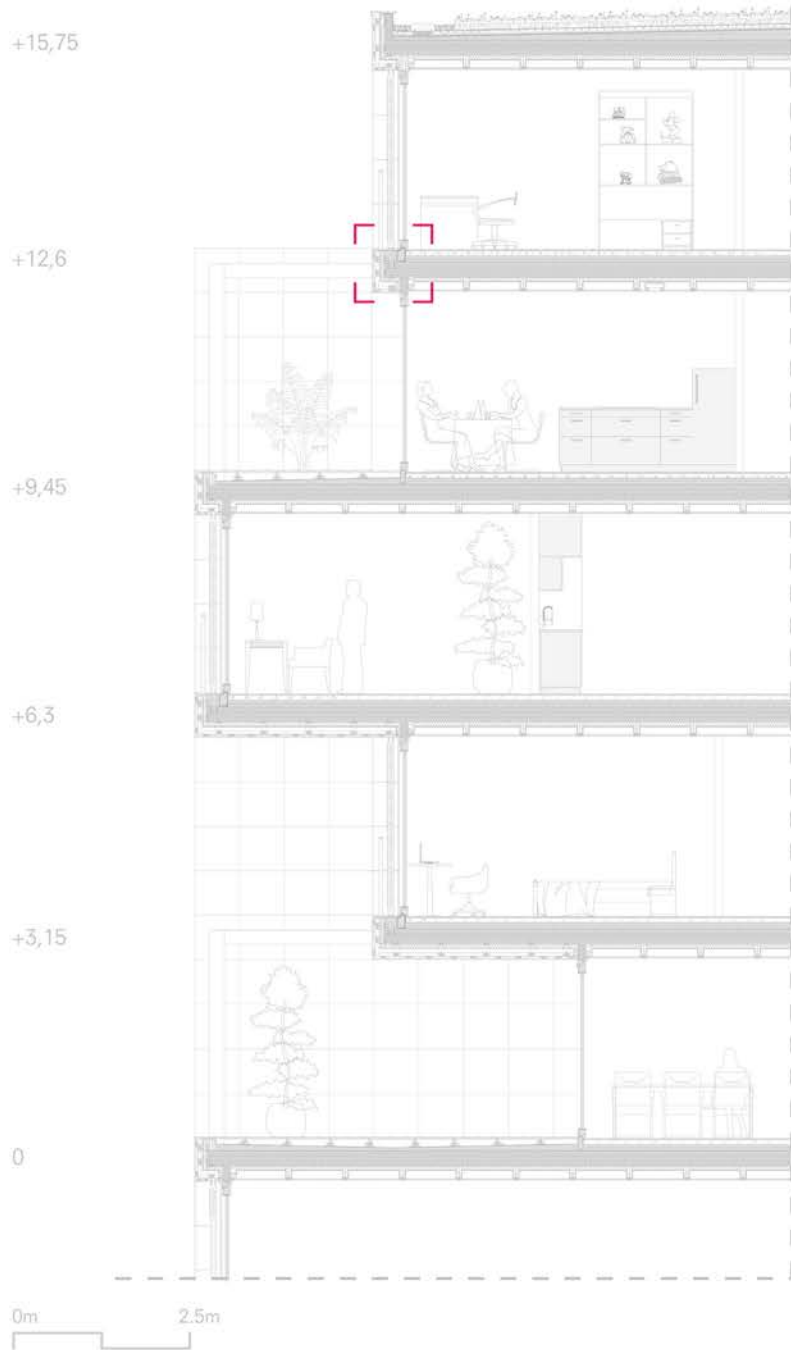


PLANTING
 EXTENSIVE SUBSTRATE
 GRAVEL STRIP
 FILTER FLEECE FIL 105
 WATER RETENTION ELEMENT
 PROTECTION FLEECE
 BITUMEN WATERPROOFING MEMBRAN
 SLOPE INSULATION
 210mm CLT, LL-210/7s

RETENTION VOLUME. ca. 32l/m²
 WATER RESERVOIR: 55-100l/m²

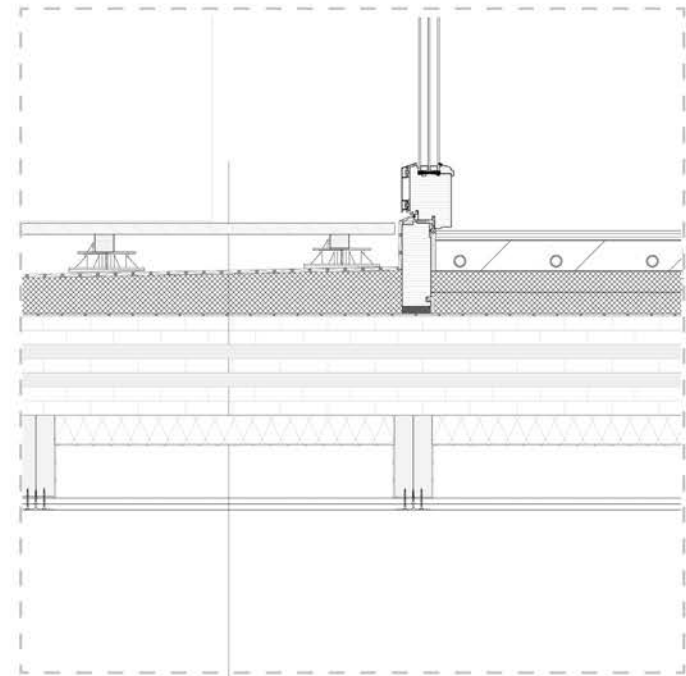
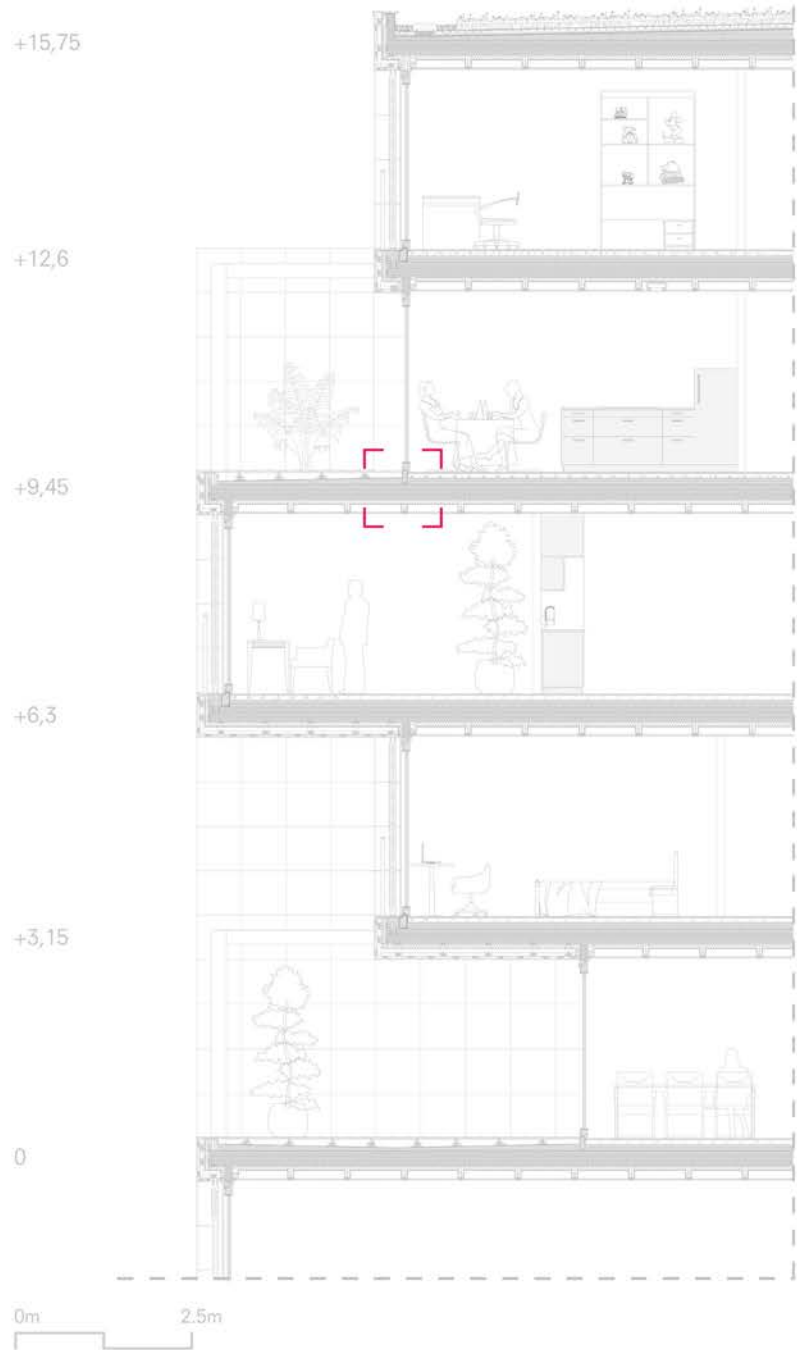
construction

FRENCH BALCONY 1:5



- 04mm PVC FLOORING
- 85mm SCREED + FLOOR HEATING
- 30mm x 2 SOUND INSULATION
- VAPOR BARRIER
- 210mm CLT, LL-210/7s
- WOODEN BEAMS 270x80
- 240mm CELLULOSE INSULATION
- VAPOR BARRIER
- 25mm PLASTERBOARD (2 * 12,5mm, joint staggered)

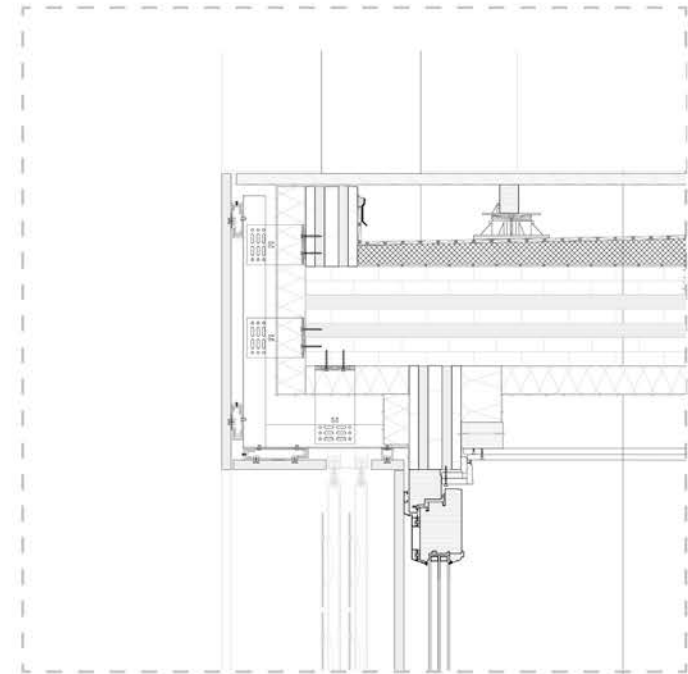
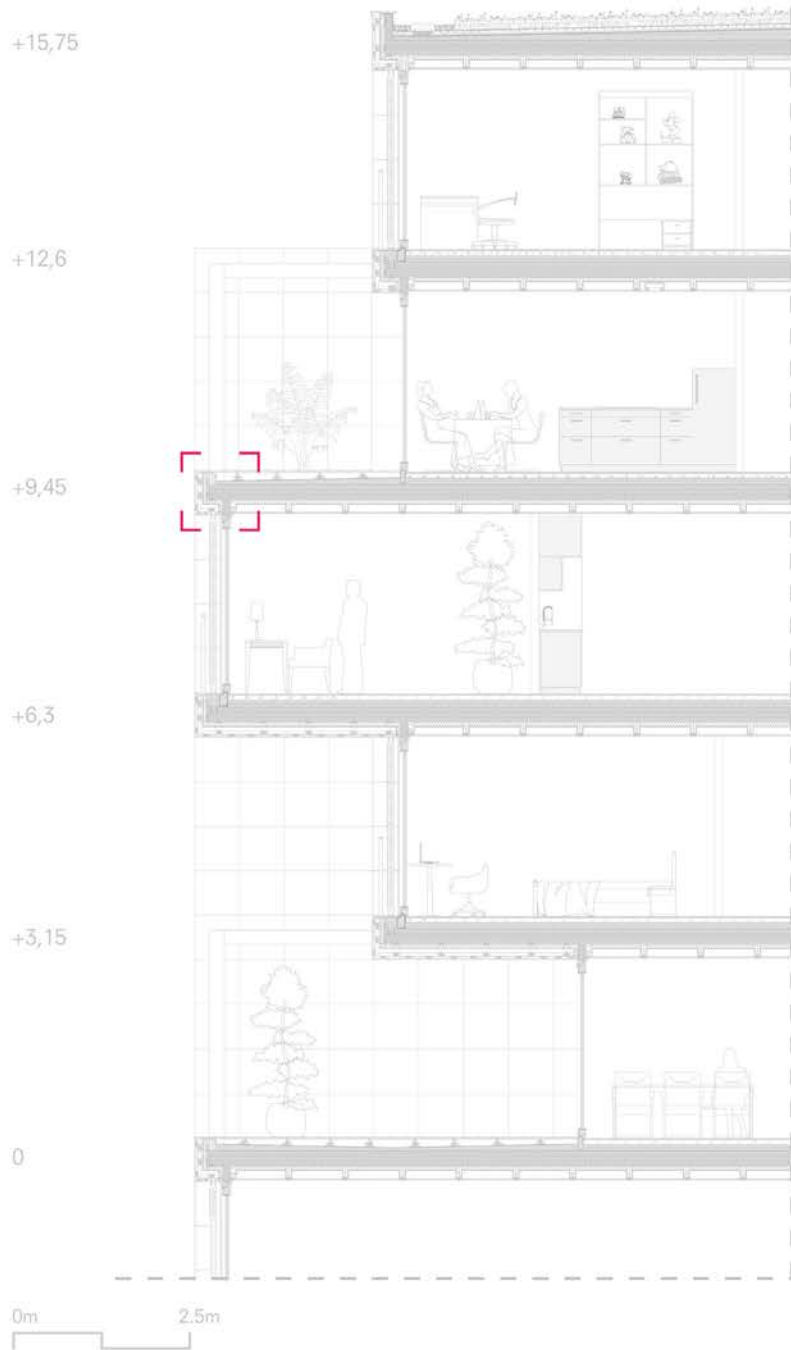
construction
BALCONY 1:5



NON-SLIP WOOD FLOORING
CONSTRUCTION WOOD
STILT BEARING ADJUSTABLE FEET
HEIGHT 35-70mm
BITUMEN - WATERPROOFING
MEMBRANE
SLOPE INSULATION
VAPOR BARRIER
210mm CLT, LL-210/7s

construction

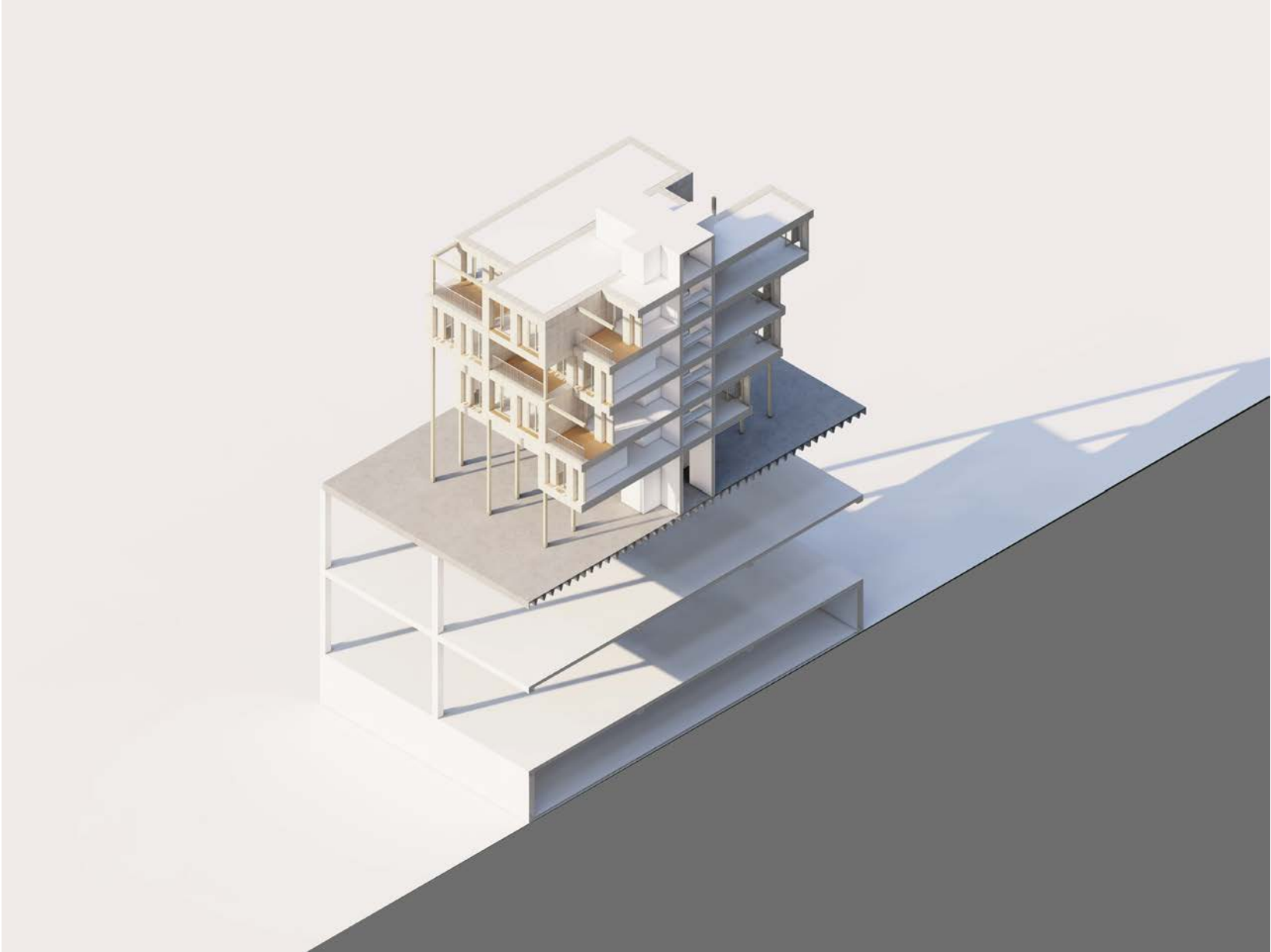
BALCONY CORNER 1:5



20mm OAK
85mm SCREED + FLOOR HEATING
30mm x 2 SOUND INSULATION
VAPOR BARRIER
210mm CLT, LL-210/7s
WOODEN BEAMS 270x80
240mm CELLULOSE INSULATION
VAPOR BARRIER
25mm PLASTERBOARD (2 * 12,5mm,
joint staggered)

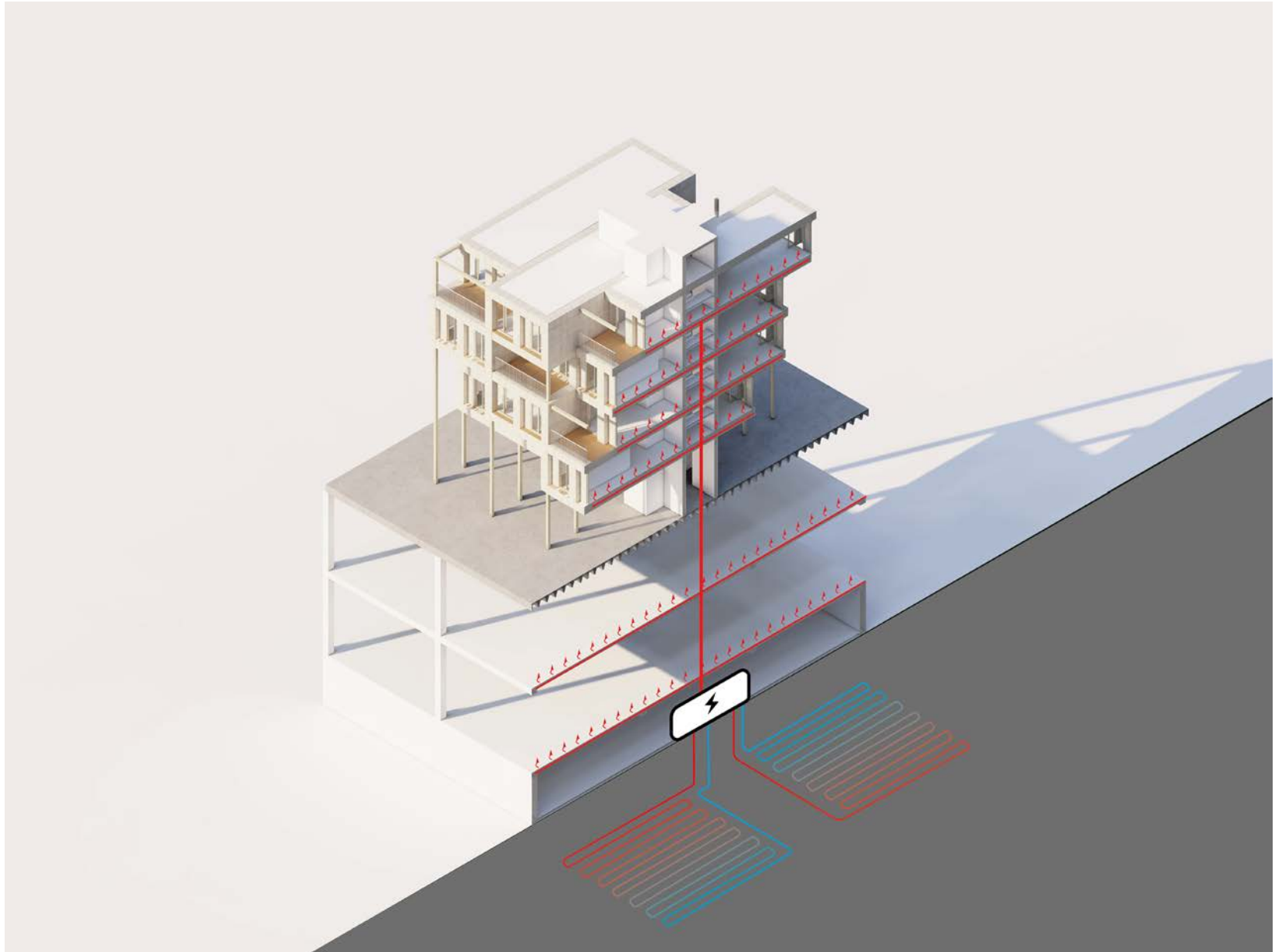
climate

CLIMATE CONCEPT



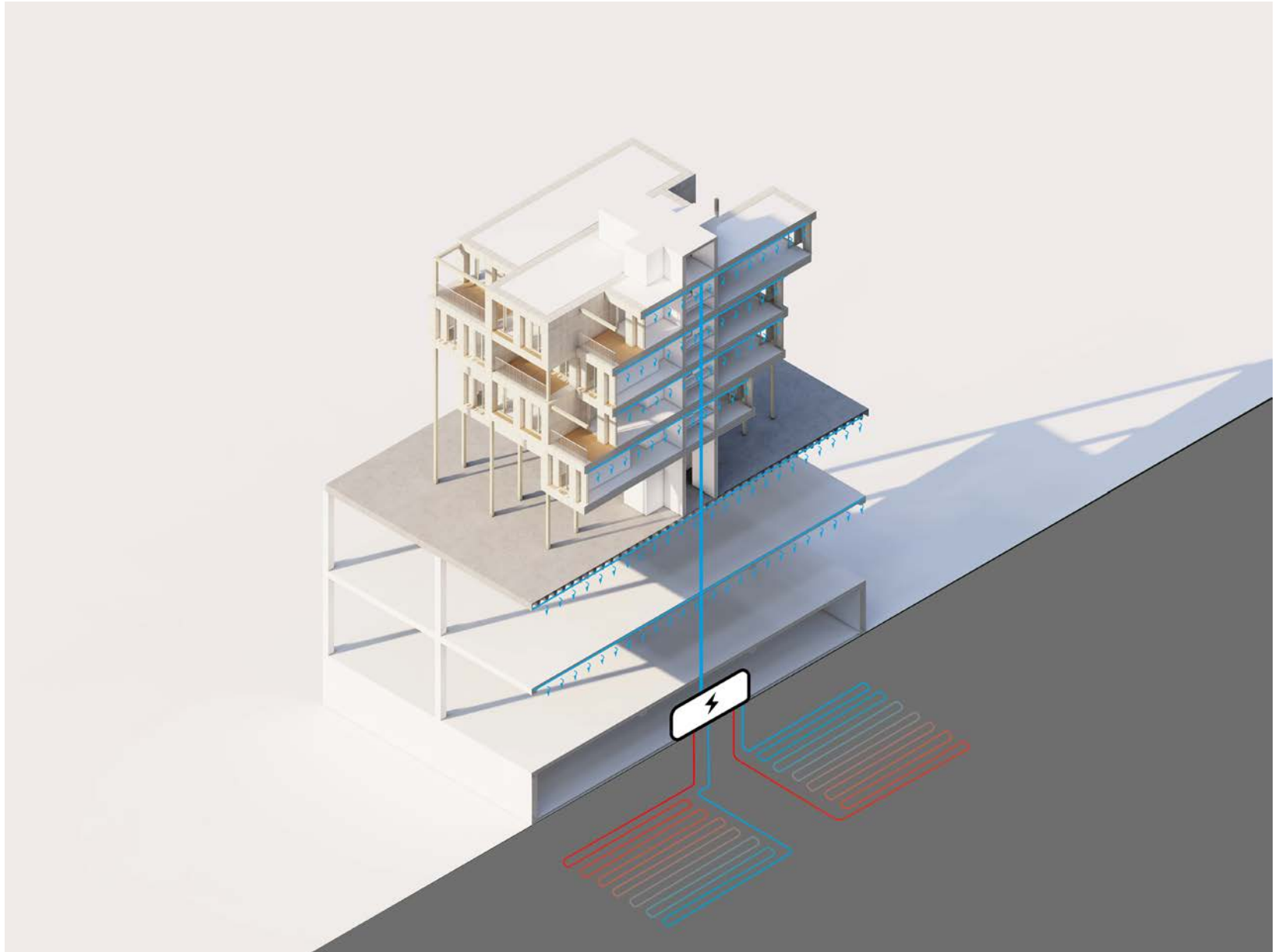
climate

GEOHERMAL SURFACE COLLECTOR



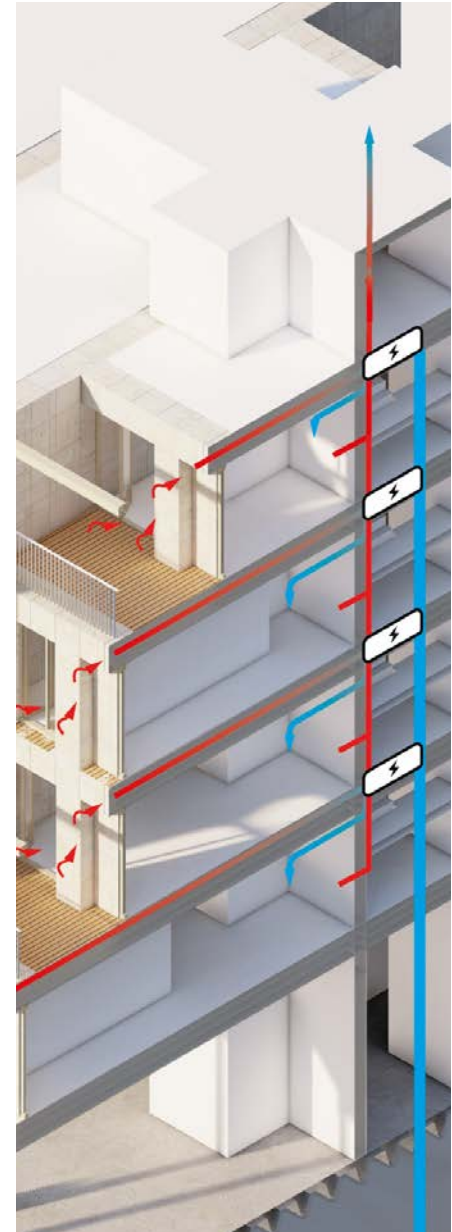
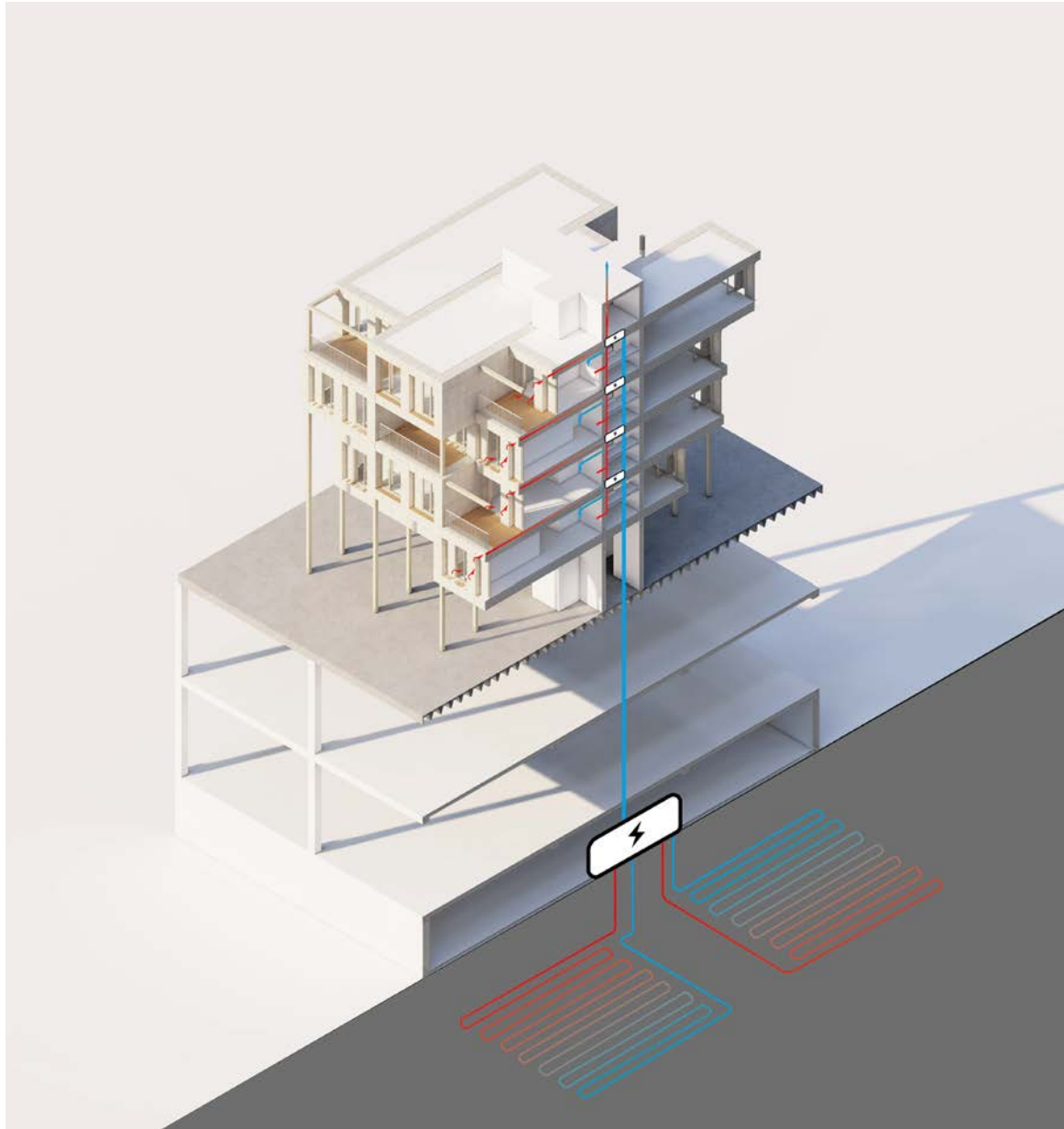
climate

RADIANT COOLING PANELS

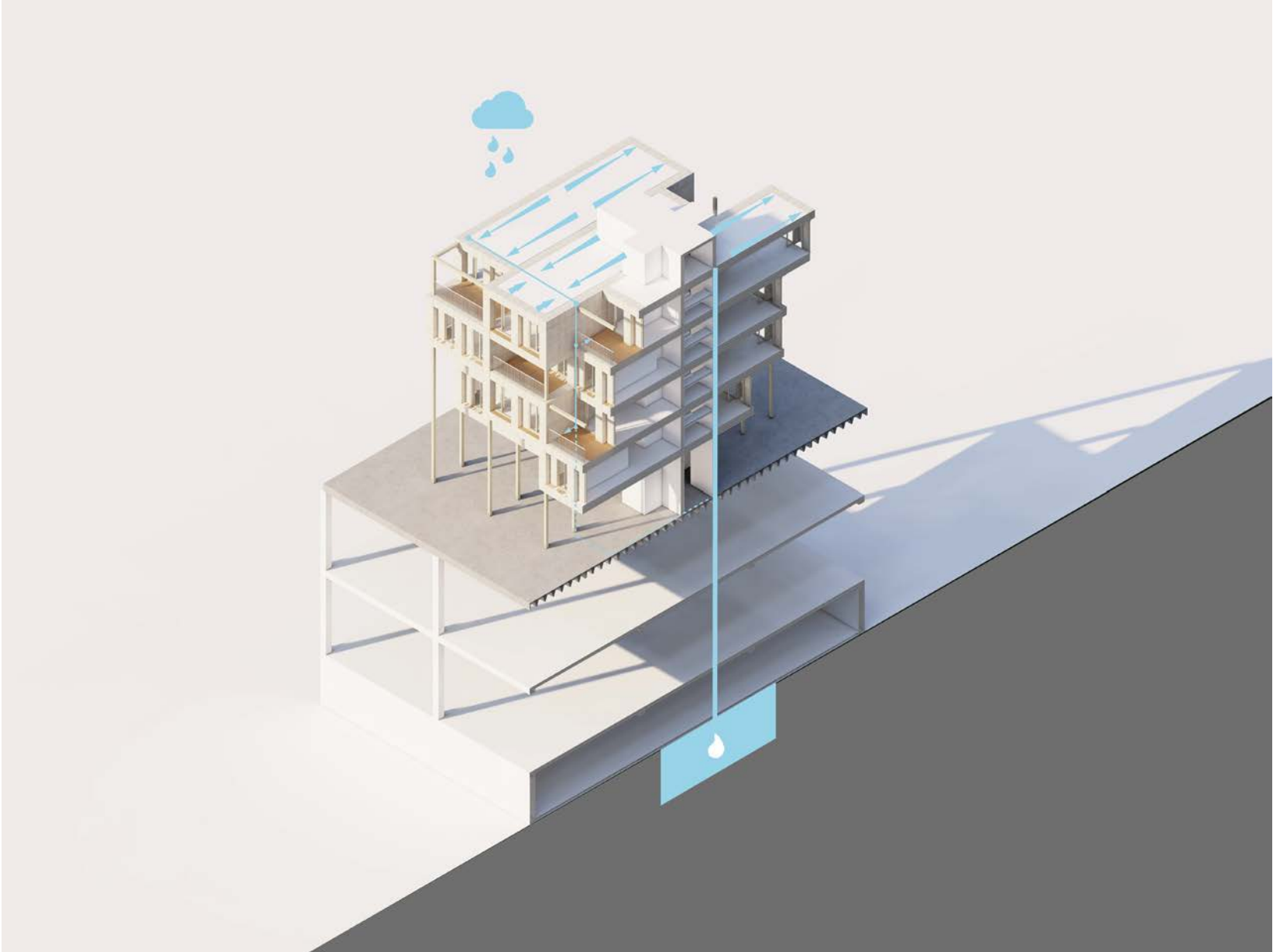


climate

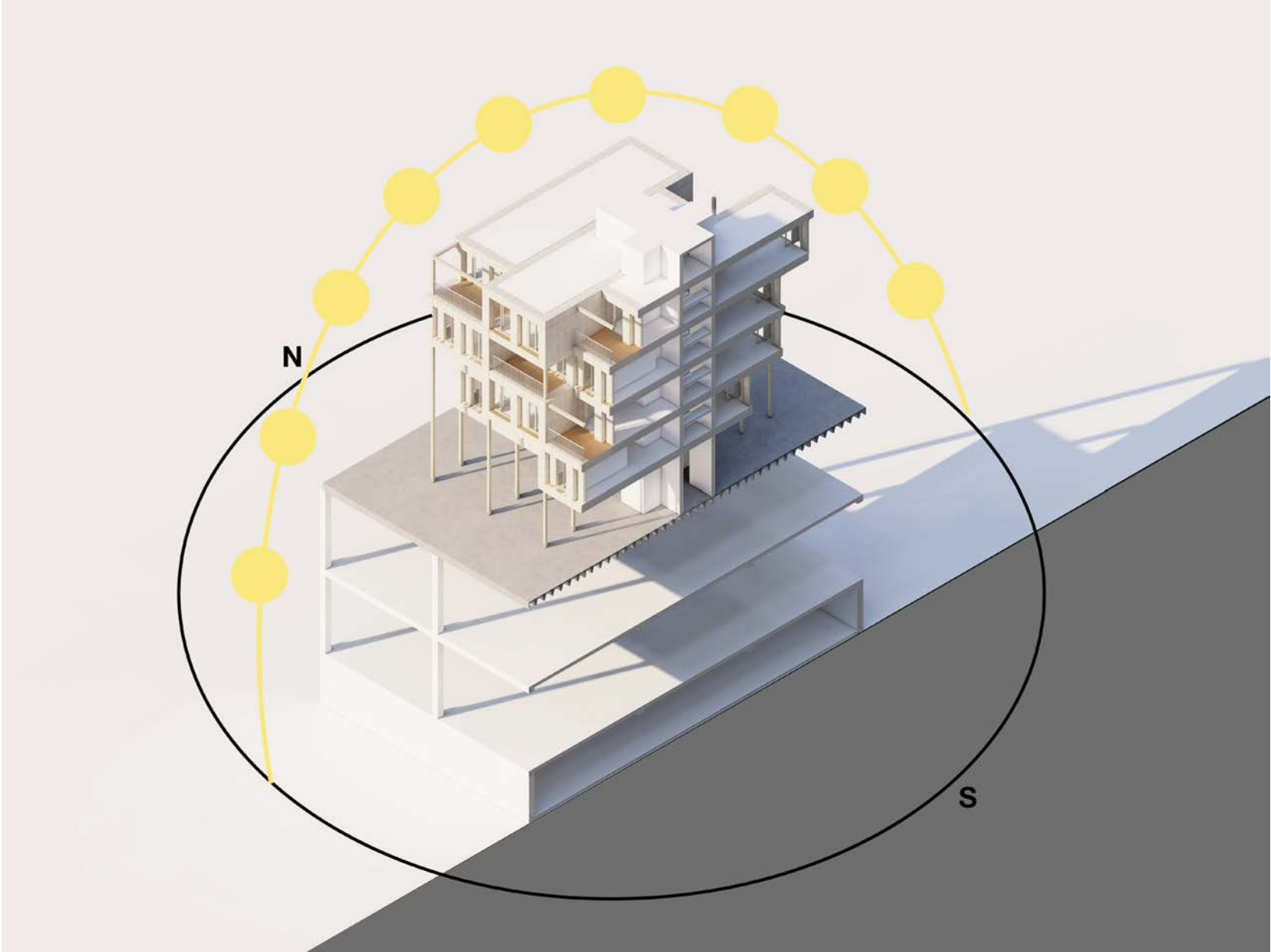
VENTILATION SYSTEM



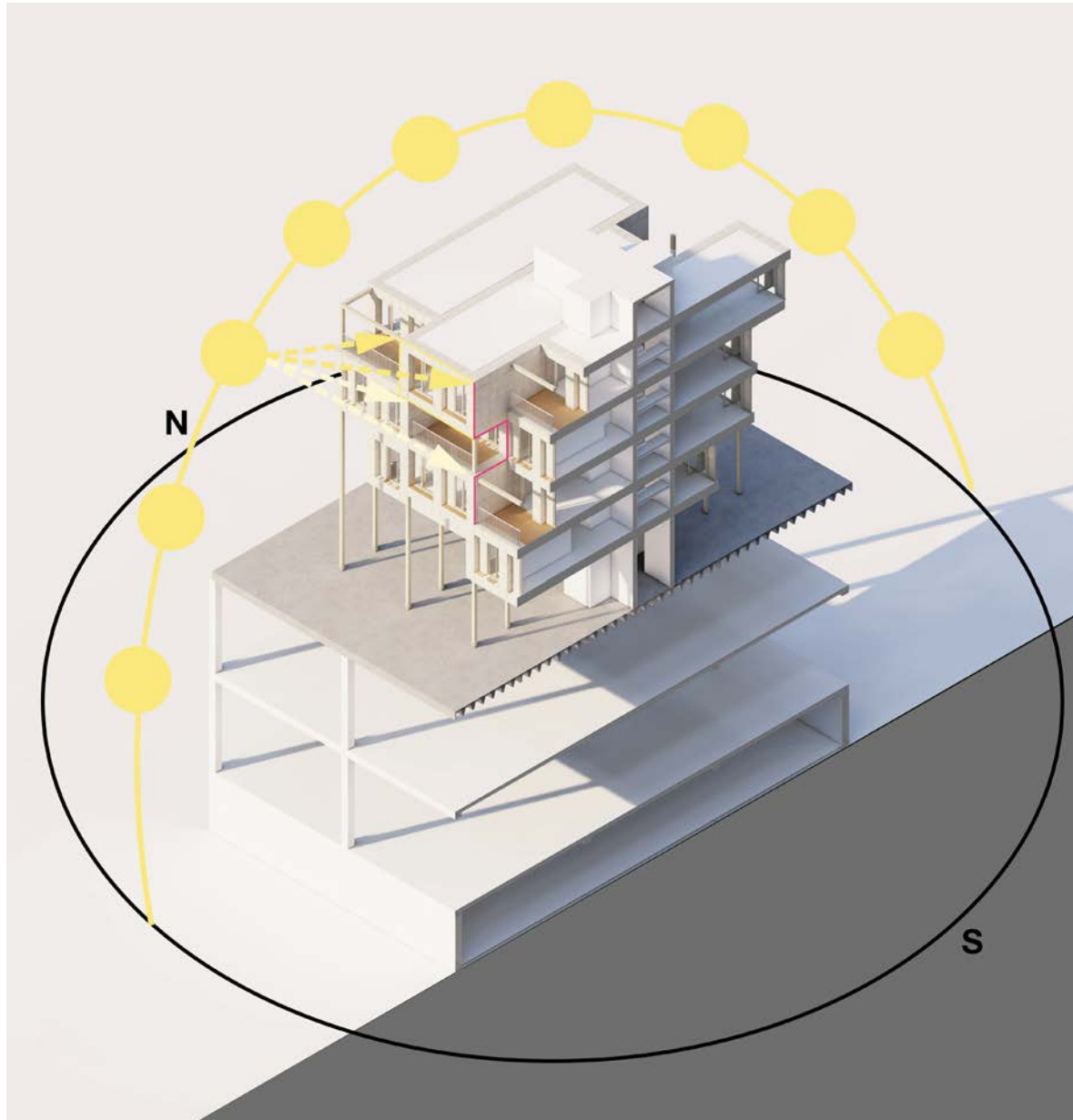
climate
RETENTION ROOF



climate
ORIENTATION

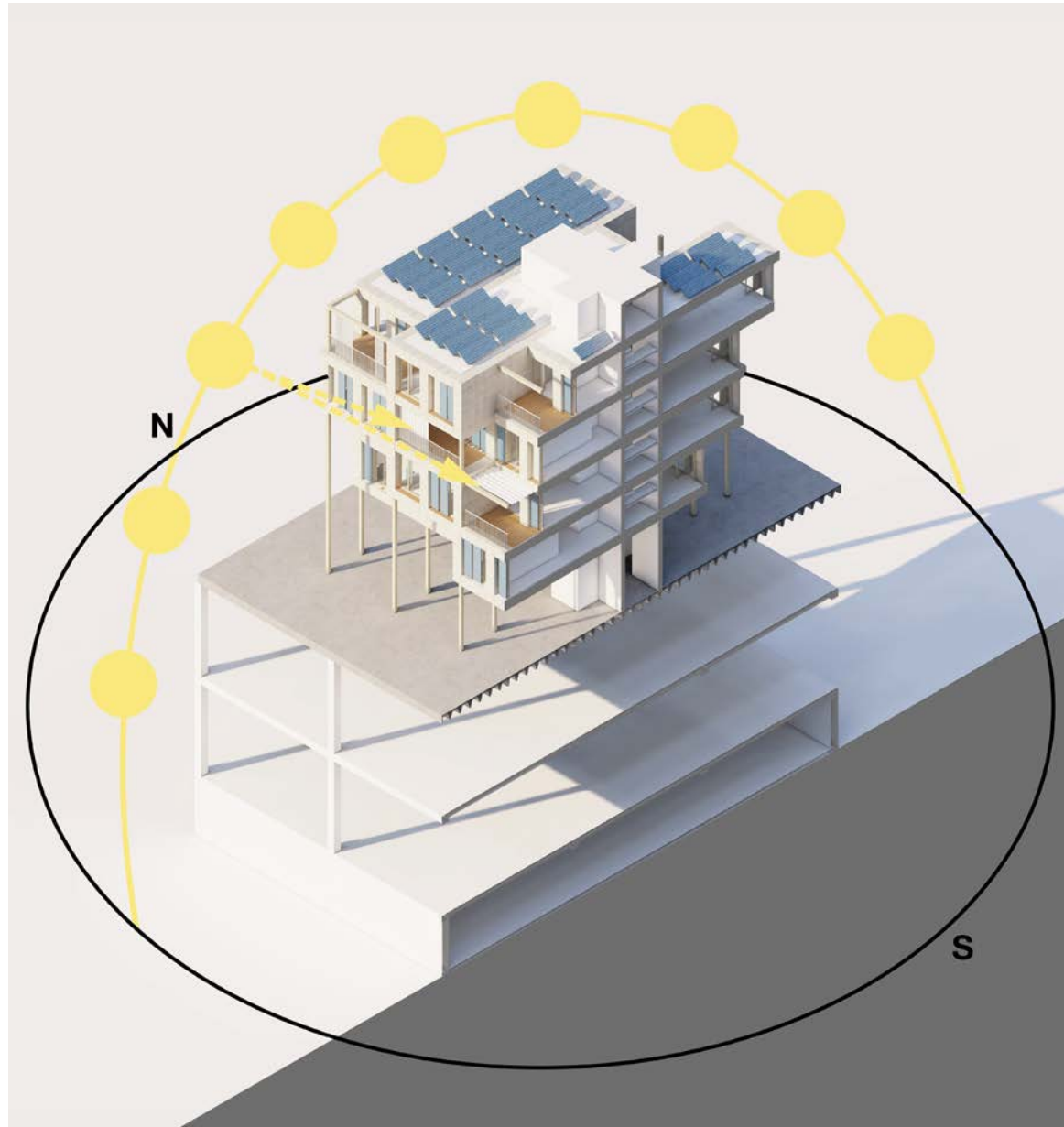


SHADING THROUGH SHIFTS AND SETBACKS



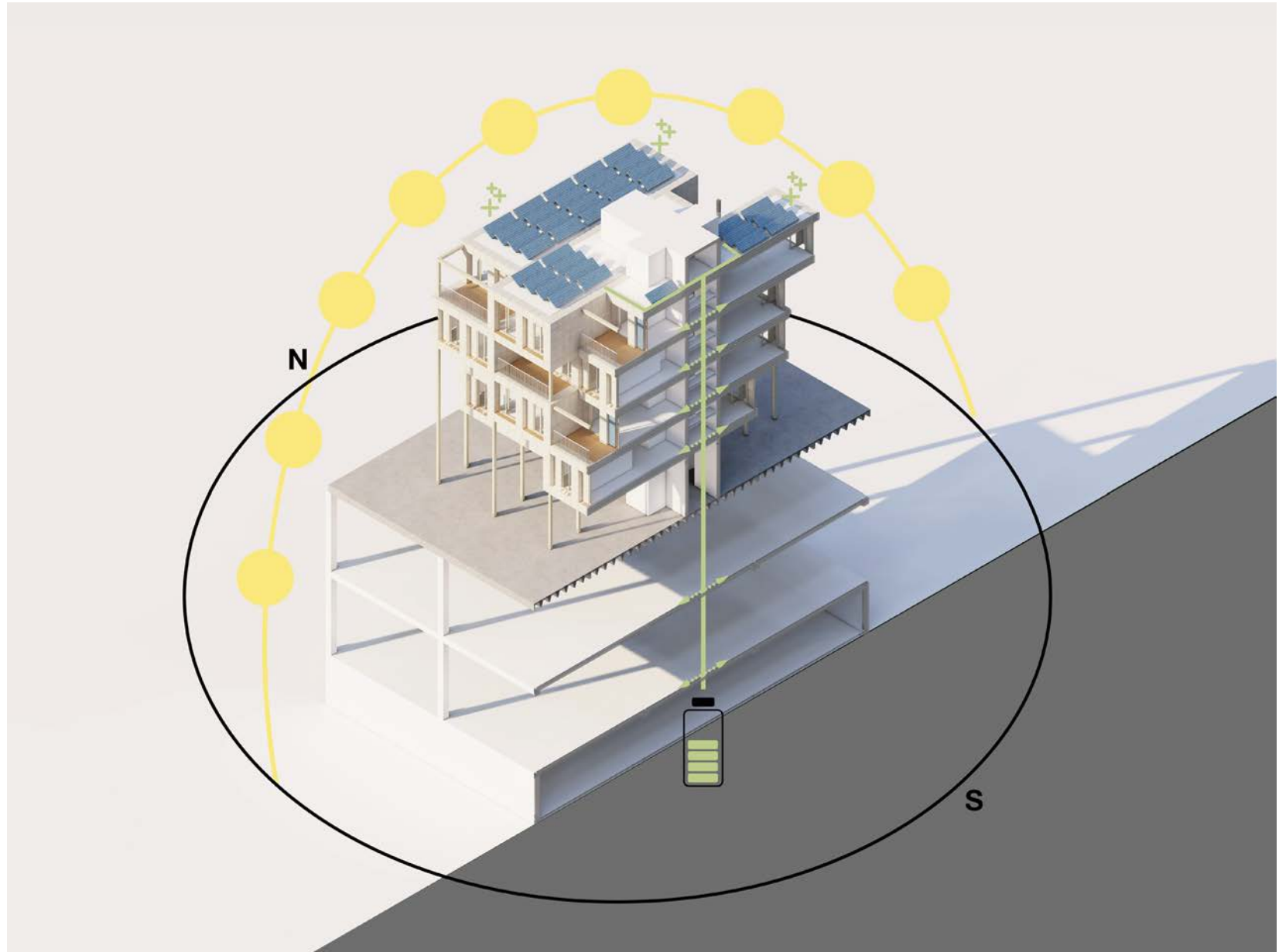
climate

NO OVERHEATING DUE TO CURTAIN SYSTEM



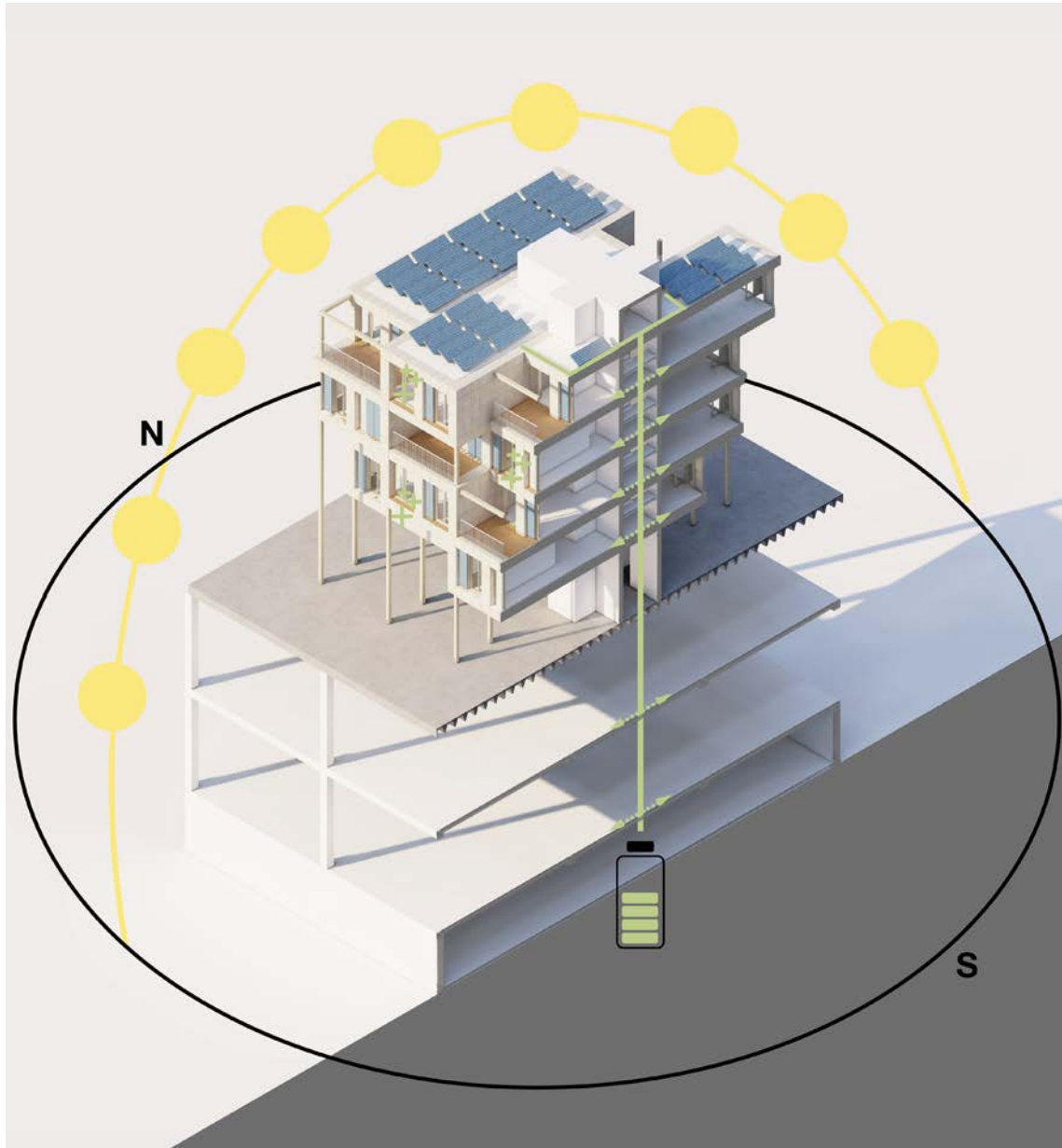
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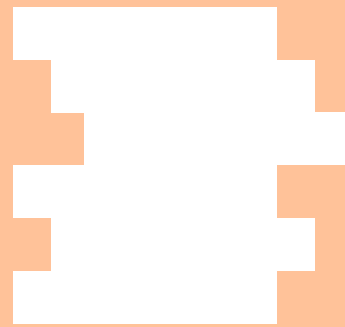
SOLAR ENERGY PRODUCTION



climate

MOVEABLE SOLAR FACADE PANELS



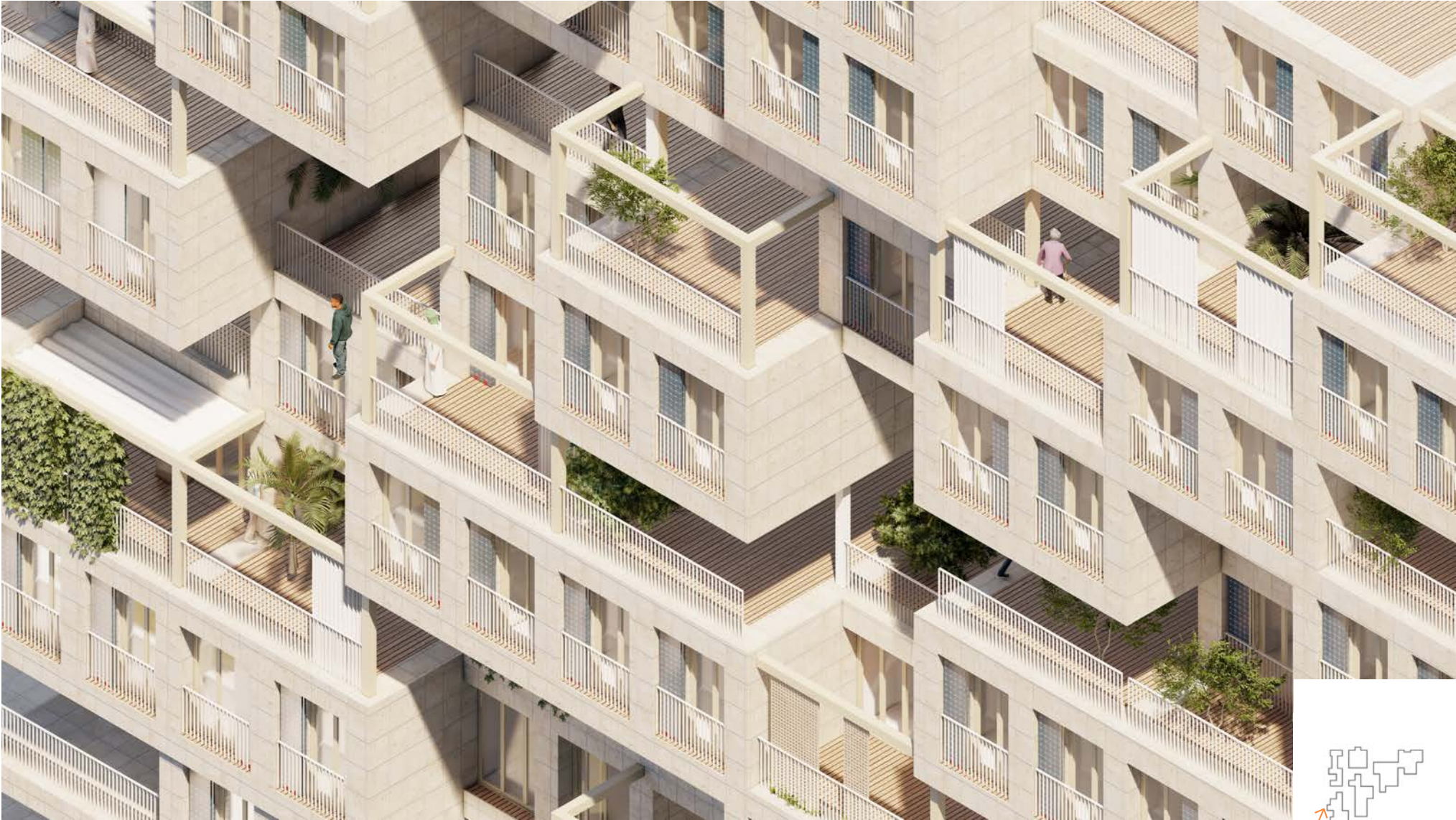


REFLECTION

ONE SYSTEM



JUMPS/MODULARITY ETC



ONE SYSTEM



**"HOW SHOULD AFFORDABLE
HOUSING BE DESIGNED IN
A SOCIO-ECONOMICALLY
SEGREGATED CONTEXT SUCH AS
BEIRUT?"**

research

AFFORDABLE HOUSING CHARACTERS



MODULARITY



MASS
DEVELOPMENT



LONGTERM



QUALITY
OF THE
DWELLINGS



LOCAL LABOR



LOCATION



DECREASE
NEEDED SPACE

AFFORDABLE HOUSING CHARACTERS



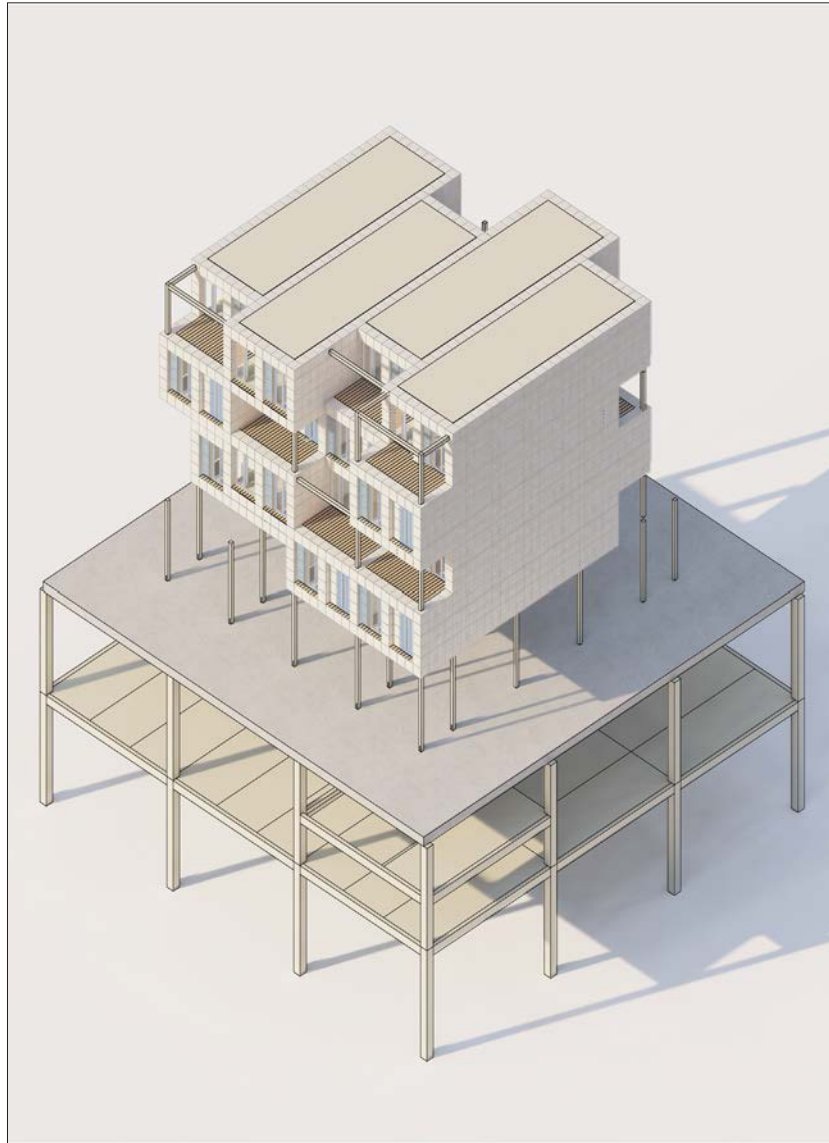
MODULARITY



MASS
DEVELOPMENT

**MAIN GOALS
ACHIEVED:**

FLEXIBILITY
AFFORDABILITY
HIGH DENSITY
VERTICAL VILLAGE



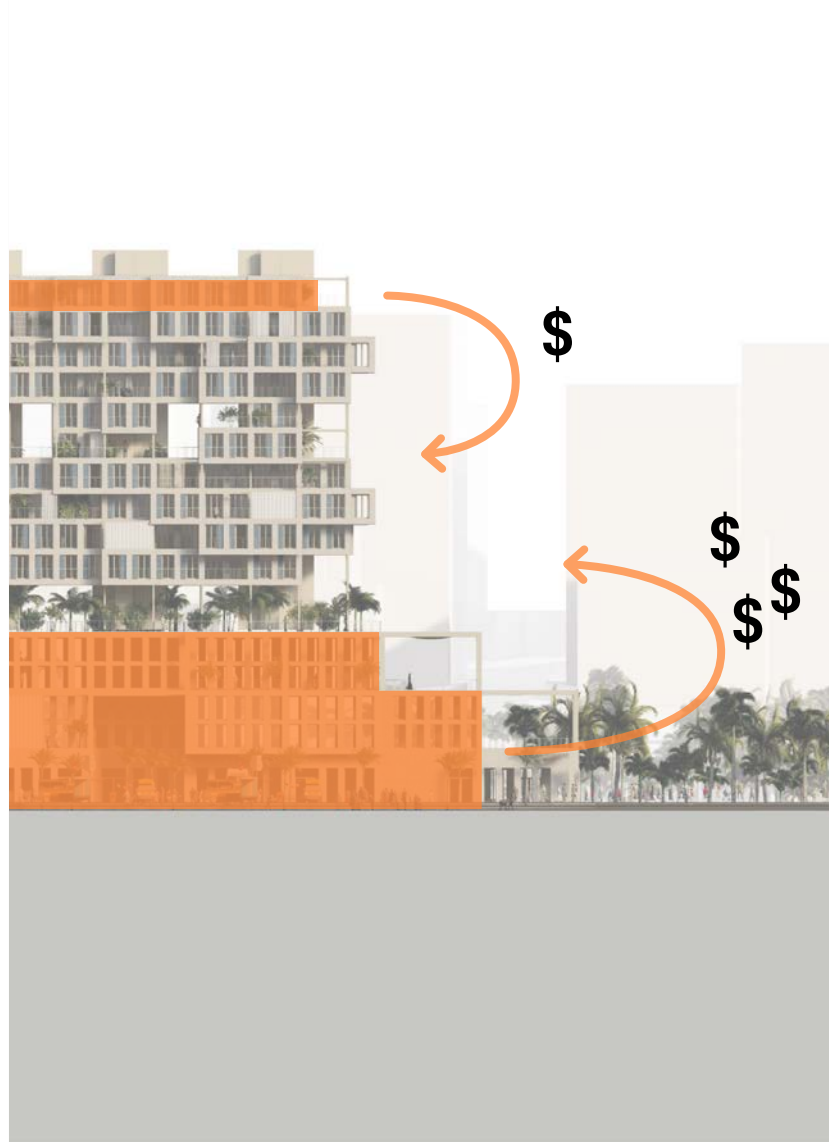
AFFORDABLE HOUSING CHARACTERS



LONGTERM
FINANCIAL
CONCEPT

**MAIN GOALS
ACHIEVED:**

AFFORDABILITY
COMMUNITY
CREATING
OPPORTUNITIES



AFFORDABLE HOUSING CHARACTERS



LOCAL LABOR



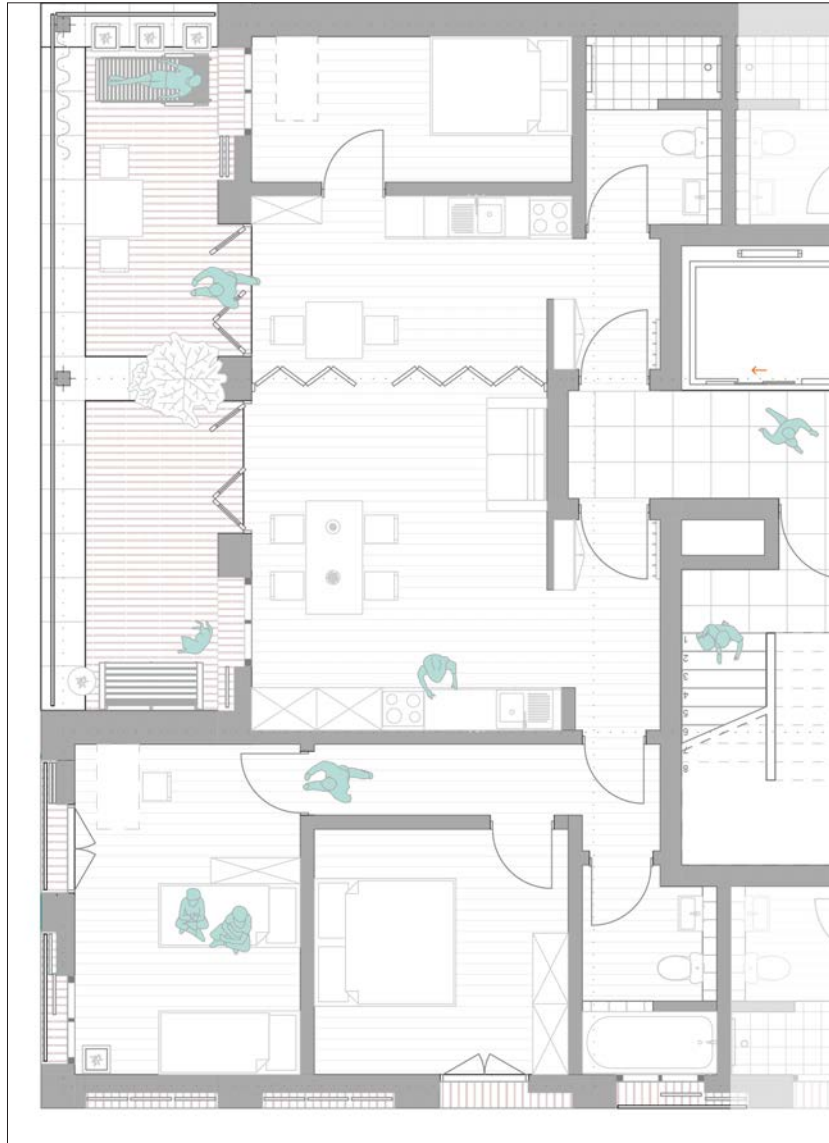
QUALITY
OF THE
DWELLINGS

MAIN GOALS ACHIEVED:

AFFORDABILITY
COMMUNITY
CREATING
OPPORTUNITIES

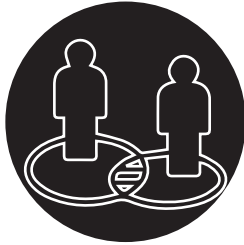
MAIN GOALS ACHIEVED:

LEVELS OF
PRIVACY
CREATING
OPPORTUNITIES

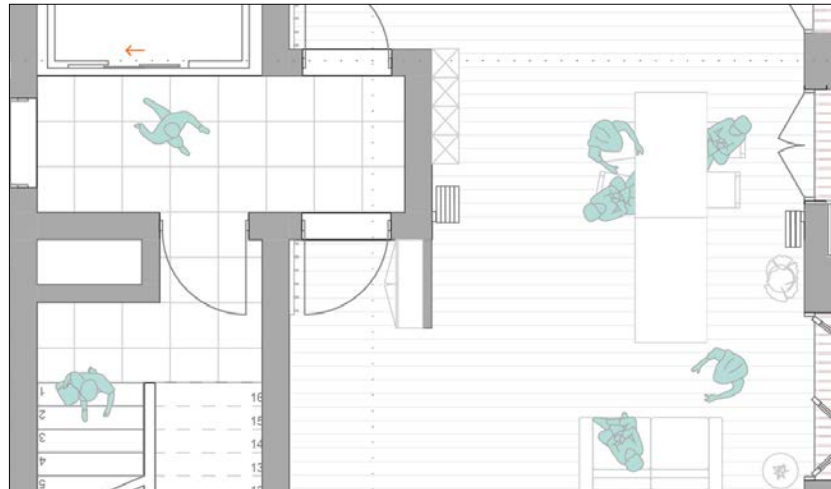
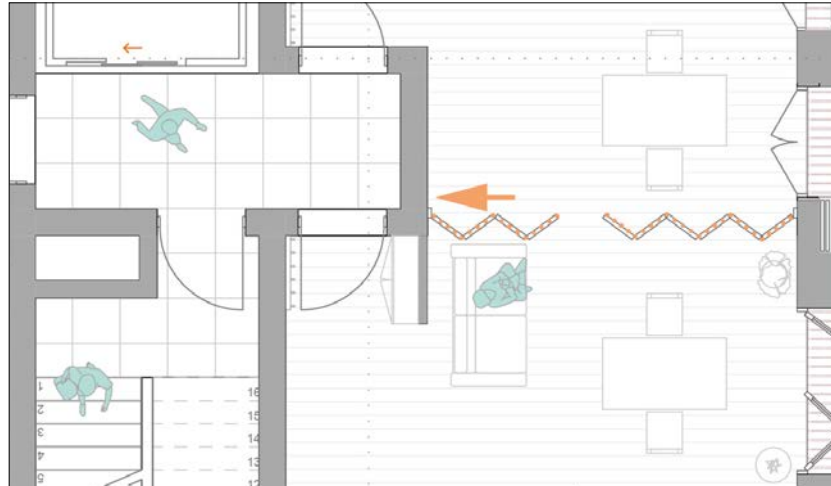


research

AFFORDABLE HOUSING CHARACTERS



DECREASE
NEEDED SPACE



**MAIN GOALS
ACHIEVED:**

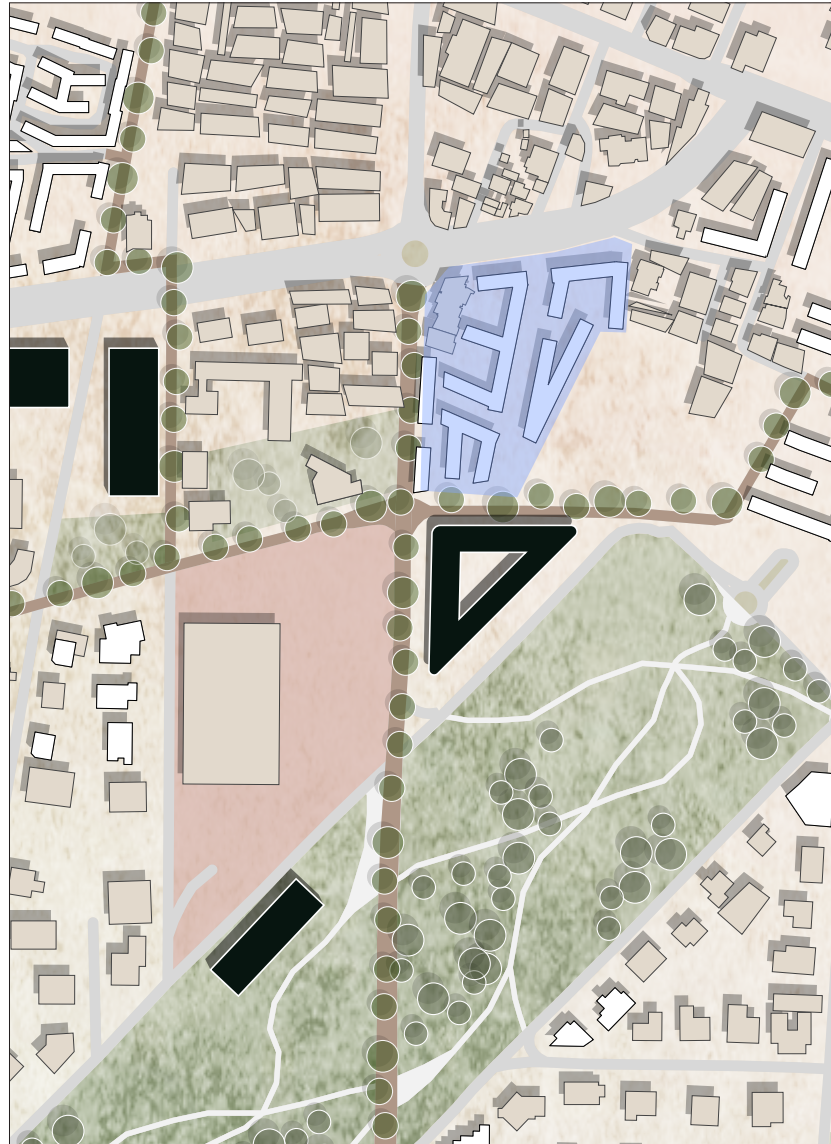
HIGH DENSITY
AFFORDABILITY
COMMUNITY

research

AFFORDABLE HOUSING CHARACTERS



LOCATION



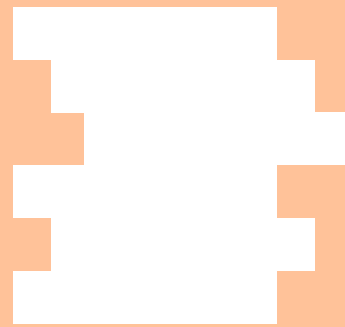
**MAIN GOALS
ACHIEVED:**

COMMUNITY
CREATING
OPPORTUNITIES
LIVABILITY





SEE YOU BEIRUT



THANK YOU