COMPLEX PROJECTS
HOUSING

BAYT AL BEIRUT

Home of Beirut

Ferhat Dogan

11/11/2022

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02 RESEARCH

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HOUSING DAMAGE

DAMAGES & INJURIES

77.000
Houses
Damaged

300.000
Residents
Affected

6.500
Injured

212
Deceased

COMMUNITY AID

COMMUNITY AID

'Beirut is a city that refuses to die. I love its energy and resilience'

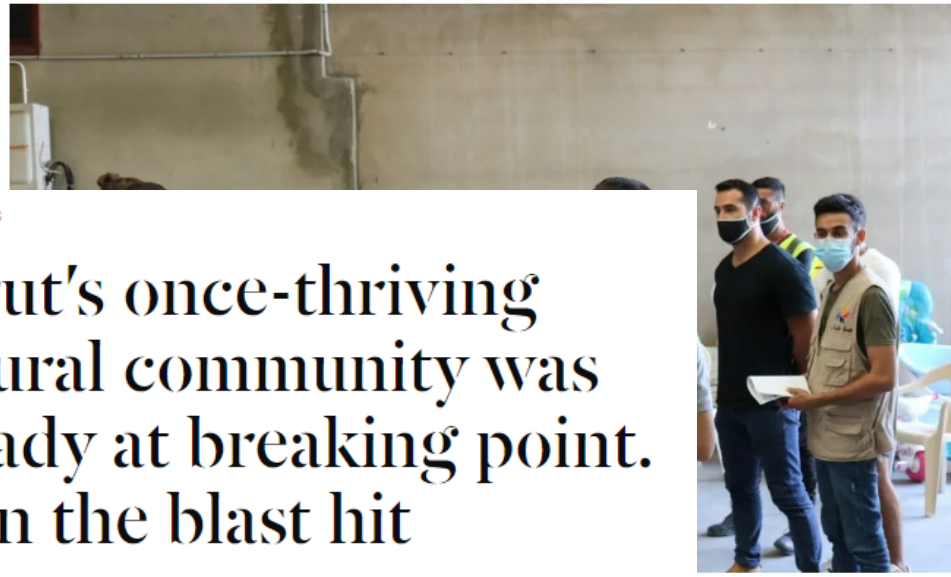
Interview by Emily Mathieson

For film-maker Mai Masri, this crumbling city on the Med, with a tortured past, is brimming with culture that continues to inspire artists and tourists

Sunset boulevard ... Beirut enjoys freedom of speech and a strong press. Photograph: Alamy

Home / News /

Beirut explosion: the incredib volunteer movements helping the city recover



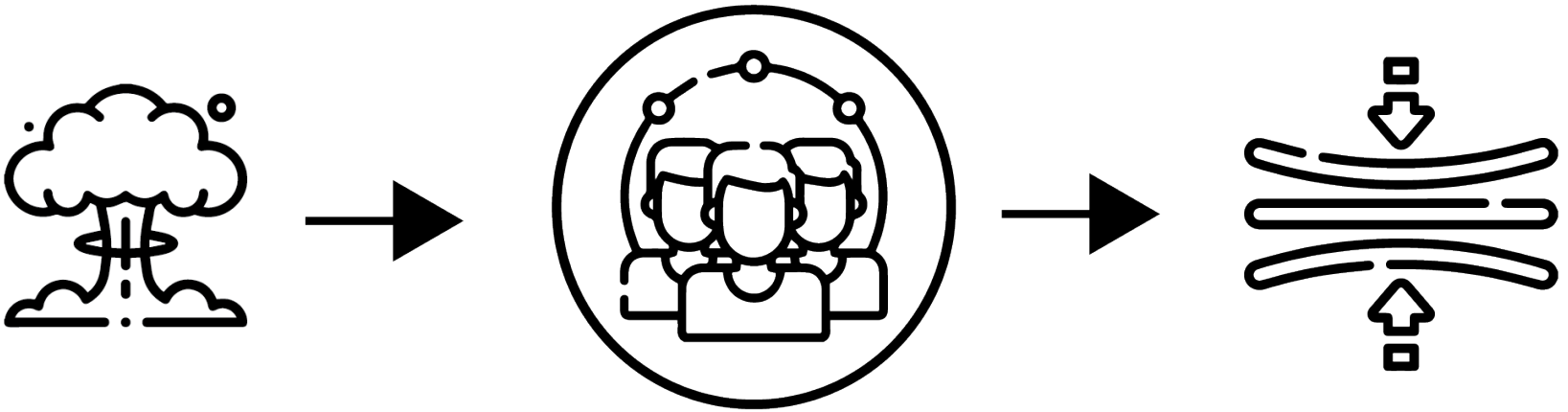
RE · Arts

eirut's once-thriving ltural community was ready at breaking point. hen the blast hit

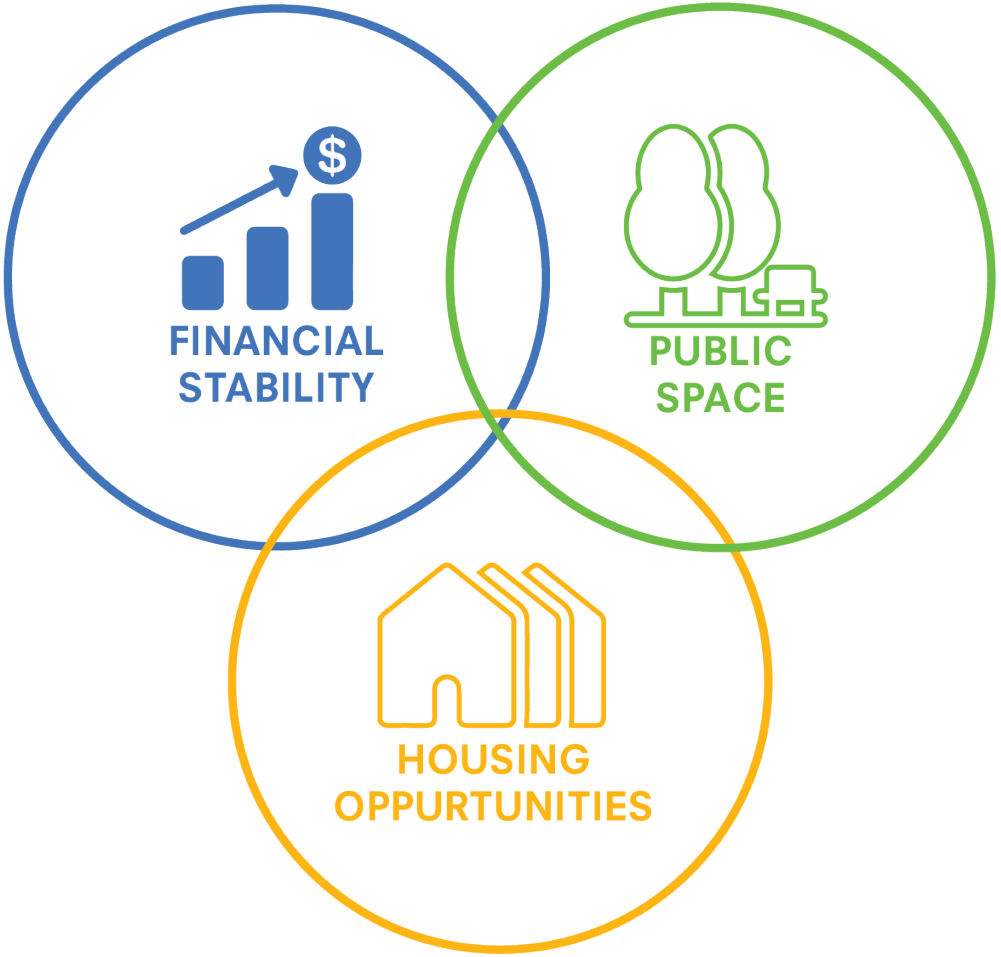
dy strained by a popular uprising, economic collapse and the l pandemic, Lebanon's cultural sector was blown apart by the devastating explosion last week. Can it be rebuilt?

EDITOR'S NOTE: *India Stoughton lived and covered the arts and culture scene in Beirut for eight years. She's currently based in London due to the pandemic.*

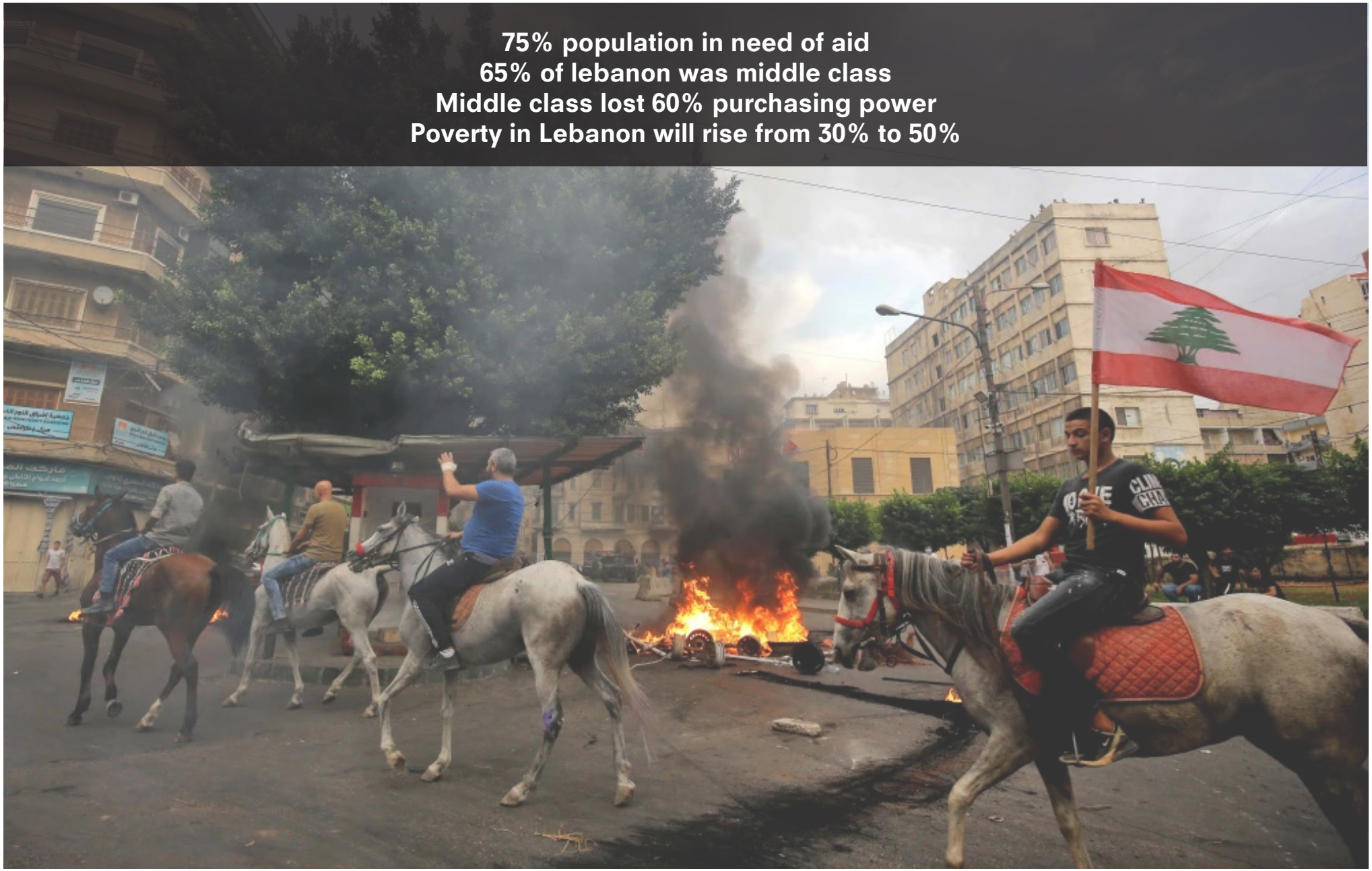
RESILIENCE



PROJECT AMBITIONS



COMMUNITY UPRISING



COMMUNITY SOLUTION

Money is worth nothing now': how Lebanon is finding a future in farming

With food in short supply and prices rocketing, a wave of new farmers are growing produce on roofs, balconies and beyond

All photographs by Jenny Gustafsson

Freshly harvested courgettes ... food prices have increased by as much as 360% in the past year

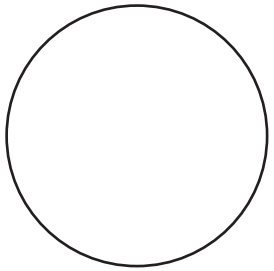
Revolutionising Lebanon's agriculture sector as food runs out

Lebanon's farming industry has gone underfunded and underdeveloped for many years, hindered by a lack of modern equipment and inefficient production techniques.

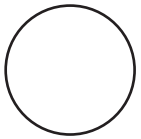
Beirut Farm leading vertical farming in Lebano

"As the population continues to grow, agricultural land is limited and customers are always looking to have the best and cleanest greens. We feel that vertical farming is the solution and the fact that we can offer these greens is extremely appreciated by our customers," says Sandro Allouche, owner and founder of Beirut Farm.

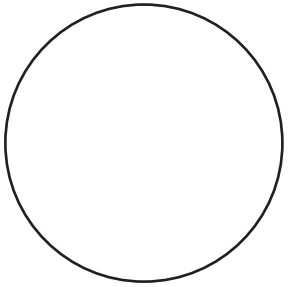
AVERAGE M² BEIRUT



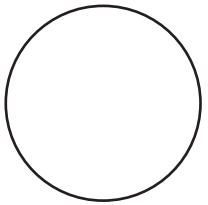
US, NY
81 M²



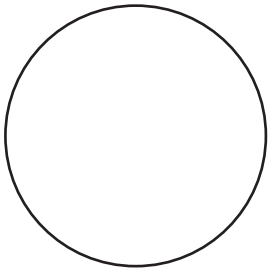
HK, CD
45 M²



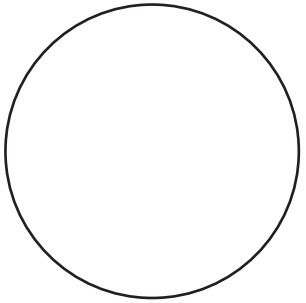
TR, IST
90 M²



JPN, TOKYO
66 M²

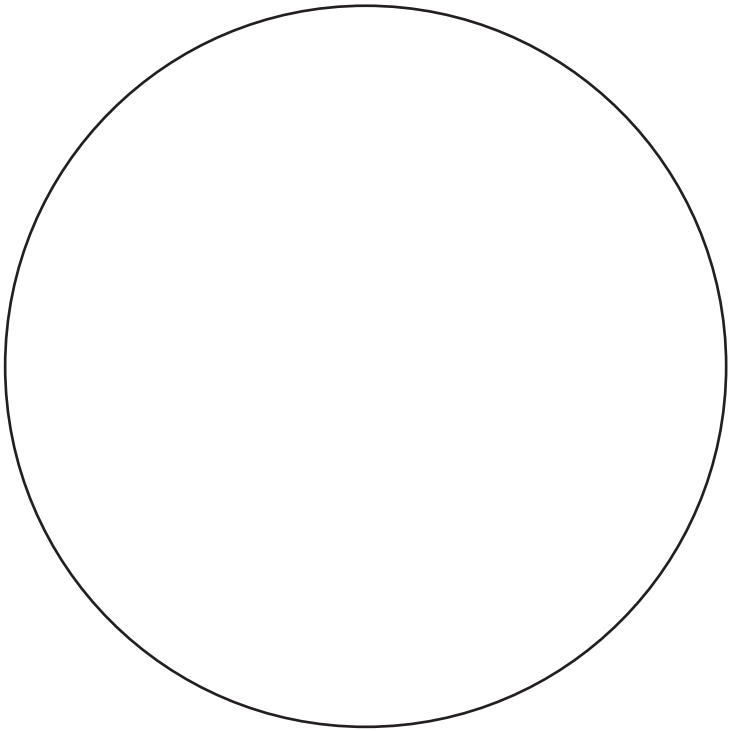


CHILE,
SANTIAGO
88 M²

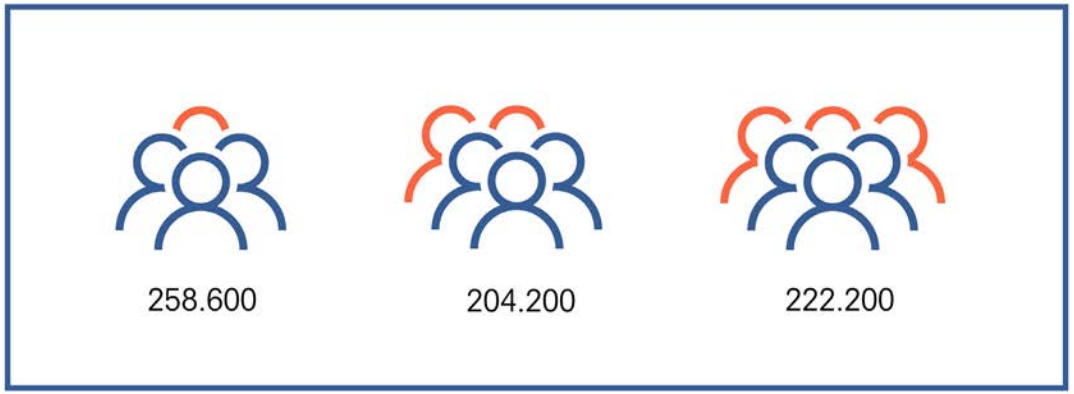


NL, RDAM:
90 M²

AVERAGE APPARTMENT SIZE BEIRUT: 190 M²



HOUSEHOLD SIZES BEIRUT

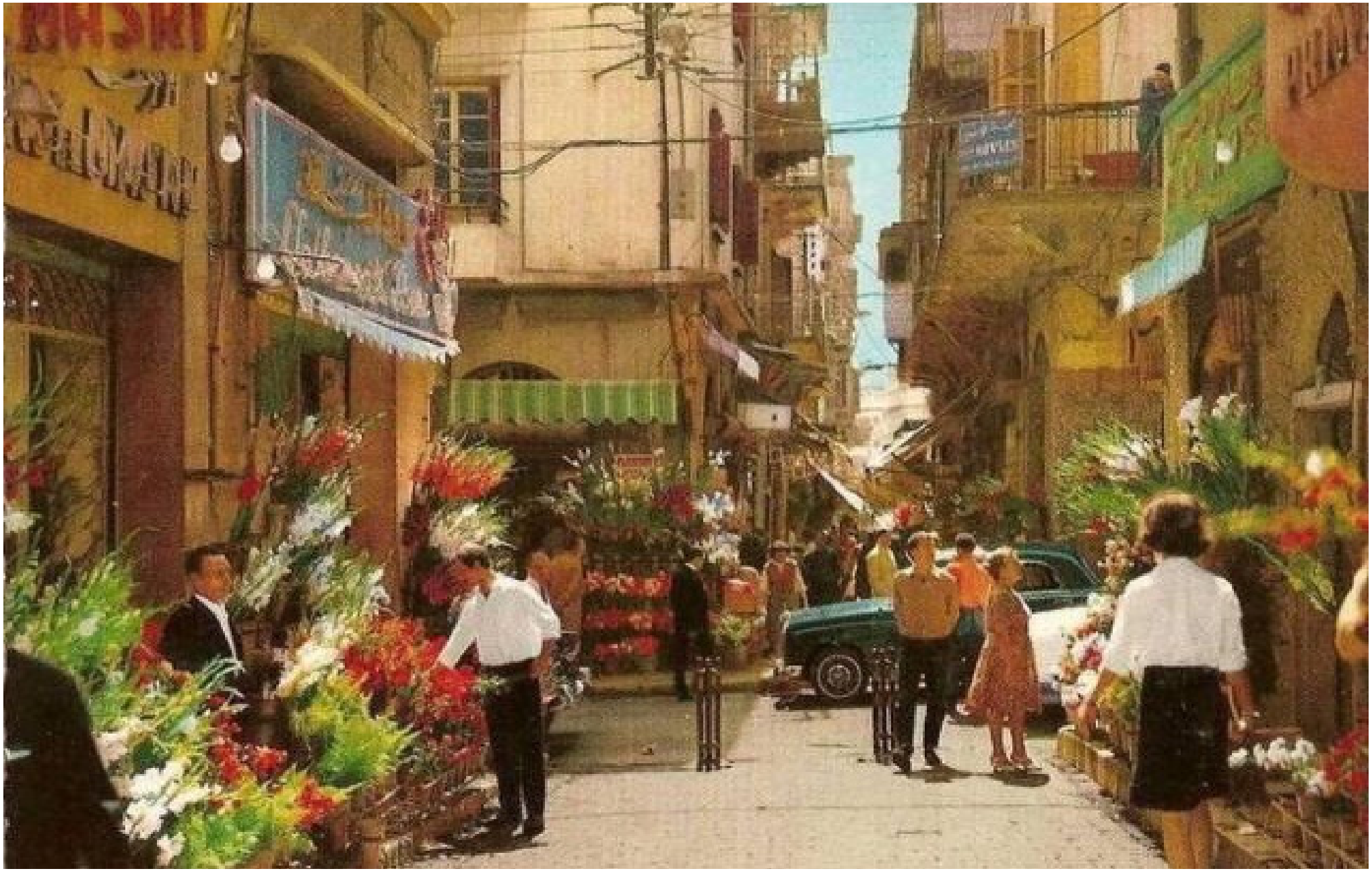


SOCIAL IDENTITY

PUBLIC SPACE

“PUBLIC, WITHOUT SPACE”

IDENTITY AND THE SOUK



CONCEPT COLLAGE

RESEARCH QUESTION

How can a **mixed use housing** intervention in **Beirut city center** be **affordable** for different **social groups** and contribute to a **resilient city centre**?

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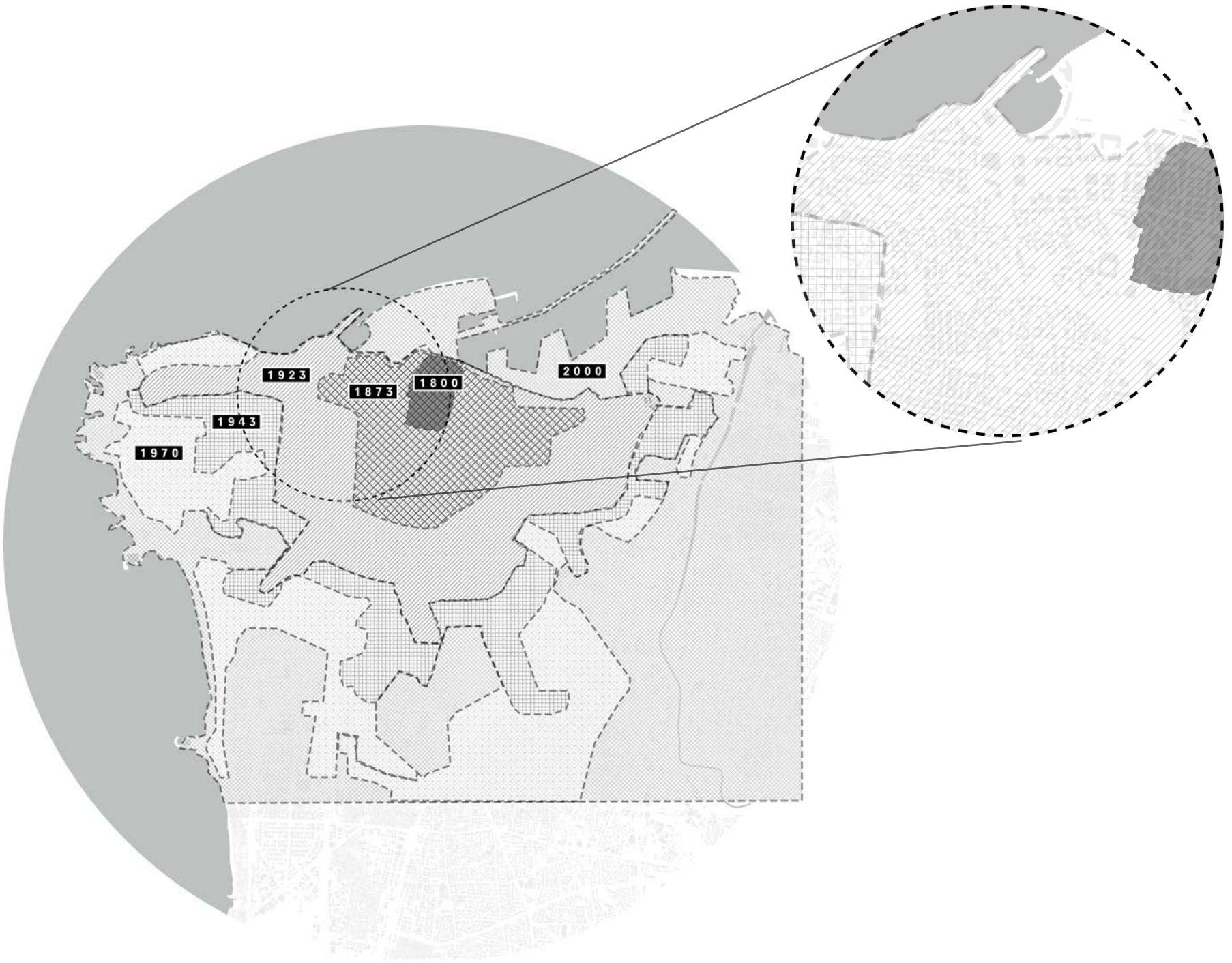
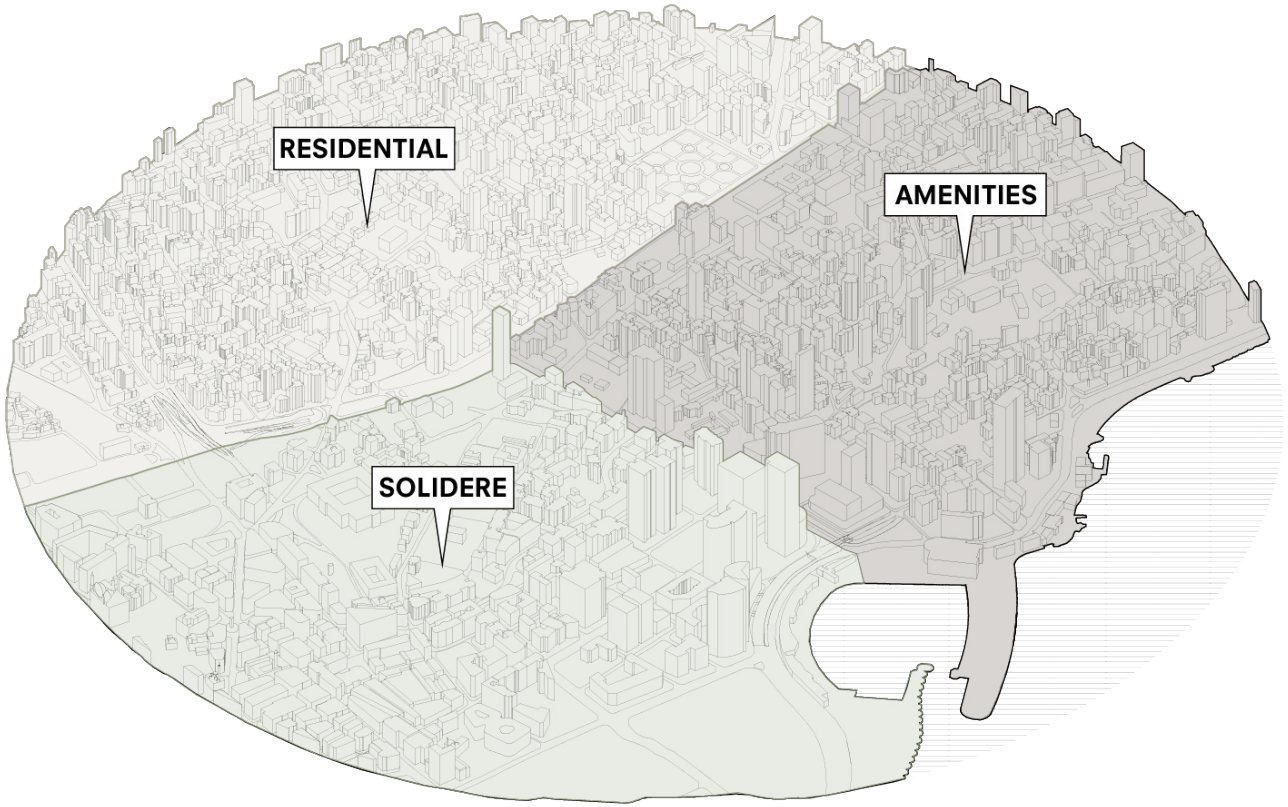
IDENTITY OF THE COMMUNITY



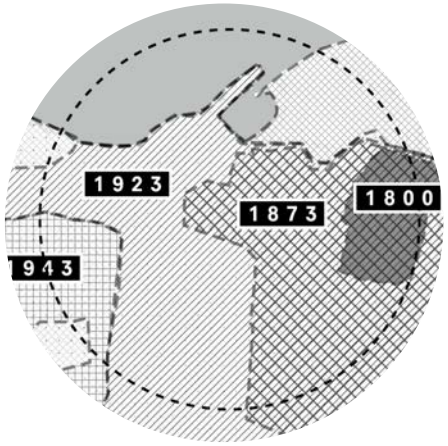
COMMUNITY FRAGMENTATION



Research

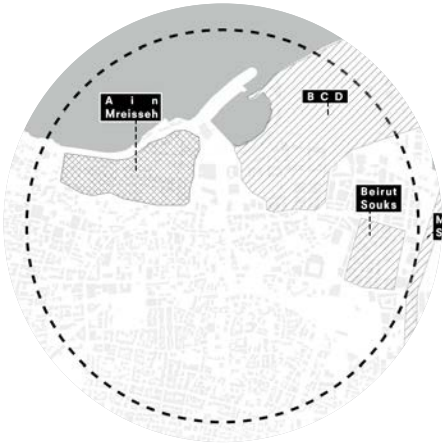
SITE AMBITIONS

Seed of Beirut



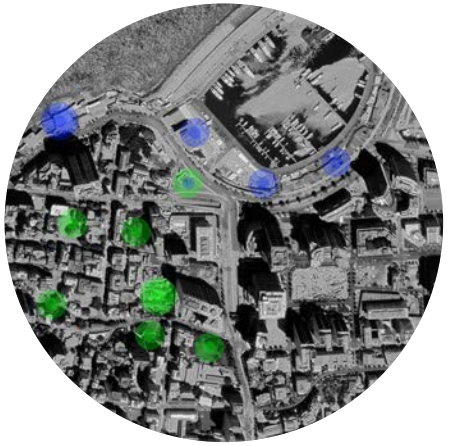
Identity
& Heritage

Public Space & Housing



Masterplan development
& Community need

Vacant Urban Spaces



Connection Waterfront
& Creating pub. spaces

Center of important axis

Accesibility

Amenities Area

Regrowth of
Communities

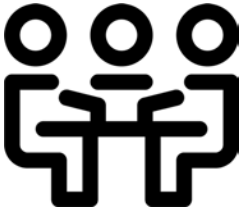
Zone regulation

Density
& Capacity

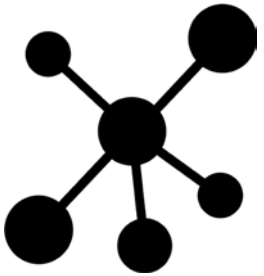
SHARING AS GATEWAY

PROJECT INGREDIENTS

Affordable Community Housing



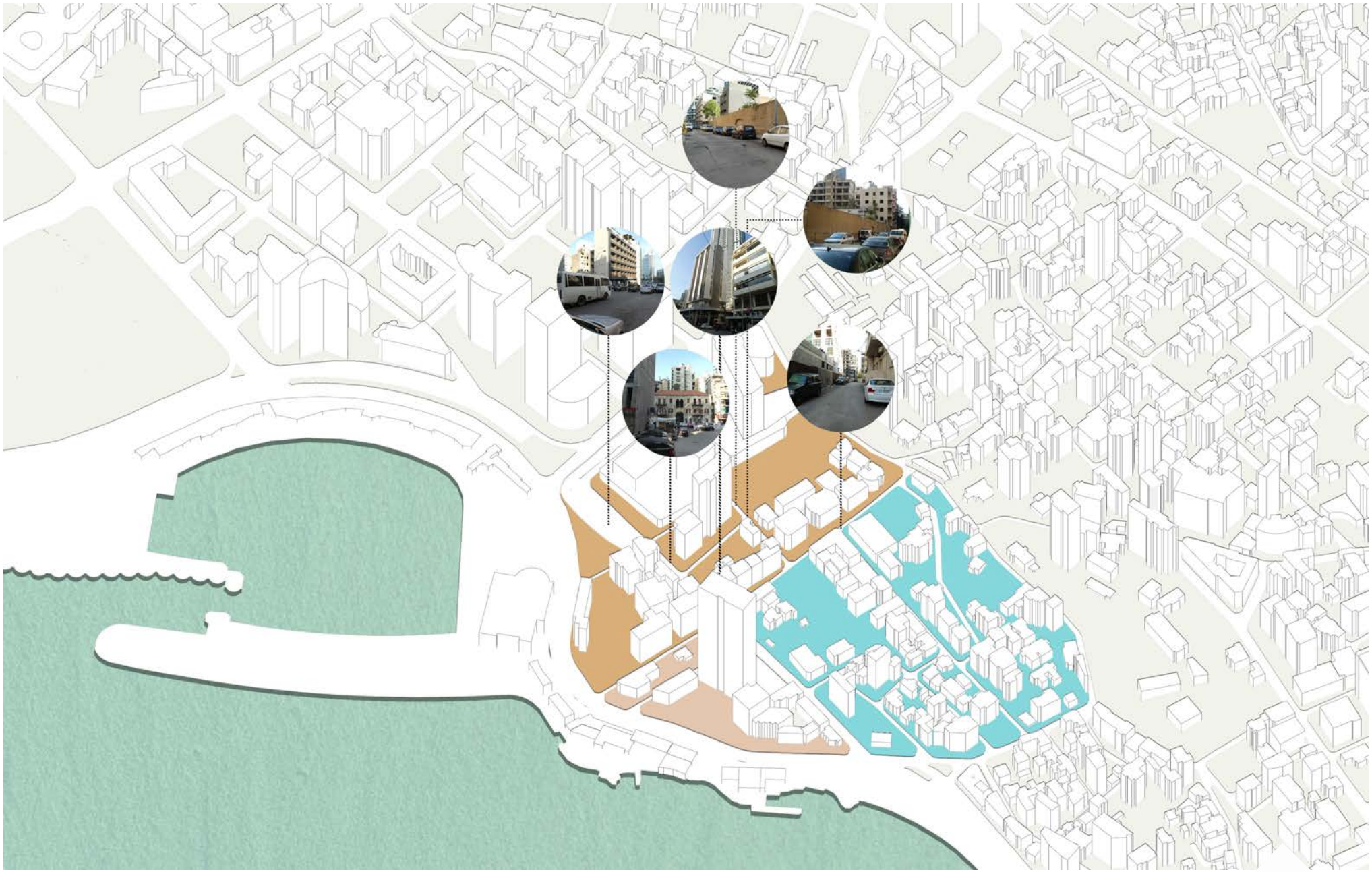
Meeting spaces



Community spaces as connector

Re-use Public Space

SITE ANALYSES



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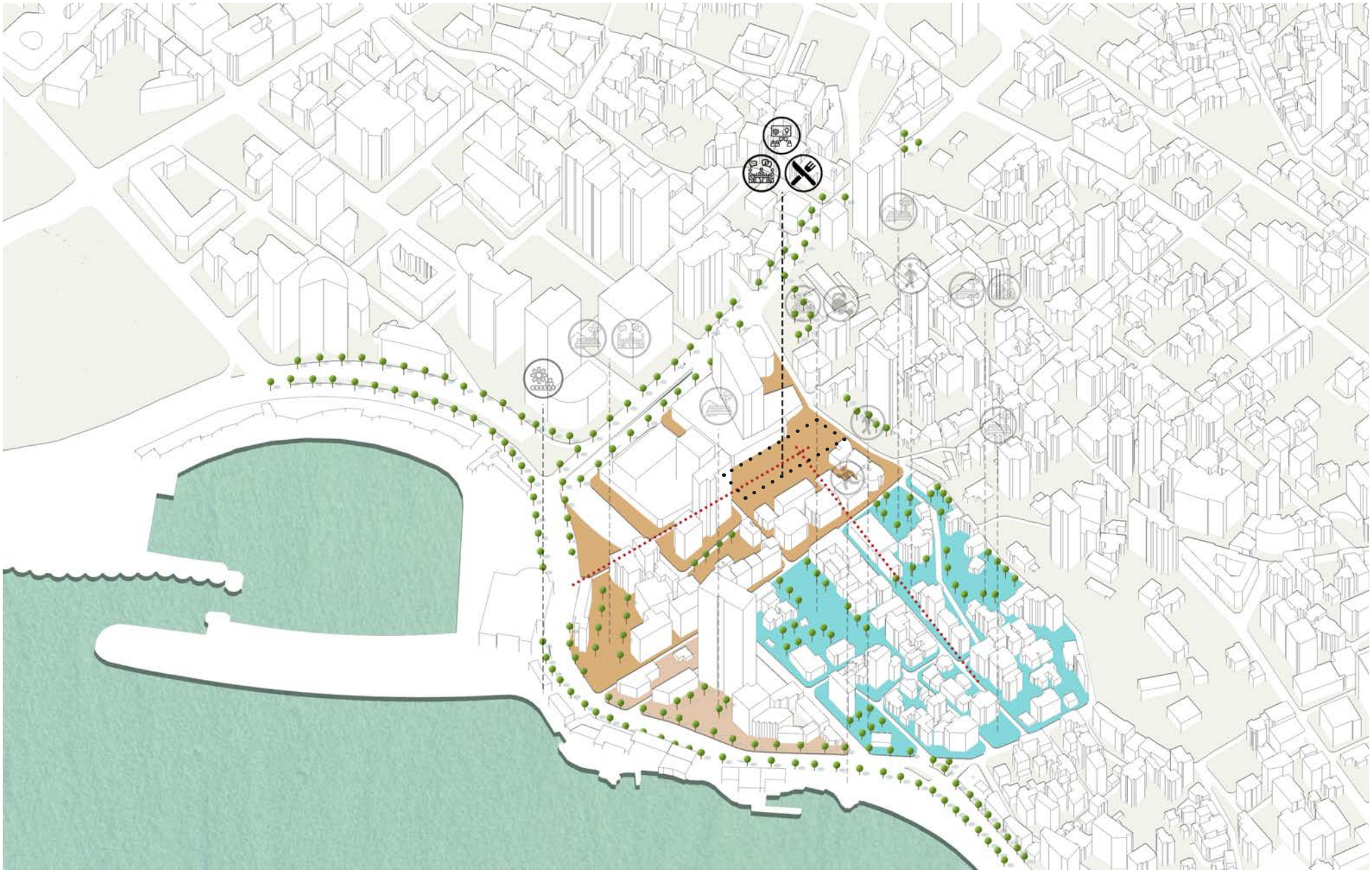
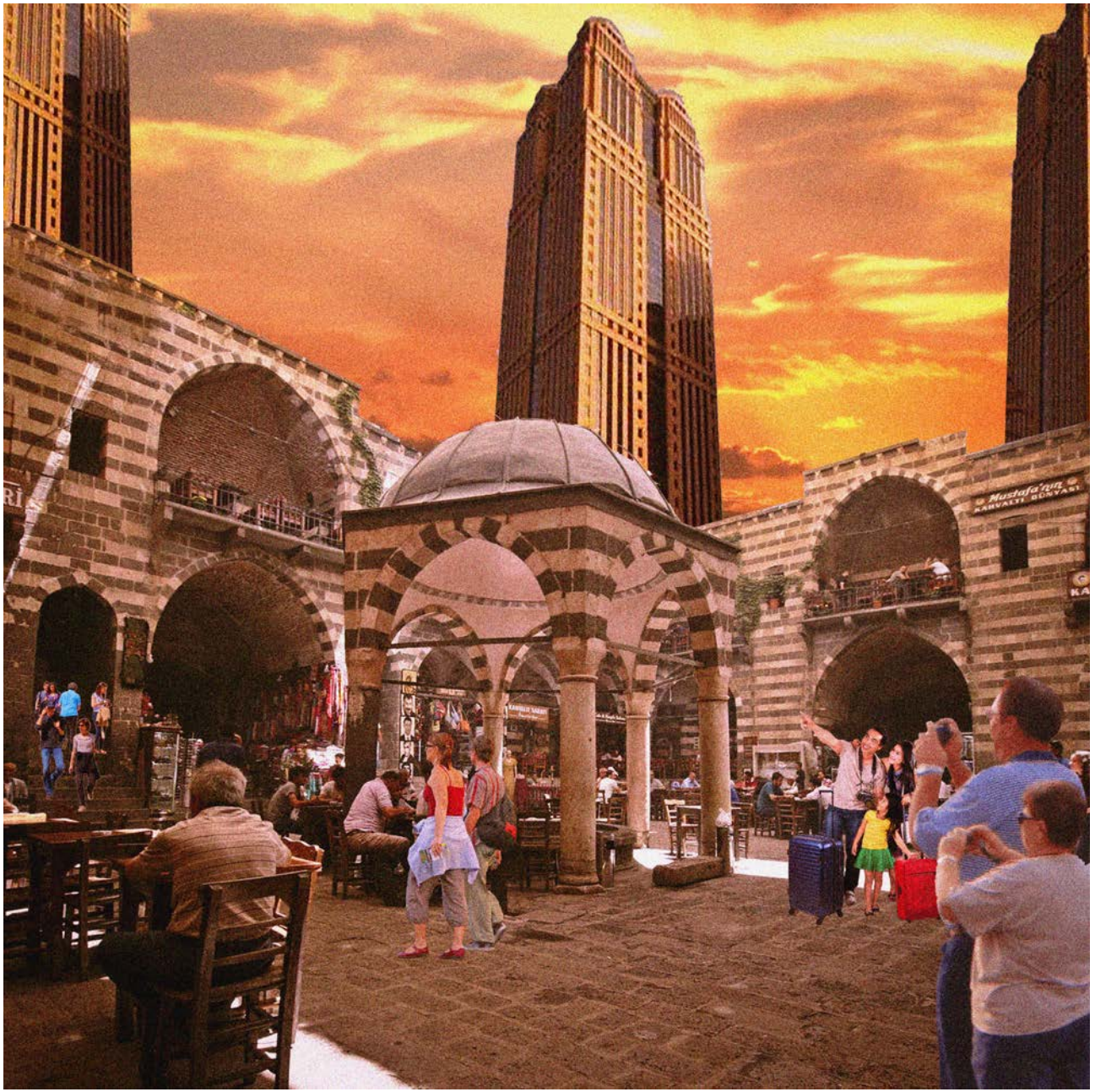


Design Brief

PROJECT COLLAGE



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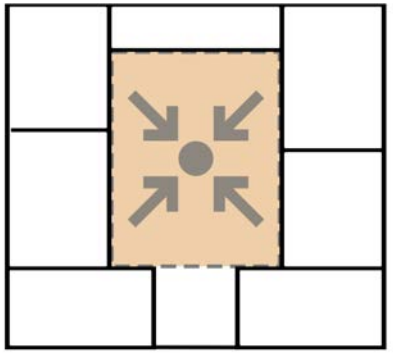
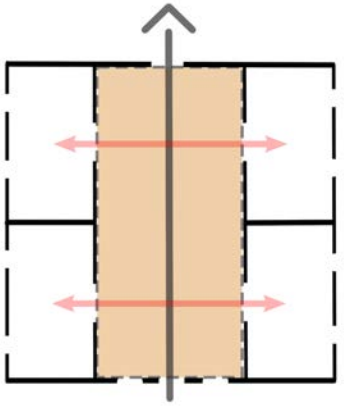
LEBANESE PLAN DEVELOPMENT

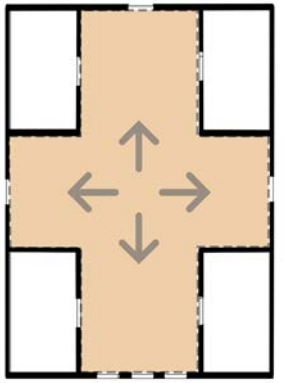
INTROVERT



LINEAR



CROSS



Design Brief

HOUSING DEVELOPMENT

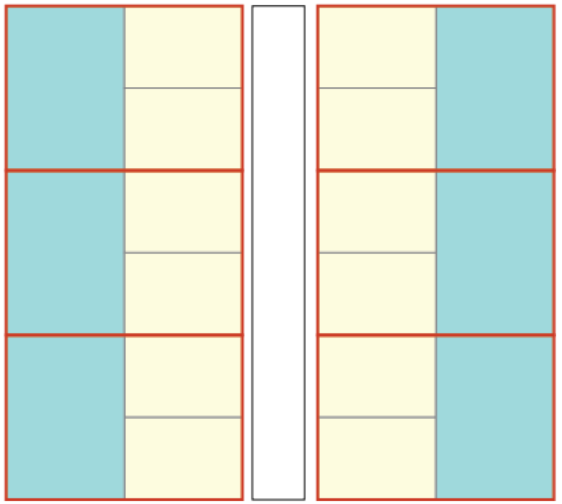
Family oriented

Individualistic

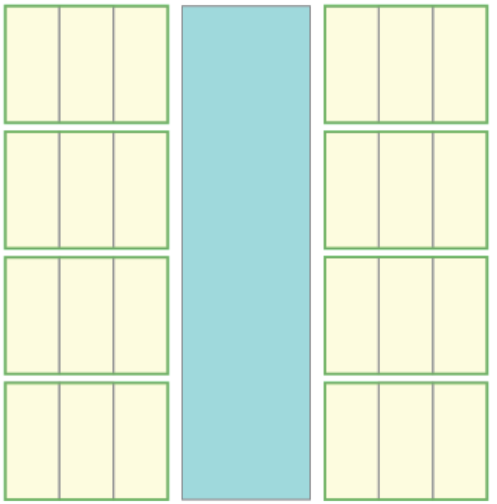
Community oriented

HOUSING STRATEGY

Current:
Individualist
L - Size



Shared:
Shared Living
M - Size

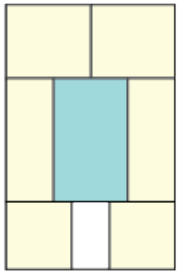


Design Brief

SCALES OF SHARED LIVING

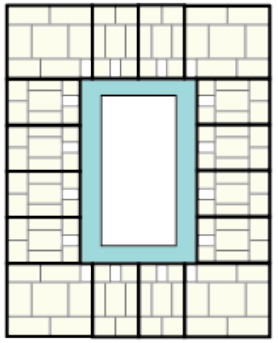
"S"

Appartment



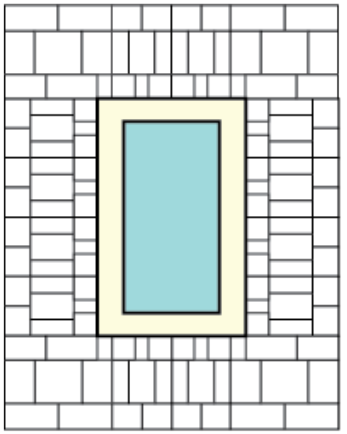
"M"

Floor



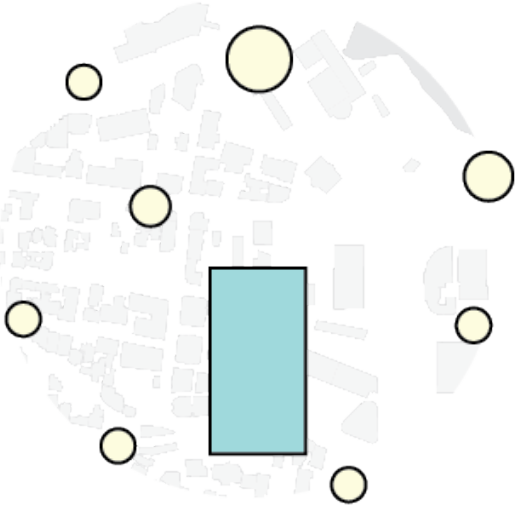
"L"

Building

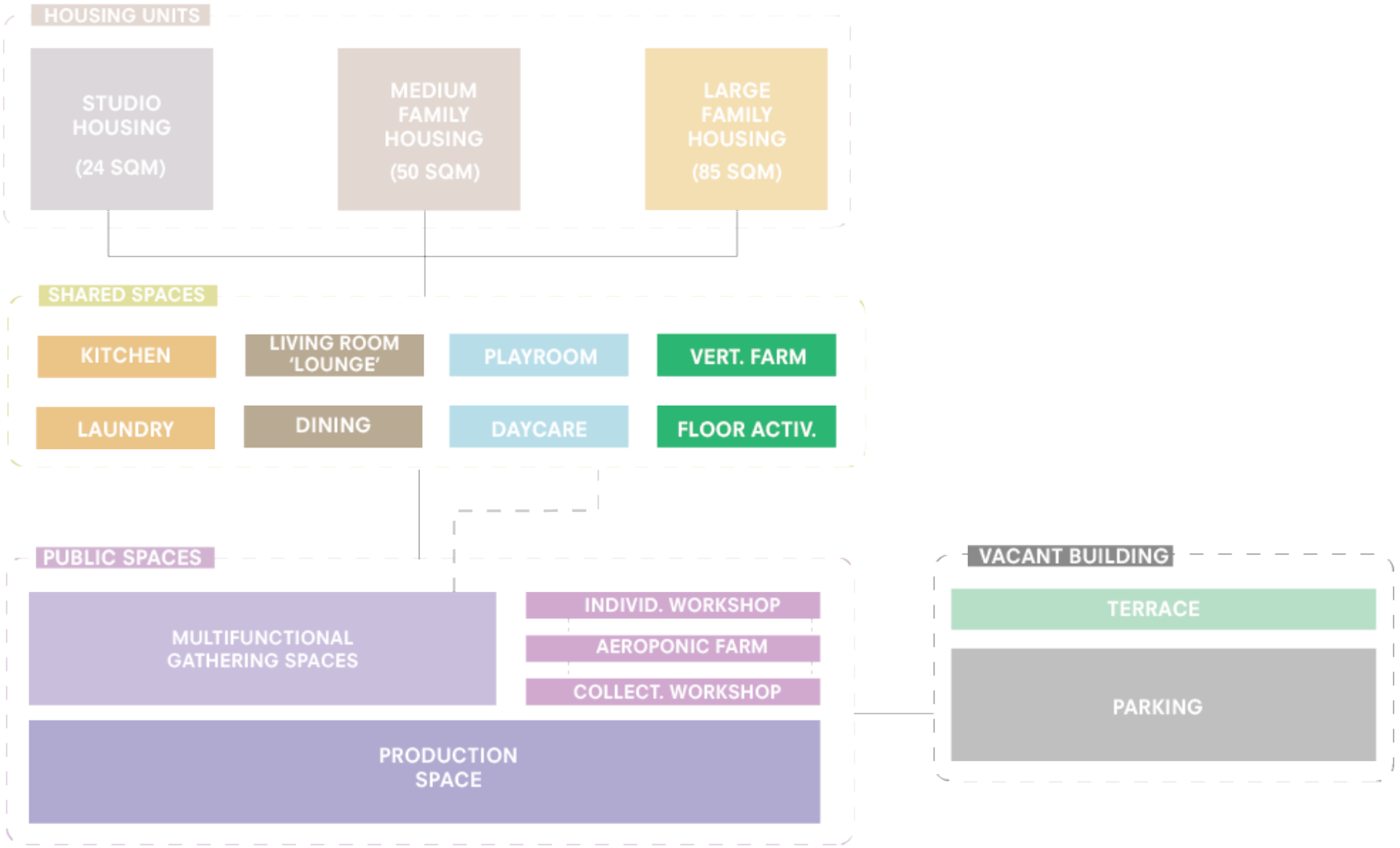


"XL"

Urban



PROGRAM ORGANISATION



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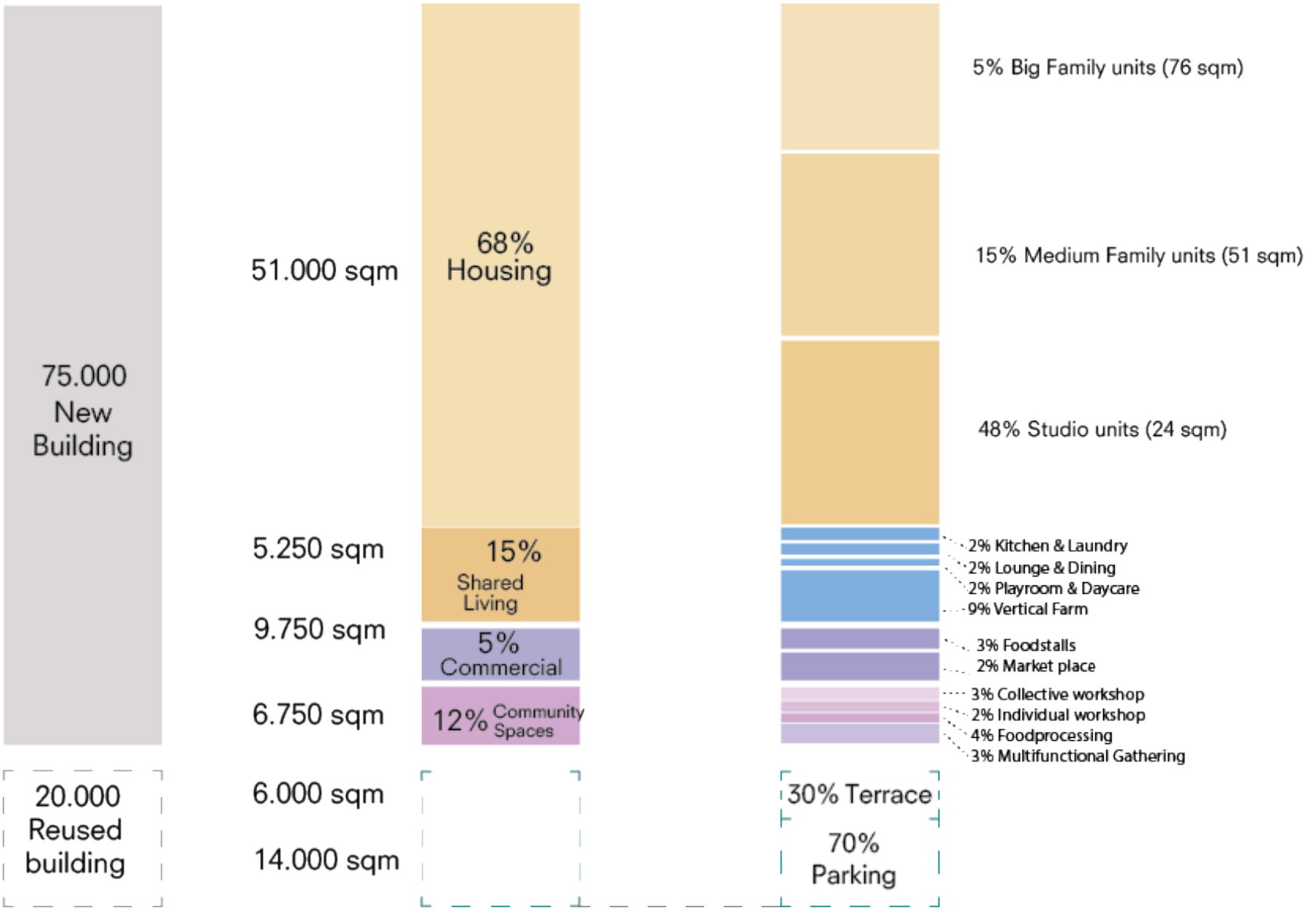
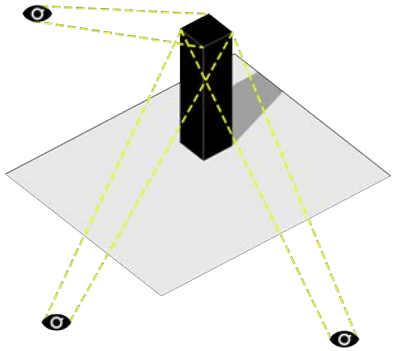


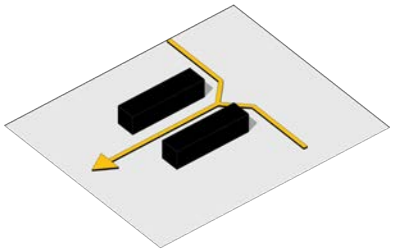
DESIGN PRINCIPLES

VISIBILITY



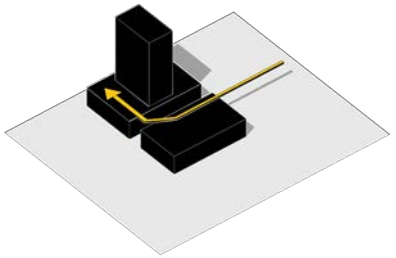
ATTRACT

PASSAGE



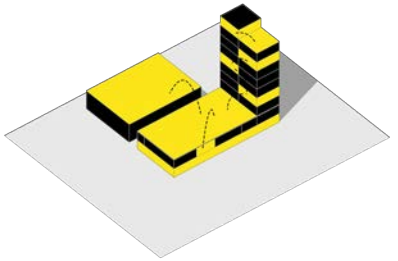
CONNECT

CONNECTION



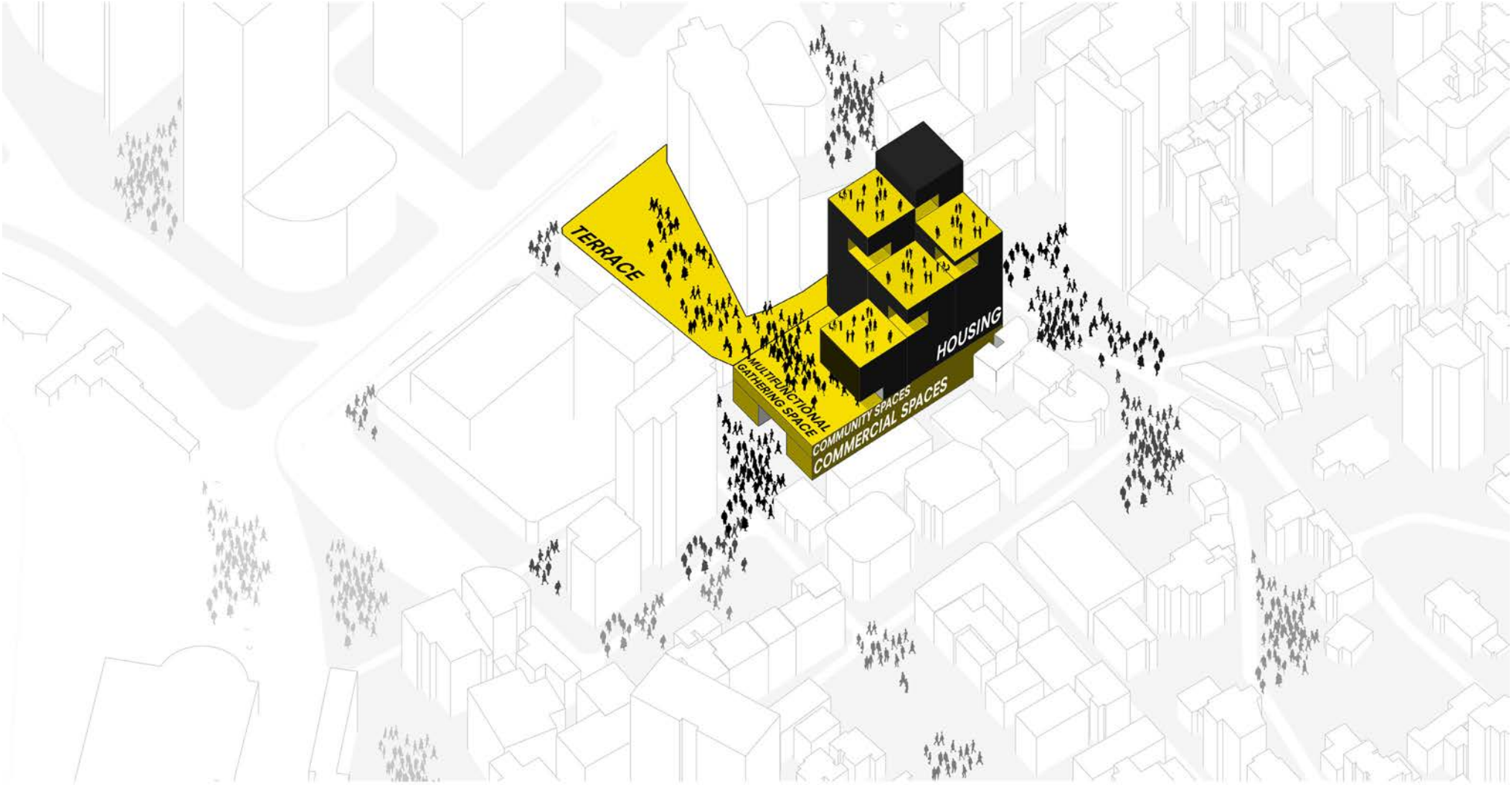
SUSTAIN

INTERACTION

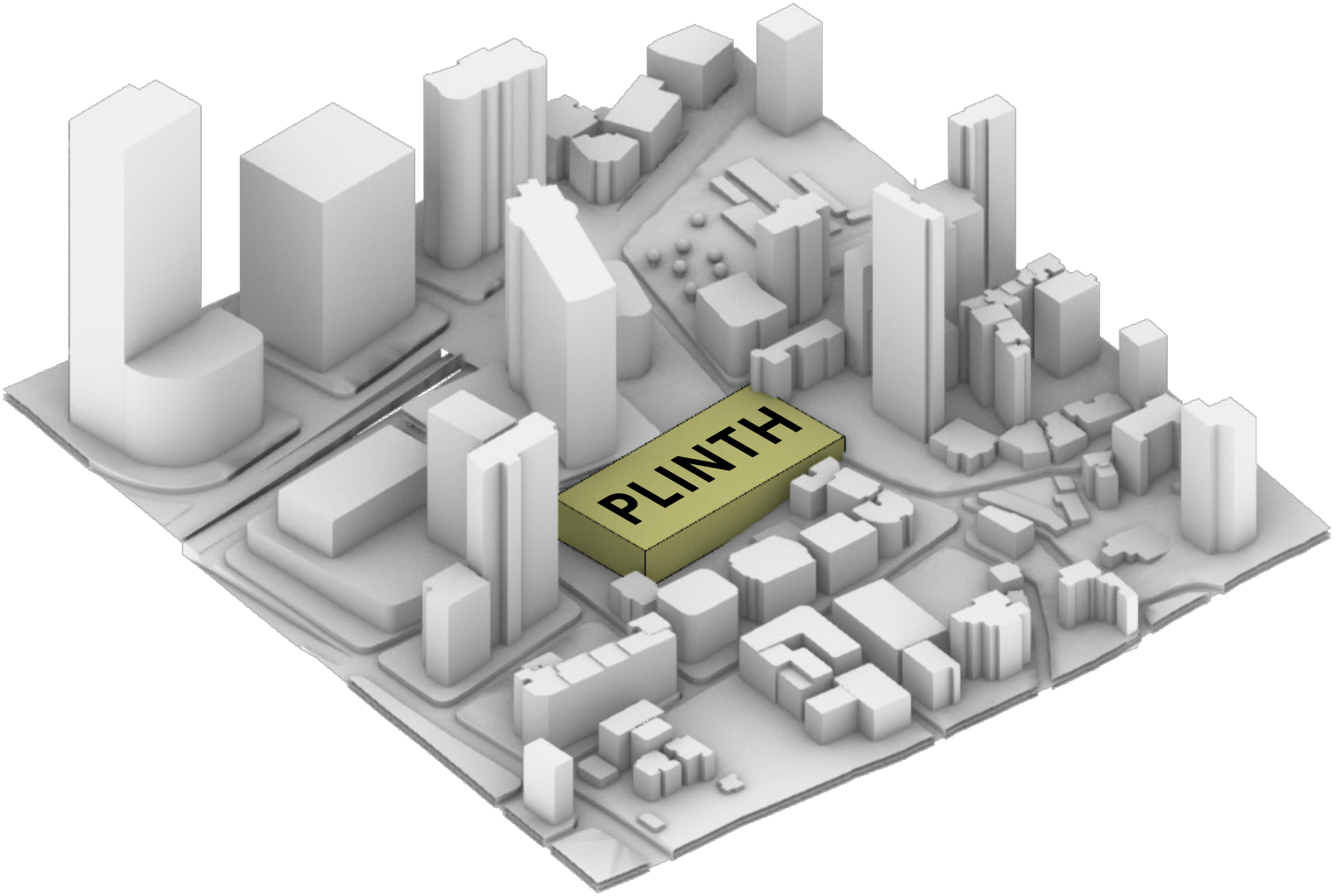


FORM

COMMUNITY VISION



MASSING CONCEPT



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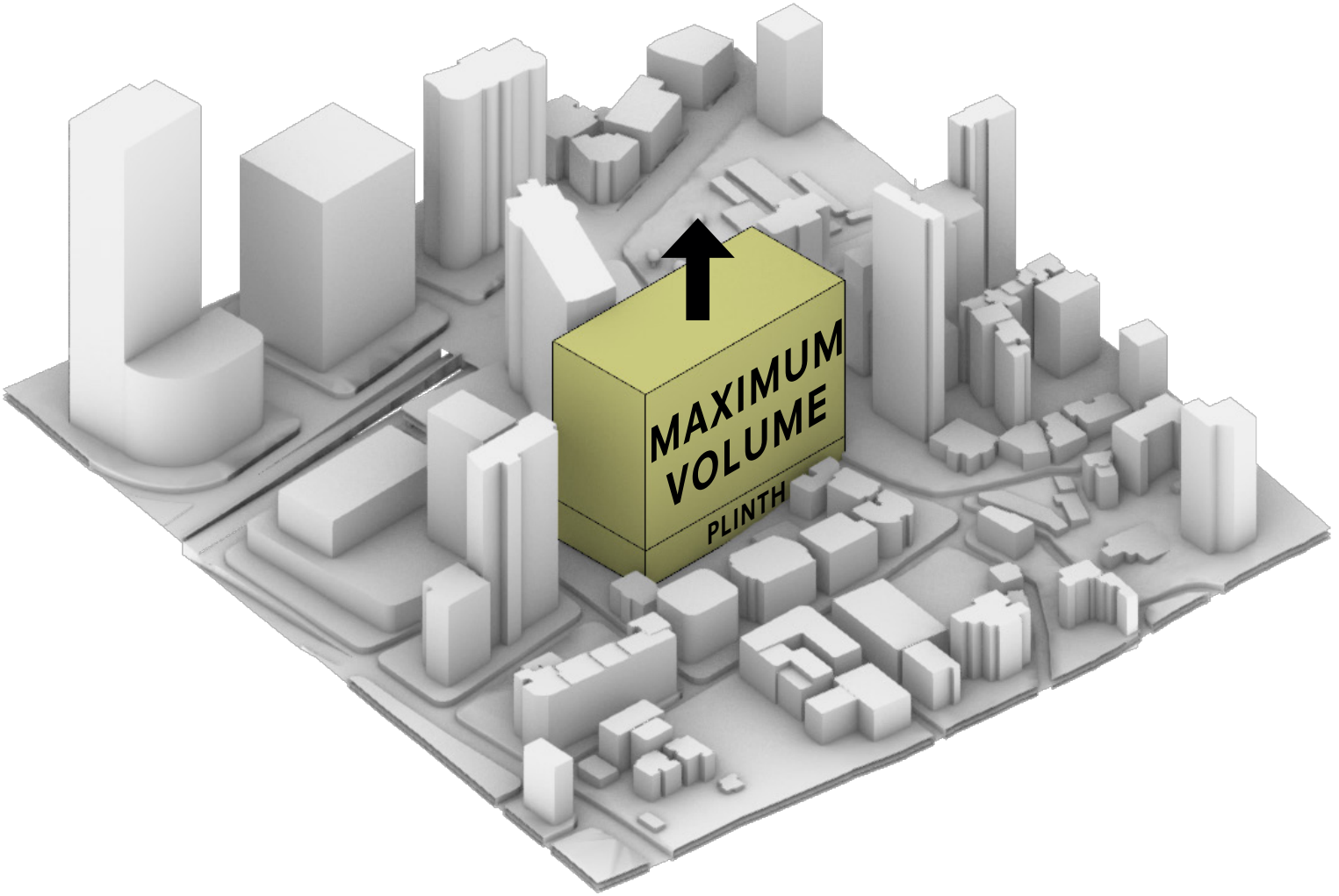

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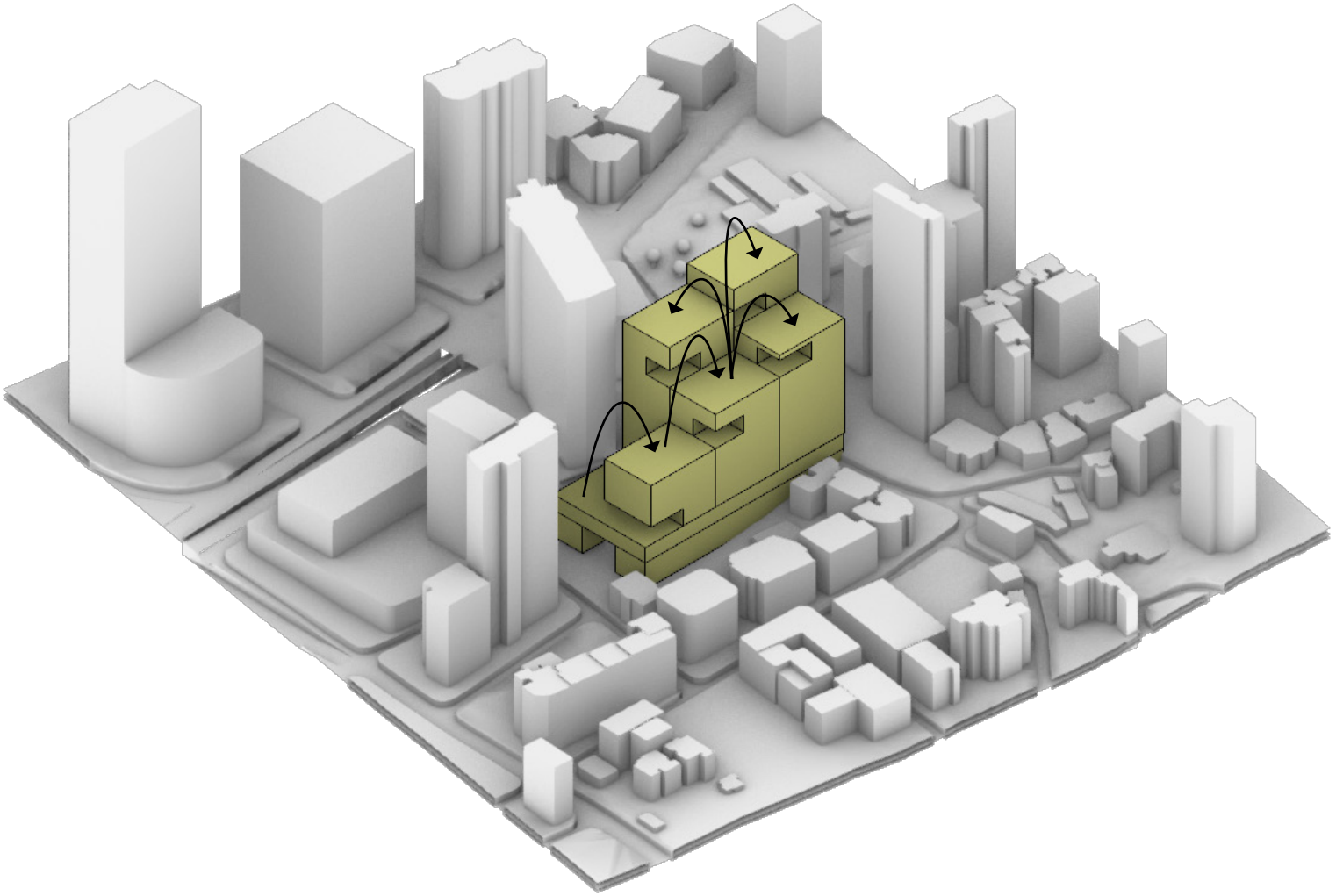

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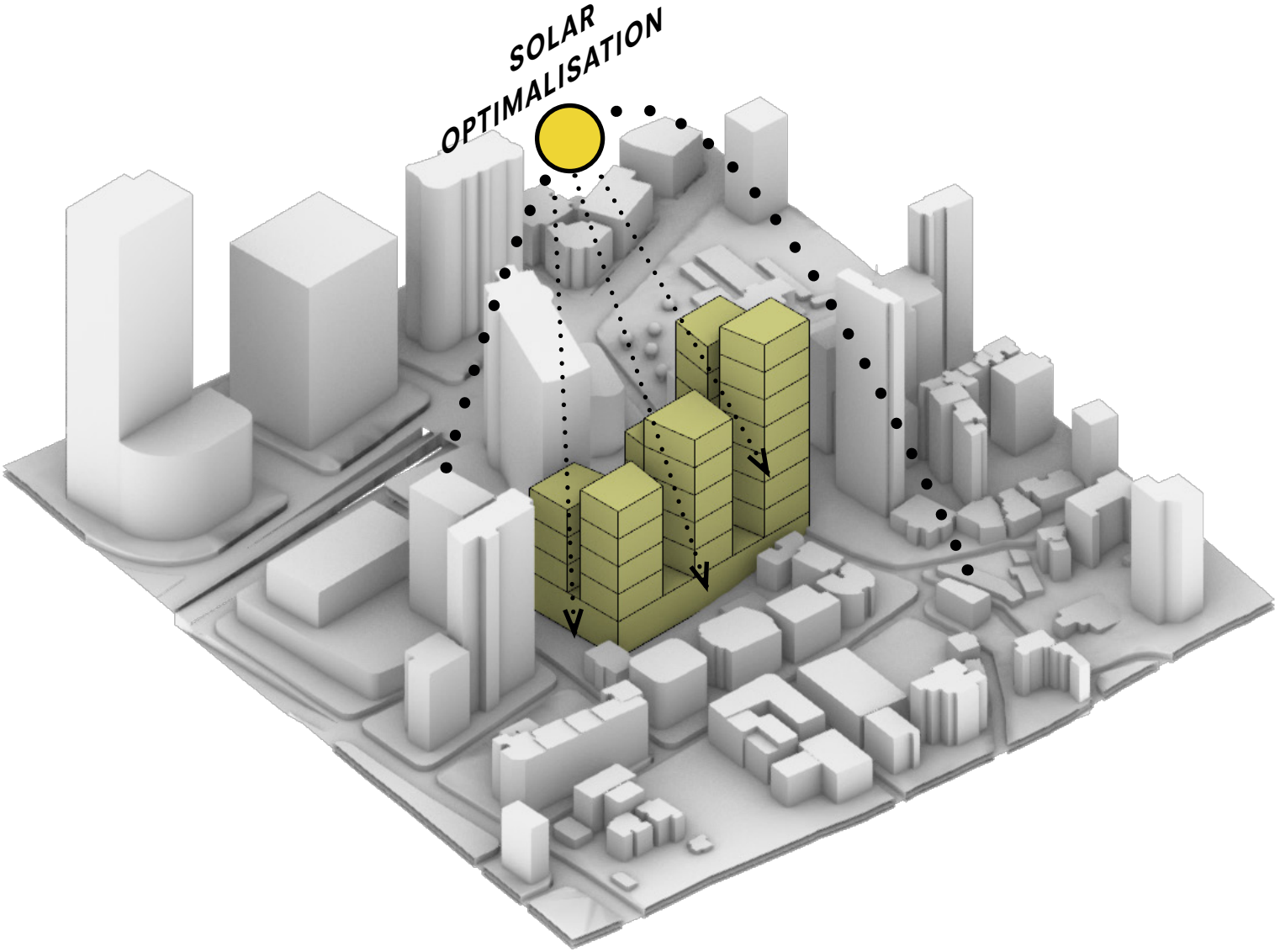

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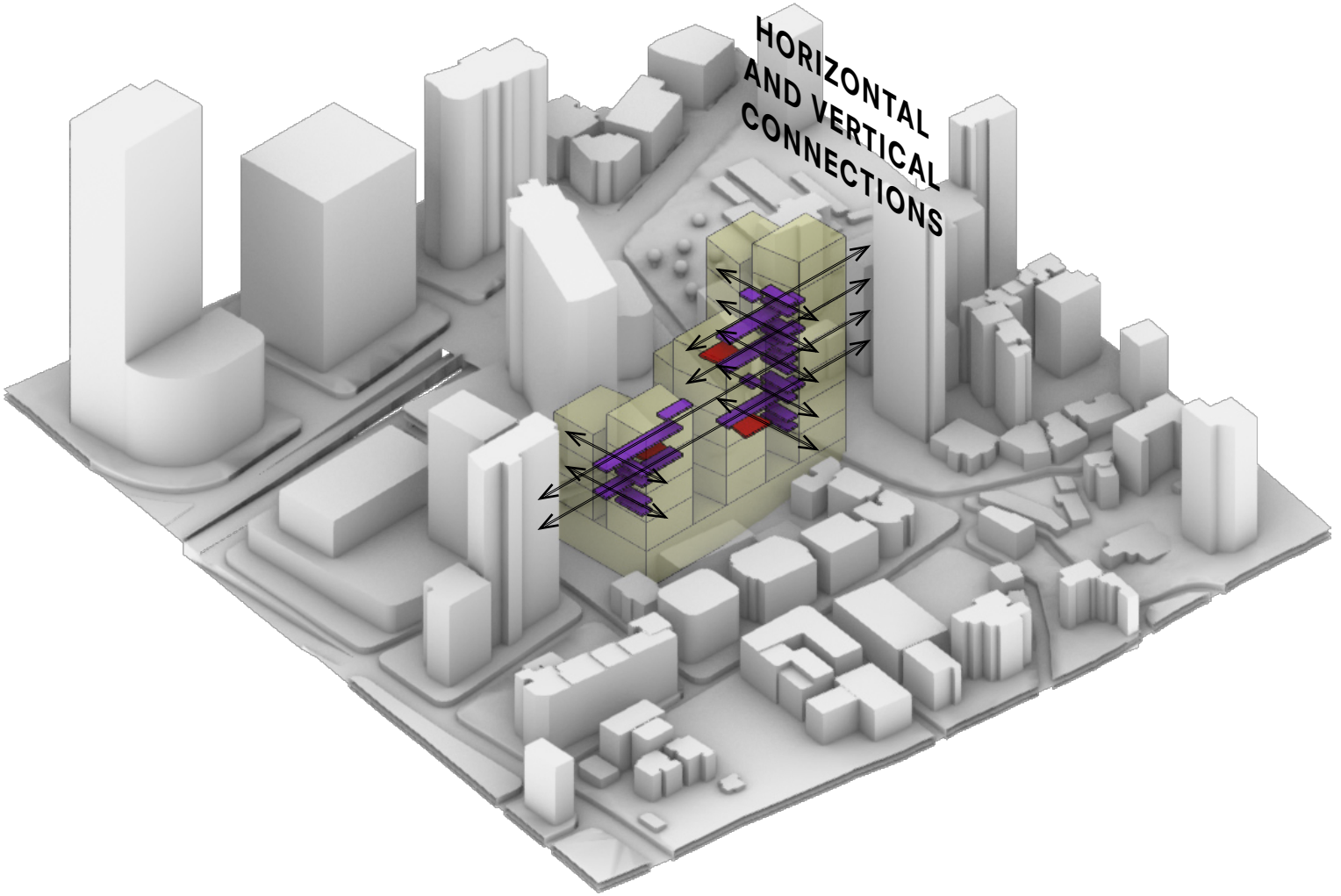

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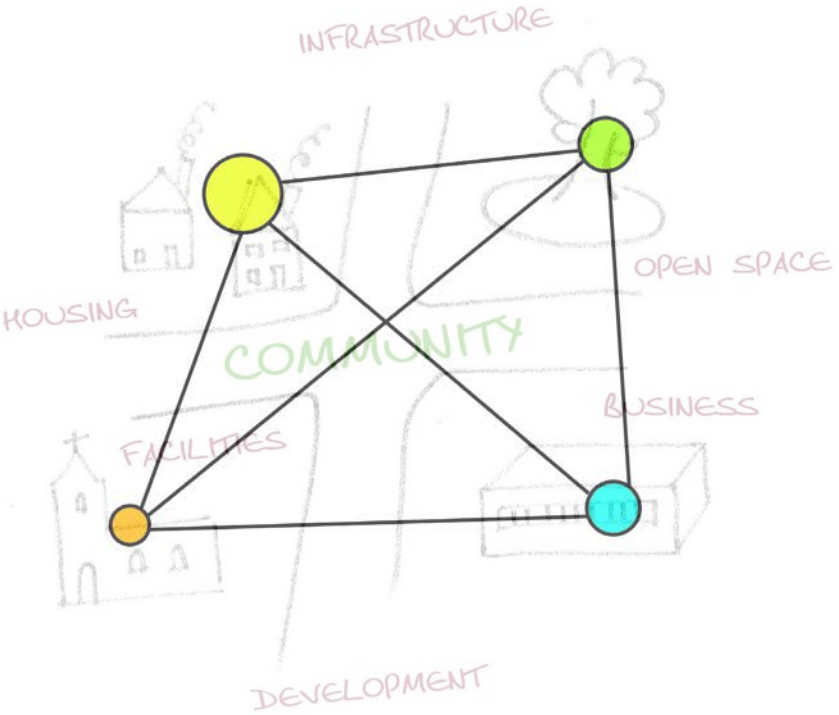
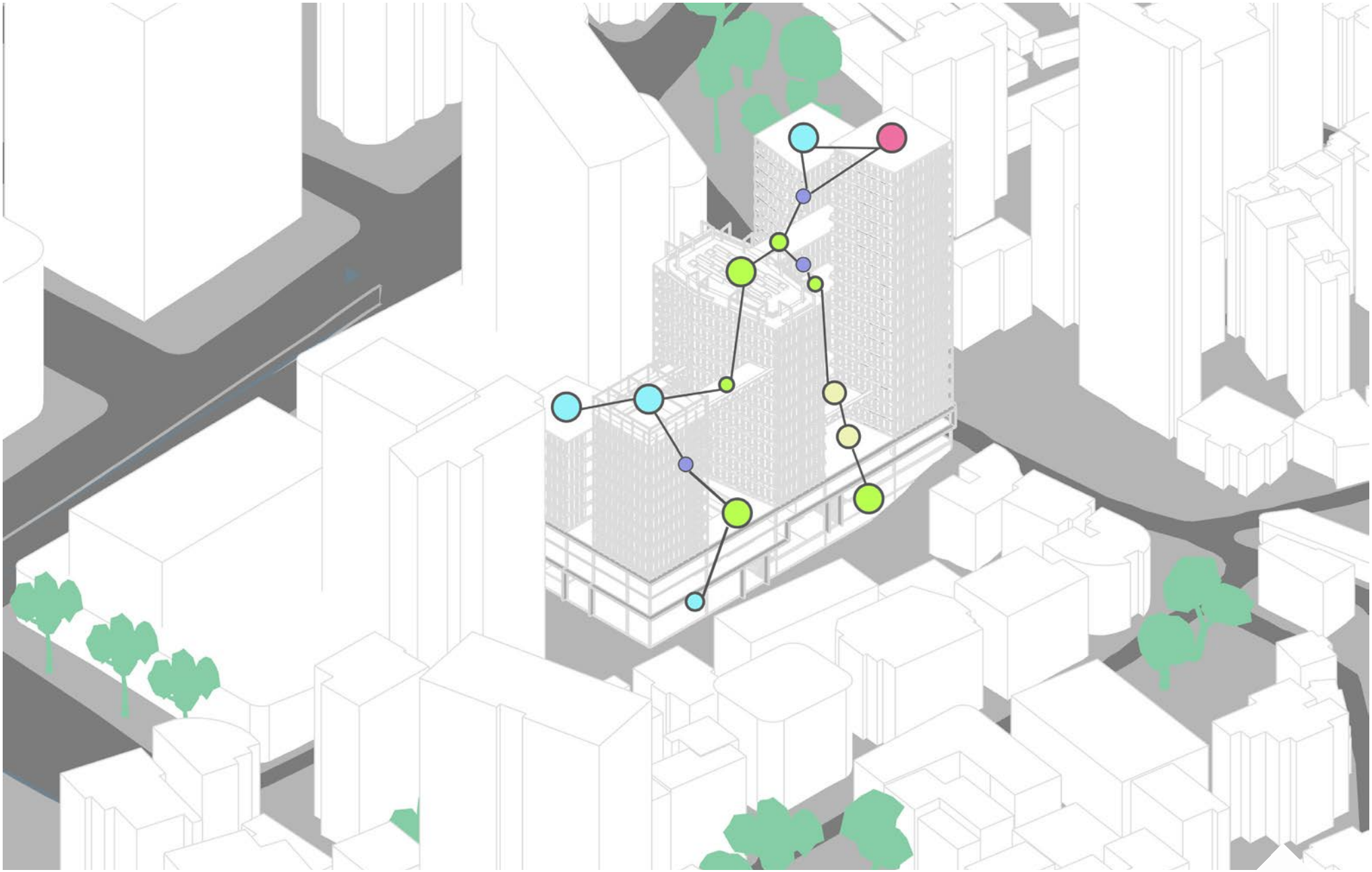
NEIGHBOURHOOD VISION

NEIGHBOURHOOD VISION



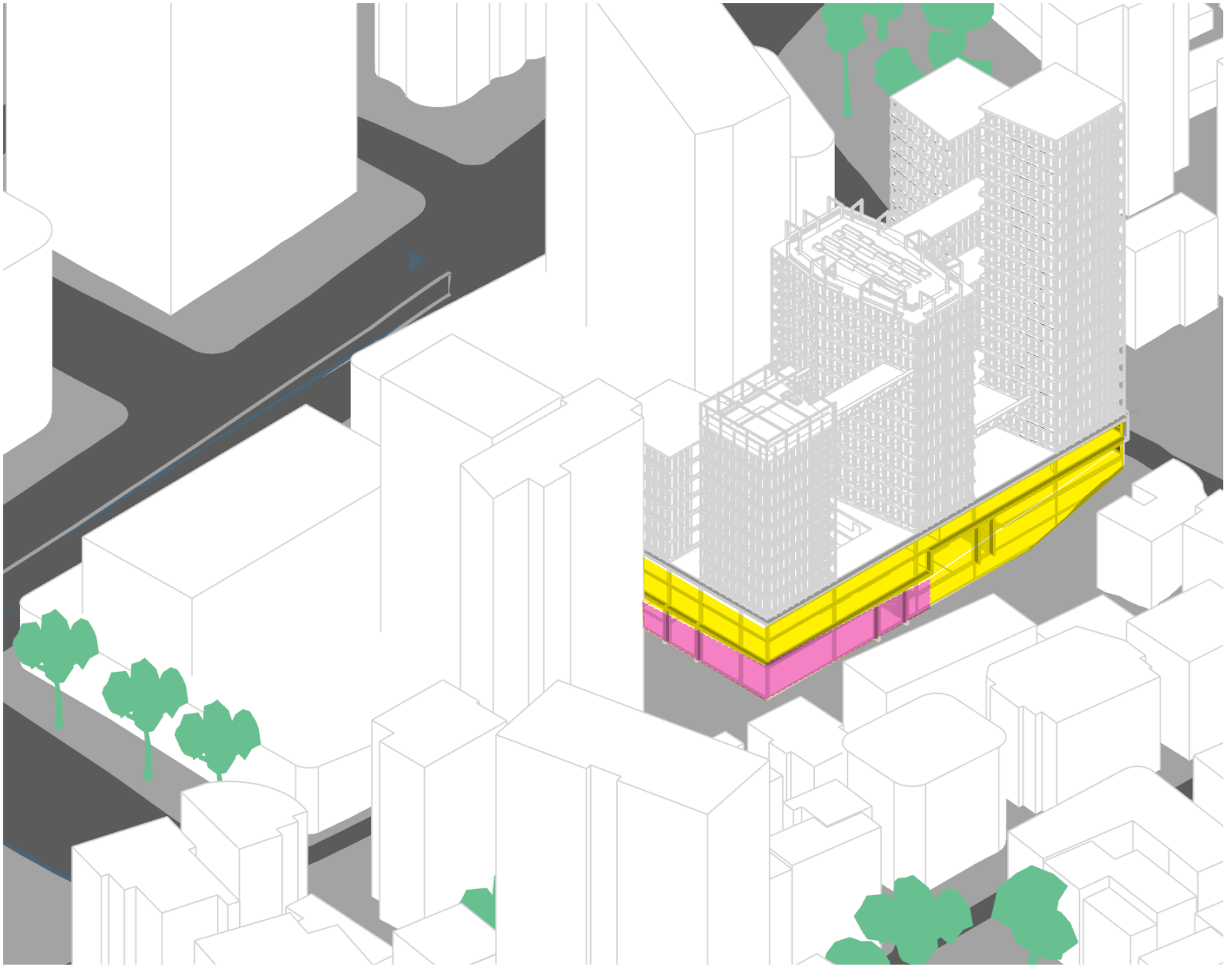
Design Concept

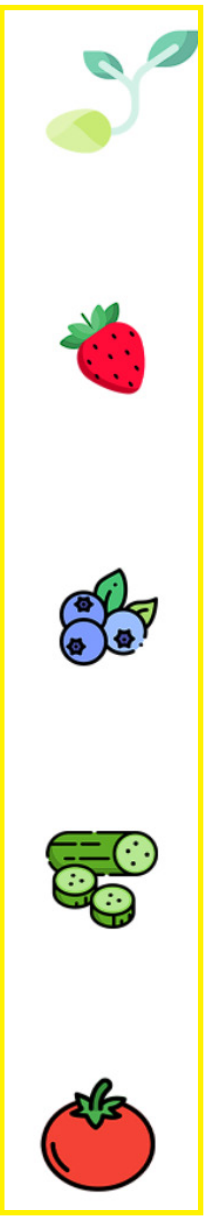
COMMUNITY VISION



Design Concept

PLINTH OF PRODUCTION

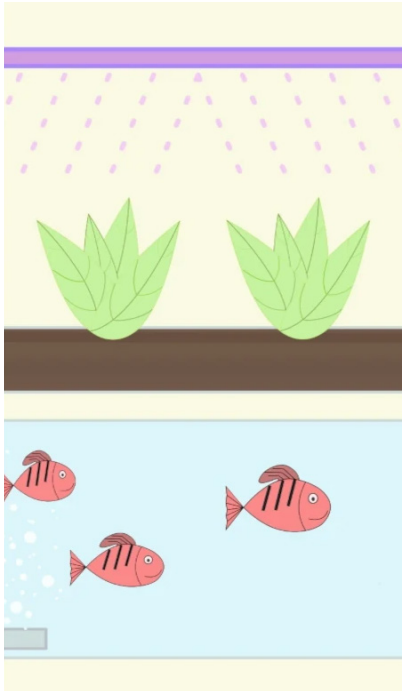




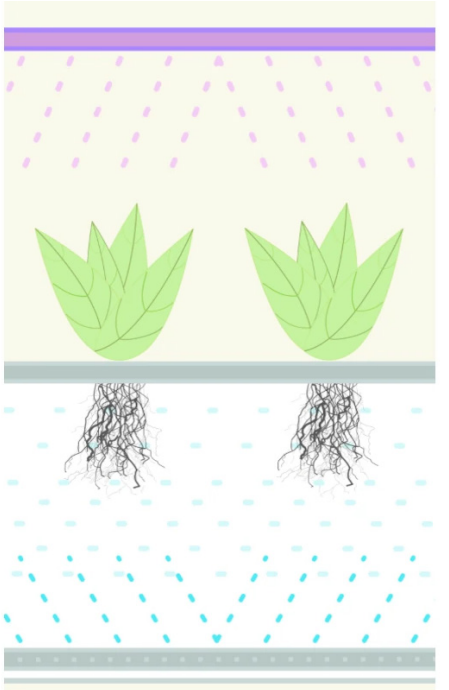
VERTICAL FARM TYPES

HYDROPONIC

AQUAPONIC

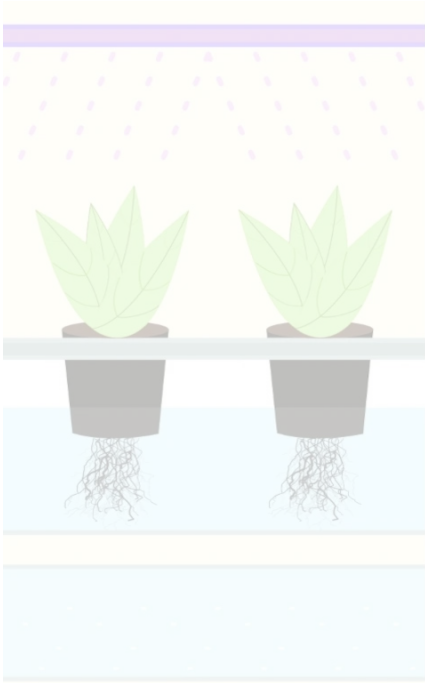


AEROPONIC



VERTICAL FARM TYPES

HYDROPONIC



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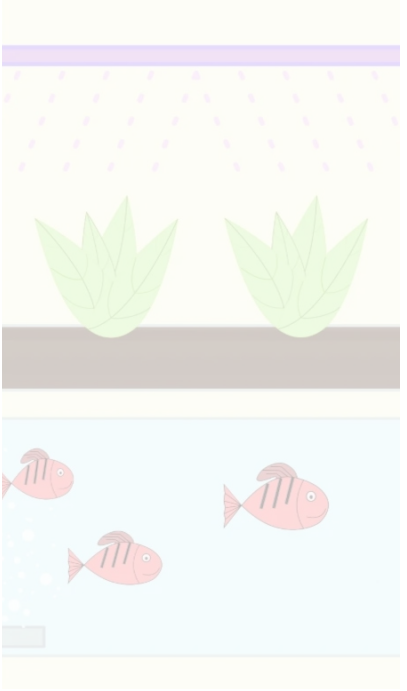

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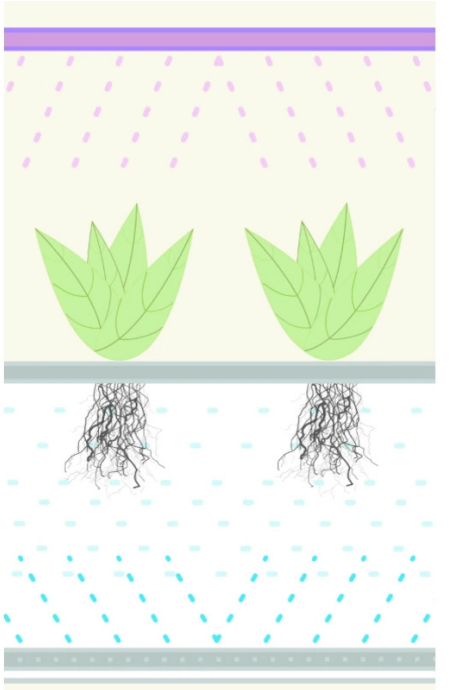
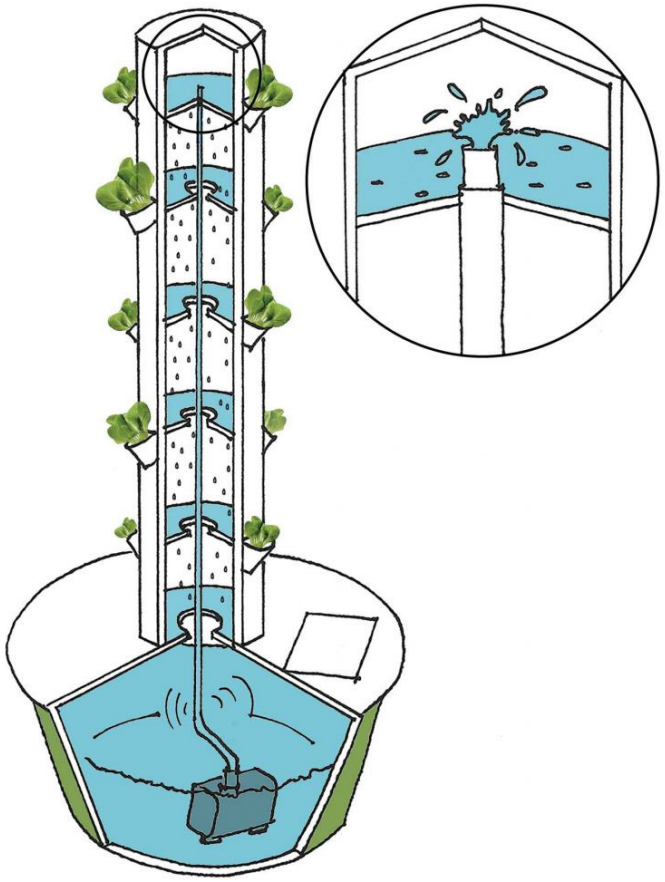
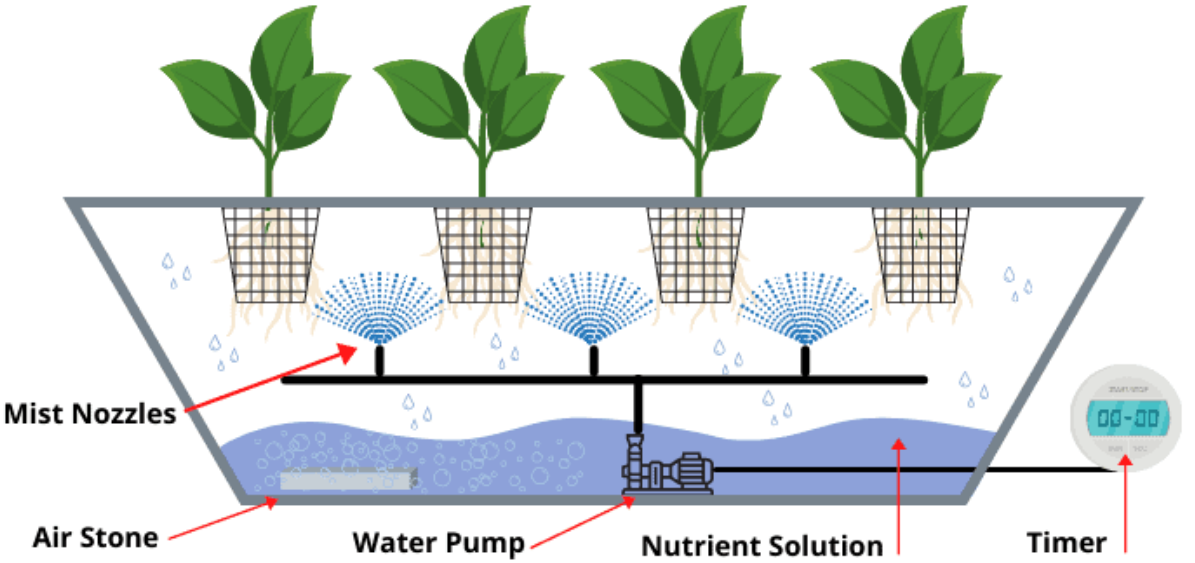


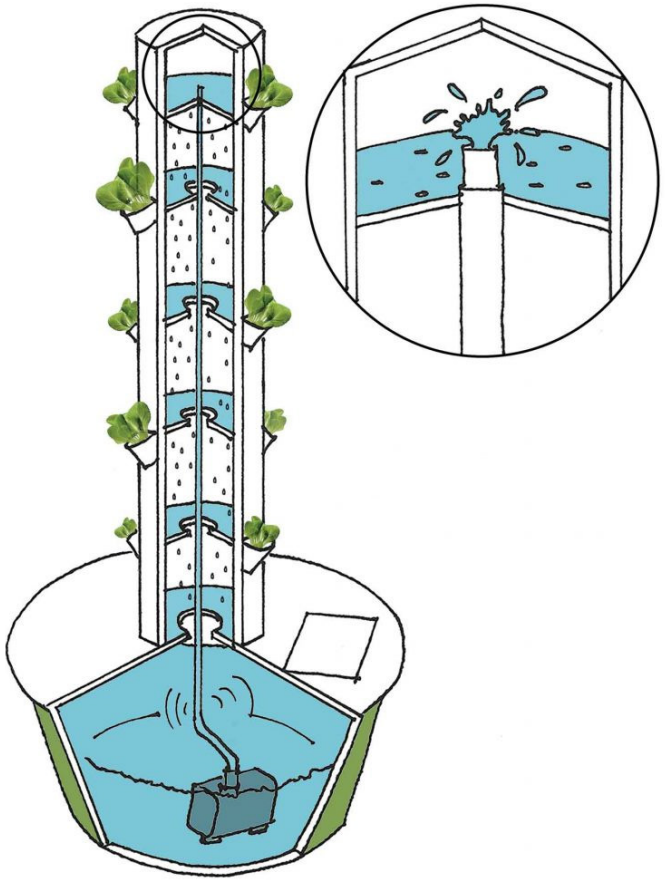
AEROPONIC TOWER

AEROPONIC SYSTEMS



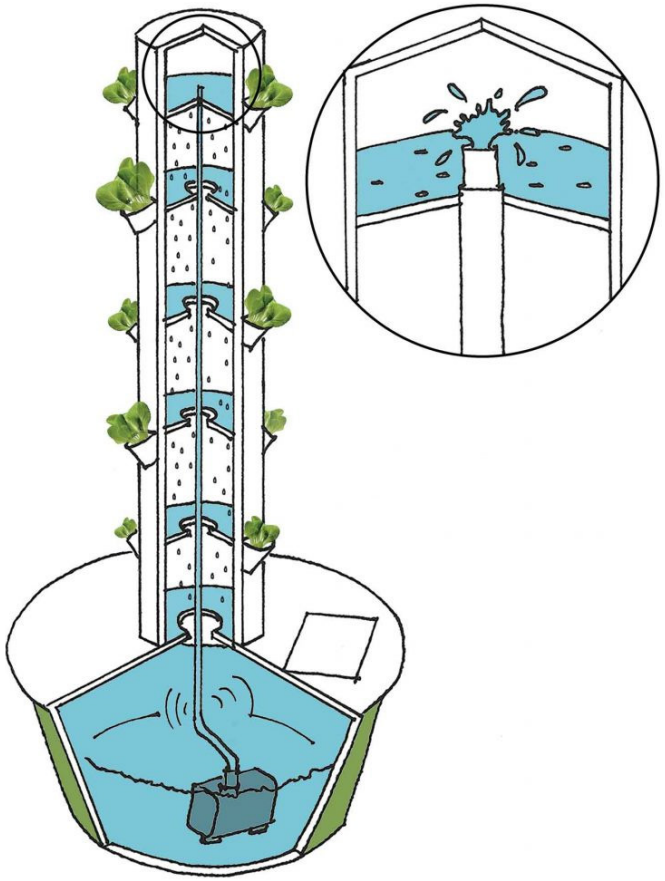


AEROPONIC SYSTEMS



3X MORE YIELD

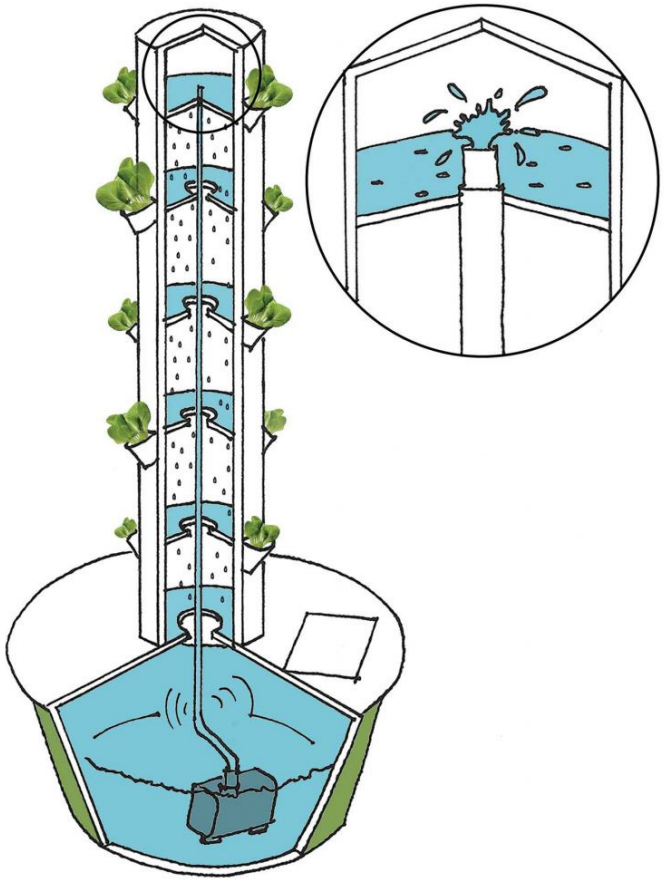
AEROPONIC SYSTEMS



3X MORE YIELD

3X FASTER GROWTH

AEROPONIC SYSTEMS

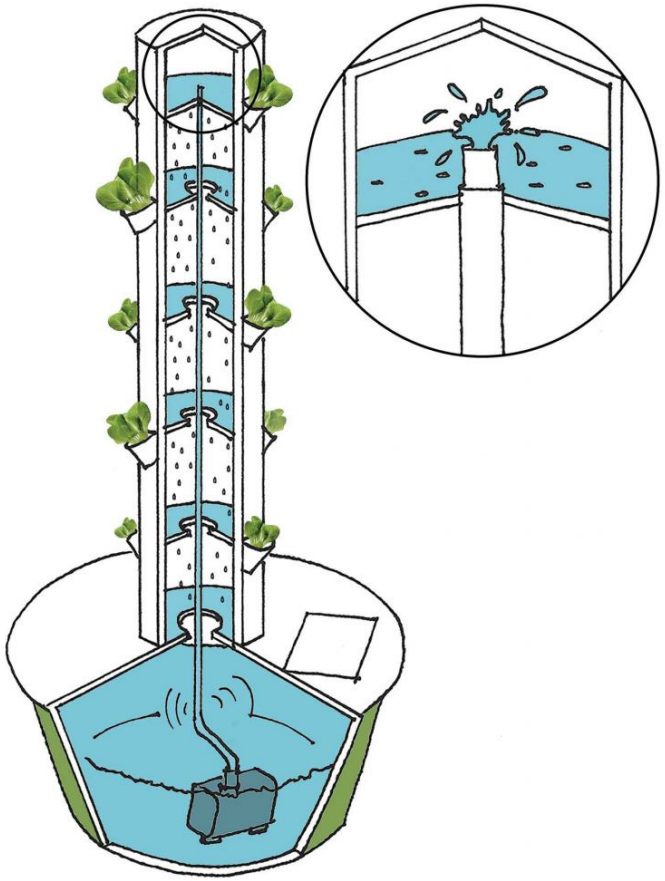


3X MORE YIELD

3X FASTER GROWTH

98% LESS WATER

AEROPONIC SYSTEMS



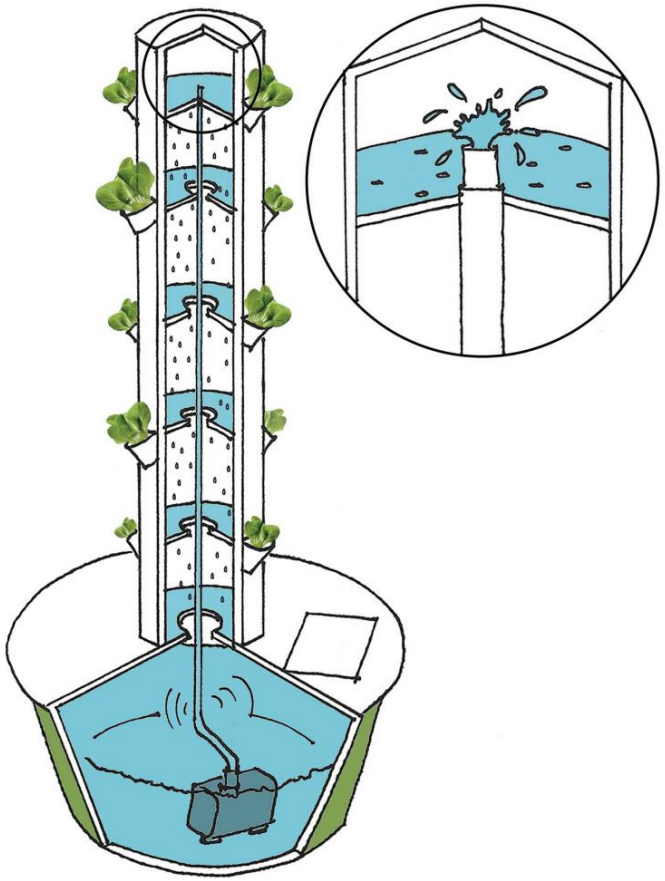
3X MORE YIELD

3X FASTER GROWTH

98% LESS WATER

90% LESS SPACE

AEROPONIC SYSTEMS



3X MORE YIELD

3X FASTER GROWTH

98% LESS WATER

90% LESS SPACE

NO POLLUTION

P5: CONTENT

01 INTRODUCTION

02 RESEARCH

03 DESIGN BRIEF

04 CONCEPT

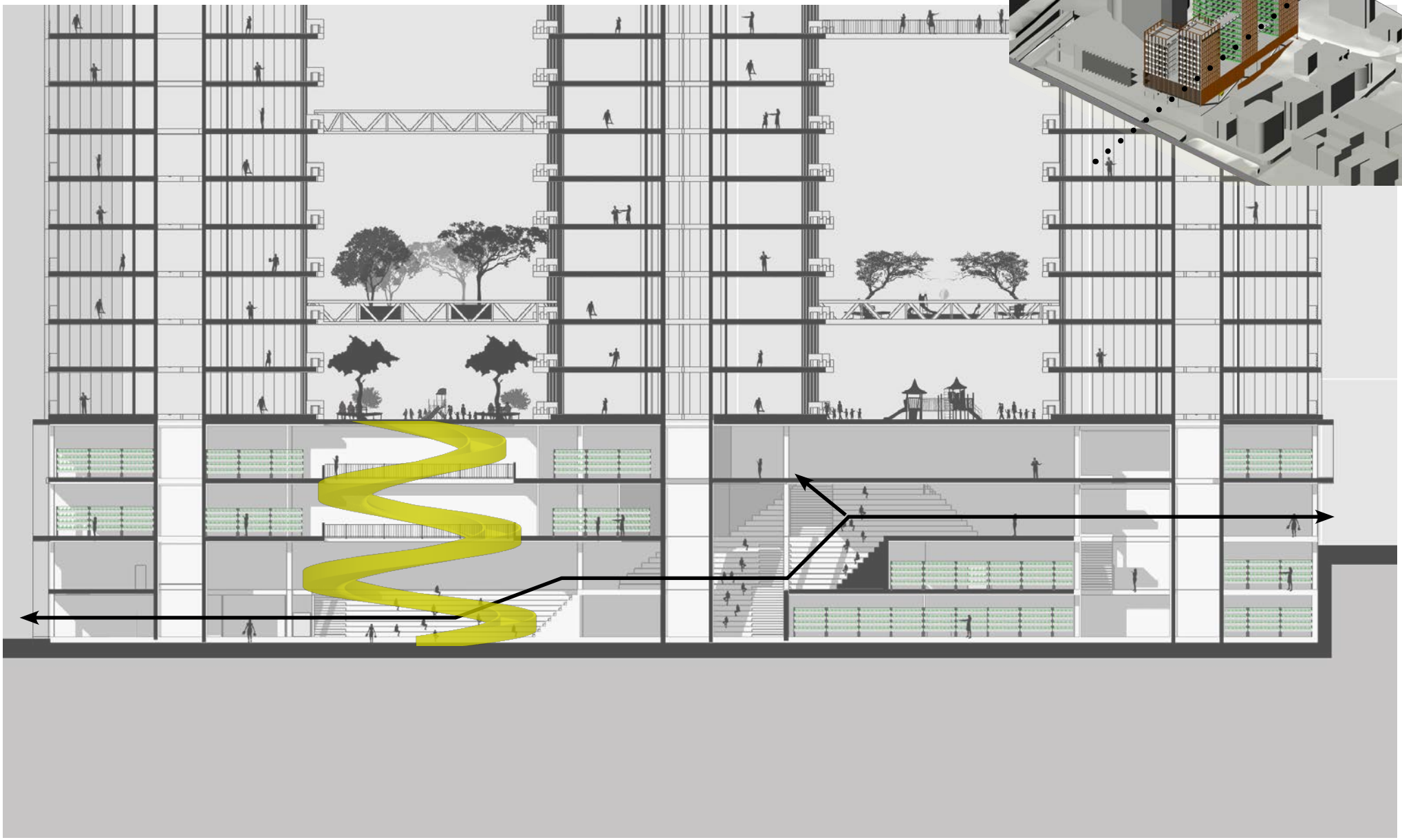
05 IMPLEMENTATION

06 DEVELOPMENT

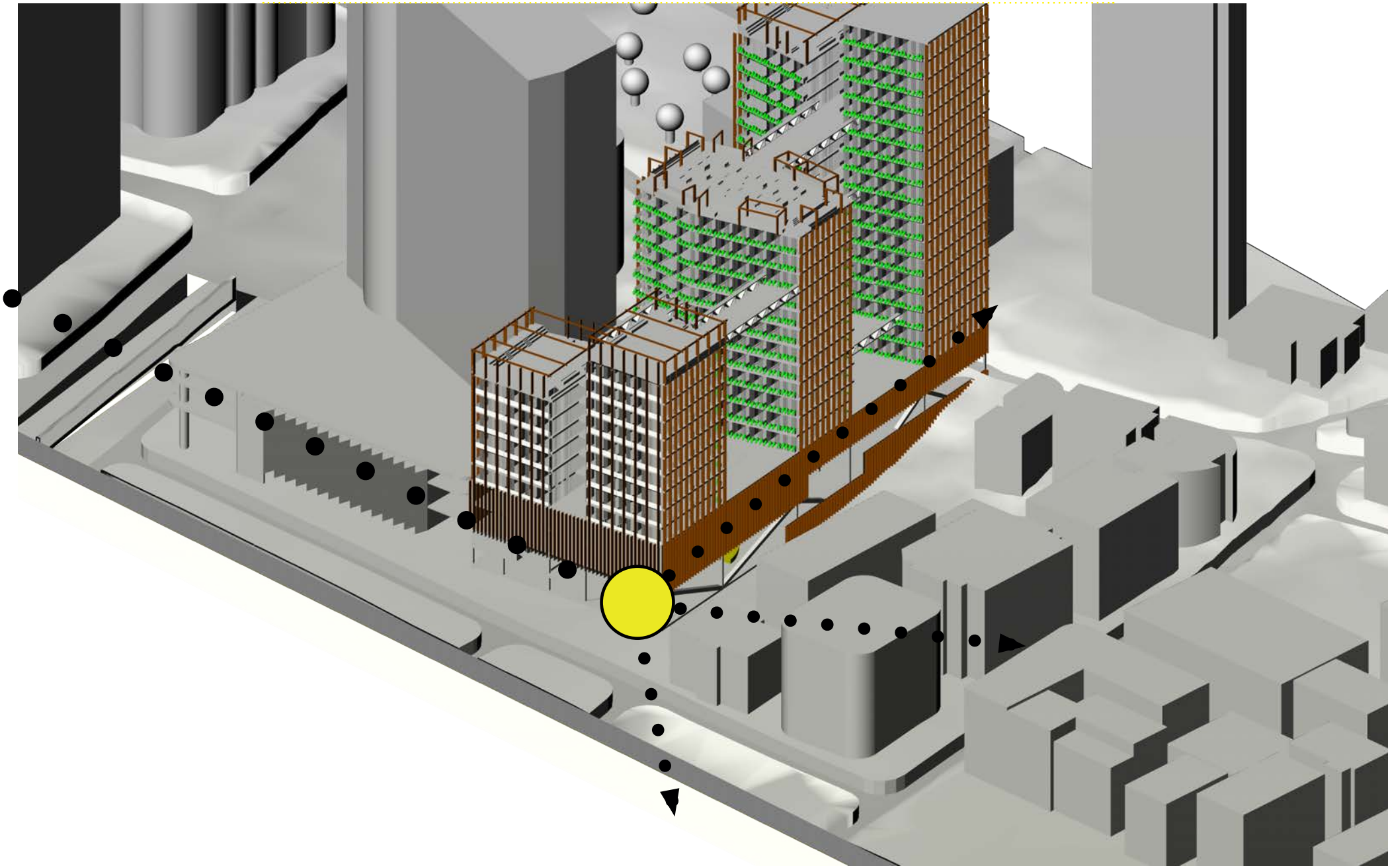
07 CONCLUSIE

Design Brief

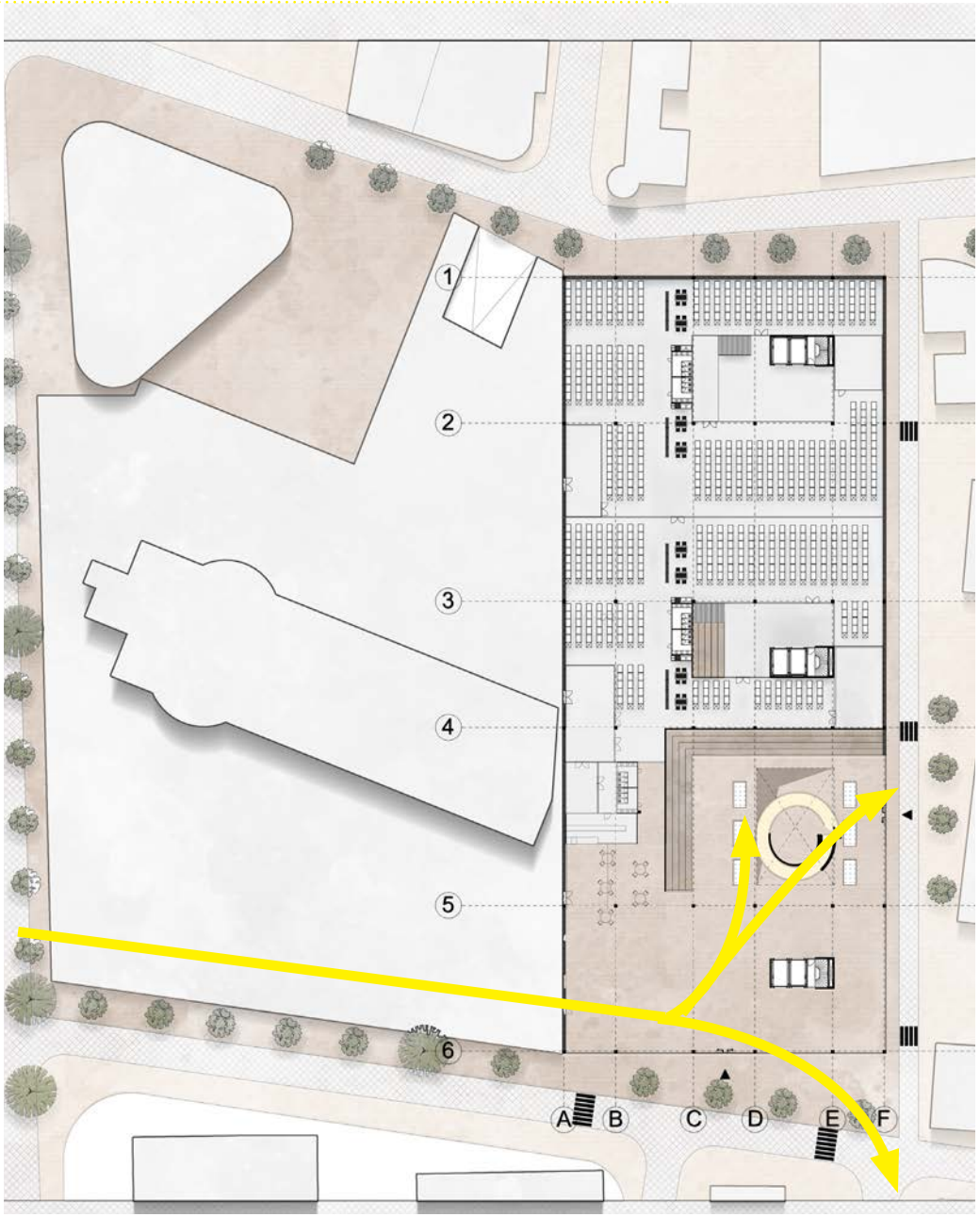
PLINT PASSAGE



PLINTH: ANCHORPOINT

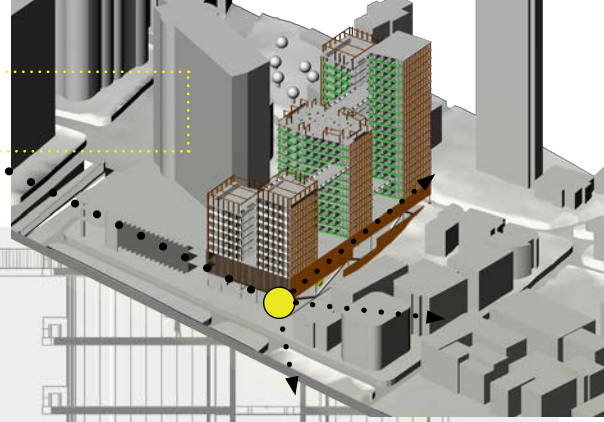


PLINTH: ANCHORPOINT



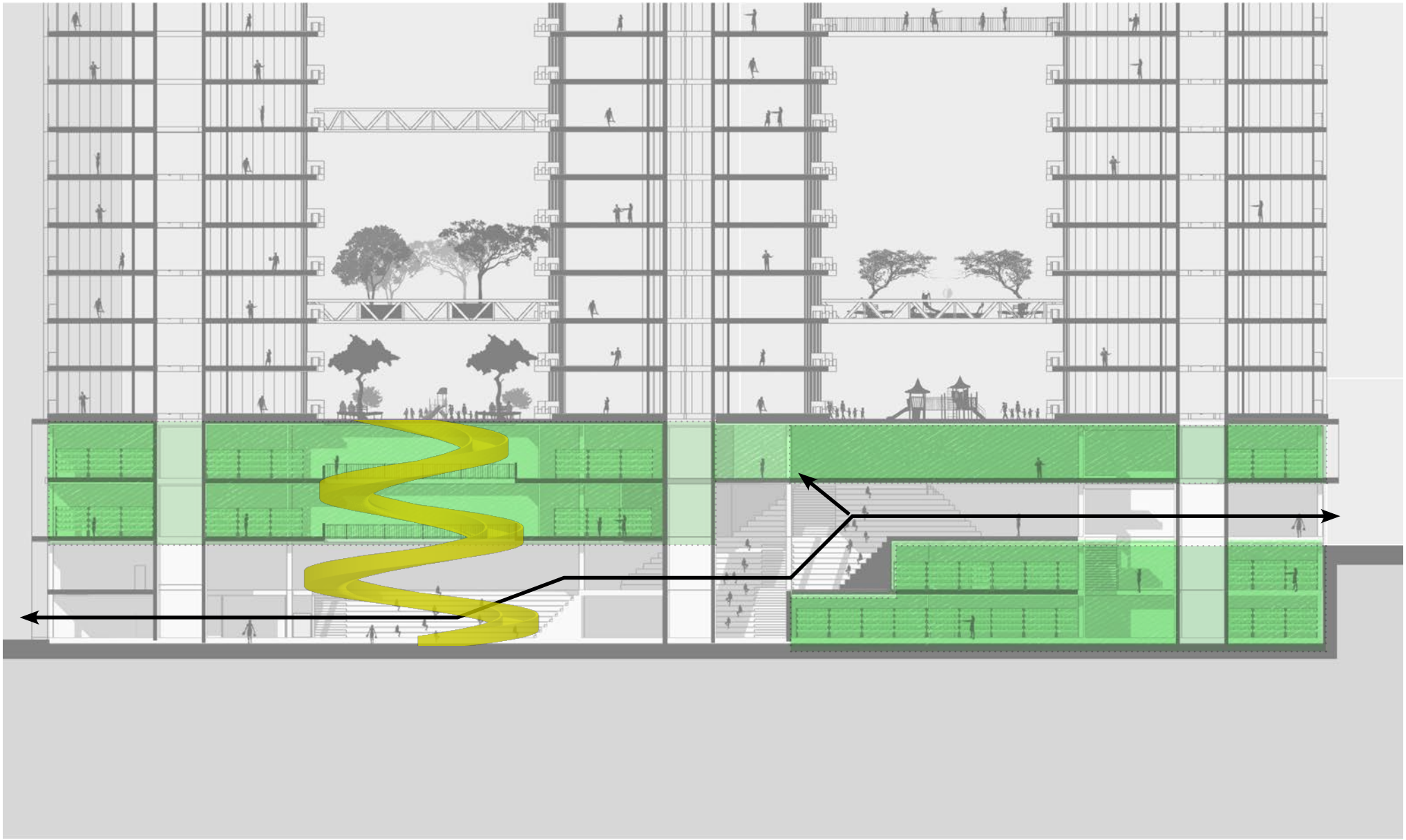
Design Concept

PLINTH: ANCHORPOINT



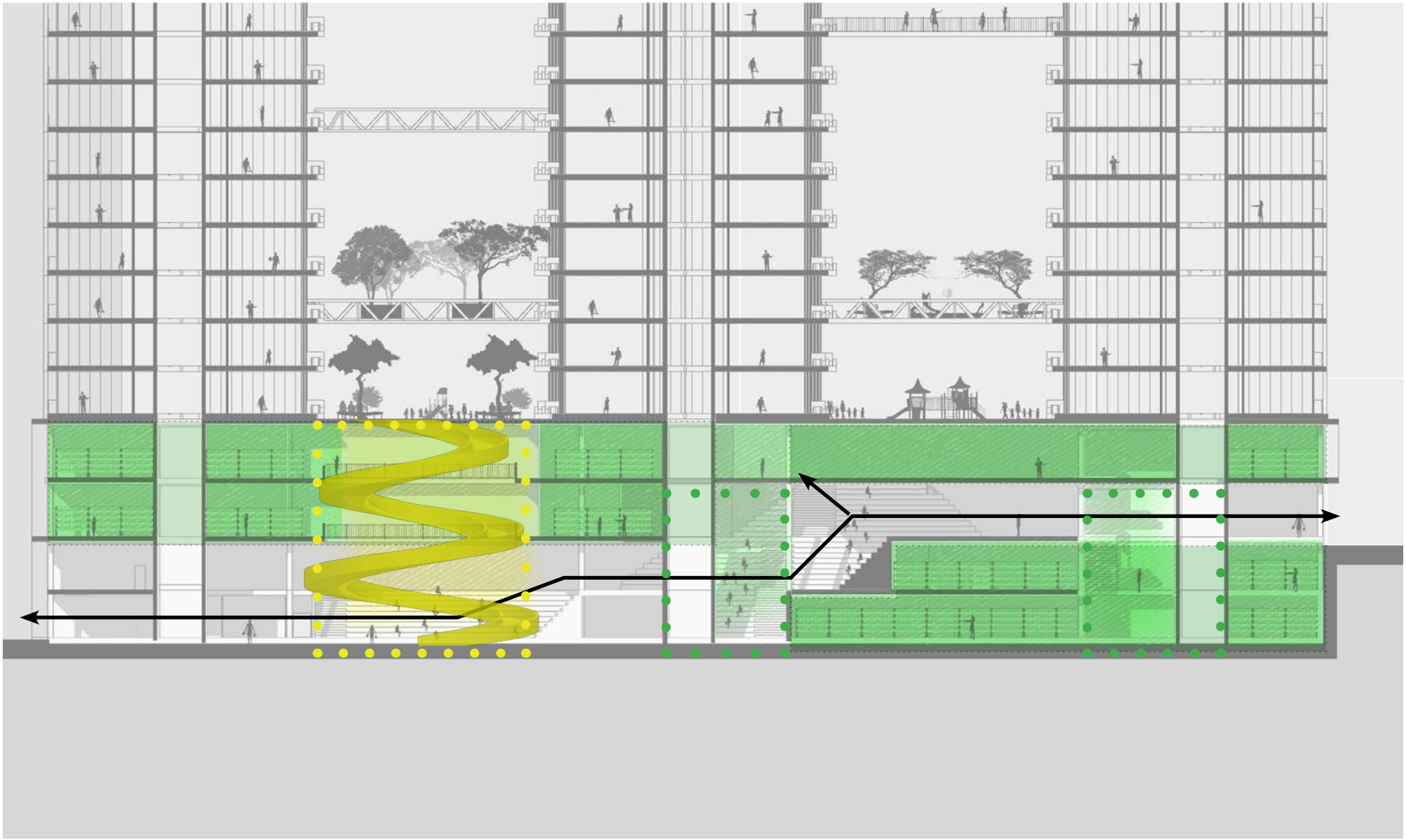
Design Brief

PLINT PASSAGE



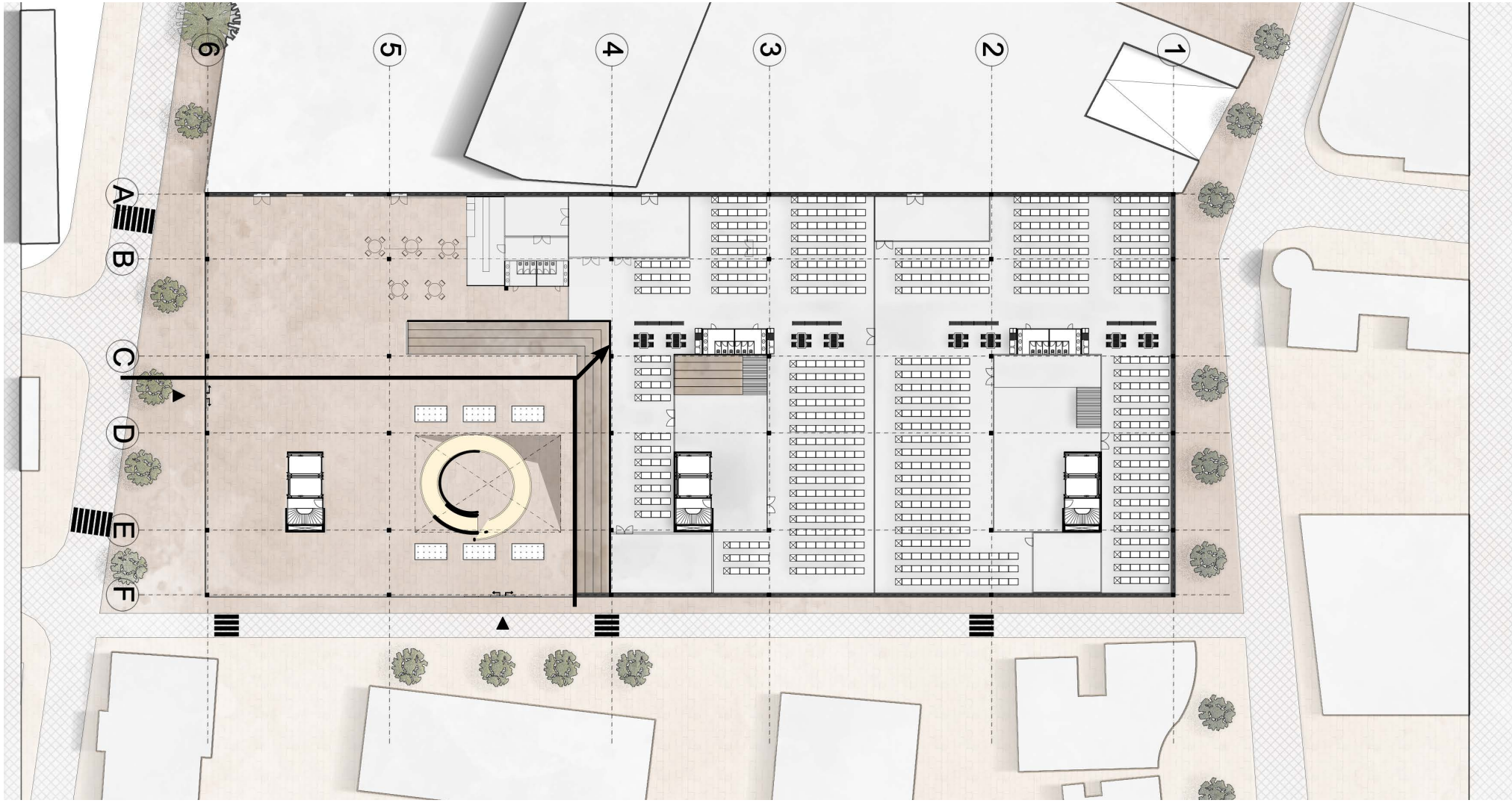
Design Brief

PLINT COMBINED



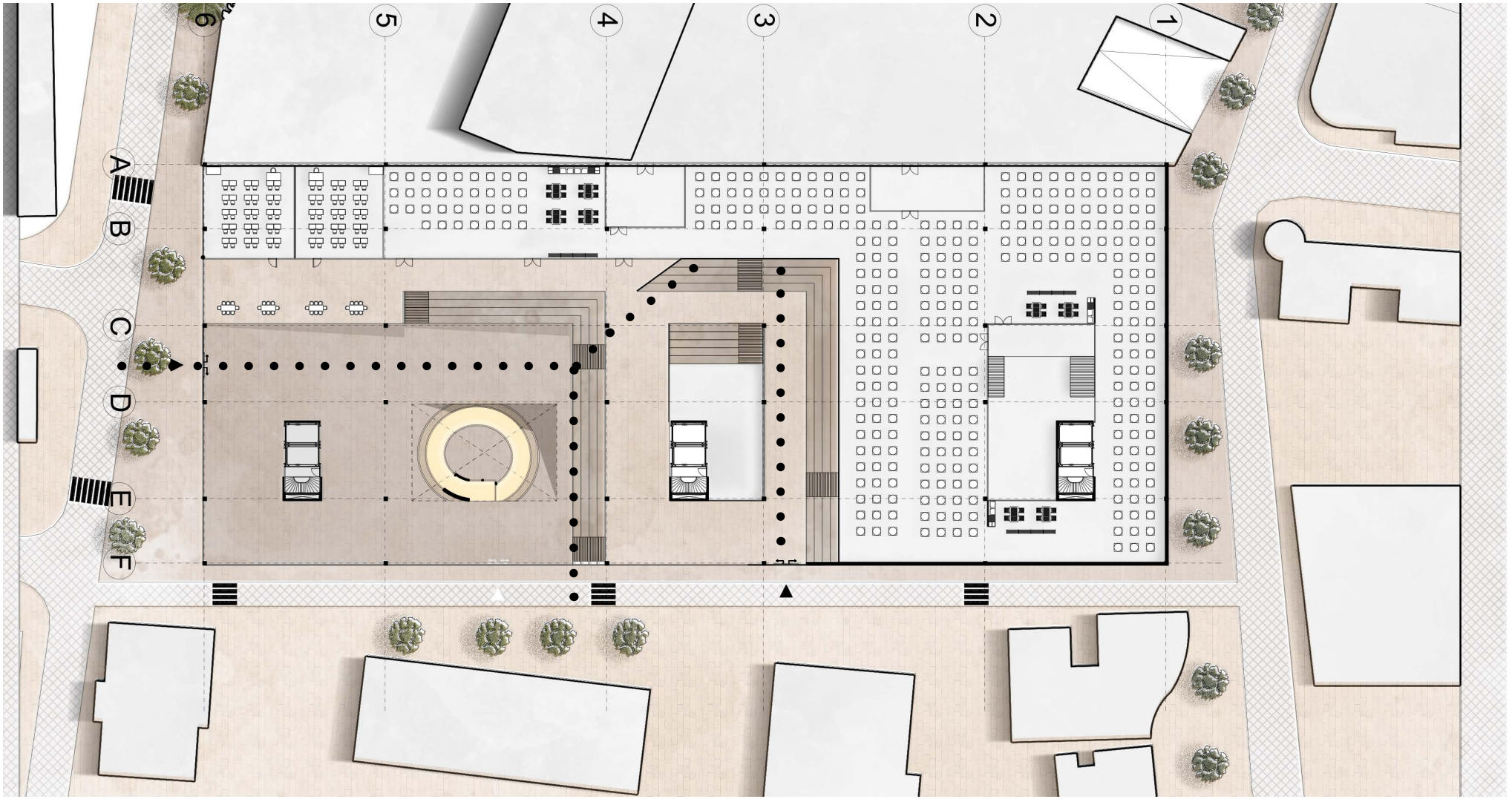
Design Concept

PLINTH LAYERS



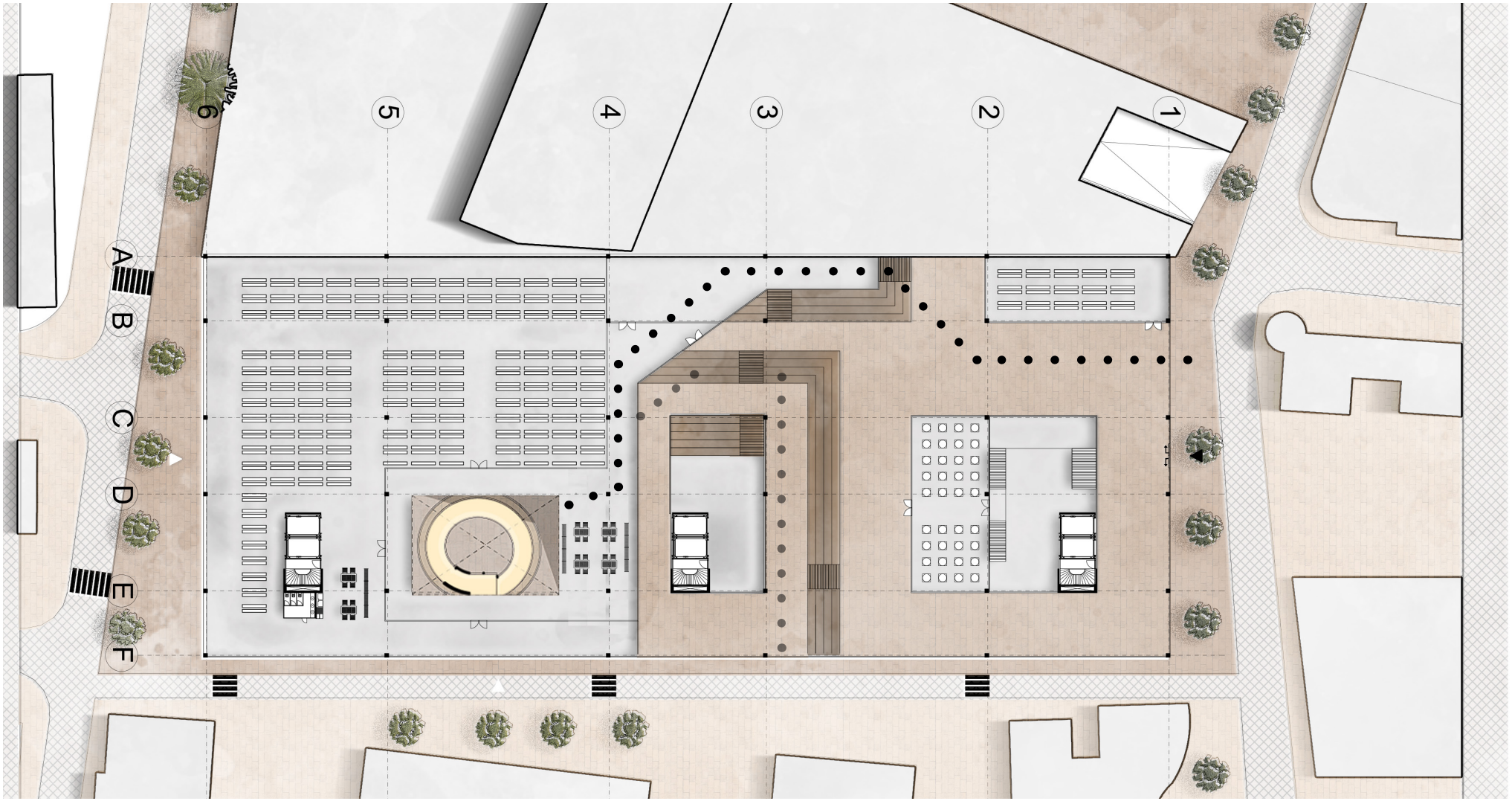
Design Concept

PLINTH LAYERS



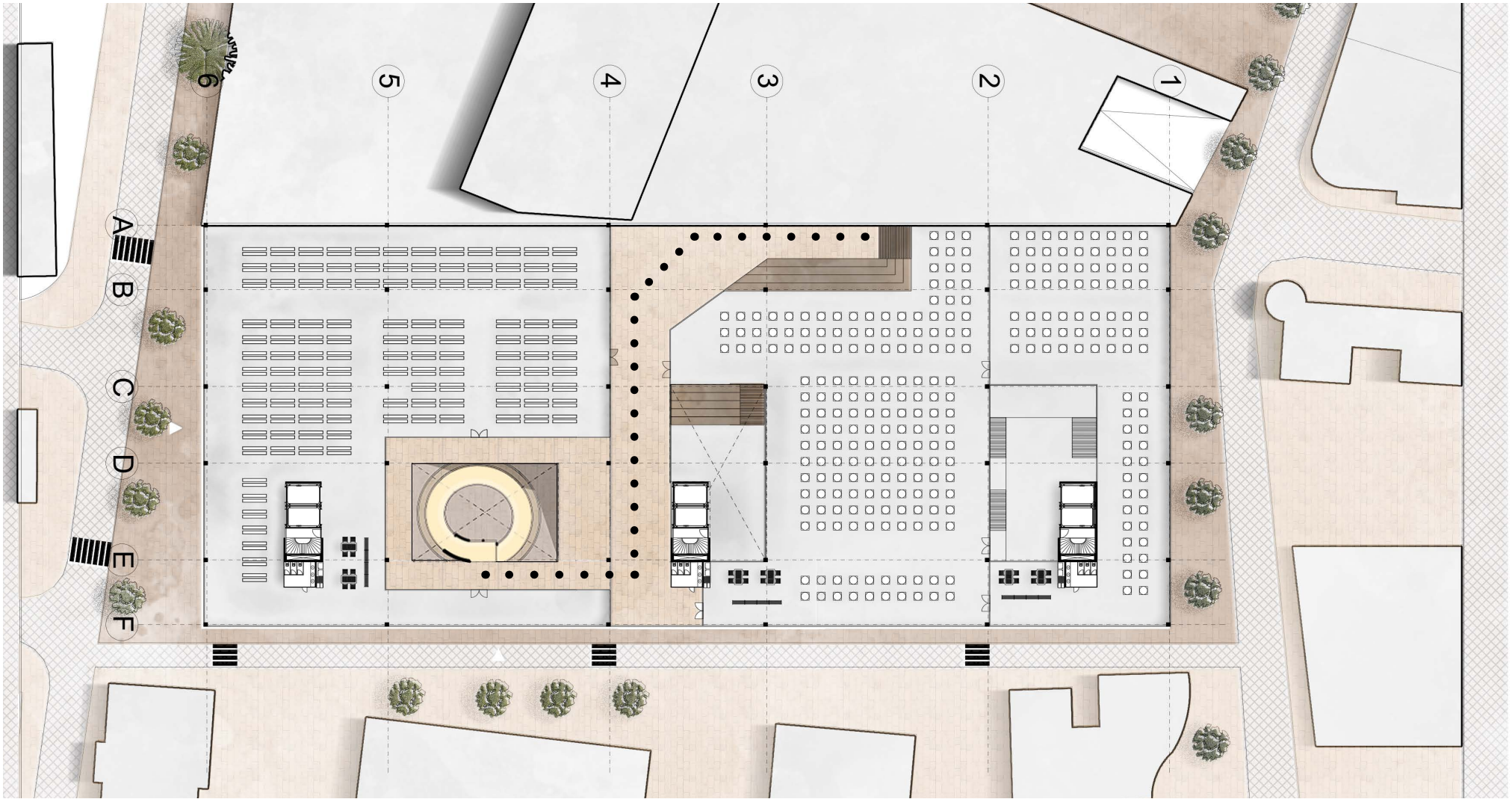
Design Concept

PLINTH LAYERS



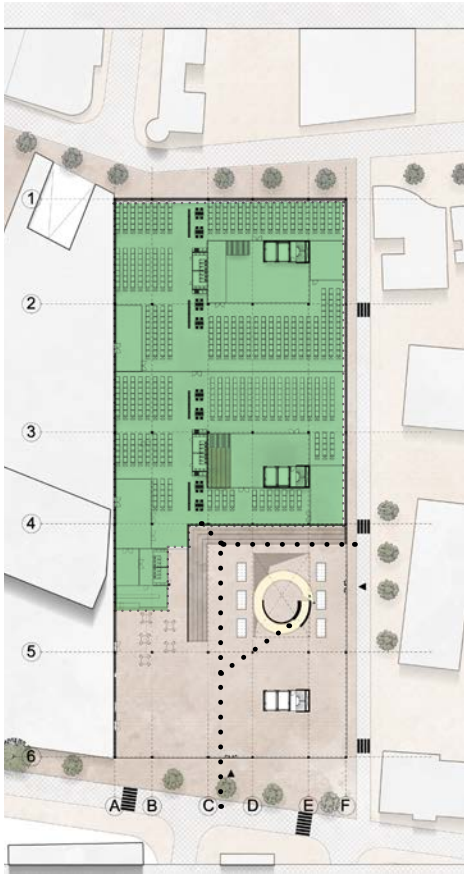
Design Concept

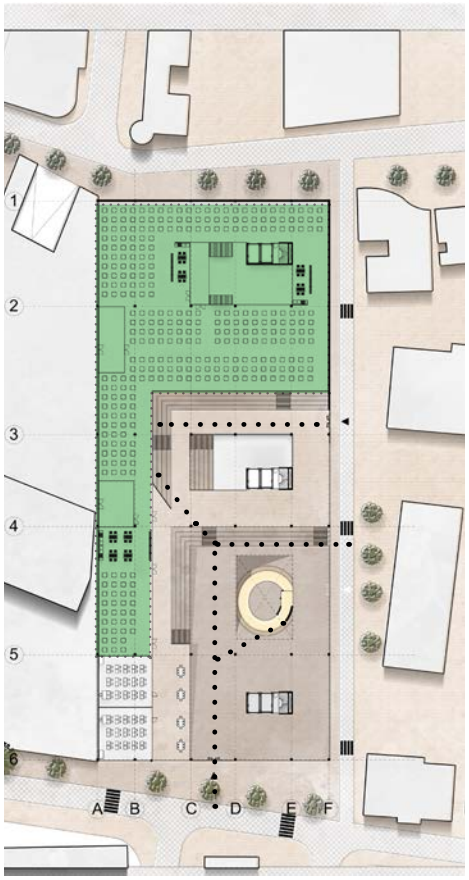
PLINTH LAYERS

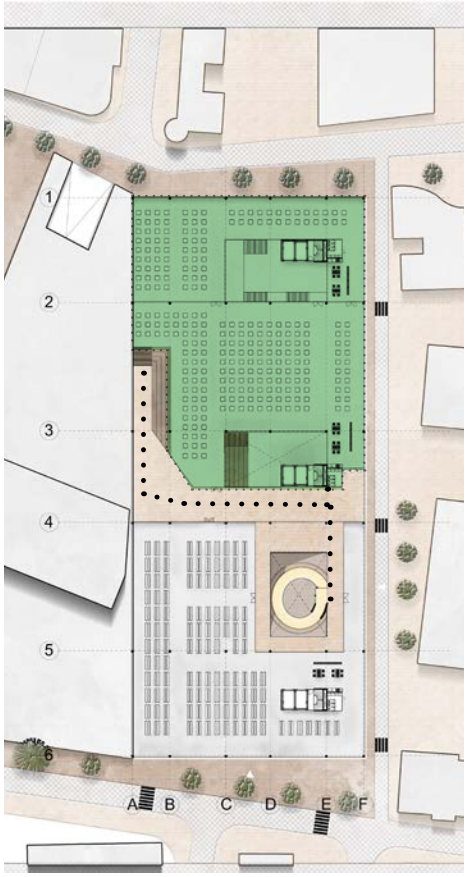


Design Concept

PLINTH LAYERS





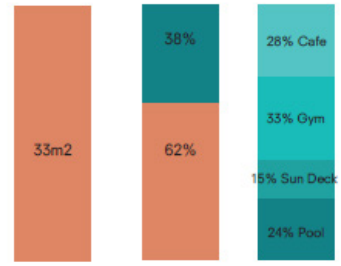


TOWER: THE VERTICAL STREET

BENCHMARKING

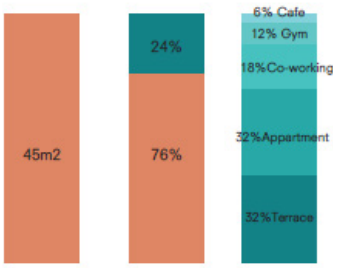
Roam Coliving
Ubud, Indonesia 2015

1750 sqm
36 units



NIU Coliving
Ciudad De Mexico, Mexico, 2020

3500 sqm
54 units

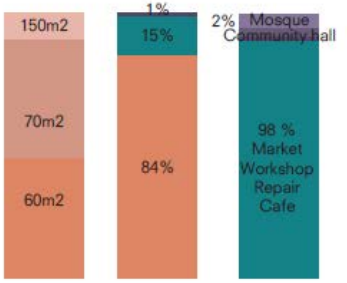


Housing for the fishermen of Tyre
Lebanon, 2008

8400 sqm
80 units

Dar Lamane Housing Community
Morocco, 1983

367.000 sqm
4022 units



Implementation

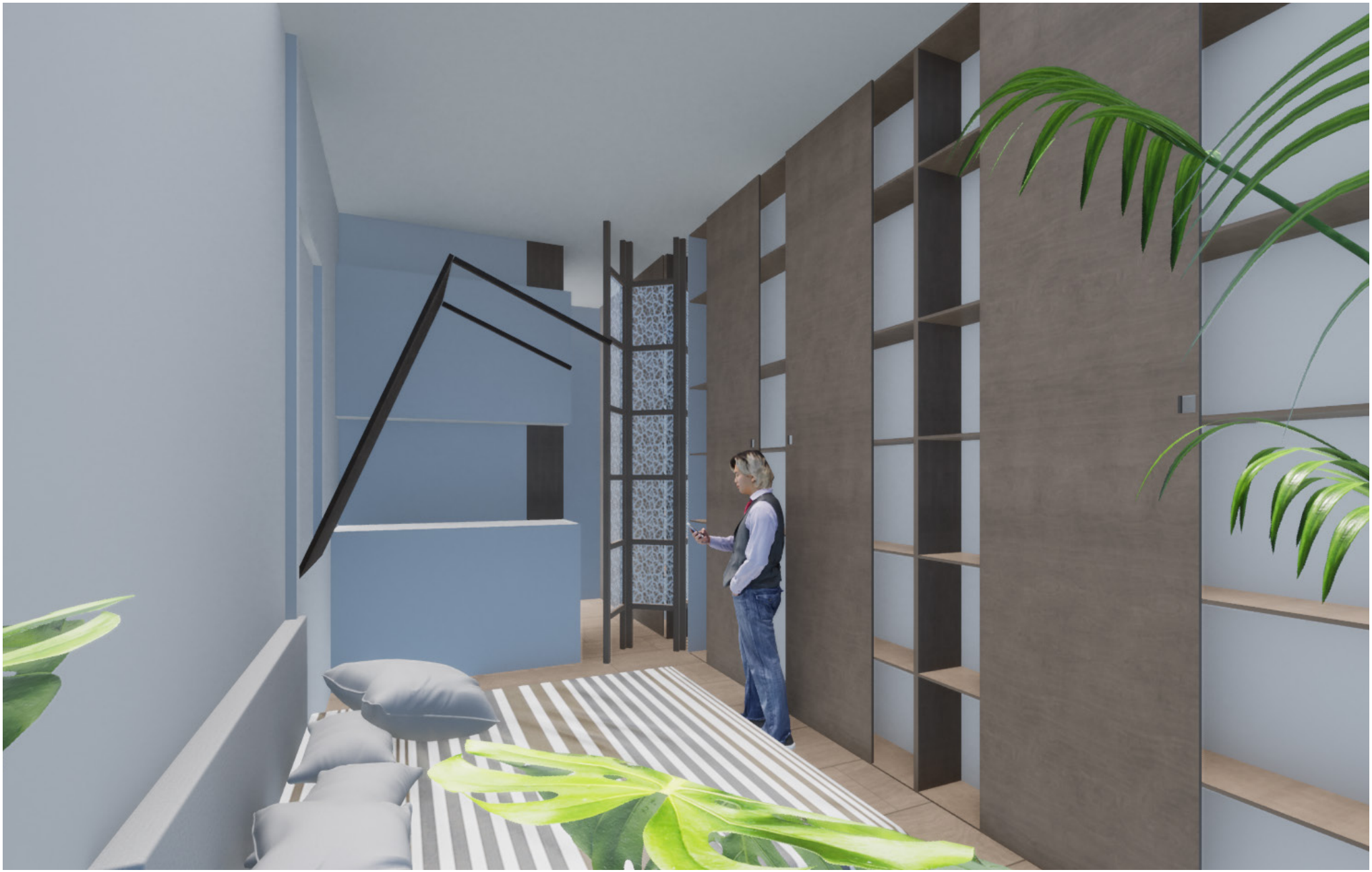
Housing
72%

Shared
12%

Transport
16%

TYPES OF HOUSING

INTERIOR ELEMENTS



RELATION OF SHARED SPACES

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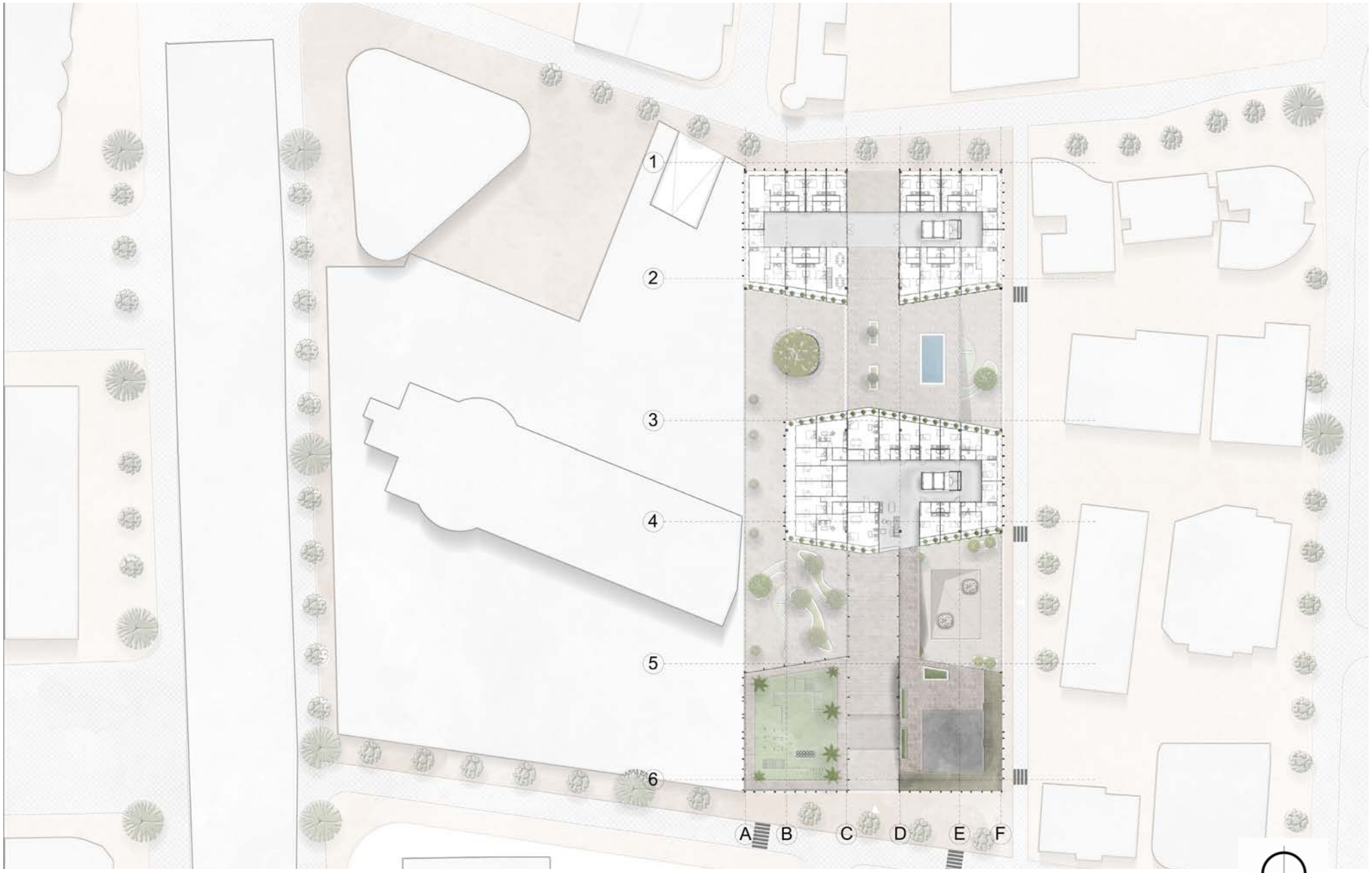
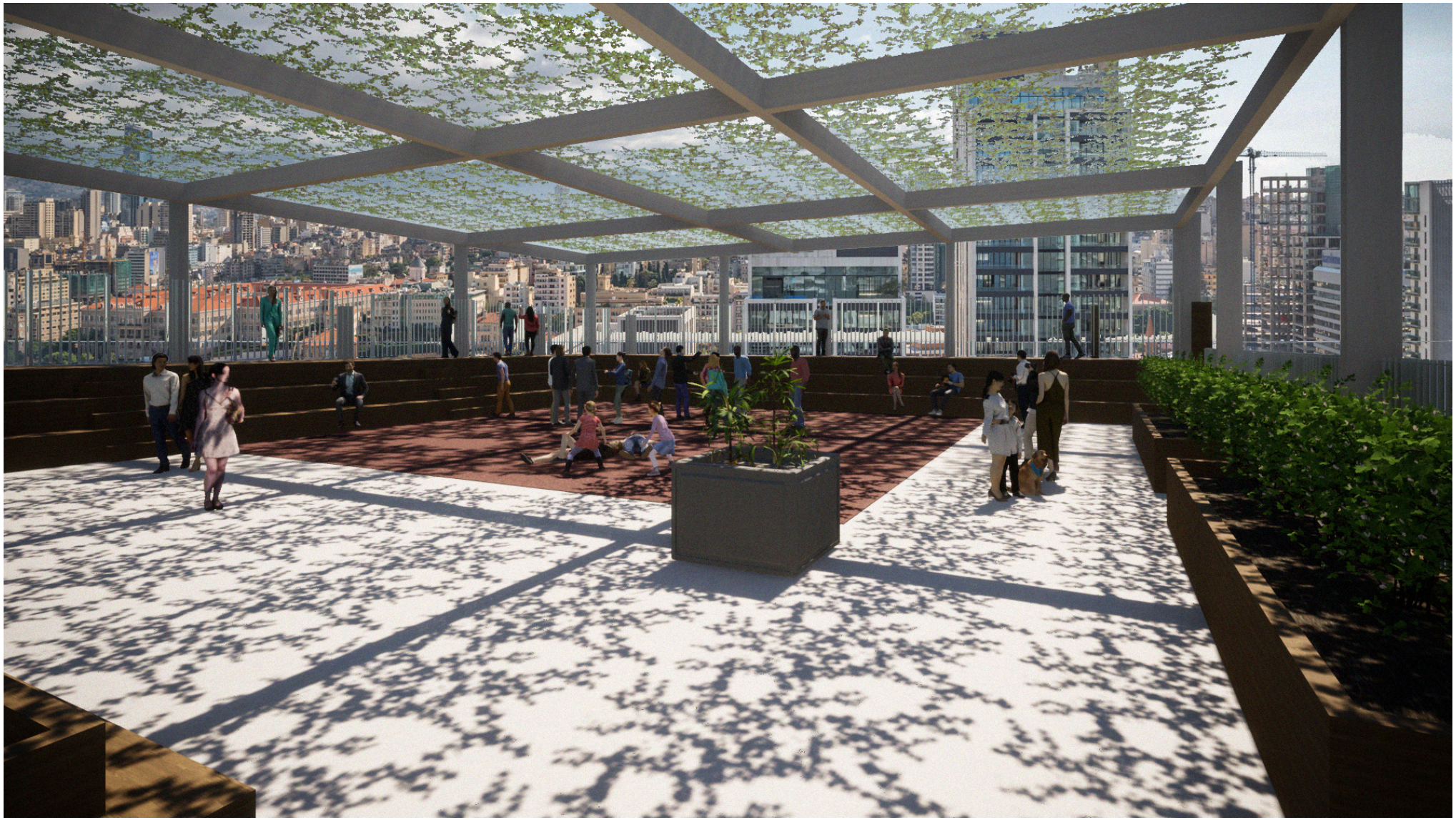
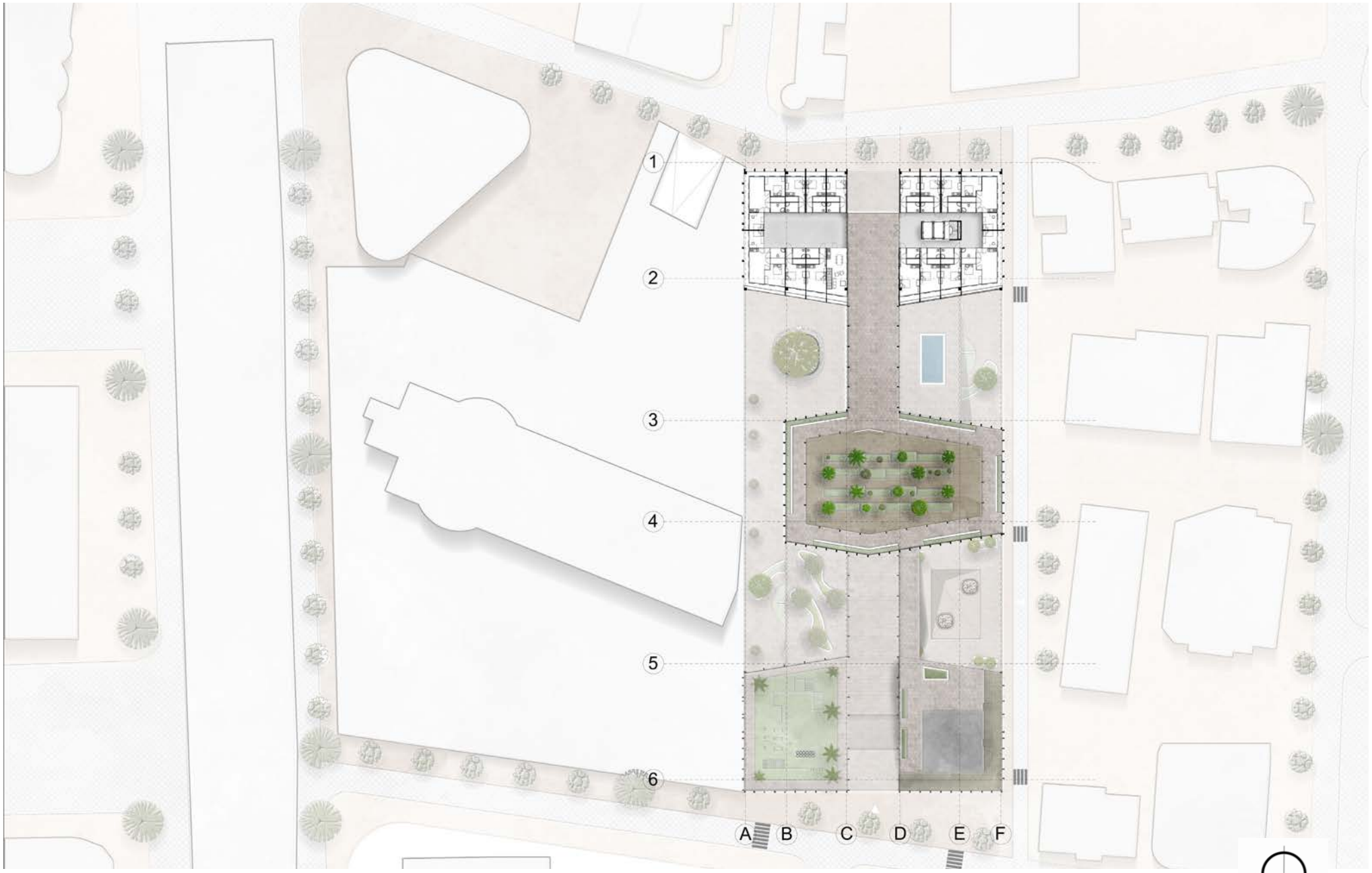


ROOF OF PERFORMANCE



RELATION OF SHARED SPACES

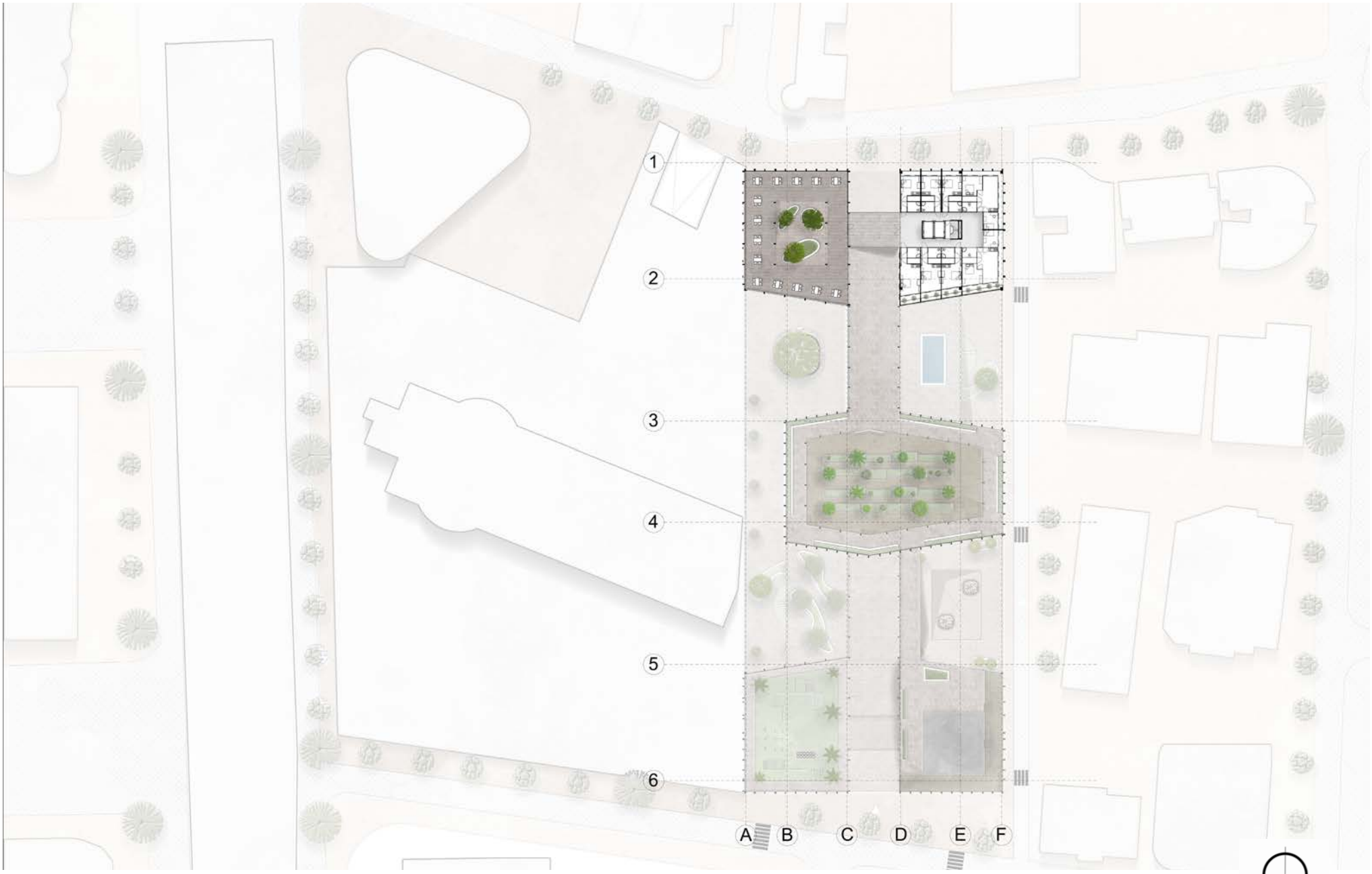


Implementation

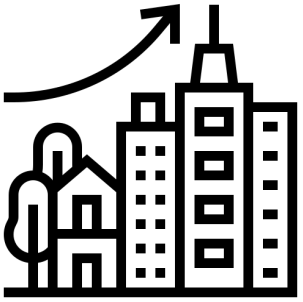
ROOFTOP GARDENING

GARDEN - PERFORMANCE

RELATION OF SHARED SPACES



FACADE GUIDELINES



Skyscraper Waterfront

Lebanese Neighbourhood

FACADE GUIDELINES

Skyscraper Waterfront

Lebanese Neighbourhood

ELEVATIONS

Elevation North

Elevation West

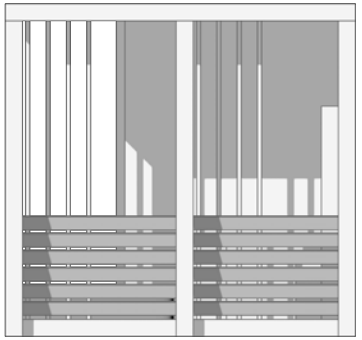
ELEVATIONS

Elevation North

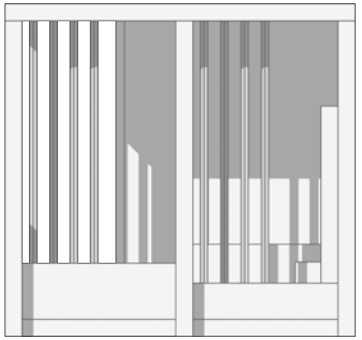
Elevation West

GARDEN - APPARTMENT

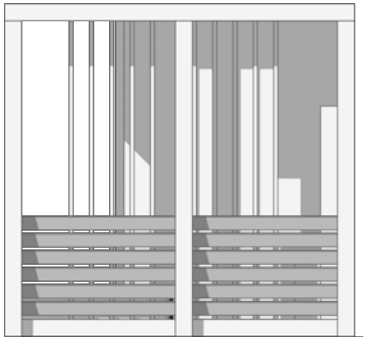
FACADE TYPES



NORTH & EAST
FACADE

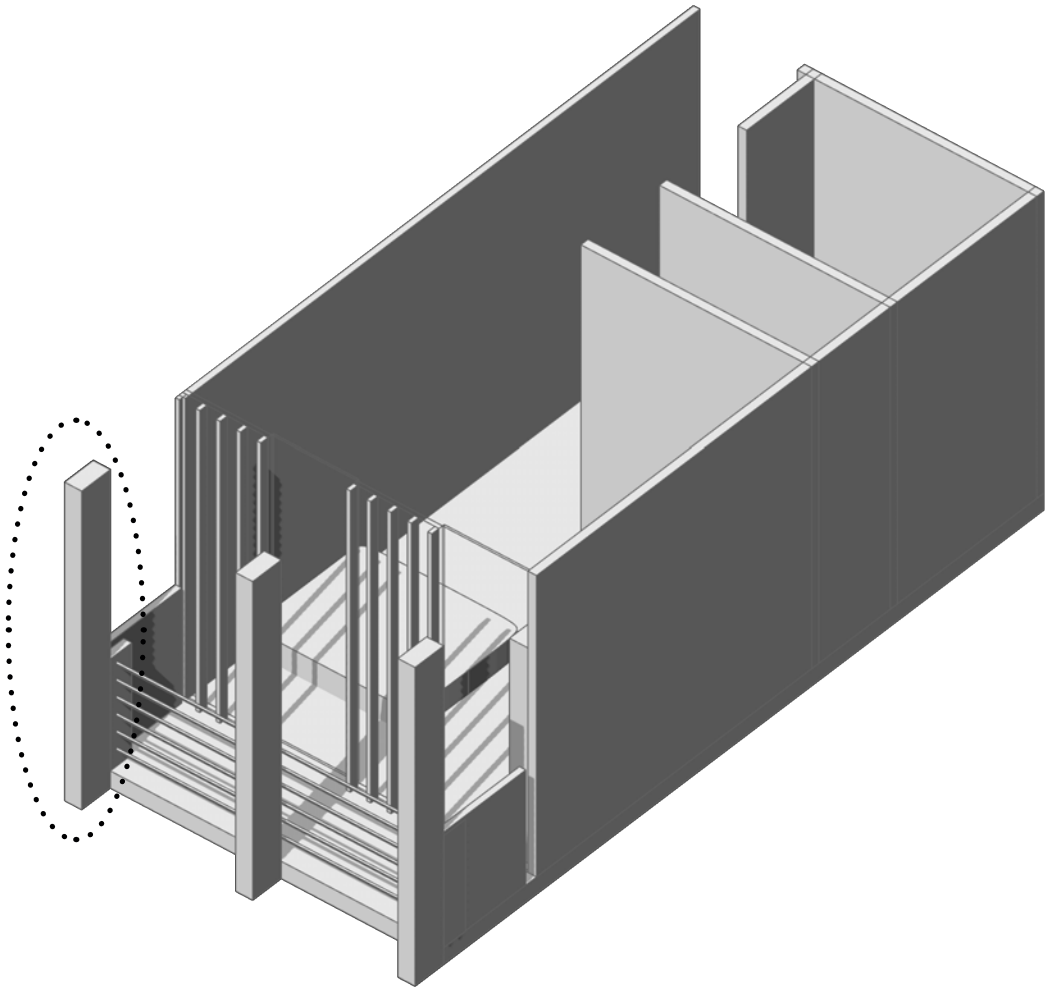


INNER FACADES
(EAST/WEST)

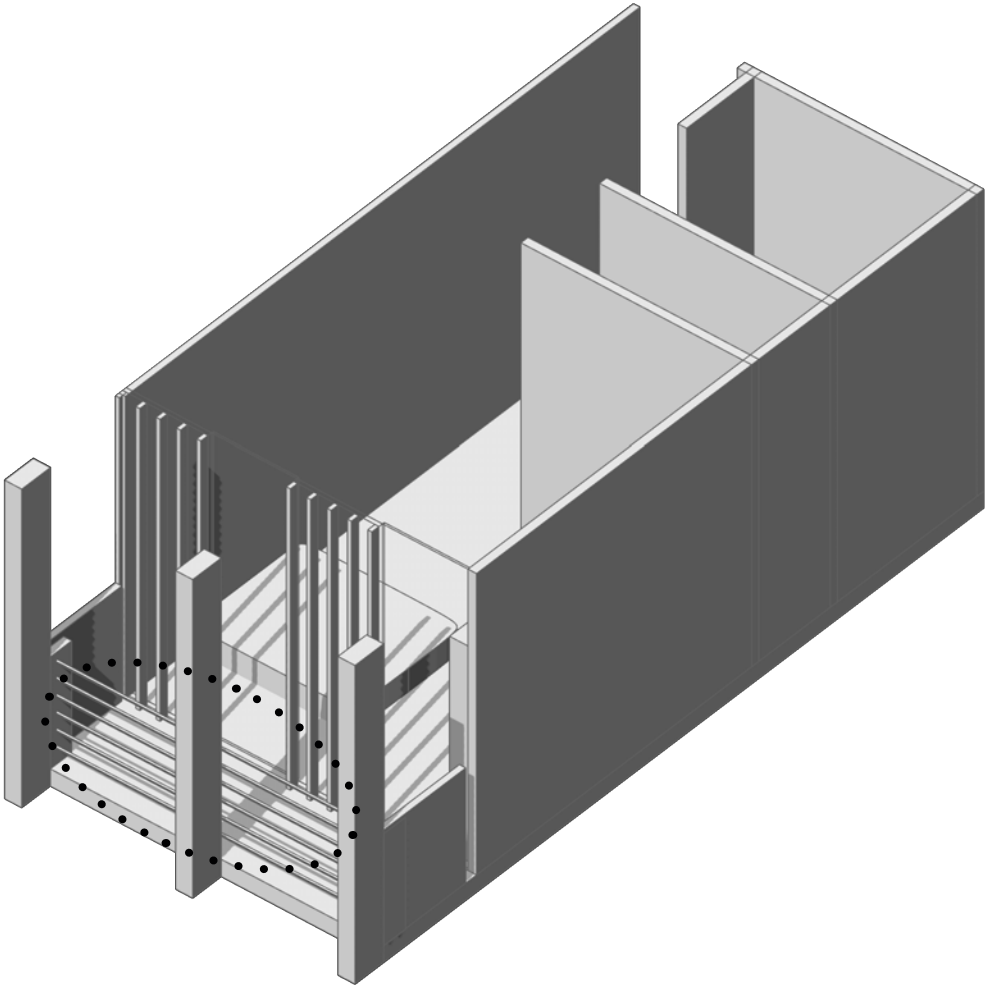


EAST & WEST
FACADES

BASE ELEMENTS: NORTH & EAST



BASE ELEMENTS: PRIVACY & SUN



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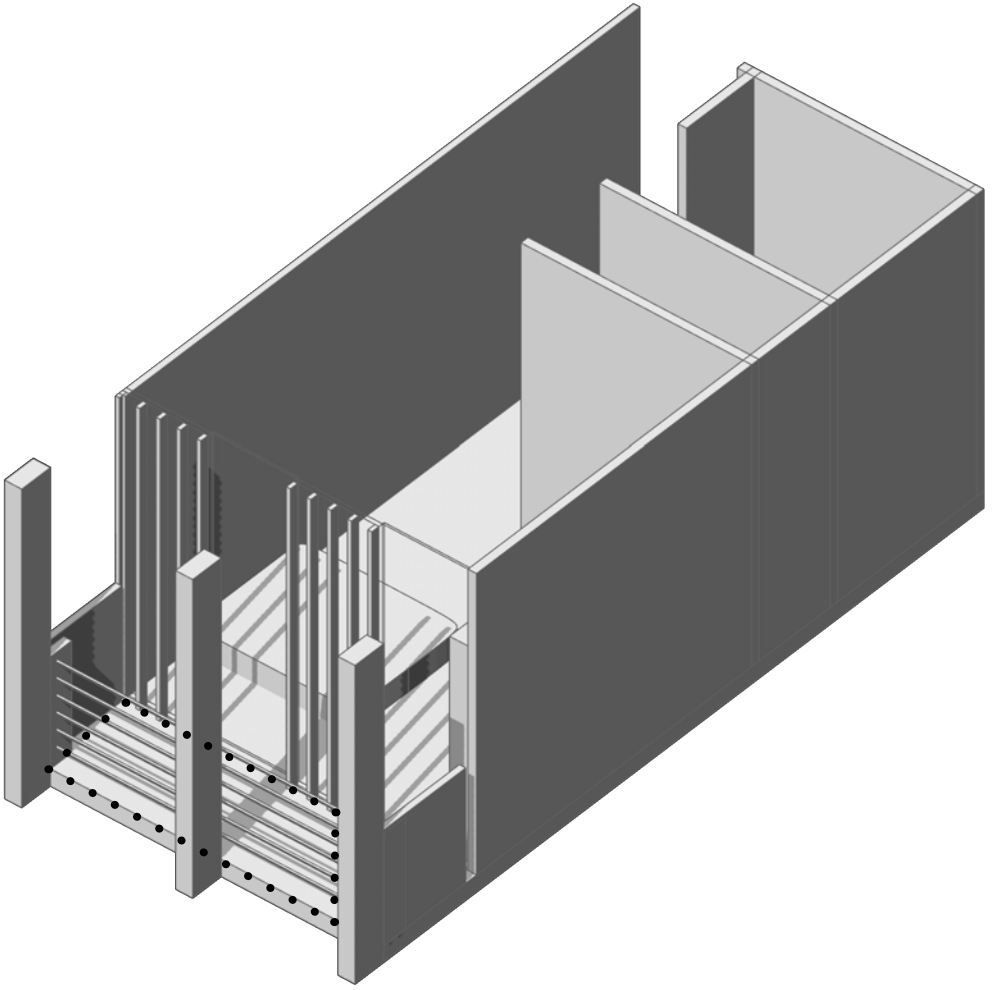

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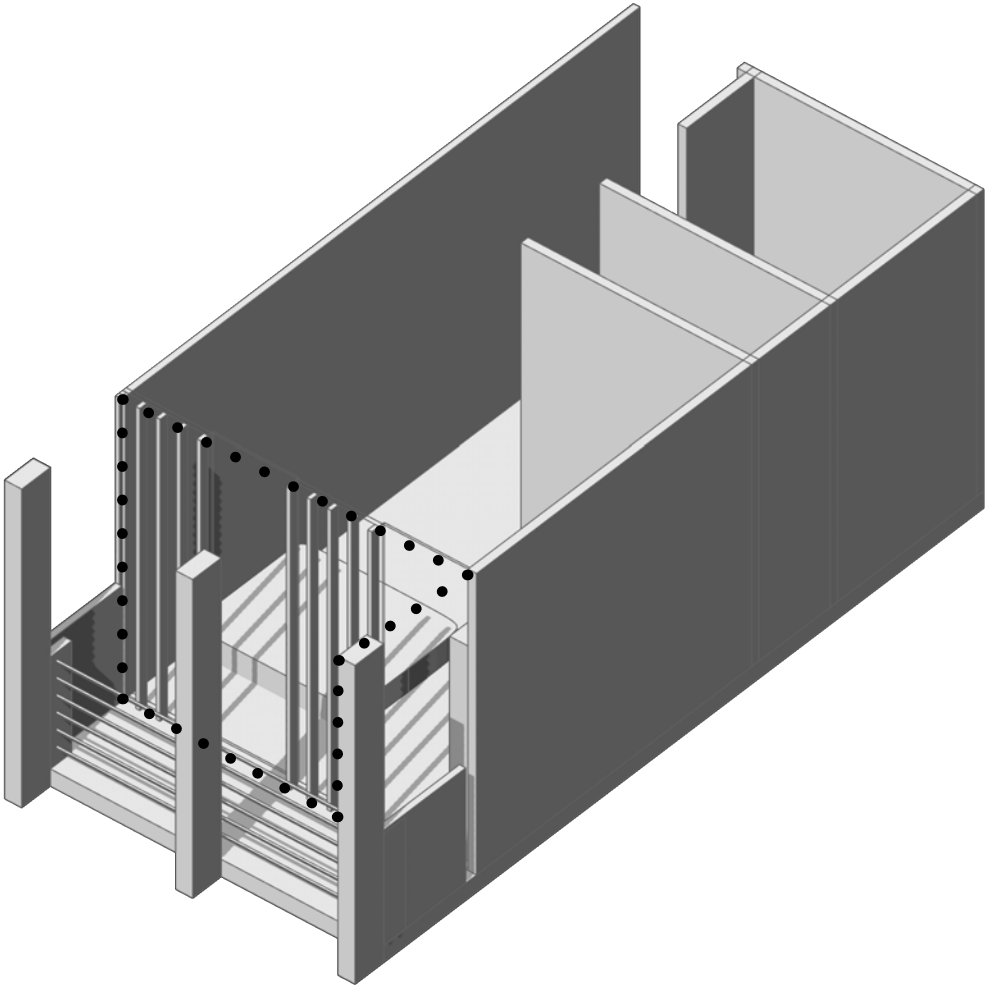
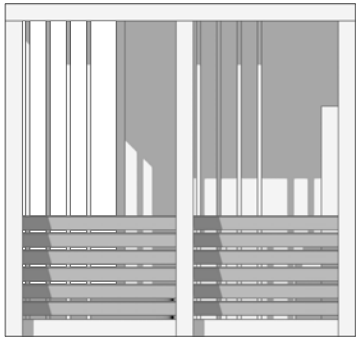
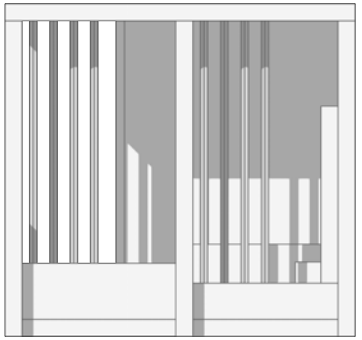


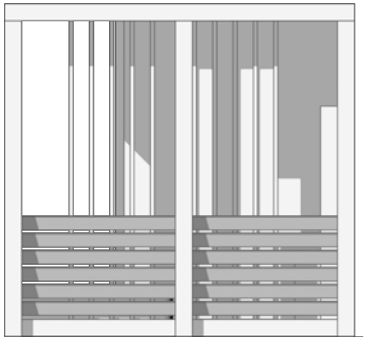
FACADE TYPES



NORTH & EAST
FACADE

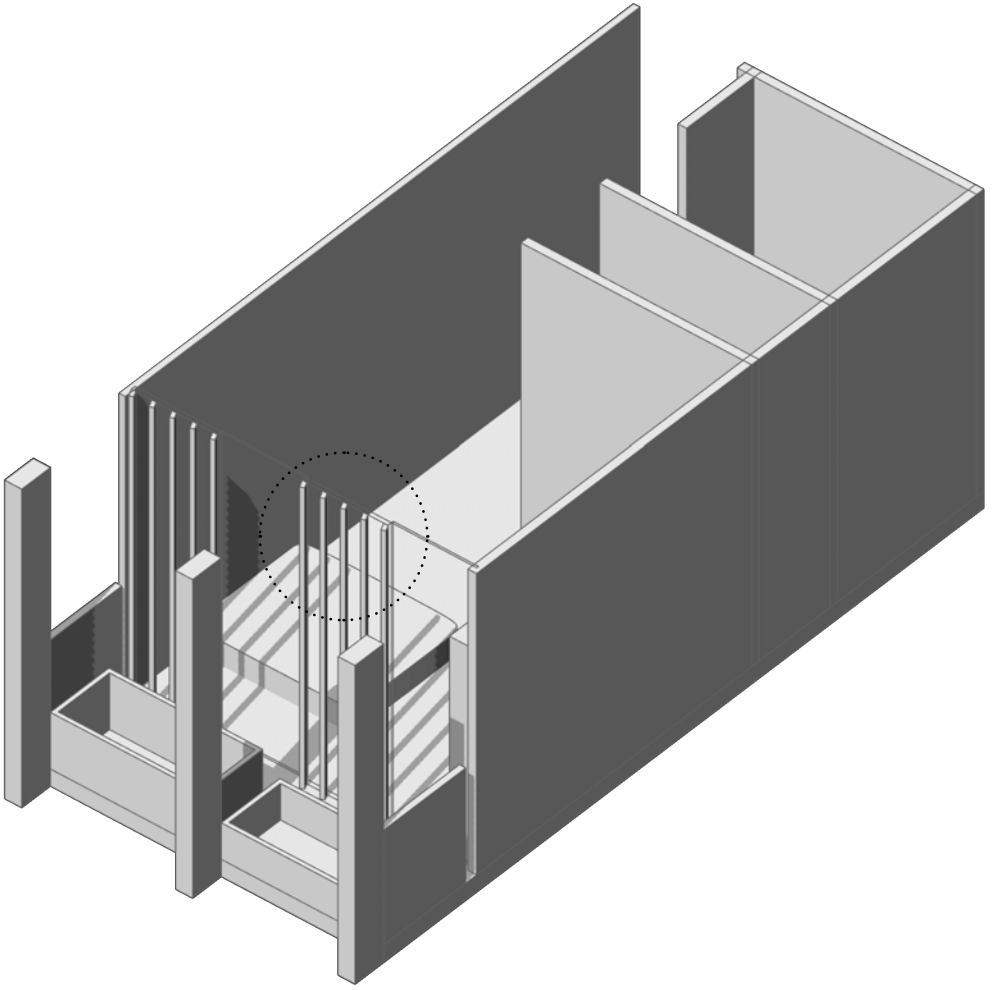


INNER FACADES
(EAST/WEST)

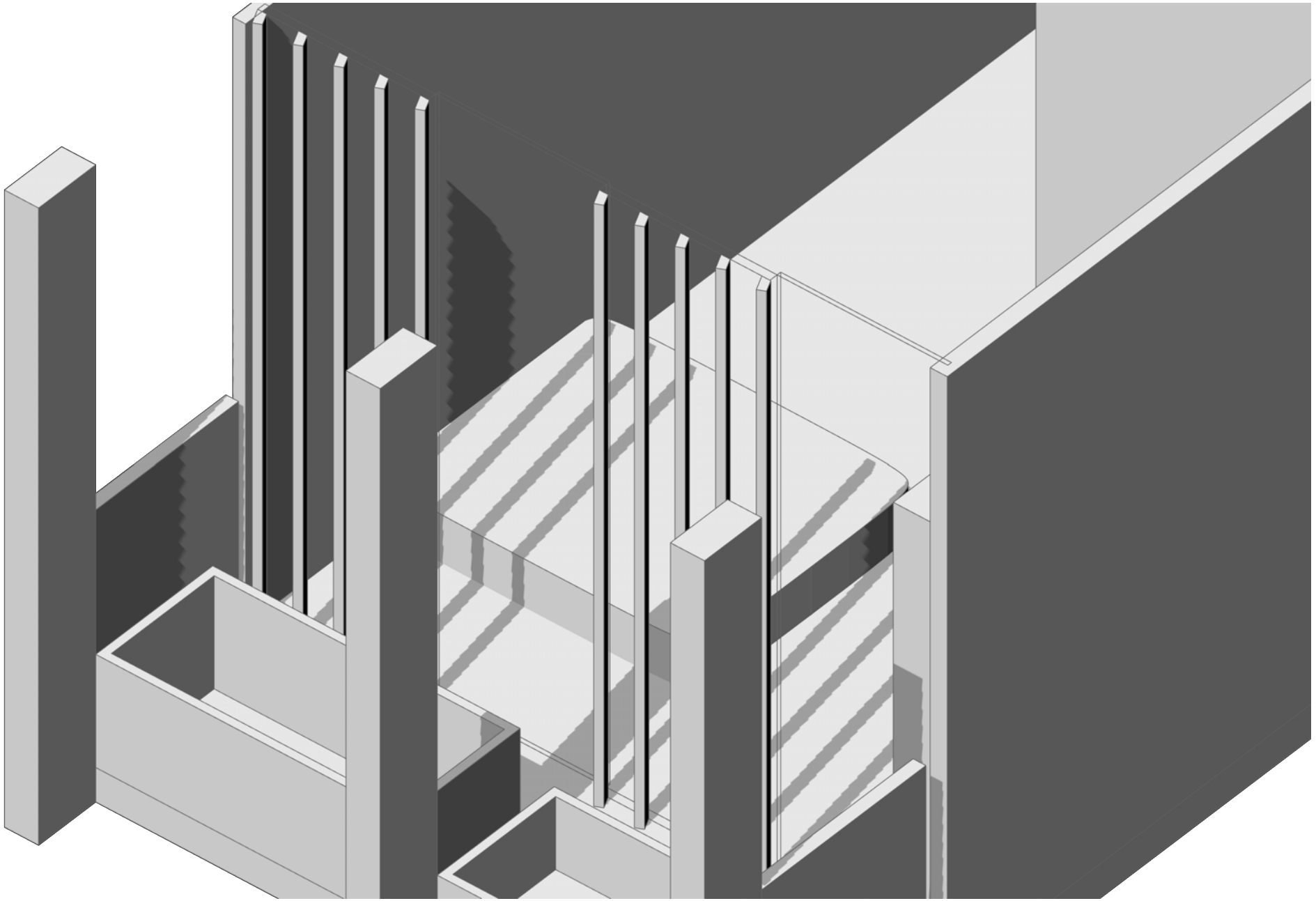


EAST & WEST
FACADES

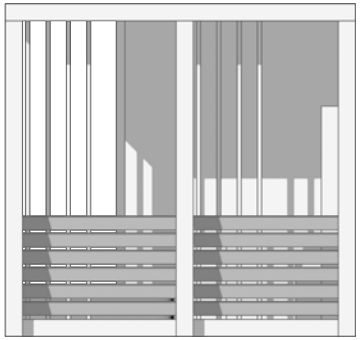
BASE ELEMENTS: DIAGONAL ELEMENT



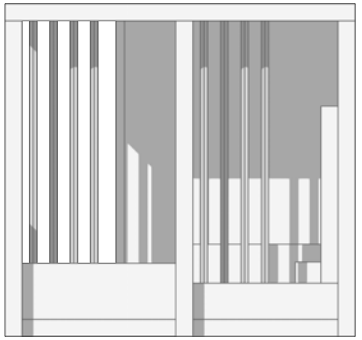
BASE ELEMENTS: DIAGONAL ELEMENT



FACADE TYPES



NORTH & EAST
FACADE



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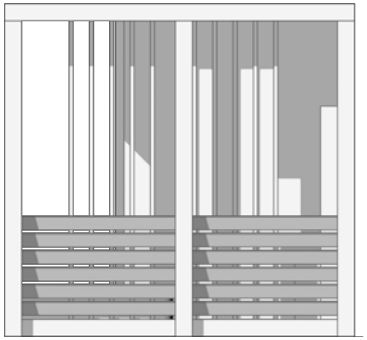
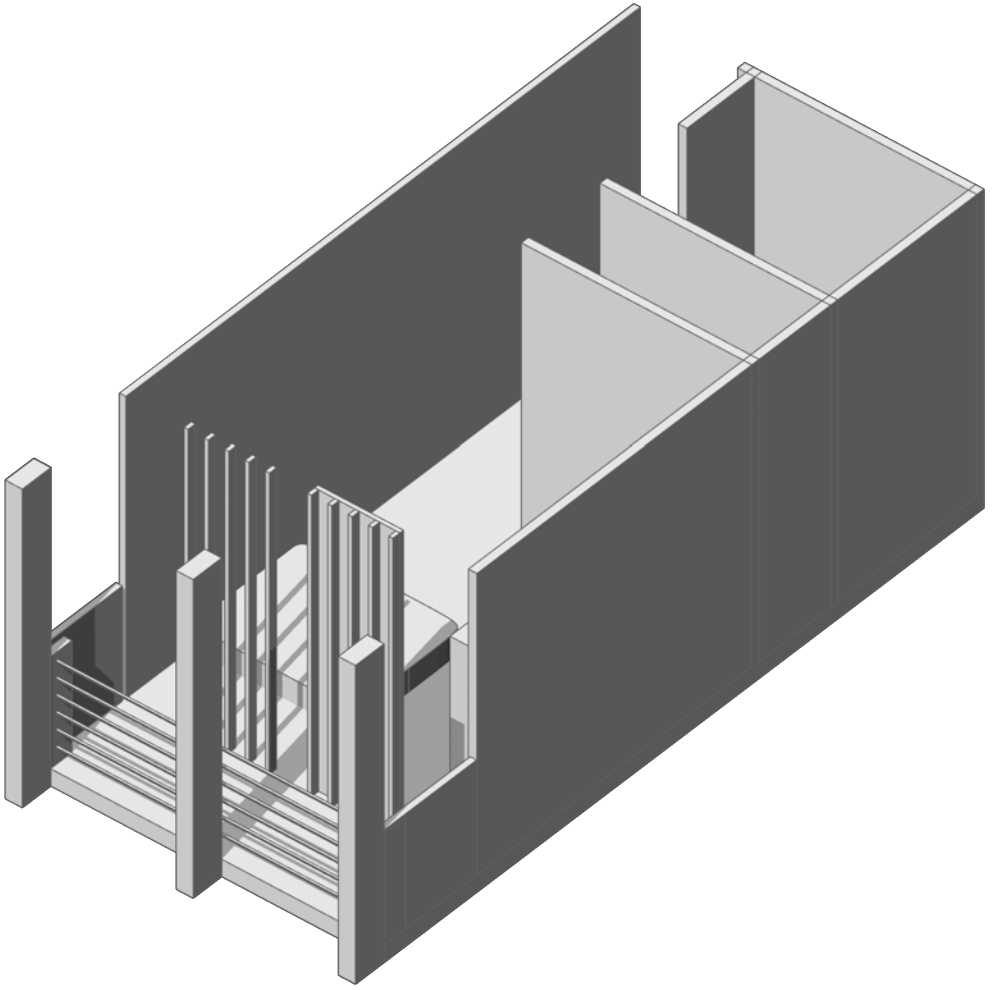


EAST & WEST
FACADES

BASE ELEMENTS: SOLAR PANEL



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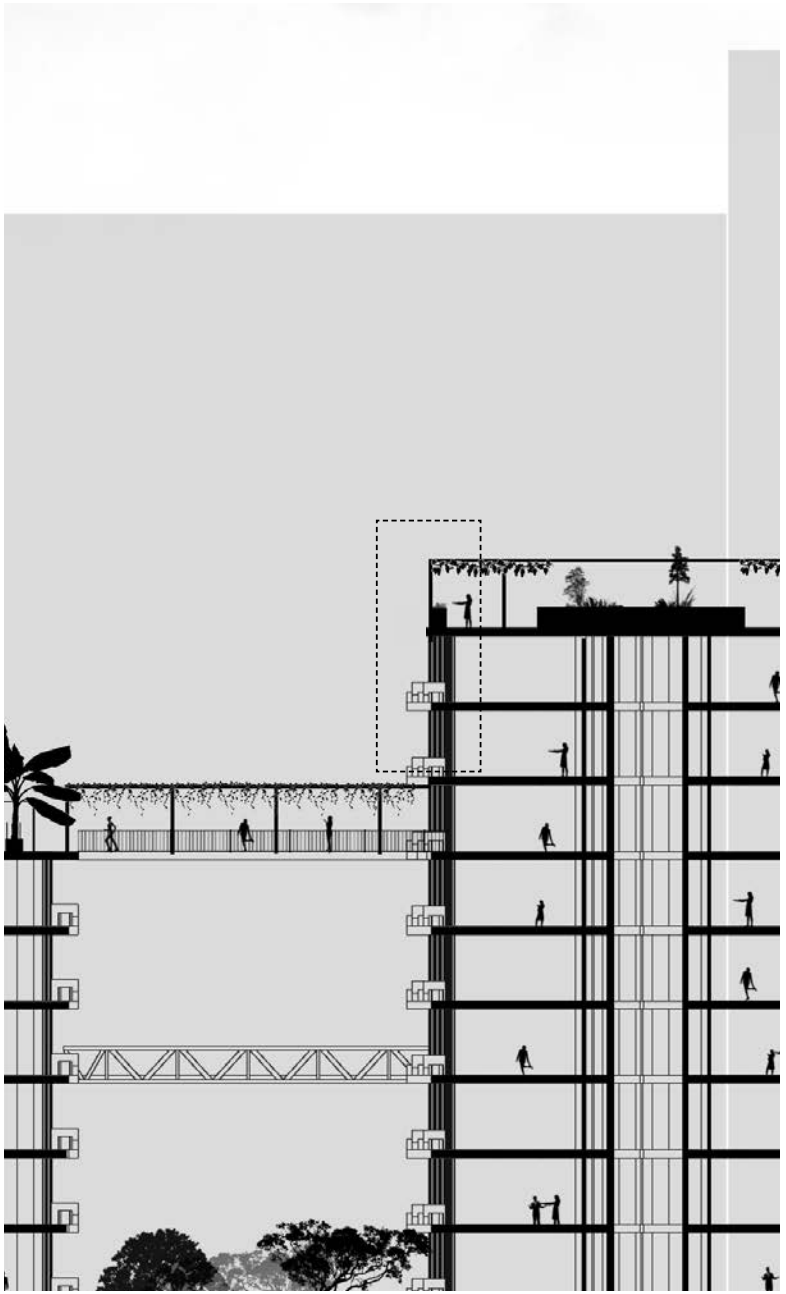
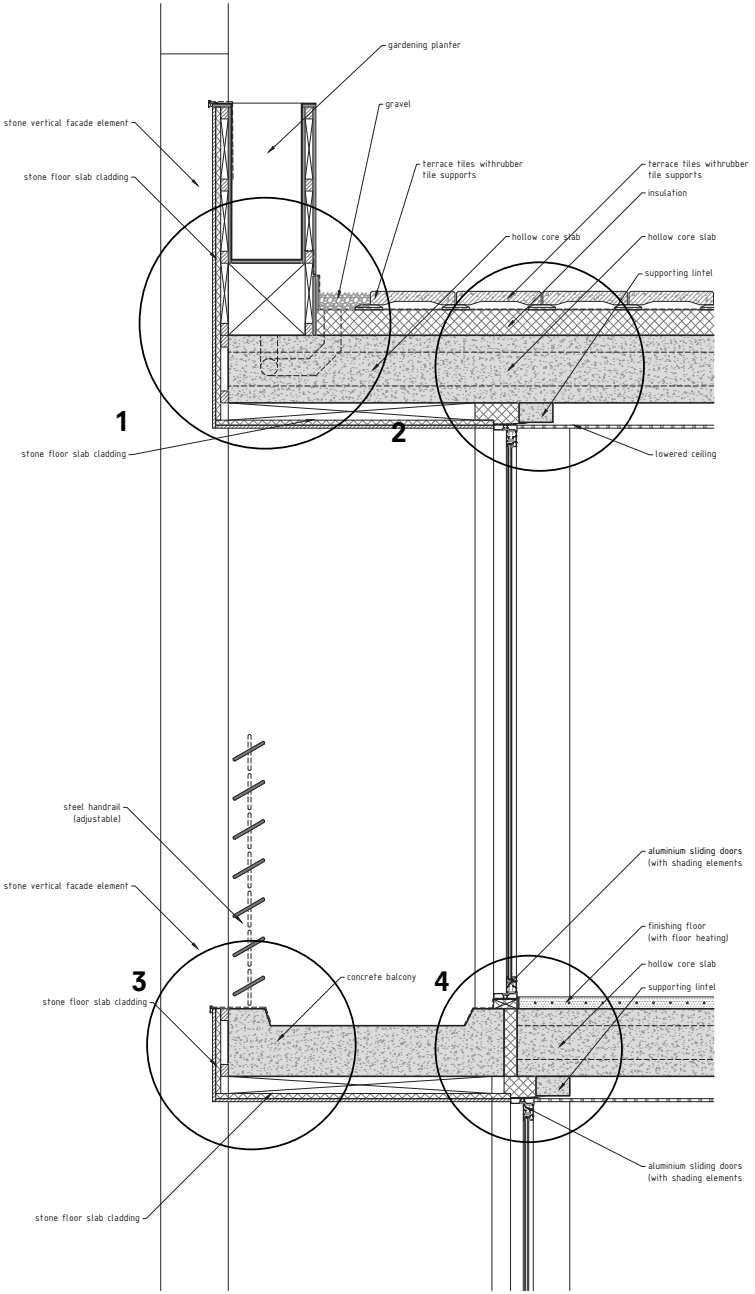
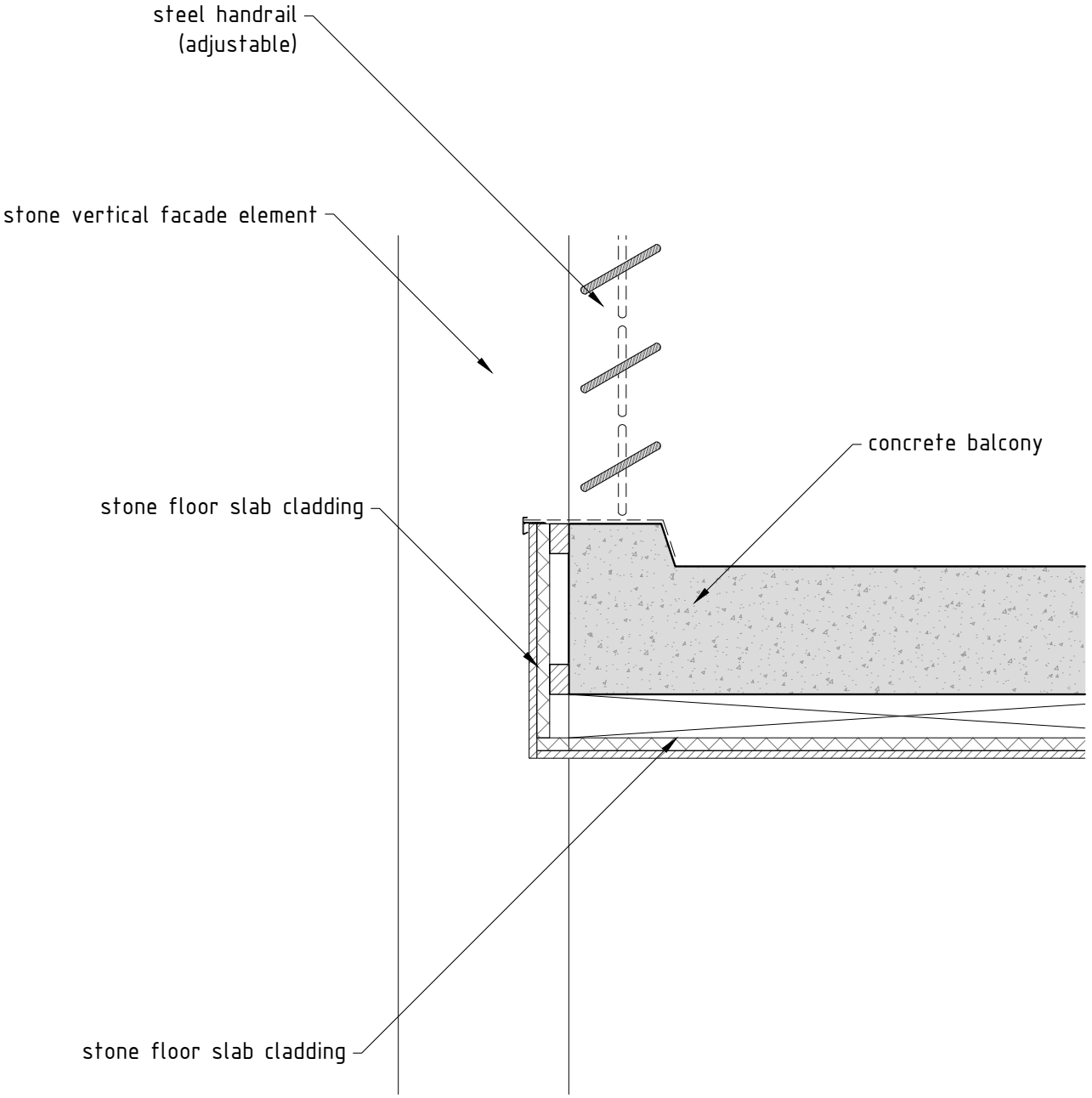
DETAIL FRAGMENT





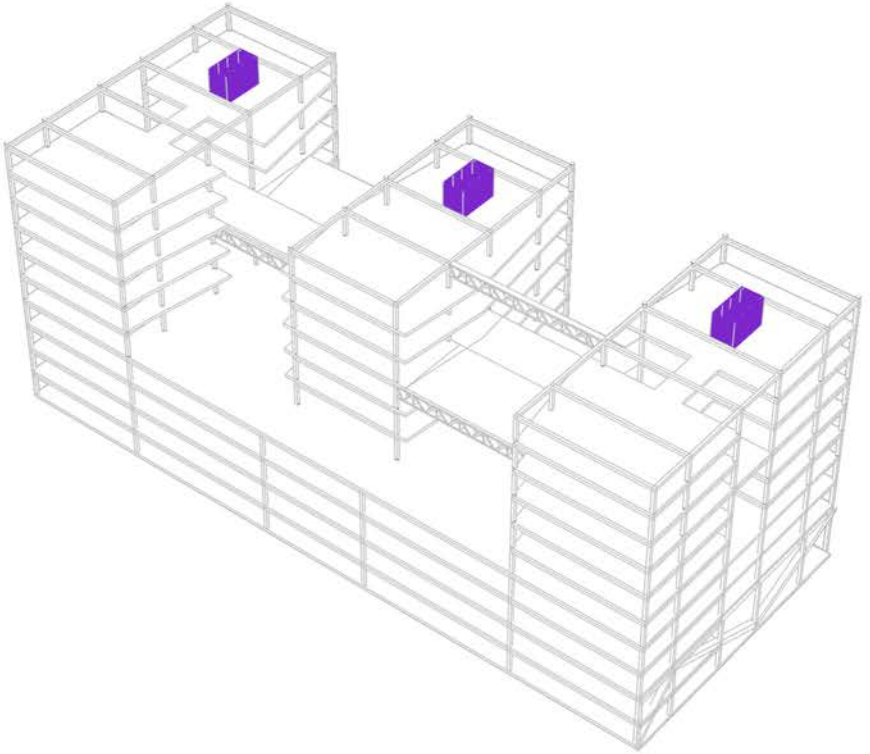
Development

DETAIL 3



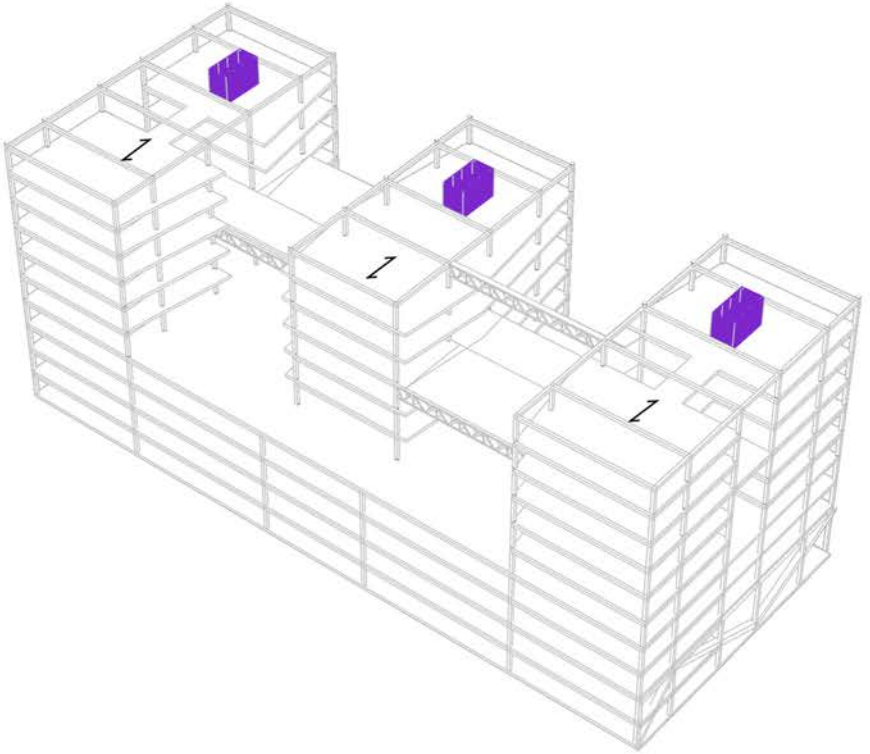
Development

CONSTRUCTION



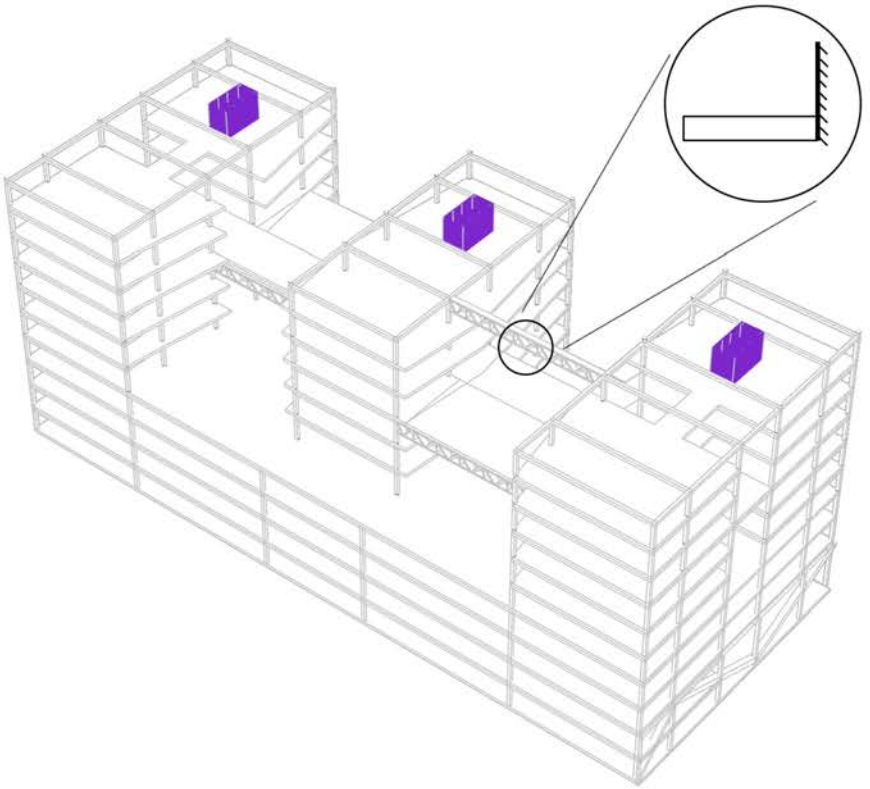
Development

FLOOR DIRECTION



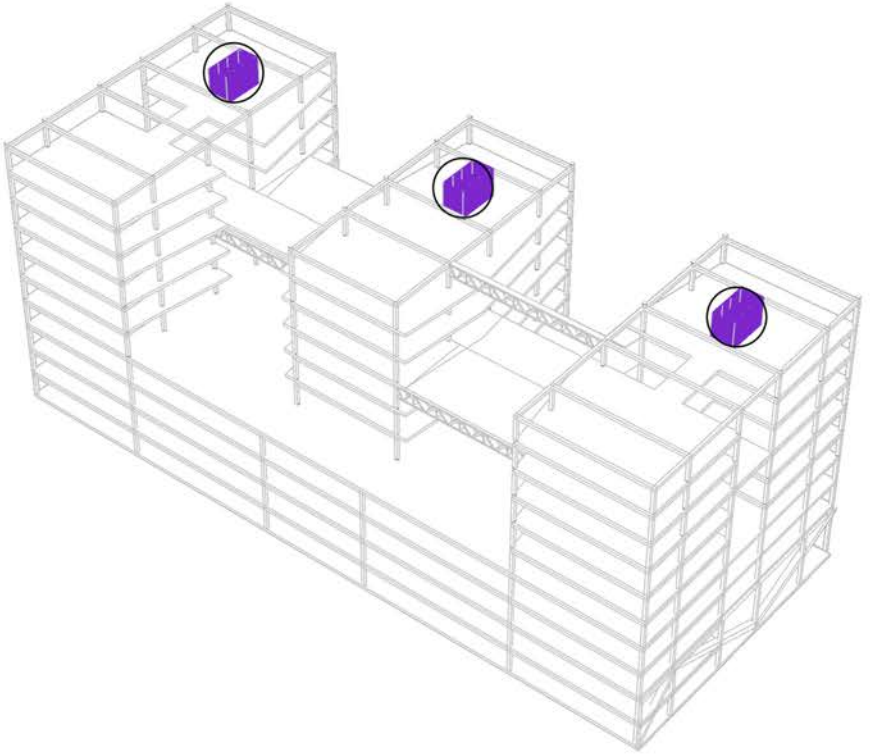
Development

FLOOR DIRECTION

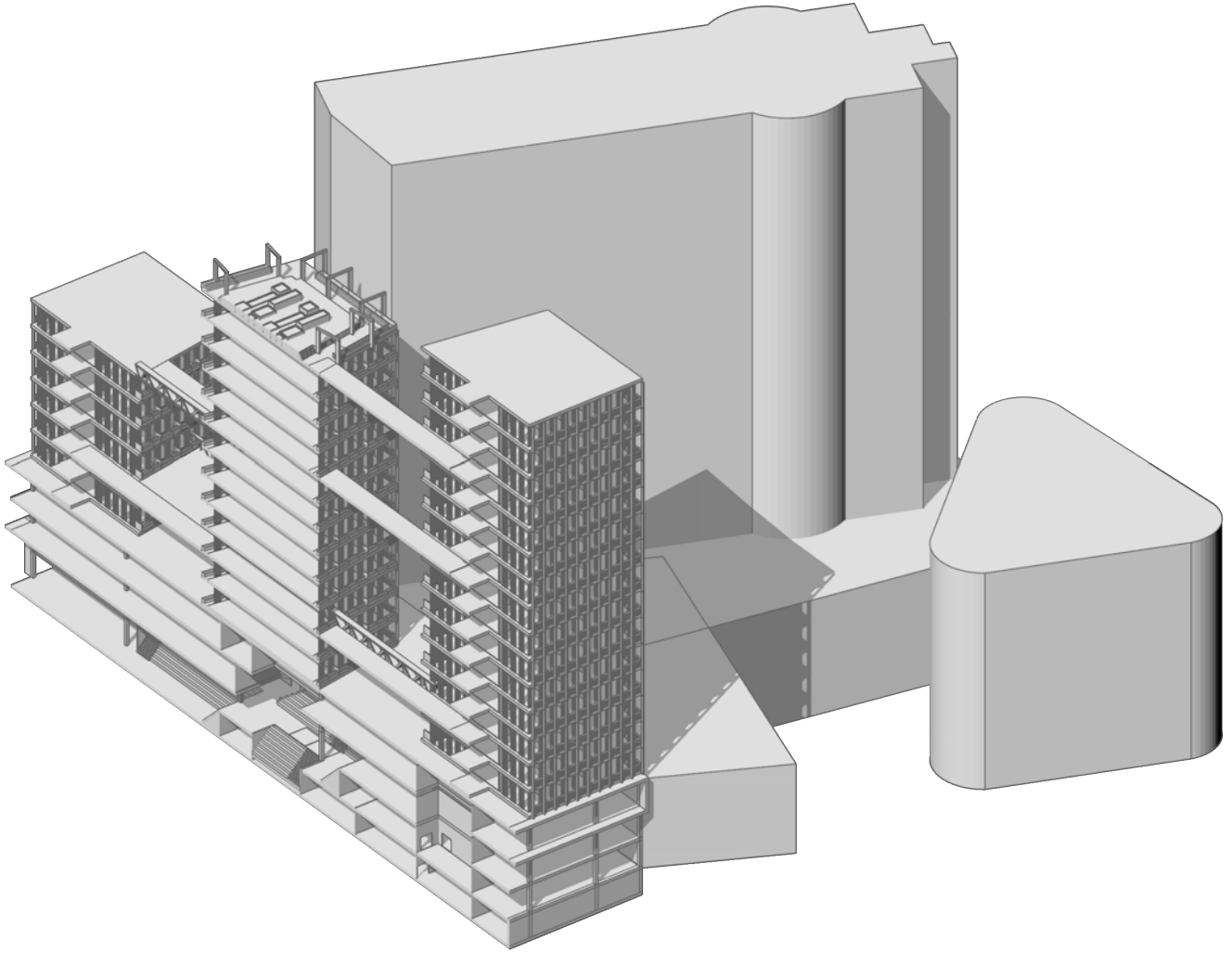


Development

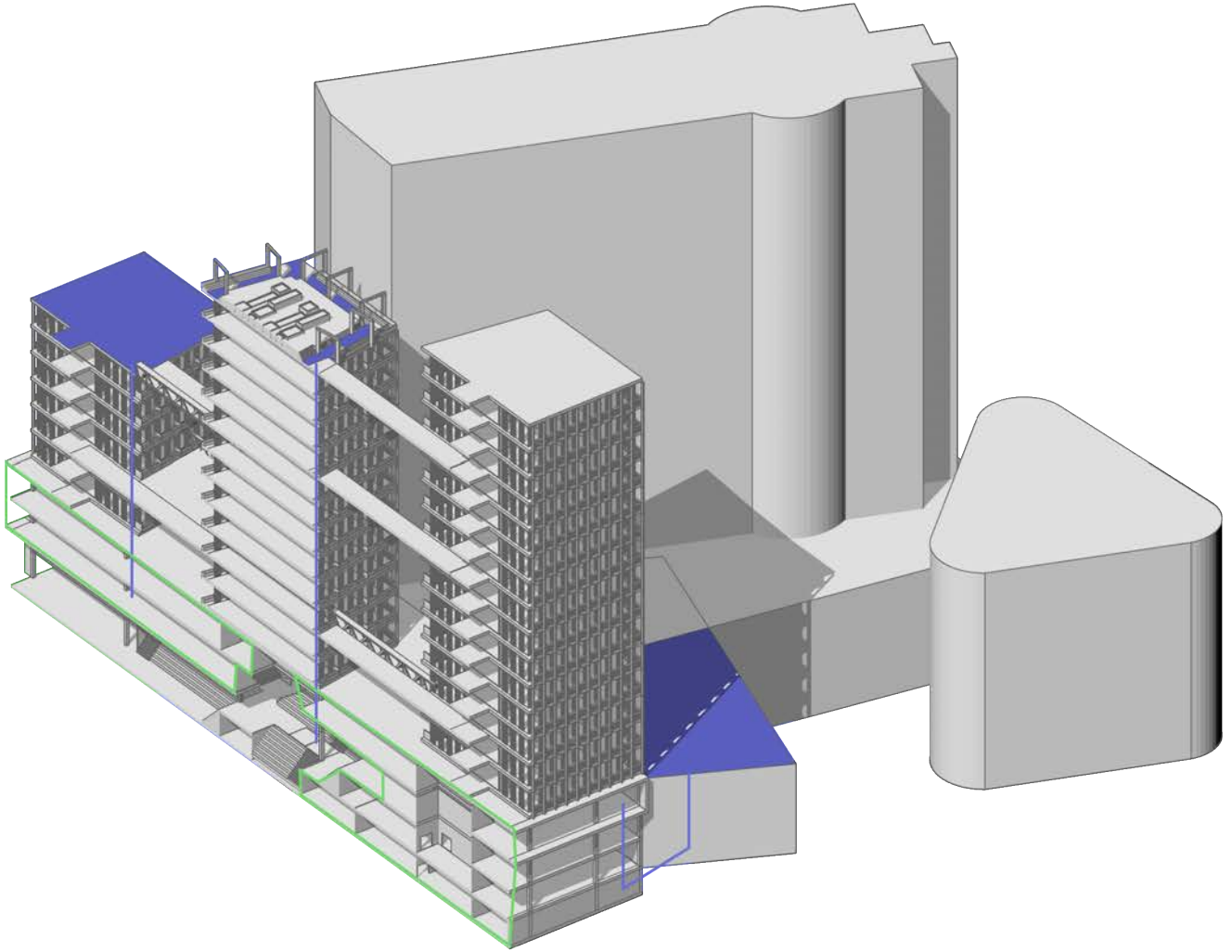
FLOOR DIRECTION



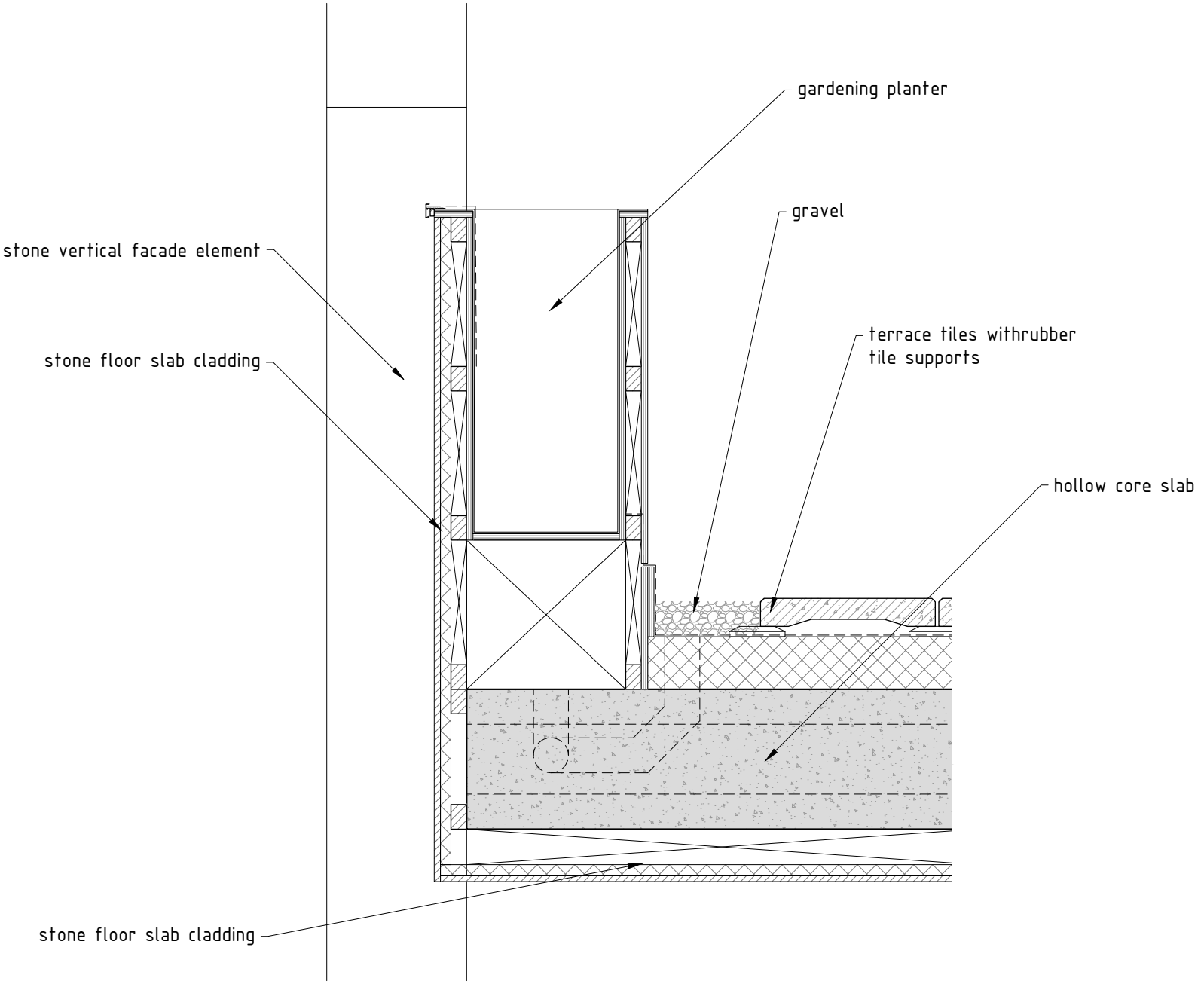
CLIMATE SYSTEMS



GRAYWATER STORAGE

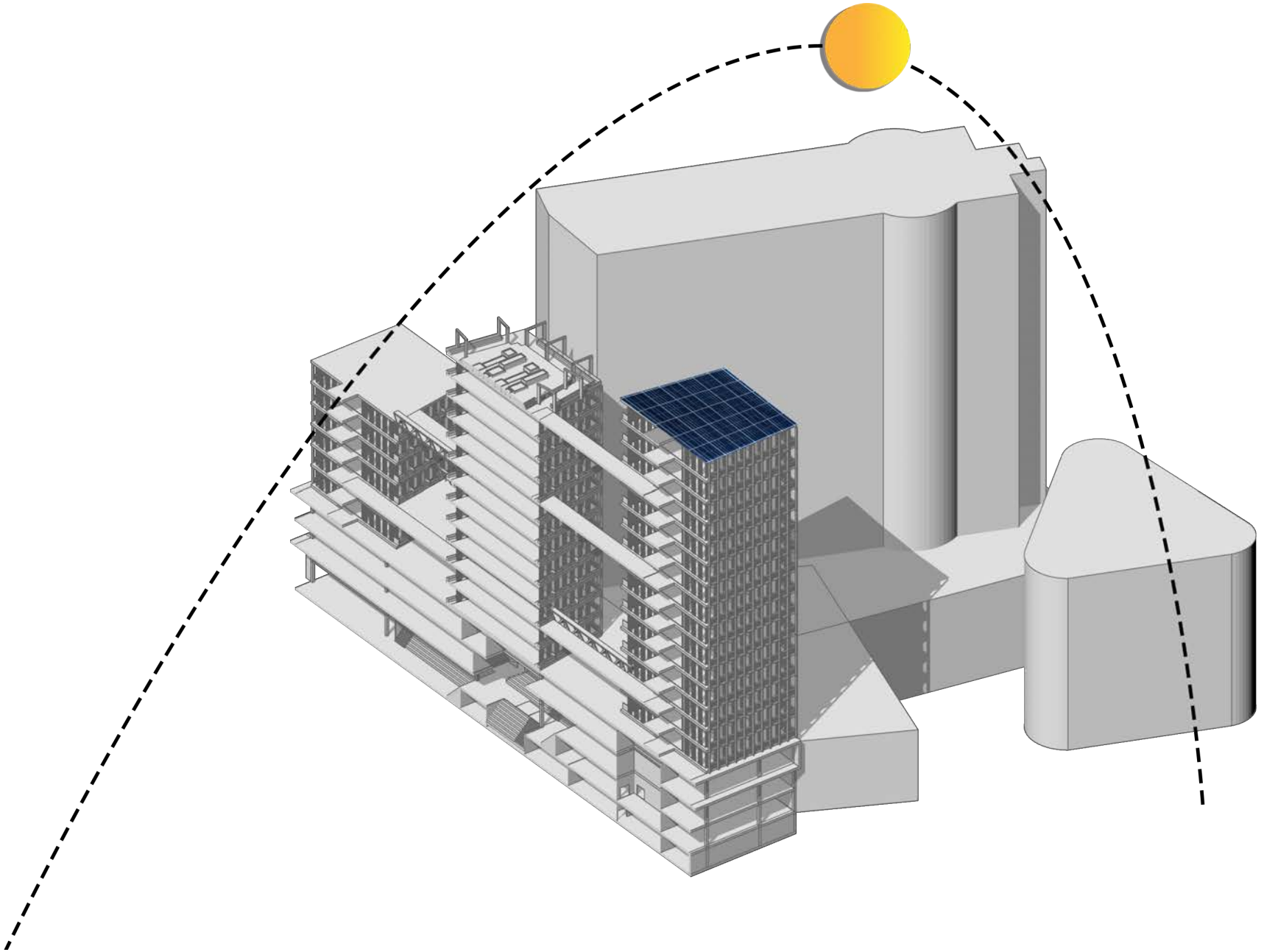


DETAIL 1


gardening planter
gravel
stone vertical facade element
terrace tiles withrubber
tile supports
stone floor slab cladding
hollow core slab
stone floor slab cladding

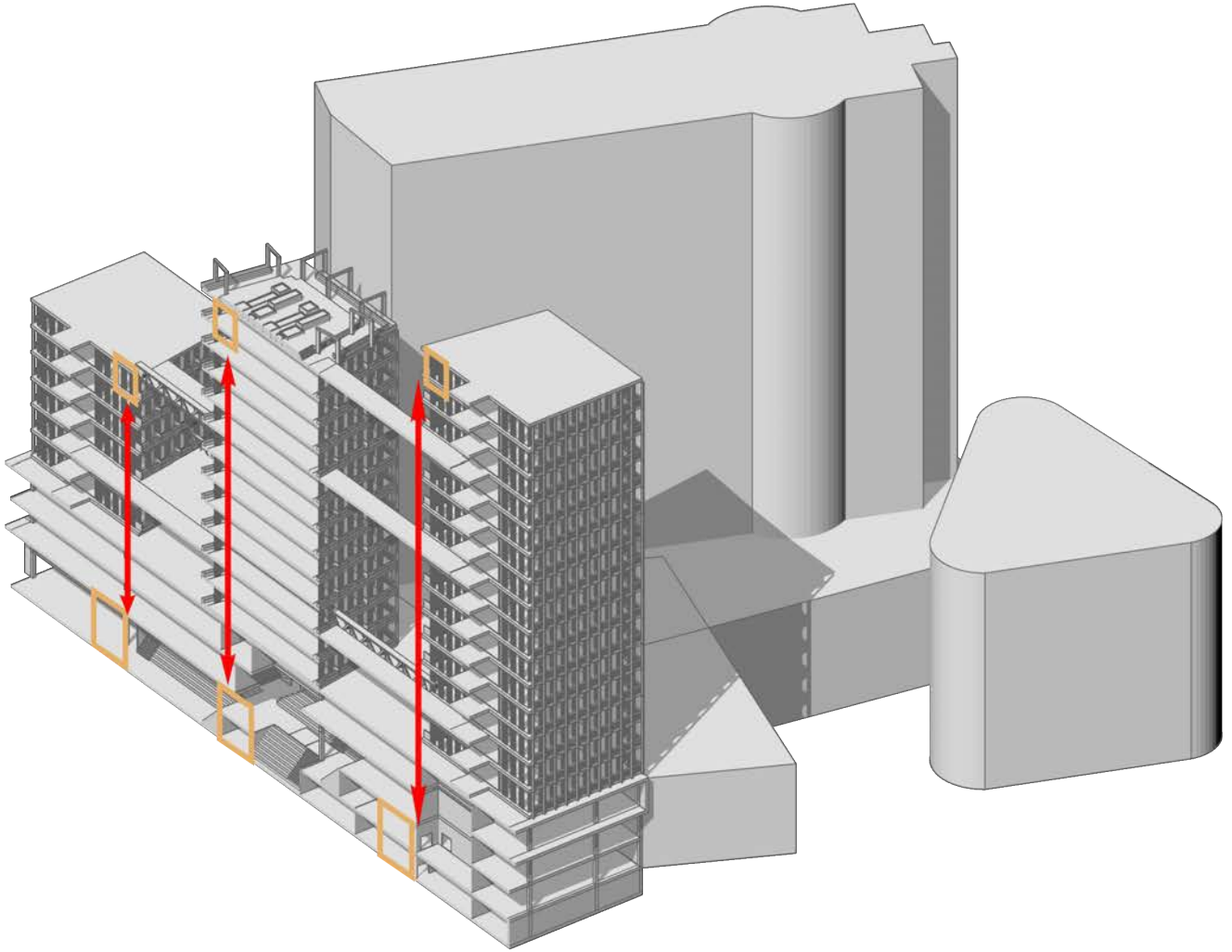
Development

SOLAR ENERGY



Development

COMBINED SYSTEMS



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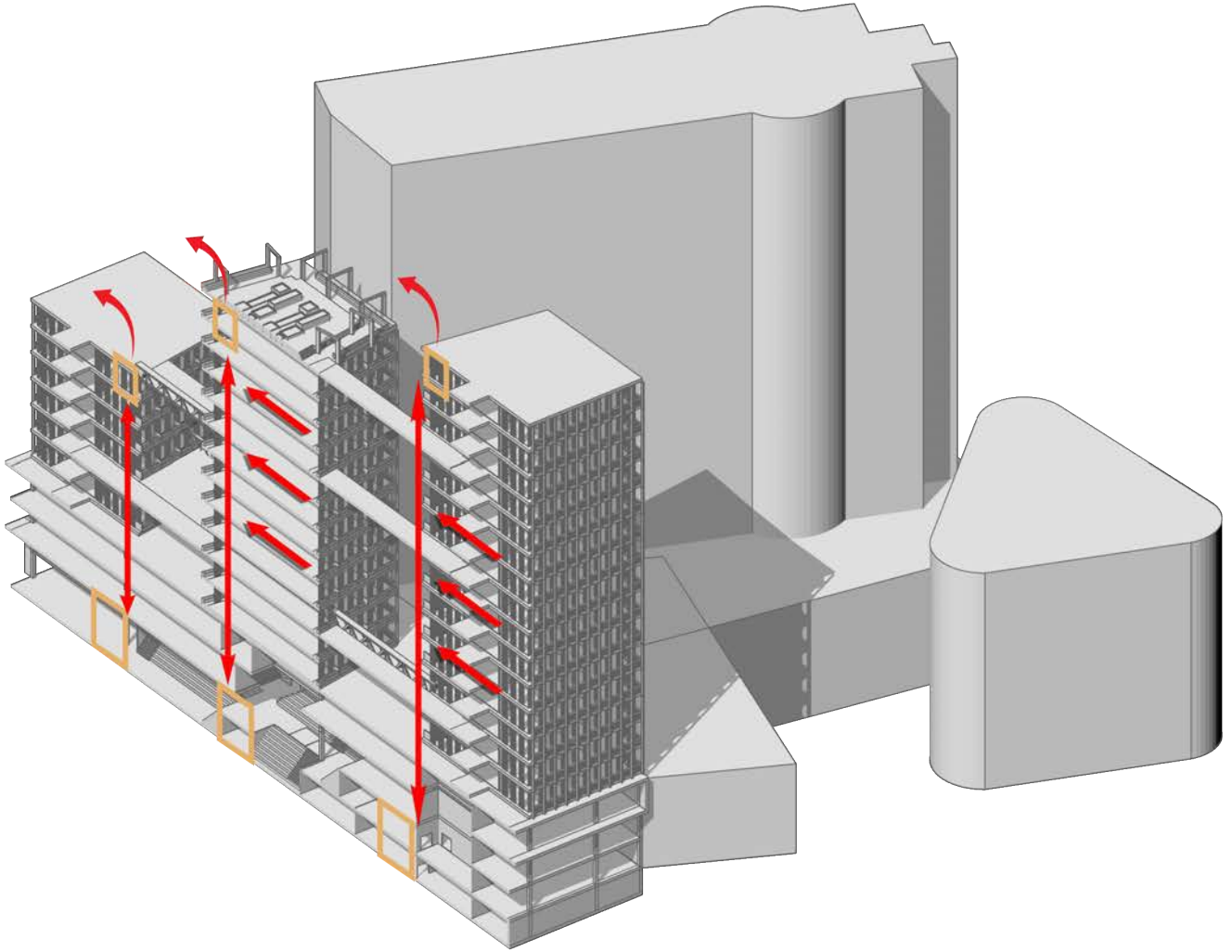
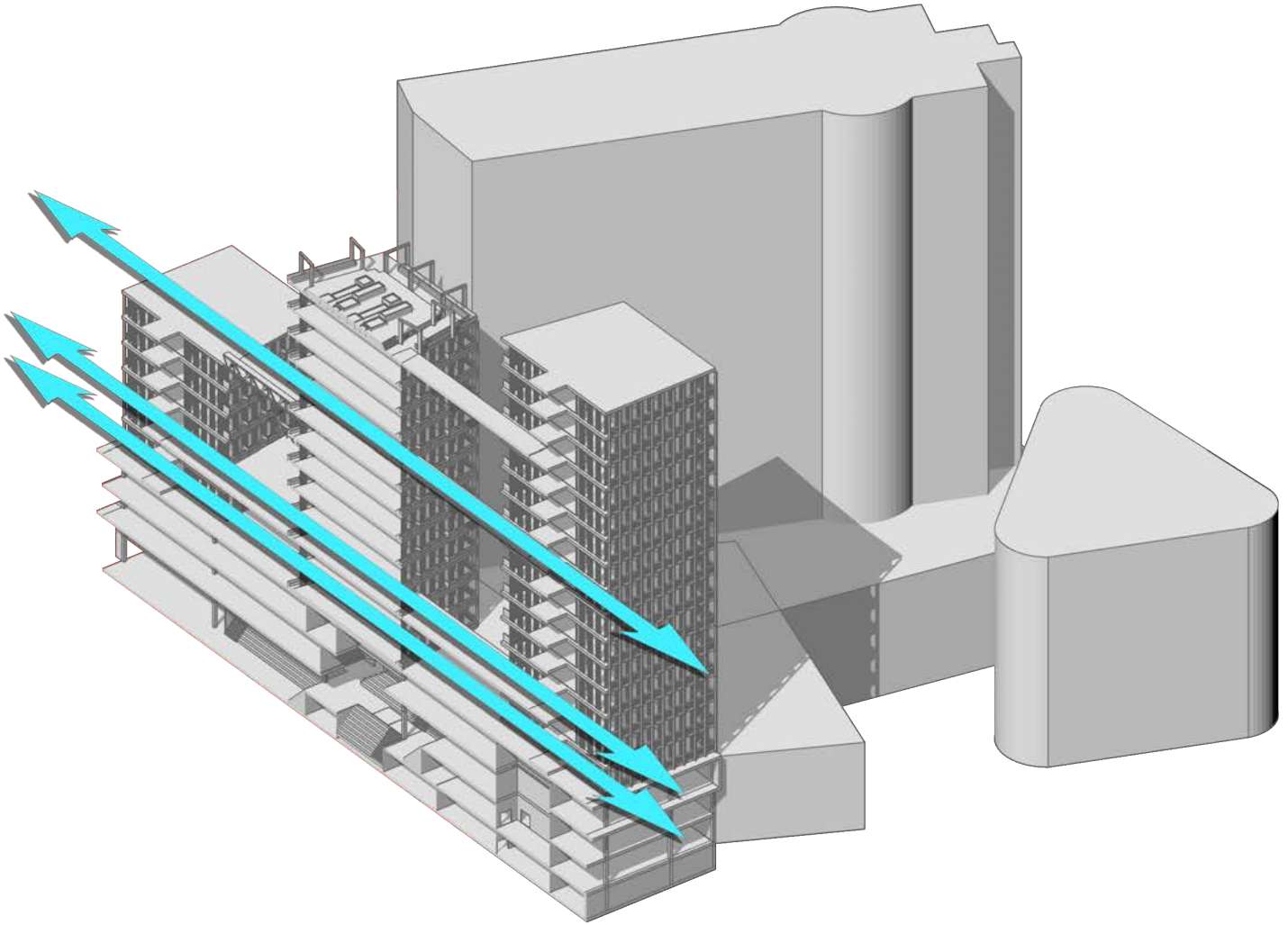
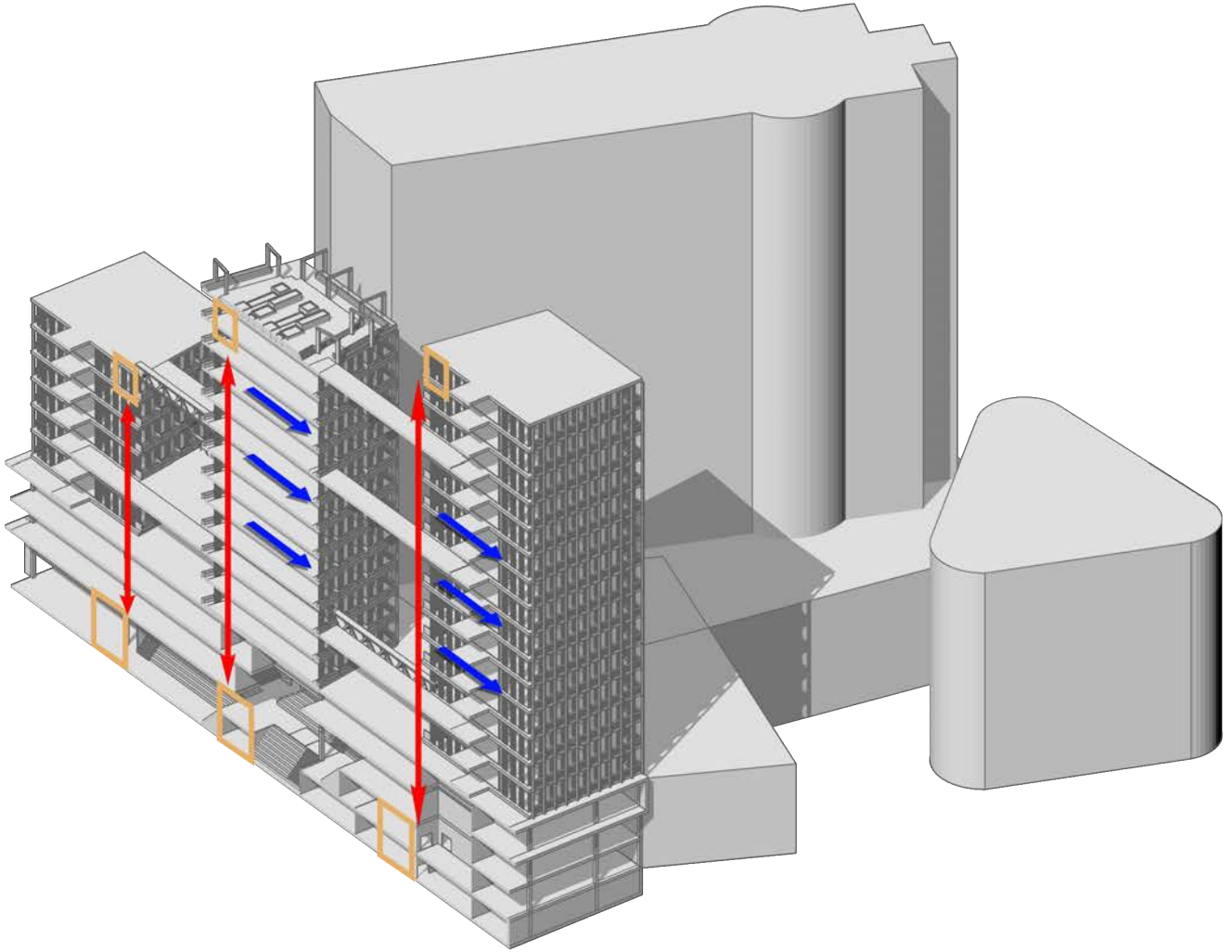


Development

HYBRID VENTILATION



COMBINED SYSTEMS



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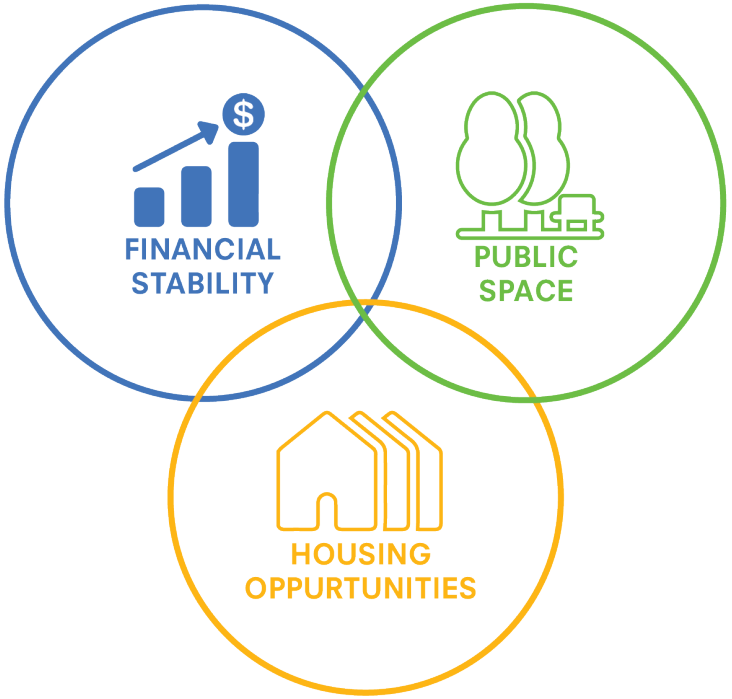
RESEARCH QUESTION

How can a **mixed use housing** intervention in **Beirut city center** be **affordable** for different **social groups** and contribute to a **resilient city centre**?



THANK YOU

complex projects