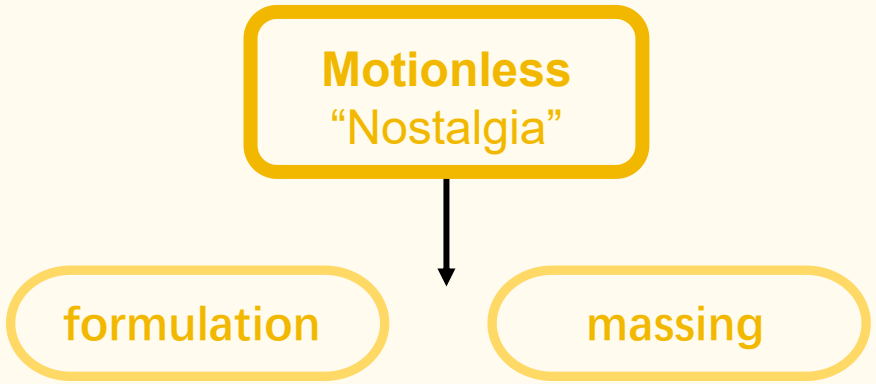
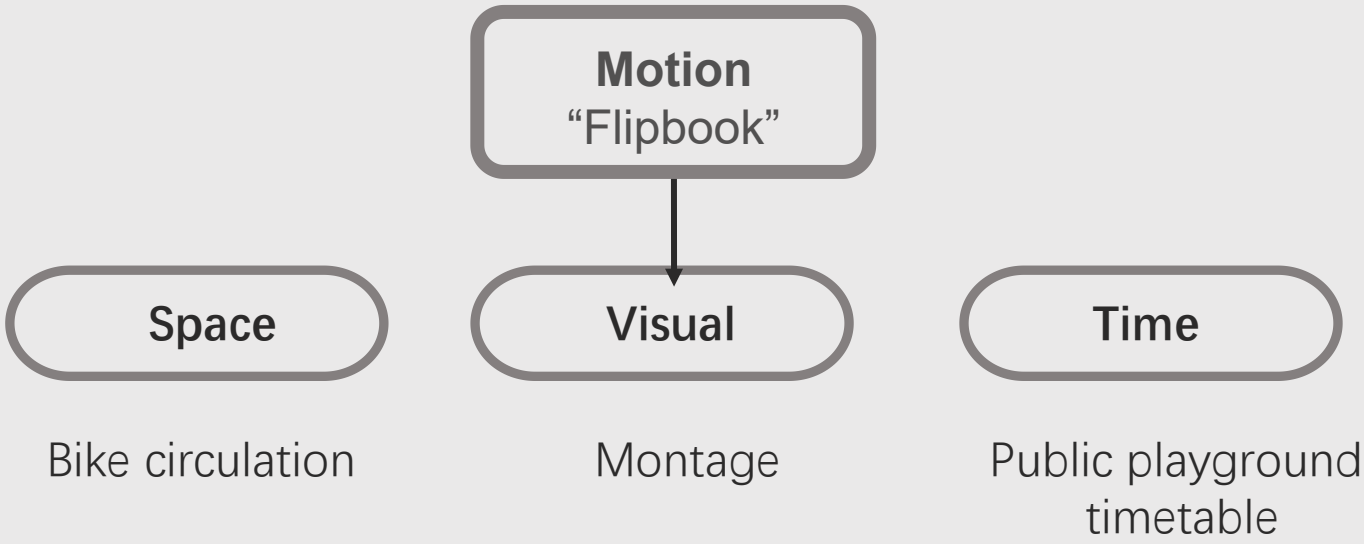
Z!PP!NG ALONG

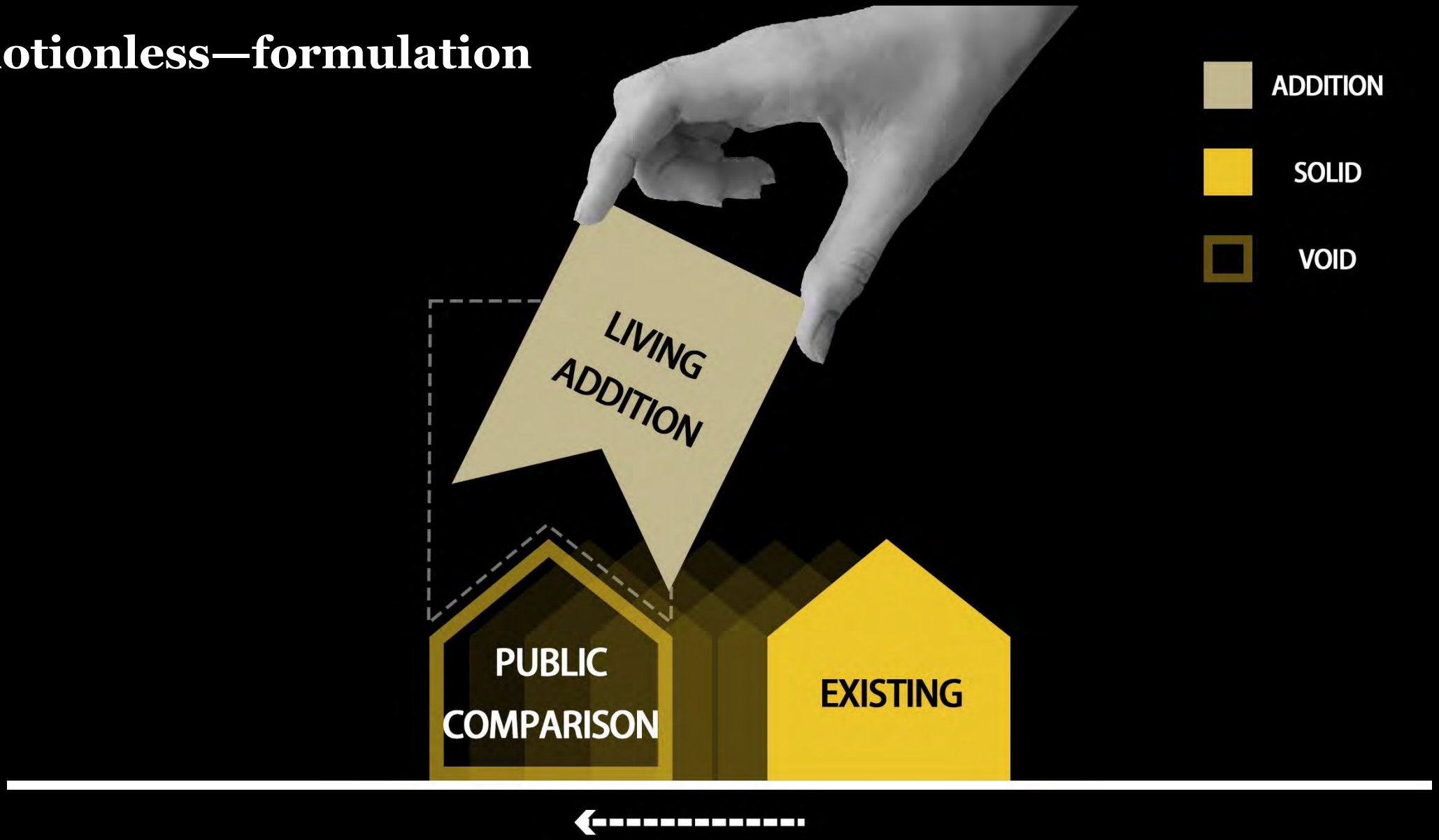
Presentation Number: 31

Z!PP!NG ALONG


Motionless
“Nostalgia”
formulation
massing
Connection
Contrast & Emphasis

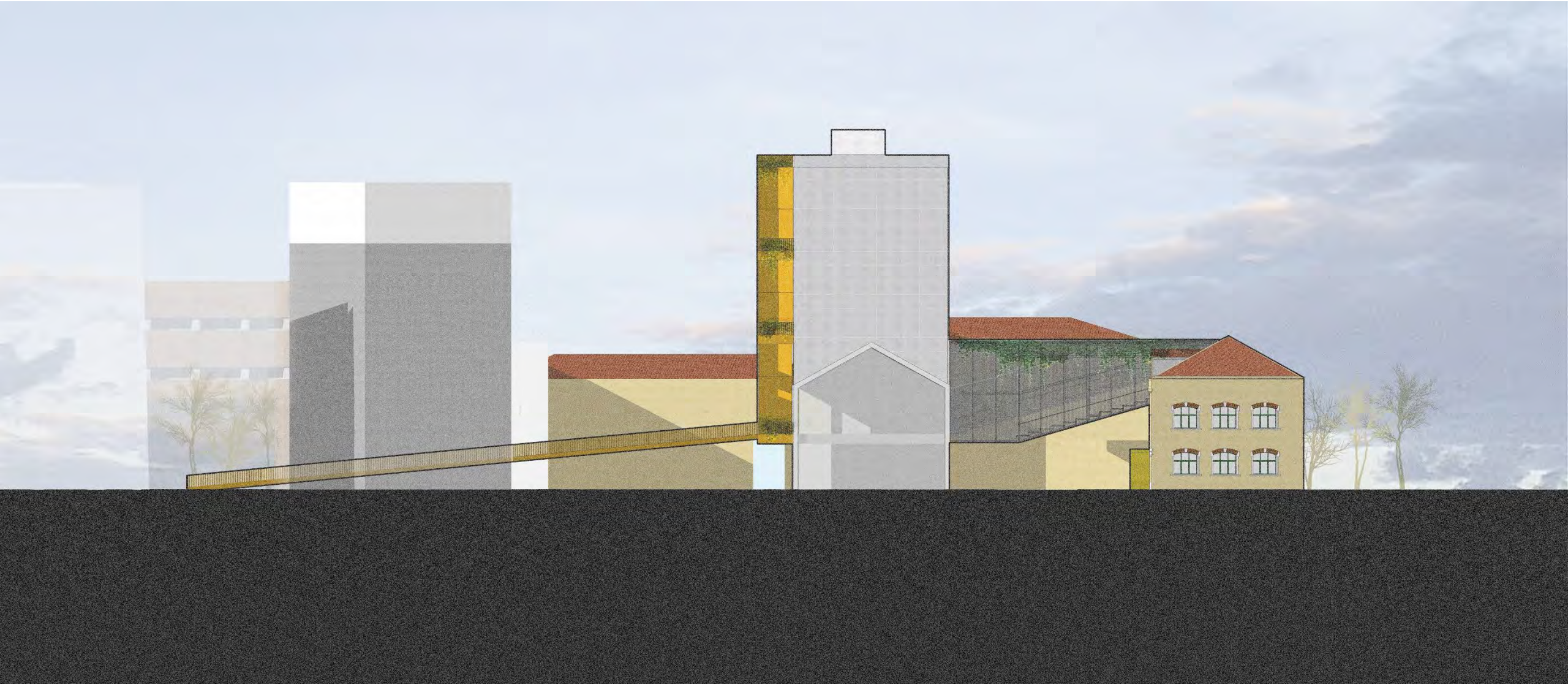

Motion
“Flipbook”
Space
Visual
Time
Bike circulation
Montage
Public playground
timetable

In motionless—formulation



Renovation Principle

Building A&B Facade



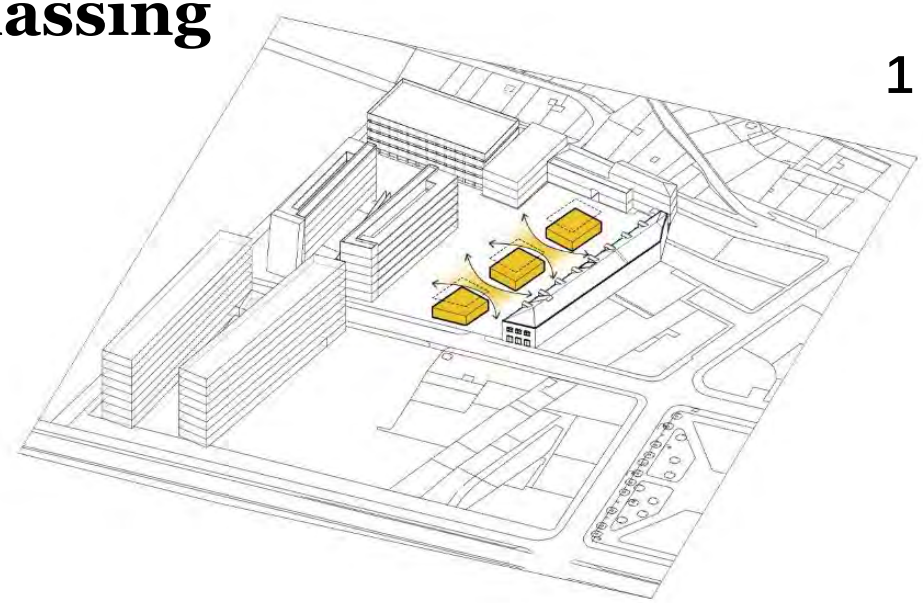
In motionless—massing

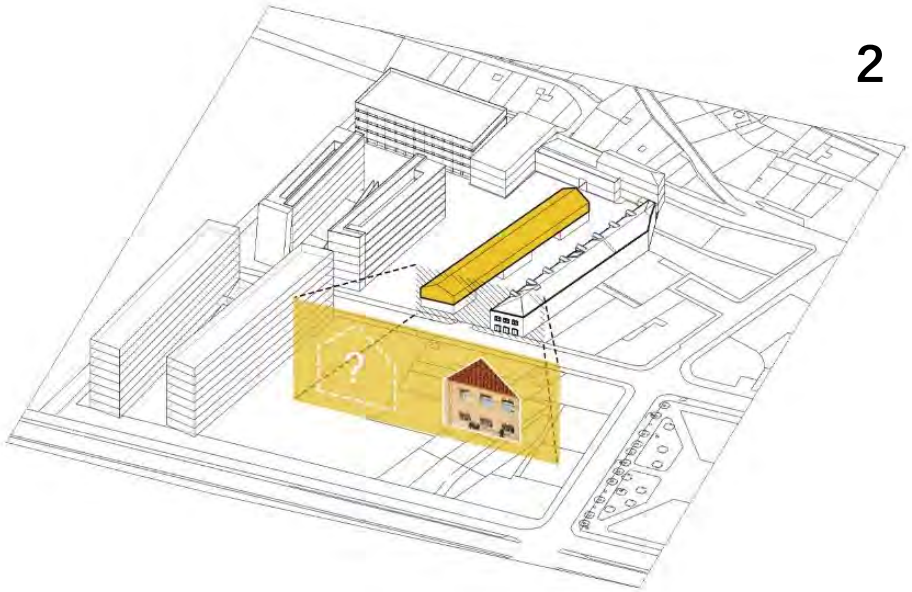
1. Determine the access space on the ground floor according to the red line range.

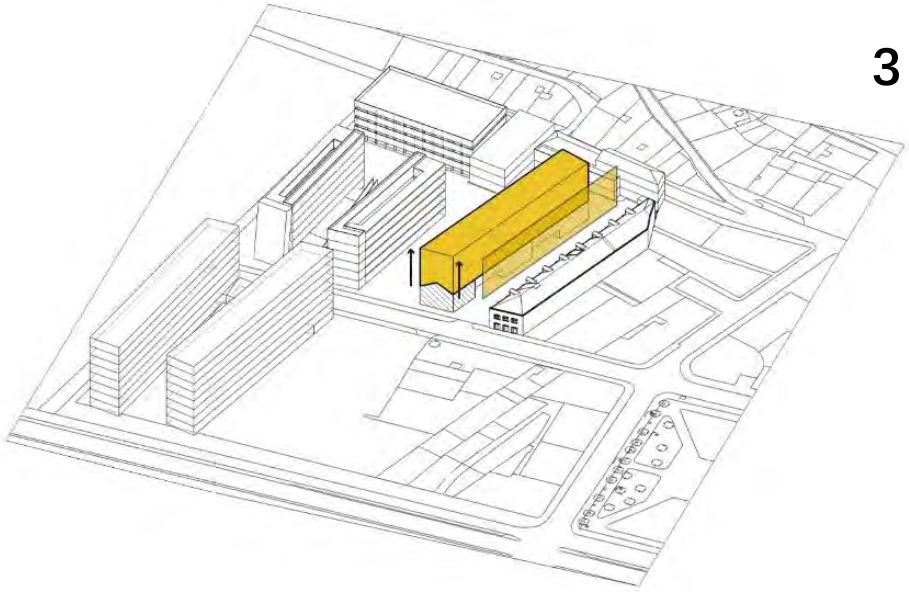
2. Finding the right façade along the street with respect for historical buildings.

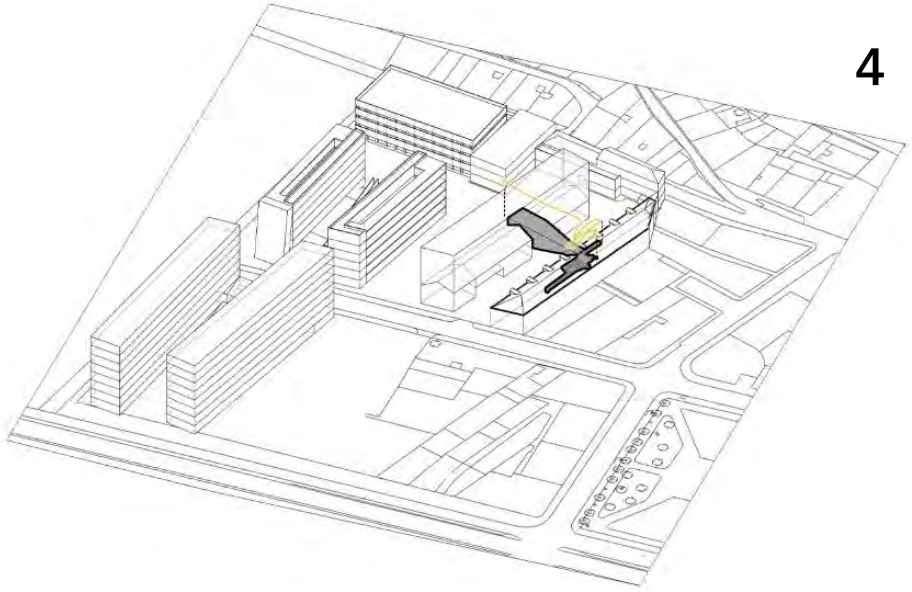
3. Extending upward to create living space, and taking care to form the boundary between public and private.

4. A volume connect the public space of the A、B building, through which the museum and the residential space (public area) will be opened to the city, meanwhile, it provides benefits to the ventilation and living quality.



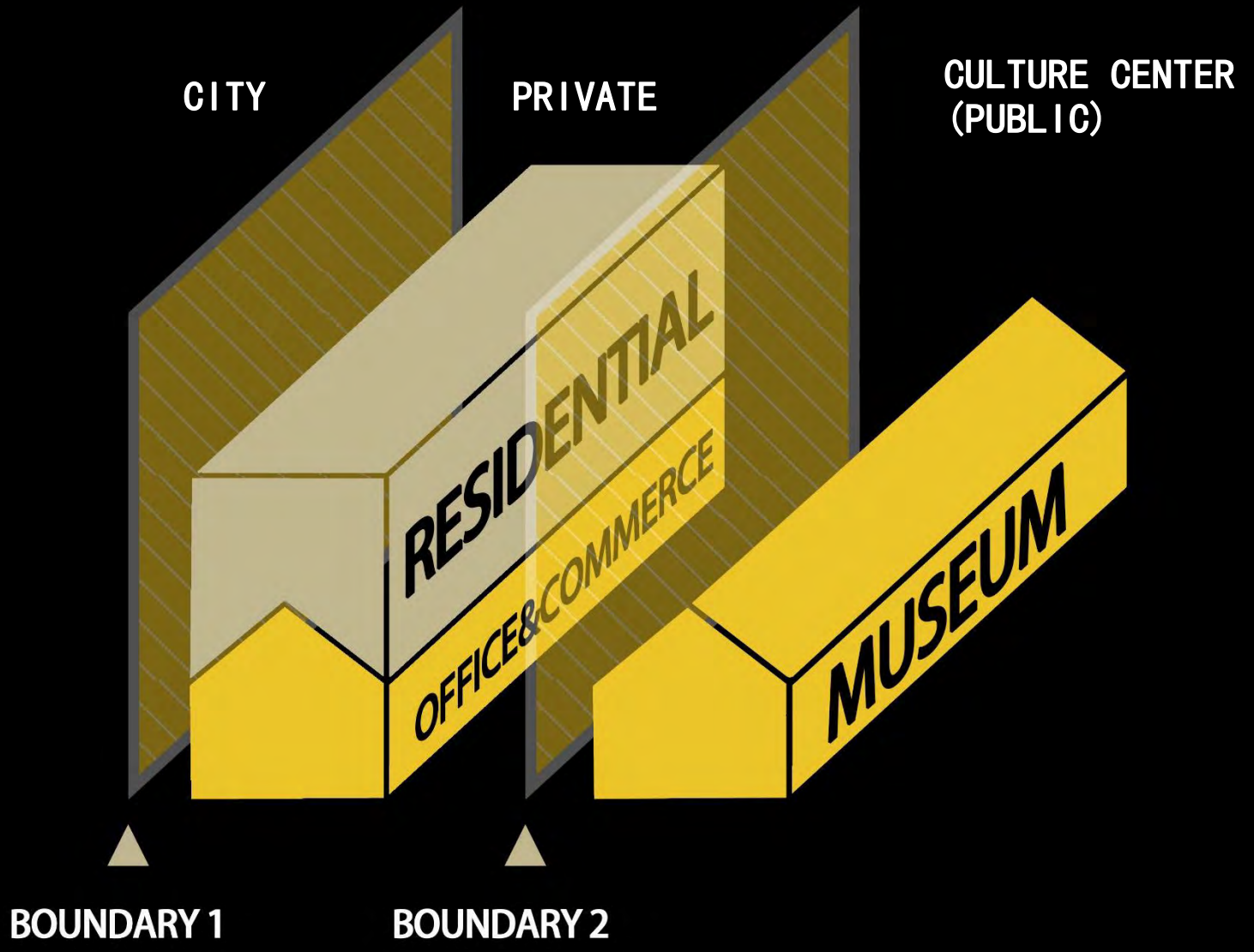






Massing Analysis

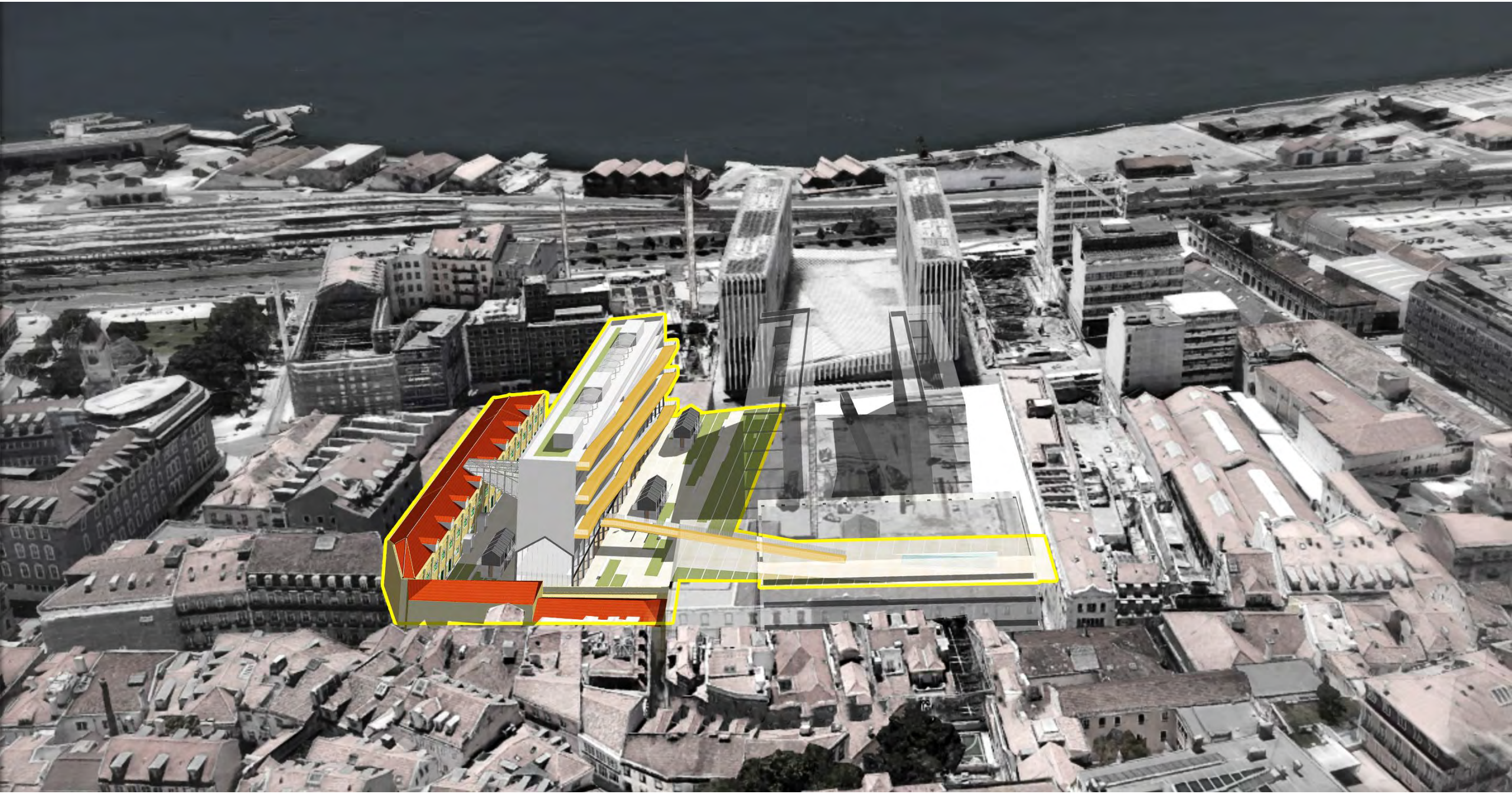
In motionless—facade

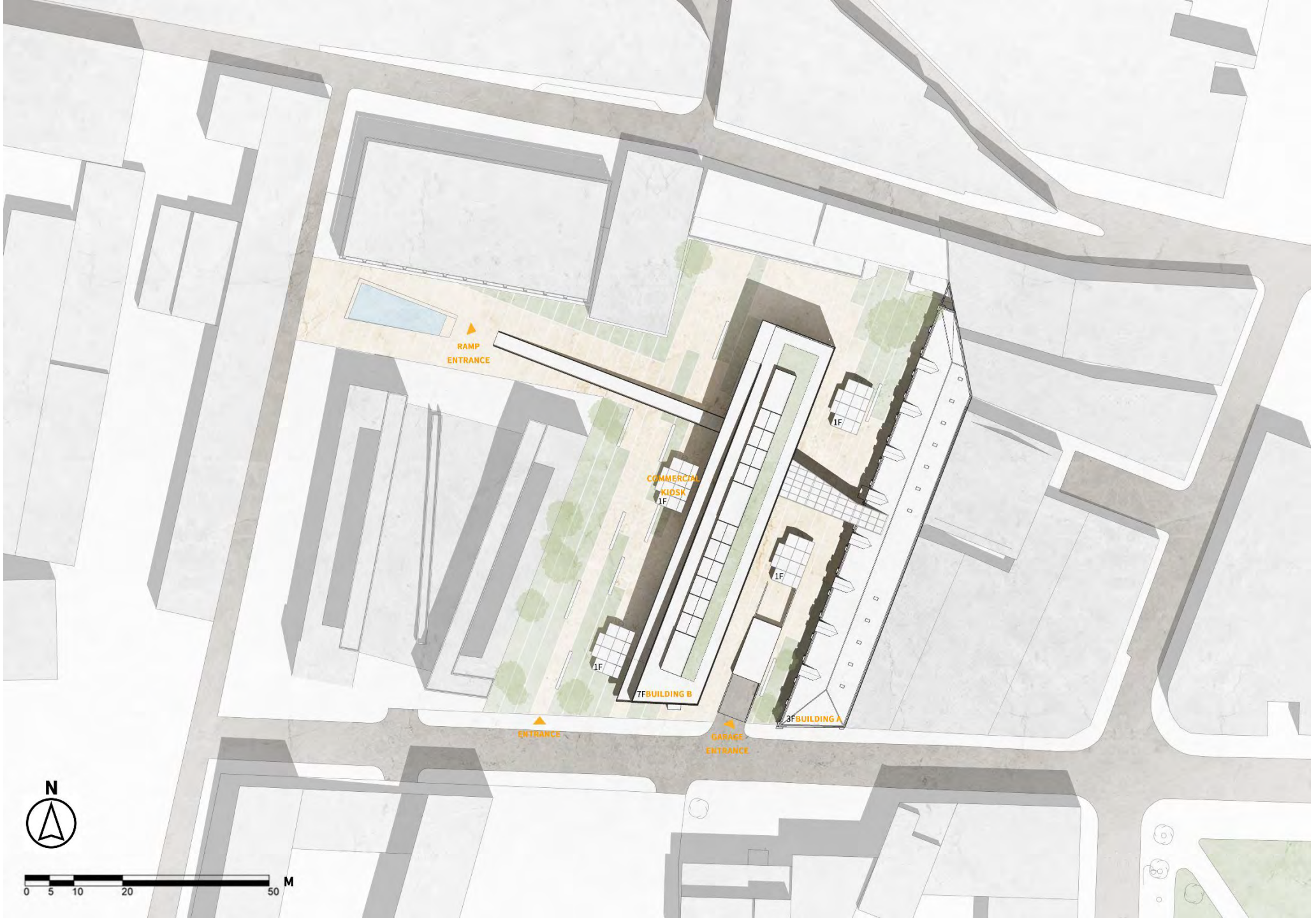


Boundary CITY-PRIVATE
Invisible/active/lively

Boundary PRIVATE-PUBLIC
clear/cut-off/division

Renovation Principle




RAMP
ENTRANCE
COMMERCIAL
KIOSK
1F
1F
1F
1F
7F BUILDING B
3F BUILDING A
ENTRANCE
GARAGE
ENTRANCE
N
0
5
10
20
50
M

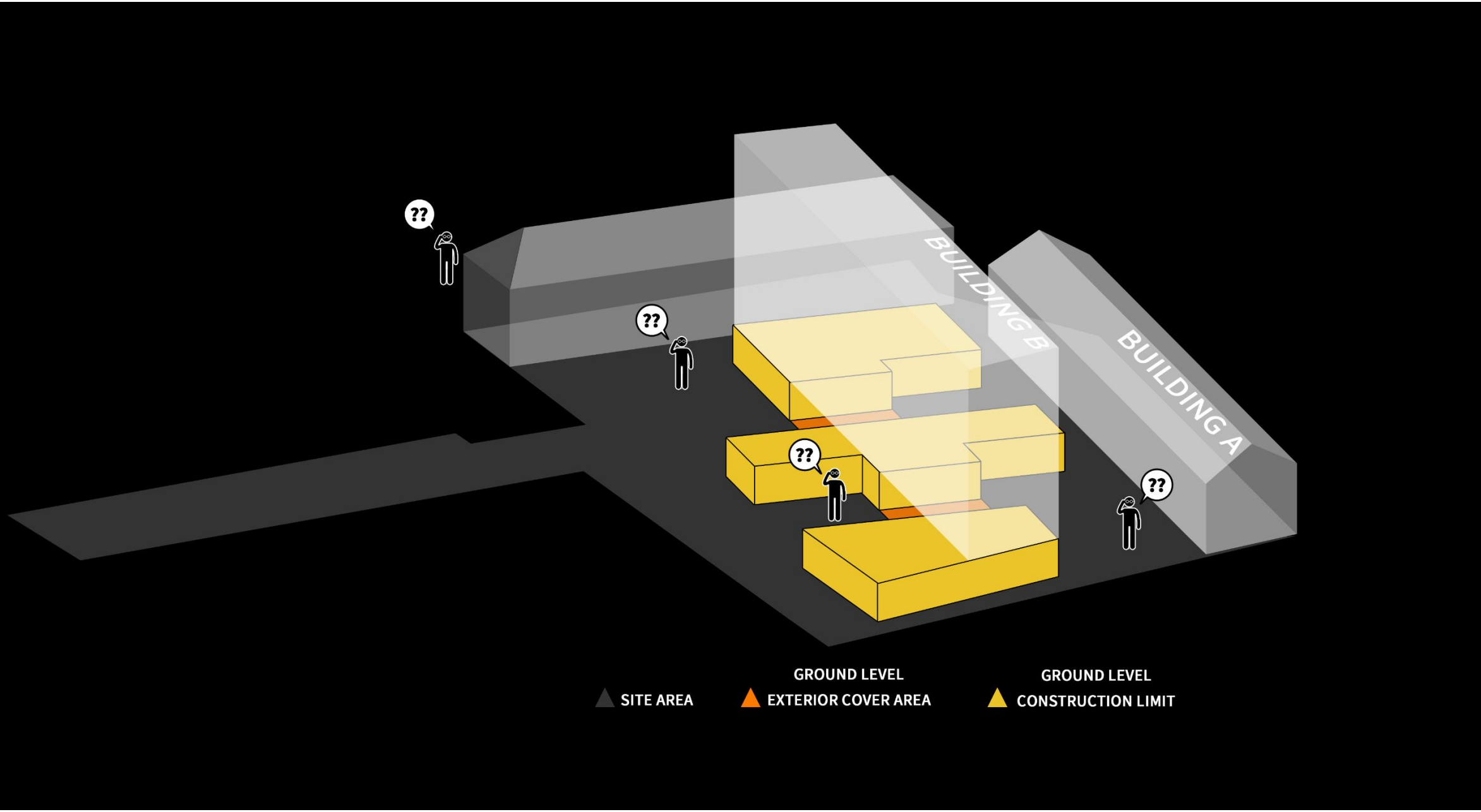
Master Plan

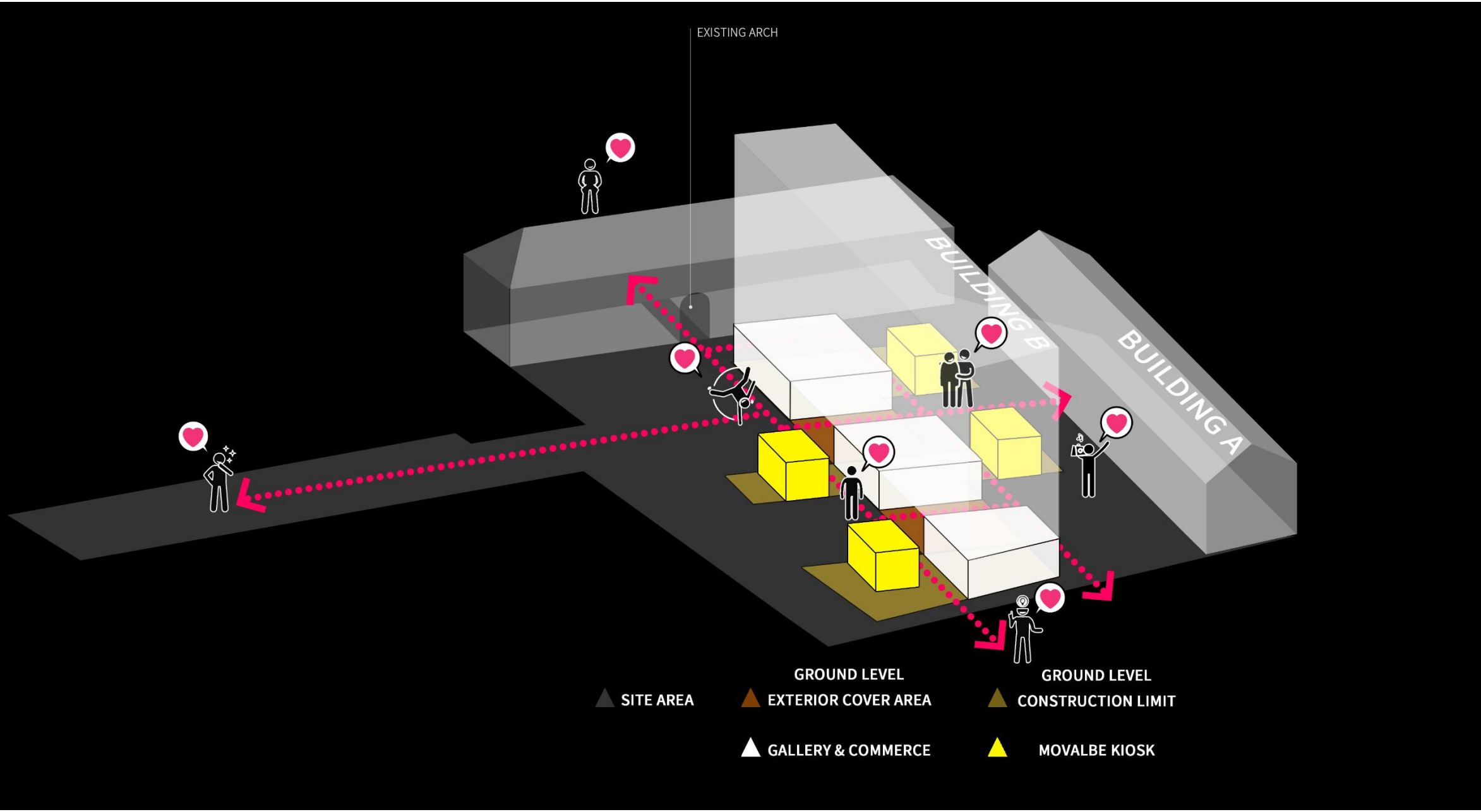
City

ZIP NO.1

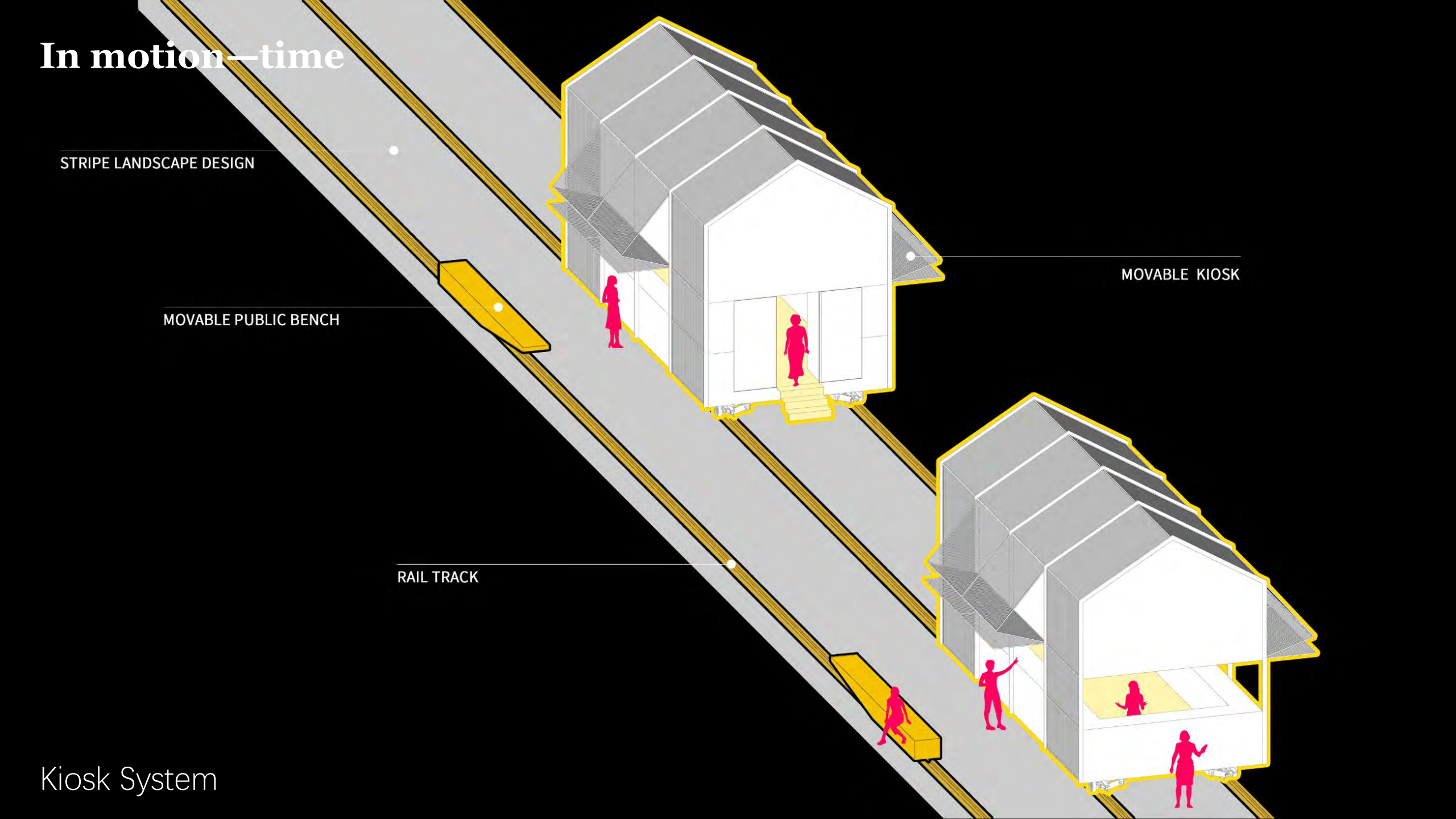
TIDE MARKET

Site


??
??
??
??
BUILDING B
BUILDING A
GROUND LEVEL
SITE AREA
EXTERIOR COVER AREA
GROUND LEVEL
CONSTRUCTION LIMIT

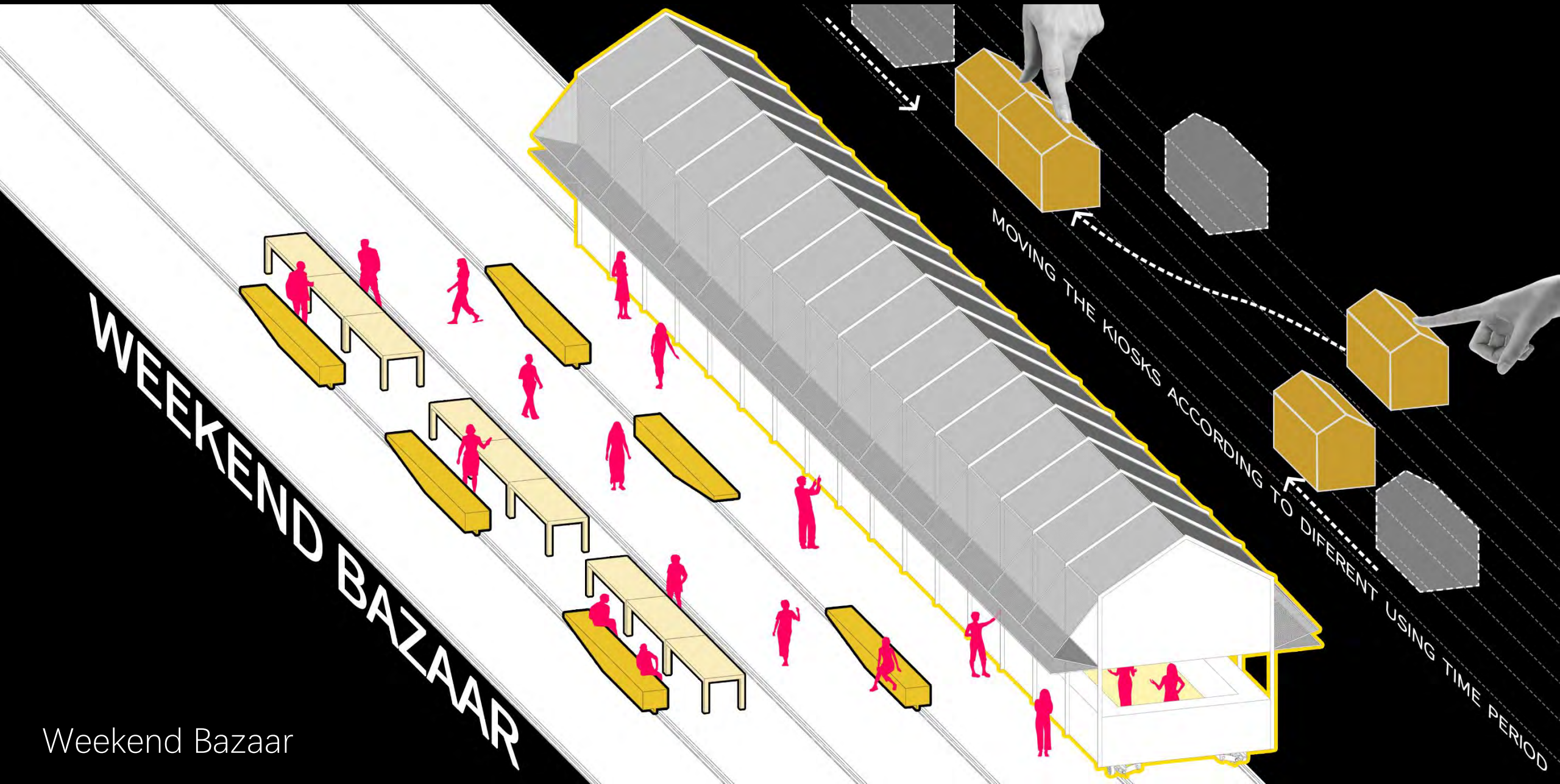

EXISTING ARCH
BUILDING B
BUILDING A
GROUND LEVEL
SITE AREA
EXTERIOR COVER AREA
GROUND LEVEL
CONSTRUCTION LIMIT
GALLERY & COMMERCE
MOVALBE KIOSK

In motion—time



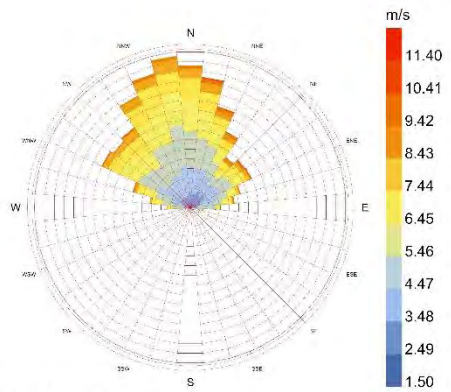
Kiosk System

In motion—time

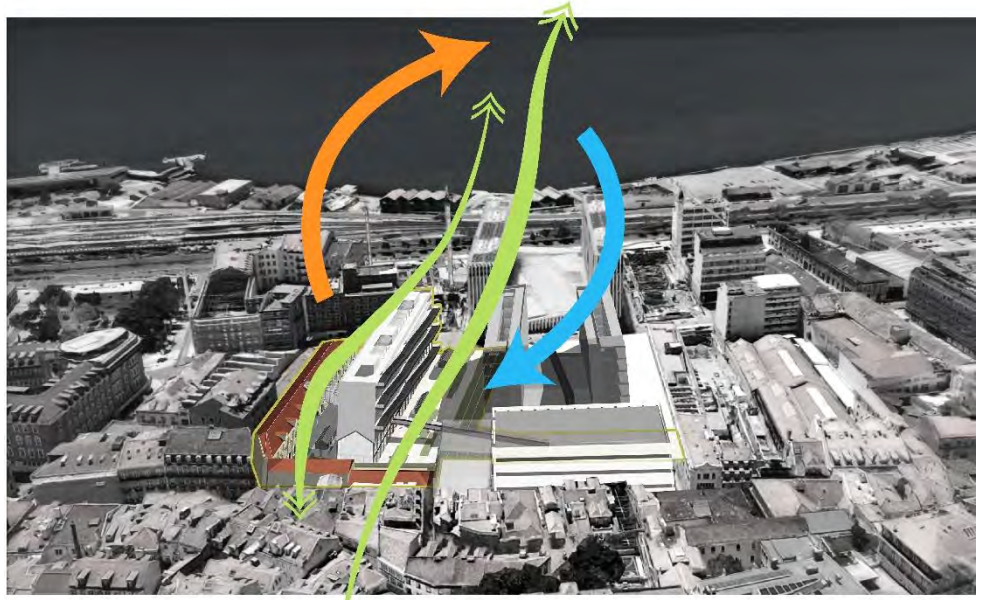


Weekend Bazaar

In motion-Site Ventilation Analysis



Wind Speed (m/s)
city: Lisboa
country: PRT
time-zone: 0.0
source: INETI
period: 1/1 to 12/31 between 0 and 23 @1
Calm for 3.93% of the time = 344 hours.
Each closed polyline shows frequency of 0.6% = 50 hours



• Place the biking ramps on leeward side for the safety of bikers

•Strengthen the existing SEA-LAND WIND CIRCULATION of the SITE

Landscape

TIDE MARKET YELLOW RAMP

ZIP NO.2

Building

At the Roddy Parts factory, Mendez said they sold

500,000

bicycle wheels and 3 million rims in 2020, a total increase

of **35**

percent

compared to 2019. He added:We are fortunate that people in the bicycle industry don't suffer as much as workers in other industries."

A recently released report shows that the number of people using bicycles (including e-bikes) to get to the hills in Lisbon has ***increased by a quarter*** since the beginning of the epidemic.

Fernando Chicarini is the owner of Lisbon's oldest bicycle store, "Erida," which was founded in 1951. He says his sales have soared **40 percent** since the outbreak began.

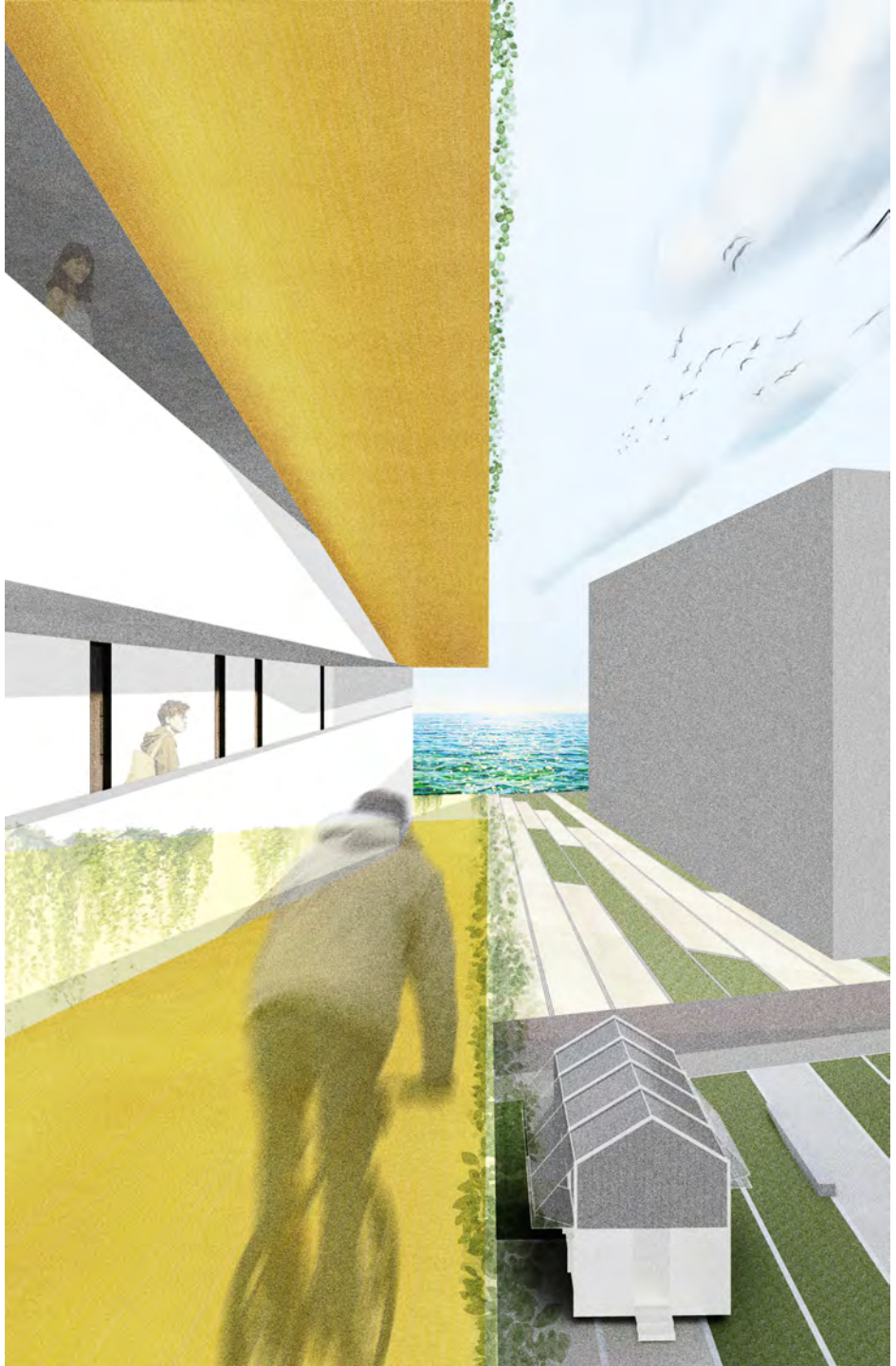
He has also found that more and more people want him to repair their old bikes. He says

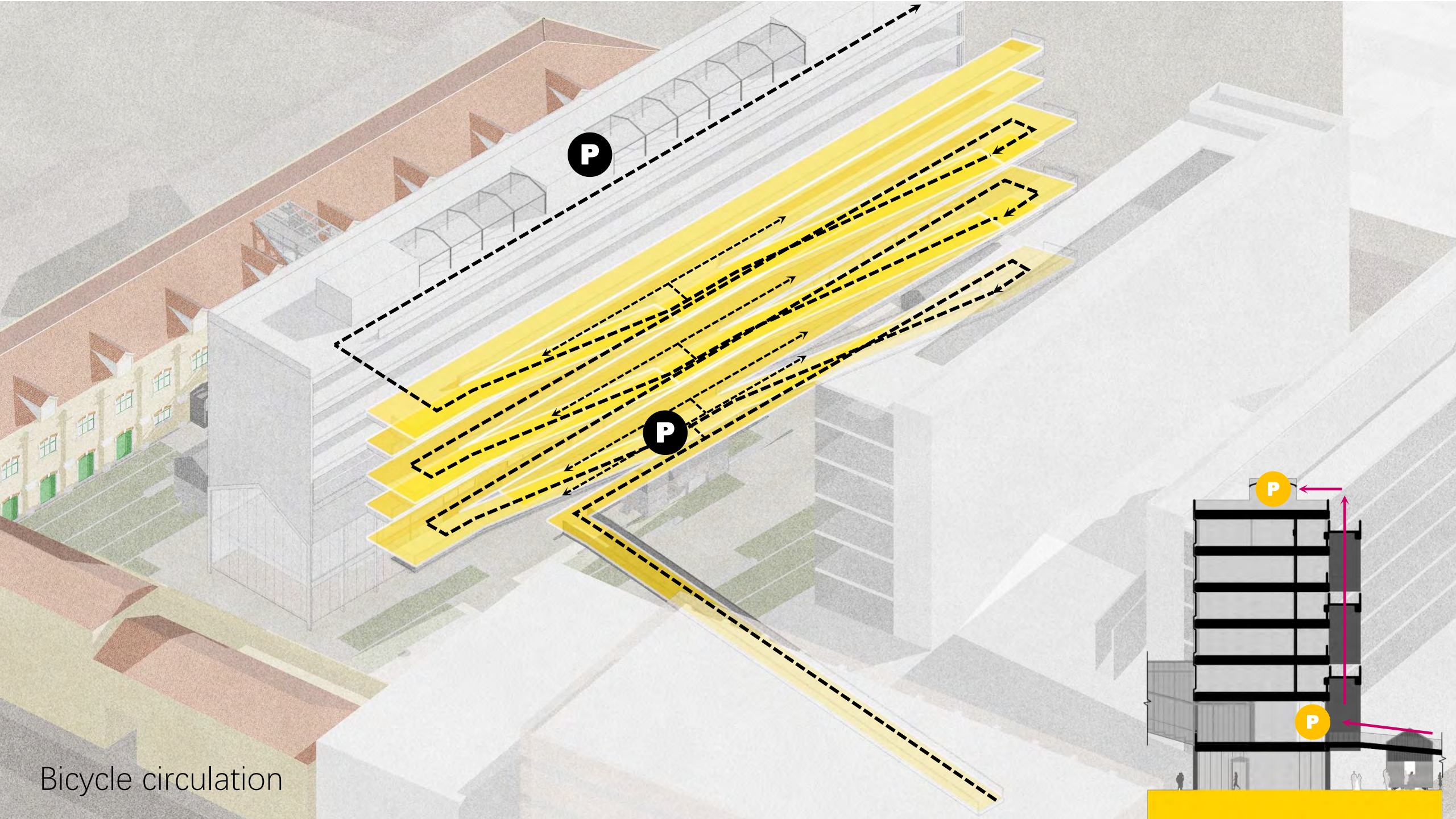
"People who already own bikes, but don't use them often or at all, come in for repairs, modifications and restorations."

New Building

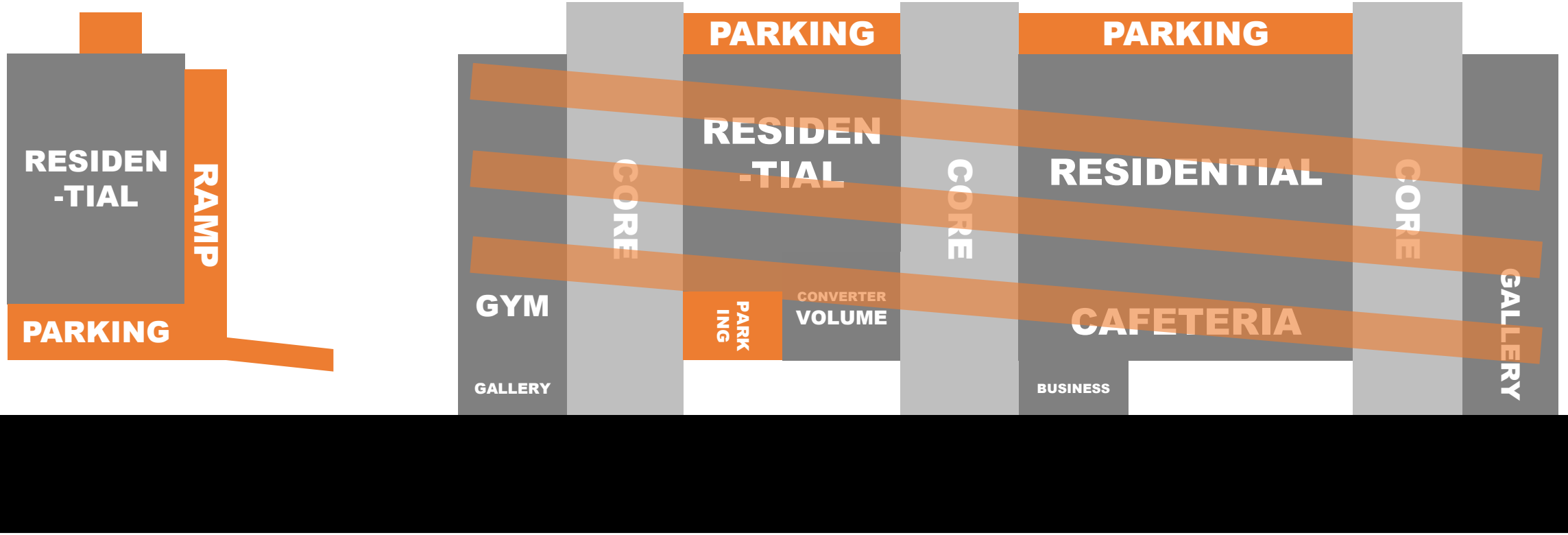
New System

New lifestyle

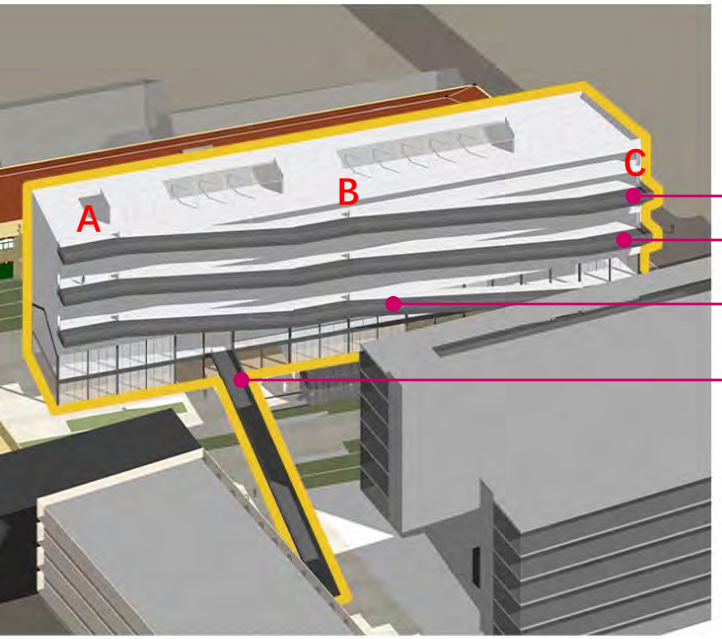




Bicycle circulation



Bicycle circulation



A B C

Ramp 1

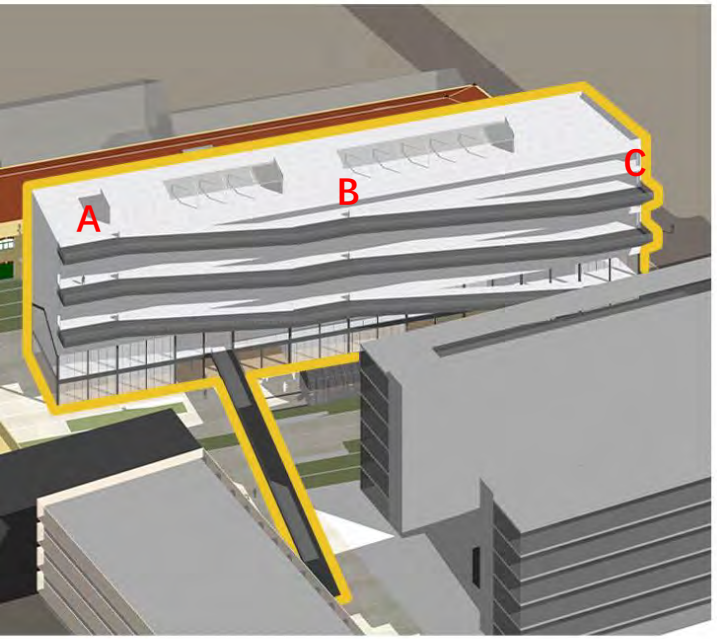
Ramp 2

Ramp 3

Ramp 4

VISTA in ramp

WATER VIEW

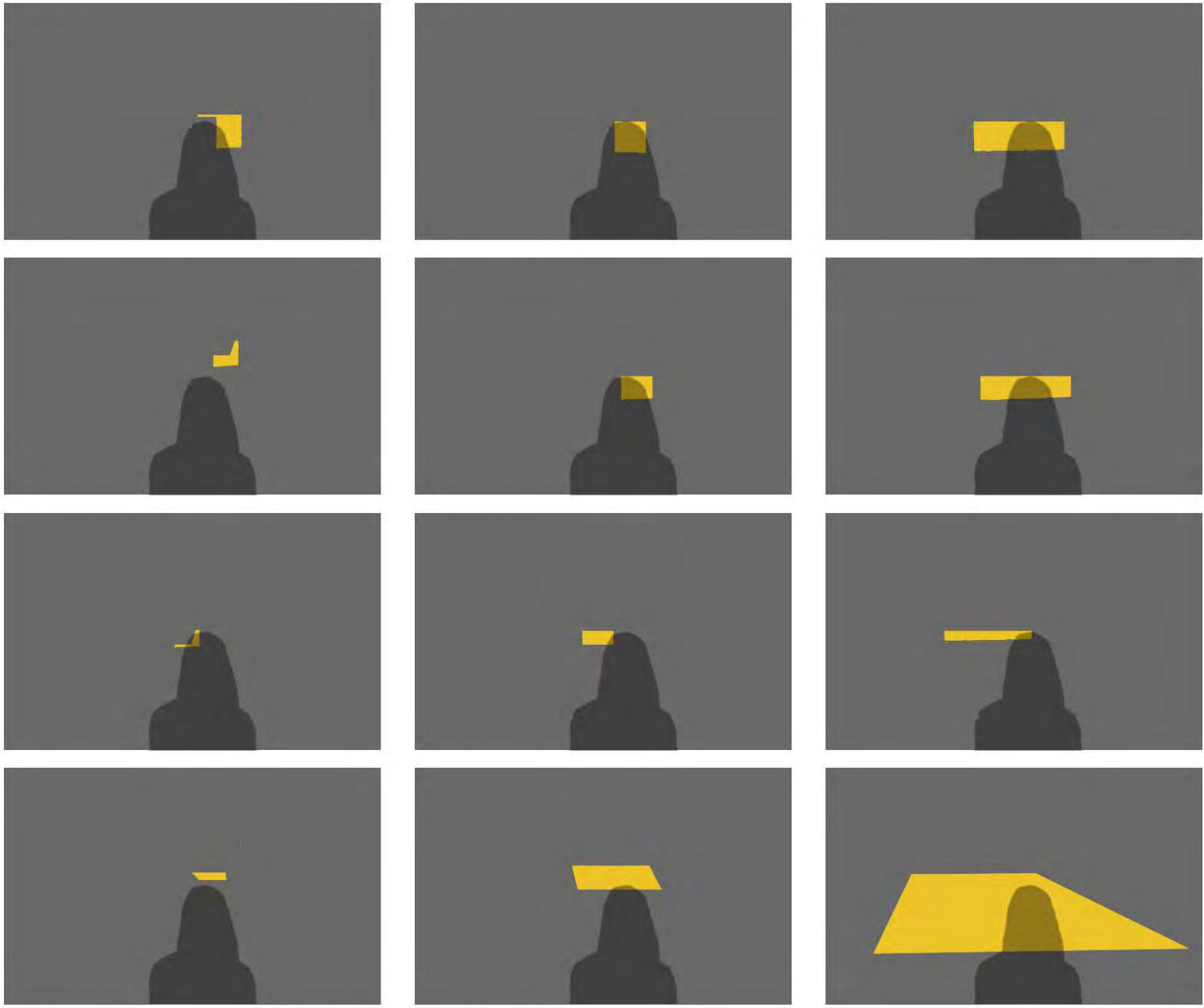


VISTA in ramp

1A

1C

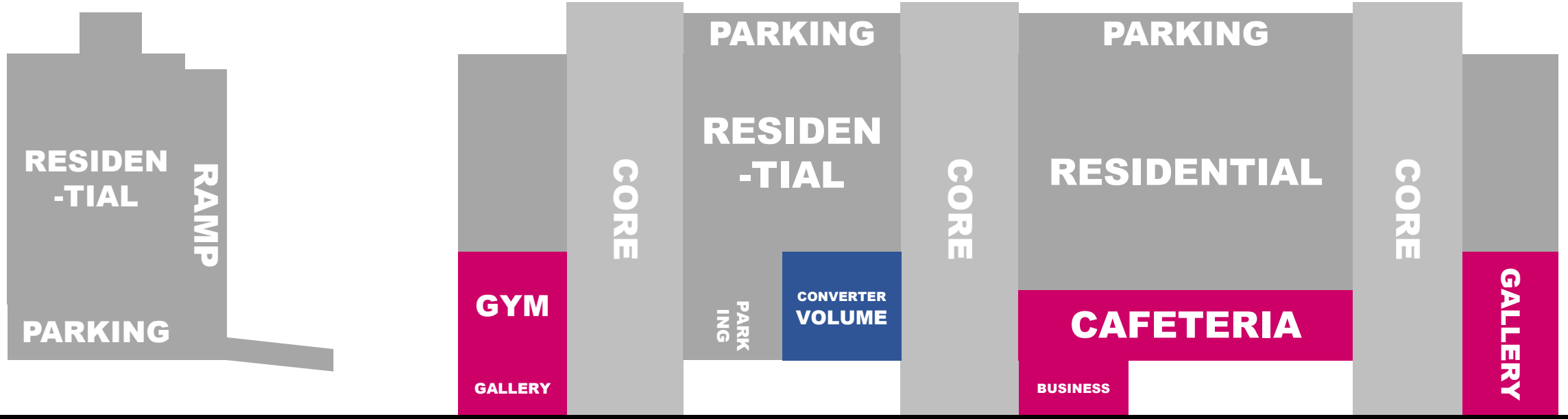
4A



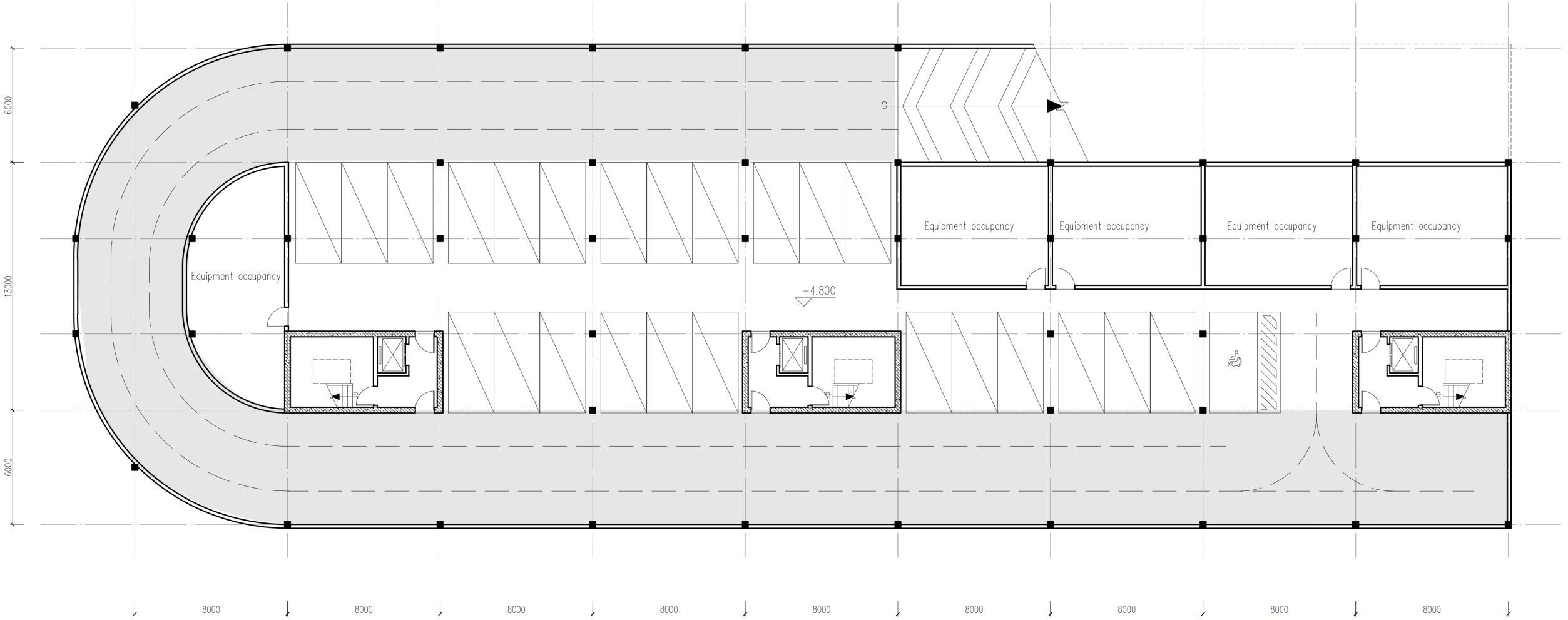
In motion—lifestyle

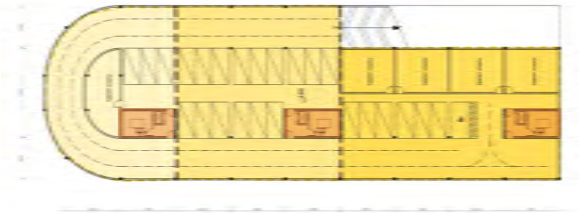
New lifestyle——public area

In motion—lifestyle



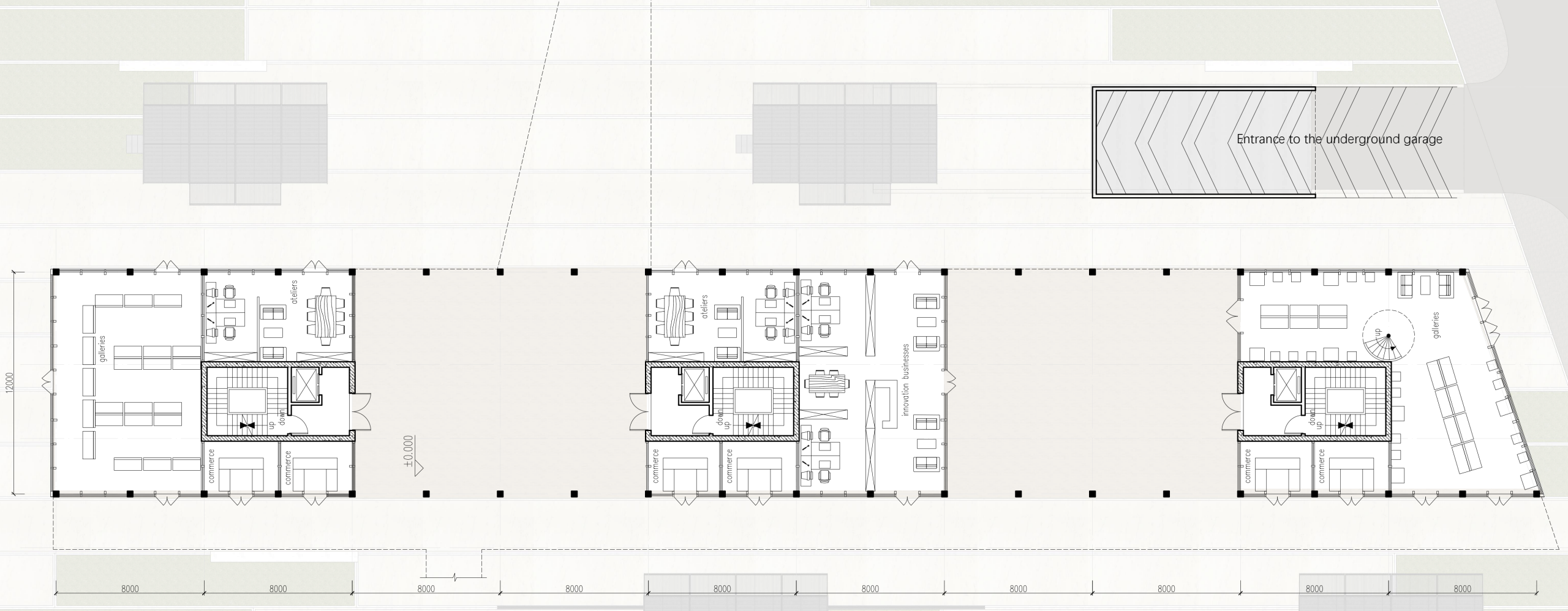
New lifestyle——public area


6000
13000
6000
up
Equipment occupancy
Equipment occupancy
Equipment occupancy
Equipment occupancy
Equipment occupancy
-4.800
8000
8000
8000
8000
8000
8000
8000
8000
8000



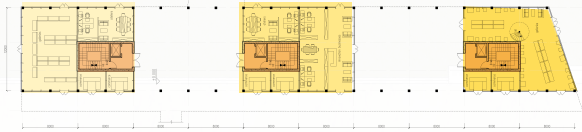
-1F

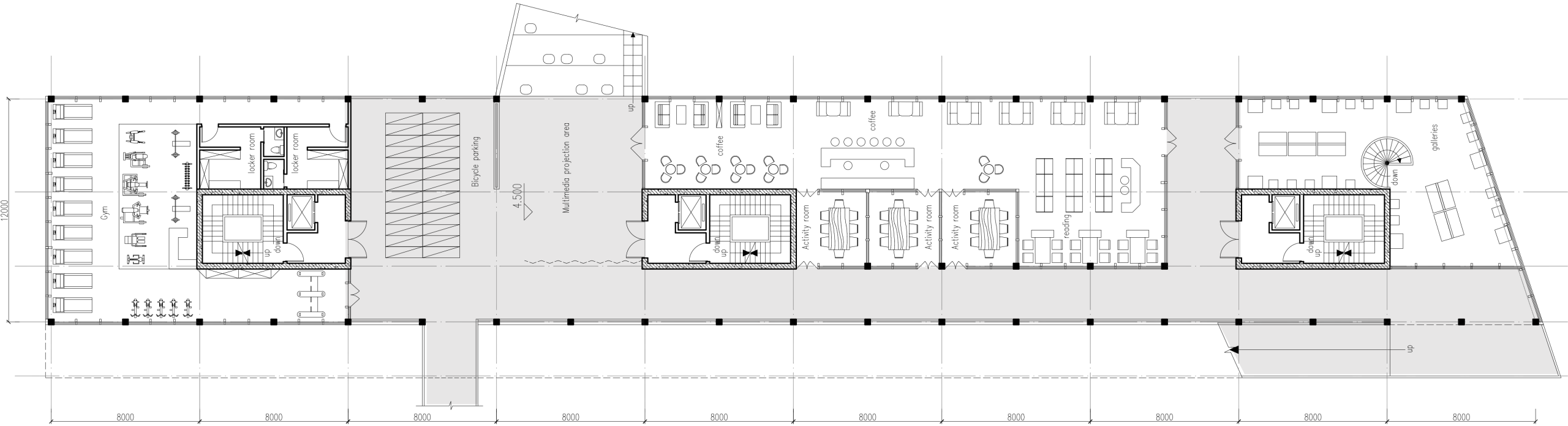
Fire zone


Entrance to the underground garage
galleries
ateliers
up
down
commerce
commerce
±0.000
12000
ateliers
down
up
commerce
commerce
innovation businesses
up
galleries
down
up
commerce
commerce
8000
8000
8000
8000
8000
8000
8000
8000
8000
8000

1F

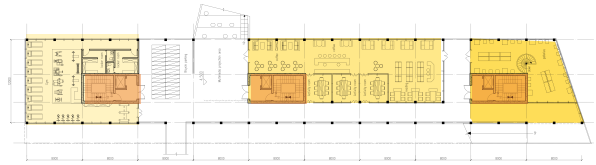
Fire zone

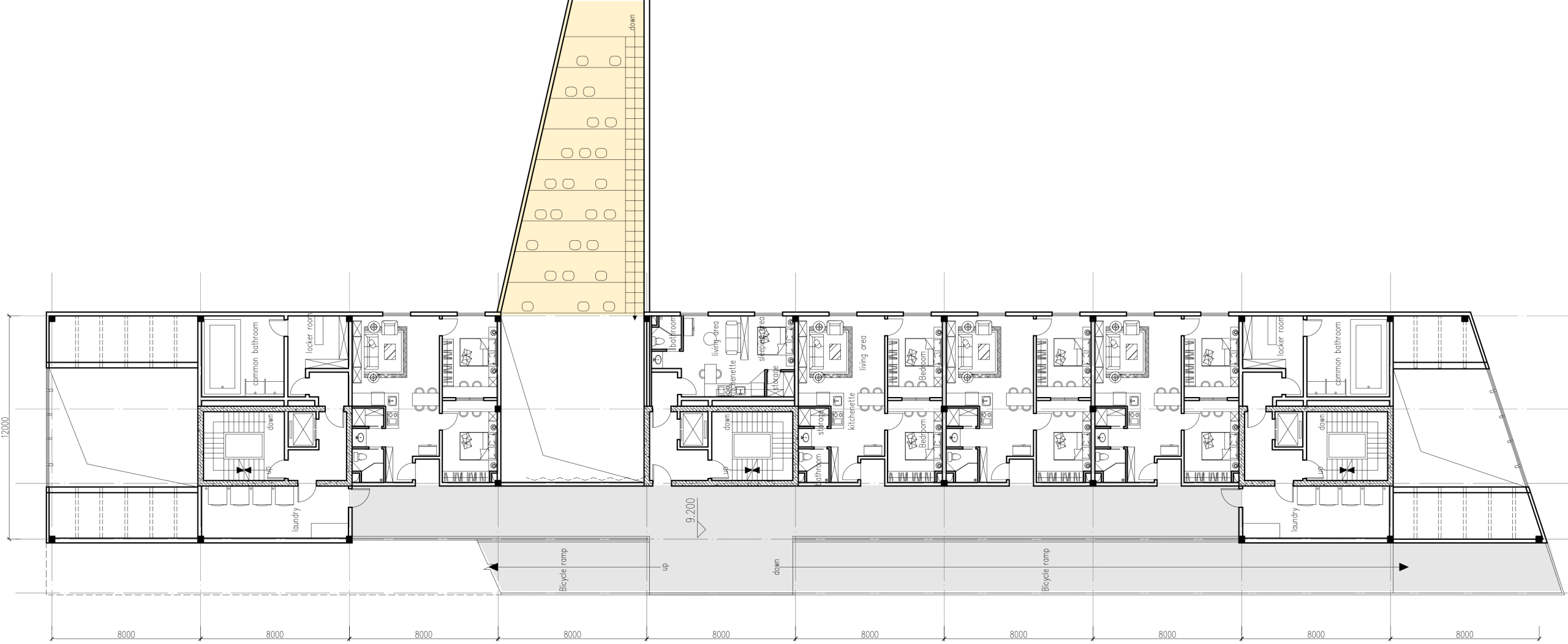



12000
Gym
locker room
locker room
up
down
Bicycle parking
4.500
Multimedia projection area
up
coffee
coffee
down
up
Activity room
Activity room
Activity room
reading
down
up
galleries
up
8000
8000
8000
8000
8000
8000
8000
8000
8000
8000
8000

2F

Fire zone




down
common bathroom
locker room
down
up
laundry
bathroom
living area
sleeping area
kitchenette
storage
down
up
bathroom
storage
kitchenette
living area
Bedroom
Bedroom
locker room
common bathroom
down
up
laundry
9,200
Bicycle ramp
up
down
Bicycle ramp
12000
8000
8000
8000
8000
8000
8000
8000
8000
8000
8000
8000

3F

Fire zone

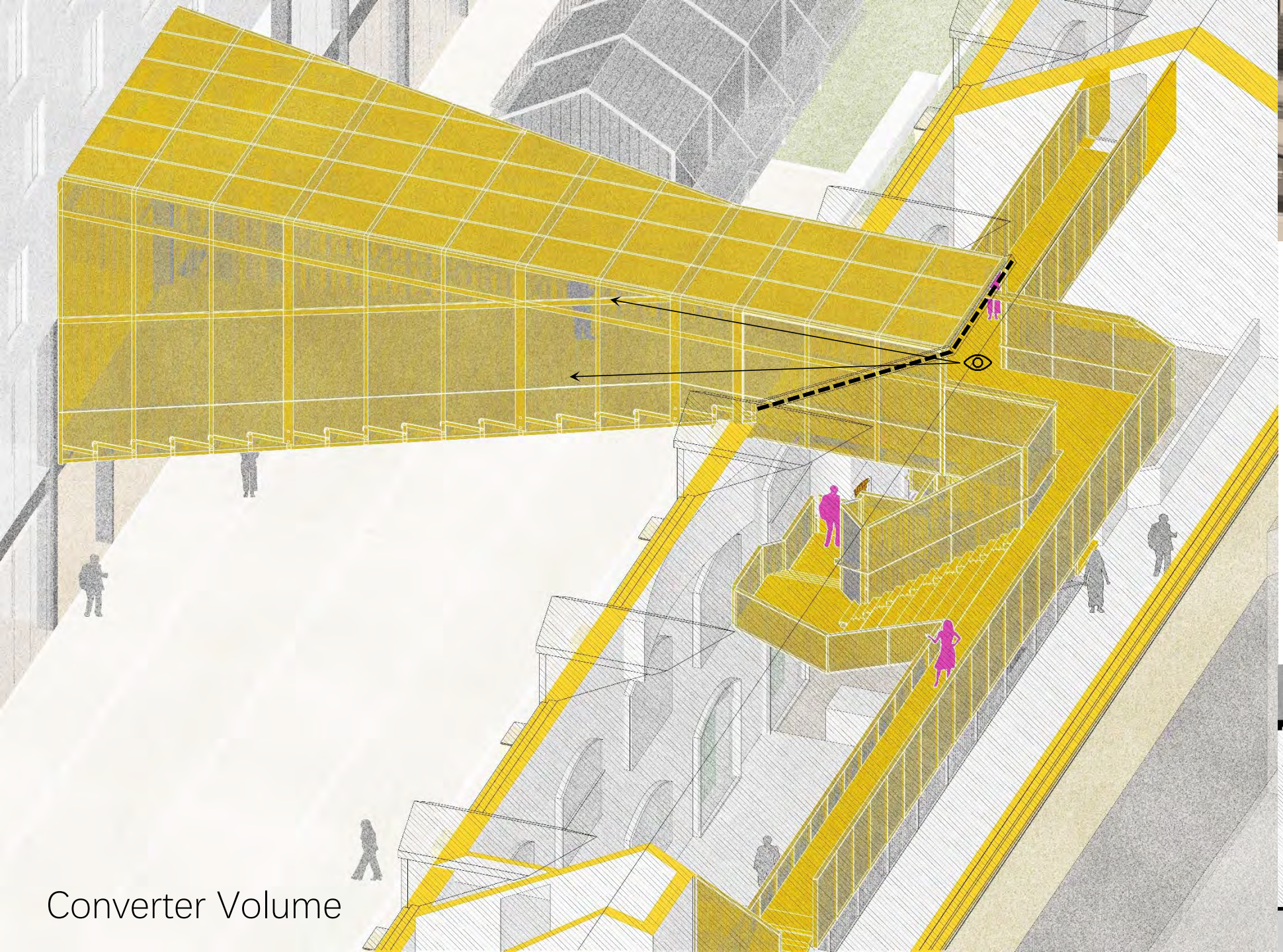
History

TIDE MARKET YELLOW RAMP

CONVERTER

ZIP NO.3

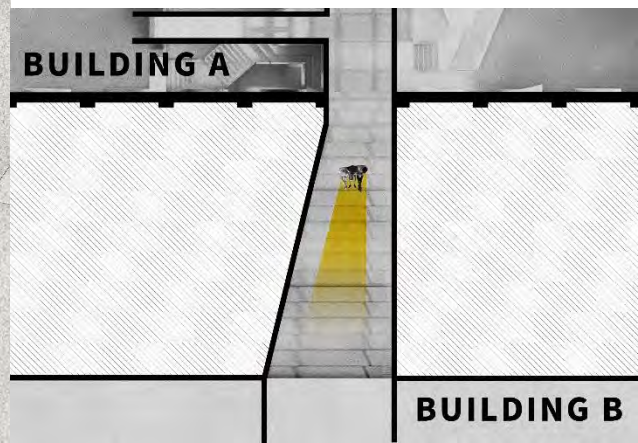
Contemporary



the Use of Skylight & Growing Converter Volume

The original skylight on the roof is used to create a volume that grows from Building B to museum (Building A) without destroying historic building elements.

Passages and Stands Between Buildings

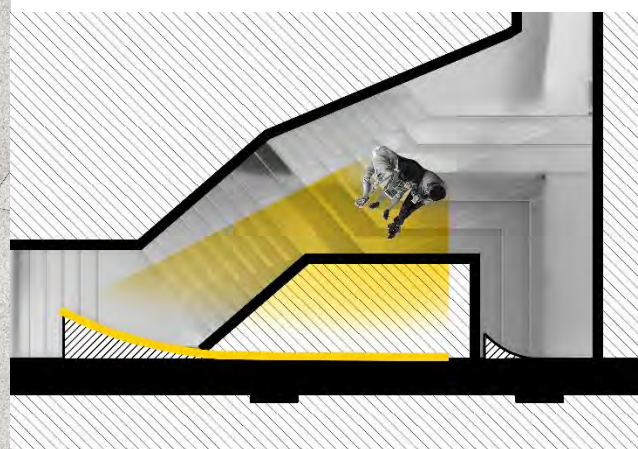


Converter Volume

Stairs (2F-3F) and Stands in Building A

Converter Volume

Stairs (1F-2F) and Stands in Building A

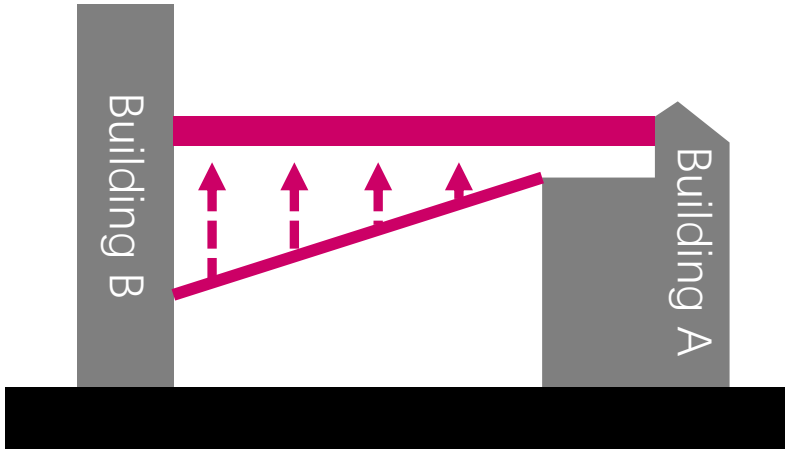


In motion—visual

PV glass

Moru glass

Converter—Green Volume



Structure

Converter—Green Volume

Planting tank

Cascading greenery

-Shade the sun to prevent overheating of indoor space

-Absorbs carbon dioxide and purifies the air

Shades

Summer-shades

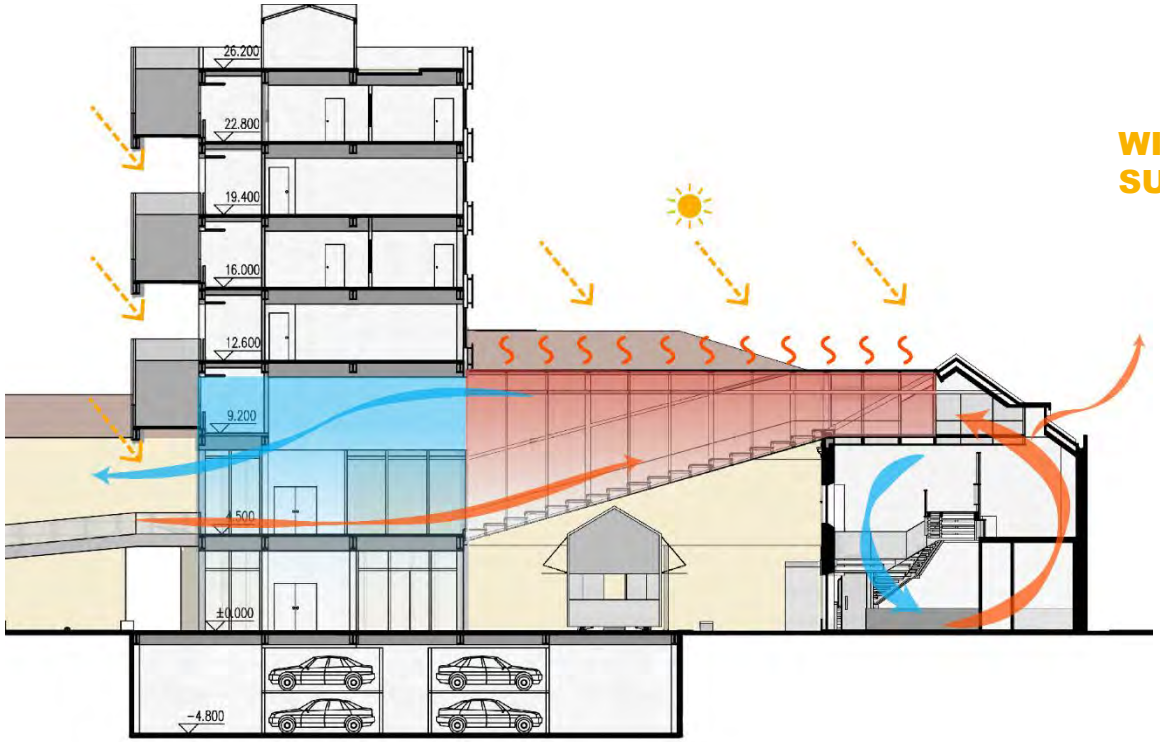
Shading, heat insulation, maintaining a suitable thermal environment in the indoor area.

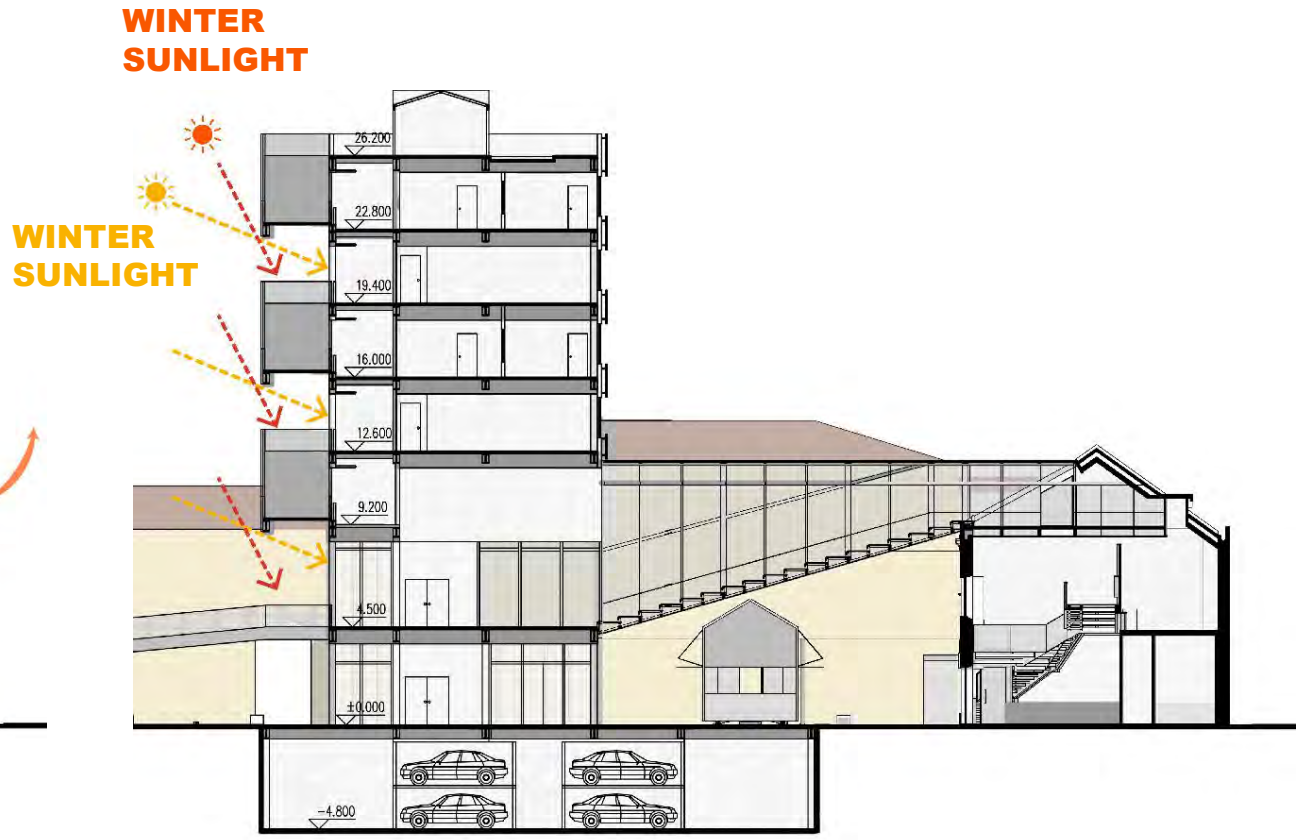
Winter-without shades

Make full use of sunlight and reduce heat loss

Converter—Green Volume

Green Architecture Design





•Air Ventilation through out the SITE/Building B/Building A

• Biking ramps function as Shading Equipment

Converter—Green Volume


26.200
22.800
19.400
16.000
12.600
9.200
4.500
±0.000
-4.800
4.500
±0.000

In motion—visual

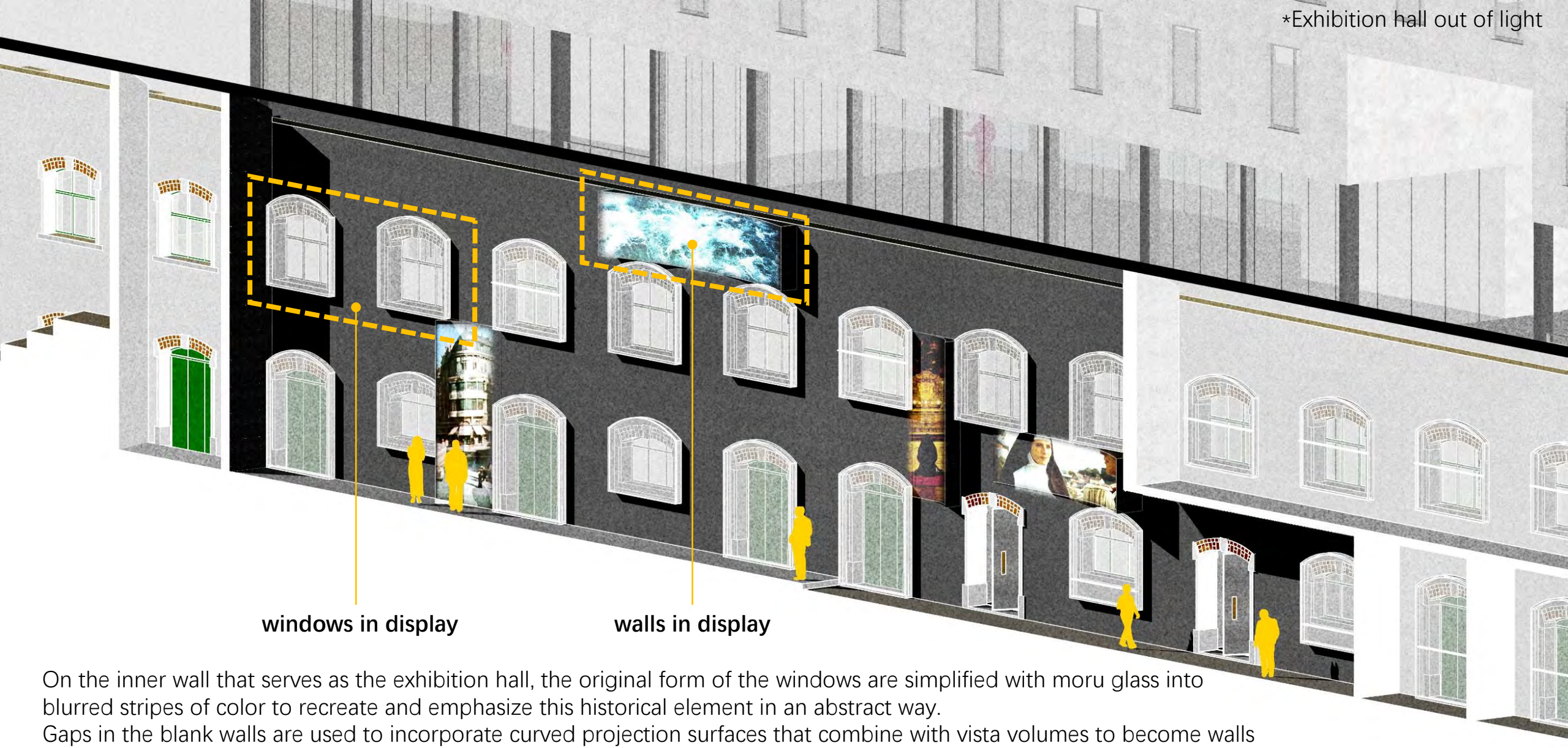
moru glass

curve-shape exhibition wall

concrete sealer (Weber.prim 4716)
self-leveling slurry (Weber.floor 4615)
interfacial agent
100# concrete cushion

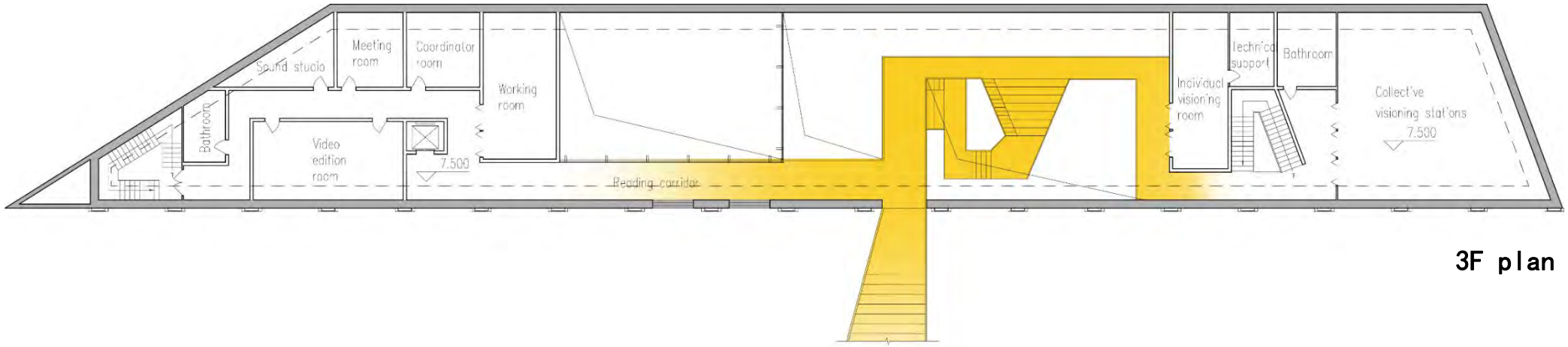
Exhibition Hall Design

*Exhibition hall out of light



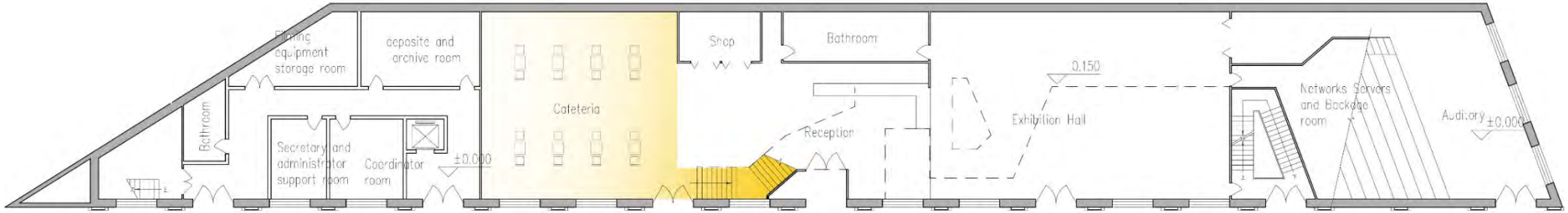
On the inner wall that serves as the exhibition hall, the original form of the windows are simplified with moru glass into blurred stripes of color to recreate and emphasize this historical element in an abstract way.
Gaps in the blank walls are used to incorporate curved projection surfaces that combine with vista volumes to become walls in display.
The renovation aims to reverently use the existing components, evoking the history in their use rather than isolating it.

Exhibition Hall Design



3F plan

2F plan



1F plan

entrance

Different People

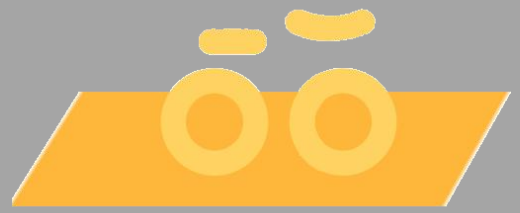
Different Lifestyle

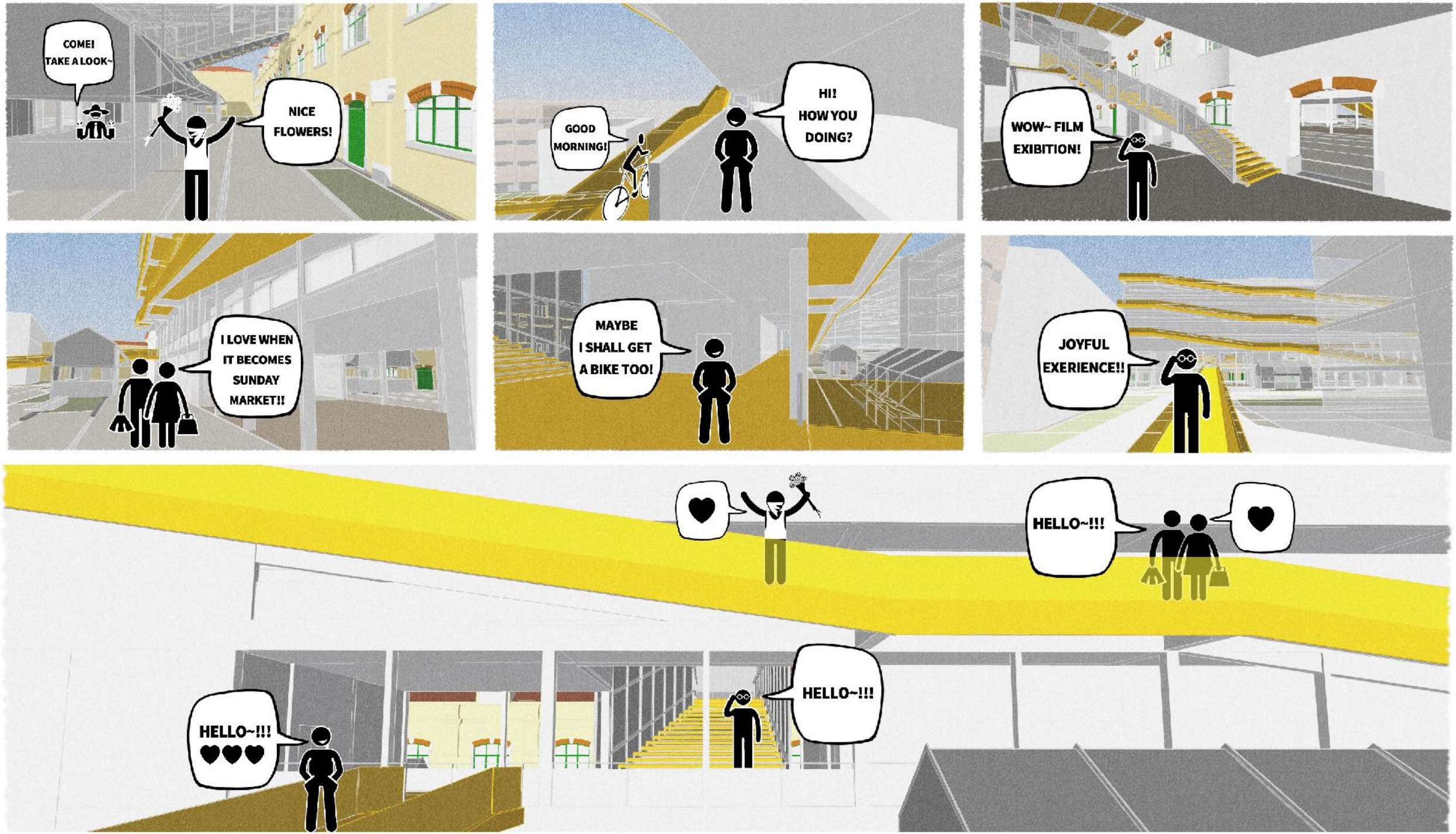
ZIPPING

TIDE MARKET

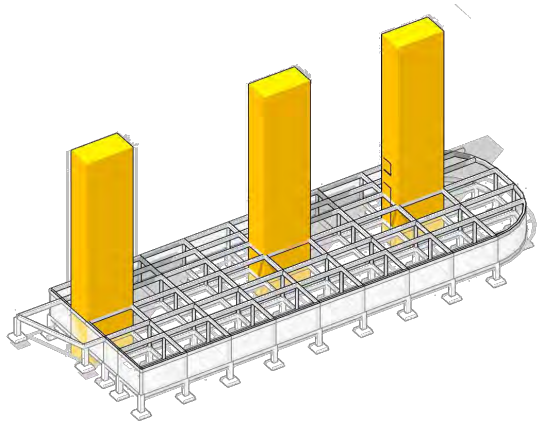
YELLOW RAMP

CONVERTER

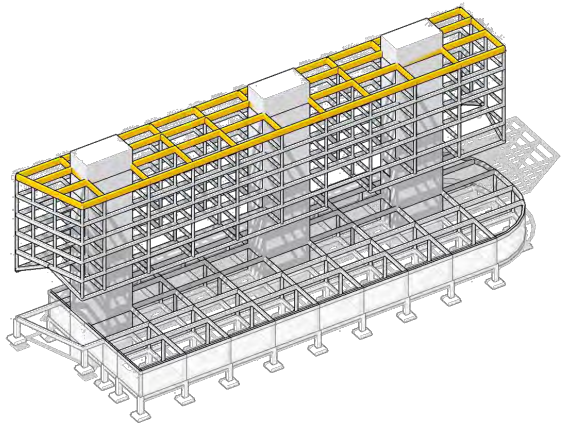



COME! TAKE A LOOK~
NICE FLOWERS!
GOOD MORNING!
HI! HOW YOU DOING?
WOW~ FILM EXIBITION!
I LOVE WHEN IT BECOMES SUNDAY MARKET!!
MAYBE I SHALL GET A BIKE TOO!
JOYFUL EXERIENCE!!
HELLO~!!!
HELLO~!!!
HELLO~!!!

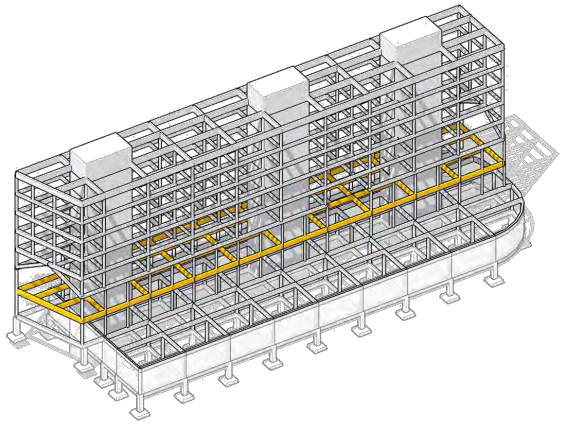
Prefabricated structure and construction process



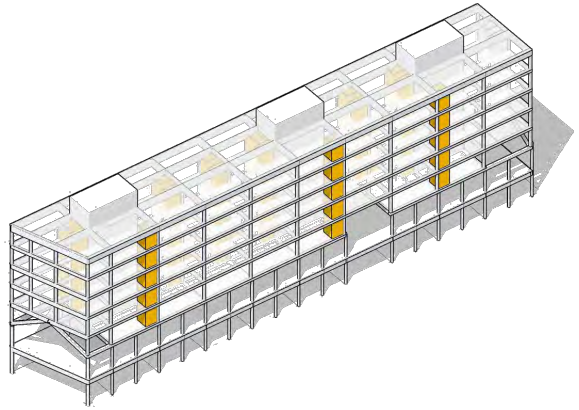
Foundation with reinforced concrete core



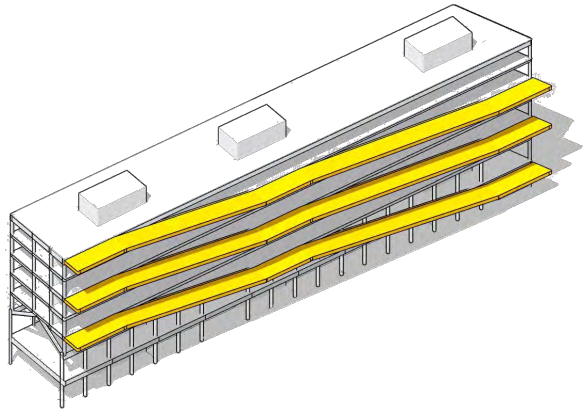
Prefabricated suspension structure(3-7F)



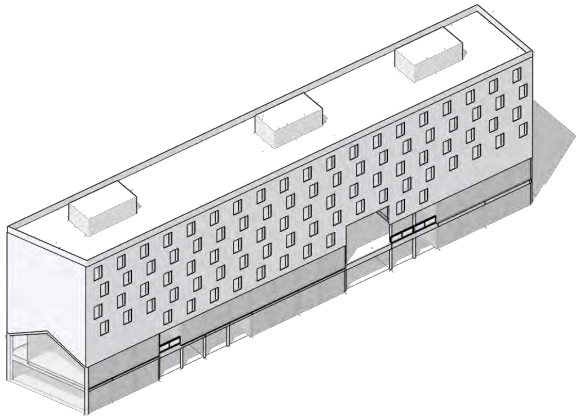
Weaken the pillars to get transparency(1-2F)



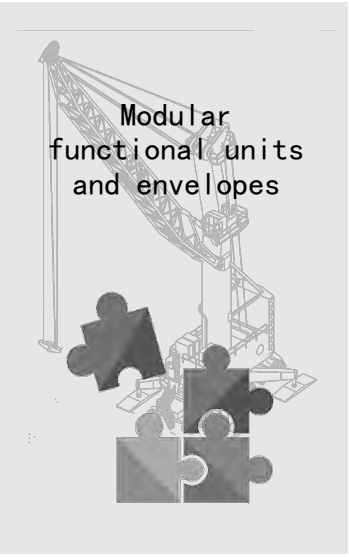
Install prefabricated floor and integrated bathroom



Install prefabricated ramps

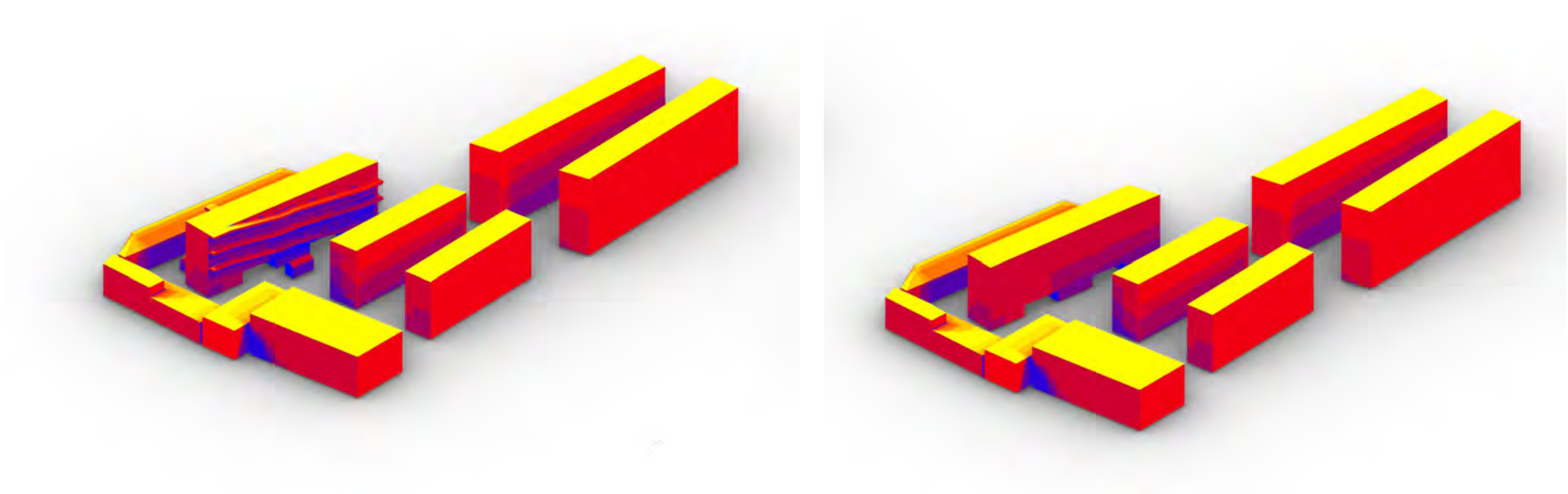


Install prefabricated walls and doors and windows




26.200
22.800
19.400
16.000
12.600
9.200
4.500
±0.000

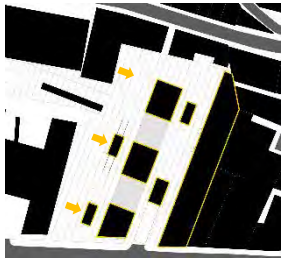
Sunlight analysis

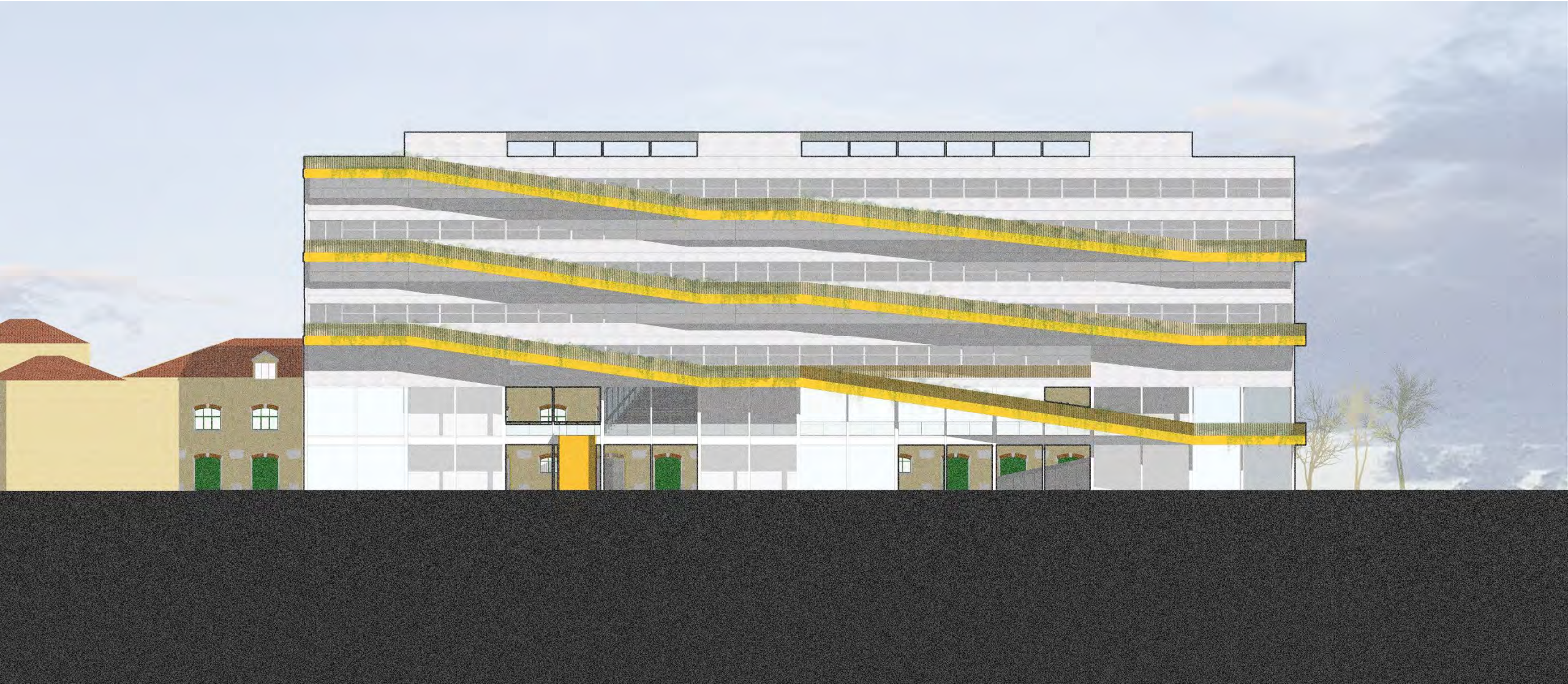


Shading effect of stairs on summer solstice

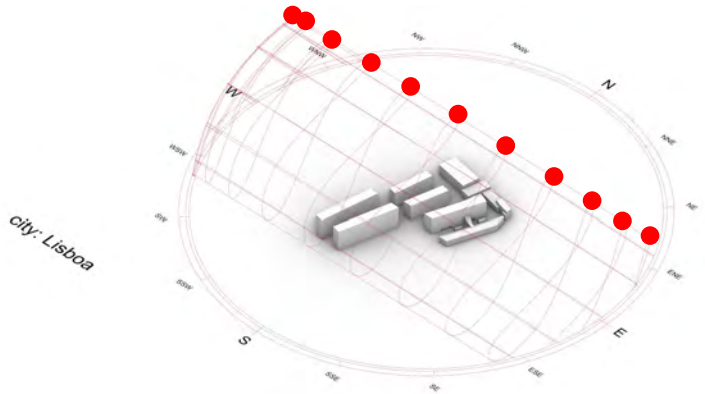
Daylighting simulation

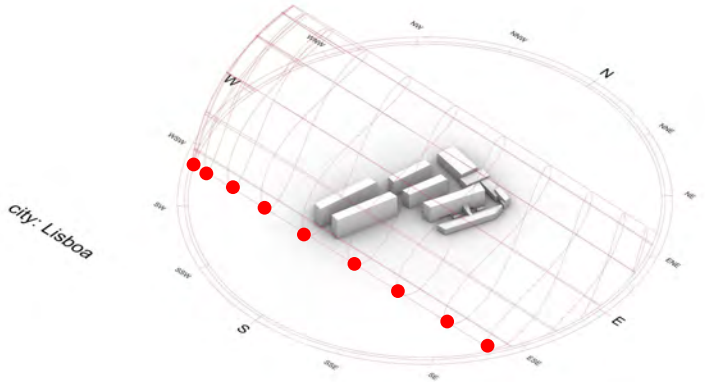
Building B Facade

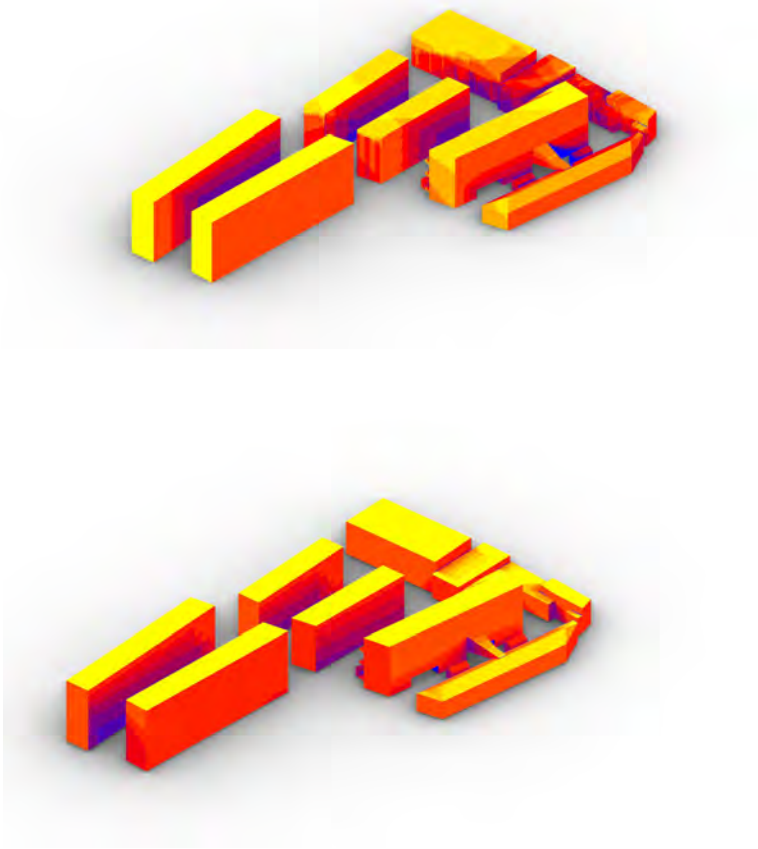




Sunlight analysis





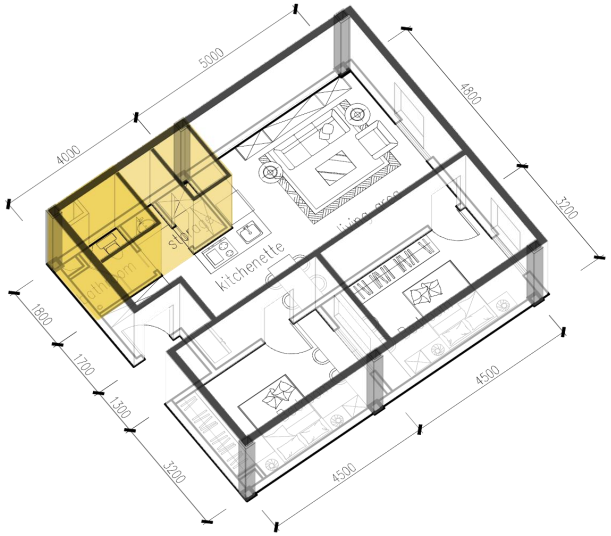


Daylighting simulation

On the winter solstice and summer solstice, the Windows of the residential units are full of light

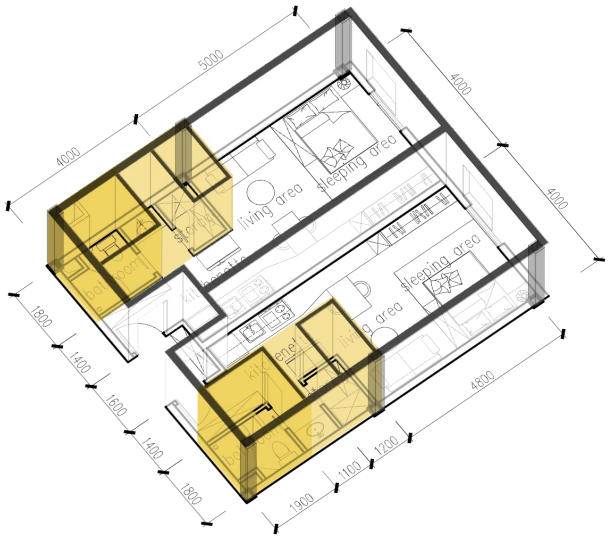
Building B Facade

Private apartment units



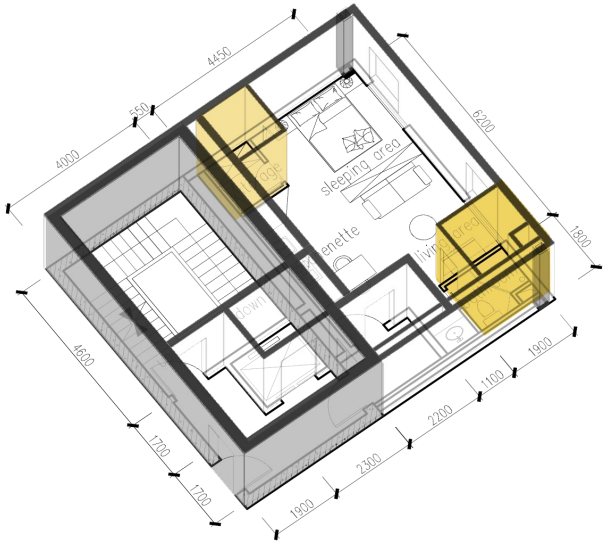
two bedrooms

Area: 69.5m²
Quantity: 16



one bedroom

Area: 33.3m²
Quantity: 28



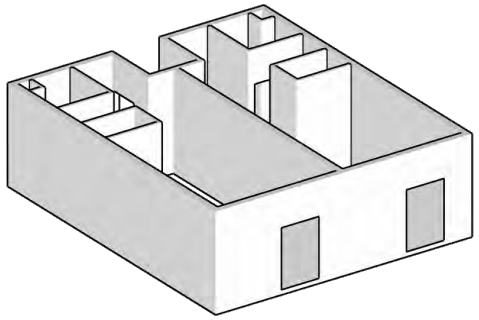
one bedroom

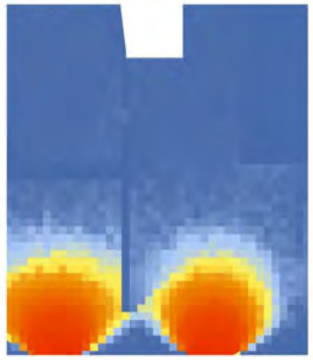
Area: 33.3m²
Quantity: 13

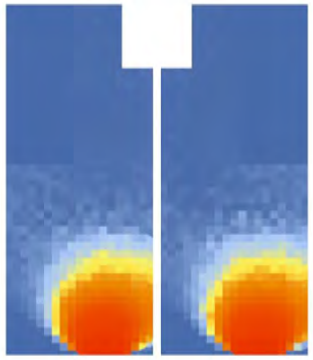
Integrated bathroom unit & storage unit

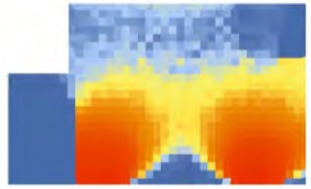
Private apartment units

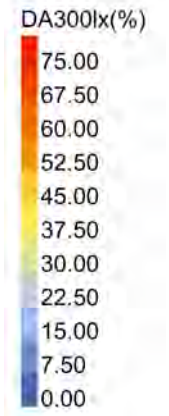
Under the same window area condition, high windows have better indoor light environment quality.

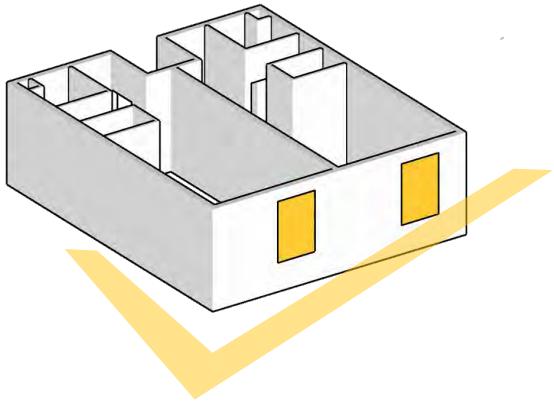


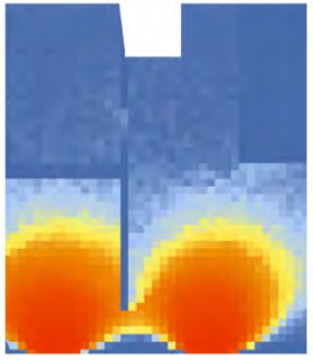


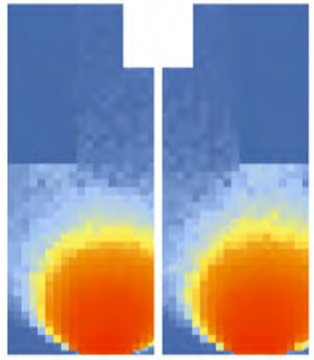


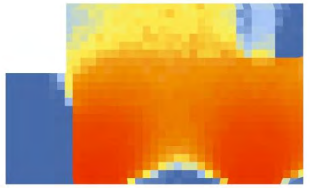


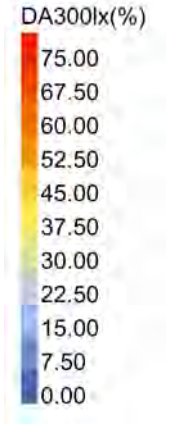








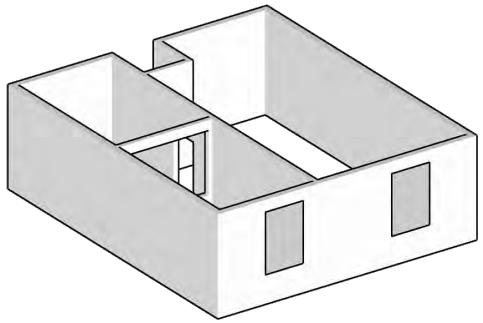


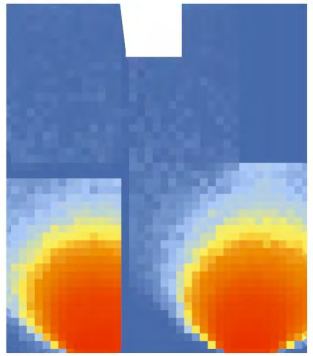


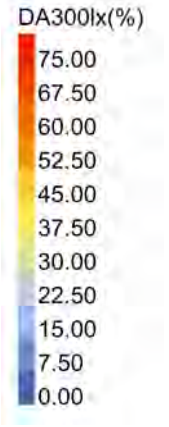
Daylighting simulation

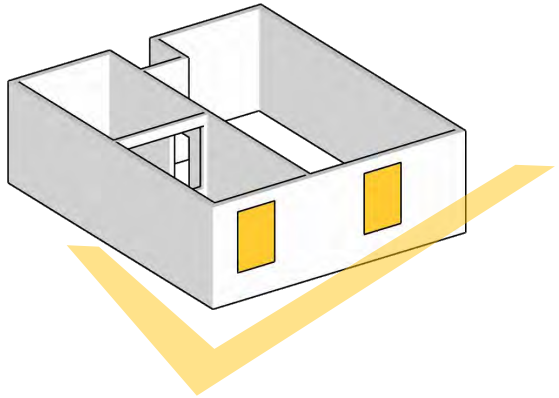
Private apartment units

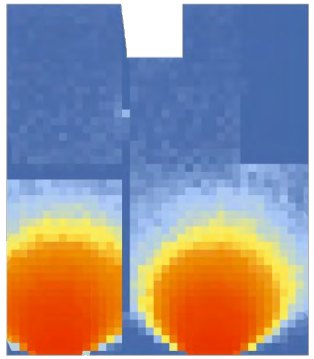
Under the same window area condition, window closer to **the south** provides better lighting.

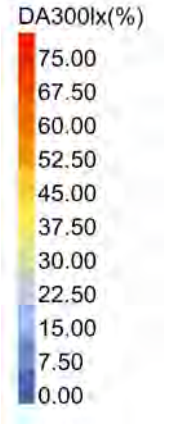


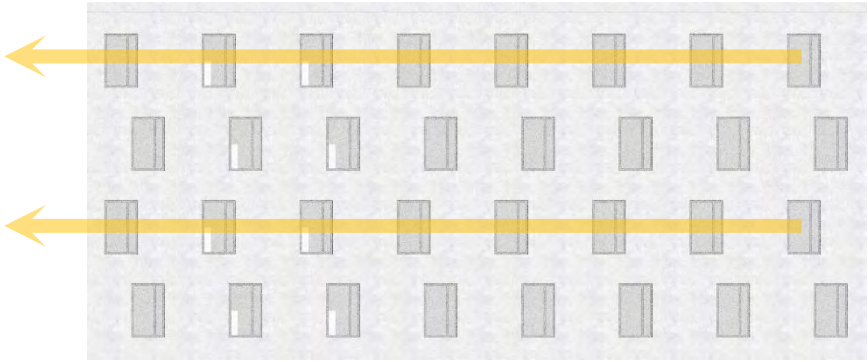






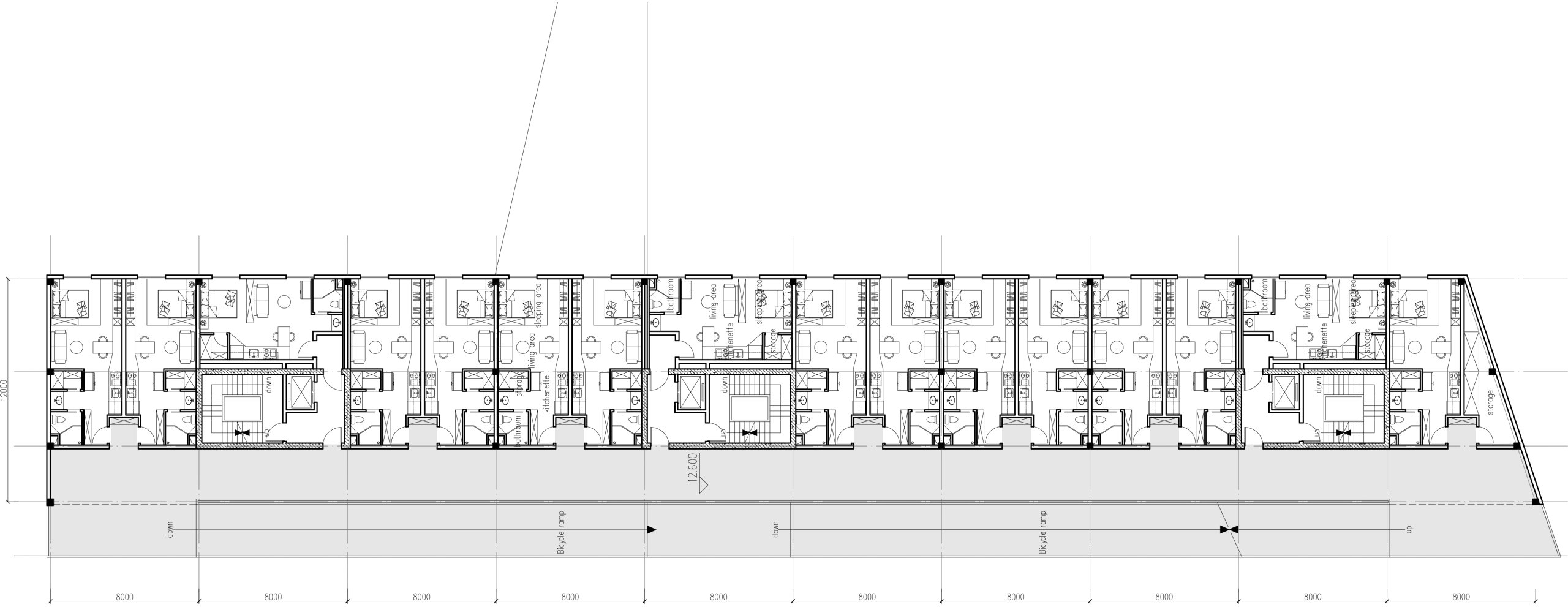






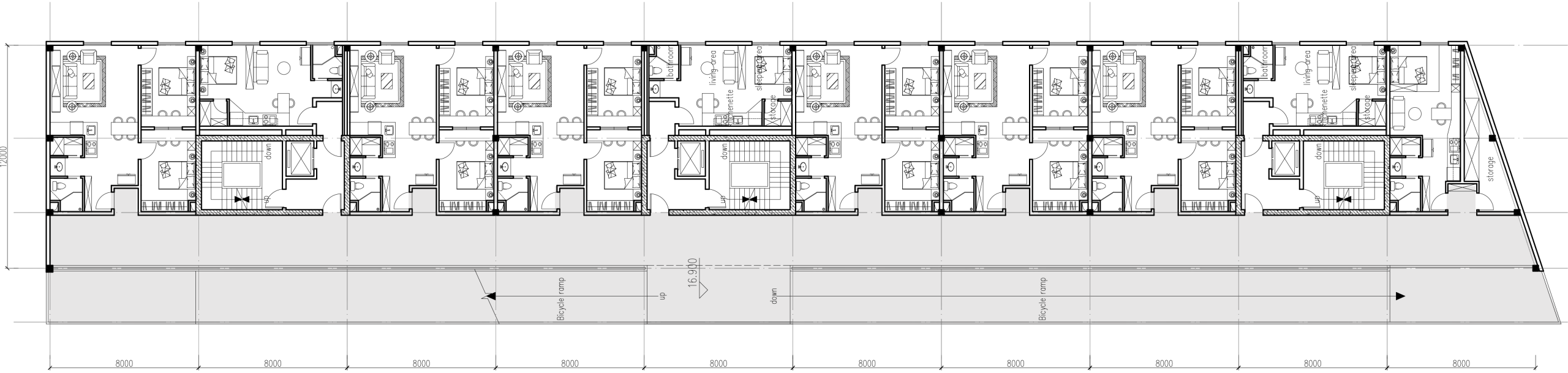
A staggered facade

Daylighting simulation



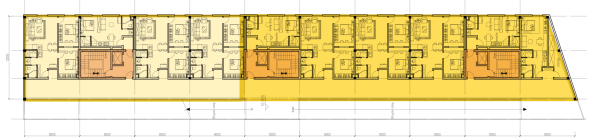
4/6F

Fire zone

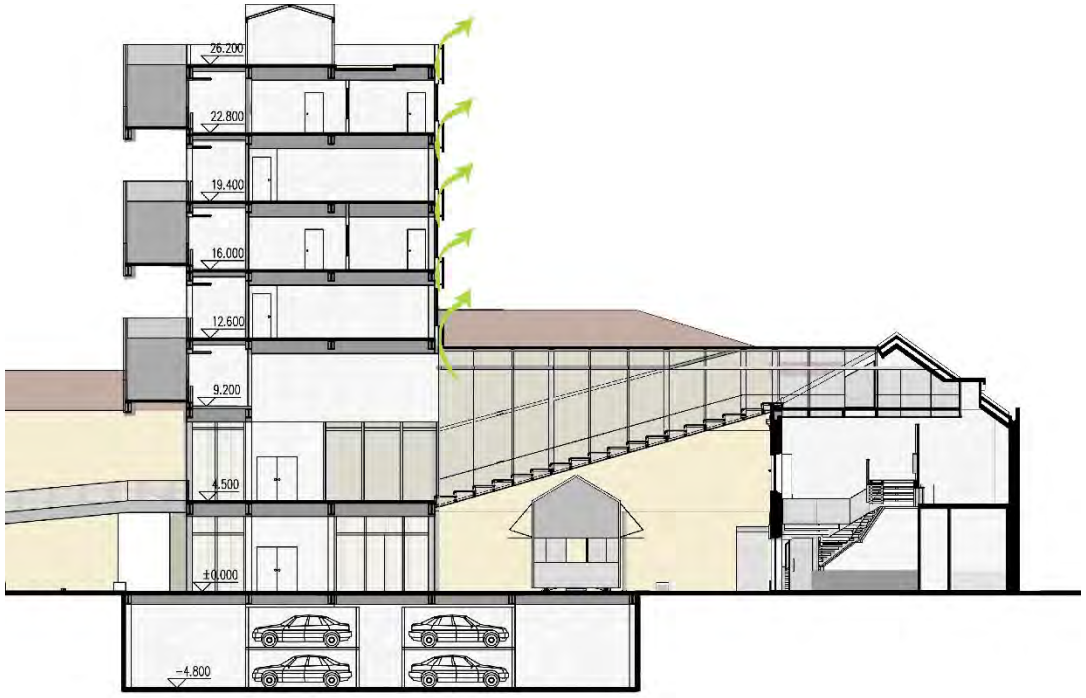


5/7F

Fire zone



Green Architecture Design

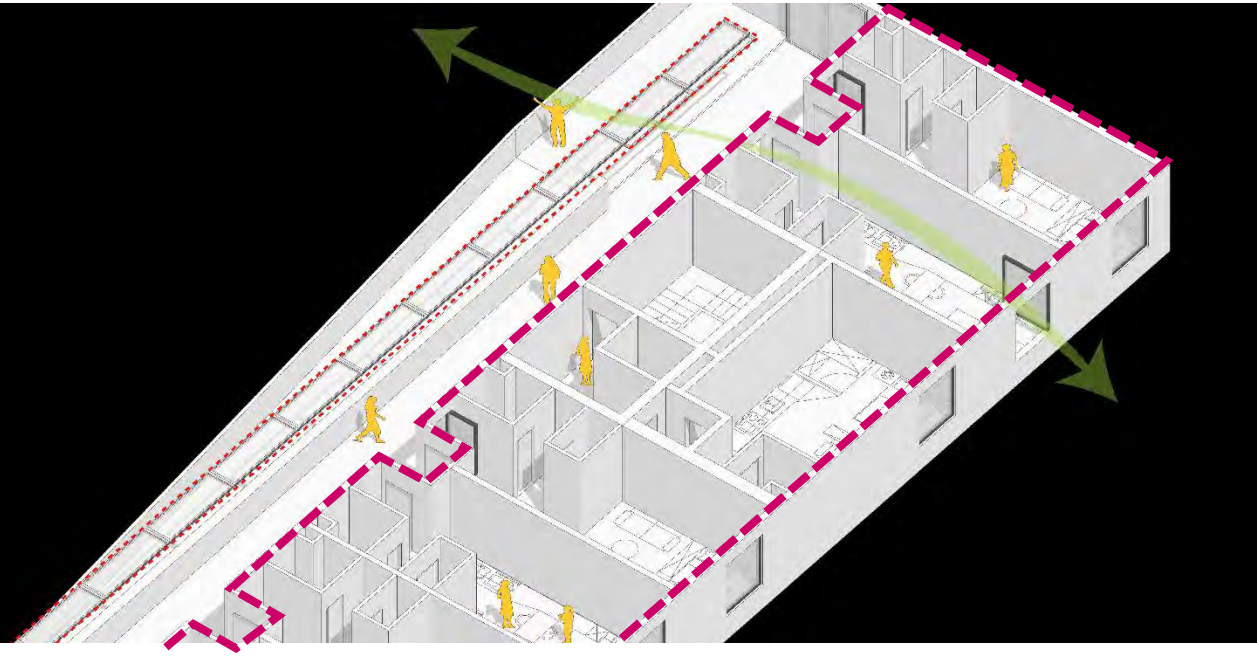


•**Double-skin façade** ventilation detail

Plasterboard

Dynamic climate boundary

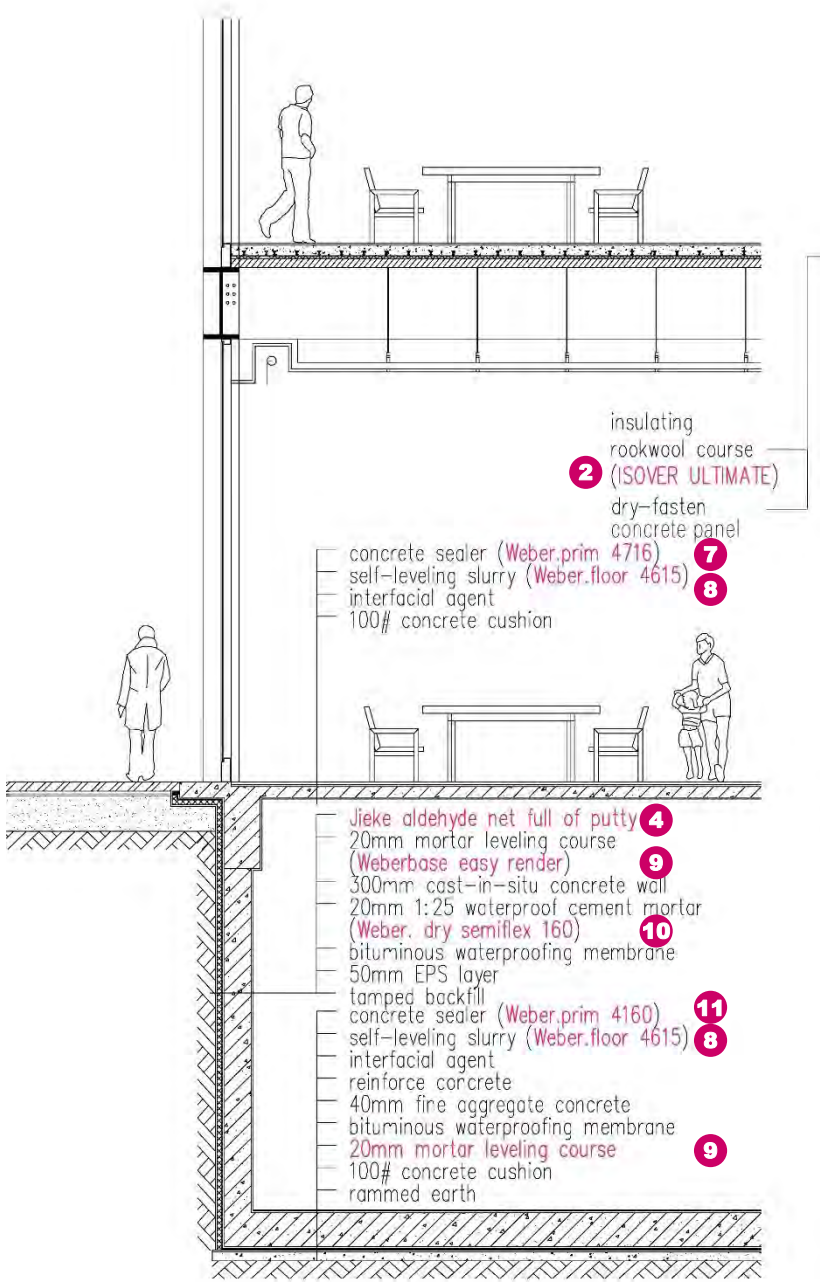
•Closed boundary (Winter) Scene



•Open boundary (Summer Scene)

Climate boundary

Production Using form Saint-Goban

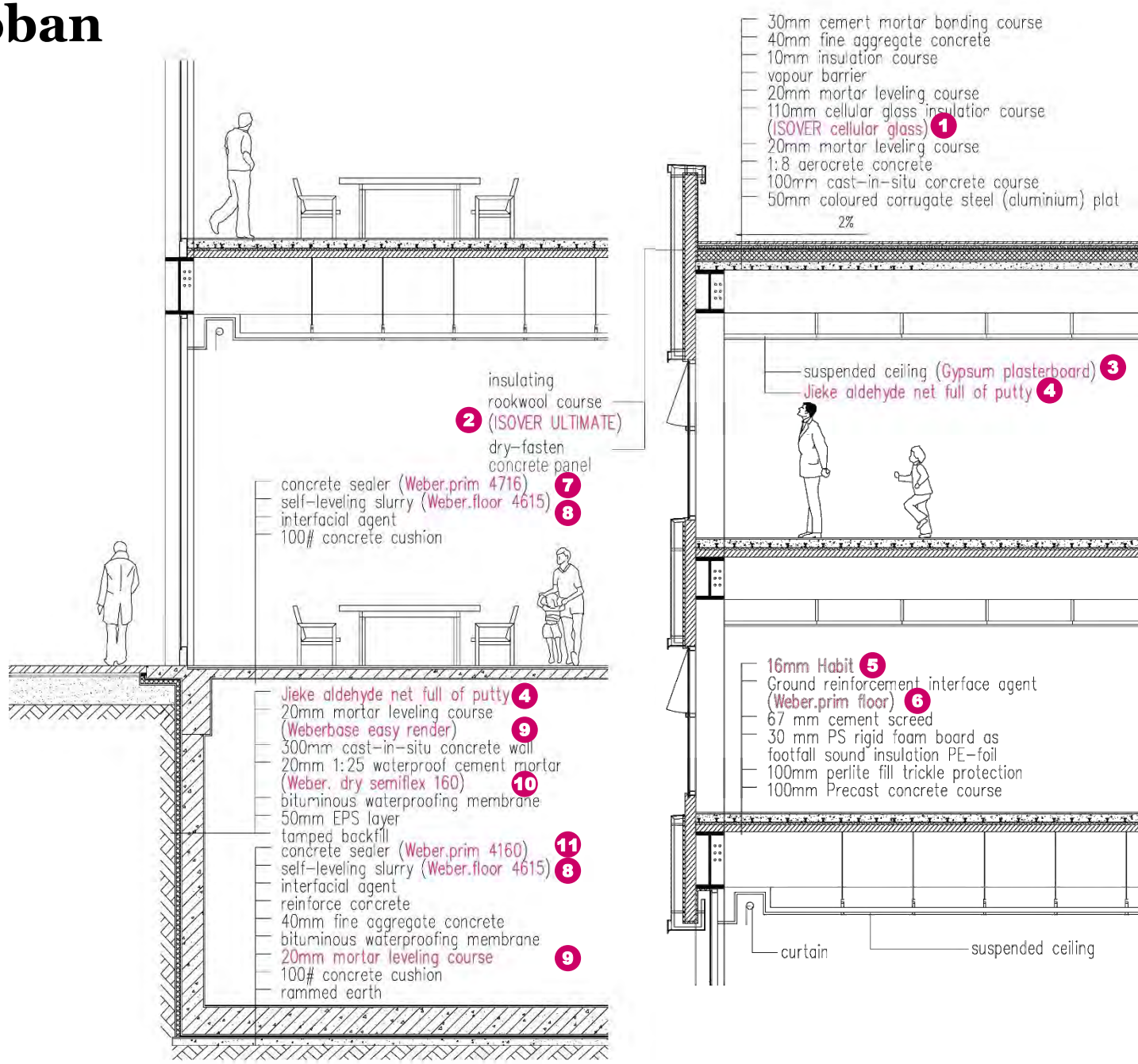


Production Using form Saint-Goban

9

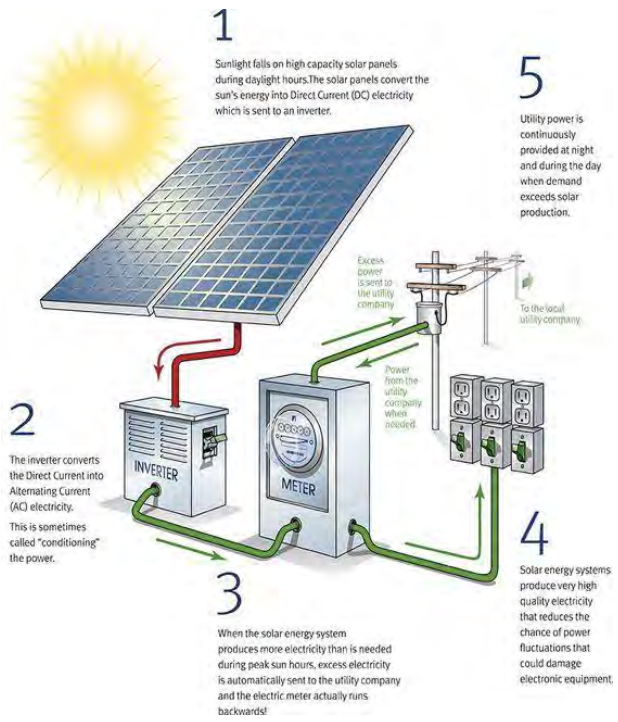
10

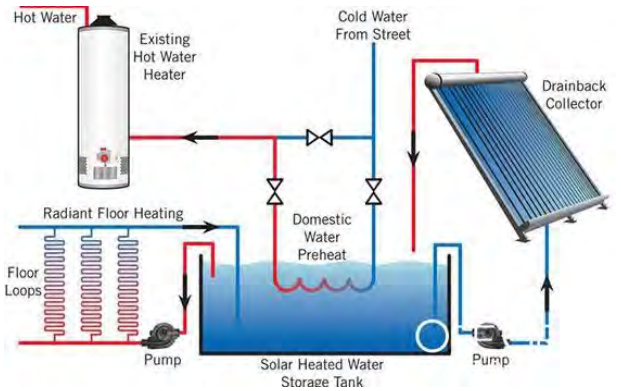
11



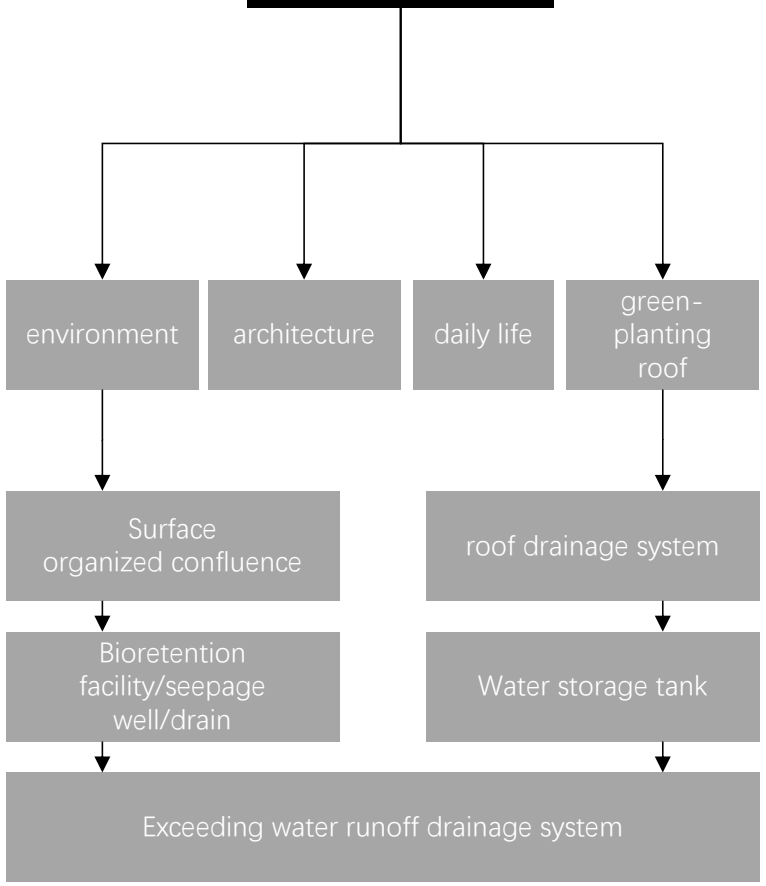
Energy utilization

Solar energy

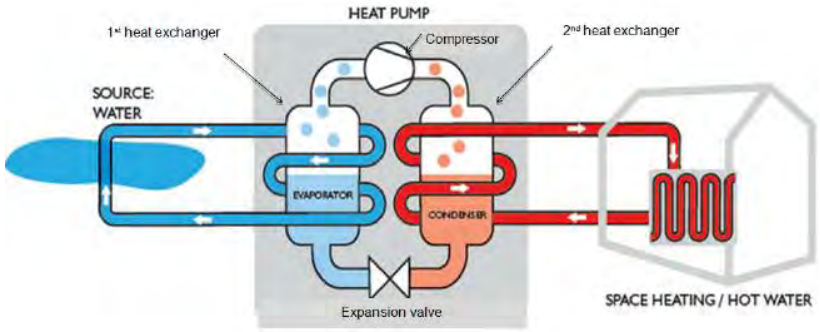




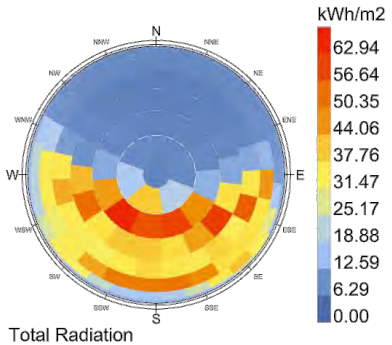
Water saving



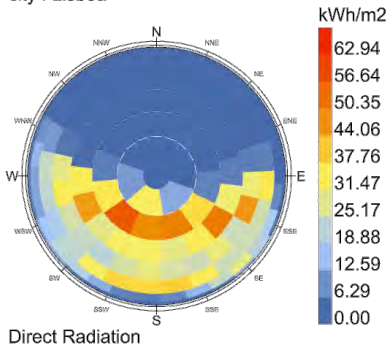
thermal energy



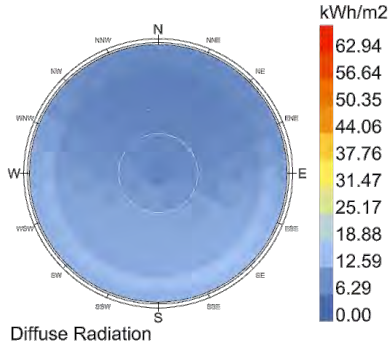
Radiation analysis



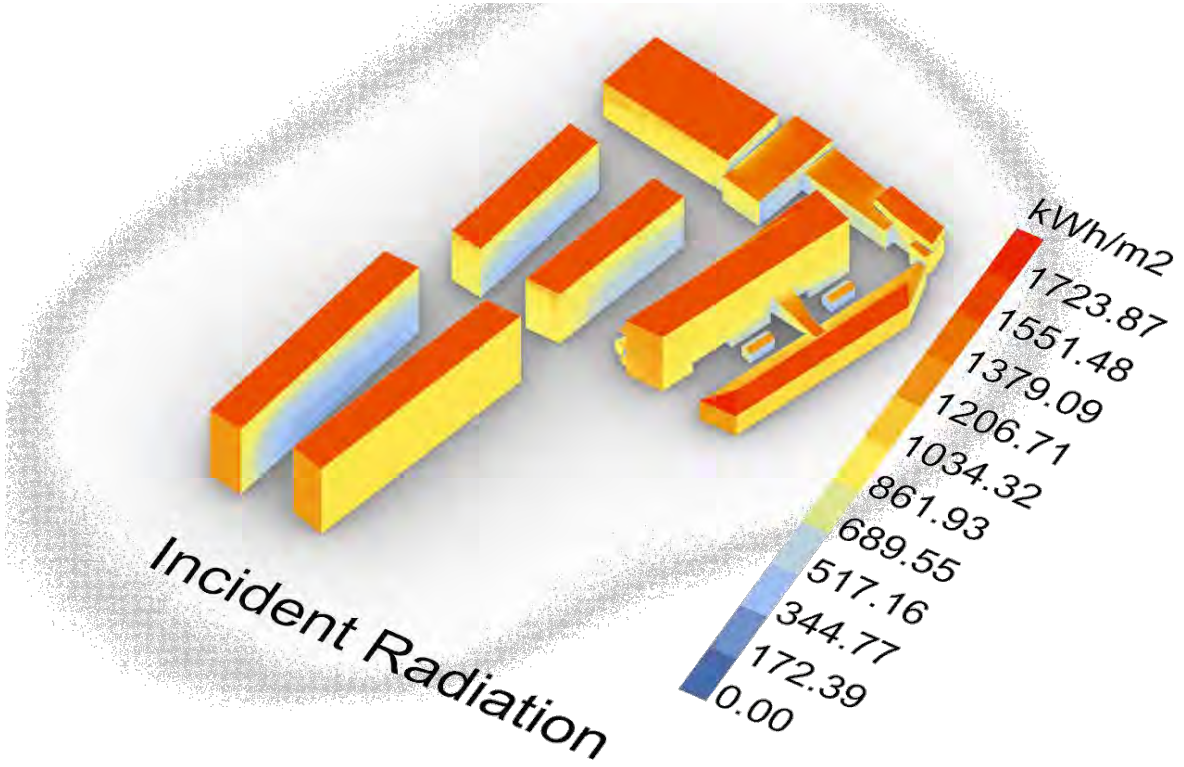
Total Radiation
01 Jan 08:00 - 31 Dec 18:00
city : Lisboa

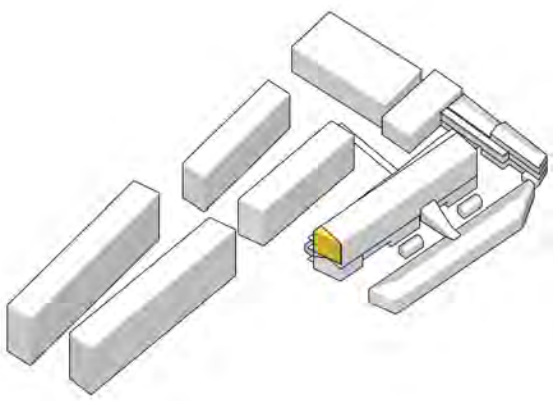


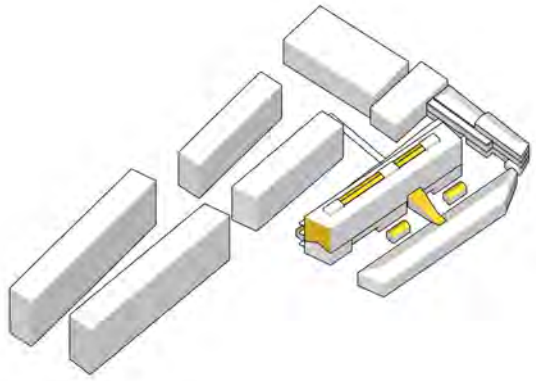
Direct Radiation
01 Jan 08:00 - 31 Dec 18:00
city : Lisboa



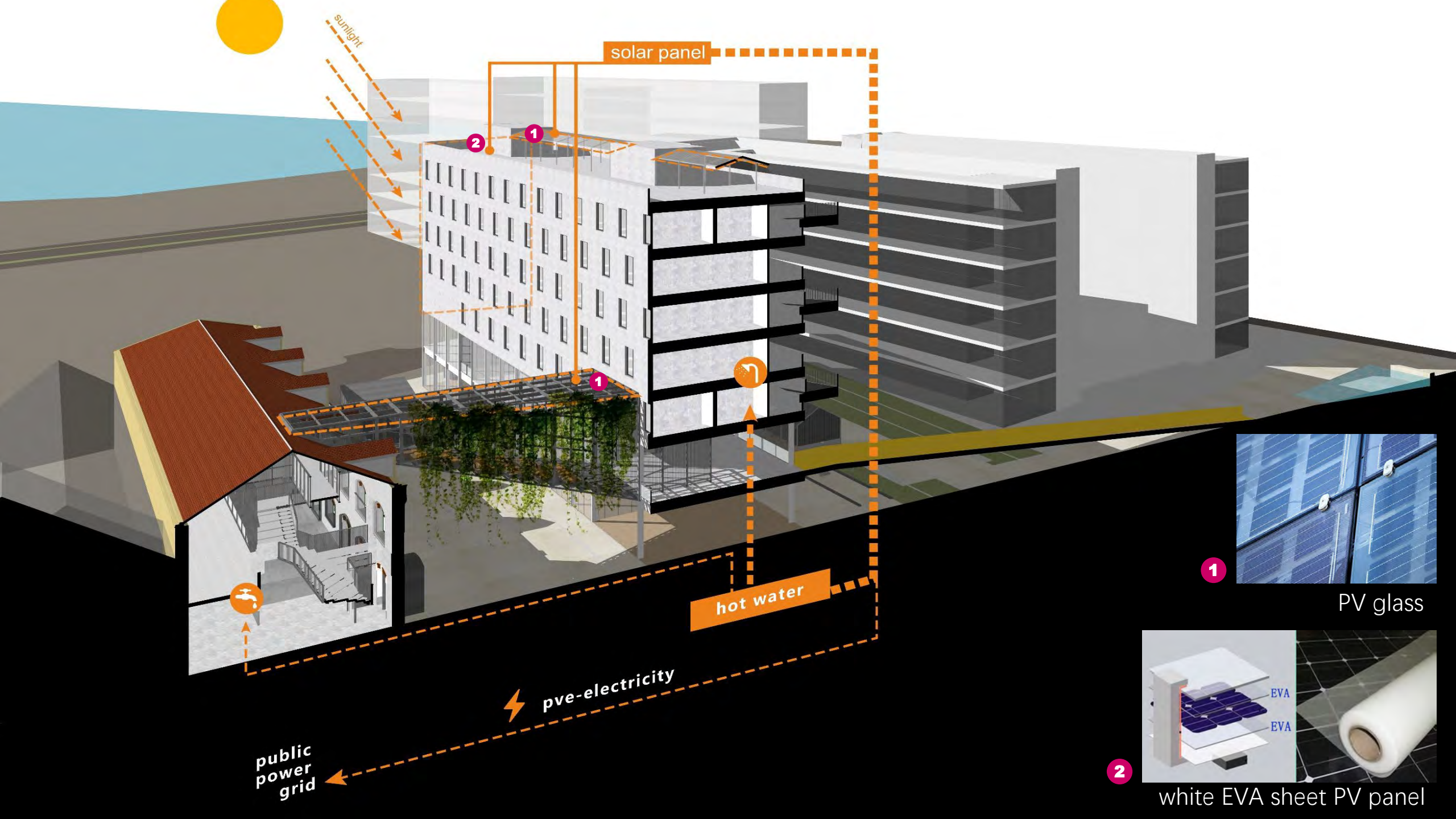
Diffuse Radiation
01 Jan 08:00 - 31 Dec 18:00
city : Lisboa

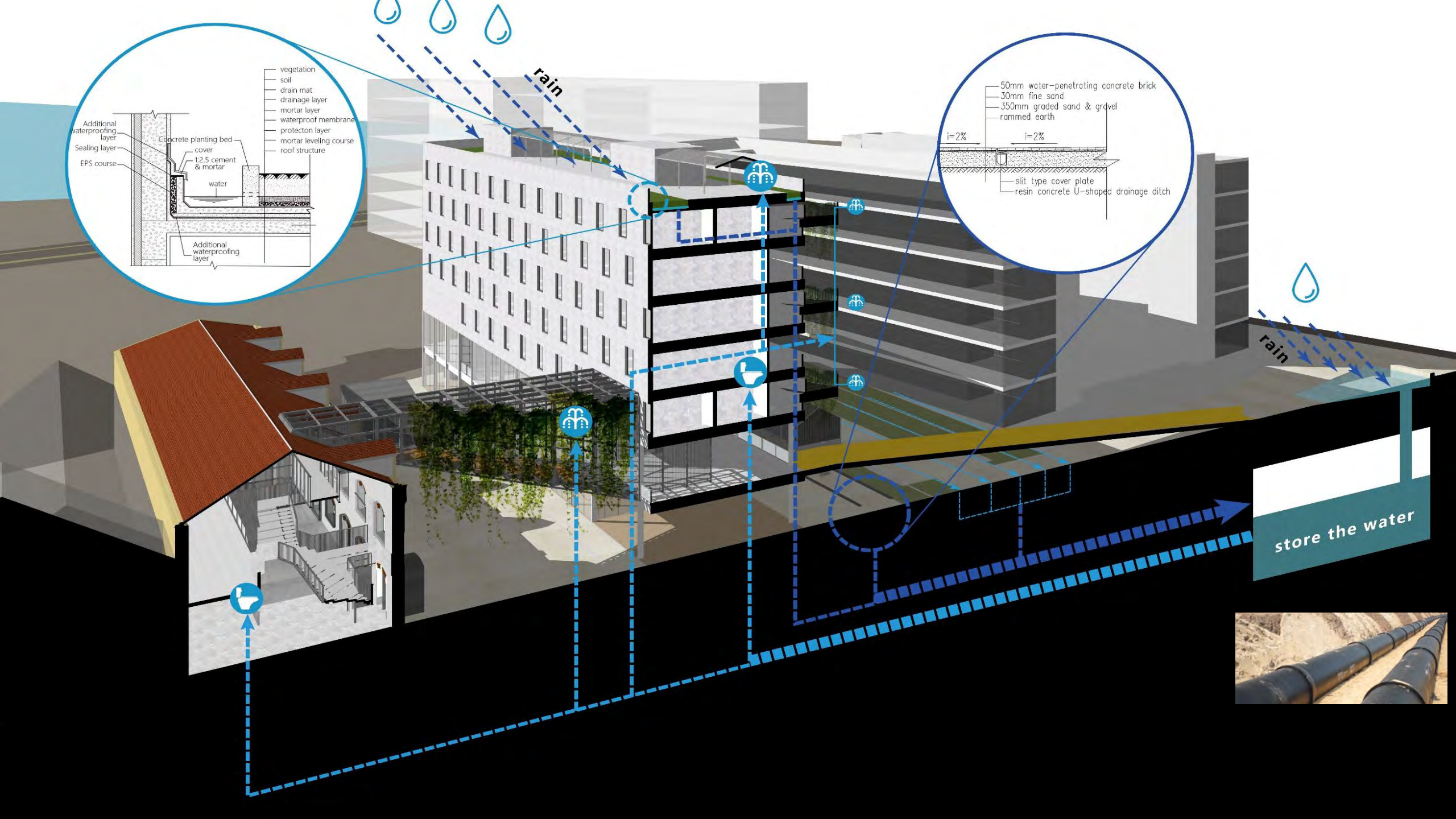


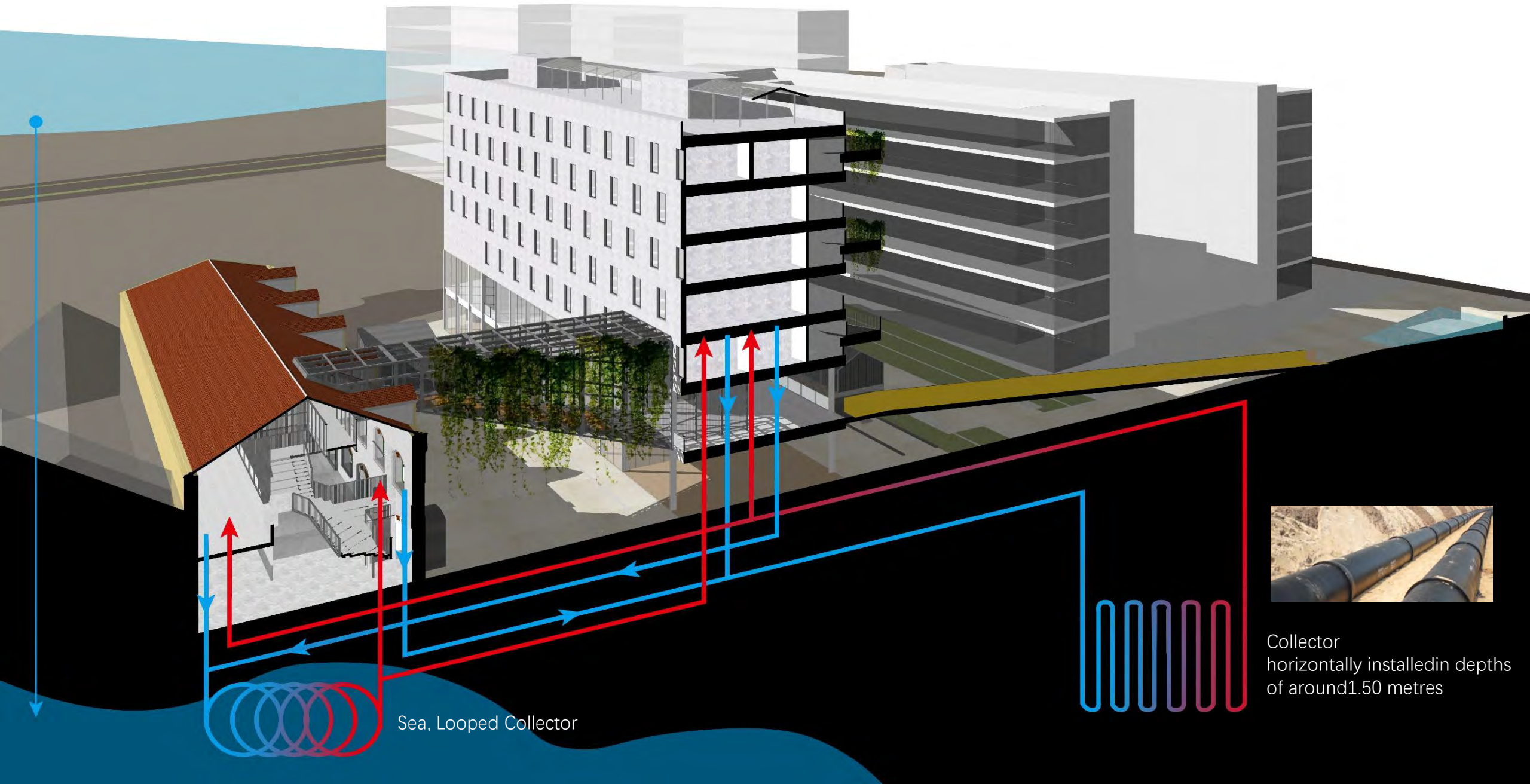




The rooms at the south end of the building are used as storage to ensure the thermal comfort of the residential units.
Set the photovoltaic panel according to the solar radiation.

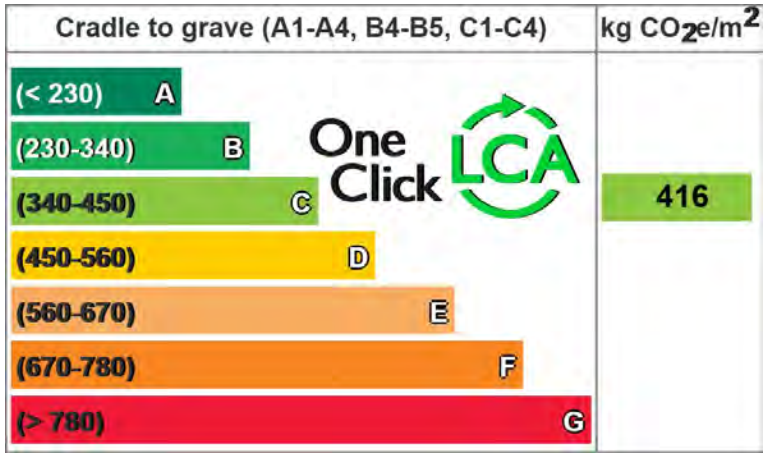

sunlight
solar panel
2
1
1
hot water
pve-electricity
public
power
grid
1
PV glass
EVA
EVA
2
white EVA sheet PV panel

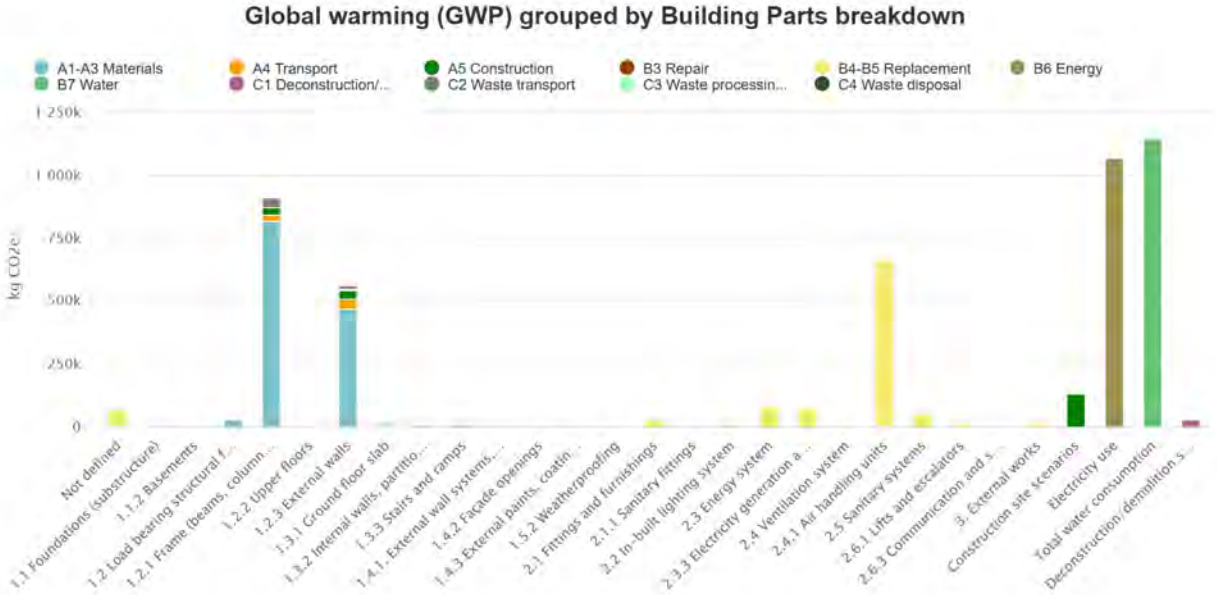

vegetation
soil
drain mat
drainage layer
mortar layer
waterproof membrane
protecton layer
mortar leveling course
roof structure
Additional waterproofing layer
Sealing layer
EPS course
Concrete planting bed
cover
1:2.5 cement & mortar
water
Additional waterproofing layer
rain
50mm water-penetrating concrete brick
30mm fine sand
350mm graded sand & gravel
rammed earth
i=2%
i=2%
slit type cover plate
resin concrete U-shaped drainage ditch
rain
store the water

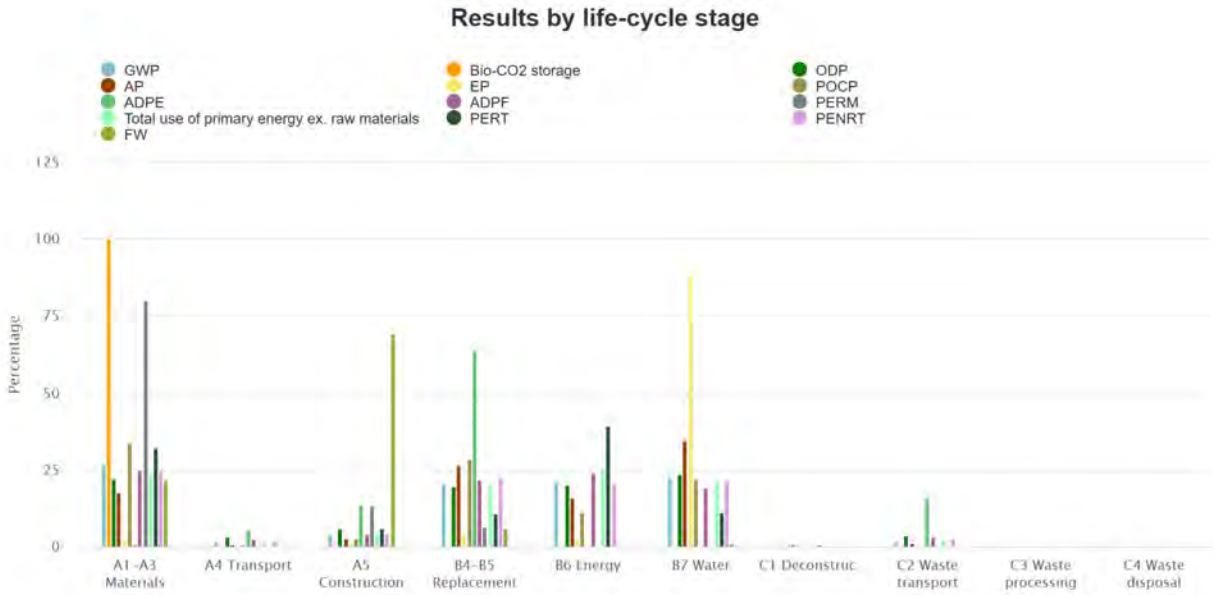


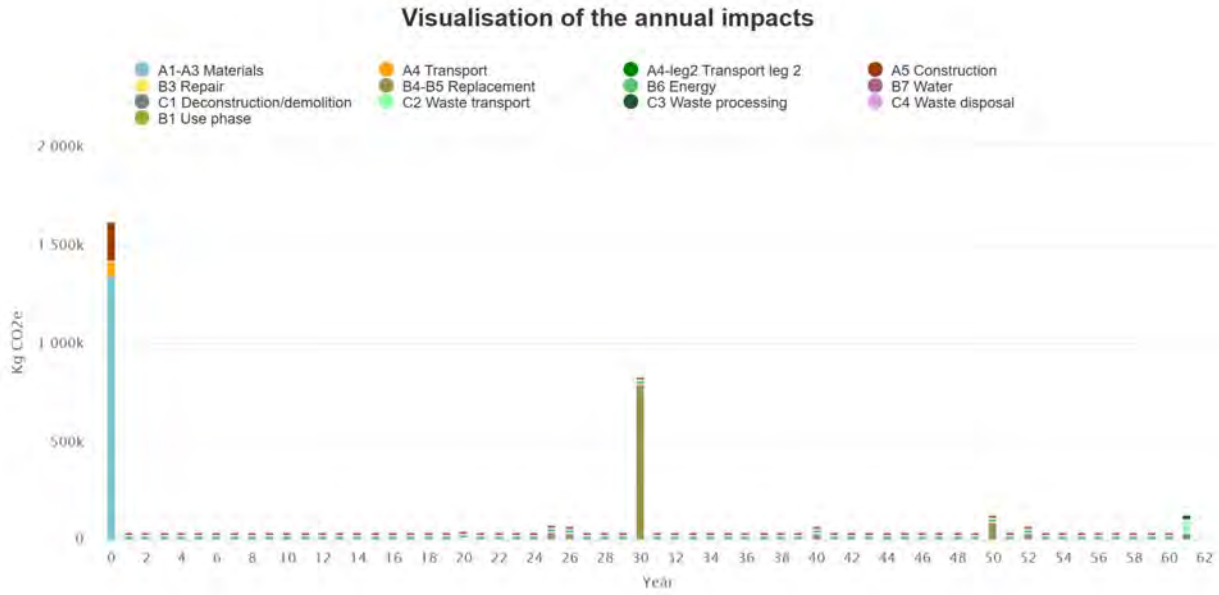
Collector
horizontally installedin depths
of around1.50 metres

LCA Analysis

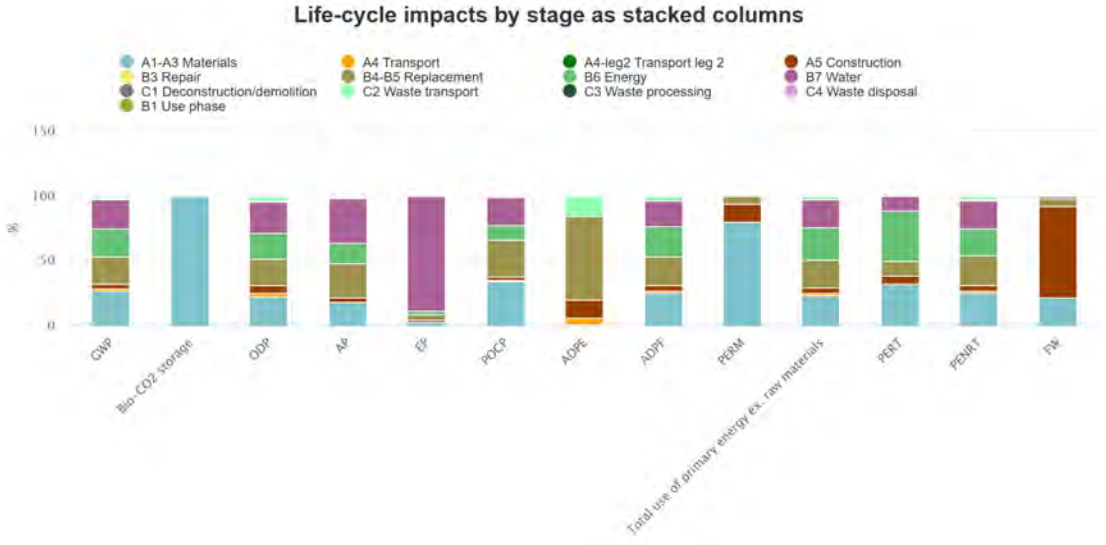


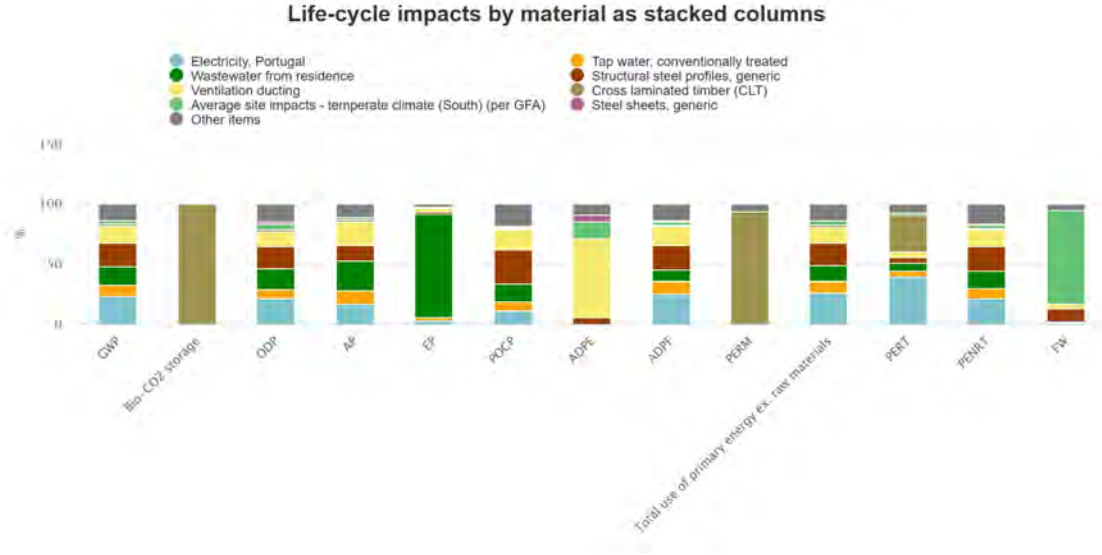


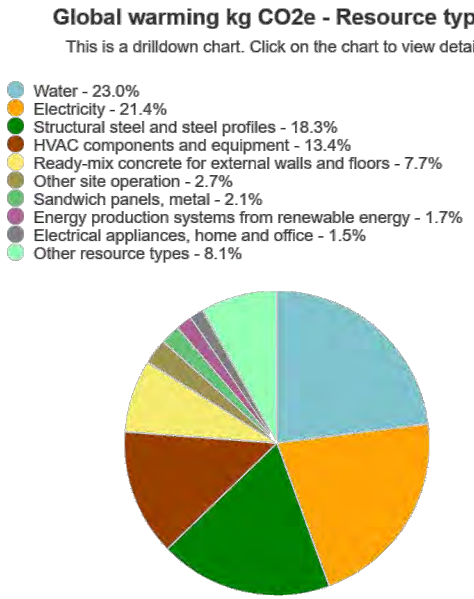


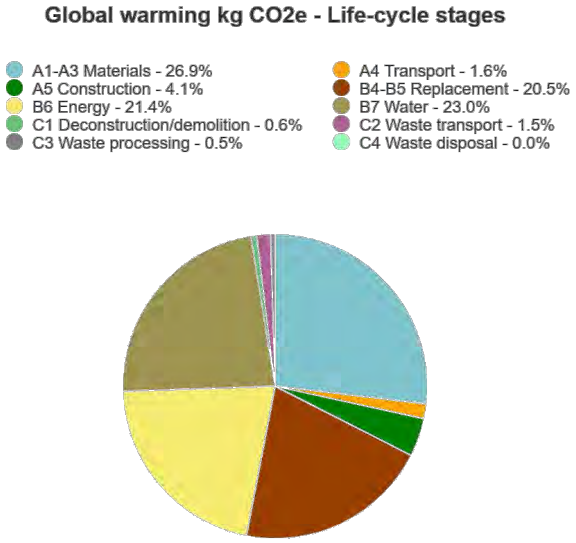


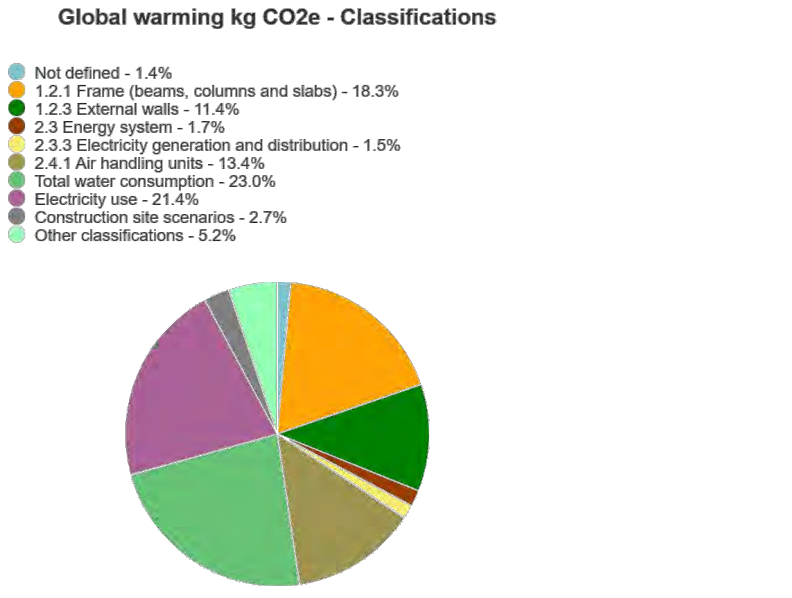
LCA Analysis











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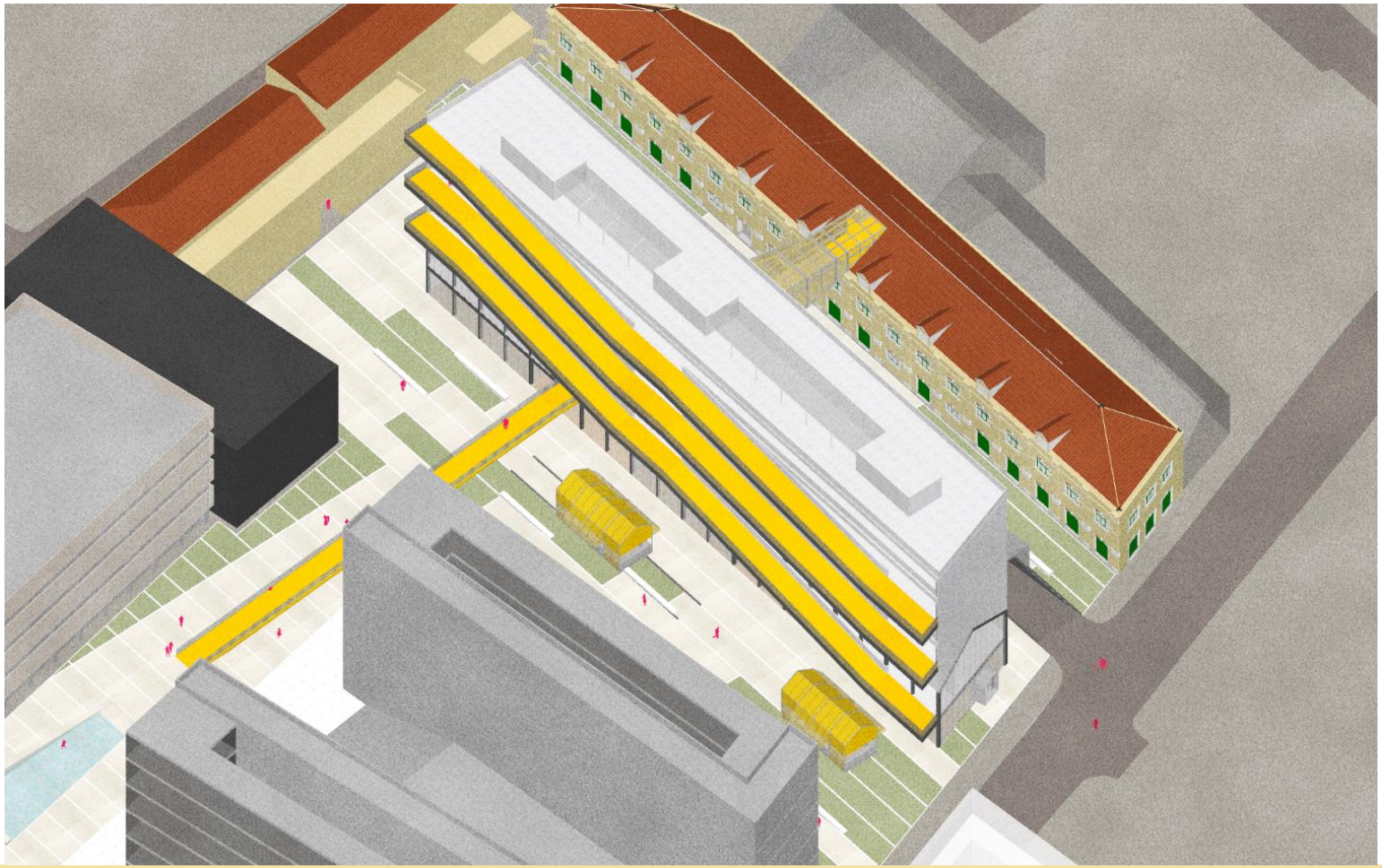

THANKS!