

HOUSING.IN.SHANGHAI

THE POSSIBILITY OF HIGH DENSITY IN ROW - MEDIUM RISE FORM

SHANGHAI URBANISM: XL SCALE

"In both Beijing and Shanghai the physical environment has become a stark, lonely place almost devoid of human life. The "spaces between" buildings (what I refer to as the texture and life of a city) are windswept, vacant, full of highways, supporting little or no human interaction. The hundreds of high-rise towers in Beijing and Shanghai have become monuments to economic progress, but they do not really represent human advancement. They do not represent the high point of a civilization so rich in cultural history, but just the opposite, a step backward in human terms. Each tower is shouting to be seen, trying to be more fashionable than its neighbor, higher, with more glitter, but rarely recognizing the first credo of architecture, that I believe is important - to provide a "place of harmony" (what I refer to as places for a healthy life) for the citizens."

Jan Wampler FAIA - Professor of Architecture
Department of Architecture - MITechnology - Cambridge, Massachusetts



(8 x traffic lanes) + (1 x island) + (4 x bicycle lanes)



URBAN FORM
Dominant character: old low-rise fabric >> the new high-rise buildings

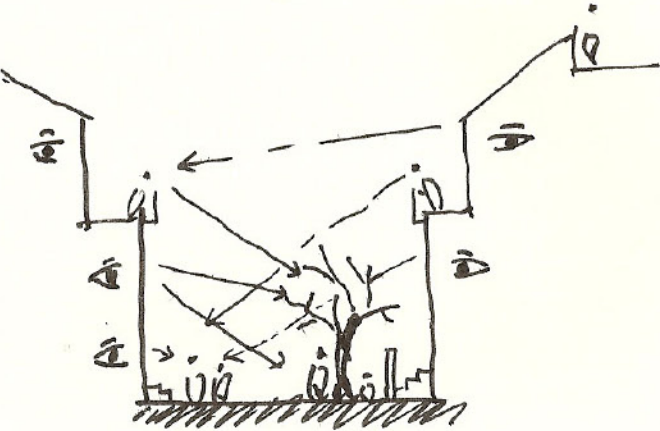
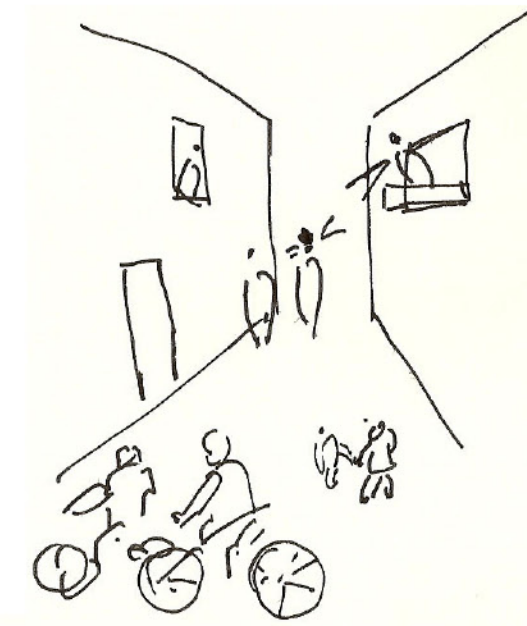
BUILDING AND URBAN IMAGERY
Scale and height: monumental symbolic value.

URBAN SPACE
Lack of human scale

STREET SCOPE
Sparse without human activities

HOUSING SITUATION MEMORIES-OBJECTS

As Shanghai's abrupt leap from "rural" to "urban", lilong has a systematic structure conforming to the programmatic, functional, and economical needs of a city. The normative program for living was then shifted from a communal life represented in the clustered inward opening style of the traditional Chinese courtyard house - to an individual life, an economical life of a modern worker whose need was an adequate living space, and convenience to work.



FOREST OF HEART

MEMORIES
NOSTALGIA.

DAILY LIVING
ORDINARY LIFE.

CHILDHOOD

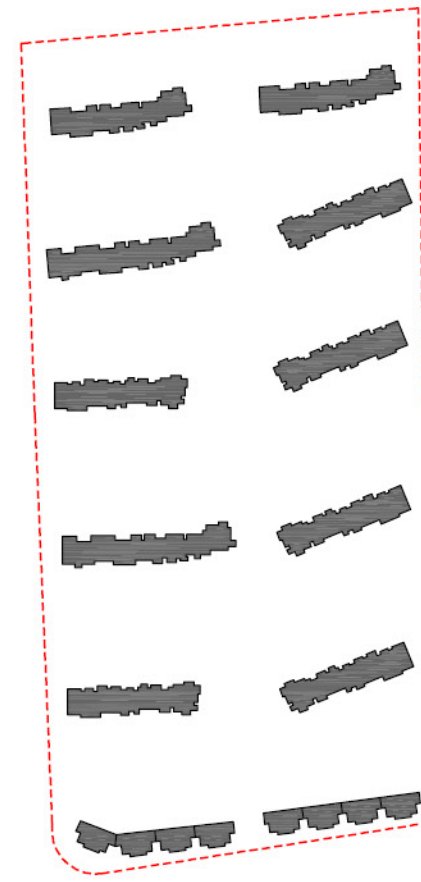
NATURE

VILLAGE



OBJECTS
Devoid spaces of human life

HIGH-RISE SUPERBLOCK

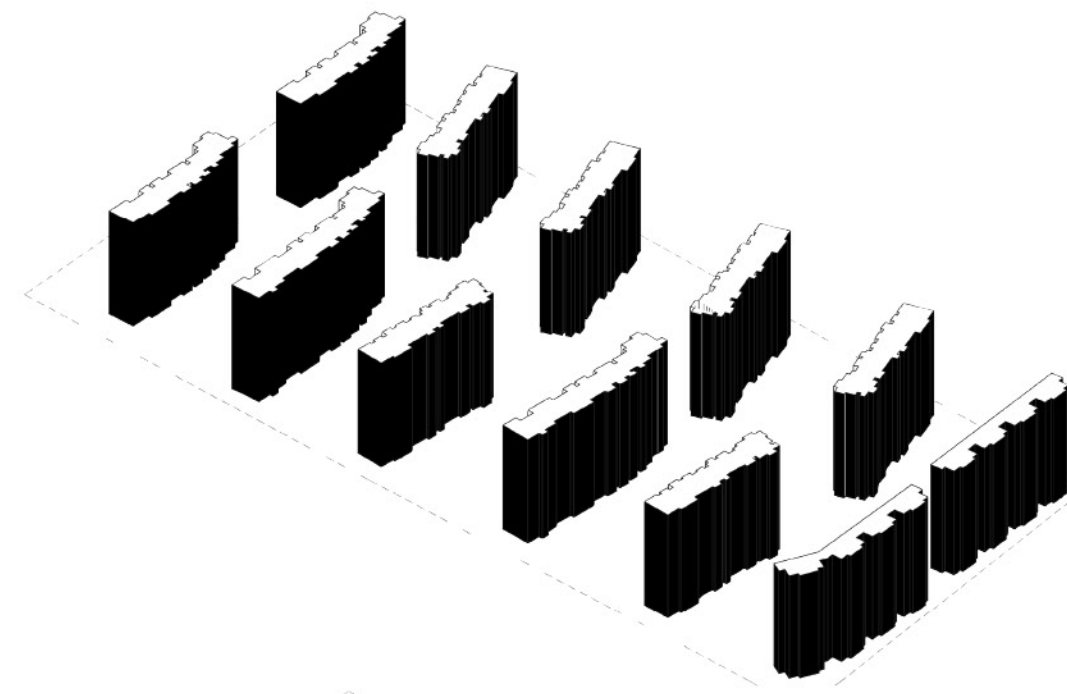


30m 60m 100m

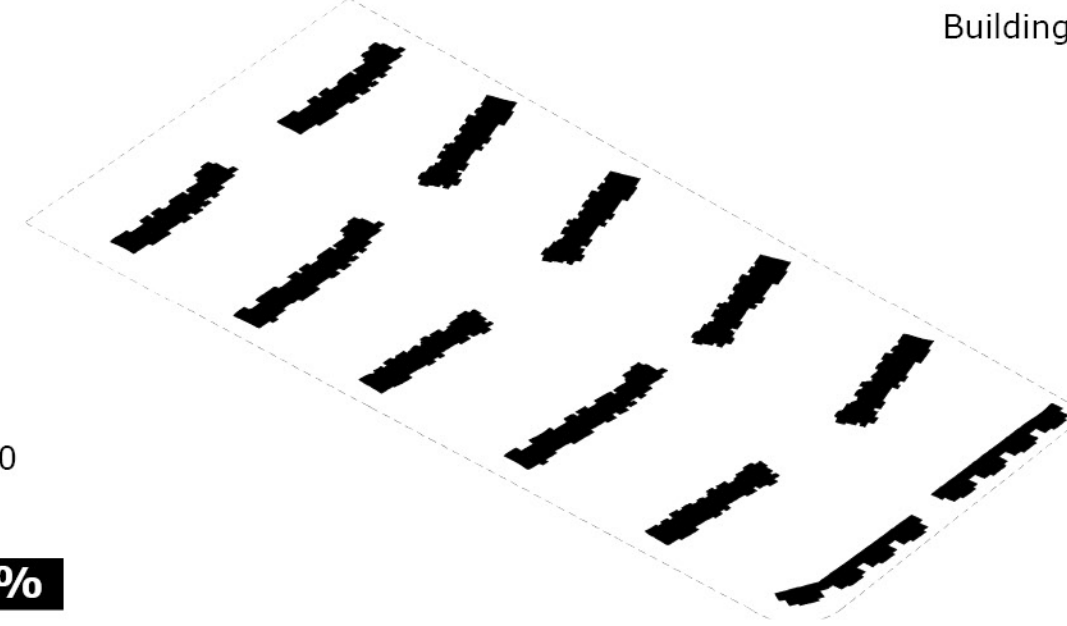
- Site areas : 64,993
- Total floor areas : 152,080
- F.A.R : 2.33

- VOID RATIO : 75.8%

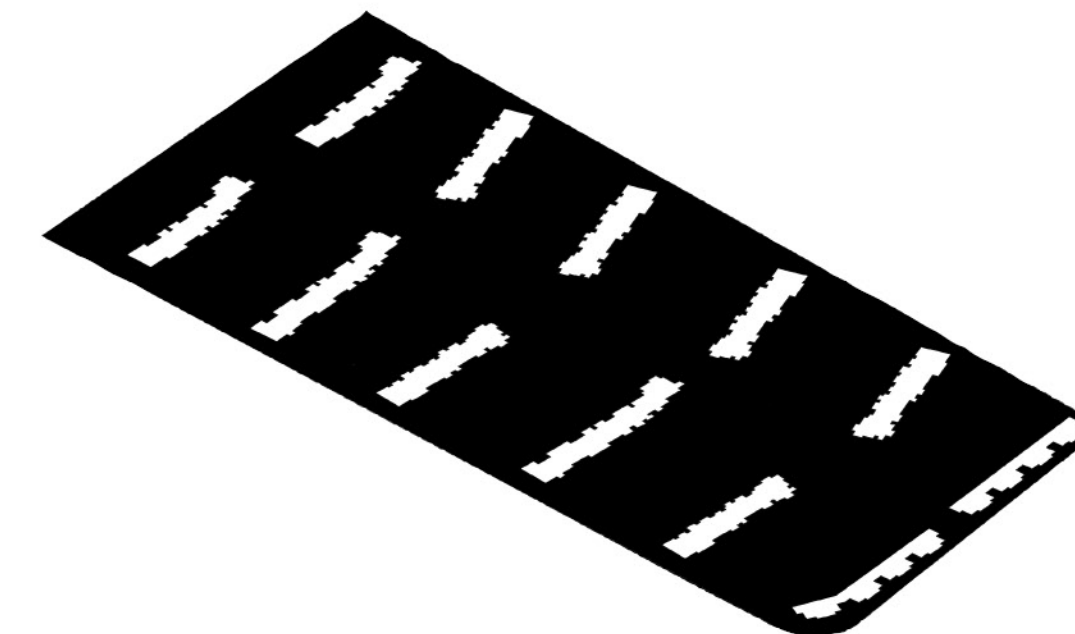
- Number of household : 880



Building mass



Building footprint



Void space



- INACTIVE URBAN EDGE
- Isolated environment



- DEVOID SPACE WITH UNDEFINED INTERIOR STREETS
- People in the internal

QUANTITY OF SPACES

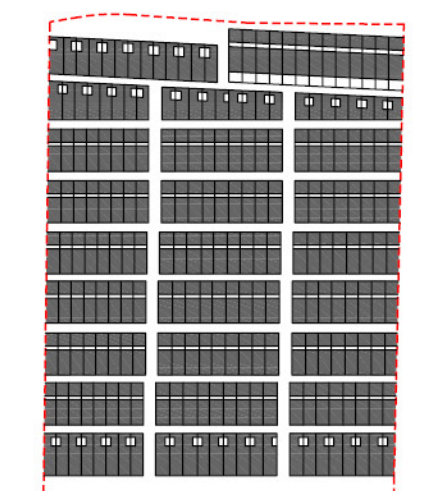
- Site areas : 33,932
- Total floor areas : 61,653
- F.A.R : 1.81

- VOID RATIO : 27.4%

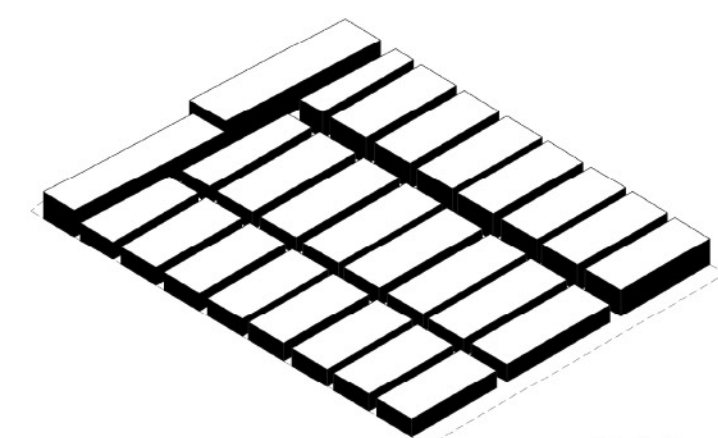
- Number of household : 339



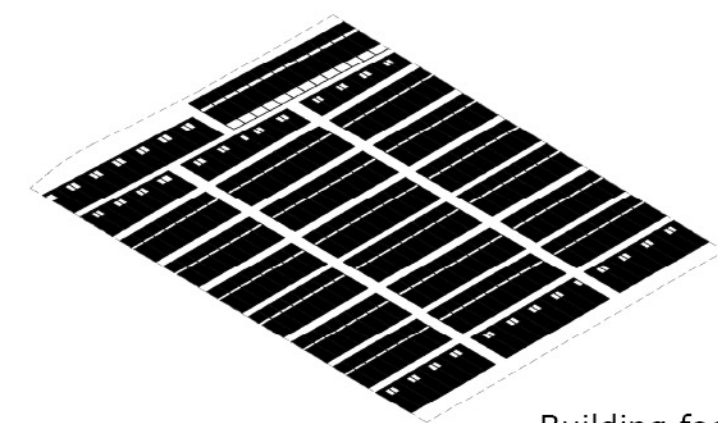
LOW-RISE LILONG



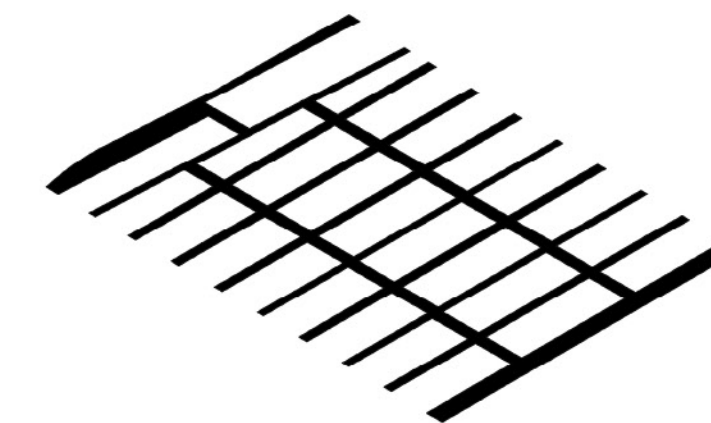
30m 60m 100m



Building mass



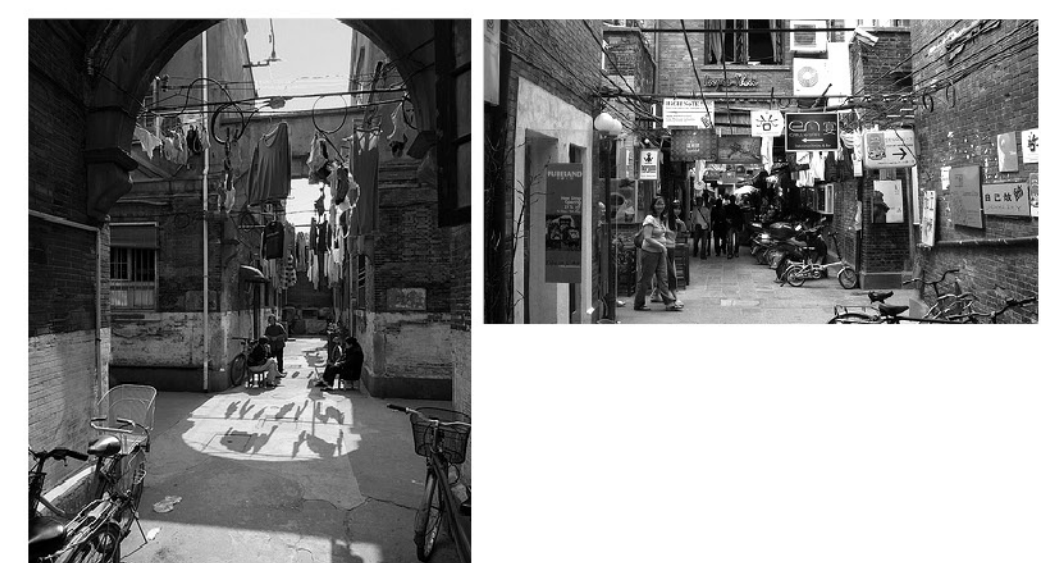
Building footprint



Void space



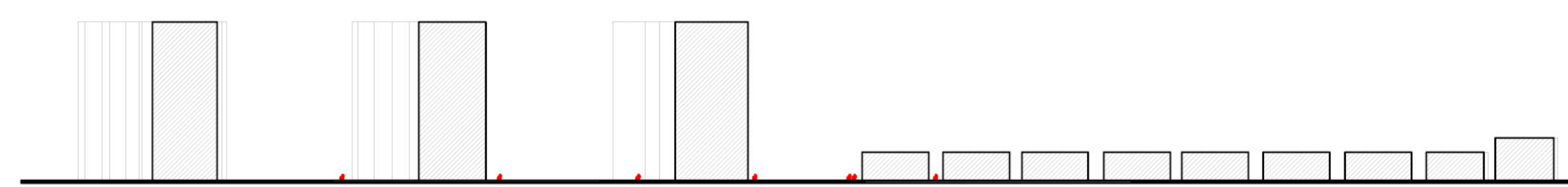
- ACTIVE URBAN EDGE
- Maintaining Chinese close-knit life style



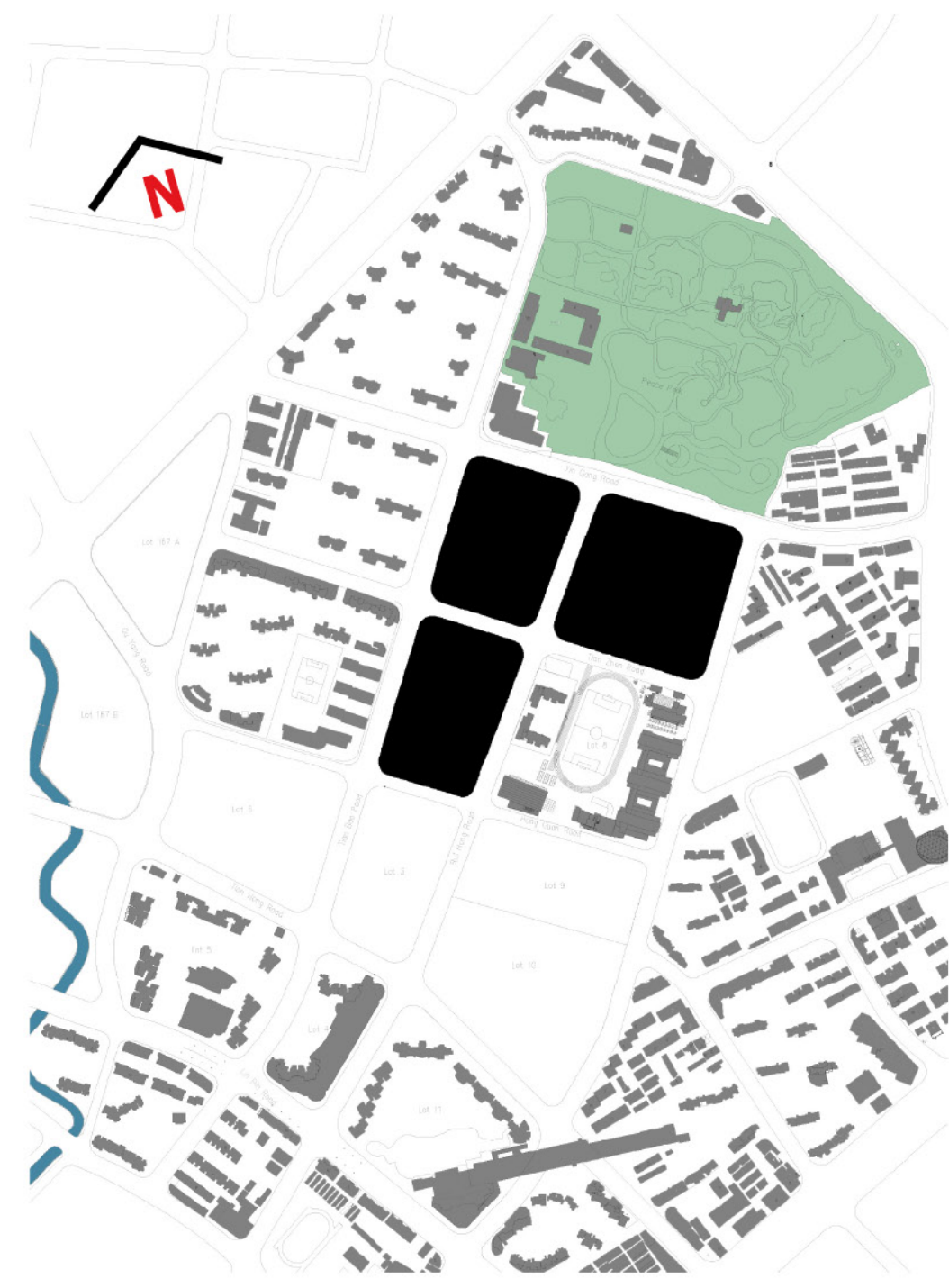
- CLOSER CONTACT, STRONG COMMUNITY
- People outside the street to fulfill the urgency for "City dwellers to occupy the public street" - Jane Jacobs

MEMORIES
Chinese communal life on the ground

Section in comparison with human scale



SITE LOCATION - PROGRAM



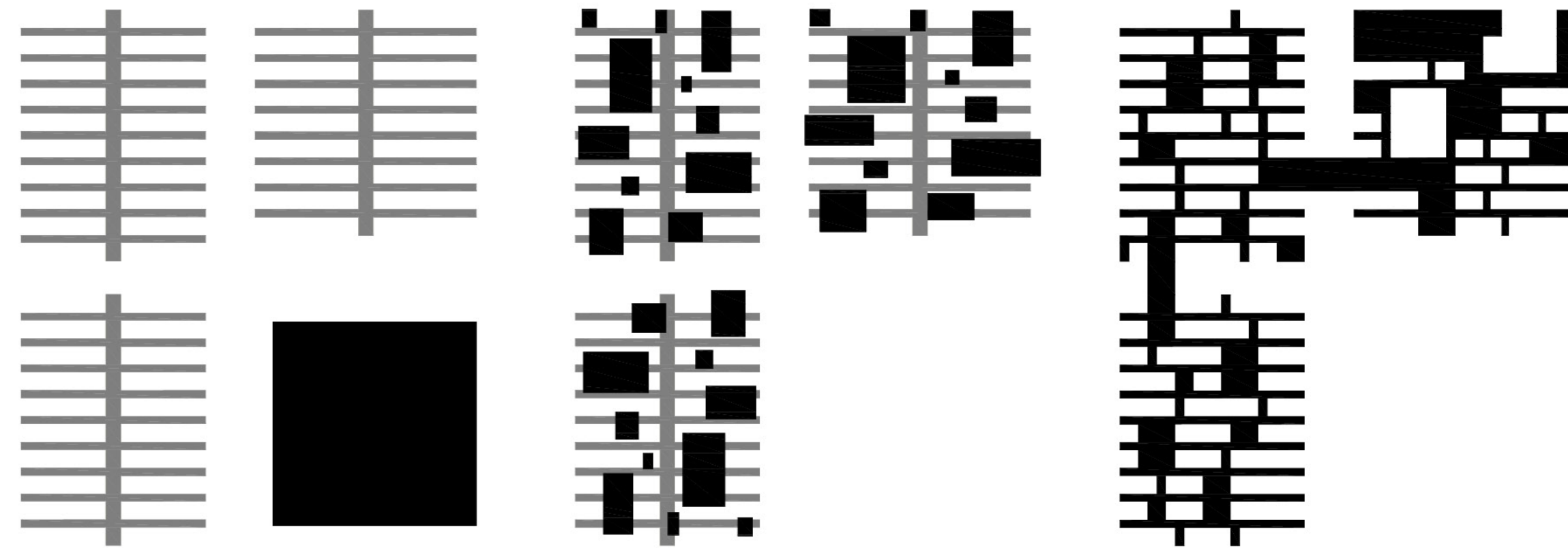
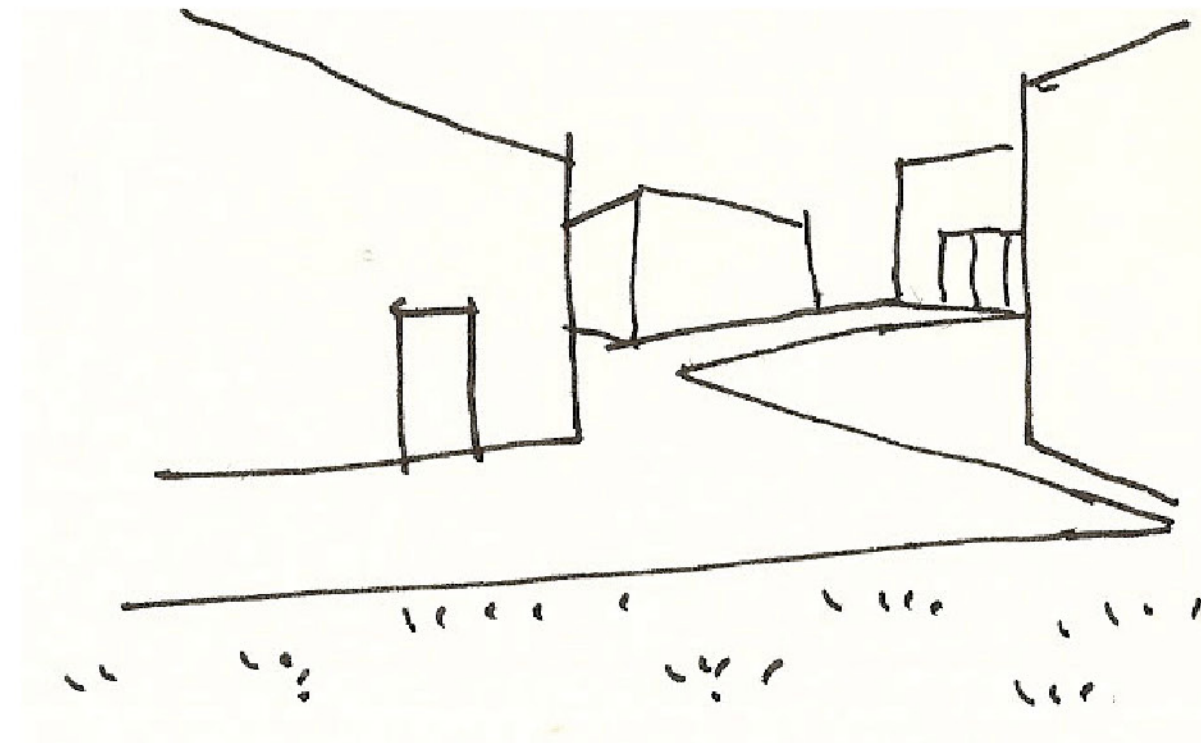
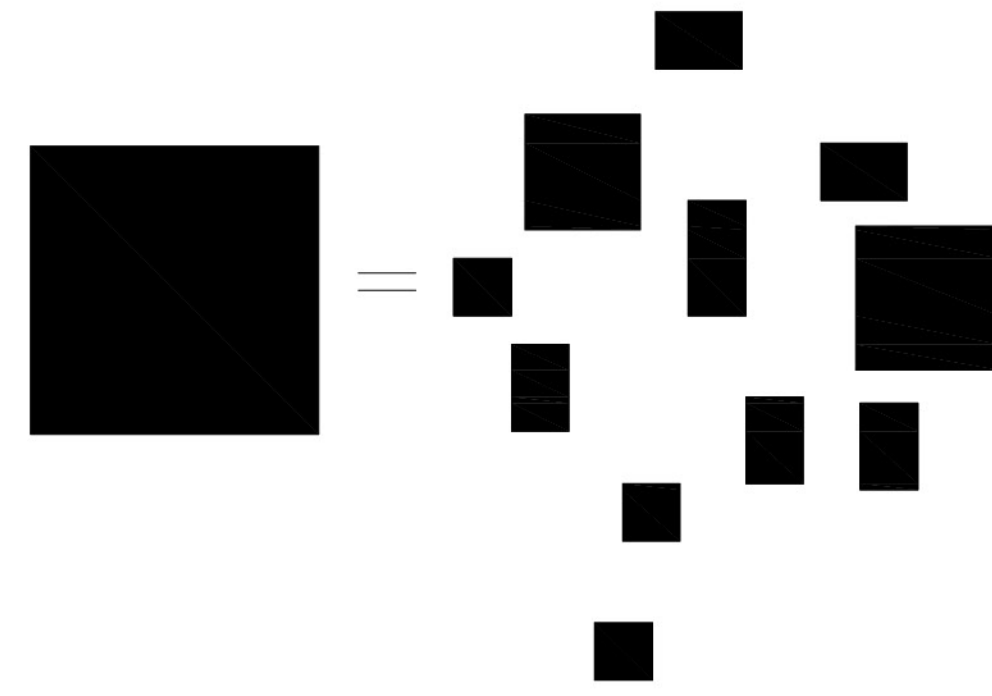
SHANGHAI HONGKOU program:

Project areas :	103.640 m2
G.F.A :	310.920 m2
HOUSING:	252.828 m2
FACILITIES & MIXED USED:	28.092 m2
HOTEL:	30.000 m2

OPEN SPACE STRATEGY

ADAPTABILITY in OPEN SPACE :

One big space turn into various functional spaces which are the facilities to allow the occurrence of these informal activities . With this idea of designing entire neighbourhood, the informal activities will be formalized.



Traditional lane housing

Scattered possibility for occurrence

Malleable of adaptability

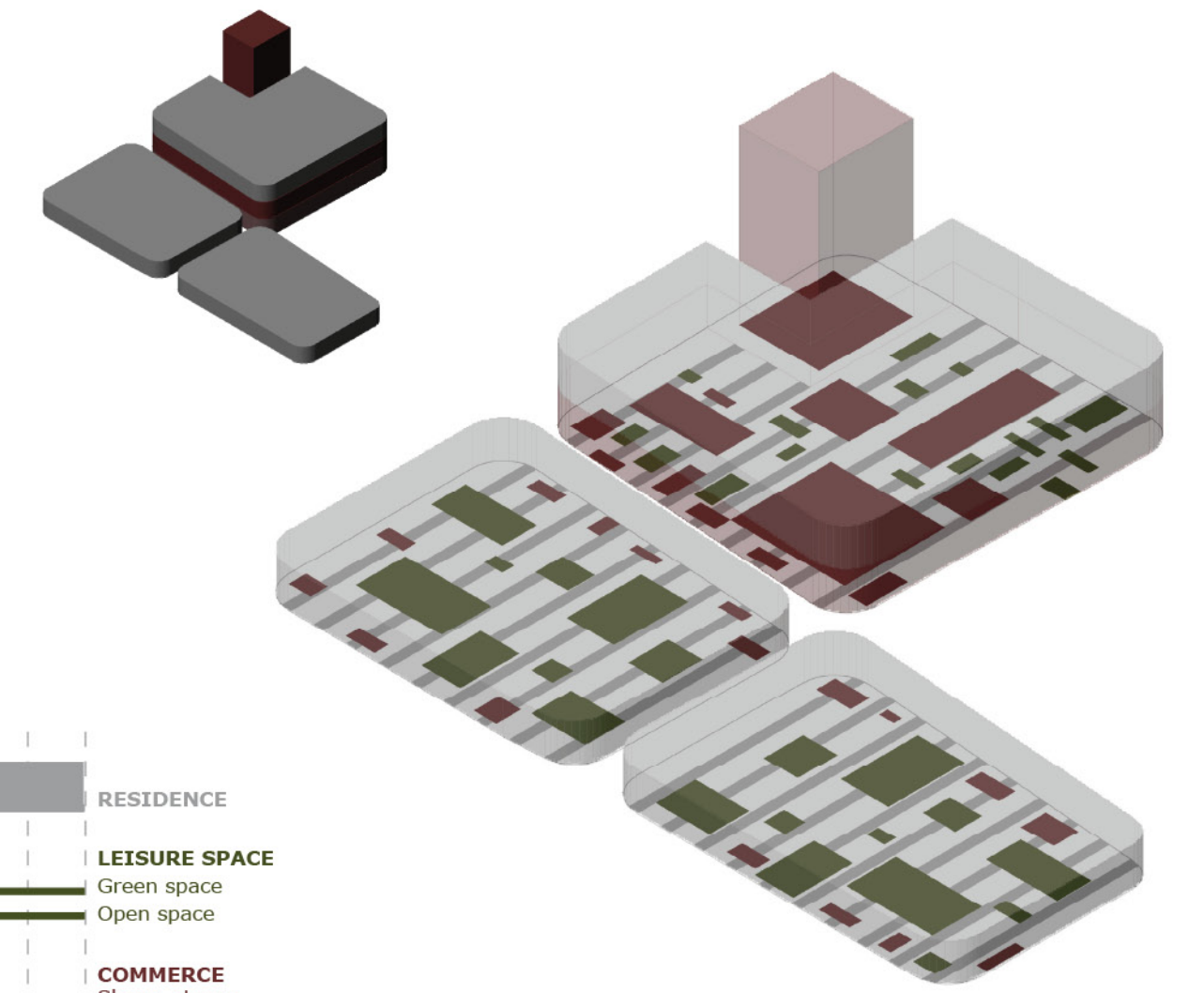
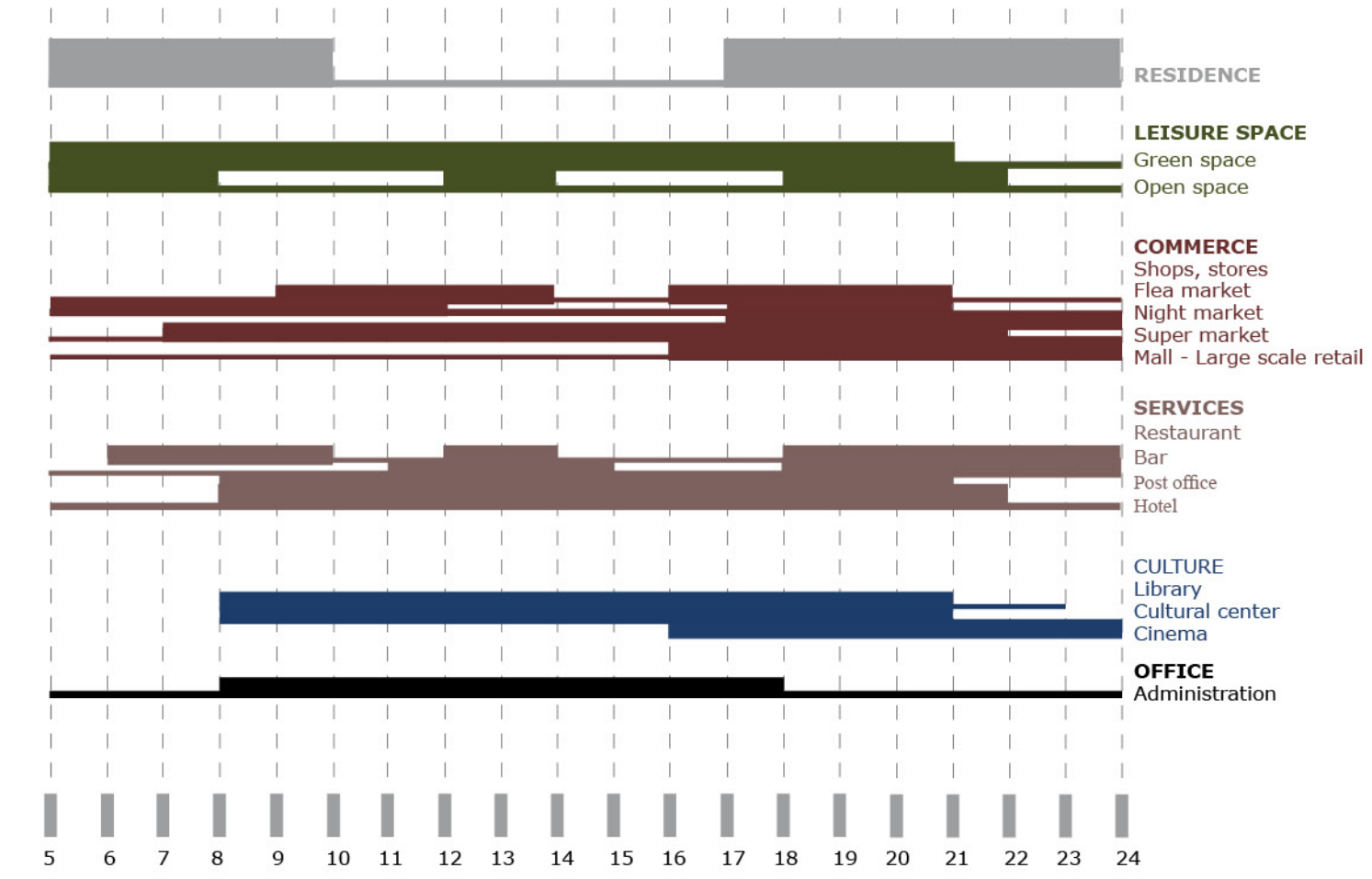
STRATEGY PROGRAM FOR THREE PLOTS

RETAIL SPACES

Is designed to house large scale-retailers and other functions of a mall. Also, for adapting the informal retails as traditional market, open space, or sub-divided / broken down in to smaller rentable are included

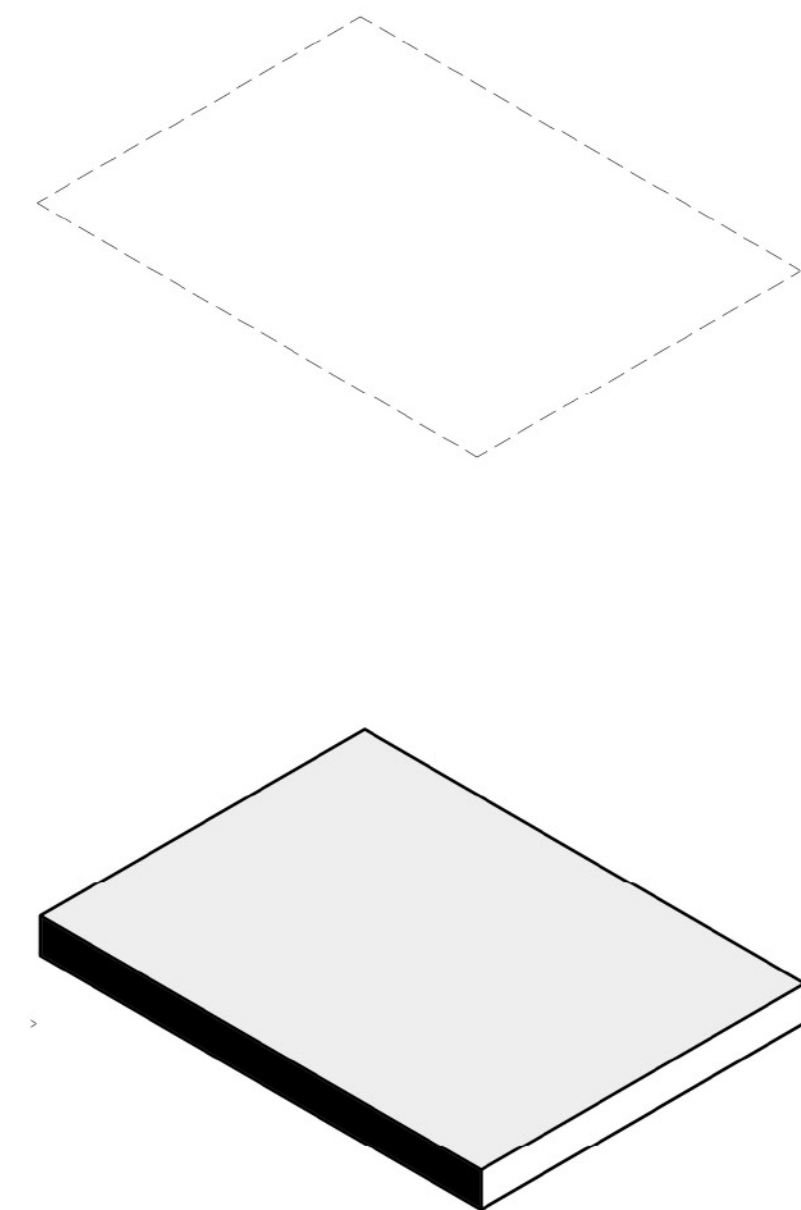
- Parking
- Informal activities
- Retail
- Residential

ONE-DAY TIME SCALE OF ACTIVITIES IN PROGRAMING



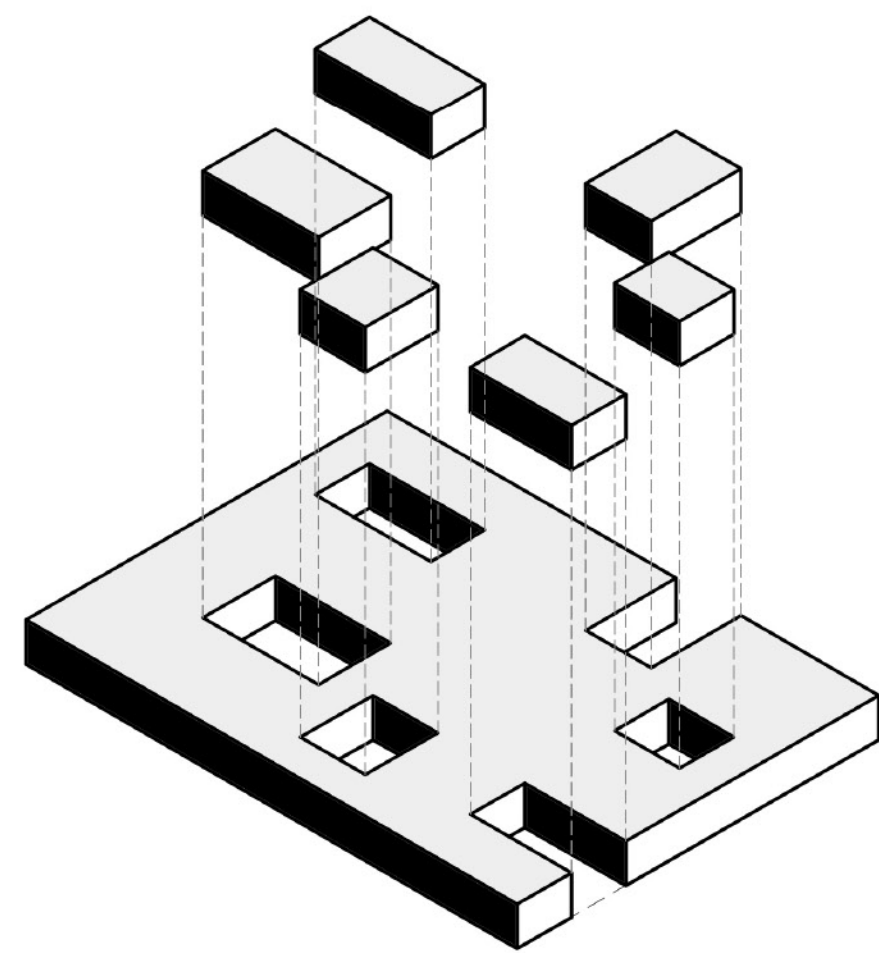
STEP 1 STACK UP MODEL

The solid form is stacked upon the site in order to match the requirement of density. This stacking results in new housing plot of six storey height in comparison to the 2 1/2 - 3 stories. This estimation resulted from the average model which is analysed in shadow analysis book



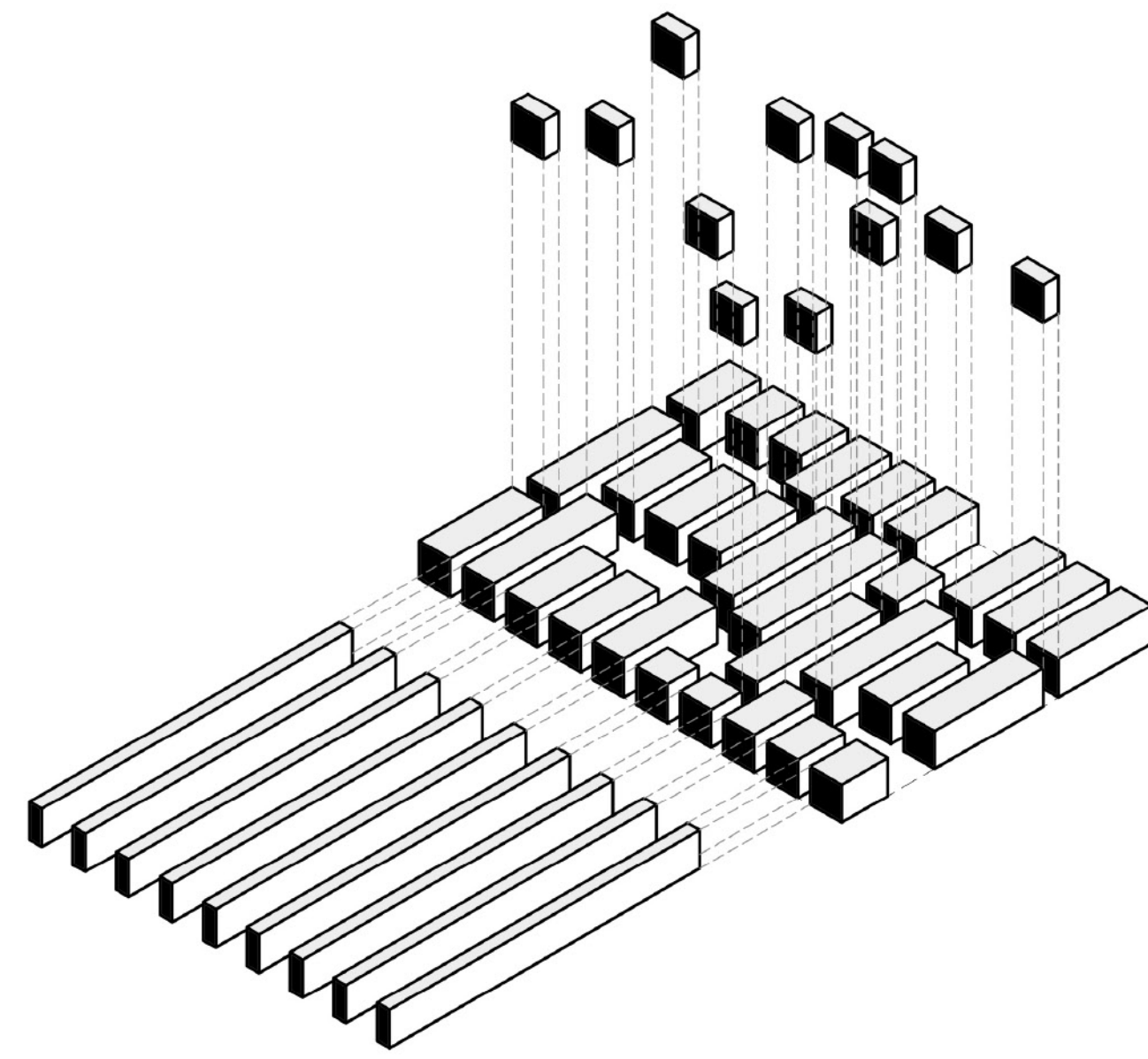
STEP 2 CARVE OUT GREEN SPACES

Green-space program is introduced in to the housing solid form. Instead of providing a huge central space, a sequence of small green spaces is inserted as the nodes for the concentration of leisure and athletic activities. In a space appropriated with human scale, these spaces will be lived up and utilized by the residences around.



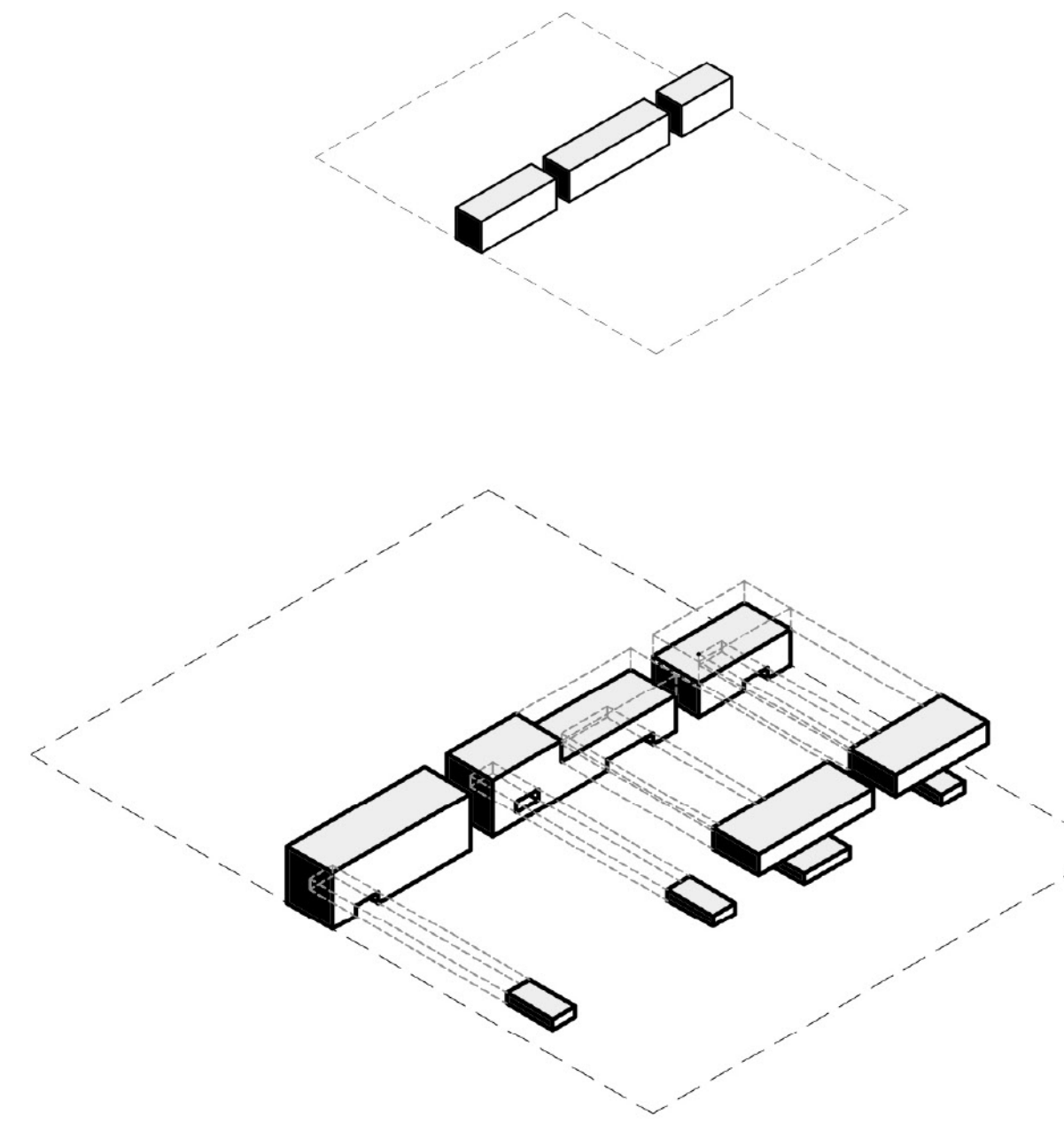
STEP 3 PUNCH OUT COMMUNITY SPACES

Community spaces are created in a form of lane-living style with opportunities to turn corners must be frequent which are effective in helping generate the diversity. With this idea of designing entire neighbourhood, the informal activities will be formalized in an appropriate human scale space in spaces common to the entire community.



STEP 4 PUNCH OUT HOLES FOR BETTER LIGHTING AND VENTILATION

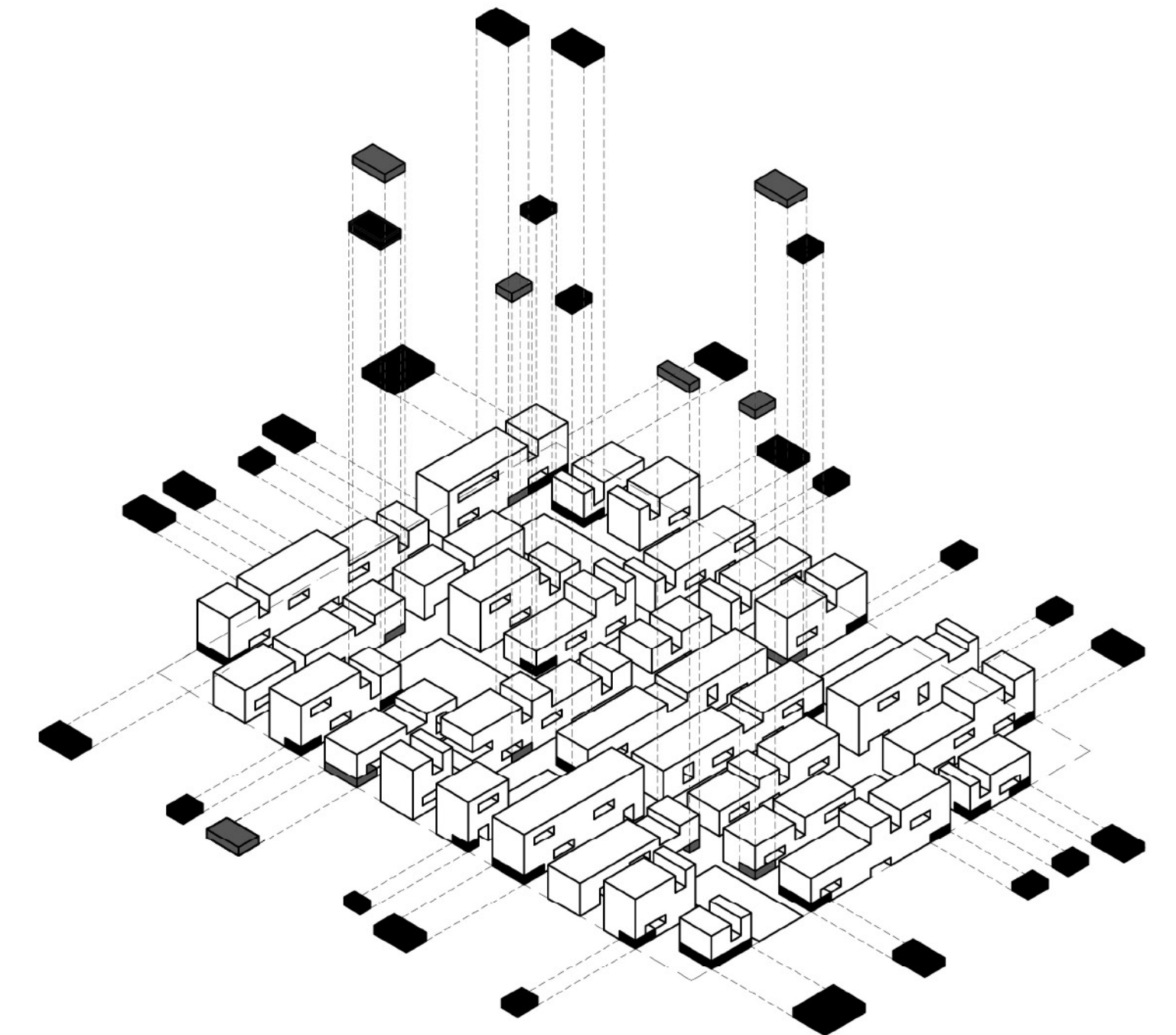
As a result of shadow analysis, which according to the Chinese living-standard, holes are punched out for light and air flows directly in to the building. This porosity also forms the open spaces and allows for the units around to enjoy adjacent outdoor space similar to that of the first floor units



STEP 5 INSERT RETAIL and SERVICE SPACES

Retail and services primarily are located along the edge of the neighbourhood and around the green open spaces

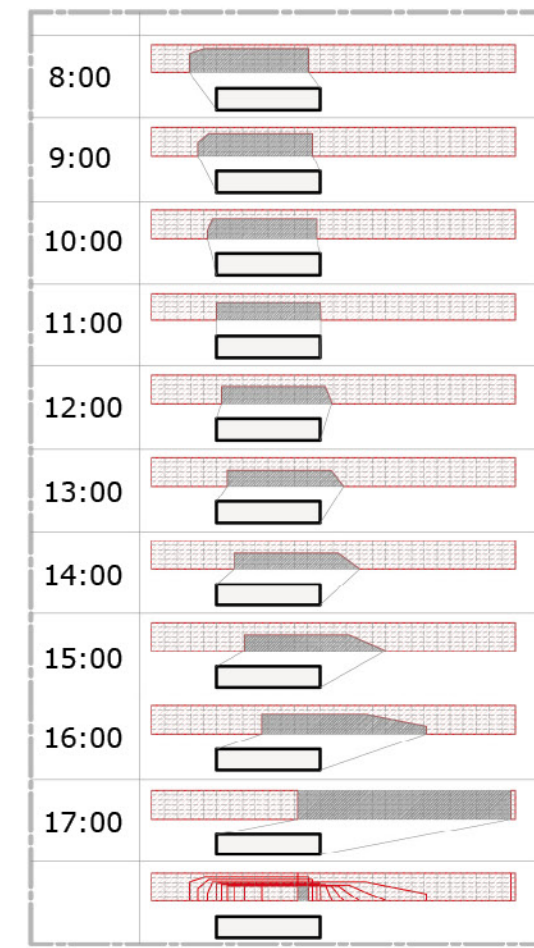
- Retail
- Services



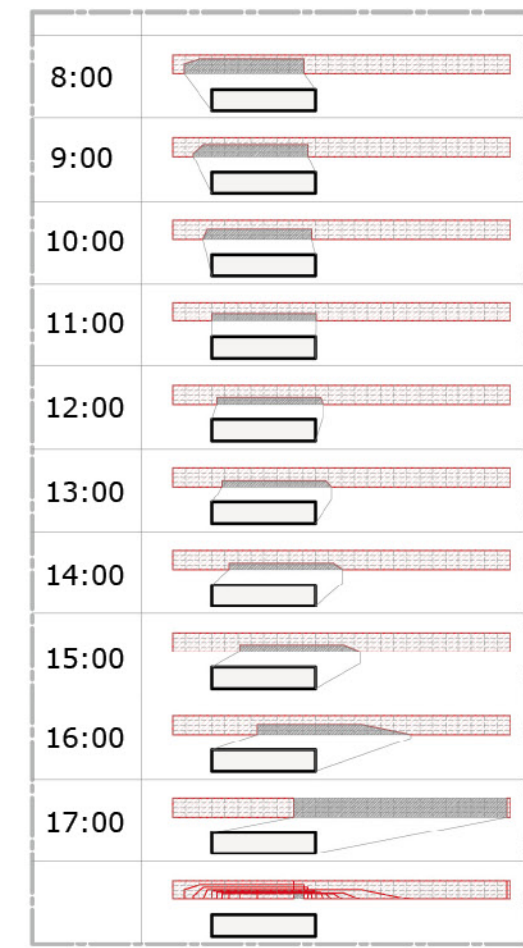
SHADOW ANALYSIS: SUNLIGHT - F.A.R DEMAND

Shadow analysis is done to with the purpose of studying the effect of shadow from the ahead lane to the next in December 21 - Winter solstice. The shadows are recorded each hour of the day which is recognized to have the good quality of sun for unit 30m, 37.5m, 45m, 52.5m, 60m length and the height of 3fl, 4fl, 5fl, 6floor .

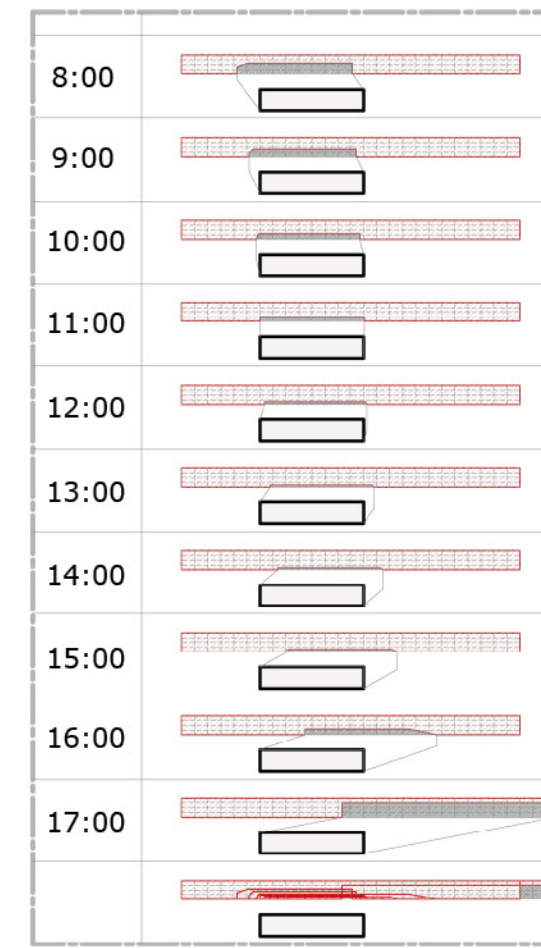
Unit 60m x 12m x 6fl. @9m



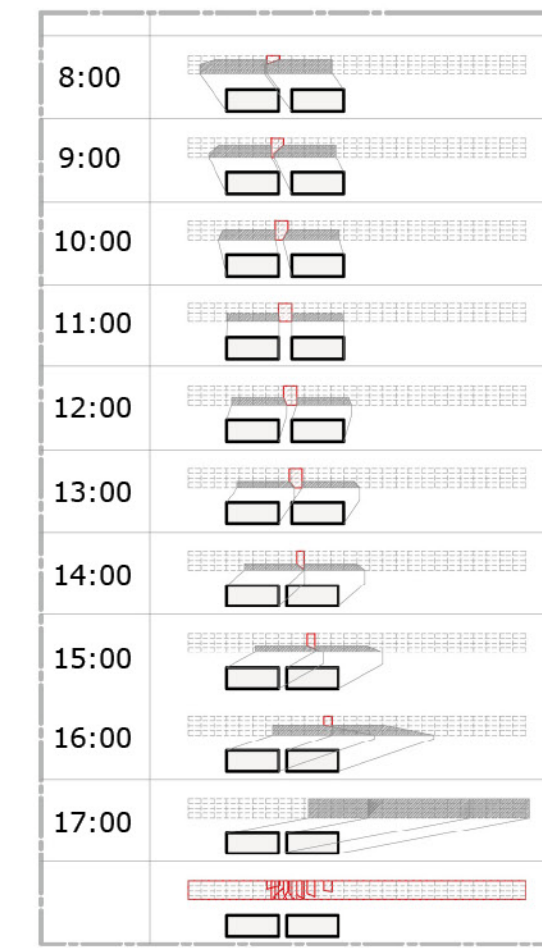
Unit 60m x 12m x 4fl. @9m



Unit 60m x 12m x 3fl. @9m

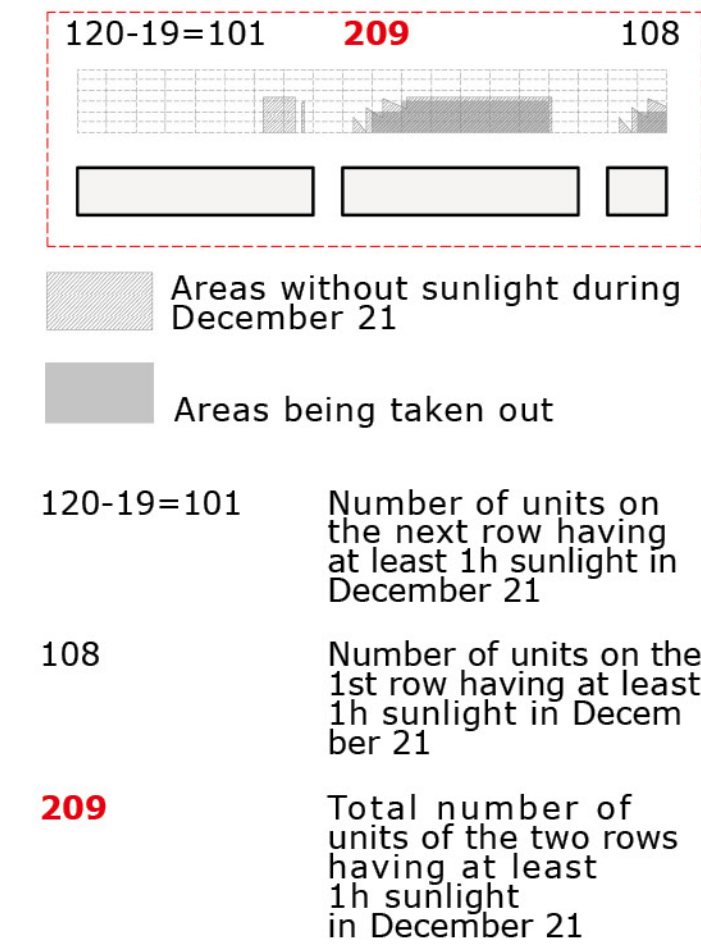


Lane of 7.5m between 2 blocks



Experiencing all the possibilities for a lane of 150m length with blocks of 30m, 37.5m, 45m, 52.5m, 60m length - 6 floor

The result to get the most units :

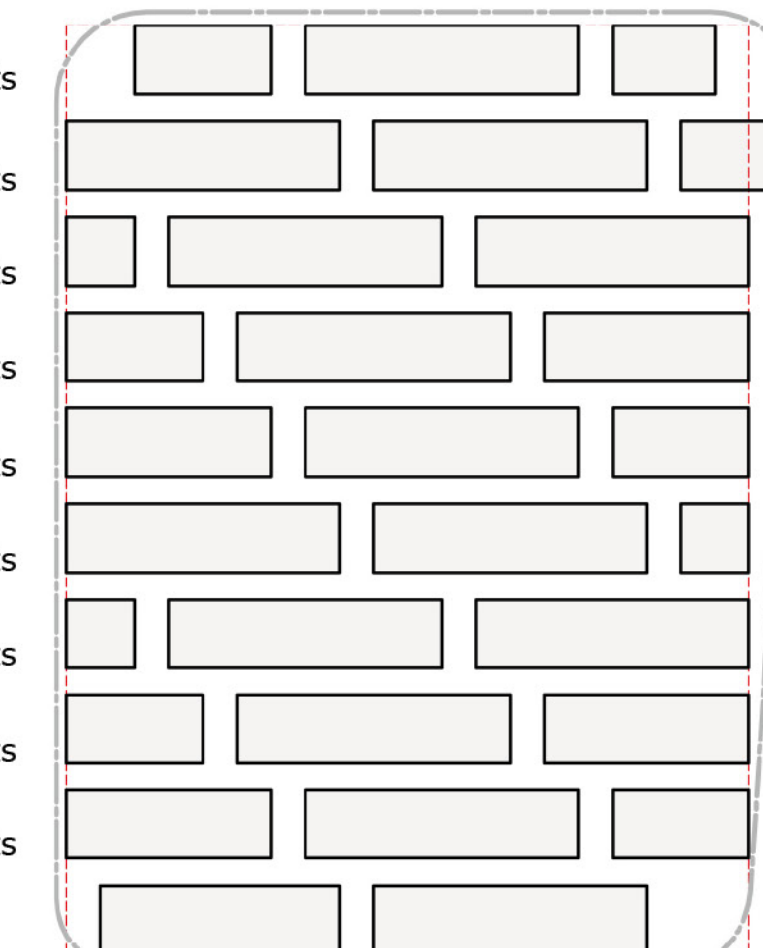
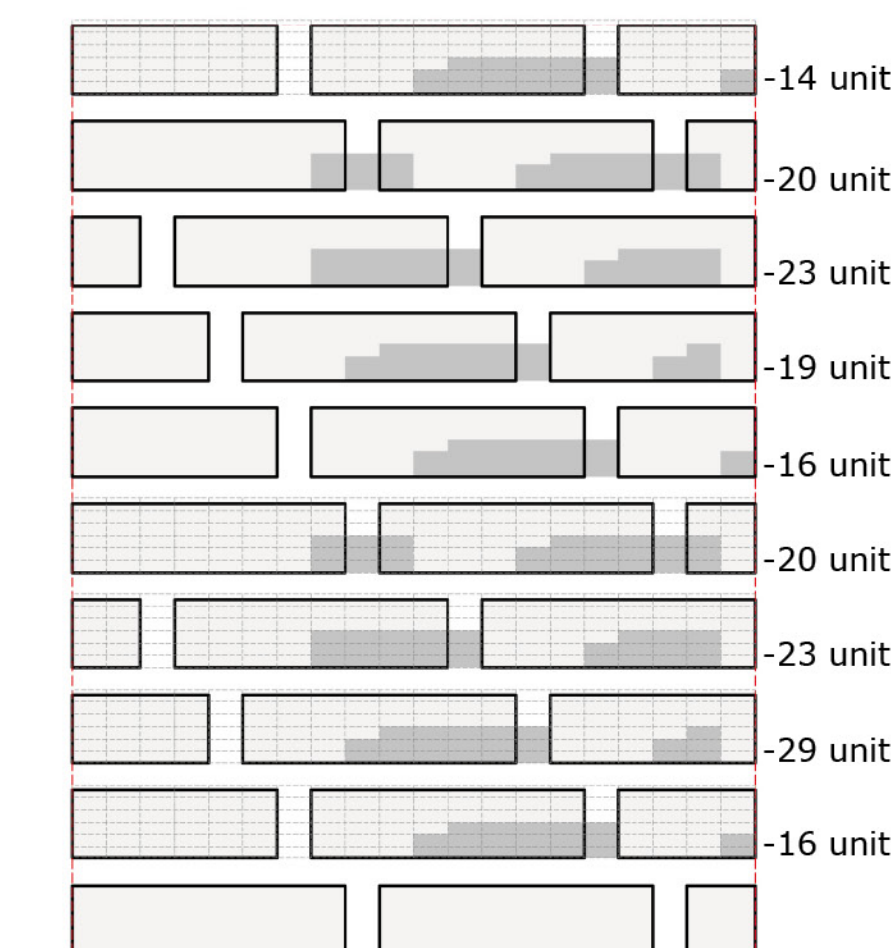


F.A.R EXPERIENCE OF LANE DESIGN for plot A : 30600sqm
6-floor block

Total build areas :
 $19,687 \times 6 = 118,128$
F.A.R = 3.86

Taken out units :
 $170 \times 7.5 \times 12 = 15,3$
Total :
 $118,128 - 15,3 = 102,828$

F.A.R = 3.36



LANE AND PLOT SHAPPING

STEP 1 STACKING WITH THE LANE'S SEQUENCE TO GET THE MOST UNITS

See references in SHADOW ANALYSIS book

STEP 2 INTRODUCE THE INNER GREEN SPACES

STEP 3 SEQUENCES RESULT WITH 6FLOOR BLOCKS

STEP 4 ANALYZING SHADOW AFFECTION ON ELEVATION FOR EACH LANE OF THE PLOT

See references in SHADOW ANALYSIS book

STEP 5 ADJUSTING THE BLOCKS' HEIGHT AND LOCATION FOR BETTER RESULT - i.e taking out the least units

See references in SHADOW ANALYSIS book

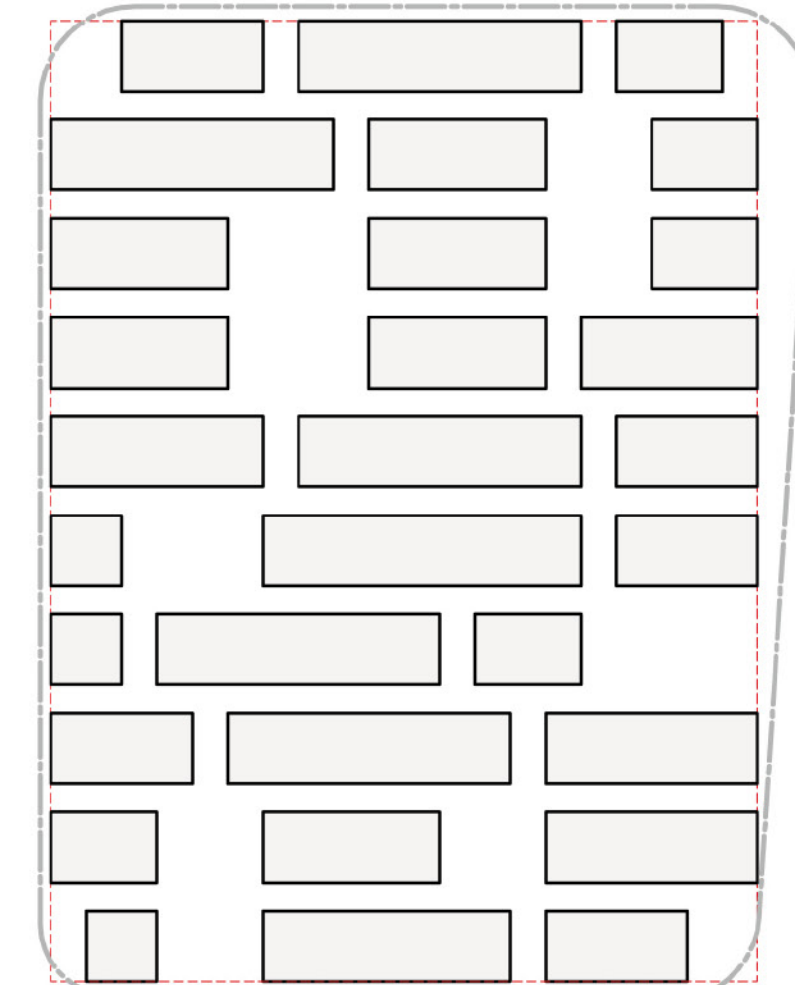
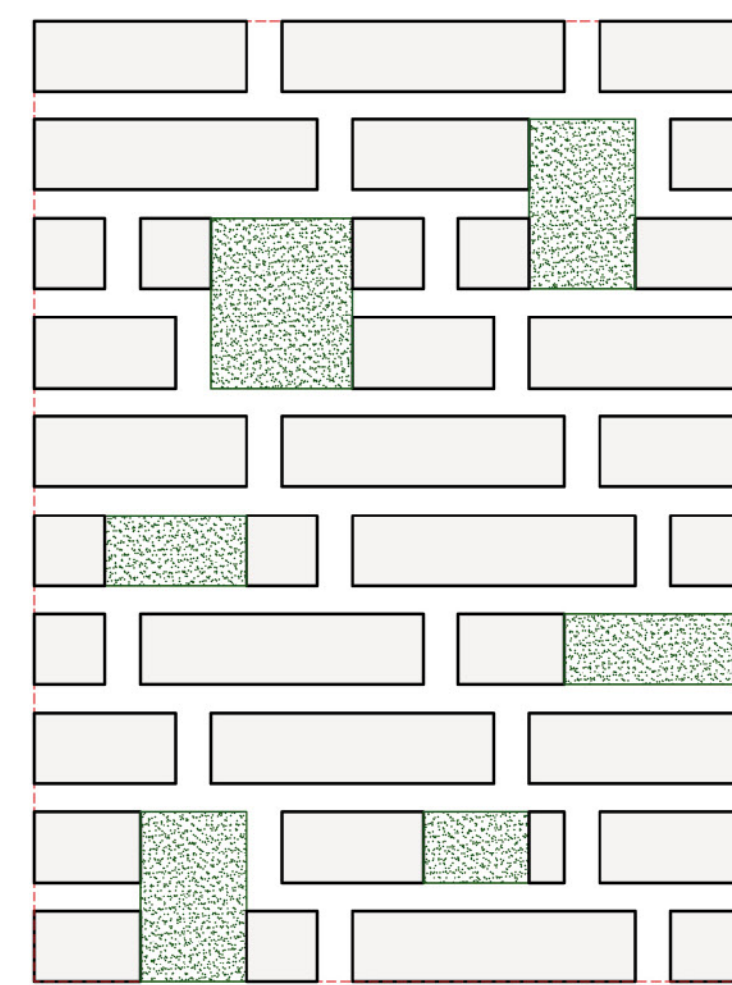
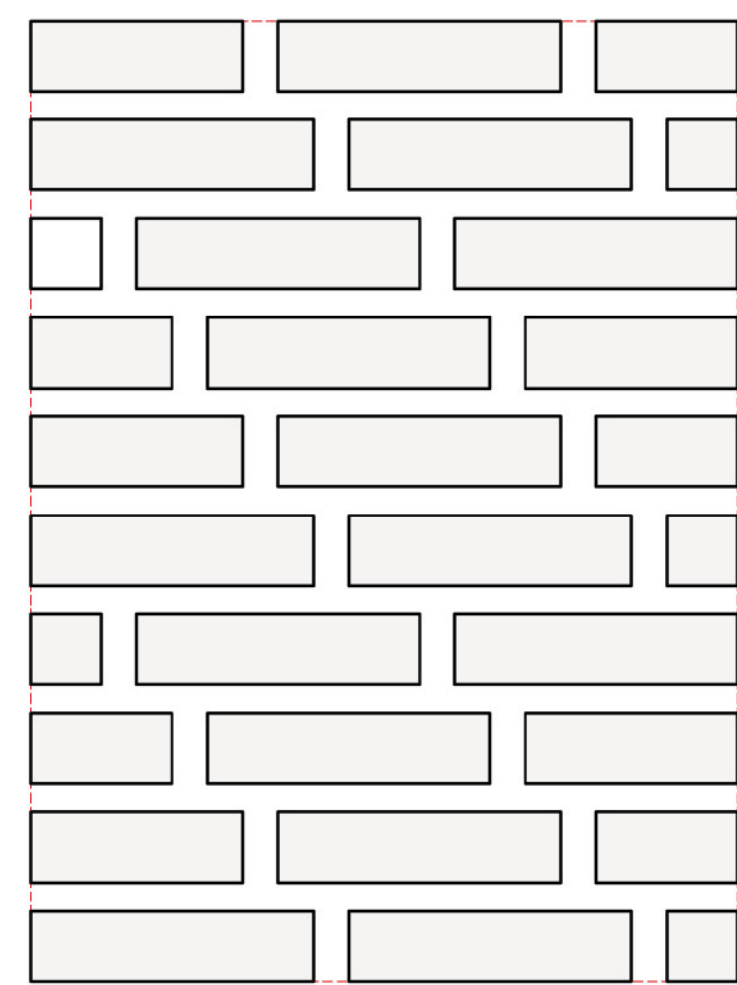
STEP 6 ANALYZING SHADOW AFFECTION ON ELEVATION FOR EACH LANE OF THE PLOT

See references in SHADOW ANALYSIS book

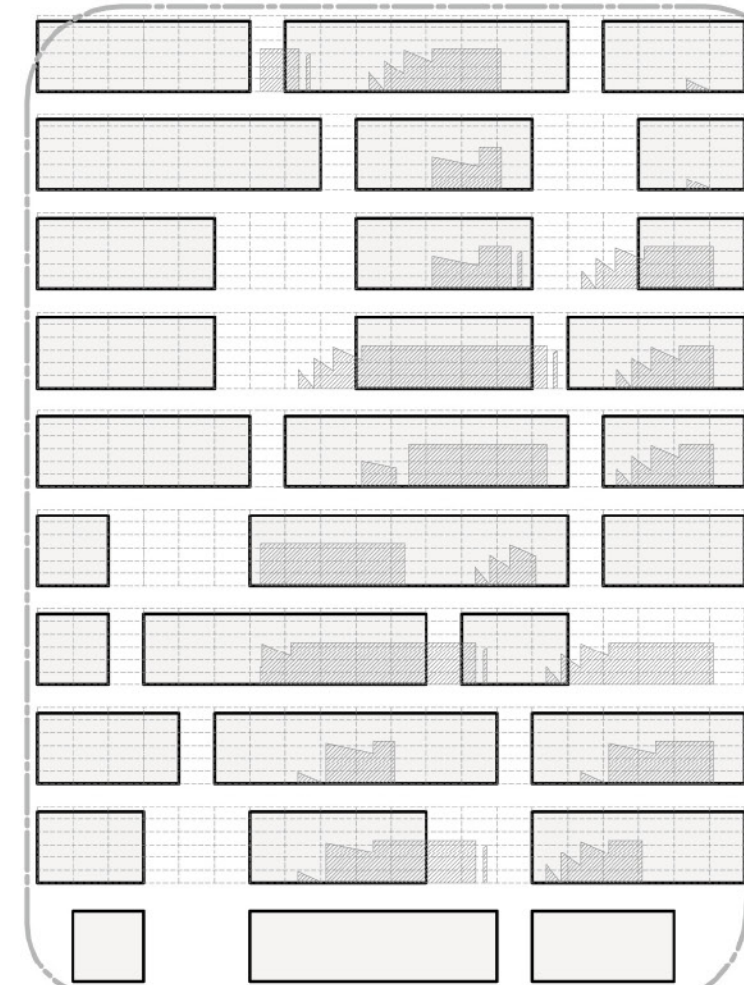
STEP 7 RESULTING OF SHADOW AFFECTION ON ELEVATION OF EACH PLOT

See references in SHADOW ANALYSIS book

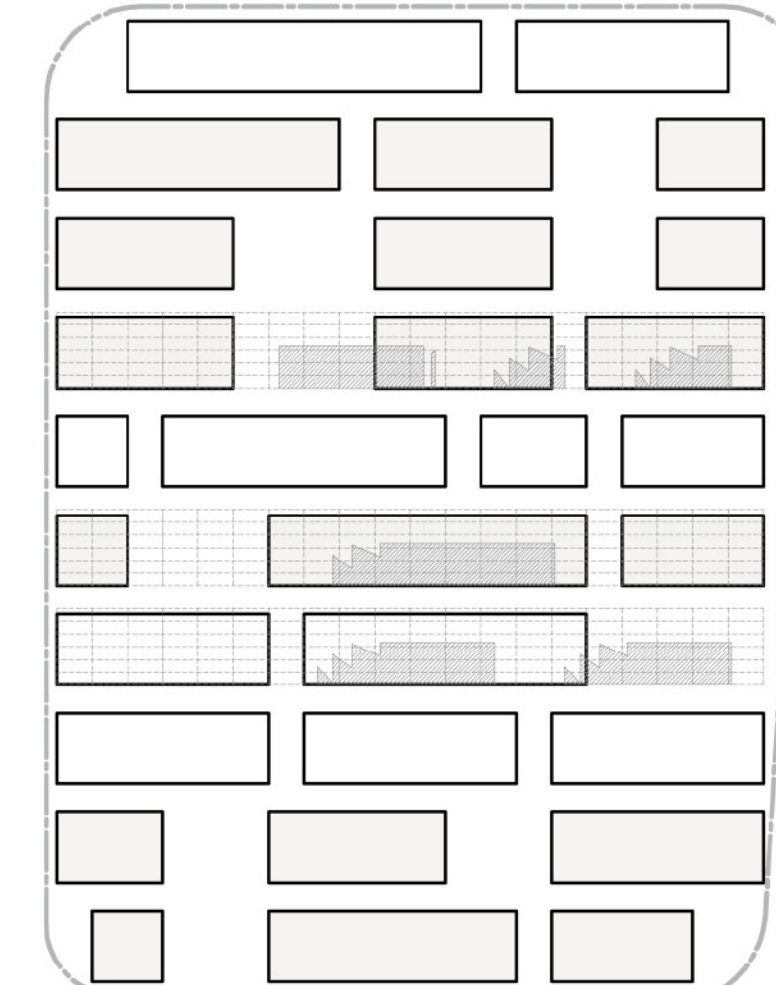
PLOT A (AREA 30600 SQM) - BLOCK DIMENSION : N UNITS X 7.5M X 15M



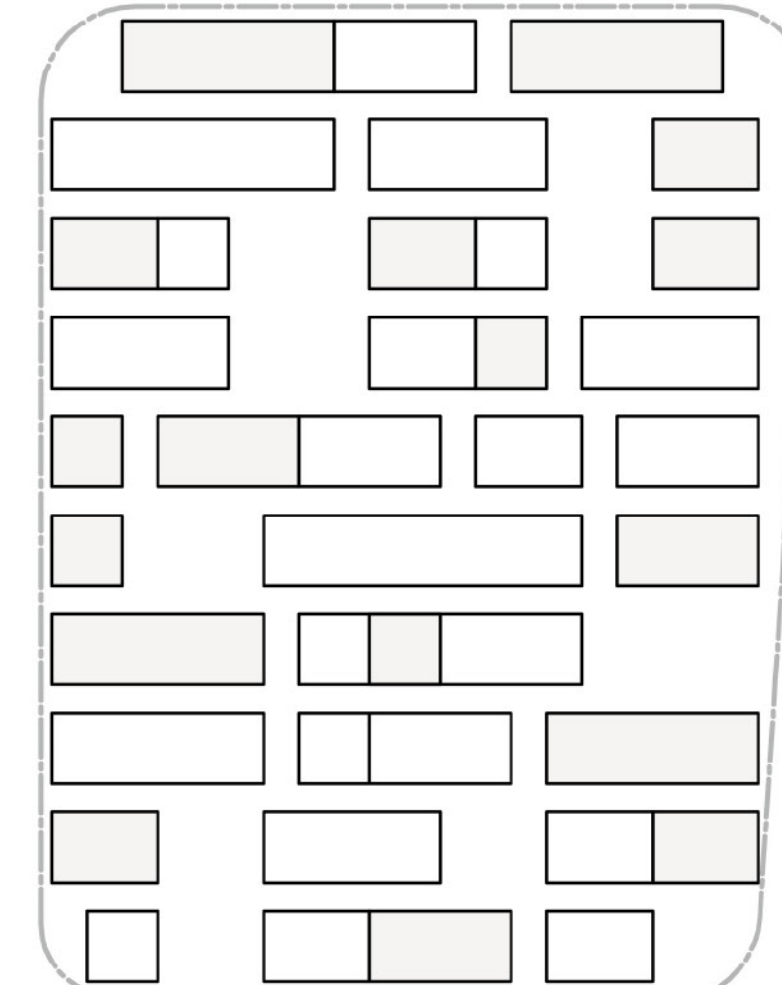
Areas on elevation without sunlight during December 21



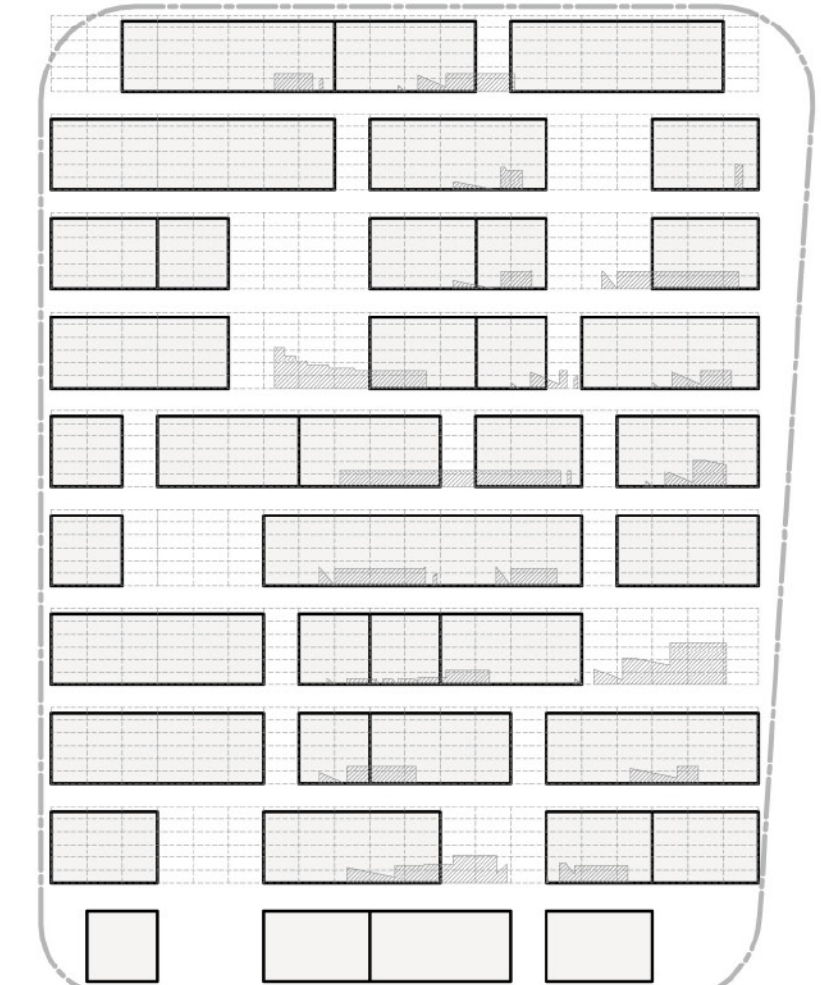
Blocks in modification



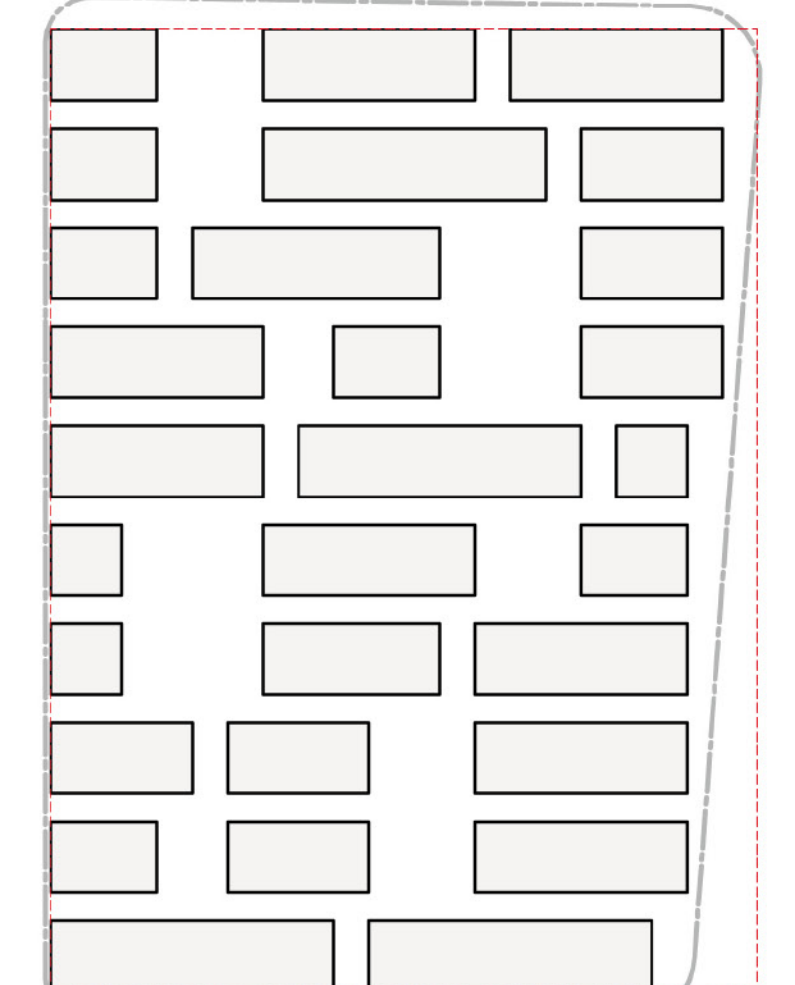
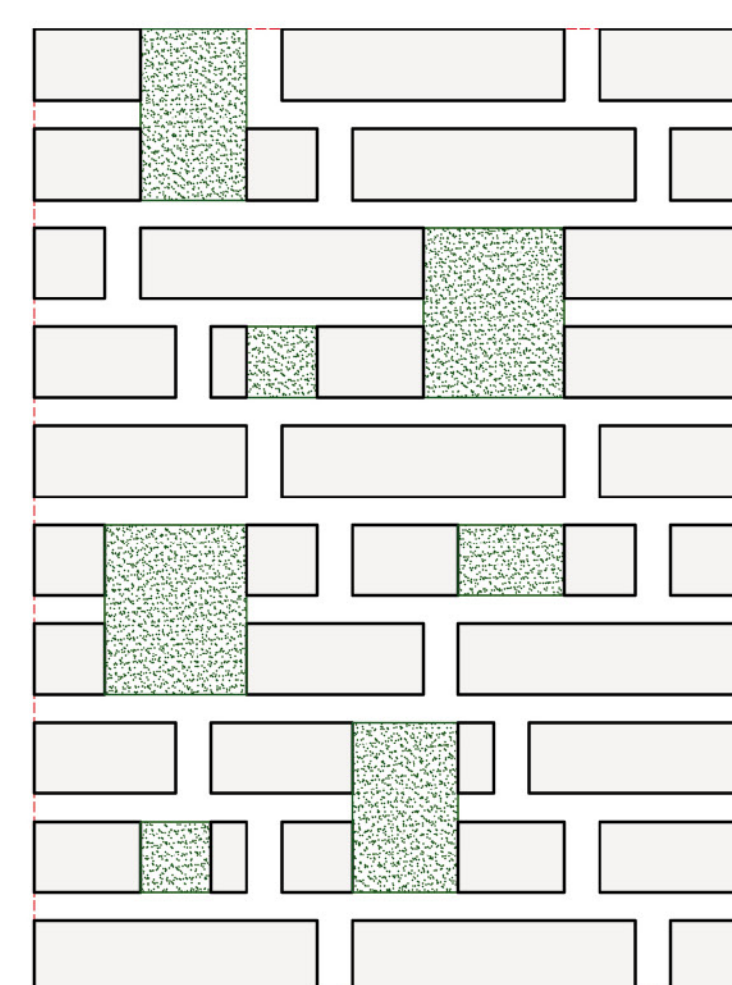
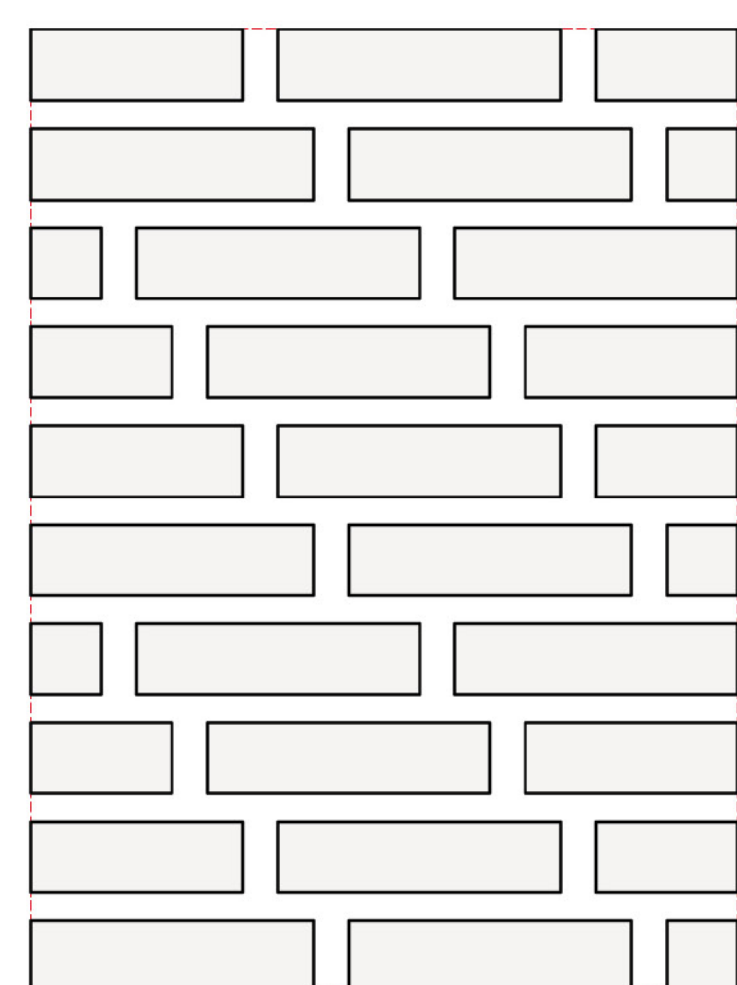
Areas on elevation without sunlight during December 21



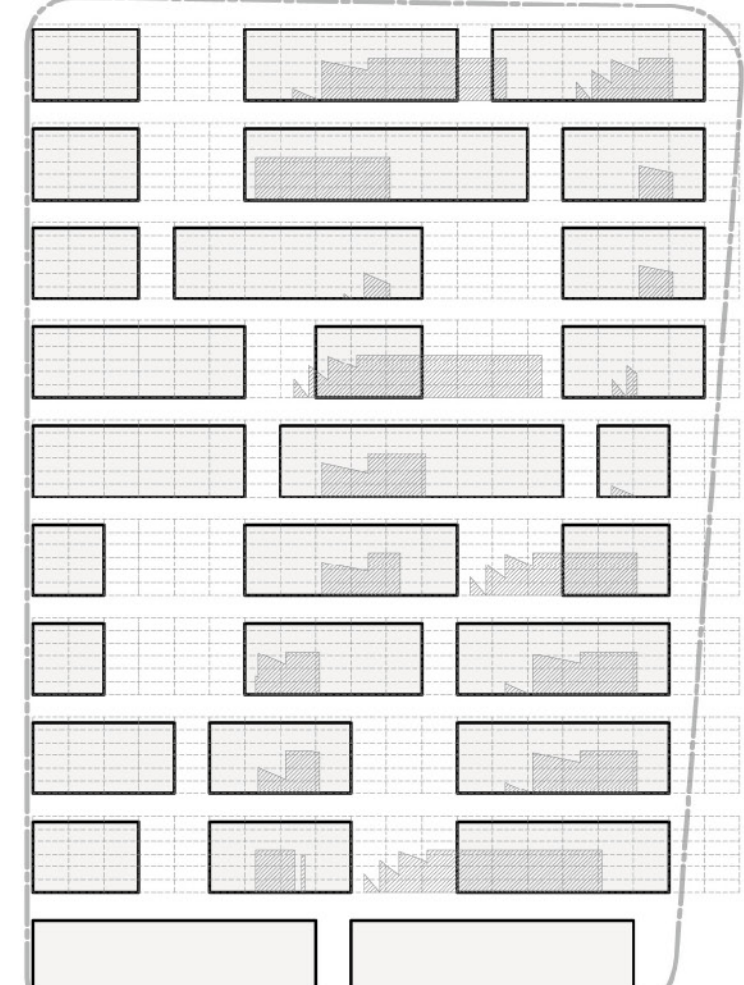
Areas on elevation without sunlight during December 21



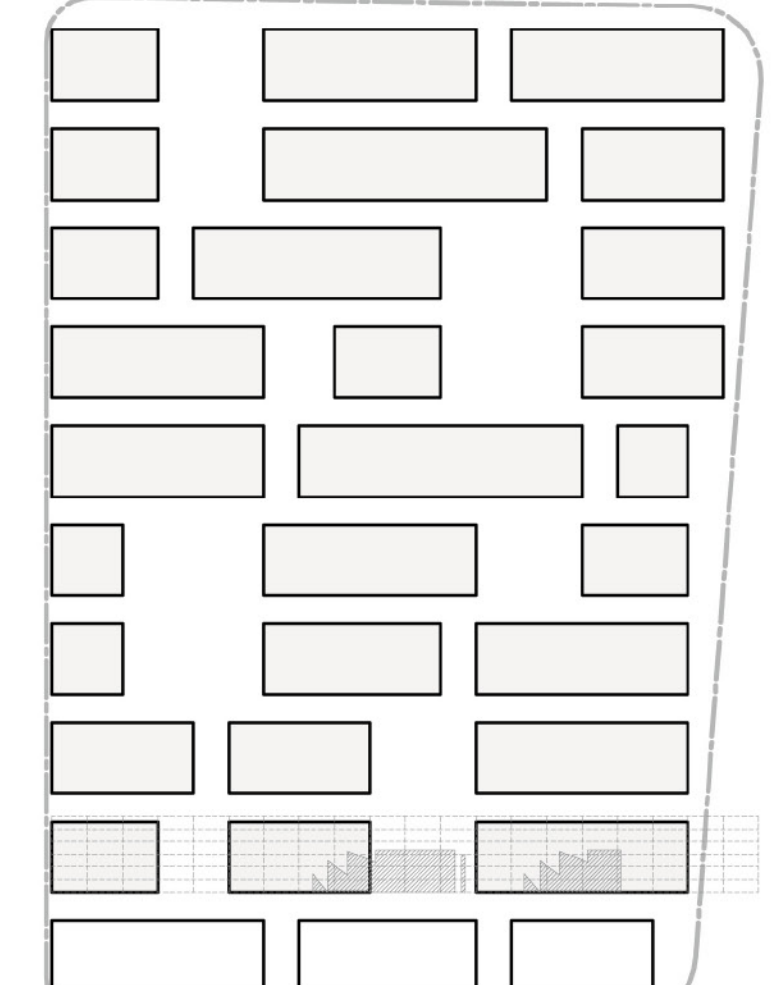
PLOT B (AREA 30370 SQM) - BLOCK DIMENSION : N UNITS X 7.5M X 15M



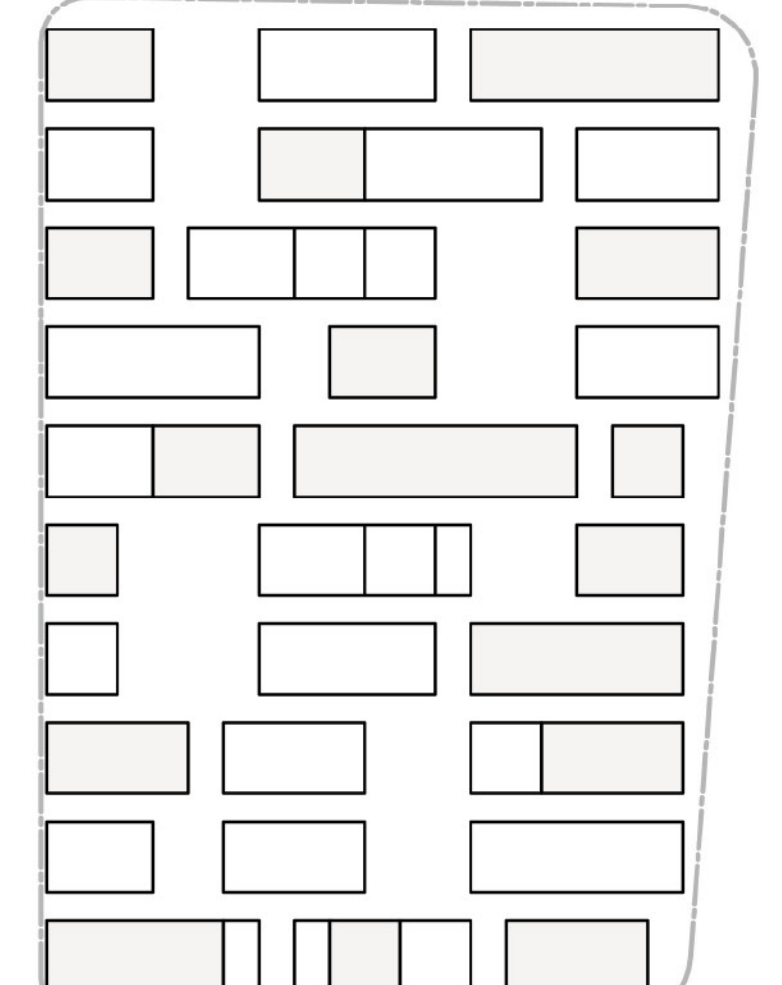
Areas on elevation without sunlight during December 21



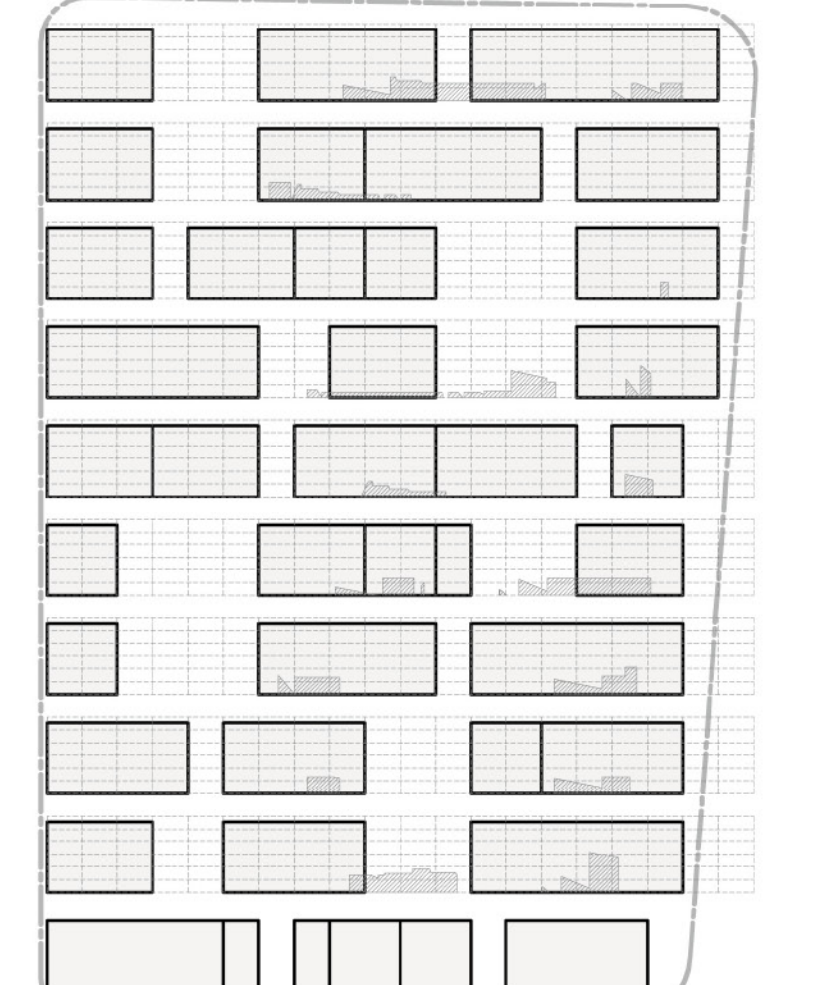
Blocks in modification

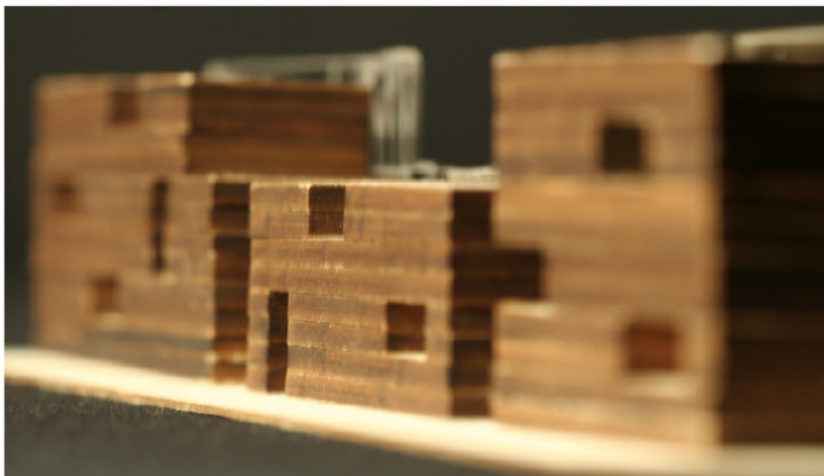
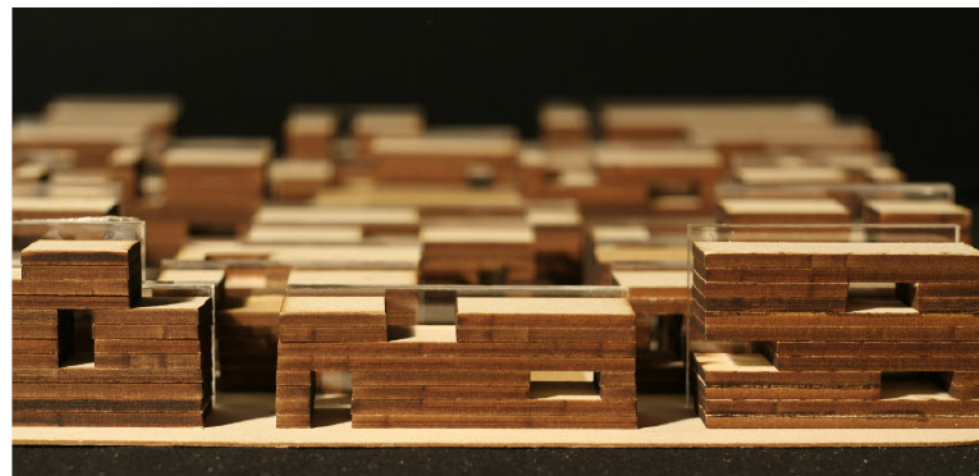
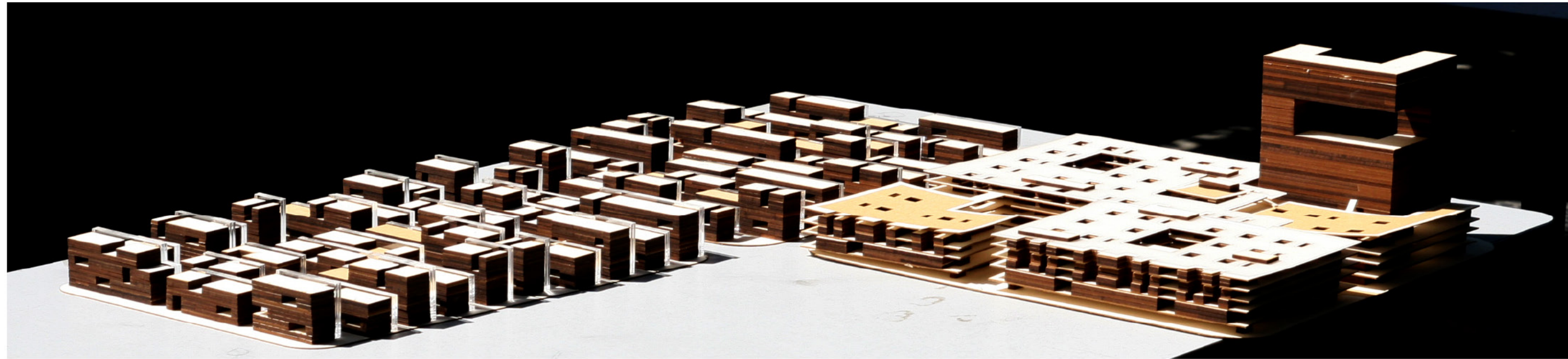
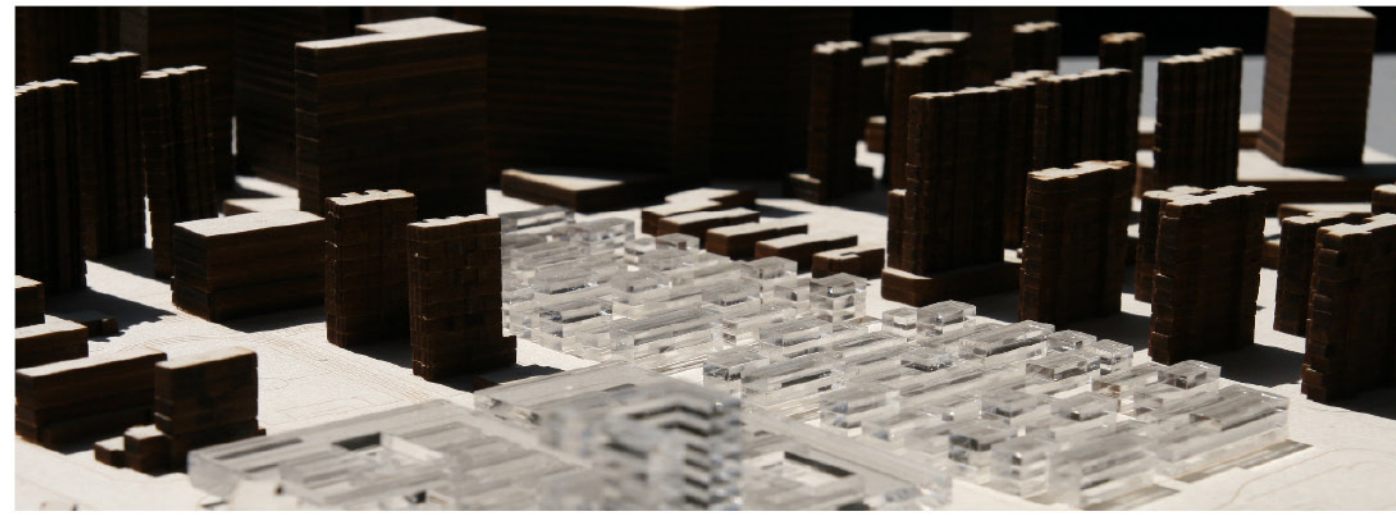
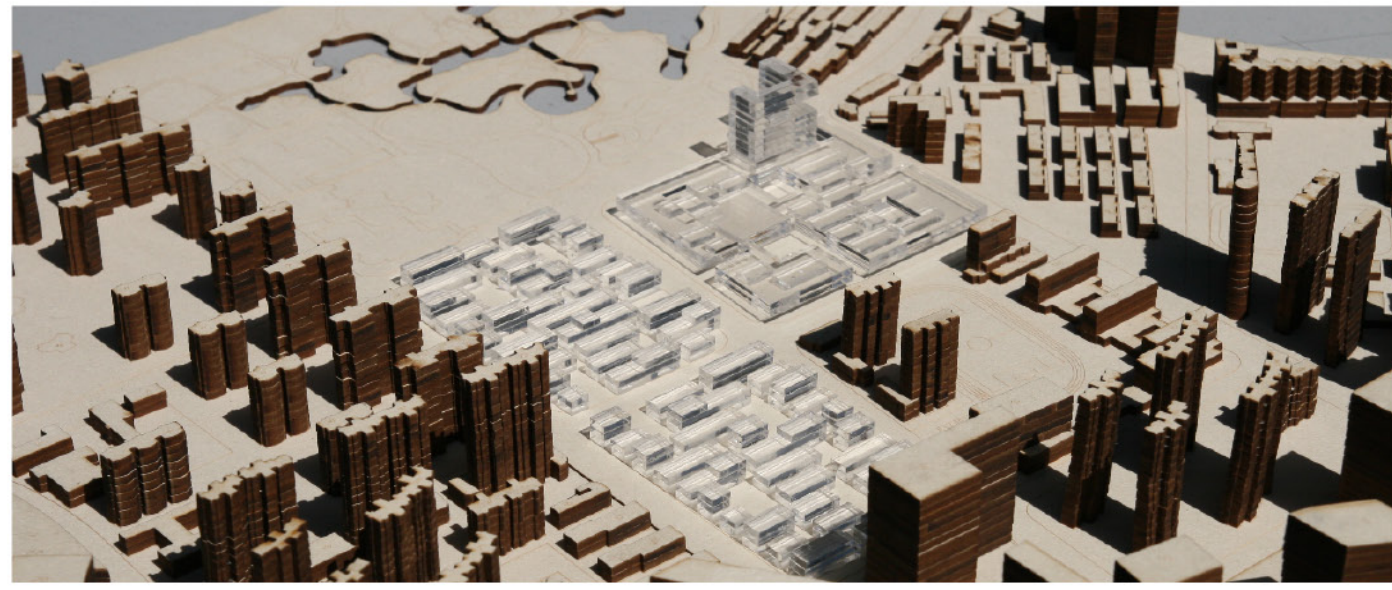


Areas on elevation without sunlight during December 21

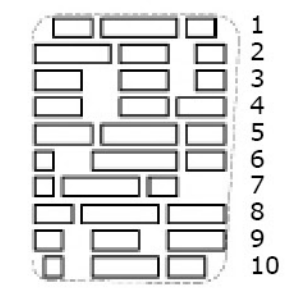


Areas on elevation without sunlight during December 21

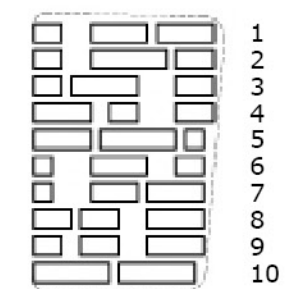
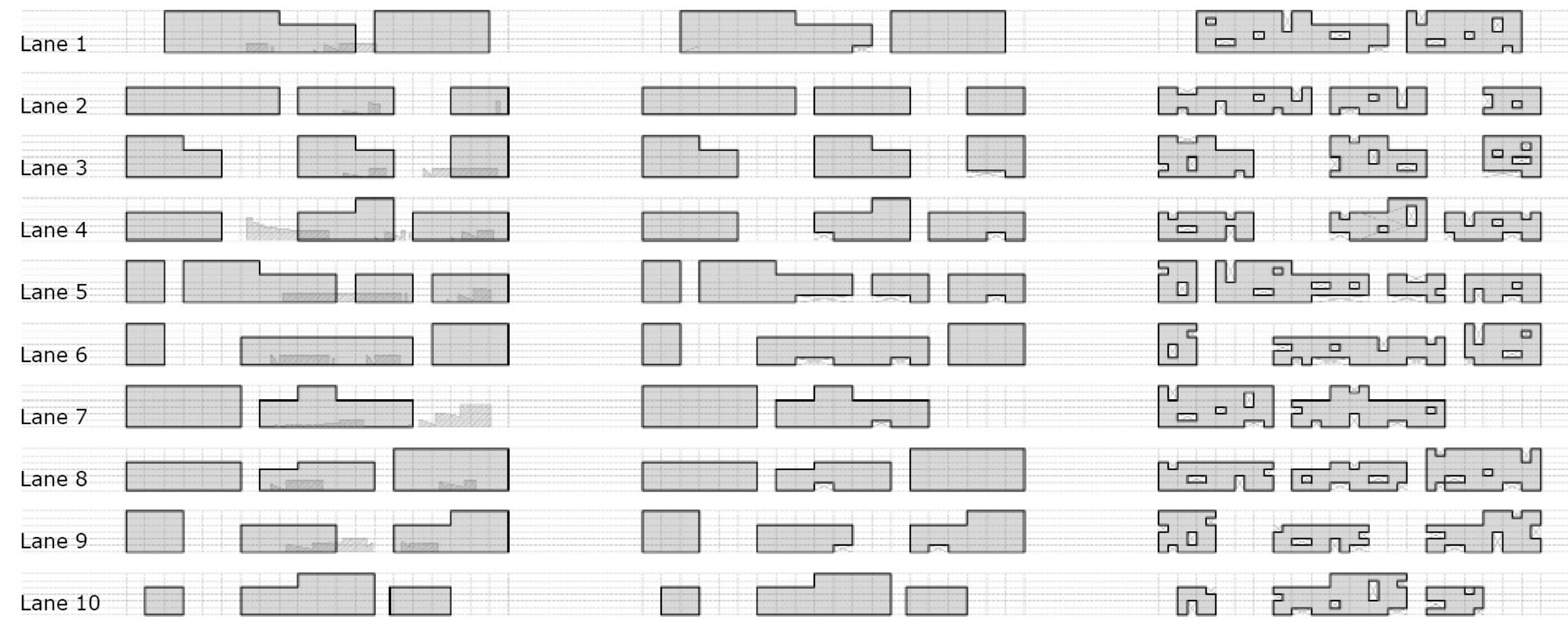




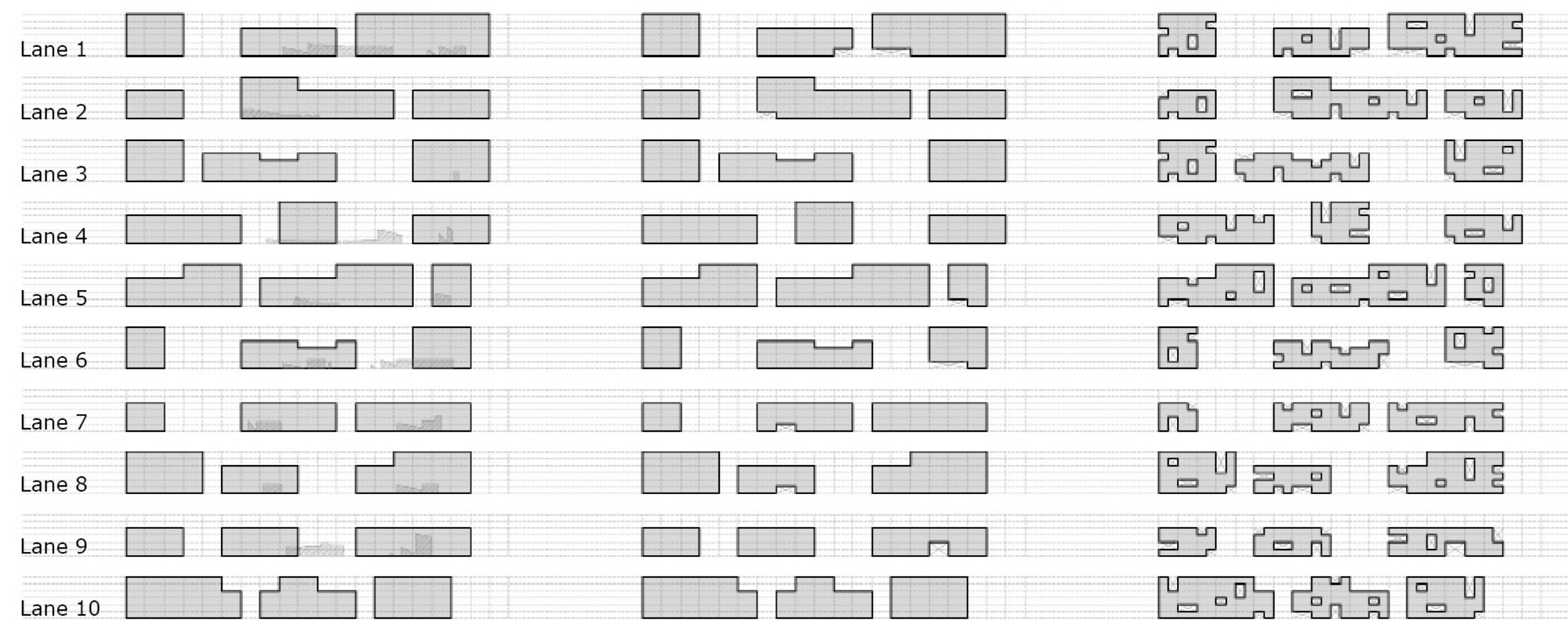
APPLY SHADOW ANALYSIS ON ELEVATION FOR EACH LANE



PLOT A
(area 30600 sqm)
Block dimension :
n unitsx7.5mx15m



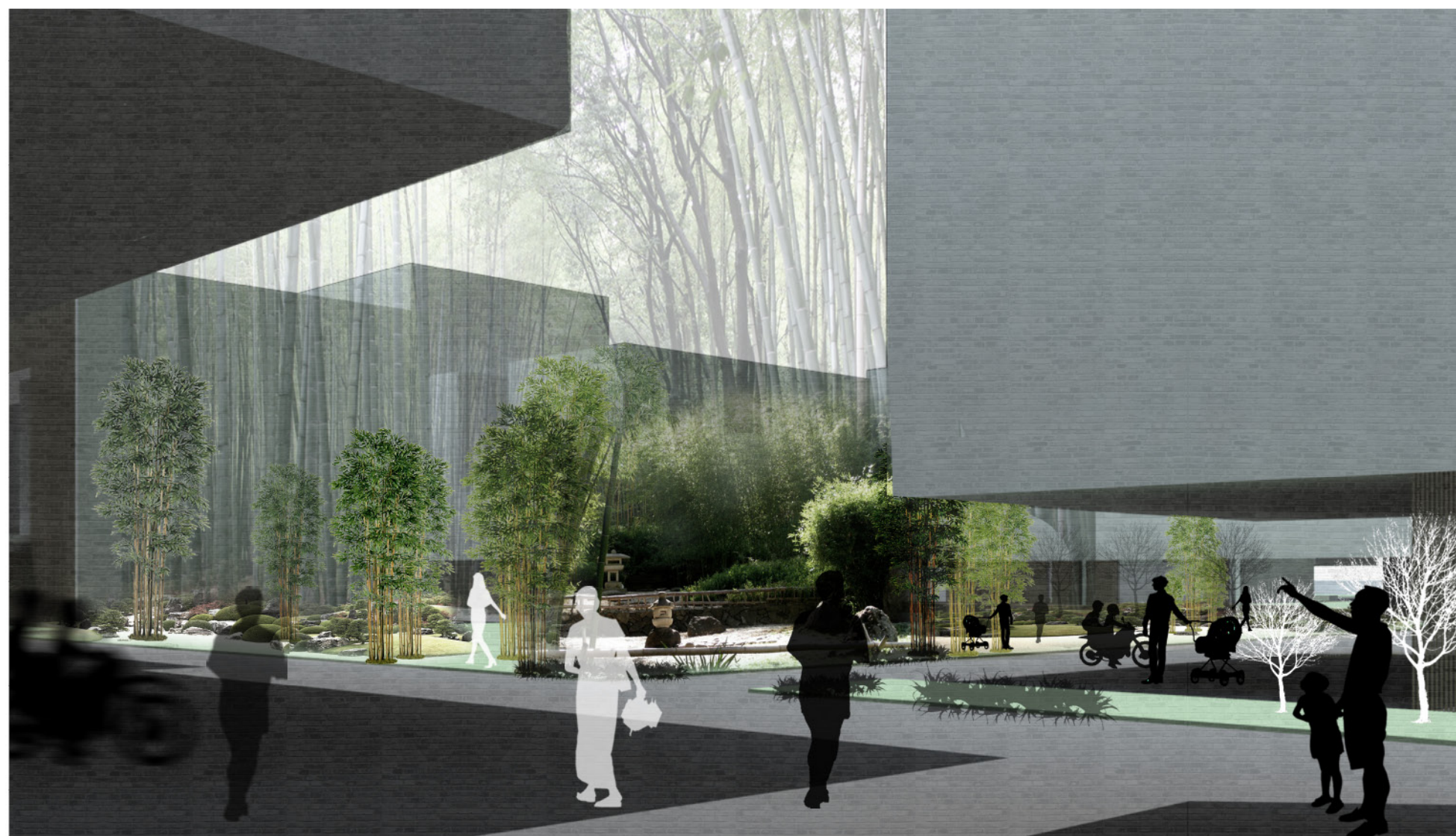
PLOT B
(area 30370 sqm)
Block dimension :
n unitsx7.5mx15m



MASTERPLAN
SEQUENCES OF OPEN SPACES



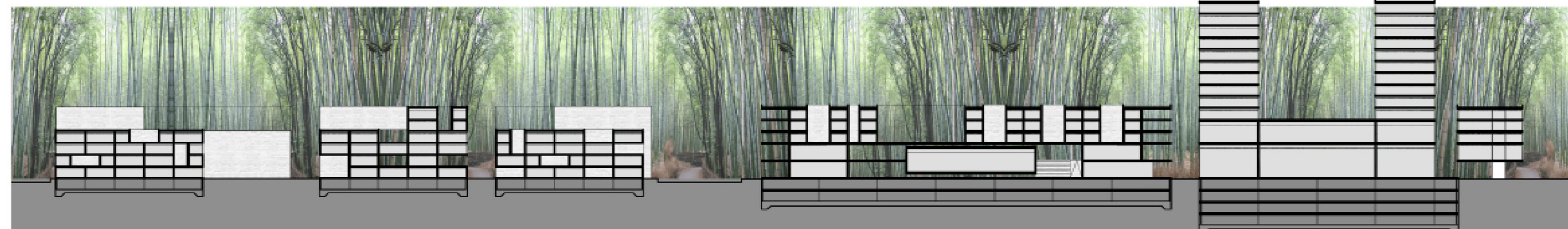
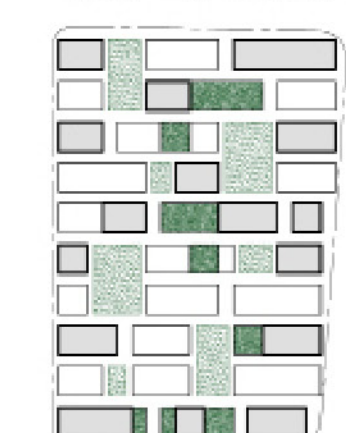
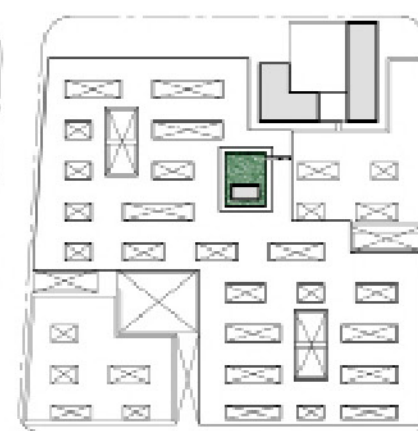
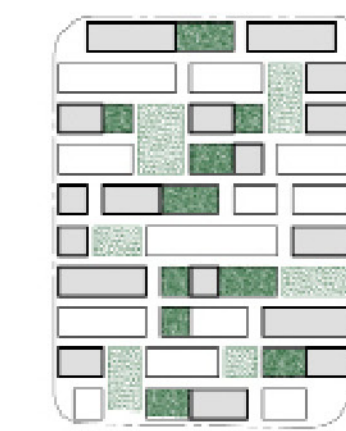
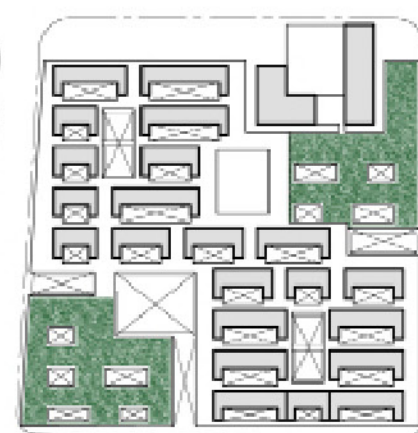
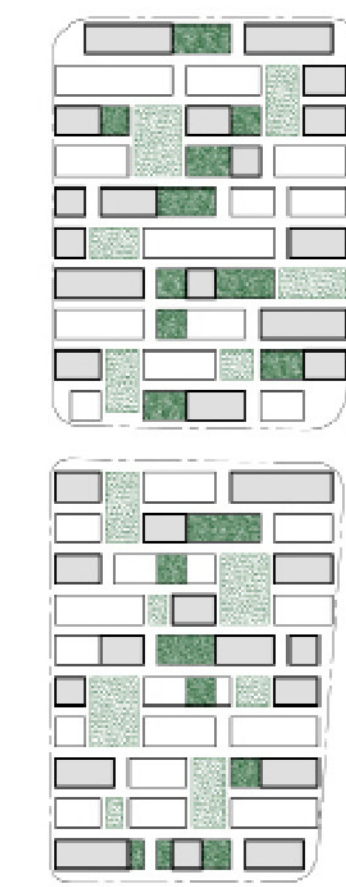
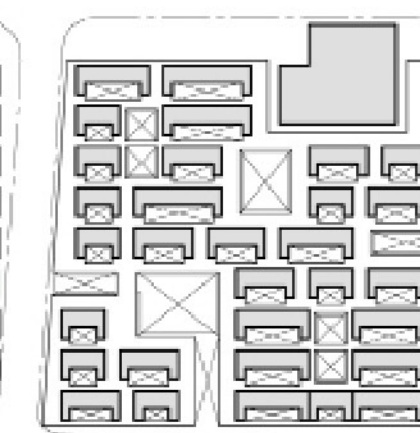
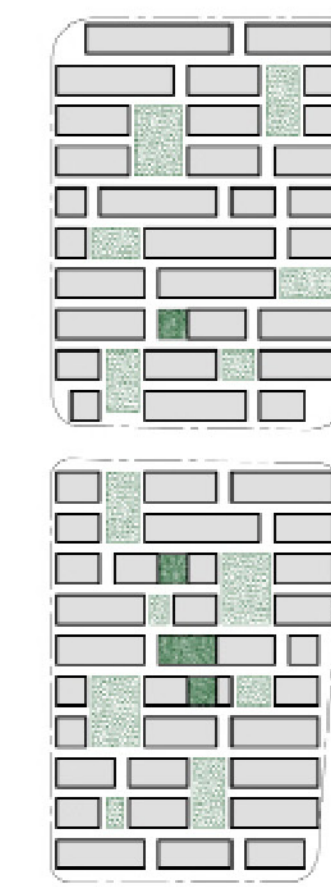
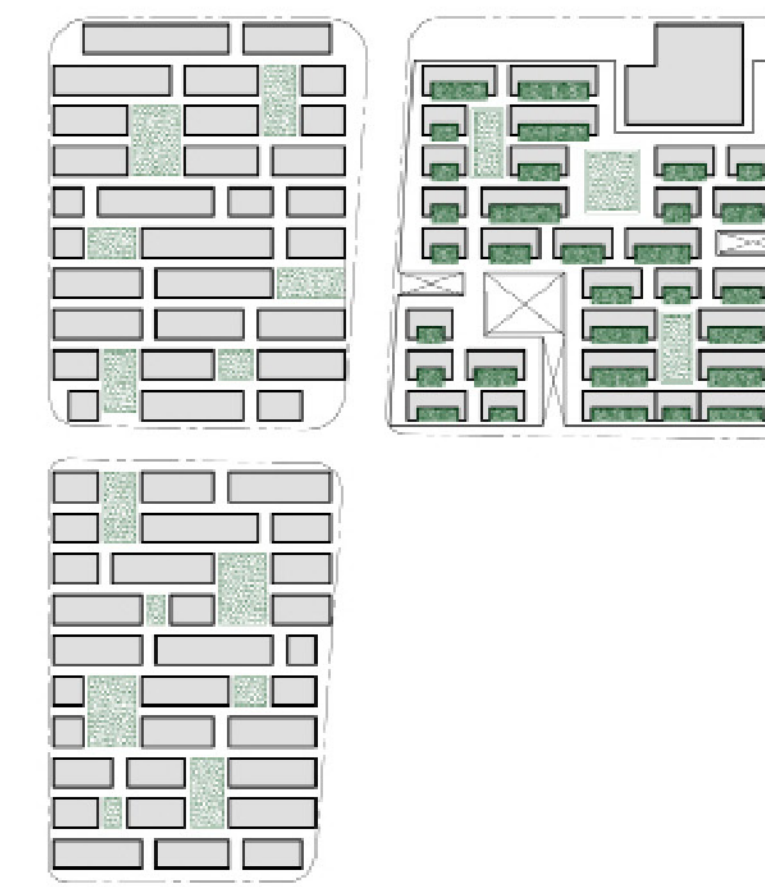
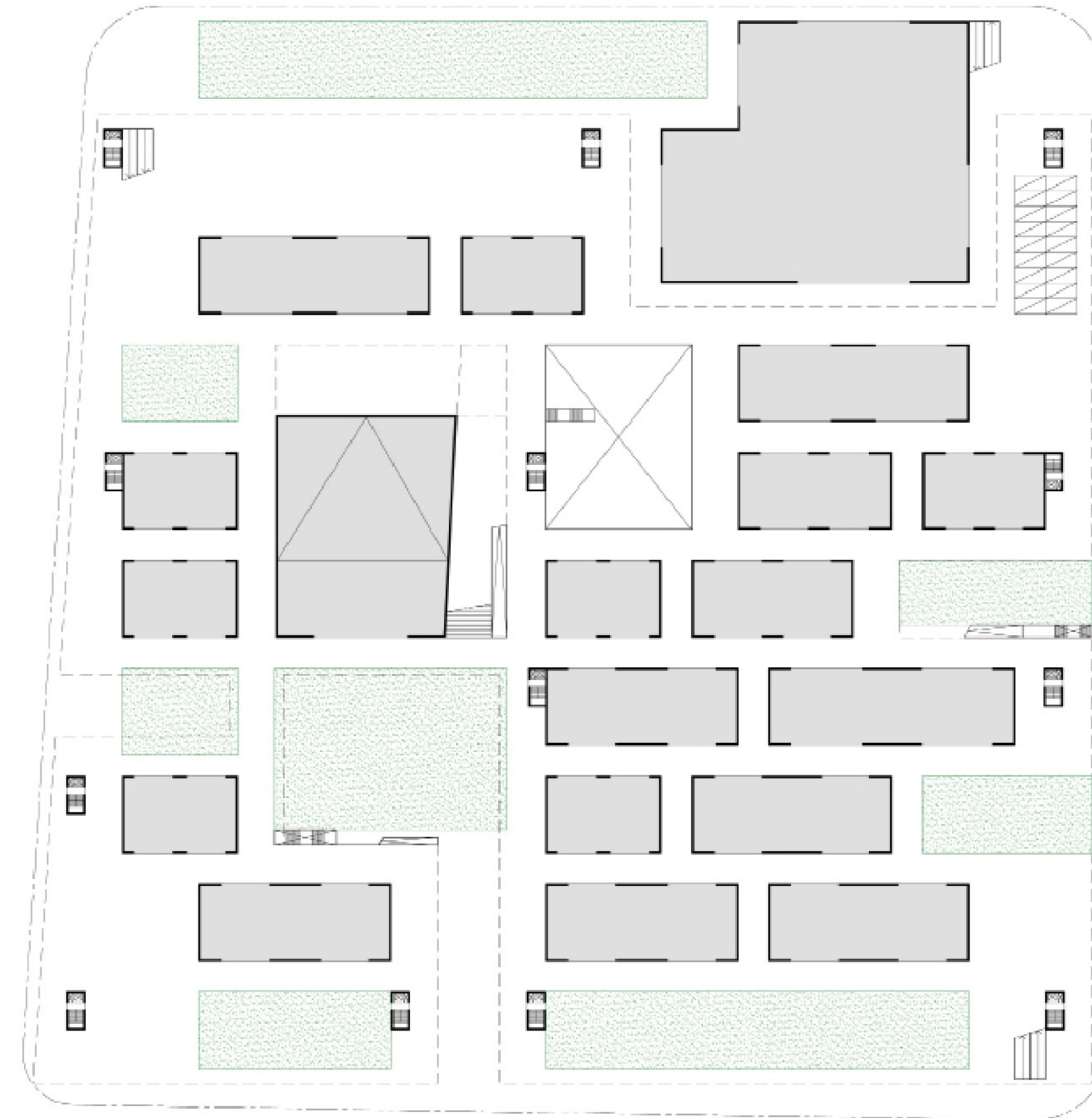
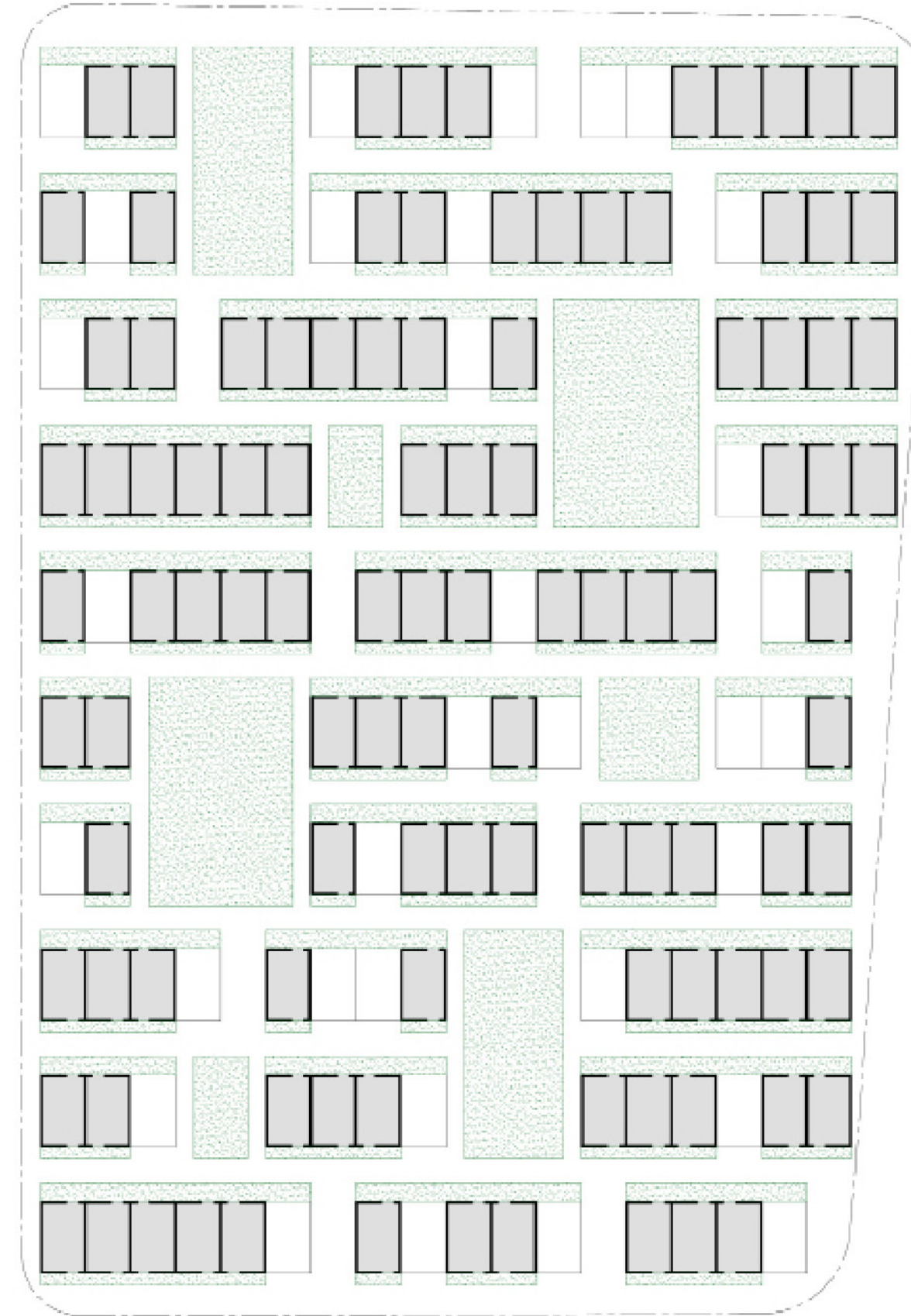
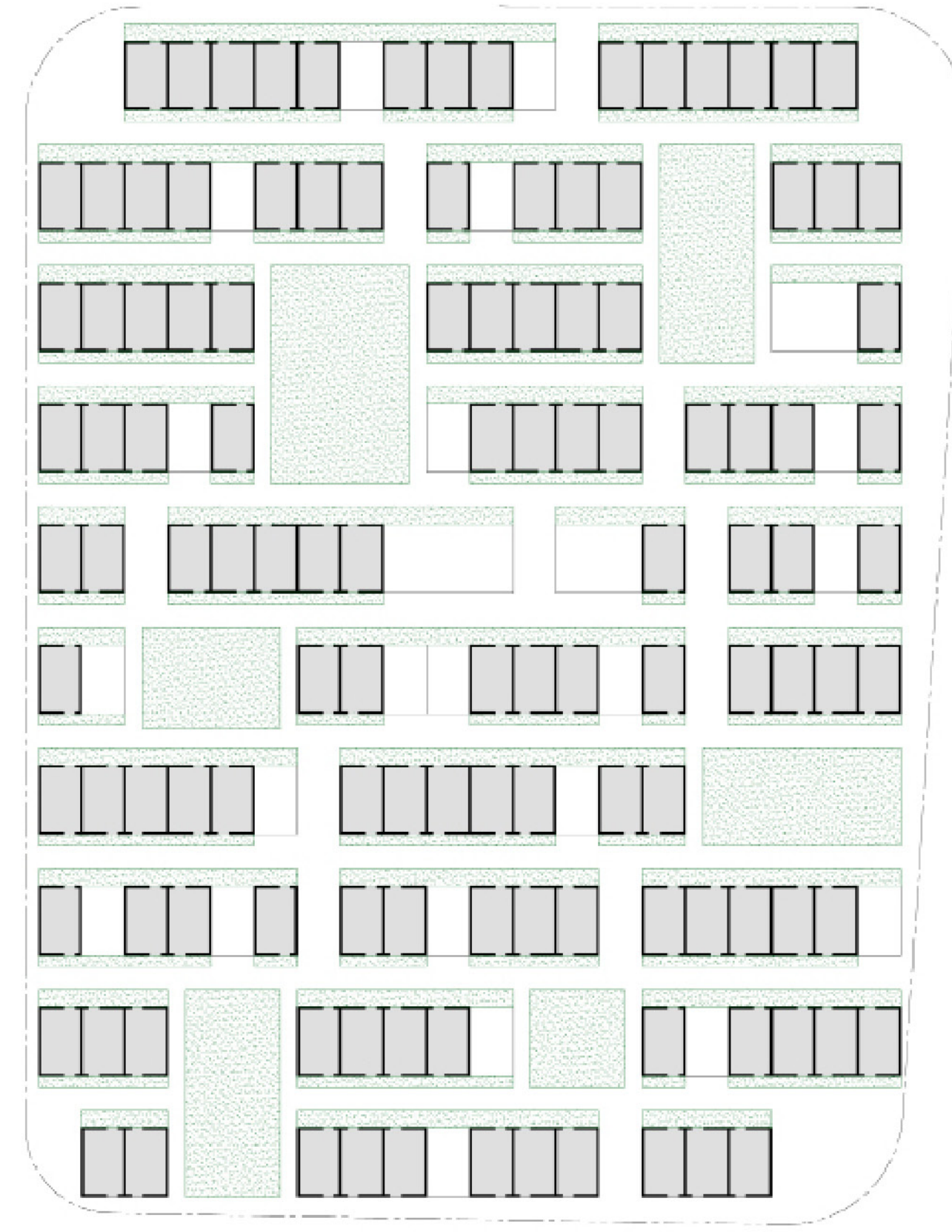
Visualization of LANE LIVING STYLE



Visualization of GREEN OPEN SPACE
View from lane



Visualization of GREEN OPEN SPACE
View from housing block



ENTRY with COURTYARD

- Entry with courtyard as a filter space to separate the inside and outside.

DISCREET character

- Corner-way of entry on one side with an element called screen wall to stop the outside view to inside

SKYWELL

- Enhance lighting and ventilation through small open spaces - skywell.
- Represent the connection to nature

NATURE CONNECTION

- Every room connect to the nature outside

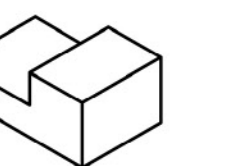
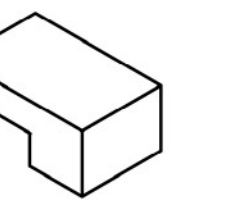
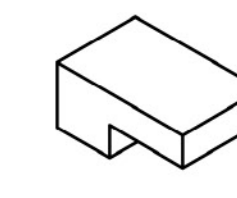
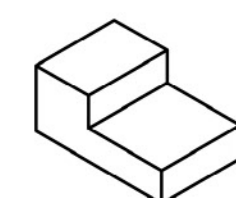
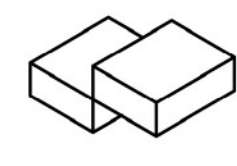
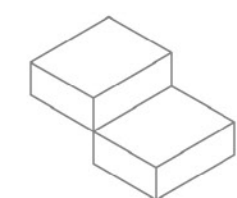
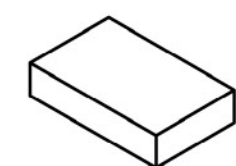
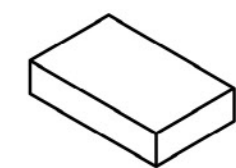
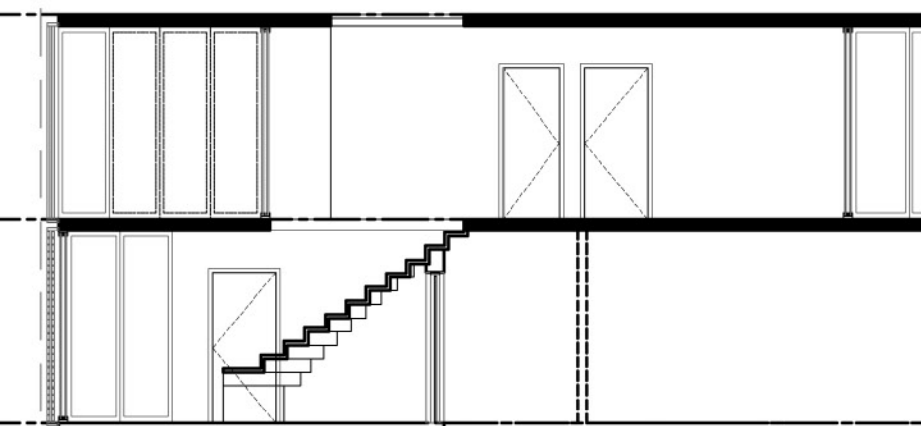
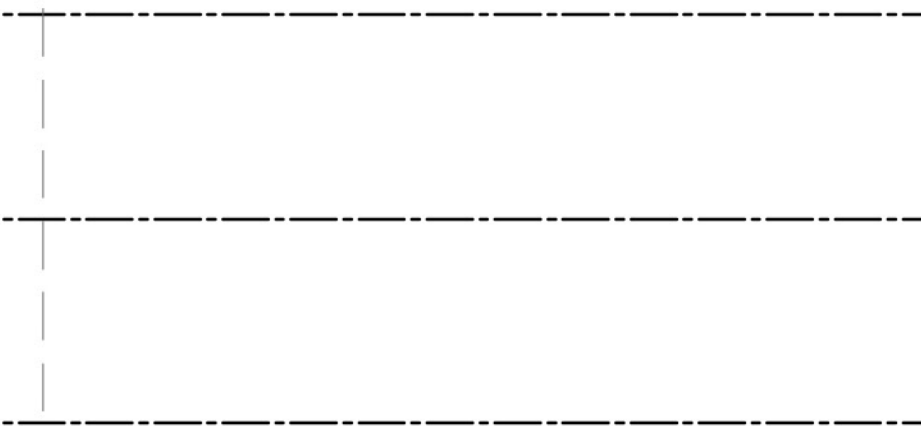
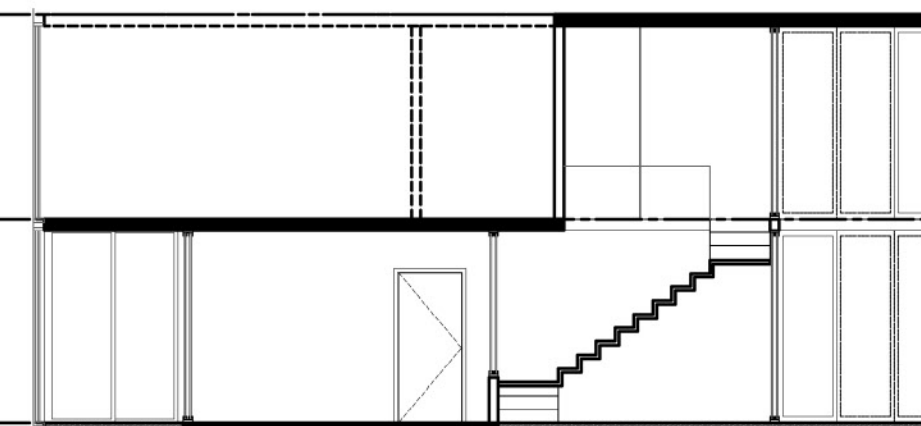
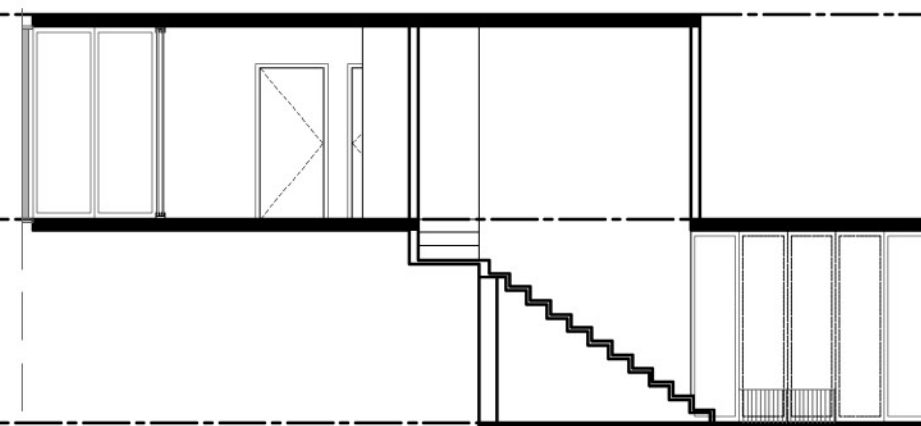
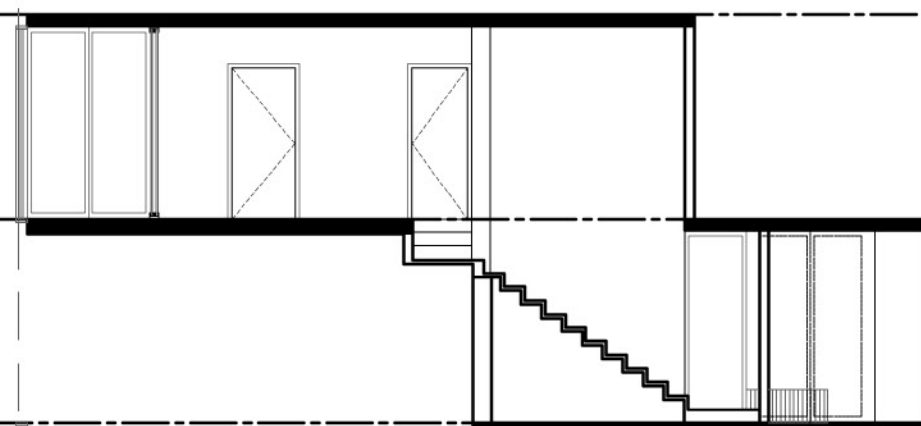
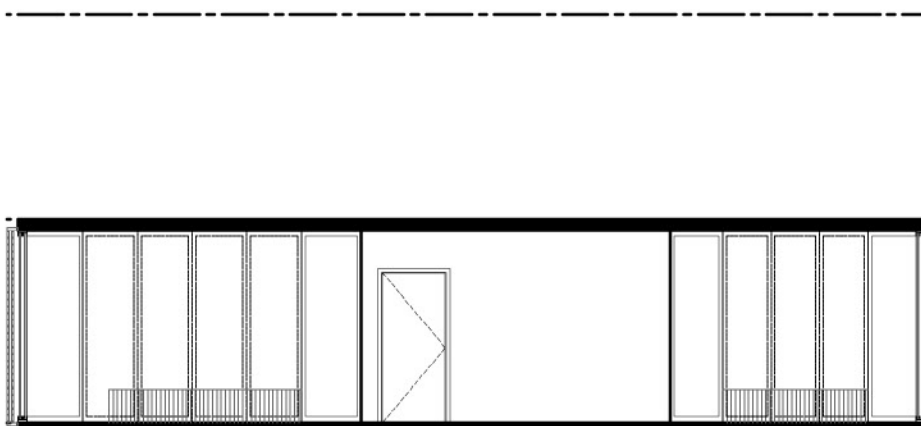
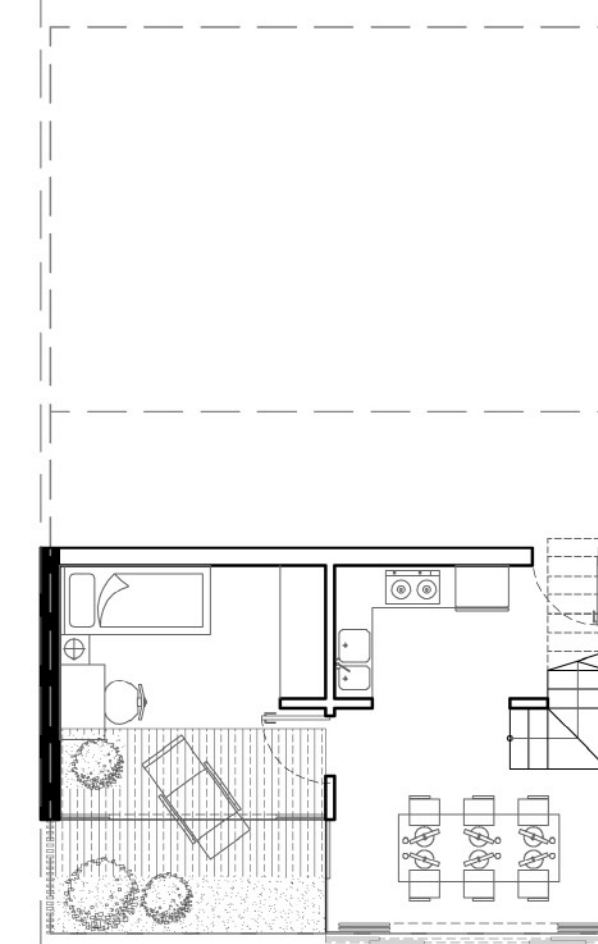
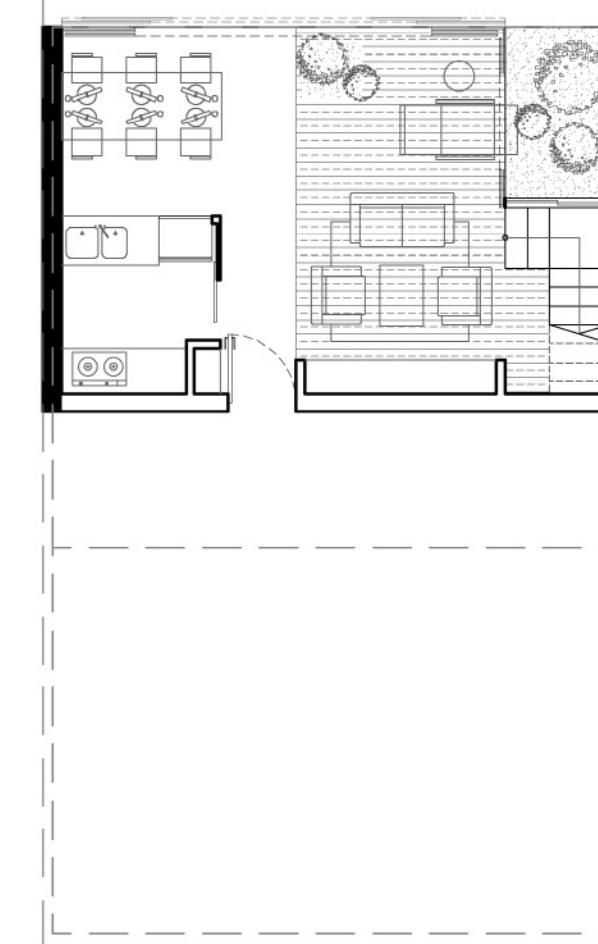
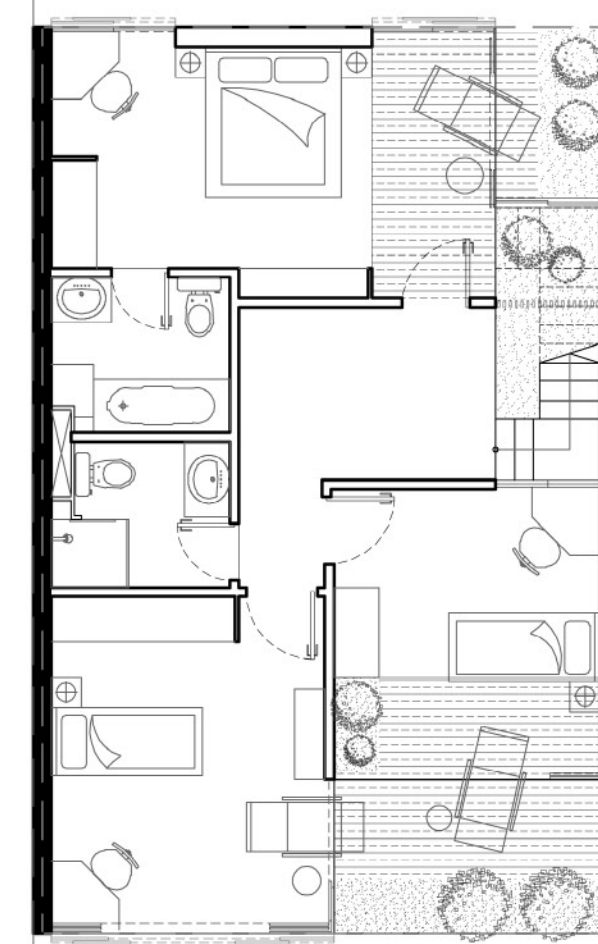
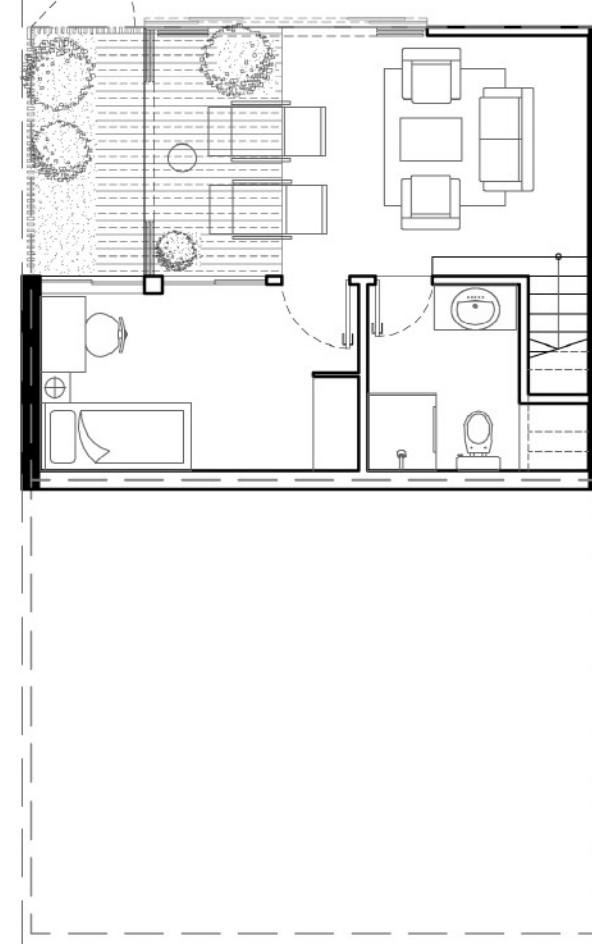
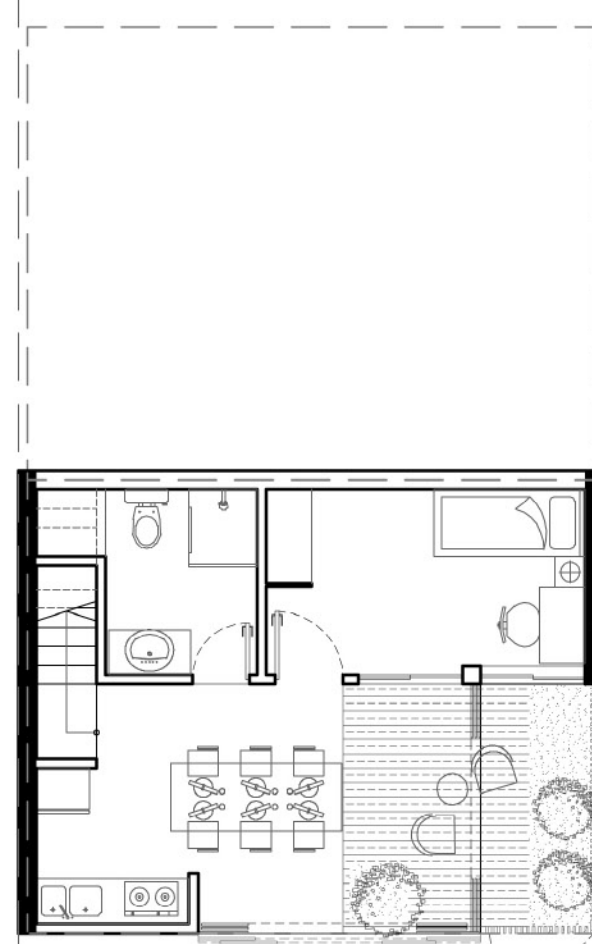
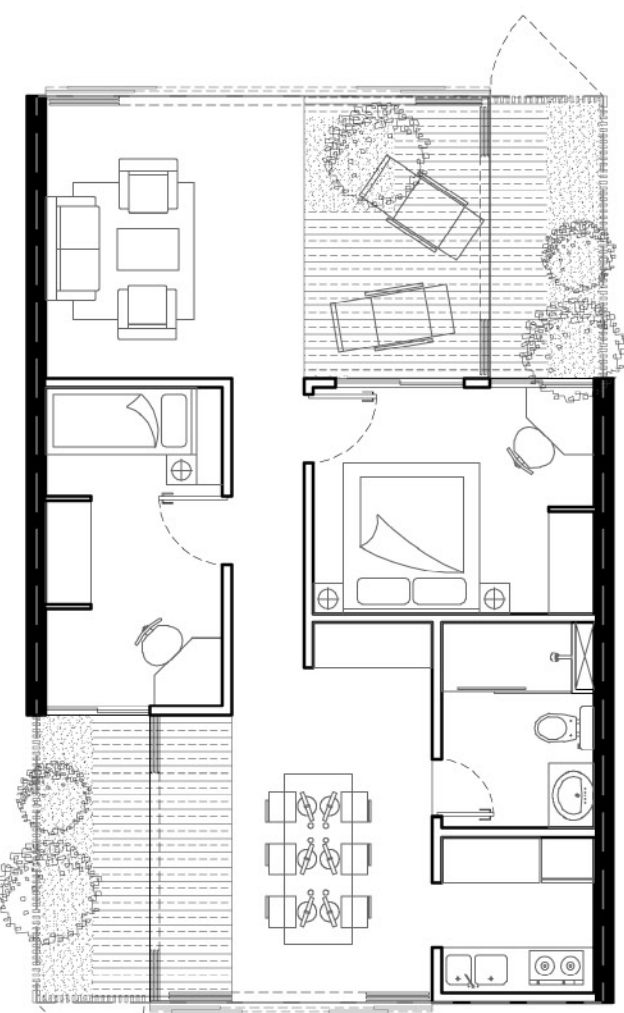
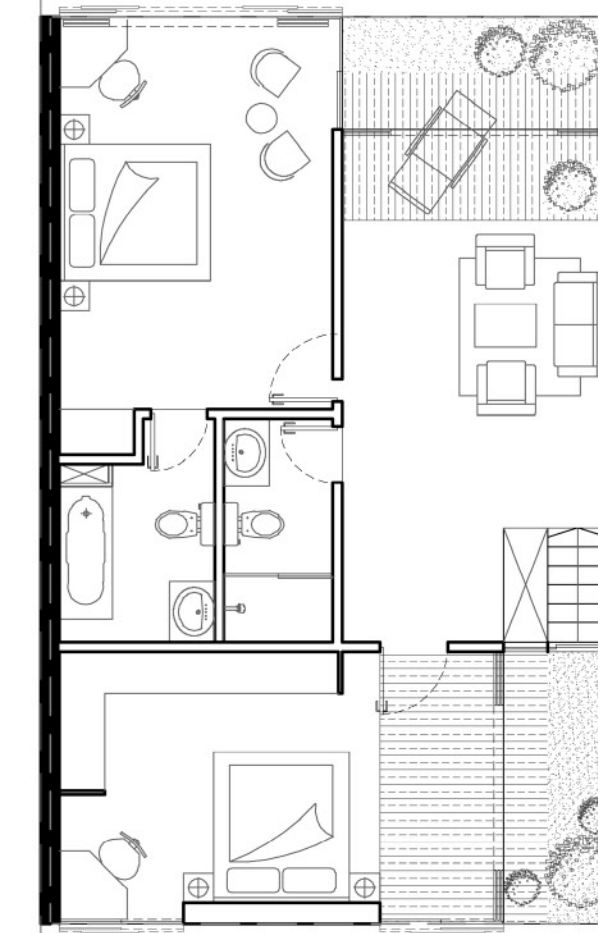
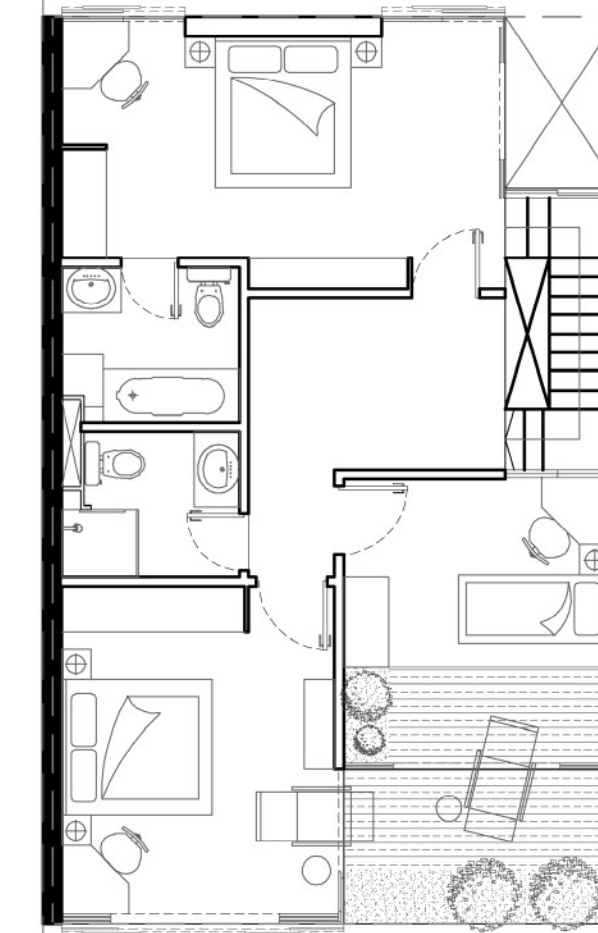
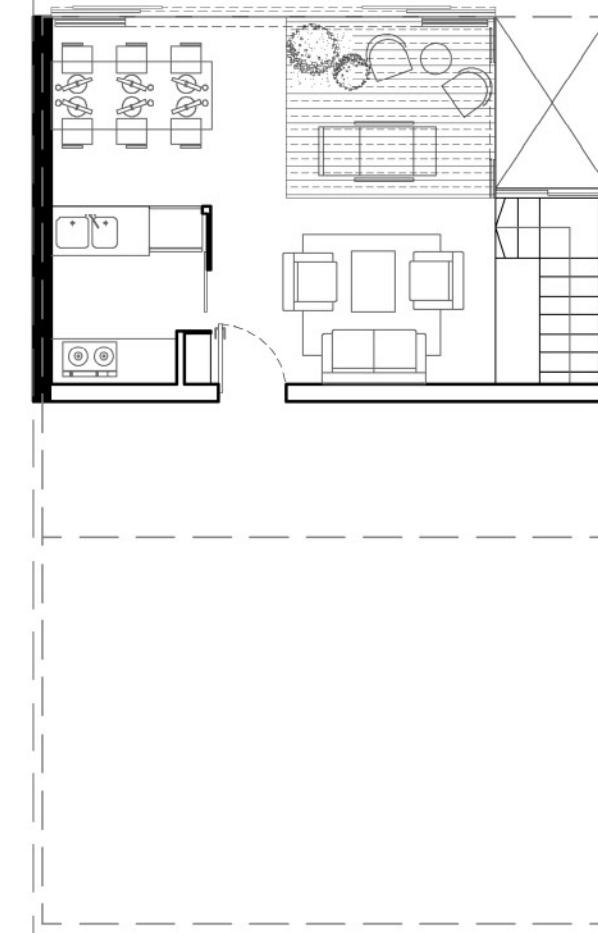
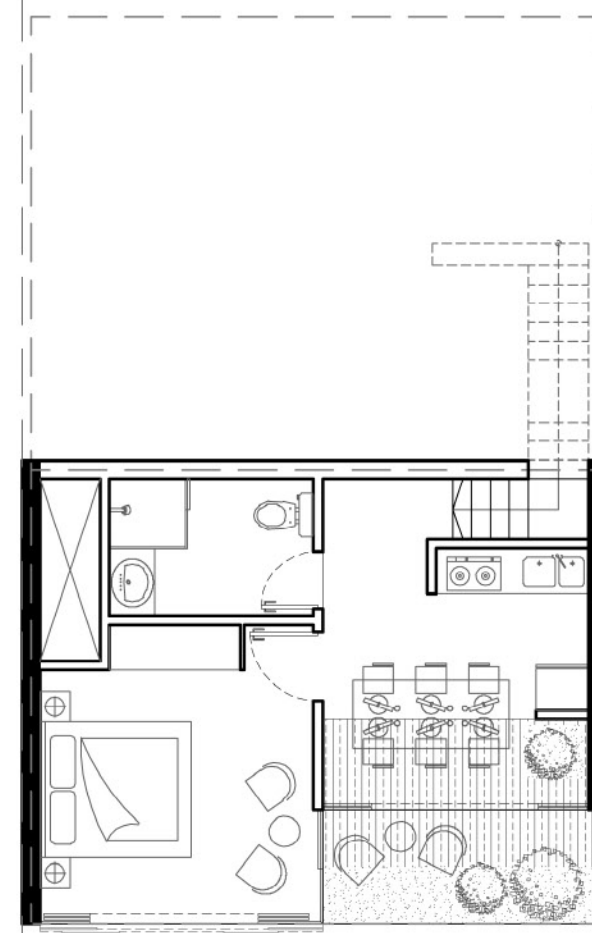
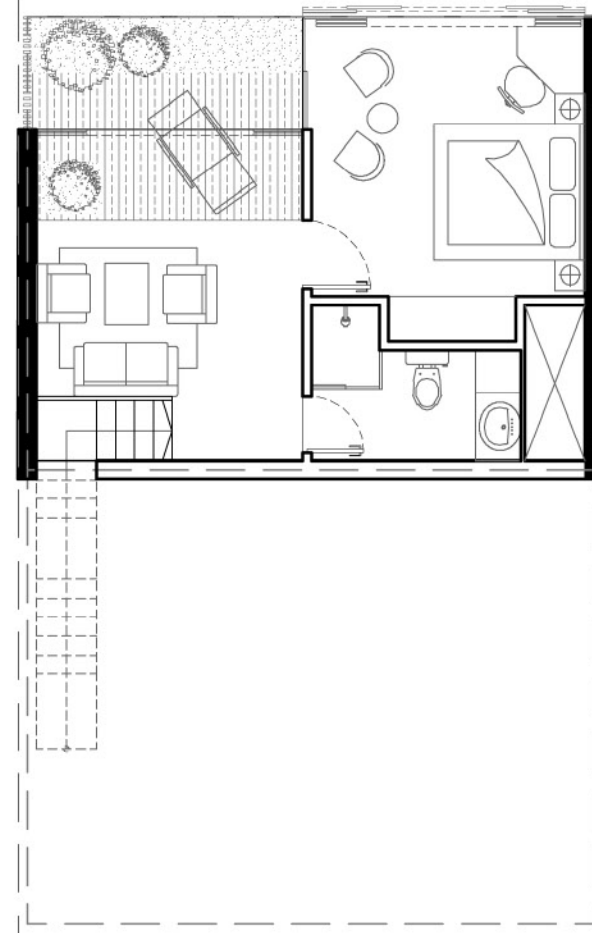
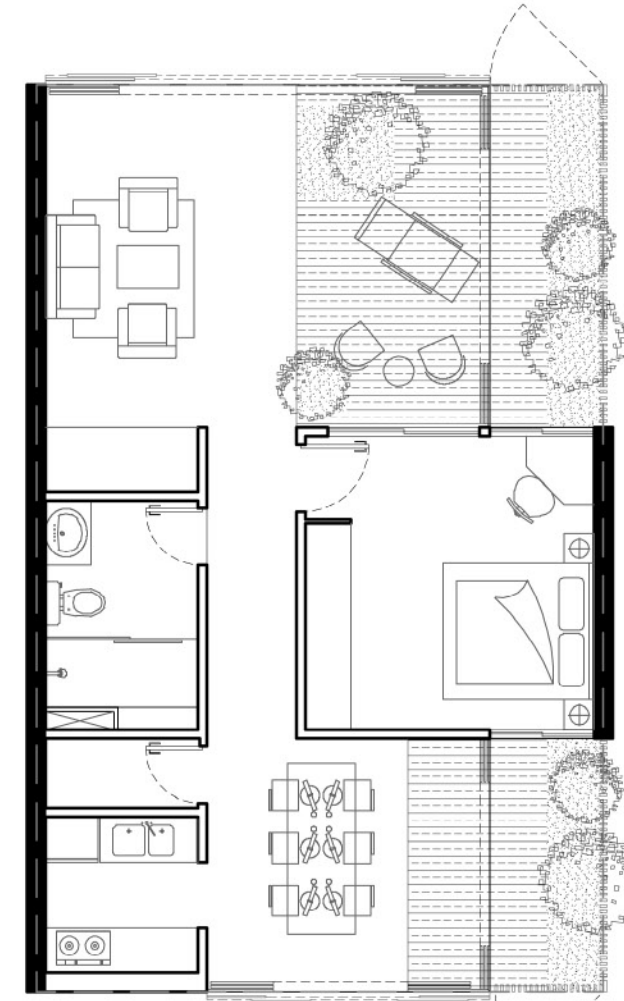
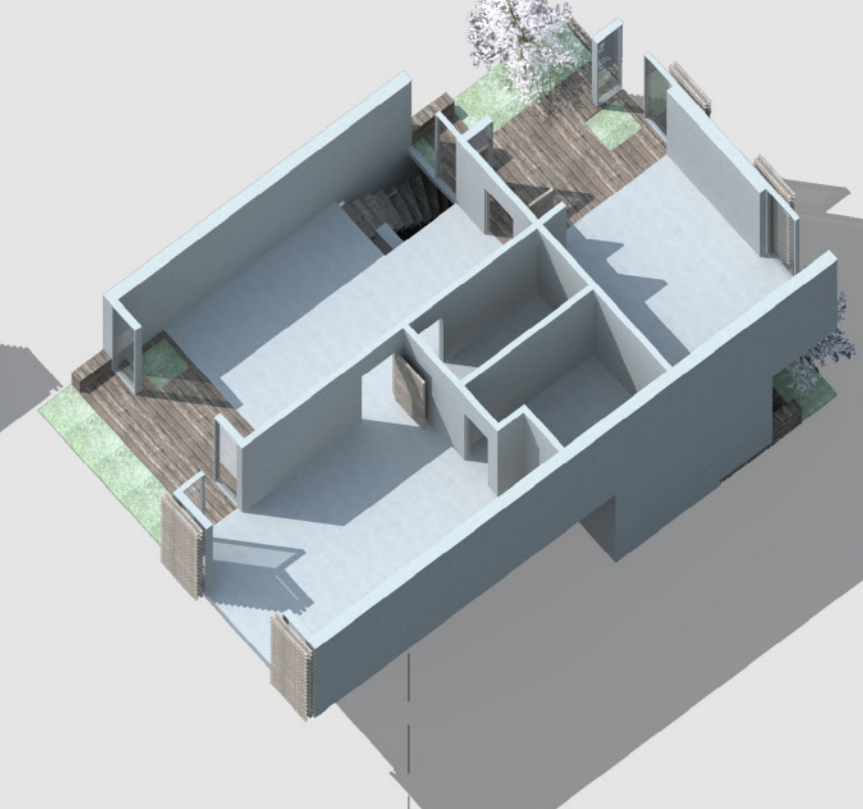
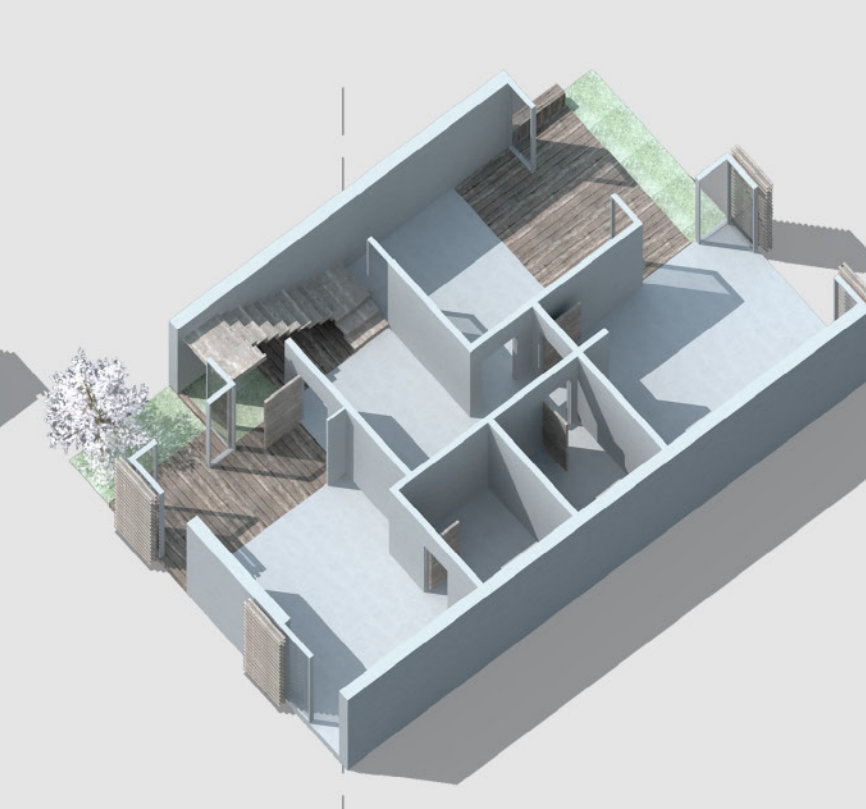
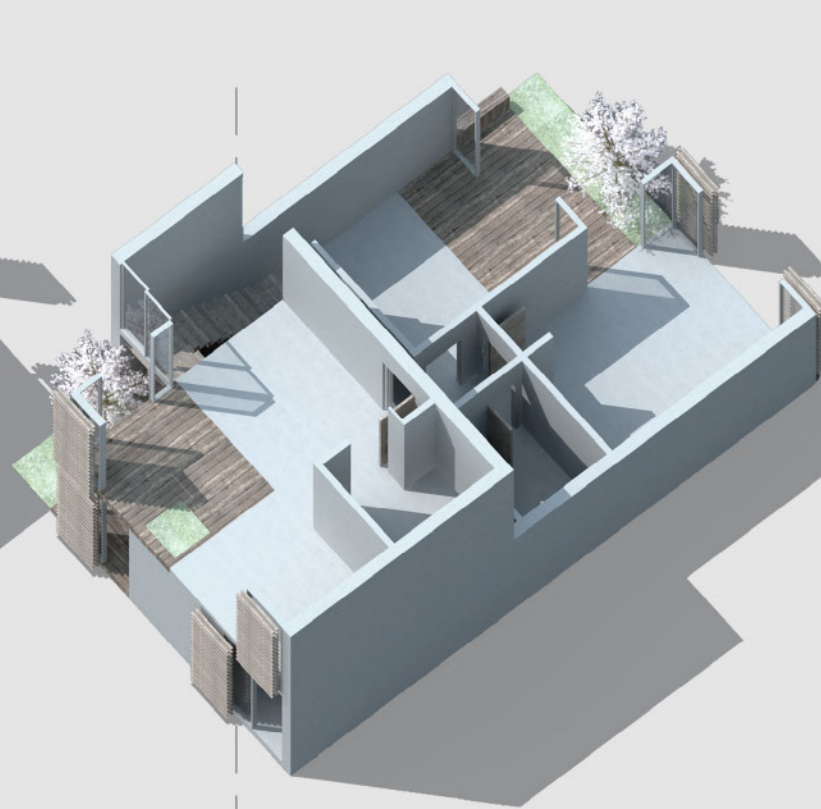
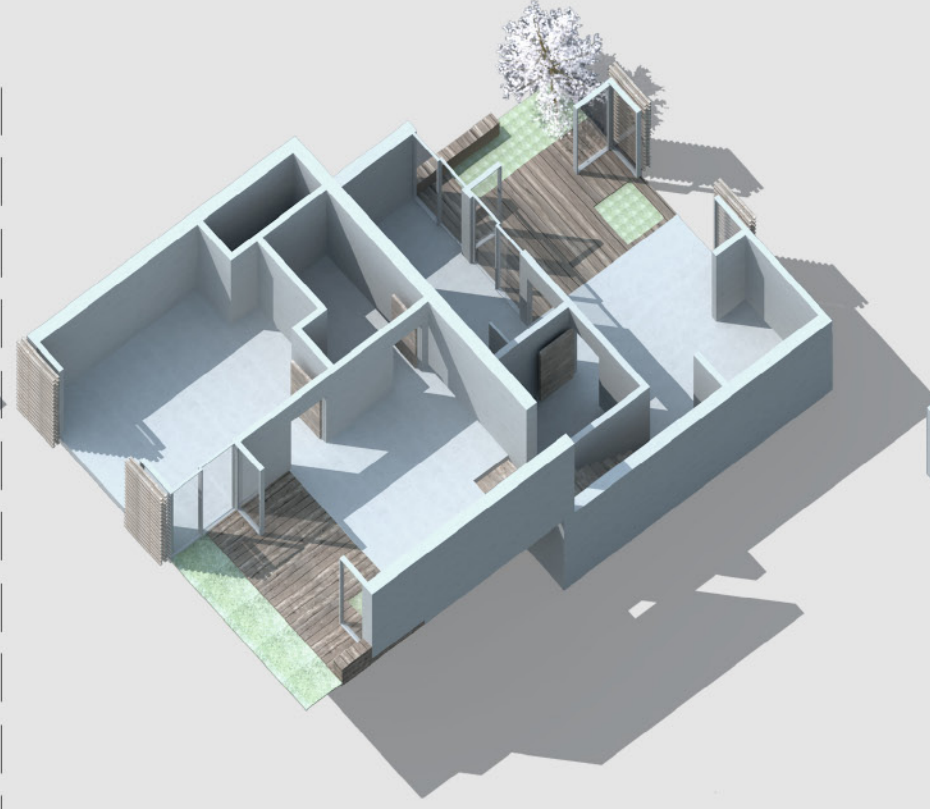
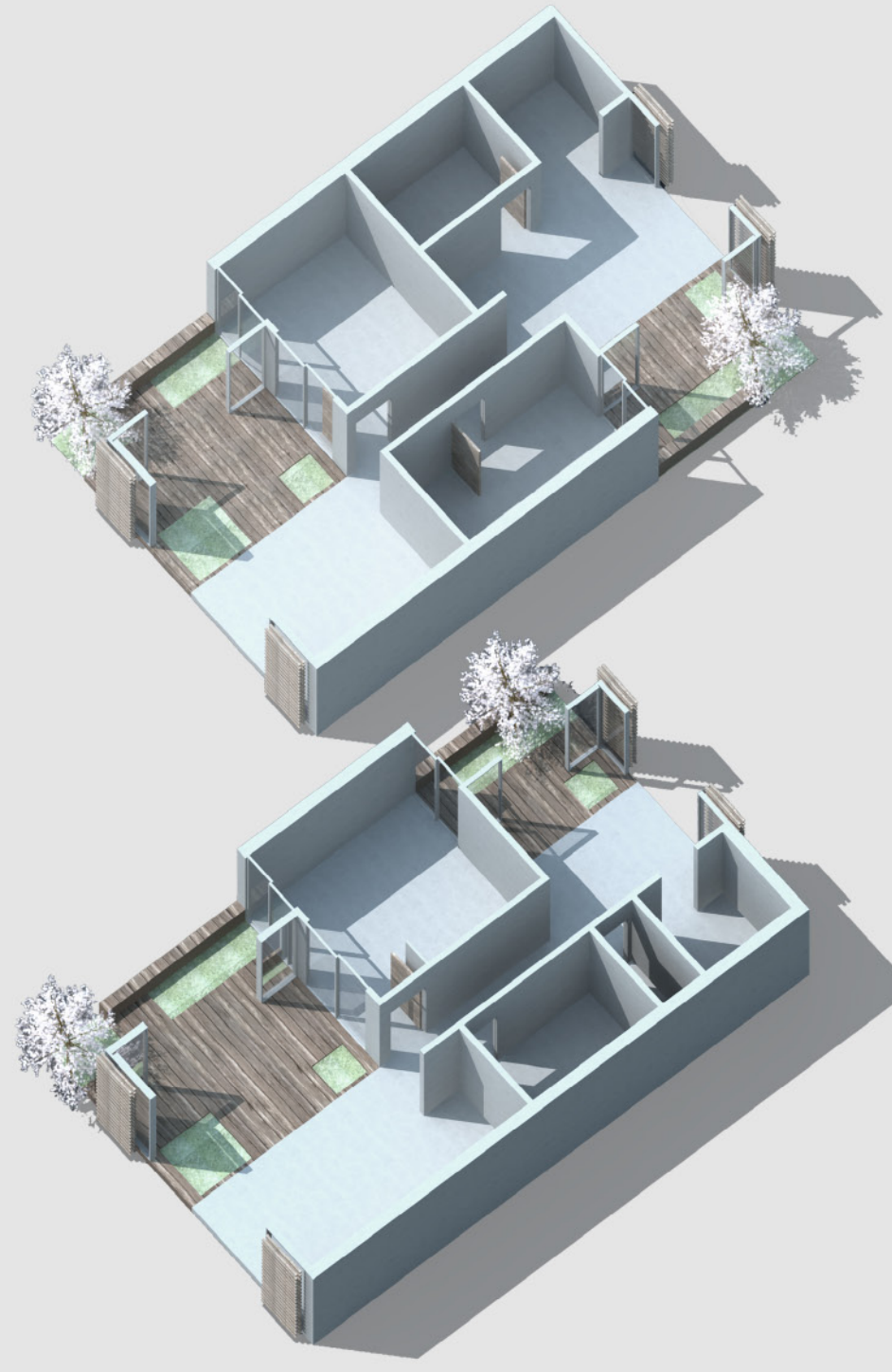
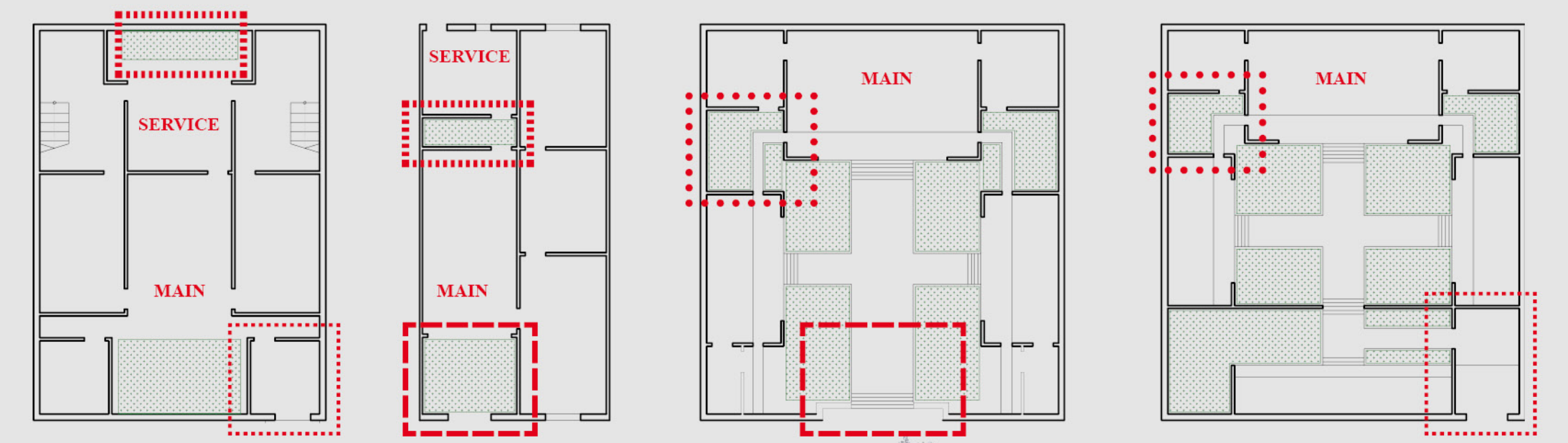
ROOM character

MAIN

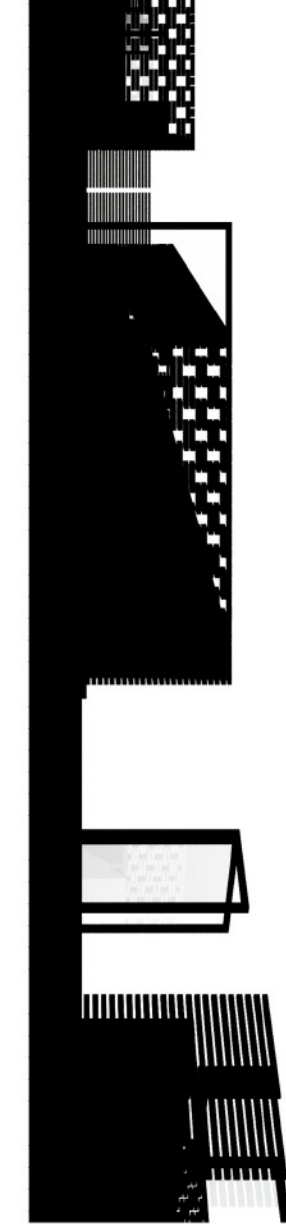
- Main room - living room always face SOUTH direction

SERVICE

- Service function - kitchen, bathroom face NORTH
- Sleeping quarters up-stair



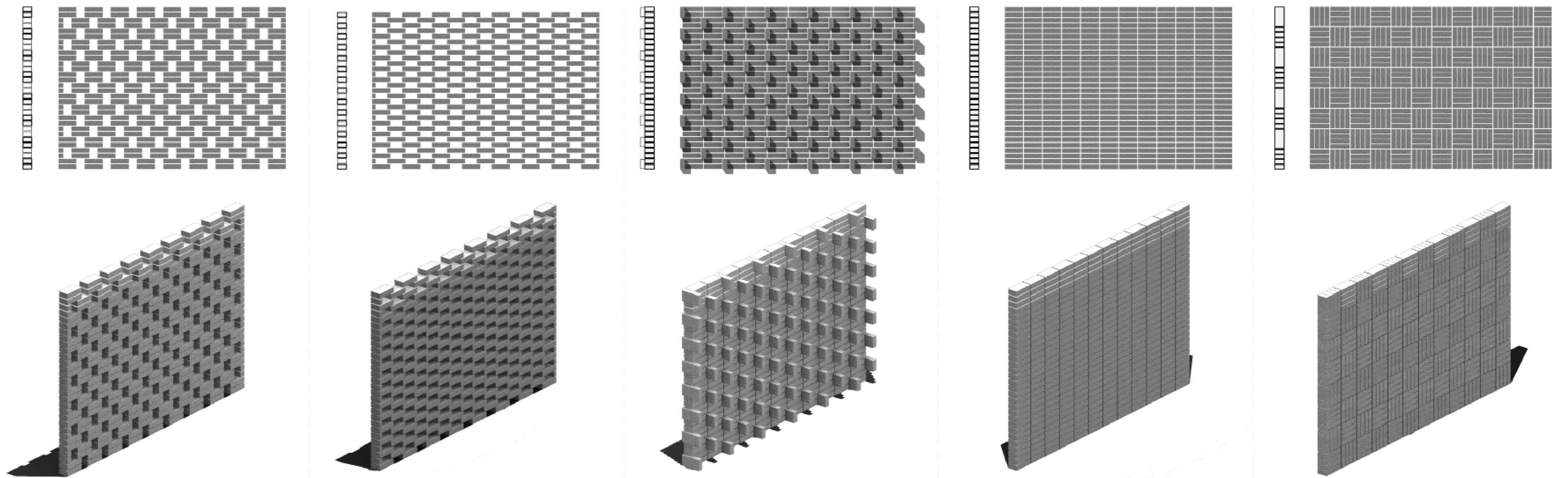
MATERIALS
EARTH BRICK
WOODEN SCREEN



Feng-shui concepts also dictated the kinds of material used in buildings. Combined with the location of the building, the proper building materials were thought to re-direct beneficial energy for the inhabitants. The most common building materials for houses in China are **EARTH AND WOOD**, both of which have **POSITIVE ASSOCIATIONS**.

Earth has been a common building material through Chinese history. A technique that also has a long history in China is load-bearing walls, made of pounded earth. **Earth can also be pounded into shape or made into bricks for walls in several ways. In general, dirt or clay can be formed by frames and dried. Sometimes the earth is fired to make the bricks harder, but other times the earth is just left to dry in the sun.**

DIFFERENT KINDS OF PATTERNS COMPOSED BY SUN-DRIED BRICK



SUN-DRIED BRICKS

