ANCHORED
THROUGH TIME

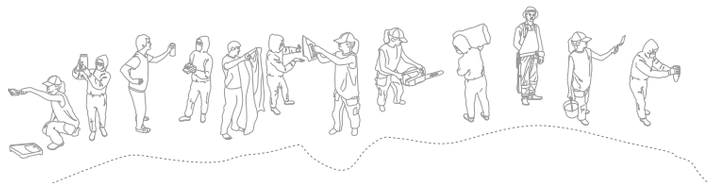
ELLEN CHANG 4146727
TUTORS: NELSON MOTA | DICK VAN GAMEREN | ANTENEH TOLA
EXTERNAL EXAMINER: PETER VAN DEN ENGEL

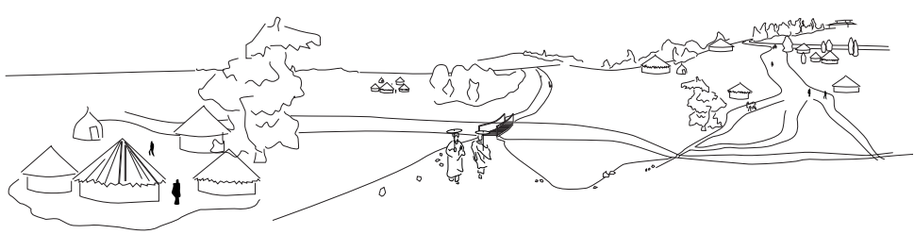


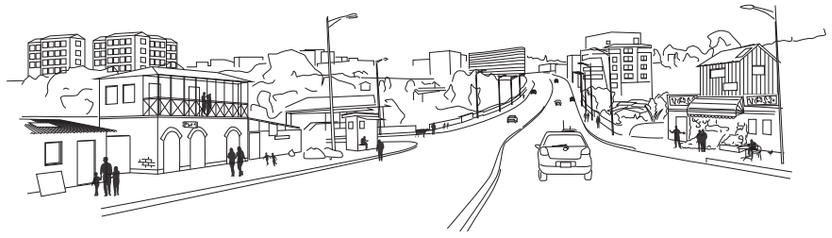


80% OF THE URBAN POPULATION LIVES IN SUB-STANDARD HOUSING

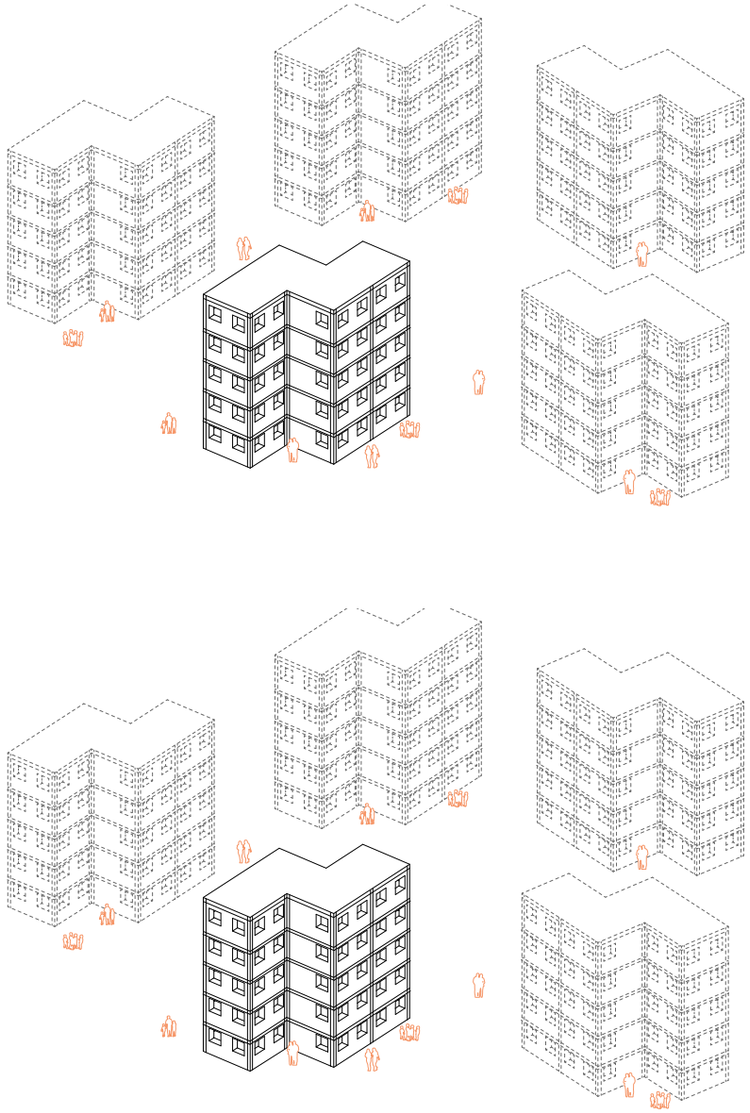
- UN HABITAT 2003

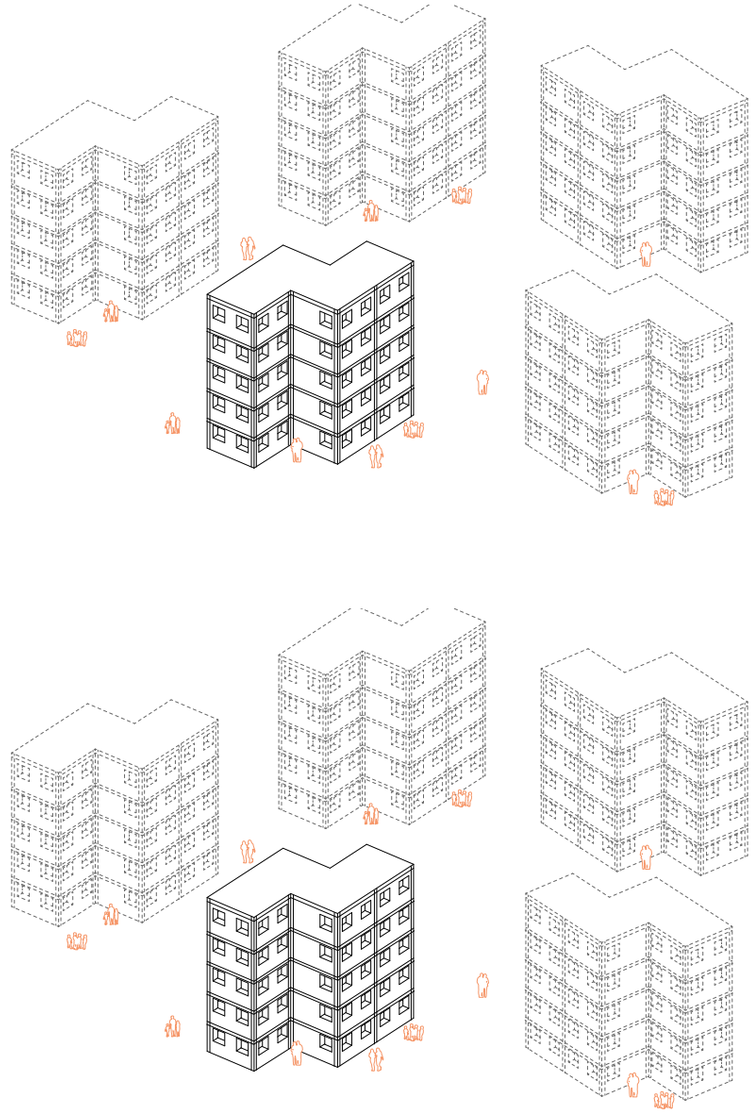






RURAL TO URBAN MIGRATION, SEEKING FOR JOB OPPORTUNITIES





FACING AN INCREASE IN HOUSING DEMAND:
RESULTING IN DENSIFICATION

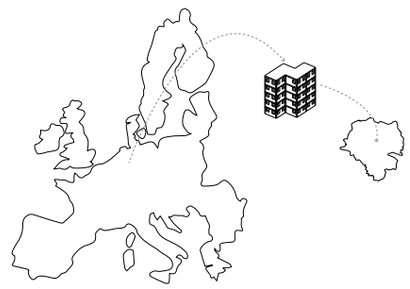
ADDIS ABABA



the headquarters of the African Union are located in Addis Ababa making devlopment and revitalization of the city of great importance



tolerant coexistence

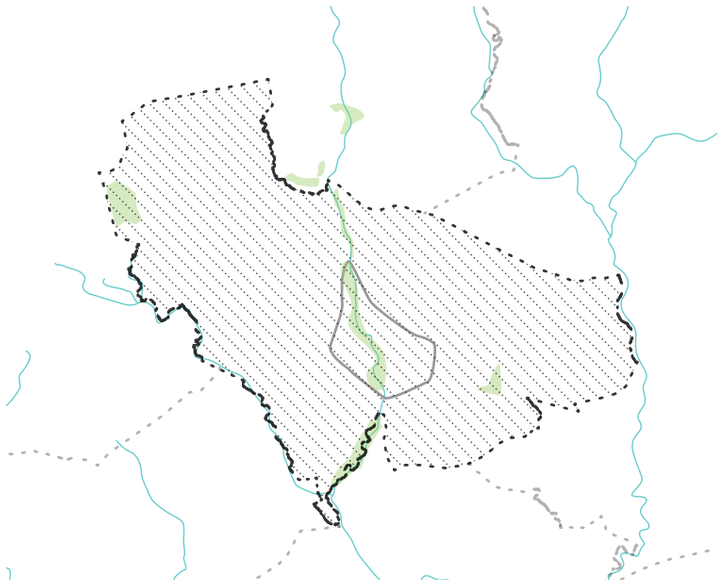


imported building methods and dwelling layouts

ADDIS ABABA



THE SITE



SERATEGNA SEFER



BASHA WOLDE CHILOT SEFER





I



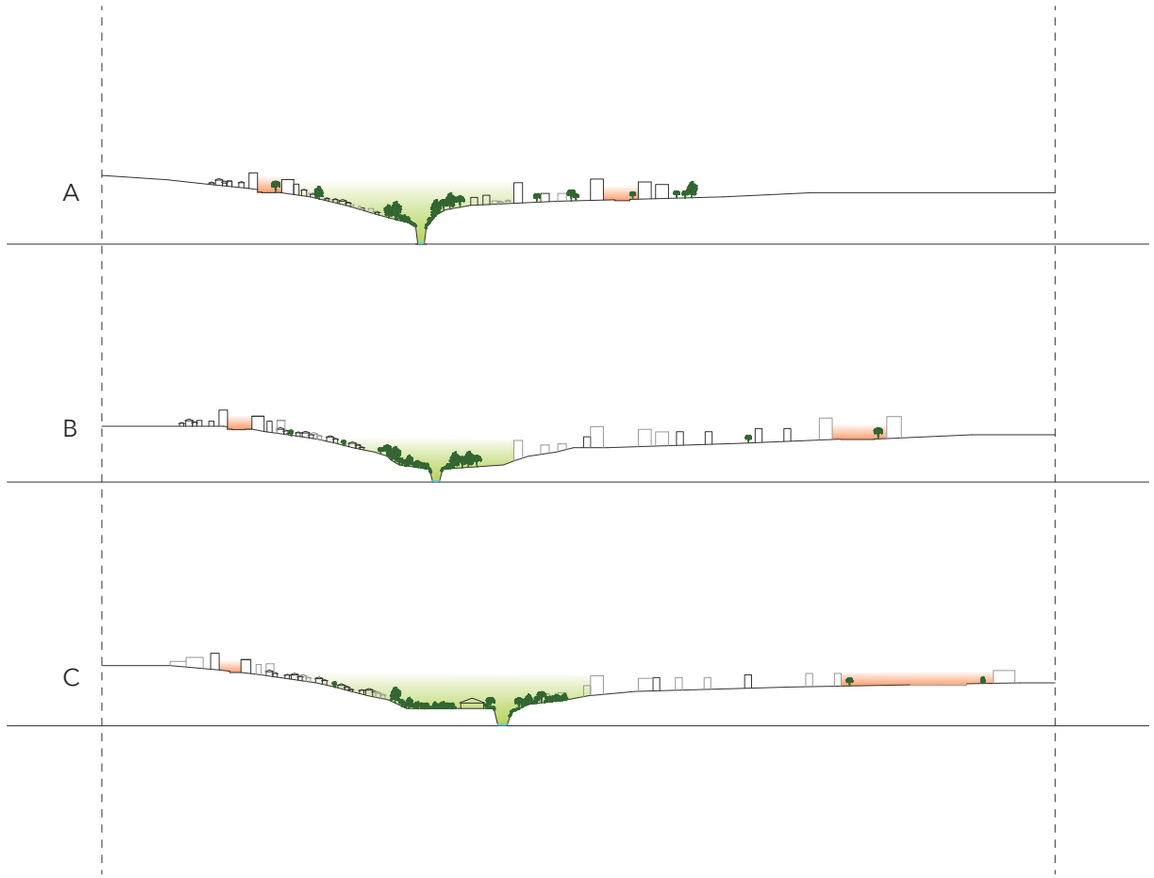
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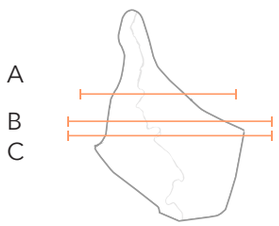
III



IV


A
B
C

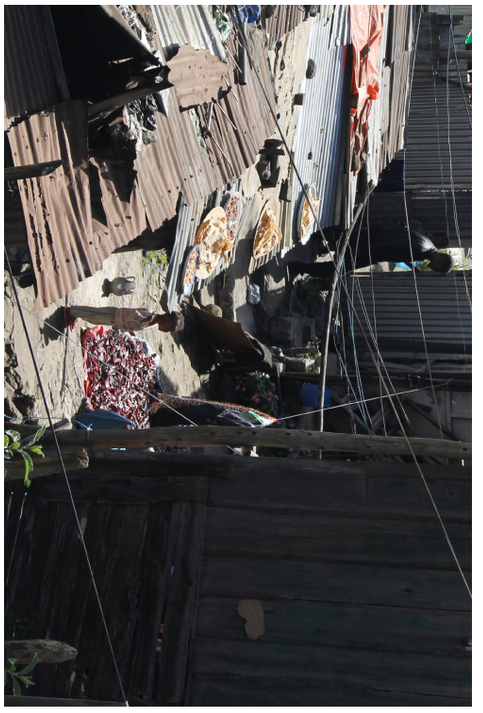

CACOON
JOY LEATHER
THE NEXT GENERATION 3D TV
LG


A
B
C

DWELLING ENTRANCE SCALE



IN-BETWEEN BLOCKS SCALE

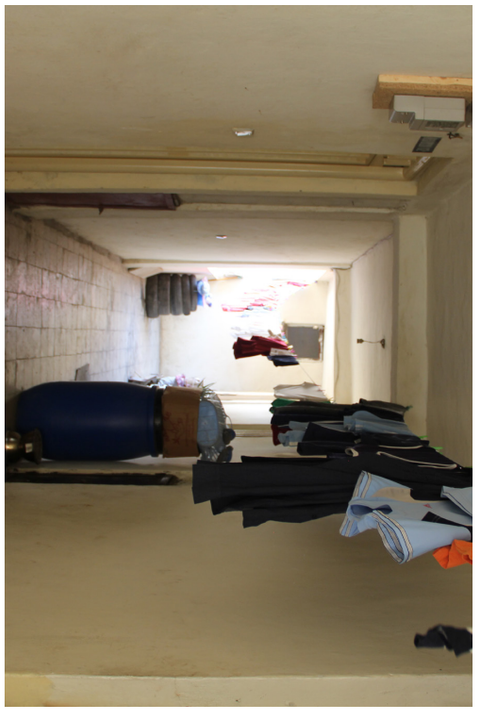


NEIGHBOURHOOD SCALE



SERATEGNA

DWELLING ENTRANCE SCALE



IN-BETWEEN SPACE SCALE

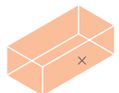


NEIGHBOURHOOD SCALE

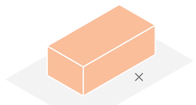


BASHA WOLDE CHILOT

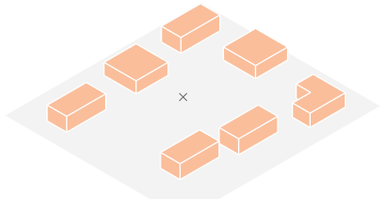
SEQUENCE OF SCALES



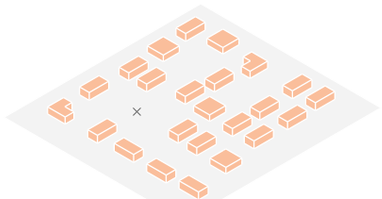
private space
|dwelling|



direct surrounding
|doorstep|



neighbourhood meeting place
|village water tap|



spaces for the city
|central square|

domestic activities



sleeping

cooking

storage

shower

cultural specific activities



laundry



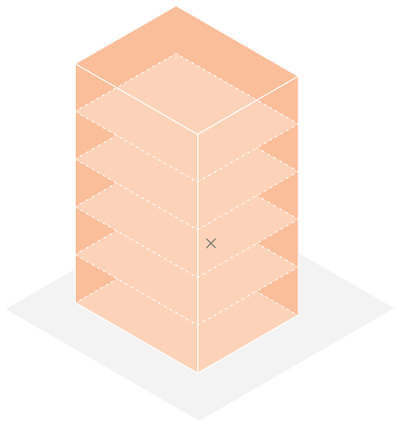
drying spices

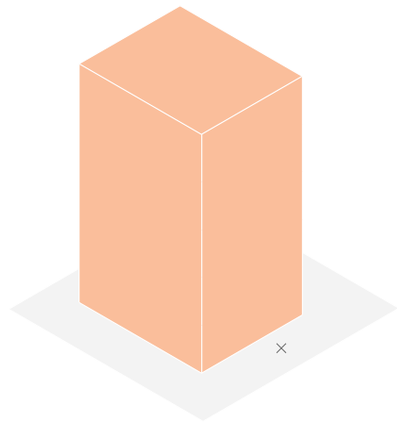


traditional cooking



coffee ceremony

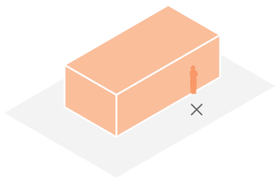


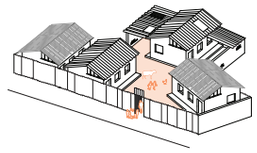


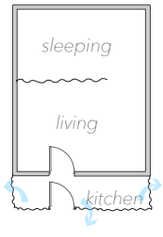
THE COMPOUND AND THE CONDOMINIUM

THE COMPOUND

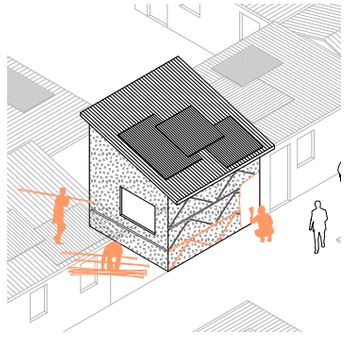
- ground floor contact, outdoor space use compound courtyard
- immediate outdoor space - sufficient
- living and sleeping function
- unit layout: privacy at the back
- corrogated steel roof and chika building method
- density 70 units/ ha







± 20M²

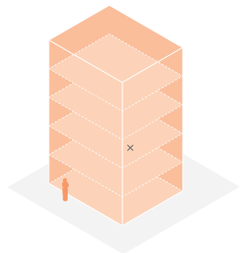


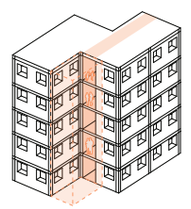
DATA (averages)

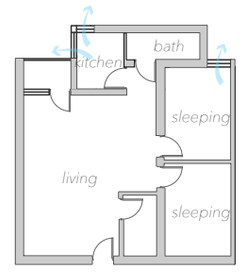
5.74 inhabitants p. house
2.75 rooms per house
23.83m2
5.11m2 per person

THE CONDOMINIUM

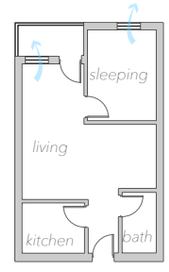
- densification G+4 (5 levels)
- cultural activities take place in corridors and stairways
- immediate outdoor space - not sufficient
- living, sleeping, wet cell function
- unit layout: privacy at the back
- efficient building method; concrete framework
- density 212 units/ ha







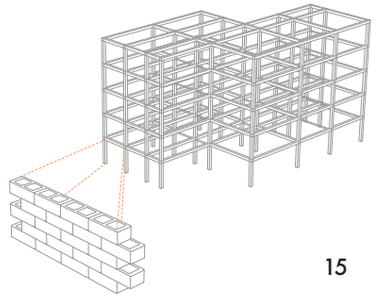
± 50M²



± 25M²

DATA (averages)

4.13 inhabitants per house
4.35 rooms per house
49.71m2
14.8m2 per person





2005

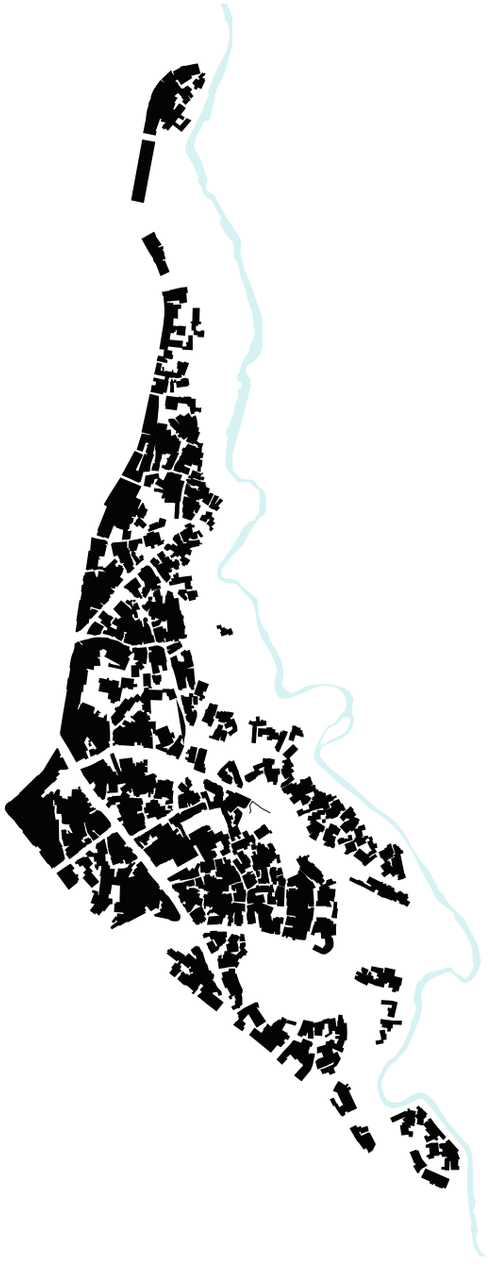


2011

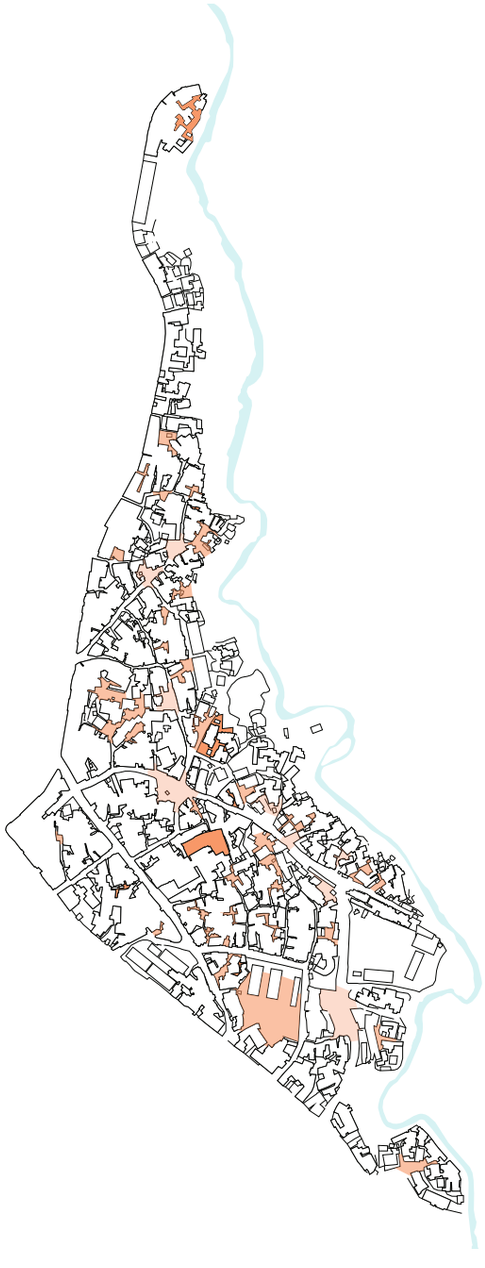


2016

ANALYSING THE SERATEGNA SEFER



Built Mass vs. Open Space



Gradient of Open Spaces



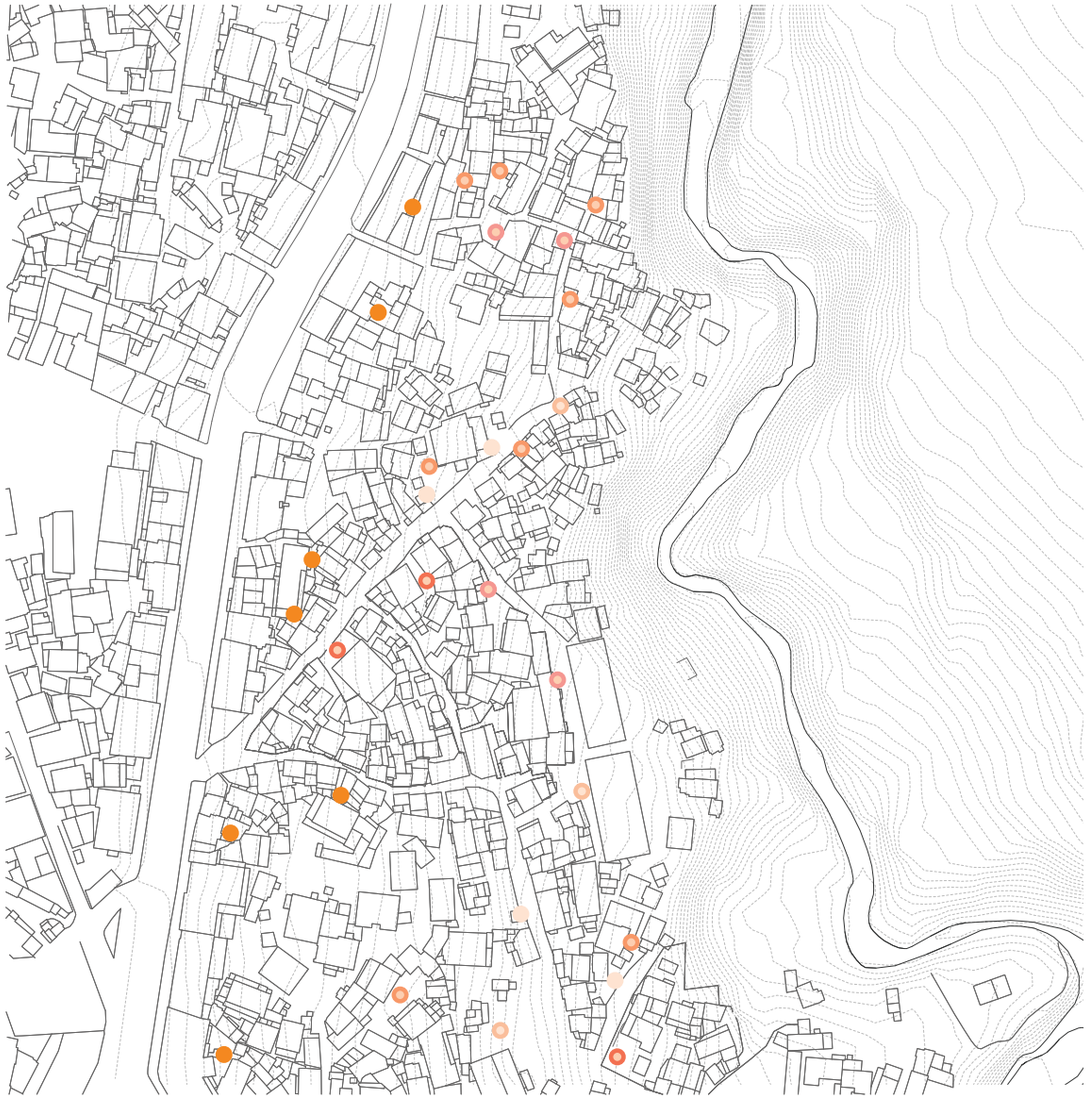
Negative Space

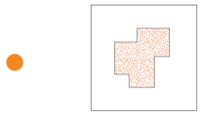


Connections

SOCIAL SPACES

THE GRADIENT OF PERMEABILITY





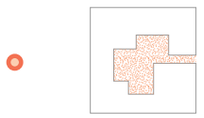






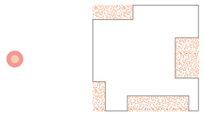






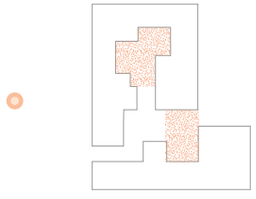






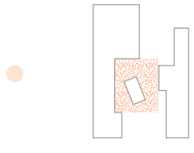








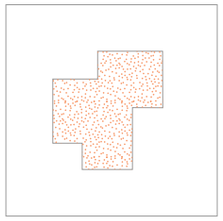


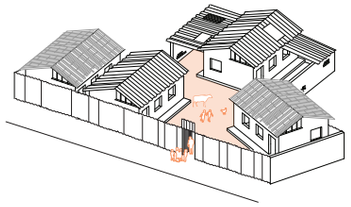






THE CLOSED COURTYARD









laundry



drying spices



traditional cooking



playing children



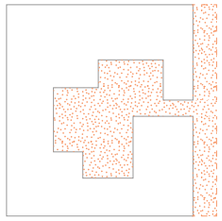
socializing

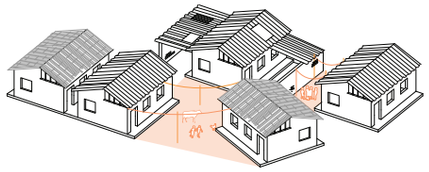






THE VISIBLE COURTYARD









laundry



drying spices



traditional cooking



playing children



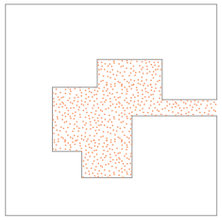
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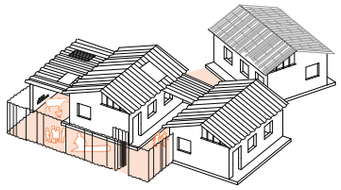






THE PHYSICAL BARRIER









laundry



storage



traditional cooking



coffee drinking



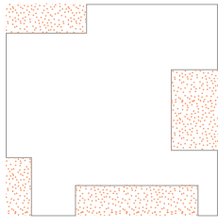
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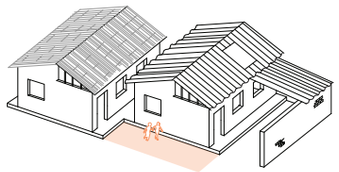






THE OPEN-TO-SKY NICHE









laundry



drying spices



traditional cooking



playing children



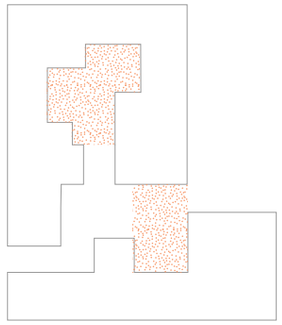
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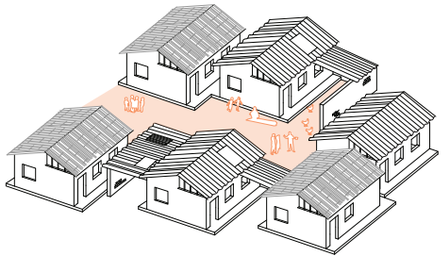






THE WIDENED PATH









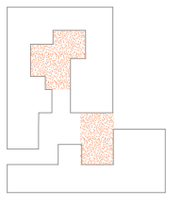








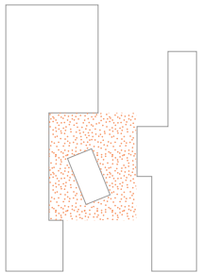
laundry *vegetable garden* *traditional cooking* *coffee drinking* *socializing*

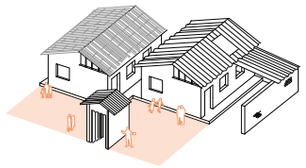






THE COMMUNAL FACILITY





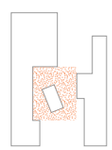




playing children



socializing





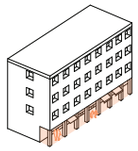


INCOME GENERATION OPPORTUNITIES

THE GRADIENT OF FORMALITY



















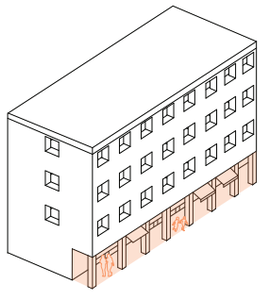








THE FORMAL SHOP







formal

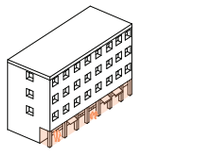


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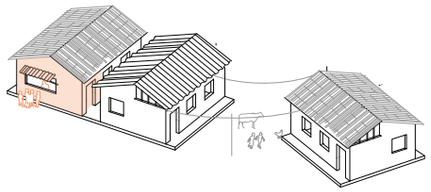


clothes





THE CORNER SHOP







semi-formal



imported



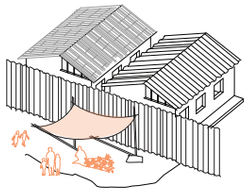
consumables







THE VEGETABLE STREET-VENDOR







informal



imported



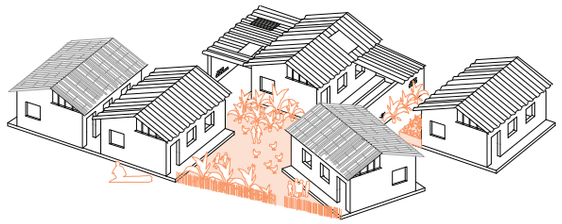
vegetables







THE VEGETABLE GARDEN







informal



self cultivated



vegetables

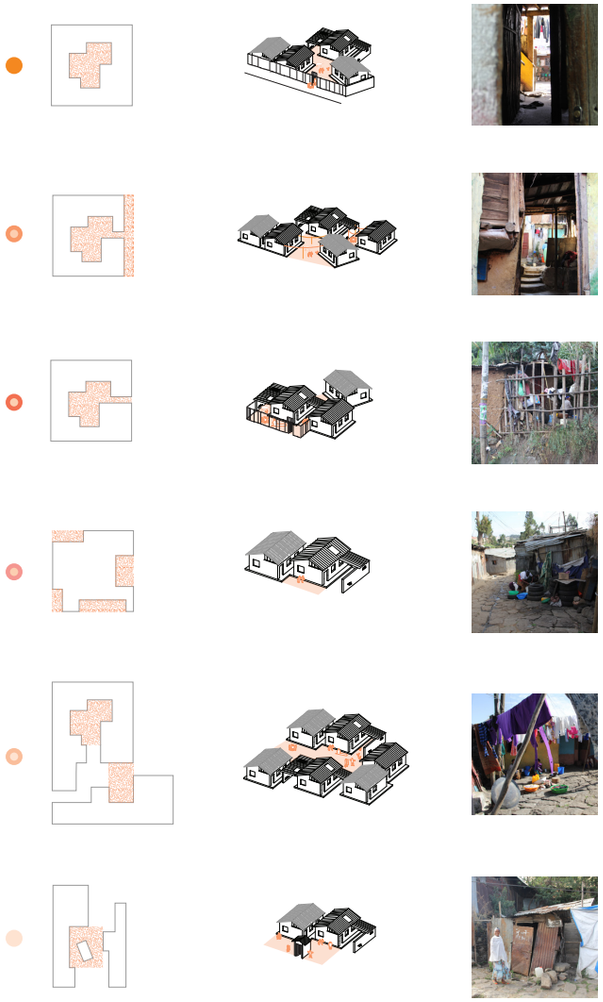




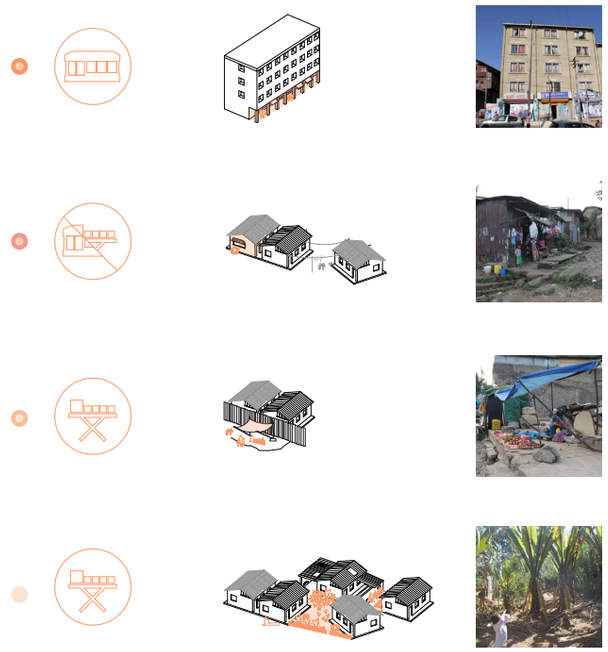


THE GRADIENTS











ADDIS ABABA

Efficient Housing System
Housing demand and Slum upgrading requires an increase in densification

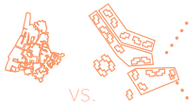
Giving the river back to the city
Revitalisation of natural resources such as water. Perceiving water in a different way.



SEFERS

Preserving the existing social structure
Neighbourhood character is not retained by the new Condominium development and does not show any relation to the existing urban fabric.

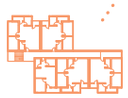
Giving the river back to the city
The river on site is a big character with a lot potential bringing fertility, food production opportunity, and an opportunity for income generation



VS.

CLUSTER

Preserving the existing social structure
The Condominium blocks do not facilitate local and cultural activities. This contributes to the individualistic lifestyle as well as a lack of opportunities to meet within communities.



DWELLING UNIT

Efficient Building System
Construction methods are efficient, however there are still quite a few materials which are imported from abroad, which means that there is a larger carbon foot-print opposed to using local materials.

Preserving the existing social structure
The Condominium unit layouts lack flexibility, suitable outdoor space and do not accommodate for different socio- economic groups.

THE URBAN STRATEGY



the commercial roads as a border



using existing connections to articulate the HSR and the river



the intervention contributing to revitalizing the river

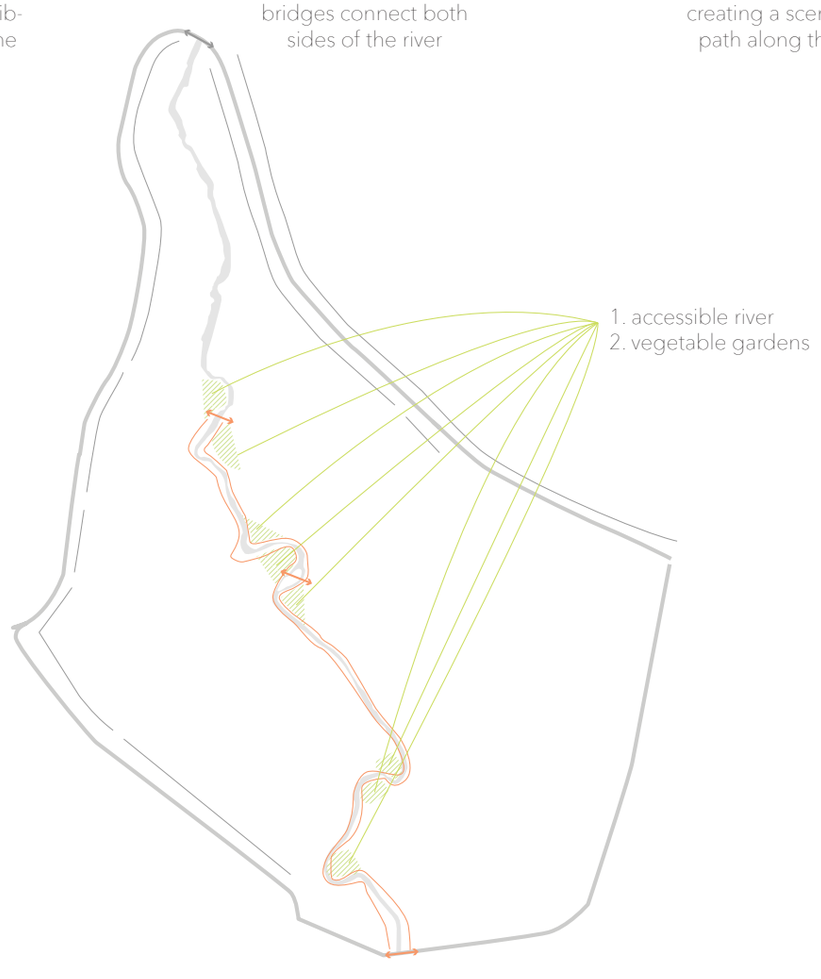


bridges connect both sides of the river

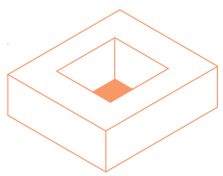


creating a scenic footpath along the river

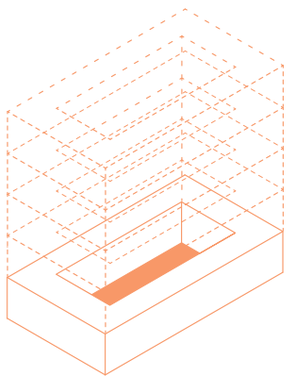




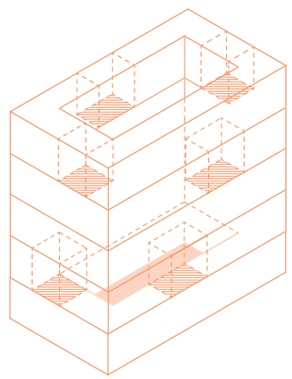
DESIGN APPROACH



Courtyard typology
Sense of Community

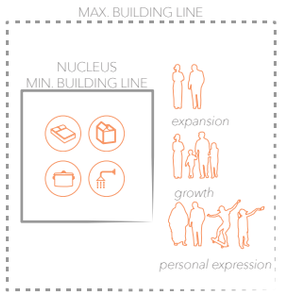


Densification G+4
Ground Relation and Contact
Larger courtyard space needed



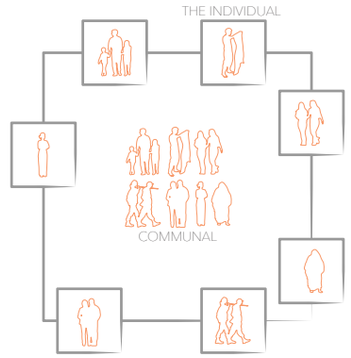
Collective space on each
level

THEORIES OF INSPIRATION



"...THE CREATION OF A SYSTEM OF PRODUCTION AND DISTRIBUTION IN SUCH A WAY THAT THIS SYSTEM COULD GIVE EVERY HUMAN BEING ON EARTH THE MATERIAL CONDITIONS THAT ARE NEEDED FOR THE DEVELOPMENT OF A PERSONAL VIEW OF LIFE. THIS SOUNDS PARADOXAL IN A PERIOD CHARACTERIZED BY NORMALIZATION AND STANDARDIZATION...."

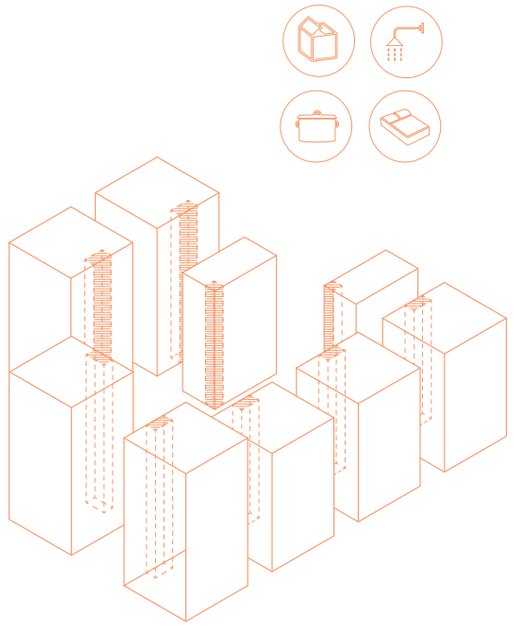
"...ENSUING PERSONAL BUILDING INITIATIVES, WHICH, IN THEIR TURN, COULD MAKE ARCHITECTURE THE EXPRESSION IN SPACE OF THE VARIATIONS IN HUMAN BEHAVIOUR. IN THIS WAY WE COULD BUILD THE NUCLEUS OF A HOUSE IN WHICH WASHING, HEATING, LIVING AND SLEEPING AS A MINIMUM PROGRAMME WITHIN MINIMUM BUILDING-LINES...
OUTSIDE THESE MINIMUM BUILDING-LINES TWO MAXIMUM-LINES COULD BE FIXED AND THE EXPANSION OF THE NUCLEUS CAN OCCUR..."
- BAKEMA , J.B. , 1962



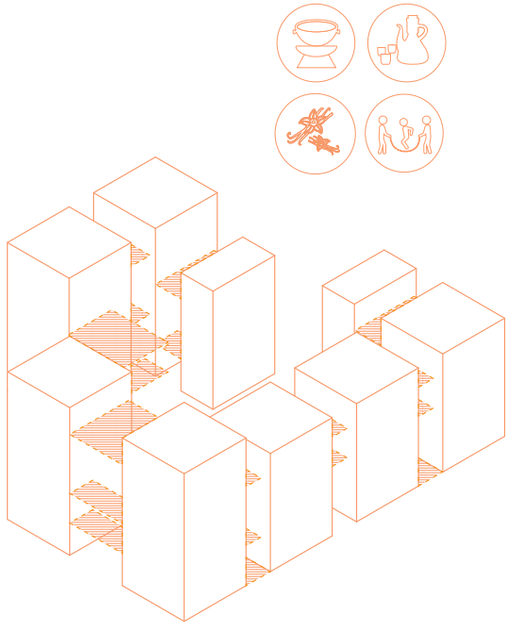
"... STRUCTURE MORE IMPORTANTLY IS ABOUT GUARANTEEING SHARED INTERESTS AND, THEREFORE, GUARANTEEING THE DIFFERENCE BETWEEN INDIVIDUAL AND SHARED AREAS AS WELL AS THE RELATIONSHIP BETWEEN THE TWO."

" BUT TO STAY ABREAST OF THE TIMES IN OUR DYNAMIC CULTURE WE CONSTANTLY REQUIRE SPACE FOR CHANGE AND, THEREFORE, ADAPTATIONS:
CALL IT SPACE FOR TIME."
- HERTZBERGER , H. , 2015

THE ANCHOR

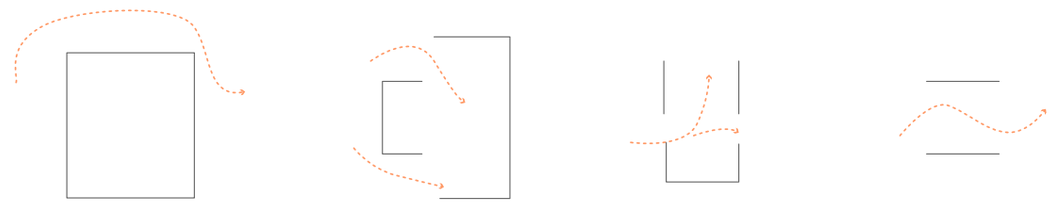


Anchors catering for
Essential functions

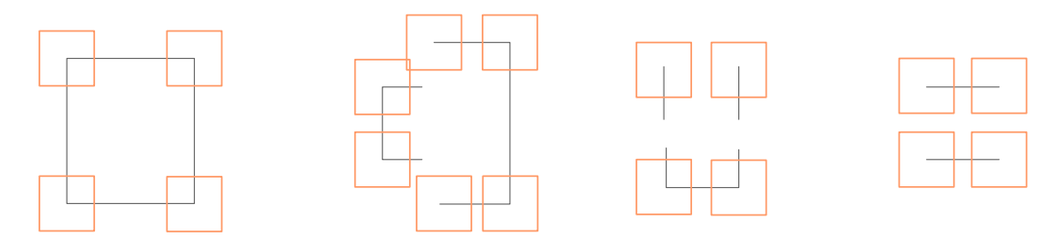


Space for time meandering
between anchors

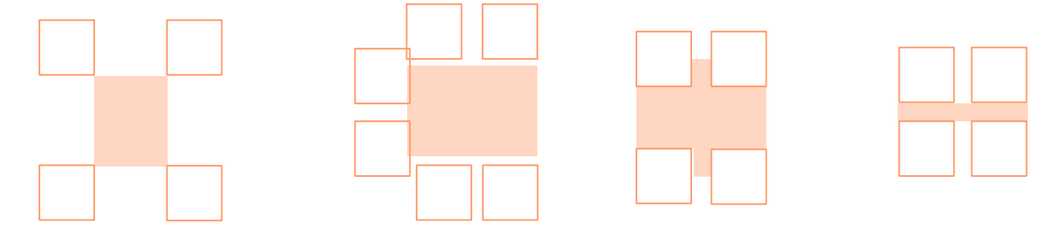
GRADIENT OF PERMEABILITY



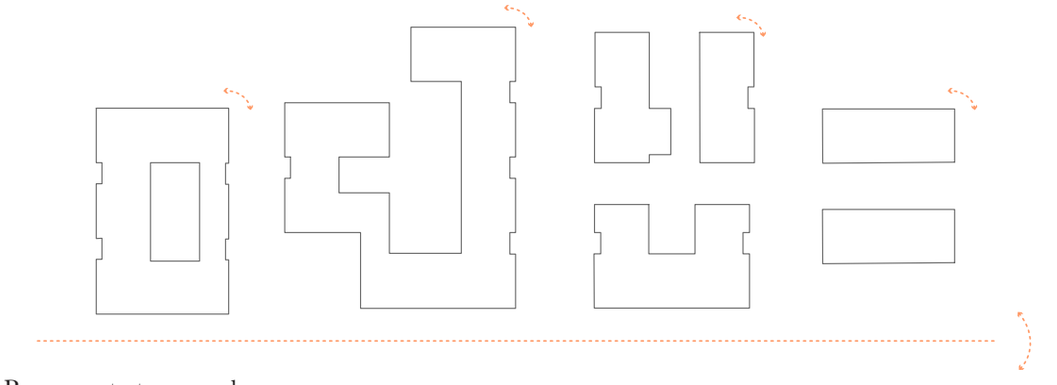
Permeability of clusters



Anchored clusters



Anchored communities

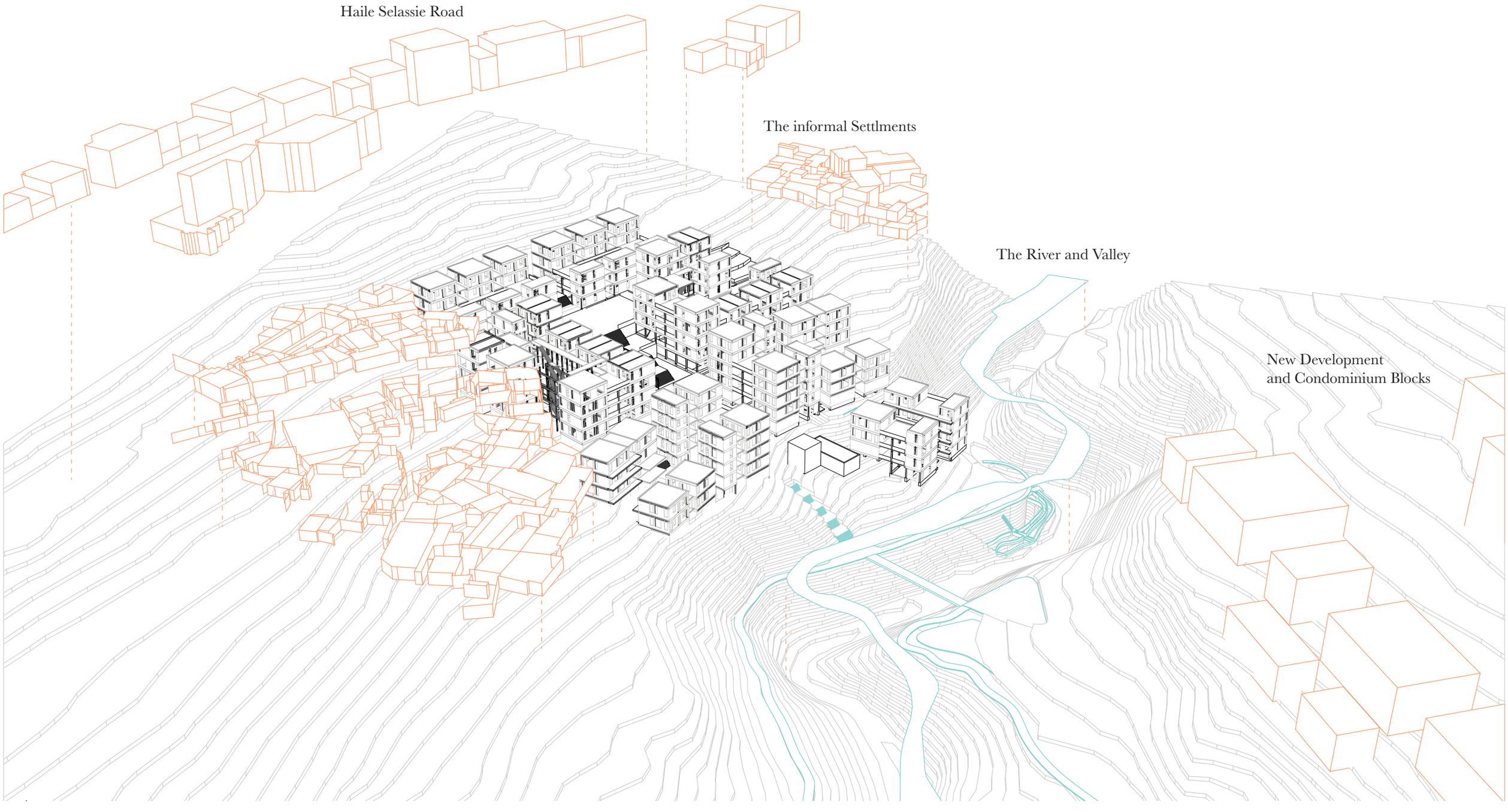


Response to topography

MASTERPLAN



RESPONSE TO 4 ENTITIES ON SITE







The Commercial Plinth at the Public Axis





The Meeting Place





The In Between Space



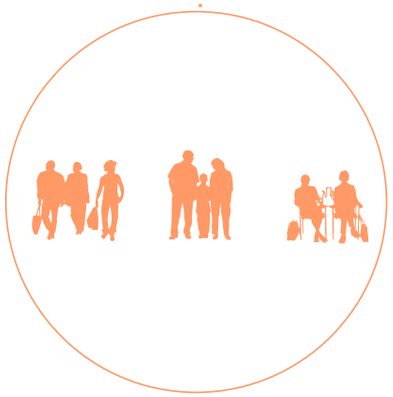


The River



The Public Route





THE COMMERCIAL PLINTH

formality



THE MARKET

formality



THE VEGETABLE GARDEN

formality



The Residential Route



visible collective space



THE CLOSED COURTYARD

user diversity



THE ALLEY

user diversity



THE VISIBLE COURTYARD

user diversity



THE MEETING

user diversity

PHASING



Phase 0

PHASING



Phase 1

PHASING



Phase 2

PHASING



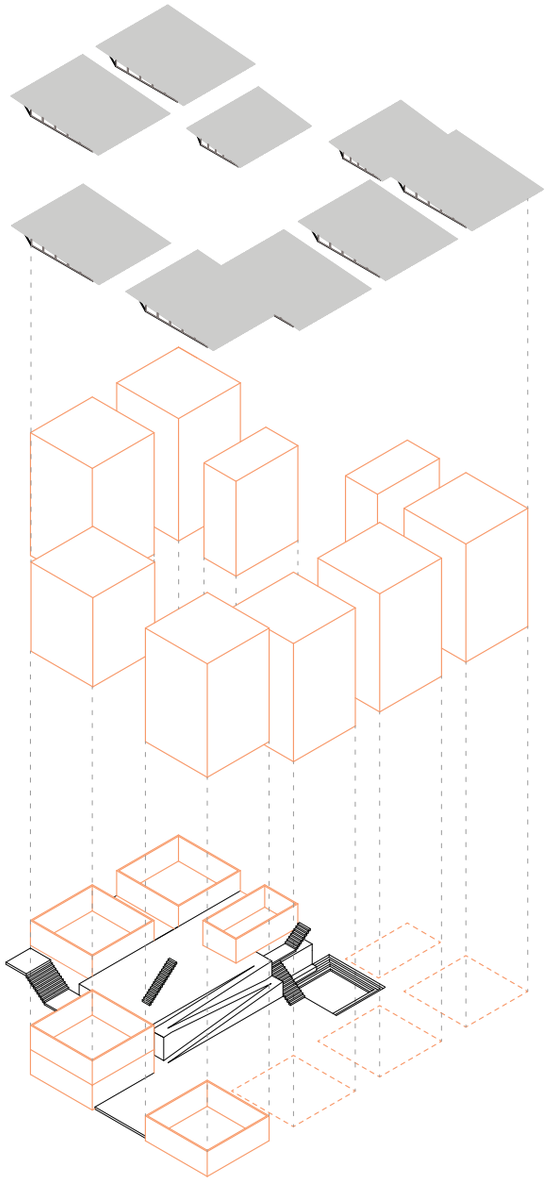
Phase 3

PHASING

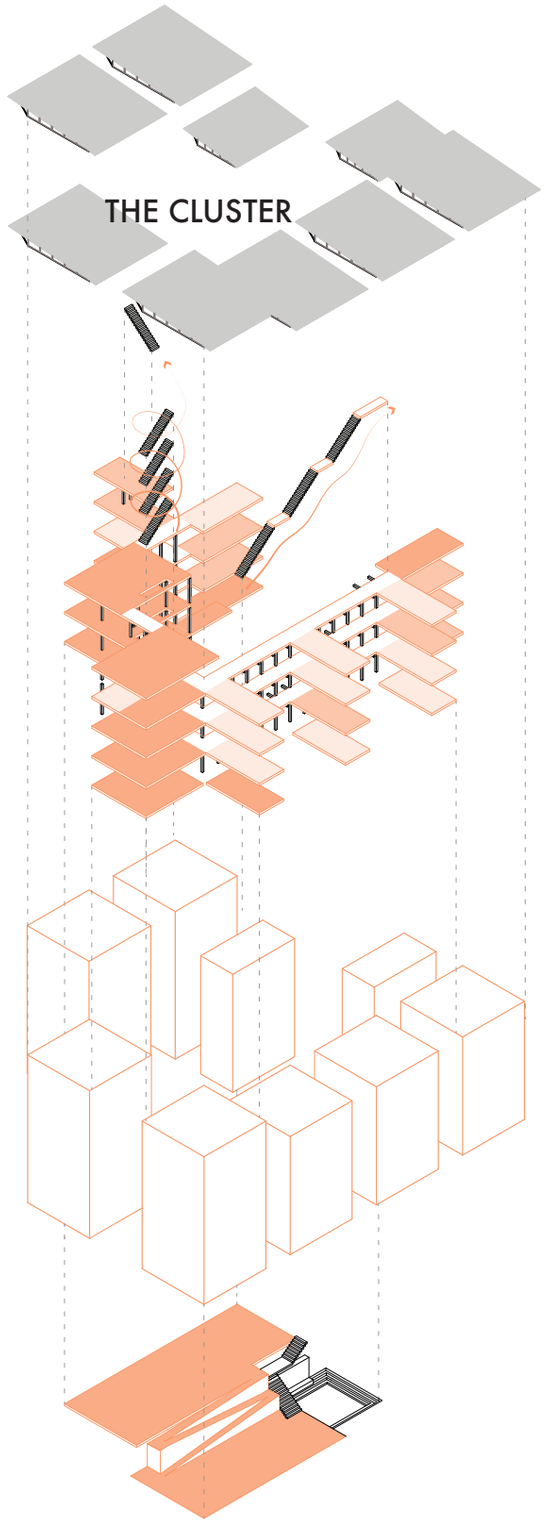


Phase 4

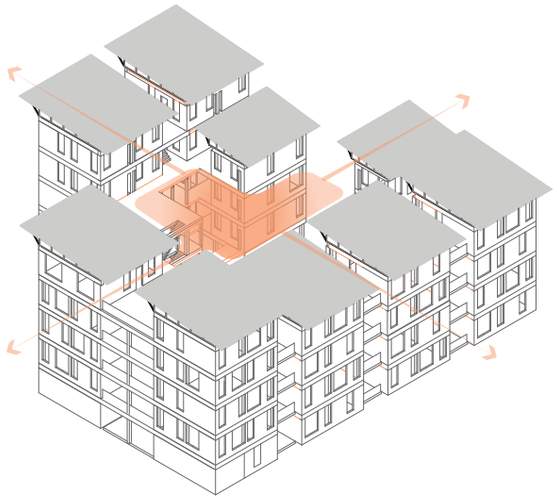

THE CLUSTER



Ground floor exception function
Commercial Plinth & Storage



Hierarchy of
‘Space for Time’



Organization of collectivity
and privacy



LEVEL 0
+1200



LEVEL 0
+1200

direct neighbours

cluster residents


LEVEL 1
+4500
+5630
+4500
+2000
+4500
+5630
+4500
+4500


LEVEL 1
+4500
cluster within cluster
+5630
+4500
+2000
+4500
direct neighbours
cluster residents
+5630
cluster within cluster
+4500
+4500


LEVEL 2
+7800
+7800
+6630
+5630
+4500
+5630
+7800
+7800
+4500


LEVEL 2
+7800
cluster within cluster
direct neighbours
direct neighbours
same floor
cluster within cluster
+7800
+6630
+5630
+4500
+5630
+7800
+7800
+4500


LEVEL 3
+11100
+11100
+7800


LEVEL 3
+11100
cluster within cluster
cluster within cluster
+11100
+7800
same floor
cluster within cluster

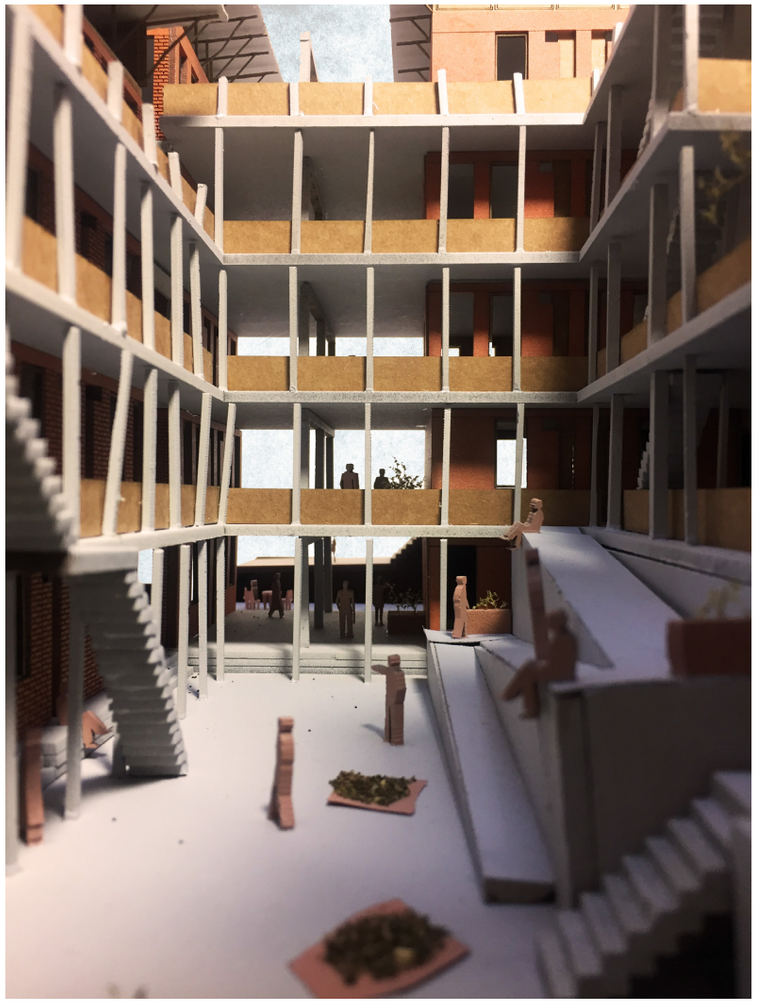

LEVEL 4
+14400
+14400


LEVEL 4
+14400
+14400
same floor
same floor


LEVEL 5
+17700
+17700


LEVEL 5
+17700
direct neighbours
+17700

COMMUNAL ‘SPACE FOR TIME’



The Communal Courtyard - South

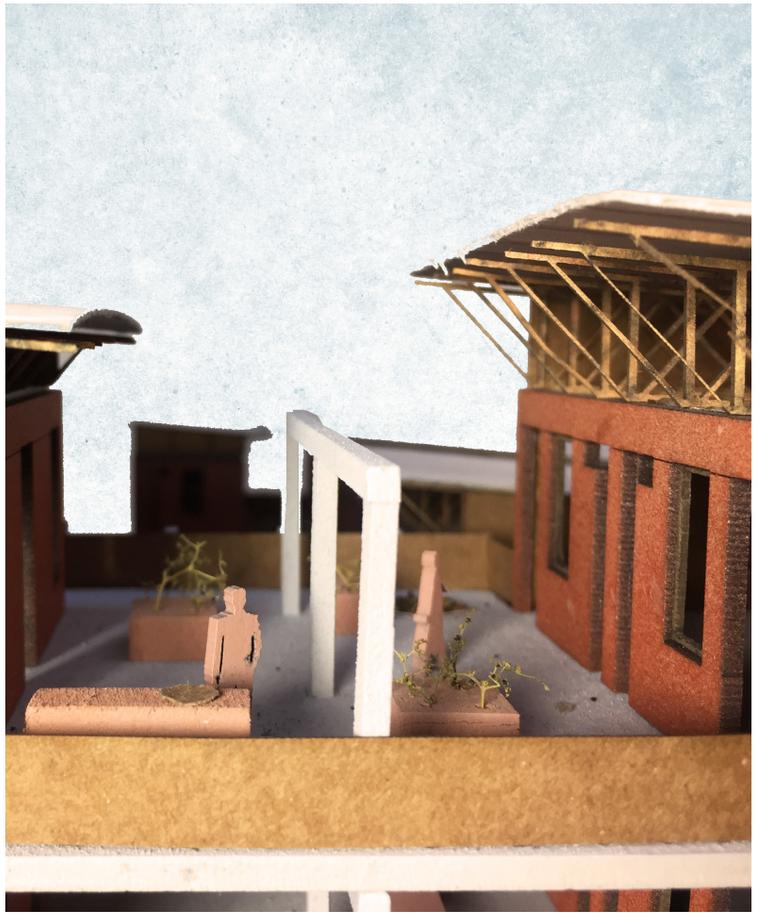


The Communal Courtyard - North

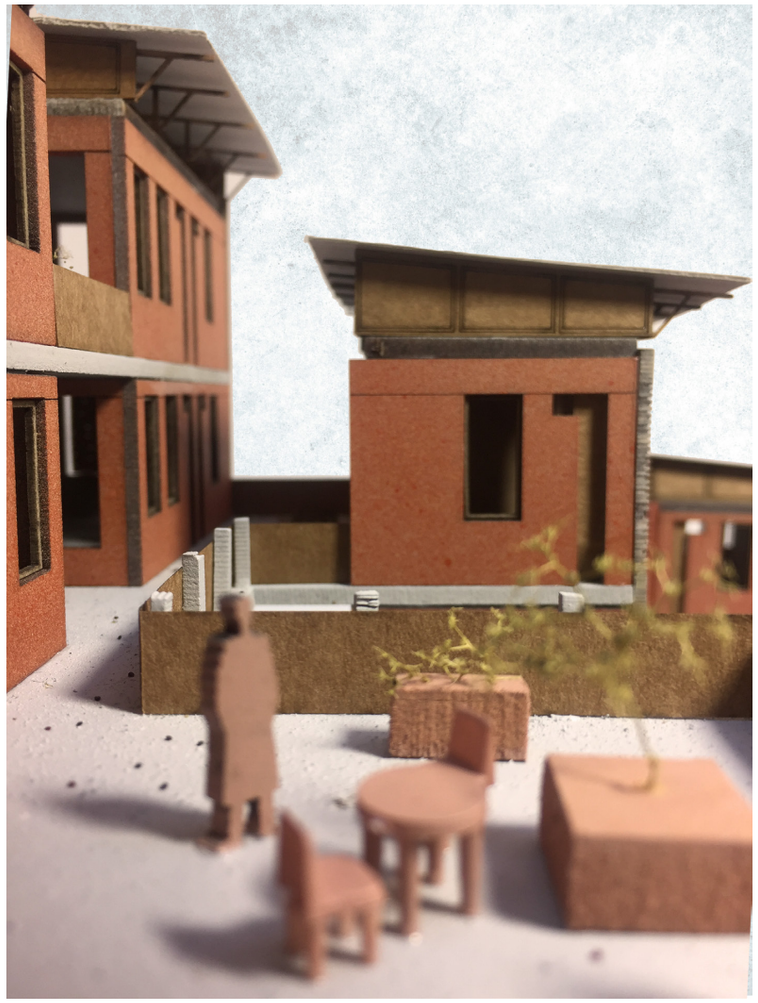


The Communal Facility and Circulation

COLLECTIVE AND SHARED ‘SPACE FOR TIME’



Collective ‘Space for Time’



Collective ‘Space for Time’



Shared ‘Space for Time’

East Alley Elevation



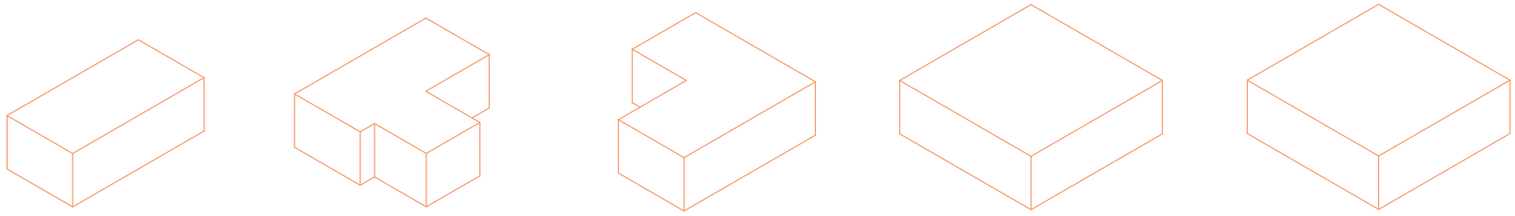
Courtyard Elevation

THE UNIT

The Module

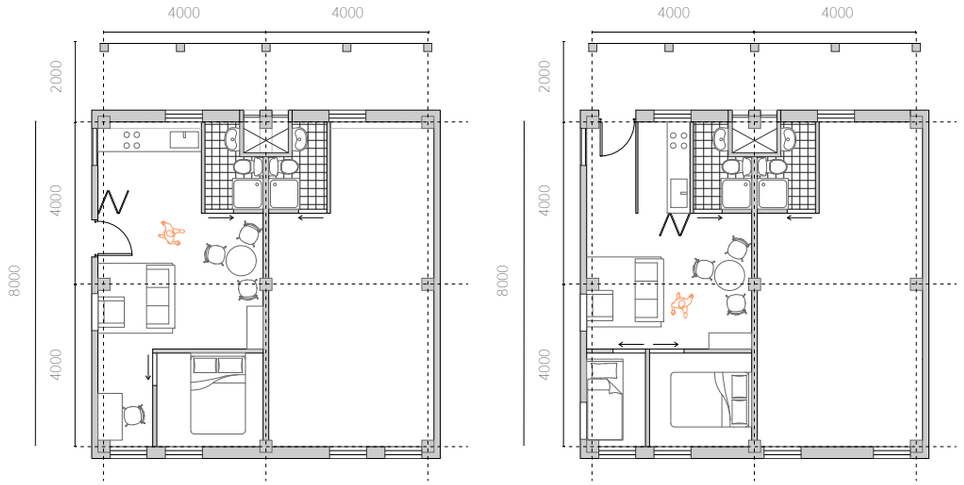
Module +

The Anchor



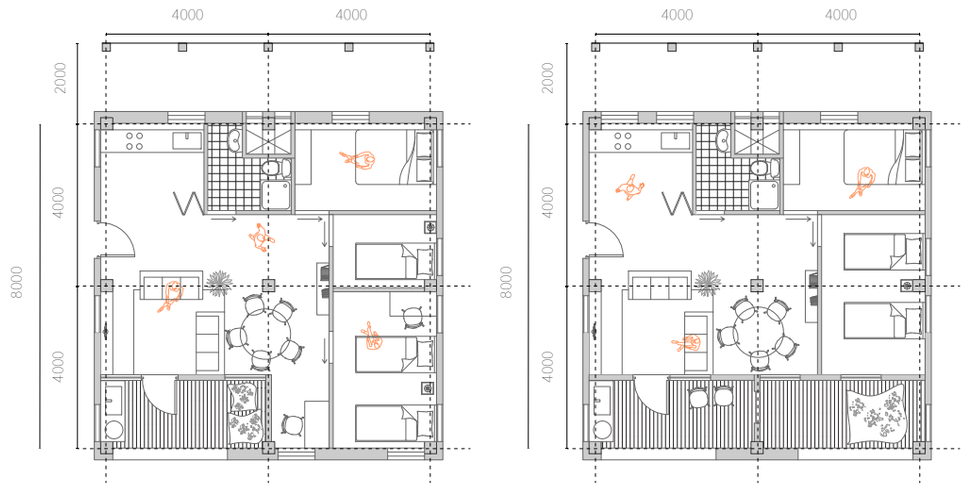
THE MODULE

32m²



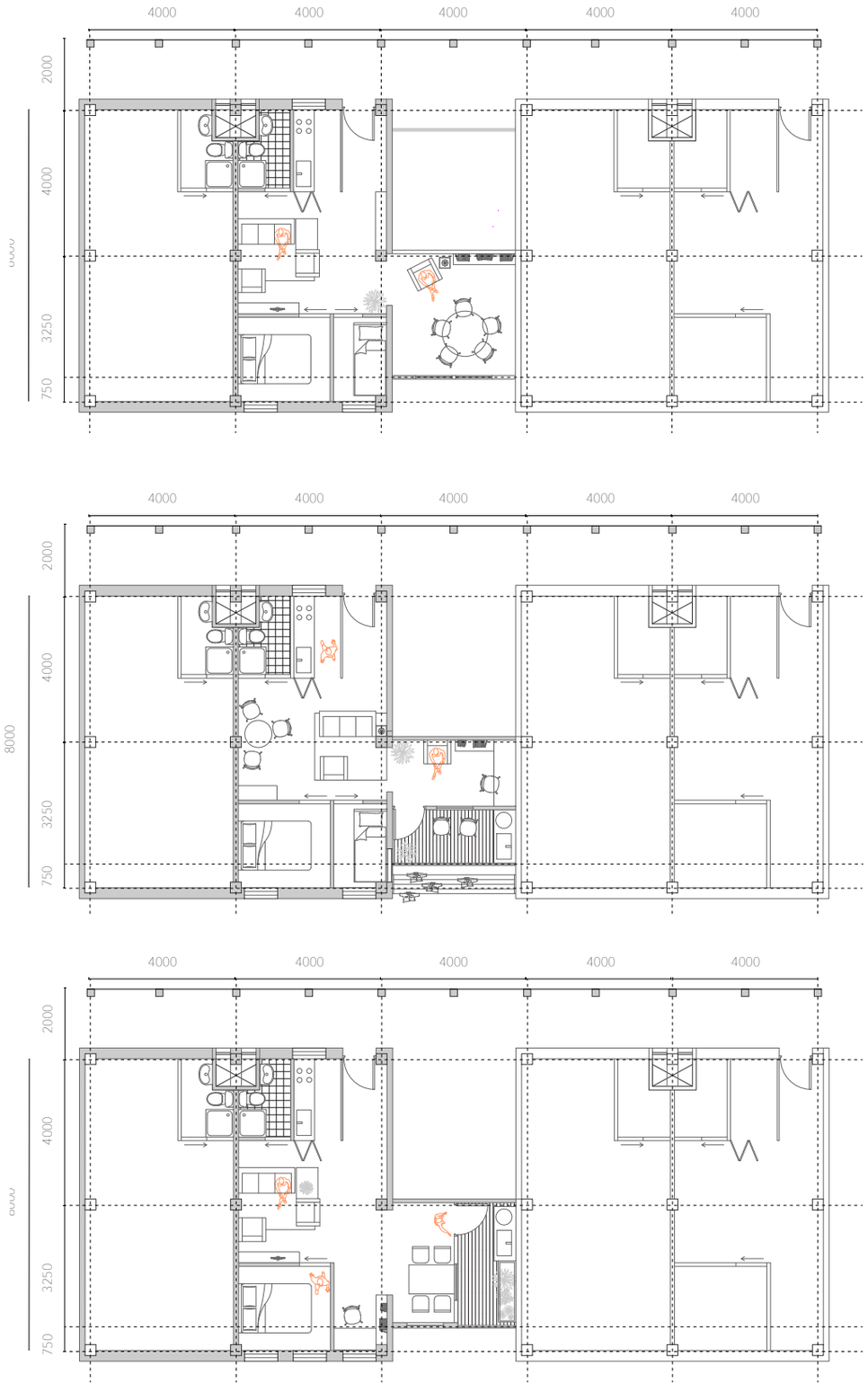
THE ANCHOR

64m²



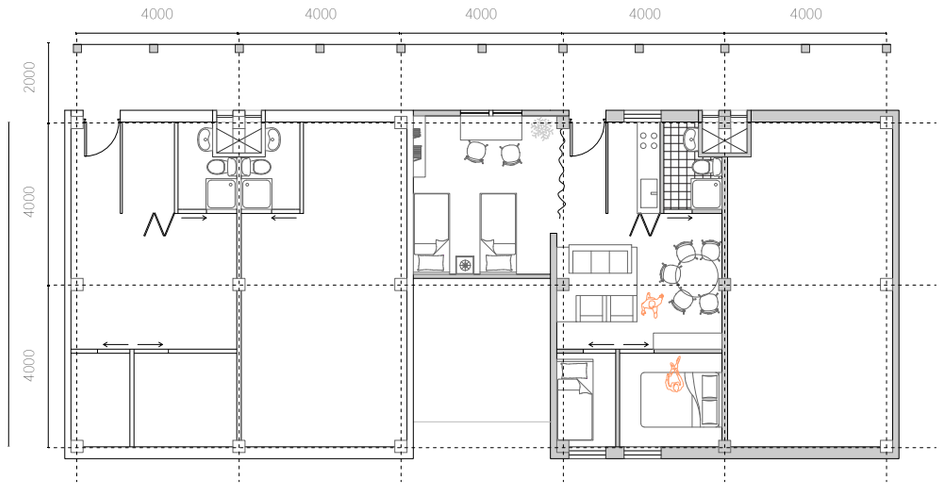
THE MODULE + A

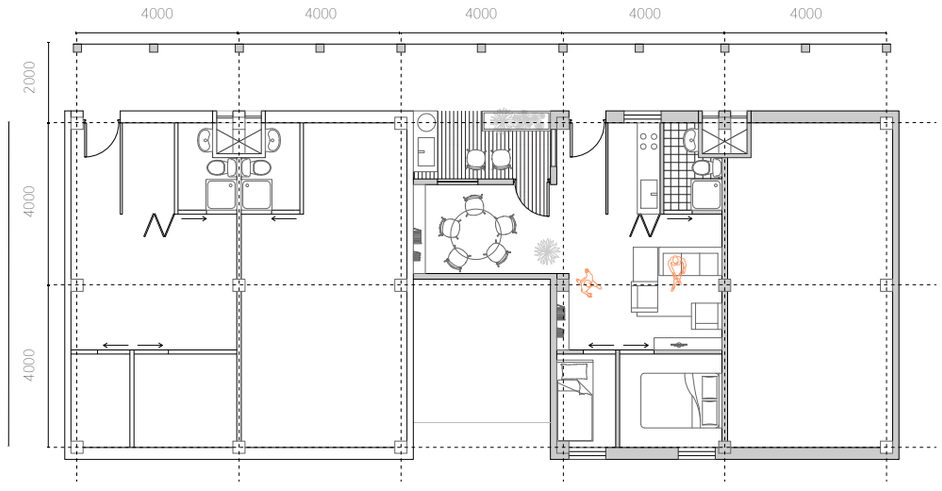
59m²

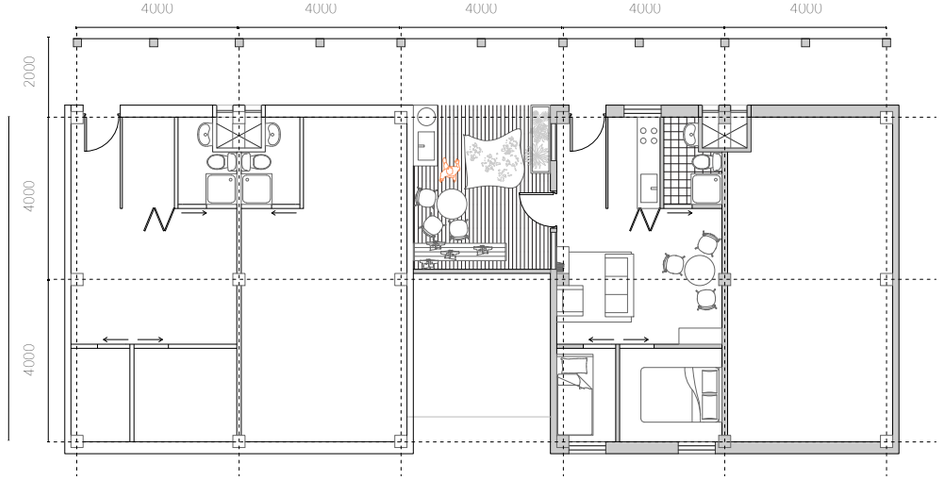


THE MODULE + B

47m²

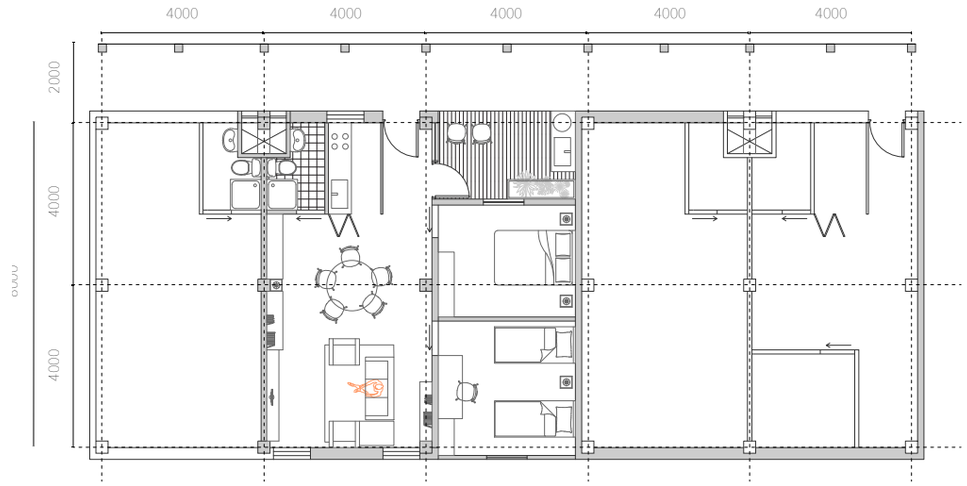


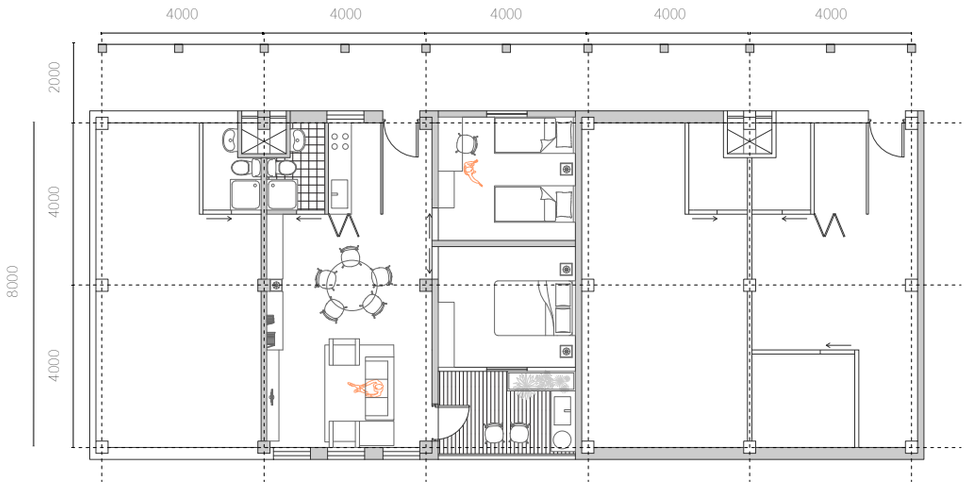


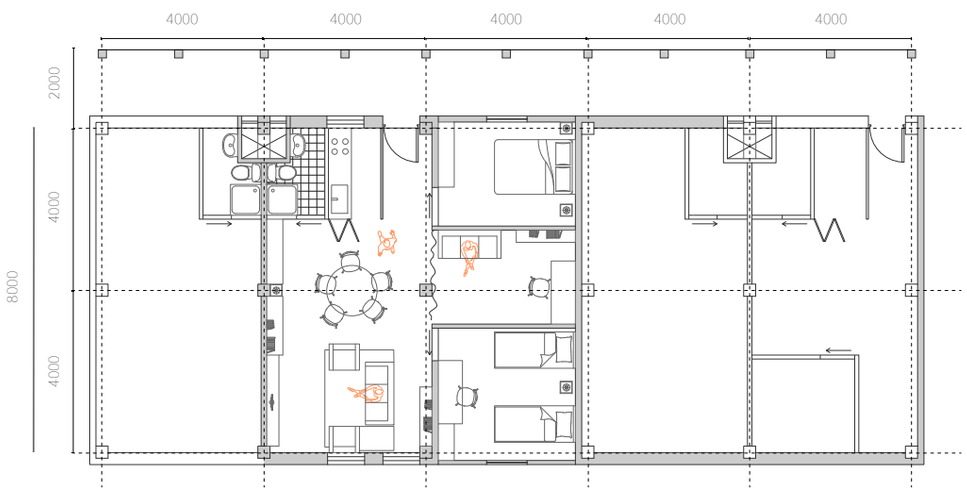


THE MODULE + C

64m²







PRIVATE ‘SPACE FOR TIME’



Private outdoor space

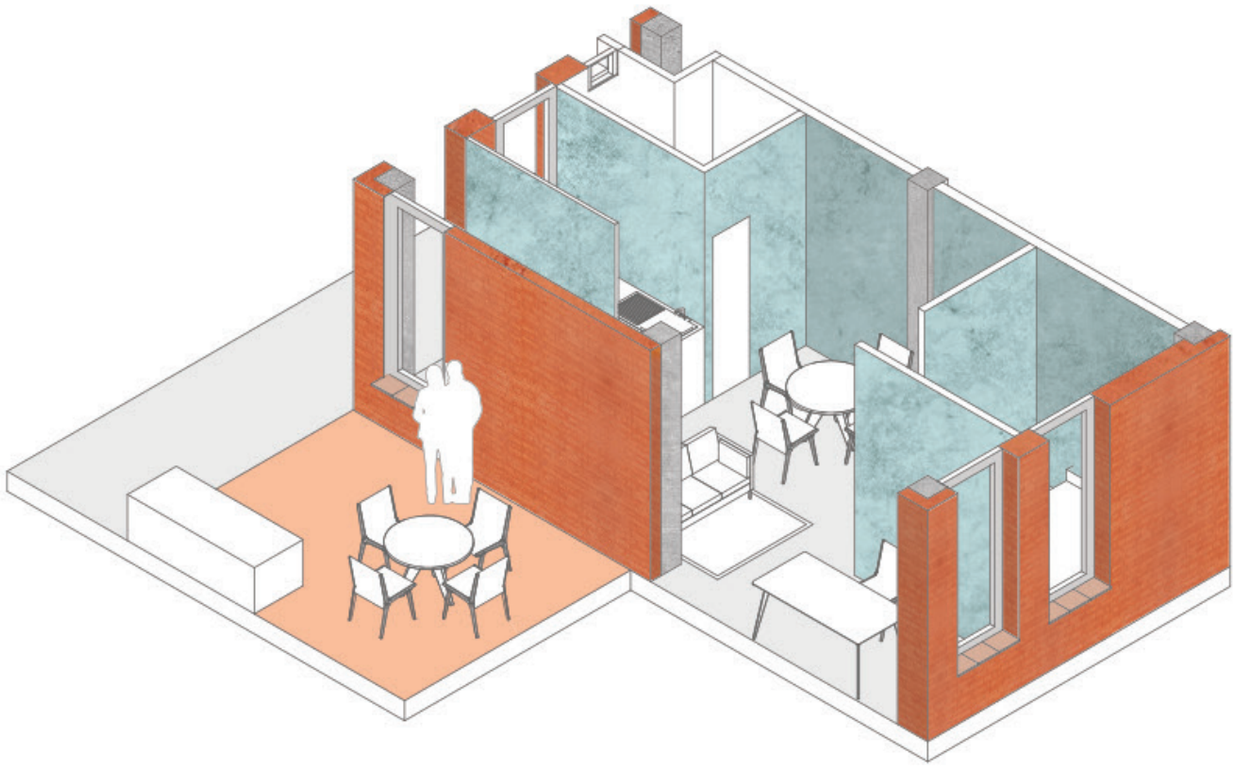


Private indoor space



Private outdoor space

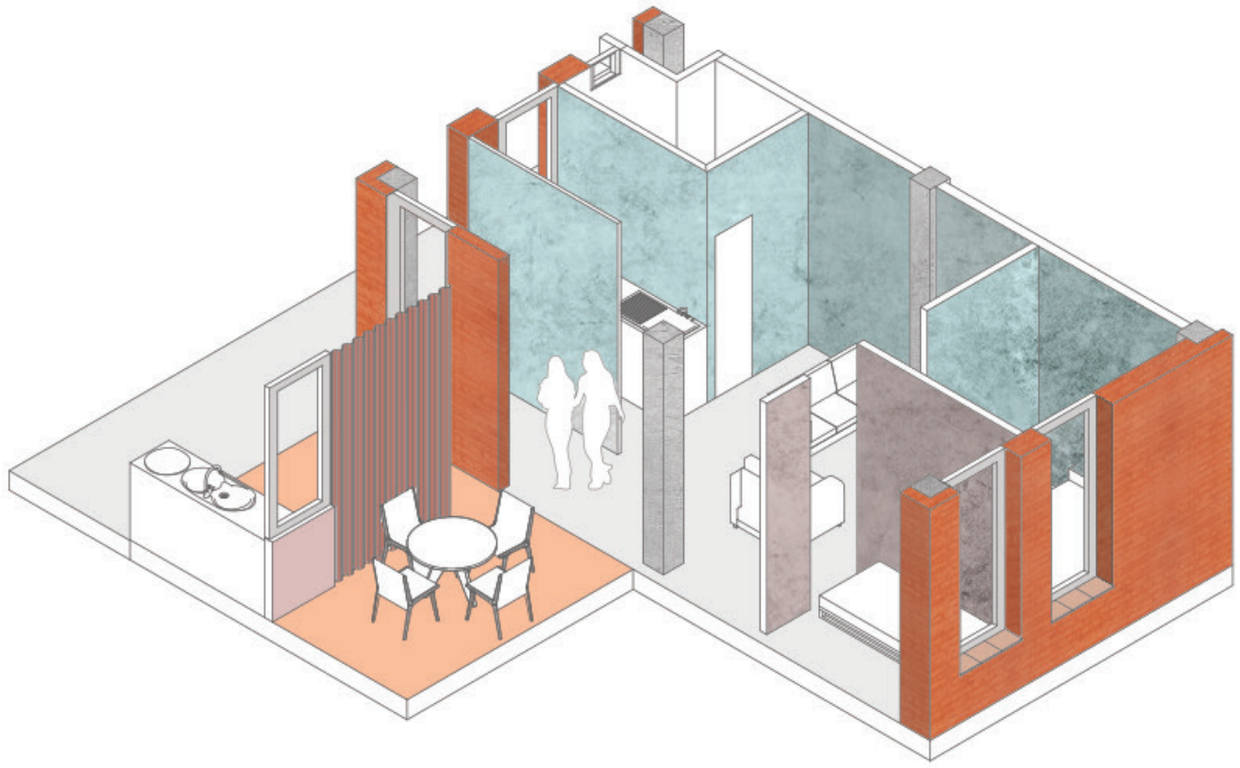
MODULE + B SCENARIO





young couple
‘space for time’ initial appropriation- simple use of outdoor space
floor area: 47m^2
23.5 m^2 p. person

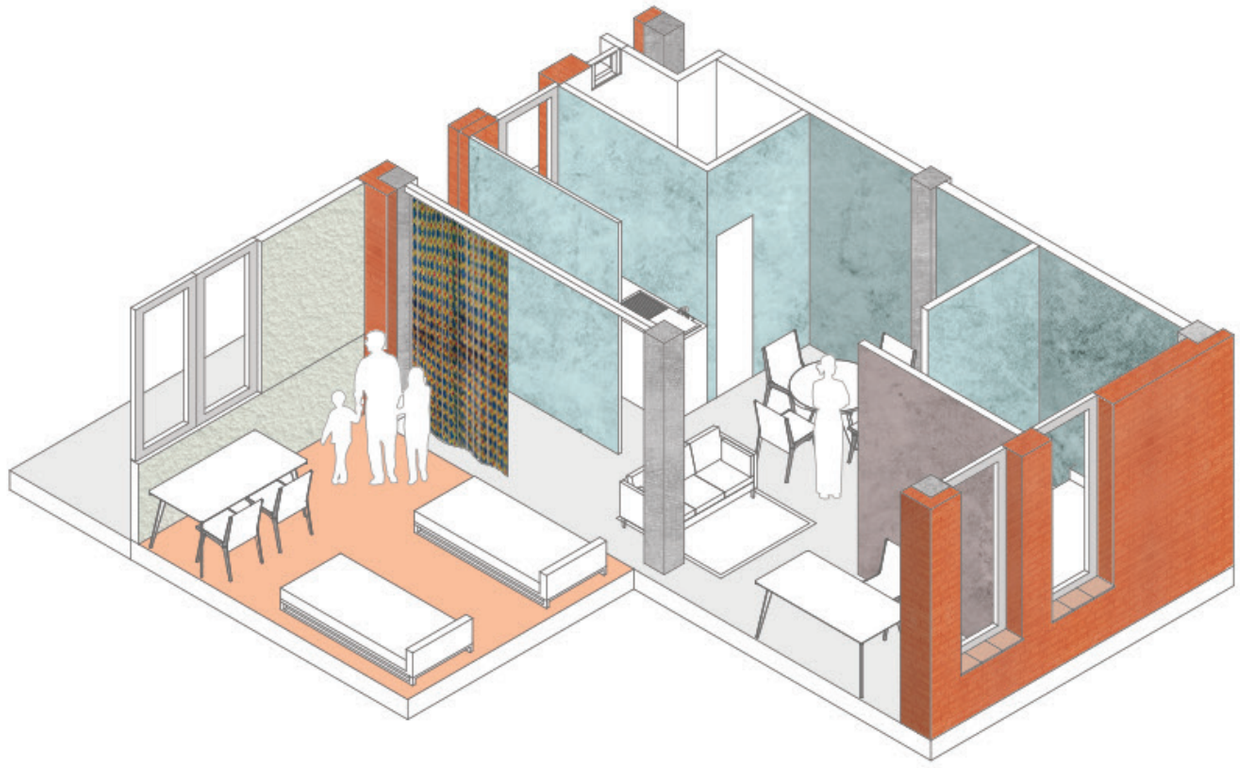
MODULE + B SCENARIO





young couple- first child
extra sleeping room,
‘space for time’ as partial in and out-door space
floor area: 47m^2
16 m^2 p. person

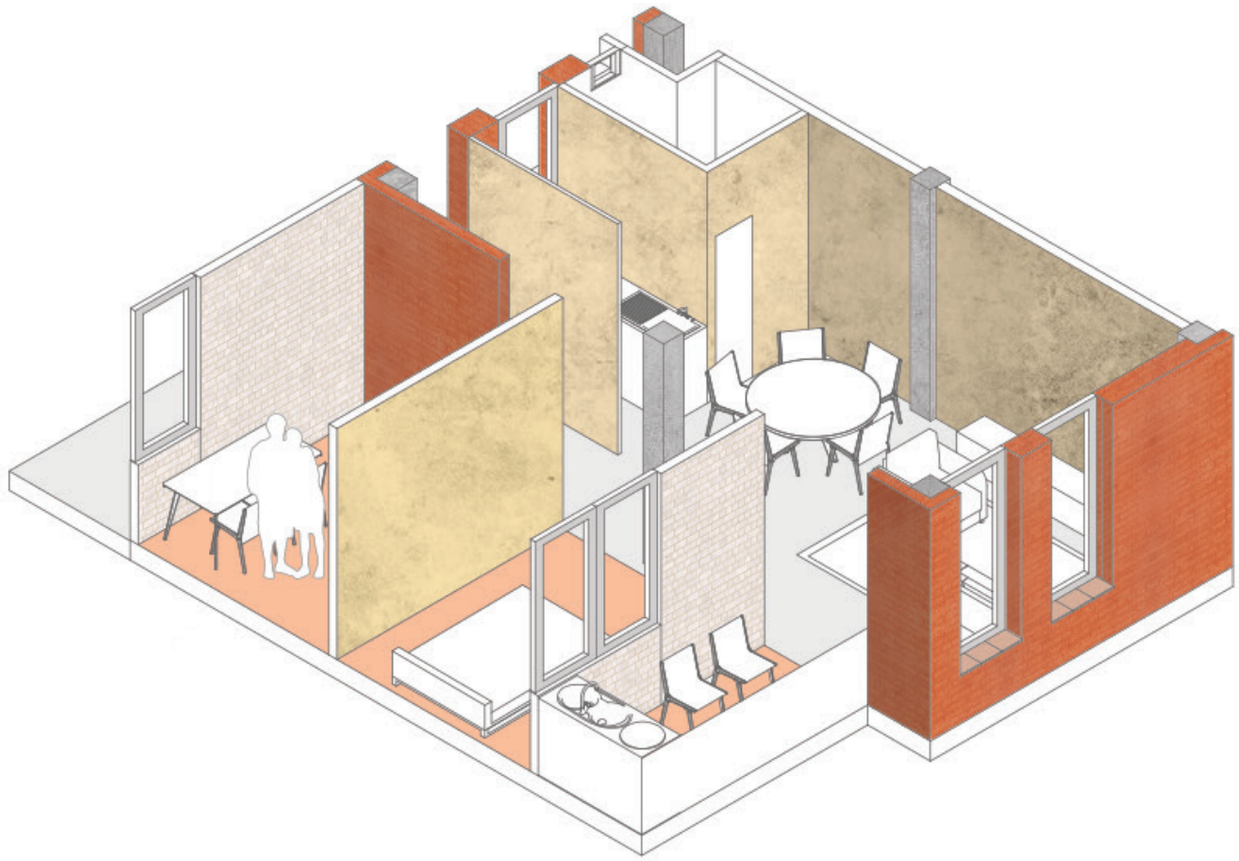
MODULE + B SCENARIO





young couple- two children
‘space for time’ as complete indoor space for extra sleeping room
floor area: 47m^2
11.75 m^2 p. person

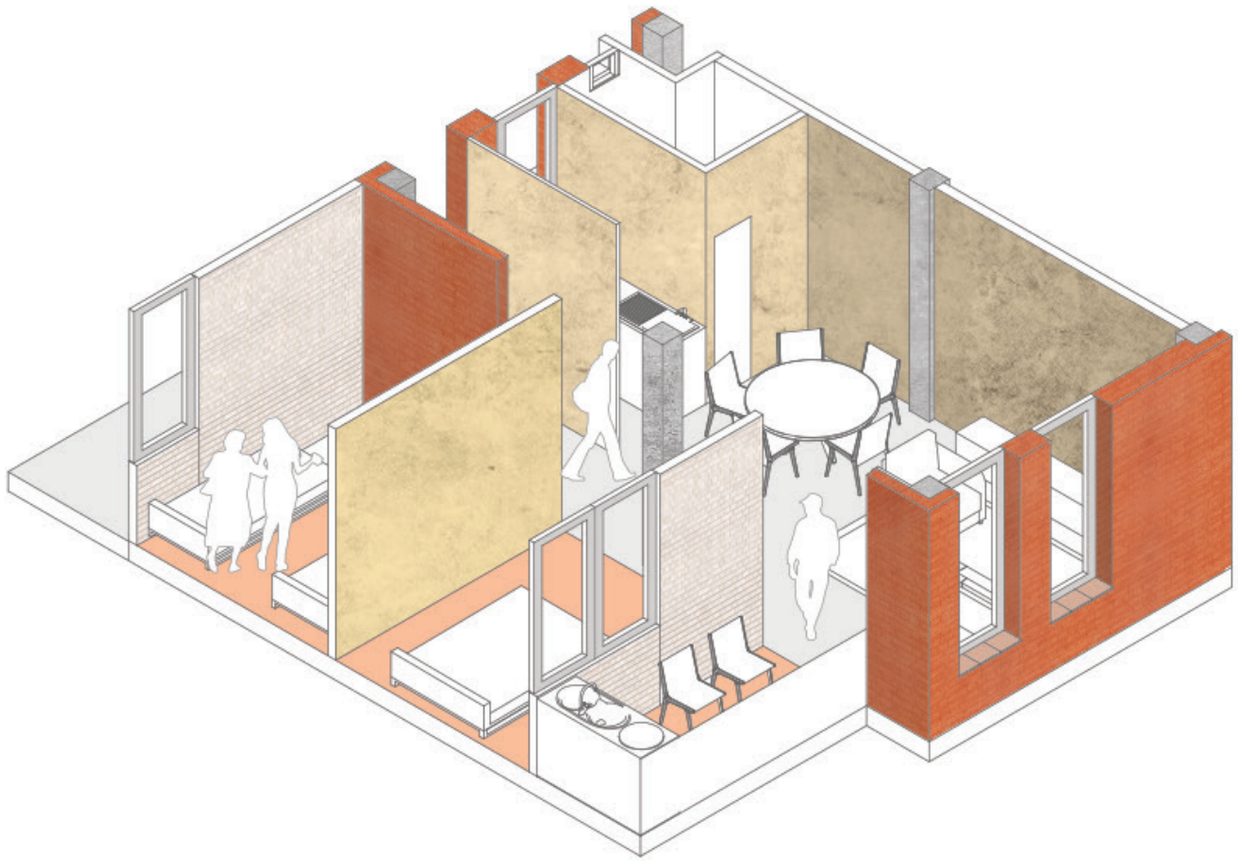
MODULE + C SCENARIO





couple- planning to start family
'space for time' 2 rooms and a private outdoor space
floor area: 59m^2
29.5 m^2 p. person

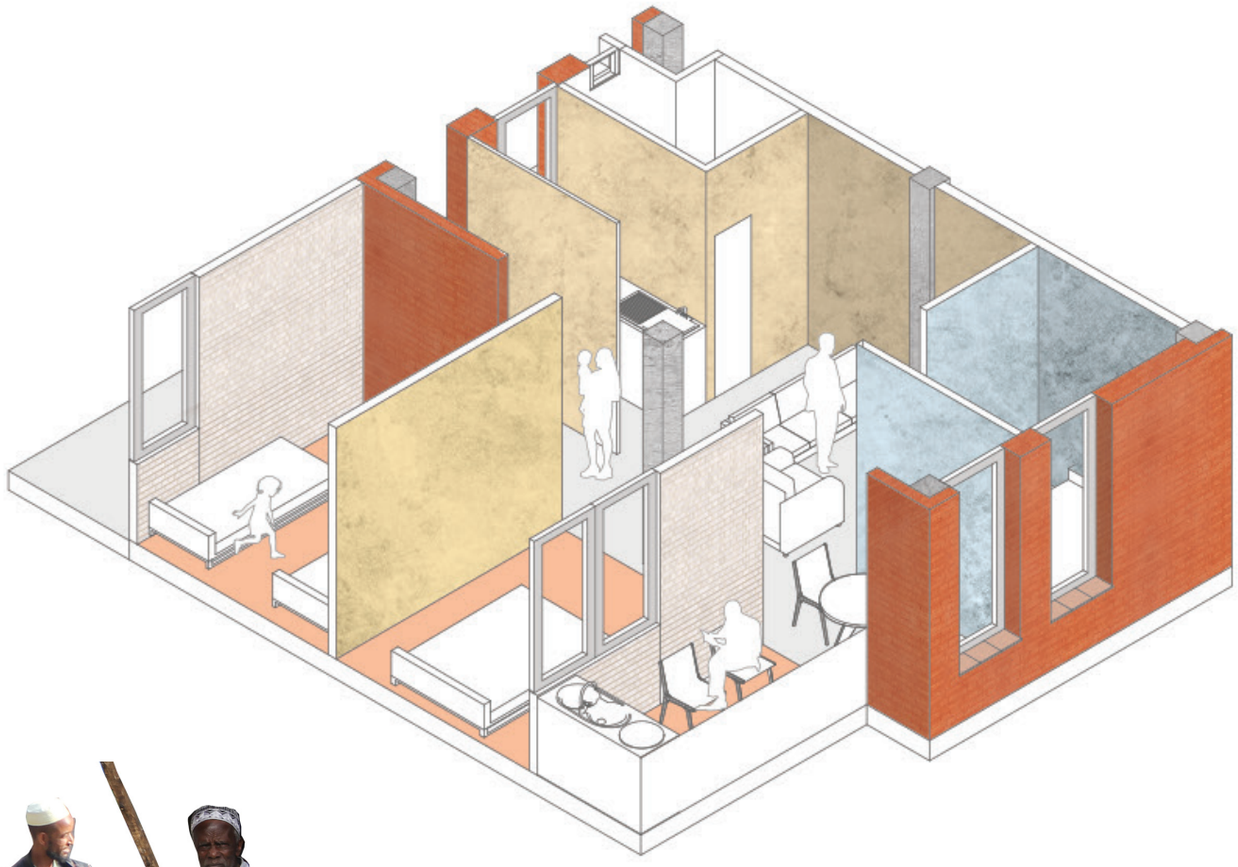
MODULE + C SCENARIO





couple- two teenage children
‘space for time’ extra sleeping room and a private outdoor space
floor area: 59m^2
14.75 m^2 p. person

MODULE + C SCENARIO





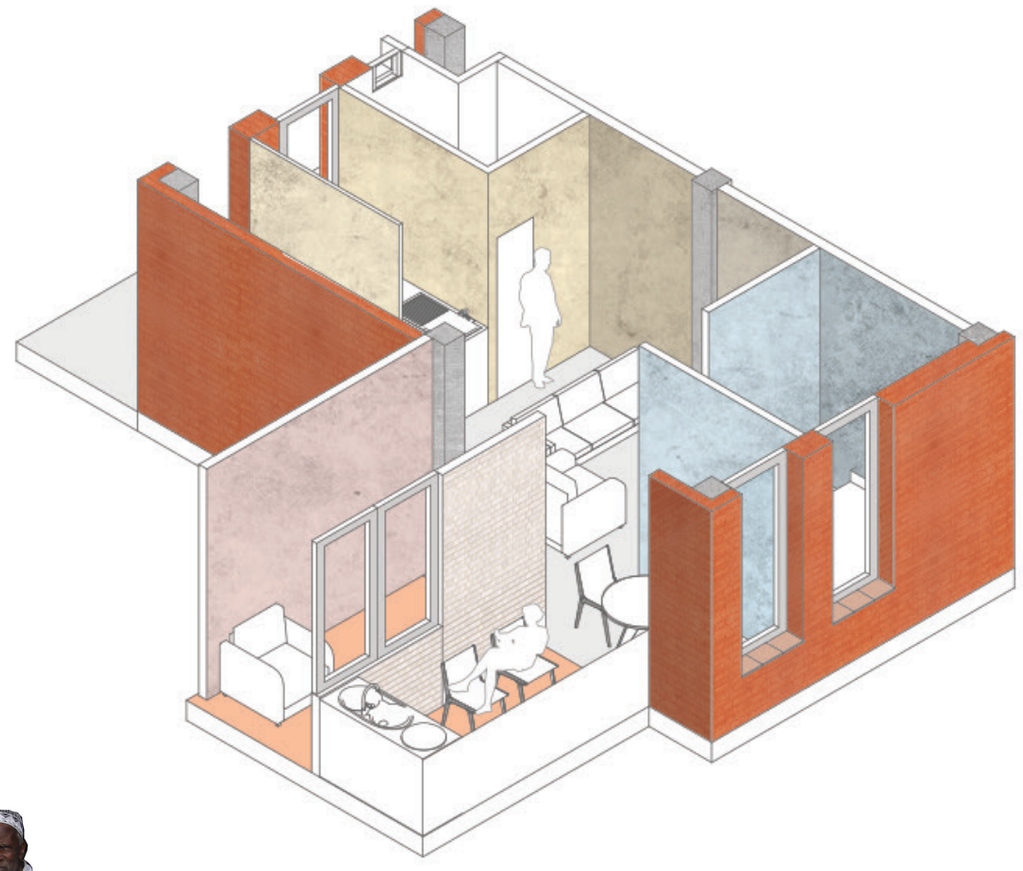
older couple- children and grandchildren

'space for time' two sleeping rooms and a private outdoor space

floor area: 59m^2

9.8 m^2 p. person

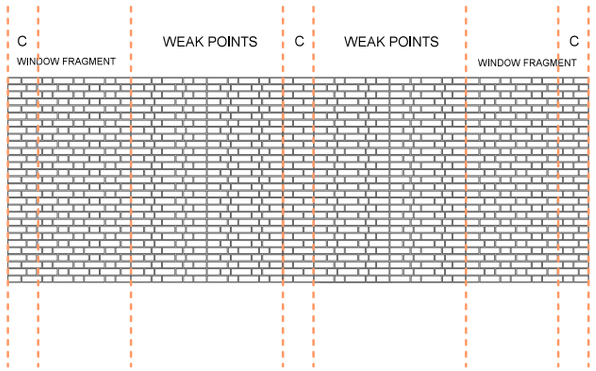
MODULE + C SCENARIO

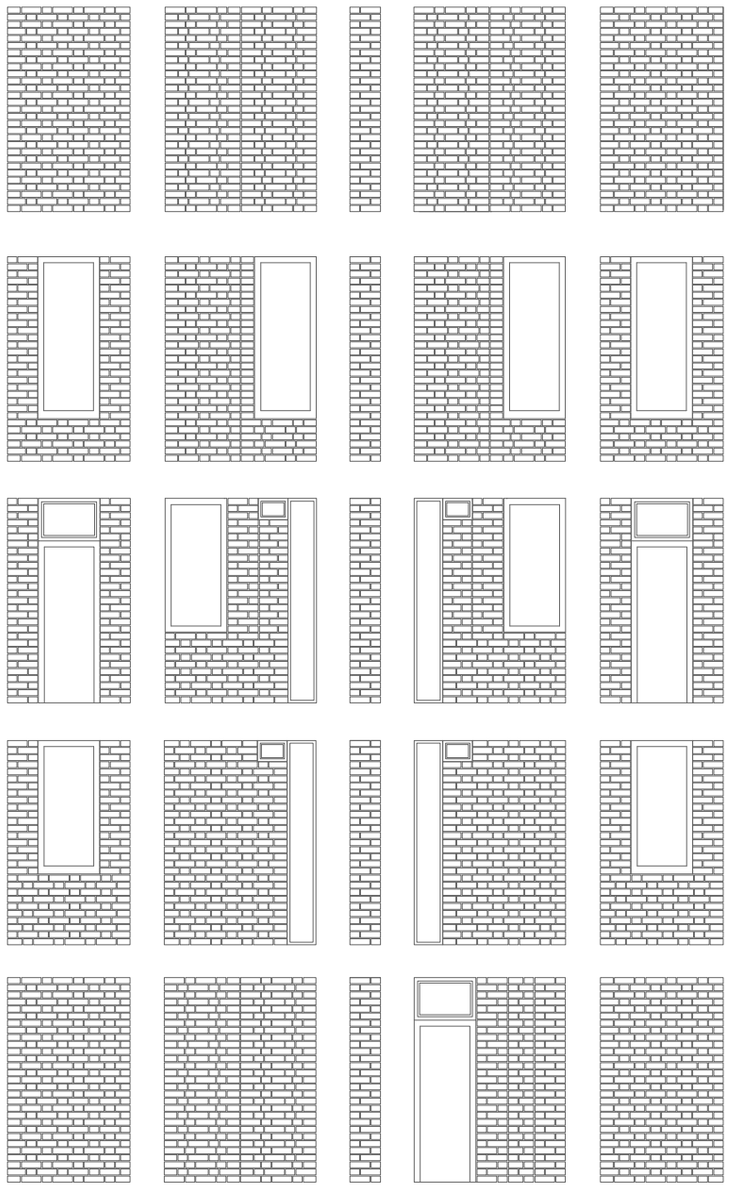


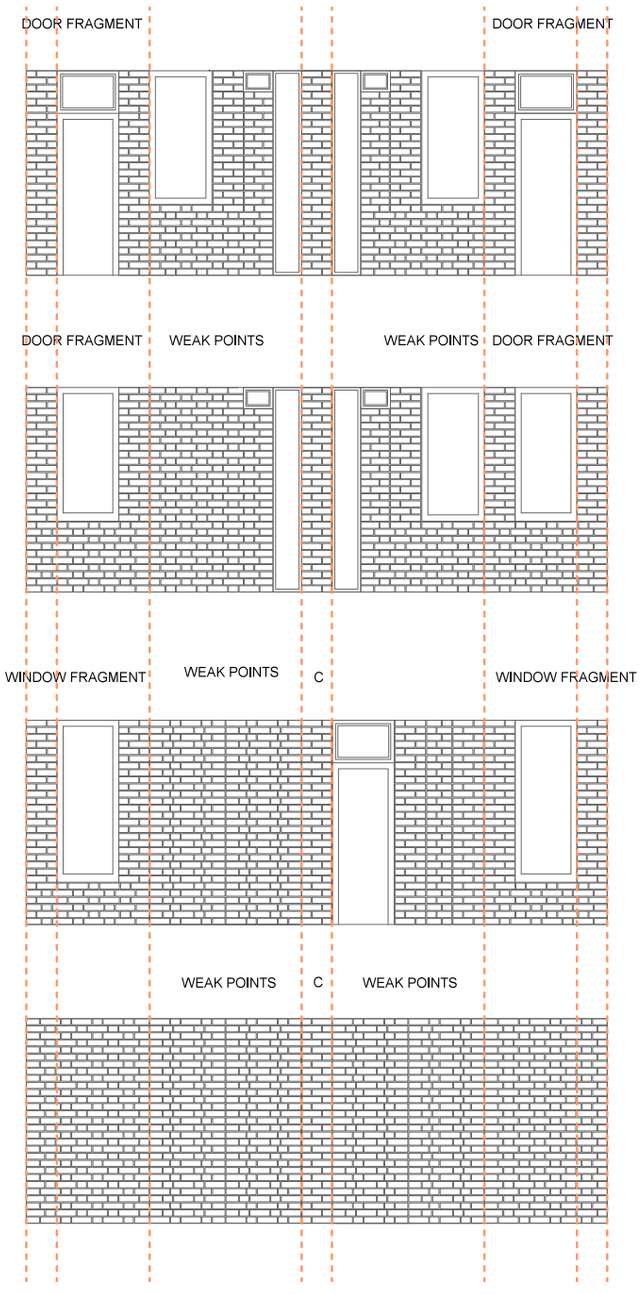


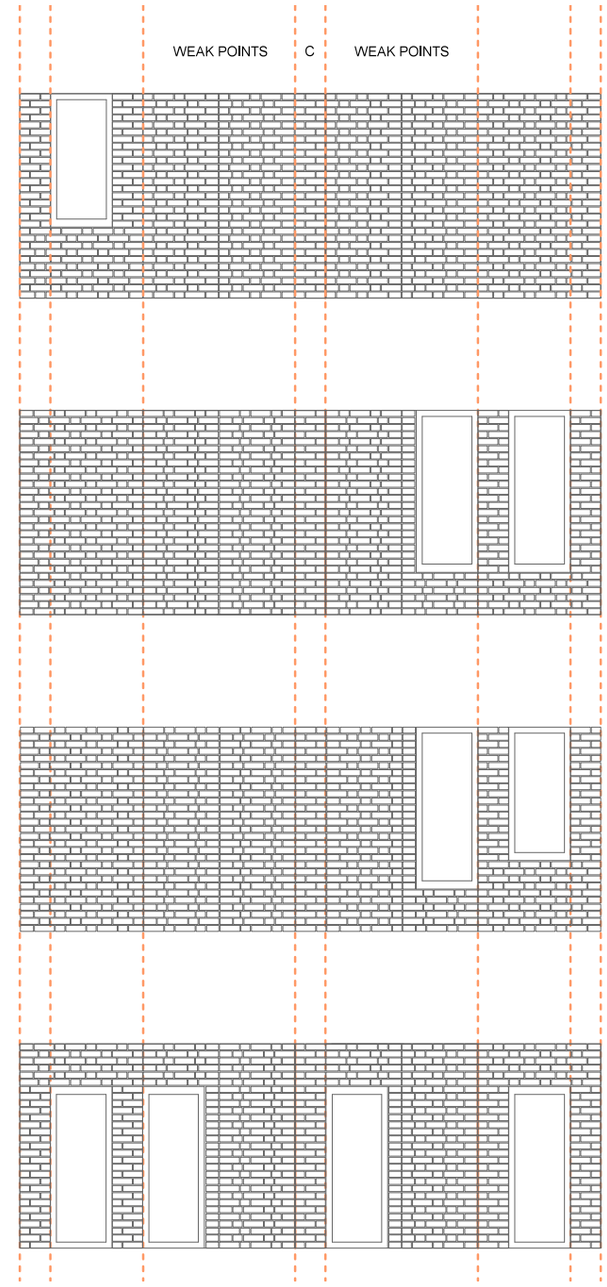
older couple- moved out children
'space for time' partially sold back - partial in and out-door space
floor area: 59m^2
22 m^2 p. person

FACADE SYSTEM

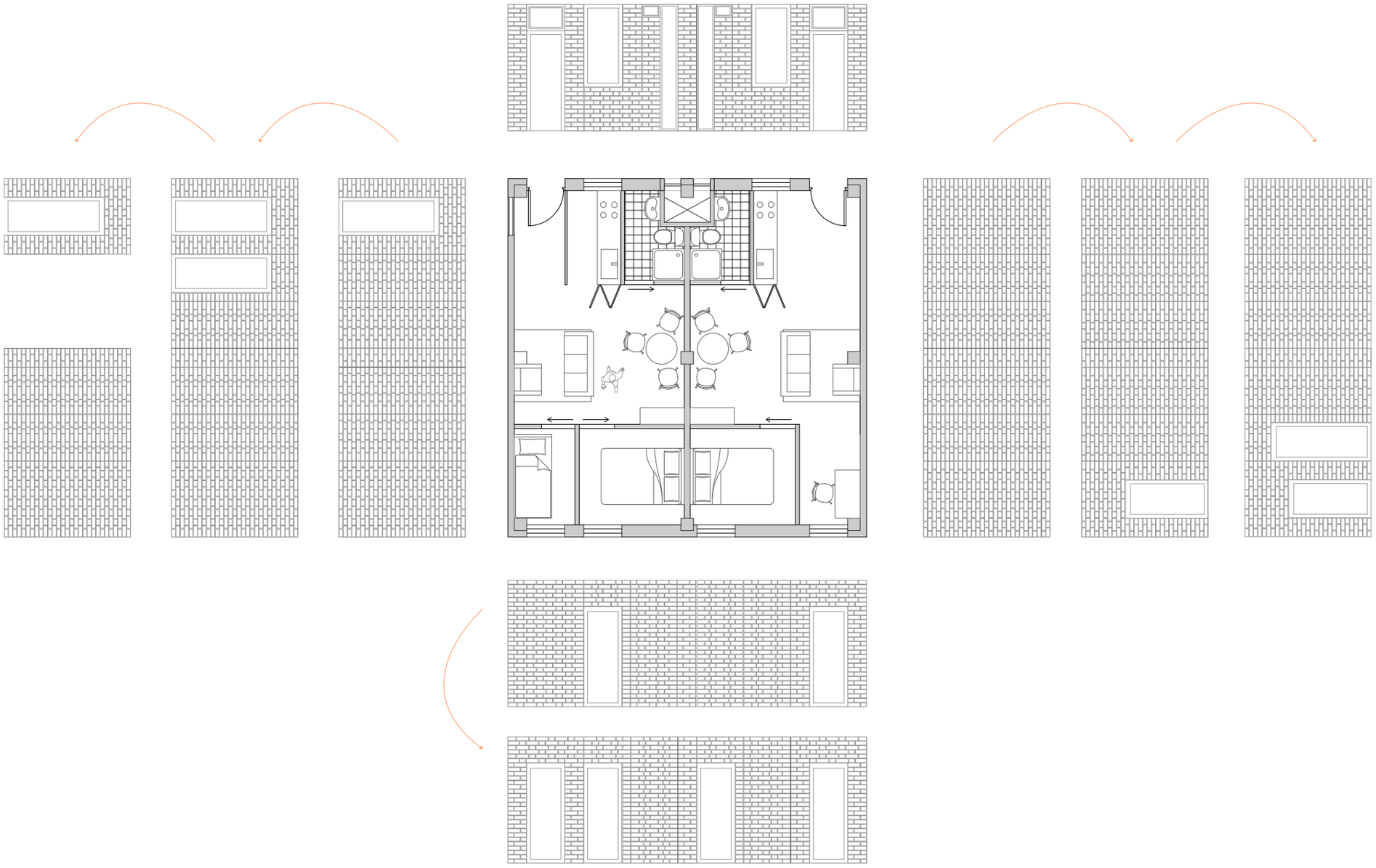




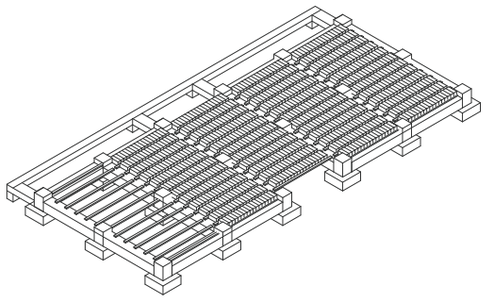


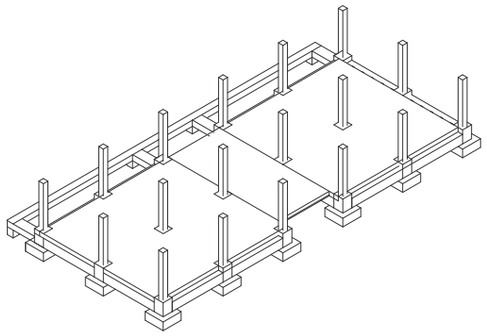


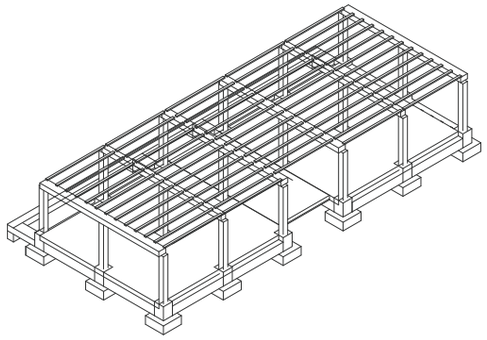
FACADE SYSTEM

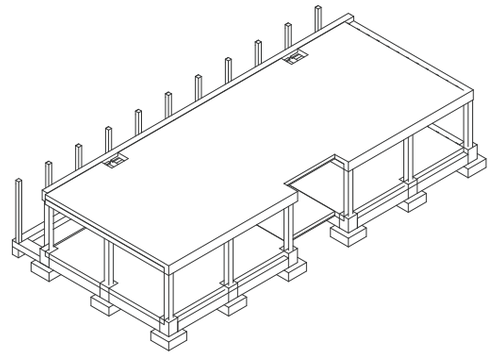


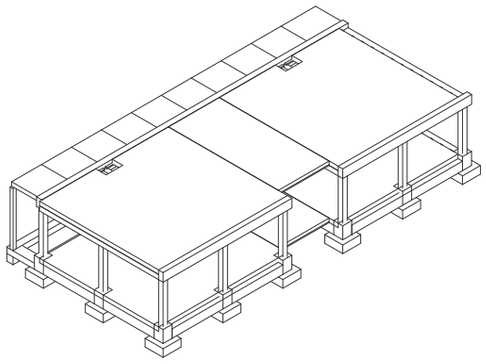
THE BUILDING SEQUENCE

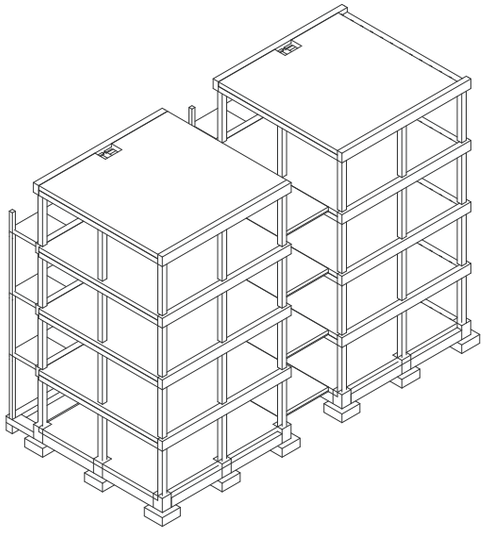


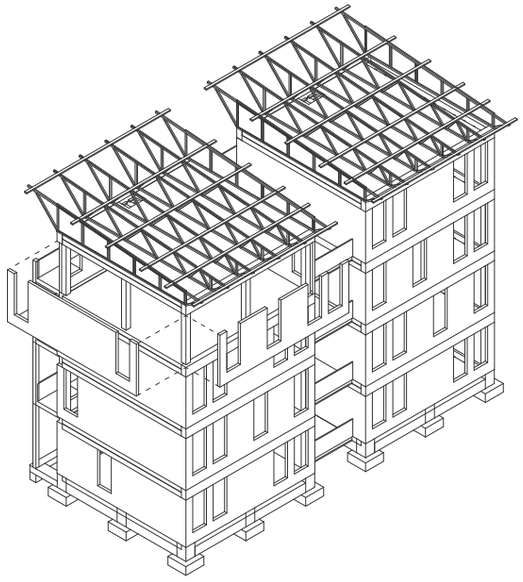


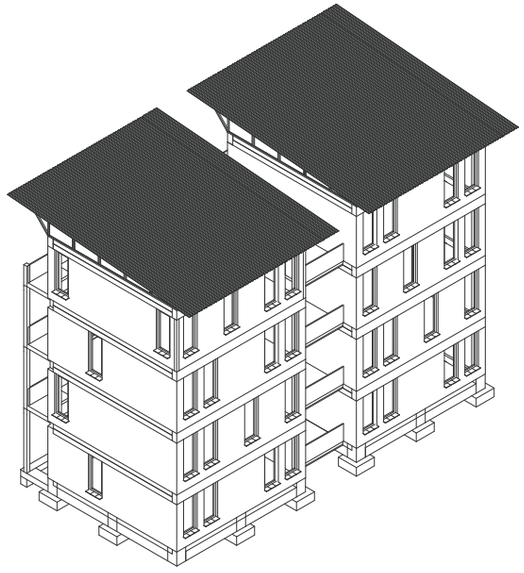






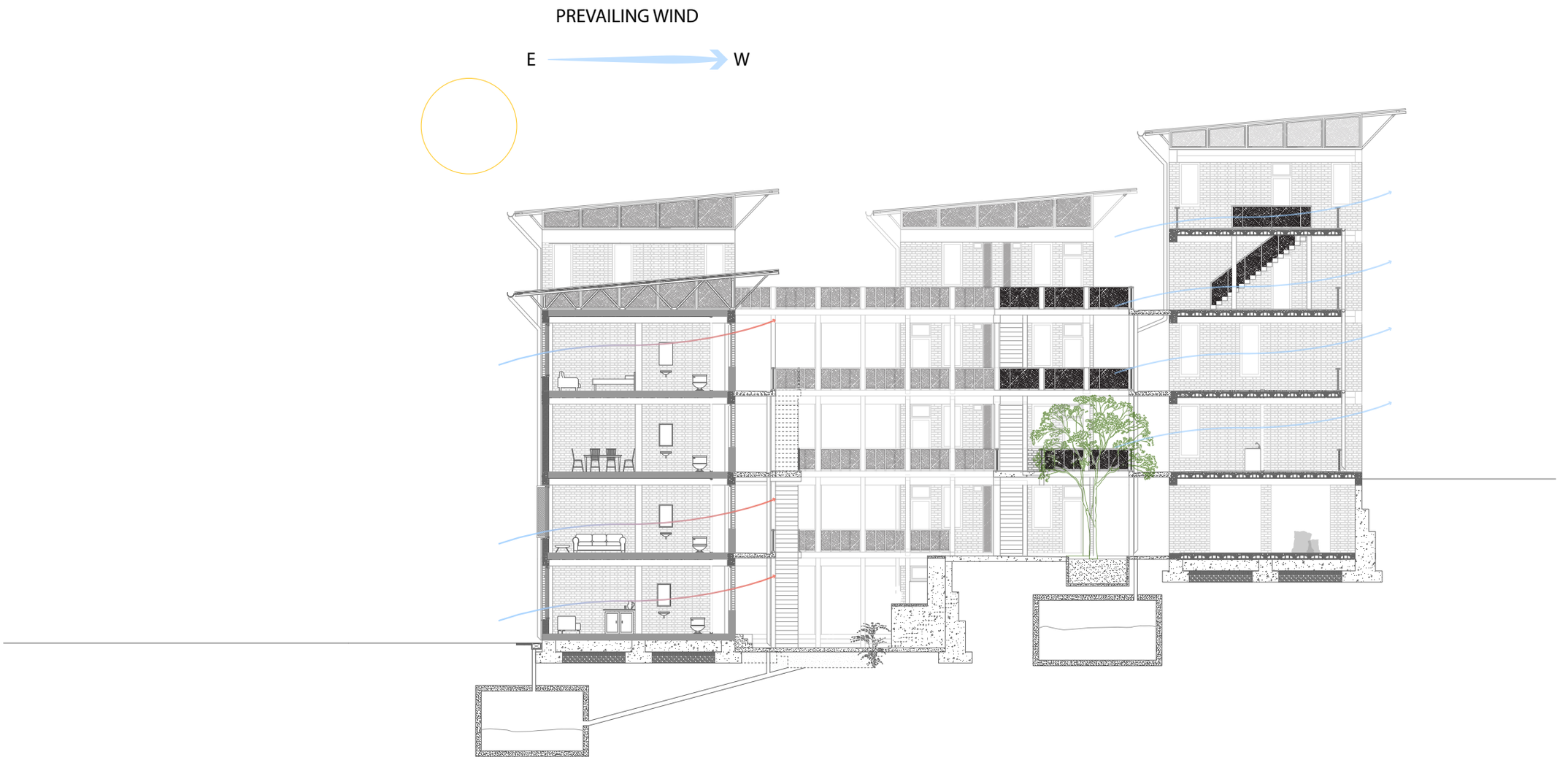




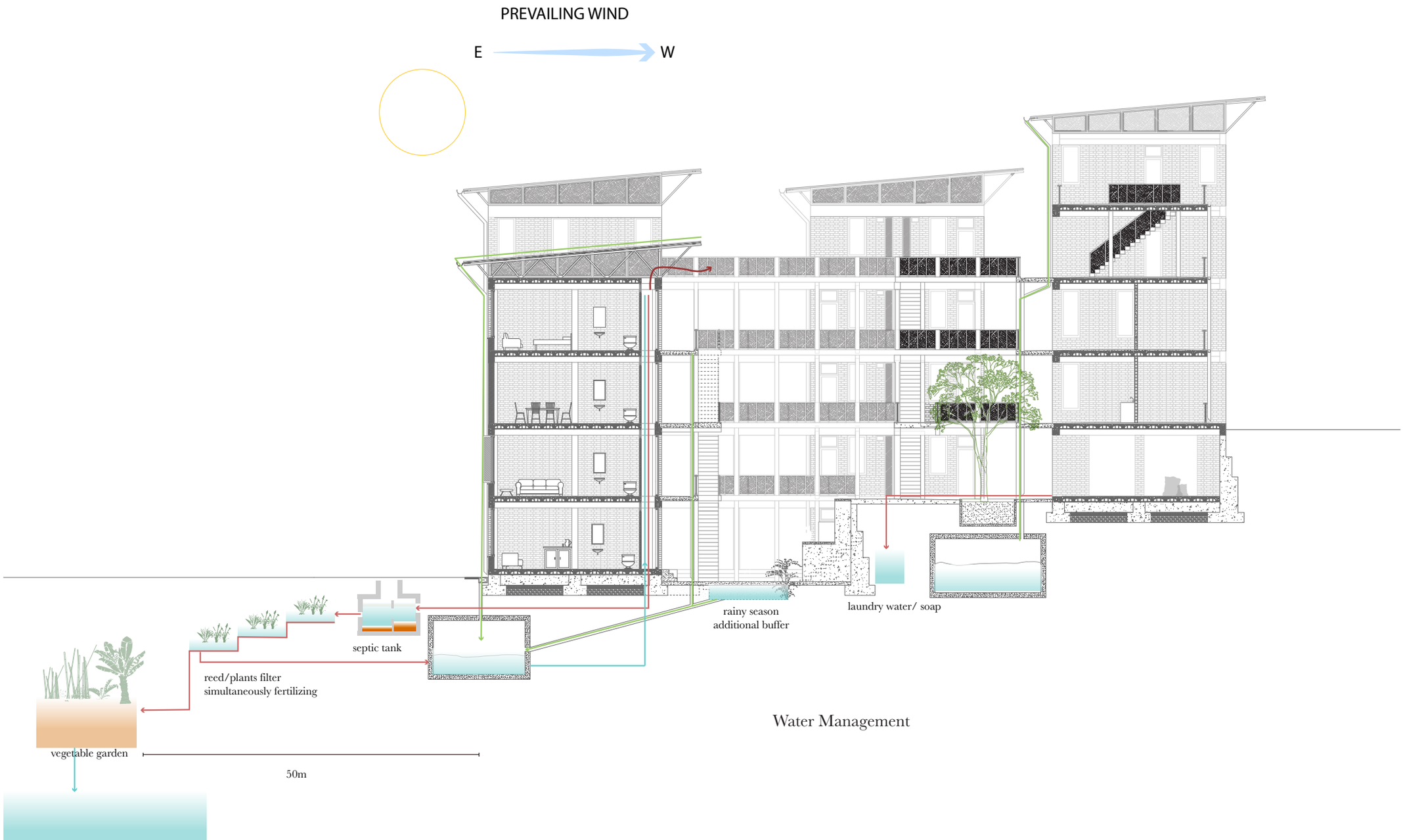




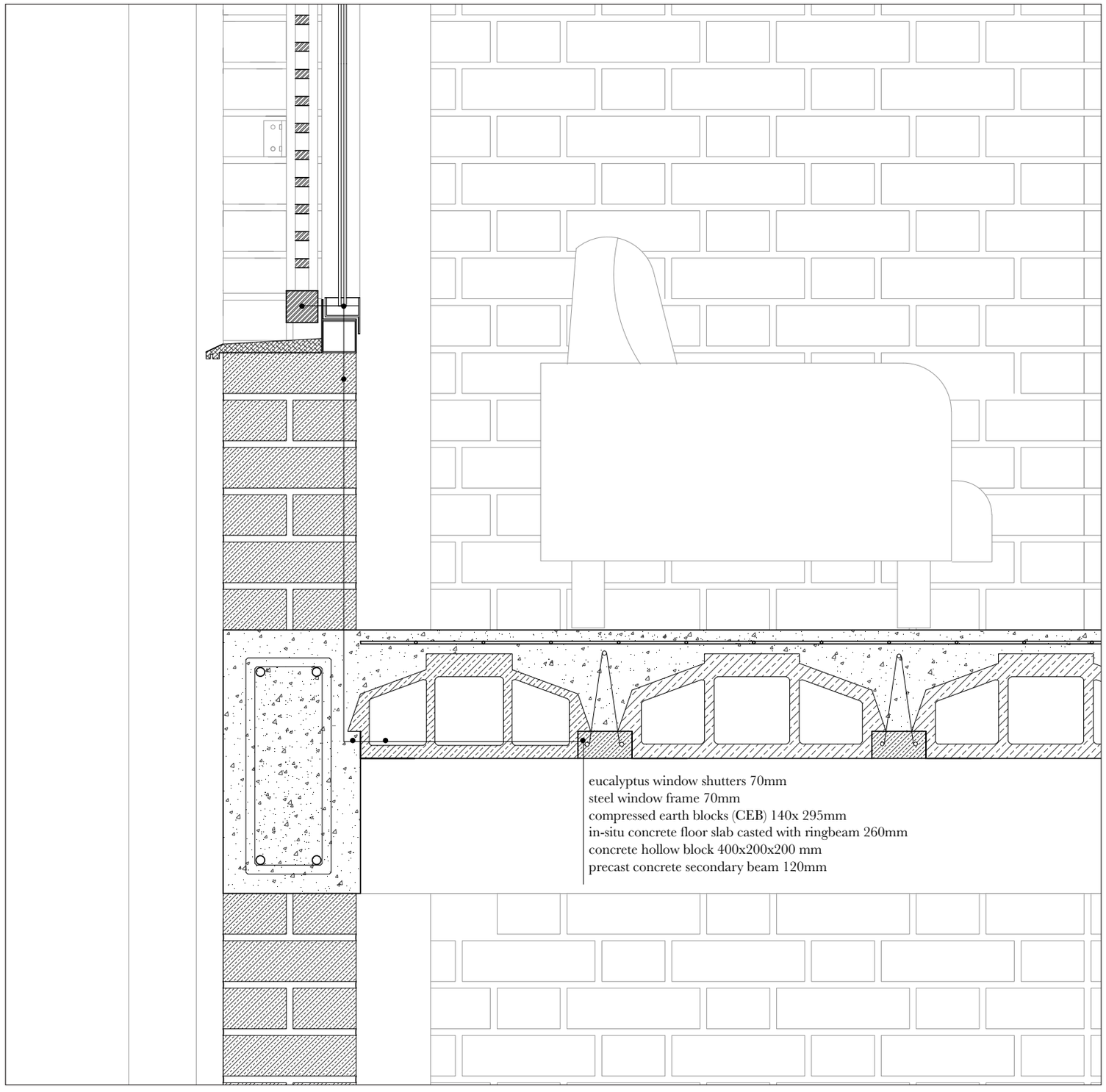
Air Flow - Ventilation Shaft



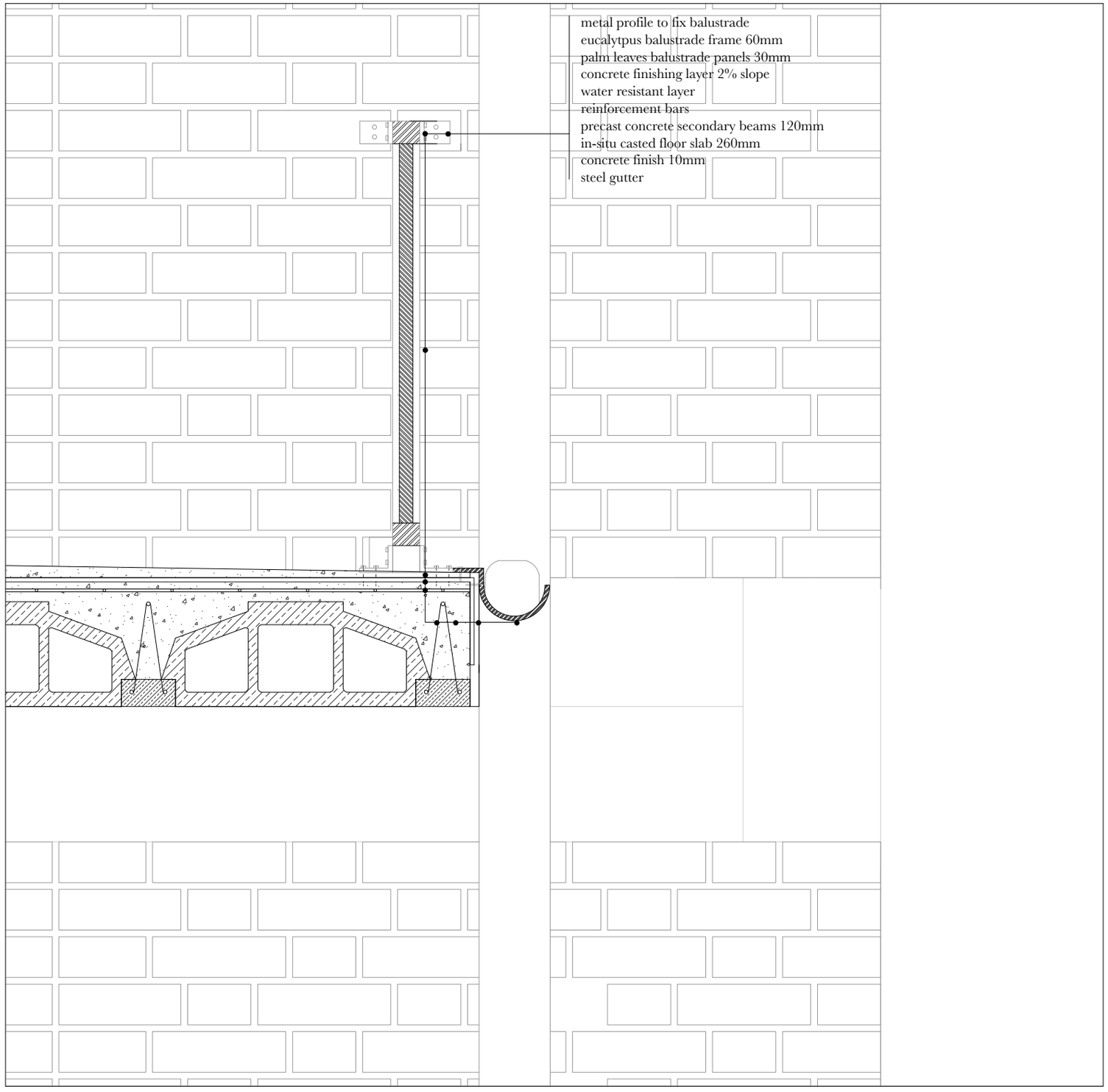
Cross Ventilation



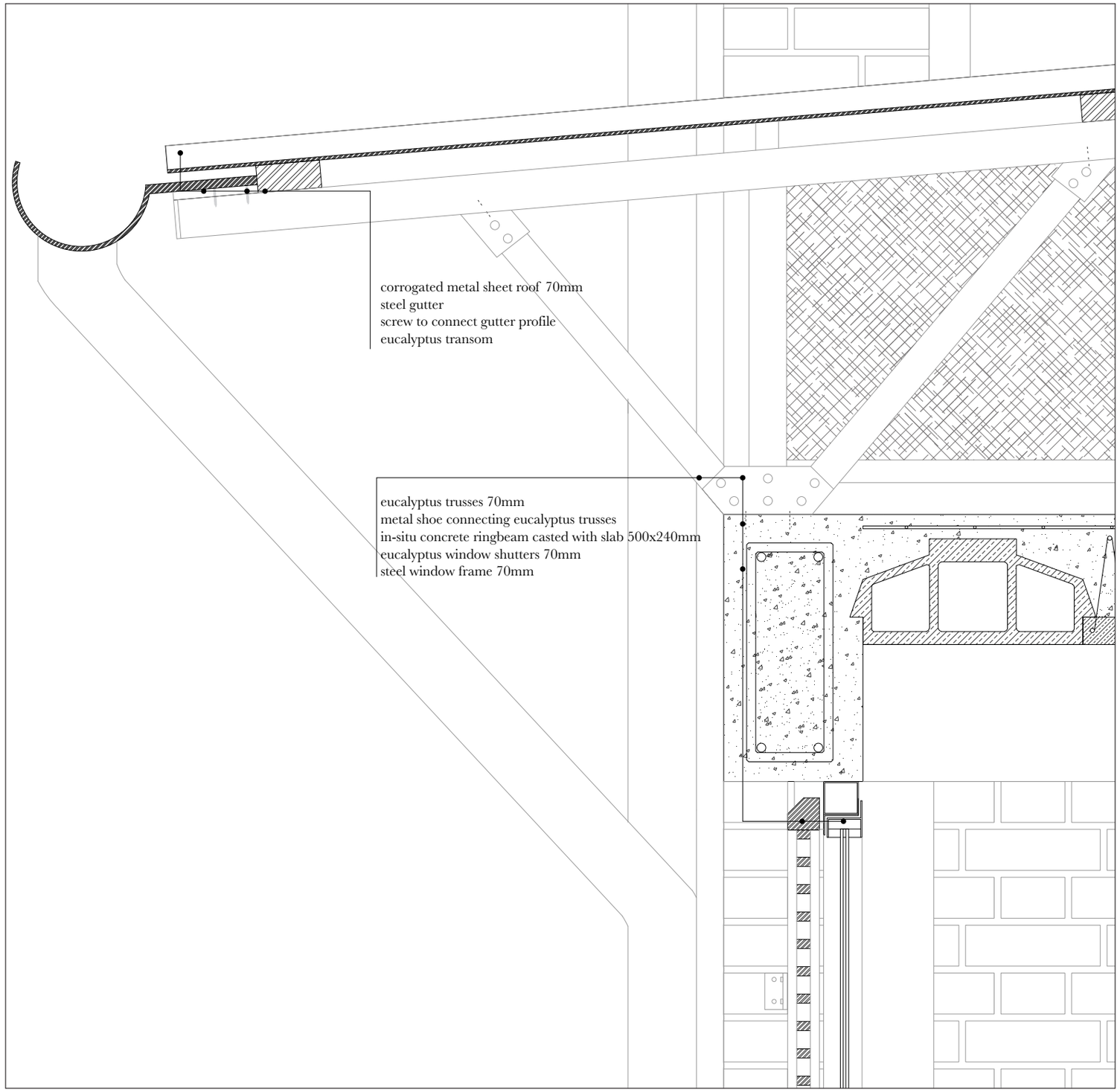
Water Management



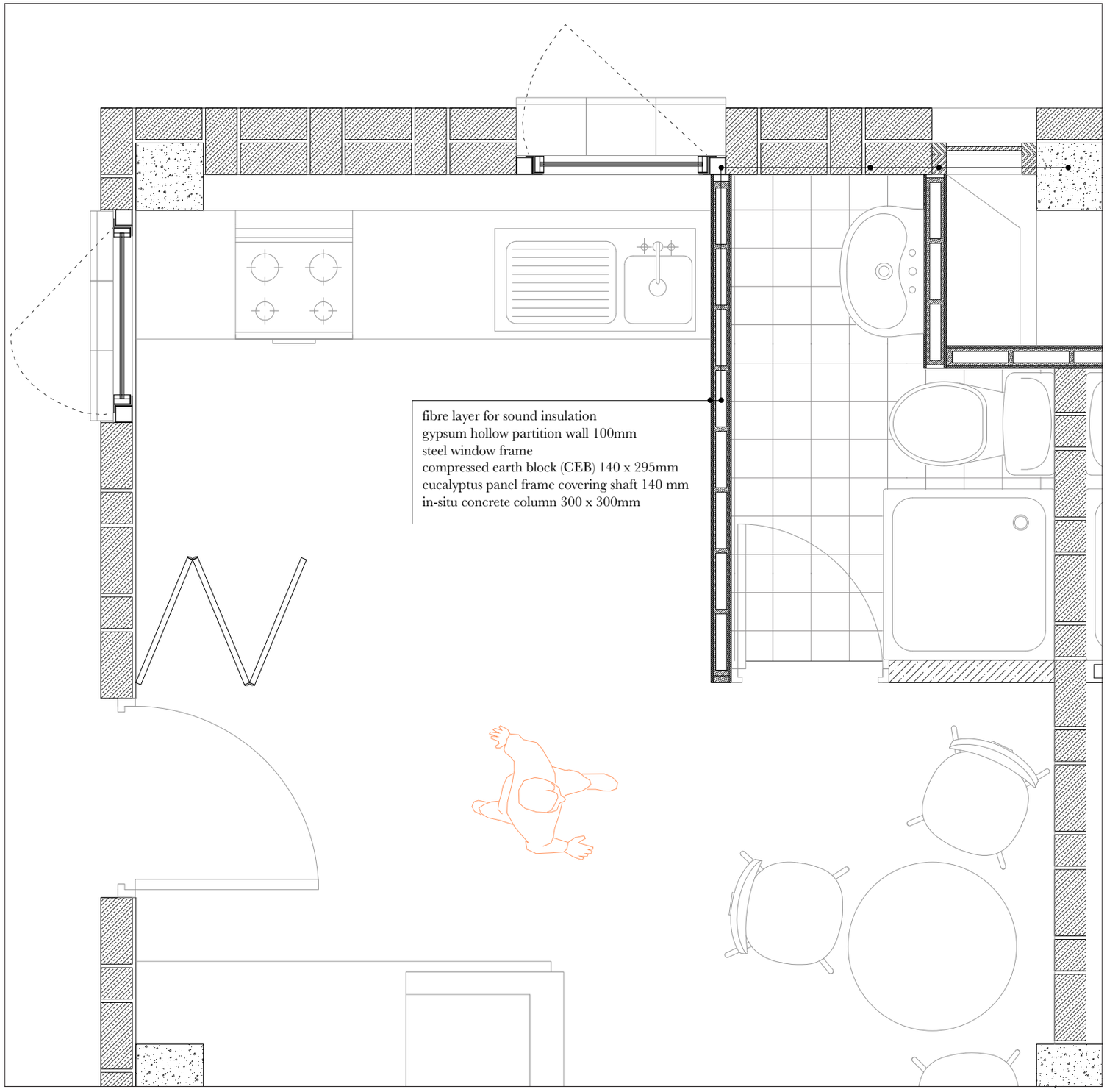
Facade - Floor connection



‘Space for Time’ floorslab


corrogated metal sheet roof 70mm
steel gutter
screw to connect gutter profile
eucalyptus transom
eucalyptus trusses 70mm
metal shoe connecting eucalyptus trusses
in-situ concrete ringbeam casted with slab 500x240mm
eucalyptus window shutters 70mm
steel window frame 70mm

Roof Detail

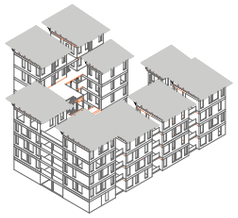


Horizontal Section 1:20

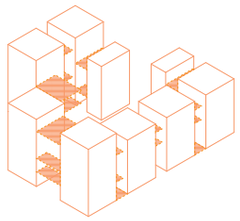
REPLICABILITY



THE ANCHOR

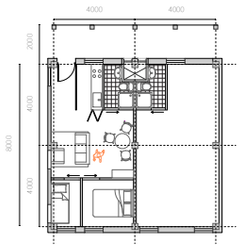


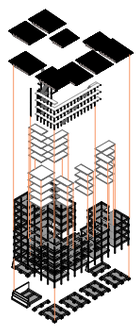
- densification: maximum 5 levels
- outdoor space facilitated on each level
- immediate outdoor space - sufficient at different scales
- living, sleeping, wet cell function
- unit layout: privacy at the back
- concrete framework, compressed earth blocks as infill, concrete slabs, corrogated steel roof
- density 270 units/ ha



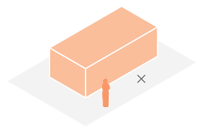
DATA (averages)

3 inhabitants p. house
3 rooms per house
32 m2 average area
11 m2 per person





THE COMPOUND

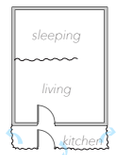


- ground floor contact, outdoor space use compound courtyard
- immediate outdoor space - sufficient
- living and sleeping function
- unit layout: privacy at the back
- corrogated steel roof and chika building method
- density 70 units/ ha

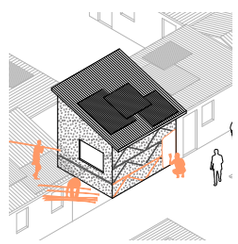


DATA (averages)

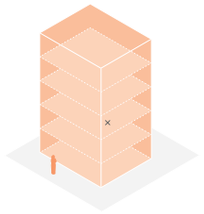
5.74 inhabitants p. house
2.75 rooms per house
23.83m2 average area
5.11m2 per person



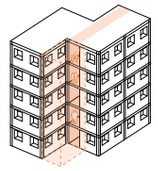
± 20M²



THE CONDOMINIUM

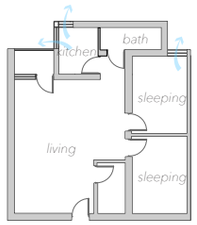


- densification G+4 (5 levels)
- cultural activities take place in corridors and stairways
- immediate outdoor space - not sufficient
- living, sleeping, wet cell function
- unit layout: privacy at the back
- efficient building method; concrete framework
- density 212 units/ ha

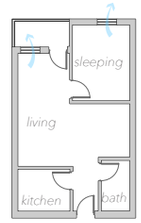


DATA (averages)

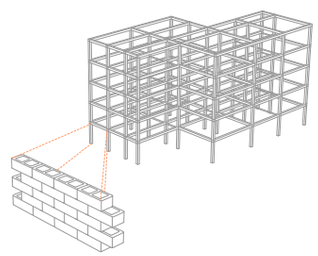
4.13 inhabitants per house
4.35 rooms per house
49.71m2 average area
14.8m2 per person



± 50M²



± 25M²



TRANSFORMATION OVER TIME





THANK YOU