

**portfolio**  
Witinan Watanasap



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# 01

## LOVE WITHOUT BOUNDARY

A terrain as a large family house for 50 modern families

*MA Architecture Thesis*

*Project / House*

*Location / Portland, Oregon*

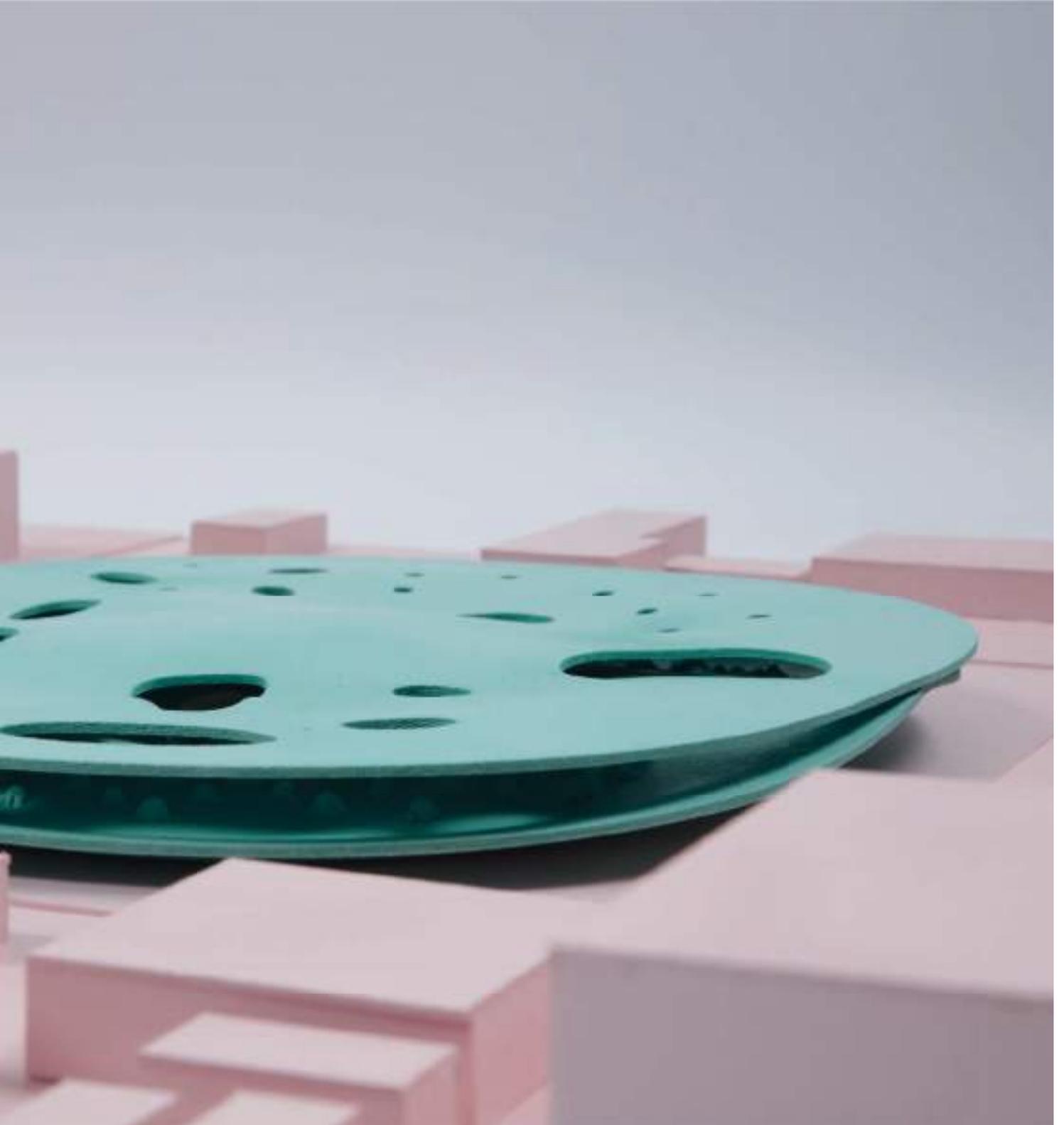
The term ‘nuclear family’ is commonly used and described American family who conforms to the ideals of a family unit. This stereotype of family structure leads to conventional domestic typology as an American suburban house. The stereotypical image of a house (and home) has been repeatedly reproduced to our society; whilst imposing a standardised image of a perfect family that has never existed. On the opposite end of the spectrum, a polyamorous relationship is a niche social phenomenon in the United States. Particularly, Portland, Oregon is seen as the capital of ethical non-monogamy, the practice of openly having multiple relationships that develop beyond sex. The unfamiliar form of love compared to conventional relationships seems to influence on a way of arranging relationships and family structure.

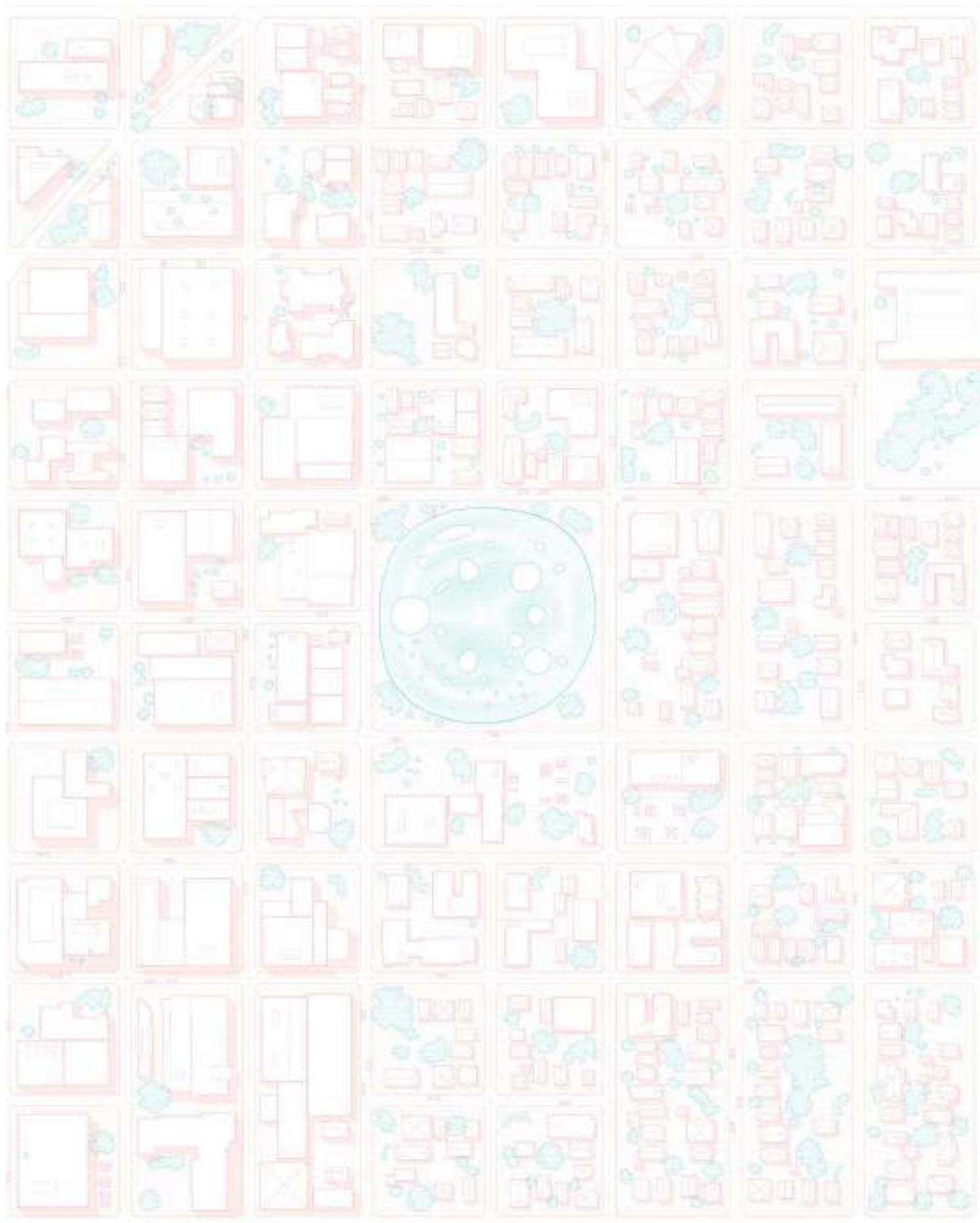
Currently, the conventional domestic typology is not appropriate to new models of social relationships and family structure, which become more complex and fluid. Collections of co-living families are sharing values in order to have a better quality of life. The new values are both collective living and commune, which negotiates new forms of sharing.

‘Love Without Boundary’ is a visionary ‘Home’ for American living’ which accommodates more complex forms of household living together. It is an experimental terrain for alternative way of living and love — a large contemporary home for 50 families, families from a wide spectrum of relationships. The surface provides ambiguity and offer inhabitants to adapt or re-appropriate their spaces according to their uses and intentions.

The house, one large single storey as a landscape, is a fluid space of 20,000 sq. m. in a 150m by 150m urban block between the downtown and suburb of Portland. The project removes spatial hierarchy and walls of the American suburban house and invert its organisation by putting a porch in the middle for socialising and leading inhabitants to their clusters. The orientation, proximity and clustering are the spatial organisation principles of the project. This defines the form of the surface and creates different spatial qualities for different activities. It is a seamless space for community for living, sharing, negotiating, and parenting.





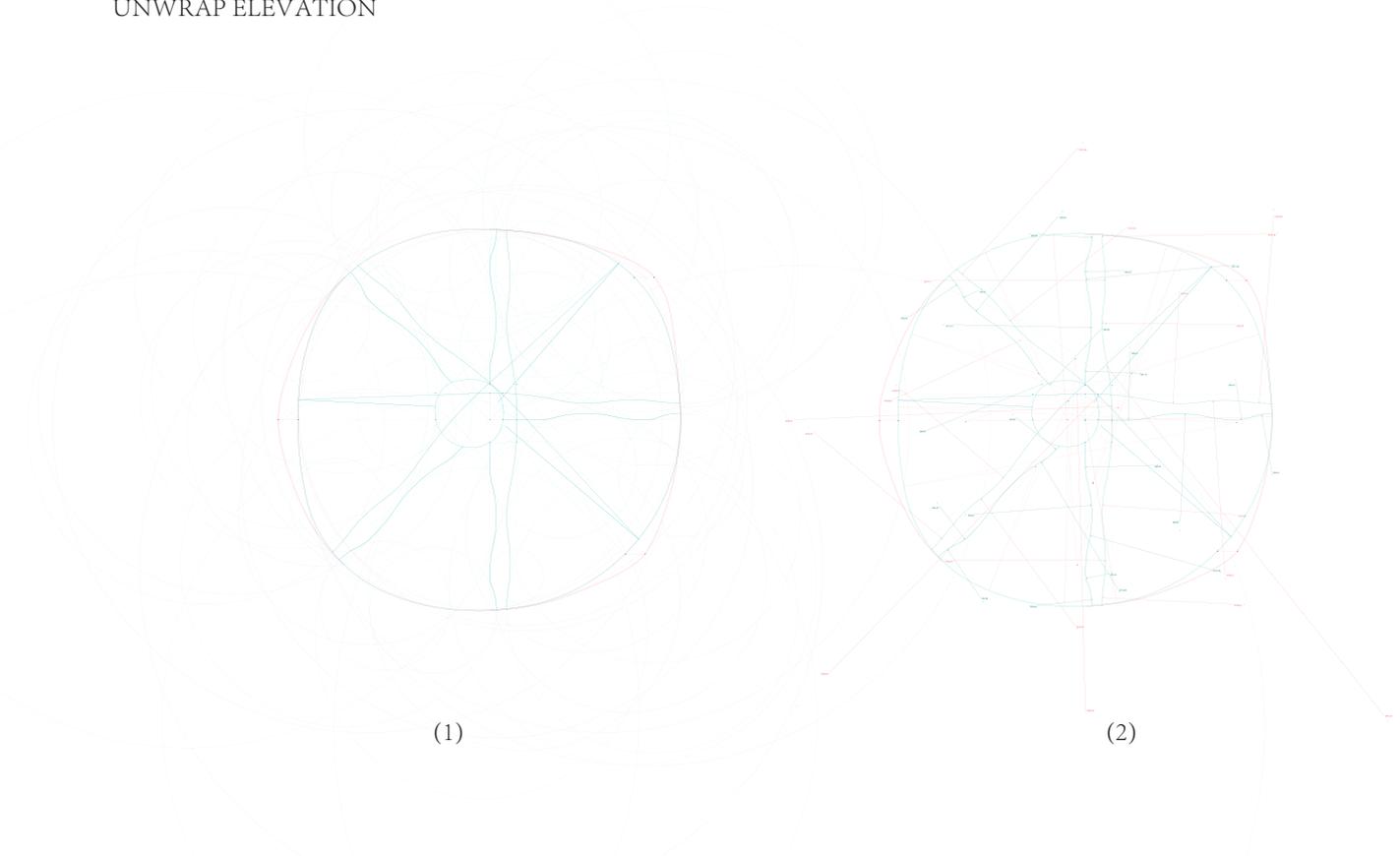




## Love Without Boundary



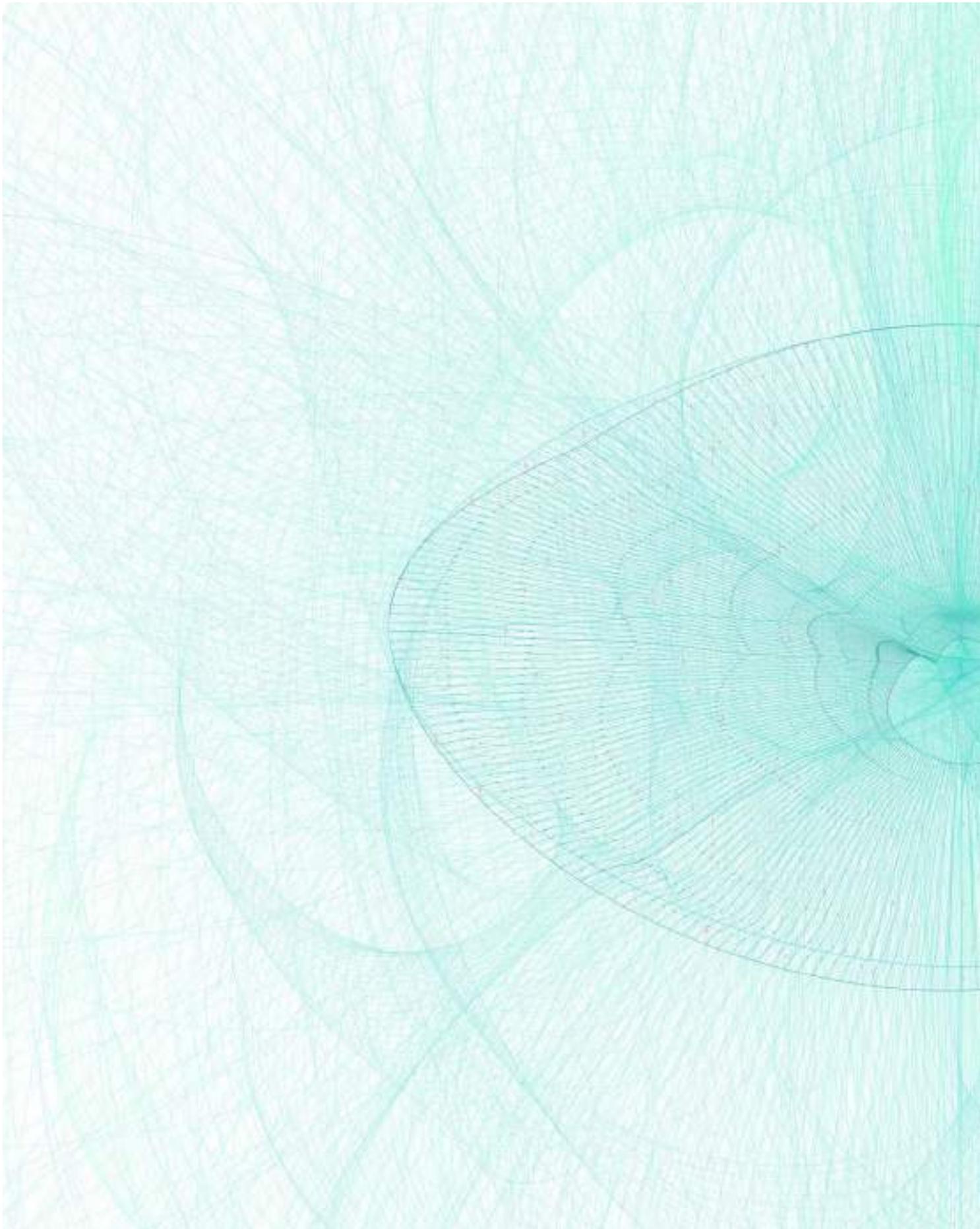
UNWRAP ELEVATION

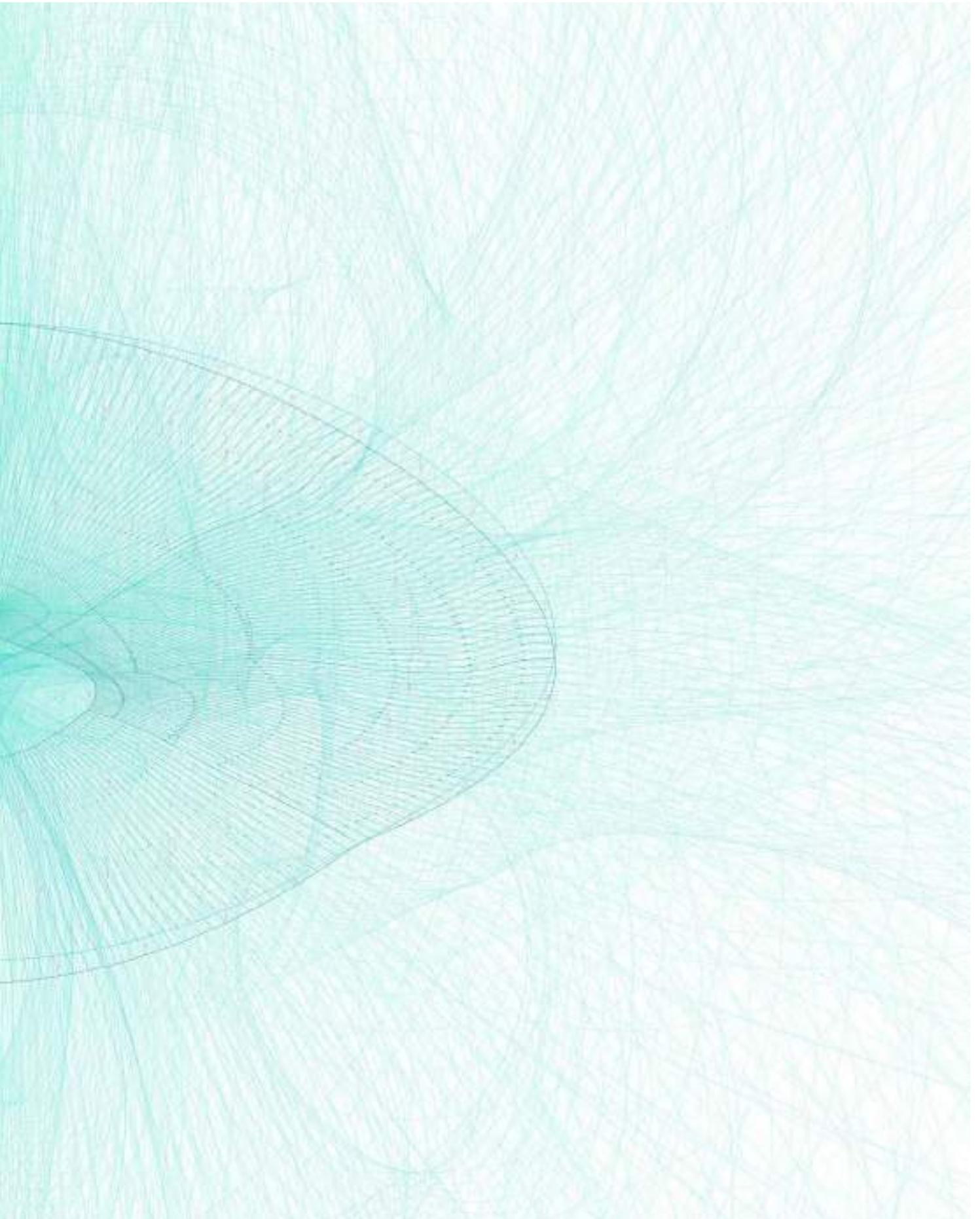


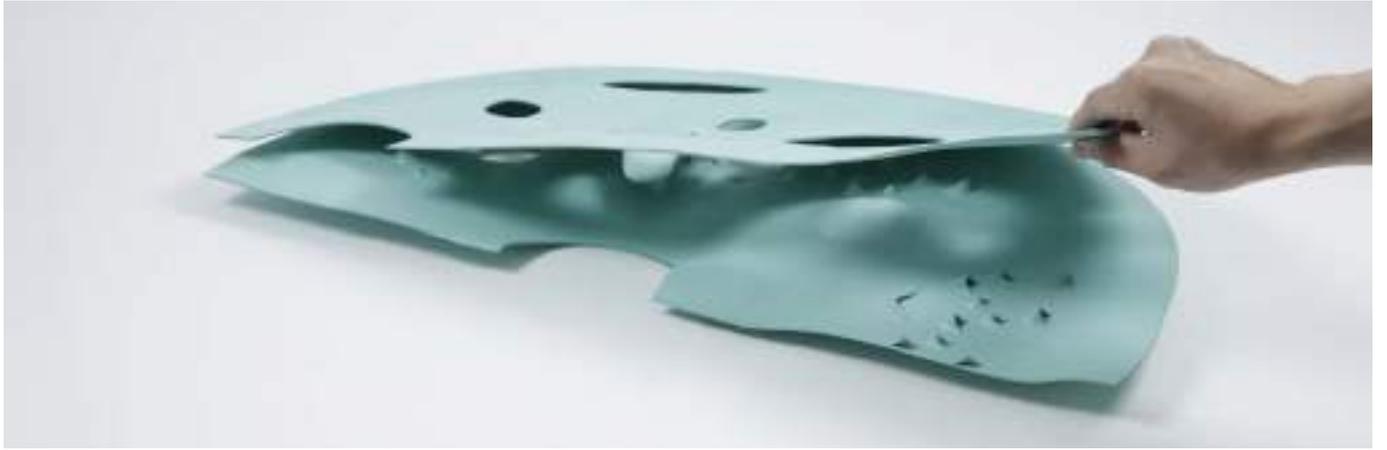
UNWRAP ELEVATION - The building is designed by starting from the unwrap elevation to locate entrances of my building by considering its context and surrounding buildings. There are three openings to enter the building.



MIDDLE FLOOR PLAN - The house will remove the hierarchy of American suburban house and invert its organisation by putting a porch in the middle where people can gather and socialise in the area.

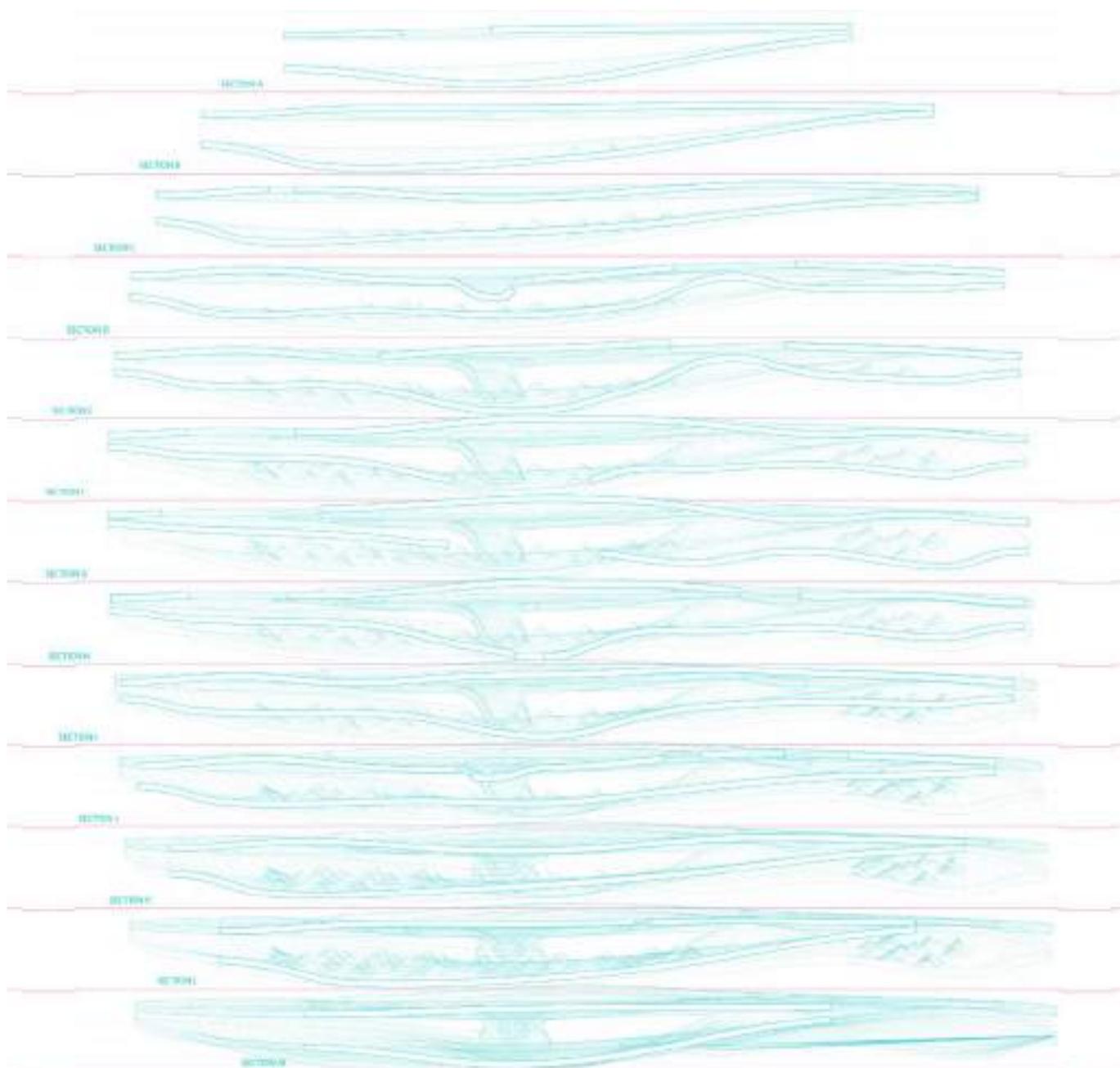




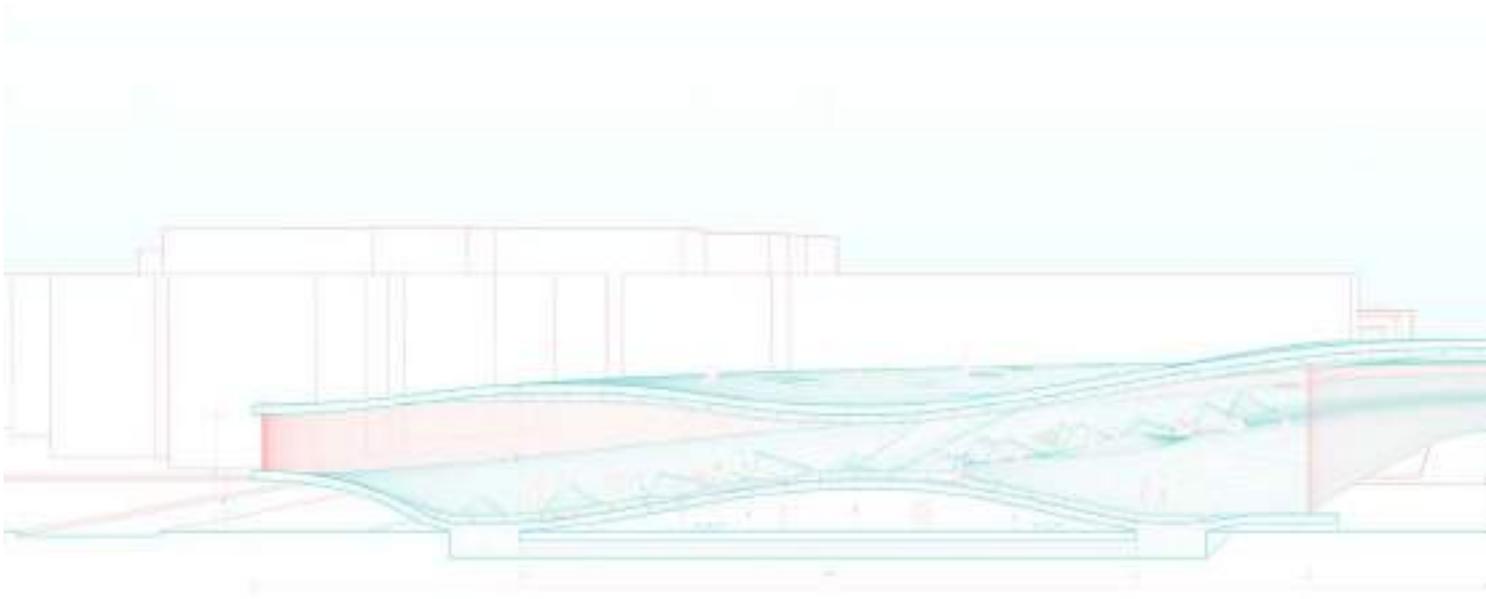


Model scale 1:500 (700mm x 350mm)





ZOOM MIDDLE FLOOR PLAN- The big pocket can be space for collective kitchen for each cluster. Inhabitants can cook and eat together around this area. Small pockets will provide privacy for dwellers, between small pockets they can negotiate with others for shared common space, they can extend their pockets to sleep together, share their living space as watching a movie or work together.



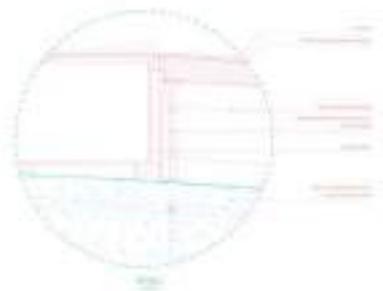
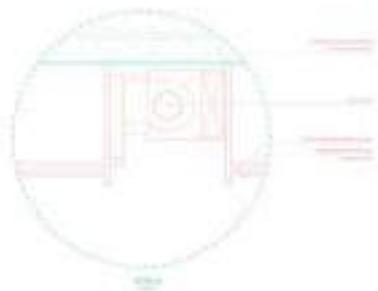
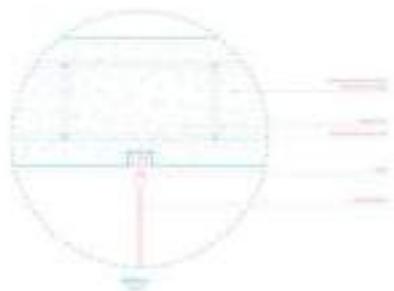
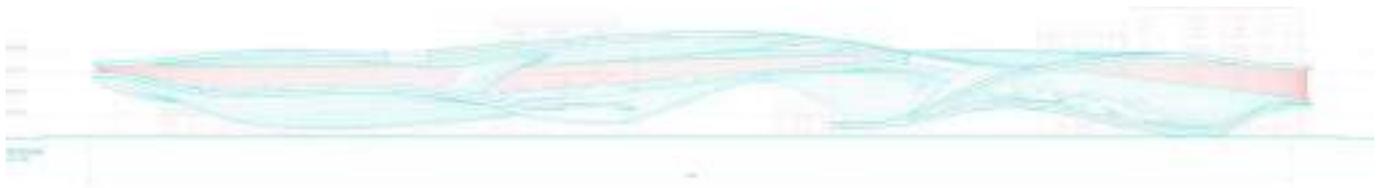
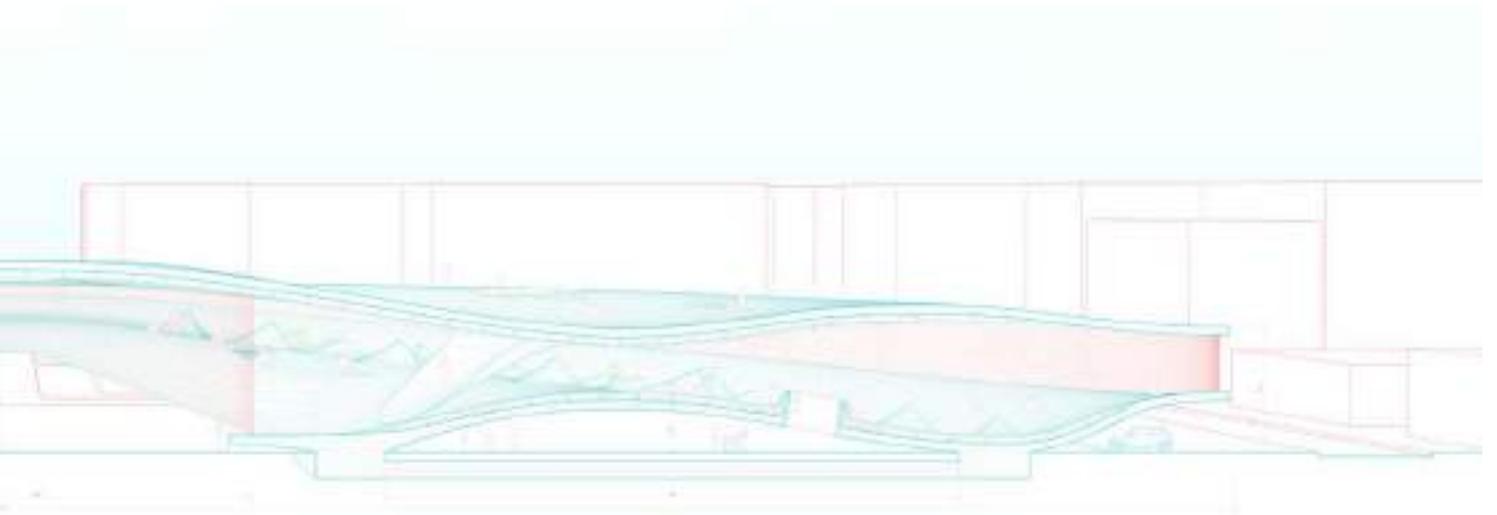
SECTION AA'

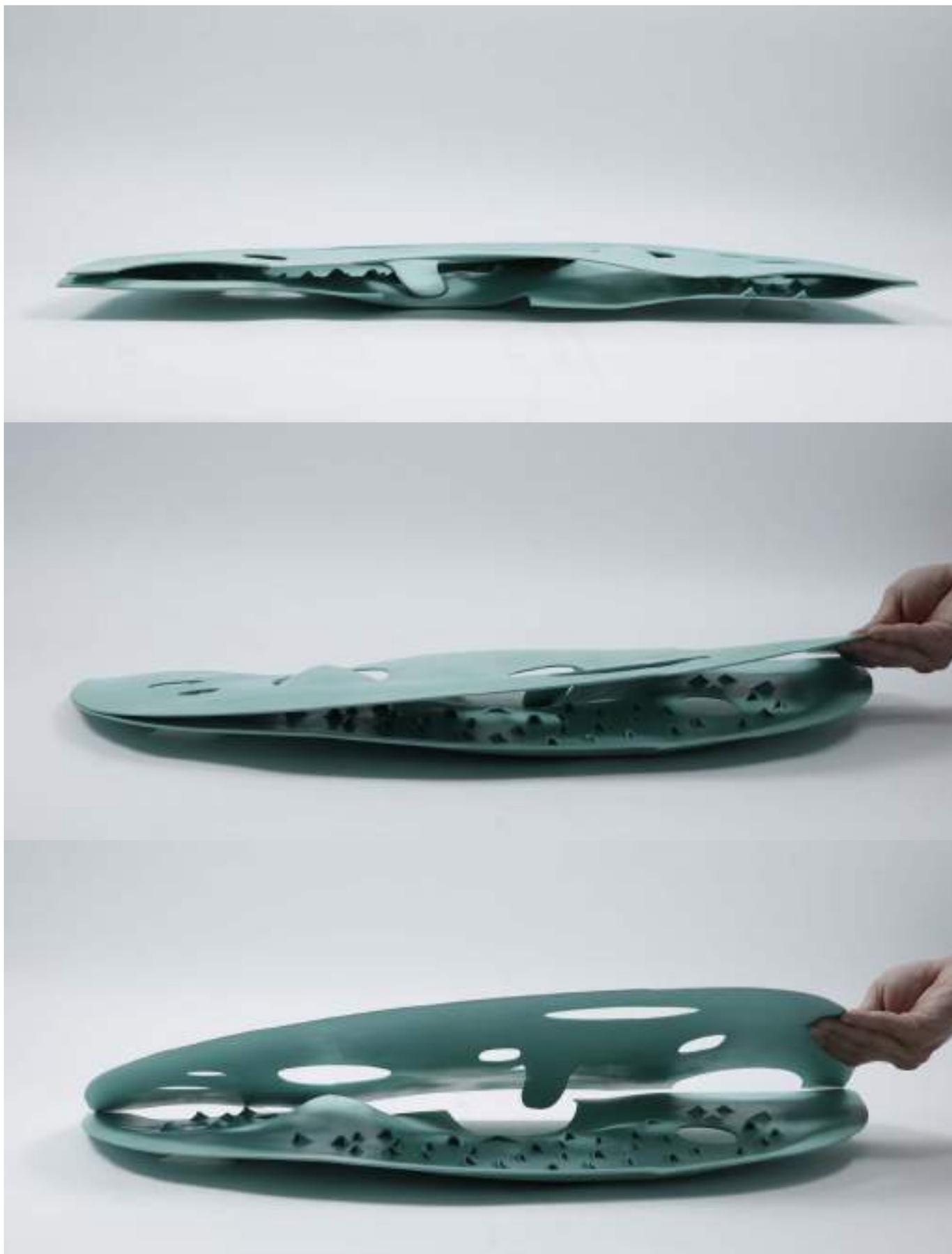


Each cluster consists of different pockets for different domestic activities like sleeping, living or dining. All pockets face to the same direction to control privacy and visibility for dwellers.



Space between two living clusters is an area for collective and shared activities in the house which is defined by different light qualities from the roof.





Model scale 1:200 700mm x 350mm



Model scale 1:100 600mm x 300mm

## 02

### WATER TANK HOUSE

A combination of a water tank and a way of living

*Studio Project and Technical Study*

*Project / House*

*Location / Mirandela, Portugal*

This project is a combination of the water tank and a weekend houses located in Marmelos, a Portuguese village in the area of Mirandela.

Getting into my direction of the project, this is formed by the previous principles which are a case study: Hildebrand House by Gerrit Rietveld, The Good Life: the house of pragmatism, Live project: the construction of new emerging forms of domesticity, and Spatial sequence, and the site condition.

My proposal is an integration between the water tank and suggestion for a way of living in the village responding to the existing context : Marmelos is an agricultural village in Portugal. There is not enough precipitation in summer. Therefore, my architecture is designed to collect water for inhabitants and distribute water to farmlands in the summer period. Additionally, the building is divided spaces into two parts by the tank's surface which are the space inside and beneath it.

This ambiguity is ambitious; it is real and precise and yet simultaneously vague, intangible and unclear. This is slightly ambiguous, for it does not have an accurate programme. There are many possibilities of functions in a different period. For instance, in summer, it is a water tank to collect water and a public swimming pool for the village. In winter, when the tank is empty, the space inside the tank may be adapted to a playground, amphitheatre or communal area. Furthermore, the space underneath the tank is likely to be the space underneath the water tank is inhabited for domesticity or changing area when it is swimming pool.







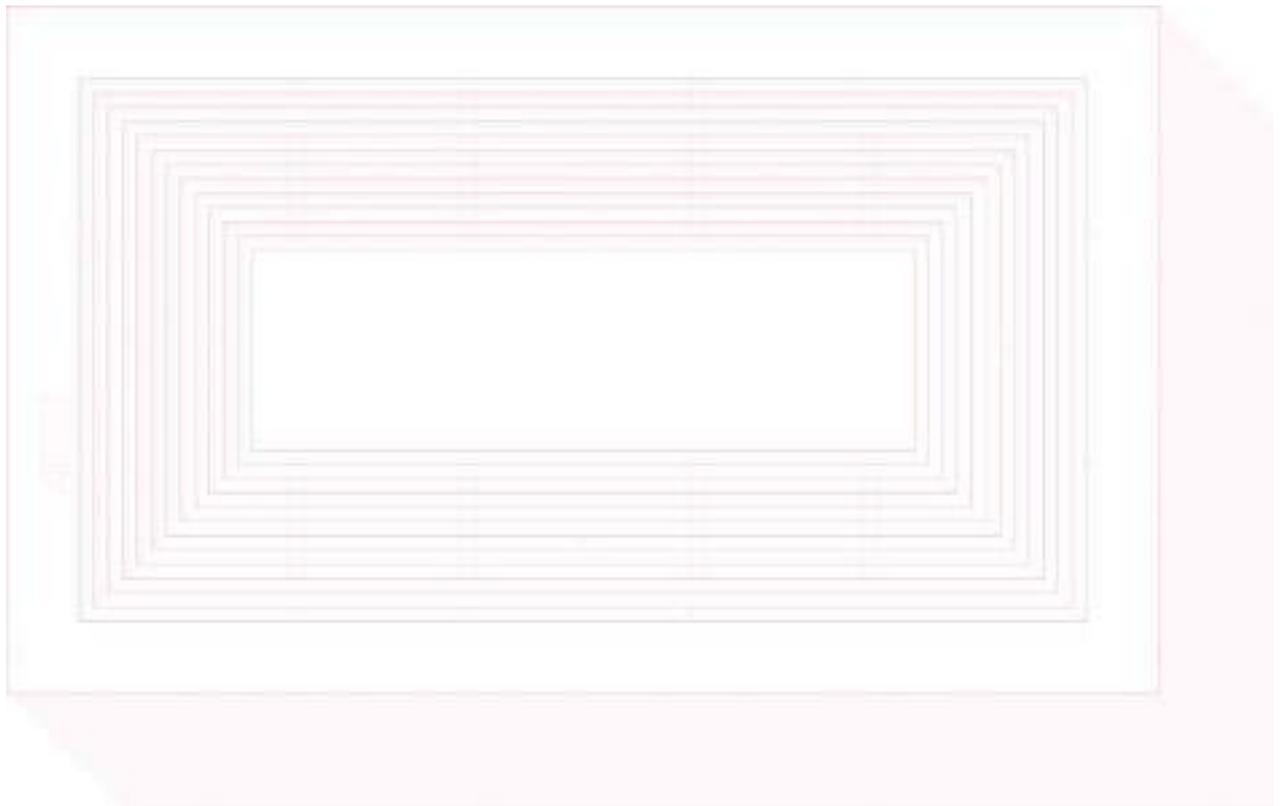


1 - exterior view from public approach



2 - domestic activities as cooking, dinner and living

Water Tank House



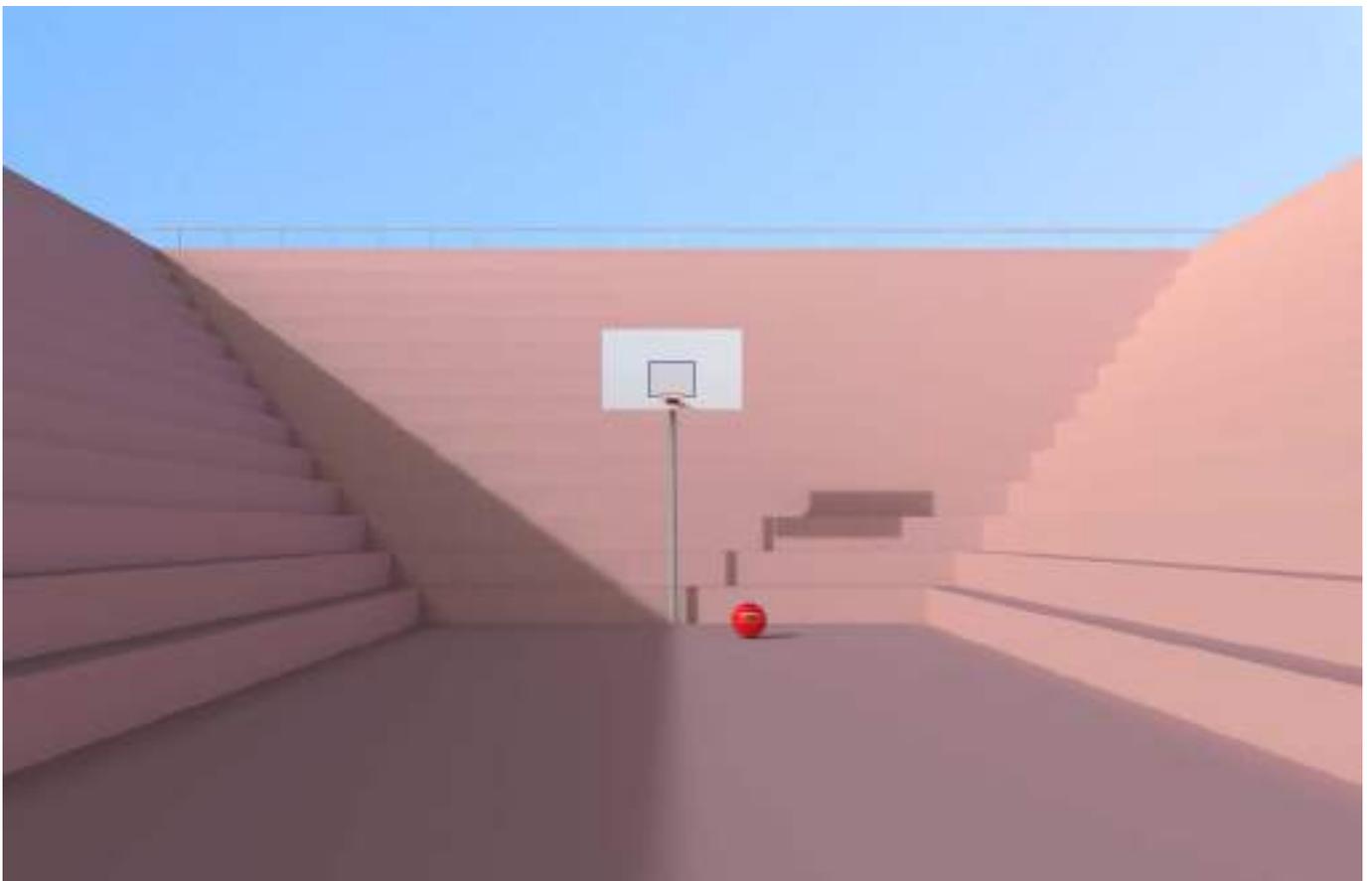
ROOF PLAN



SOUTH ELEVATION

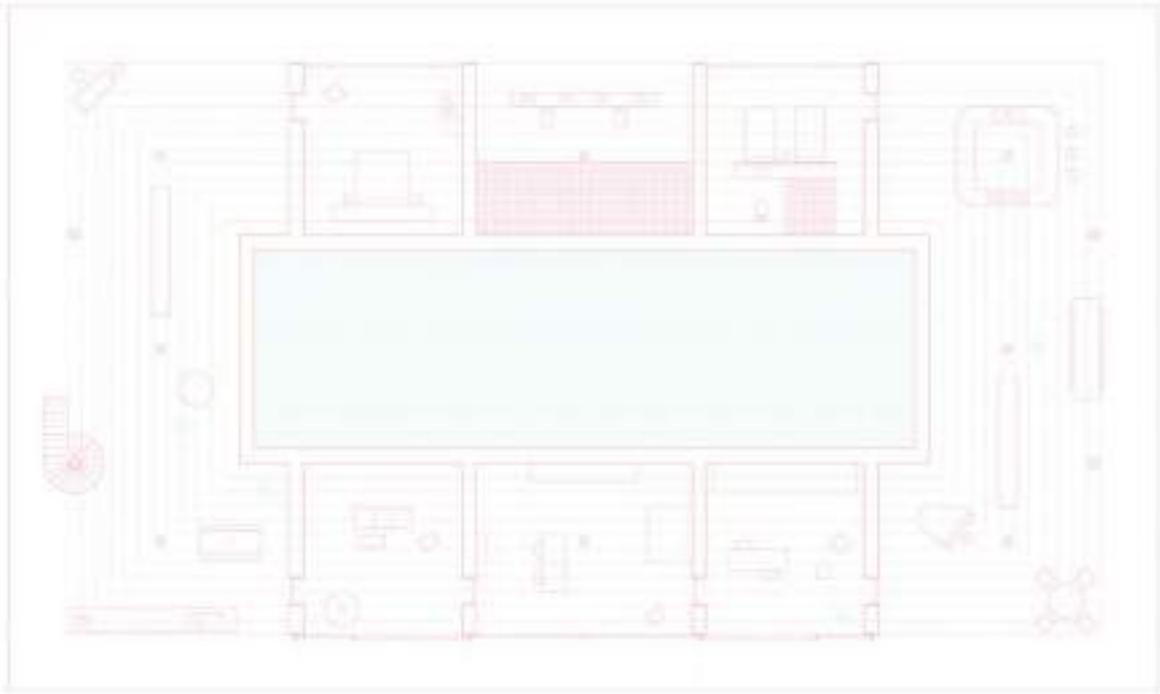


3 - a water tank is used as a public swimming pool in the summertime



4 - a water tank is used as communal space in the wintertime

Water Tank House



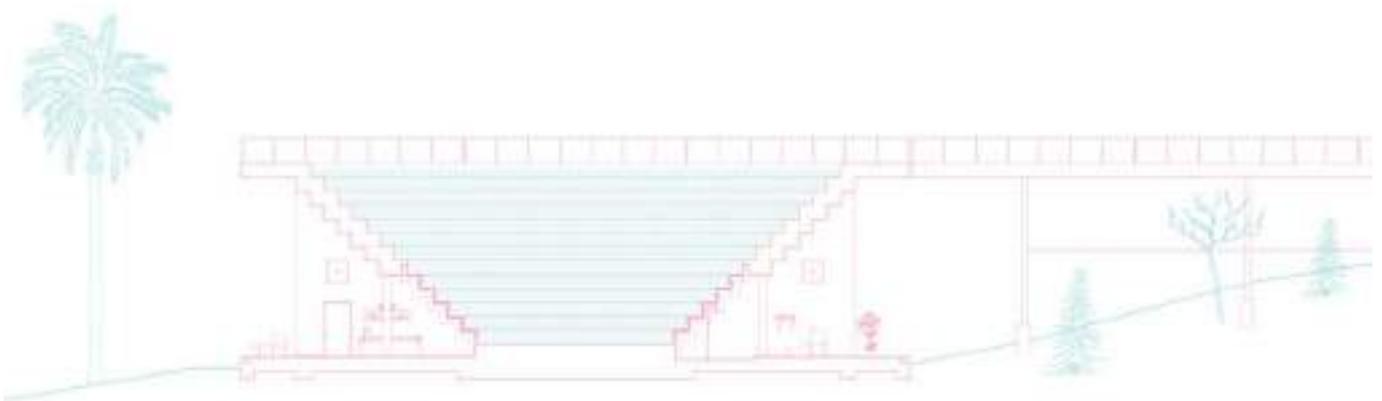
GROUND PLAN



SECTION C



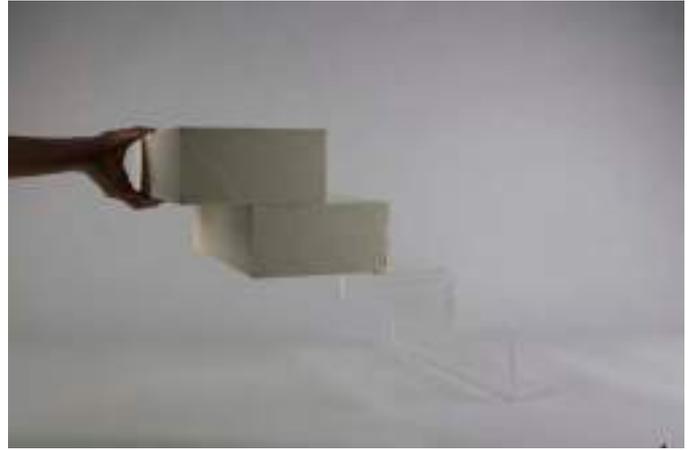
5 - sleeping and working space underneath a water tank



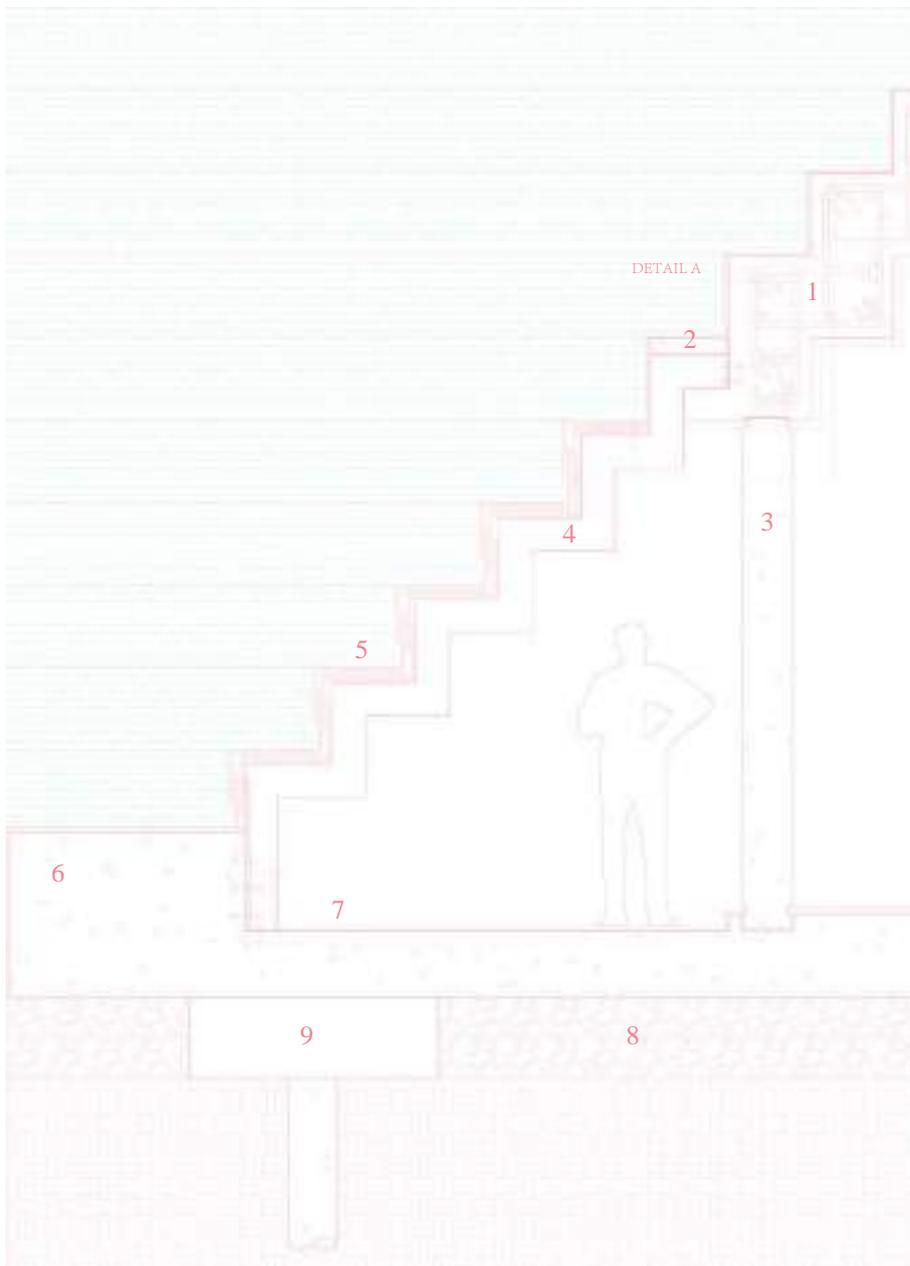
SECTION A



6 - 1:5 physical model: one module of Z-profile glass

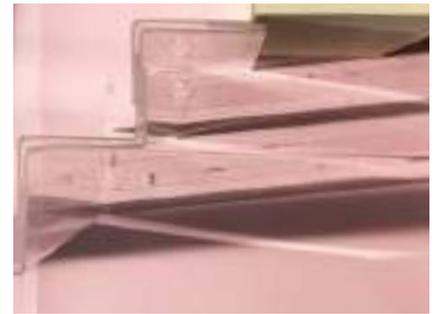
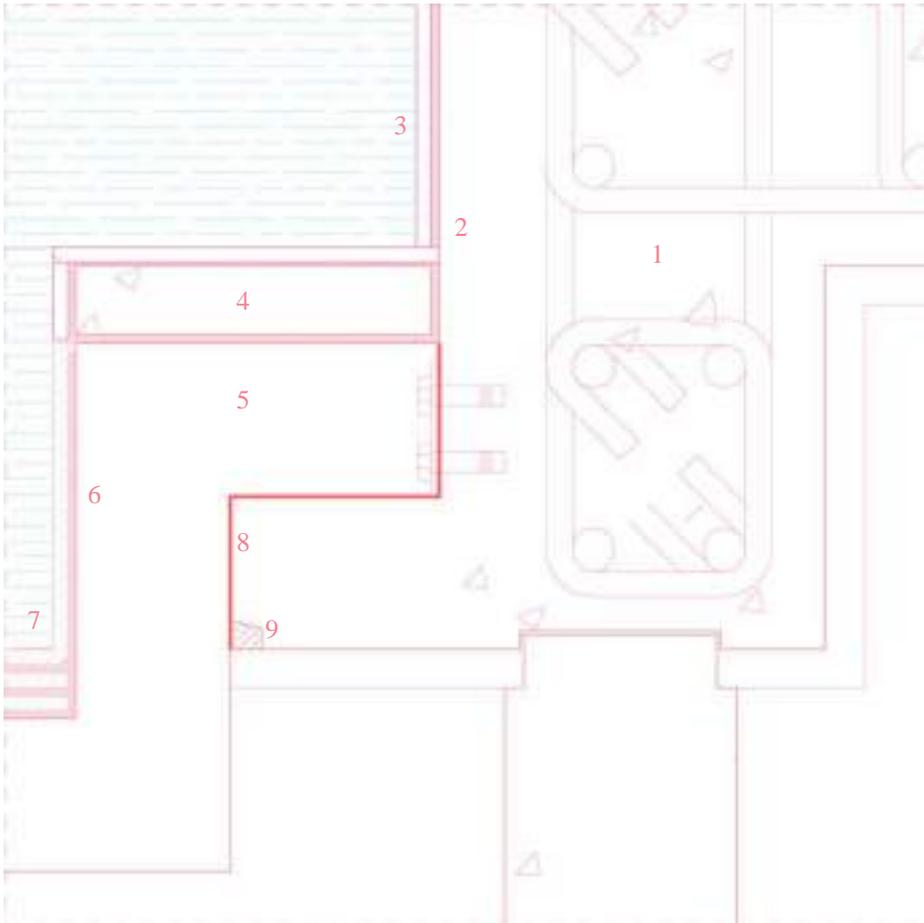


7 - a connection between two materials: concrete and Reglit glass



TYPICAL SECTION A

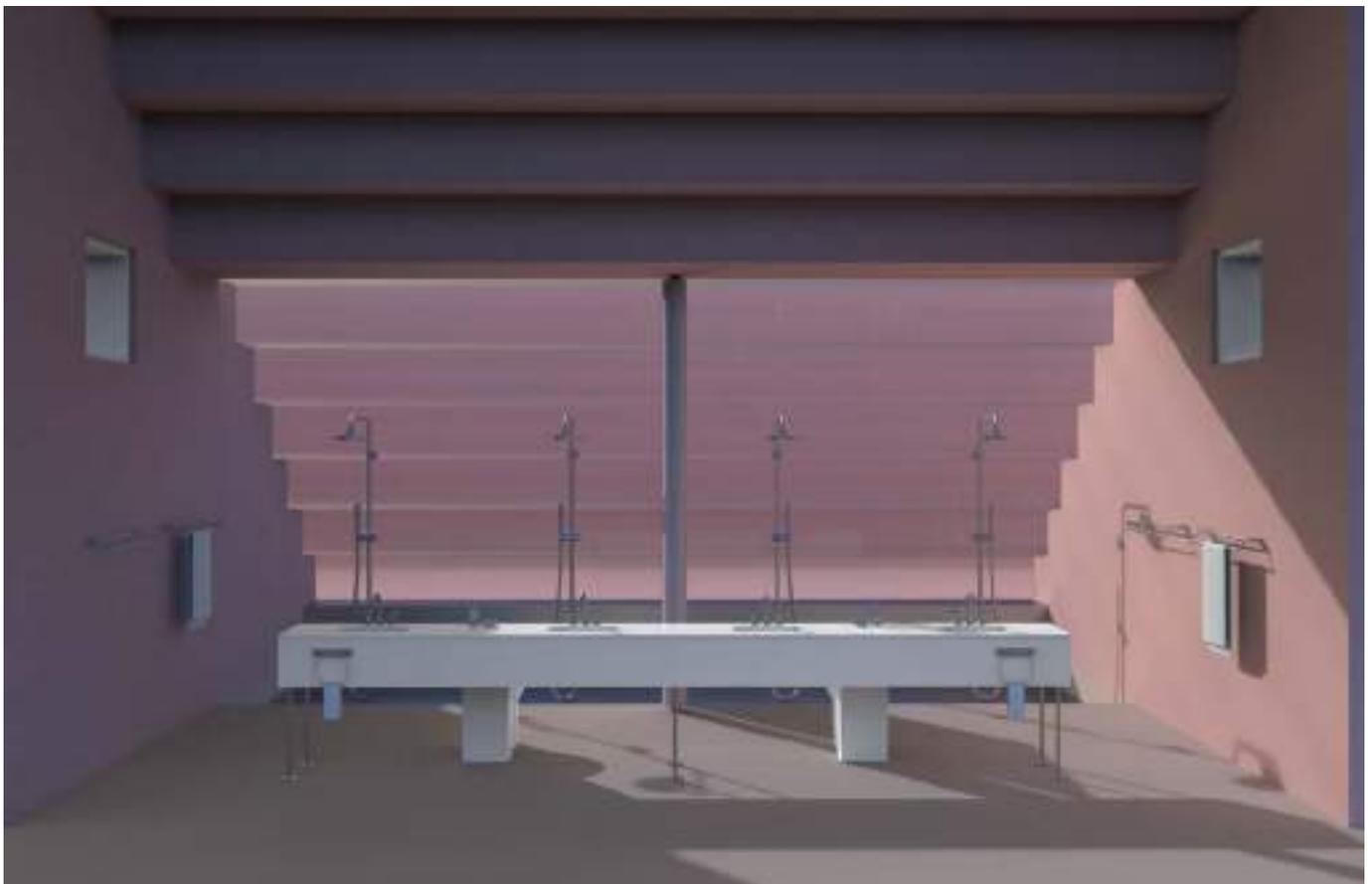
1. component(Tank C): reinforced concrete
2. concrete paver 100mm thickness slope to drain
3. column: reinforced concrete
4. beam: steel beam zig zag 200x200mm. hot- dip galvanized finish
5. Pilkington Reglit: Z-shaped Profilite
6. floor: reinforced concrete
7. ceramic tile
8. drainage gravel
9. concrete pile cap



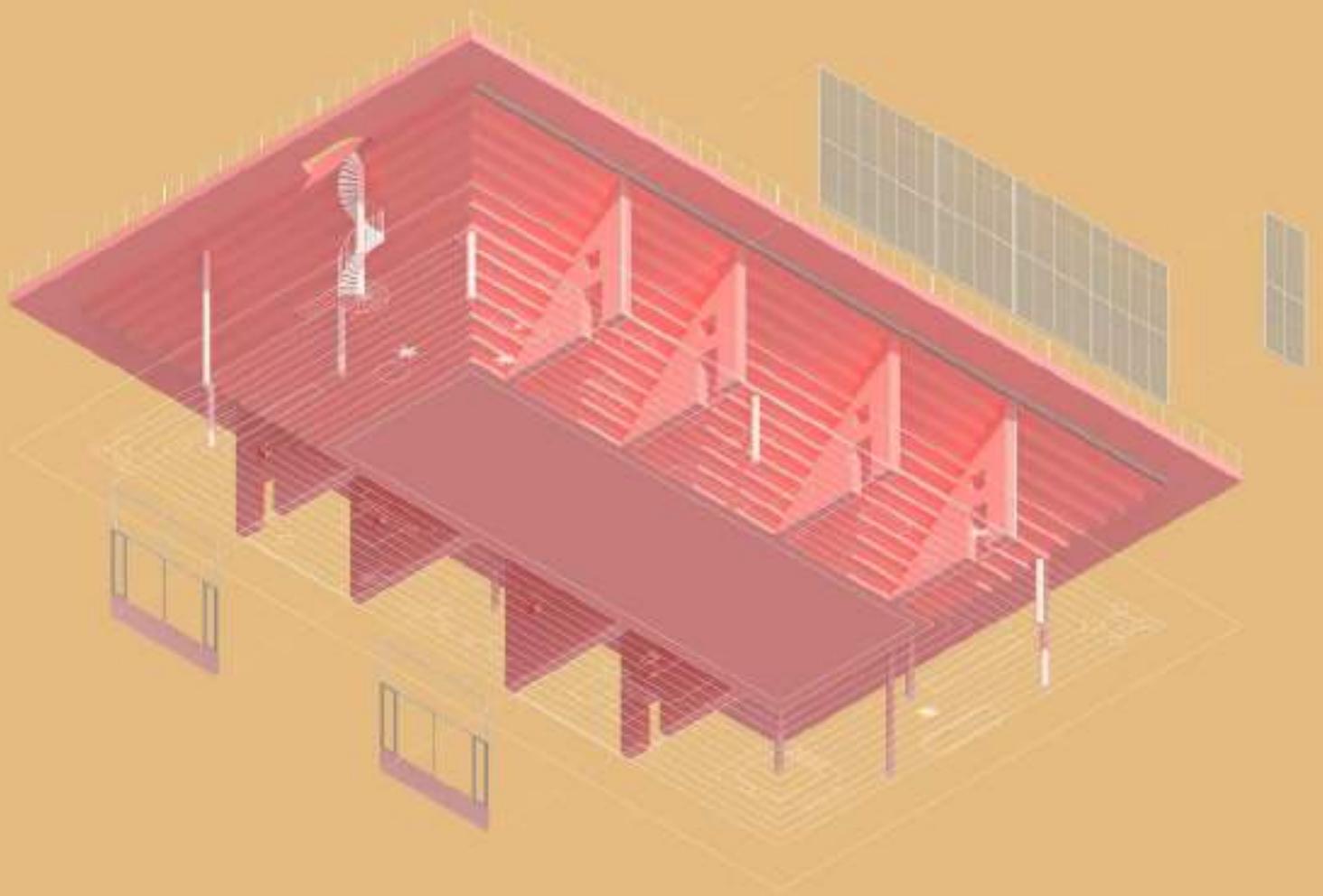
8 - sun angle creates different refractions of sunlight passes though Reglit glass.

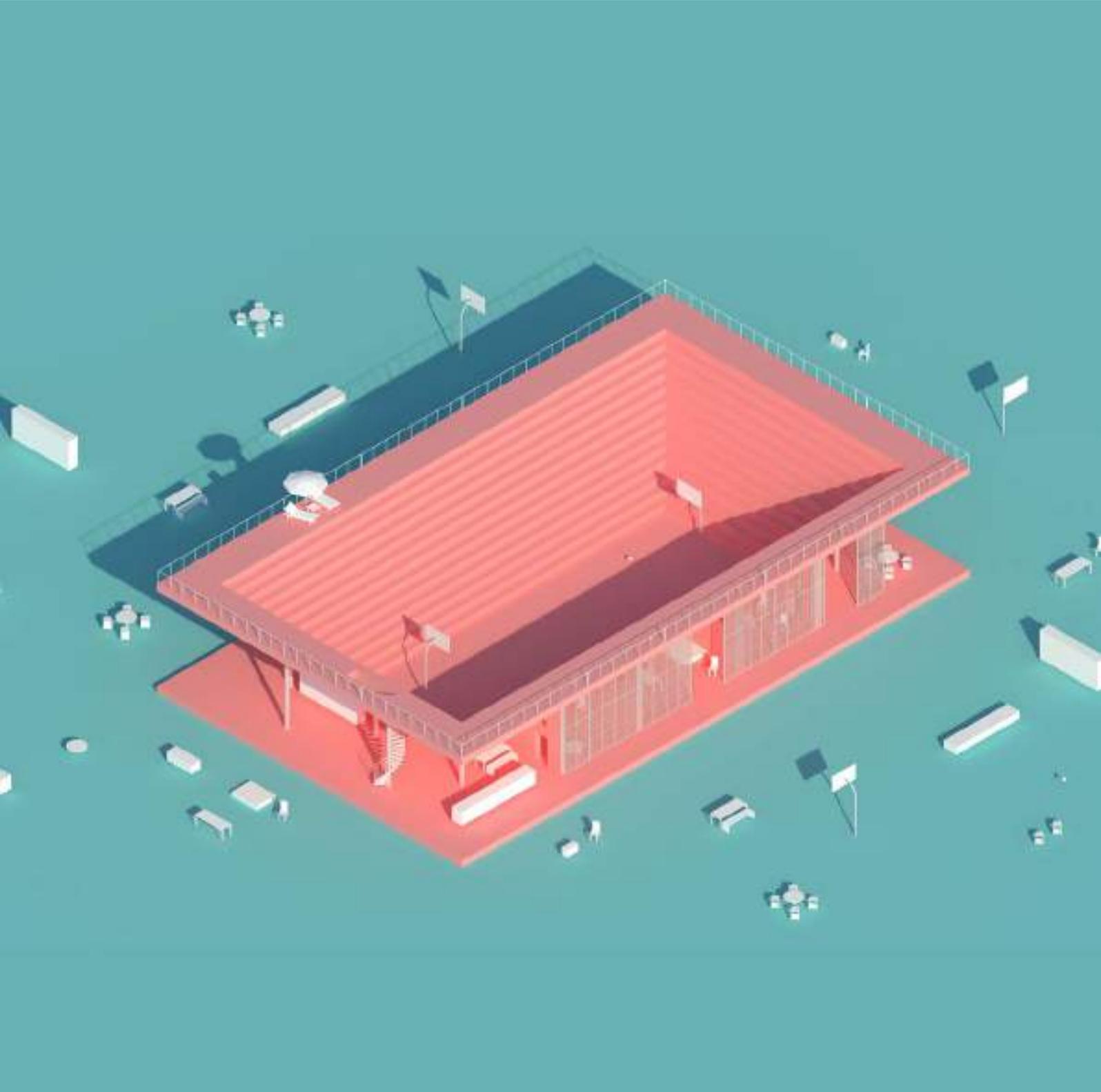
#### DETAIL C

1. component(Tank C): reinforced concrete
2. waterproofing mortar
3. Porcelain mosaic tile
4. concrete paver 100mm thickness slope to drain
5. beam: steel beam zig zag 200x200mm. hot- dip galvanized finish
6. structural silicone
7. Pilkington Reglit: Z-shaped Profilite
8. Krystol waterstop treatment
9. Krystol waterstop grout



9 - public bathroom with translucent steps





## 03

### 2ND STATE

Flexible construction systems for new housing typologies

*Tink Tank Workshop*

*Project / Exhibition*

*Location / UK Timber Expo, Birmingham*

Different states in construction are addressing the quest of flexibility in architecture; bypassing the modernist idea of - form follows function - and allow for the need of rapid and frequent alterations in today's building.

We are constructing two architectural states which are designed to showcase the possibility (story) of flexibility going from a more closed compact "state", state 1 in Grymsdyke Farm; lived in by one of the students. To an exploded, more open structure, state 2, showcasing different possible modes of dwelling for the Timber Expo 2018. These two states only exhibit two design possibilities out of the many states that the outcome of the timber construction system can be arranged in.

During a two day Think Tank using digital and physical prototyping, followed by a week of 1:1 design and construction at Grymsdyke farm; architects, engineers, fabricators and students debated, designed and constructed the presented flexible construction system. We build on ideas from Jean Prouve and Alejandro Arevena, allowing buildings to grow and change over time, as well as personal developed timber construction systems. Participants of the Think Tank combine their knowledge of timber construction methods developed in their practice as for example MINKA, a timber plywood construction system in the US, as well as MassBespoke's cassette systems and discrete timber building blocks.





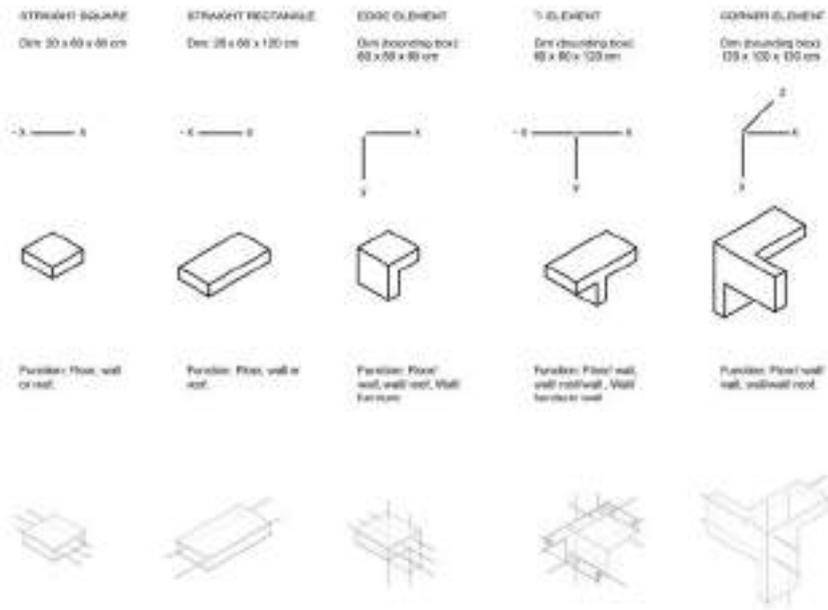


The Think Tank brings together structural engineers, makers, architects and theorists to collaborate through design and making during a 10 day workshop taking place in Grymsdyke Farm. Supported by students from the Royal College of Art in London it is headed and tailed by a two day prototyping workshop / symposiums with an in between digital fabrication workshop. A fantastic way to collaborate with people from different fields and design and build a new strategy for flexible living.

The combination of disciplines and students in the Think Tank lead to an alphabet of elements, that is connected and structurally enhanced by steel cables and imagined in the farm and Expo state. The alphabet is constructed of 9 mm plywood. These different letters handle a specific condition within the design based on geometry, configuration and location.

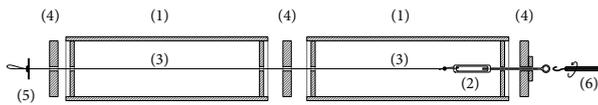
We are anticipating more states and locations to follow and build on the expertise and great collaboration of people coming together in a making and debating Think Tank, sharing ideas and trigger a collective creative response to this flexible quest posed by todays contemporary living.

## THE ALPHABET OF ELEMENTS



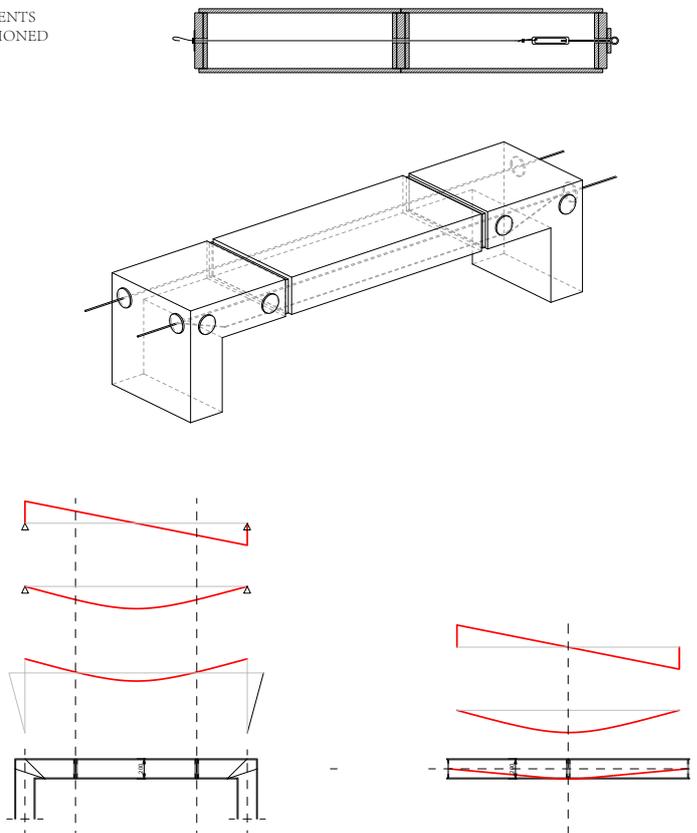
## POST-TENSIONING

TWO ELEMENTS  
PRIOR TO TENSIONING

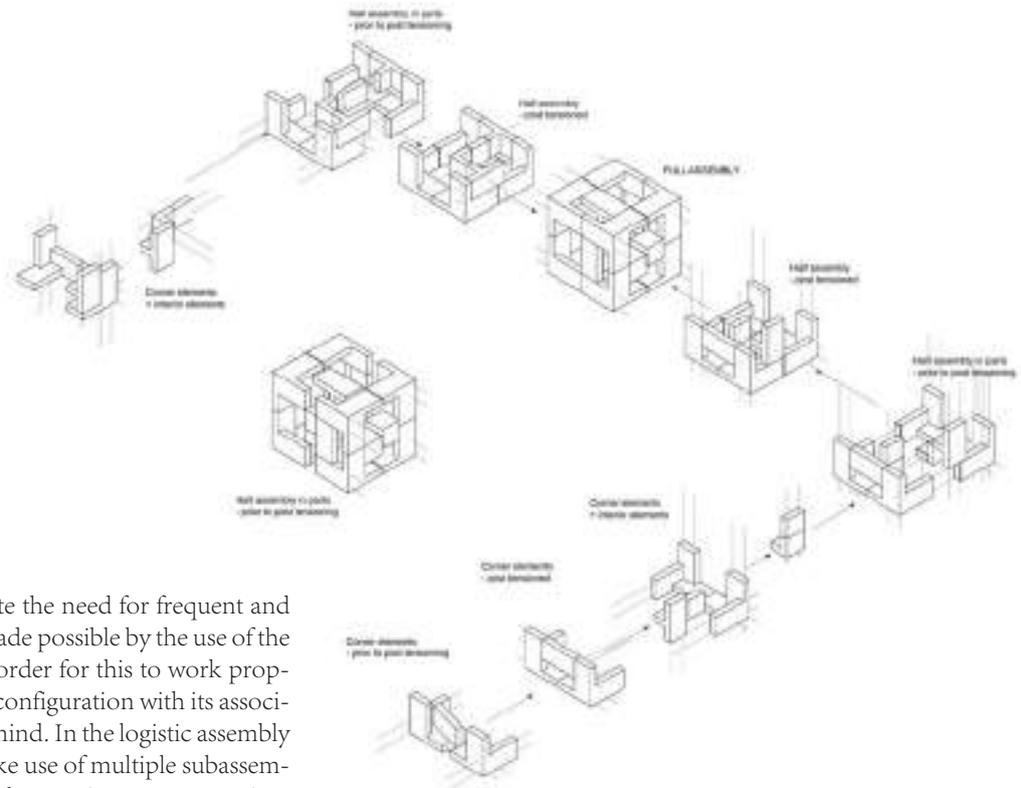


(1) CNC Cut plywood element, (2) Tension screw, (3) Tension cable, (4) Shear key, (5) Crimp, (6) Tensioning tool

TWO ELEMENTS  
POST-TENSIONED



SUB-ASSEMBLIES

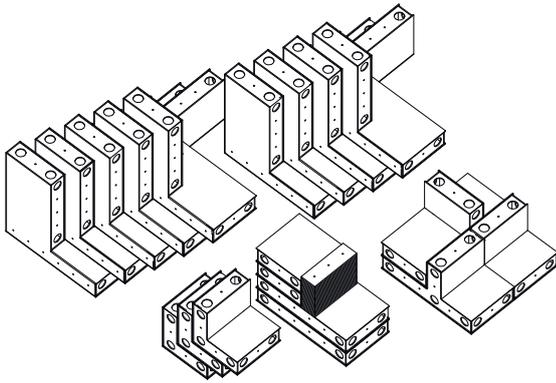


It is designed to accommodate the need for frequent and rapid alterations which is made possible by the use of the post tensioning system. In order for this to work properly it is key to design each configuration with its associated assembly sequence in mind. In the logistic assembly planning we therefore make use of multiple subassemblies, where each element plays an important part in a hierarchy that makes up the full assembly.



THE N-STATE SYSTEM

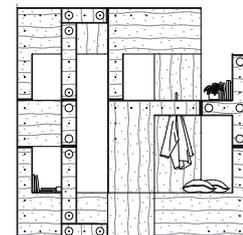
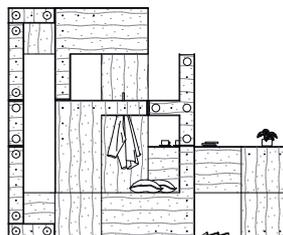
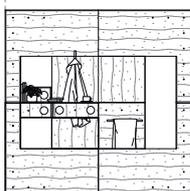
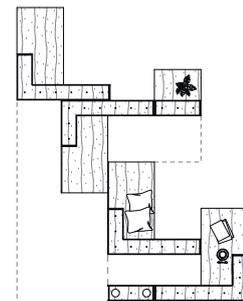
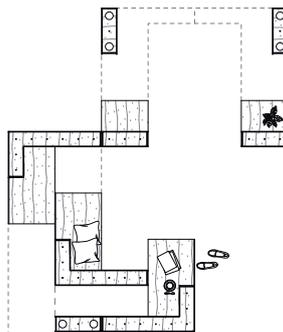
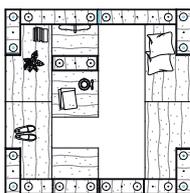
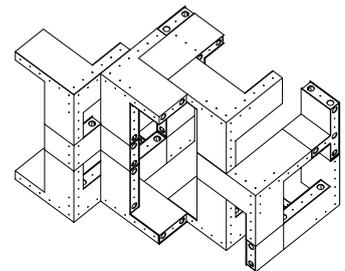
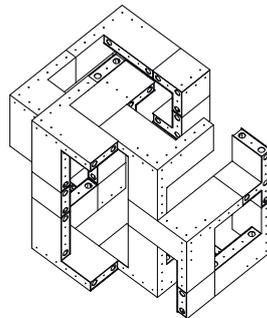
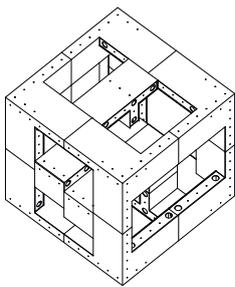
The N-state system investigates building form as impermanent, rejects the idea of ‘post-rationalisation’ in the design process, and orients itself towards an idea of design freedom through ‘pre-rationalisation’. The project explores modules / small structures and connections related to the idea of design for dis- and reassembly, allowing for housing schemes that can alter their nature, grow and relocate. The project addresses the idea of flexibility through digital and physical prototyping at the scale of the element, a crossing of surfaces, a stacking of “rings” and at the scale of the “room”. The flexibility is made clear through a change of configuration; 2 states, where the structure designed and constructed at Grymsdyke farm, state 1 has been dis-assembled and now re-assembled in state 2 for the timber expo here in Birmingham.



1ST STATE

2ND STATE

N STATE







1st State at Grymsdyke Farm 14th - 22nd Sep. 2018



2nd State at UK Timber Expo, Birmingham 9-11th October 2018

## 04

### LUEAN RIT UNDERGROUND

The delicacy of method between conservation process and its underground super structure

*B.Arch Thesis*

*Project | Underground and Housing*

*Location | Bangkok, Thailand*

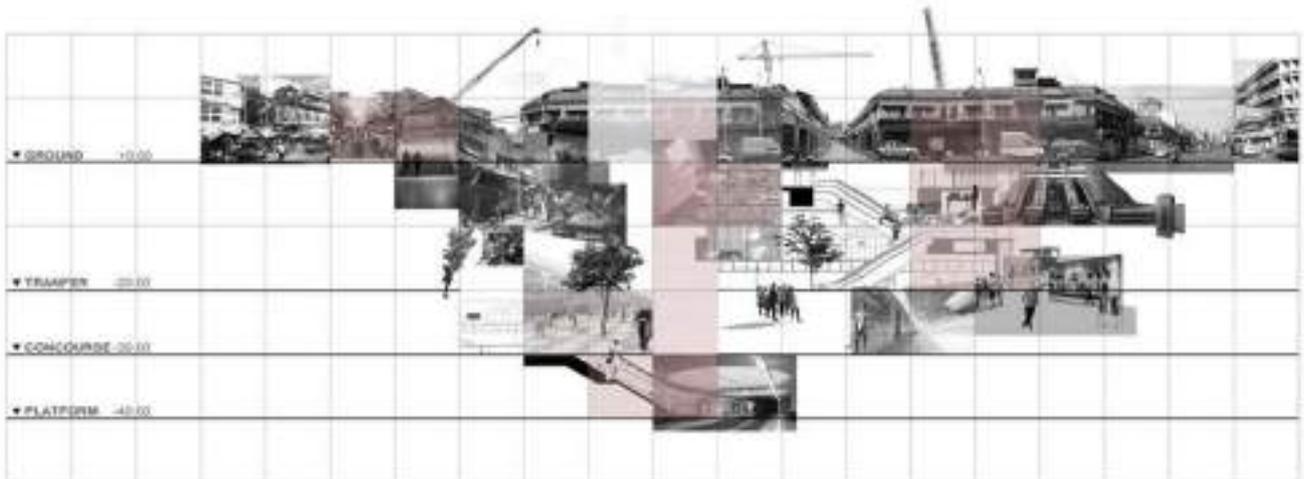
The statement of this thesis is to criticize the development of metropolis such as Bangkok, especially on, its loss of direction or even no direction at all. Under this lost or lack of concern, many criteria for architectural design has been disregarded or neglected by the desire to go for the easier and the more convenience process closer at hand. Therefore, the thesis is targeting on this urban / architectural design issue. It will open up a discussion on how the architecture could be equipped with the more attention on time scale development, the more tentative solutions for proposed alternative architectural design, and the more sufficient degree of concerning on urban fabric and urban morphology.

Accordingly, the thesis will explore the most radical negotiation between the two oppositions which are the preservation process of registered architecture and the architecture that serves for mega-infrastructure. It will also pay its attention on the compromised design criteria of such oppositions which are there building typologies, their spatial organizations, their tentative and alternative construction process. In order to do so, the thesis will take the case of Luean rit community' s conflict as the testing ground. Luean rit community is a lease hold property under the Royal Crown Property Bureau, at the same time, it is where the Bangkok' s metro has identified as tentative location for the new junction station of the two new lines underground MRT. The two oppositions are different in terms of their spatial applications (which are the publicity of the mega underground system and the privacy of the local residential/commercial area), their restrictions to the surrounding contexts, their traffics, and their densities. As a result, the typology of the metro could be questioned in term of its custom made to meet the specific context either responding to the conservation of registered buildings in the area or the specific urban context or the micro/macro tropical climate of the area. The custom designed junction station is not only being taken as a physical match to the city in particular but also providing the commuters with their unusual travel experience into and from the station.

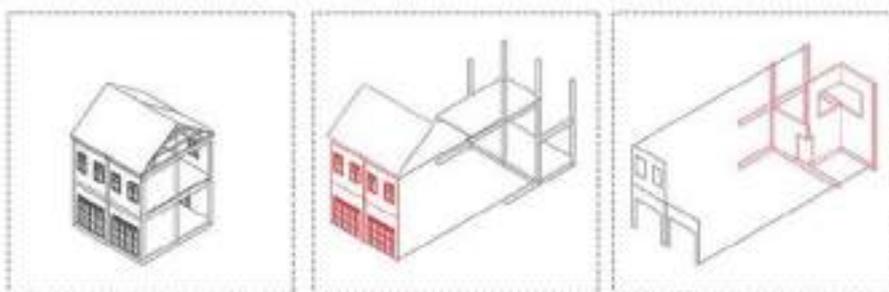




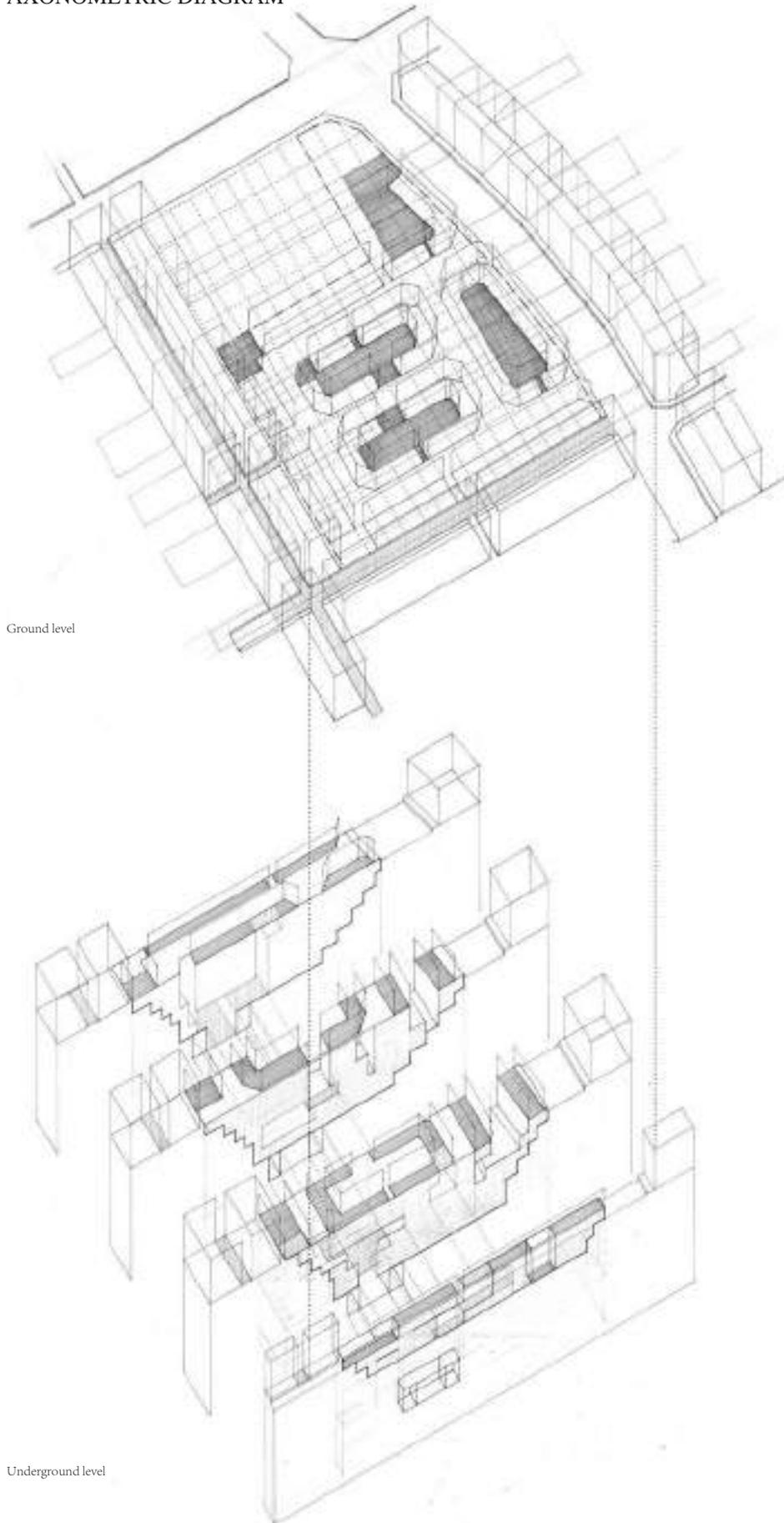
CONSERVATION PROCESS



DEGREE OF CONSERVATION



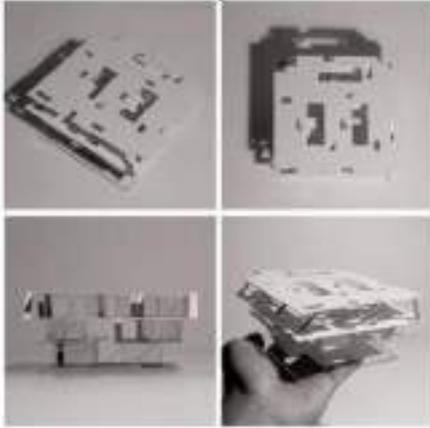
AXONOMETRIC DIAGRAM



Drawing composite system representing the operation of the conservation process and underground support. Relating volume of existing ground and functions consisting of shop house, housing unit, public space and underground station.

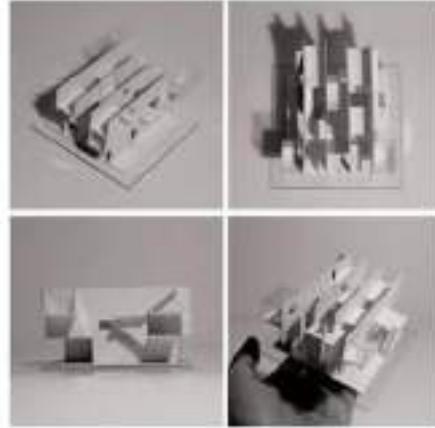
DESIGN STRATEGY

Organisation 1



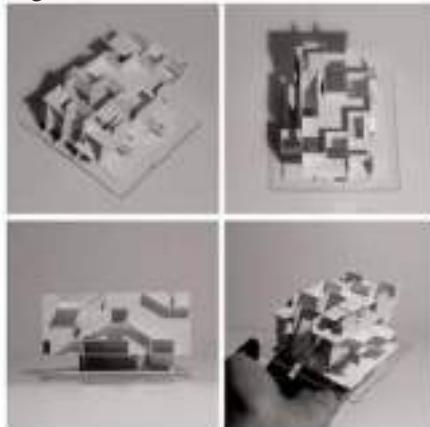
Vertical Continuation

Organisation 2



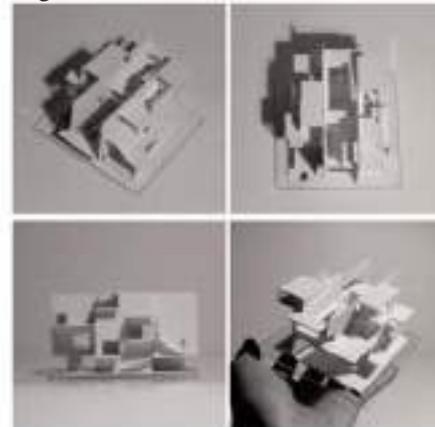
Horizontal Continuation

Organisation 3



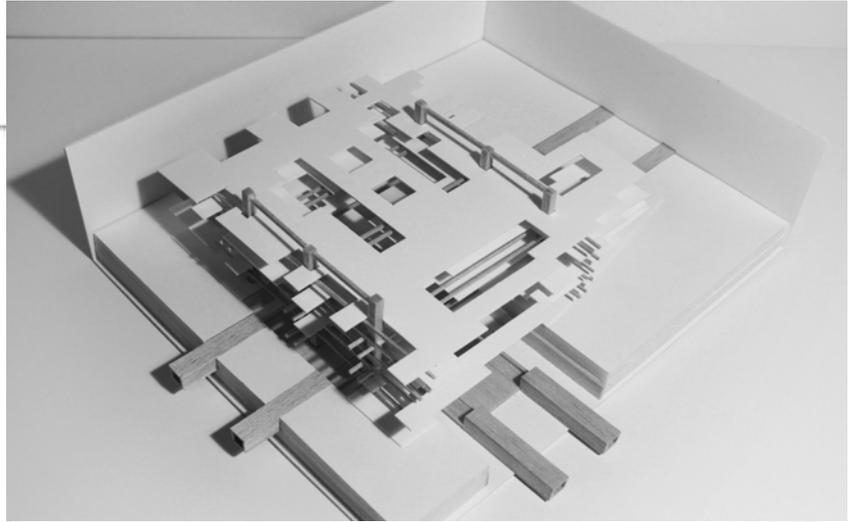
Vertical Continuation:  
double axes

Organisation 4

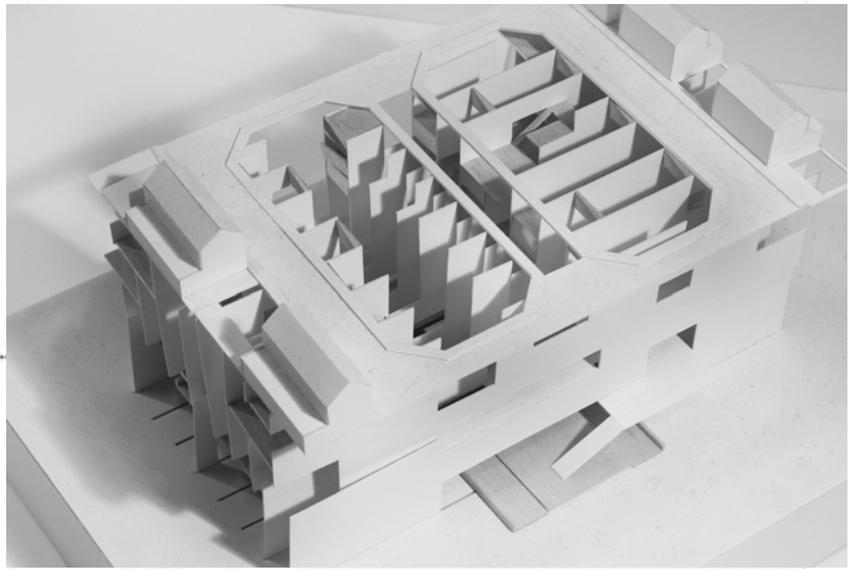


Horizontal Continuation  
+  
Main circulation

Organisation 1



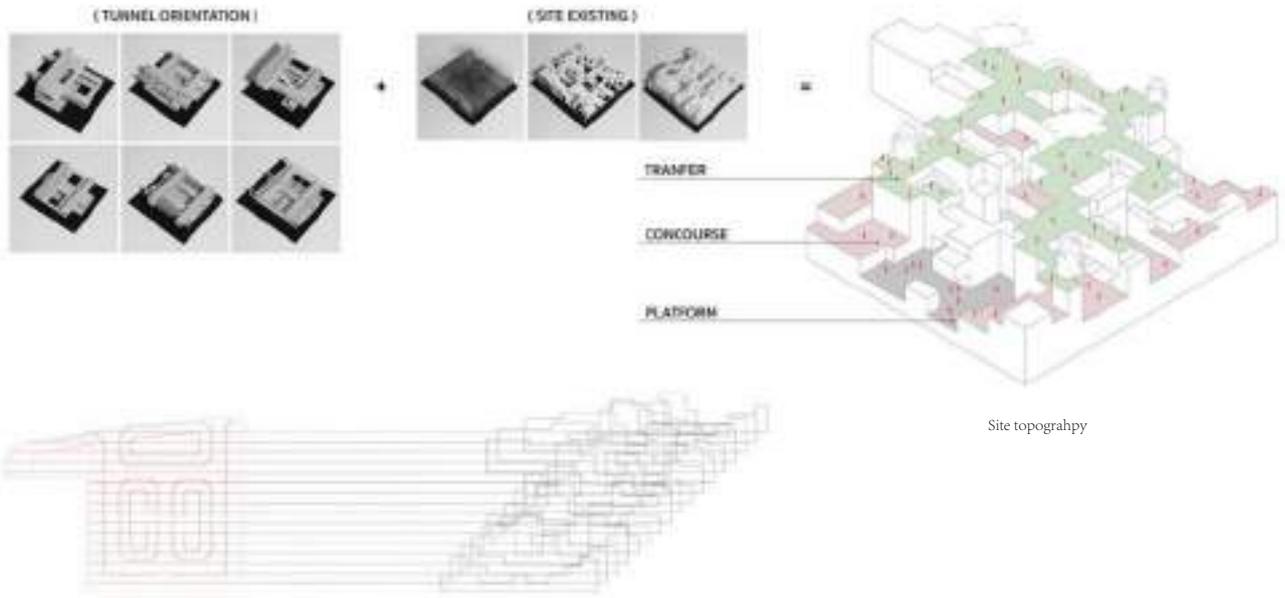
Organisation 2



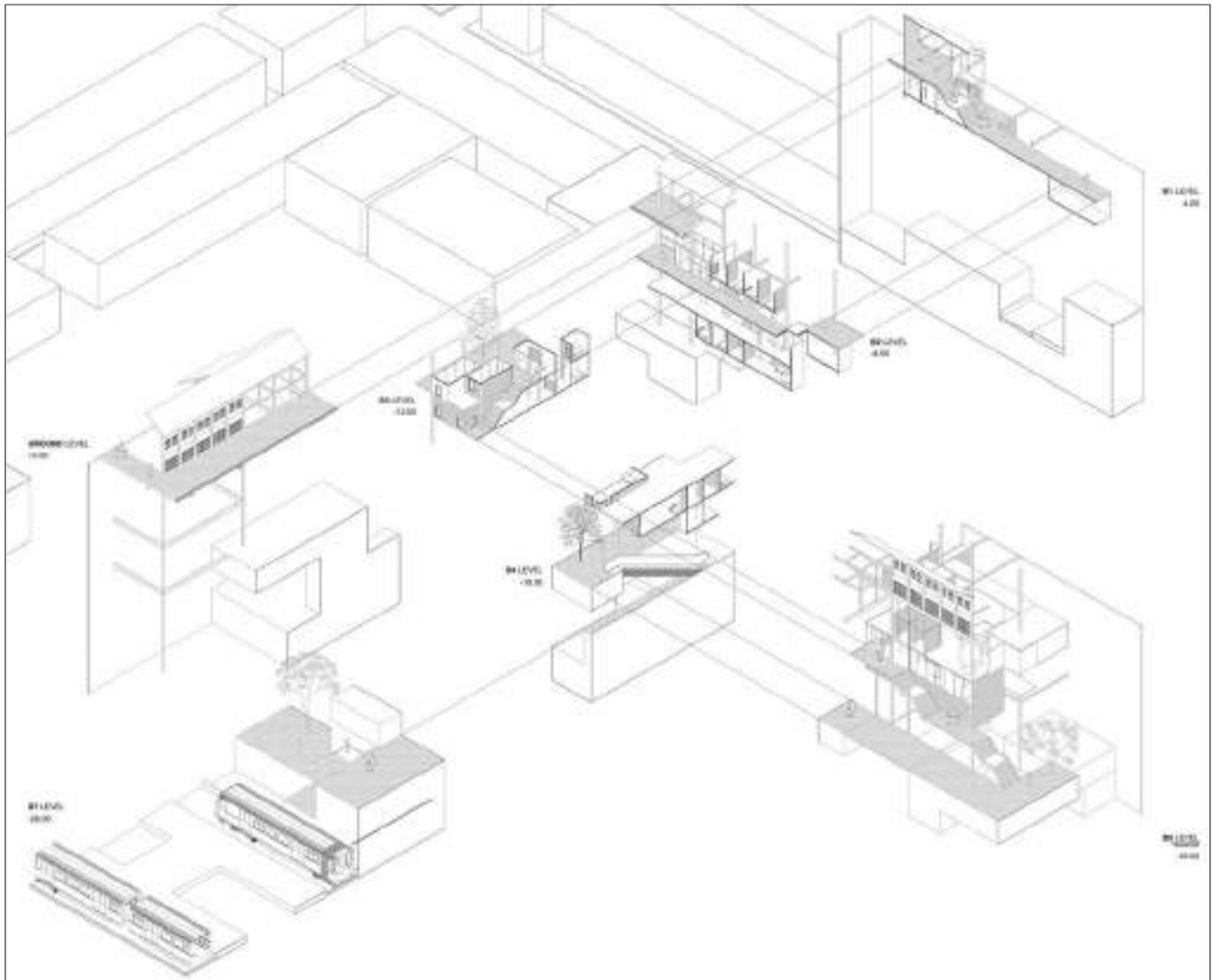
Organisation 3+4

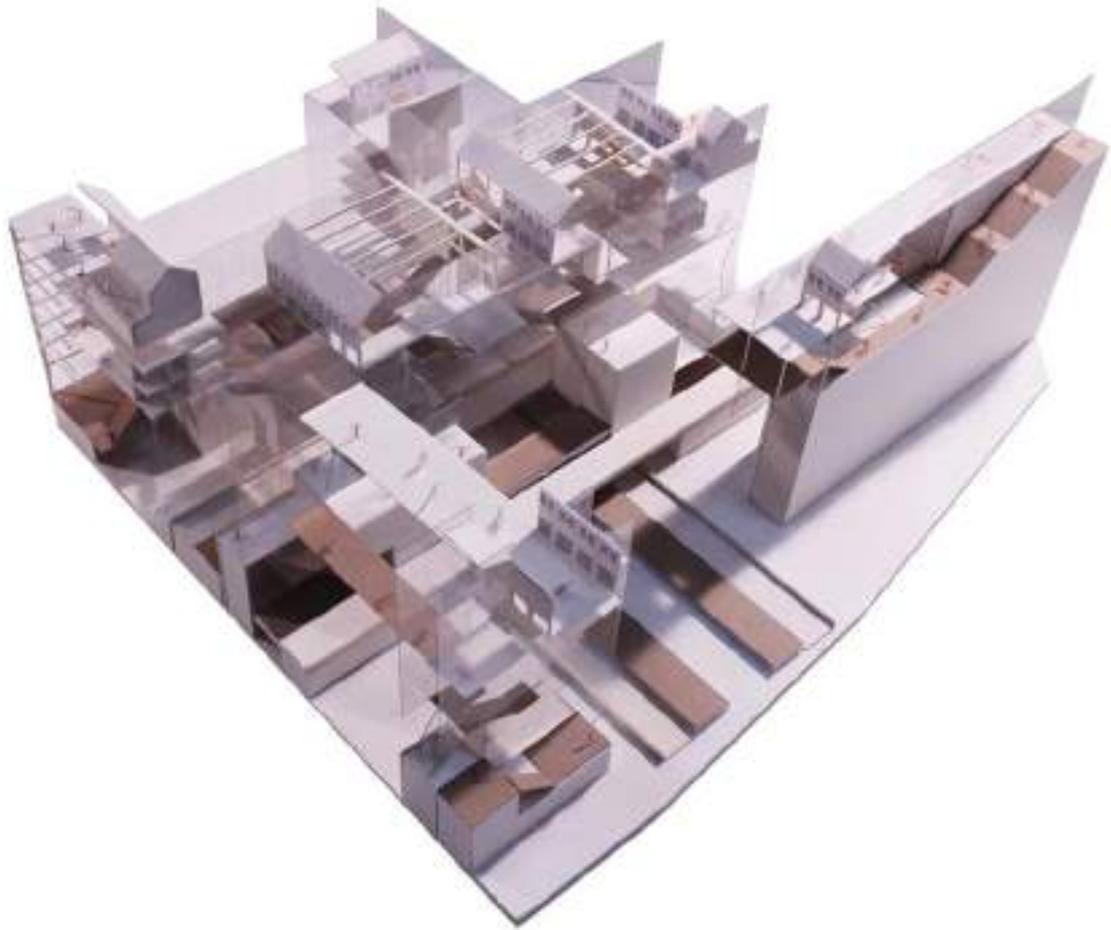


SUPER STRUCTURE AND TOPOGRAHPY

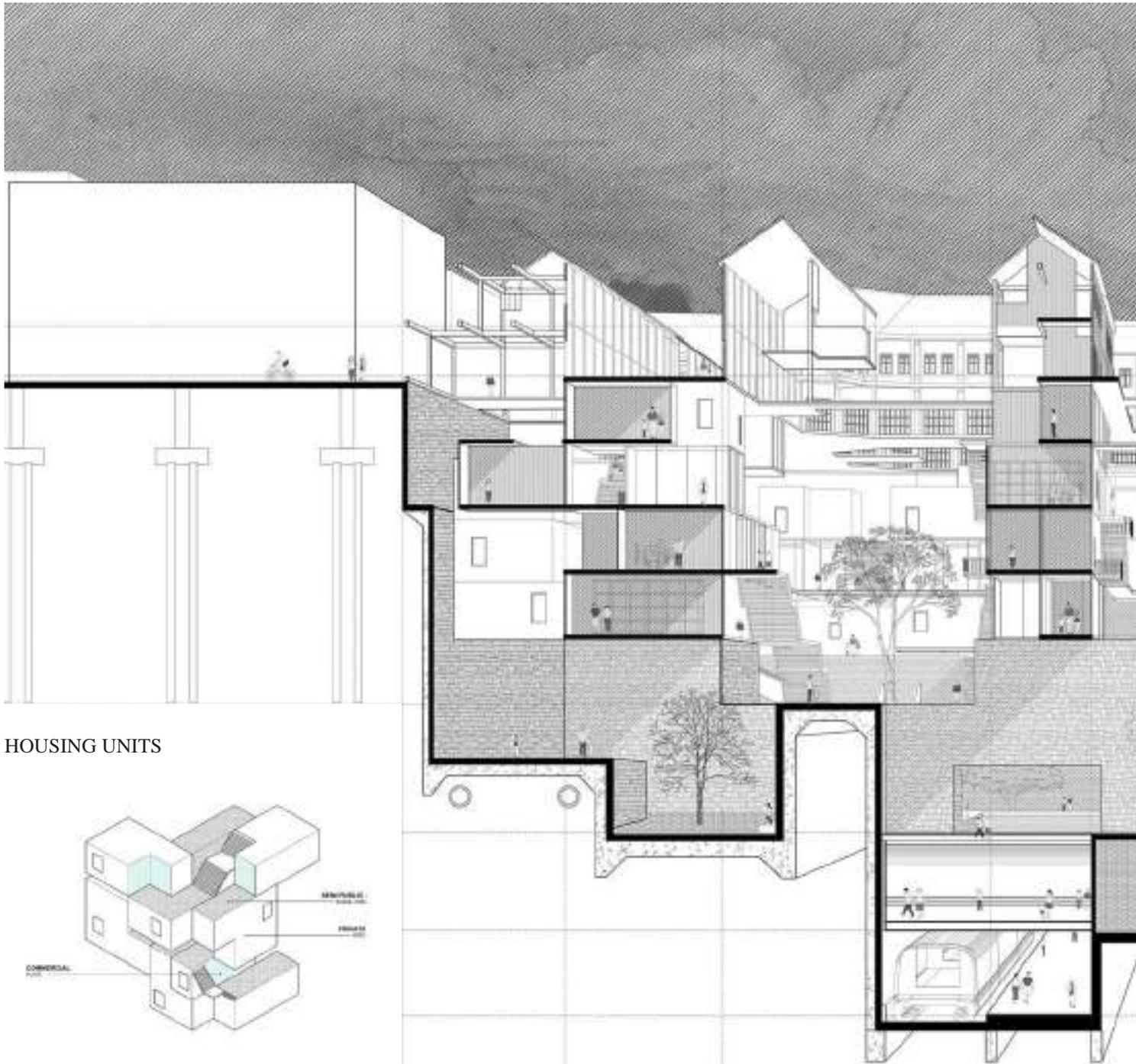


DESIGN SOLUTION

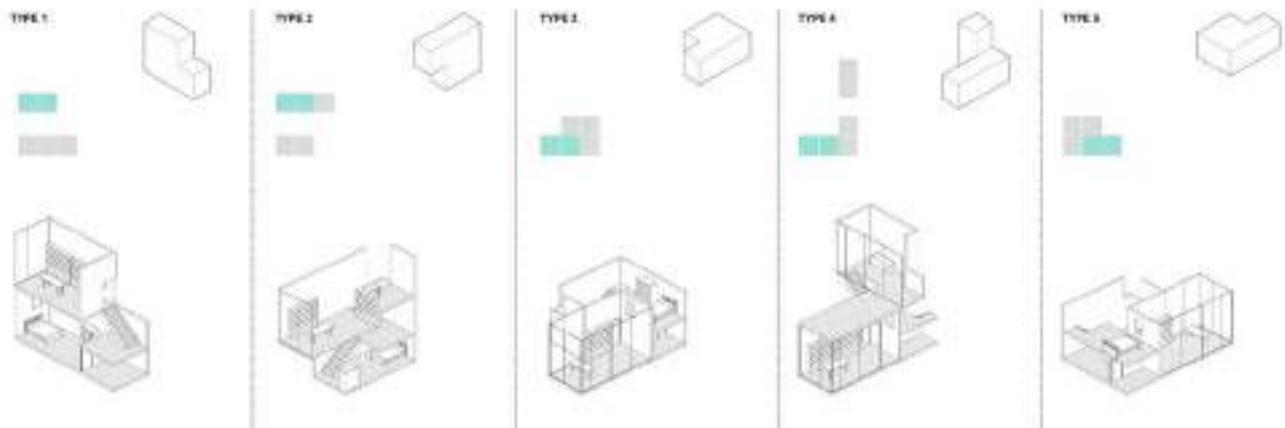
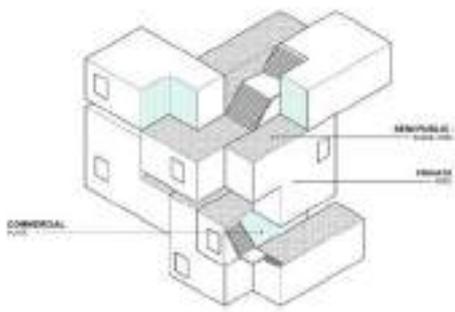


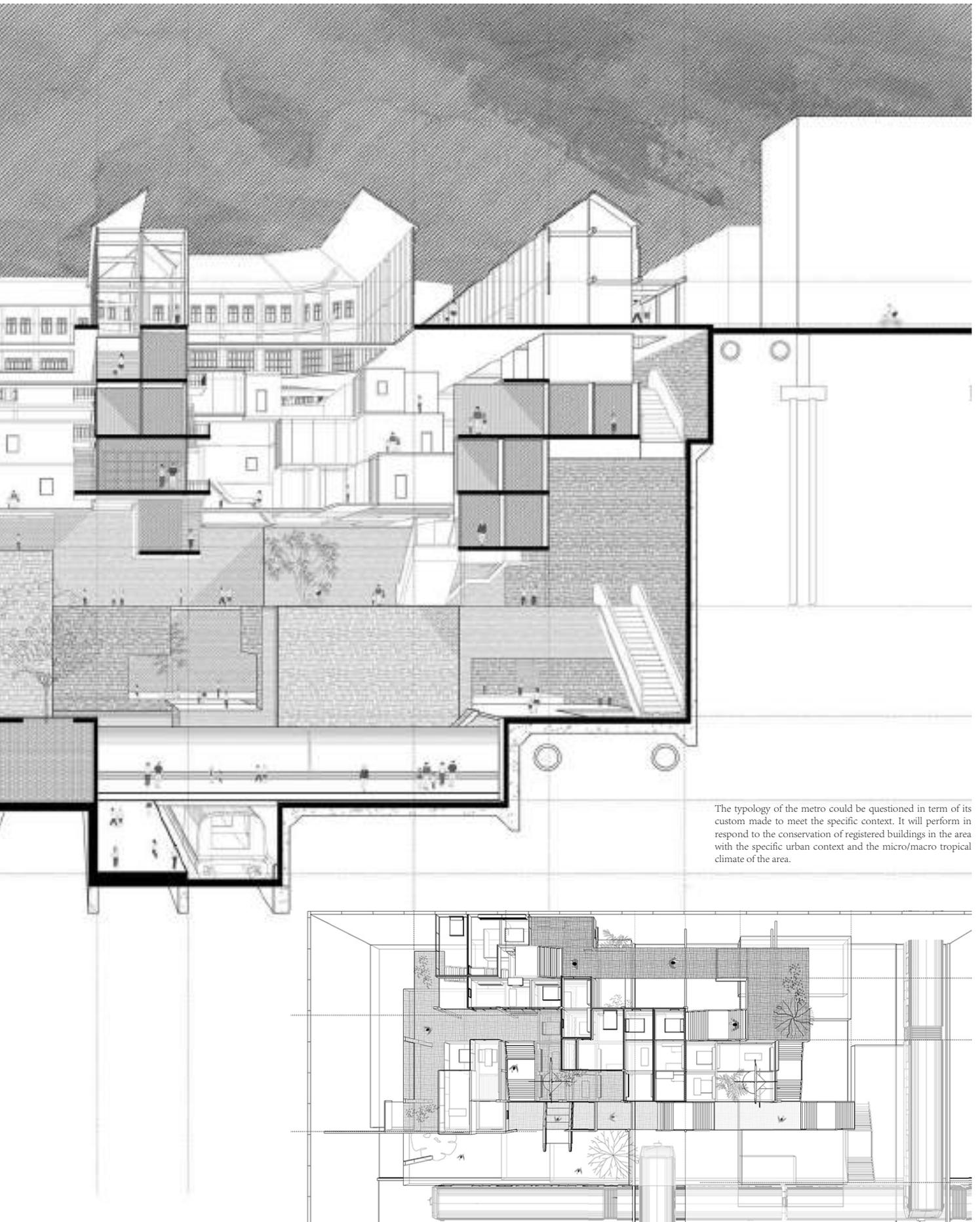


The new experience of passengers through this station, will be different from the other stations. The specification of this station is impacted by existing houses on ground level, sunlight, natural ventilation, and metro organization system. In addition, the passengers who leave the train can perceive specific space of this station.

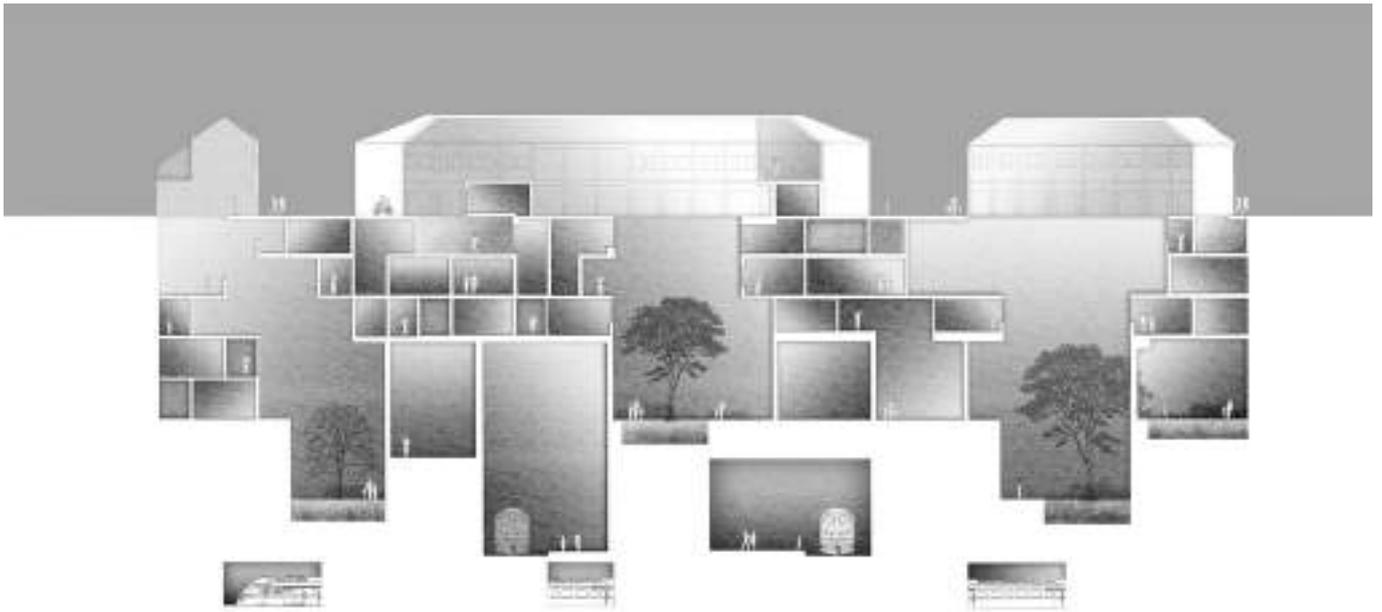


HOUSING UNITS





The typology of the metro could be questioned in term of its custom made to meet the specific context. It will perform in respond to the conservation of registered buildings in the area with the specific urban context and the micro/macro tropical climate of the area.



EXPLODED AXONOMETRIC

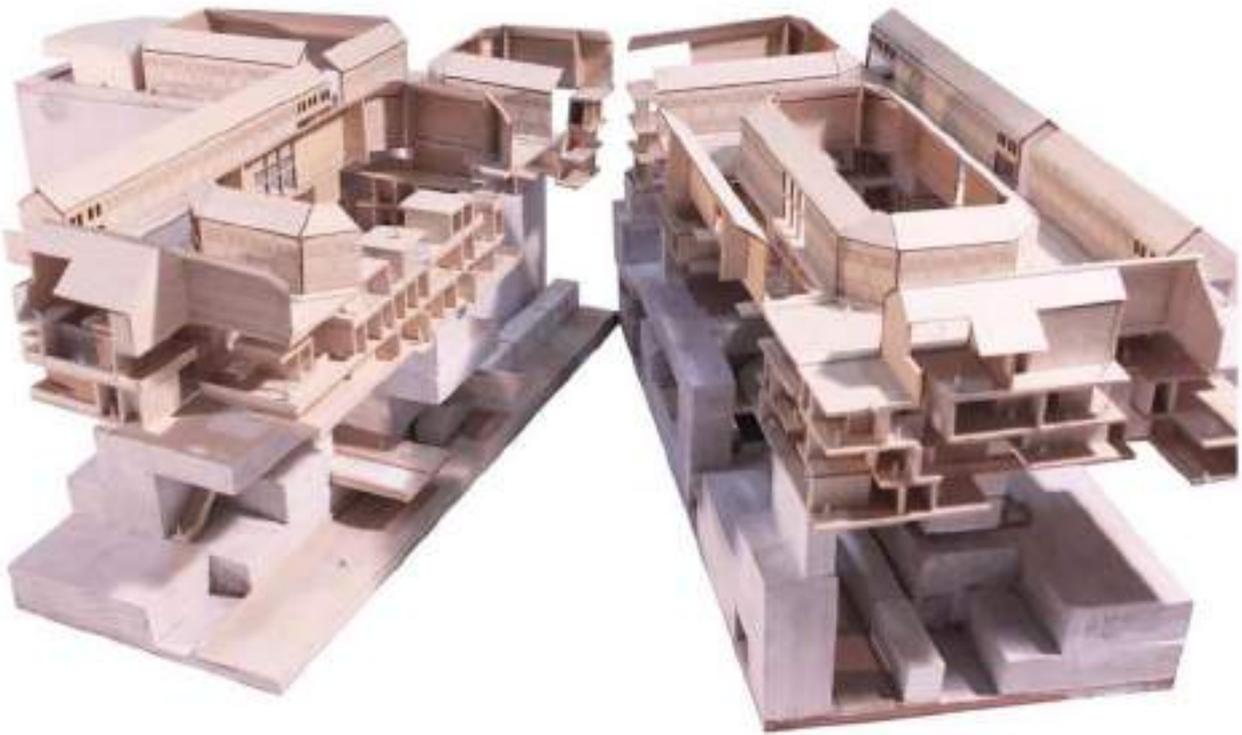
GROUND level

SHOP HOUSES level

CONCOURSE level

PLATFORM level





Model scale 1:200 800mm x 850mm





**Witinan Watanasap**  
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**Education & professional qualifications**

2017-2019	Royal College of Art London, United Kingdom	MA Architecture (ARB/RIBA Part 2) Dissertation with Distinction
2010-2015	Kasetsart University Bangkok, Thailand	B.Arch with Second Class Honours

**Professional experience**

Kanoon Studio, junior architect Bangkok, Thailand	July 2015-October 2016
Supermachine Studio, trainee architect Bangkok, Thailand	May-August 2014
Atelier Bow-Wow, trainee architect Tokyo, Japan	March-May 2014

**Awards**

- Nominated: Blueprint for the Future Exhibition 2019
- Finalist: ASA International Design Competition 2016
- Architecture Thesis of the year 2015: Degree Show 2015

**Skills**

Professional	AutoCAD, Rhino, Revit, Photoshop, Illustrator, InDesign and Keyshot
Operational	Grasshopper, iMovie, Maya and Unity

**Nationality**

Thai

**Languages**

Native Speaker Thai  
Fluent English