CATALYST

——FROM SMALL ACTION TO BIG INFLUENCE

——Architectural Scale Design as an Activator for Urbanism

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Territory of Investigation: Architecture & Urbanism (A+U)

Projects in Advanced Architectural Design

ARCH 8903

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ABSTRACT

Planners always try to design a city from a plan in a large scale and gradually come to the scale of architecture. However, we cannot always have the chance to create a new city zone. Cities are full of memories within time. They have inherent history and the infrastructure left for them.

What shall we do to influence and activate a city which already has its own urban context? As an architect and urban designer, what is the appropriate way to design architecture that has a far-reaching positive influence? I do not want to use the word "landmark", because most buildings are definitely not "landmark". However, a building can be a catalyst for the city, which means it could find a role or position to influence the vicinity.

This book consists of the works by the author during the one-year program M.S.A.A.D(Master of Science in Advanced Architectural Design) in the Department of Architecture, Art and Planning at Cornell University. Architecture can always be the catalyst for an urban area, just like one of my professors NHDM said: “Architecture can do everything.”

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As shown in Figure 1, planners always try to generate an area by designing a plan. They place grids on the area and edit something interesting on them. I learnt this in the class CRP 5820 - Principles of Site Planning and Urban Design.

Figure 1. Urban Space Typologies

Architects always design buildings within an urban context. Despite the buildings' small scale compared to the whole urban area, they have indeed altered the area and the city. Eventually, the buildings become part of the city context. For example, most Chinese people do not like CCTV Headquarters in Beijing, however, it has already become integral to the city. In fact, it has become one of the landmarks in Bejing today.

As an architect, what is the appropriate way to design an architectural scaled work to influence the city positively? How could we design a building as a catalyst for the area it located?

To Inhabitat----A House and the City

Le Corbusier once wrote,"Architecture is one of the most urgent needs of man, for the house has always been the indispensable and first tool he has forged for himself."[1] A house is indeed a tool - a tool for shelter, nourishment, hygiene, privacy, and delight. The United Nations estimates that by 2050, 68% of the world's population will live in urban areas. [2]In order to house these additional 2.4 billion people, a lot more housing will need to be provided.

When we talk about houses, we always talk about privacy. It seems that houses and cities have conflicts in terms of private space and the public function. However, a house can indeed influence a city area. This disparity in scale is also a connection between them.

1 A house in Lisbon---- A Sign for the Urban Square

To design a house in a city is actually to inhabitat in the city. When I first came to the field trip to Lisbon for the Design B-Topic Studio-To

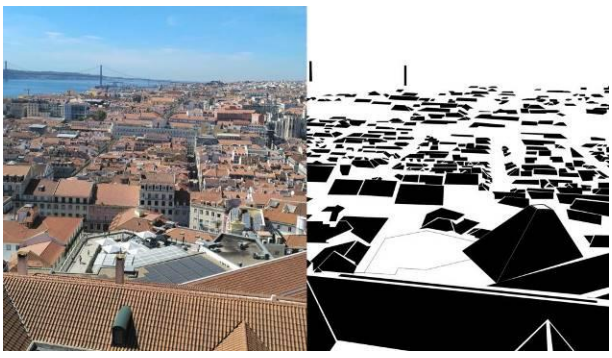

Figure 2. View from the Castle

[1]Le C. Towards a New Architecture[J]. Art Education, 1946, 24(3):30.

[2]https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html

Inhabitat, I was really impressed by the beautiful views of the roofs and the sea. After days of travel, I discovered that the way of life in Lisbon was what made the view beatiful. As shown in Figure 2, the urban square on the top of a garage actually was very essencial for the whole area. From the view on the castle, we can tell that it was quite recognizable, but did not blend in as part of the scenery. On the other hand, from a ground level view within the old town, it was difficult to notice where it was due to lack of signage for it. Based on these facts, I wanted to design a dominent roof for it, which was part of the context of Lisbon. I wanted to use this roof to make it quite recognizable and easy to find, because the square played quite a vital role for the town.

As shown in Figure 3, it is a house with a big kitchen. However, as time goes by, it may find another role to serve the city such as gallery or restaurant. Program is always temporal and prone to change, so I wanted to add an infrastructure to the area to offer different possibilities for the future.

Figure 3. Perspective of the Big Kitchen

2 A House in Newport for Mobility

What should we do to respond to the crowded city in 2050? What design strategies should be considered for the transportation congestion which is already very serious? When we consider architecture as products, how flexible could it be? In this design, we took the mobile capsule as the main concept to find an answer for the questions above and to reconsider the relationship between architecture and urbanism.

As shown in Figure 4, We set our site at Newport, which is a very special part in Jersey City as many people live there and work at Manhattan because of the relatively lower rent. However, the subway sometimes does not work which almost cuts off the connection, thus we designed a residential system embracing the railway on a bridge which directly goes towards Manhattan. On the other hand, we designed a highway running along the riverside to connect the buildings to make this railway more accessible.

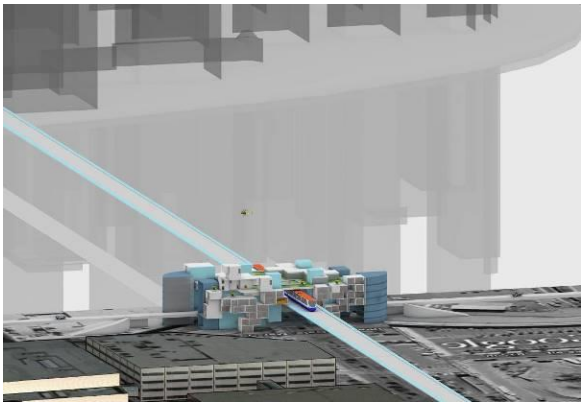

Figure 4. Work in ARCH 6605-Antifragile Housing: Neo-Modular Systems

As shown in Figure 5, We built the system as a terrace to provide as much scenery to the household as possible. We used a roof garden to connect distinct parts and offer a large garden at the same time. Railway, highway, automobile, drones, different kinds of transportation offer various answers to the mobility of the 2050 Antifragile Housing.

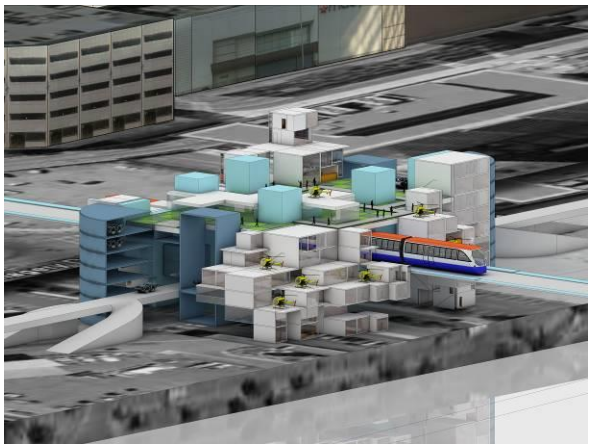

Figure 5. Terrace System

To Activate----Public Space and the City

Cities are always in need of public spaces. Walkable and accessible public space can have a big influence for the whole neighborhood.

1 A Central Square for Downtown Flushing

The image shown in Figure 6, is a workshop in my elective ARCH 6308 Design in Real Estate Development. After analyzing the whole area, we found that its central location was so crucial that only a mixed-use building

Figure 6. Central Mix-Use Square in Downtown Flushing

would not suffice the needs of the site. So instead of concentrating on the buildings, we were more interested to propose a central square for Downtown Flushing. Pedestrian can come here to engage in public activities, which is quite critical for the function of the city.

2 An industrial Park for Downtown Canajoharie

This is a workshop I undertook in the course titled CRP 5850-Urban Design Principles and Methods. The site located between the riverside and the downtown area and was taking up a large piece of land. Since the Beech-nut factory left the site, it has been deserted. We wanted to design a central industrial park to offer a comfortable and ecological environment for the area on one side of the creek and a cultural square on the west side of the creek. As a starting point for the revitalization of the downtown area and entrepreneurship, the central landscape performed as the catalyst.

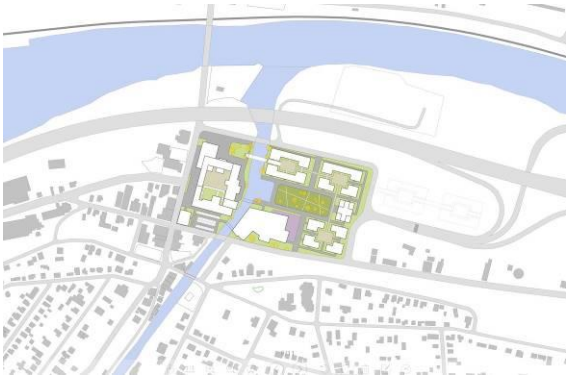

Figure 7. New Plan for Beech-nut Factory

Figure 8. New Concept Design within Urban Context

3 An Endpoint for the Main Street of SPLIT 3.0

The main commercial street in Split 3.0 followed a very special grid which is parallel to the Diocletian's Palace. As an pivotal axis for the area, it has an underdeveloped area between the sea and the edge of the city. Normally we can have a plan for the area and develop it step by step. However, in my design, I chose to build a platform and ramp which connected the mainstreet to the sea. Using this infrastructure as an "endpoint" for the street and a catalyst for the future development of area, I tried to build an affordance for various formal and informal activities. Programs like marketplace, coffee and restaurant, children playground can be placed on it. Different possiblities could happen here.

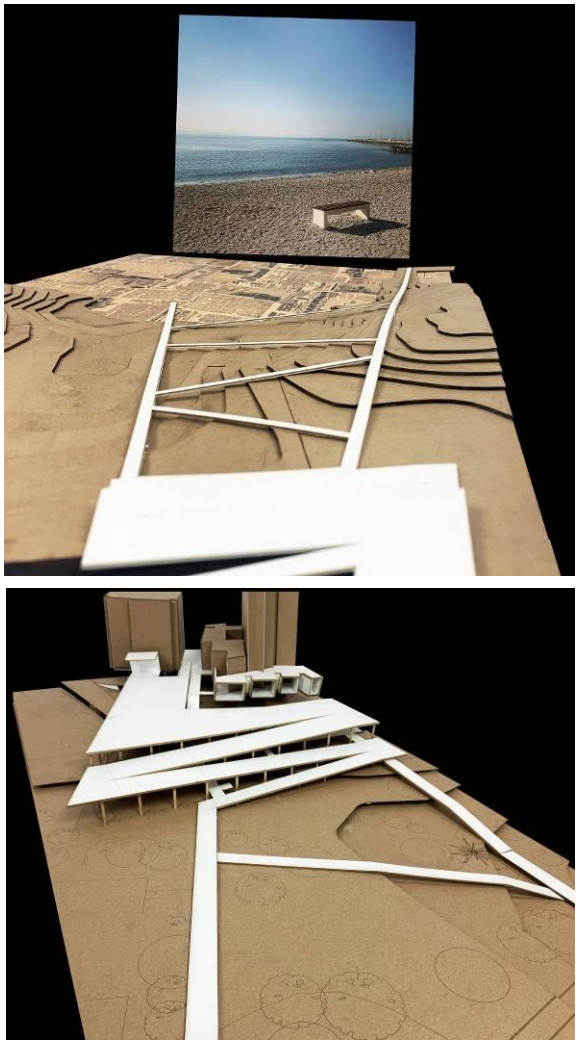

Figure 9. Concept Collage And Model for Spring Studio SPLIT III - Urban Editing

Conclusion

The era of big demolition and construction has passed. Cities will be in constant micro-renewal. The impact of bottom-up design is always more important to cities than the top-down planning. A potential public space, a square, an infrastructure, these architectural scale design often affect the city in a large scale, and these small actions often have a big influence. These are the topics I have been studying and practicing during the past year, aimed to build a conversation for future discussion.

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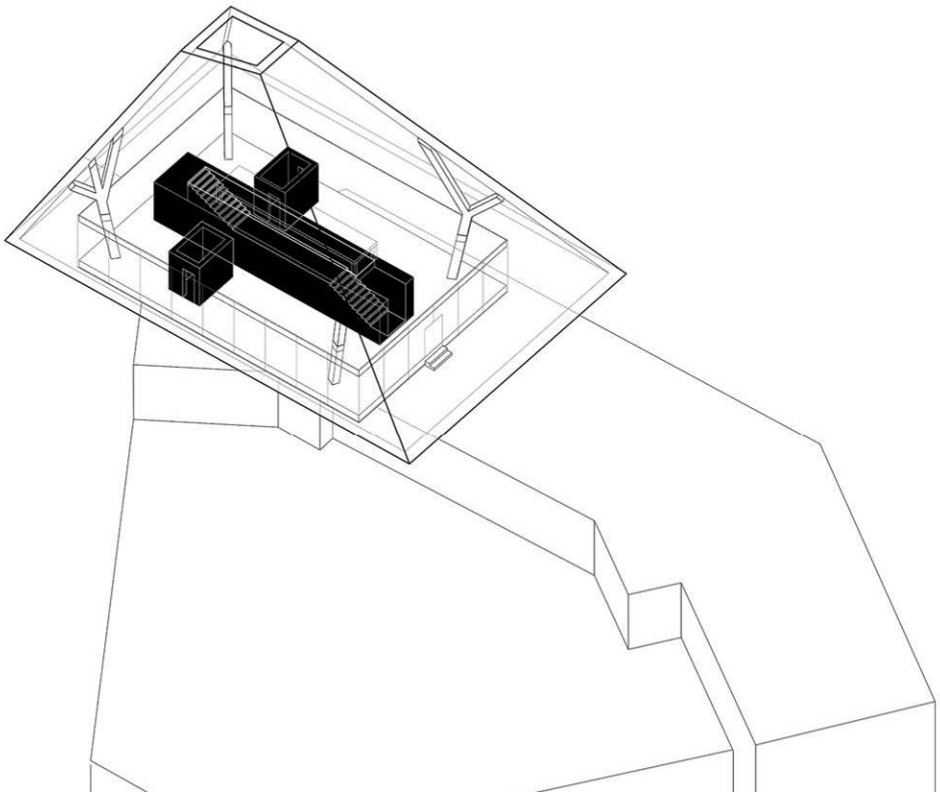
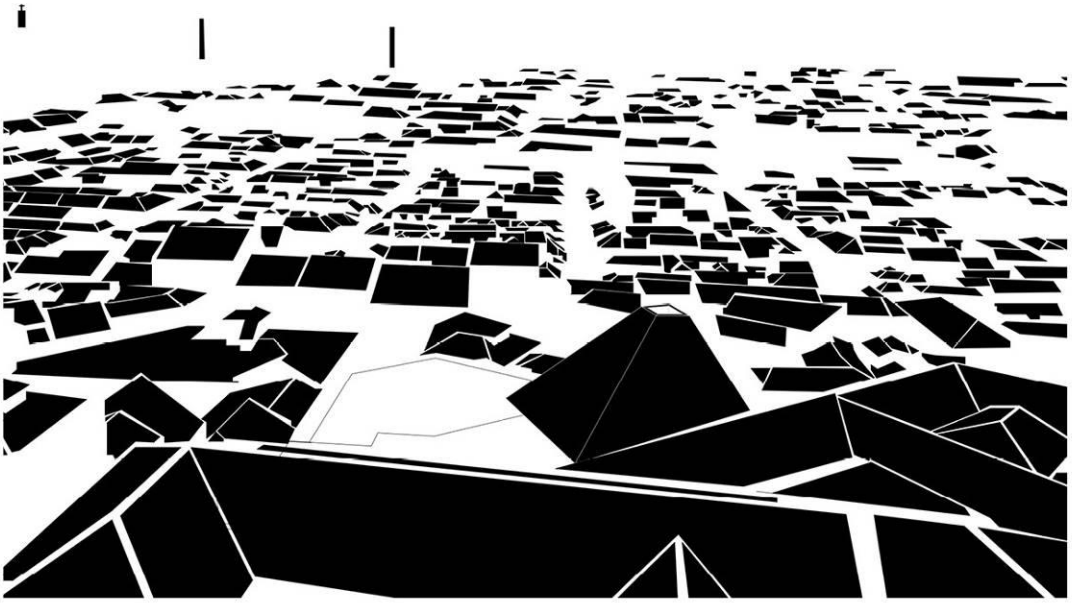
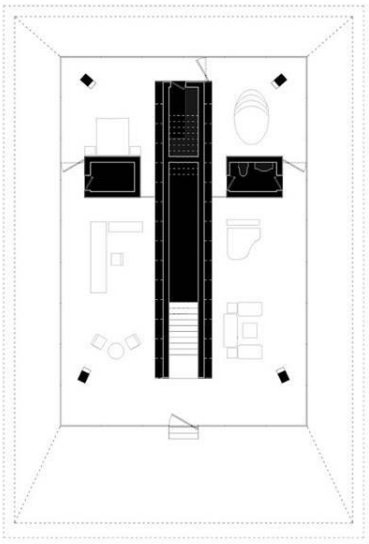
Projects in Advanced Architectural Design

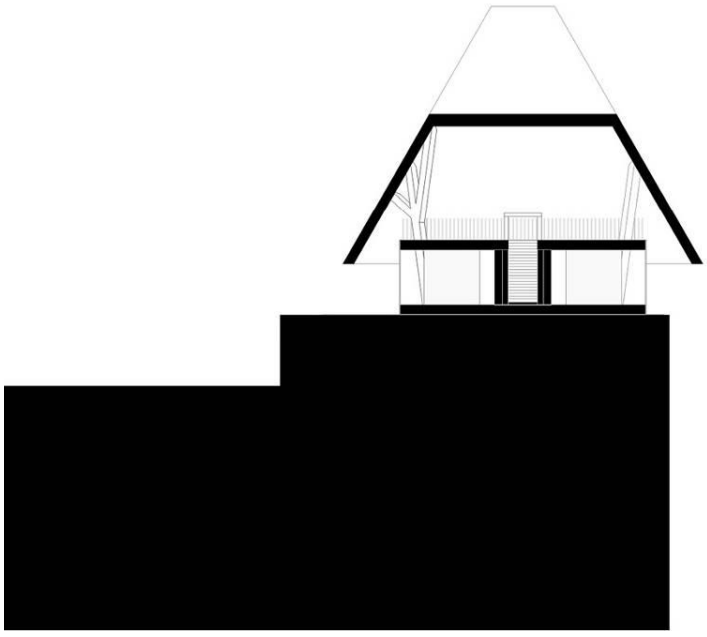
Luyao ZHOU

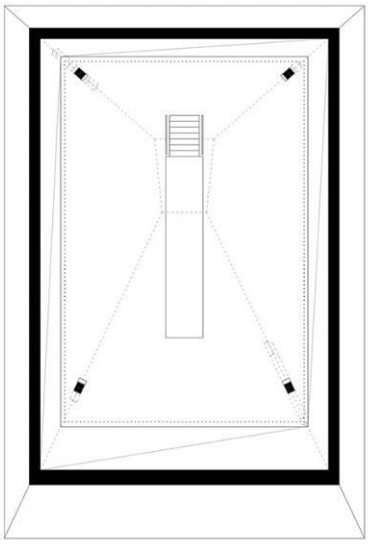

Aires Mateus STUDIO
2018.09-2018.12
FLOATING KITCHEN for Memory

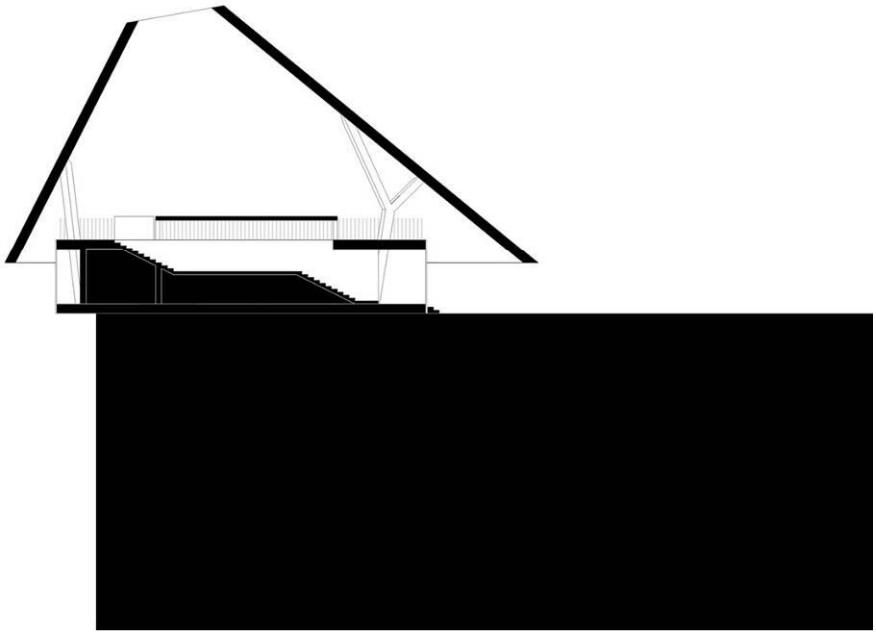


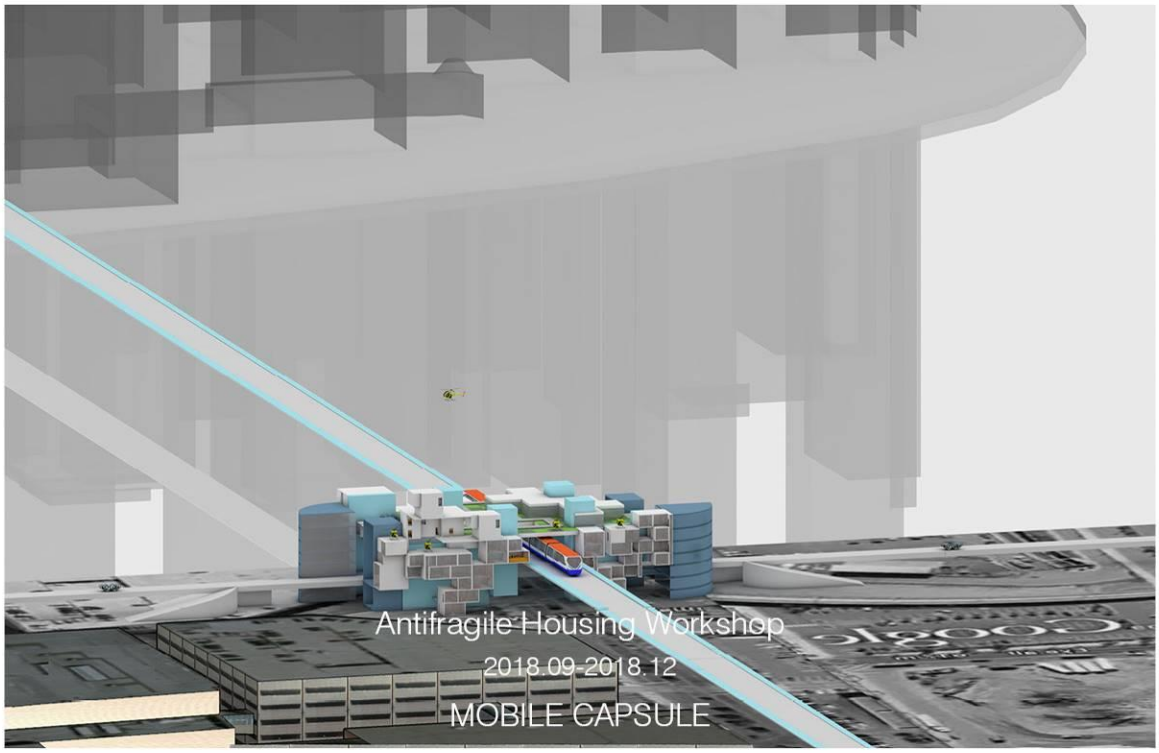


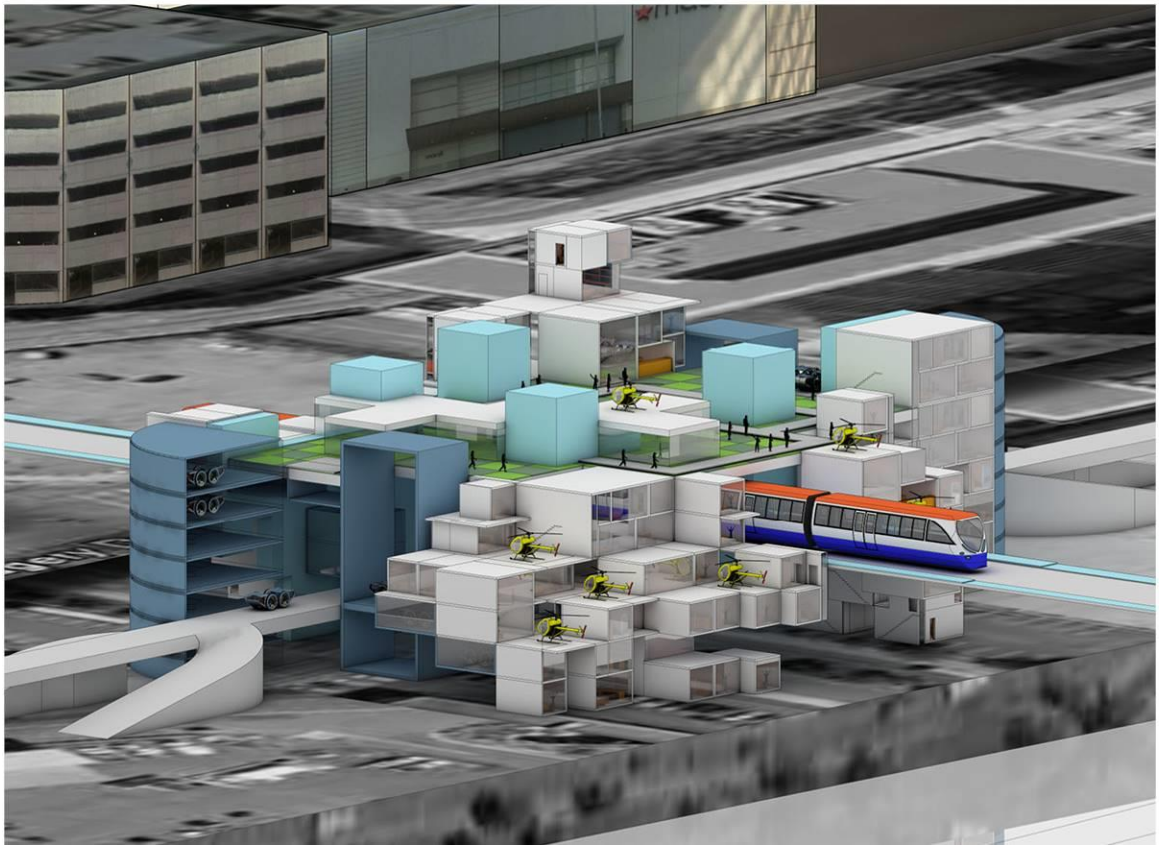




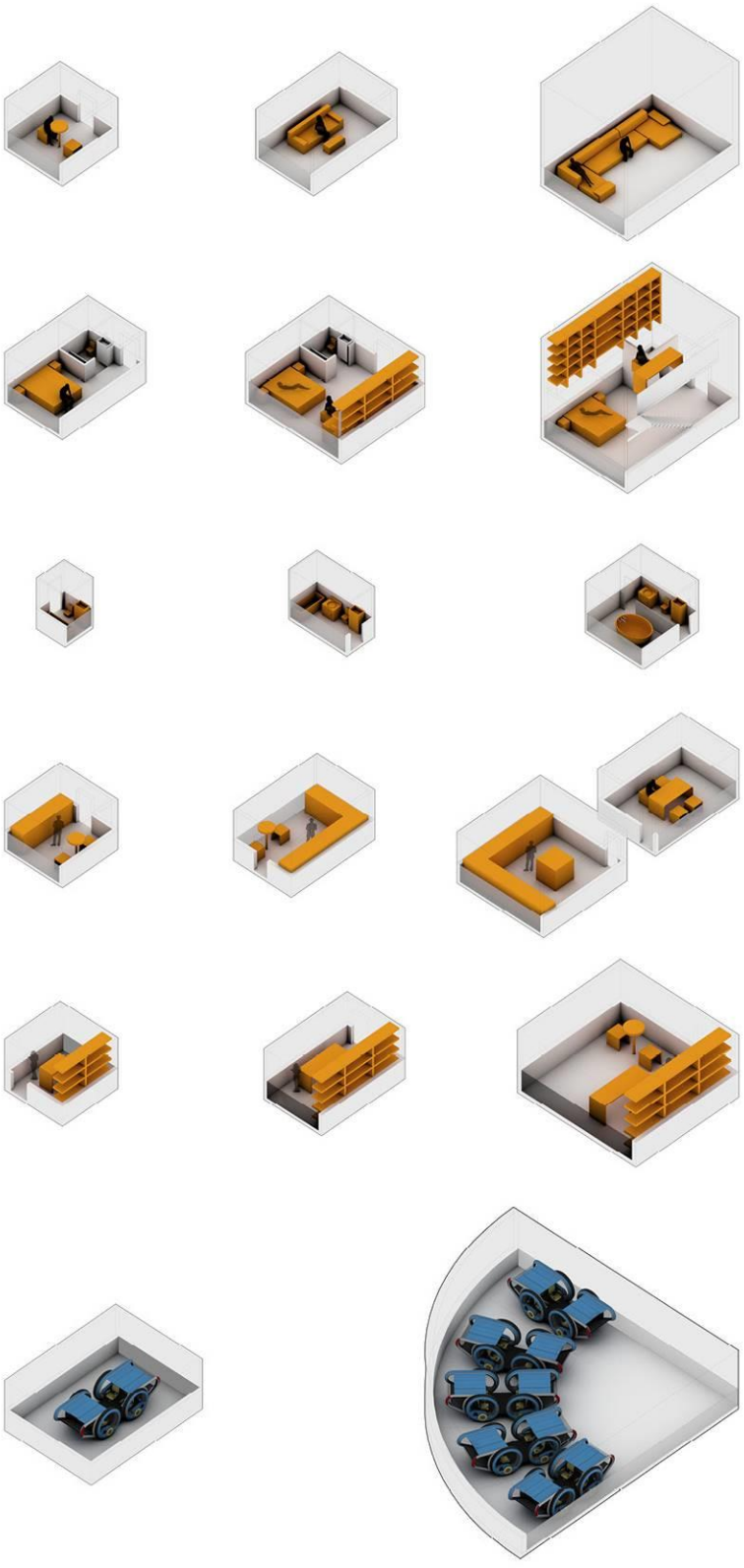





Antifragile Housing Workshop
2018.09-2018.12
MOBILE CAPSULE



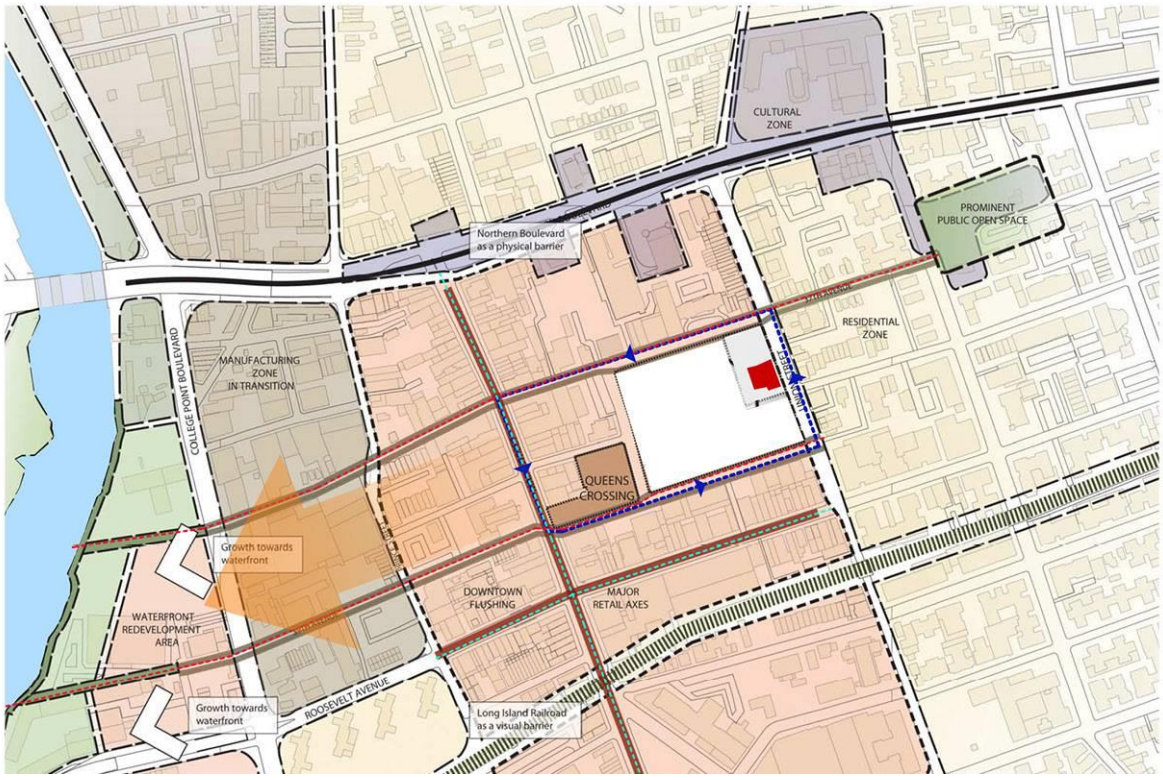
Modular Typology

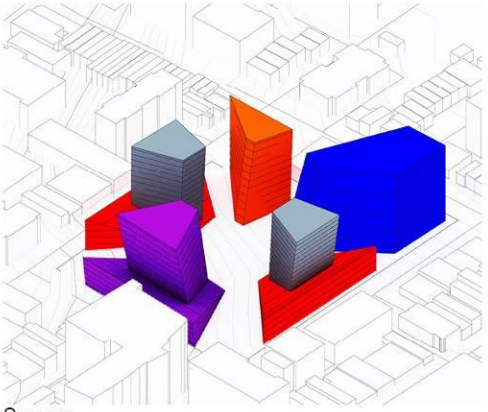


Real Estate Development WORKSHOP

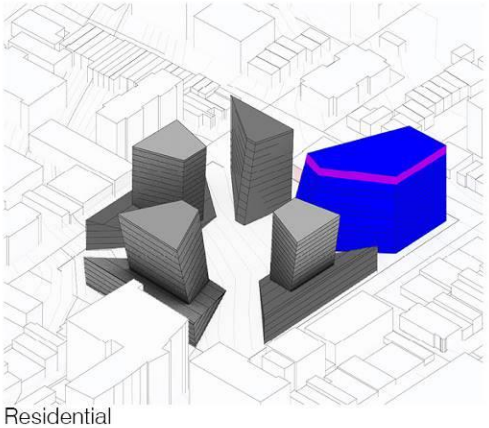
2018.09-2018.12

CENTRAL SQUARE FOR DOWNTOWN FLUSHING

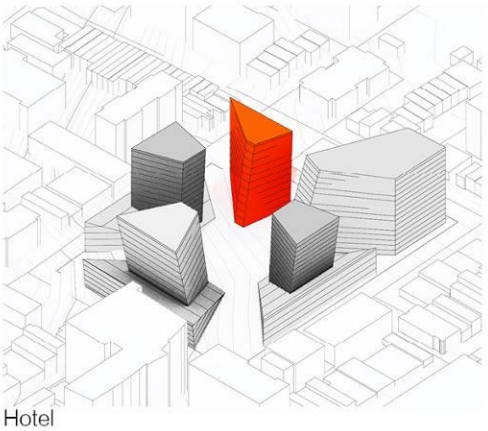




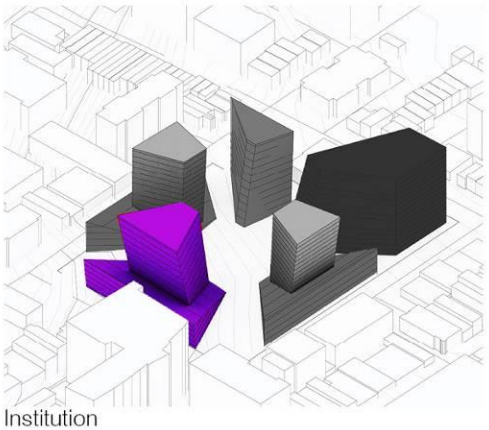
Square



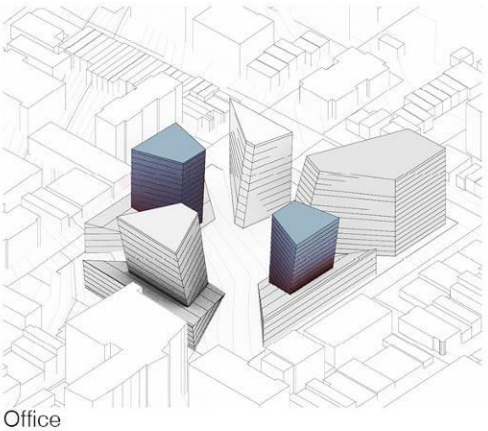
Residential



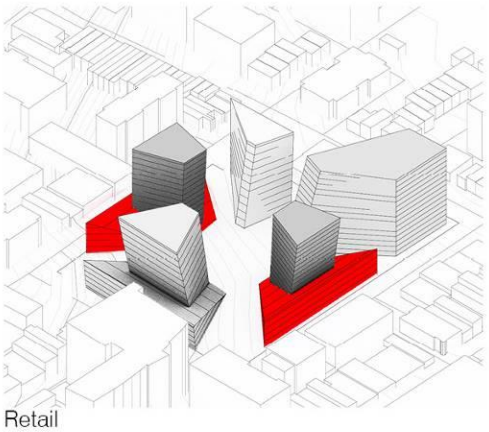
Hotel



Institution



Office



Retail

1 Manufacturing/Light Industry

2 Administrative/Mixed-Use Complex

3 Commercial Center

4 Workforce Training

5 Art Center

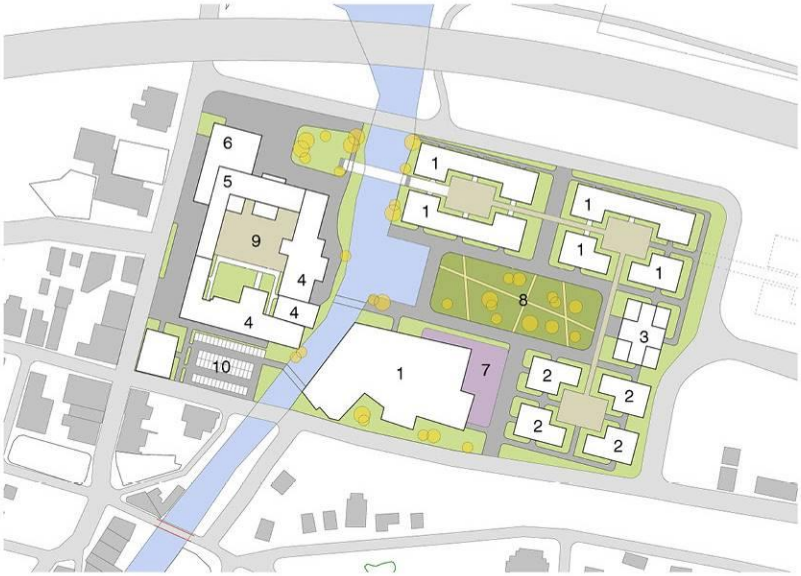
6 Performance Center

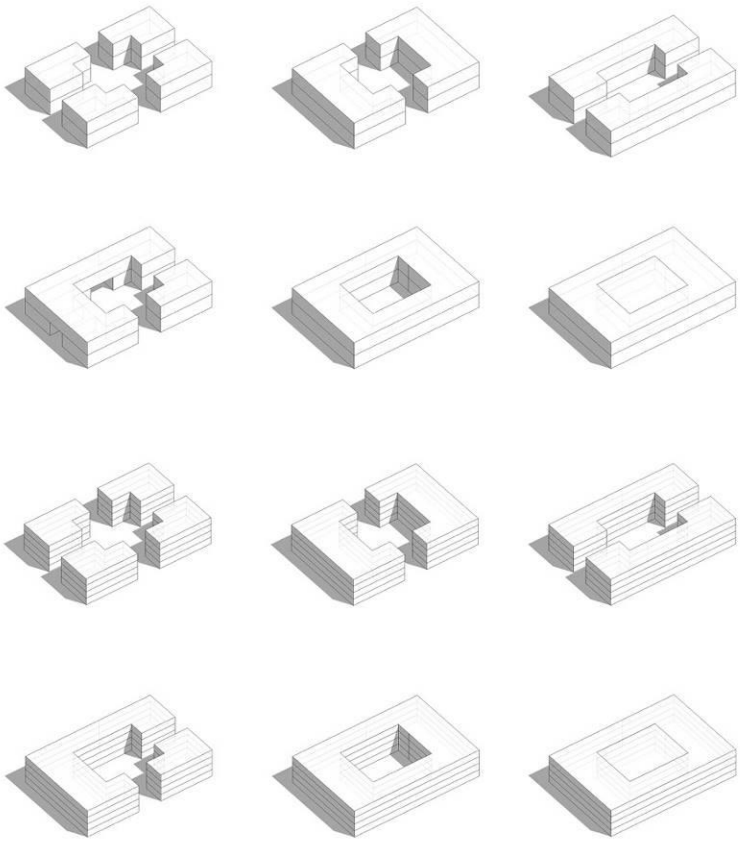
7 Ourdoor Operation Space

8 Central Landscape

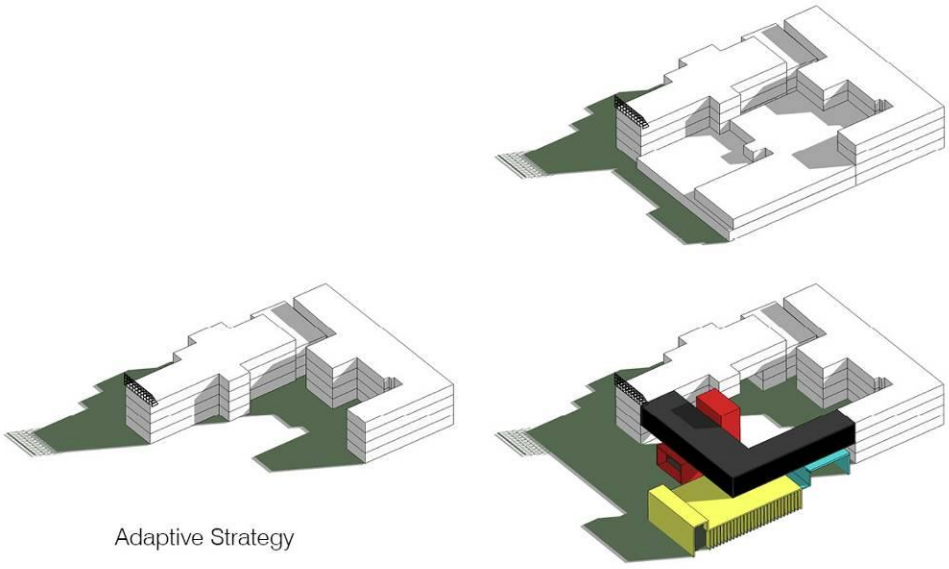
9 Outdoor Exhibition/Performance Space

10 Parking Lot



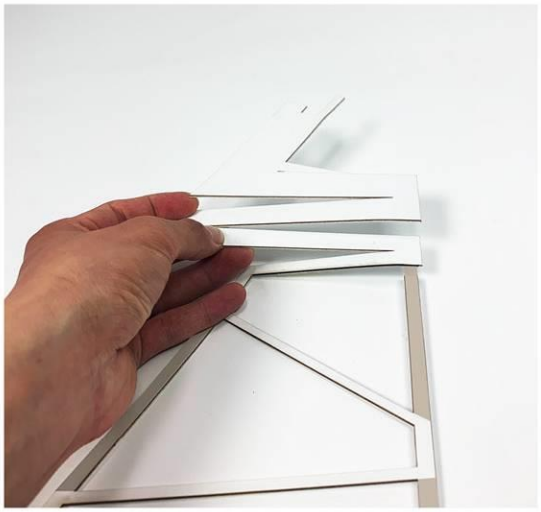


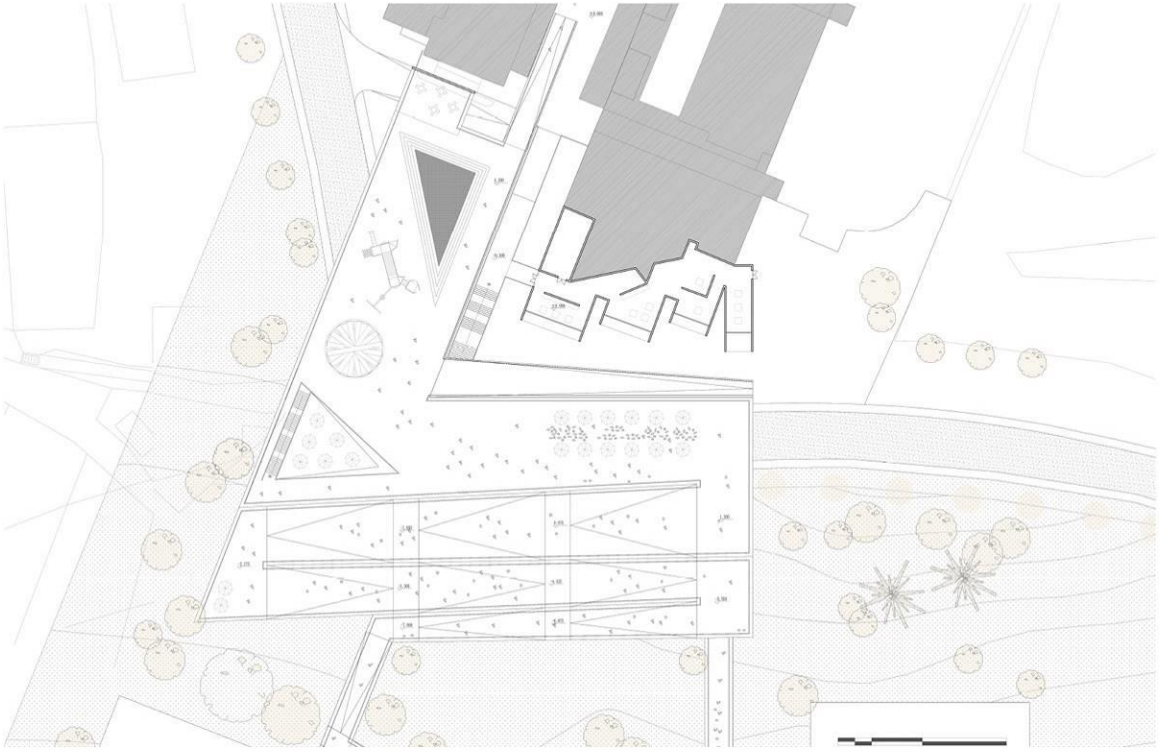
Industry Typology



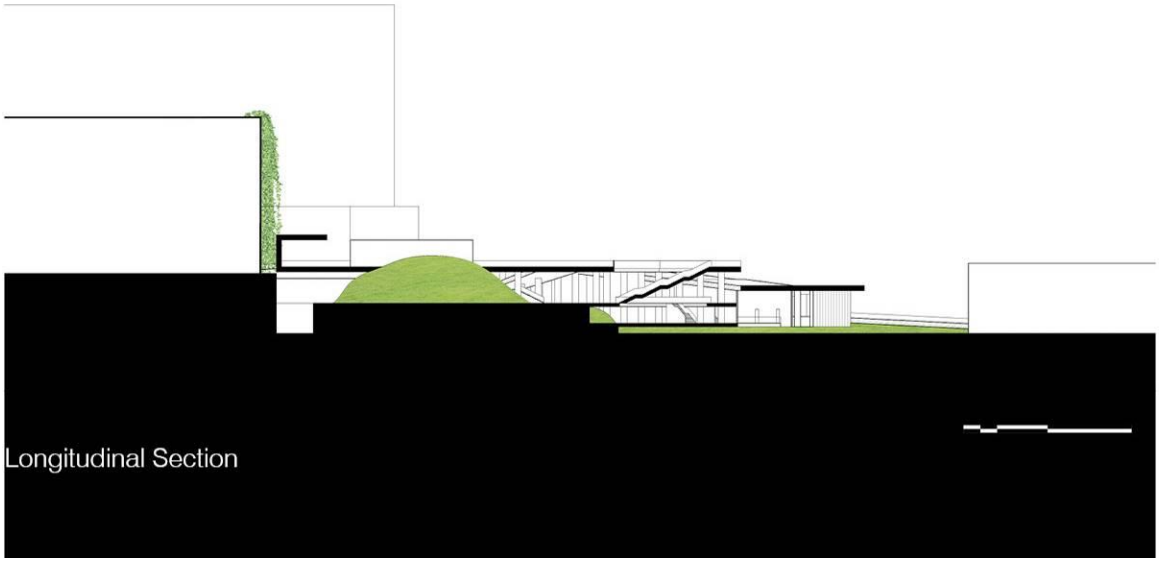
Adaptive Strategy


SPLIT 3.0 URBAN EDITING STUDIO
2019.02-2019.05
TOUCH THE SEA

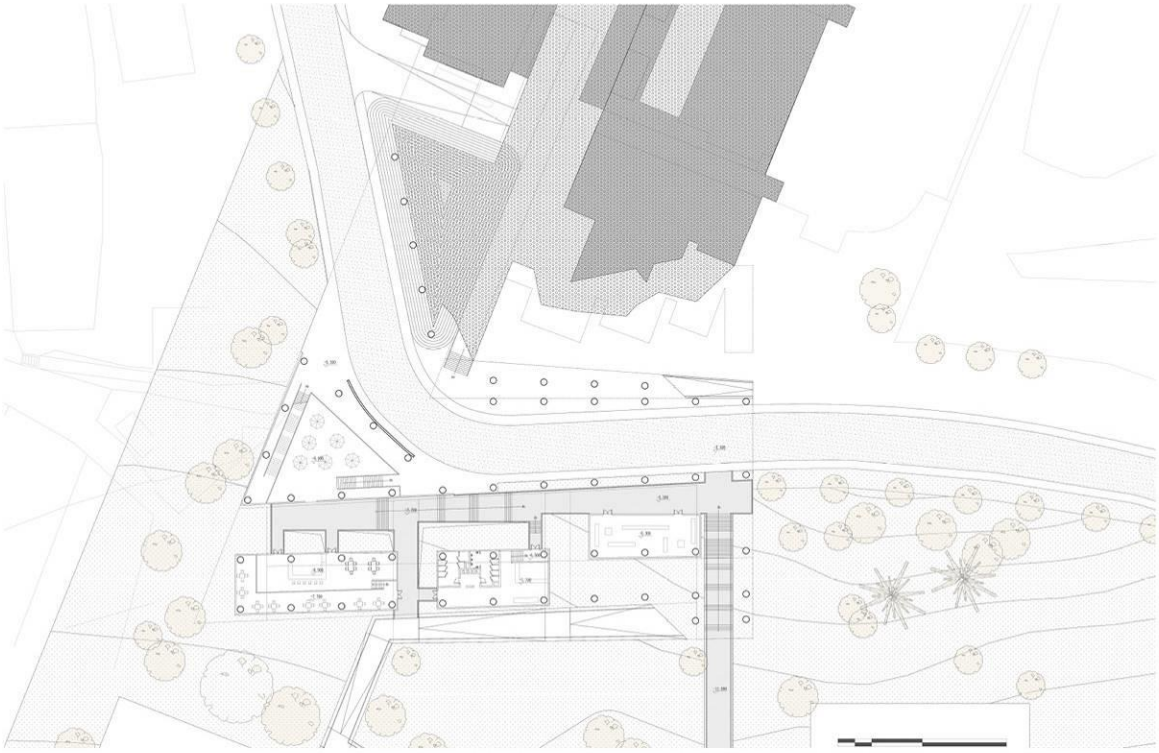




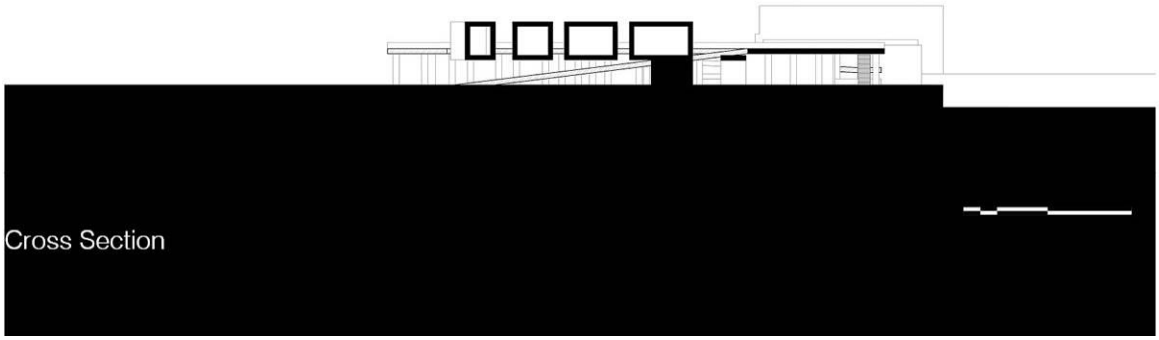
Roof Floor Plan



Longitudinal Section



Ground Floor Plan



Cross Section