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ARCHITECTURE PORTFOLIO | PRATT INSTITUTE | STUDENT WORK

TABLE OF CONTENTS

4	After Earth: The Swamp Planet	Spring 2021
10	Spider City	Fall 2019
16	The Annular Dormitory	Fall 2018
22	The Sill	Fall 2017
28	The Stairway to Nowhere	Fall 2017
32	Methodically Carved Masses	Fall 2016
36	The League of Cerebral Ballin’	Spring 2017
40	The Diverging Athenaeum	Spring 2018
46	The Elliptic Depot	Spring 2019
52	Labyrinthine Convention	Spring 2020
58	Put Yourself In My Shoes	Spring 2020

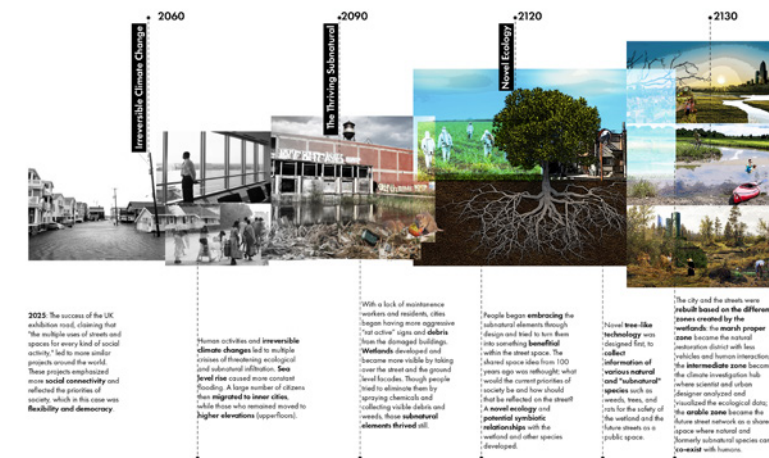


AFTER EARTH: THE SWAMP PLANET [WIP]

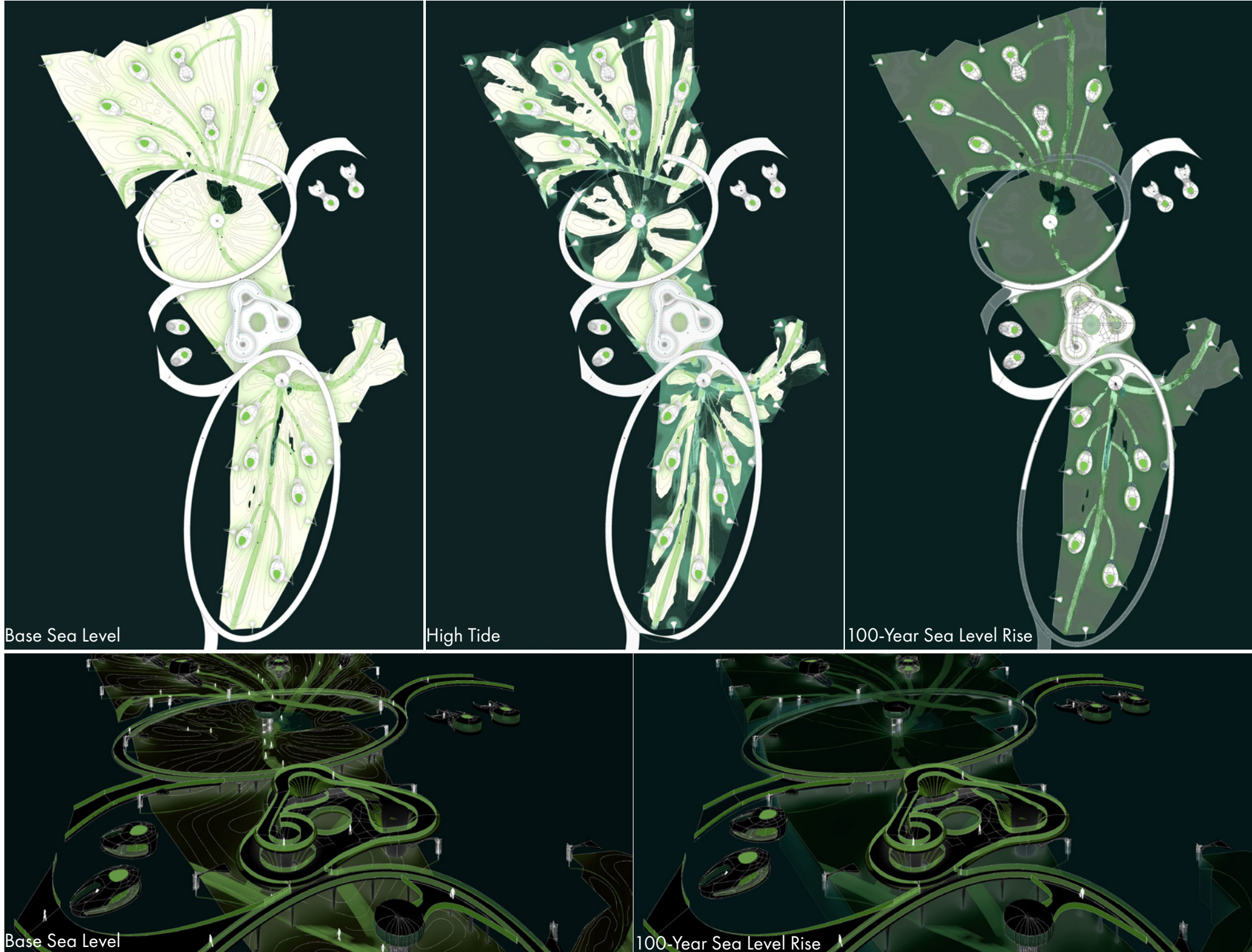
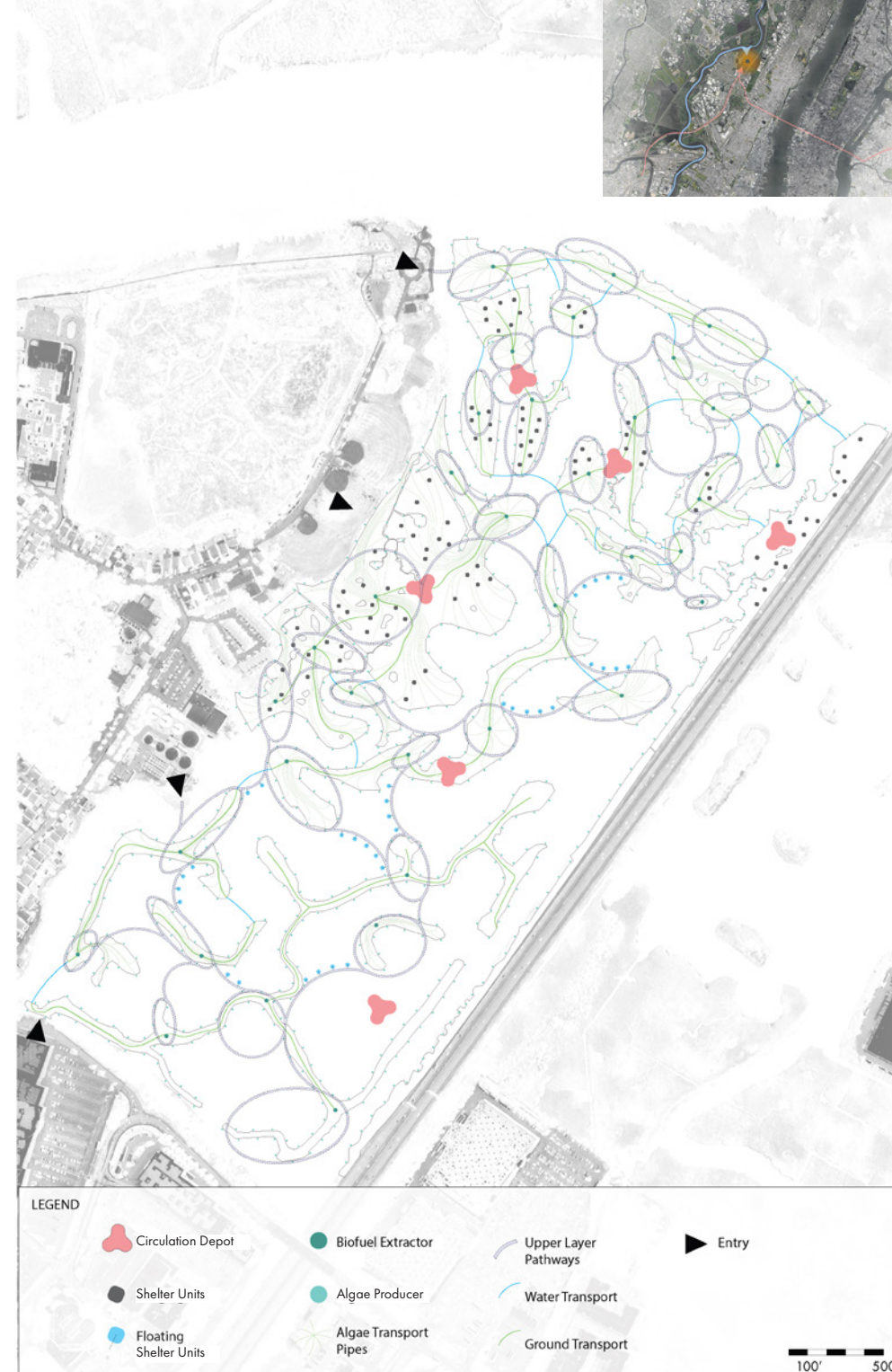
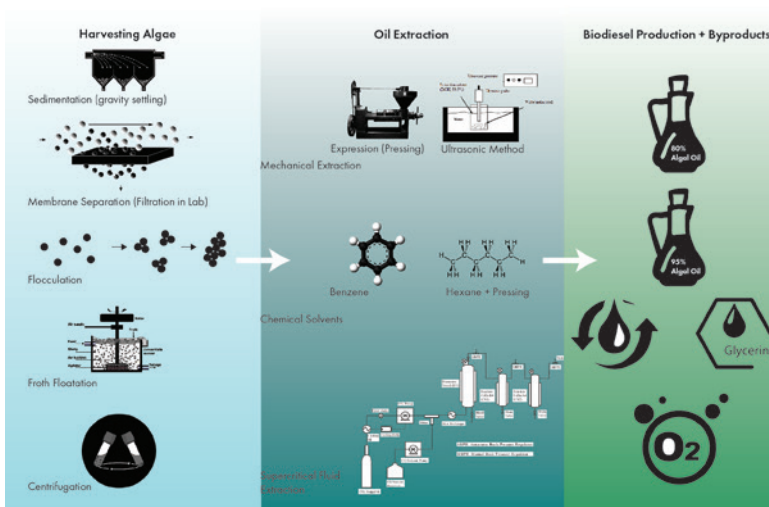
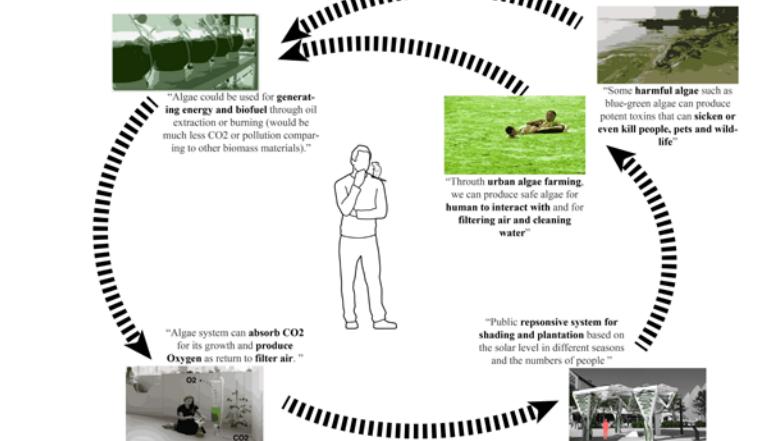
SPRING 2021 Partner:Peiye Yang
 Critics: Cathryn Dwyre | Evan Tribus | Pierre de Looz
 AN ENERGY PARK PROTOTYPING THE FUTURE ENVIRONMENT, SECAUCUS, NJ

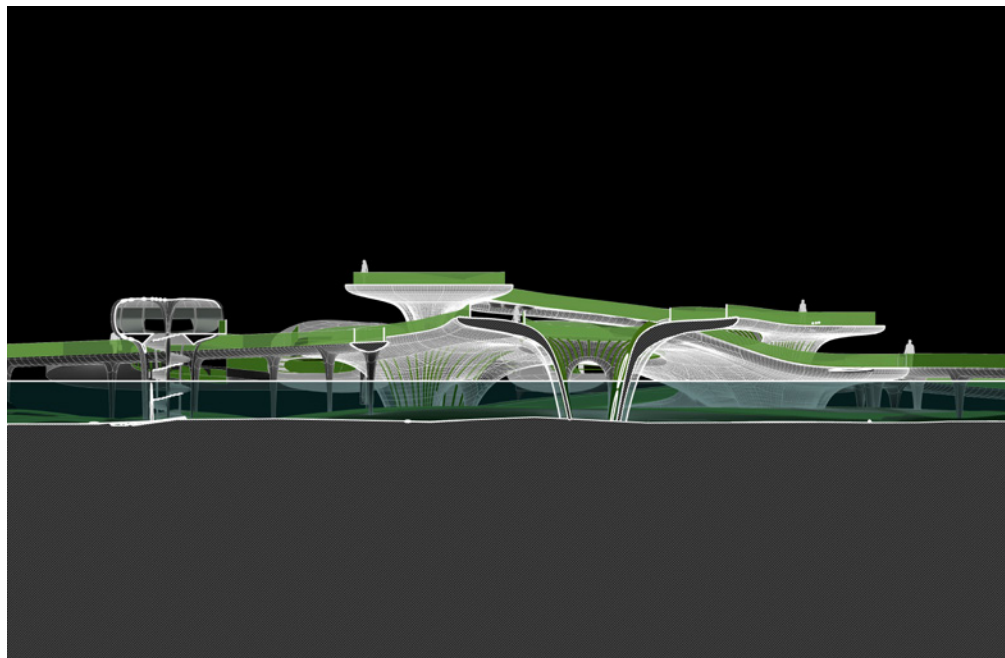
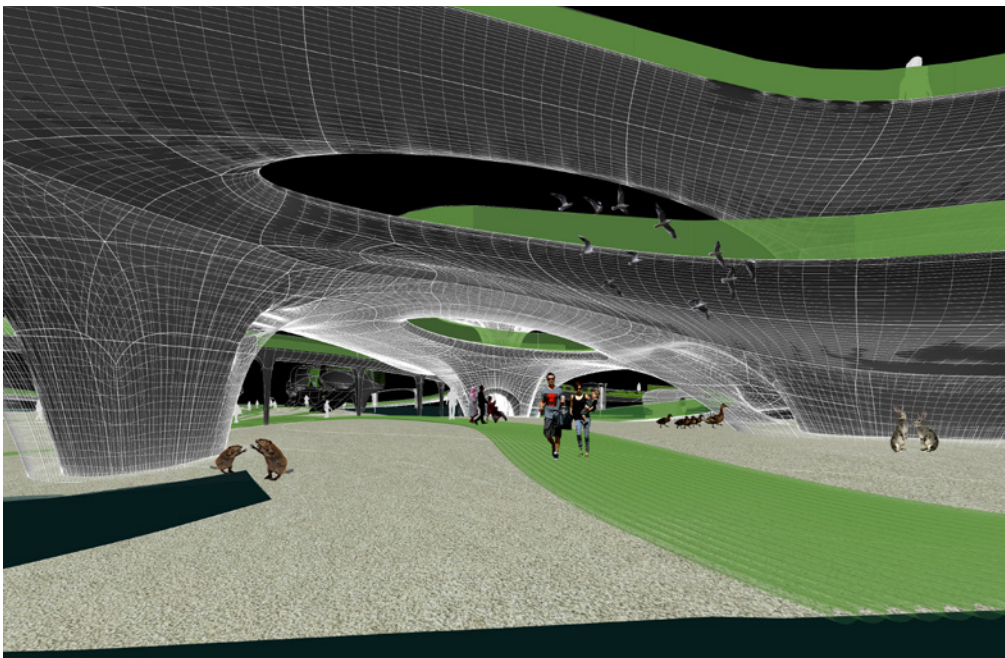
Our planet is changing. In the span of 100 years, Earth will become unrecognizable. As a result of exploiting the environment for human benefit, the world is approaching the point in which the effects of global warming will be irreversible. Earth's sea level will have risen beyond our imagination and cities will have flooded. Wetlands and natural environments will engulf the urban context. Cities will be forced to reshape their infrastructure. Humankind will learn to evolve with the changing environments and adapt to it, rather than resist it. This project works with the assumption that climate change will completely transform the environment. The proposed design of After Earth will employ a new urban infrastructure that will include responsive, exotic algae-biotechnology. This will take the form of an energy park as well as a prototype for a future environment that is more integrated with the landscape. The proposed project will be designed based on our future scenario but it will be situated in the current age at a site that is similar to the future urban-wetland condition of which we forecasted. After Earth invites people of today's time to experience the environment of the future.

Predicted Future Scenario

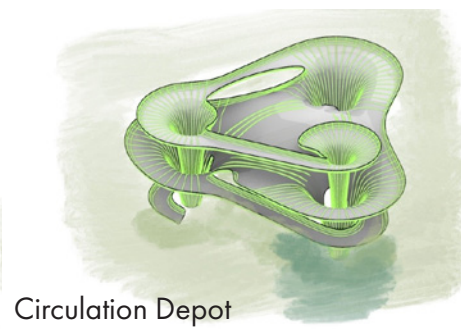


Algae Energy System





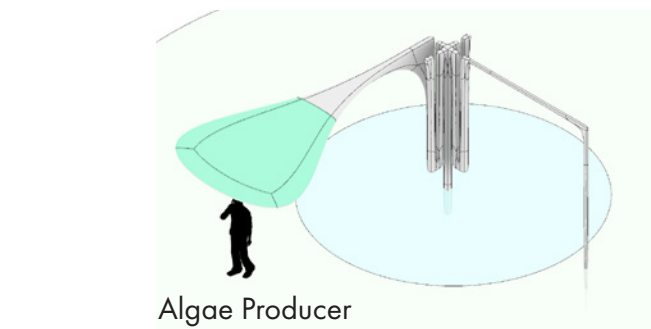
Wildlife Observation Center



Circulation Depot



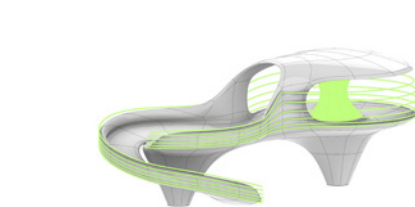
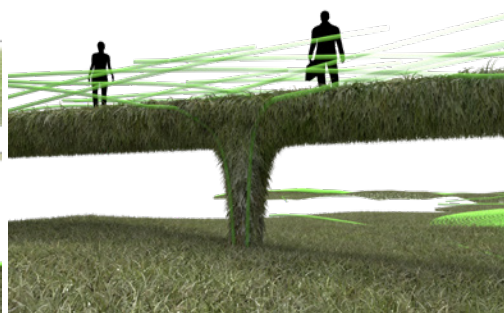
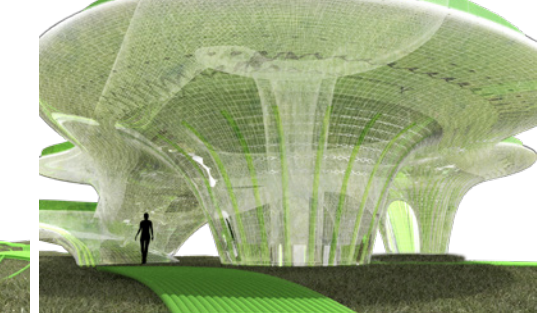
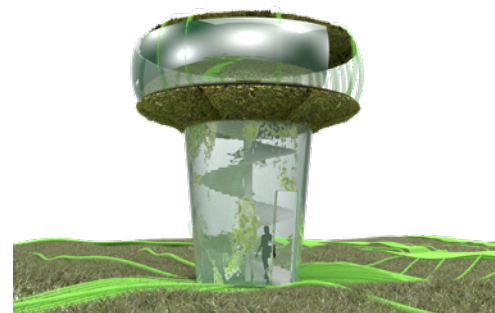
Biofuel Extractor



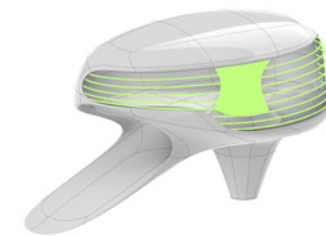
Algae Producer



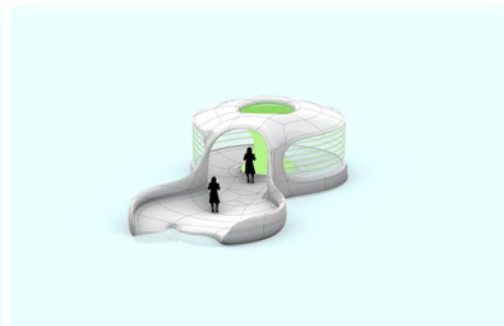
Material Studies



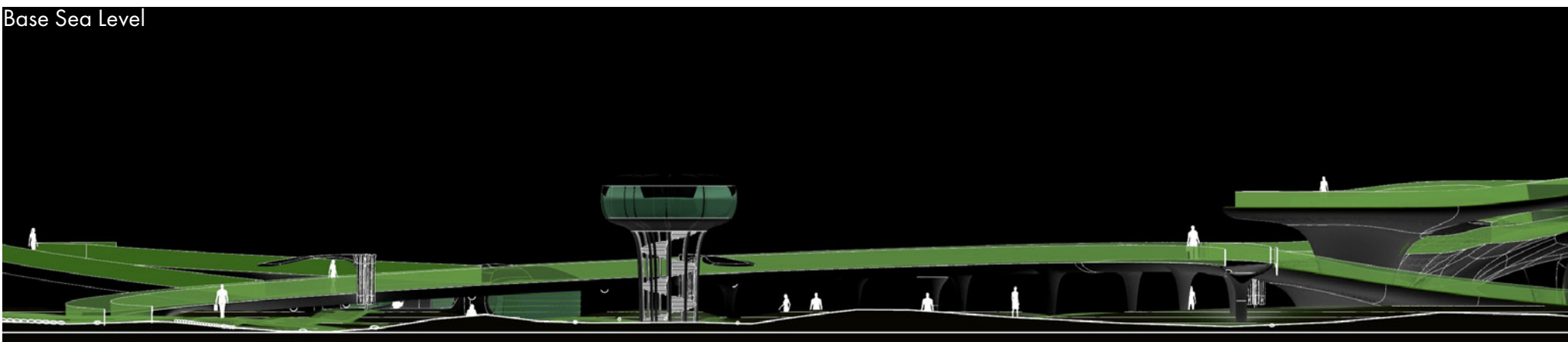
Land Shelter Units



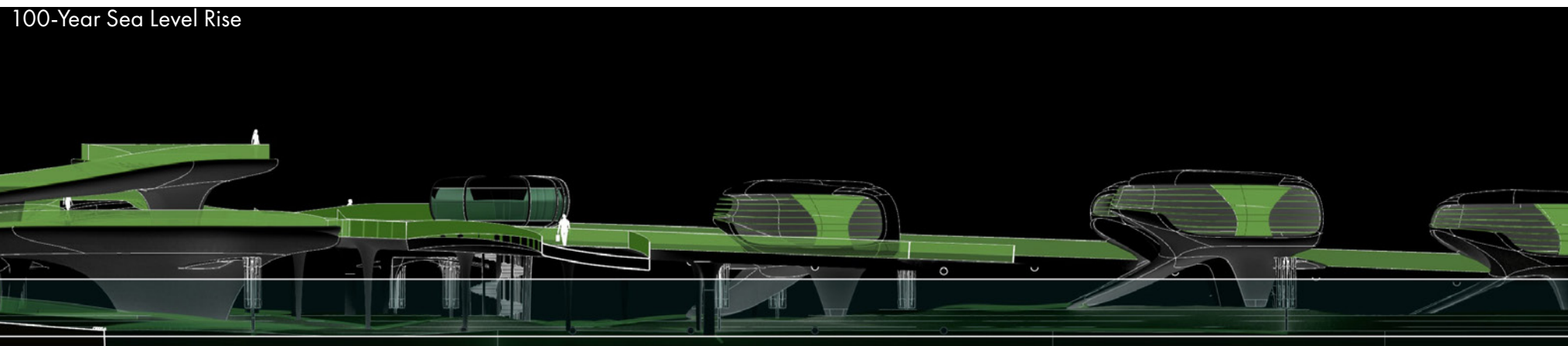
Floating Shelter Units

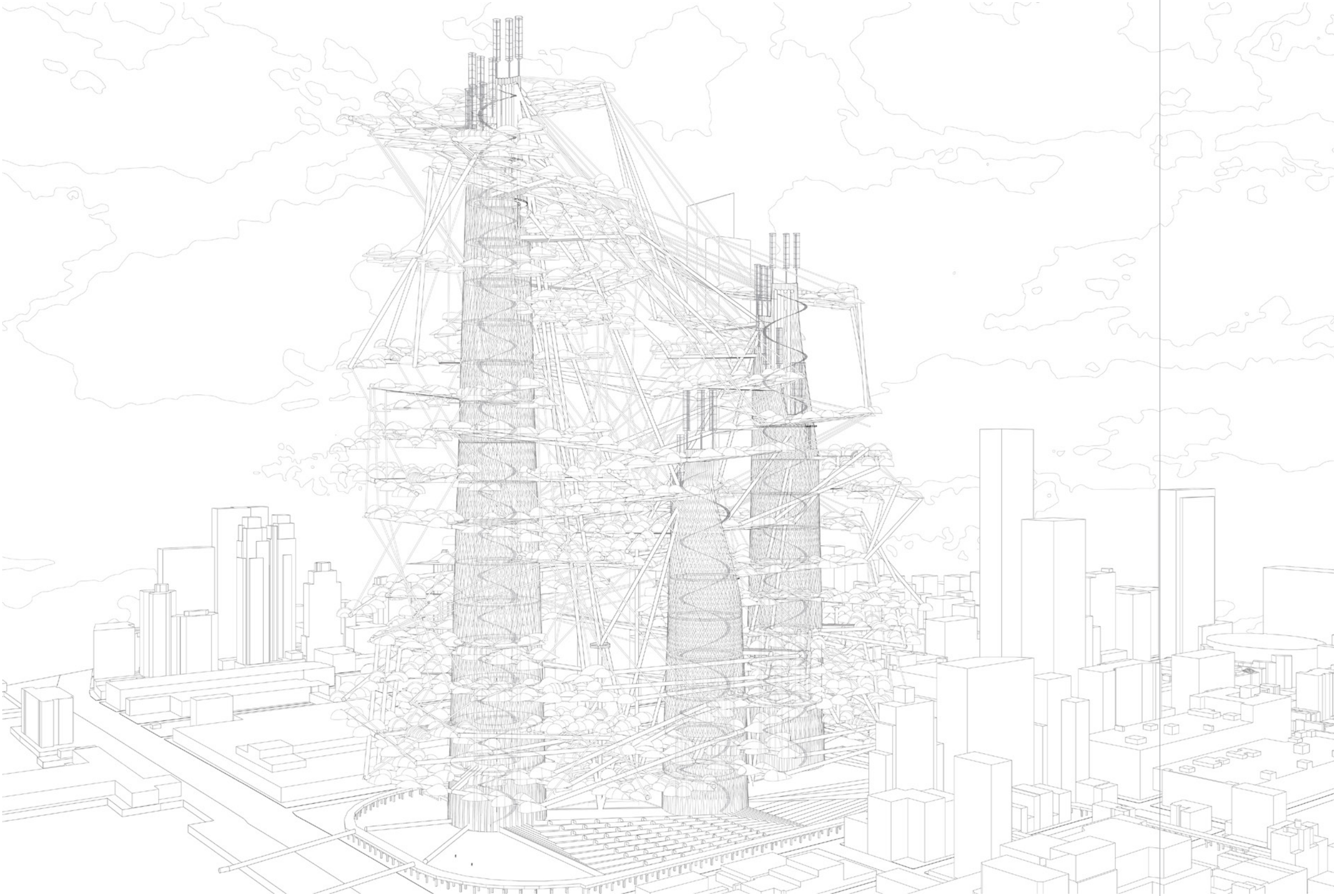


Base Sea Level



100-Year Sea Level Rise





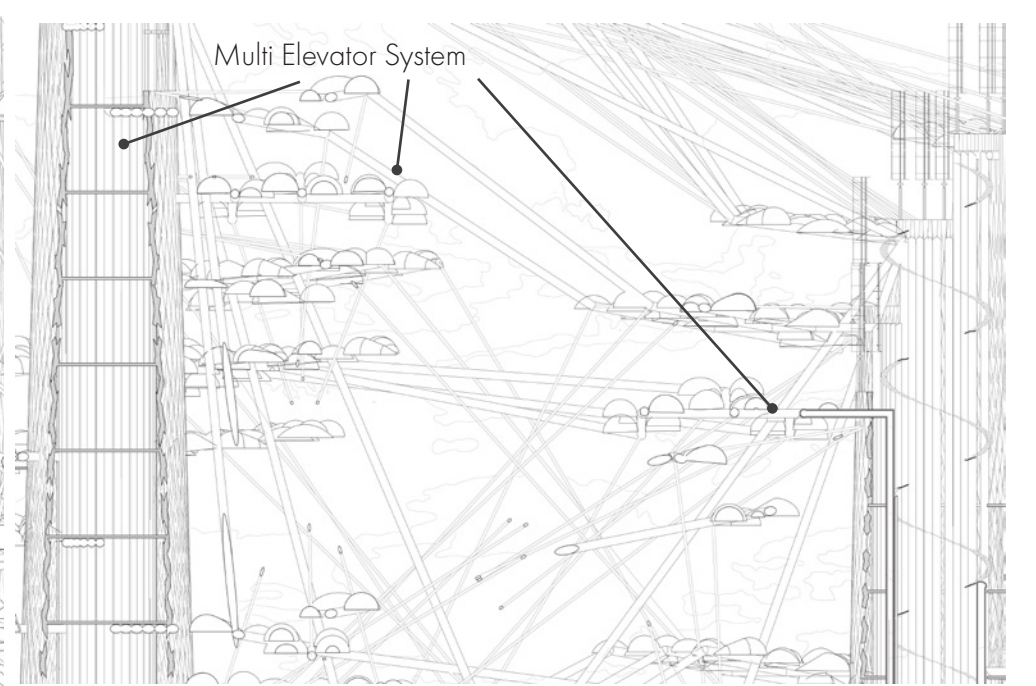
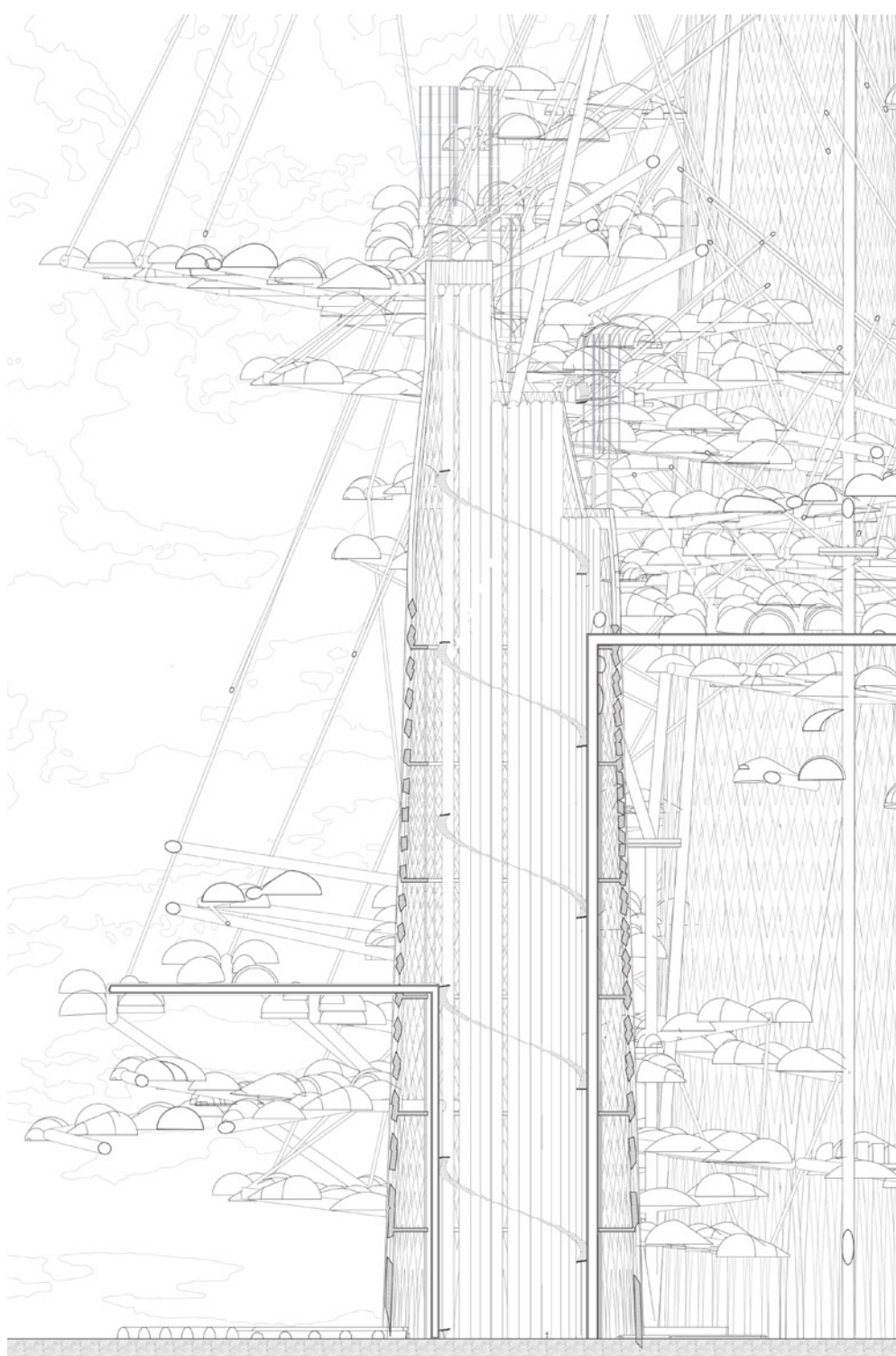
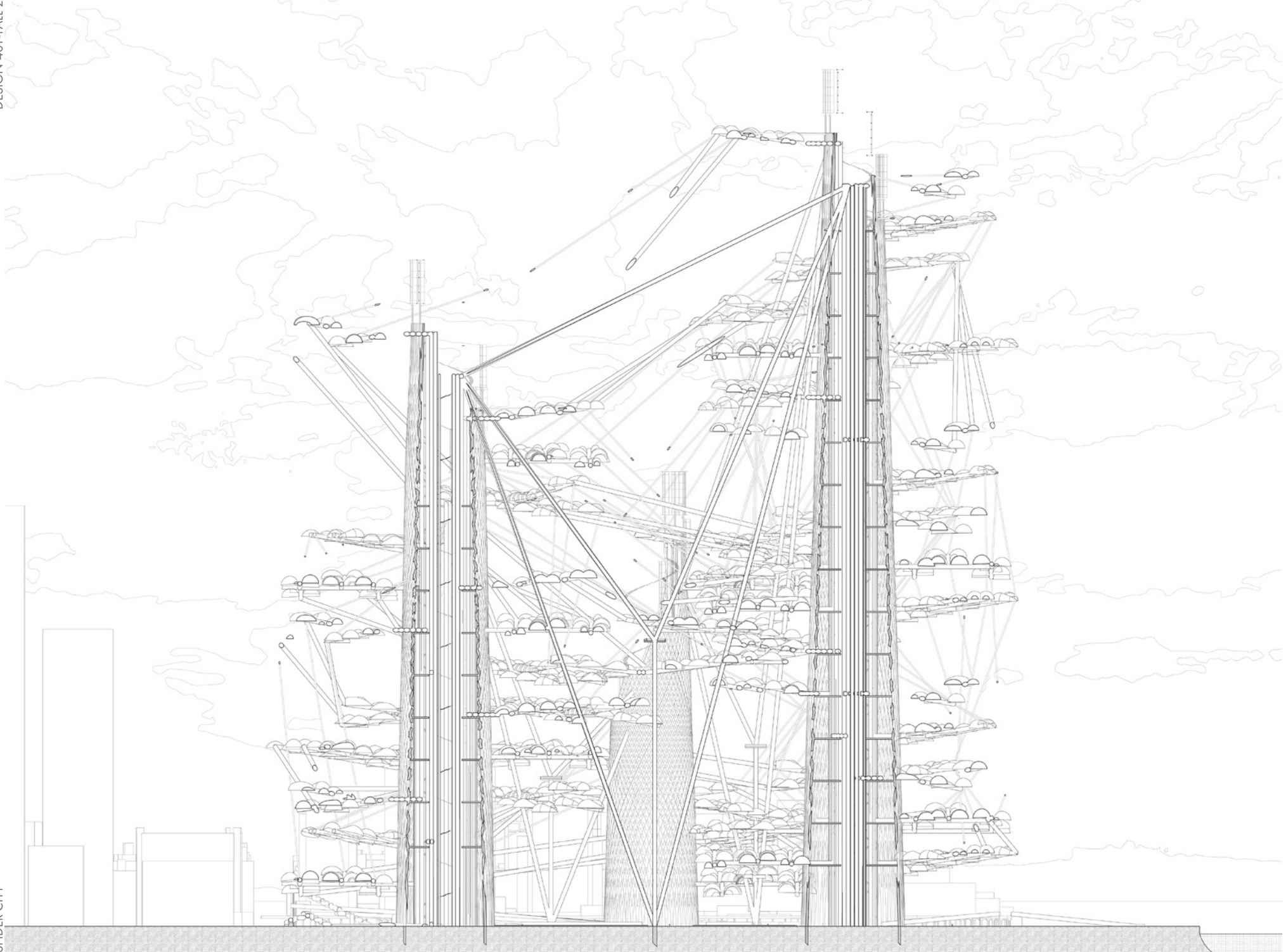
SPIDER CITY

FALL 2019

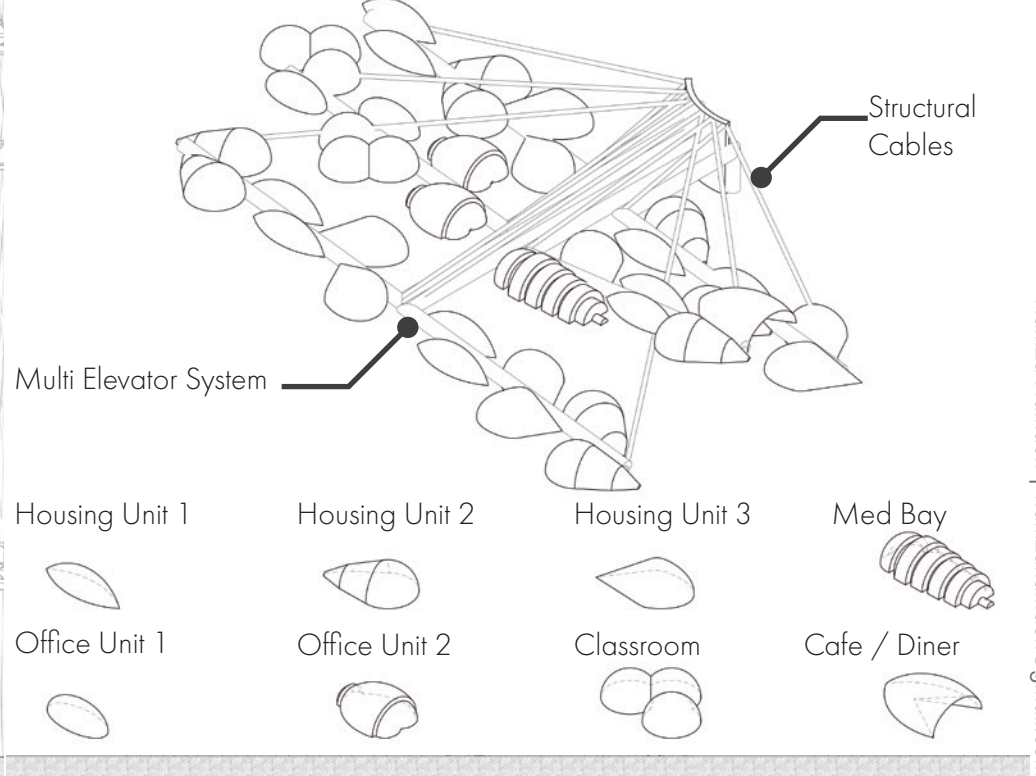
Critic: Dagmar Richter

A CITY IN A COMPLEX BUILDING, HUDSON YARDS, NYC

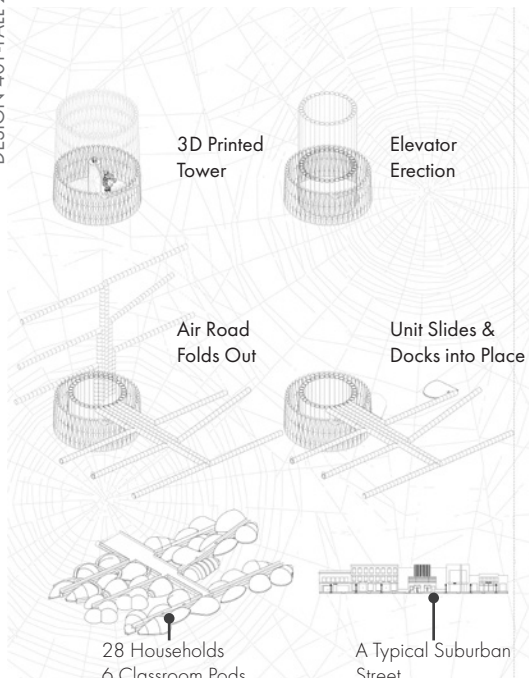
Spider City is an interconnected community within a complex building. It consists of three towers which contain the “multi” elevator system which is a new rope-free elevator system that allows for the movement of multiple cars in multiple directions, as well as public programs such as restaurants, larger medical centers, entertainment spaces, etc. Each tower has a number of “air-roads” which are supported by carbon-fiber structural cables anchored to the tower. These roads contain housing units, classrooms, office spaces, a small café/diner, and a med bay. Each “air-road” is connected to other “air-roads” of different towers through the “multi” elevator. Where multiple elevator shafts connect, there are observation decks, as seen in the perspectives. The housing units themselves are flexible in plan and allow for different lifestyles and living conditions. The ground acts a large public park as it contains the hydrogen storage, needed for energy production, within a folly, ponds for water collection, and agricultural / garden tunnels. My hope is that Spider City can be a model for the cities of the future.



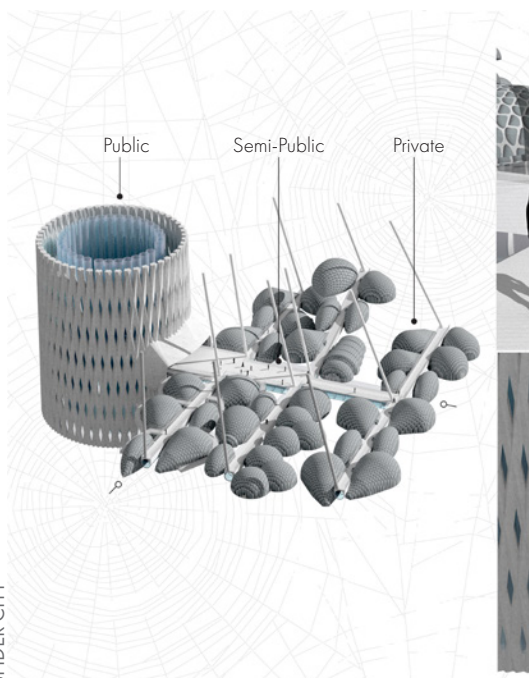
Air-Road



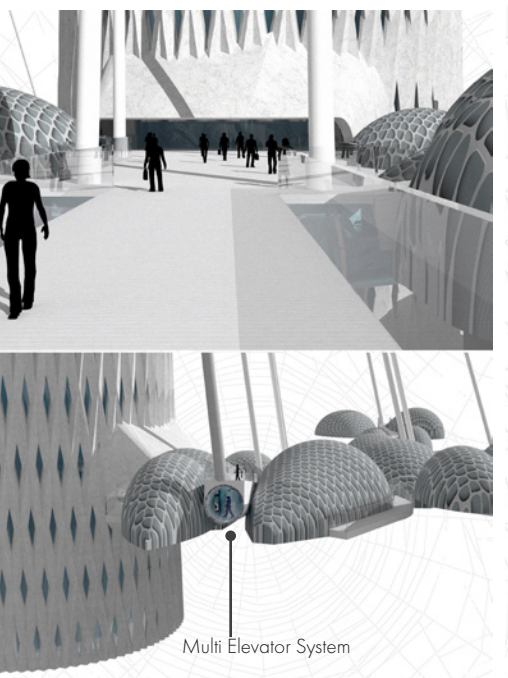
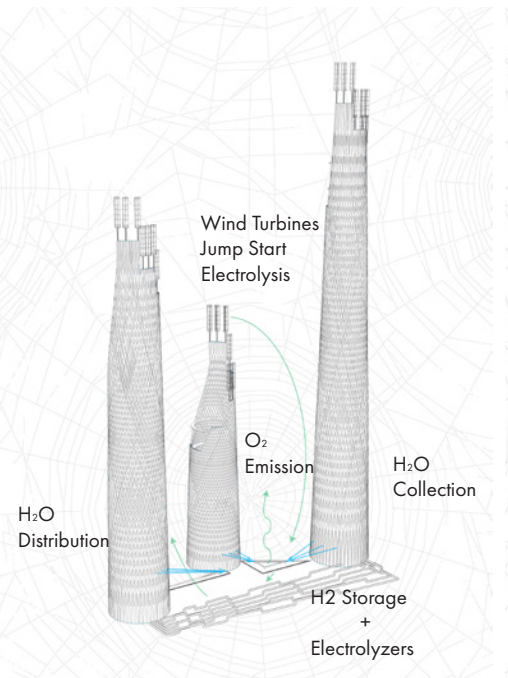
Construction Diagram



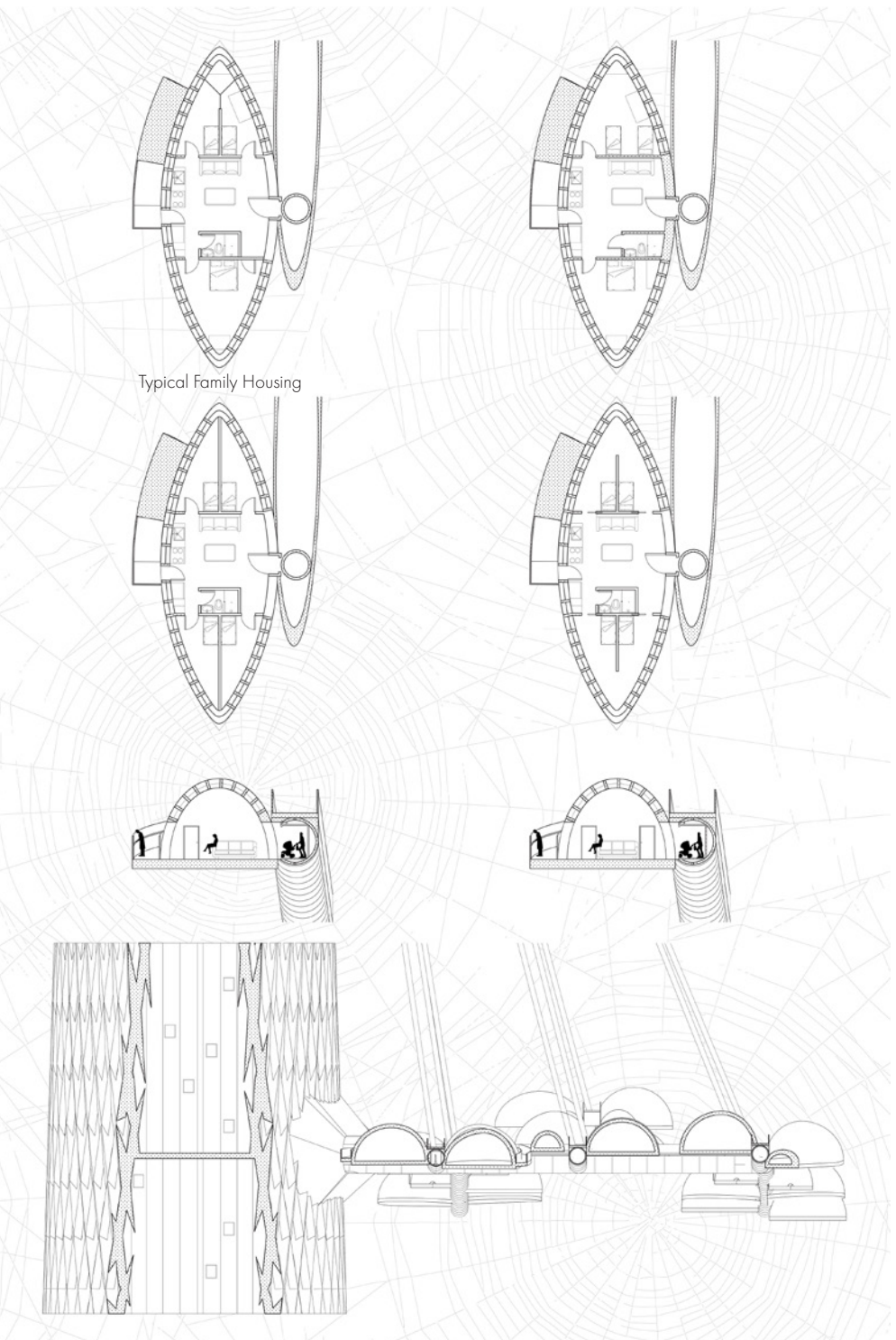
Air Road Vignettes



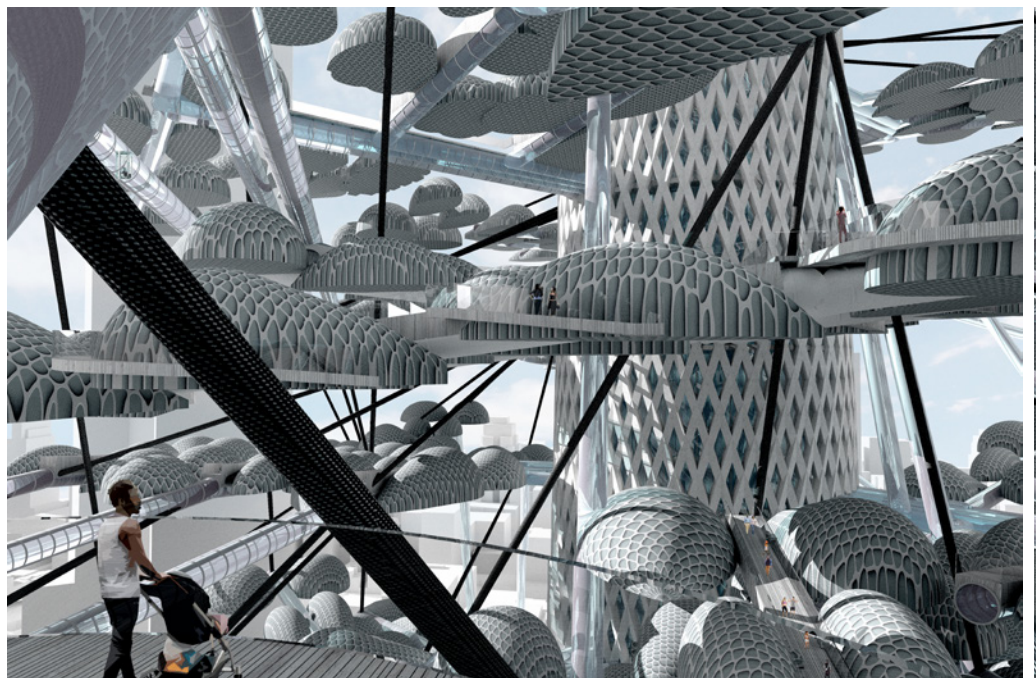
Hydrogen Energy Diagram



Unit Studies

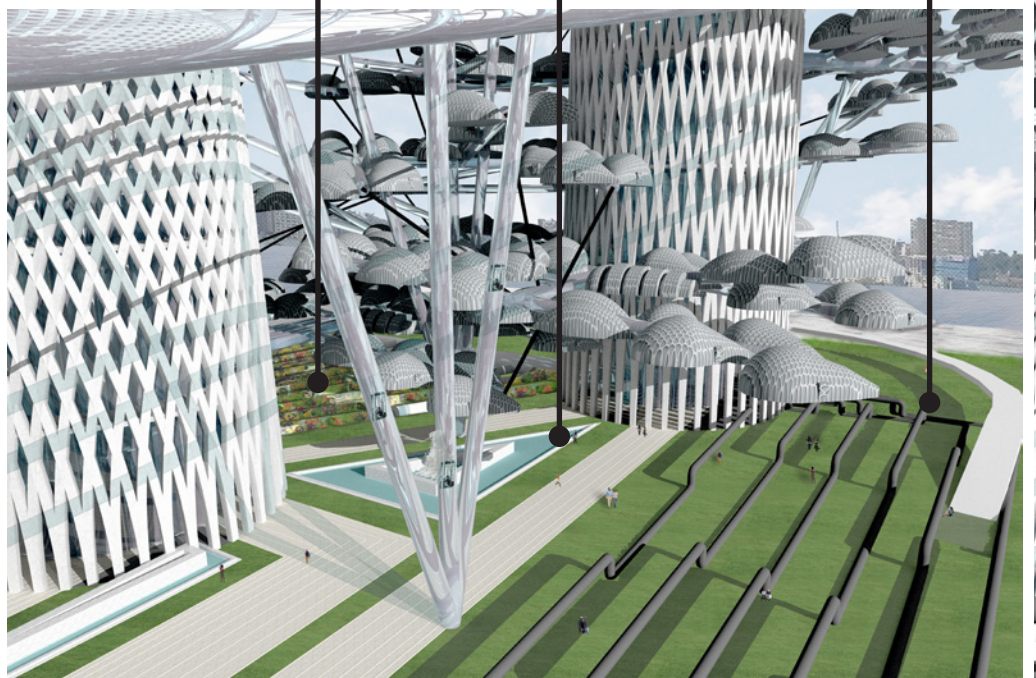


Observation Deck

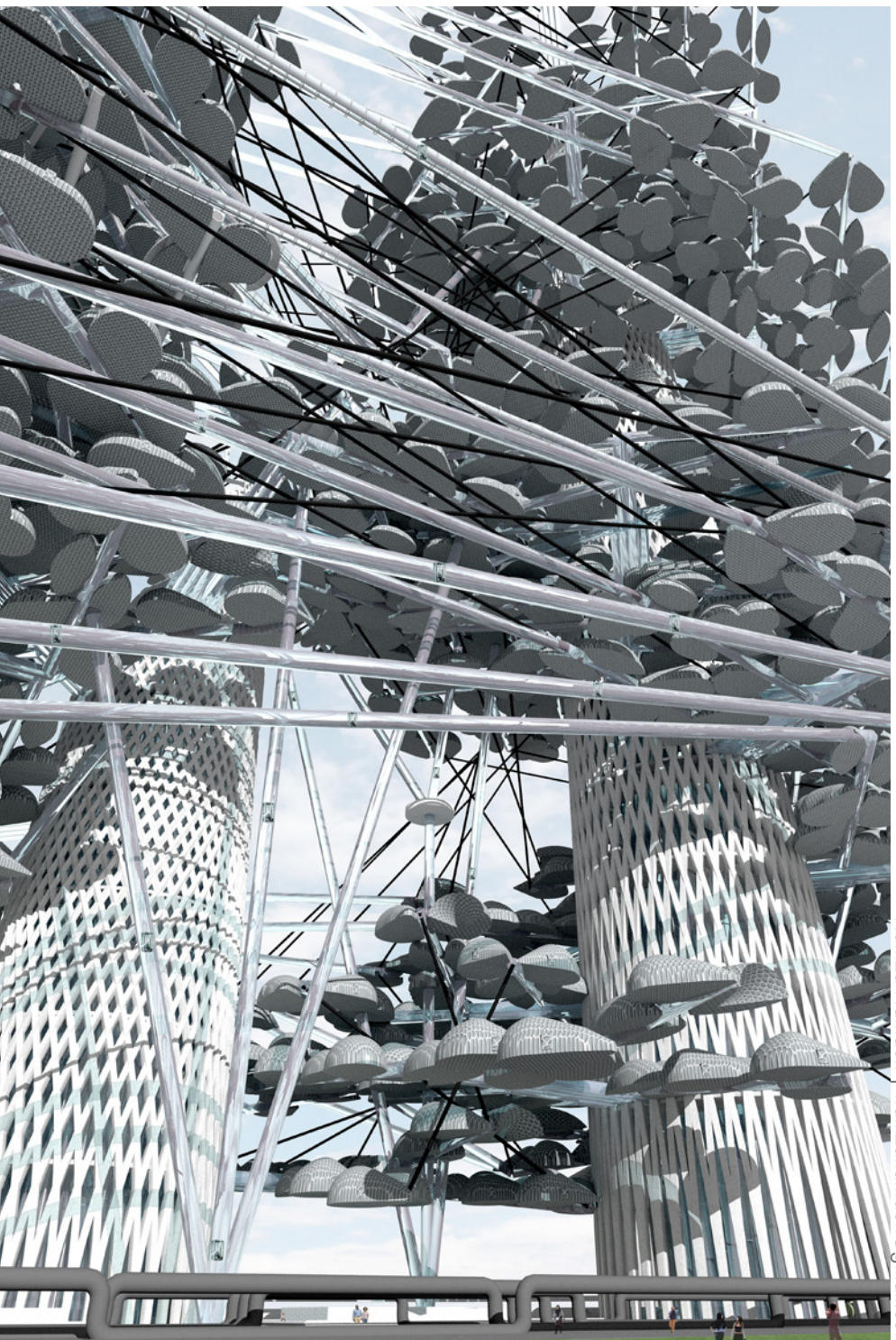


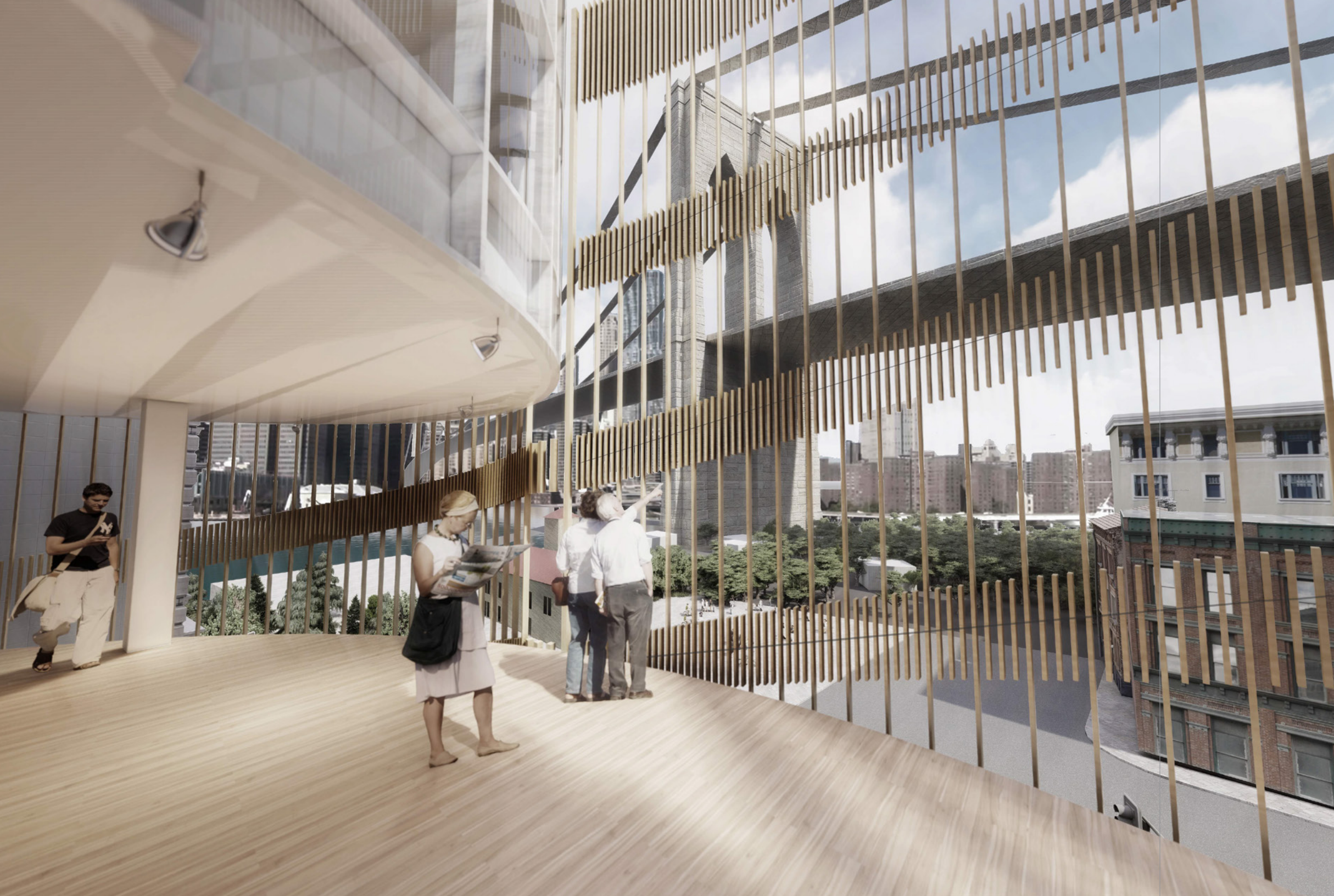
Agricultural / Garden Tunnels Ponds for Water Collection Hydrogen Storage Folly

Ground



Approaching the City





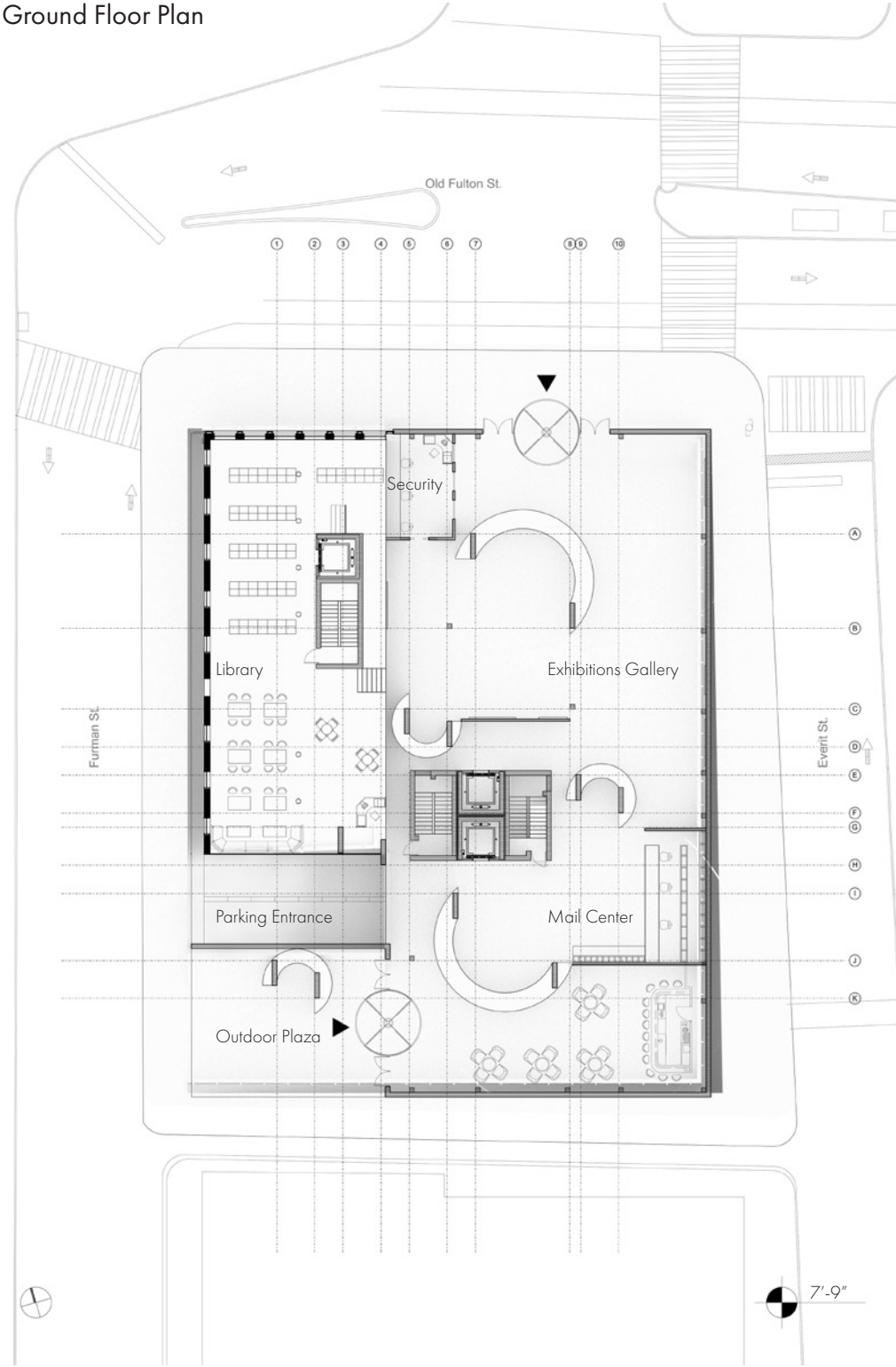
THE ANNULAR DORMITORY

FALL 2018 Partner: Peiye Yang Critic: Gonzalo Carbajo

A DORMITORY IN DUMBO, BROOKLYN, N.Y.

The idea for the design of this dormitory came from patterns found within the site of Dumbo, Brooklyn. Such a pattern was the ivy found growing on the neighboring buildings. This pattern was simplified into a branching pattern and then refined into a pinwheel system where the arms of each pinwheel branch out from their cores. This system was then implemented into the dormitory's plan as a whole as well as within the individual unit plans. The idea behind this system is to allow for an orthogonal interpretation of an organic system in which the spaces are connected in a flowing manner. The circular enclosures around these pinwheels reiterate this flowing idea.

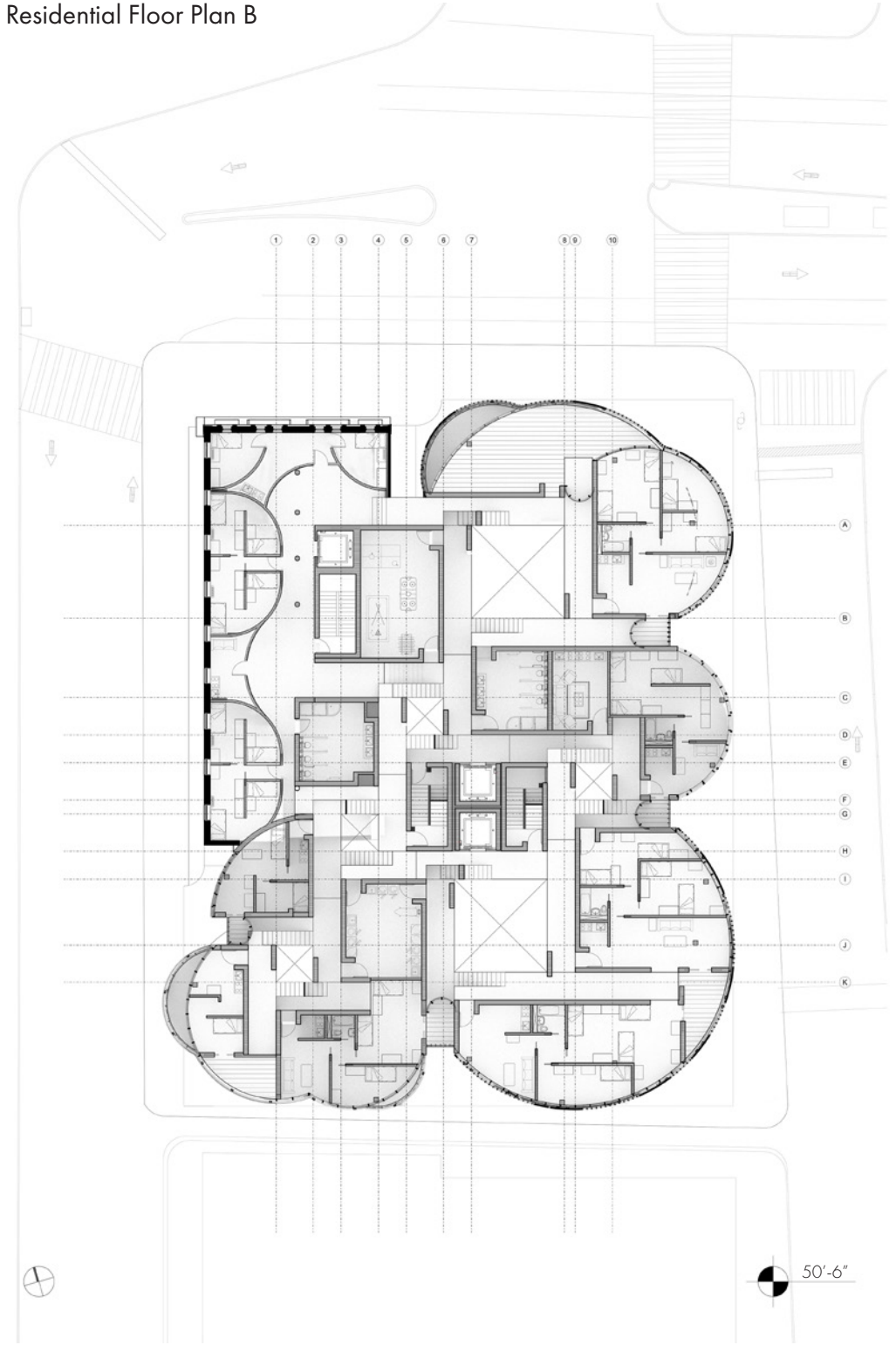
Ground Floor Plan



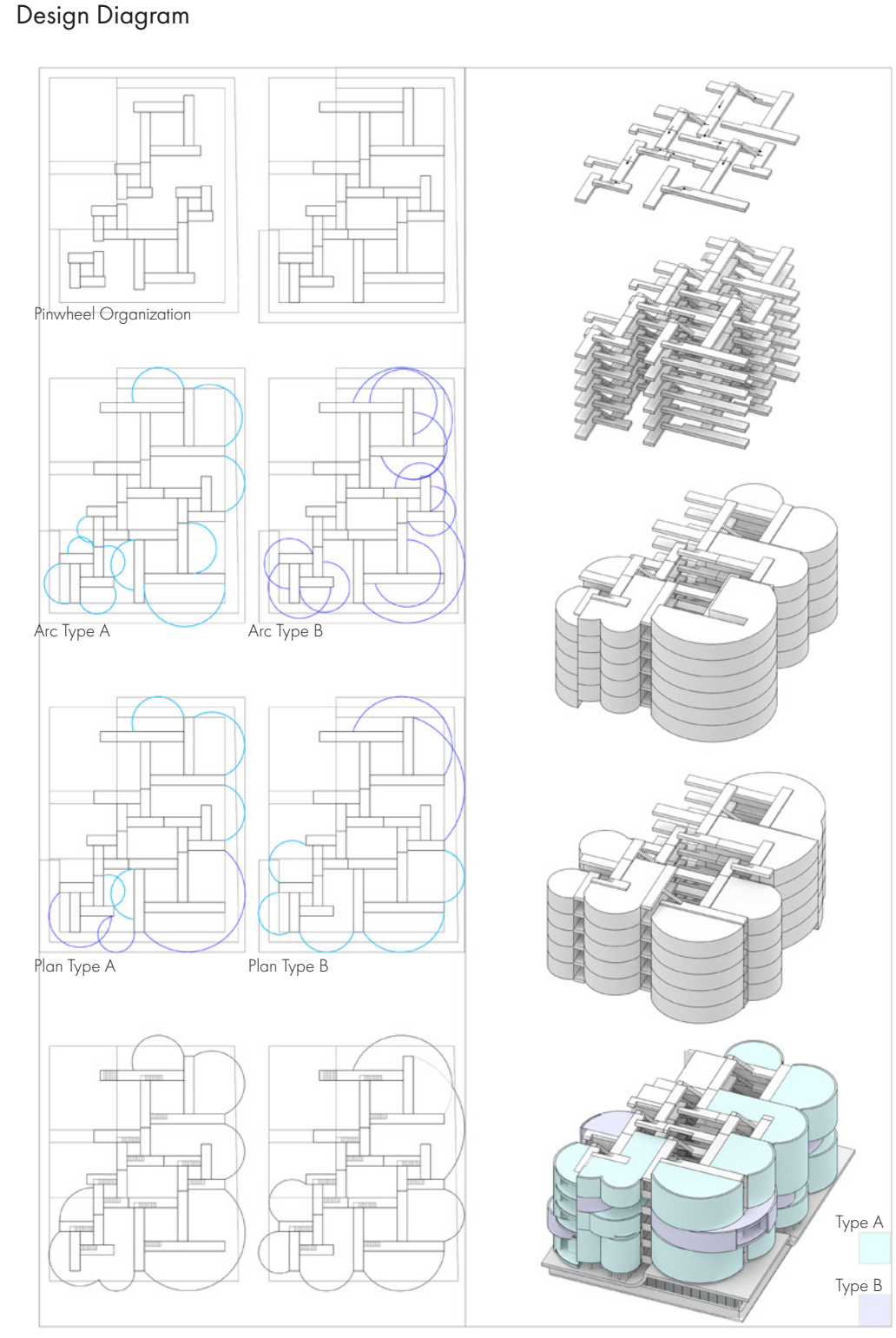
Residential Floor Plan A

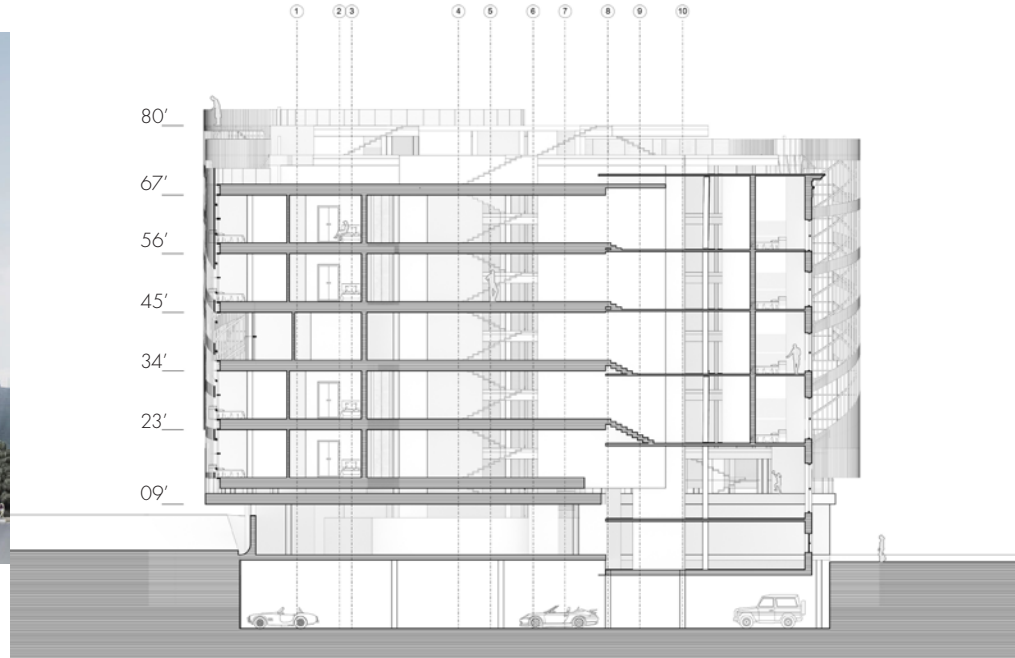
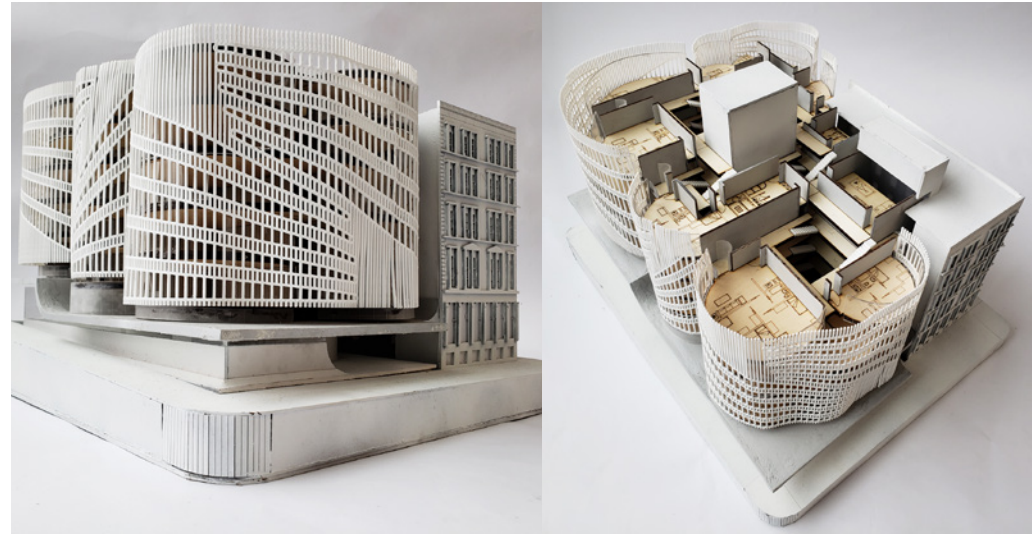
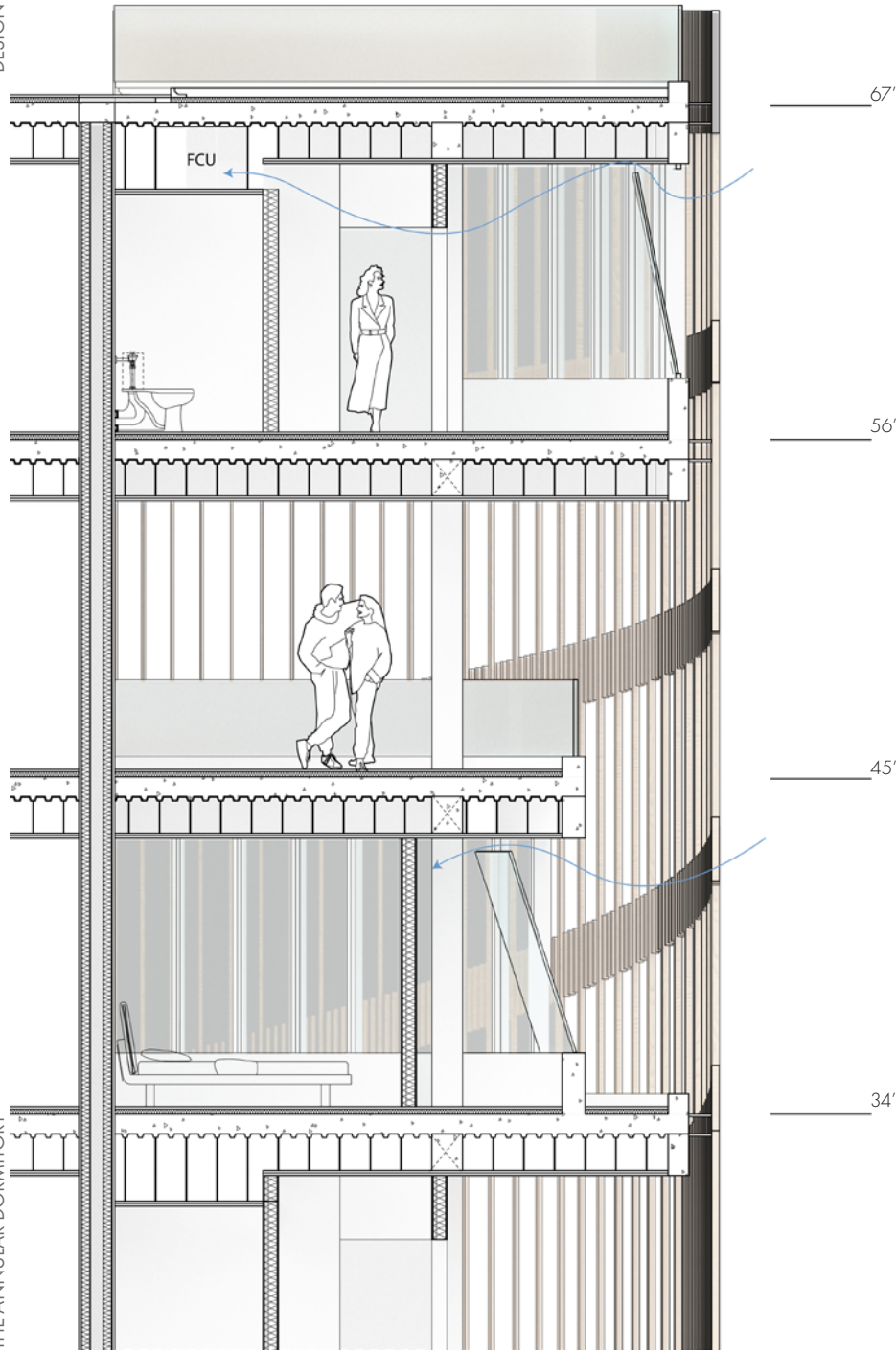


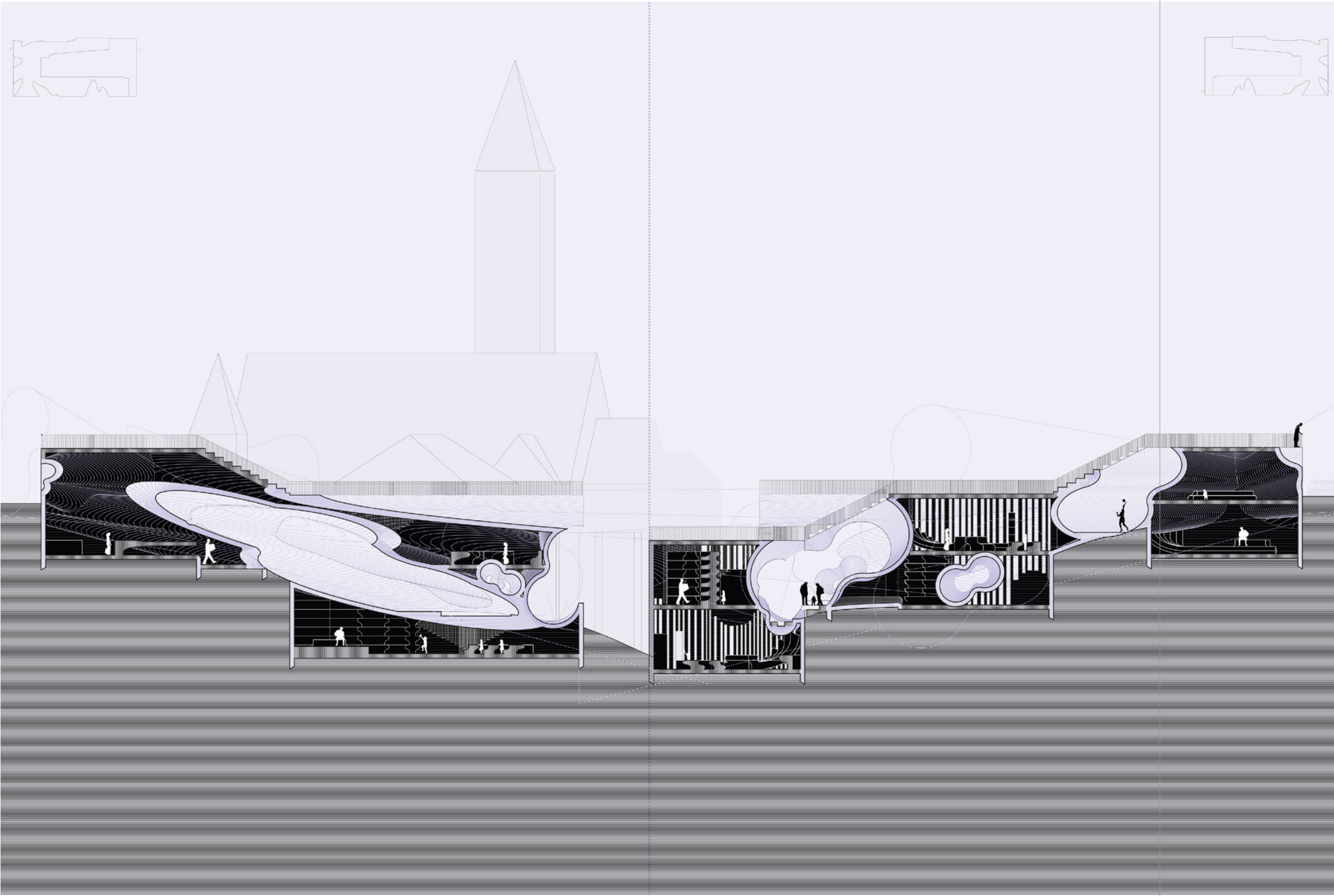
Residential Floor Plan B



Design Diagram







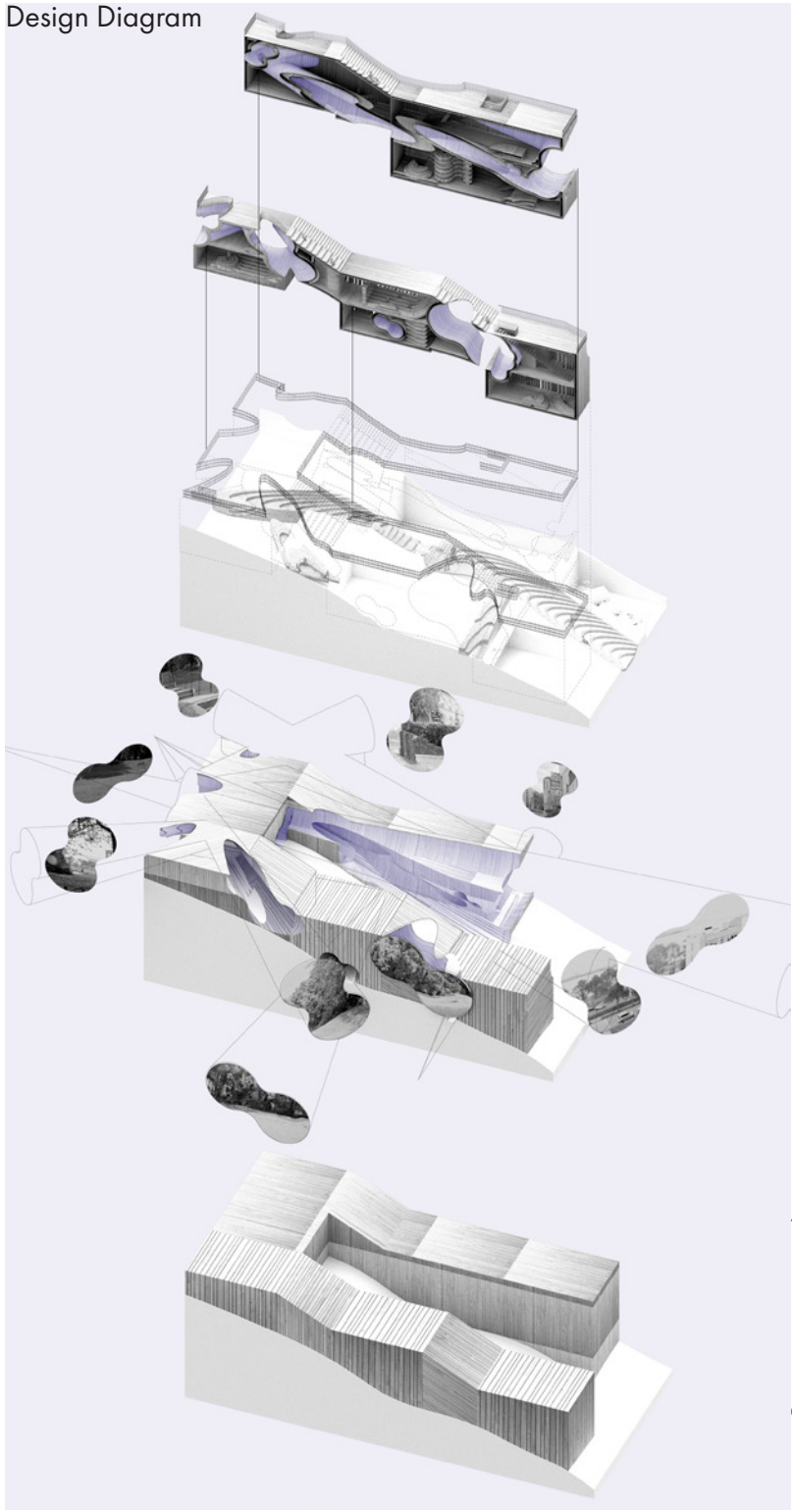
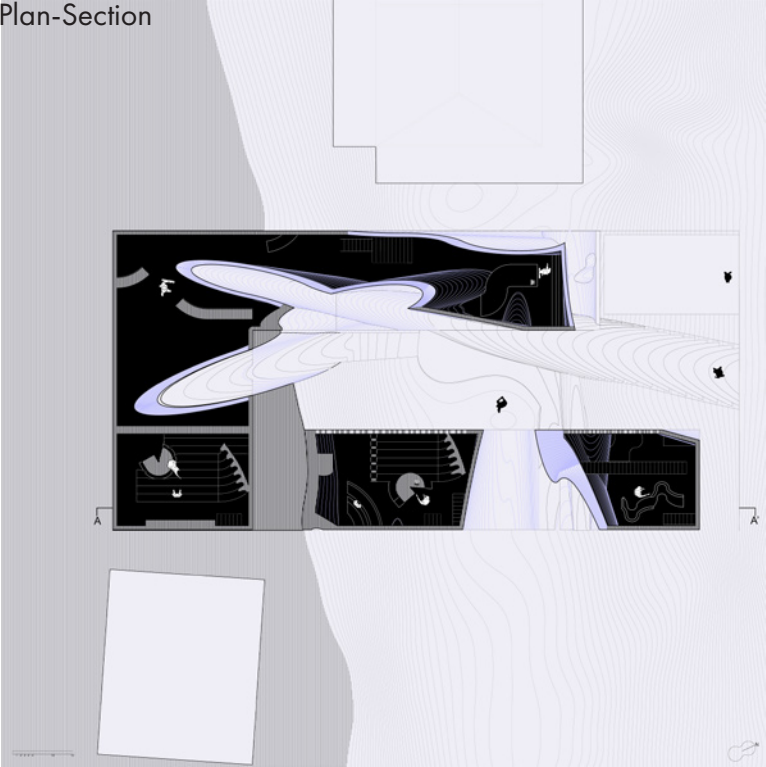
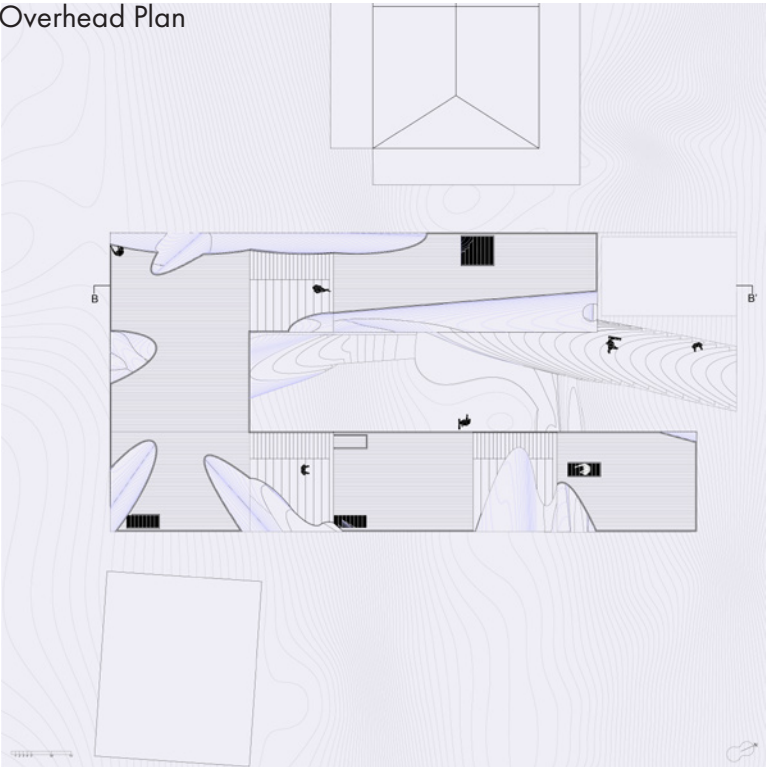
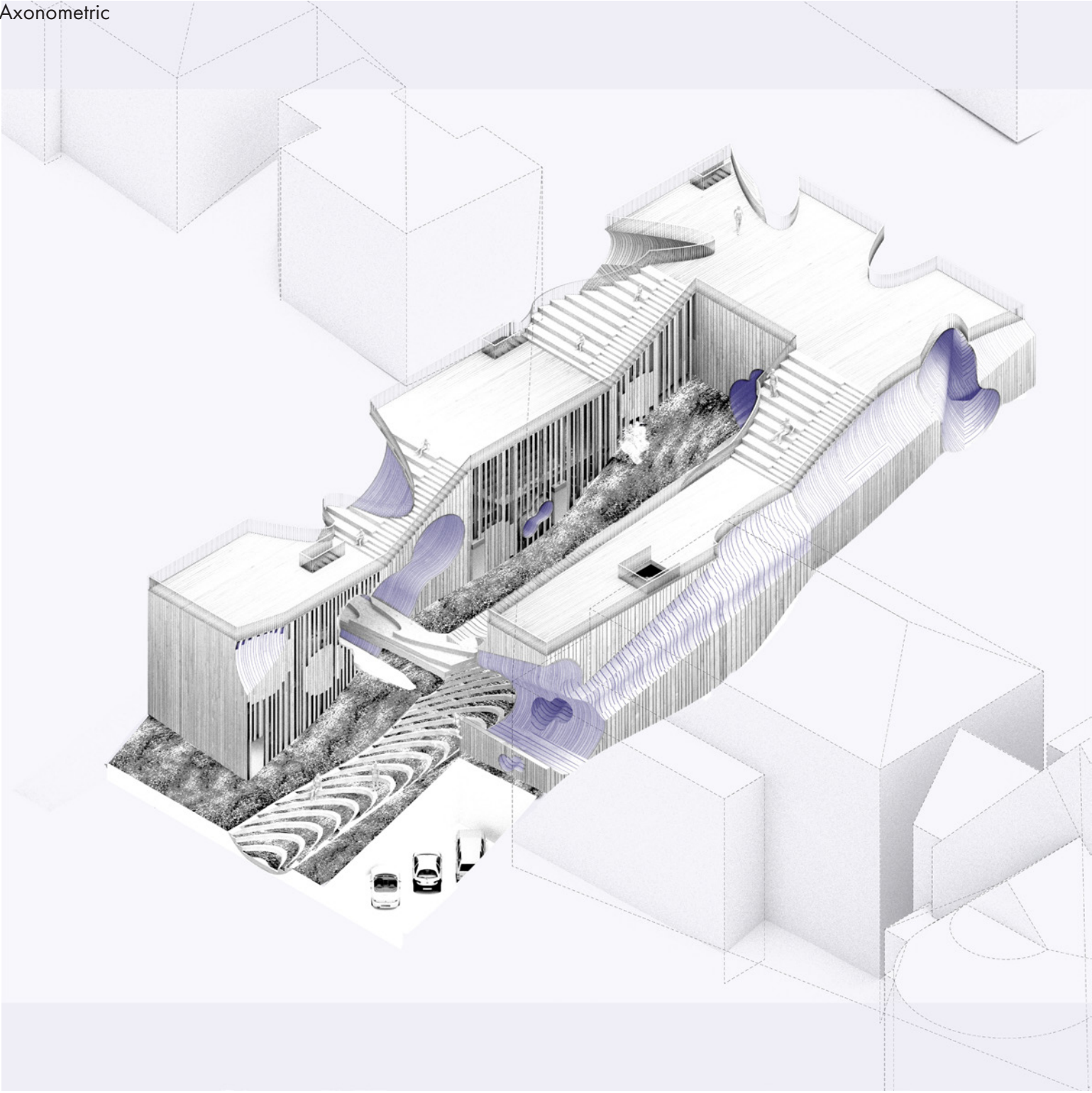
THE SILL

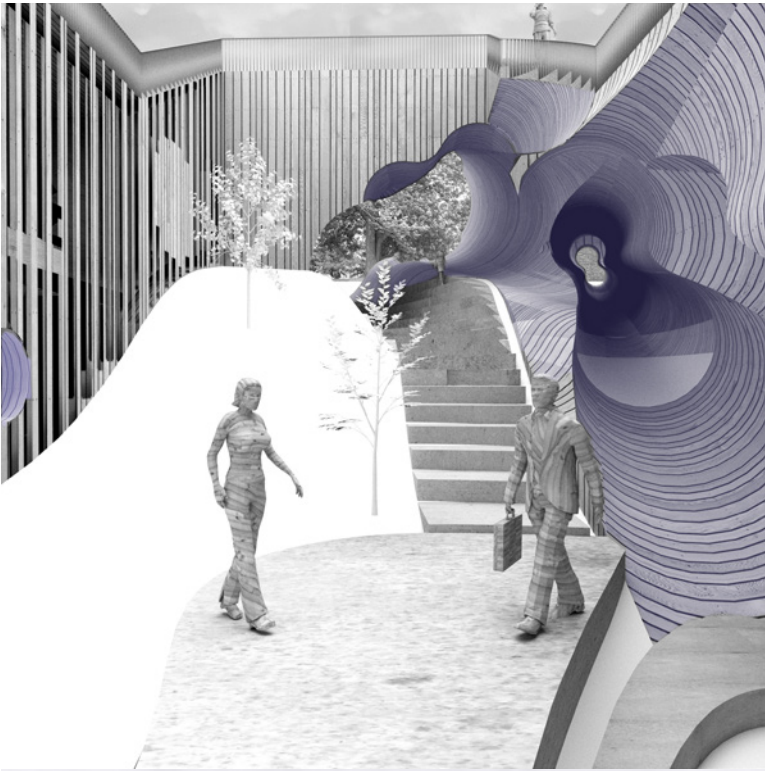
FALL 2017

A KINDERGARTEN IN STATEN ISLAND, N.Y.

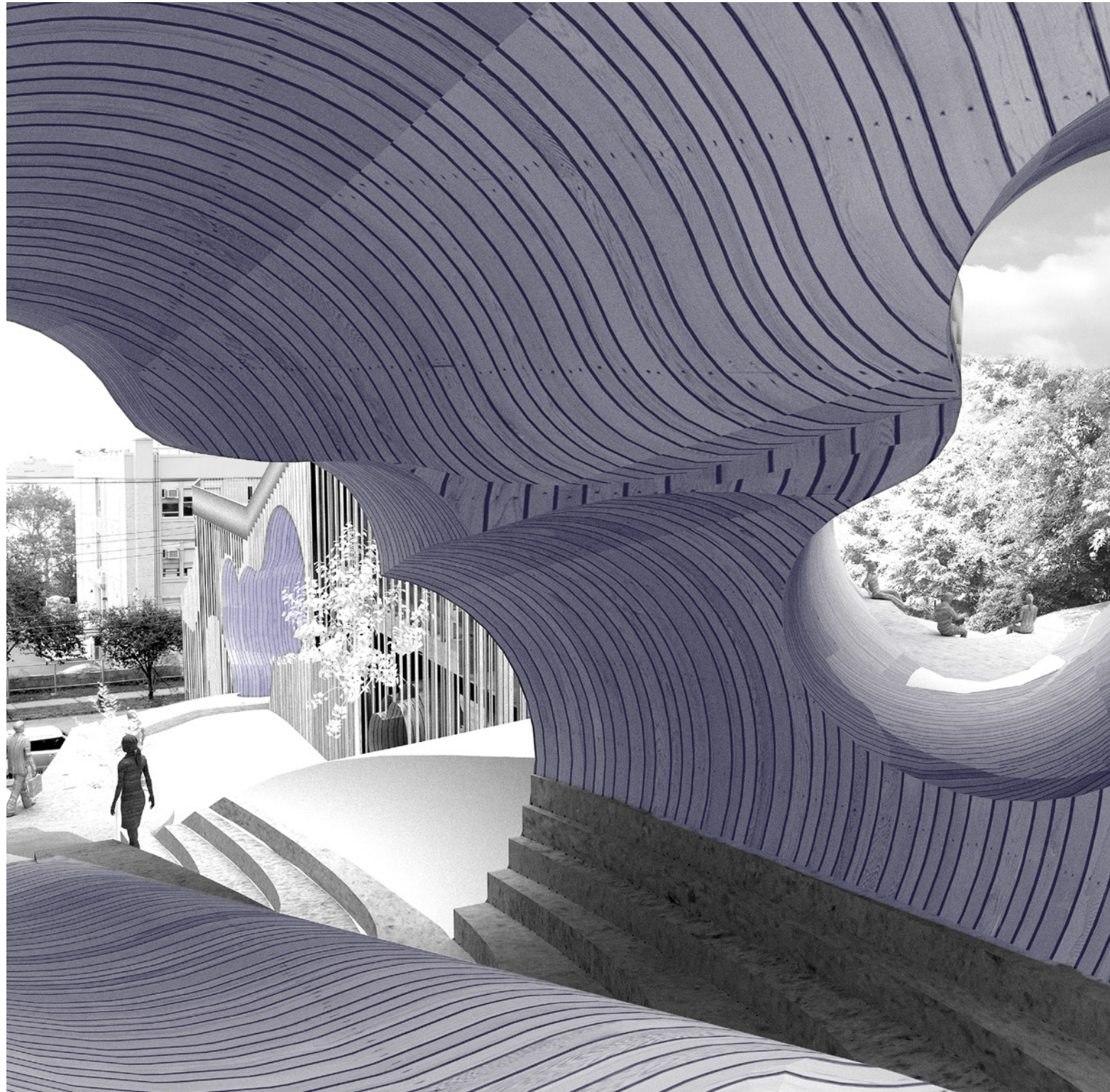
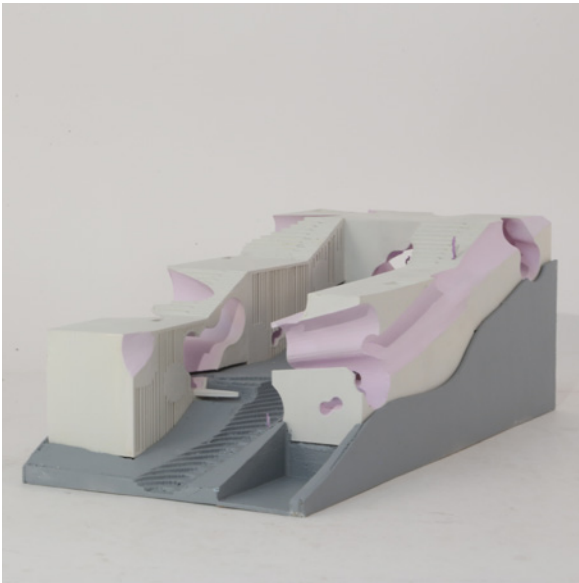
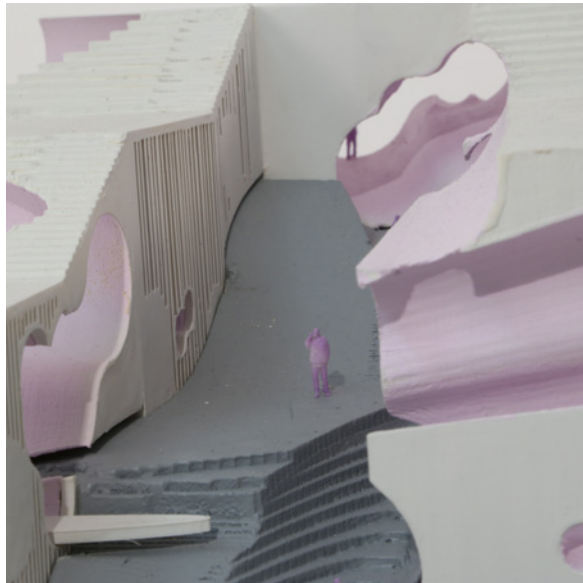
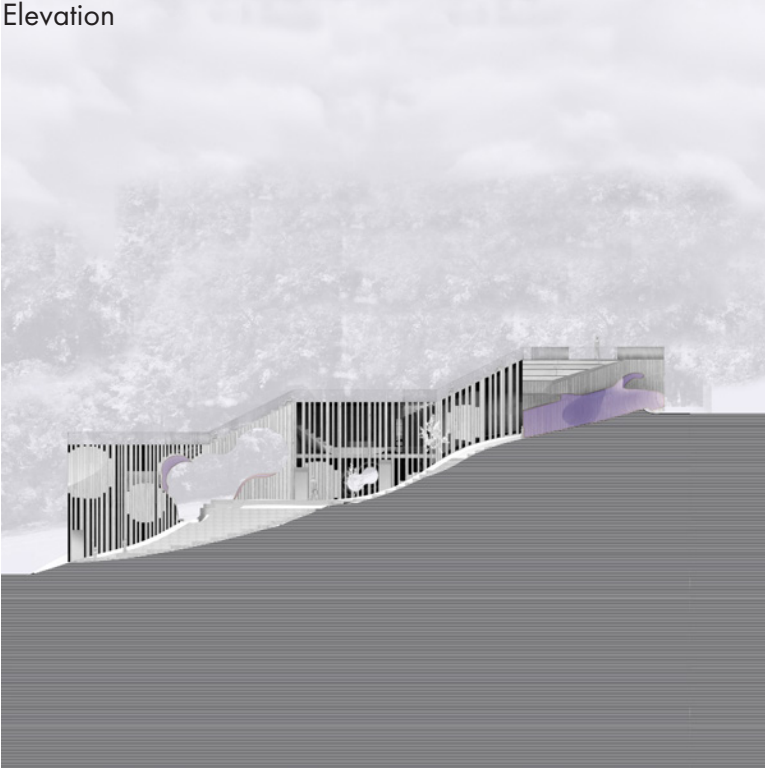
Critic: Jonathan Scelsa

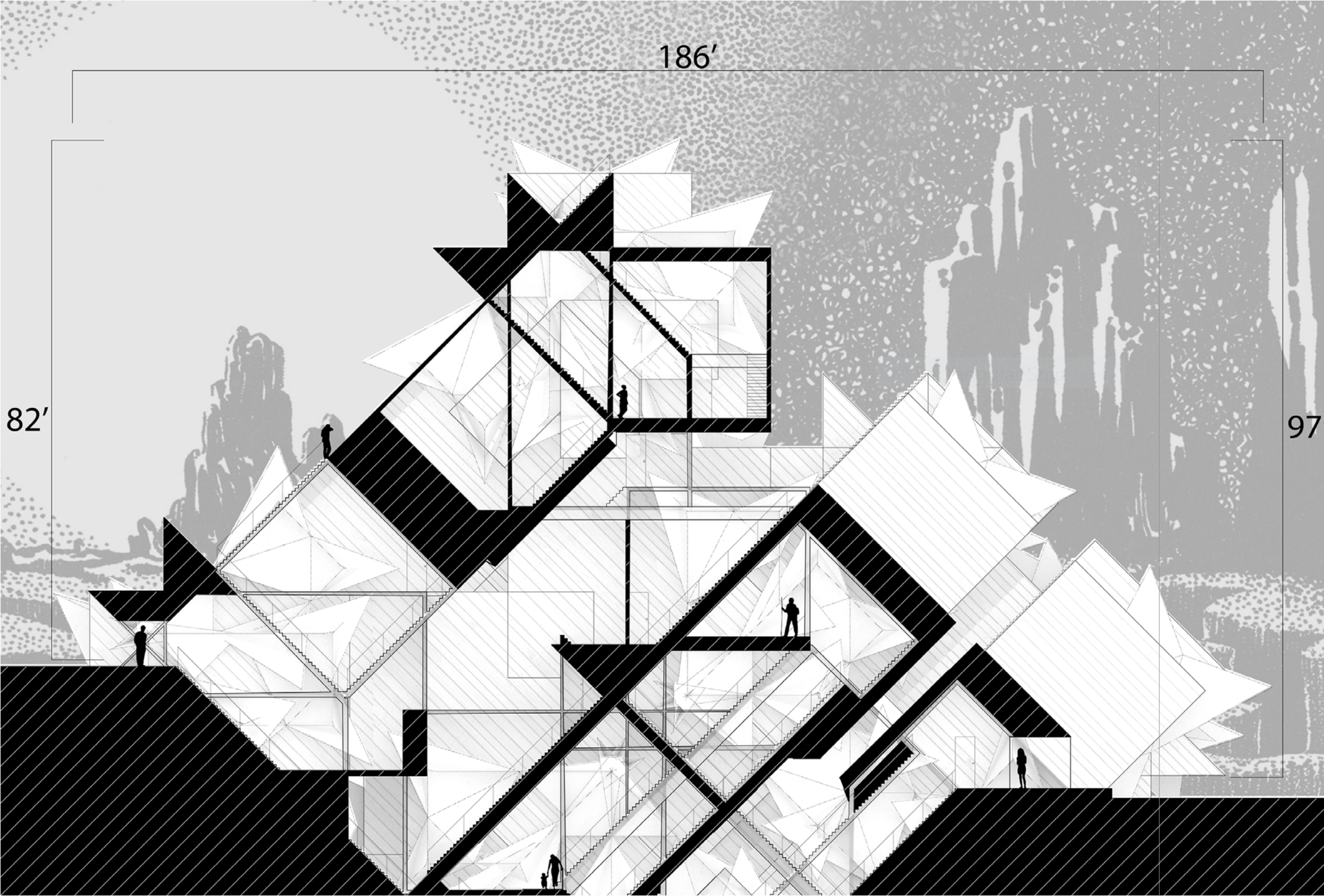
Views framed from the site were removed from a diagrammatic massing to create a system of intersecting voids within both the inclined landscape and the structure. This creates a tunnel system through the school buildings, allowing students to interact with the architecture in a playful manner.





Elevation





THE STAIRWAY TO NOWHERE

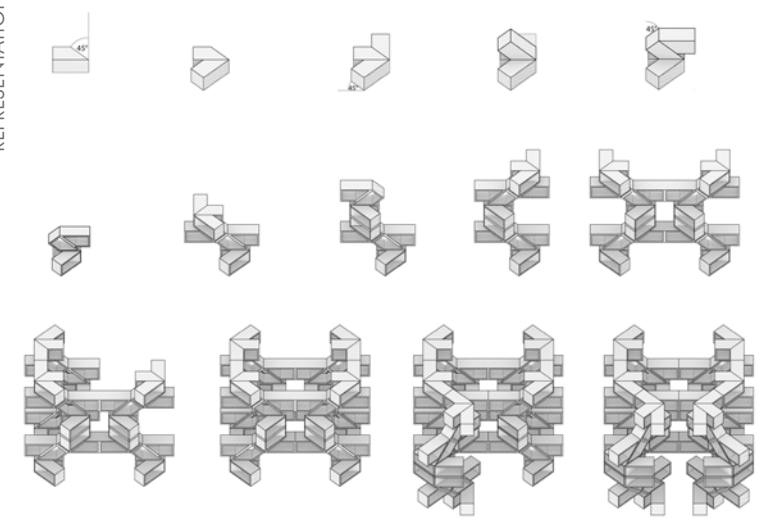
SPRING 2017

Critic: Danielle Willems

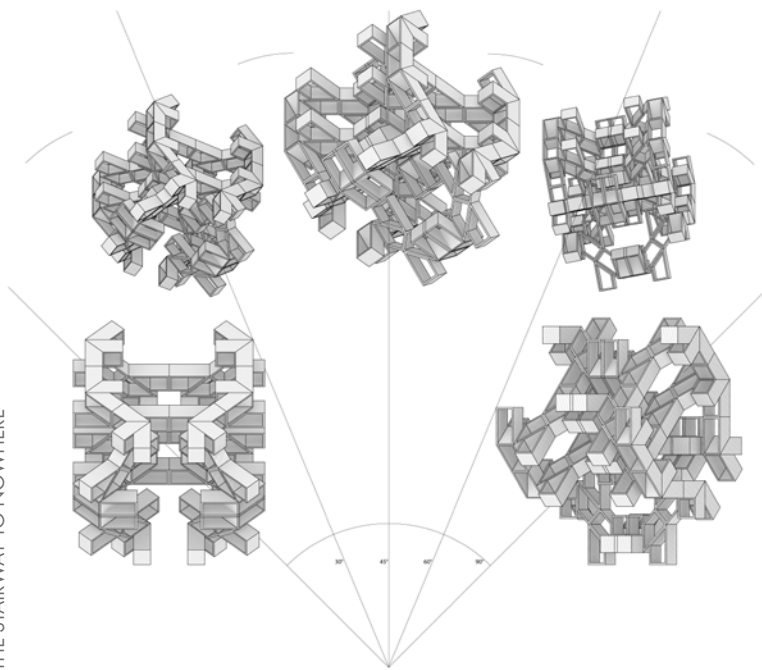
ABSTRACT EXPLORATION-A DISORIENTING PAVILION

Taking inspiration from Heatherwick's Vessel, a primitive shape was aggregated to create a pavilion. The Stairway to Nowhere is meant to evoke a sense of disorientation through the intertwining stairwells and pathways and the exterior texture.

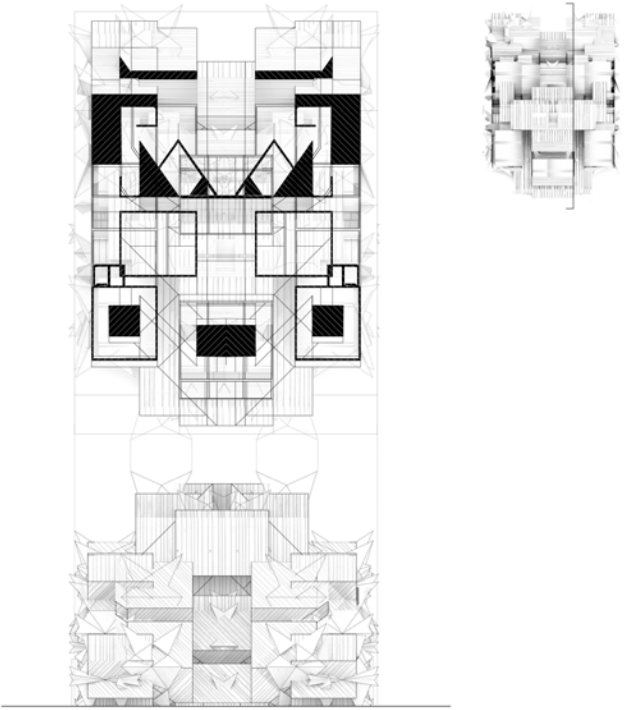
Aggregate Diagram



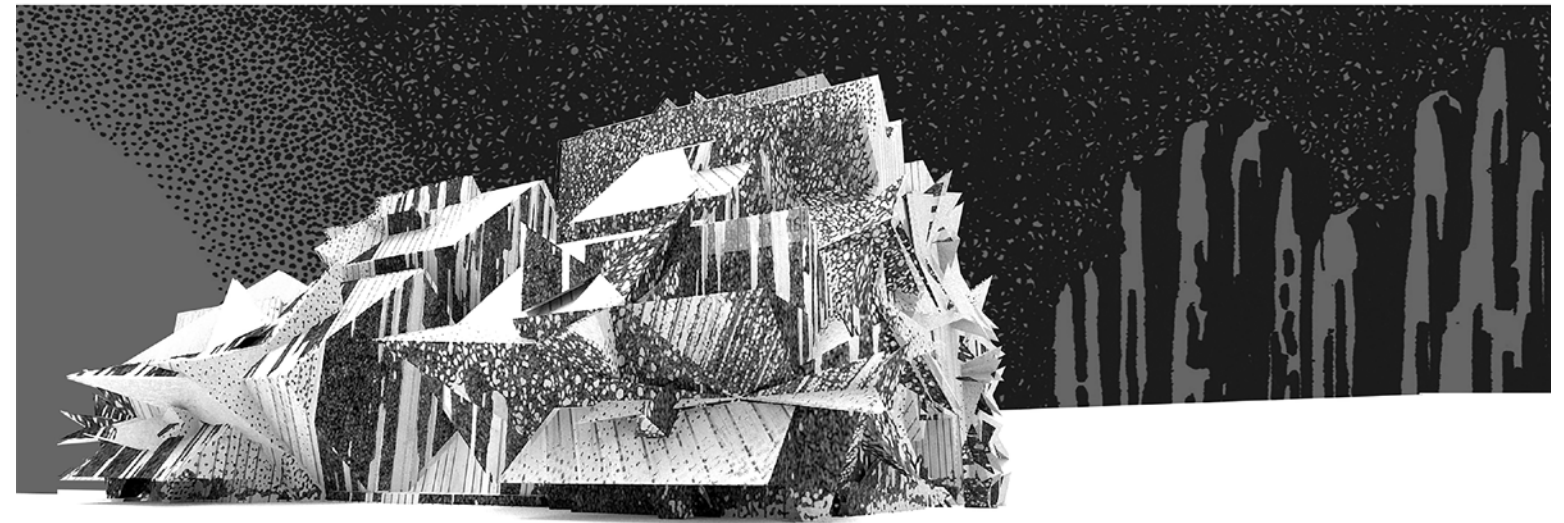
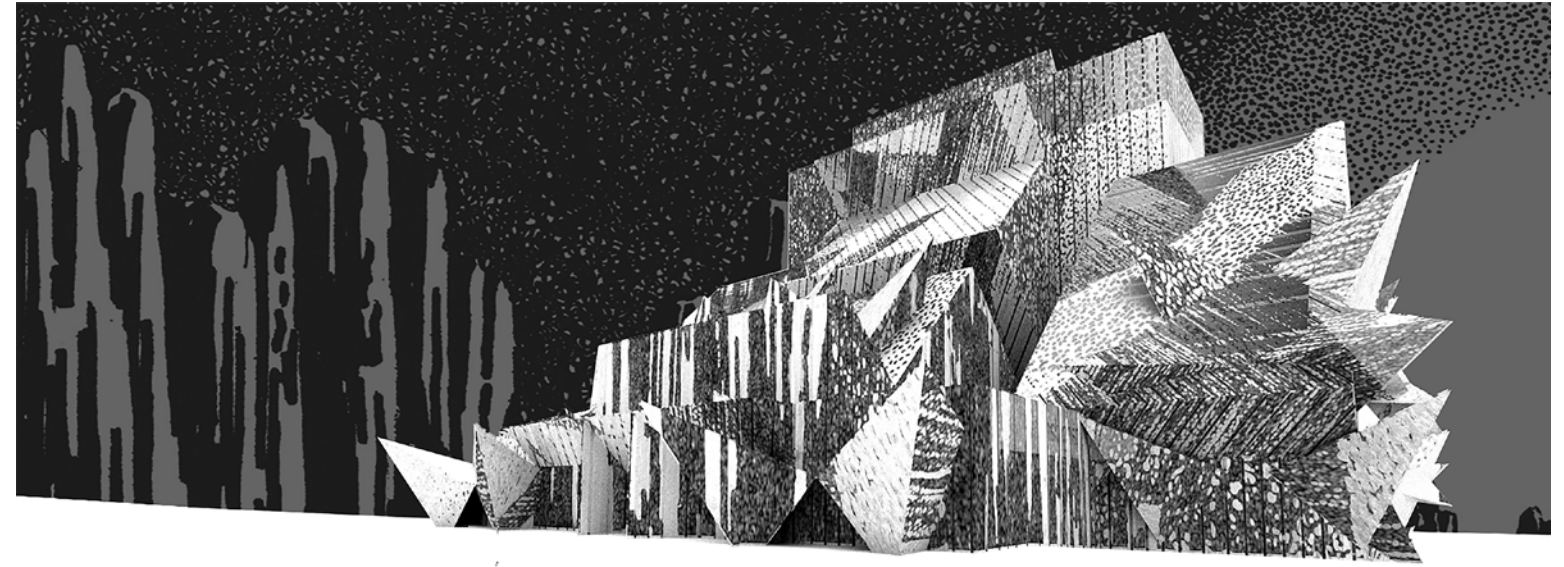
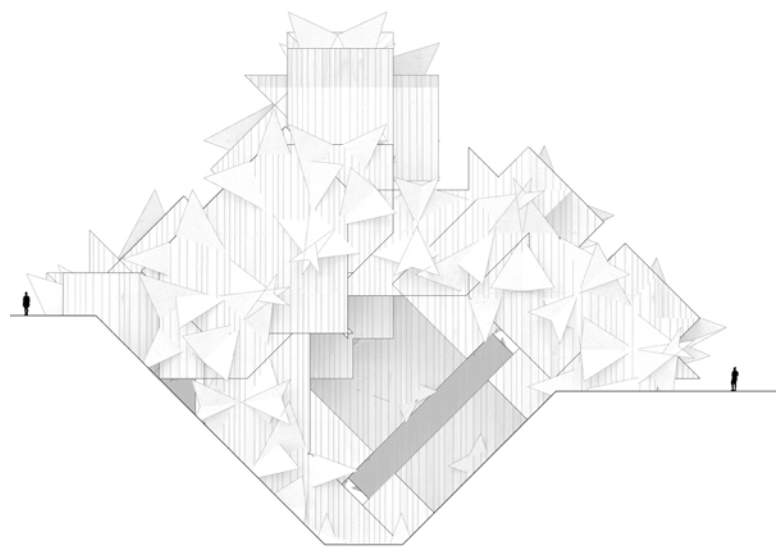
Final Form

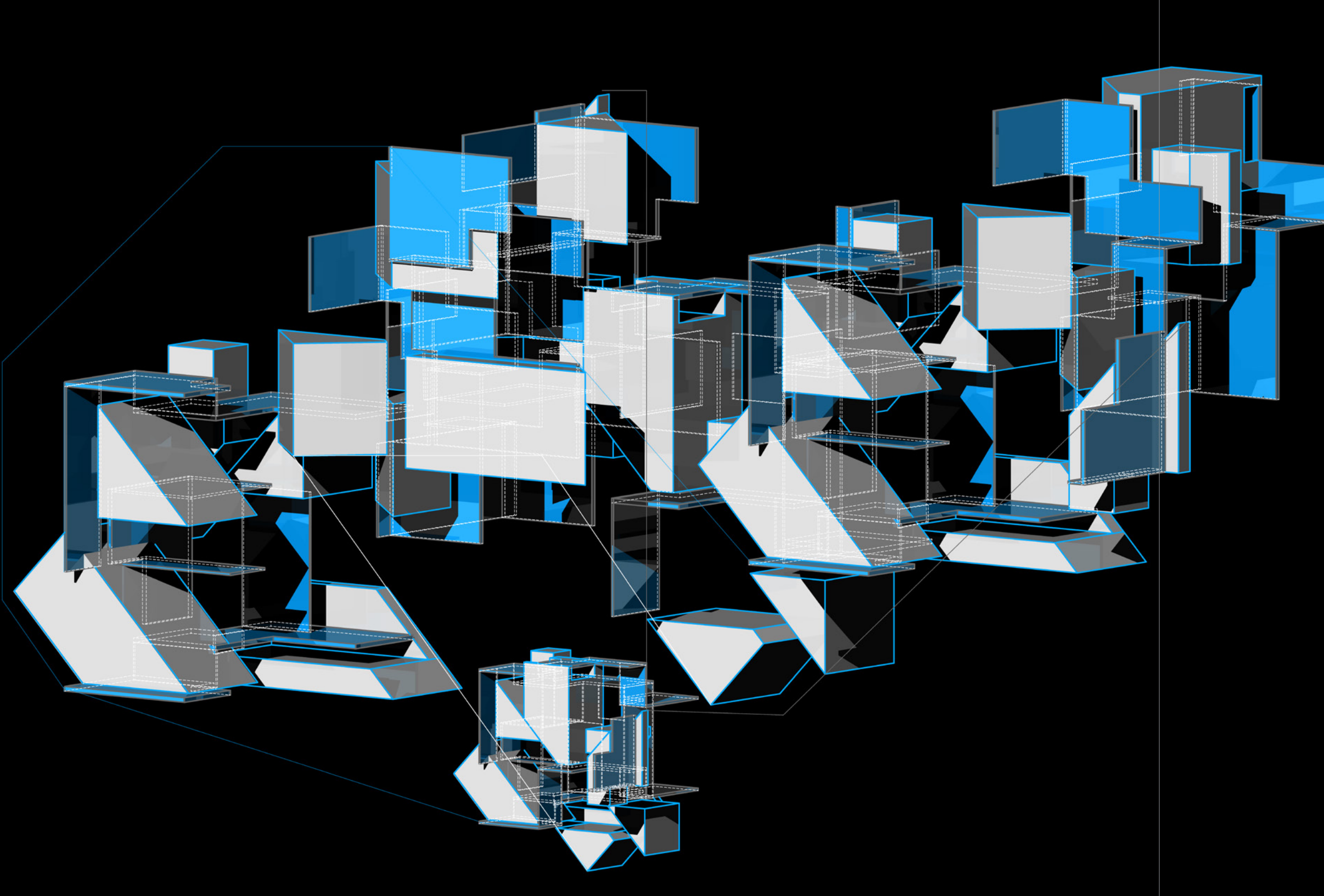


Plan / Section



Elevation





METHODICALLY CARVED MASSES

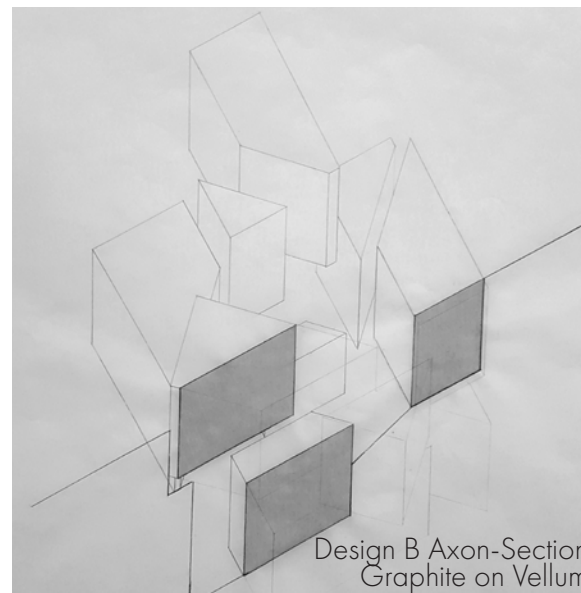
FALL2016

ABSTRACT ARCHITECTURE FOLLY

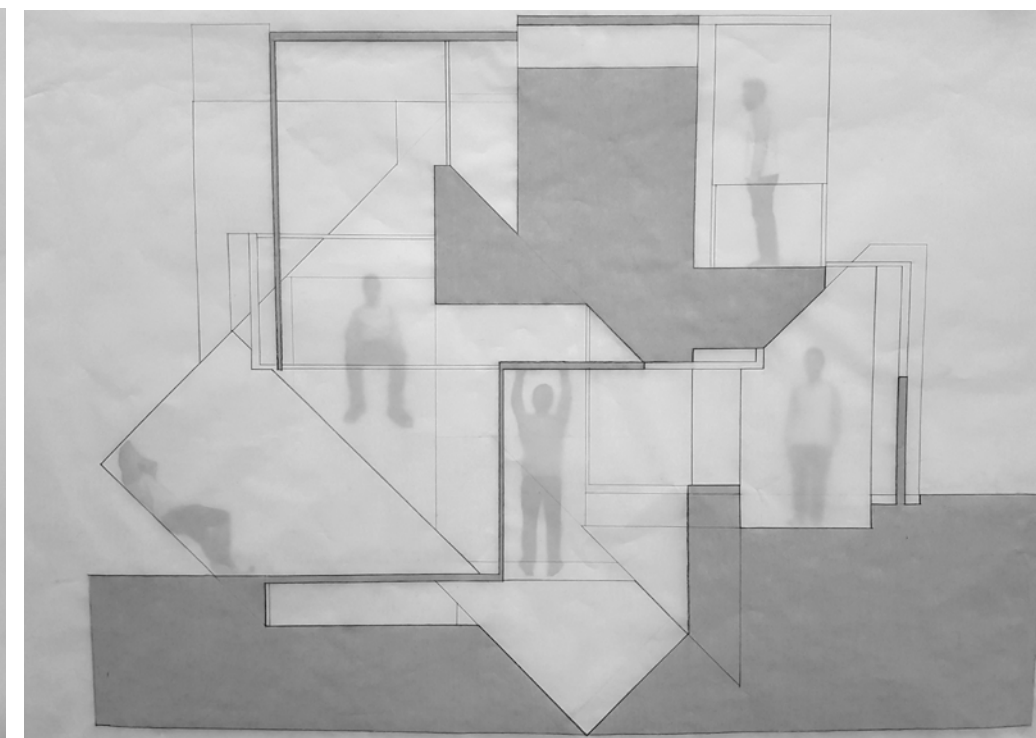
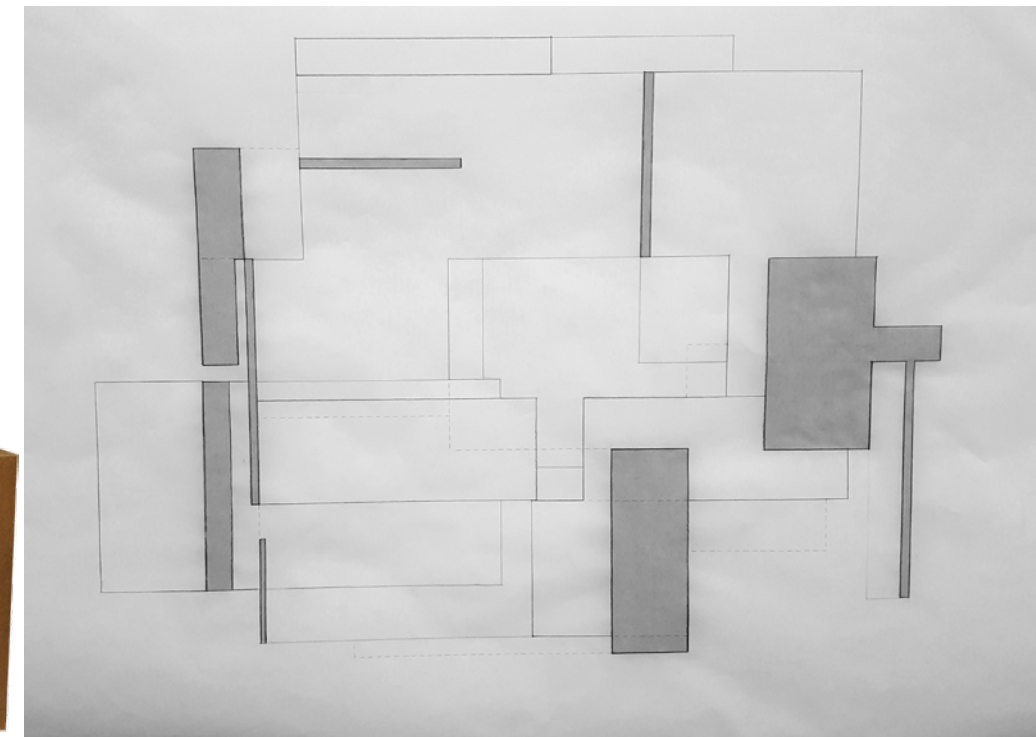
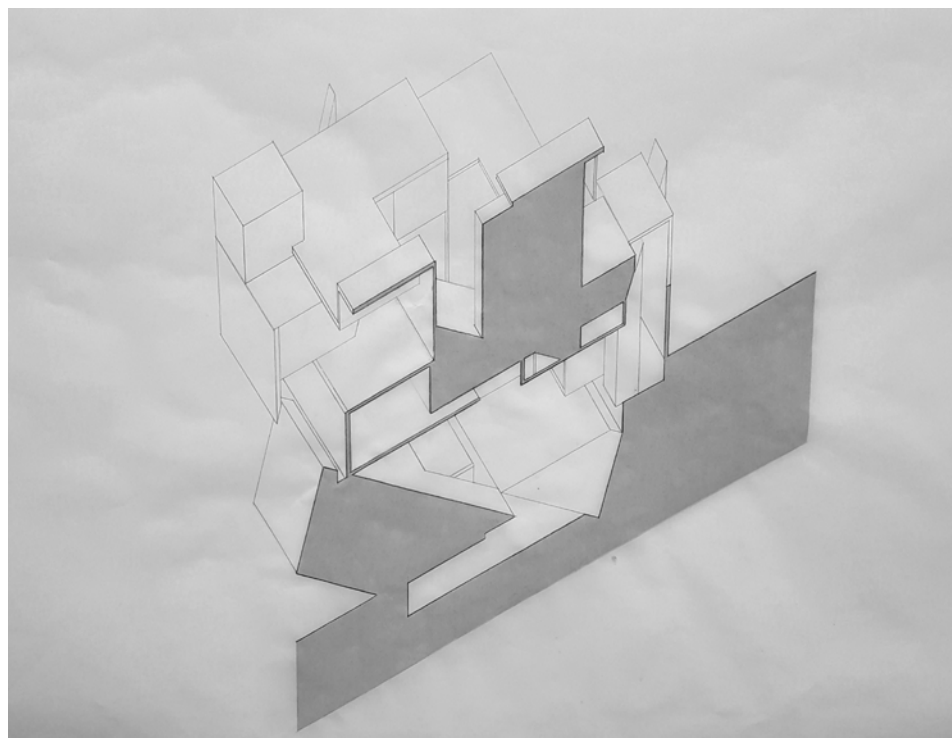
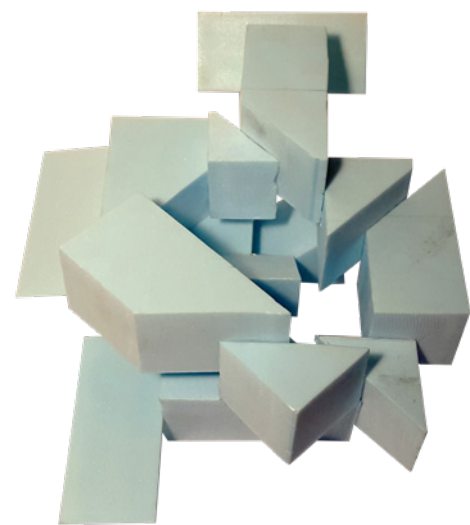
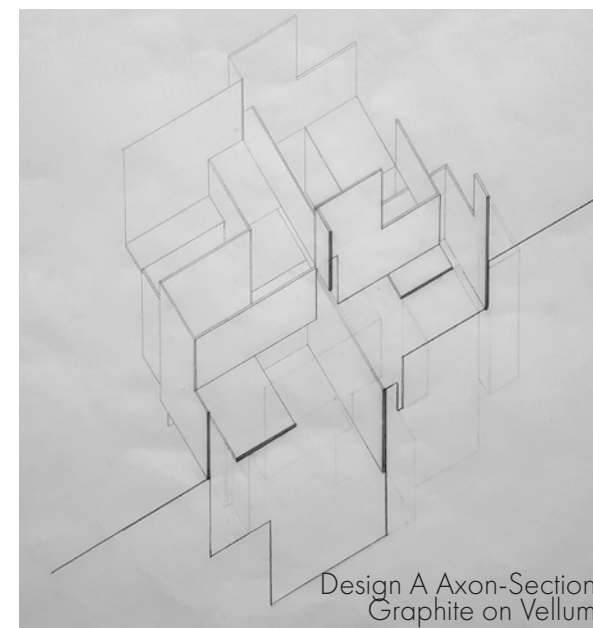
Critic: Farzam Yazdanseta

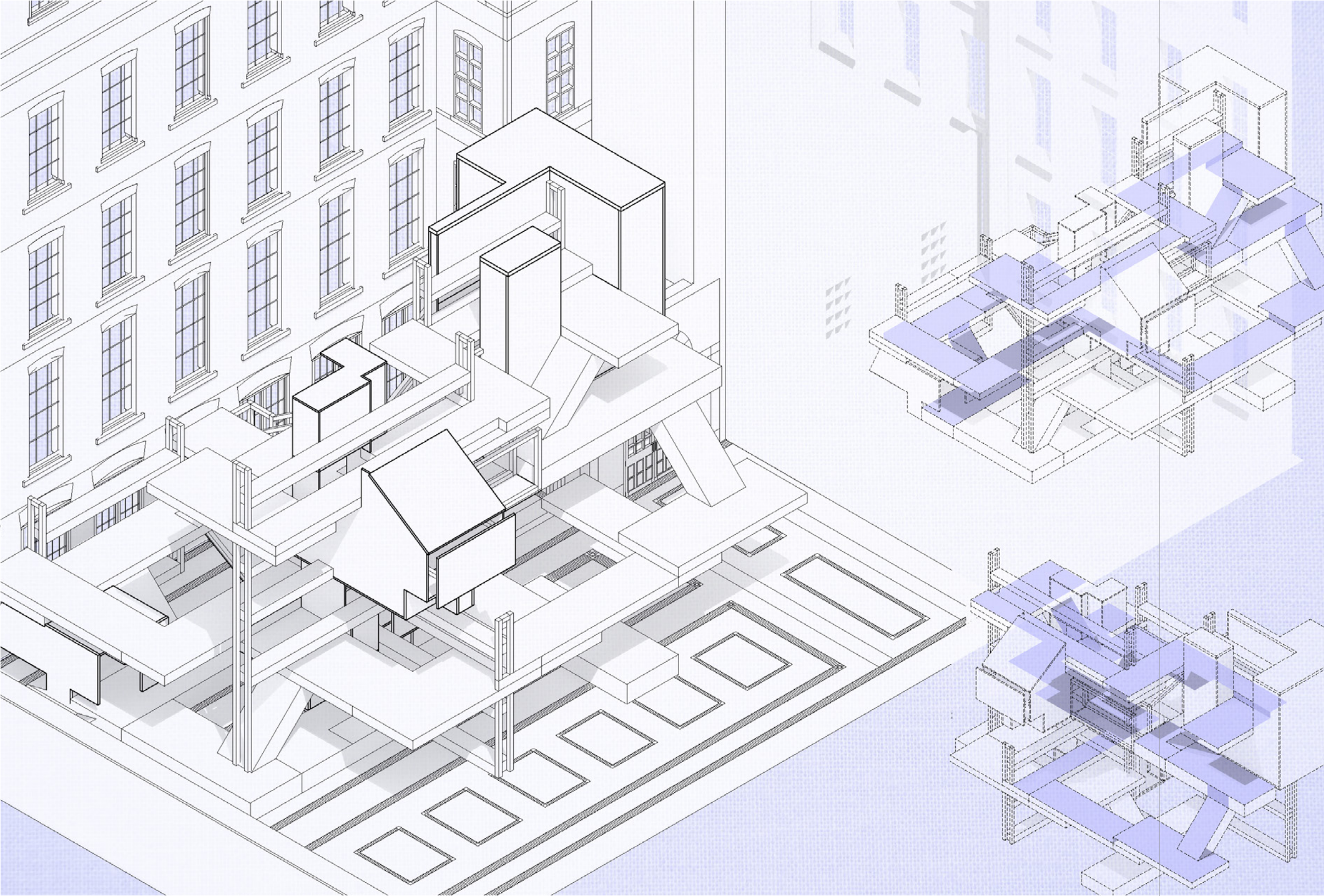
The object of this folly is to evoke a sense of disorientation through the many diverse pathways. This allows the occupant to take an exploratory approach through the intertwining routes. The Methodically Carved Masses architecture folly is a hybrid of two design approaches. Design approach A is the 'Orthogonal Coplanar Extrusion.' Design approach B is the 'Angular Sliding Masses.' When the two approaches meet, the planar system carves away from the mass system, while the mass system distorts the planar system's axial geometry. This forms a mass enclosure around the planar system of the disorienting pathways.

Design approach A is Orthogonal coplanar extrusions. L shapes are extruded from the same plane to different length along the x axis. But the central L, that connects all other L's changes its direction midway as it extrudes along the y axis in both directions. This allows a series of intersections to occur between all extruded L's.



Design approach B is Angular sliding masses. This a subtractive system in which shapes made from a cut cube are slid past one another to their midpoints. This series of sliding continues to create a circumscribed enclosure around a central void.





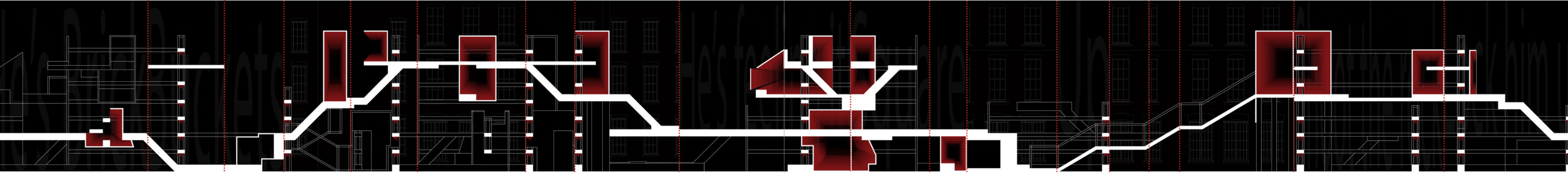
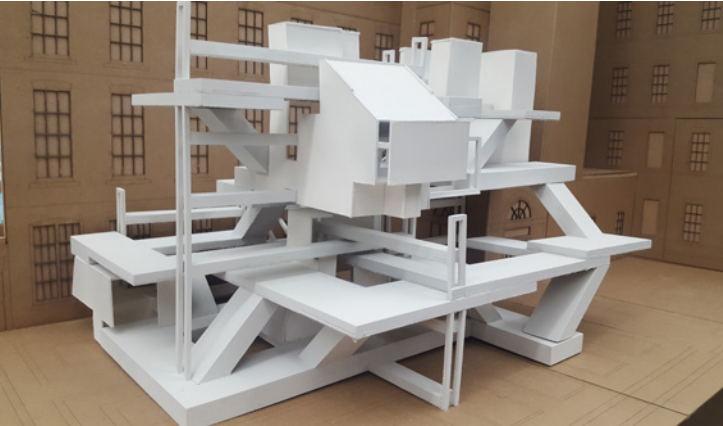
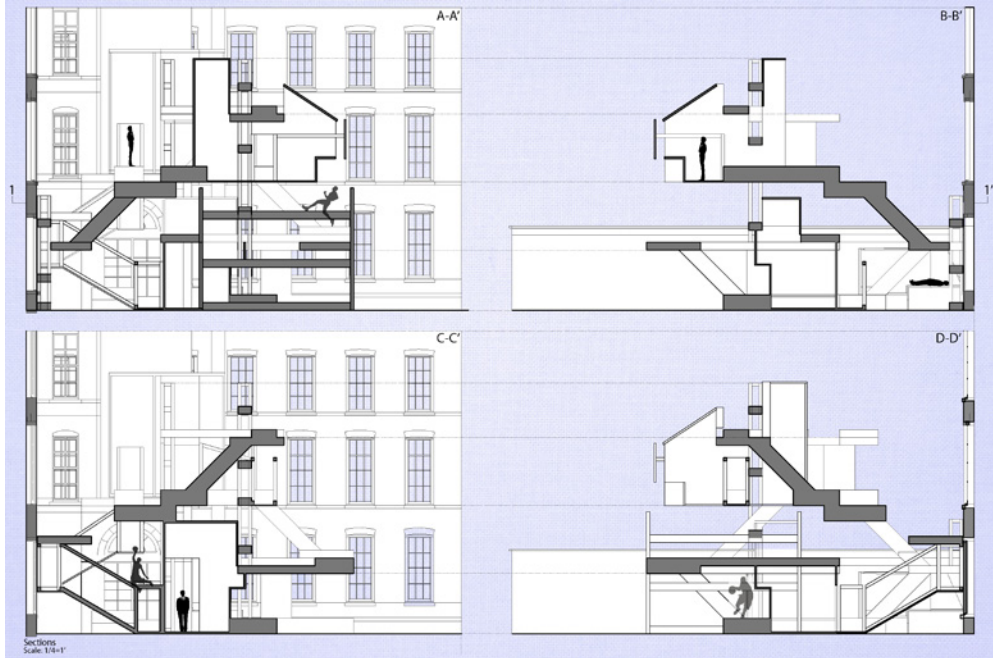
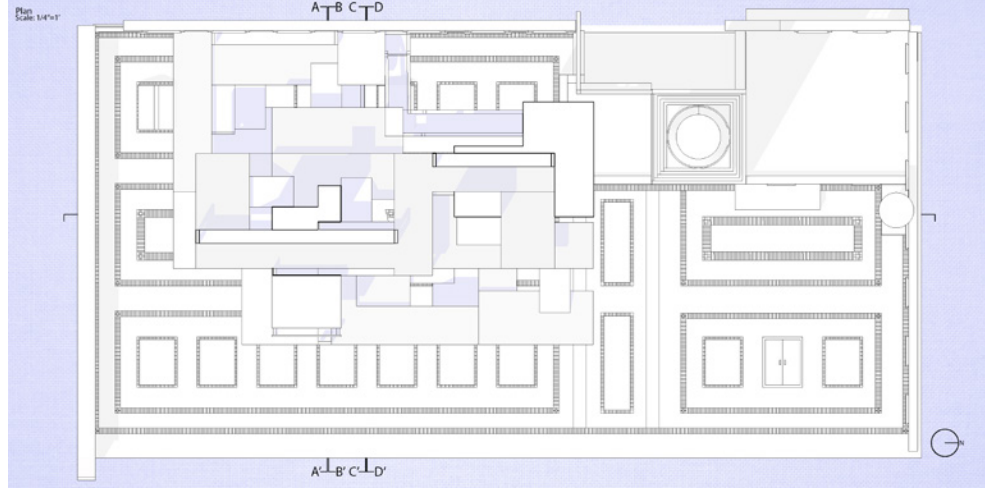
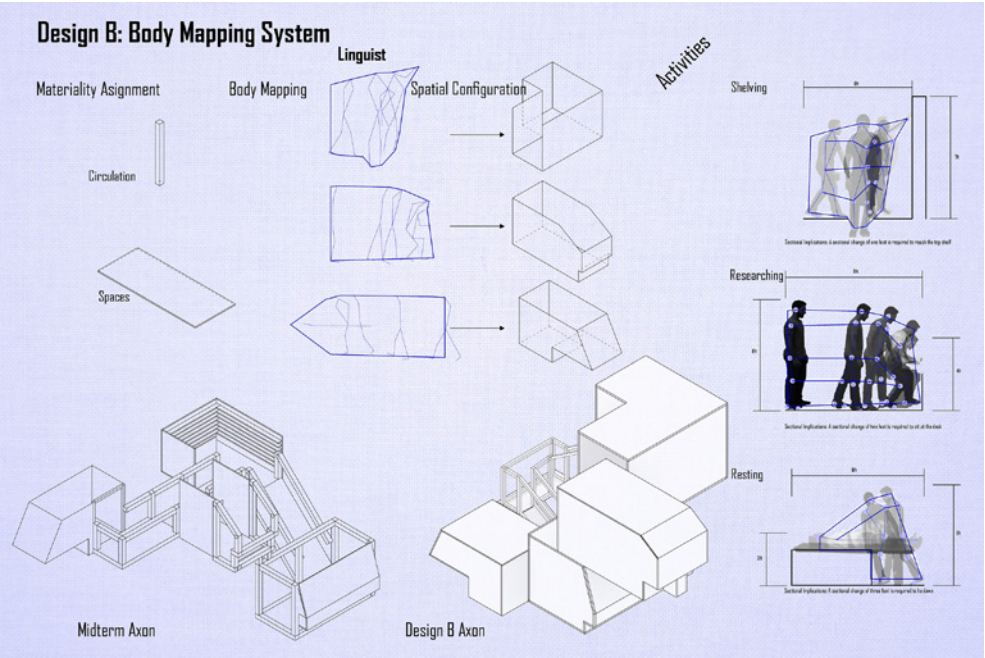
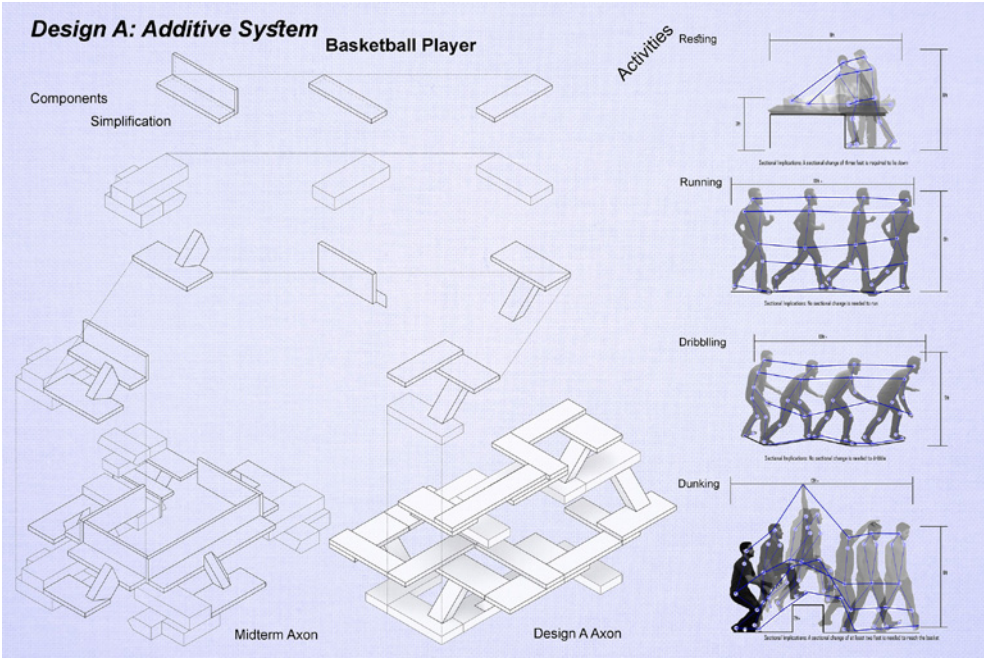
THE LEAGUE OF CEREBRAL BALLIN'

SPRING 2017

Critic: Gonzalo Lopez

LINGUIST STUDY CENTER / BASKETBALL TRAINING FACILITY

This abstract structure is a hybrid of an additive approach and a body mapping system. The components of this approach were derived from an abstract form, and were simplified to allow for a more controlled system. Because of the intensity of the circulation, when these systems intersect, the additive system carves through the body mapping system while projecting the carving upwards. The circulation path of the body mapping system in turn shifts whatever it comes in contact with outward. Together, these systems create continuous circulation paths for the two occupants. These occupants are a basketball player and a linguist. The additive system forms open spaces needed for the basketball player to train while the body mapping system creates both open and partially enclosed areas that suit the linguist's needs. The result is a series of four levels where the bottom level is for dribbling, and the upper levels are for the track and circulation, and the linguist's spaces are shifted to the extents of the additive system.





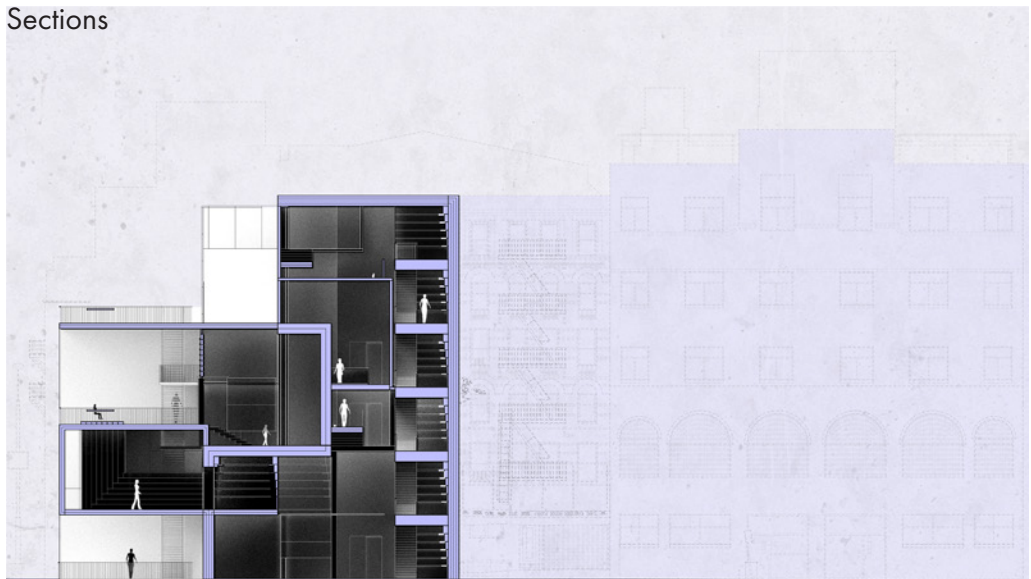
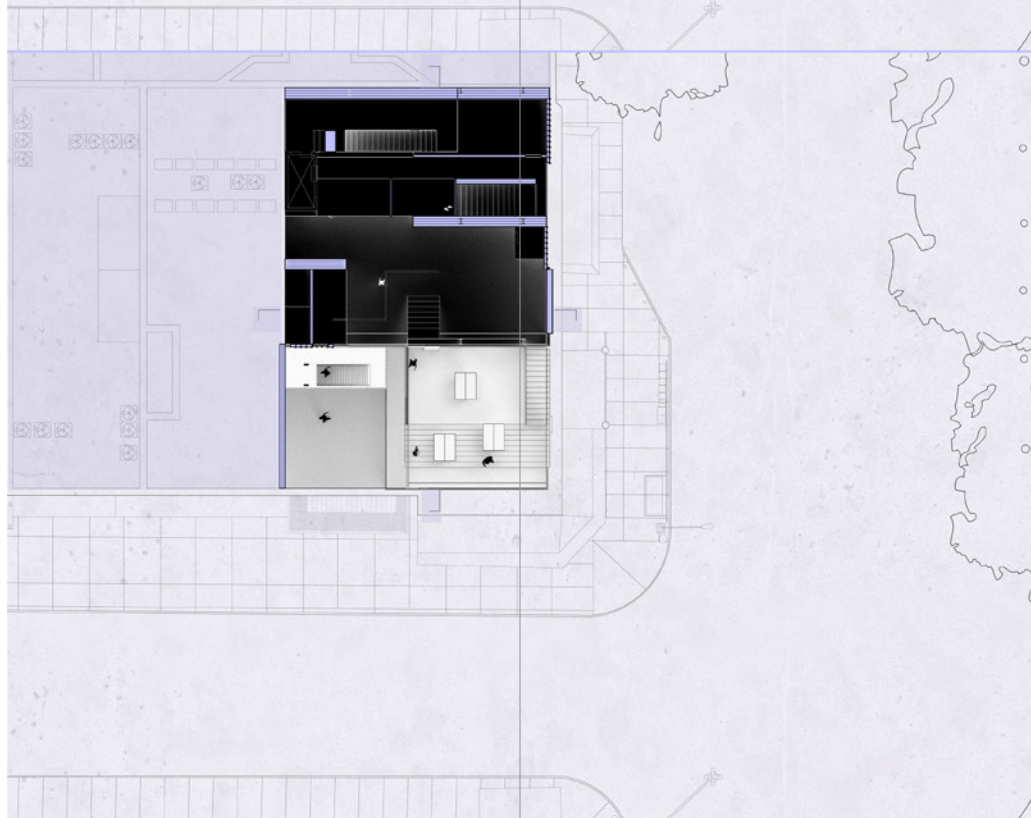
THE DIVERGING ATHENAEUM

SPRING 2018

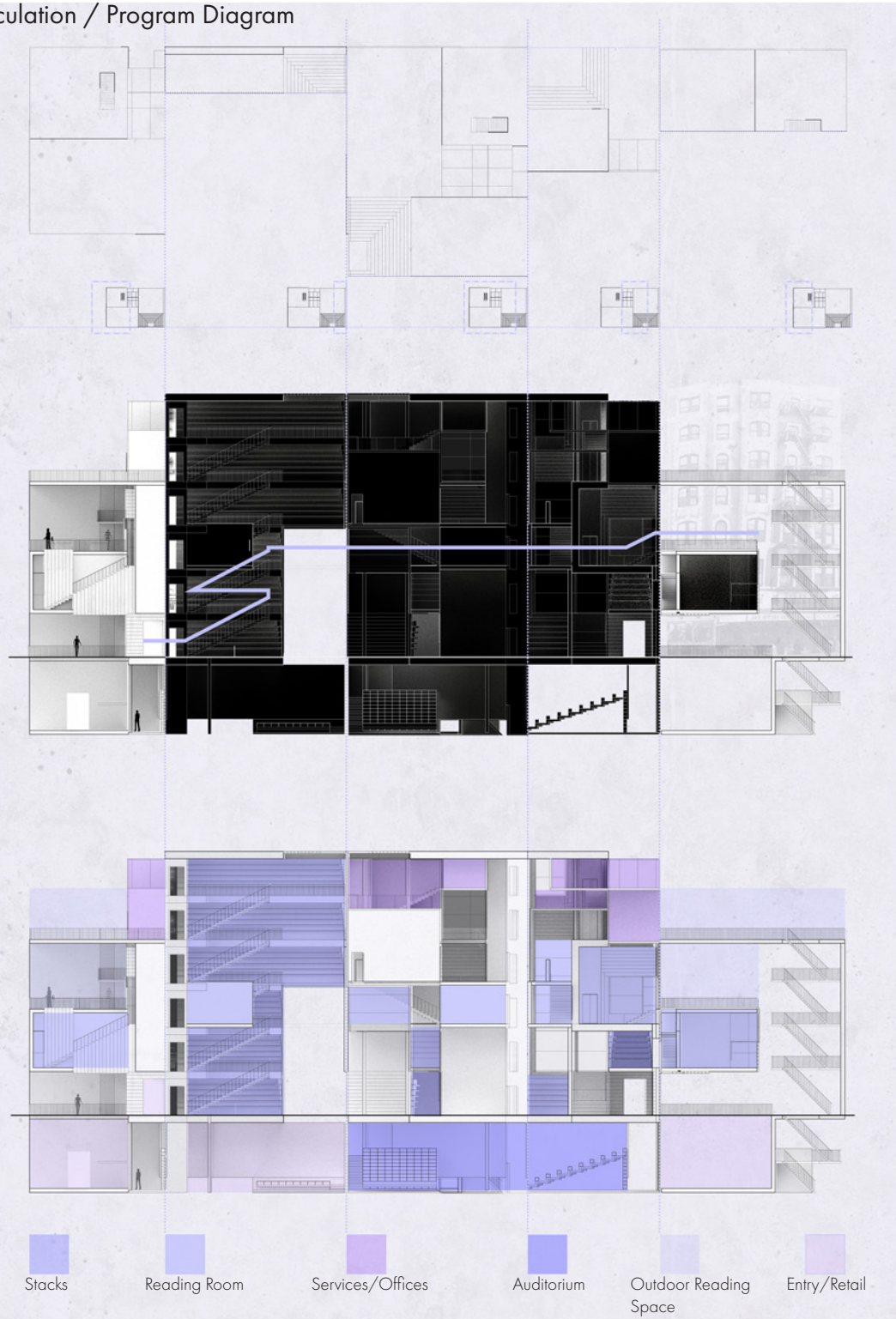
Critic: Scott Ruff

A LIBRARY IN CHINATOWN, MANHATTAN, N.Y.

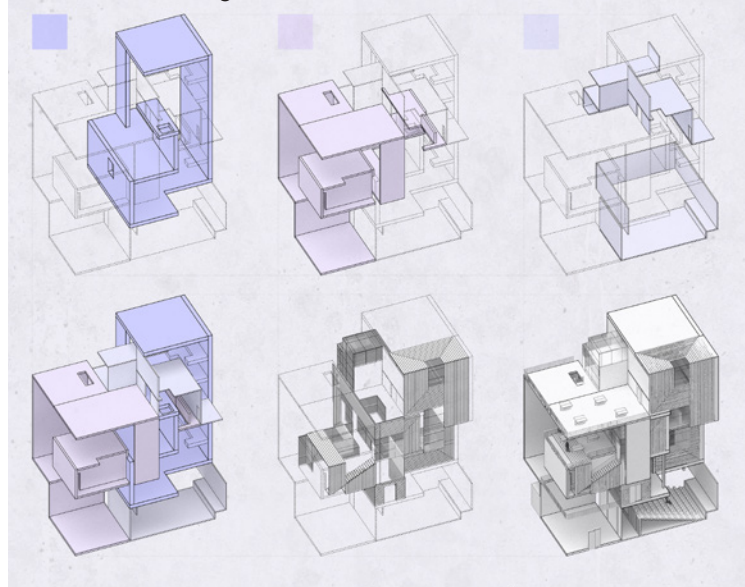
This library doubles as a civic center for the cultural neighborhood of Chinatown. This design was made through a series of folding planes through its bifurcation of layers, creating an open, interconnected space in the interior.



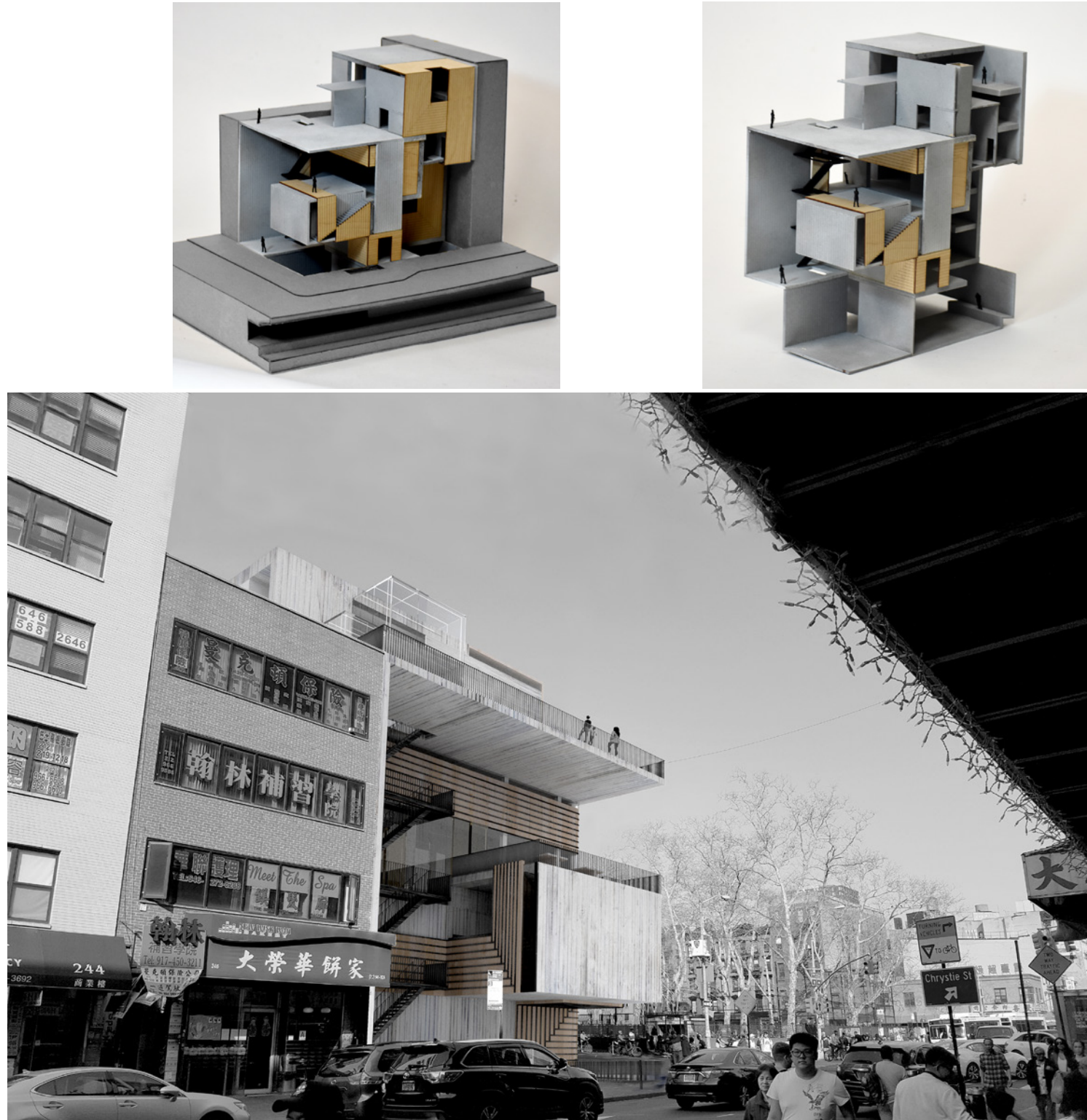
Circulation / Program Diagram



Axonometric Diagram



Reading Room





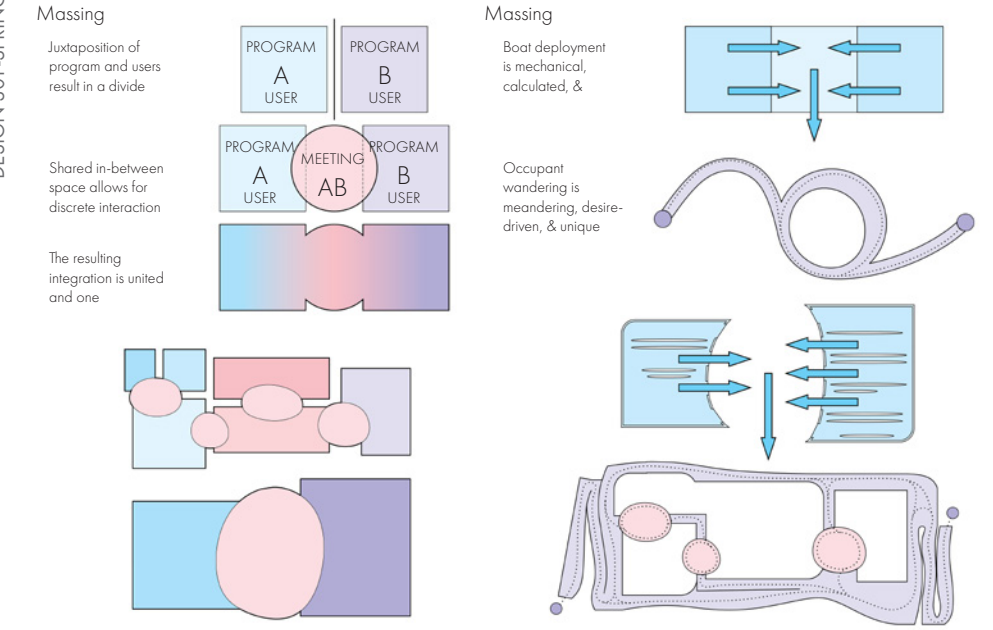
THE ELLIPTIC DEPOT

Spring 2019 Partner: Ayrton Lilles Critic: Ane Gonzalez Lara

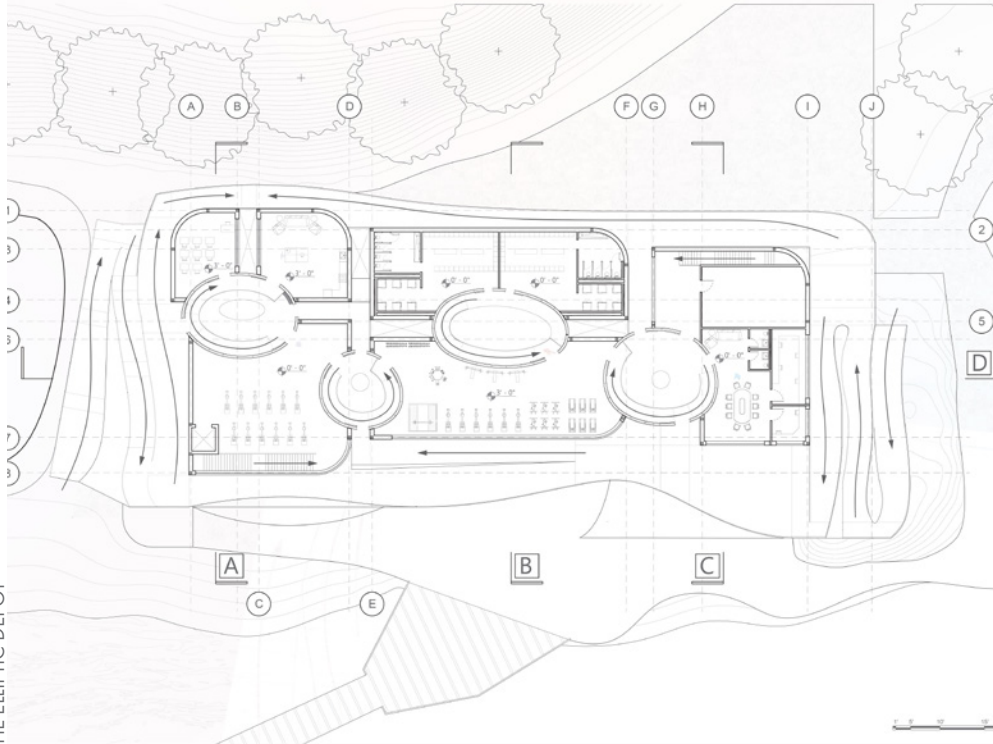
A BOATHOUSE IN INWOOD, MANHATTAN, N.Y.

This boathouse is meant to be the convergent point of the Columbia University students and the Inwood community of Manhattan. The layout of the building is made up of three parts, the area to be mainly in use by the Columbia students, the area to be used by the community members, and the central space where both groups can use the space. This convergence of two spaces is spread out throughout the massing of this scheme, as it consists of a series of spaces connected by cylindrical vestibules. When one goes from one room to another, one must walk on a ramp through this vestibule, representing the varying spaces within the structure. The next part of this scheme is the series of exterior pathways that go around the different parts of the building. This is meant to act as a public park to establish this boathouse as a social center.

Design Diagram



Second Floor Plan



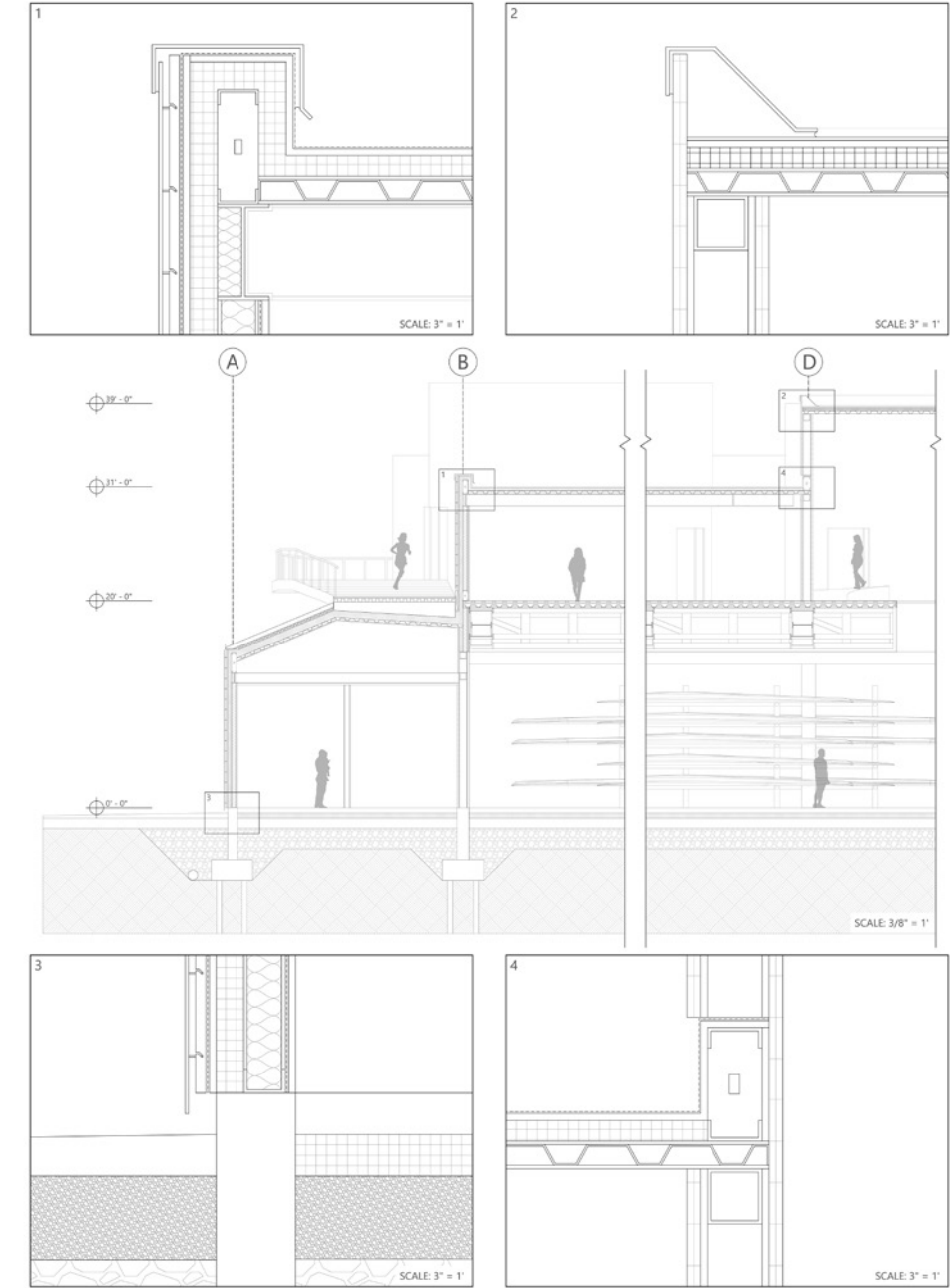
Vestibule Perspective



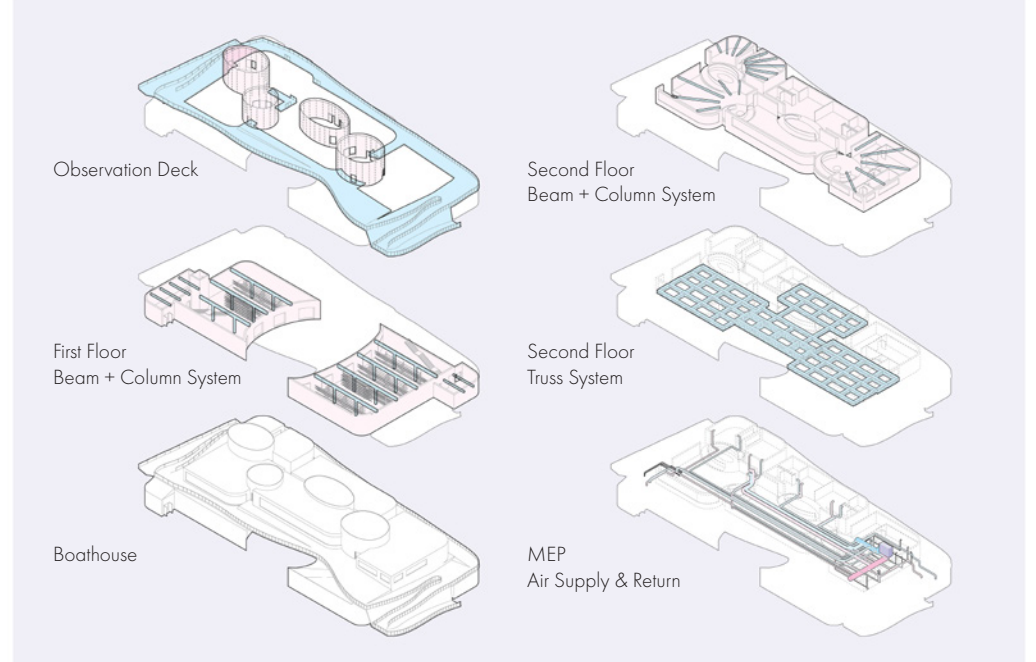
Observation Deck Perspective

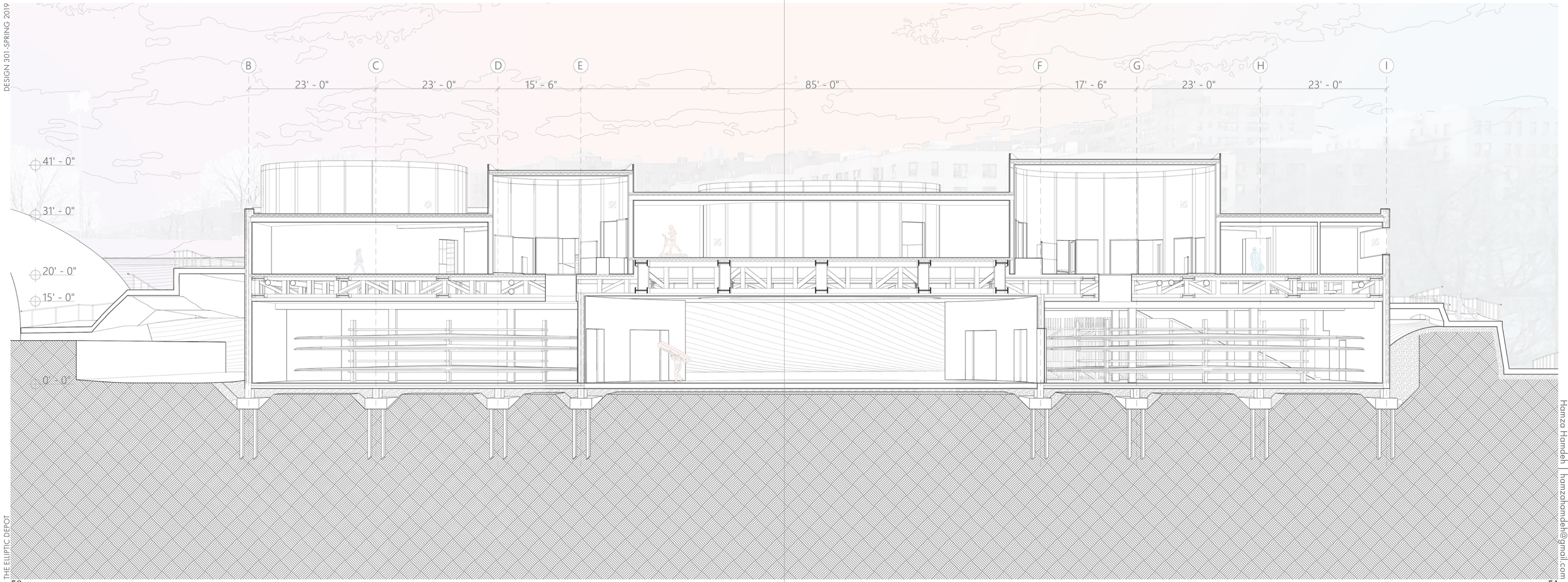


Wall Sections



Exploded Axonometric







LABYRINTHINE CONVENTION-*Mi Conosci*

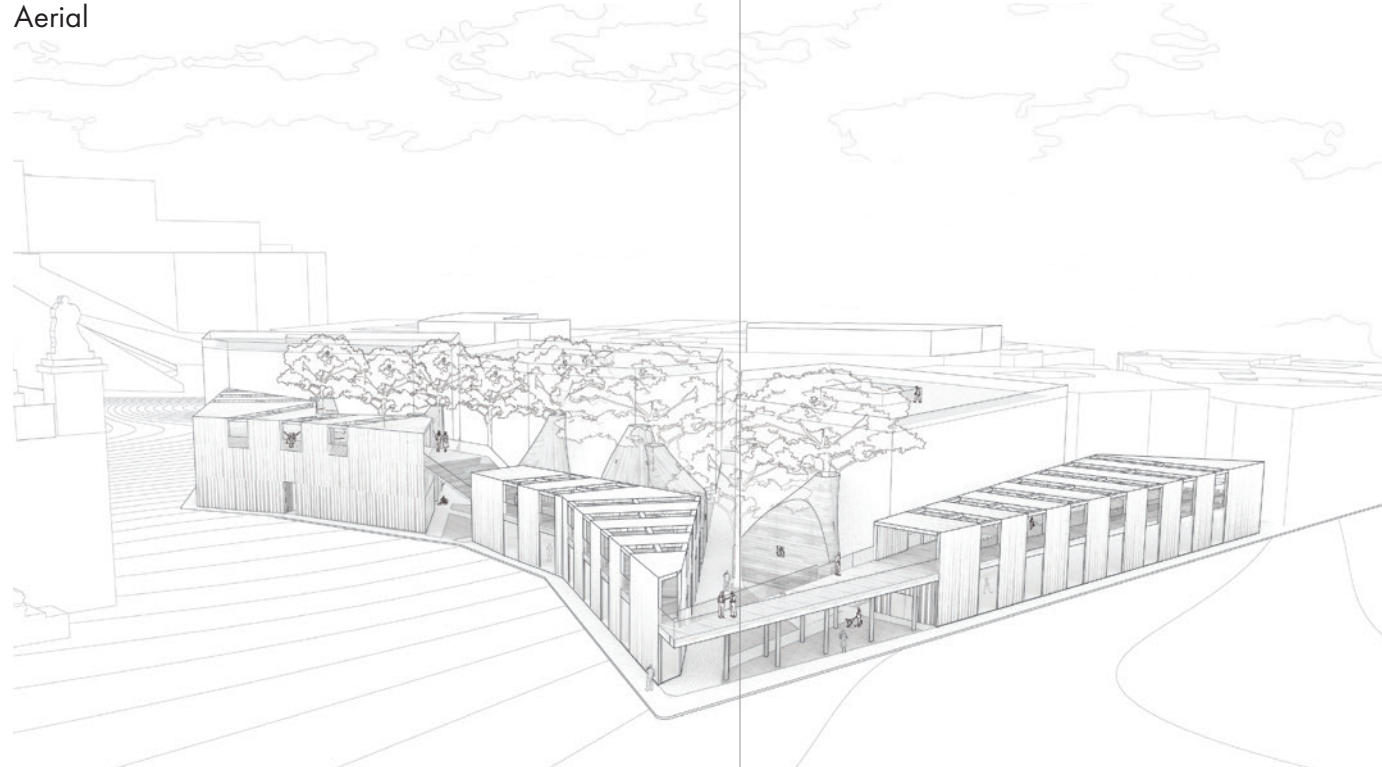
SPRING 2020-ROME STUDIO Critic: Lawrence Zeroth
 A MULTI-CULTURAL COMPLEX IN THE HEART OF ROME'S HISTORIC CITY

Rome is a city of intertwining pathways. When walking around Rome, I imagined it as a large-scale labyrinth. Through my initial studies, I tried to exaggerate this labyrinthine quality. I used this idea in developing my site strategy, as I divided my site based on both physical and visual connections around the area. I then attempted to reconnect the different parts of my site through pathways, not only in plan, but sectionally as well. Rome is also a city that hosts many people of different cultures and religions. Through markets spaces, prayer rooms, and housing for immigrants and refugees, my project attempts to bring these people together with Roman citizens and tourists with opportunities for these different cultures to be shared. The end result is a project that idolizes the progressions through space, and rewards the occupants with a destination in which people of diverse cultures and backgrounds come together.

Ground Floor Plan



Aerial



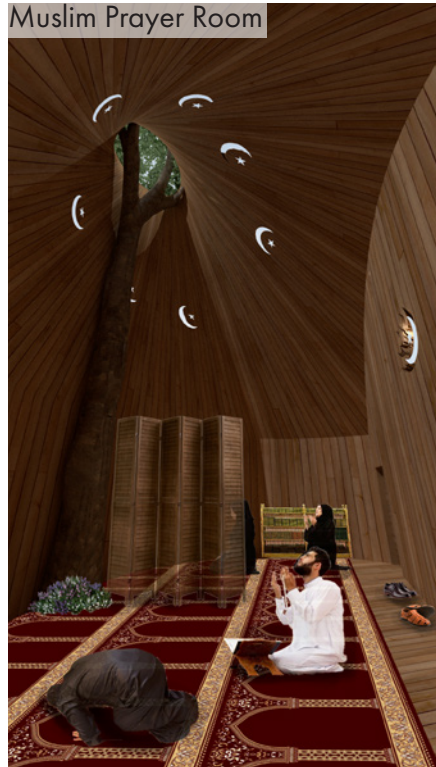
Northern Entry



Observation Staircase/Seating

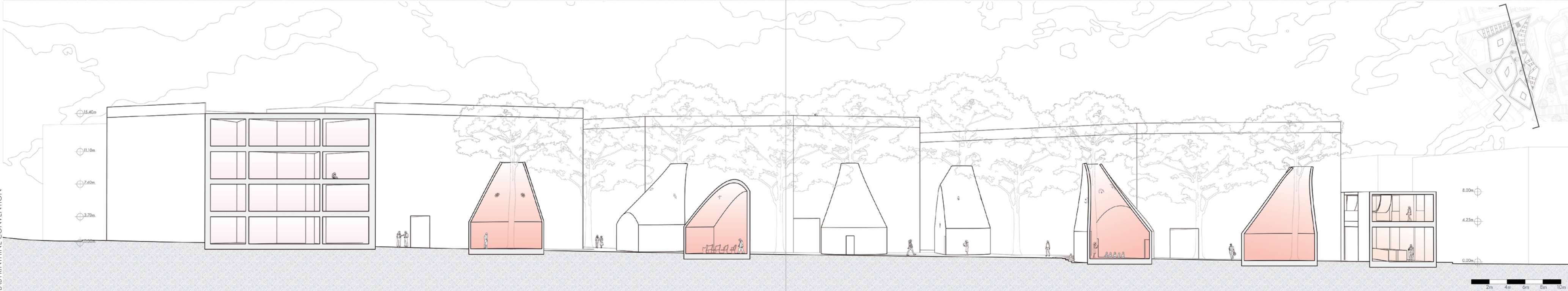
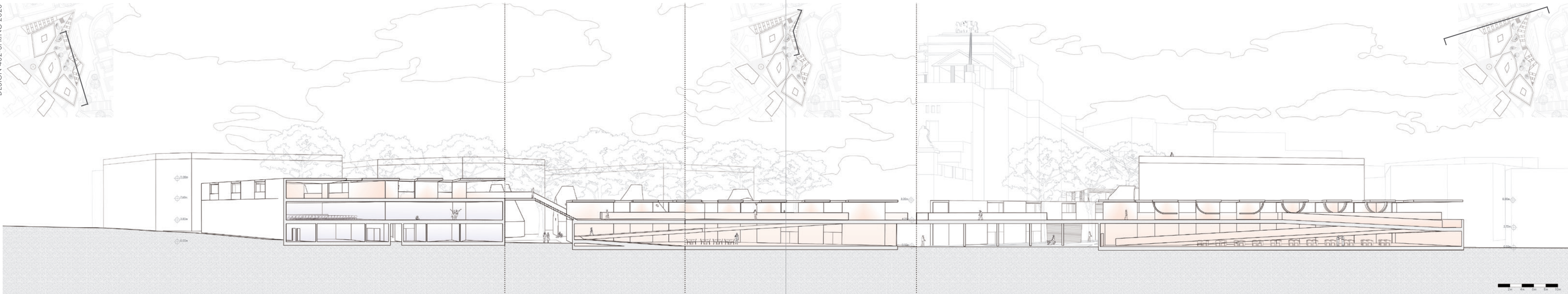


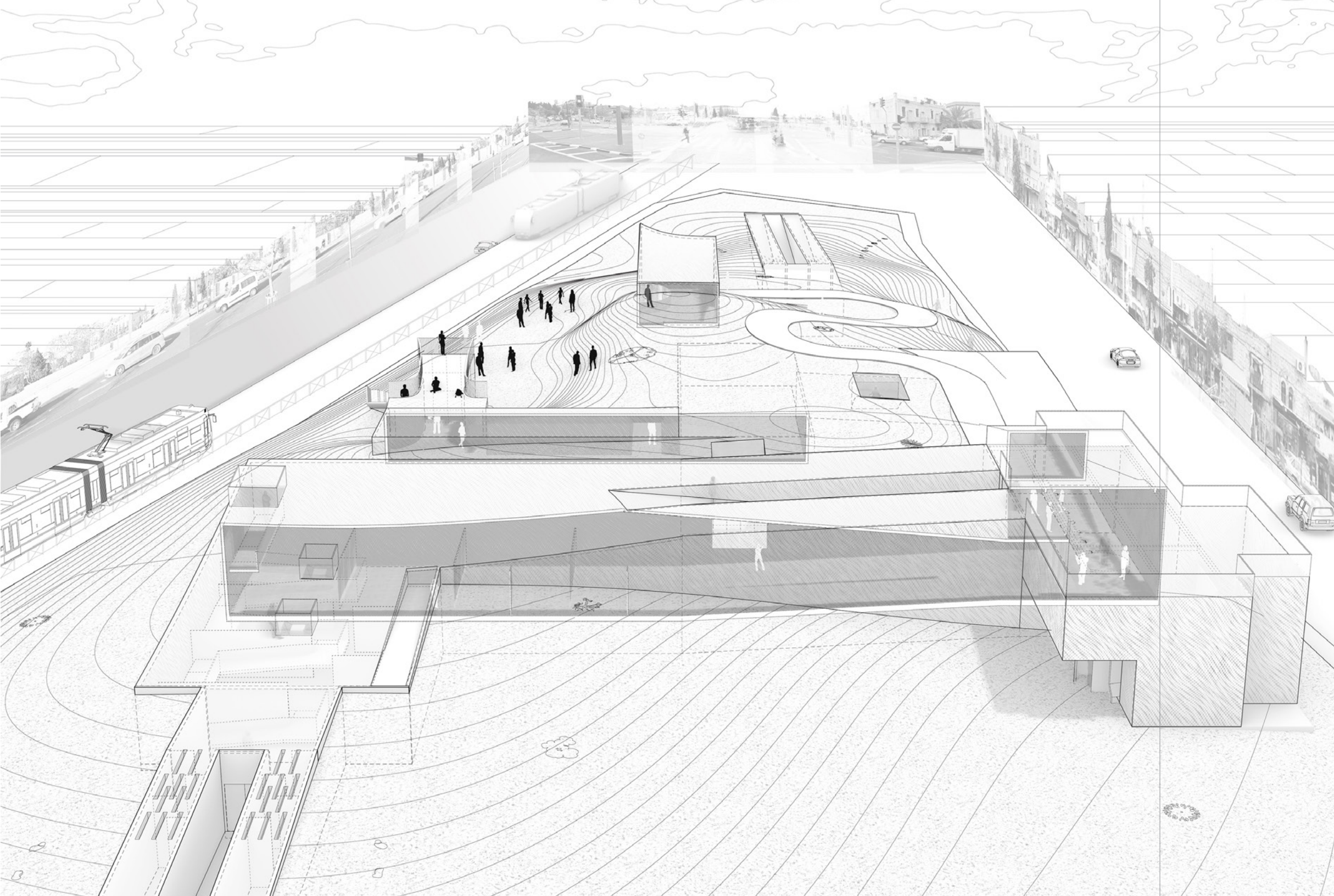
Muslim Prayer Room



Market Interior







PUT YOURSELF IN MY SHOES

SUMMER 2020

Critic: Jason Lee

A CULTURAL PARK & EXHIBITION IN JERUSALEM'S DEMILITARIZED ZONE

The main catalyst of human emotion is one's environment, and as such, the project displays a fluid relationship between the interior and exterior, as well as between the figure and ground. I intend for this site to be an inviting space for all, contrasting the many boundaries found within the city. We live in a society where people may not really understand the struggles of others. Many go about their day, blissfully ignorant about the hardships that other people face in their daily lives. Such a case is the ongoing conflict between Palestine and Israel. By exhibiting this case study, my project will put the user in the shoes of those currently facing hardships. Through the curation of spaces, as well as the organization of architectural elements, my project will generate specific emotive responses related to what Palestinians go through on a daily basis. The users will have the choice of how they wish to experience the project. After which, the users will reach a gathering space where they may interact with others who have experienced the space differently. Of, course this project may not do justice in making one truly feel the struggles of others, but it will at least allow one to begin to understand the world around them; to understand the culture and experiences of the people around them.



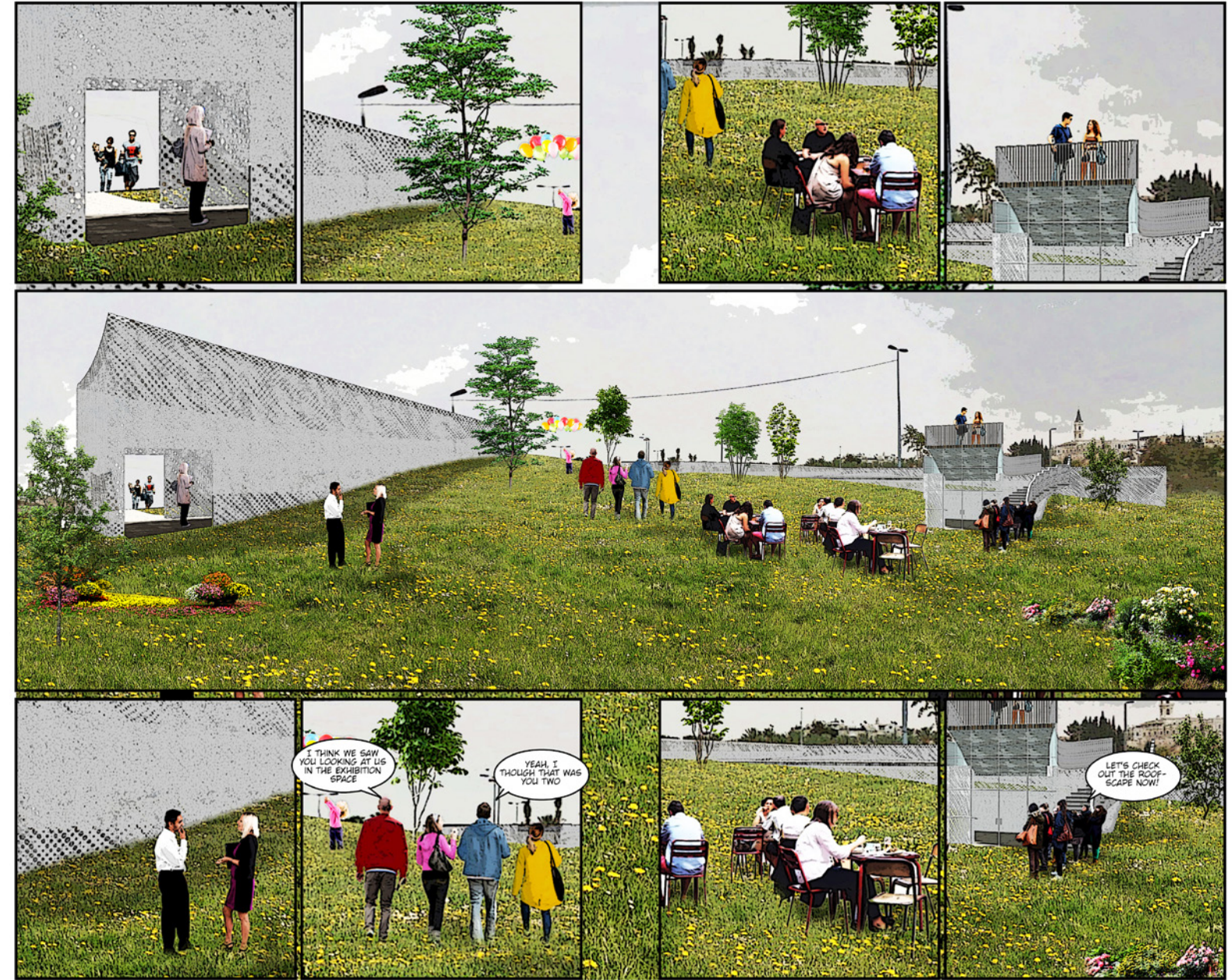
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