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01

Data + Ethics

Think Tank

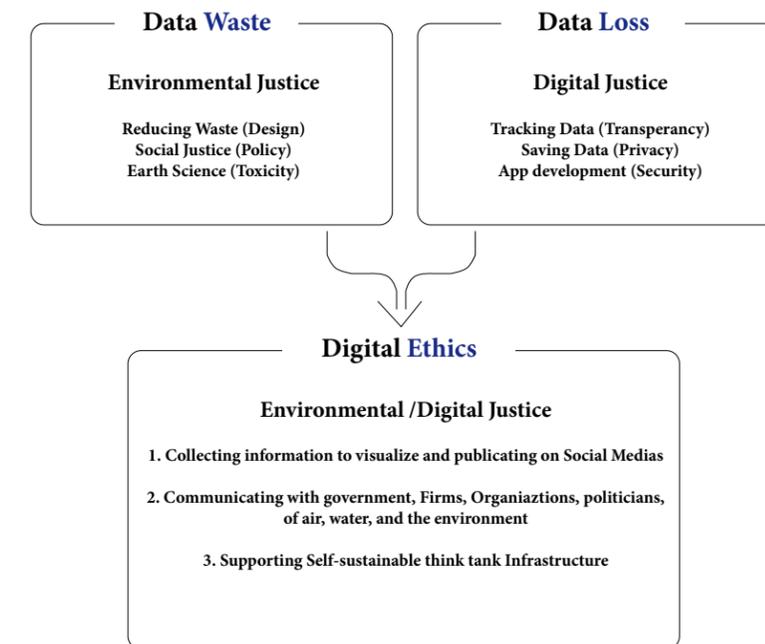
Advanced Architectural Studio VI_ Spring, 2022

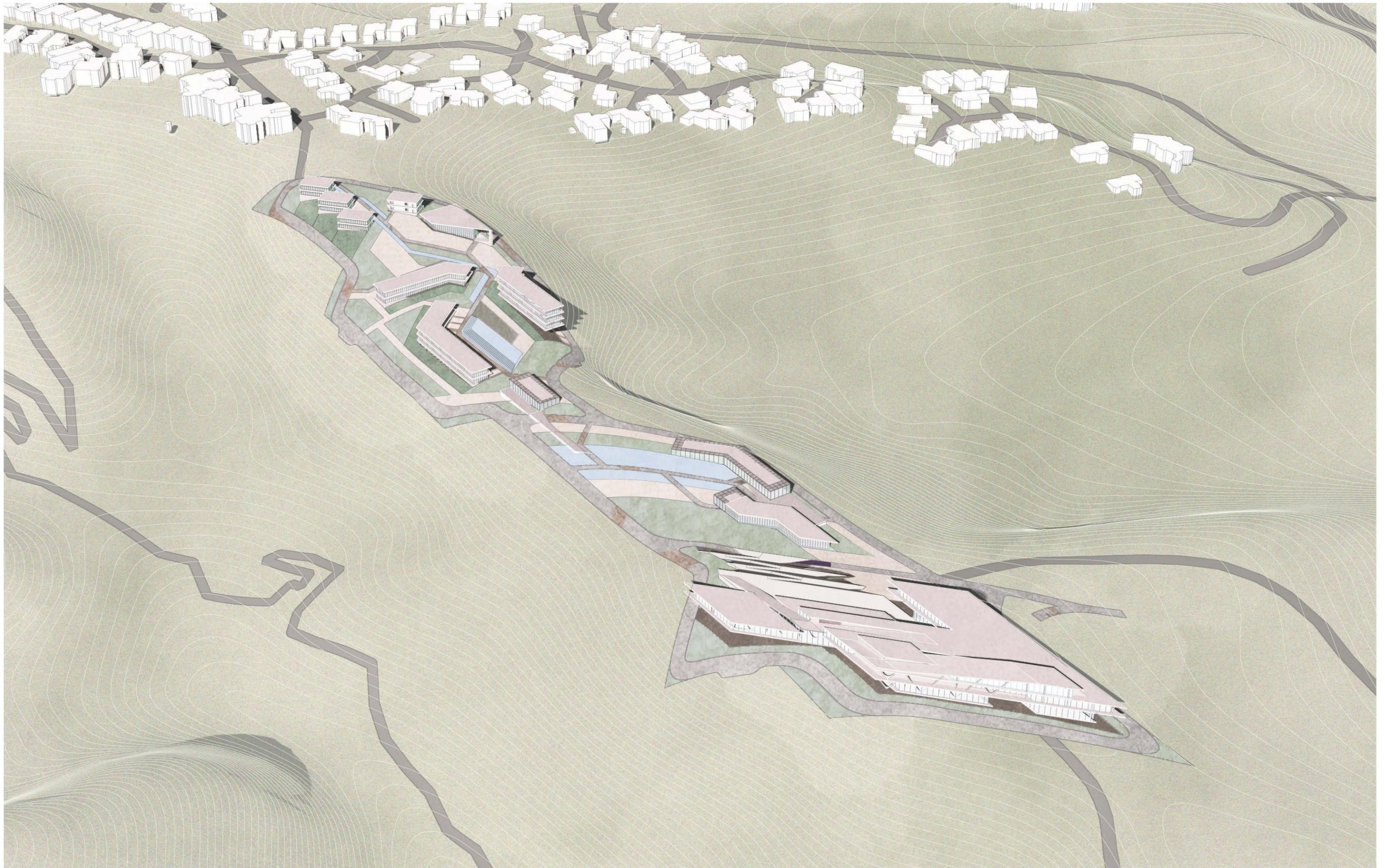
prof. Galia Solomonoff

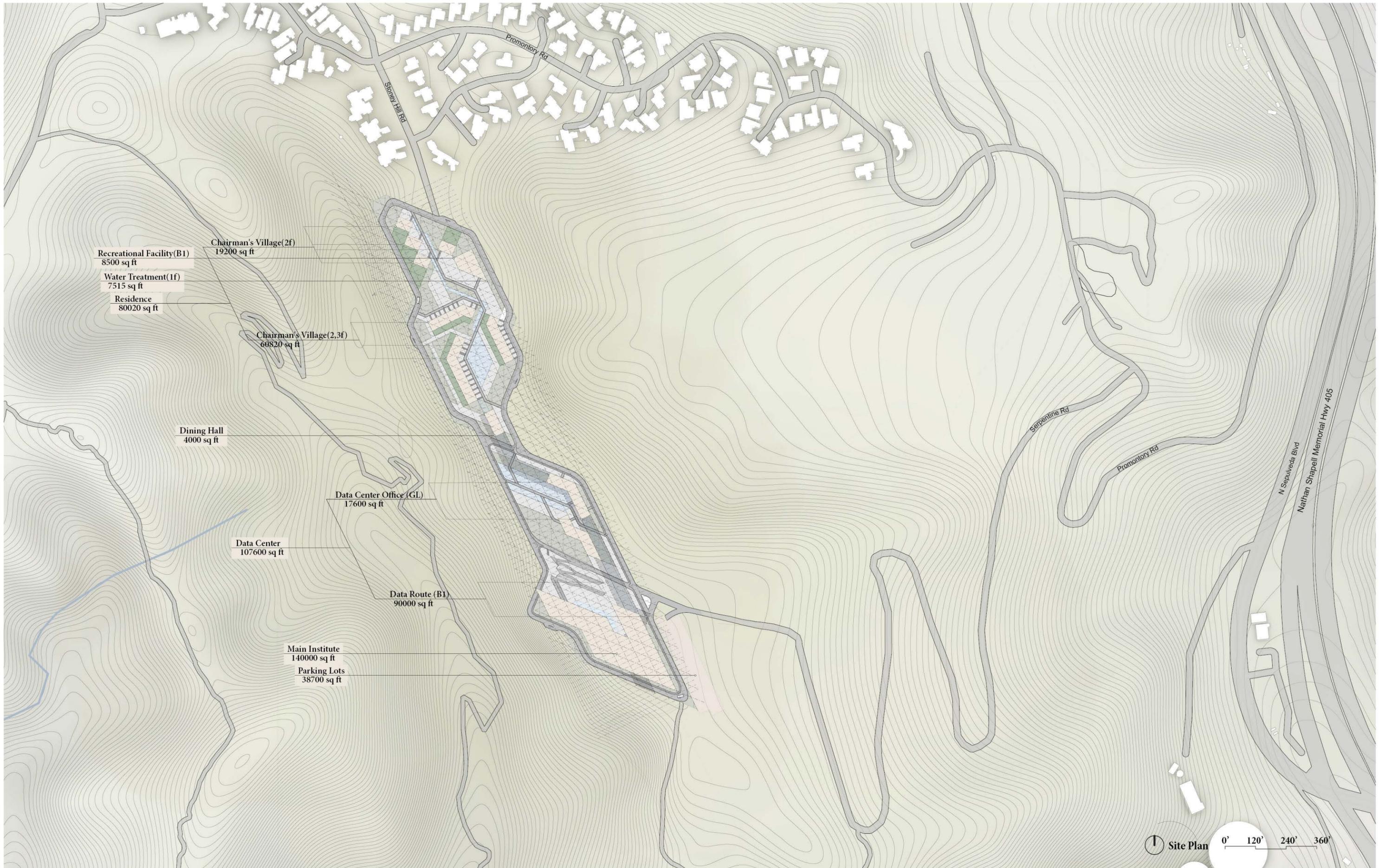
Sujin Shim, Ece Cetin, Irmak Turanli

Project Statement

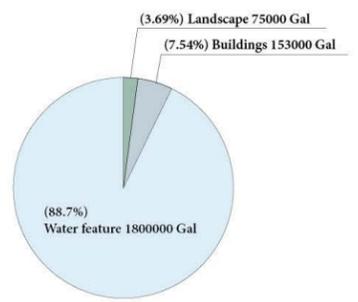
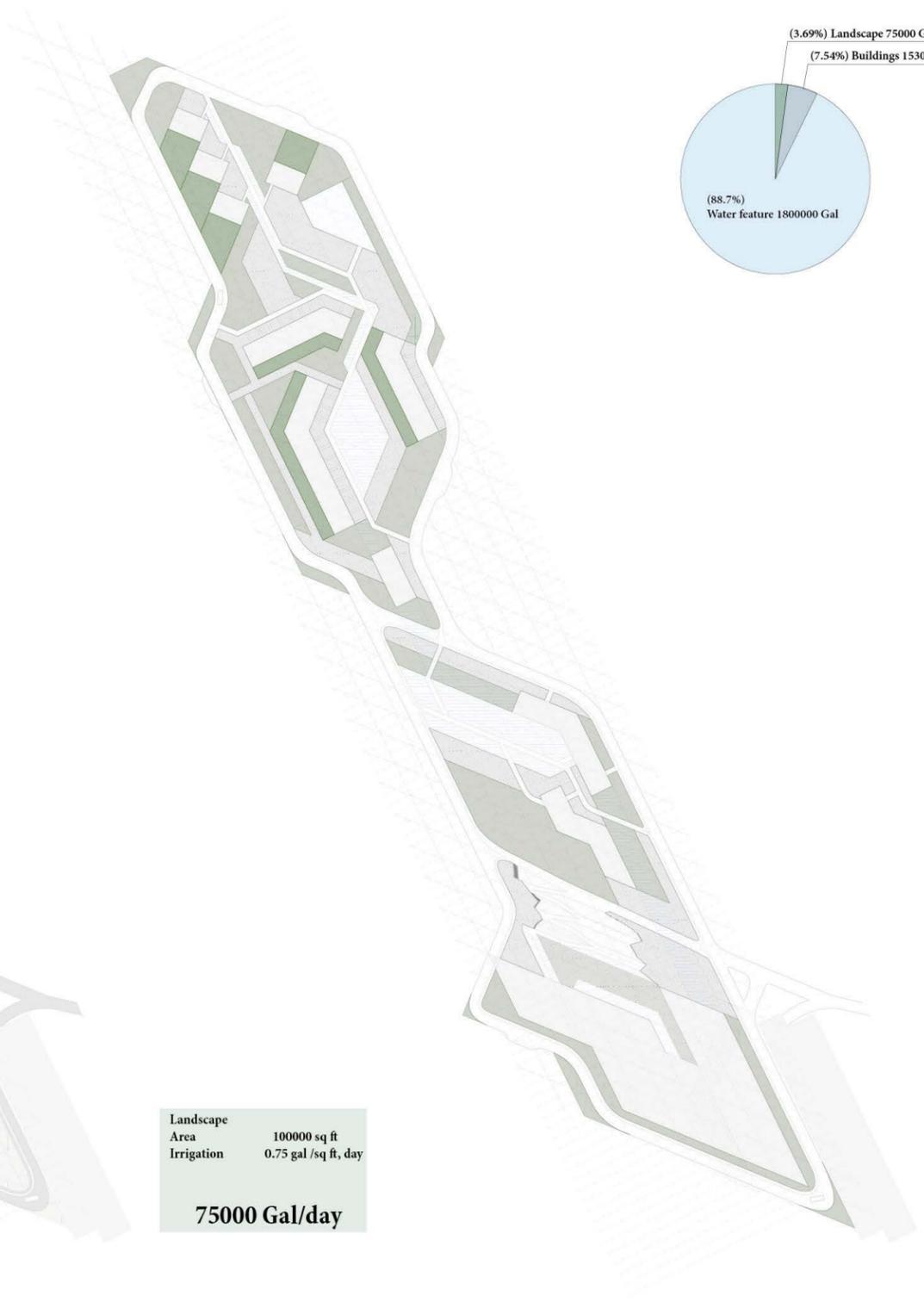
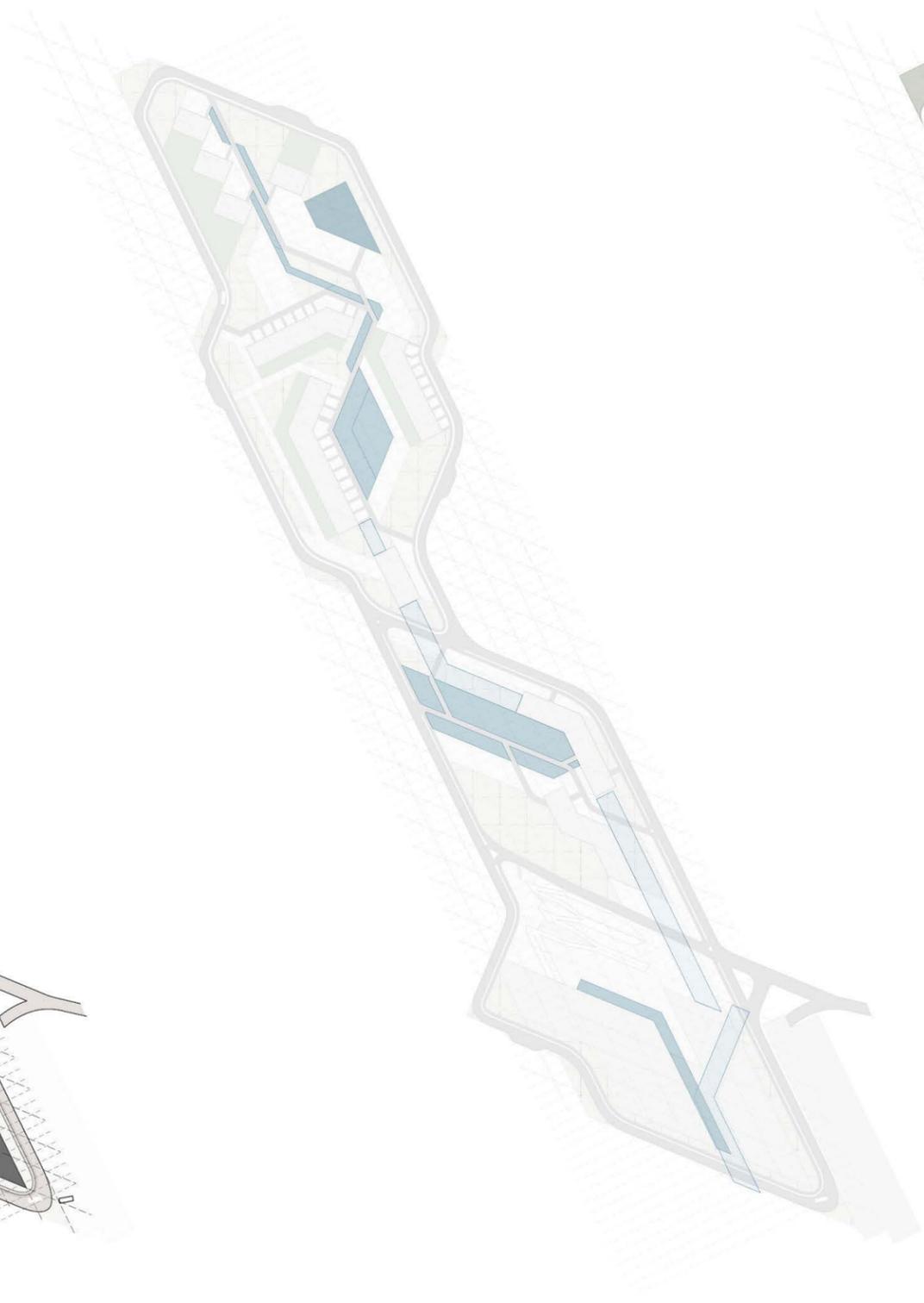
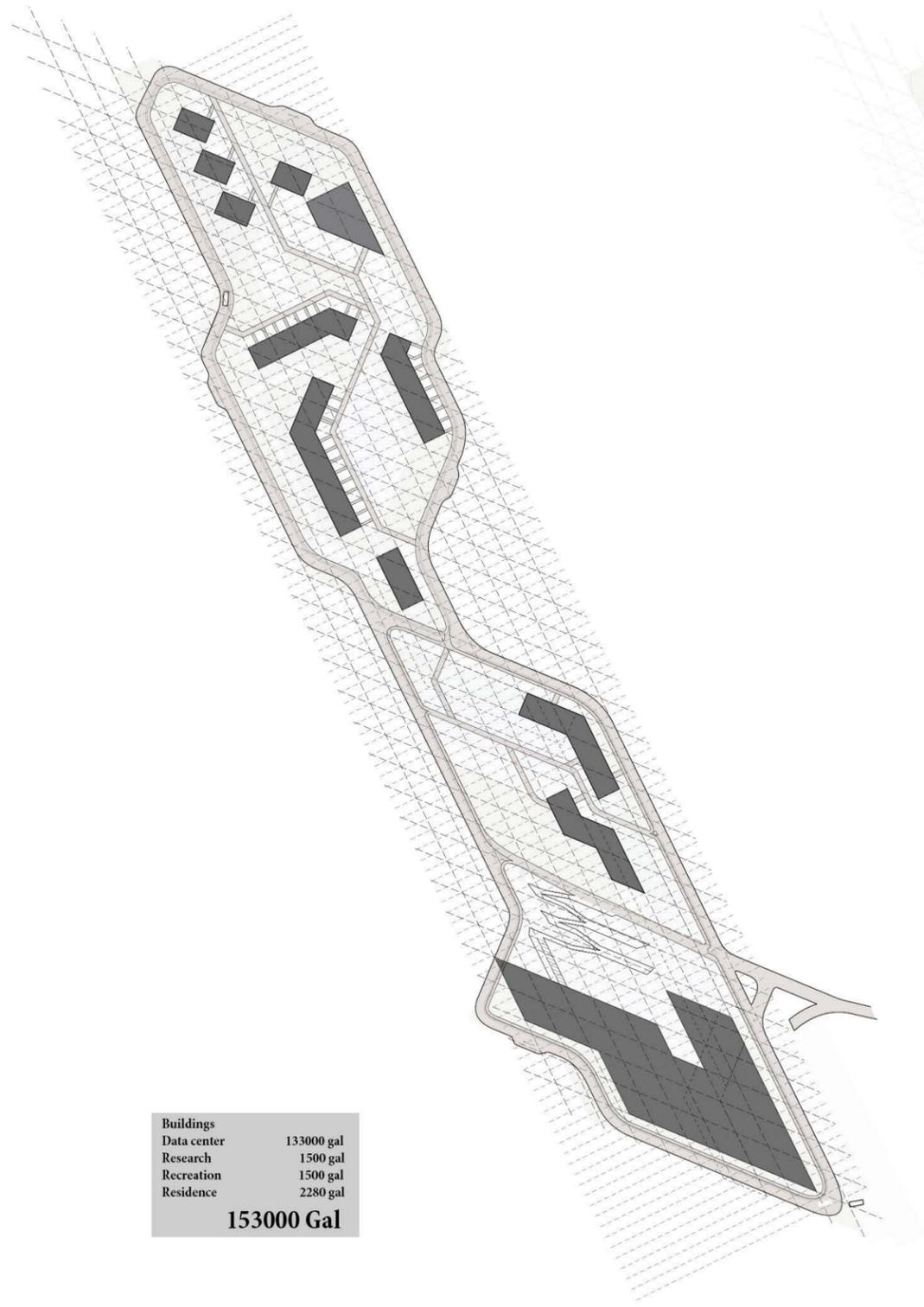
Data and information have become a new form of cultural production. It has been ignored and unclearly opened to the public how and where are the data flows and used, while the widespread use of the Internet, the development of various electronic devices, and the rapid change in the way companies address and store public big data. Data + Ethics is a think tank focused on both physical aspects of digital devices' wasting ways and also intangible aspects of data loss and production. Furthermore, it aims to spread the message of providing the right information and the direction companies need to go in a transparent way by publicizing and communicating in many ways such as social media, exhibitions, and conferences. Also, this think tank focuses on the effective use, outreach, and development of scientific and digital technologies for ethical, transparent, and sustainable data and information processes. Located in the eastern portion of the Santa Monica Mountains, Data + Ethics features meetings and workspaces for 40 scholars in residence, 15 visiting scholars, an auditorium for lectures and events, a library, and dining and catering areas. Providing collaborative spaces for data engineers, designers, sociologists, computer engineers, and policymakers, Data + Ethics focuses on digital ethics, information tracking, media, and communication technologies. Datacenter spaces continuously flow at the site along with landscape, water component, and circulation path.



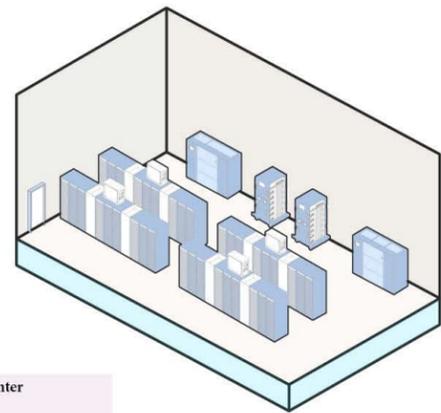




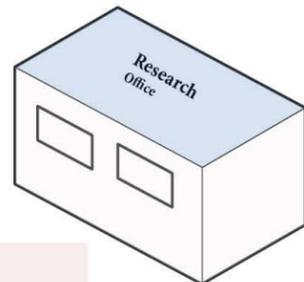
Master Plan



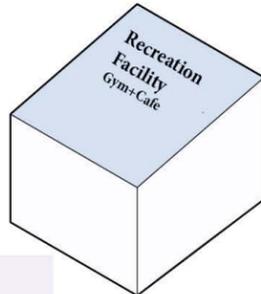
Clean Water Circulation



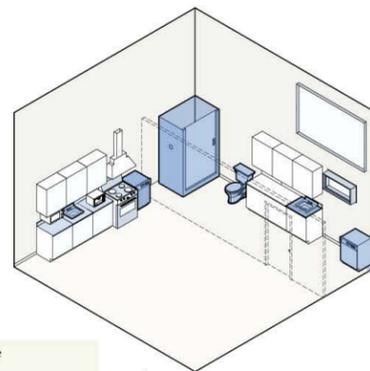
Data Center
Minimum estimate
per day
133000 Gal



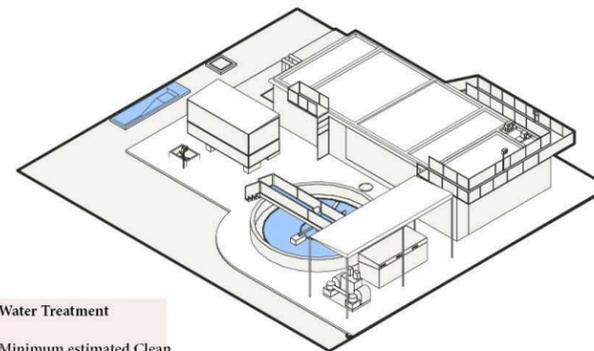
Research
Office
(estimated)
1500 Gal



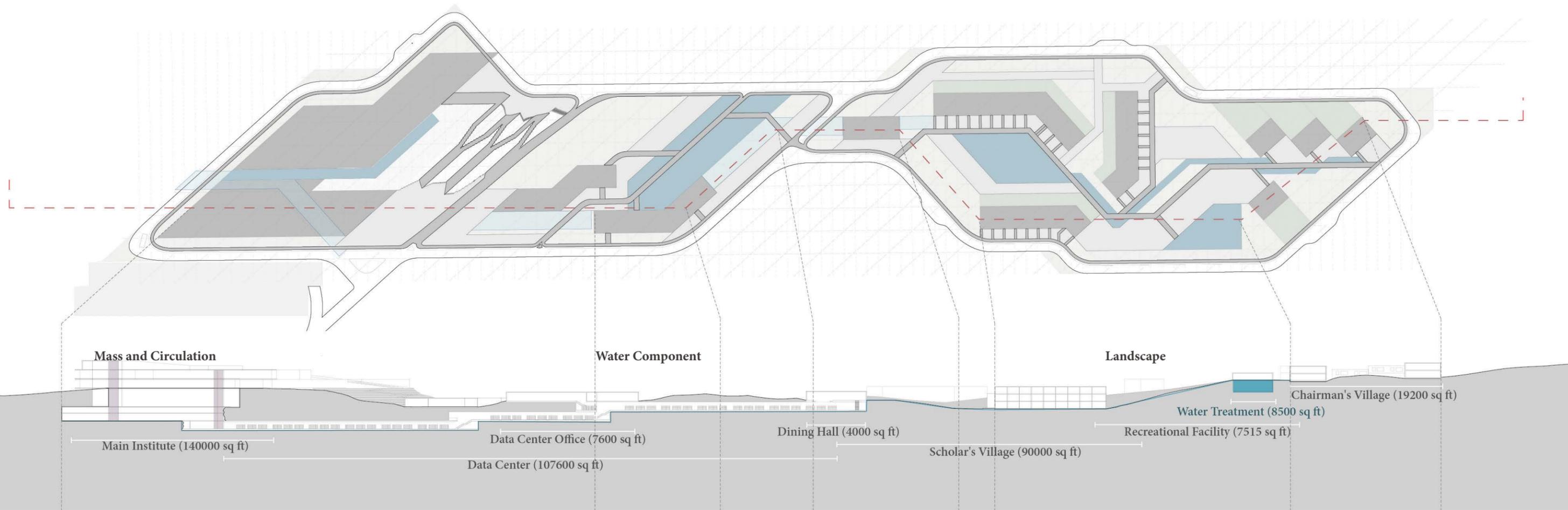
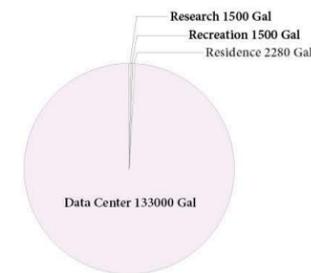
Recreation
Gym+Cafe
(estimated)
1500 Gal



Residence
Occupancy
: 40 people
2280 Gal



Water Treatment
Minimum estimated Clean
Water Use
per day
153000 Gal



Mass and Circulation

Water Component

Landscape

Main Institute (140000 sq ft)

Data Center Office (7600 sq ft)

Dining Hall (4000 sq ft)

Scholar's Village (90000 sq ft)

Water Treatment (8500 sq ft)

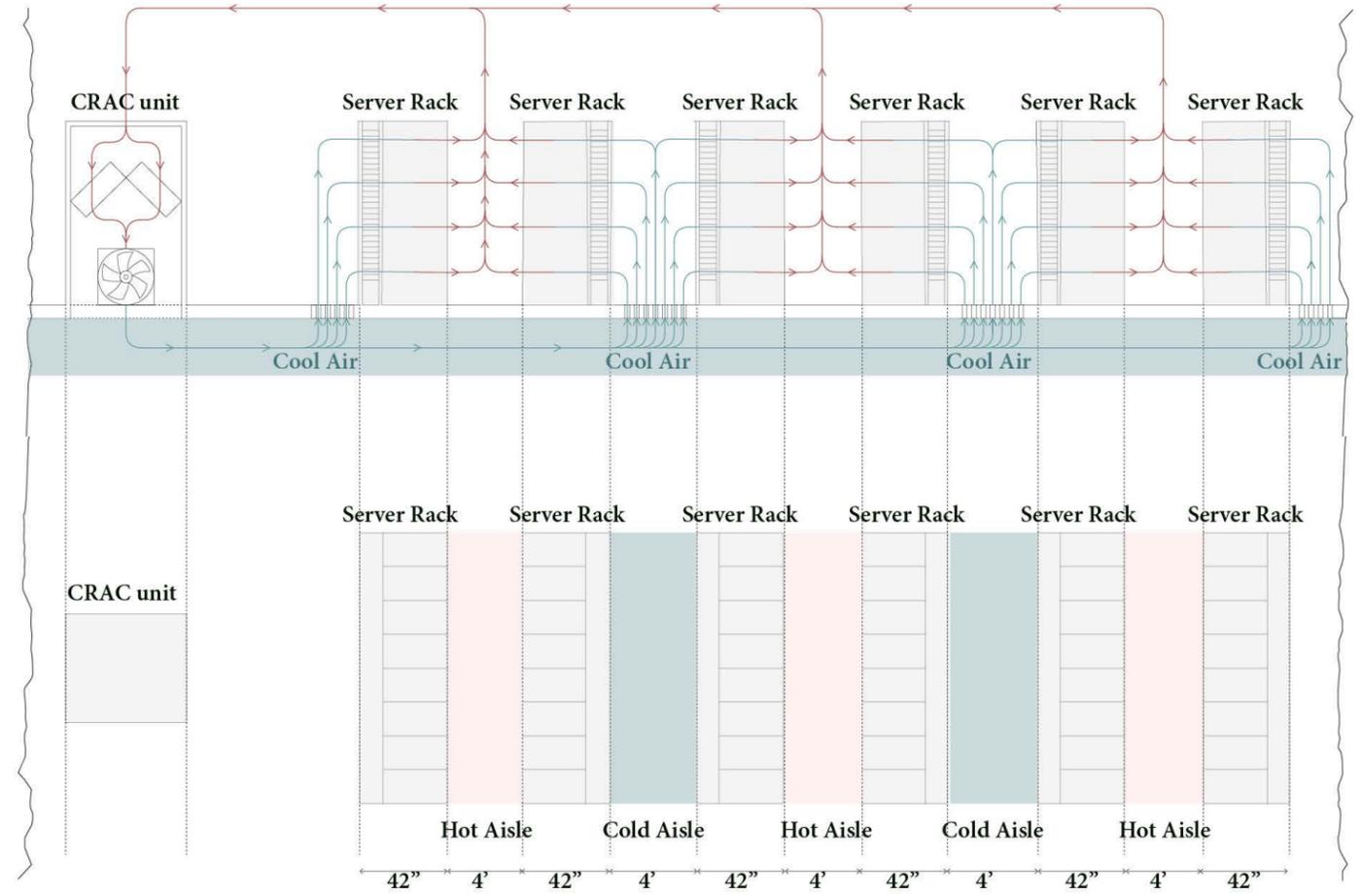
Recreational Facility (7515 sq ft)

Chairman's Village (19200 sq ft)

Data Center (107600 sq ft)



Data Storage opened to public



Data Racks Unit System



Data Center Underground



Data Center Dining Hall View



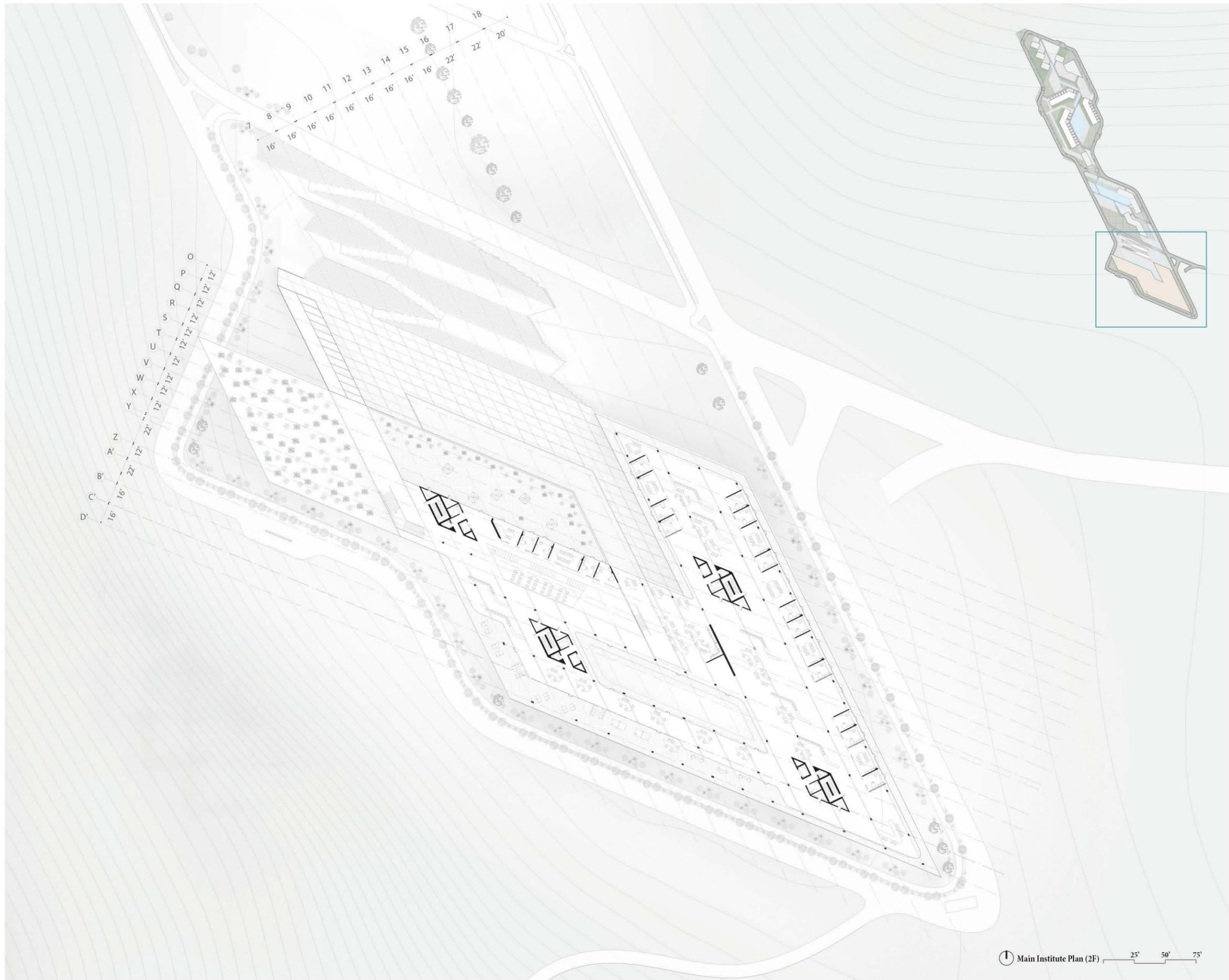
Residence Plot Plan



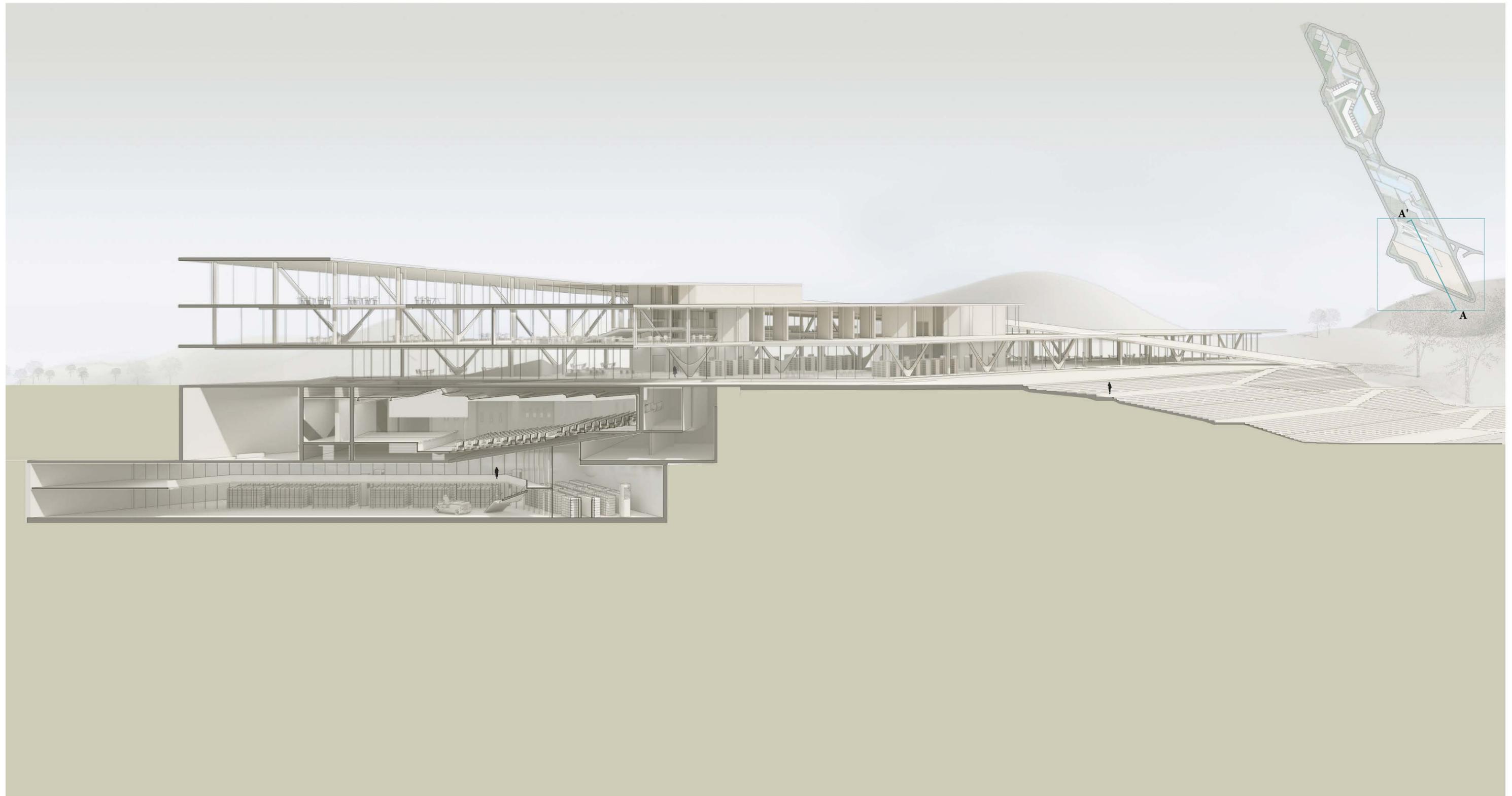
Bike Path with Data Exhibition



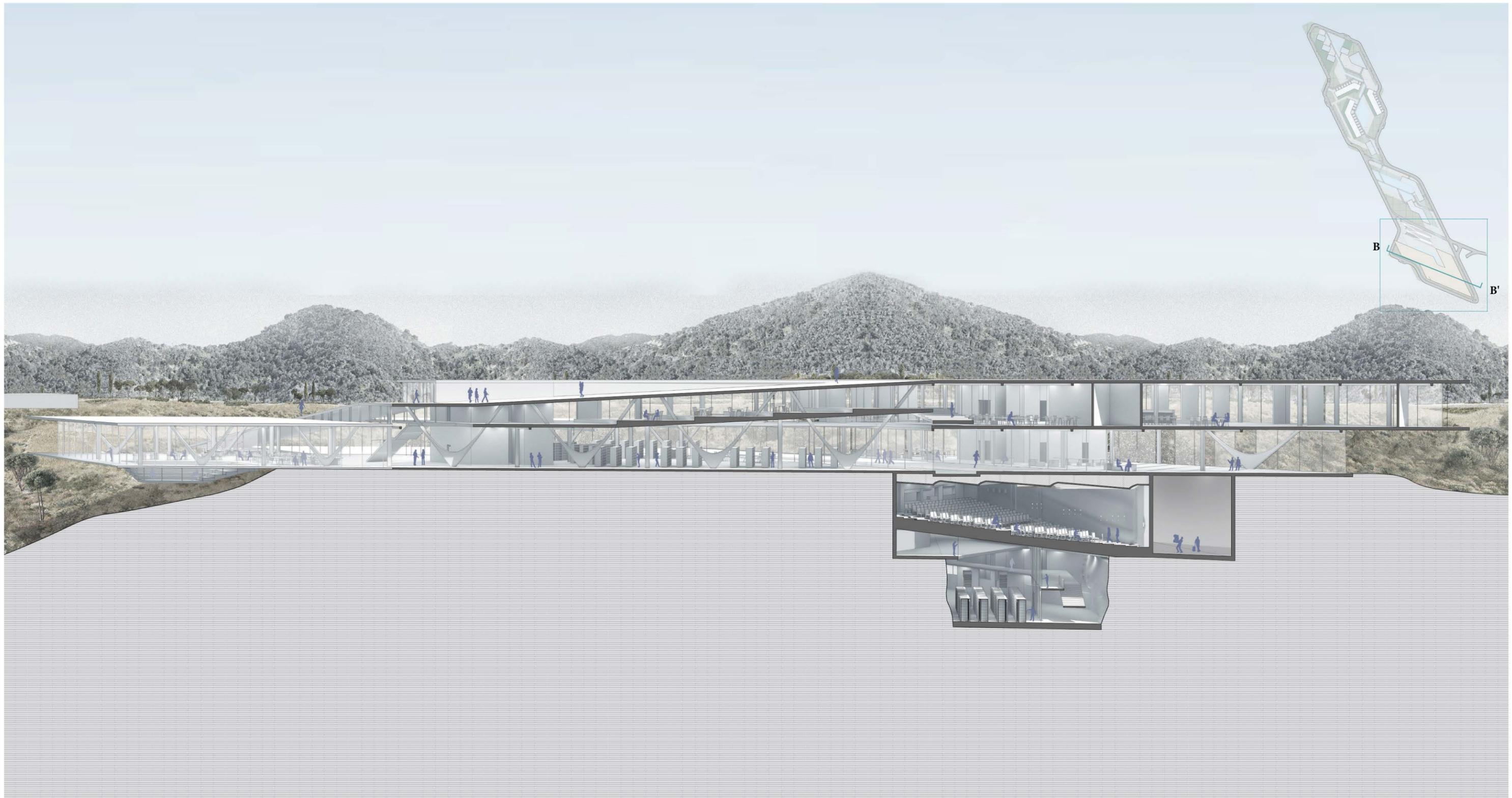
Main Institute Plan



Main Institute Plan



Main Institute Section AA'



Main Institute Section BB'



Main Institute Library

EXHIBITION HALL 3

EXIT >

EXHIBITION HALL 4 >

AN INVESTIGATION INTO THE SMARTPHONE TRACKING INDUSTRY
in collaboration with NY Times

This exhibition looks at the visualization of Geolocation Pings Tracked by users Smartphone

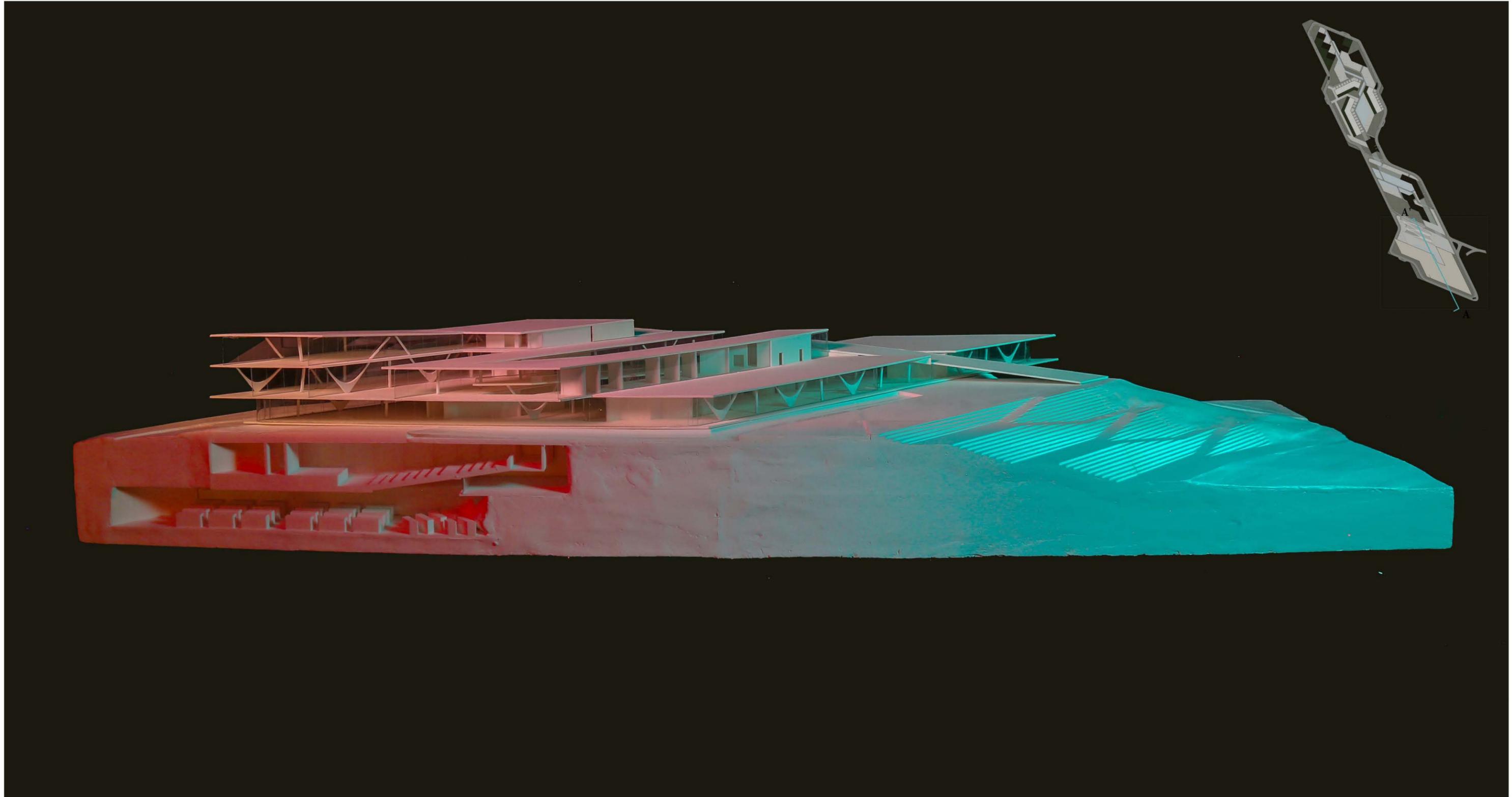




Main Plaza



Second Plaza



SectionAA' Model



02

Labyrinth in East Harlem

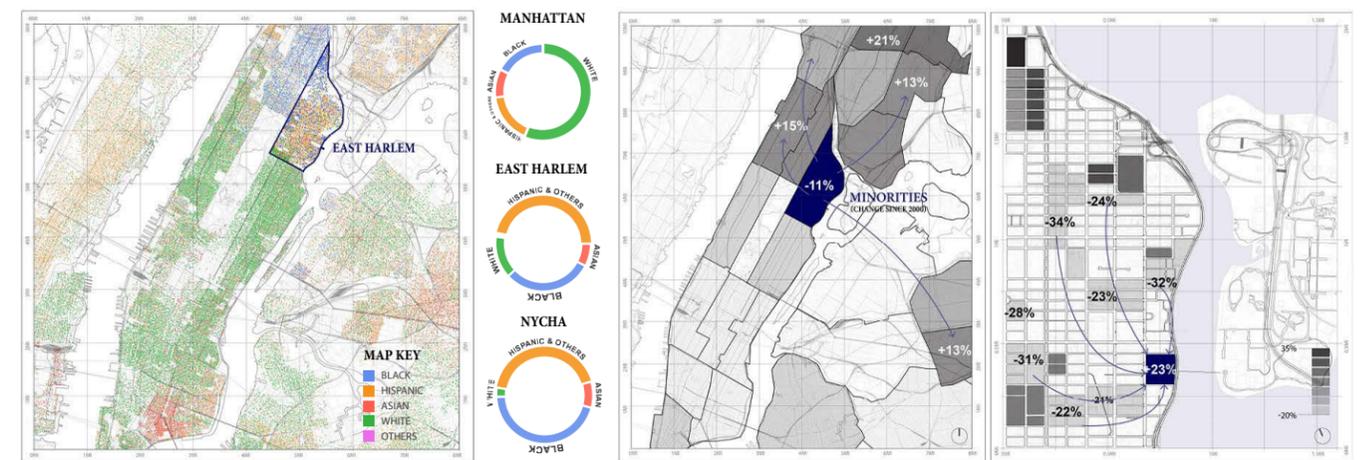
Public Housing NYCHA
 Advanced Architectural Studio V_ Fall, 2021
 prof. Juan Herreros
 Sujin Shim, Seokhyun Kim

Project Statement

Urban design has been behind that transportation that the trans expression of supremacy of powerful classes. Harlem continues its legacy as a residential area mostly for low-income Hispanics, blacks, and Latinos to this day. But the power of Lower Manhattan, dominated by white culture and privileged hegemony, is increasingly exacerbating and weakening Harlem culture and capital. The first project called Labyrinth in East Harlem is about a renovated spatial system in the east river houses according to the need for new housing conditions that can be adapted to sociodemographic transformations such as their mutable work and family arrangements. Although the minority population in East Harlem has been steadily declining since 2000, in contrast to the population growth in the Bronx and Brooklyn, the East River NYCHA Houses, which were heavily damaged by the flood, have significantly increased the resident population. This illustrates the social structure that has no choice but to leave in search of affordable housing, despite the rising rents and the damage from a massive flood in the future. The light structures with as little intervention as possible keep the original buildings and their culture. And by spreading various types of programs, unexpected encounters make people share their lives and interact with each other. Eventually, labyrinthine corridors and houses, let them use spaces as whatever they needed. Therefore, depending on their culture, people create experiences of encountering, making them feel varieties of their culture and feeling of belonging.

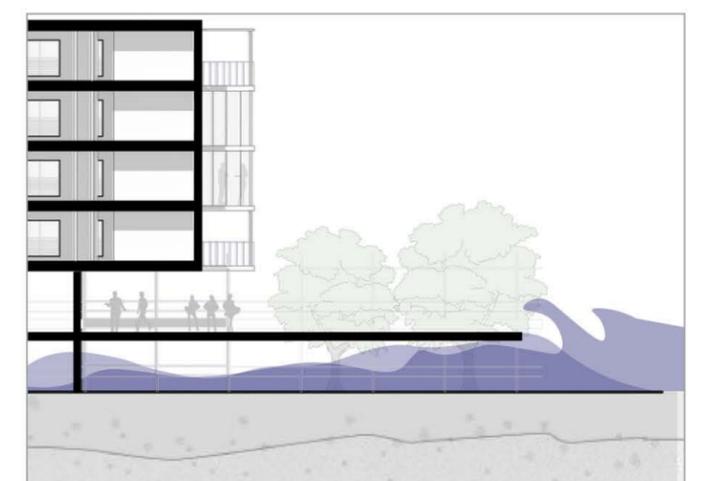
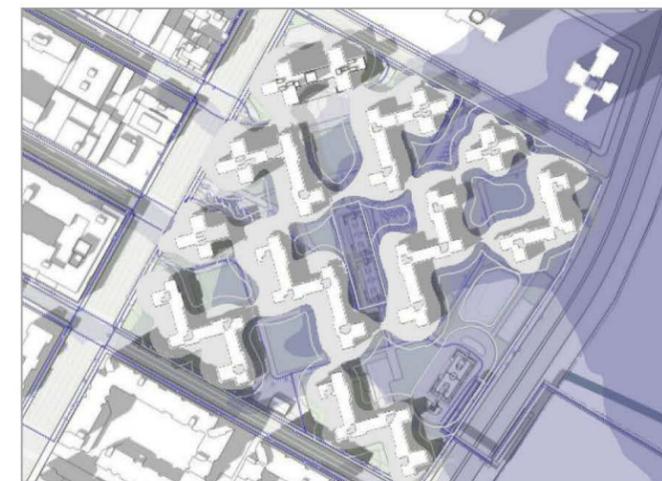
Racial Dots Map of Manhattan and the Population Transition in East Harlem

One Dot = 40 people Census Group Reference : Mapping Segregation, NYTimes (July 8th, 2015)



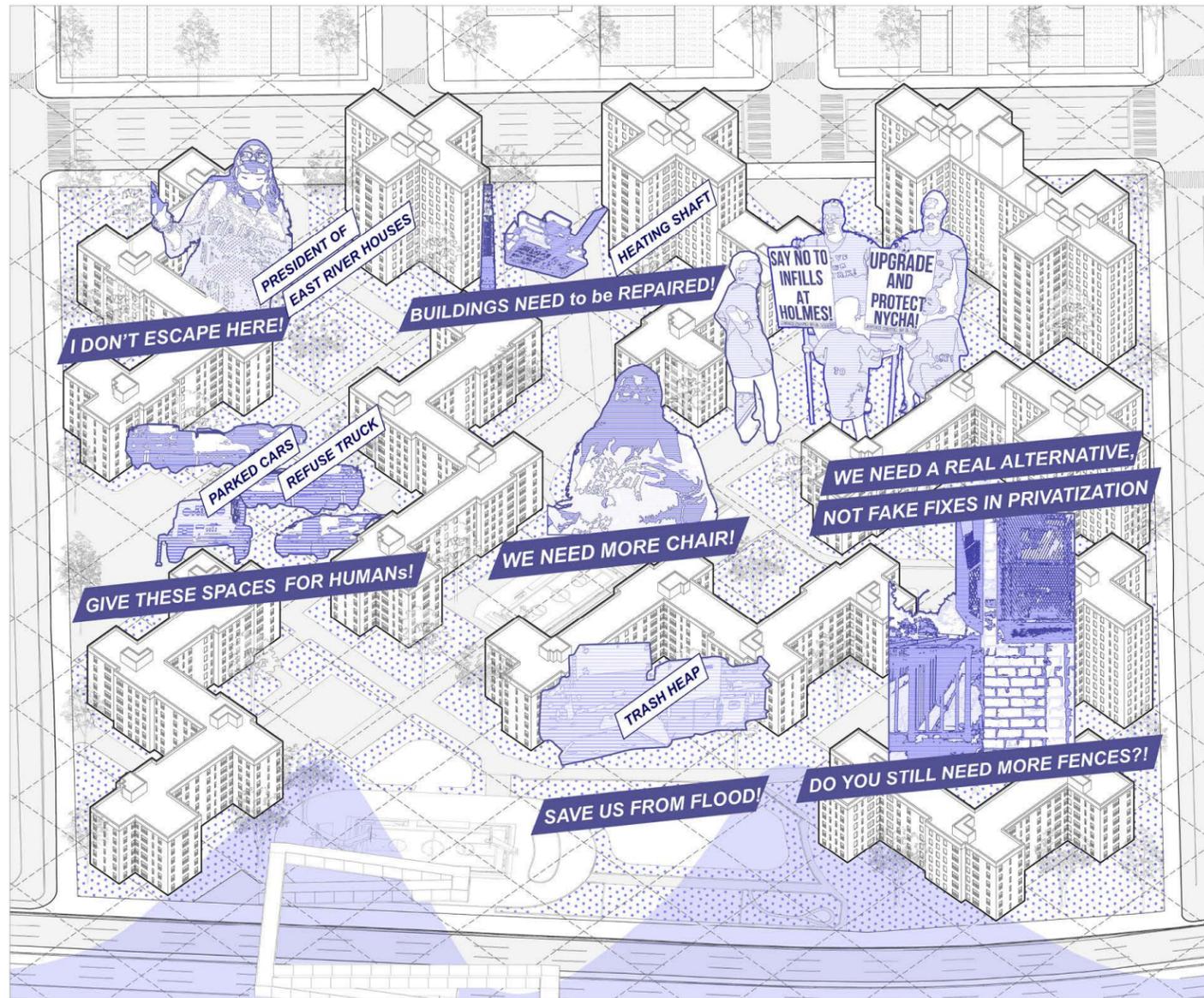
Demographic Change (since 2000)

The minority population in East Harlem has been steadily declining since 2000, in contrast to the population growth in the Bronx and Brooklyn. It can be seen that the residents of East Harlem, where the per capita income is low, have been displaced by high flood damage and rising rents to other areas. However, the East River NYCHA Houses, which was heavily damaged by the flood, have significantly increased the resident population. This illustrates the social structure that has no choice but to leave in search of affordable housing, despite the rising rents and the damage from a massive flood in the future.



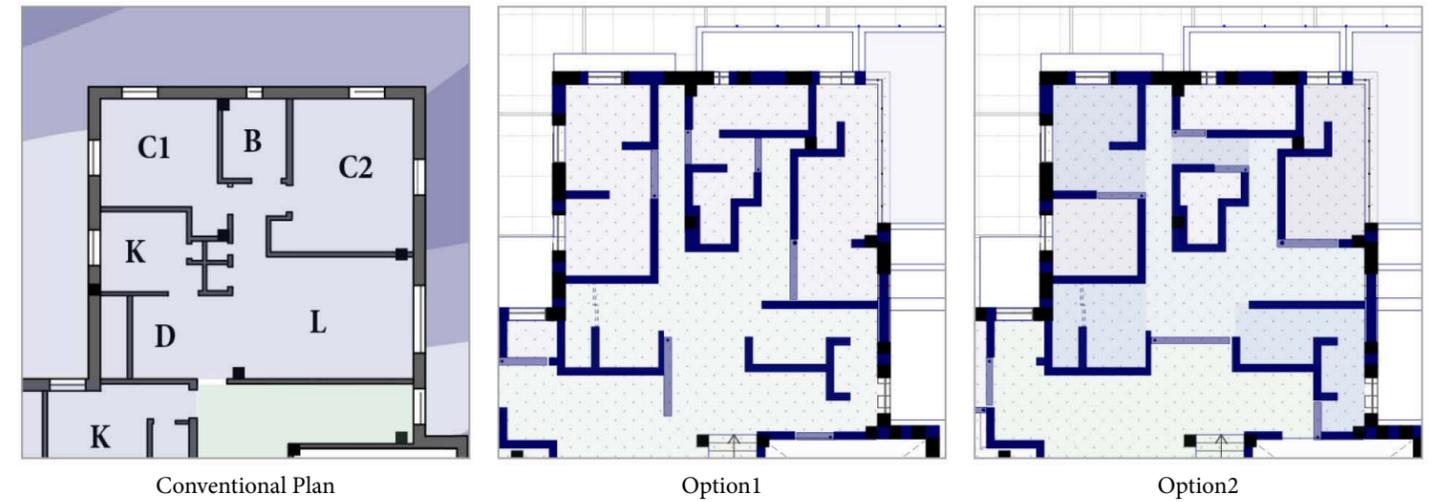
Adaptable Housing Suggestion

In order to minimize flood damage, the main entrance of the building is raised high, and the buildings are connected by creating new land that can be used in case of a flood with scaffolding. On the second floor, the new land, there are many public programs adapted to various types of families.



The Interview

According to the interview with a local president of East River House who has been living since 1971, they had suffered severe damage by Hurricane Sandy a few years ago. People who live here don't want a nice, and luxurious life, they just want a life, costs as much possible as less.



Conventional Plan

Option1

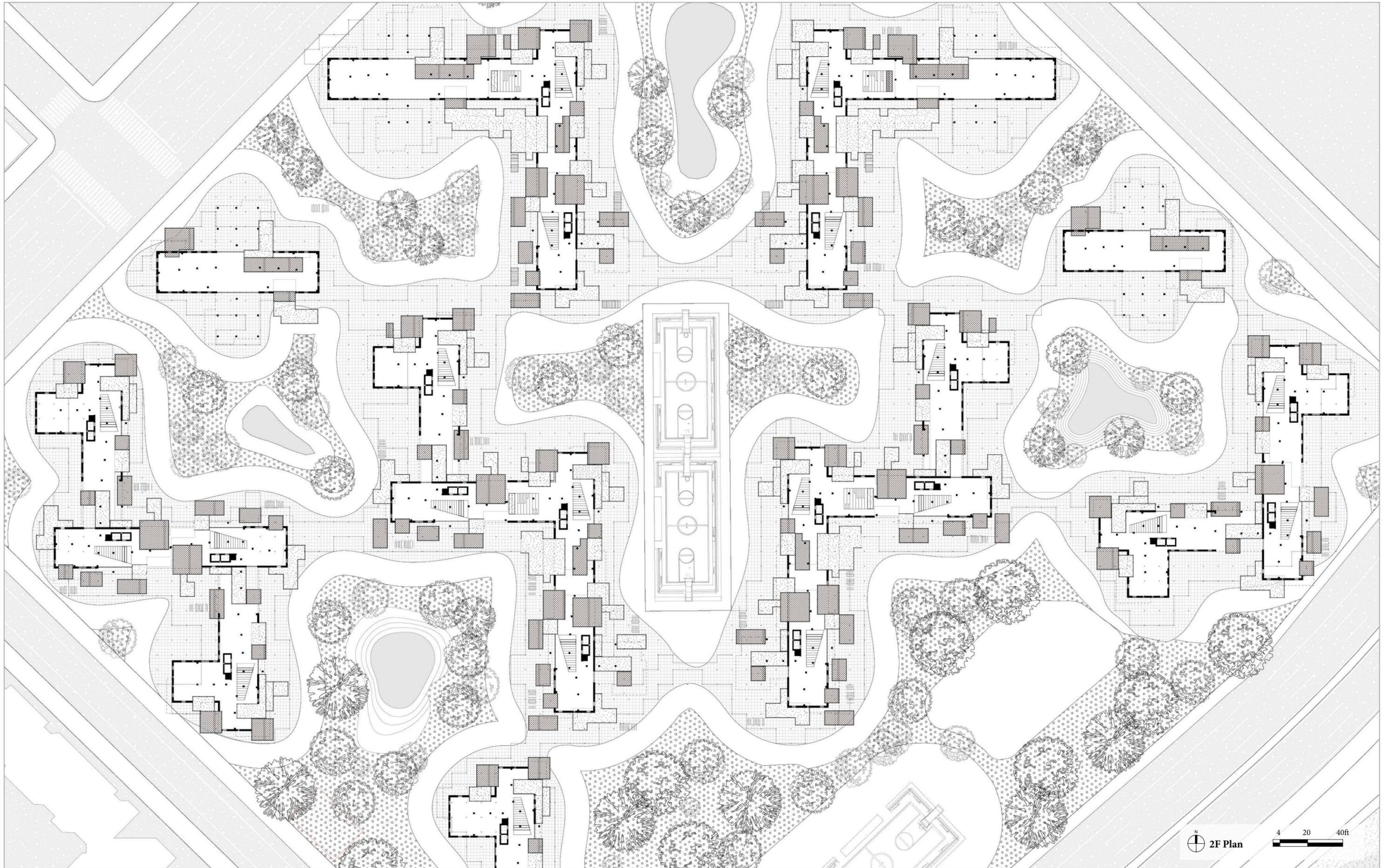
Option2

New Housing Types

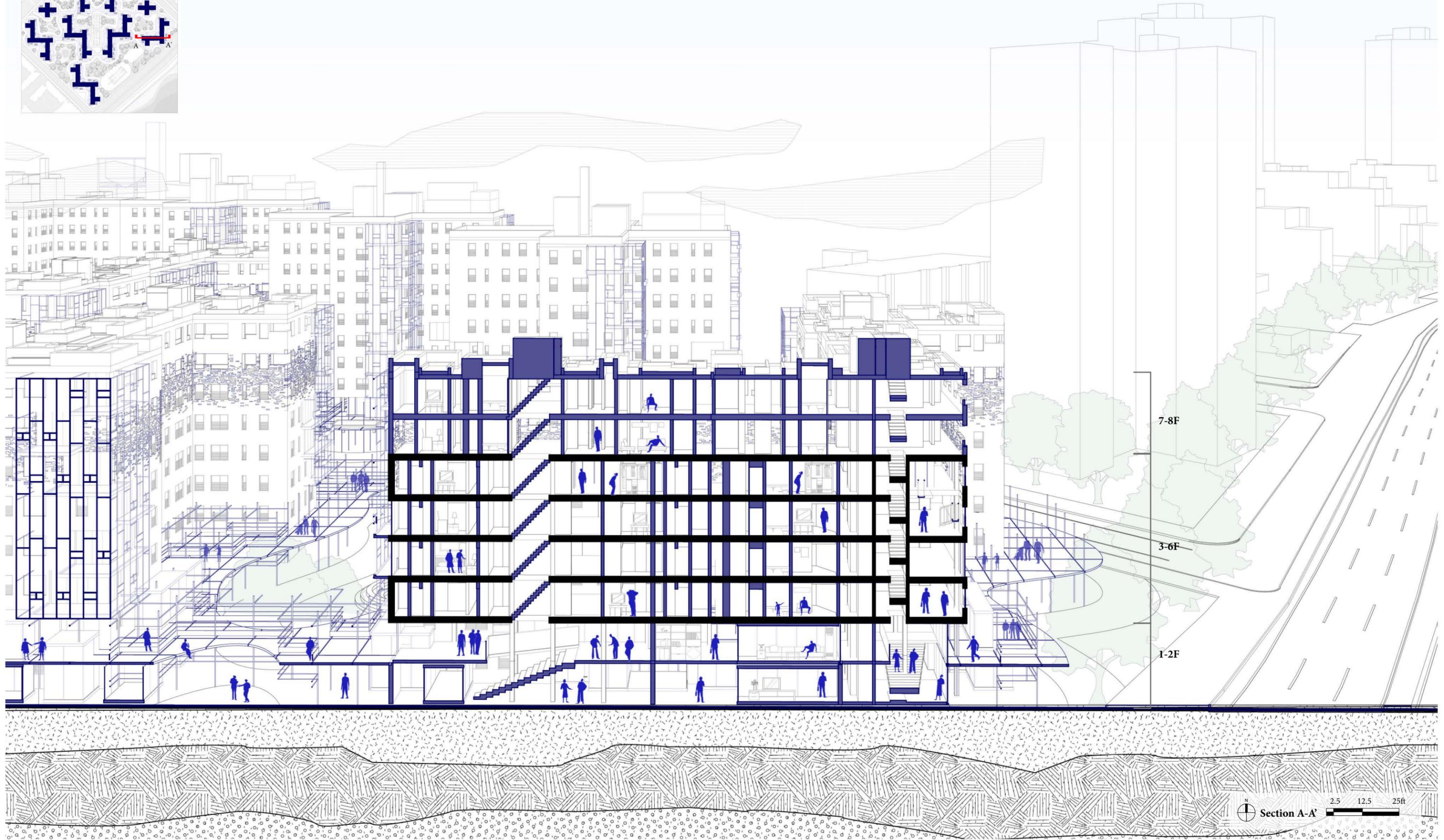
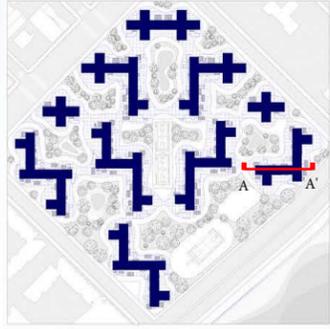
The more buffer zones are formed, the more diverse groups of communities are created. This is a new housing condition that can be adapted to socio-demographic transformations such as their mutable work and family arrangements. Now, the meaning of family itself changed: the traditional family is no longer the widespread norm: singles, divorced people, single parents, single elderly, and couples living apart together are the new example of family.



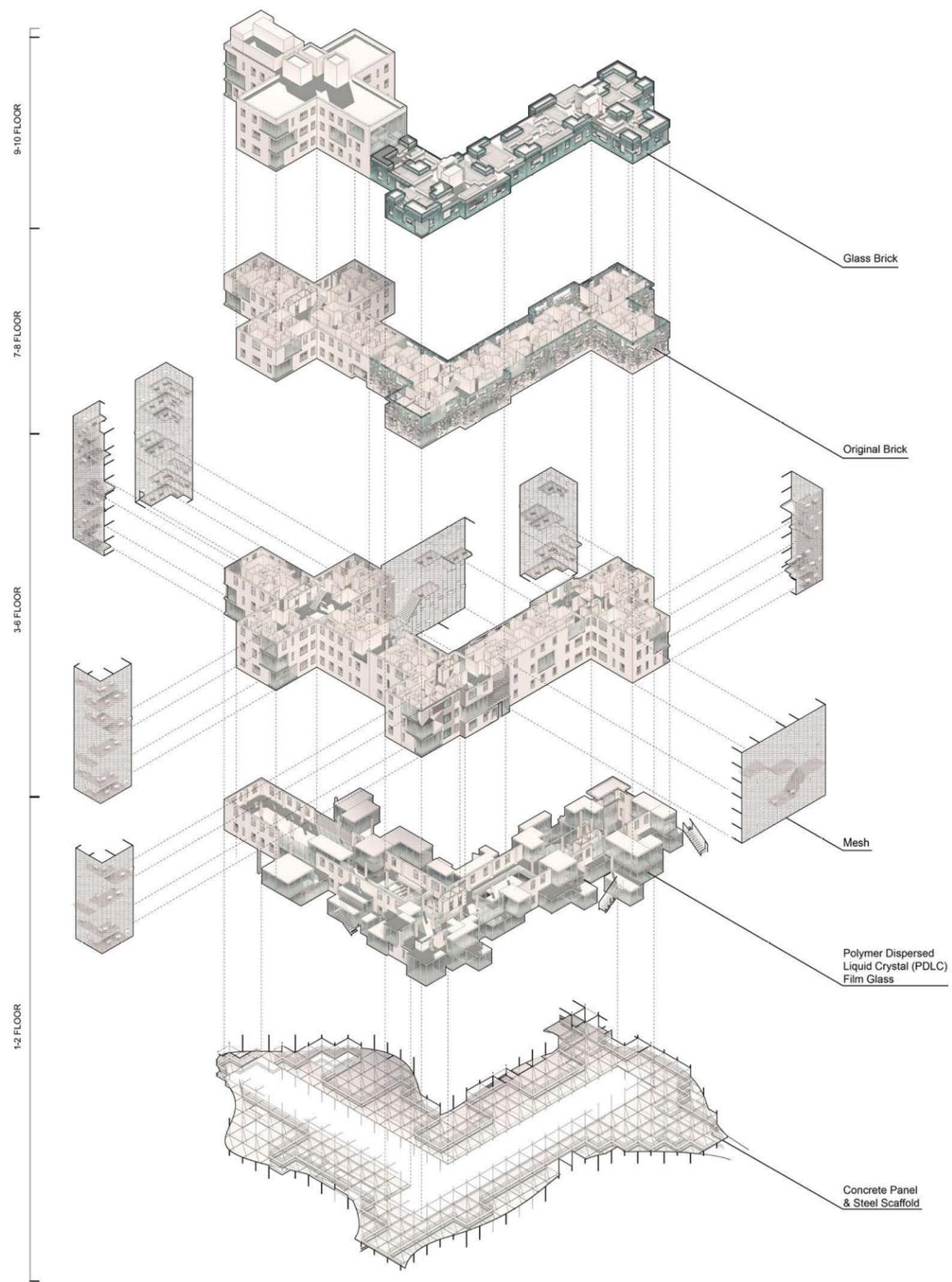
Labyrinth in East Harlem



New Ground Level



Heaviness vs Lightness



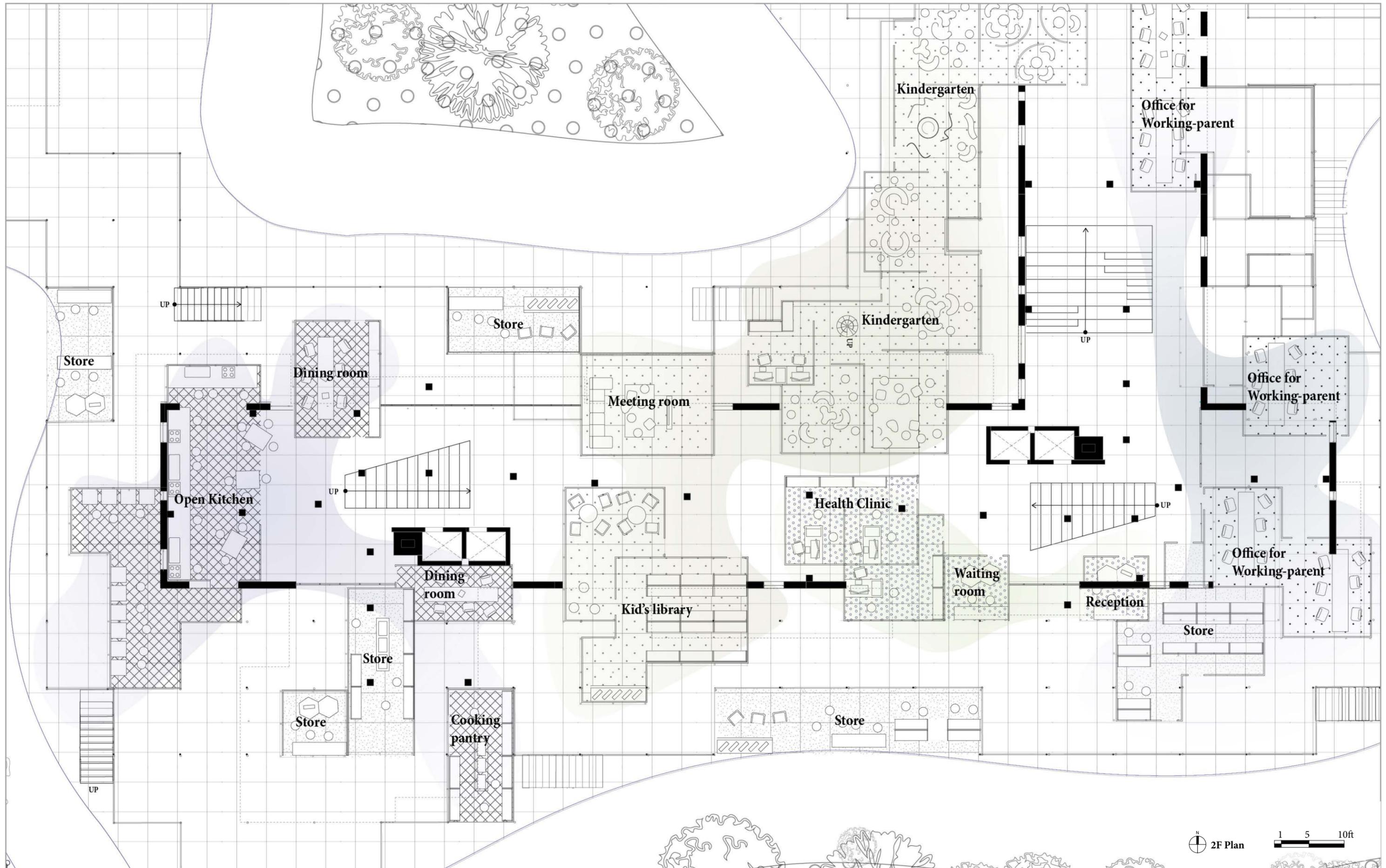
Encounter

Under and above the platform made of light panel and scaffoldings, various programs that can contribute to the lives of three generations are randomly scattered. The intricately twisted circulations create various types of encounters with neighbors.



Multiculturalism

The random shape and arrangement of spaces that create various widths and depths not only create a private circulation for residents, but also provide high accessibility to the public. Spaces for various peoples and occupations create new communities by interacting with things that are close to each other.





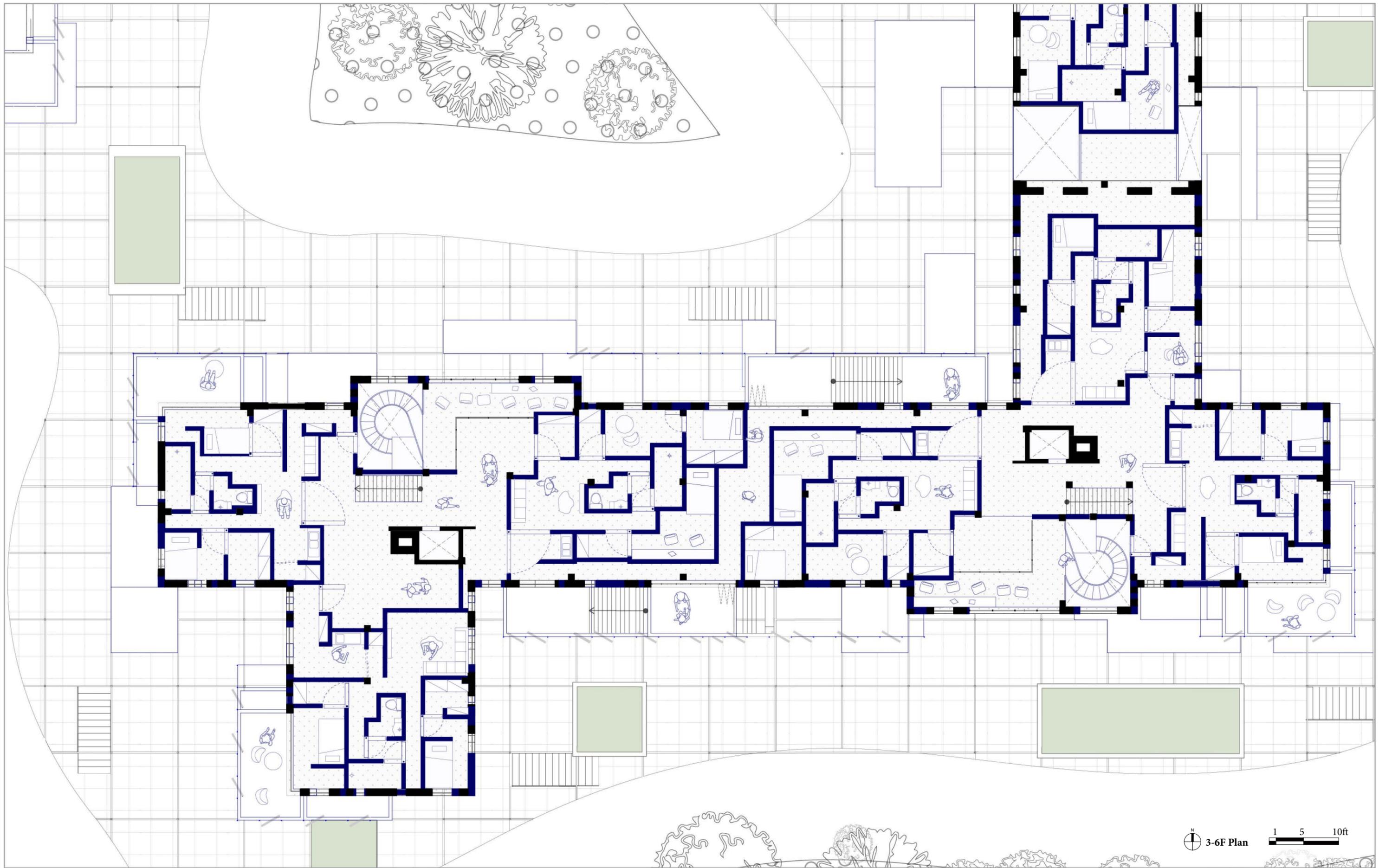
Unconventional House Types

Conventional house types have been continuously changing to fit modern society, but all have been adapted to Western civilization. People living in this building can enjoy a variety of lives according to their individual needs with a minimum amount of space.



Rotating Wall

If you open a rotating door that acts as a wall, a different space emerges. The moment when you have to choose which door to open in which direction, the open hallway built with cristal bricks and the closed living room expand and shrink.



Rotating Wall



Glass Brick Wall and Wire Mesh

Materials with high porosity, such as glass brick and wire mesh, have low transparency when viewed up close and are perceived as a single surface when viewed from a distance. The glass brick and the wire mesh surrounding the terrace connected to the room allow sunlight and wind, while at the same time allowing pedestrians to show the identity of the building and the interests of the community as a graffiti or poster slogans.



03

Ether Eternal

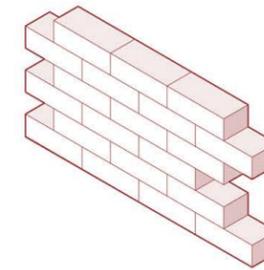
Pavilion

Deep Time _ Awards of "the coolest drawing"
 prof. Mario Gooden

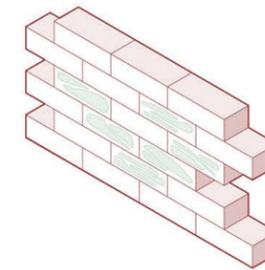
Sujin Shim, Howie Jiang, Lesley Li, Jo Hee Lee

Project Statement

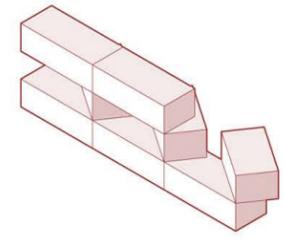
This project, Ether Eternal, is a pavilion project of deep time studio in between fall and spring semester. Steeped in geological time, the installation recognises the Fayerweather-Avery courtyard as a space that transcends capitalism, conquest and construction. Framing a minute portion of the sky above, the proposal recognises it as an eternal constant of that space. Throughout all history occurring below on the ground plane, the ether above has retained a coherent presence aligned with forces of a global scale. All developments since our stewardship of Mana-hatta, bearing in mind the overgeneralization of 'our' within the temporal scale of human civilization, then begins to seem insignificant. Our ancestors understood and respected this, this propos- al serves as a reminder. As such, the design removes visibility of Avery and Fayerweather hall altogether and isolates participants within the vertical relationship between ground and sky. It diminishes products spawned through our acts of conquering & owning space, an aspect so pervasive in now New York City. Ultimately, Ether Eternal removes our current determinations, demarcations and delineations of the 'courtyard' and returns us to an ongoing relationship originating well before us and likely extending long after our time here.



Running Bond



Running Bond
& Eco-bricks



Rotated
Alternation

Strategies

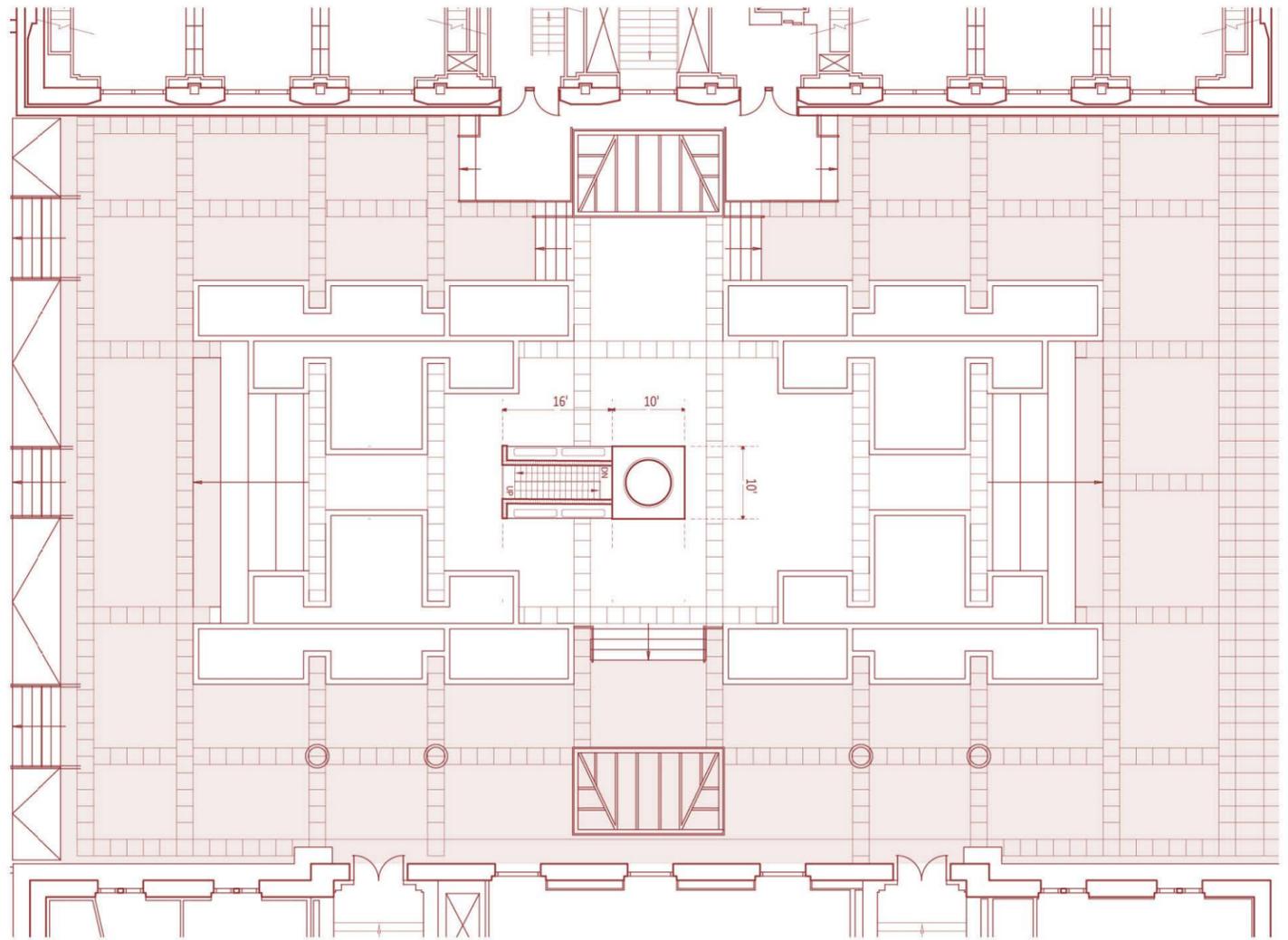
- 1) By incorporating a stair-element that rises unevenly alongside the vertical shaft, participants encounter this vertical space at selected heights.
- 2) The integration of eco-brick for bird nesting, alongside the main space, returns participants to light, air and nature.
- 3) The entrance on the ground plane that serves as our primordial means to enter and leave a space.



The moment light comes in

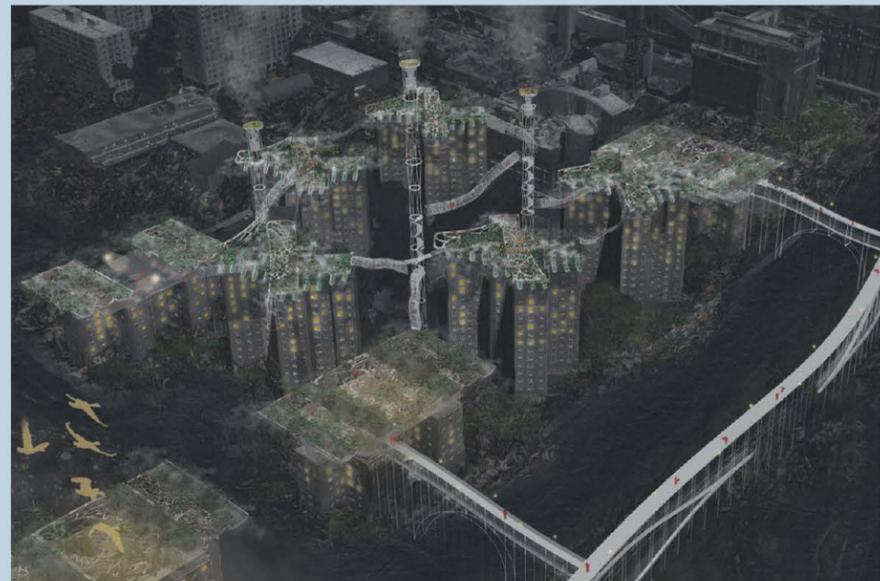


Section



Plan

Ether Eternal



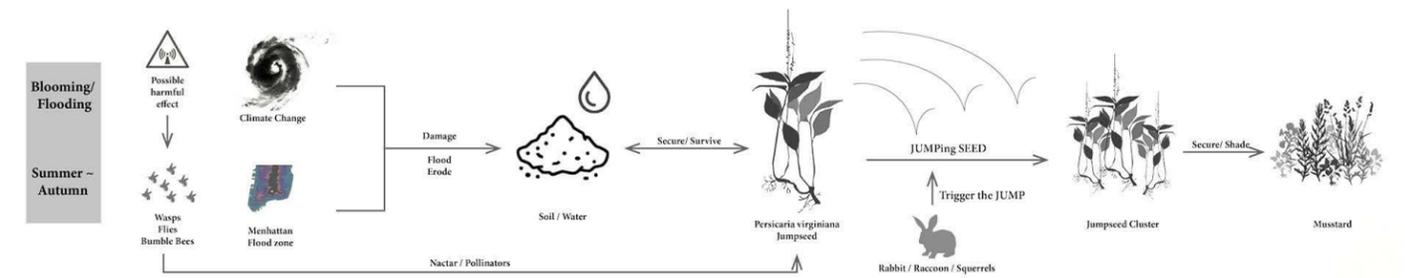
04

Post-flood in Manhattan

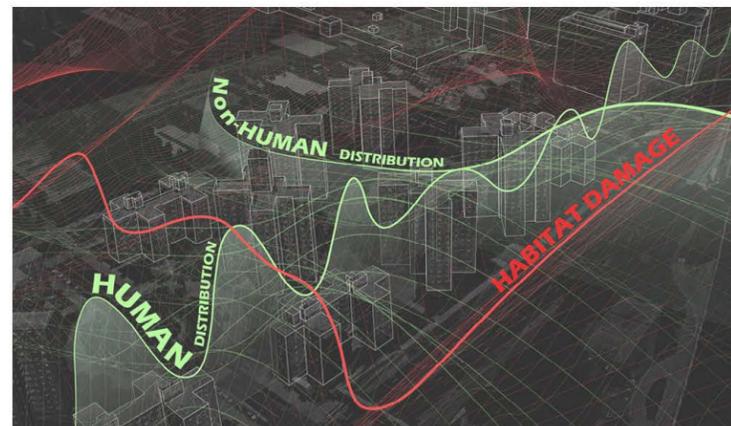
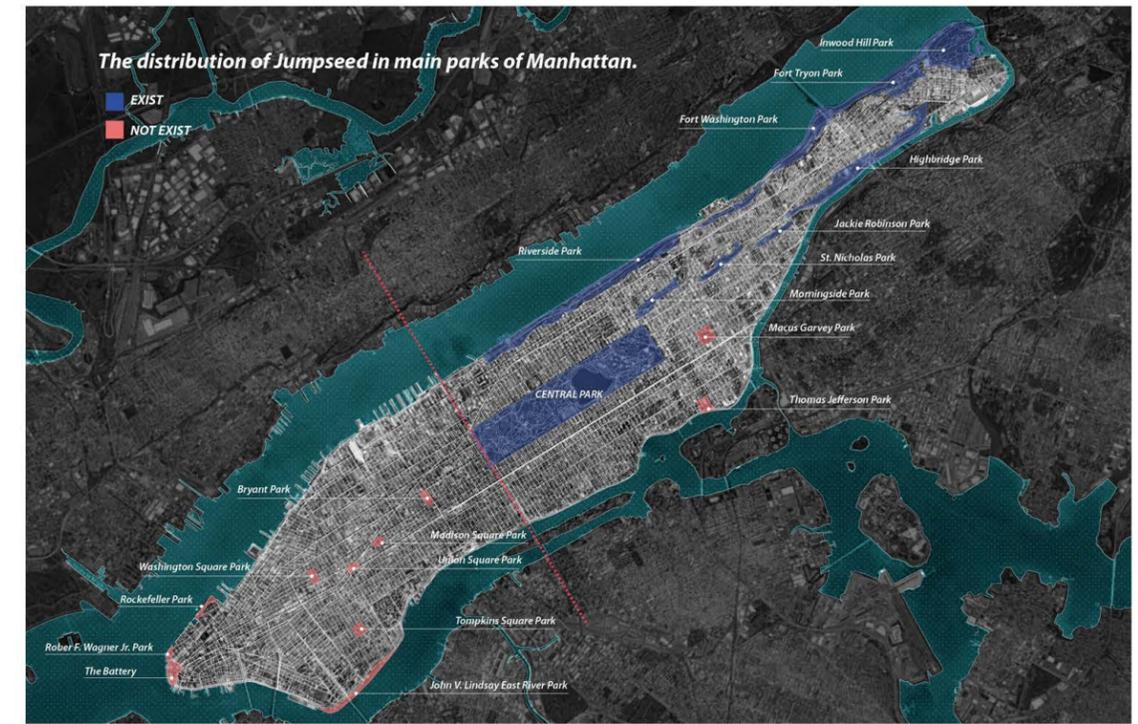
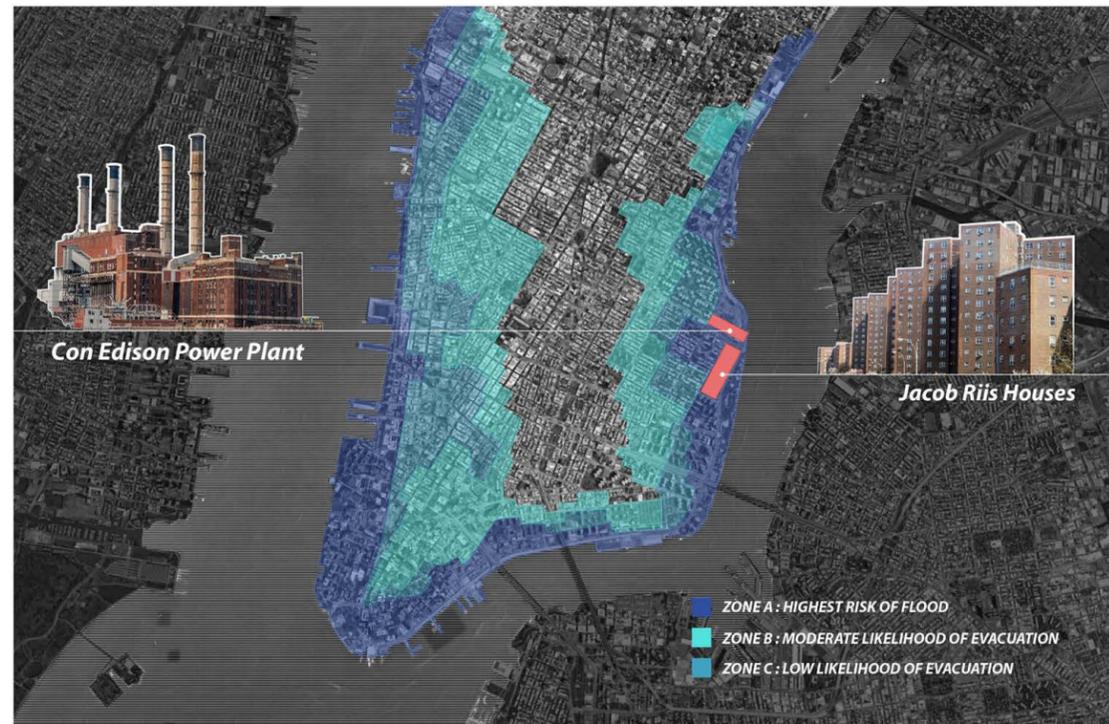
Futuristic renovation Scenario
 Advanced Architectural Studio IV_ Summer, 2021
 prof. Nerea Calvillo
 Sujin Shim, Sunghyun Kim, Ralph Cheng

Project Statement

Although, *Persicaria virginiana*, so called Jumpseed, is a cluster of plants, it will help both human and non-human lives to build up new habitats and keep the hope for the post-flooding future with ConEdison's pipe line and inflatable meshes. Those connections from the park will bring more small animals like pigeons, squirrels, chipmunks, and raccoons to this new home. Furthermore, activities existing in this park will be brought to this new habitat and also build the new habitat for post-flood era. A small number of seeds will start to sprout under the meshes, fall to the ground, and end up being exuberant in the neighborhood. If the seeds fall down from the rooftop, they will sprout and secure the sediments. Therefore, the sediments will be accumulated and transformed into new lands.

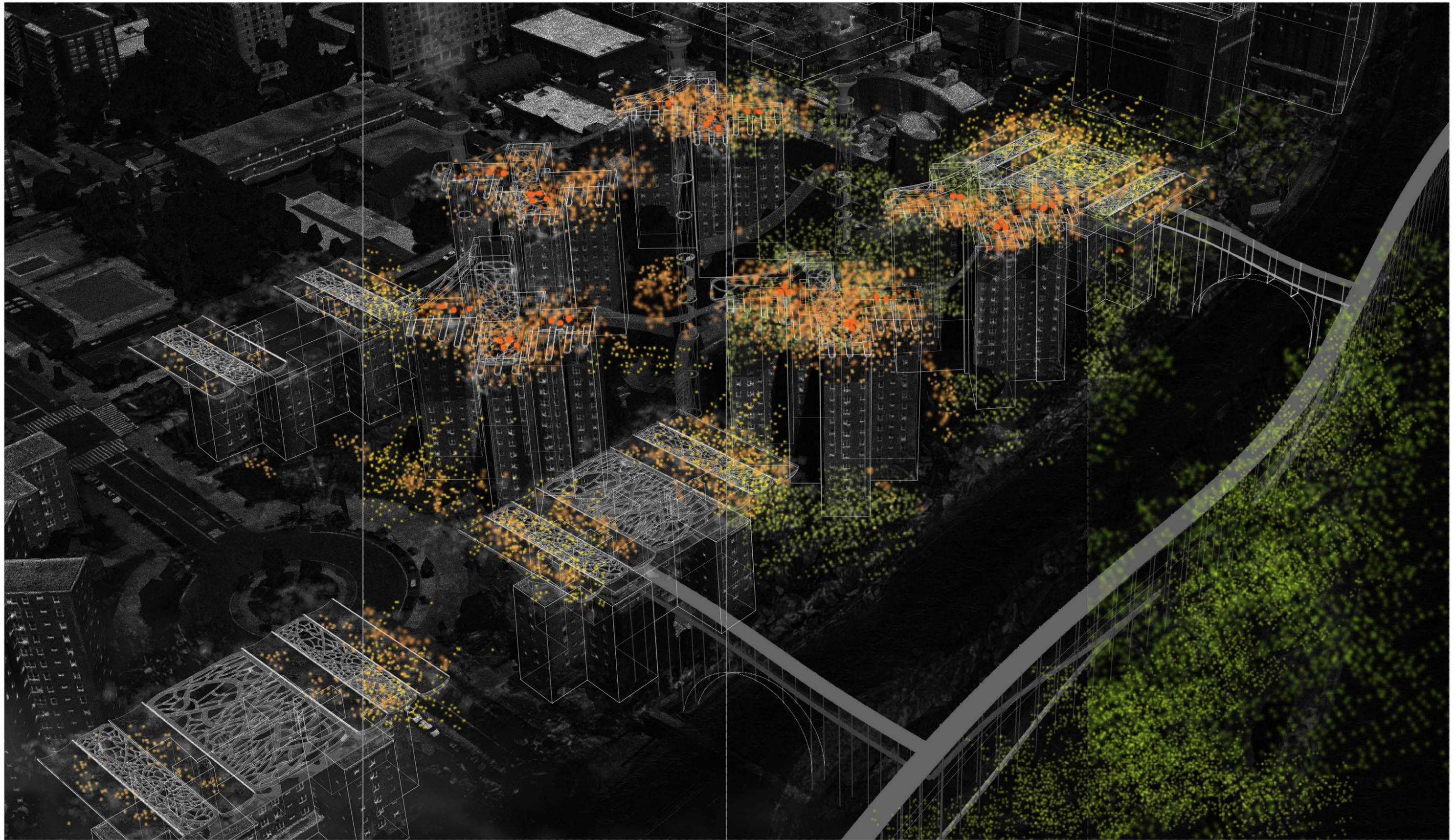


Invasive Diagram of Jumpseed



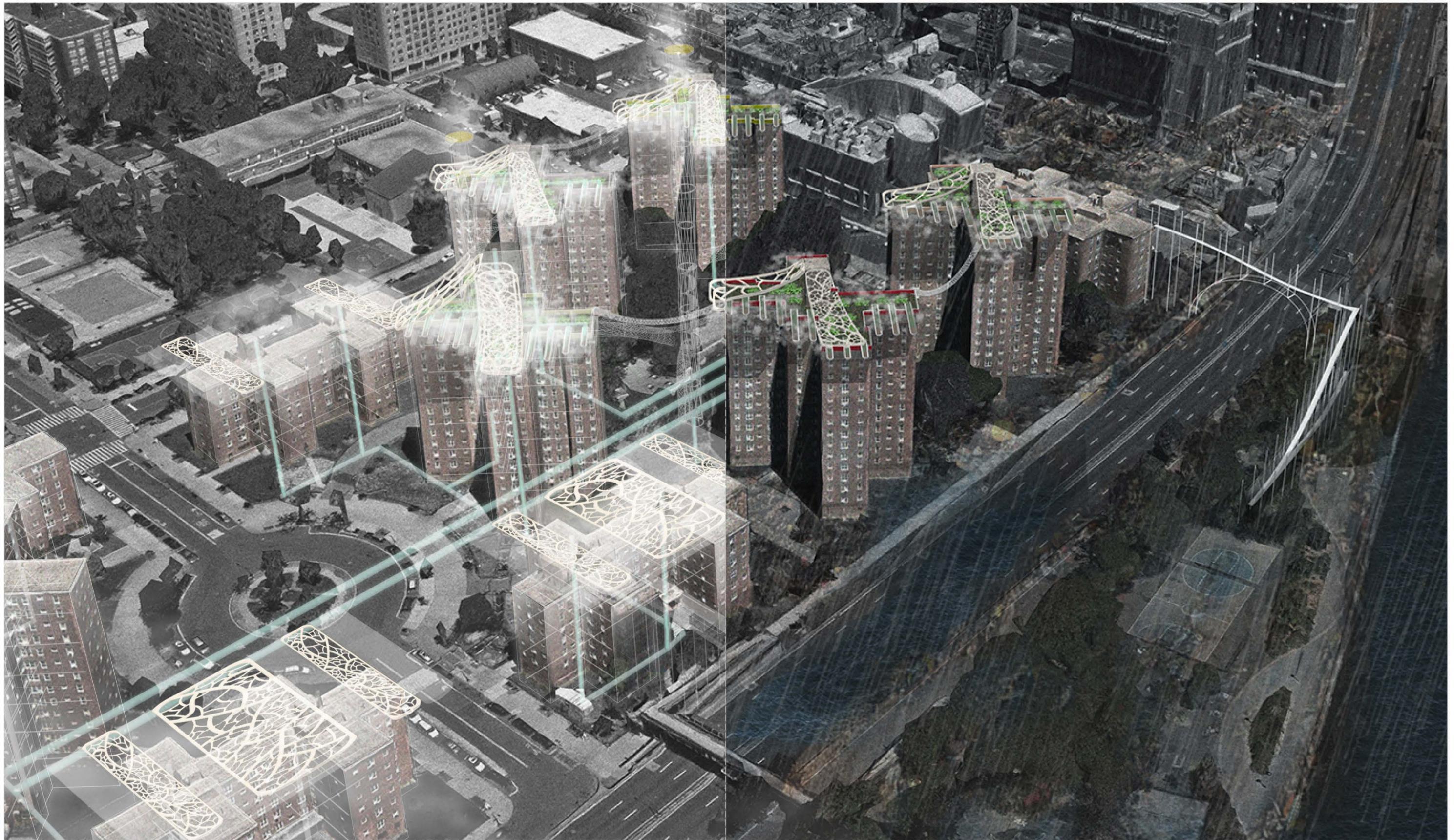
Jacob Riis Houses in the Highest Risk of Flood Zone

The distribution of Jumpseed in Manhattan



Jumping Seed Scenario

A small number of seeds will start to sprout under the meshes, fall to the ground, and end up being exuberant in the neighborhood. If the seeds fall down from the rooftop, they will sprout and secure the sediments. Therefore, the sediments will be accumulated and transformed into new lands.



Few Years Later

The first phase will be in a few years. We will ask Con-Edison, who has been polluting the Riis neighborhood with CO2 and undesirable heat for over 100 years, to take its responsibility and provide them with free steam energy, which is a secondary product of the power plant. The steam will also be taken through the pipe from the underground to the rooftop.

In 2060

In 2060, We hope that residents will embrace this project with the mesh cooling system. Through the meshes installed, the steam will provide humidity and condense into water to support Jumpseed. The meshes will also accommodate the bee hives. When the seeds are ripe, the pressure of the steam will pop the seed further.



in 2080

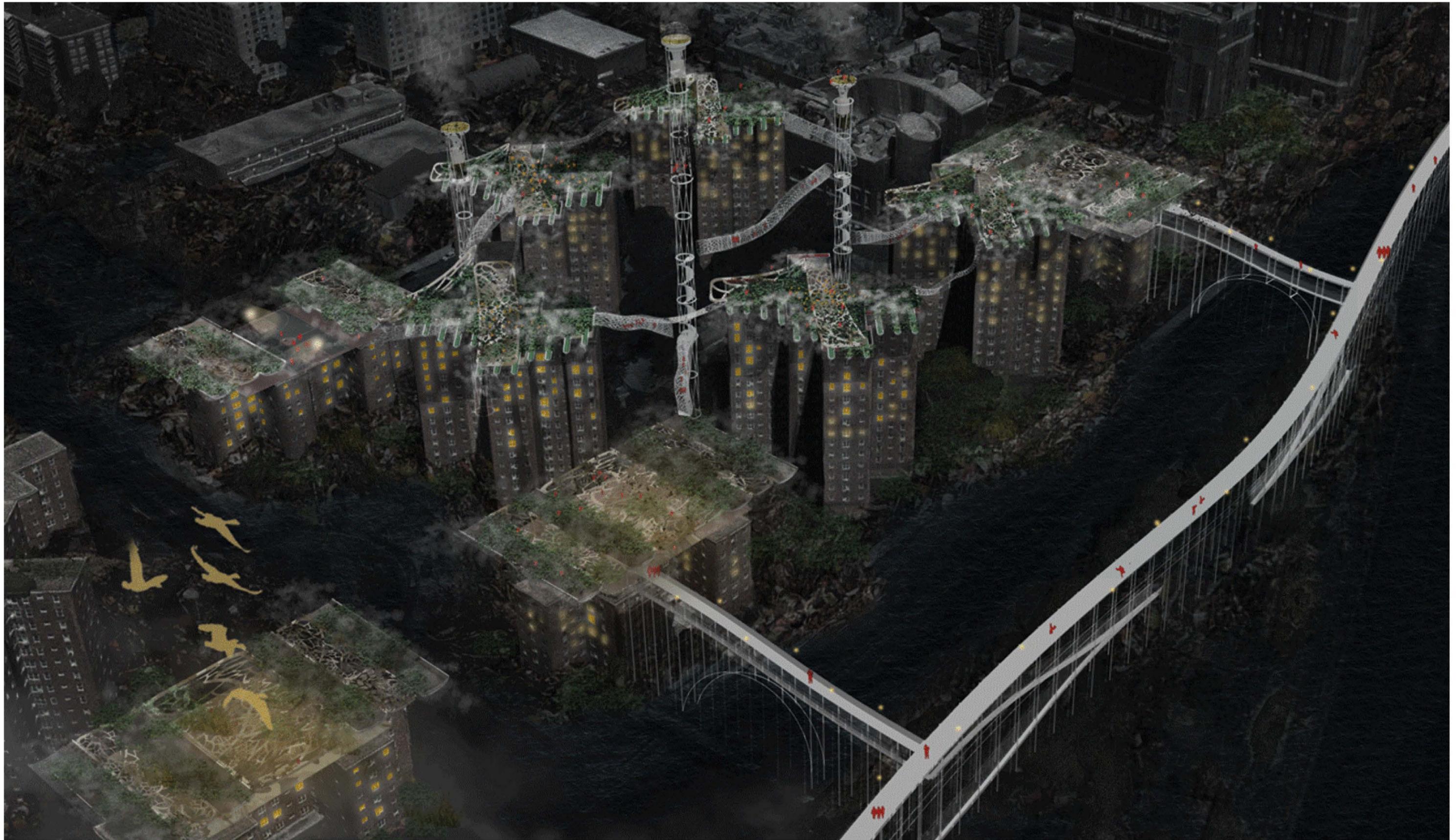
In 2080, considering that the frequency of flooding will have become higher, the infrastructure on the roof top will be expanded. Those connections from the park will bring more small animals like pigeons, squirrels, chipmunks, and raccoons to this new home. We expect this habitat will be built similarly at other communities along the east river. The nearby highway will eventually be eroded by floods and it will be replaced by a running track that connects all these habitats.

In 2100

In 2100, the roof-habitat will be flourished with multiple species. The continual flood will pile up sediments and trash around the buildings. Eventually, Jumpseed will have created many islands around the Riis House by securing the soil. Islands consisting of trash, sediments, rhizomes, and roots, will create a new "ground level", after the backup habitat on the rooftop.



Post-flood in 2100



A Back-up Plan for Human and Non-human Beings



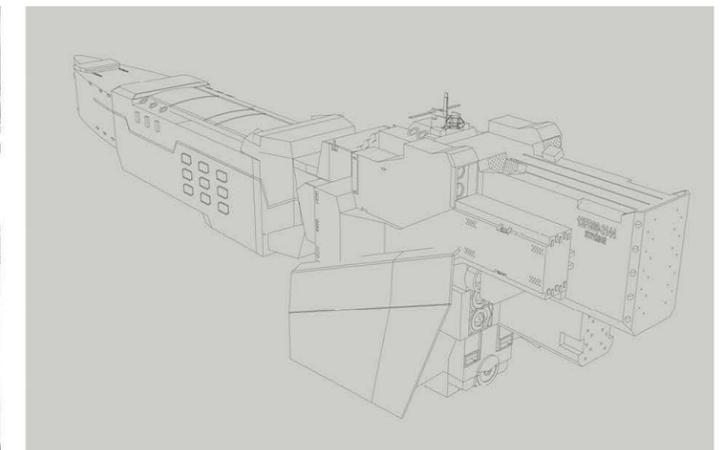
05

The Calm Before the Storm

Storytelling and Rendering
Ultrareal_fall, 2021
prof. Joseph Brennan, Phillip Crupi
Sujin Shim, Mudong Jung Danlei Yang, Haozen Yang

Project Statement

The use of perspective and rendering is often an afterthought. With the abundance of 3D modeling software and the ability to see every angle of a project instantaneously, renderings are often thought of as a last-minute tool for representation. This class challenges the participants to not only think of rendering as a method of presentation but also as a tool for design. Focusing on color, light, material, context, reflection, and opacity throughout the project, we look for inspiration in many places, including art, photography, and cinematography. Furthermore, by sketching a scene, we explored design compositions.



Sketch & Storytelling

The above sketches are the scenes that four of us as a group are thinking of. We made a story through the sketch above and made it into a result.



The Calm Before The Storm -01



The Calm Before The Storm -02

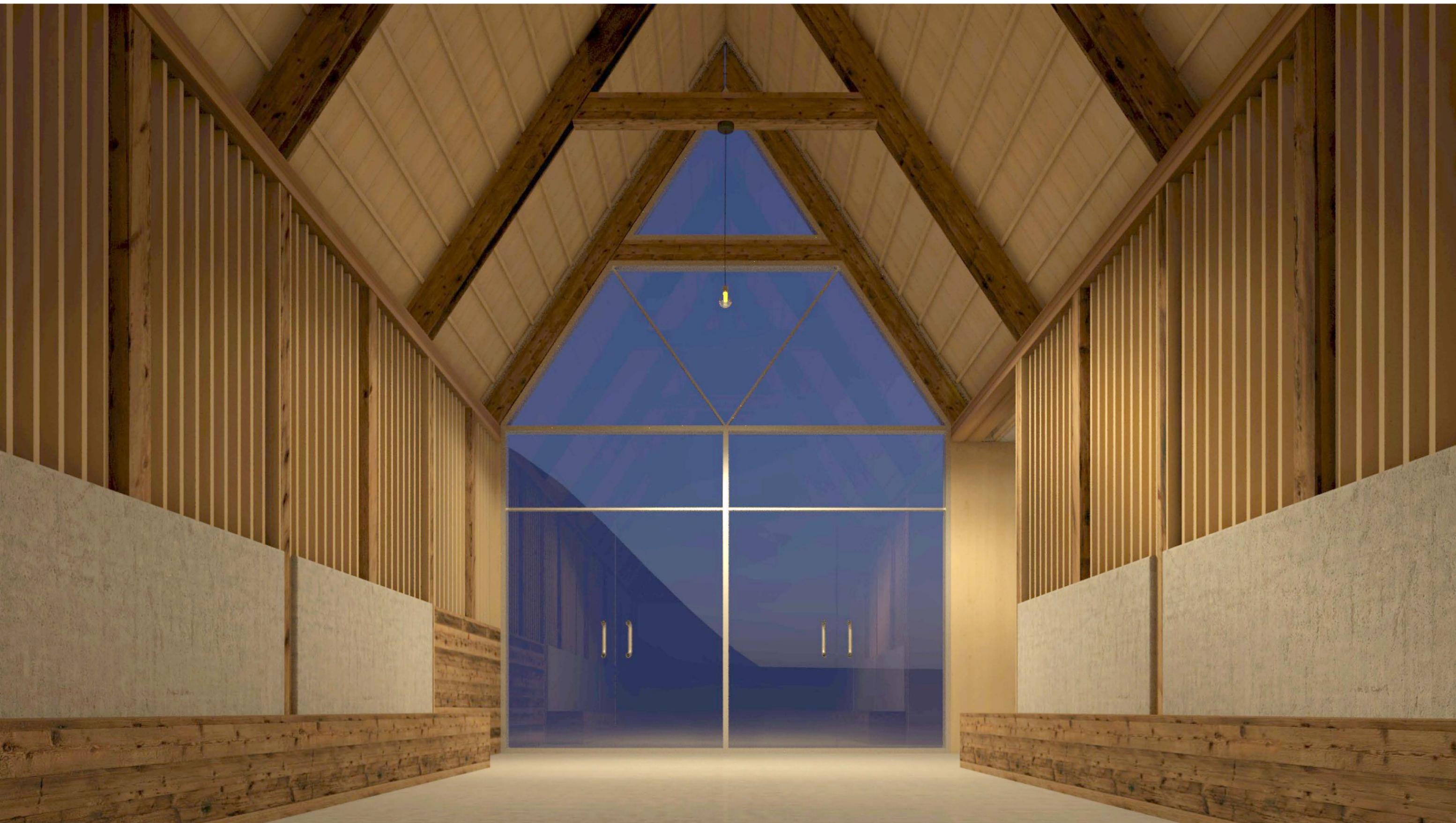




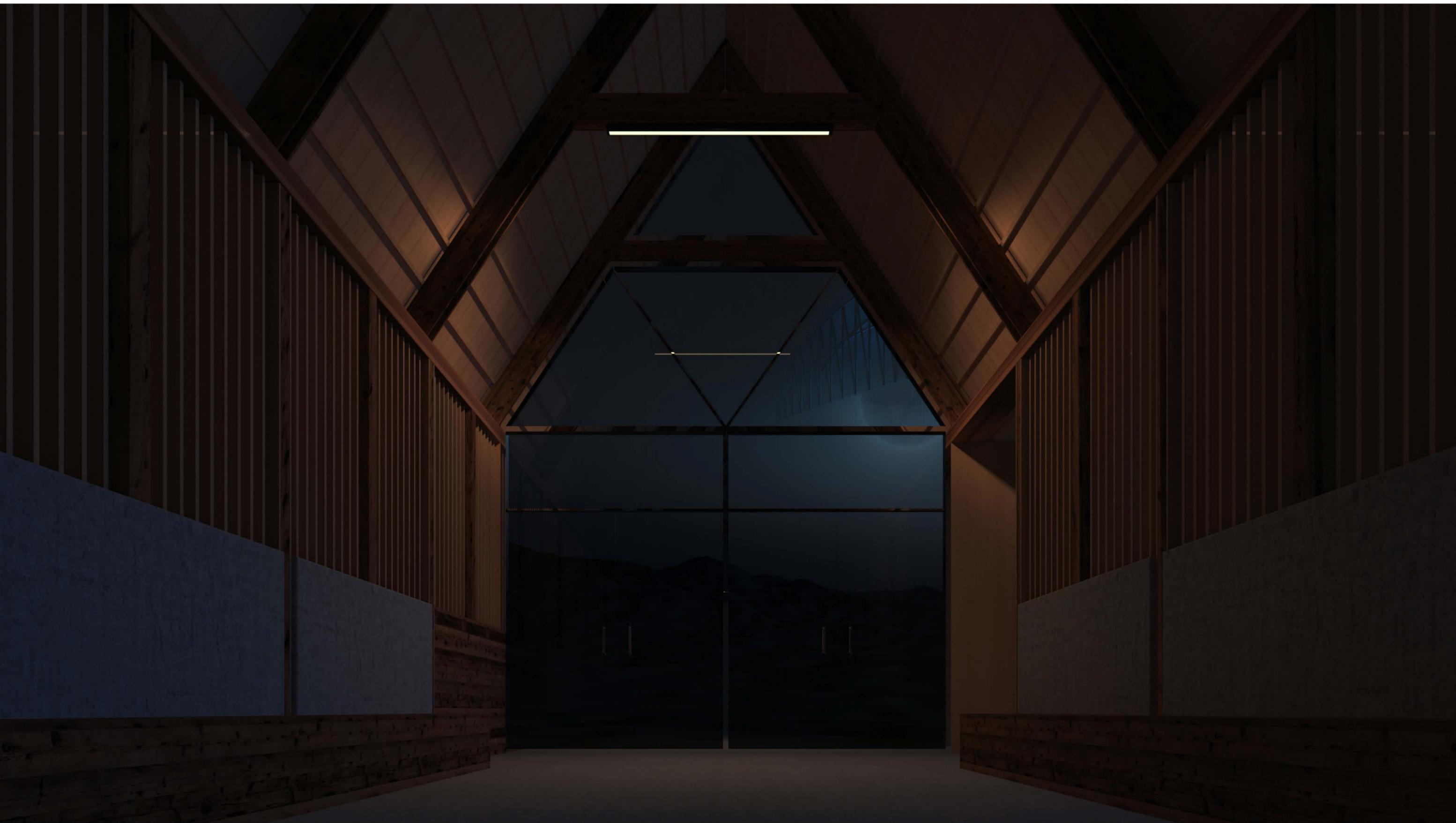








The Calm Before The Storm -08











SUJIN SHIM

M.S. Advanced Architectural Design
Columbia University GSAPP 2022