

Y ICHUN LIU

Columbia University
Master of Architecture

Graduate School Works 2021 - 2024

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DIVERSE CO-LIVING

Life-Long Community

Sept, 2022

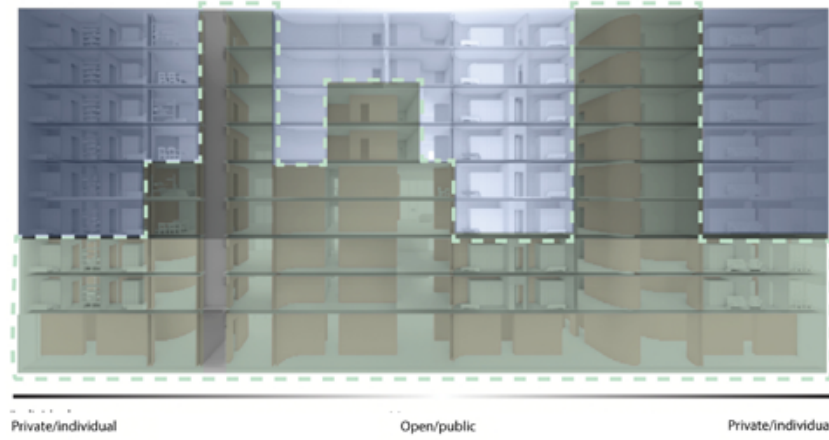
Location: New York, the USA

Partner: Caining Gu

Instructor: Benjamin Cadena

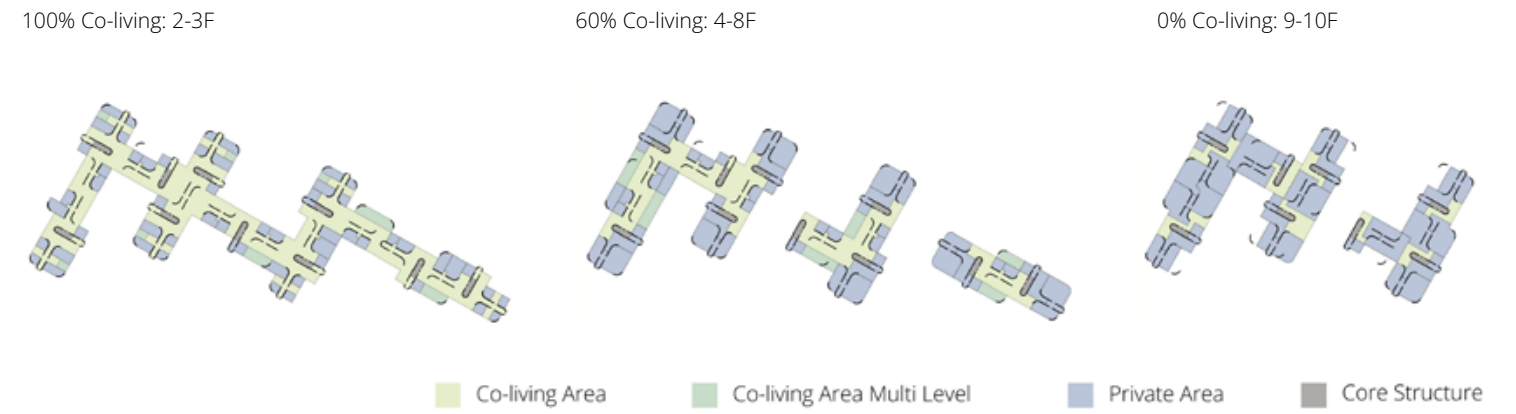


Concept Section Diagram



Our residential project explores various co-living modes. First, We divide the unit clusters based on the degree of privacy. The privacy gradient varies from 0%, 60%, and 100% from the bottom to the top. Whereas the top level is for individuals that prefer the most private space, each unit is a quiet realm for one family with minimal chance of encountering. The bottom level is an entire co-living community, and users share major infrastructures, including bathrooms and kitchens. We intend to explore this co-living system as an alternative lifestyle for people living in high-density urban areas like New York.

Three floor plan types with different privacy



Site Axonometric



100% Co-living Floor Plan



East-West Section

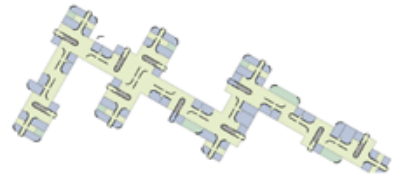
After determining the concept and completed the site survey, we decided to use curved structures to vertically run through the entire building, and our core programs are also hidden in these curved structures. The first reason is that the curve can better guide people's flow of action in such a shared space and reduce the sense of boundary. The second reason is that most of the buildings around the site are straight-line spaces like storage warehouses. We want to use curves to activate the entire area, making the site more lively, and attract more people to come here to live.



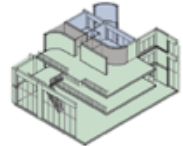
Facade View in Model

Diverse Co-living Typologies

100% Co-living: 2-3F



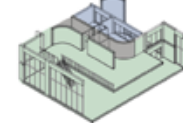
Triple Levels Co-living



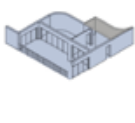
Studio I



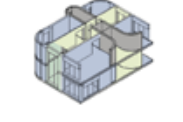
Double Levels Co-living I



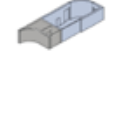
1B1B



Double Levels Co-living II



Studio II



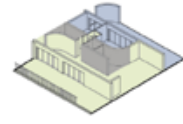
Single Level Co-living I



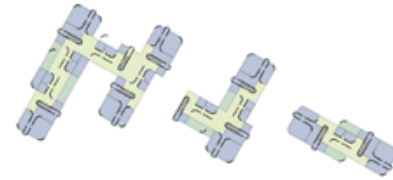
Single Level Co-living II



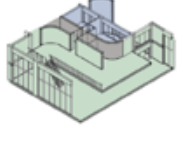
Single Level Co-living III



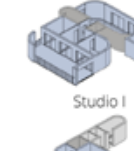
60% Co-living: 4-8F



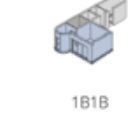
Triple Levels Co-living



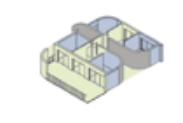
2B1B



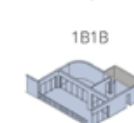
Studio I



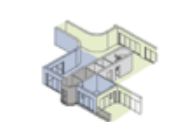
Single Level Co-living I



1B1B



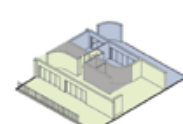
Single Level Co-living II



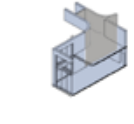
Studio II



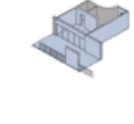
Single Level Co-living III



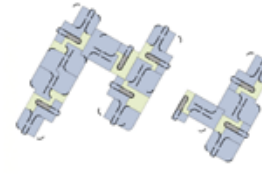
Town House



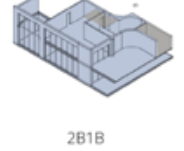
Studio III



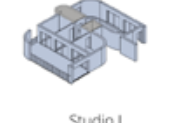
0% Co-living: 9-10F



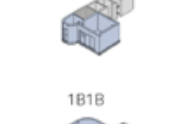
Double Levels 2B2B



2B1B



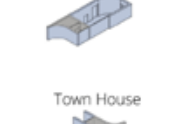
Studio I



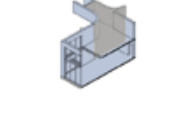
1B1B



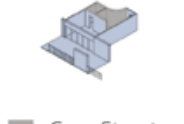
Studio II



Town House



Studio III



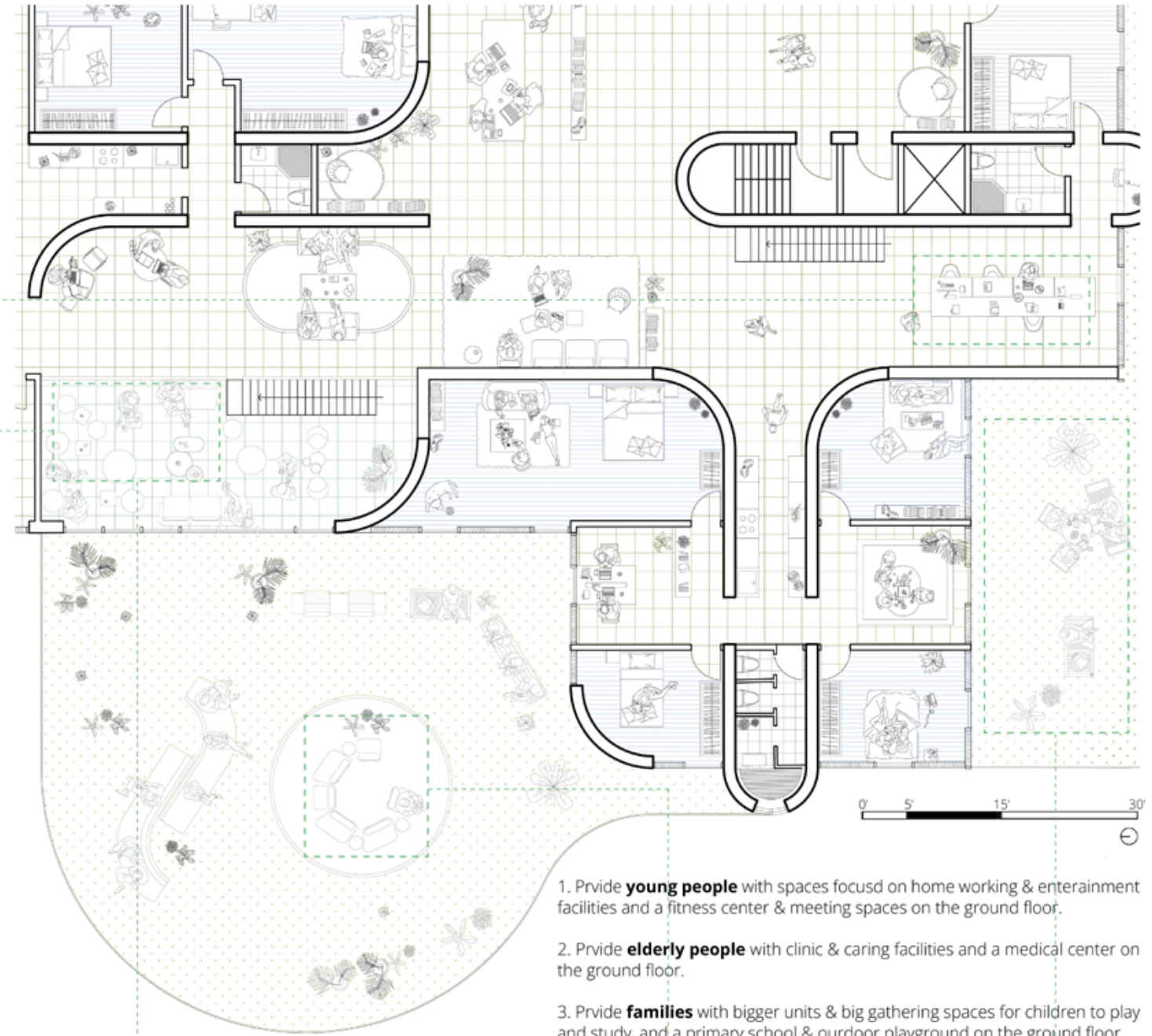
Co-living Area

Co-living Area Multi Level

Private Area

Core Structure

100% Co-living Floor Zoom in Plan



1. Provide **young people** with spaces focus on home working & entertainment facilities and a fitness center & meeting spaces on the ground floor.
2. Provide **elderly people** with clinic & caring facilities and a medical center on the ground floor.
3. Provide **families** with bigger units & big gathering spaces for children to play and study, and a primary school & outdoor playground on the ground floor.



double-height co-living space



triple-height co-living space



double-height studio/co-living space



double-height co-living space



large scale co-living balcony

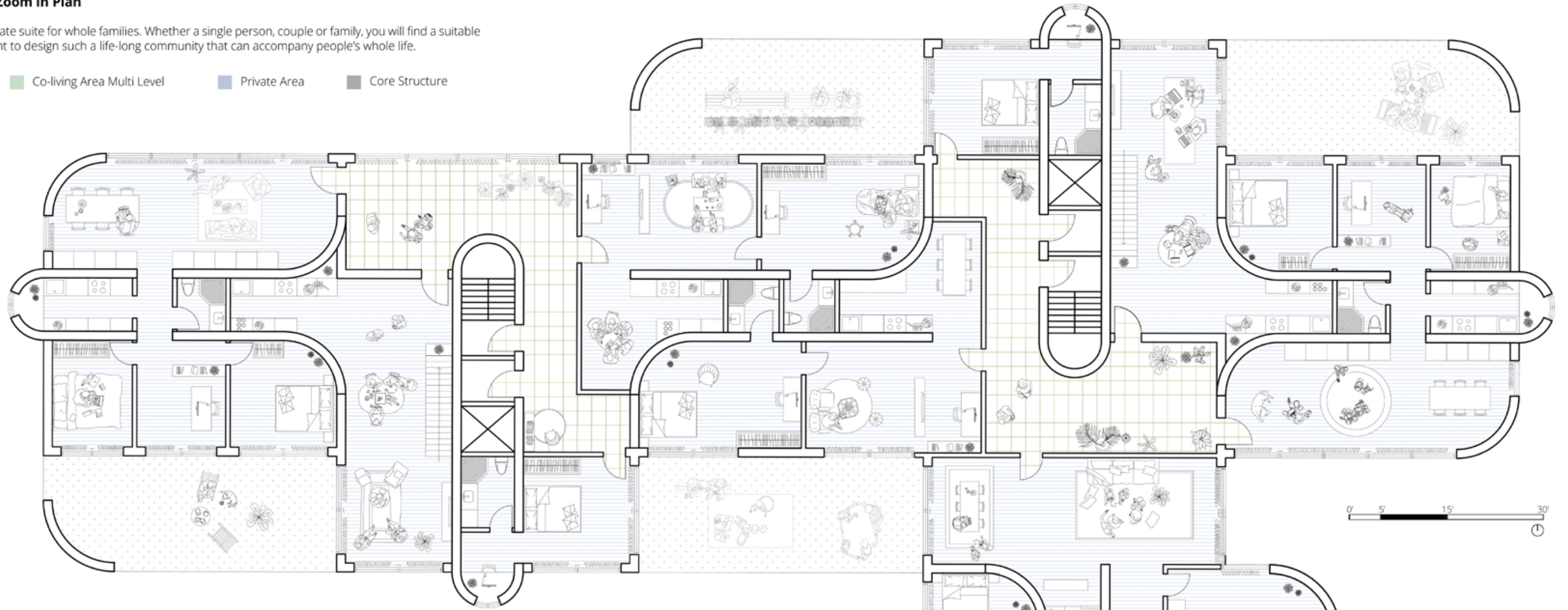


small scale co-living balcony

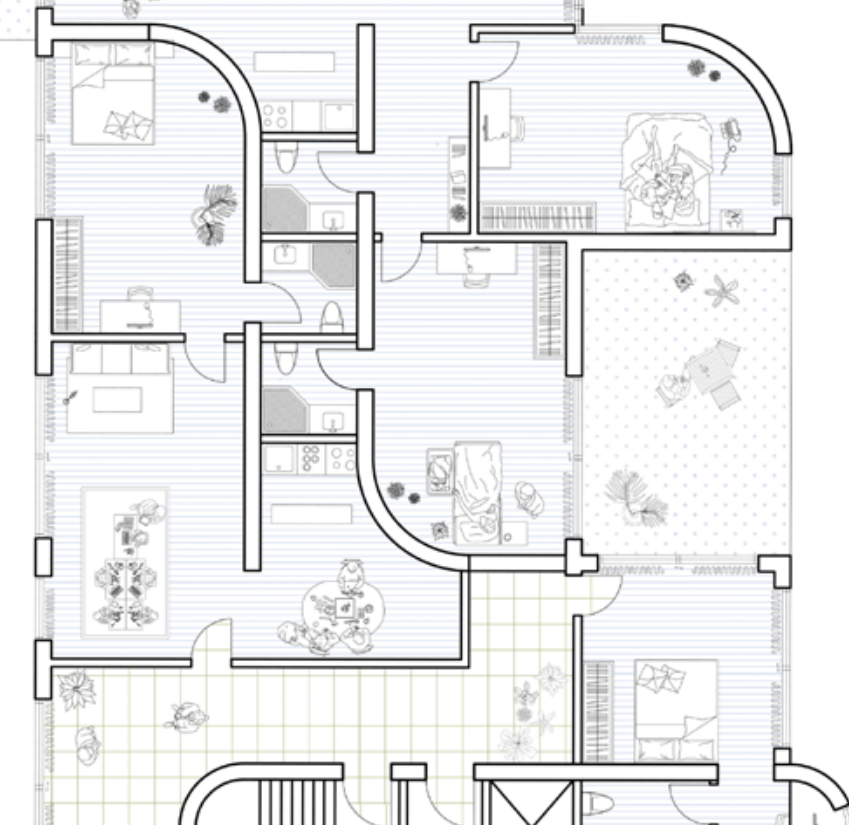
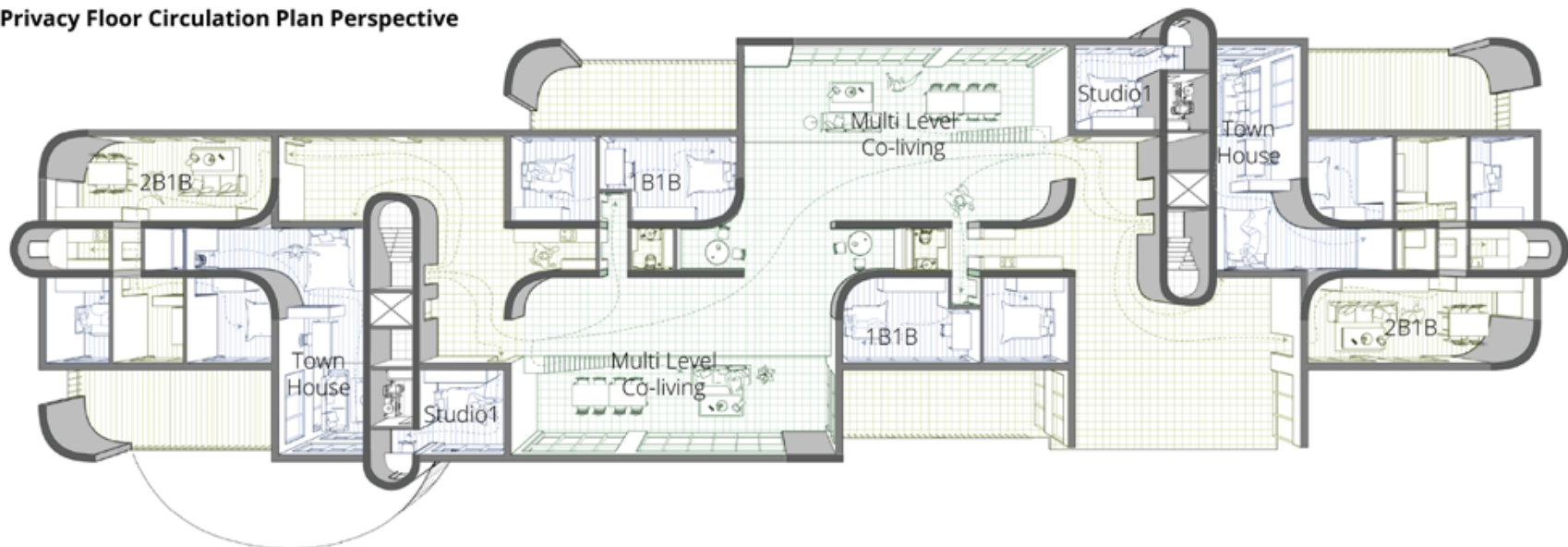
100 % Privacy Floor Zoom in Plan

The top floor is totally private suite for whole families. Whether a single person, couple or family, you will find a suitable living model here. We want to design such a life-long community that can accompany people's whole life.

■ Co-living Area ■ Co-living Area Multi Level ■ Private Area ■ Core Structure



0 % Privacy Floor Circulation Plan Perspective



WANDER CITY

Reconstruction of Kingsbridge Armory

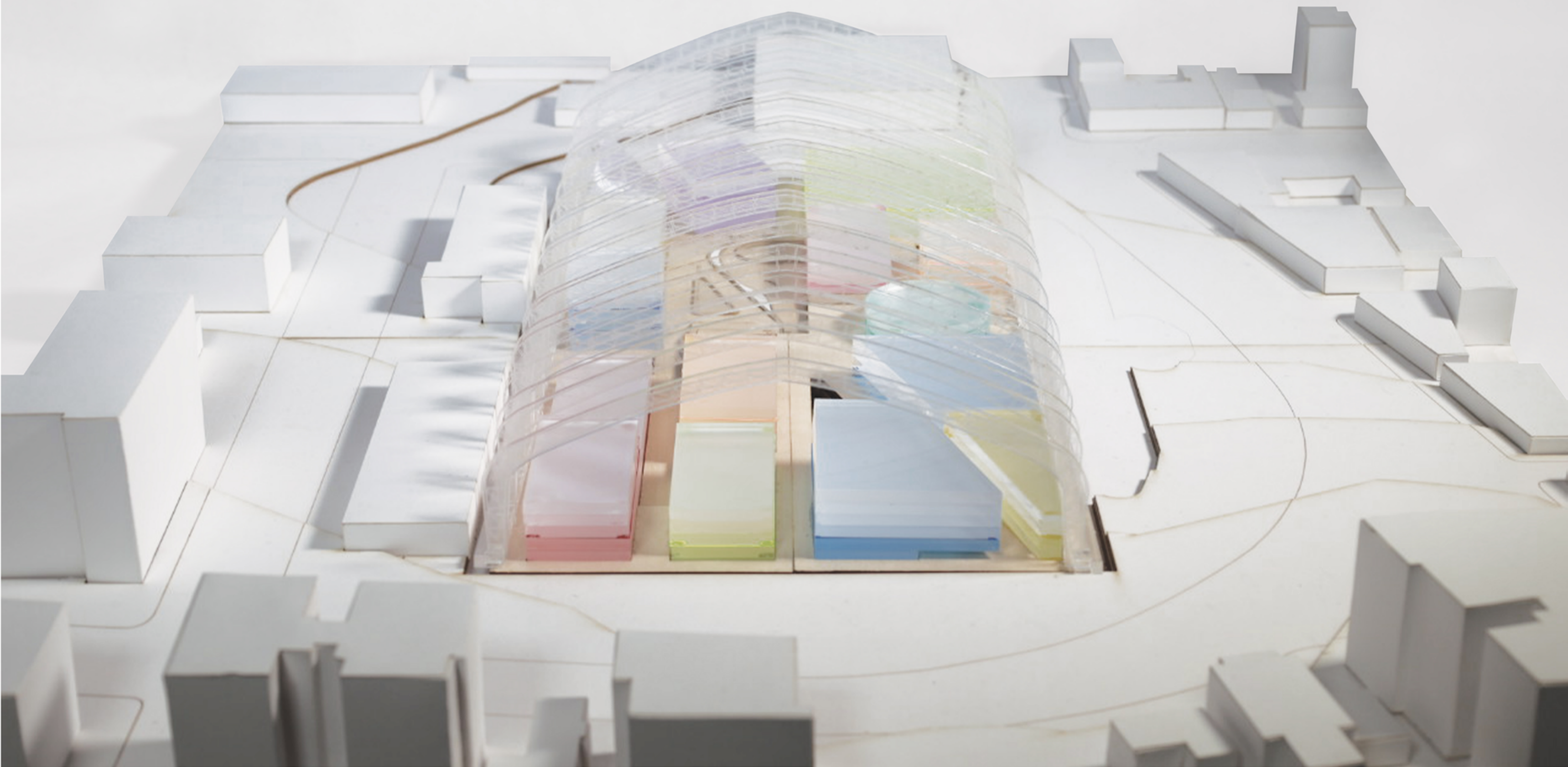
Group Work

Sept, 2023

Location: New York, the USA

Partner: Han Qin

Instructor: Wonne ICKX



City Scheme Study



Kingsbridge Armory, New York, USA



City Wall, Xi'an, China



Diocletian's Palace, Split, Croatia



Carcassonne, France



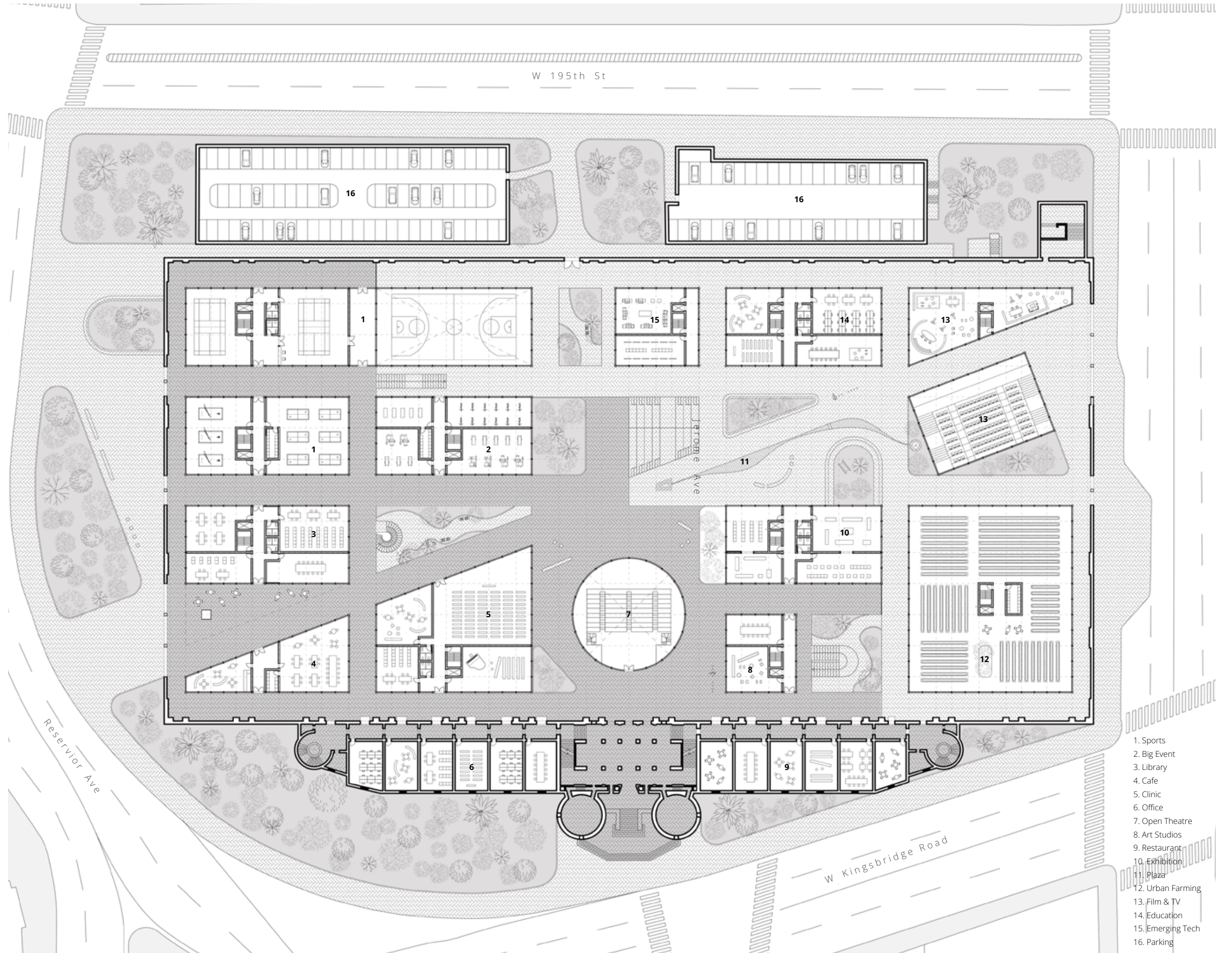
Rothenburg, Germany

Concept

The Kingsbridge Armory is a decommissioned army in the Bronx. It was built in the 1910s, and its military use ended in 1996 and remained vacant until now. What if the Kingsbridge Armory itself became a city? Our proposal creates a city within the Armory that can provide inspiration, enlightenment and education for community residents and subtly affect their lifestyle.

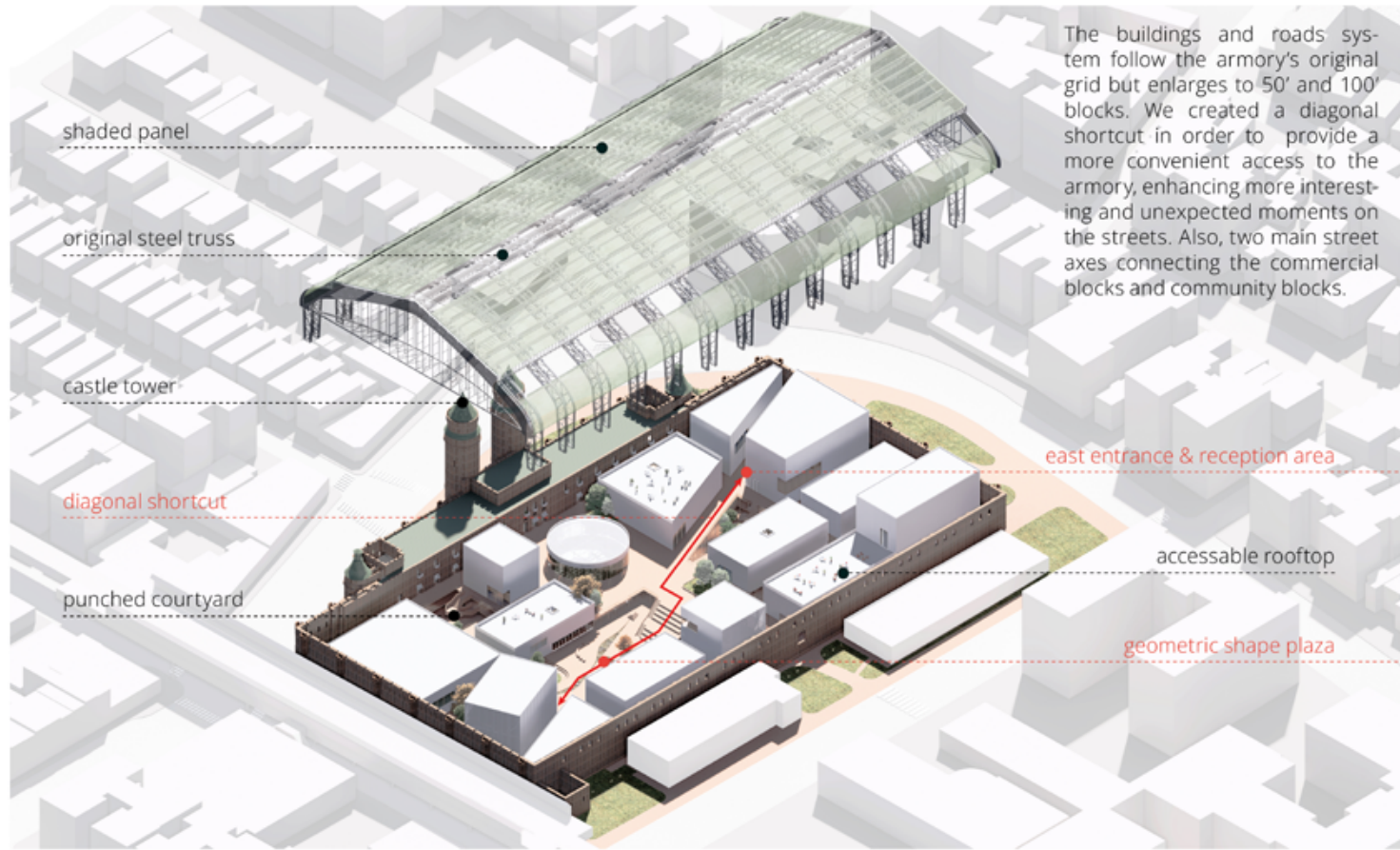
The road system follows the Armory's original grid. Internal city blocks are designed to create space. Over time the city can be redivided into new plots of large or small size to meet the needs of different investors. At the same time, we pursue the use of lighter, sustainable and easily buildable materials to create our city.

Program Analysis



1. Sports
2. Big Event
3. Library
4. Cafe
5. Clinic
6. Office
7. Open Theatre
8. Art Studios
9. Restaurant
10. Exhibition
11. Plaza
12. Urban Farming
13. Film & TV
14. Education
15. Emerging Tech
16. Parking

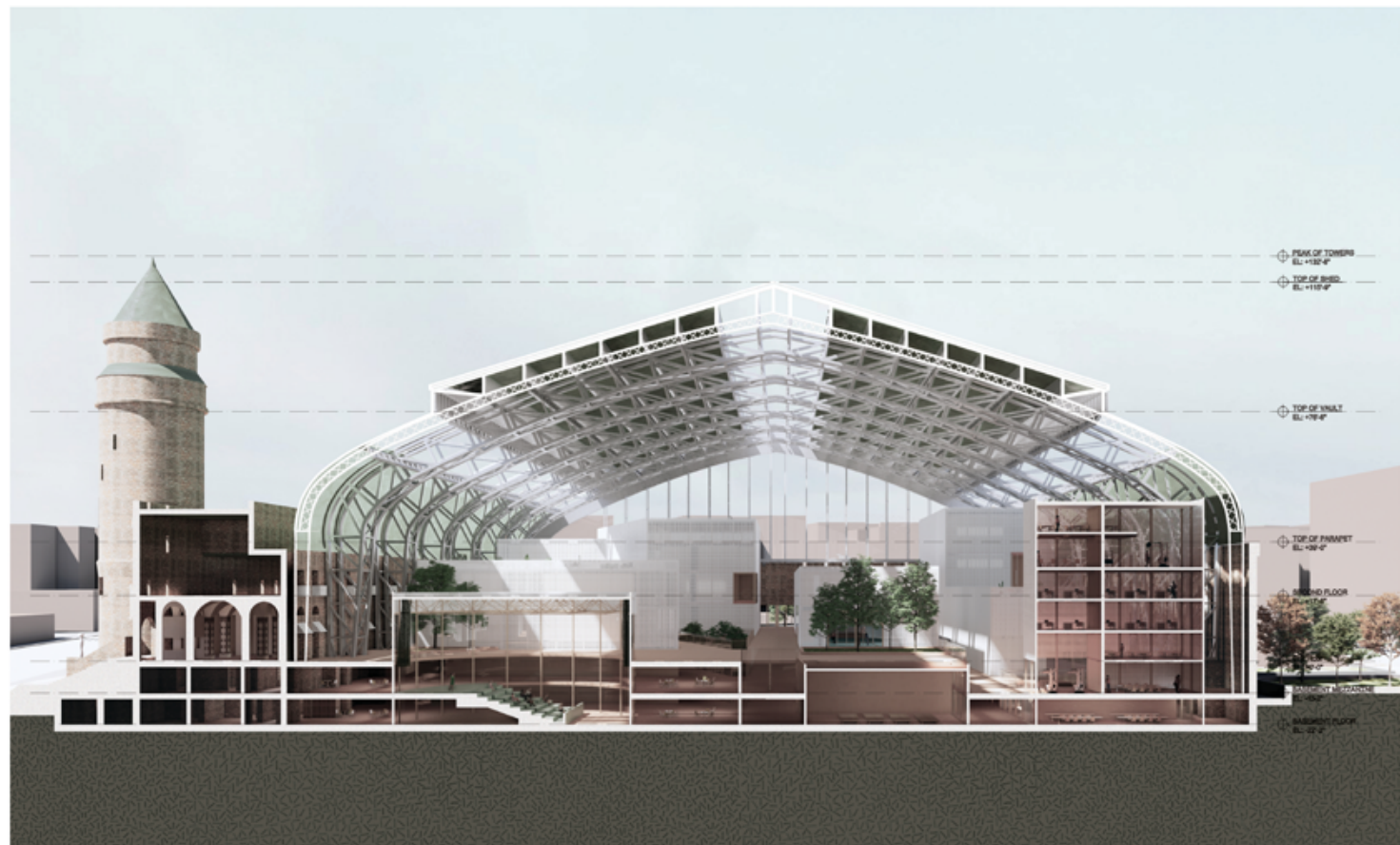
Ground Floor Plan



Exploded Axonometric



East Entrance View



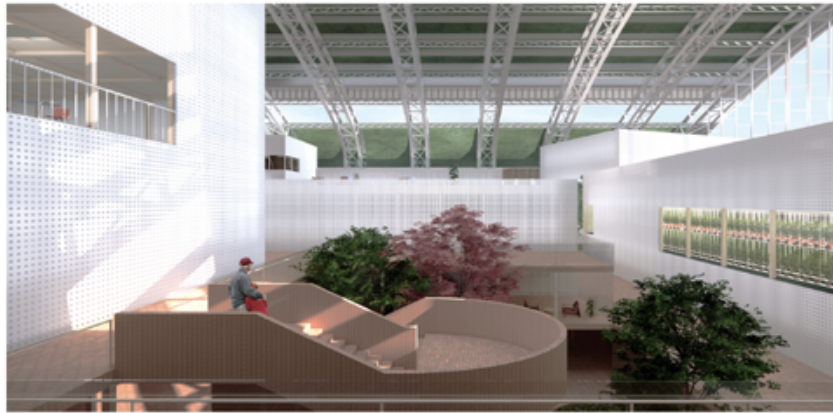
North-South Section



Plaza View

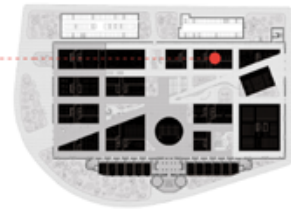


Building's Interior View



Courtyard View

Three City Elements:



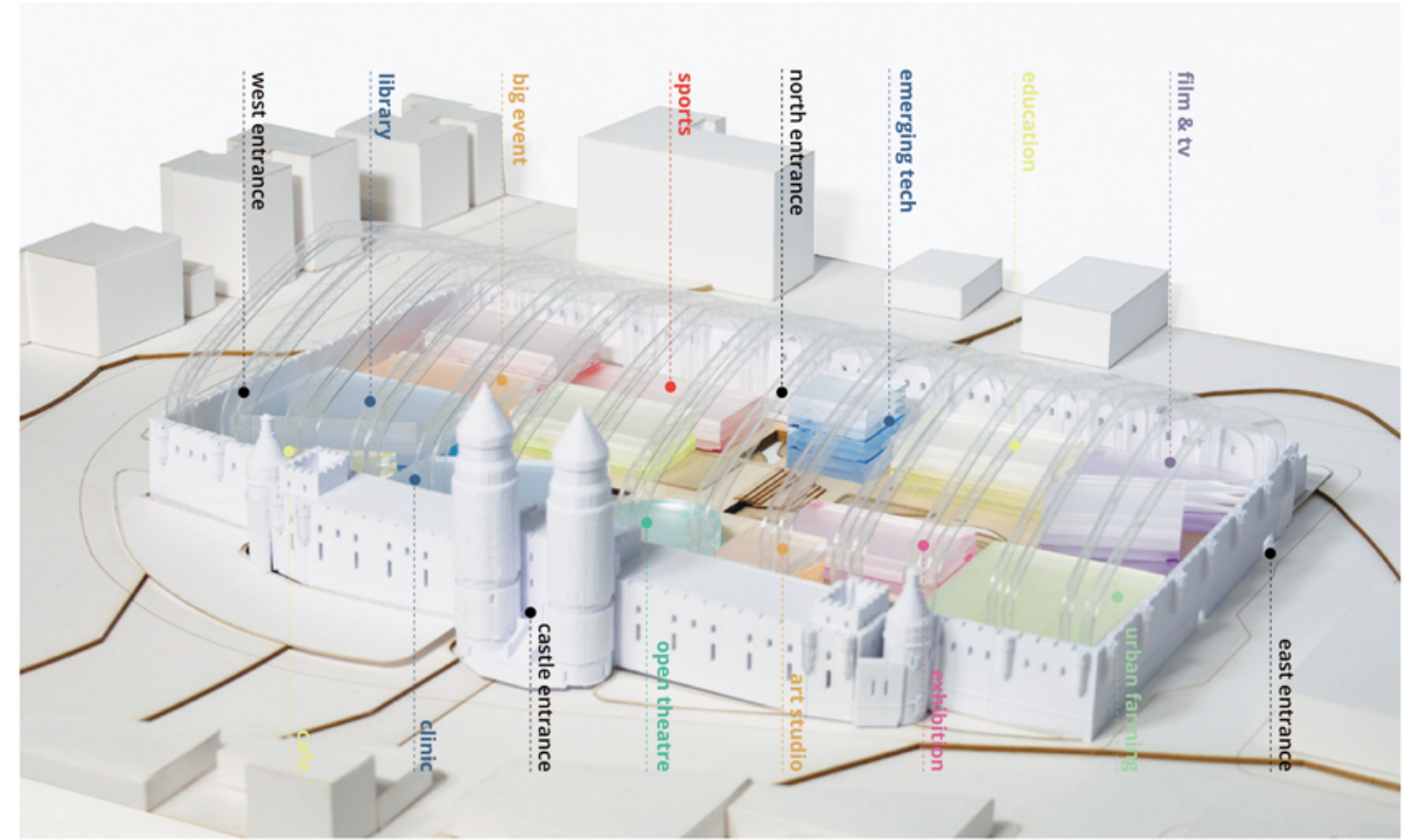
1. Solid Blocks/Buildings:
All the buildings all belong to a simple geometric shape family. The entrances of the buildings are really accessible and connected with each other on the same line. Different programs provide various activities and job opportunities for the residents.

2. Empty Blocks/Plazas:

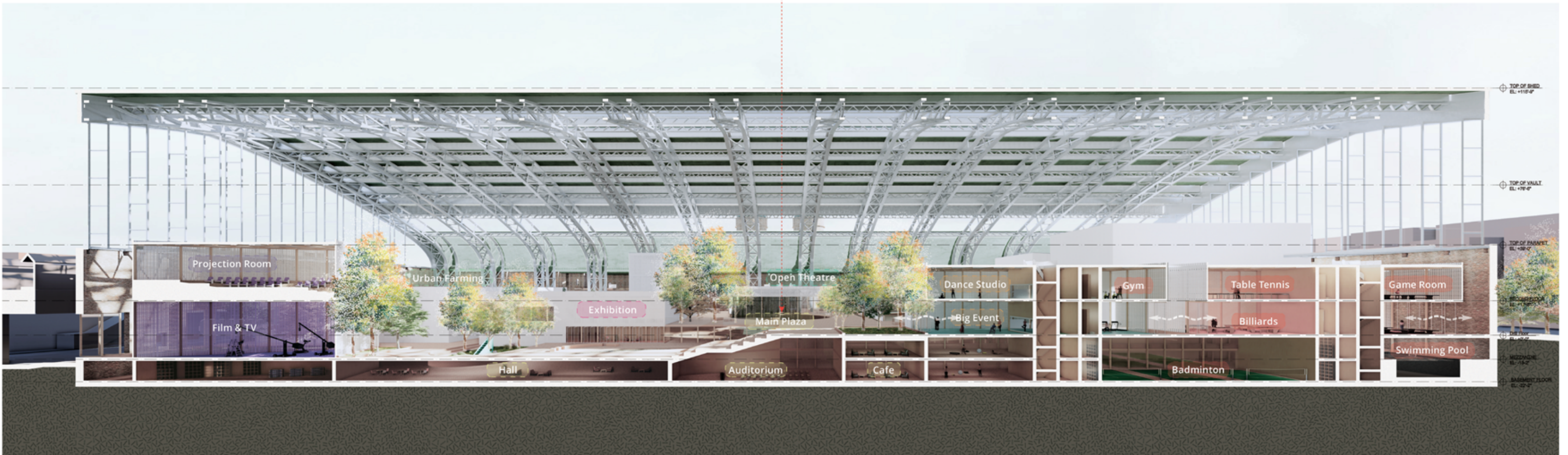
The most important plaza space is surrounded by these white buildings. On this empty plaza, we also set abstract geometric shape activity spaces to provide unexpected inspiring, enlightening and educational moments during people's walking.



3. Void Blocks/Courtyards:
We punched void blocks for the courtyard which are deep into the -2 basement. People can easily go up and down through the geometric shaped stairs in these courtyards and see what is happening below to create another layer of experience.



Axonometric Physical Model



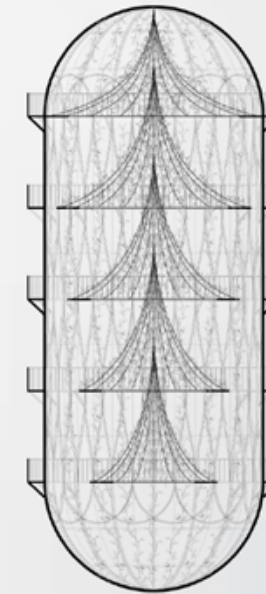
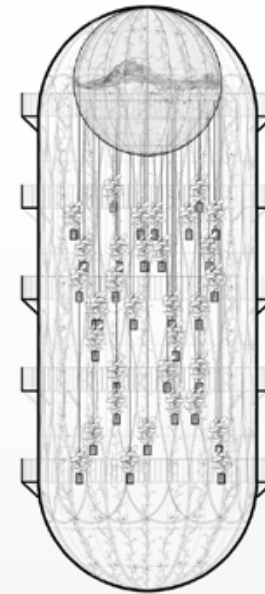
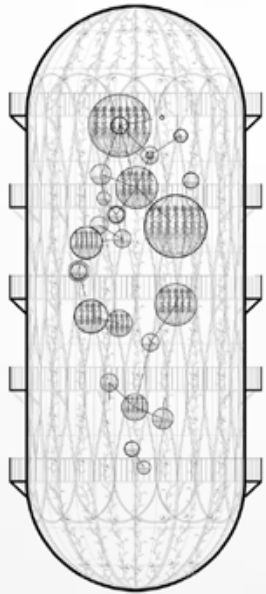
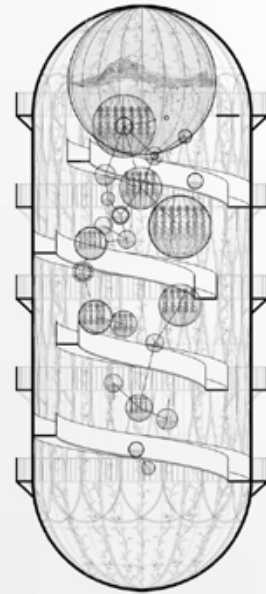
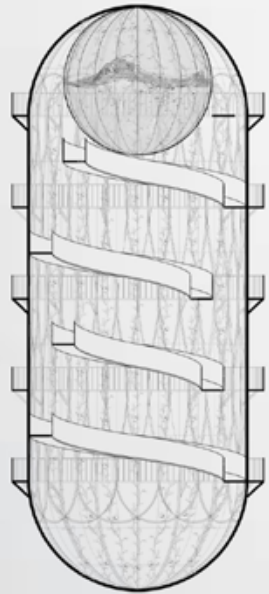
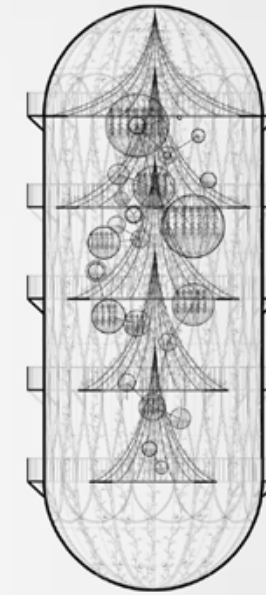
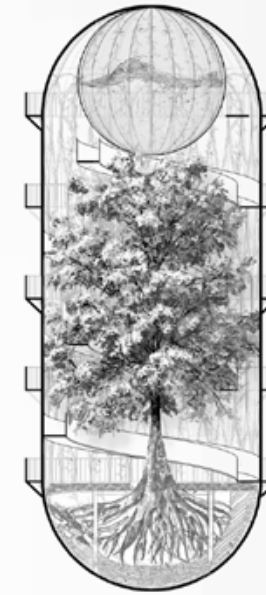
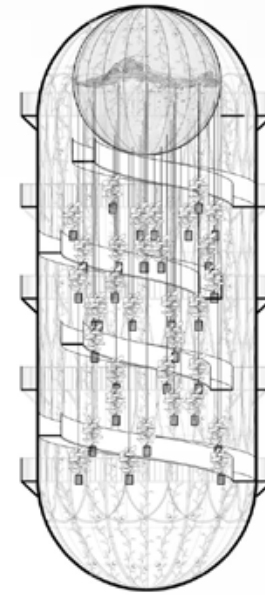
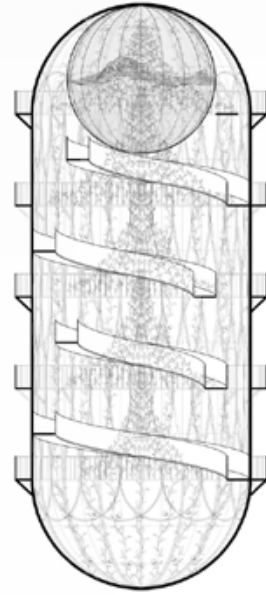
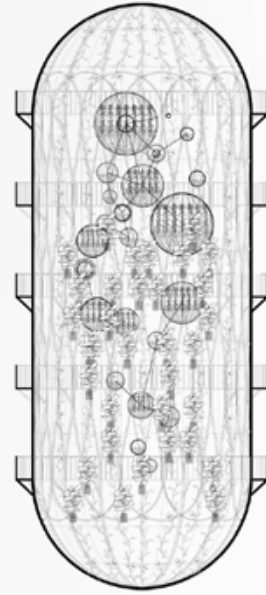
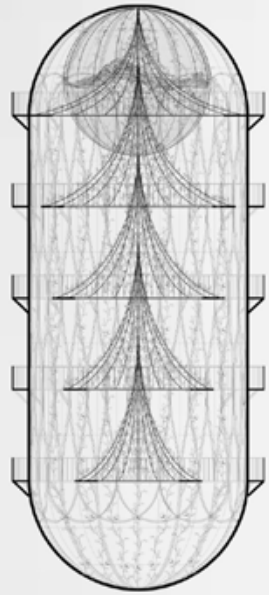
East-West Section

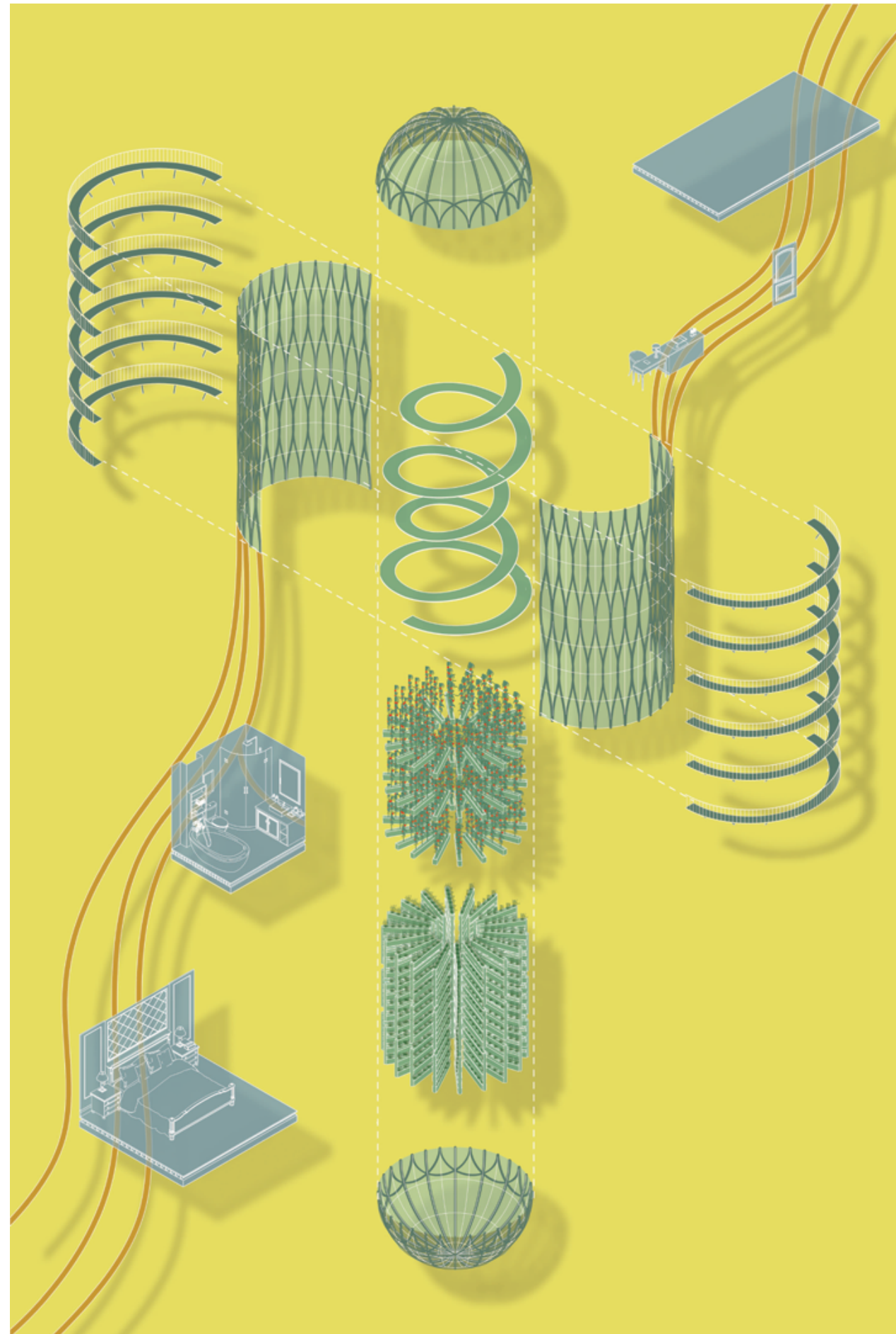
VERTICAL FARMING

Life Garden in Luxury Hotel

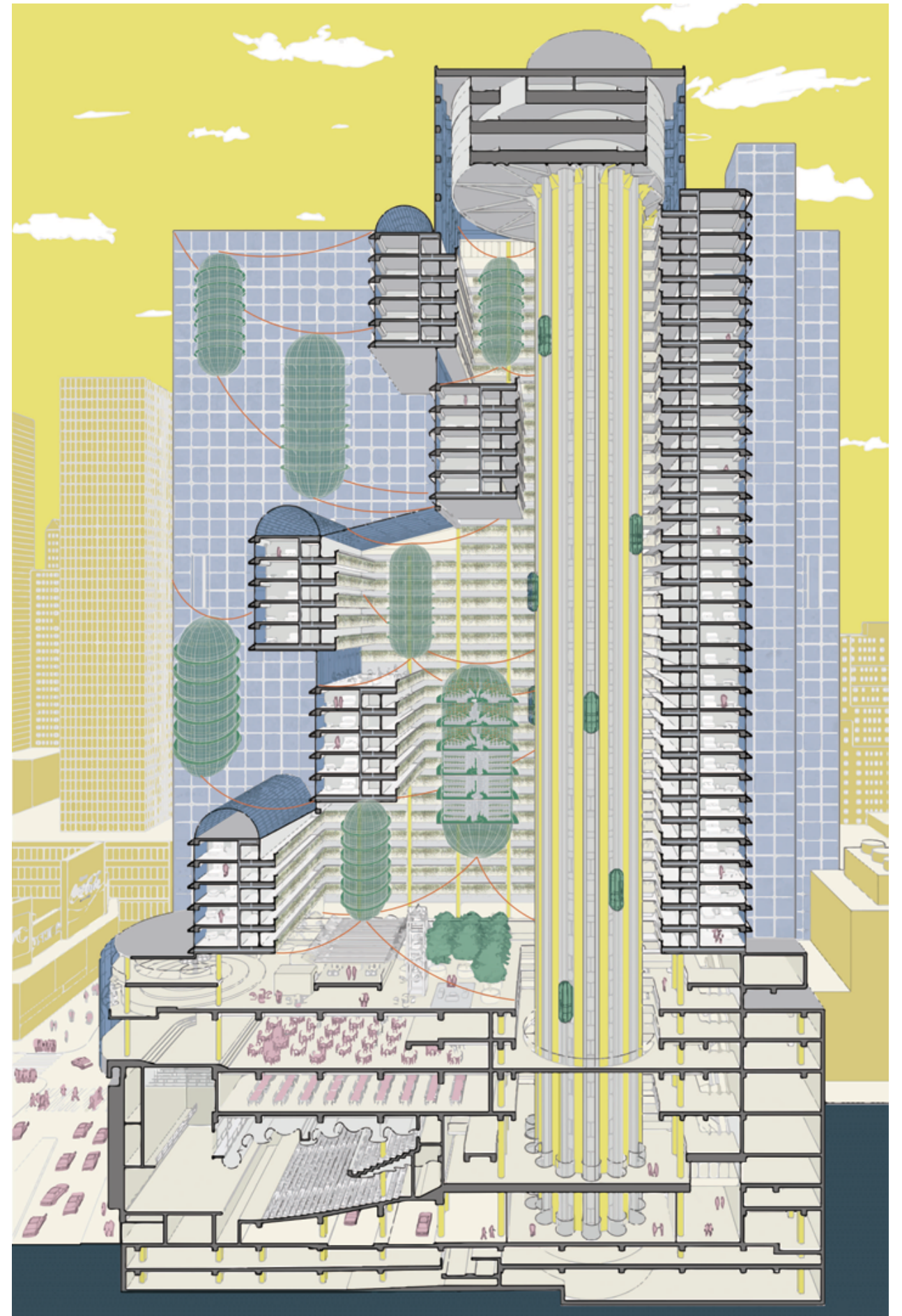
*Individual Work
Sept, 2021*

*Location: New York, the USA
Instructor: Thomas De Monchaux*





Chandelier Garden Exploded Axon



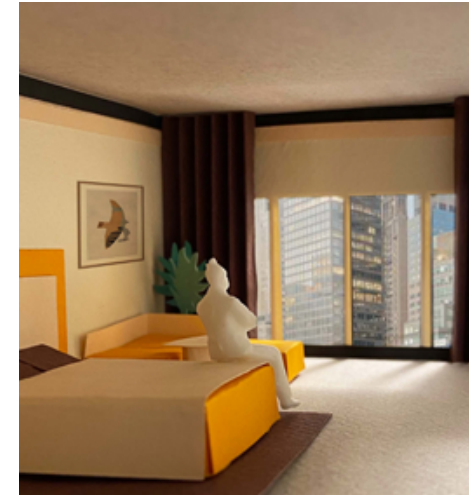
Hotel Atrium Section Perspective



*Luxury hotel is a place getting away from the normal life,
so it will provide extra enough things and have a huge amount waste of resources per day.*



*The food gained will be used for the hotel kitchen,
which makes the whole process as a closed loop supply chain.*



*The food wasted by the residents can be locally collected
at the basement and reused as nutrients to grow the vegetables.*



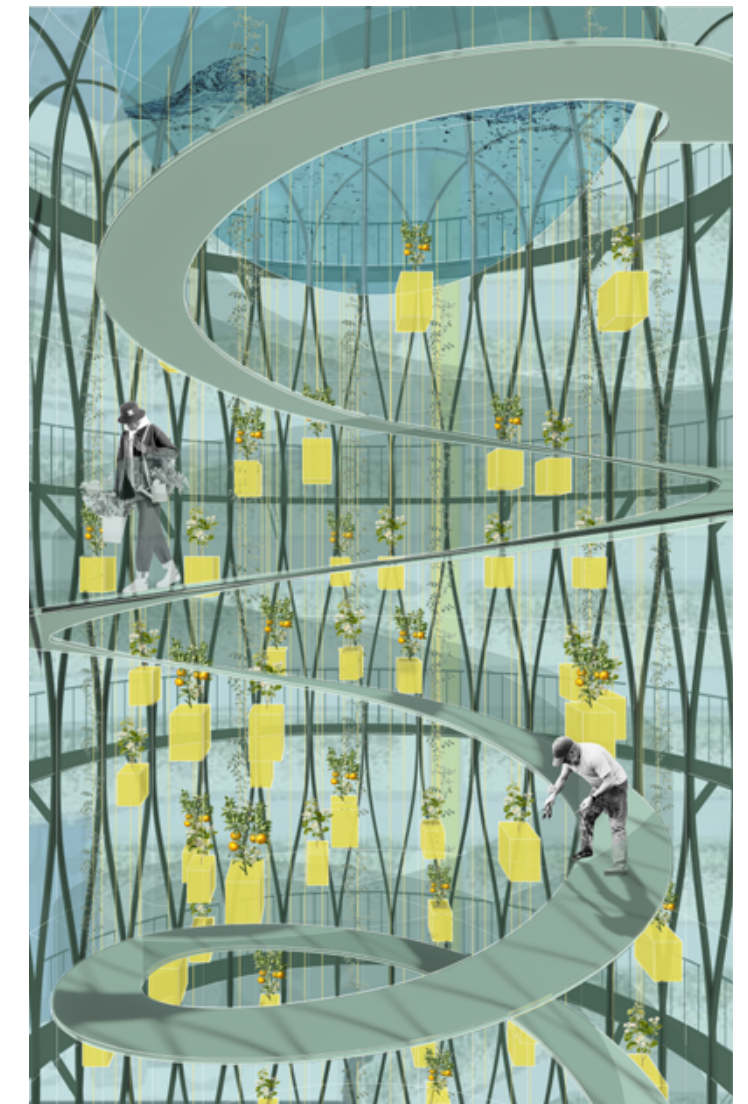
*Floating farms in the hotel as an intervention to
utilize the waste resources planting vegetables and create a self-sufficient system.*



Conceptual Physical Model



Hotel Units Section Perspective



Chandelier Garden Perspective



TRANSGENERATION BODY HUB

Parque Móvil del Estado

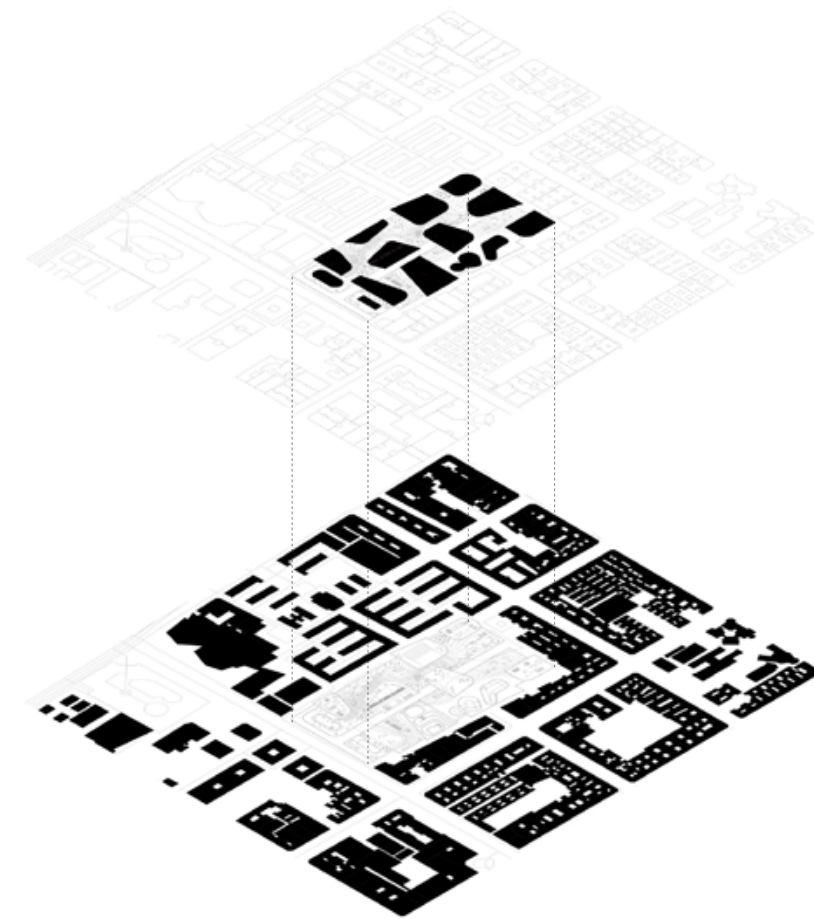
Group Work

Jan, 2024

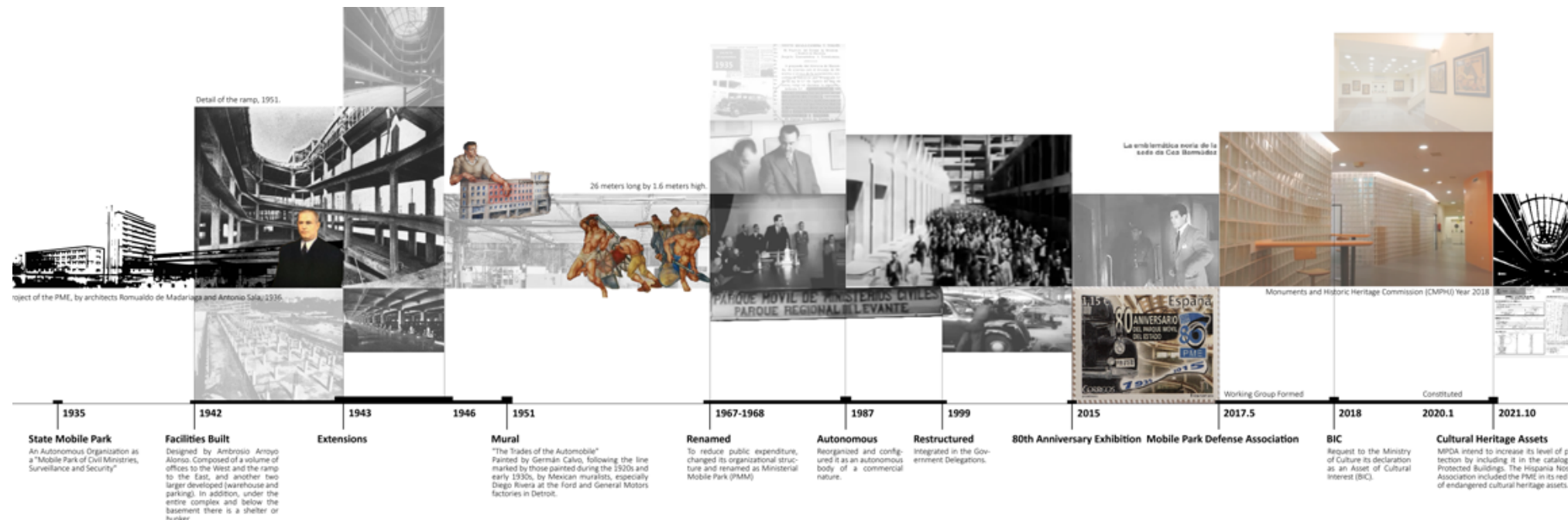
Location: Madrid, Spain

Partner: Han Qin, Wenjing Hu

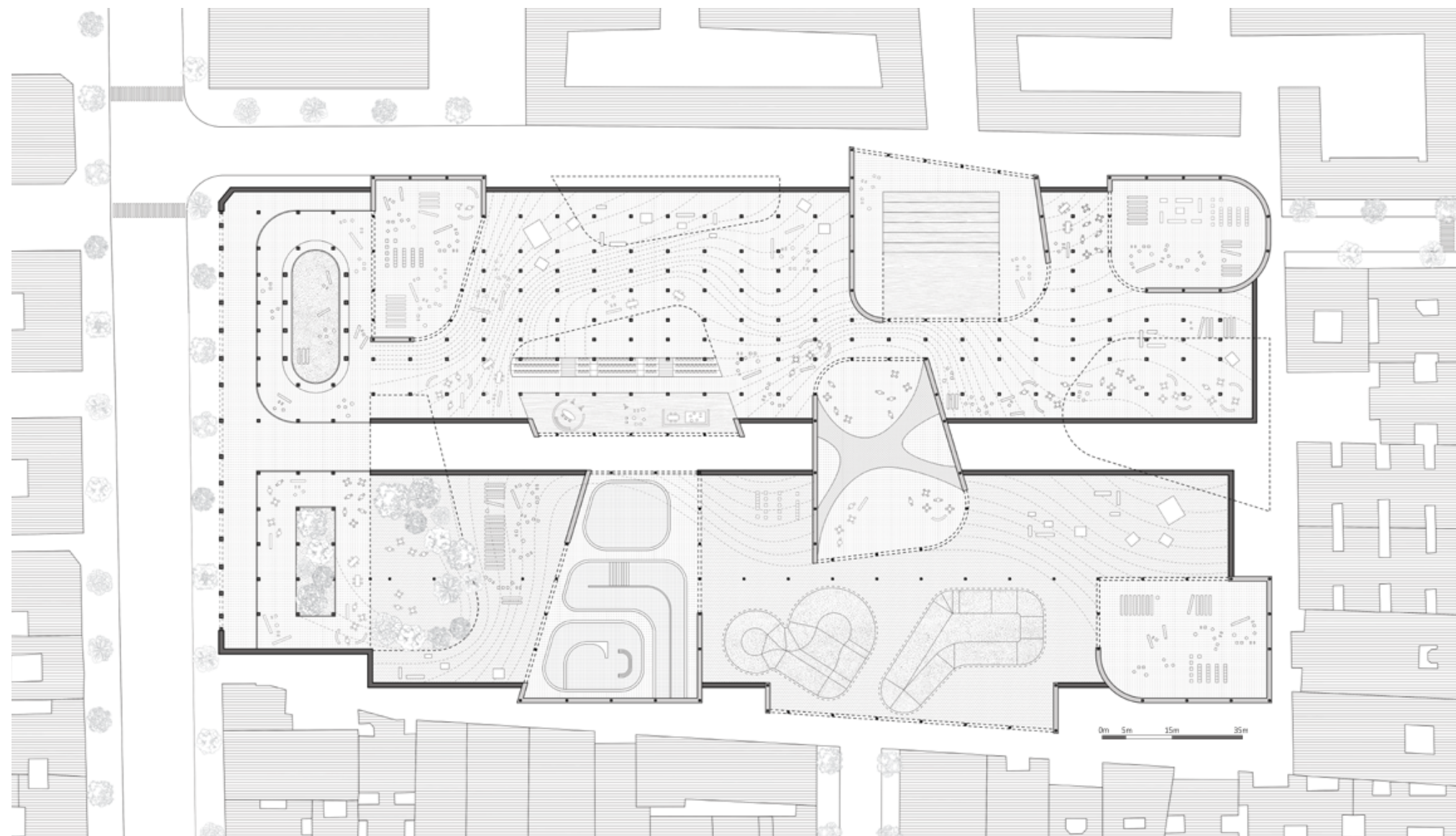
Instructor: Juan Herreros



History of PME



Ground Floor Plan



Concept Drawing



Our body hub aims to become a beacon of cultural dialogue and creativity, emphasizing flexibility and accessibility to ensure the dynamic space can adapt to evolving all kinds of body movements and community needs. The client of our building is the whole neighborhood. So our definition of the Museum is not only for shows by professional artists but varies for all genders and generations, including the disabled. We analyze all kinds of contemporary body movements in Spain, from famous dancers such as Pliana Lima, to daily social exercise in the community. We traced their body movements and trajectories through performances. Extract those free curves, to become part of our strategy.

Site Analysis



Strutture sportive del Parque
Club deportivo Parque Movil
Piscina Parque Movil

Area: 1.375 mq
Superficie: 1.375 mq
Numero piani: 1
Uso passato: Sportivo
Uso attuale: DisMESSO



Colegio Publico San Cristobal

Area: 506 mq
Superficie: 2.573 mq
Numero piani: 5
Uso passato: Aule didattiche
Uso attuale: Aule didattiche

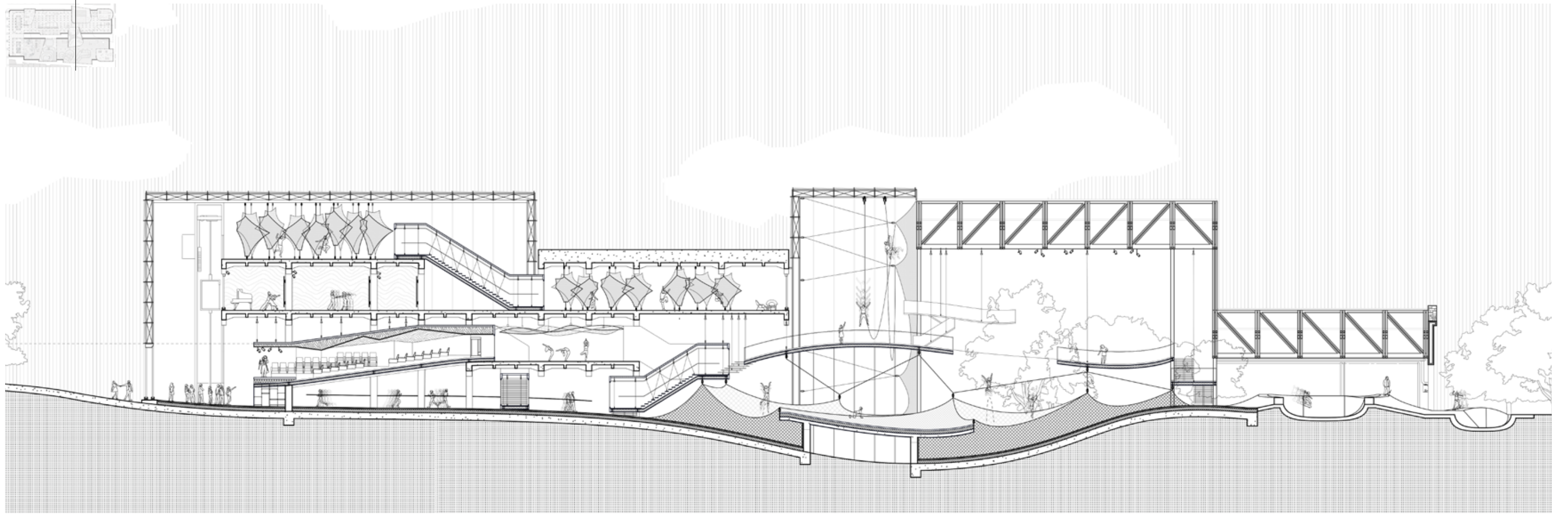
Colegio Publico San Cristobal Annesso

Area: 346 mq
Superficie: 1.506 mq
Numero piani: 4
Uso passato: Aule didattiche



By creating spaces that encourage participation from diverse cultural backgrounds, genders, and ages, we aim to become a beacon of cultural dialogue and creativity, emphasizing flexibility, accessibility, and sustainability, ensuring that the body hub meets evolving body movements and community needs.

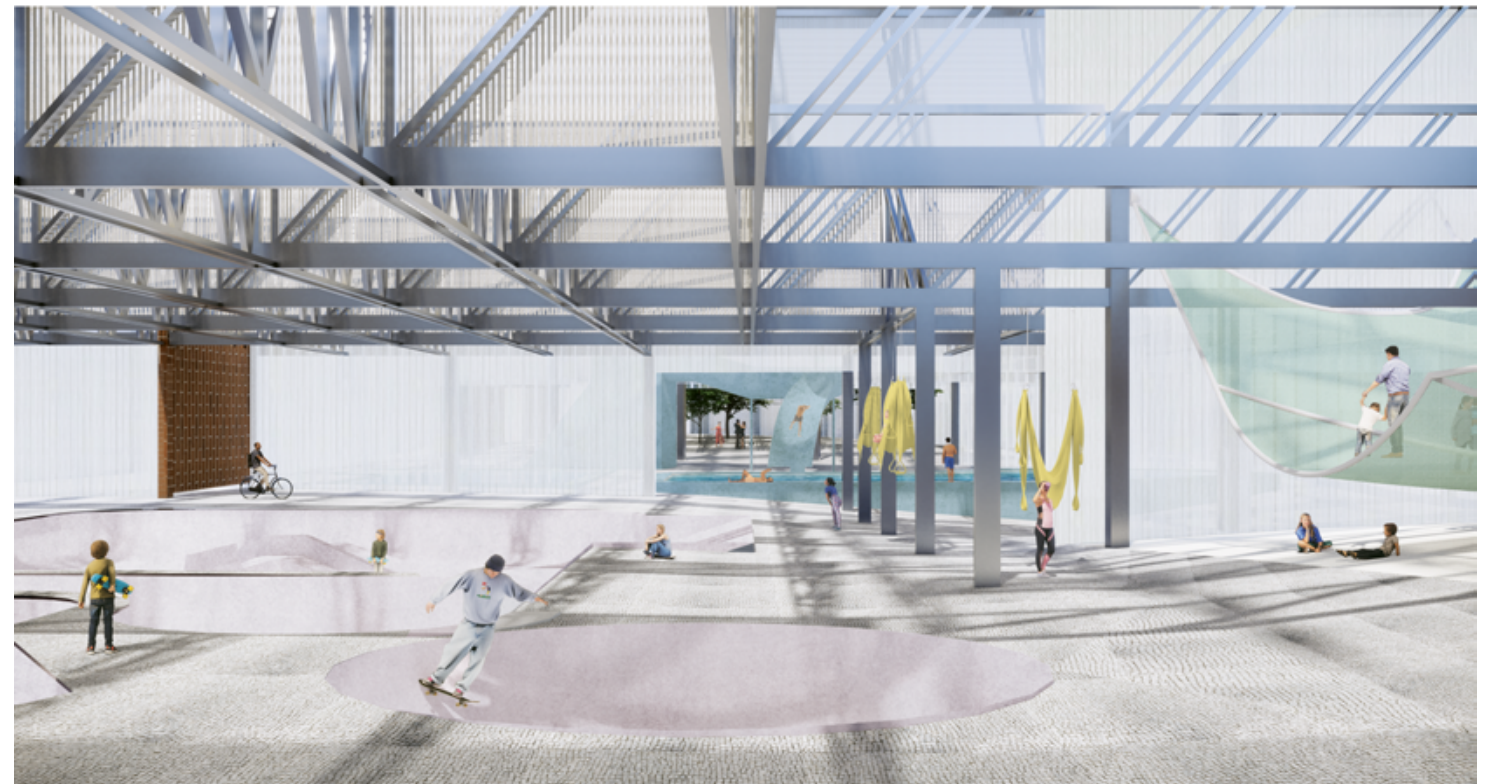




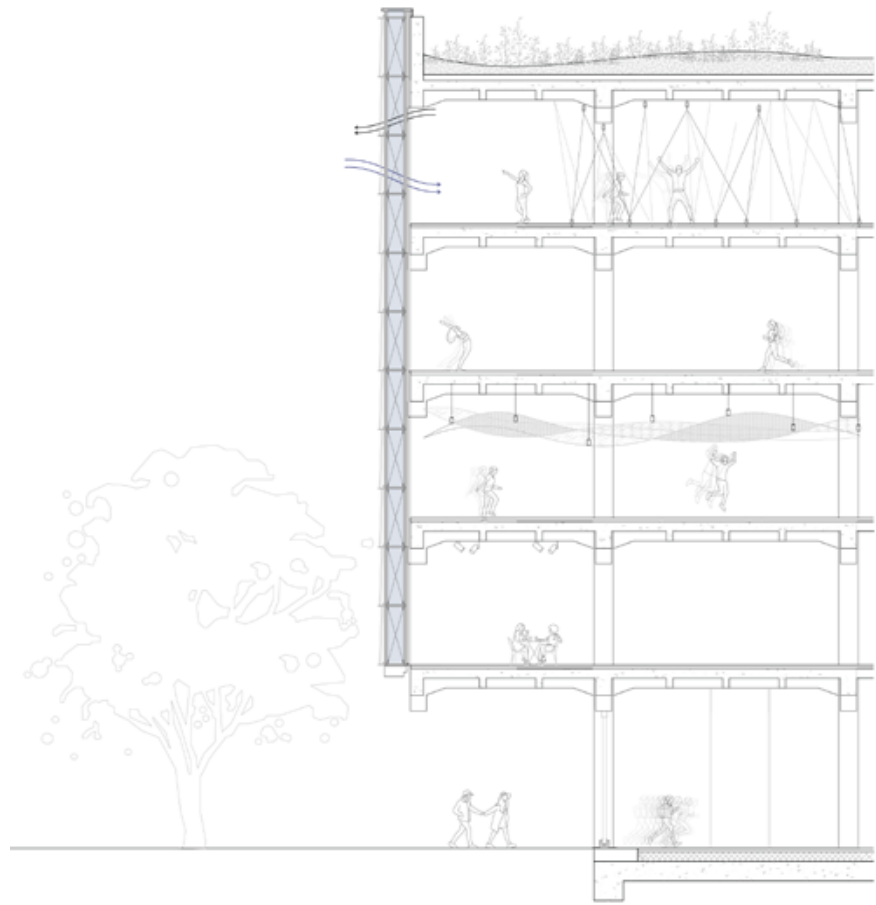
East-West Section



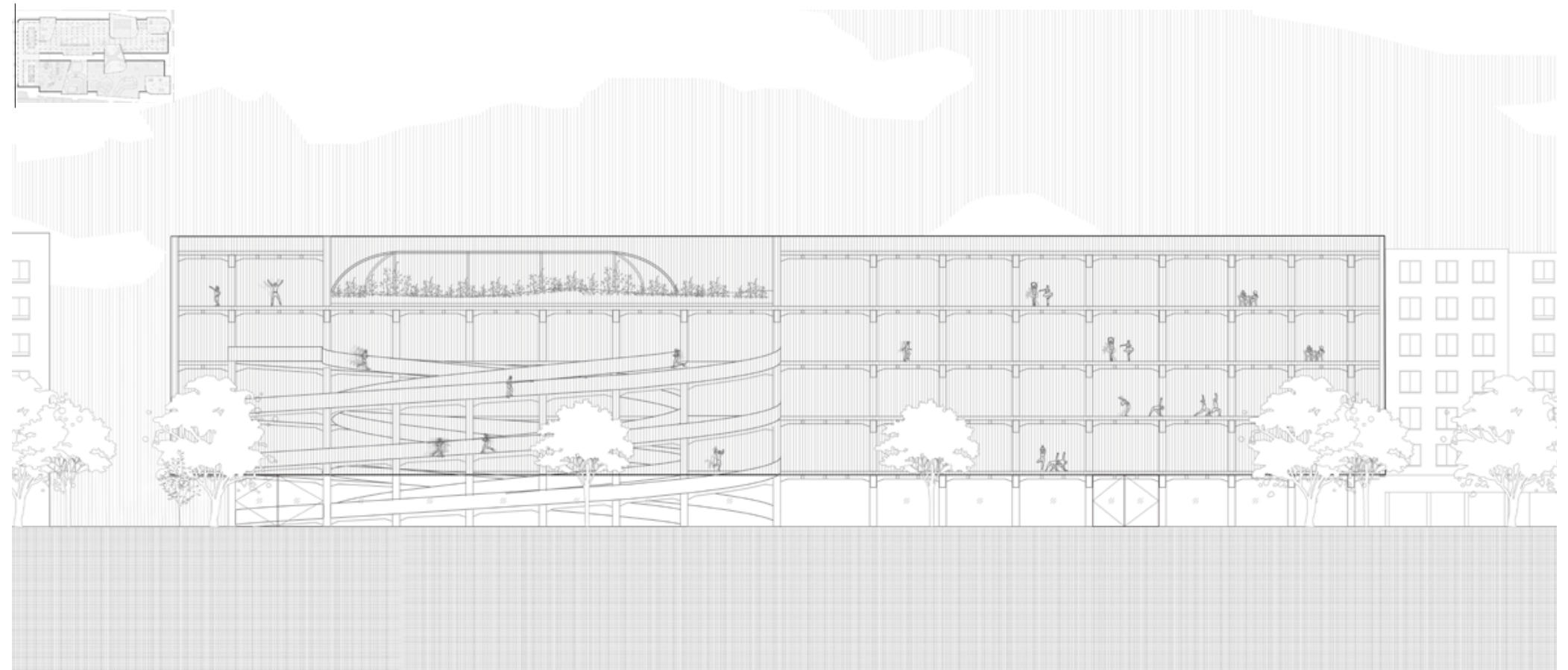
Garage View



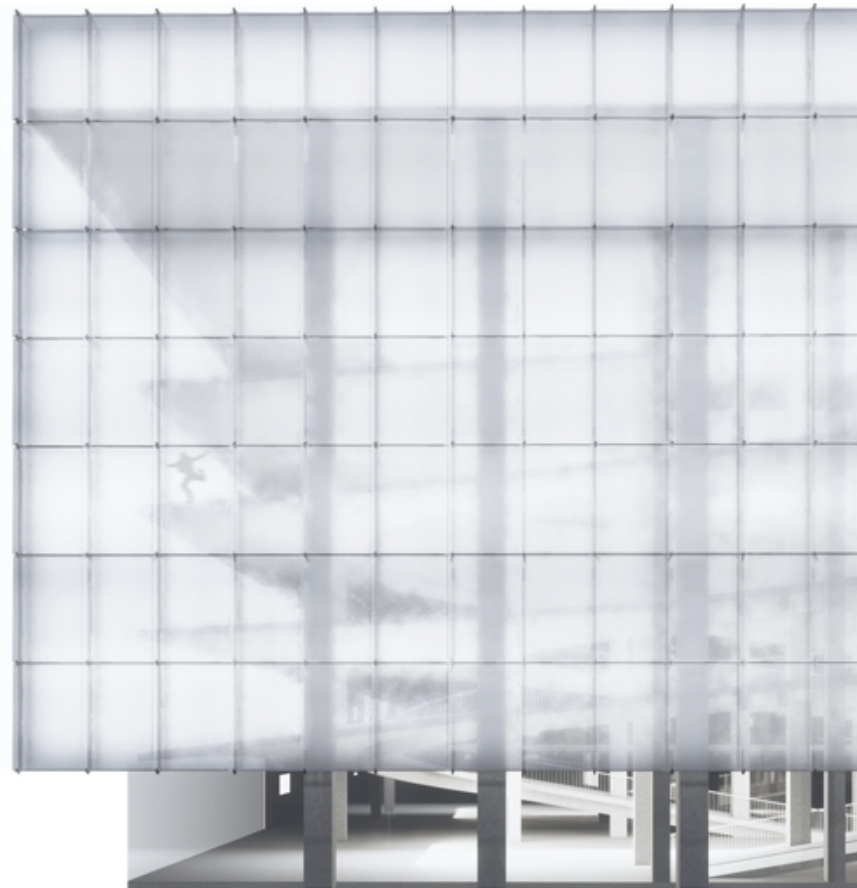
Workshop View



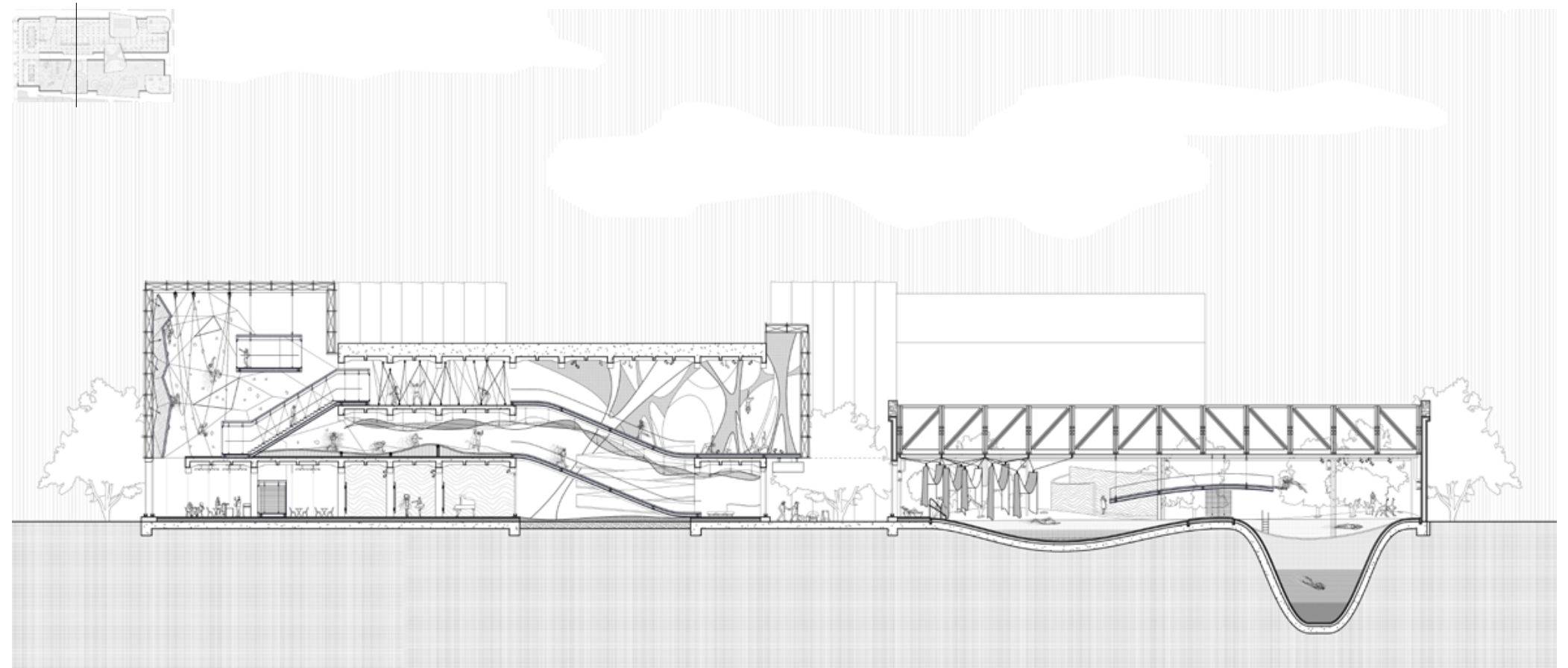
Facade Detail Section



East-West Elevation



Facade Detail



East-West Section

THE PROGRESSING SAND VESSEL

Lifesaving on the seashore

Individual Work

Jan, 2023

Location: Montauk, New York, the USA

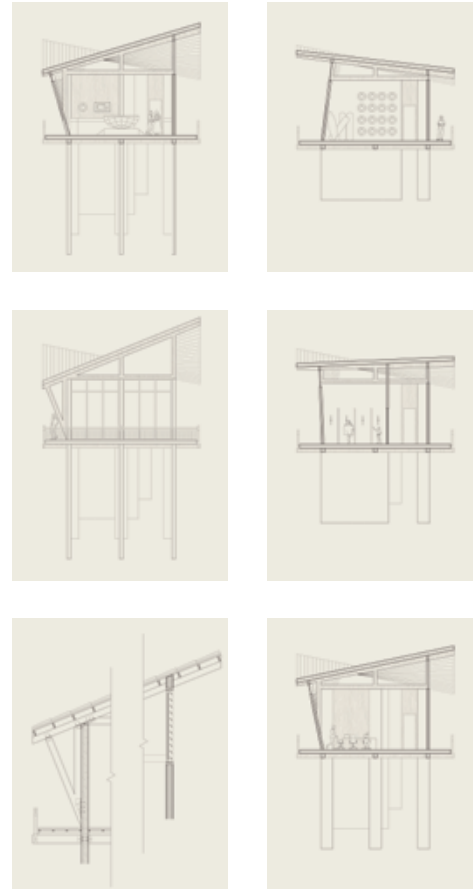
Instructor: Robert Marino





Site Plan

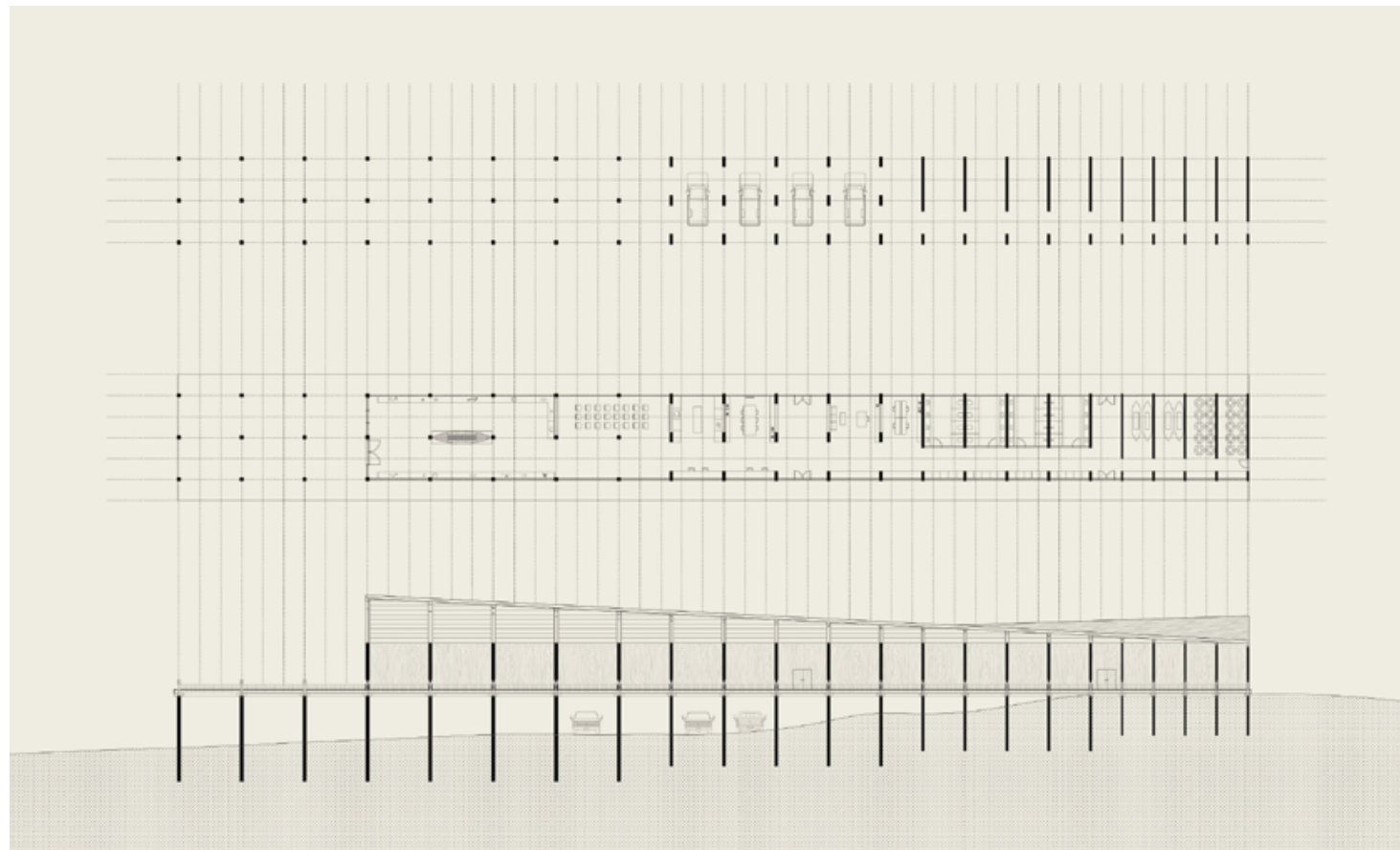
It is a linear architecture that keeps changing its structure and programming from the land to the ocean. In order to rethink the relationship between the land and ocean, and also the relationship between structure and programming. As we know, the ocean is dynamic, dangerous and immense, by contrast land is a stable, safe place for people. And dune is like a transitional space between them, buffer the waves shocks and resist the erosion. So designing an lifeguarding can show that characteristics on the dune guides my design logic. Starting from the concrete structure, it changes from thick square columns to thin walls, and the gap changes from a wide distance to a narrow distance.



Progressing Sections



Exhibition Space View



Plan & Elevation



Corridor View



Storage Space View

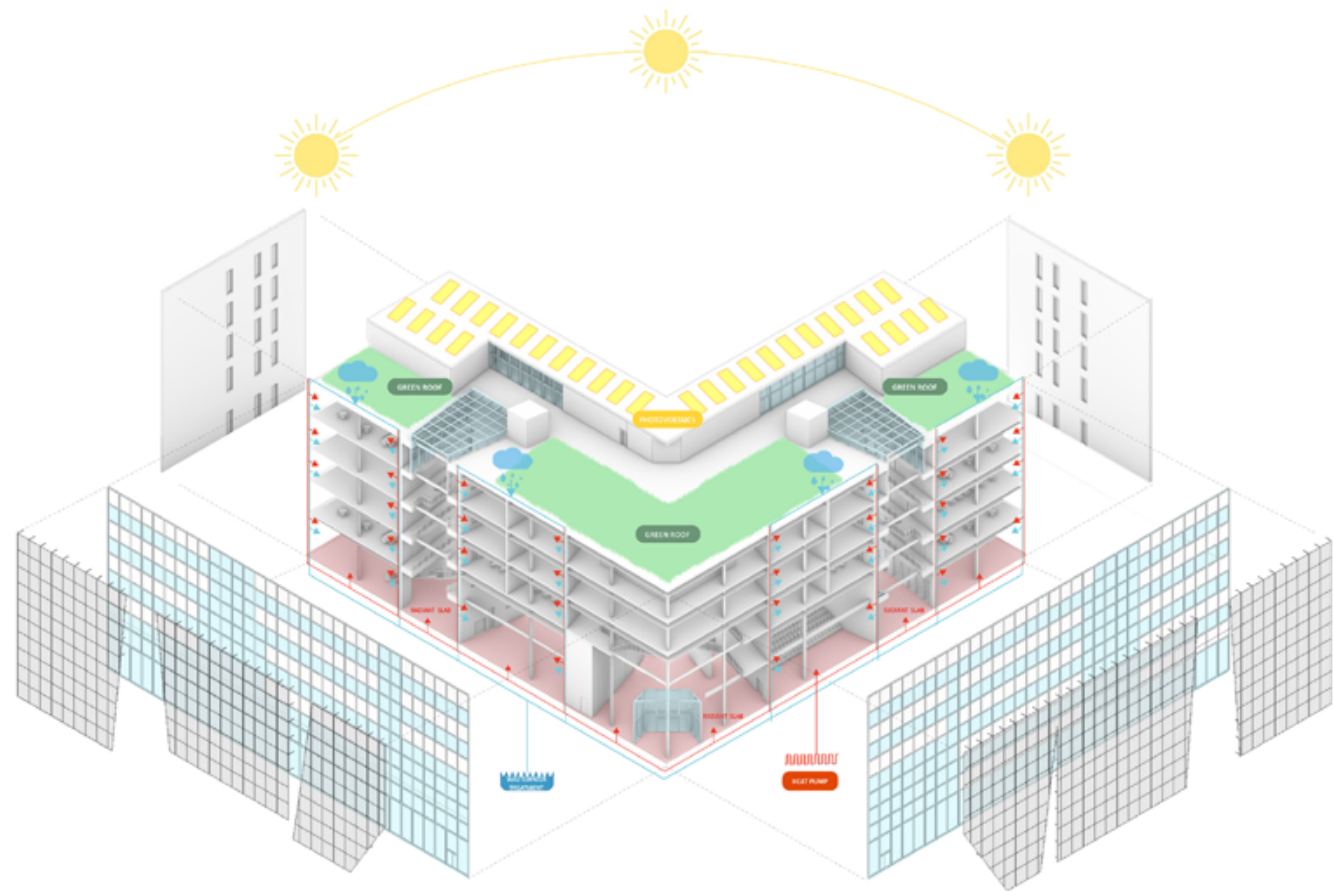
SCHOOL WITHIN SCHOOL

Solid Space vs. Void Space

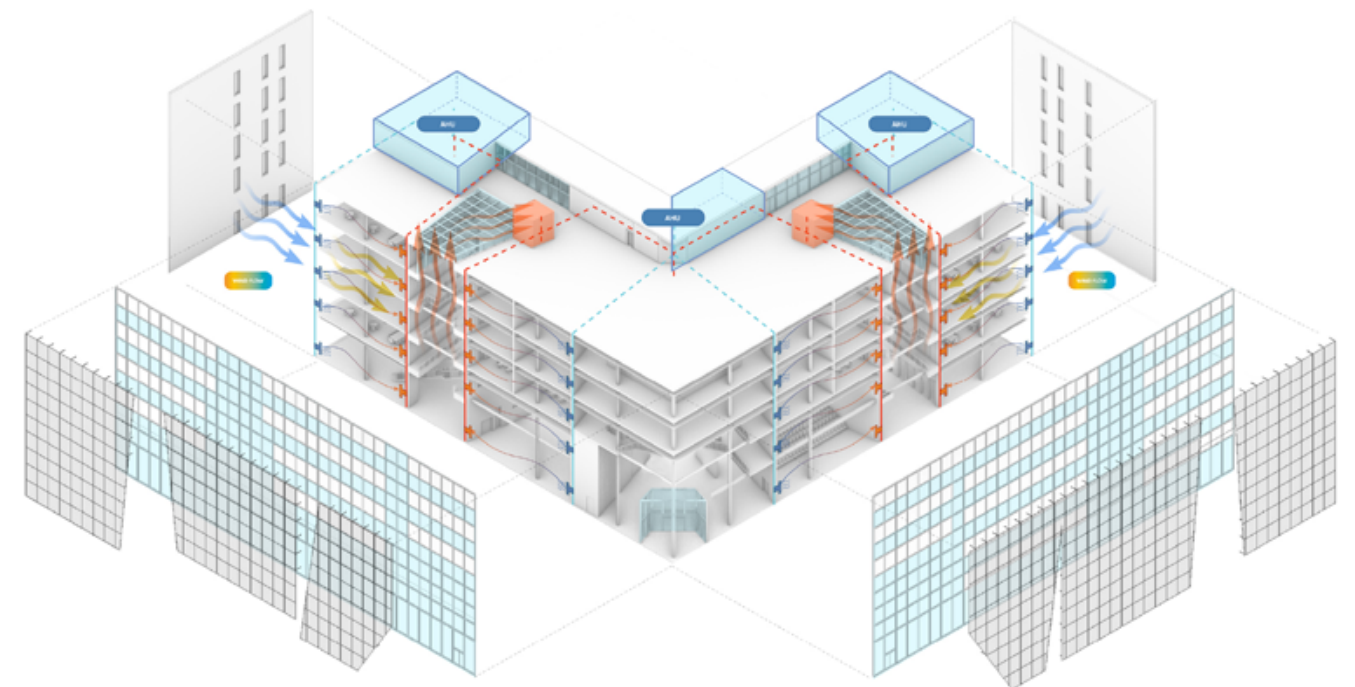
*Individual Design Work
Jan, 2022
Location: New York, the USA
Instructor: Erica Geotz*

*Group Tech Develop work
Sept, 2022
Partner: Wei Xiao, Yingxi Dong, Han Qin, Jinghan Wang*

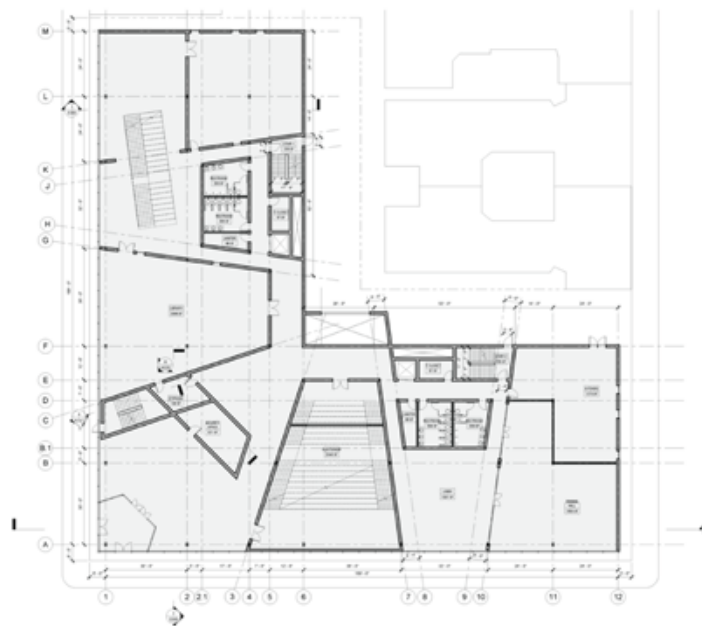




Solar and Geothermal



Wind Flow Circulation



Ground Floor Plan



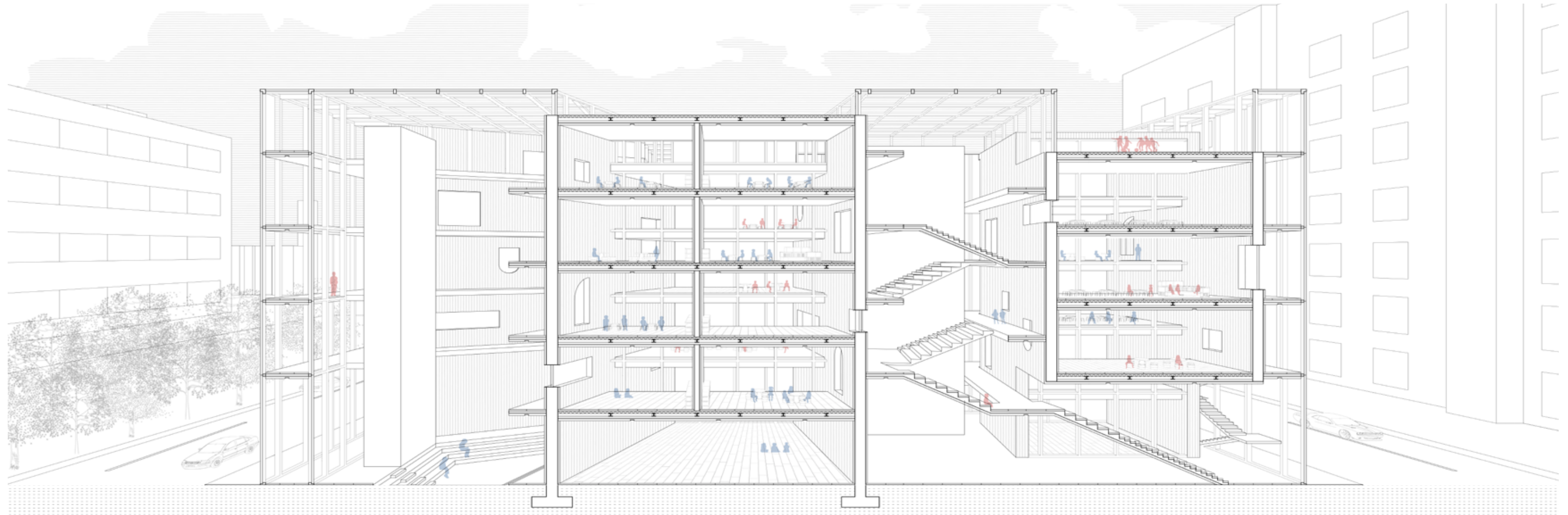
Third Floor Plan

The name of our school is schools within school. The contrast between Solid vs Void guides the overall design of the building. The building is divided into a rhythm of solid and void spaces, which provides the framework for further dividing up spaces that are occupied by enclosed programs versus by open lobbies and atriums. From ground floor to upper floors, programs go from large collective to more small scale enclosed.

The building envelope system takes separate strategies for the sides where the building opens up towards the larger cityscape, versus the sides that are more hidden towards the inside of the block. For the south and west facades, we designed a curtain wall system with perforated aluminum panels as an additional layer for the classrooms behind. Those systems also worked with our sustainability strategies in which a curtain wall with operable windows allows the movement of light and ventilation, the double facade provides shading. The sustainability approaches are further grouped by adjacency while thinking about ventilation and energy change on the city.



Atrium Perspective



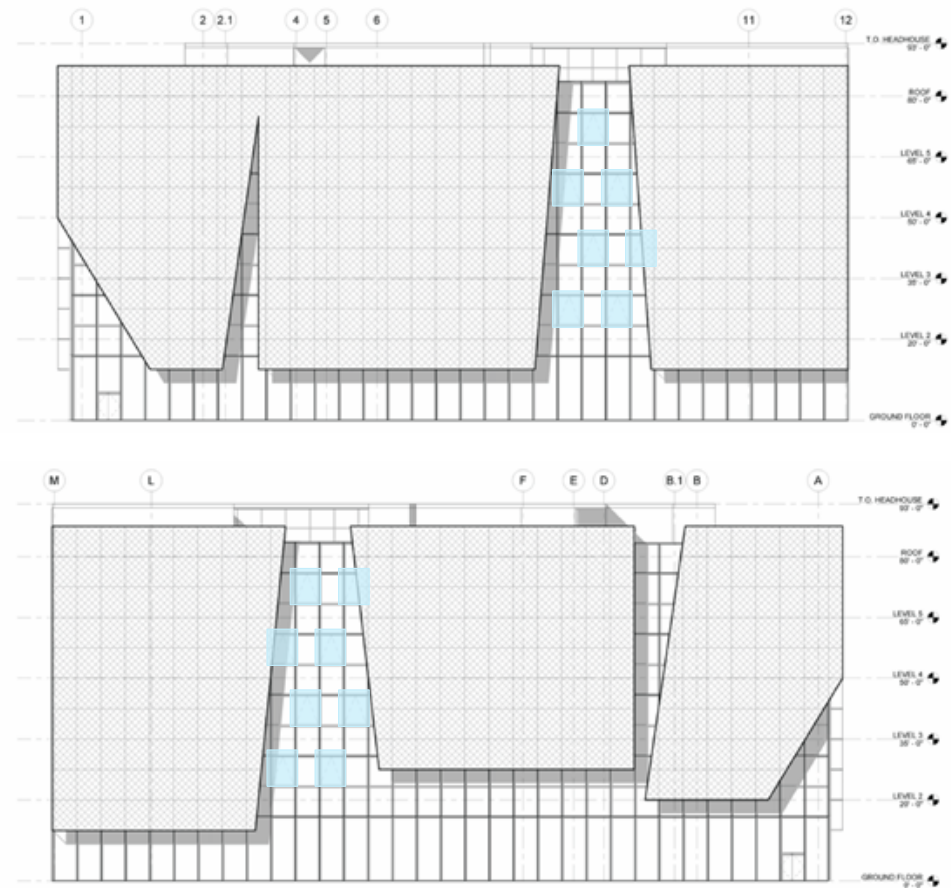
Section Perspective



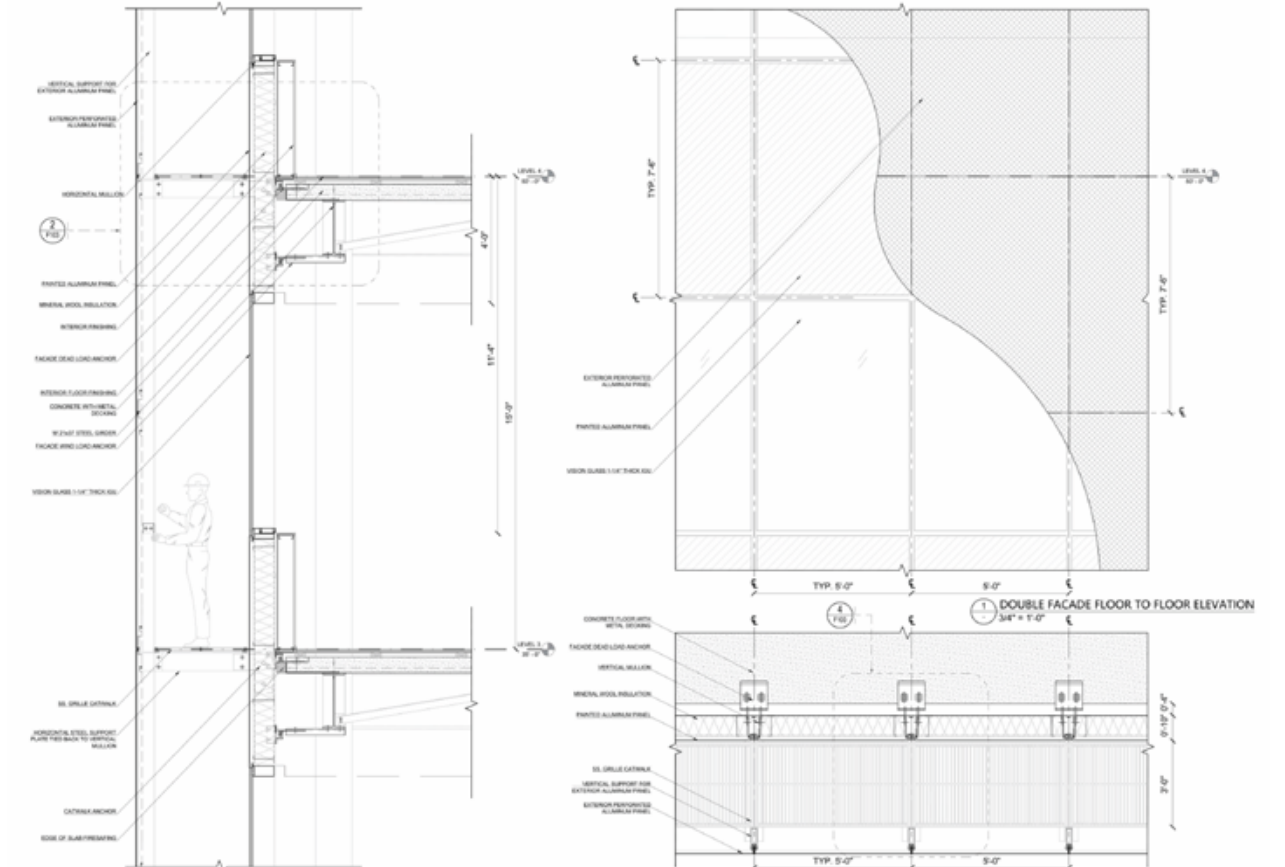
Corridor View



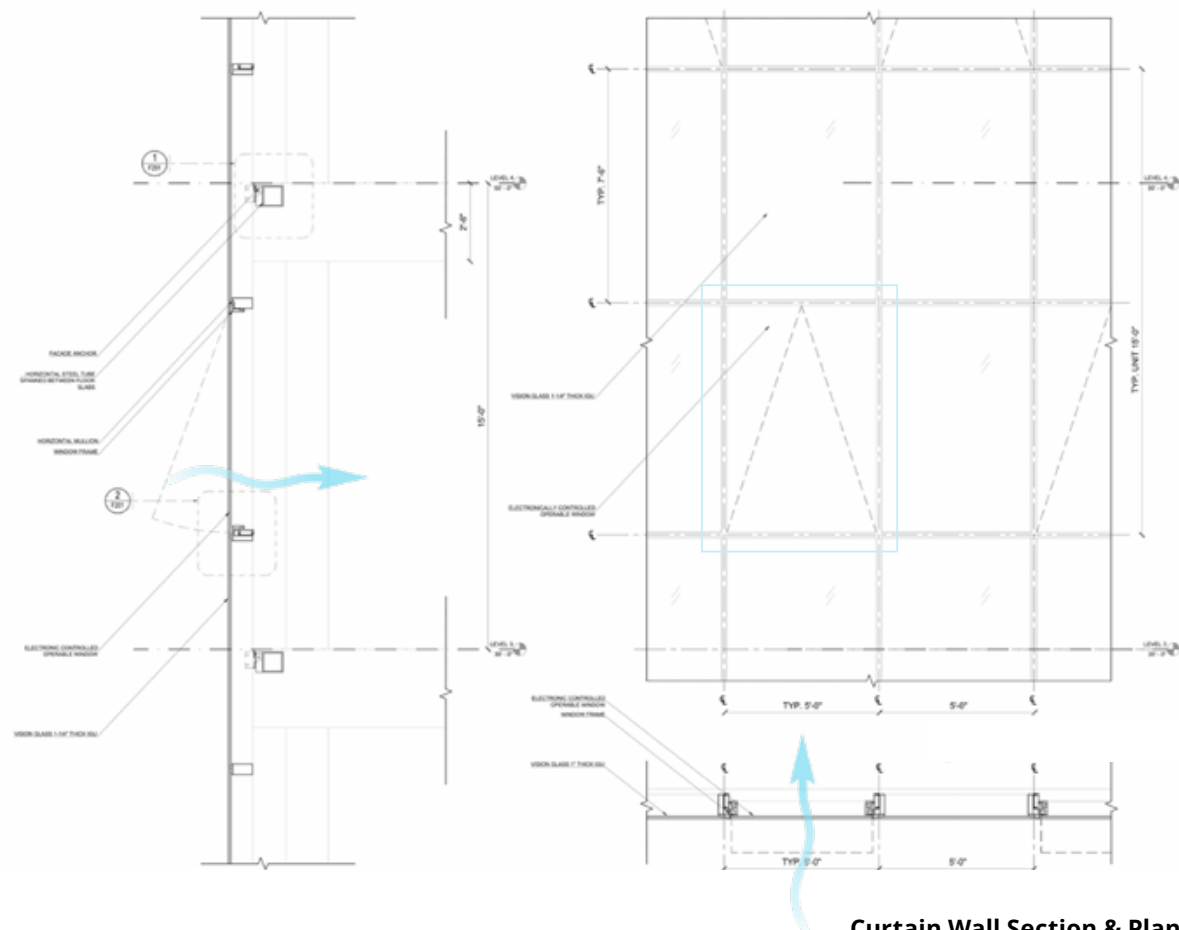
Classroom View



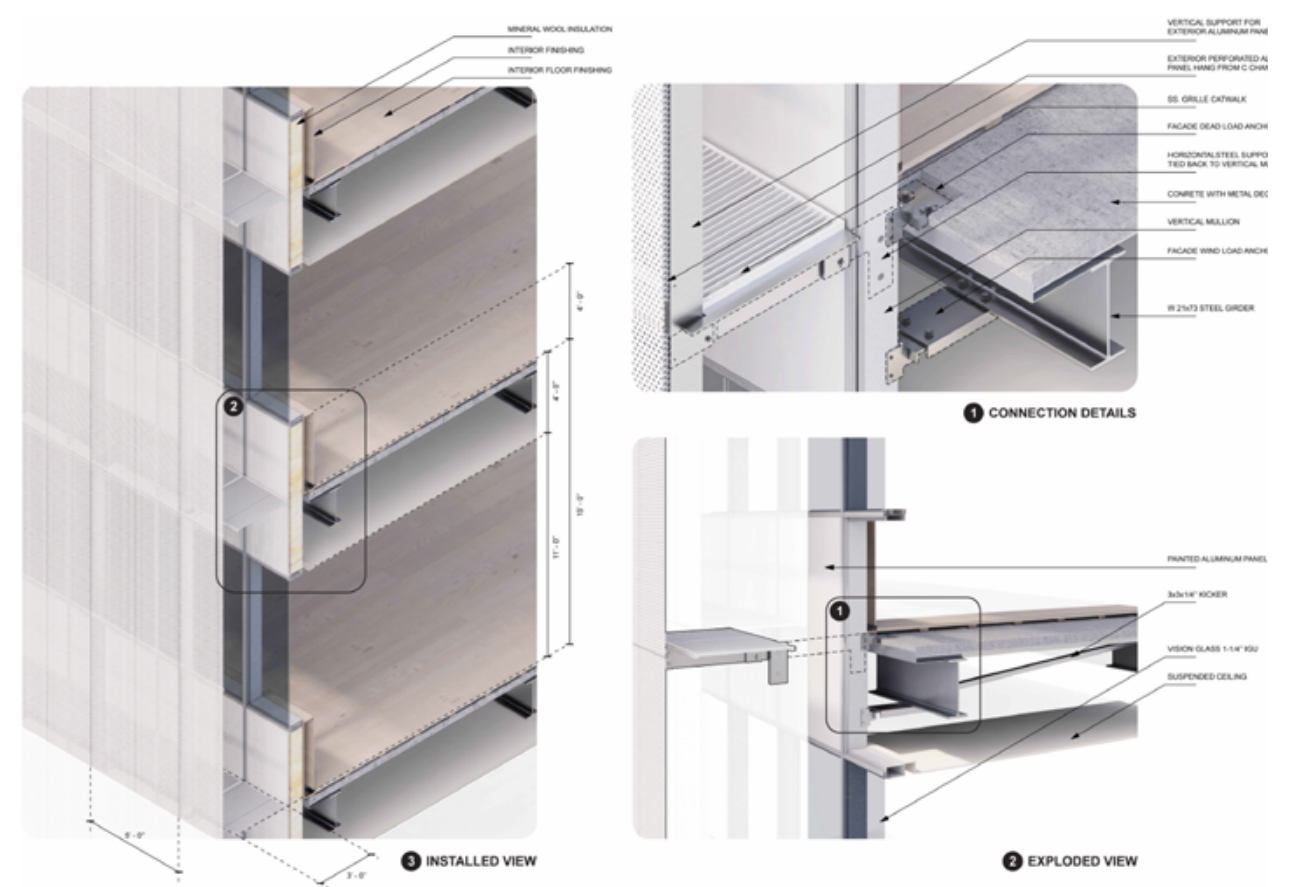
South & West Elevation



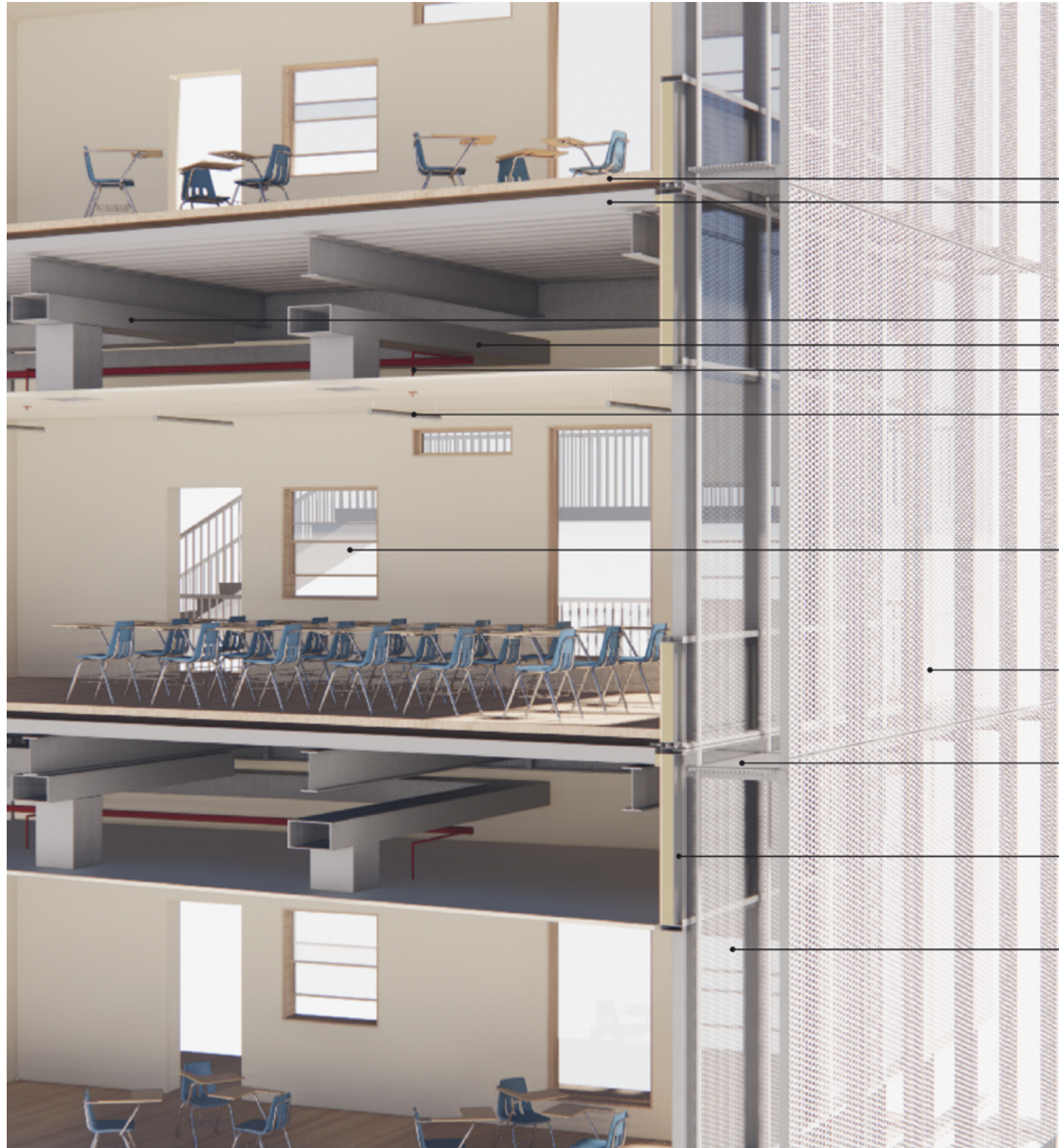
Double Facade Section & Plan



Curtain Wall Section & Plan

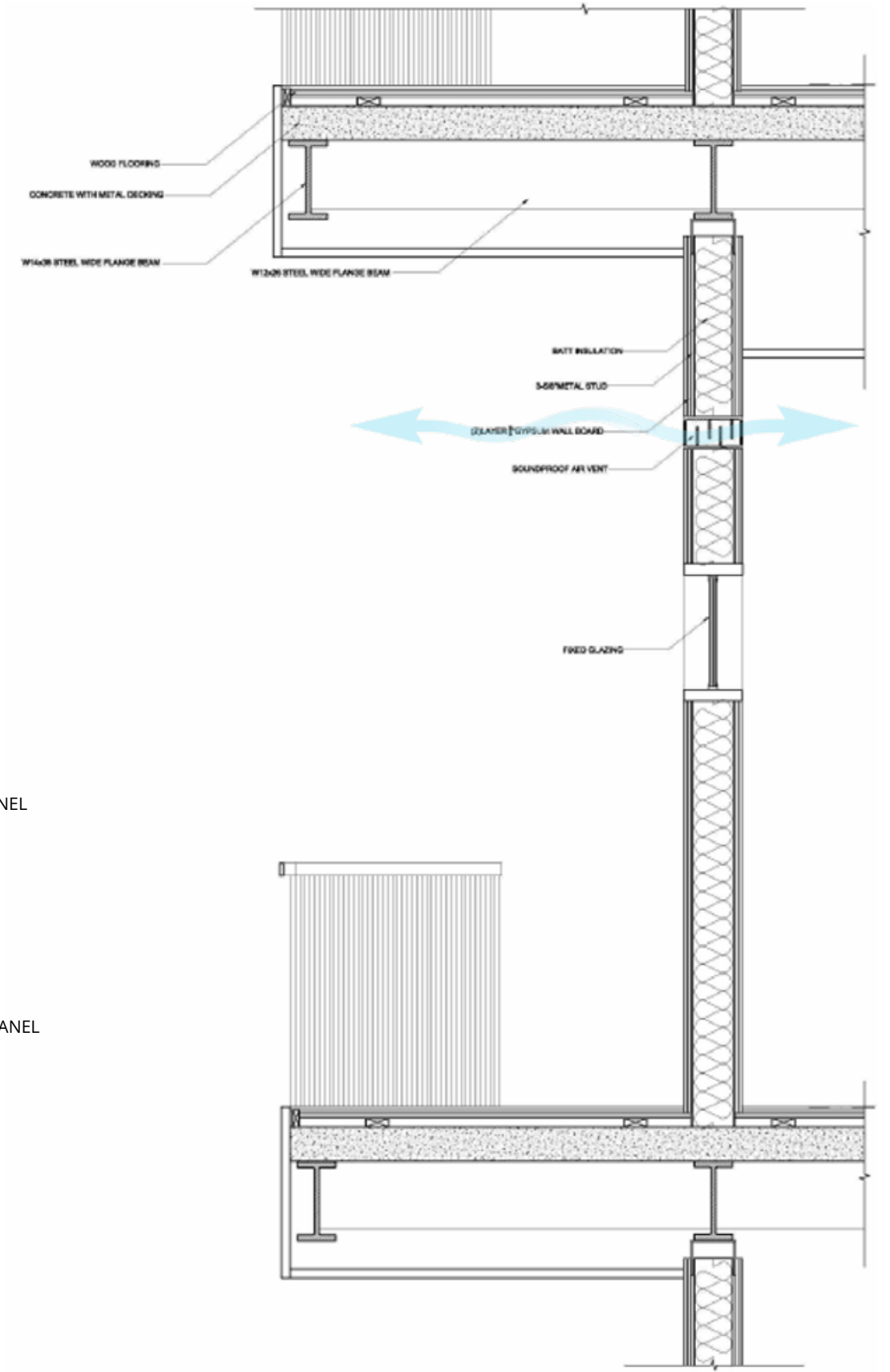


Double Facade Views



- WOOD FLOOR
METAL DECKING
- SUPPLY DUCT
RETURN DUCT
FIRE SUPPRESSION SYSTEM
- LIGHTING DEVICES
- OPERABLE WINDOW
- PERFORATED ALUMINUM PANEL
- 3' CATWALK
- PAINTED ALUMINUM BACK PANEL
- VISION GLASS 1' THICK IGU

Classroom Section Perspective

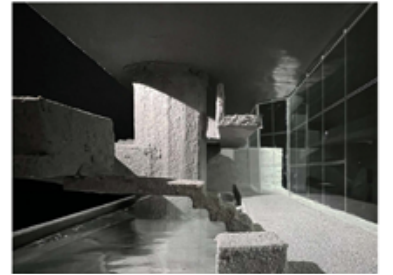
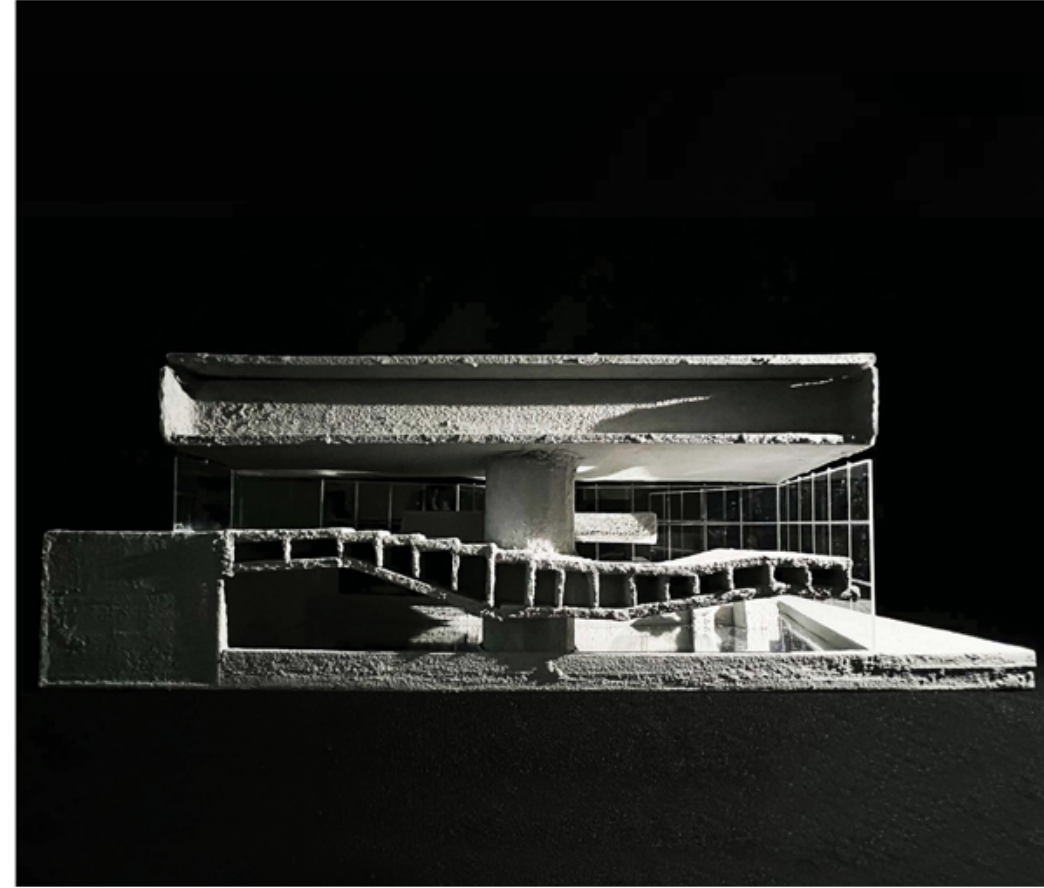


Classroom Wall Section

Other Work 1: "From Field to Form: Making with Earth" Exhibition at 1014



Other Work 2: San Pedro Chapel Hand Casting Model



Other Work 3: Terracotta Facade Assembling

