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2023–2026 Academic Works

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Contents

1	Volumetric Porosity Suspended Curvatures: The Berggruen Institute at Olana Cultural / Neighborhood Scale / Hudson Valley, NY 2026 SpringI Core StudioVI	5	Water Station Water Grab System from Air in Arid Area Cultural / Global Scale / Desert 2024 Spring Architectural Studio II
2	Common Cook Communal Kitchen as Industrial Building Renovation Community / Urban Scale / Brooklyn, NY 2025 Fall Advanced Studio V	6	Floating Square Environmental Solution for Bio-diversity at Waterfront Cultural / Urban Scale / WaterEdge 2025 Fall Tech Elective: Seedbomb
3	Fill Green, Stop Blue Sustainable Solution for Floods at Liberty State Park Cultural / Neighborhood Scale / Jersey City, NJ 2025 Spring Architectural StudioIV	7	Construction + Life Cycle System Building Science and Technology 2025 Spring Tech V
4	Street to Home Affordable Housing for Artists Residential / Neighborhood Scale / Harlem, NY 2024 Fall Architectural Studio III	8	Cable System Building Science and Technology 2024 Spring Tech II

1 Volumetric Porosity

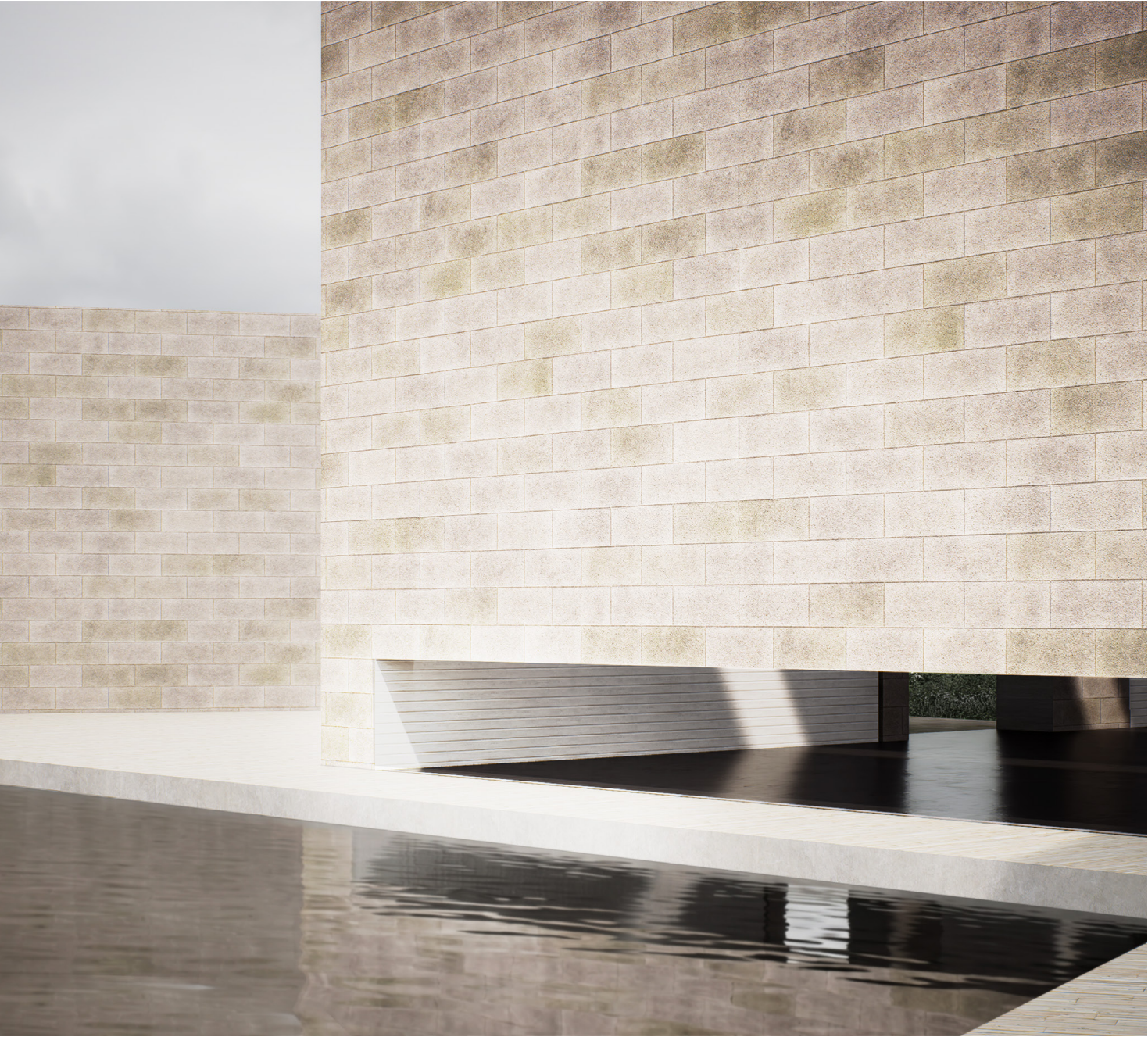
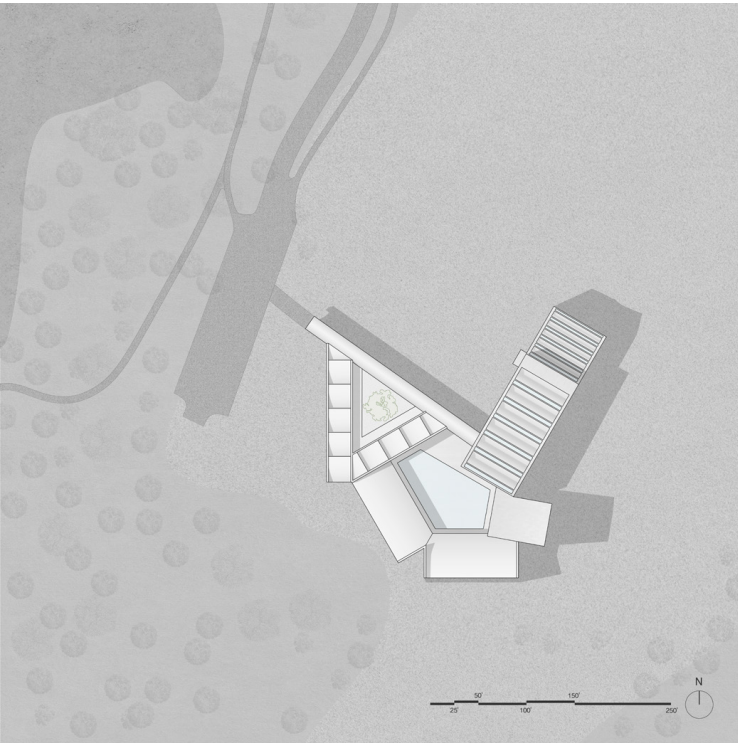
To Curve and To Suspend in a Volumetric Structure

Project – GSAPP Architectural Studio VI

Period: 3rd Year, Spring 2026
Type: Think Tank (Archive + Studio + Residential)
Instructor: Steven Holl (Steven Holl Architects) + Garrick Ambrose
Teamwork with Jingyung Choi
Keyword: Light, Structure, Suspend, Curve

Located at the Olana State Historic Site, the project for the Berggruen Institute focuses on the spatial tension between a rectilinear exterior and curvilinear interior. The design features a “loop circulation” that connects public and private programs (including a gallery, library, and studios) around a central water courtyard.

An important structural feature is the suspended glulam roof system, supported by post-tensioned stone walls. The buildings are carefully oriented with these curved surfaces to capture and diffuse indirect light, creating a softer atmosphere that depends on each program. Sustainability is integrated into the form: the roof geometry naturally collects rainwater for the pond. The openings face each other, and these generate natural ventilation. By intertwining structure and landscape, the project becomes a continuous experience of light and materiality that allows people to experience the historical context of the Hudson Valley.



View: The pond

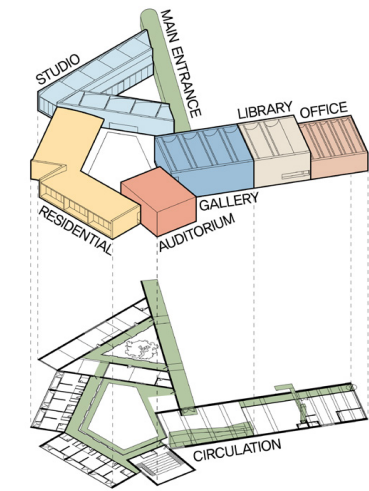


Diagram: Program, Circulation

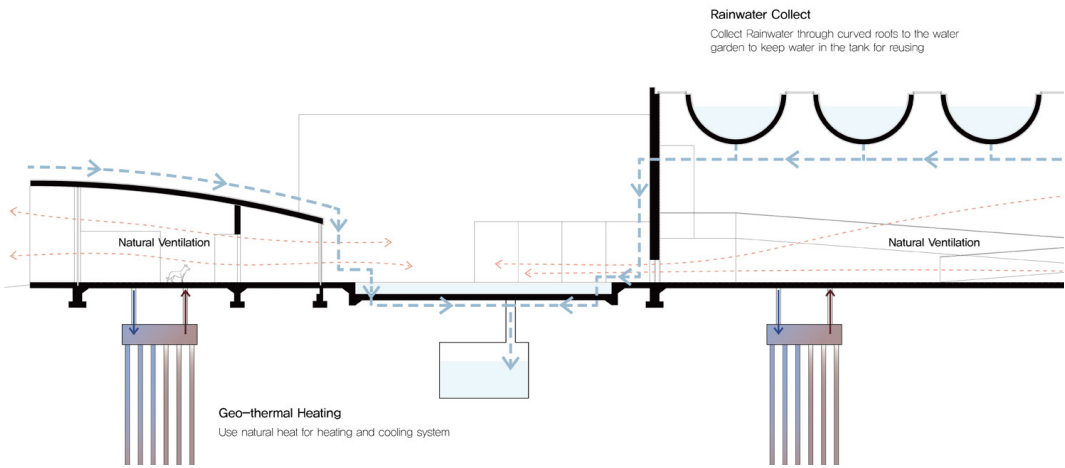


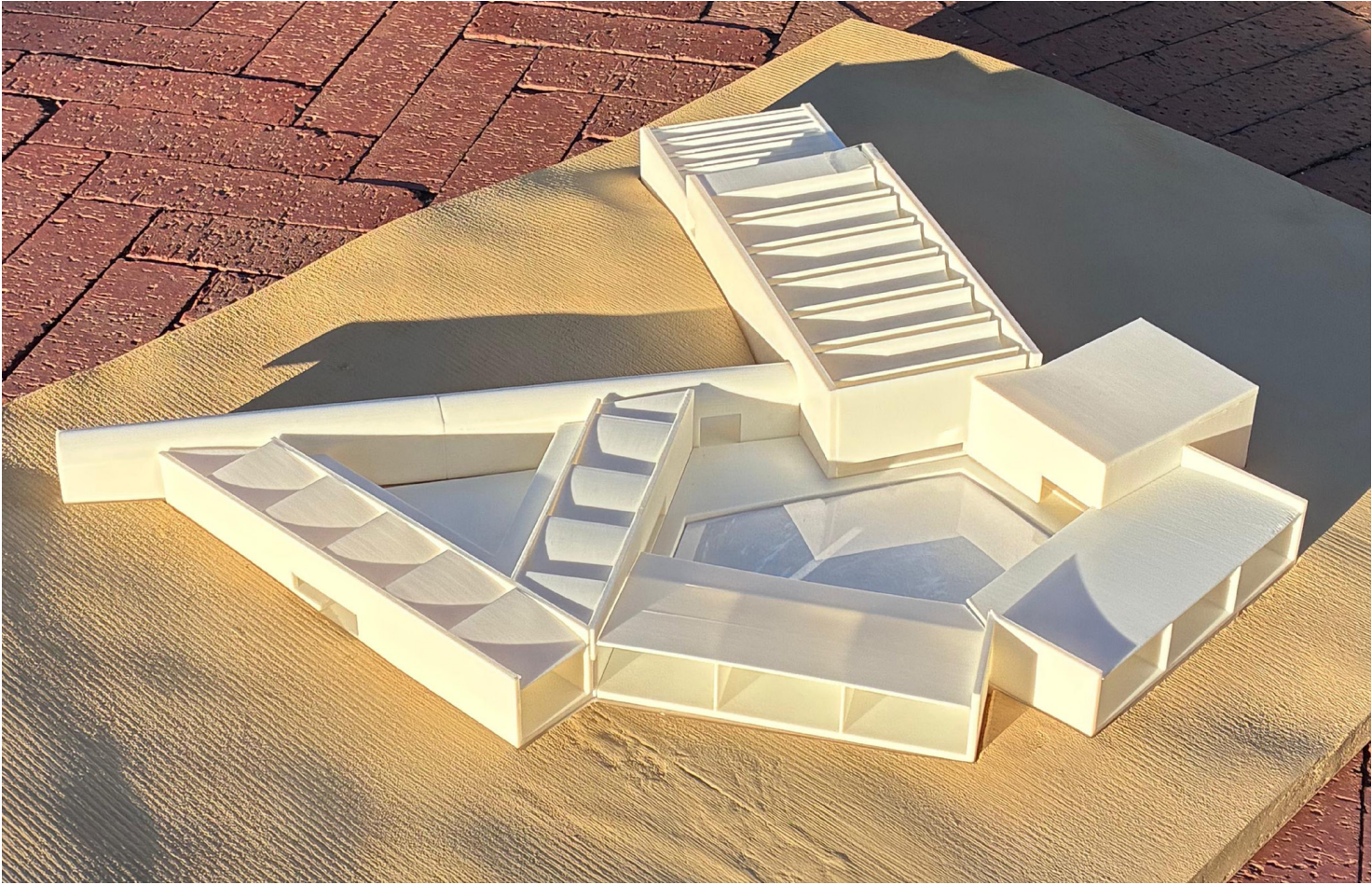
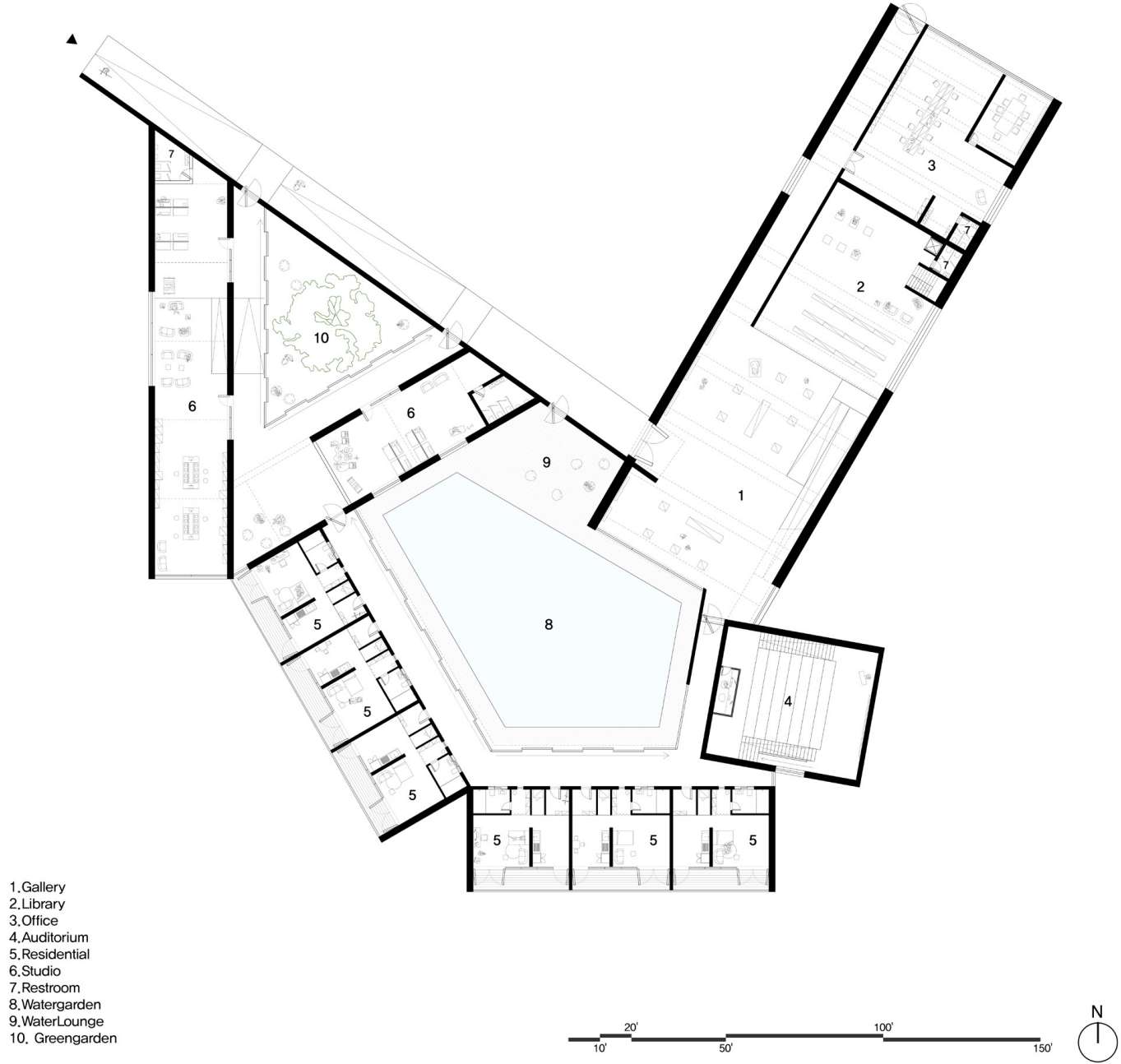
Diagram: Sustainability



View: Main entrance way to the gallery area



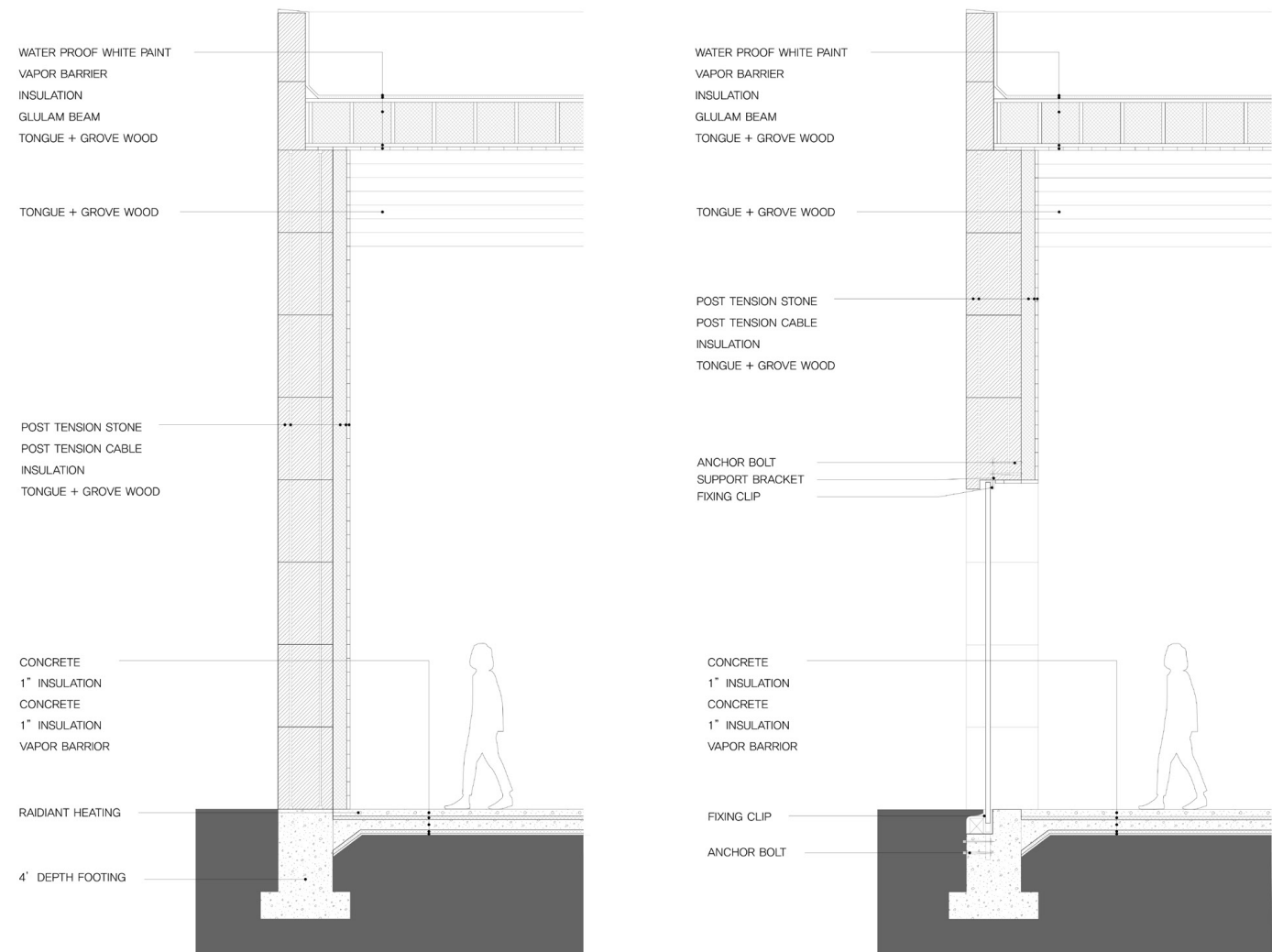
View: Triangle courtyard



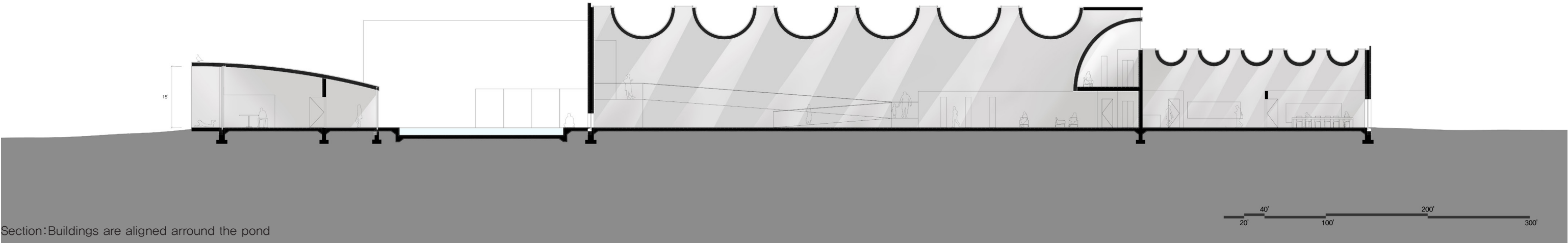
Physical Model



View: Office area with the small continous curves



Detail Section: Structural joint between stone wall and glulamb curves



Section: Buildings are aligned around the pond

2 Common Cook

Re-use Urban Industrial Building in Brooklyn

Project – GSAPP Architectural Studio V

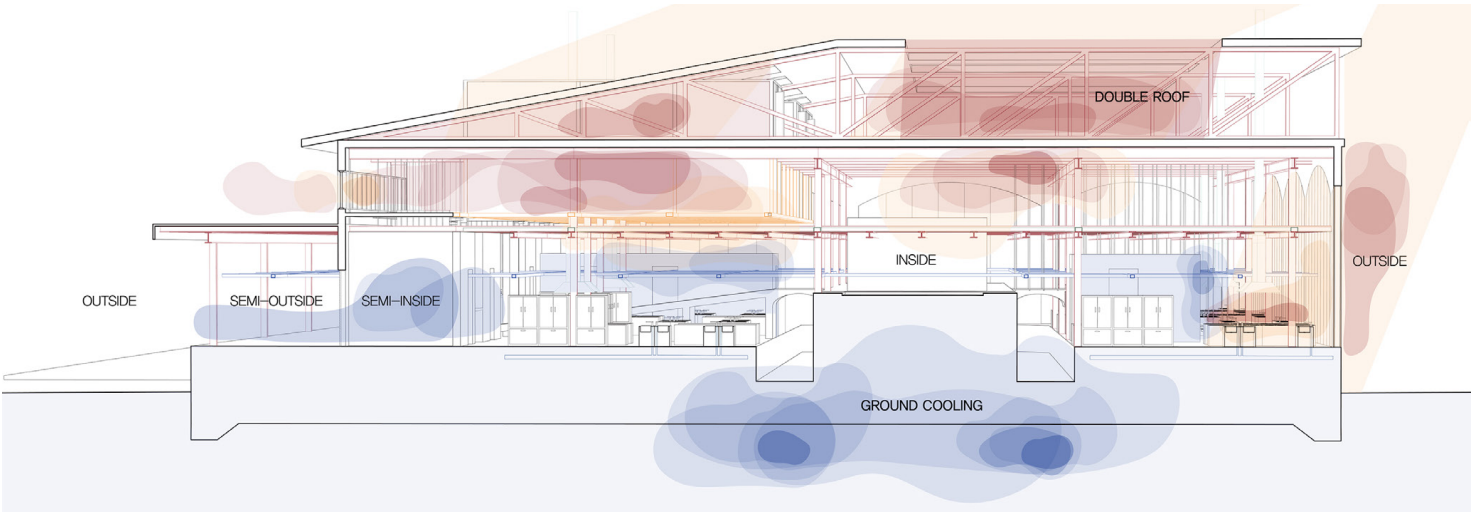
Period: 3rd Year, Fall 2025
Type: Residential + Workspace
Instructor: Phu Hoang (MODU Architecture)
Individual work
Keyword: Adaptable, Renovation, Diaspora, Street Vendors

The street vendors are essential components in Sunset Park. Chinese and Hispanic vendors bring their culture to the street, and they make a distinctive culture in the city. In terms of their daily routine, vendors spend a lot of time moving around because of the city’s regulations and the small kitchens in residences. Also, vendors want to sleep more, take some classes to grow their business, and interact with other vendors from the same country. However, fewer programs and spaces meet their needs in the current Sunset Park. The project suggests that condensing vendors’ daily routes in a building into a vendor society. This could improve vendors’ lives to spend more time taking a rest, to learn what they want, and help get group solidarity by encouraging them to gather and share their experiences.

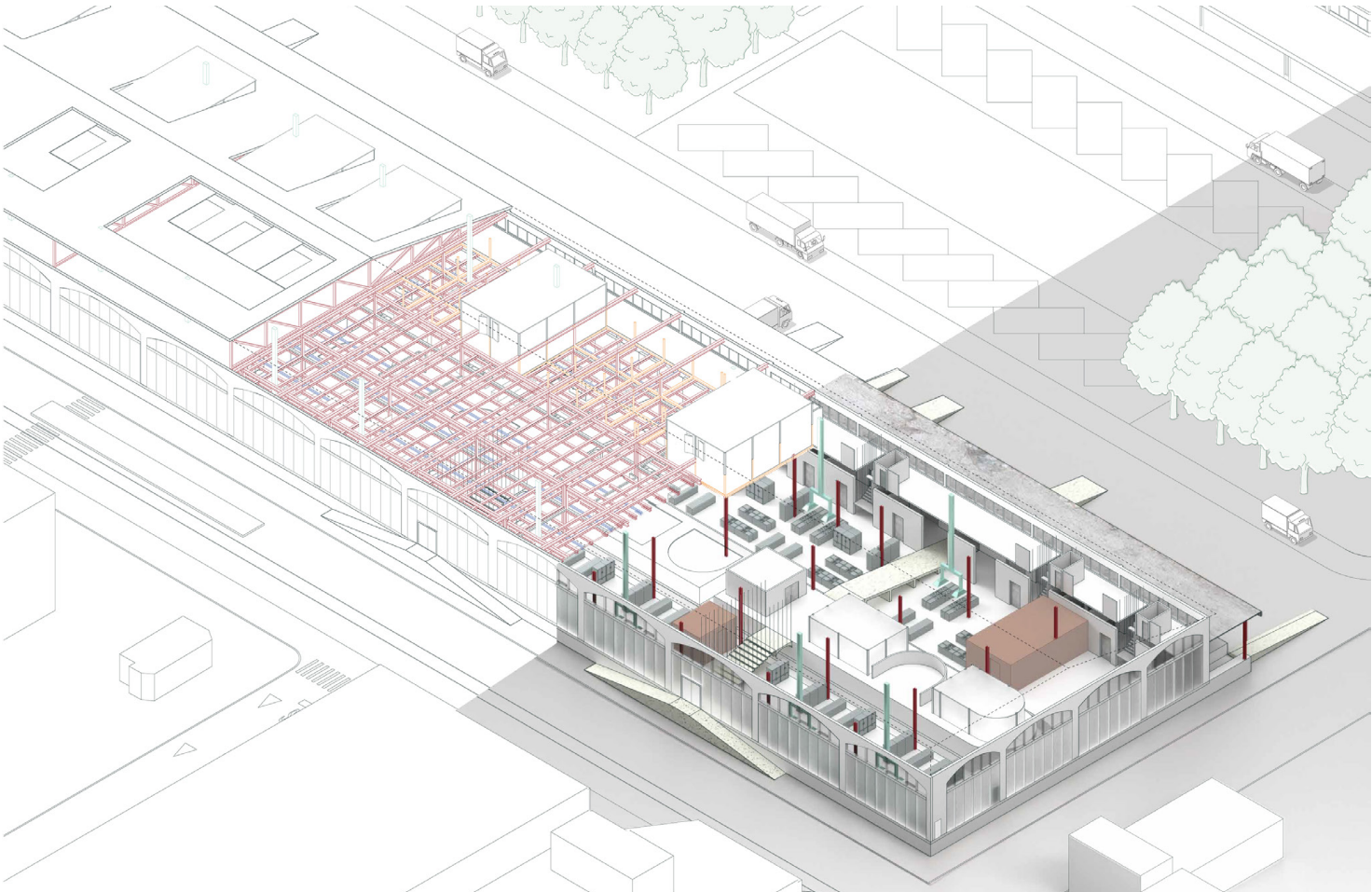
The existing building structure and rail system for hanging and moving meat are standard to make a grid for the new infrastructural space. Different grids are vertically layered, and each layer has different infrastructural functions. The kitchen is planned based on the cooking process. Vendors can unload their ingredients via the existing dock and carry them on the railing structure. Storage, Fridge, Sink, Range, and Pack space are planned step by step following the circulation. People can load food right after cook on the conveyor loop. The living space is on the second floor. People can reach the space via existing stairs.



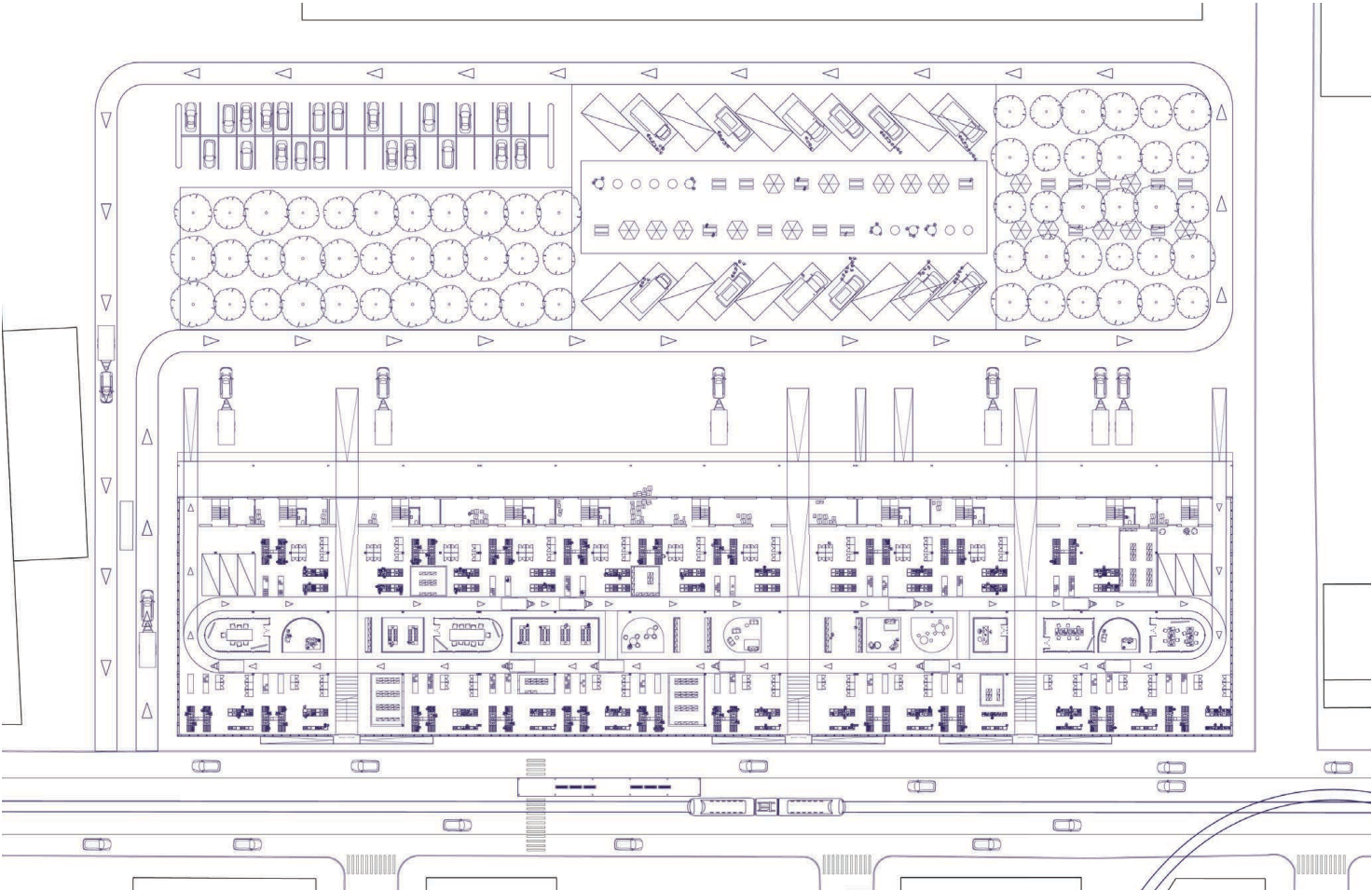
Physical Model: Each grid has a different function and located on the different heights



Climate Adaptation: Using ground temperature to cool the kitchen, while using sunlight to heat residential area



Outside-In View: Using existing structures and grid as spatial standard



Ground Floor Plan: Vendors can bring their food trailers into the building via conveyor belt and load the food right after they cook

3 Fill Green, Stop Blue

Sustainable Solution for Floods at abandoned Train Platform

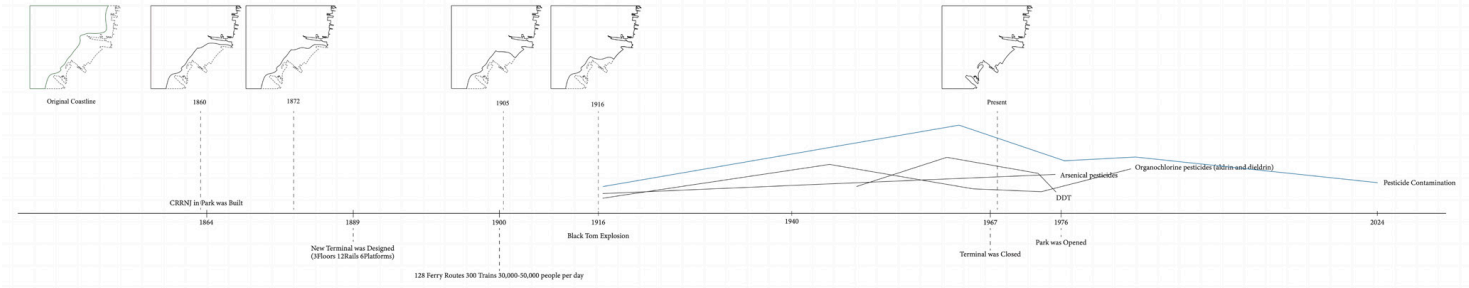
Project – GSAPP Architectural Studio IV

Period: 2nd Year, Spring 2025
Type: Landscape, Cultural
Instructor: Mimi Hoang (n Architects)
Teamwork with To Quynh Pham
Keyword: Soil, Sustainability, Water Rises

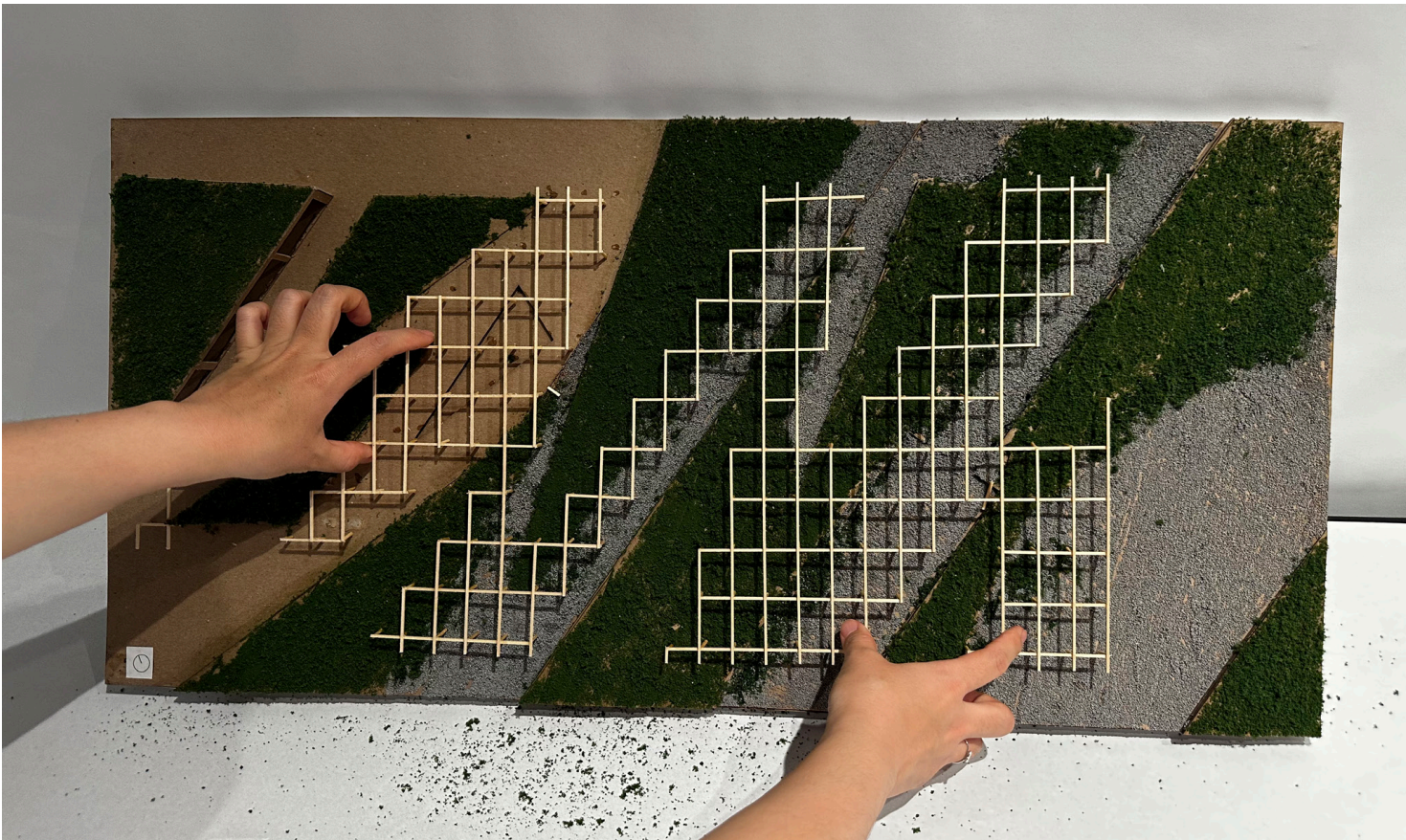
The project addresses the paradox of inviting people into a flood-prone site while protecting them and restoring the ecology of a contaminated, impermeable train shed. Instead of resisting water, we embrace it—using landscape transitions and gradients of wetness and dryness to absorb, slow, and divert water in response to tides, flooding, and sea level rise.

The site transforms from softscape to hardscape, southeast to northwest, with rippled slopes that manage water flow and bathymetric forms that break wave energy. Construction begins with removing toxic soil and forming slopes with concrete platforms and soil pockets. Water-absorbent plants improve permeability and resilience over time.

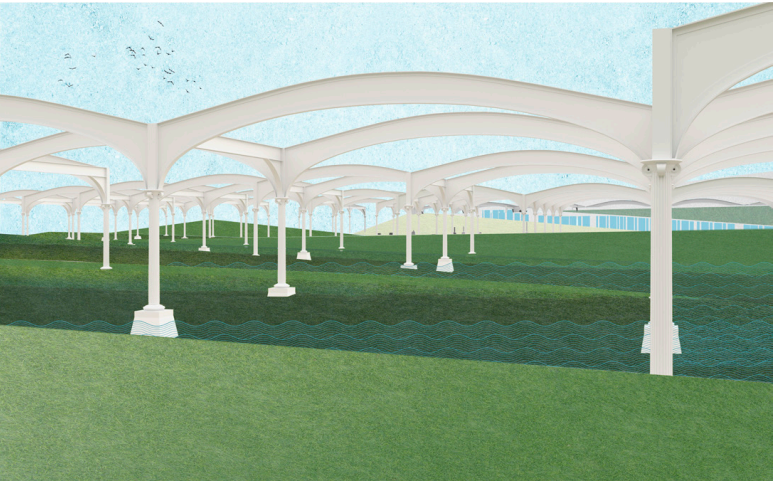
A 45-foot structure rises up at the northwest corner of the site, seamlessly blending in with the natural surroundings. It offers both indoor and outdoor areas for learning, studying, and connecting with the natural environment. Classrooms and interactive labs for children are located on the first floor, while the second floor features archives, research labs, and a terrace with views of the landscape. The structure blends into the landscape when viewed from the river, but appears as a human-made intervention with active use when seen from land. This project turns traditional infrastructure into a dynamic system where water, plants, and people collaborate to create a sustainable future.



Timeline of soil contamination



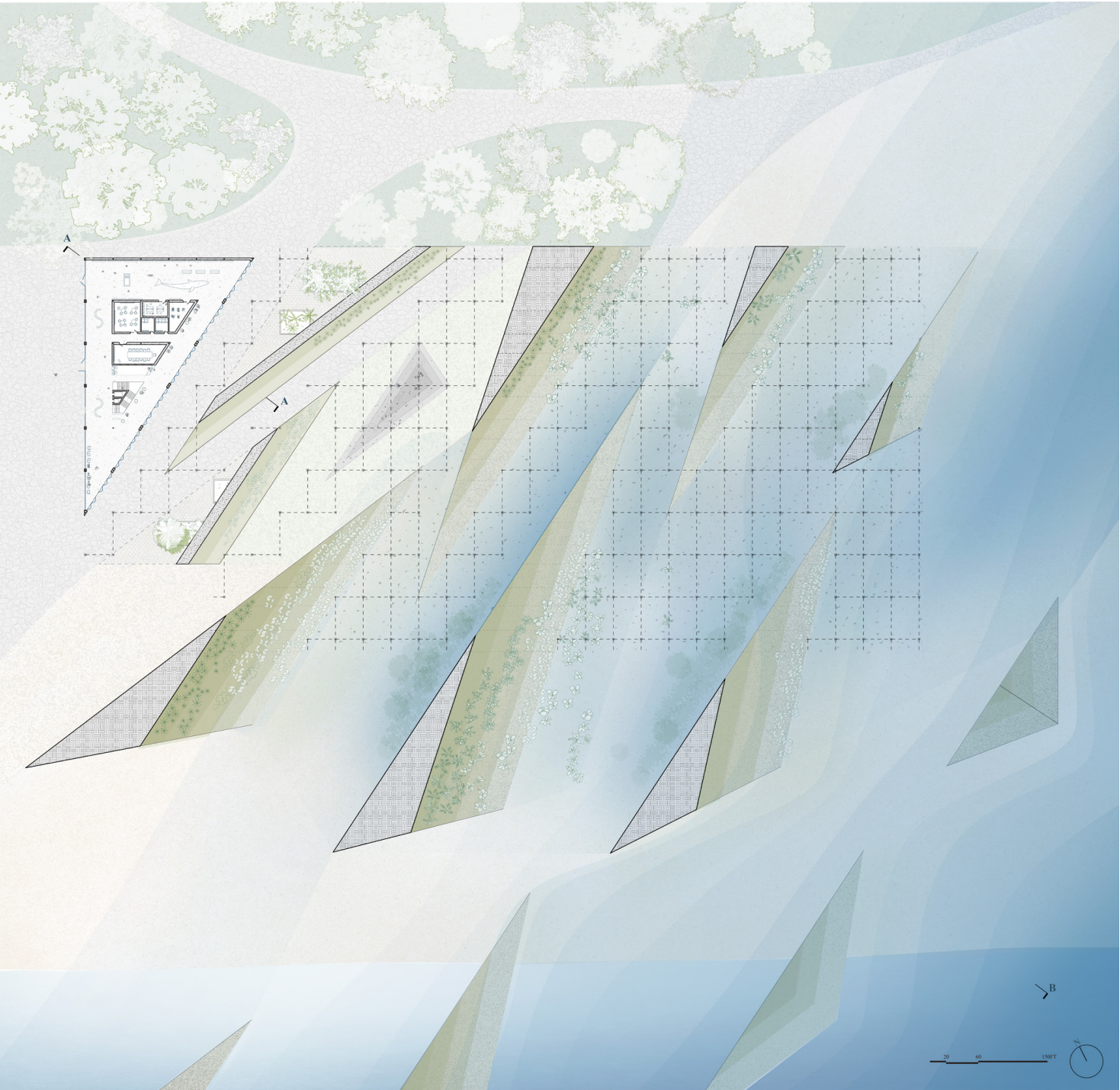
Physical Model



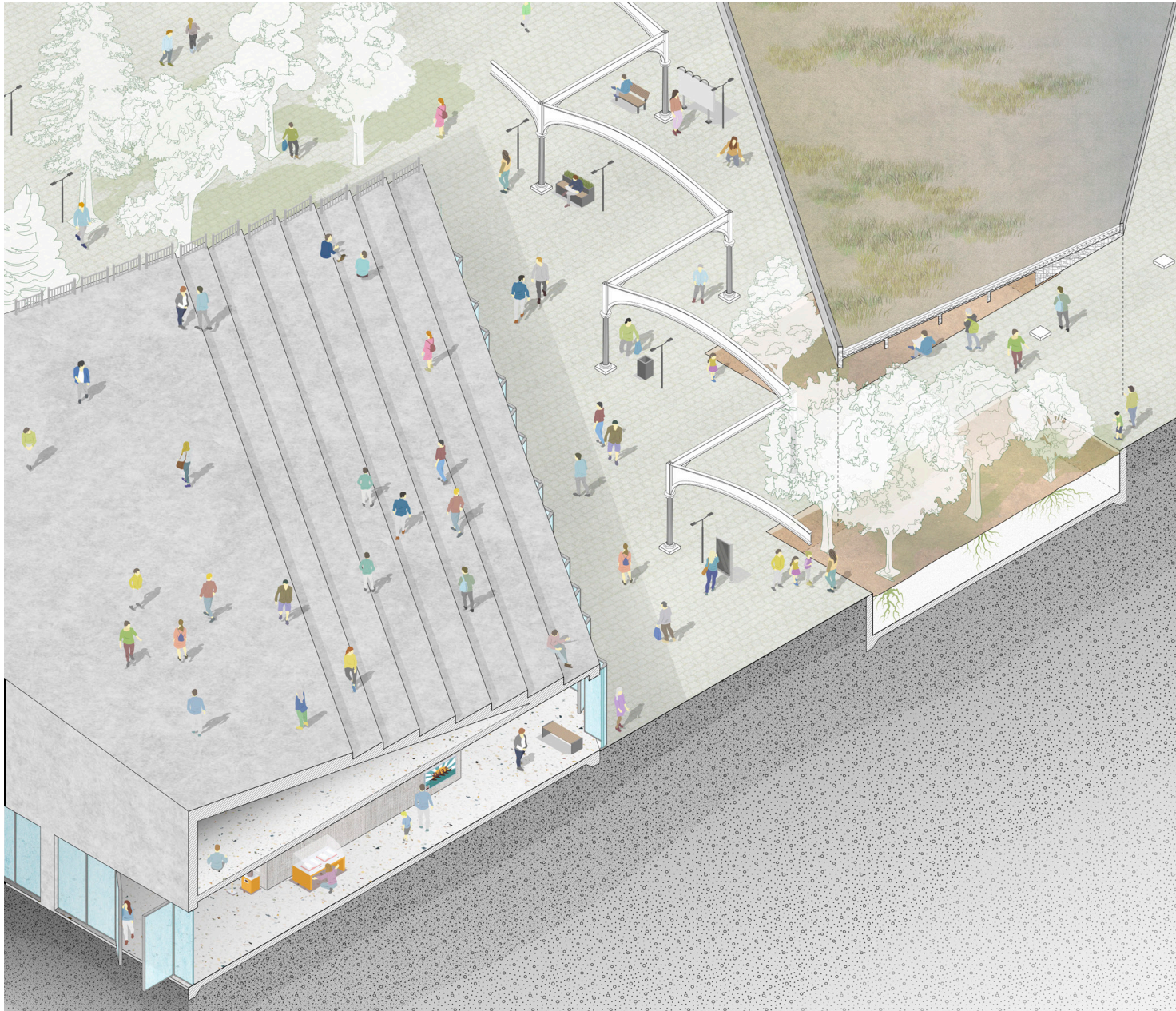
Views: Landscape



Views: Interior



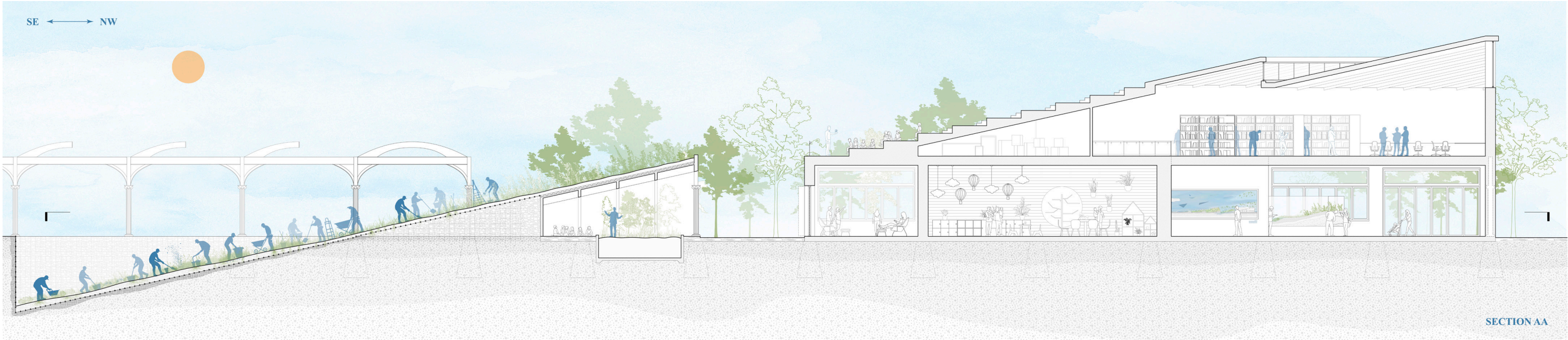
Plan



Axno view



Site Plan: Under water mount counter to floods



Section

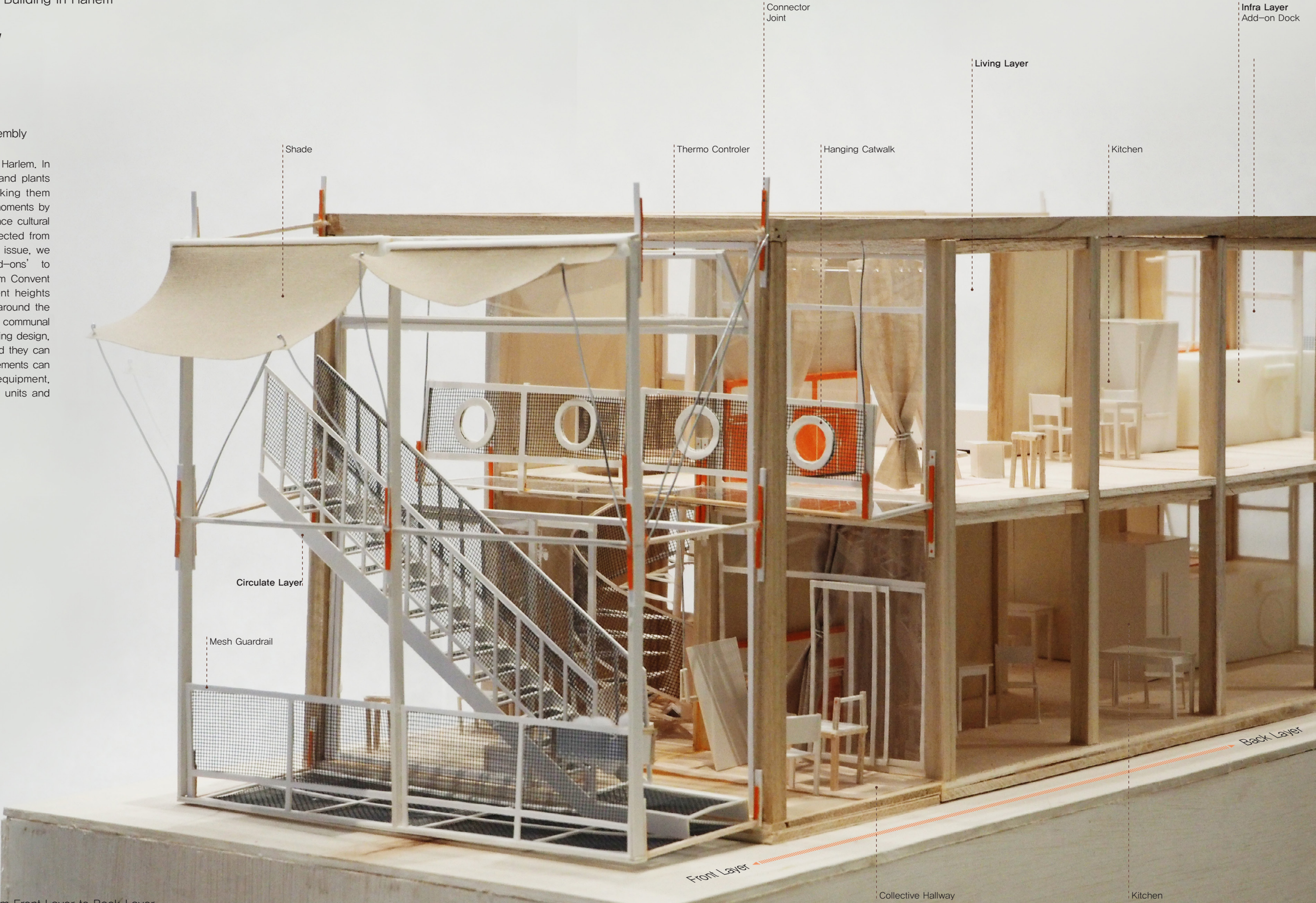
4 Street to Home

Re-layering Street Elements in the Building in Harlem

Project – GSAPP Architectural Studio III

Period: 2nd Year, Fall 2024
Type: Residential + Gallery + Theatre
Instructor: Marc Tsurumaki (LTL Architects)
Teamwork with Yonghyun Kwon
Keyword: Inhabitancy, Add-on, Layers, Assembly

The ‘Street to Home’ is a housing project in Harlem. In the city, many construction elements, people, and plants generate inhabitant layers on the streets, making them vibrant. Since these layers make various living moments by overlapping and interacting, people can experience cultural dynamics. However, the project site is disconnected from the roads because of an 8ft wall. To solve this issue, we bring ‘street layers’ into the project and ‘add-ons’ to make the building lively. Planning the ramp from Convent Ave to 127th Street, two streets link at different heights and penetrate the site. The building is added around the ramp, and the units and collective streets for the communal space are added to the facility layers. In the building design, ‘Timber’ and ‘Joint’ are basic elements and they can be assembled and added to each other. The elements can be combined and people can make various equipment, furniture, and structures with their needs in the units and collective streets, on the plaza and rooftop areas.



Model Photo: One Chunk of Housing Unit from Front Layer to Back Layer

What Makes My Neighborhood Lively?: Street Layers Analysis

Layers



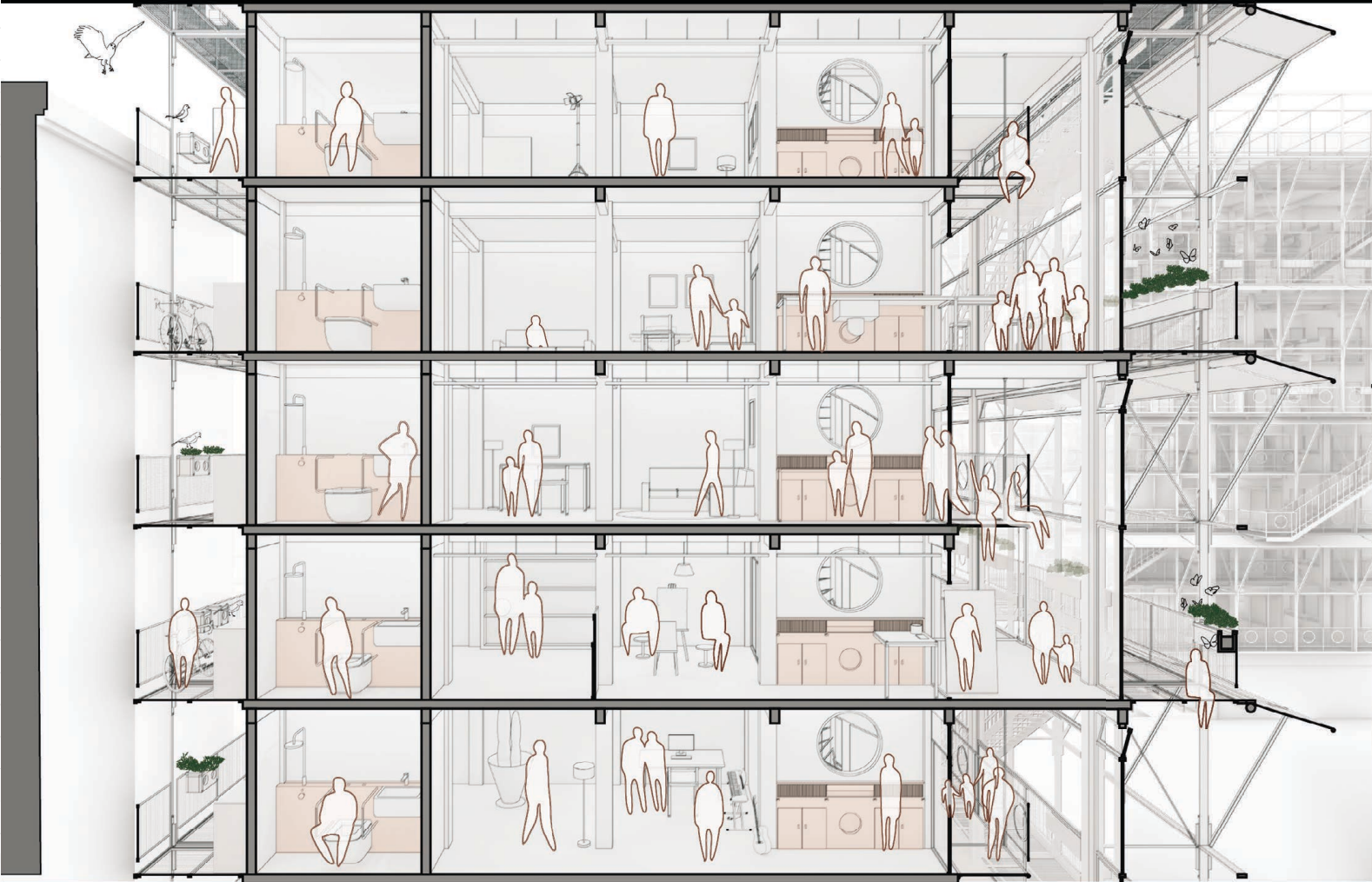
Inhabitancy



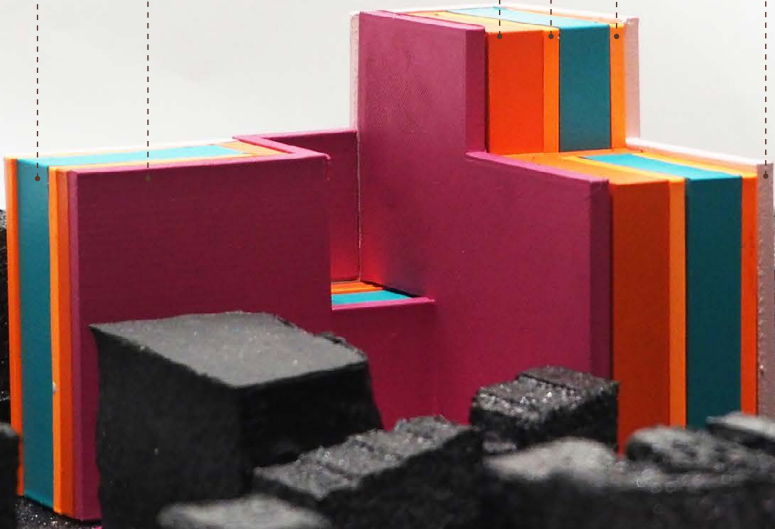
- 1 - Windows
- 2 - Windows with Grating
- 3 - Air Conditioner
- 4 - Door Bell
- 5 - Awning
- 6 - Ramp and Stairs
- 7 - Gate
- 8 - Fire Escape
- 9 - Wall Ornaments
- 10 - Lighting
- 11 - Doorplate
- 12 - Building Outer Facilities
- 13 - Signs
- 14 - Security Cameras
- 15 - Garbage Bins
- 16 - Fences
- 17 - Gutters
- 18 - Facilities on Street
- 19 - Benches on Street
- 20 - Sign on the Road
- 21 - Fence on the Road
- 22 - Vegetation on the building
- 23 - Pigeons on the wall
- 24 - Advertisements
- 25 - Signboard
- 26 - Graffiti
- 27 - Dogs and People near building
- 28 - Mural
- 29 - Water Leaking Door
- 30 - Hawk
- 31 - People Gathering
- 32 - People on Street
- 33 - People Resting on Street
- 34 - Vegetation on Street
- 35 - Animals on Street
- 36 - Failed Facilities
- 37 - Abandoned Objects
- 38 - Vegetation near Road
- 39 - Drainage
- 40 - Car at the Curbside
- 41 - Animals on the Road

How Residents Foam their Spaces?: Unit Diversity

The add-on dock plays a basic, essential role in 'living' such as water, electricity, gas, and add-on joints. Every household could occupy their residential area based on their needs by adding walls between the columns. The add-on furniture, which is assembled by residents, generates interesting interactions since the furniture can spread out over the street.



- Living Layer
- Front Layer Communal Balcony
- Collective Hallway
- Infra Layer Add-on Dock
- Back Layer Compost Dock



Vendor



Wide Corridor
Extend Cooking Table

Musician



Double Height Studio
SoundProof Room
Hanging MIC on Corridor

Painter



Double Height
(To Keep Large Artwork)
Extend Working Space

Performer



Practice Room
Stage and Seats on Corridor
Hanging Pinpoint Light

Dancer



Practice Room
(Linear Mirror Wall)
Extend Stretching Bar

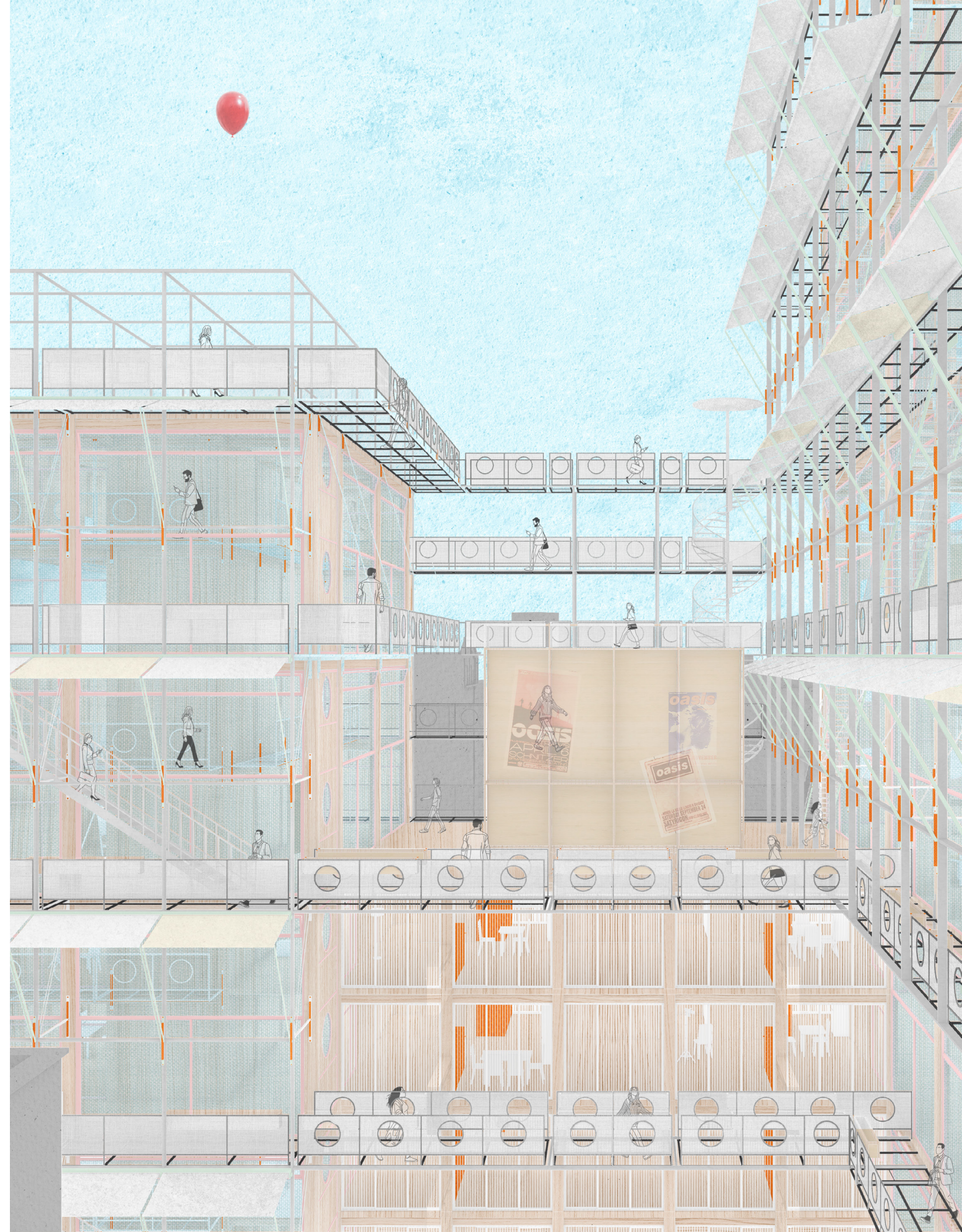


Floor Plan (Typical Floor)

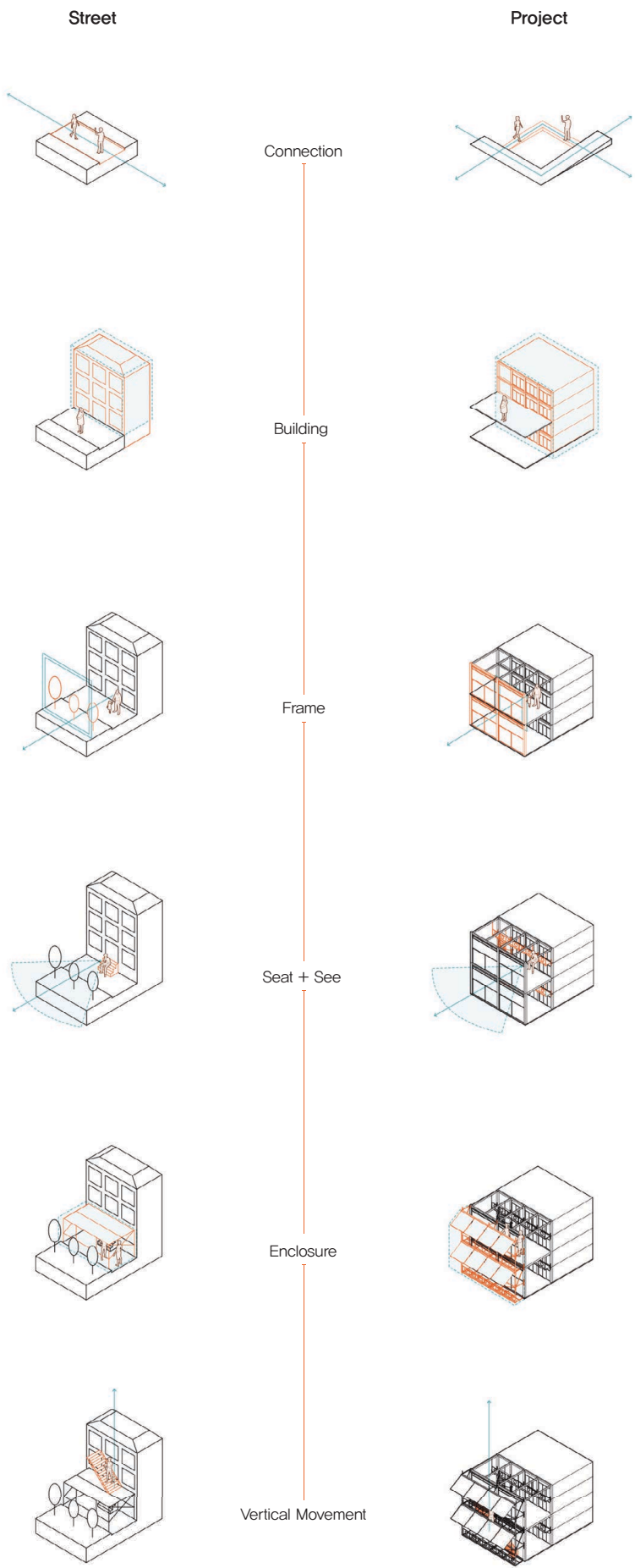


Floor Plan (Typical Floor+1)

Floor Plan (Typical Floor+2)

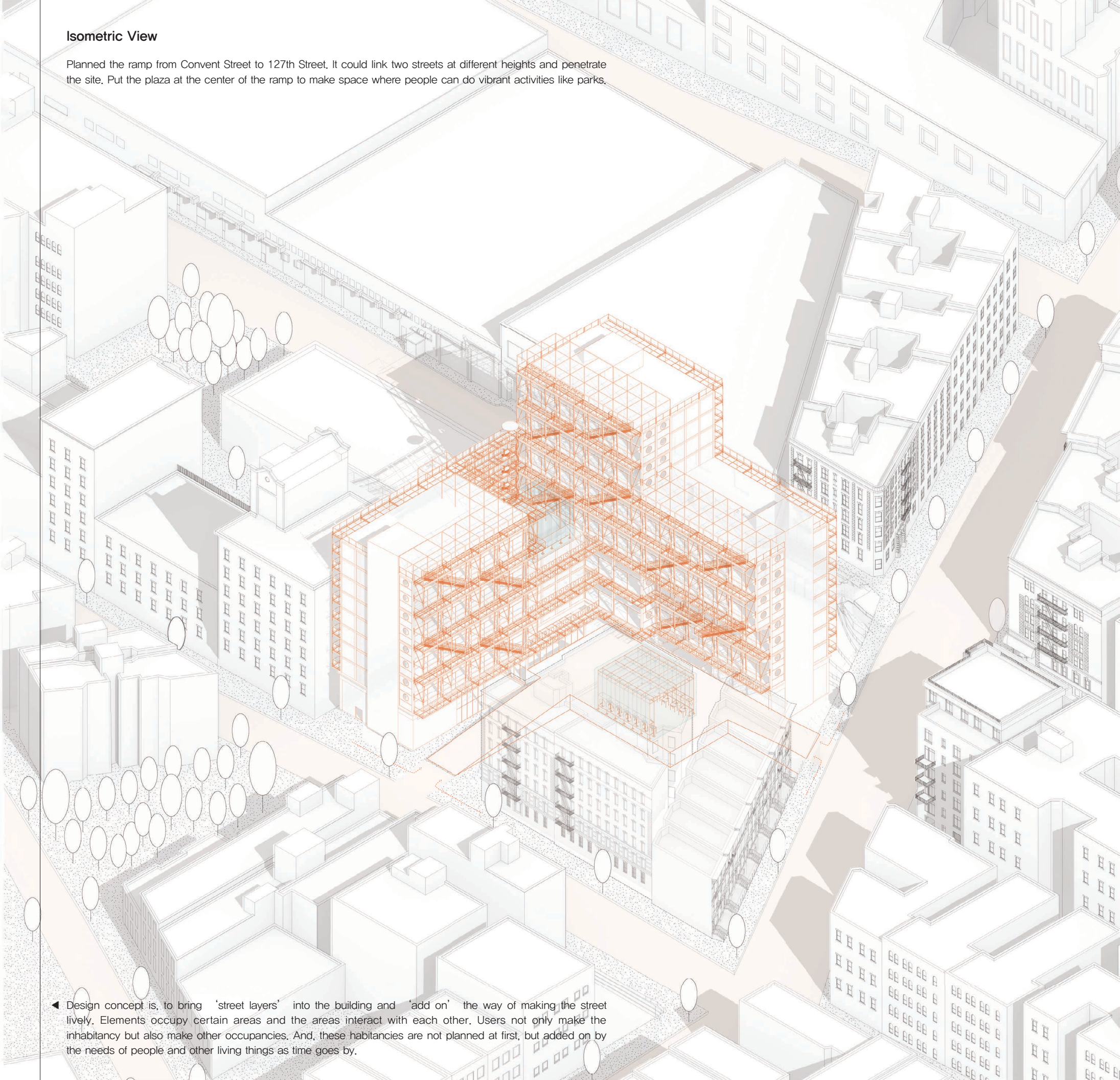


How the Project Follows the Street?: Design Process



Isometric View

Planned the ramp from Convent Street to 127th Street. It could link two streets at different heights and penetrate the site. Put the plaza at the center of the ramp to make space where people can do vibrant activities like parks.



◀ Design concept is, to bring 'street layers' into the building and 'add on' the way of making the street lively. Elements occupy certain areas and the areas interact with each other. Users not only make the inhabitancy but also make other occupancies. And, these habitancies are not planned at first, but added on by the needs of people and other living things as time goes by.

Section Perspective

The facade, awning, plant box, stairs, and outermost layer have a potential to interact with the plaza and rooftops. Residents can put different add-on furniture on the communal area with various occupations. People can interact on the community space and this could bind their cultures.



5 Water Station

Water Grab System from Air in Arid Area

Project – GSAPP Architectural Studio II

Period: 1st Year, Spring 2024

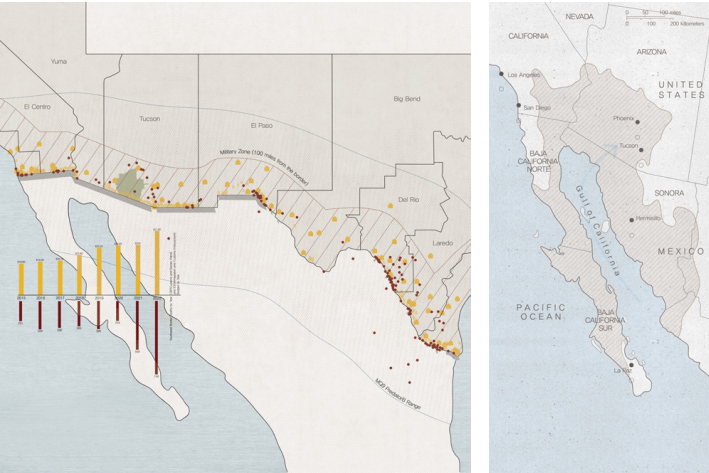
Type: Pavilion

Instructor: Grace Ali

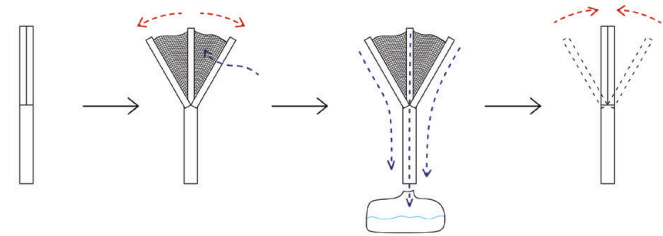
Individual work

Keyword: Desert, Fog–Collection, Sustainability

The project is the water station as a life–saving infrastructure in the desert. Simple fog–collection devices, this sustainable water station offers much–needed support along migrant trajectories. This infrastructure of water stations prioritizes aid over risk and deterrence. Designed to mimic the landscape features, these mechanisms become more visible on foot through closer proximity to the station. Stations can be placed in more remote locations that cannot typically be accessed by vehicles. Ultimately, the project seeks creative solutions to provide aid in a perilous desert landscape.

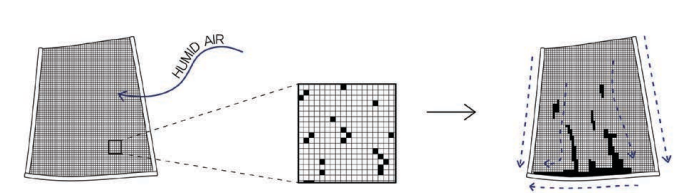


How to Work



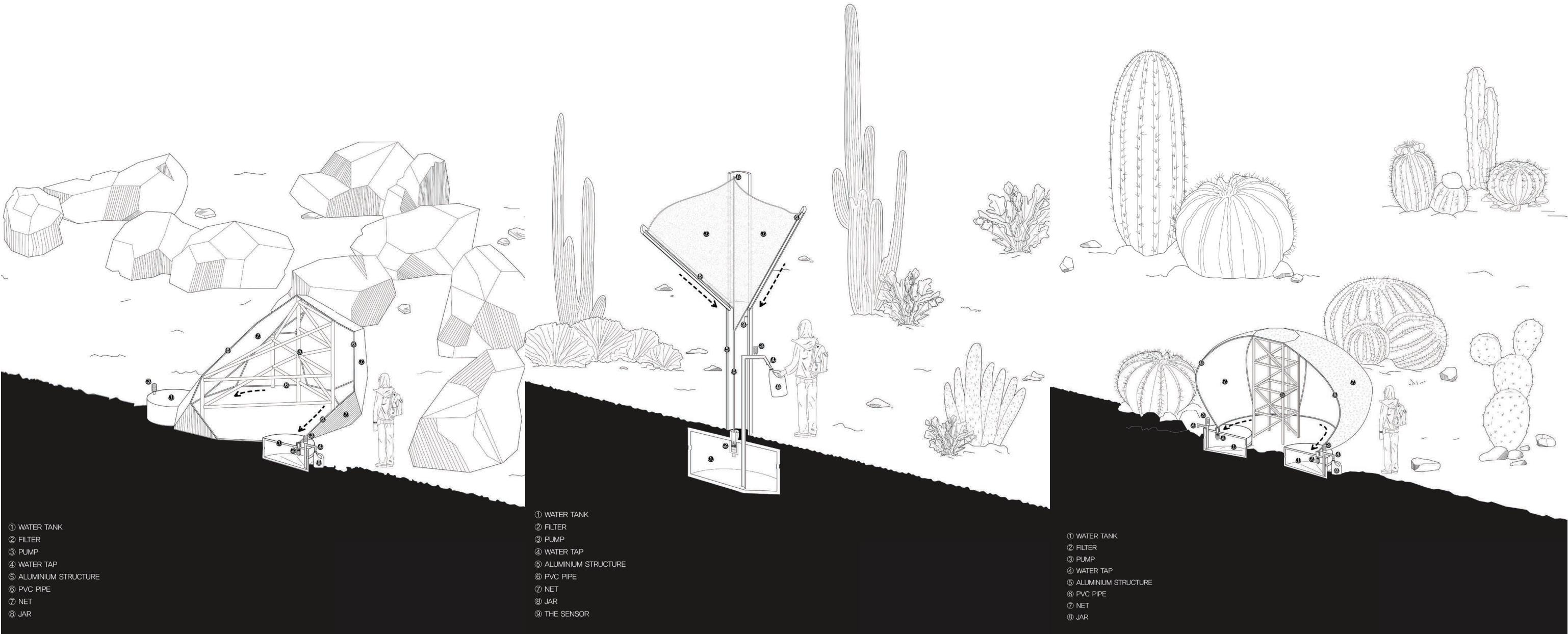
When the humidity reaches a certain range, the stick opens and collects water through the cloth

How to Collect Water



Condensation of water droplets in a small hole in the fabric

Droplets flow down the pvc pipe and gather in the water tank



- ① WATER TANK
- ② FILTER
- ③ PUMP
- ④ WATER TAP
- ⑤ ALUMINIUM STRUCTURE
- ⑥ PVC PIPE
- ⑦ NET
- ⑧ JAR

- ① WATER TANK
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- ⑥ PVC PIPE
- ⑦ NET
- ⑧ JAR
- ⑨ THE SENSOR

- ① WATER TANK
- ② FILTER
- ③ PUMP
- ④ WATER TAP
- ⑤ ALUMINIUM STRUCTURE
- ⑥ PVC PIPE
- ⑦ NET
- ⑧ JAR

6 Floating Squares

Environmental Solution for Bio-diversity at Waterfront

Project – GSAPP Tech Elective: Seedbomb

Period: 3rd Year, Fall 2025

Type: Furniture

Instructor: Emily Bauer

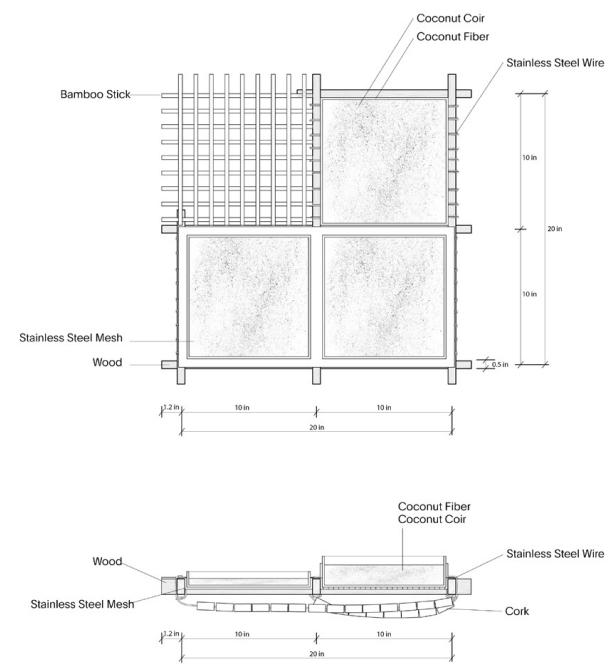
Teamwork with Natalia riba Arevalo

Keyword: Seedbomb, Sustainability, Floating, Bio-Material

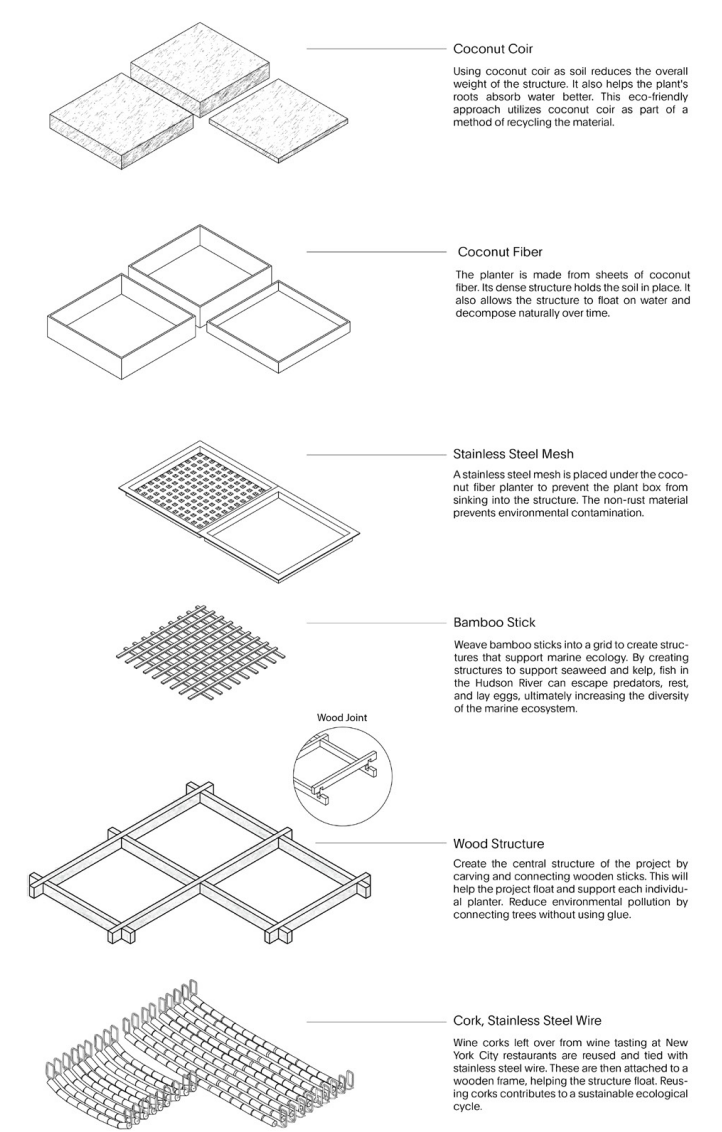
This project introduces a modular floating wetland designed to restore aquatic and terrestrial ecosystems within New York City’s urban inlets. By utilizing natural filtration through endemic plant roots, the intervention improves water quality while providing essential habitats for local fauna.

The proposal suggests circularity and material innovation, utilizing a structure of wood and reed paired with cork or coconut husk for buoyancy. The system incorporates processed food waste into the planting medium, directly addressing the city’s waste challenges. Designed as a scalable, replicable module, the project empowers the local community to participate in environmental responsibility. By transforming the shoreline into a site for collective education and ecological regeneration, the wetland functions as a dynamic interface where resource circularity and community-led preservation meet.

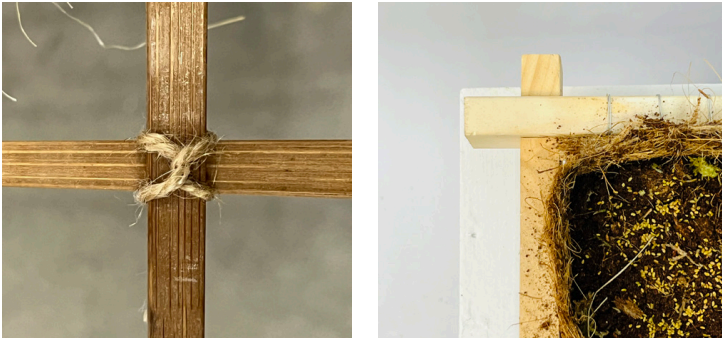
Modeule Plan



Construction Diagram



Structural Joint



7 Construction + Life Cycle Systems

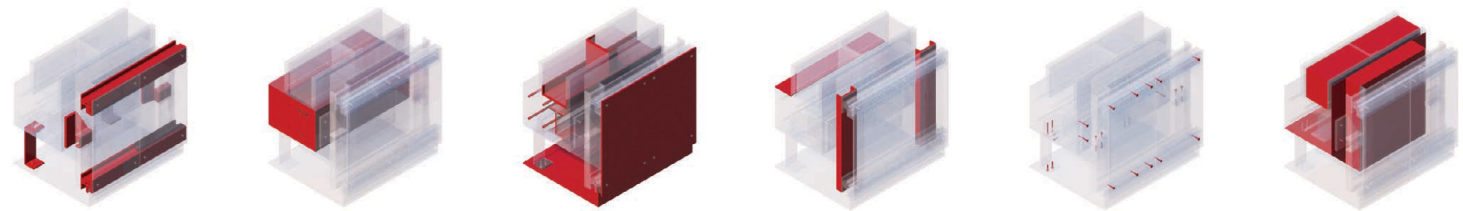
Building Science and Technology

Project – GSAPP Tech V

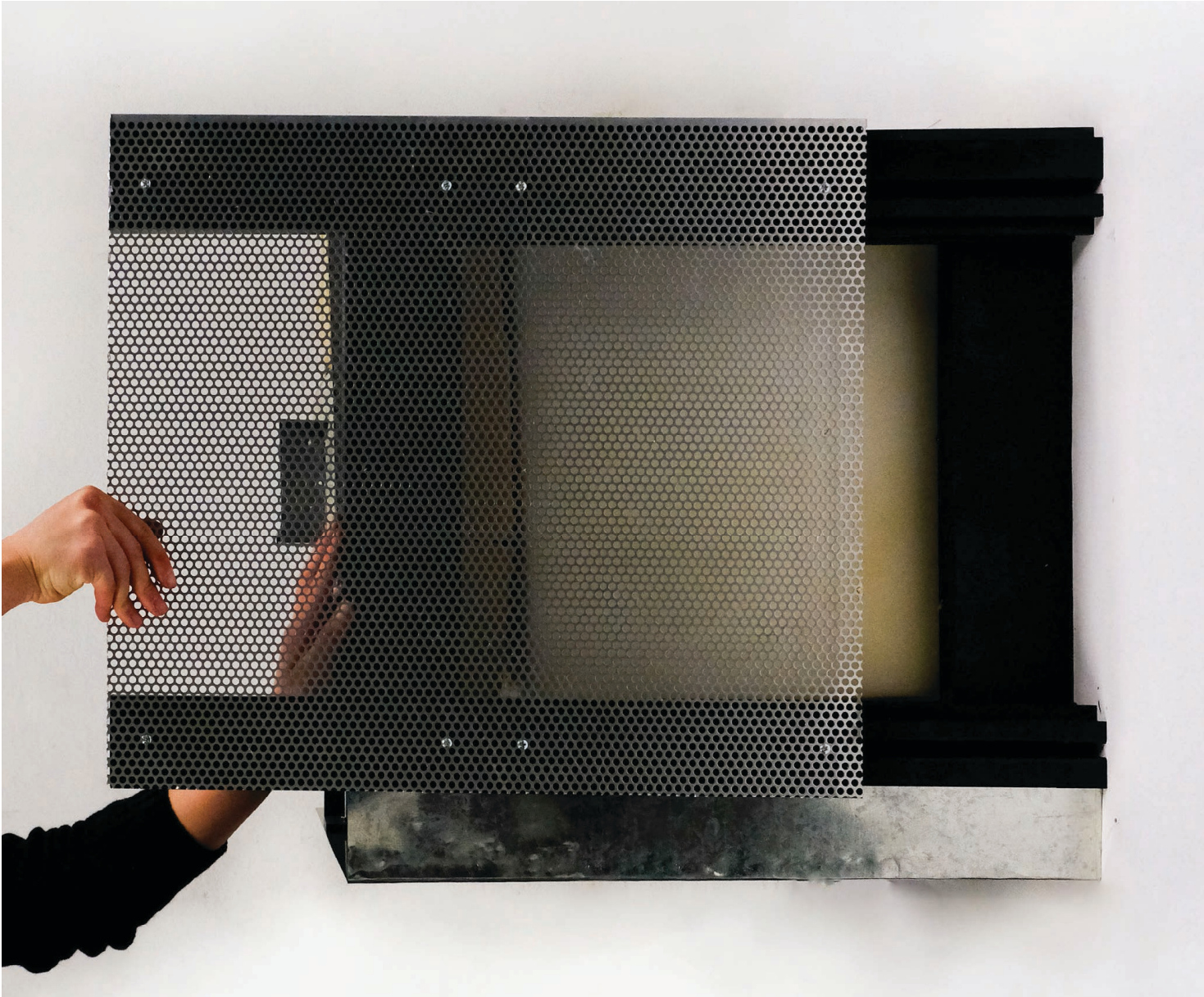
Period: 2nd Year, Spring 2025

The project is a Los Angeles based fashion studio that promotes transparency in garment design and production. The project expresses this mission through an exposed concrete and steel structure with a perforated metal rainscreen that reveals interior activity. Through material research using Granta and Tally, we evaluated facade and insulation options based on embodied carbon, thermal performance, and social impact.

By comparing metal, terracotta, and GFRC panels, and exploring hemp wool and Isocoton insulation, we prioritized lower carbon alternatives and responsible sourcing. The final moment boundary integrates a thermally broken connection system, demonstrating sustainable material selection, constructability, and fabrication logic.



Fabrication Plan: Materials



3/2" = 1' -0" (1:8) Fabrication Physical Model

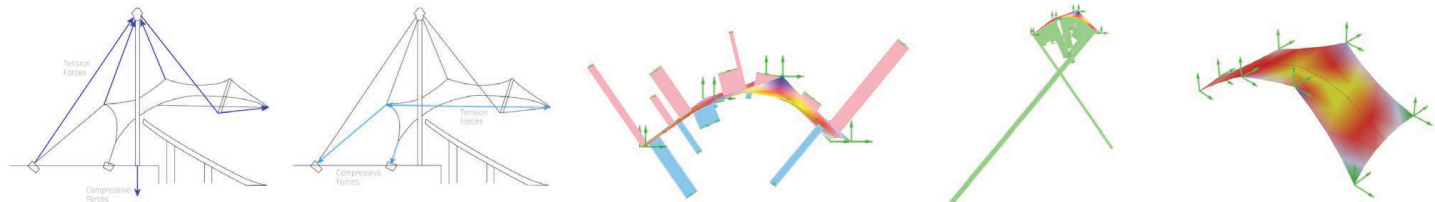
8 Cable System

Building Science and Technology

Project – GSAPP Tech II

Period: 1st Year, Spring 2024

This project explores the Munich Olympiastadion' s structural system to understand the principles of 1–D tensile engineering. By analyzing its complex network of galvanized steel cables and translucent acrylic panels, we examine how forces are distributed through masts and anchors. Through computational analysis and physical modeling, we bridge the gap between theory and form, mastering the geometric precision and pre–stressing techniques essential for creating efficient, lightweight, and stable large–scale structures.

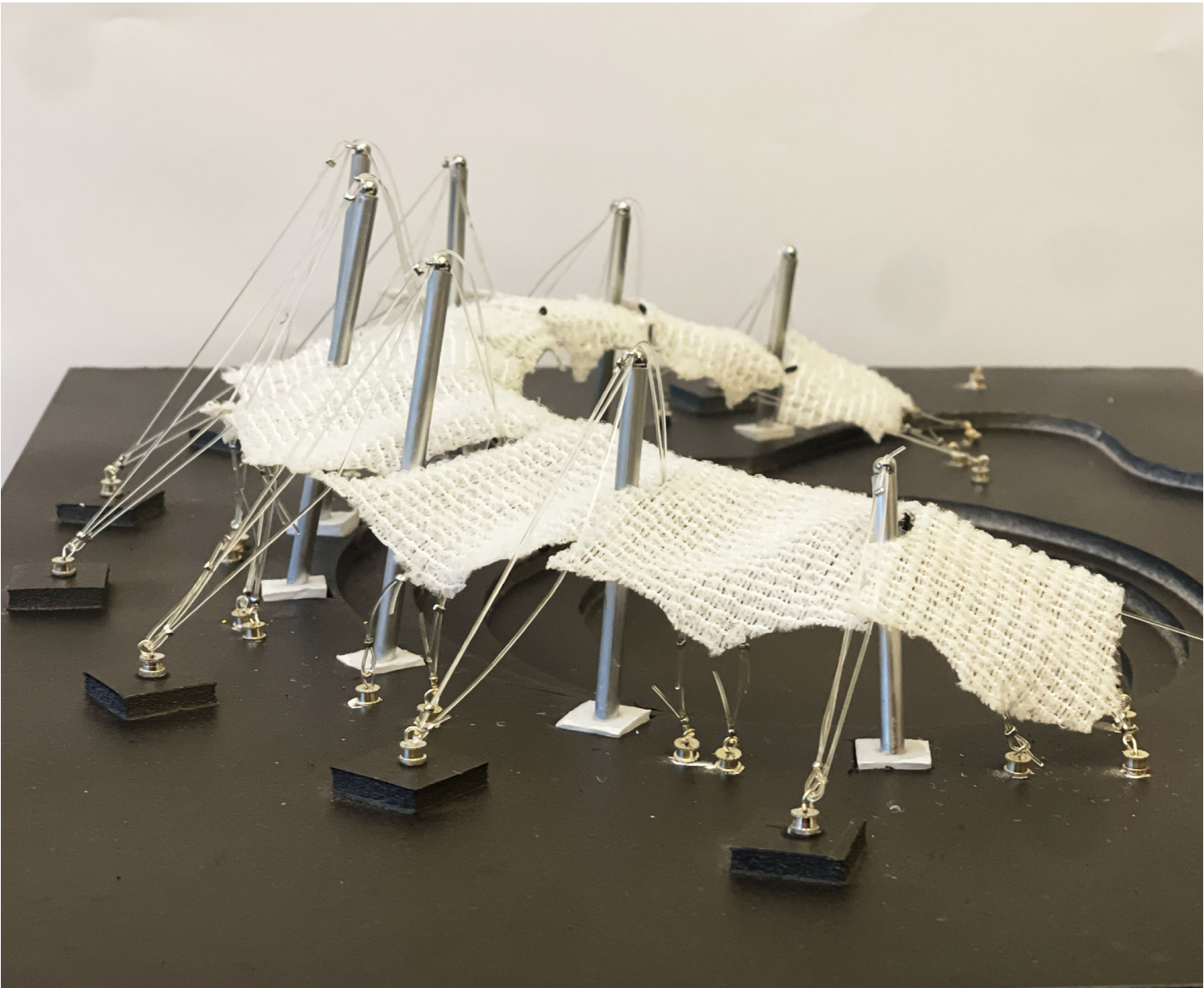


Free Body Diagram: Gravitational, Lateral

Shear Forces

Normal Forces

Stresses



Physical Model