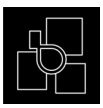
EVA XINYUE LIU

Selected Works
2024

01
Omega College
A Future Residential College

02
Care +
A Communal Hub for Wellness and Connection



03
Broken Tower
Queer Housing: A Miniature World of Living and Fantasy

04
Fold and Stitch
A Center for Ibero-American Studies

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A Sustainable Urban FEW Infrastructures on a Rooftop

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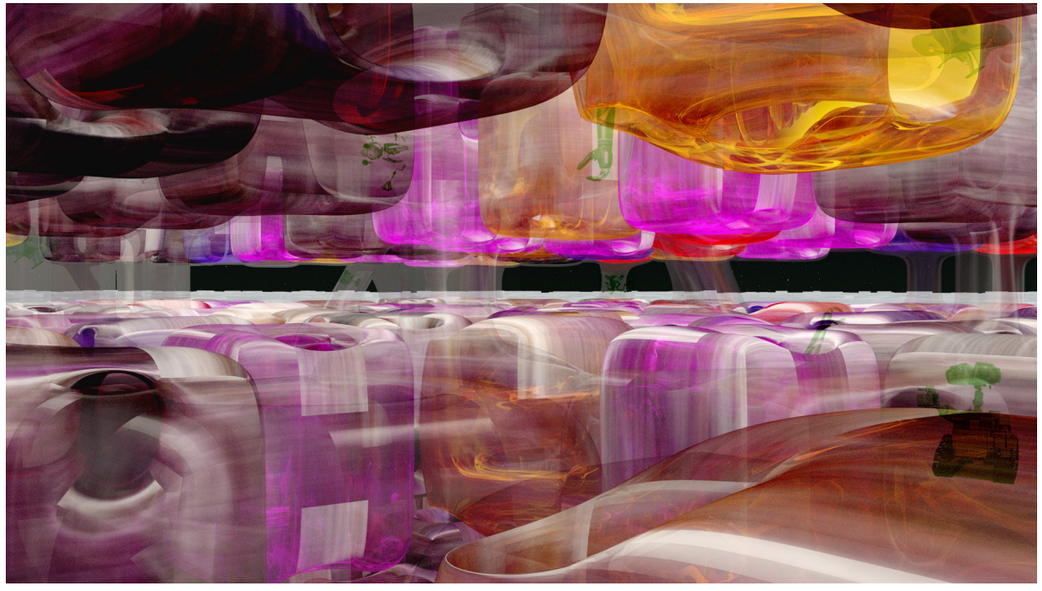
Urban Camouflage
A Housing Project in Midtown Houston

07
Professional Works
Internship at Ennead Architects and Atelier Deshaus



01

OMEGA COLLEGE

A Floating Nest of Living in the (Near) Future

Spring 2022. ARCH 402.
Instructed by Troy Schaum.
#HoustonTexas; #Residential; #Co-Living; #SmartHouse; #Urban

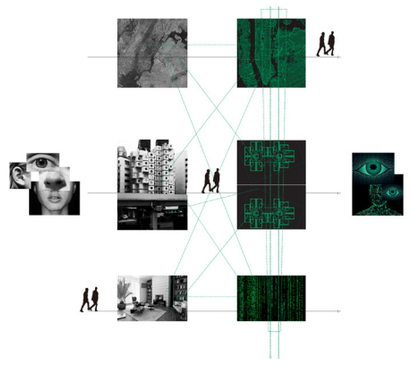
William Ward Watkin Design Award, 2022.
Rice University, School of Architecture.

The **'Liquid Candy'** residential college at Rice University in midtown Houston introduces a forward-thinking concept of **smart living** for the next century. Embracing the notion of 'liquidity,' the design envisions a **dynamic living** environment characterized by versatility in spatial arrangements, material possibilities, and an adaptable interpretation of the future.

Inspired by the intersection of media culture and architecture, the project draws upon the pioneering work of Bernard Tsumi, whose exploration of architectural spaces as cinematic jump cuts offers a lens through which to examine the evolving relationship between **humans and technology**. As we transition into an era dominated by immersive and intelligent computing, the collaborative **coexistence** of humans and machines emerges as a central theme for future living arrangements.

The increasing agency of technology necessitates a reimagining of spatial organization to accommodate diverse perspectives, both human and non-human, inherent in contemporary media culture. This vision drives the design of the smart college, which seeks to confront and embrace the multiplicity of viewpoints shaping our collective experience.

Moreover, the proposal extends its adaptability across various **scales**, recognizing the need for **flexibility and responsiveness** in a rapidly evolving technological landscape. By addressing the complexities of human-machine interaction and spatial organization, the 'Liquid Candy' residential college aims to chart a course towards a more **inclusive and adaptive future**.

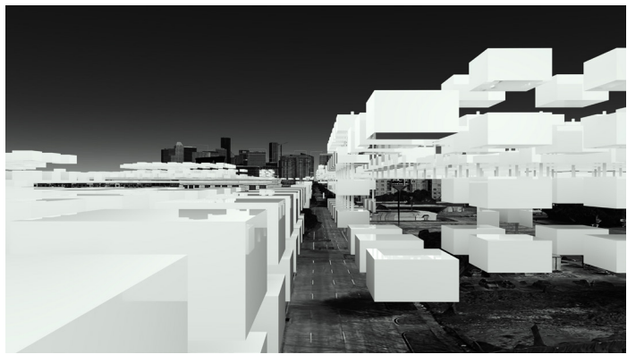


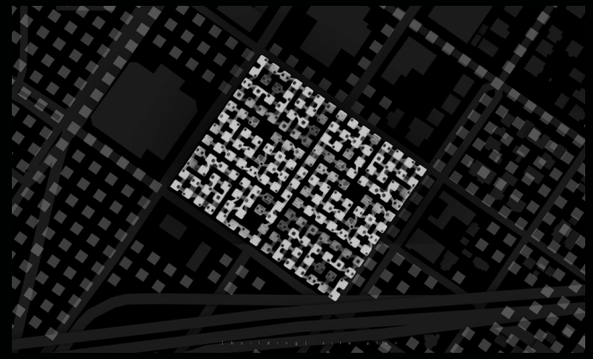
1. At the urban scale, the new typography will be structured into radial realms, intersecting tangentially with one another. Each realm will emanate from a central node that serves as a facilitator for its respective zone. The Omega College will act as the **pivotal node** within the education realm, anchoring and connecting various educational facilities and initiatives within the surrounding area.

1. Urban Scale. 'Zoning' proposal.

2. Midtown. Aerial Shots of the Floating Promenade.

2. At the midtown scale, anticipating challenges such as limited ground space and environmental concerns, the project envisions a dynamic evolution of the urban fabric. **Utilizing existing infrastructure,** a **floating promenade** is proposed, suspending above ground level and offering resilience against flooding and air pollution while redefining urban living. By embracing the potential of elevated urban spaces, the project imagines a **resilient and sustainable** future for the city, where human habitation seamlessly integrates with the environment.



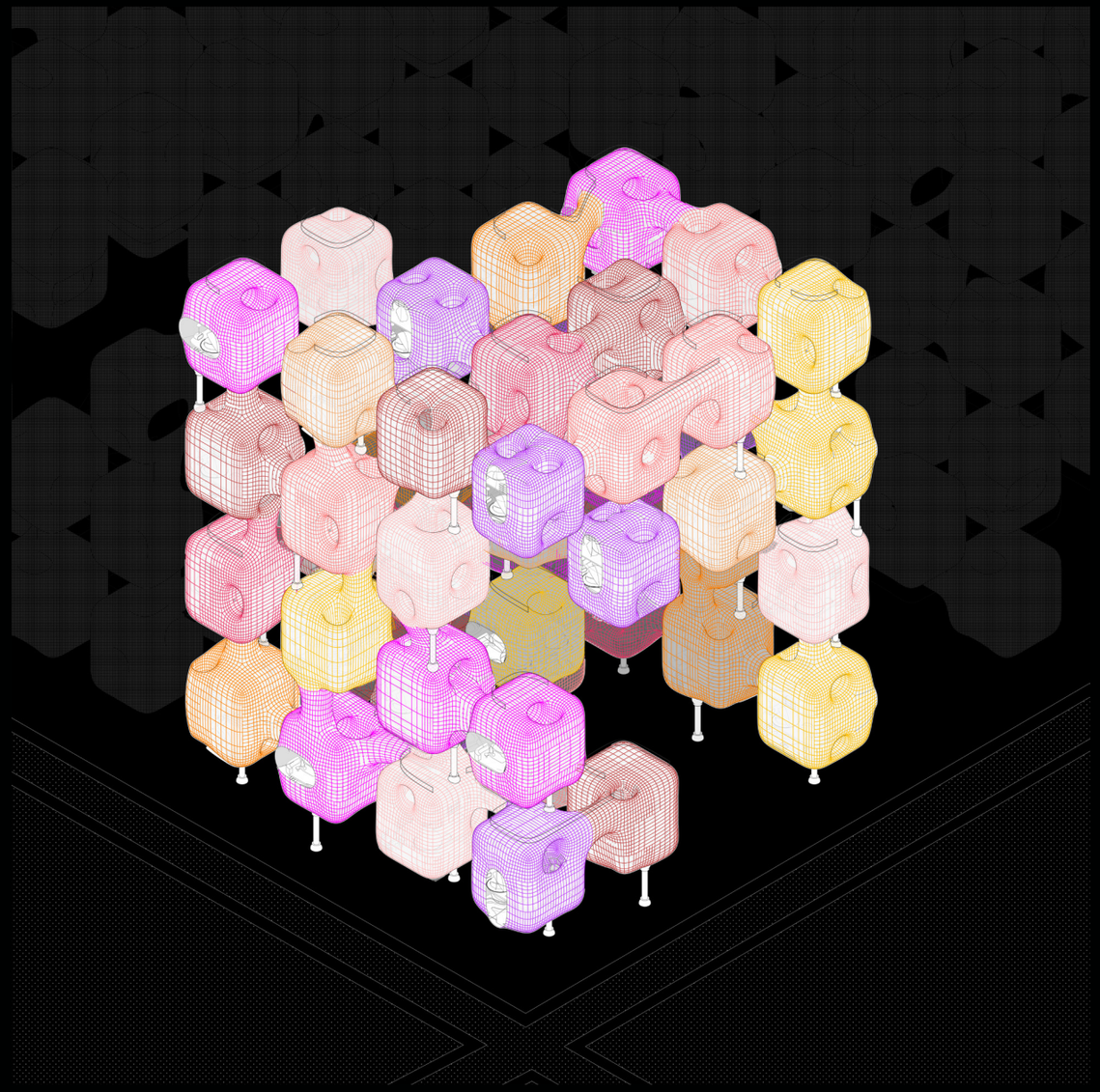


3. Zooming into the Omega College site, the design introduces a binary system of modules and voids that extend across the ground. Each module is intricately designed to accommodate **the co-living dynamic between humans and machines.** Recognizing the difference in spatial perception between humans and machines, the modules are conceived as **large 'lanterns' (units) enclosing smaller 'bubbles' (rooms)**. This configuration provides a **continuous surface** for efficient machine access to physical space, transcending conventional notions of ground and ceiling.

3. Site Plan. Field of 'Lanterns'.

Zoomed in Axon. Living Modules, Assemblage.

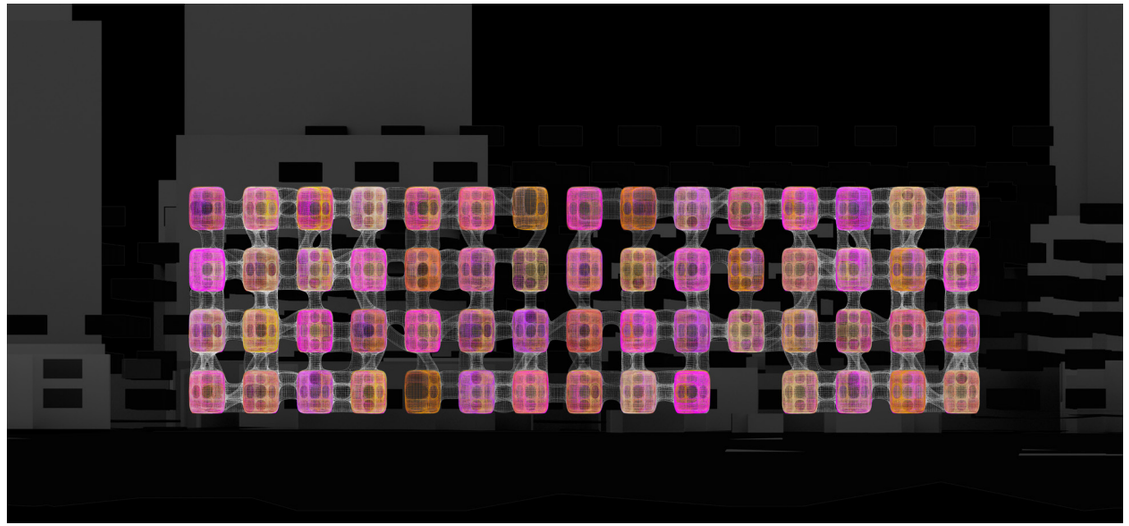
The lantern vessels will be **prefabricated and connected** using carbon fiber poles, facilitating simple installation and removal of units for future expansion. Additionally, neighboring vessels can be bridged to create larger **collective living spaces**, offering **flexibility and adaptability** to evolving needs and preferences.

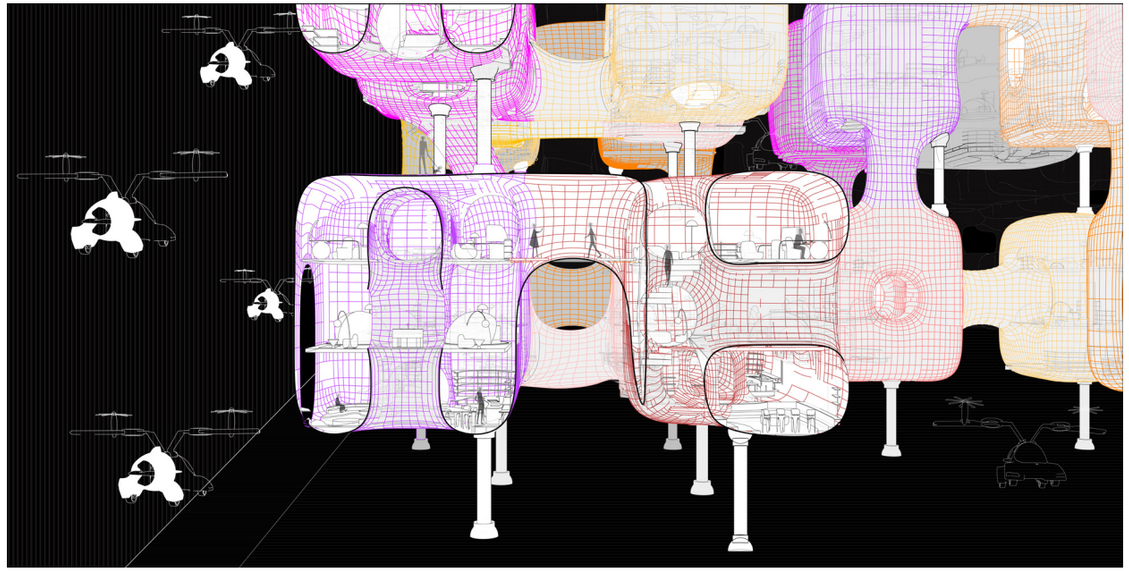


(Top) South Elevation. Tunnels and Shafts among Modules

(Down) Zoomed in Section. Neighboring Units Matrix.

The **rooftop** of each vessel is designed for **accessibility**, accommodating future modes of transportation such as flying cars, which could drop off passengers on the side or park directly on the rooftop. To facilitate movement between neighboring units, **indoor tunnels or bridges** provide convenient commuting options, **enhancing connectivity** within the living complex.





Sectional Perspective: Interconnected Lanterns - Creating an Integrated Nest of Living in the Air

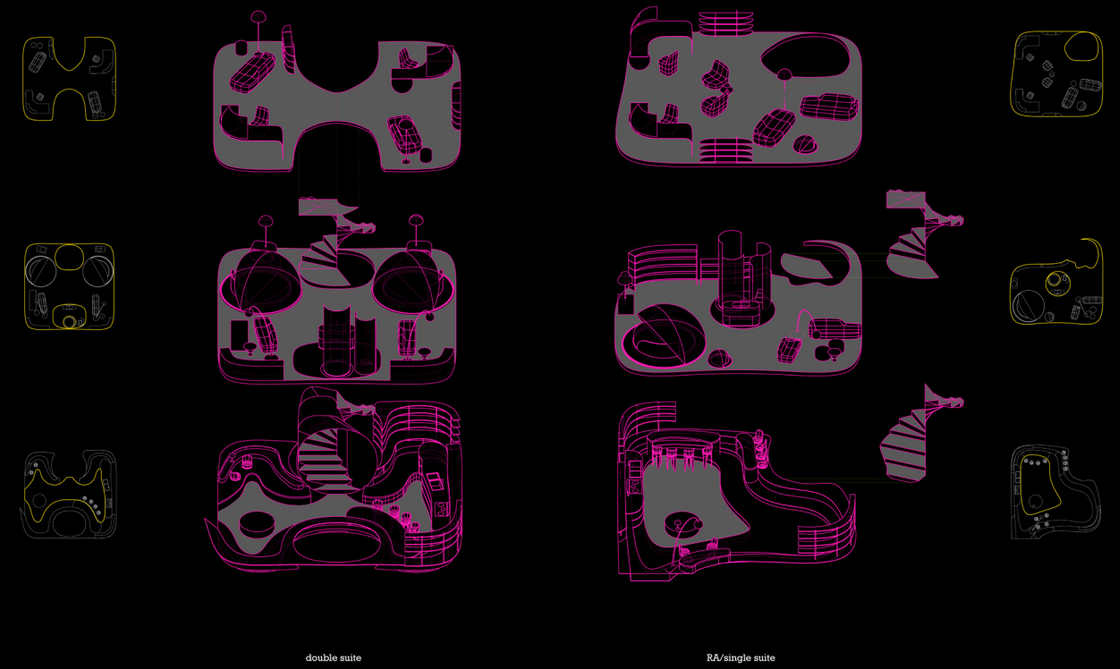
While virtual technology will be fully integrated throughout the nest of living, the opportunity for **nostalgic offline interaction** remains easily accessible through **interconnected vessels.**

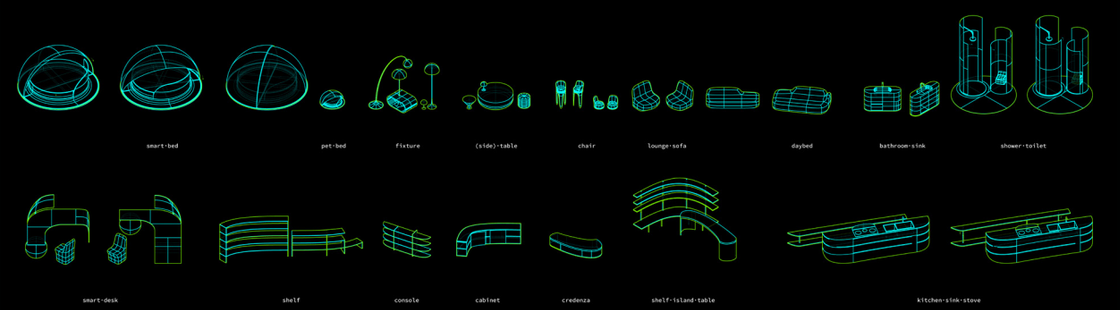
The open **green bubbles** serve as **versatile spaces for larger offline events**, with the option to install inflatable temporal structures for specific occasions upon request.

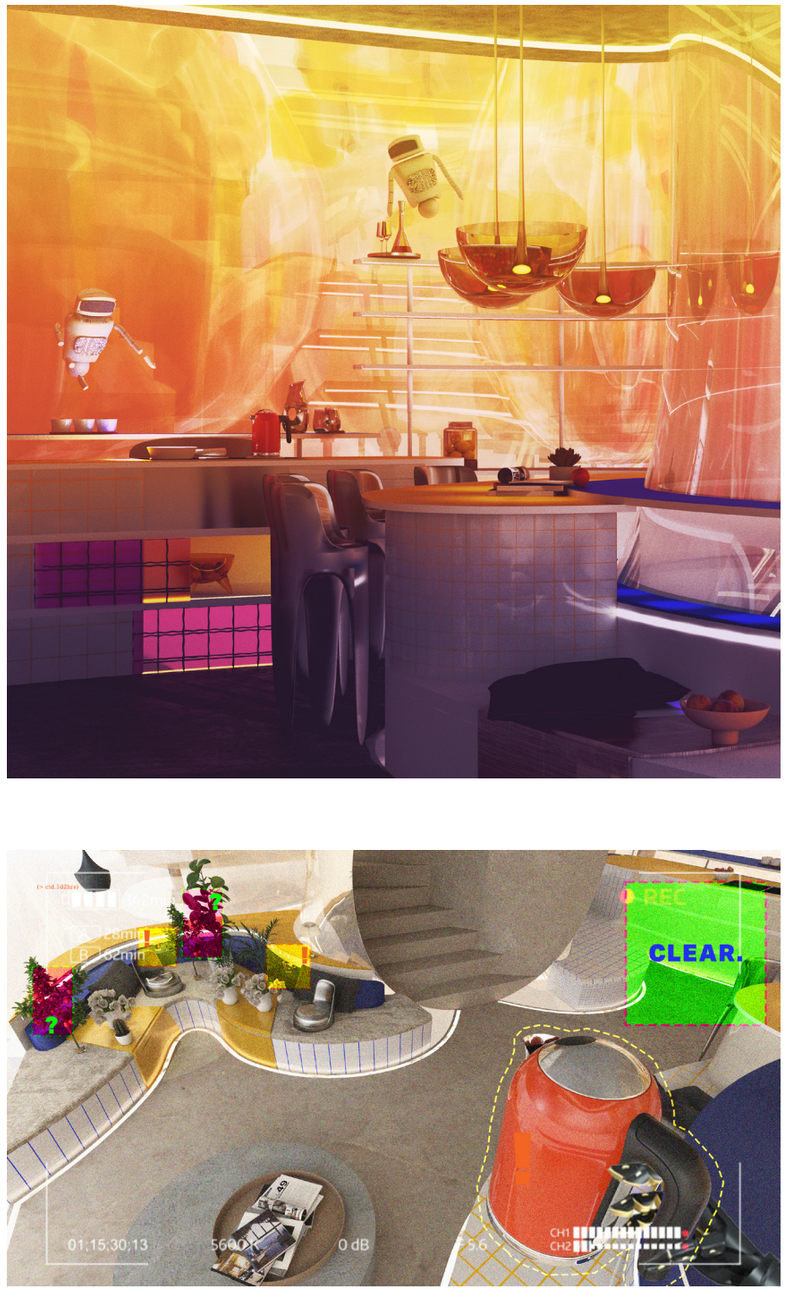
Exploded Floor Plan.
2 Types of Suite + Smart Funiture.

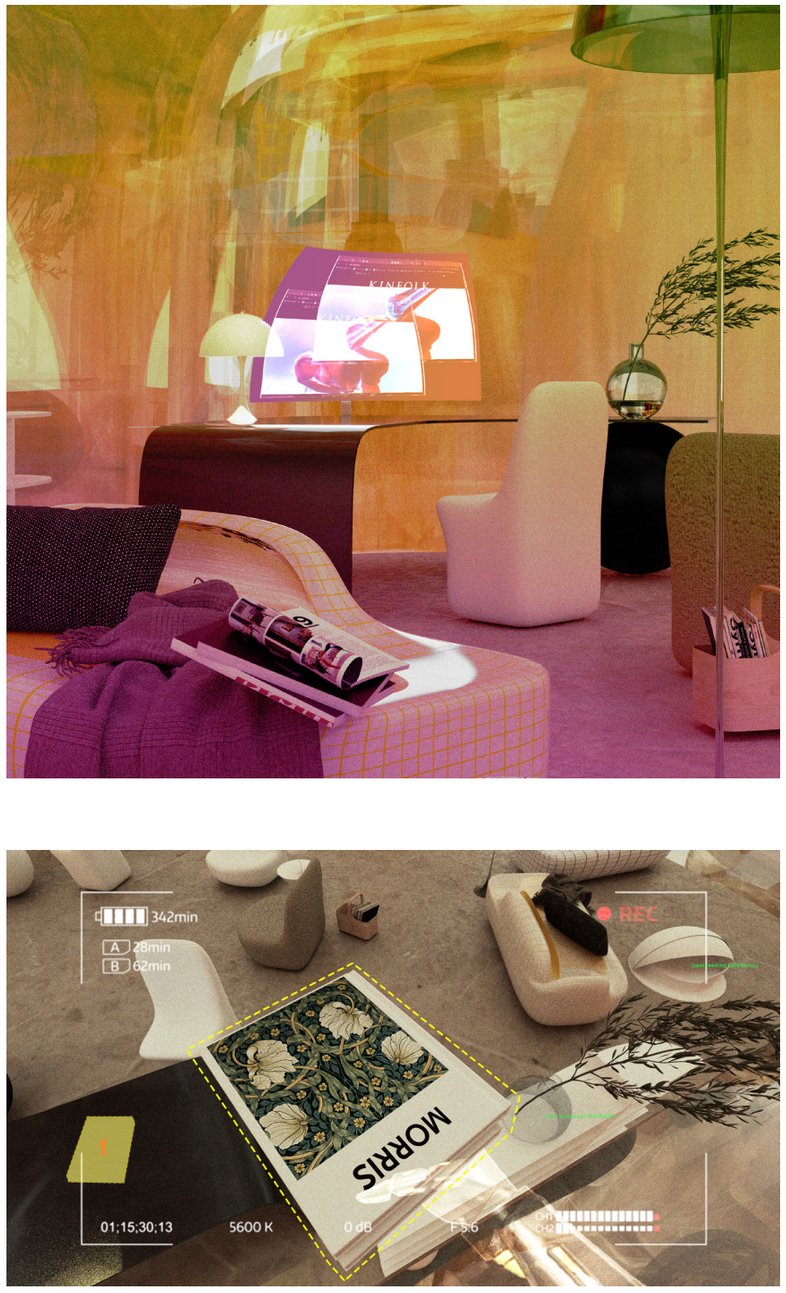
Each vessel measures 30 by 30 by 45 feet and is divided into **three floors** for human occupancy. The floor plan includes a **communal area** on the first floor for activities such as cooking, dining, and gathering. The middle floor provides more privacy with **bedrooms and bathrooms**, while the top floor offers a **studio space**.

The vertical space within each vessel serves as either a staircase shaft or a private bathroom. The **exploded floor plan** showcases two types of suites within each vessel, each equipped with **built-in smart furniture for enhanced functionality and convenience**, including smart beds, bathroom units, and more.









Co-Living Scenario:
First Floor Communal Space (LDK), Second Floor Private Space, Third Floor Studio.

The exterior of the structure is coated with various **colors** corresponding to the **floor plan types**, enhancing visual differentiation and aiding in wayfinding. Alternatively, it may be color-coded based on the **Rice University residential college system** if it endures over the next century.

The interior renderings depict three scenarios of future co-living conditions. On the top, perspectives are presented from the **human point of view, highlighting comfort and functionality.** On the bottom, aerial views from the perspective of **robots** feature navigation panels and toolbars overlayed, **emphasizing efficiency and technological integration**. These renderings offer insights into **potential living experiences** from both human and machine perspectives, illustrating the harmonious coexistence envisioned for the future.

02

CARE +
A Communal Hub, for Wellness and Connection

Fall 2023. ARCH 601. Totalization.
Instructed by Nicholas Gilliland.
Collaboration with Lauren Ma.

#ParisFrance; #Adaptive-Reuse; #Healthcare; #Library; #Theatre; #Sustainability; #Facade.

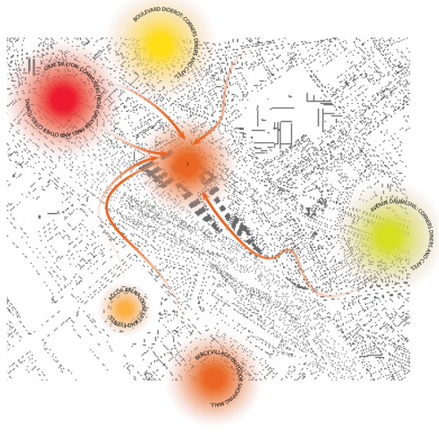
Located in the 12th arrondissement of Paris nearby the Gare de Lyon and the La Coulée Verte, Care+ is a comprehensive **mental health center** dedicated to fostering healing and well-being through a range of therapeutic modalities - traditional therapies alongside with **therapeutic acts** such as **reading, moving, making, and performing**.

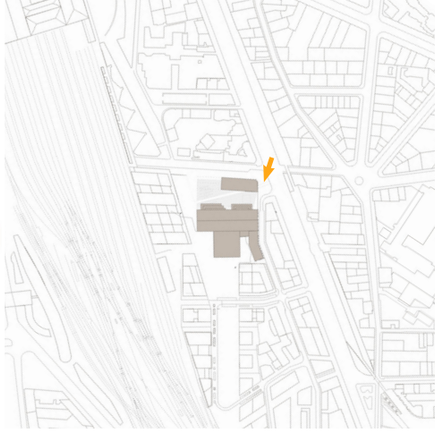
Consultation rooms and lounge areas provide a confidential and safe environment for both **one-on-one therapy** sessions and **group sessions**, ensuring care tailored to each client's needs. **Movement labs** sessions will also be held in the black-box theater. This flexible space is designed to integrate **expressive arts therapy**, offering opportunities for drama, dance, and other movement-based activities.

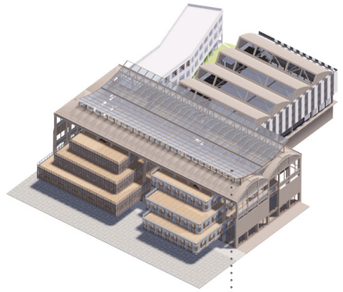
In addition to therapeutic spaces, our facility features a library stocked with collection of literature on mental health, self-help, and personal development. This quiet retreat serves as a **resource hub** for both care receivers and providers, promoting education in the journey towards mental wellness.

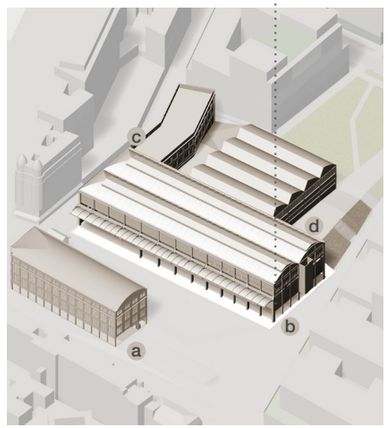
At Care+, our overarching goal is to create an inclusive and supportive environment that addresses the **multifaceted nature of mental health care**. We strive not only to equip our clients with the essential tools and resources for healing but also to foster open communication, creating a **safe space** for the general public and to **destigmatize** mental health.

**Design decisions were made as a team. Models, sections, structural and facade details, and some renders were made by Eva.*









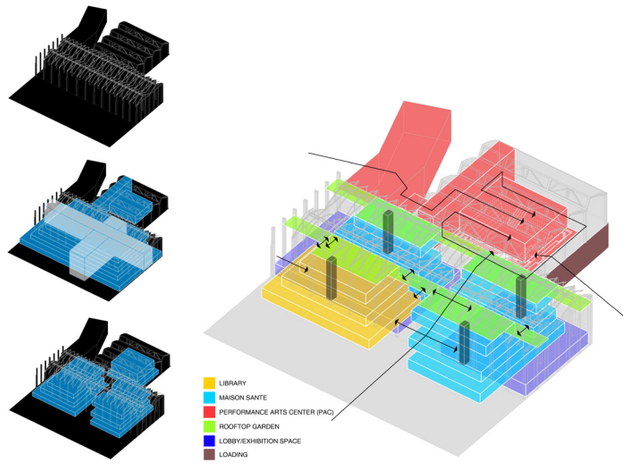
ⓐ Atelier de Telegraphe ⓒ 75 Rue du Charolais
ⓑ Halle des Messageries ⓓ C Shell (4)

Site Axon: Before and After

Based on the research, and through analysis of the existing site, we decided to focus on readapting these three blocks: the Halle des Messageries, the c-shell, and the 75 Rue du Charolais. Additionally, we envision the Atelier de Telegraphe as a potential future expansion to support housing programs for Care+.

Adaptive Reuse Approach

The primary approach involves preserving the street-front facades and the existing warehouse structure while inserting new volumes supported by a steel-wood hybrid structure. We aim to maximize spatial usage by leveraging the vertical space effectively, meanwhile to design an intimate scale provides safe and comfort for mental health and well-being.



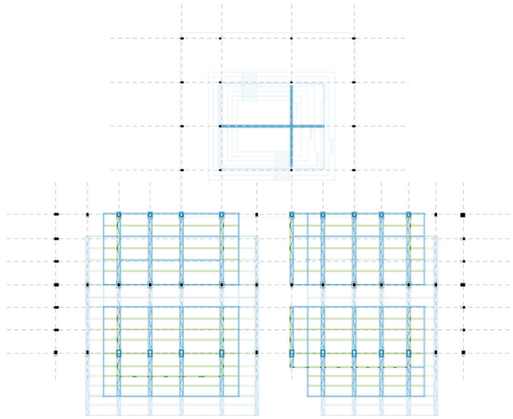
Massing Transformation: Stepped Volumes + 'Valley' + Central Passway

Site Analysis, Program, and Circulation

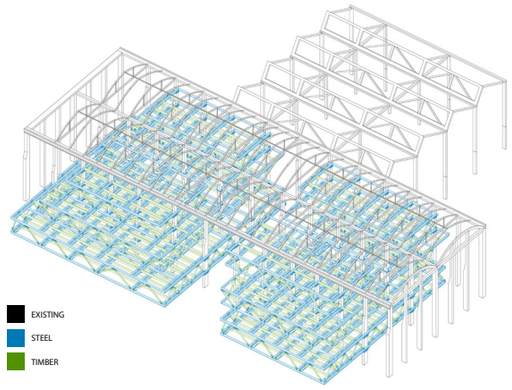
Our site, located near the bustling Gare de Lyon, serves as a **urban hub** attracting individuals from various parts of the city center, greater Paris, and beyond. Despite the presence of a few clinics and renowned adamant for adults, there exists a notable **absence of holistic therapeutic centers** catering to all demographics. Furthermore, the lack of establishments operating **extended hours** to accommodate commuters and workers exacerbates the challenge faced by those struggling with mental health issues.

The 12th arron boasts numerous bookshops and a small Anim cultural center, yet there is a dearth of **performance centers** or **movement labs**, and **libraries** offering leisure activities after work hours.

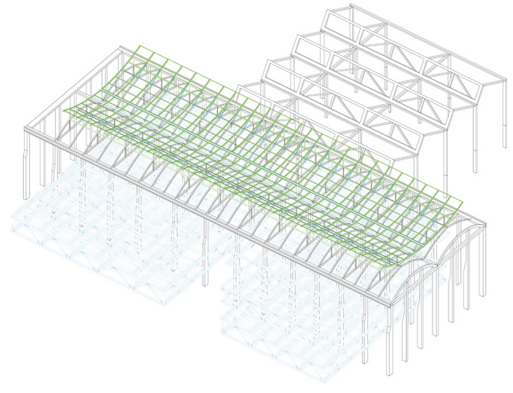
Recognizing the therapeutic benefits of **reading, movement, acting, and performing**, our design revolves around three primary programs: **Maison Sante for Mental Health, a public library, and a black box theater.** Complementary programs are curated to enhance mental health therapies, encompassing a gallery, cafes, as well as back-of-house services such as administrative offices and rehearsal spaces.



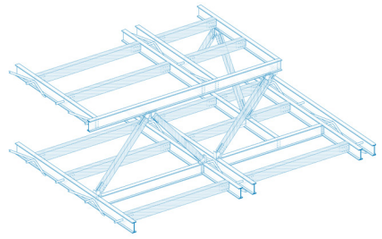
Third Floor Structural Framing Plan.



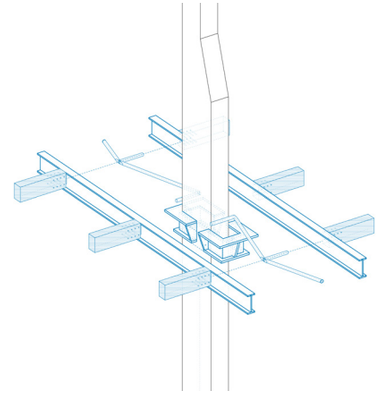
Timber-Steel Structure. Wooden Bracing, Supporting Cantilever Terraces.



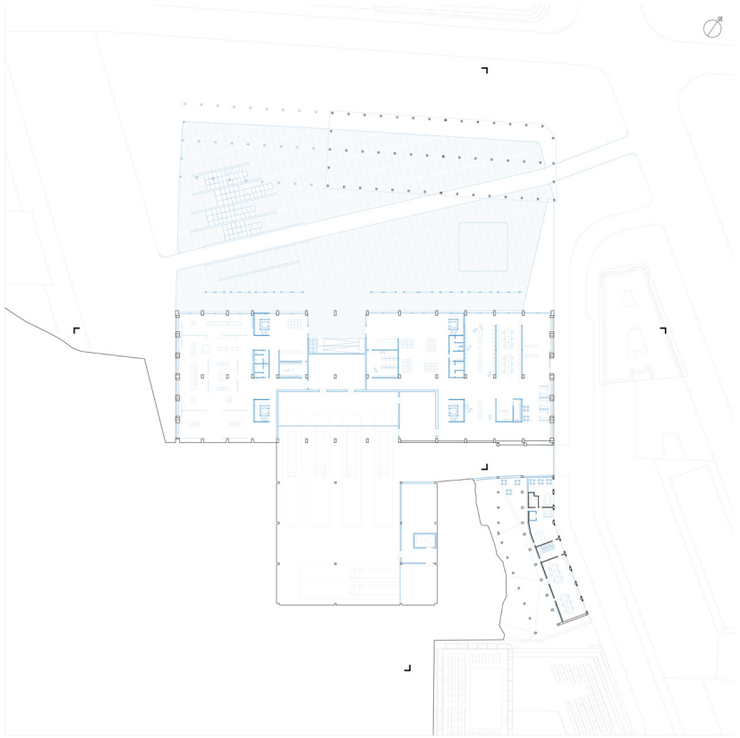
Timber Structural Roof, Enhancing Drainage, Vantilation and Daylight Filtration.



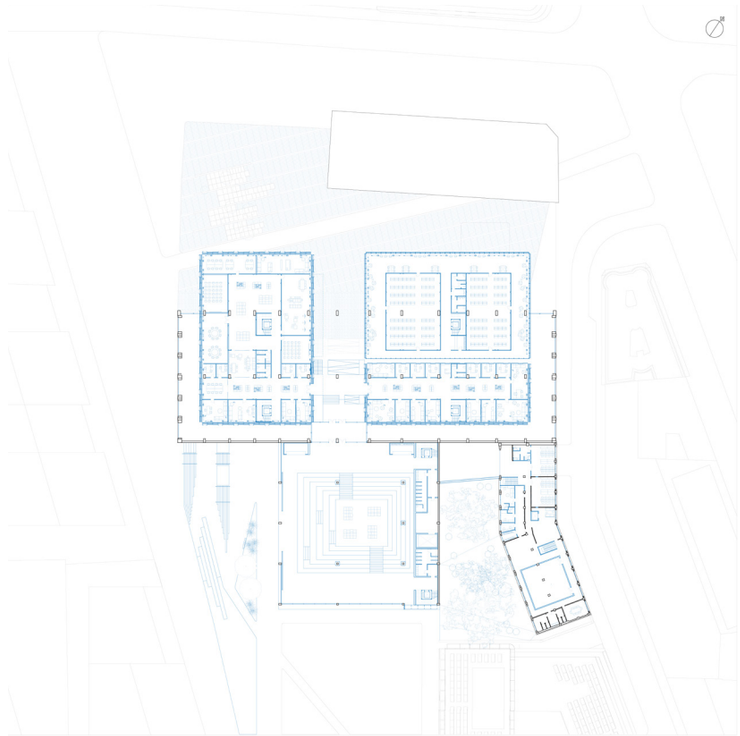
Detail: Timber-Steel Hybrid Structure.



Main Beams Support on Existing Columns



Ground Floor Plan 1:1200 | *Program lobby. Loading. Diagonal passway through plaza.*

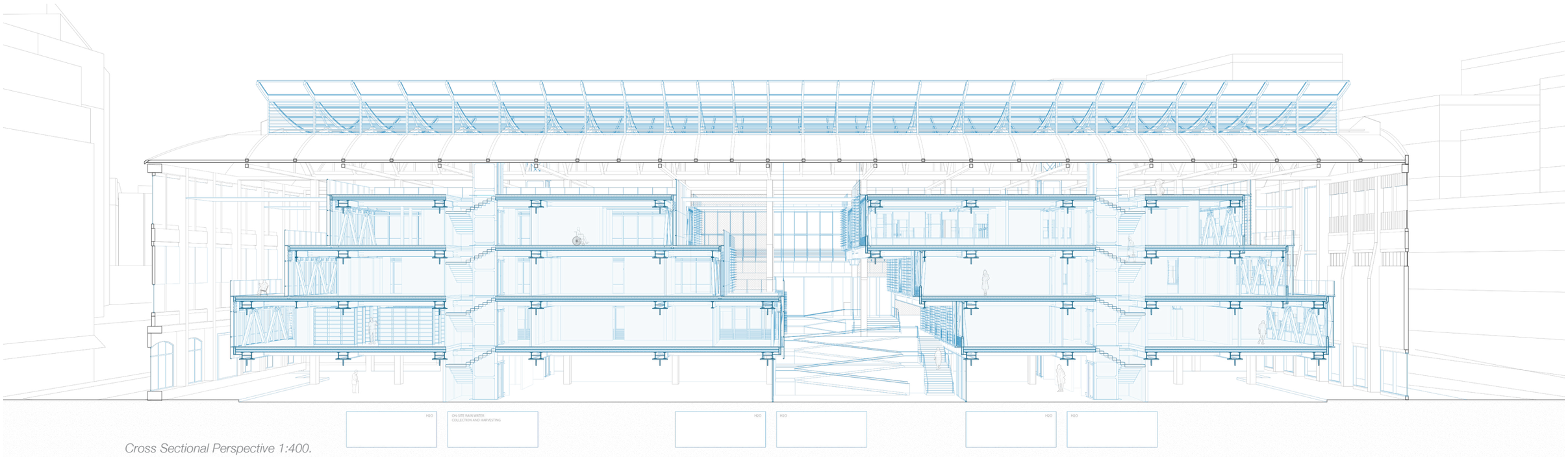


First Floor Plan 1:1200 | *Therapy rooms, reading lounges along facade. Sunken theatre.*

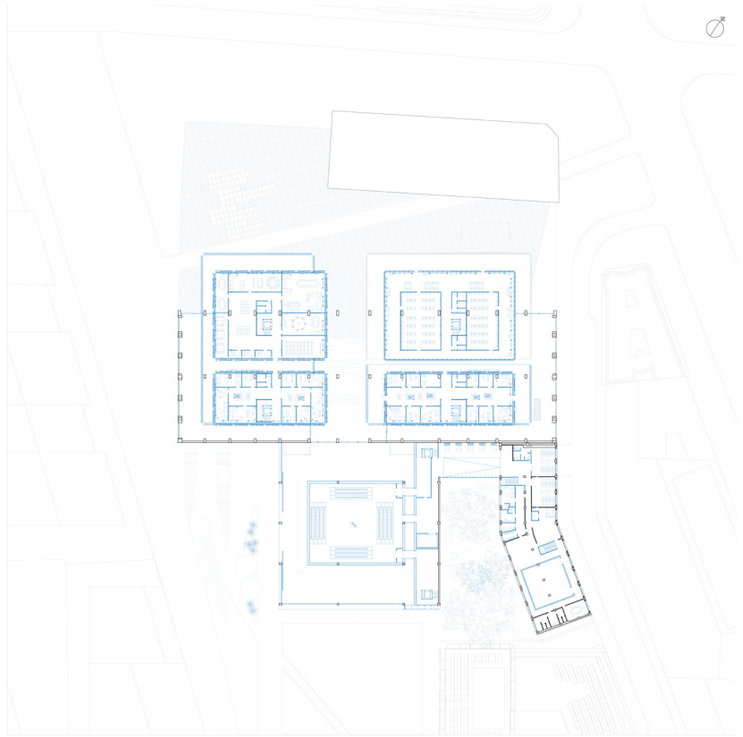
VALLEY AND TERRACE

The volumes cascade from both sides, wrapping the library and santé program space with terraces. The step-in also facilitates better daylight filtration and spatial dynamics.

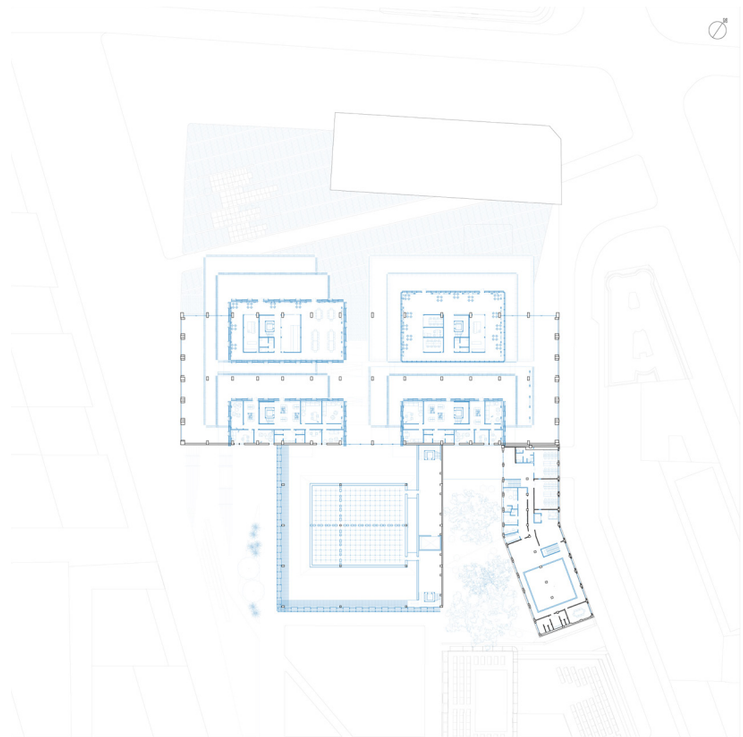
The library and lobby are situated on the east side. Reading lounges are set along the facade and around the more sold archive chamber. The Santé health center and its lobby are located on the west. The central passage provides more access, connects the santé-lib volume to the PAC.



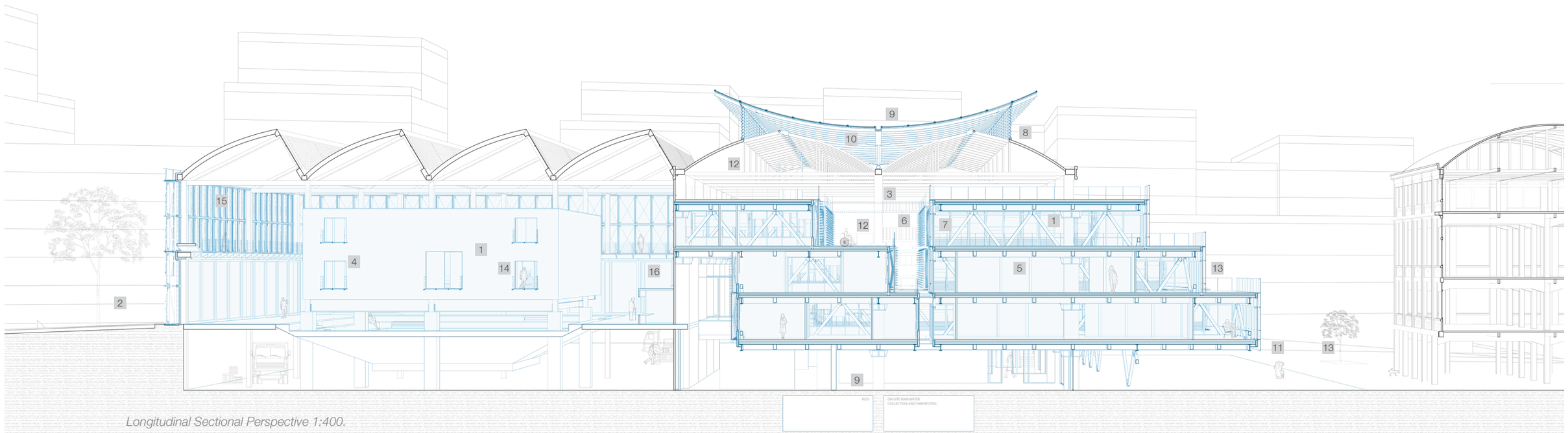
Cross Sectional Perspective 1:400.



Second Floor Plan 1:1200 | *1-ON-1 rooms set along the inner ring. Lifted black box theatre.*



Third Floor Plan 1:1200 | *Indoor terraces. Black box pipe grid and back of house.*



Longitudinal Sectional Perspective 1:400.

DESIGN PERFORMANCE NARRATIVE

DESIGN FOR ECOLOGY

ADAPTIVE REUSE

1 Mass Timber Construction
2 Optimized Green Space

LIGHT

3 Naturally Lit Atrium
4 Dynamic & Diffuse Daylighting
5 Daylight Sensors

DESIGN FOR ENERGY/RESOURCE

DOUBLE-SKIN FACADE

6 High Performance Glazing
7 Adjustable Passive Solar Shading

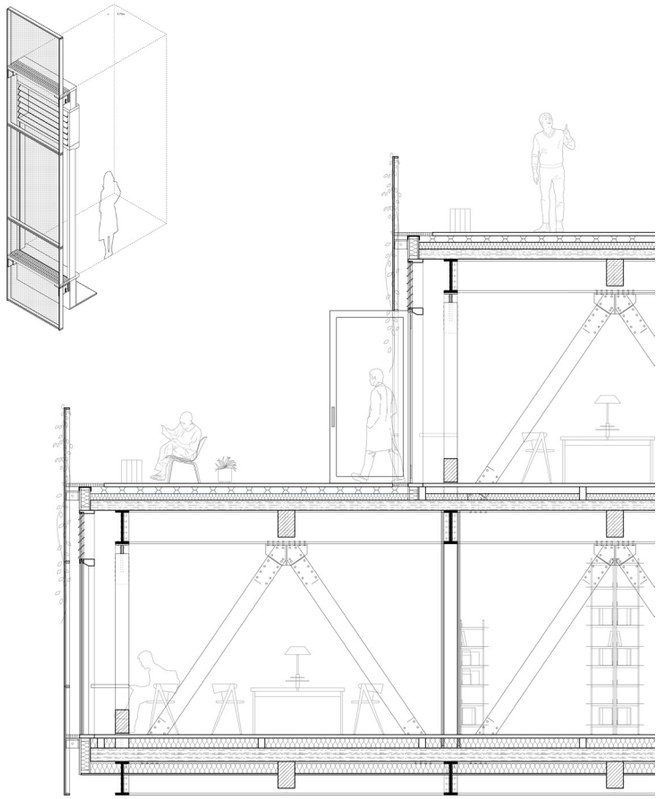
VAULTED GLASS ROOF

8 Operable Building Ventilation
9 Rainwater Management and Use
10 Renewable Energy

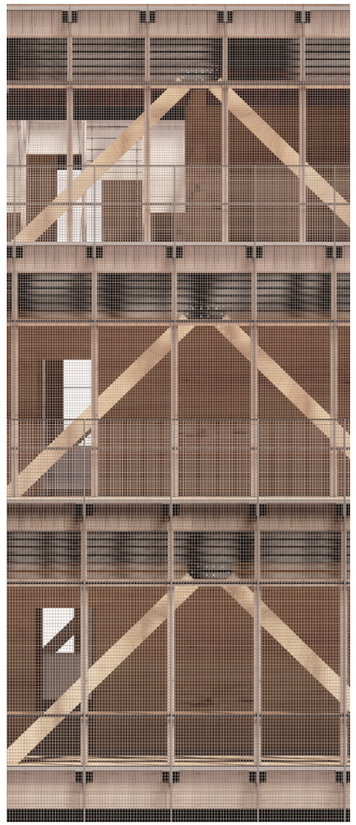
DESIGN FOR COMMUNITY/WELLNESS

COMMUNAL SPACE

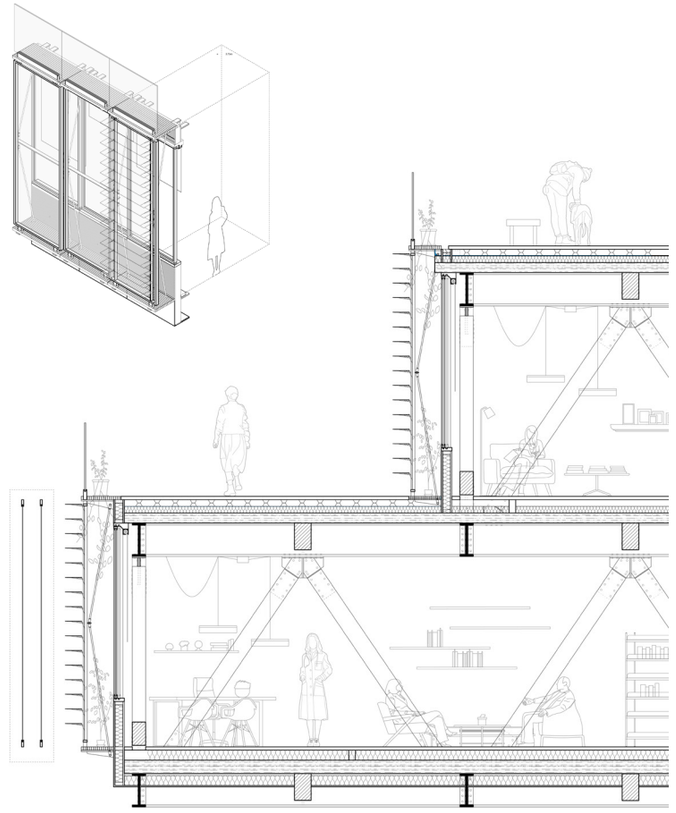
11 Open Plaza and Green Coverage
12 Shaded Terraces
13 Permeable Pavements
14 Enhanced Thermal Comfort
15 Operable Acoustic Device
16 Optimal Thermal Layering



Library. Detailed Wall Section and Facade Elevation, 1:100.



Reading Lounge



Maison Sante. Detailed Wall Section and Facade Elevation, 1:100.

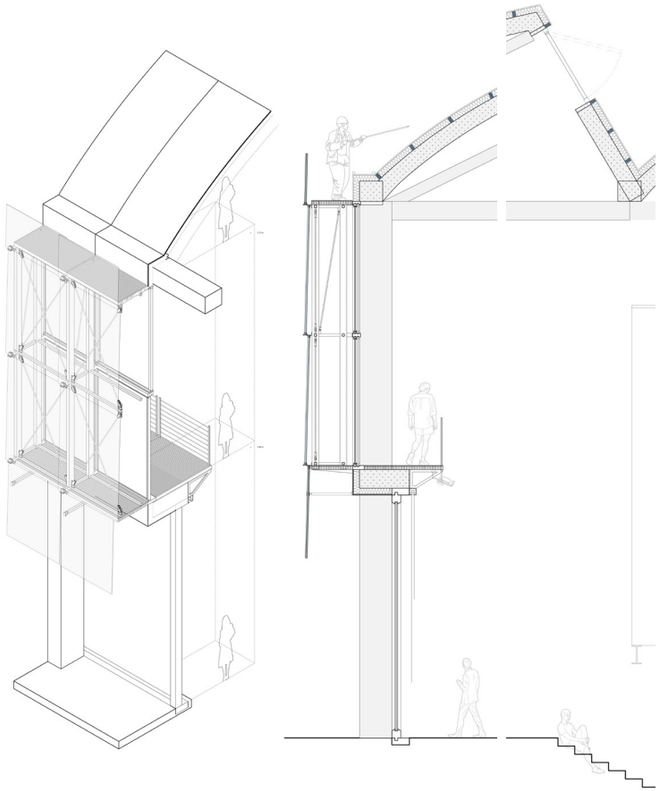
Double Facade: Library and Sante

The inner layer consists of low-e double glazing, to minimize thermal losses while allowing for partial operability for ventilation. The air gap acts as a thermal cushion, contributing to energy savings throughout both summer and winter seasons.

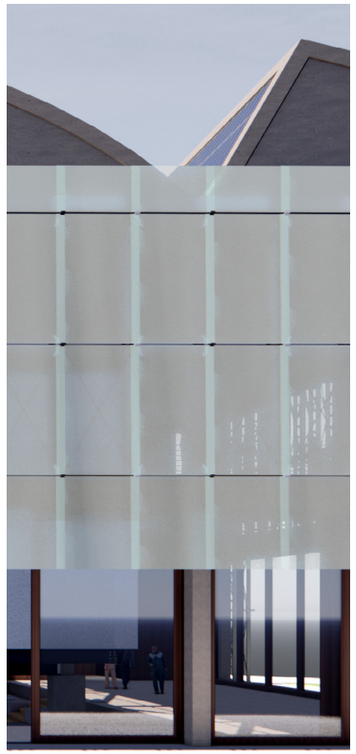
The library facade module features a 0.2-meter air gap. It comprises double glazing with top operable louvers, complemented by shading mesh. This configuration serves shading, ventilation, and vegetation via a green wall.

The Sante facade module offers three variations, each equipped with operable outer skin and a 0.5-meter air gap. The west and east facing glass louvers utilize translucent PV glass, facilitates ventilation, enclosure with a small vegetation terrace.

Consultation Room



Movement Lab, PAC. Detailed Wall Section and Facade Elevation, 1:100.

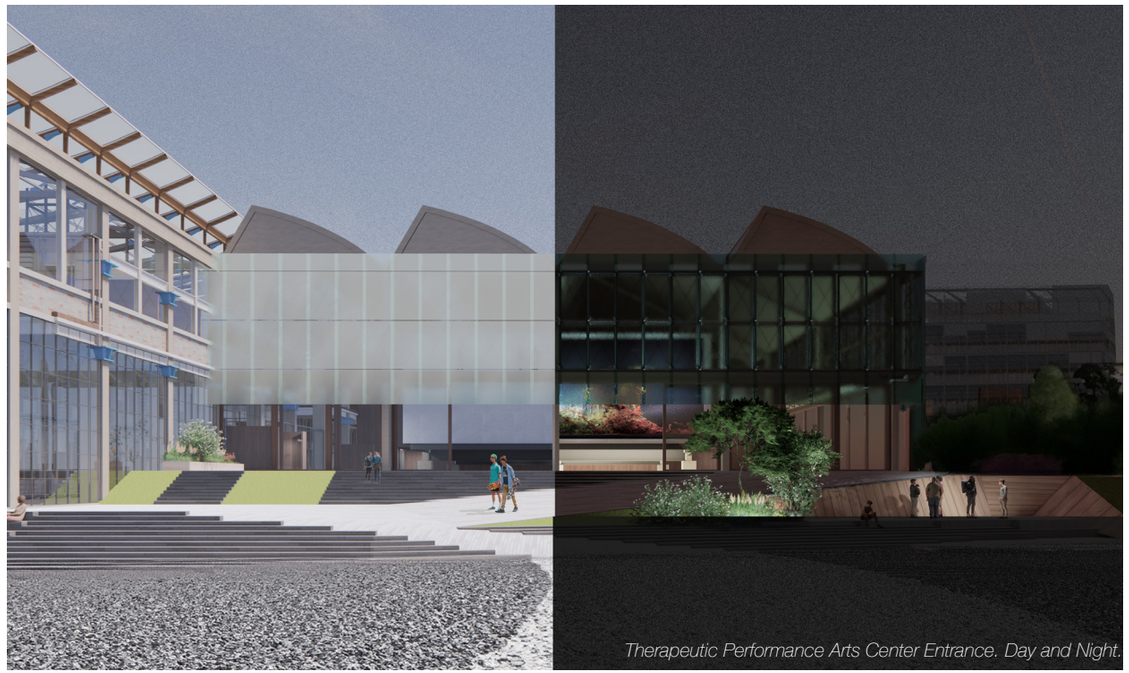


Mezzanine Theatre. Projection on the Blackbox Theatre Wall.

Sunken Theatre below the Blackbox. Projection on Ceiling.

Movement Lab (PAC)

Theatre modules are 1.6 meter wide, incorporating a 0.875-meter air gap, and a 1.8-meter interior mezzanine. Constructed with laminated frosted glass, these modules are designed for controlled ventilation, shading, and acoustic enhancement, ensuring optimal performance and comfort.

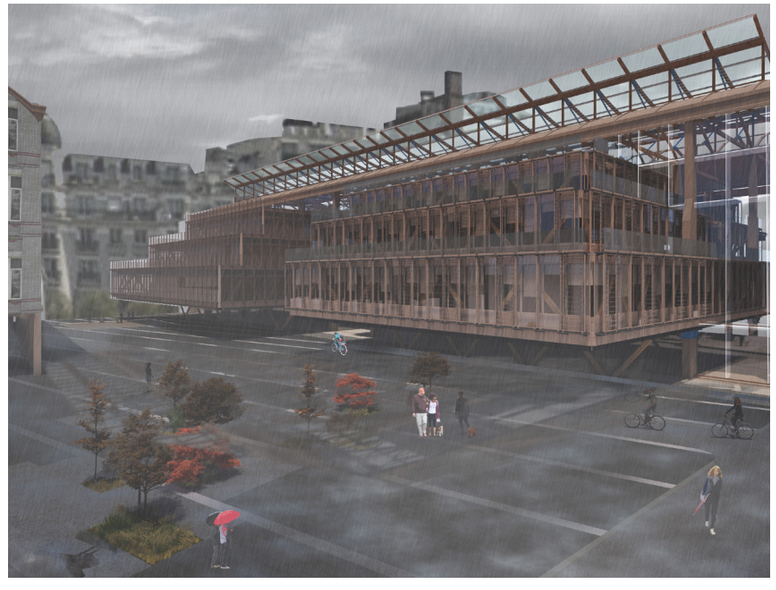


Therapeutic Performance Arts Center Entrance. Day and Night.

Black Box Movement Lab. Performance and Therapy Session.

Terrace View of the Sante's Fourth Floor. Connection with the Library Unit.

Central Passway to PAC.



Welcoming Plaza.

Co-House Communal Courtyard and Facade

03

BROKEN TOWER

Queer Housing: A Miniature World of Living and Fantasy

Spring 2024. ARCH 602. (A+ Project)
Instructed by Charles Renfro, Kat Bishop, Brandie Lockett, Capri Jones.

#HoustonTexas; #Residential; #Queer; #Commune; #Masterplan; #Tower; #MultiGenerational.

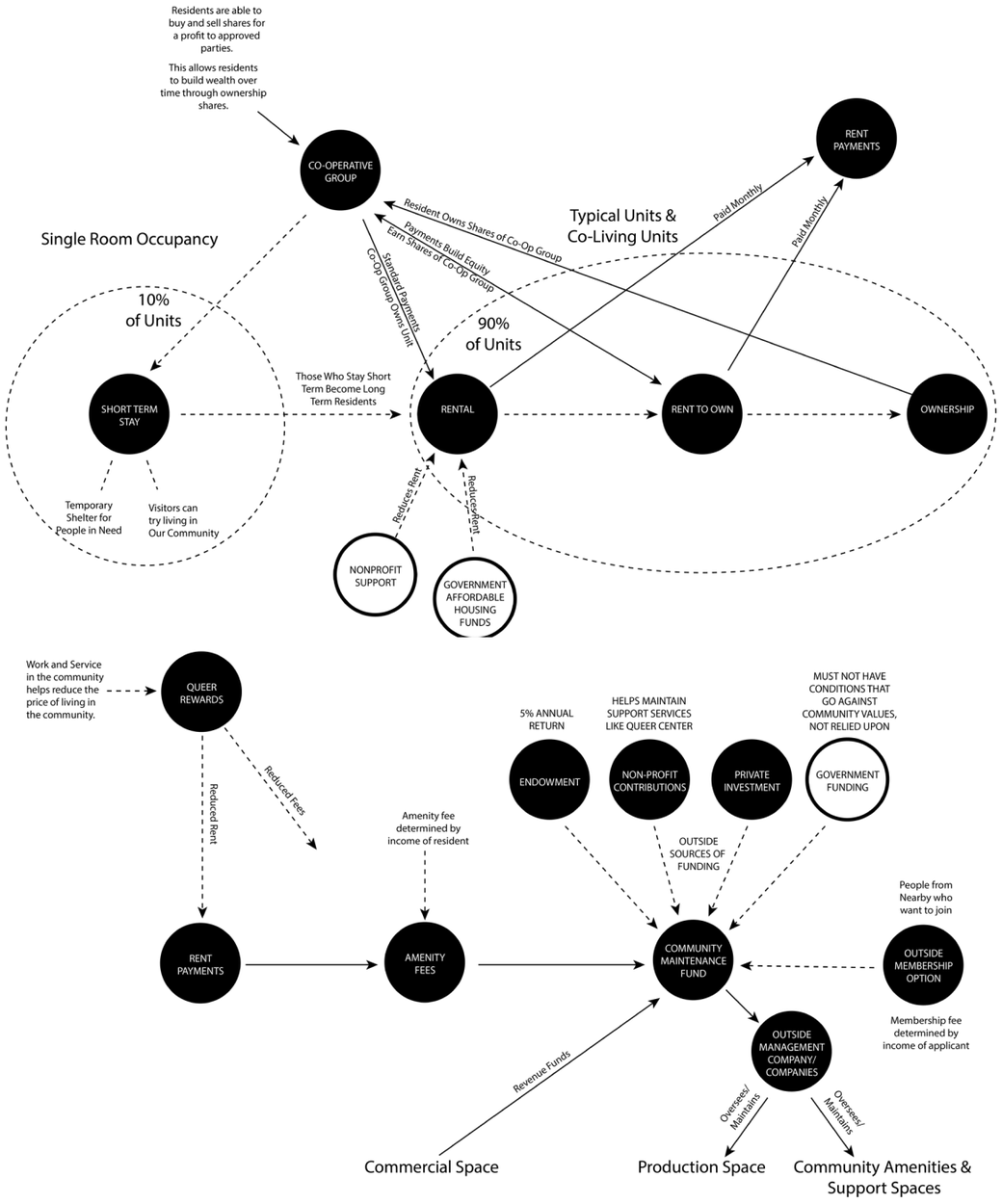
In this proposal, the concept of **queer domesticity** takes center stage, reflecting a world where **identities are fluid**, **boundaries are porous**, and **new household models** such as nuclear family emerges. The new residential tower, named **'Broken Tower,'** embodies this ethos of **non-conformity** and **adaptability**, symbolizing change both in form and concept.

The housing project emerges from a collaborative effort within our studio, where we explored Queer Studies and Utopian precedents to shape our vision for a **Queer Utopia Master Plan in Montrose, Houston.** Historically known as a Gayborhood, we fondly refer to this new queer community as 'TruMont.' Our exploration extended beyond architecture, encompassing a **financial model** for this Queer Utopia Commune. In this endeavor, I collaborated with Lauren Ma for two weeks to develop one of the scheme as 'Inner Loop + Housing Tower'. My individual pursuit chimed in later, exploring a new **queer housing typology**.

The design revolves around **layers of communal spaces**, fostering activities of various scales of intimacy and accommodating **multi-generational, multi-identity, and multi-functional needs**. The spatial arrangement emphasizes fluidity and flexibility, allowing the environment as well as the household to evolve and change.

The tower's layout features a **reverse spatial arrangement** of the master plan ground floor, with private living cells surrounding a queer communal space at the core. Each **quadrant** represents a different living experience, from conventional **rent/own** apartments to **transitional** housing and a new **co-house** type, catering to various lifestyles and preferences.

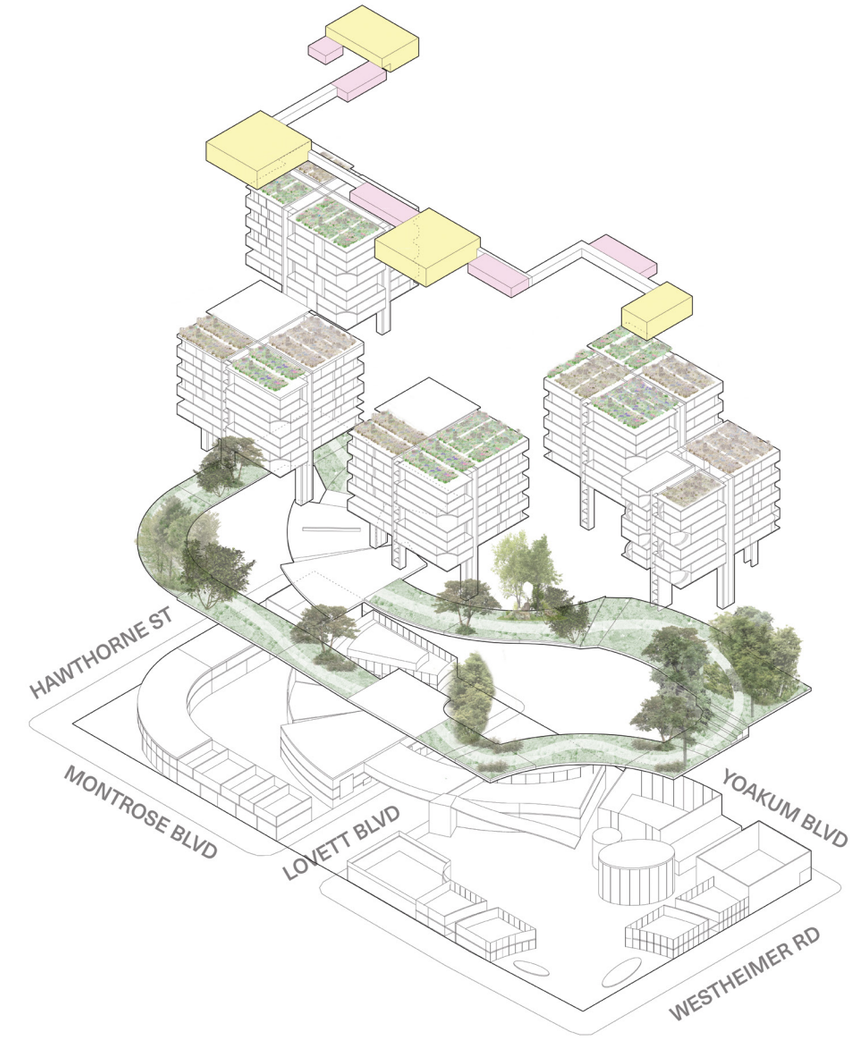
This queer tower prototype not only challenges traditional housing norms but also celebrates diversity and inclusivity, creating meaningful living spaces that resonate with the **evolving needs** of individuals and communities.

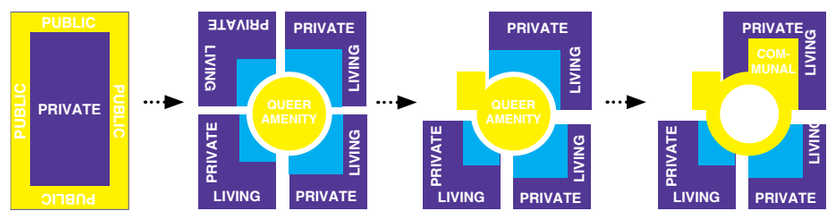


Master Plan CO-OP Business Model:

Top: Ownership Types | Lower: Community Maintenance

We want to cultivate a community for **communal and inter-generational living**. This **co-op** model, aims to foster **conviviality, equity, and a sense of belonging**, where individuals can support one another in their daily lives and **participate in the running of the community**. While each individual can enjoy their own private space, they can form relationships with neighbors - through the design of corridors, balconies, courtyards, and common spaces which creates opportunities for **building trust and mutual support.**

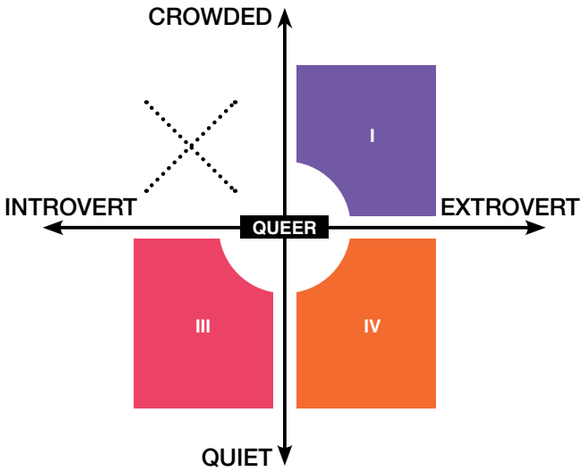




Master Plan: Layers of Public and Housing

All **queer public programs** are placed on the ground floor, creating easy access for the non-resident community to interact. An elevated path, named the **'Innerloop,'** undulates and traces through the roof-scape of these public programs. This highline provides an additional **layer of privacy** for the TruMont residents. The housing tower is situated on top of the Innerloop, creating a **buffer area** between the highly public ground floor and the community living space above.

Each tower consists of three quadrants connected by a cross-shaped **core,** with circulation on the ends for **ground access.** These entries are primarily **embedded** within the public program building below, granting access exclusively to residents and their guests.



Floor Plan: Spatial Arrangement

The four quadrants are arranged along an axis of **introvert/extrovert** and **crowded/quiet**, with each unit falling somewhere along this spectrum. Quadrant III is designated for more conventional rent/own apartment living, Quadrant IV for transitional/temporary housing, and Quadrant I for a new co-house type.

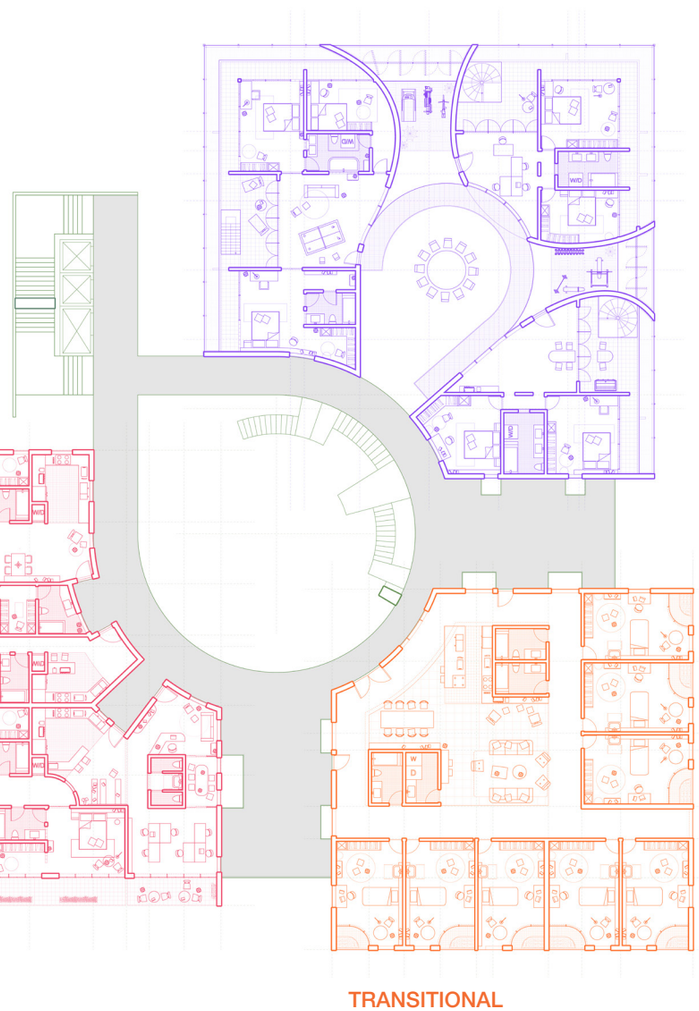
Floor Plan: Queer Living Units

Rent/Own: share a paved balcony, with option to combine adjacent units if the household size grows (e.g., 1b+1b=2b) or to convert an adjacent studio unit into a home office.

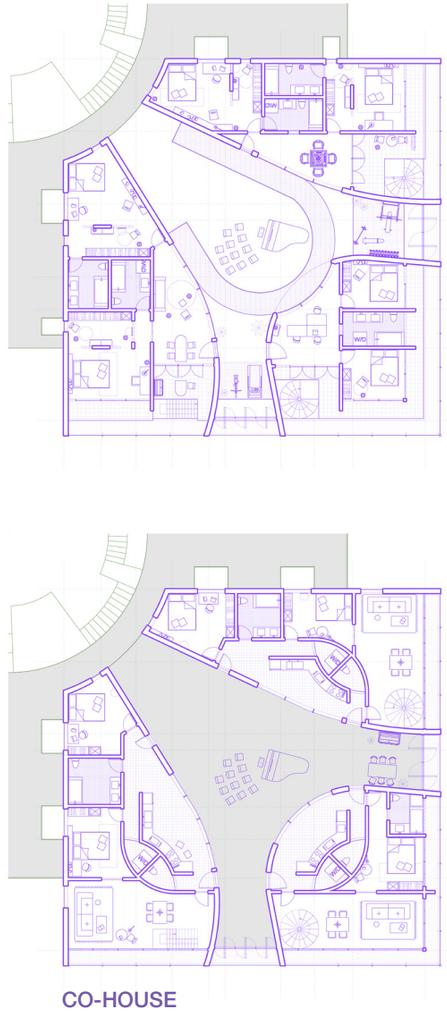
Transitional Housing: occupies the first two floors, with 8 SROs sharing a communal kitchen and dining area, three bathrooms, and a laundromat. Each SRO has a small balcony. Residents are required to contribute to co-op tasks, such as farming and maintenance.

Co-House Type: can be rented by room or as an entire unit. Each co-house spans two floors, arranged in a village-like plan with a communal courtyard at the center. An in-unit staircase provides access to second-floor terraces, which are exclusive to co-house residents. Each co-house has a shared kitchen space and half bathroom that can open up entirely to the courtyard for larger events. They also share a living room on the ground floor and an open-air terrace on the second floor. The units feature vegetation balconies, giving each peripheral room a bit of open-air space.

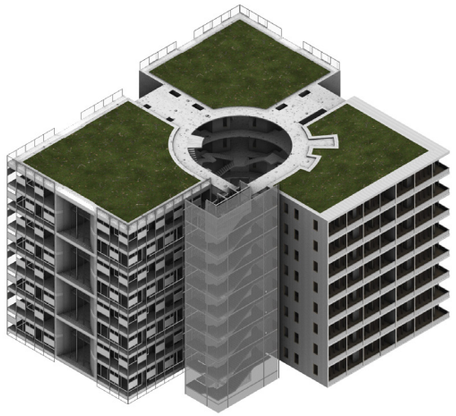
RENT/OWN
By unit/combined unit

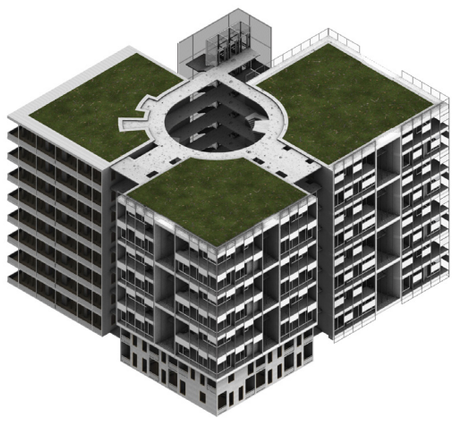


TRANSITIONAL
By SRO; Co-op work req.



CO-HOUSE
By room or entire unit; Co-op work opt.





RESIDENTIAL CAPACITY SUMMARY:

PER TOWER | QUADRANT EVERYTHING

# FLOOR	QUADRANT	# BEDROOM	AREA (SQF)	CAPACITY
8	RENT/OWN	11*8	33,984	48 - 88
2	TRANSITION	8*2	8,426	16
14 (7)	CO-HOUSE	12*4 + 11*3	64,911	81 - 120
		185	***107,321***	***145 - 224***

QUADRANT II | CO-HOUSE

HOU-A	UNIT TYPE	# UNIT	AREA (SQF)	CAPACITY
	COURTYARD	1	1,485	/
	SHARED	3 + 1	2,476 + 656	/
	B+B	12 + 8	5,616	12-24
			10,233	***18***

QUADRANT IV | CO-HOUSE

HOU-B	UNIT TYPE	# UNIT	AREA (SQF)	CAPACITY
	COURTYARD	3	1,215	/
	SHARED	3 + 1	1,423 + 598	/
	B+B(+C)	11 + 8	4,757	11-22
			7,993	***16***

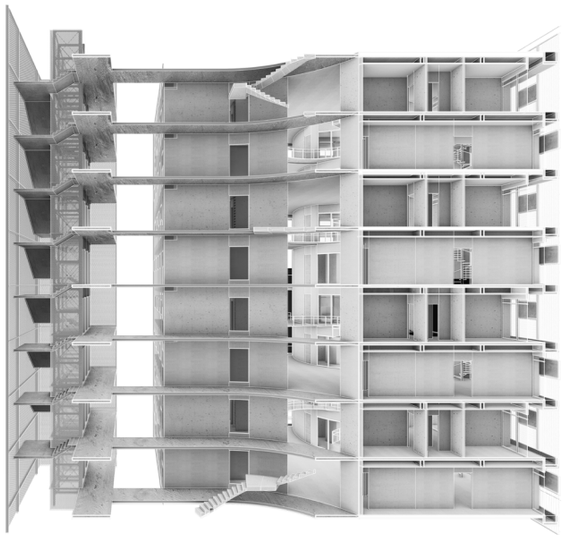
**EACH SHARED SPACE CONTAINS A TOILET AND A W/D.*

QUADRANT III | RENT TO OWN APARTMENT

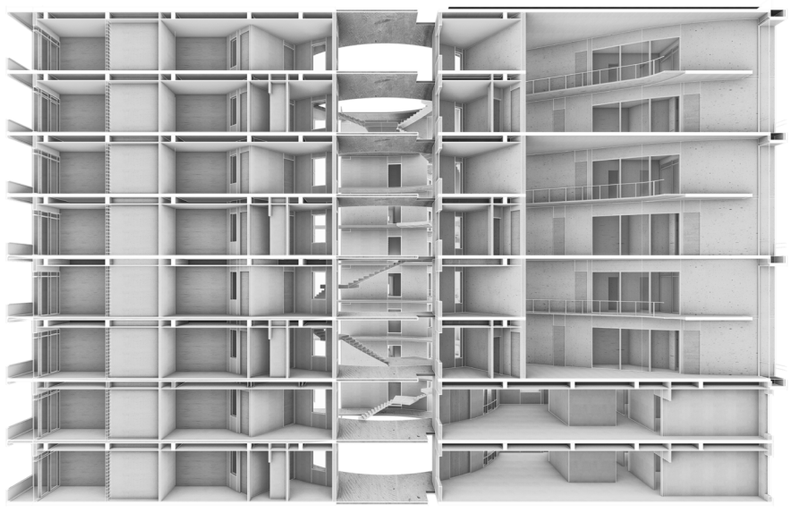
FLOOR A	UNIT TYPE	# UNIT	AREA (SQF)	CAPACITY
	STUDIO	1	630	1-2
	1B1B	2	986 + 952	2-4
	2B2B	1	1,680	2-8
			4,248	***5-14 (9)***
FLOOR B	UNIT TYPE	# UNIT	AREA (SQF)	CAPACITY
	STUDIO	2	595 + 630	2-4
	1B1B	0	/	/
	2B2B	2	1,343 + 1,680	4-16
			4,248	***6-20 (13)***

QUADRANT IV | TRANSITIONAL HOUSING (SRO)

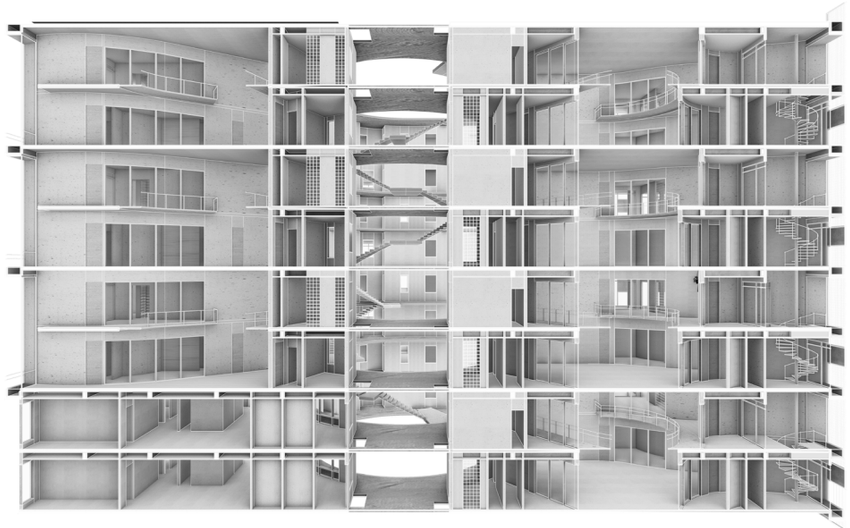
FLOOR A/B	UNIT TYPE	# UNIT	AREA (SQF)	CAPACITY
	B/W/D	3+1	260	/
	COMMONS	1	1,873	/
	SRO	8	260	8
			4,213	***8***



A: CORE + QUADRANT I
Ground Access, Central Spiral Staircase



B: QUADRANT III + IV
Multi-Generational Living



C: QUADRANT I + IV
Co-House Communal Courtyard and Terrace

Interior Images:

Queer Co-Living Vibe

These sample renderings showcase the envisioned community **vibe** of the project:

i. A compact but cozy SRO at dusk.

ii. A shared balcony where neighbors can have delightful encounters—perhaps sharing breakfast pancakes or collaborating on music.

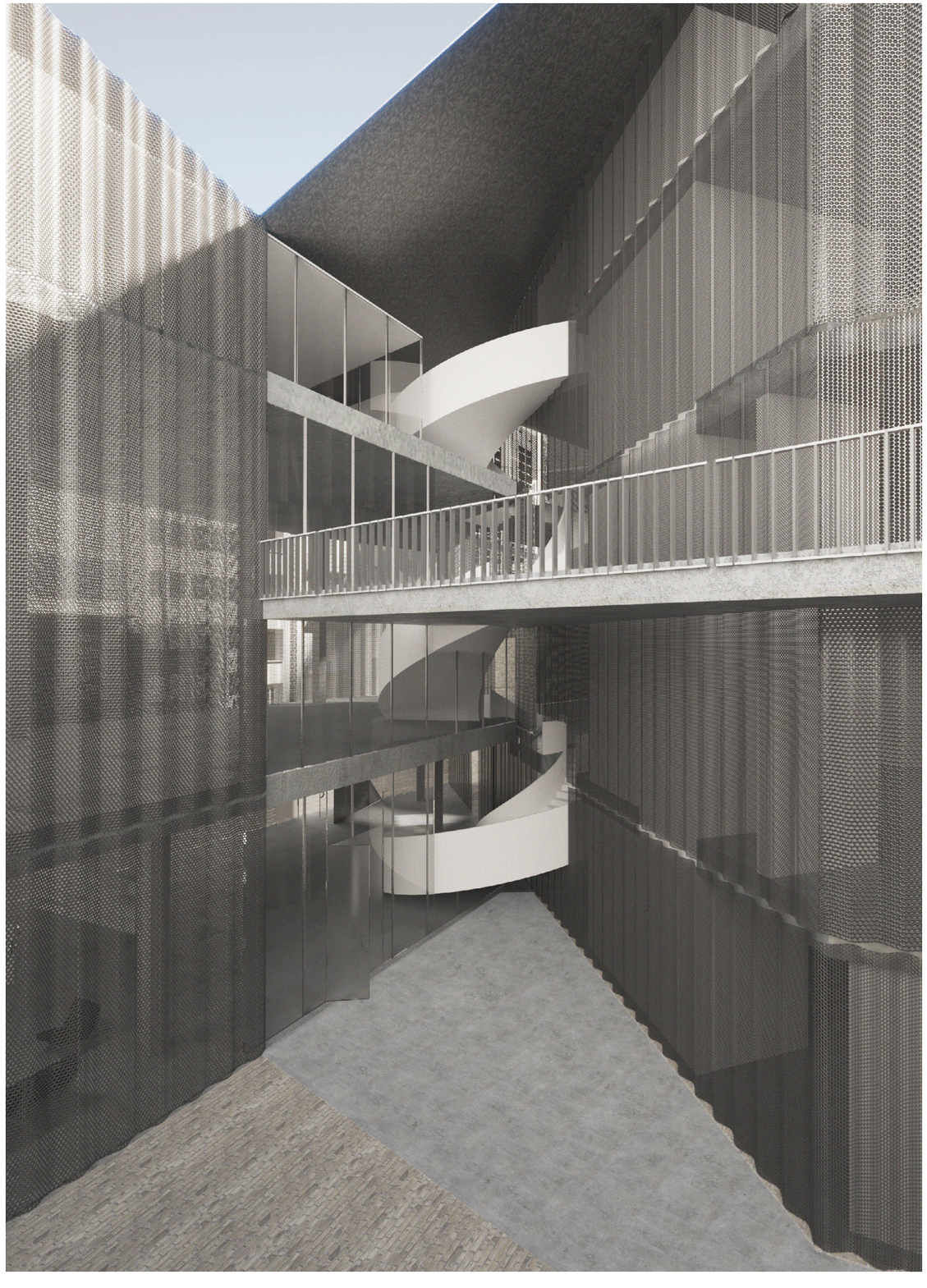
iii. A view of the communal courtyard and semi-private terrace, where co-house members and new families can record a YouTube show together, nurture plant babies on their vegetated balcony, or enjoy a workout...

The vivid and diverse living situations emphasize the co-living goal: each individual can enjoy their own private space while **forming relationships** with neighbors through encounters, assemblies, and committee meetings. The design of corridors, balconies, courtyards, and terraces creates opportunities where individuals can **support one another** in their daily lives and participate in the running of the community.

iii. Communal Courtyard of a Co-House

i. Transitional SRO

ii. Shared Balcony of Two Rent/Own Neighbor



04

FOLD AND STITCH

A Center for Ibero-American Studies

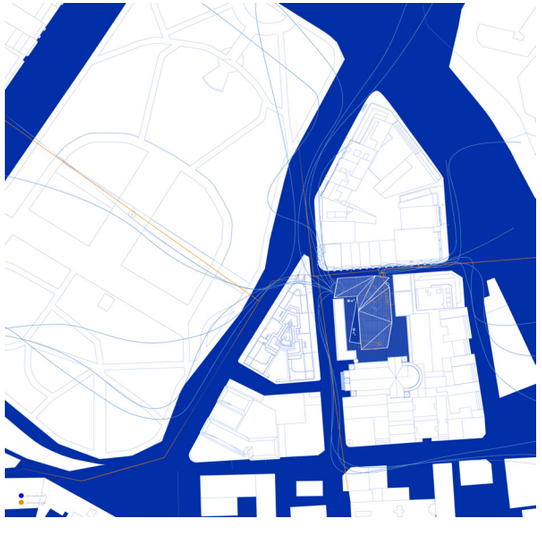
Spring 2021. ARCH 302.
Instructed by Carlos Jiménez.
#BuenosAires; #Argentina; #Cultural; #Origami.

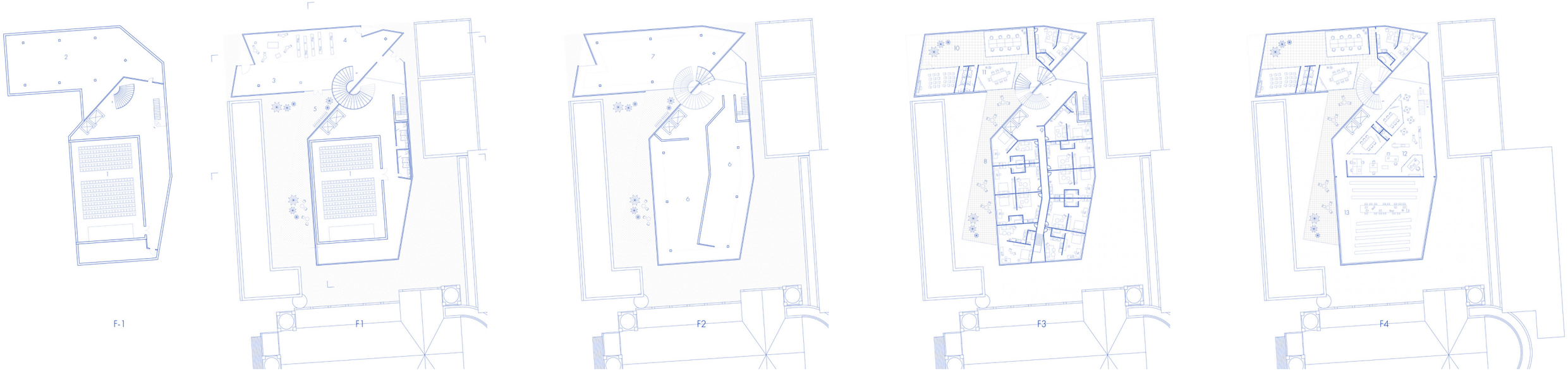
Designing the Cultural Center for Ibero-American Studies in bustling Buenos Aires, Argentina, provided an opportunity to explore the global role of architects while addressing pressing urban challenges. **Situated in a dense corner near Plaza General San Martin**, the project sought to harmonize programmatic needs with the surrounding **context**, facilitating **natural ventilation and visual connectivity** through design elements inspired by origami and the permeable curtainwall concept.

Wrapped in a perforated metal envelope, the building's exterior is akin to a **folded origami structure**, characterized by dynamic forms and intricate detailing. The large **atrium** at its heart functions as a natural cooling system, drawing in cool air from the bottom and expelling hot air at the top, inspired by the efficiency of termite mounds. This approach addresses **Argentina's hot summer climate** while fostering a connection to the outdoor environment.

The building's 'L' shape, created by **offsetting** the site boundary with existing facades, introduces diagonal cuts reminiscent of Buenos Aires' iconic **Kavanagh Building**. These cuts serve as entrances and contribute to the building's dynamic silhouette. The **undulating metal skin**, a metaphorical fabric of translucency, blurs the boundary between interior and exterior while **subtly delineating public and private** spaces through an inward crease.

Central to the building's circulation is a **spiral staircase** located at the crease, symbolizing the seamless integration of diverse programs within the space. This staircase guides visitors from the lobby to the rooftop lounge, offering **panoramic views** of the cityscape and inviting exploration of the building's various functions.

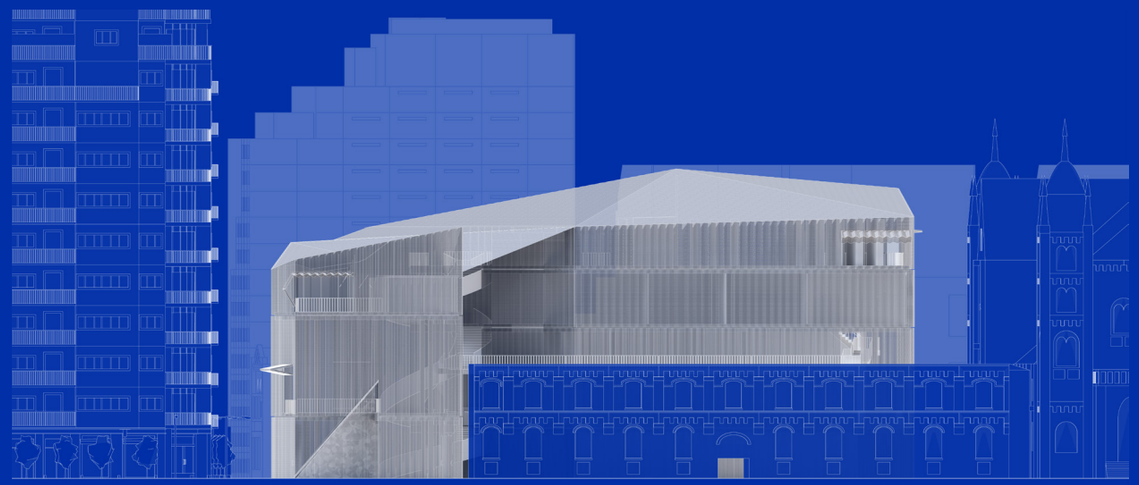


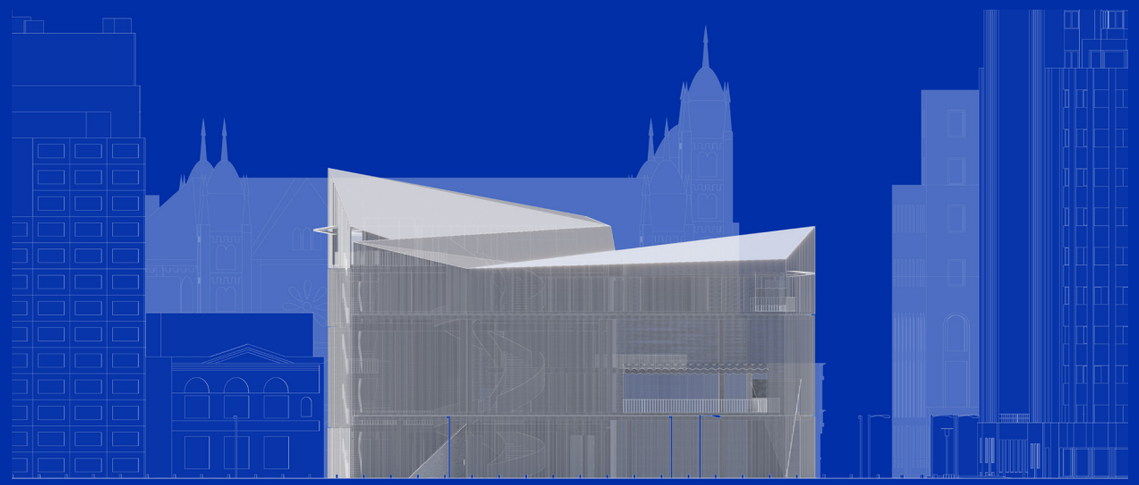


Floor Plan. Folded Building Envelope.

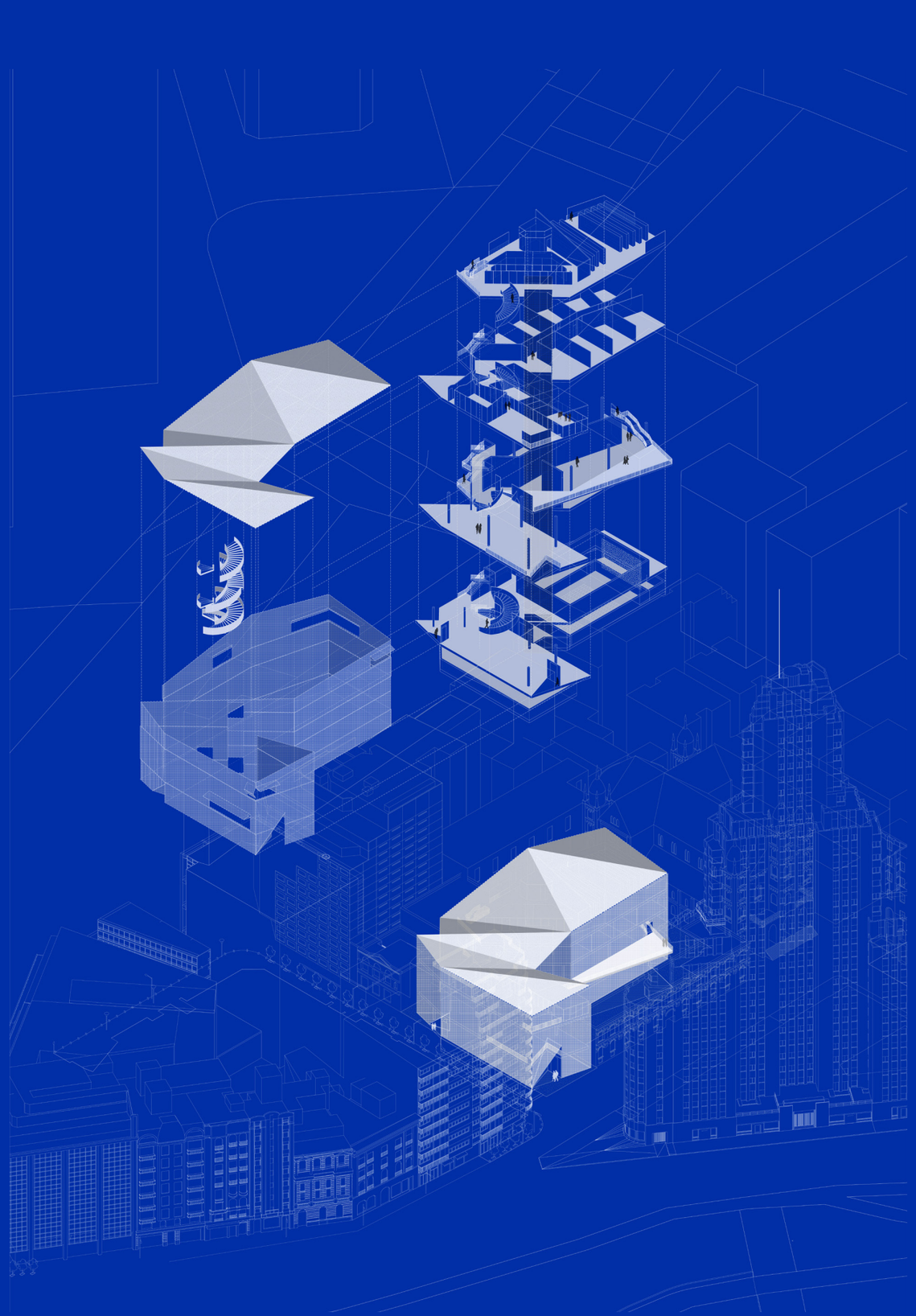
The **central spiral staircase** serves as both a functional and symbolic element, seamlessly integrating with the folded facade while driving the circulation. The continuous envelope of the building **folds** inward and outward, **creating public and private sections**: one facing the bustling street front and the other nestled within the tranquil plaza. This fold also shapes the **program**. **Private spaces** such as the archival library, scholar's apartments, and auditorium are strategically located **deeper within the plaza**, fostering a sense of seclusion and focus. In contrast, galleries and **public spaces** occupy the **front side** of the building on lower floors, engaging with the urban fabric and inviting interaction with passersby.

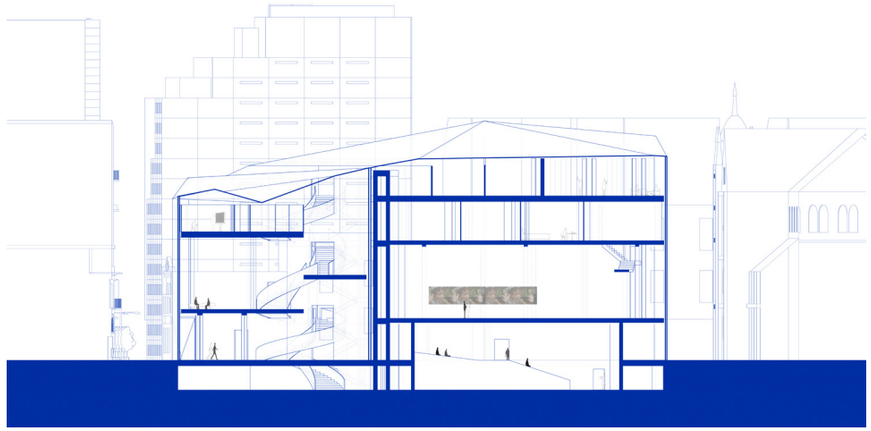
1 theatre
2 mechanical and storage
3 lobby
4 book store
5 courtyard
6 exhibition gallery
7 multi-purpose space
8 terrace
9 apartment
10 lounge
11 conference rooms
12 office suite
13 archive/library

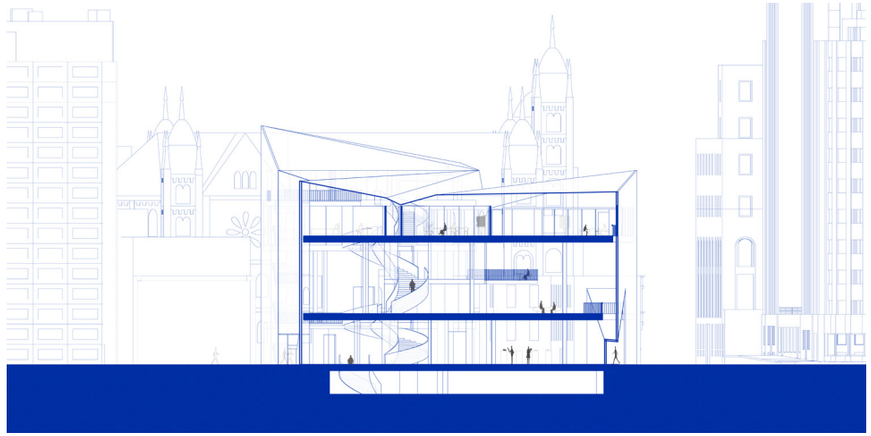


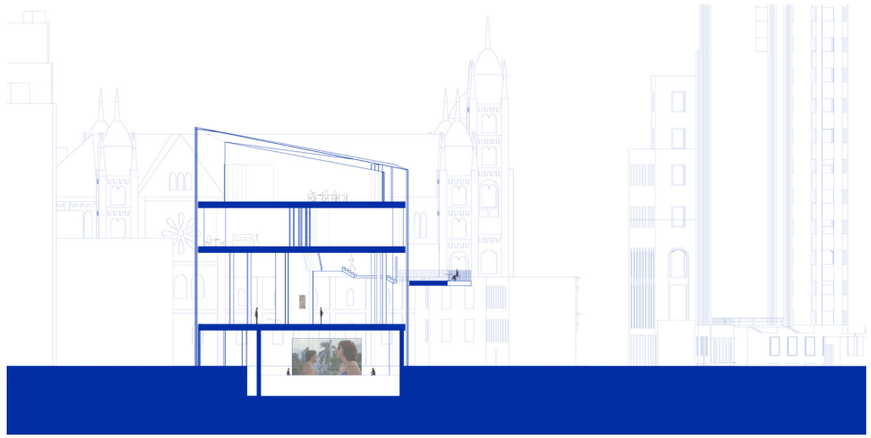


West (L) and North (R) Elevation. Perforated Polyform, Softly Diffused to the Historial Surrounding.

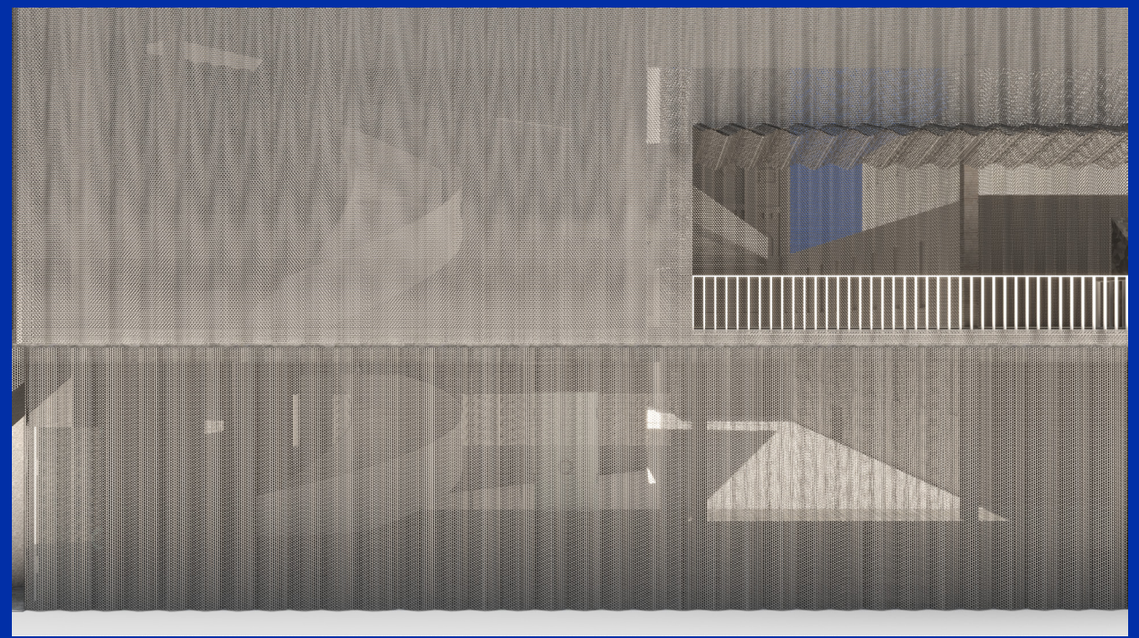








1. West Section. Cut through atrium. Programs require Quiet environment all placed deeper in the plaza.
2. North Section I (M). 3. North Section II (D). Cut through auditorium, gallery and balcony, apartment, and library.
4. (L)Exploded Axon. Programs and Circulation: Generated from the Folded Skin, Revolved Stair.



North Facade Detail. Undulated Mesh and Opening.

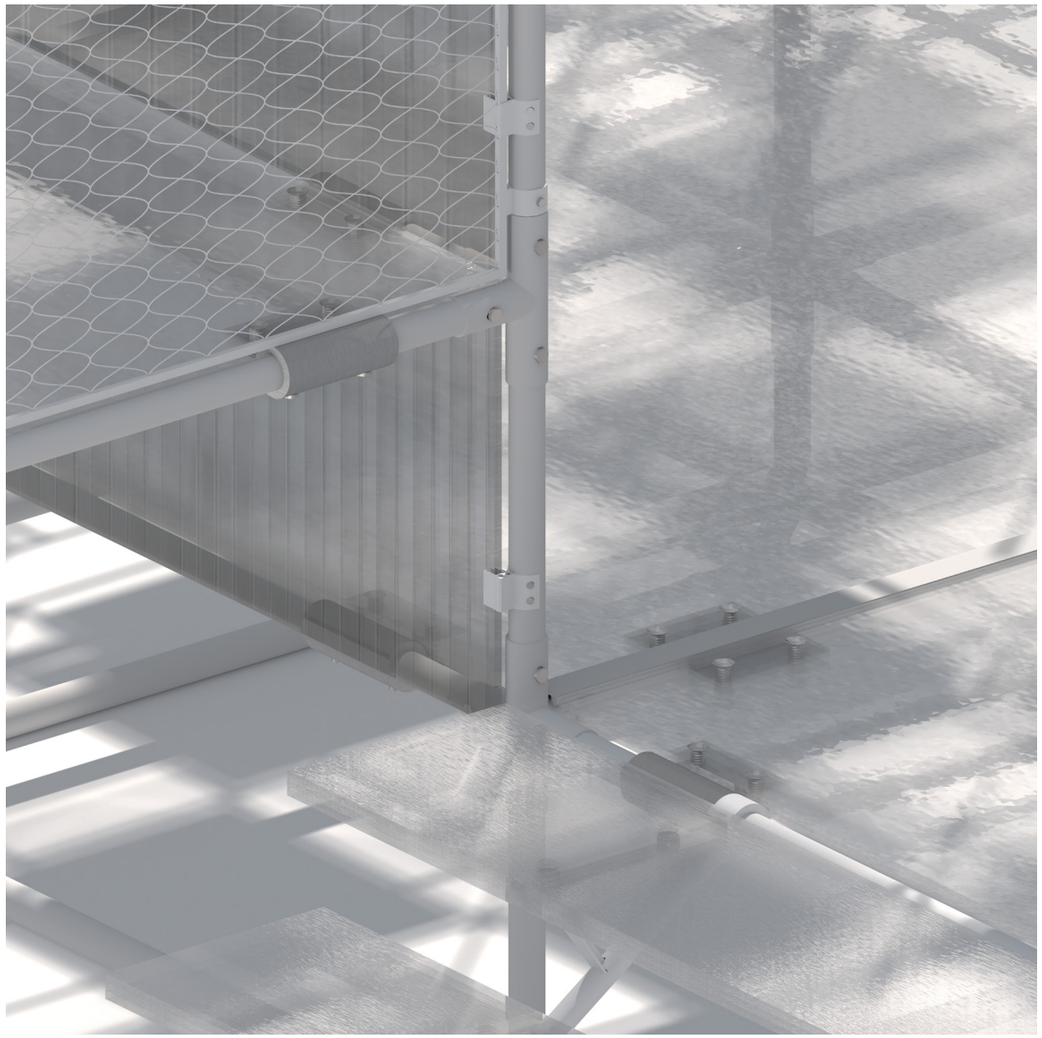
Situated within the bustling urban landscape of Buenos Aires, the site of the Cultural Center stands as a rare open ground awaiting transformation. A key design objective was to craft a structure that blends seamlessly into its **densely populated surroundings**, adopting a light-weighted mass with a clean, grayscale, monotone appearance. This aesthetic choice allows the building to camouflage within the cityscape while providing ample shading and natural ventilation through its **perforated mesh skin** and delicate material touch.

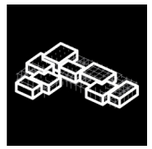
To address the diverse needs of its programs, such as conference rooms and auditoriums requiring soundproofing, a **secondary skin** encloses these spaces, ensuring optimal functionality without compromising the building's overall visual coherence.

Adjacent to the Cultural Center stands the iconic **Kavanagh Building**, a towering presence that not only provides shading but also contributes to the unique urban fabric of Buenos Aires. While partially obstructing views of the City Plaza, this landmark creates an opportunity for the northwest corner of the Cultural Center's top floor to emerge as a prime vantage point, offering scenery of the bustling cityscape below.

Lobby Space at Dusk. Bookstore and Reading Area.

Rooftop Lounge, Chill Breeze and a Peek of the City Plaza.





05

THE CLOUD, A CIRCULAR PROTOTYPE

A Sustainable Urban Food, Energy, and Water (FEW) Infrastructure on a Rooftop

Fall 2020. ARCH 301.
Instructed by Juan José Castellón.
Collaboration with Yumeng Zhao.

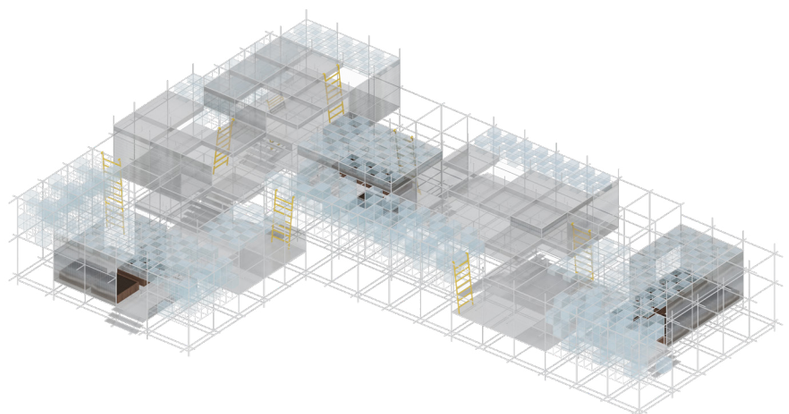
#Houston; #Water; #UrbanFarming; #Rooftop-Infrastructure; #Sustainability.

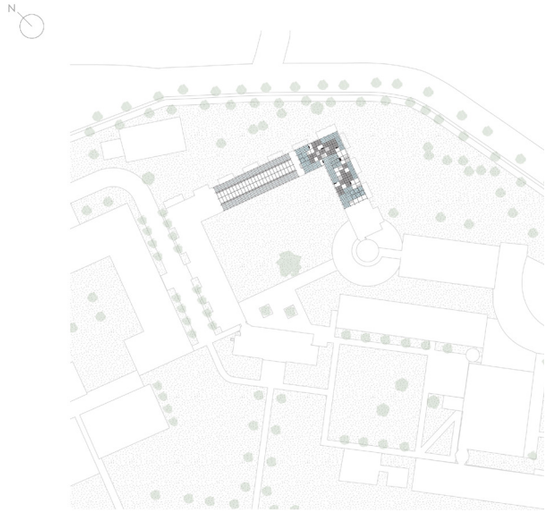
This project readapts the **rooftop** areas of Martel College, a student dorm at Rice University, by integrating **sustainable design** strategies and technologies to create vibrant spaces for communal use and social engagement. Central to the initiative is the implementation of a **stormwater collection** system, designed to mitigate flooding and repurpose water for irrigation. This sustainable approach aligns with the installation of **urban farming**, promoting models of production and consumption that prioritize environmental stewardship and well-being.

The design concept starts with an L-shaped rectangular volume, extruded from the **existing structure grid** of the Martel roof at the corner. Within this volume, a promenade is excavated to serve as the main **circulation** spine and host programmatic spaces. Surrounding the promenade, the volume is reduced to **lightweight scaffolding** structures, which house water tanks for rainwater collection. As a result, the promenade appears to **float** in the air, supported and framed by these porous structures.

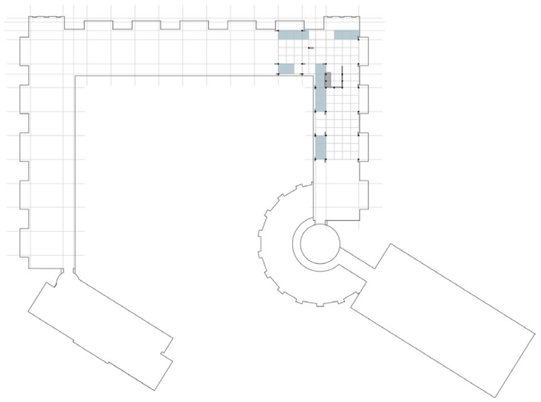
When viewed from a distance, the materiality of this prototype contrasts with Martel's traditional red brick facade, resembling a piece of **cloud** suspended in the sky. This juxtaposition symbolizes the project's commitment to merging site-specific urban sustainability practices with the rich heritage of Rice campus, creating a harmonious blend of tradition and innovation.

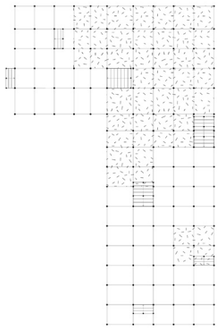
**Design decisions were made as a team. Renderings, diagrams, and construction details were made by Eva.*



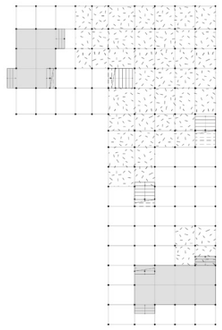


Site Plan: L Fit

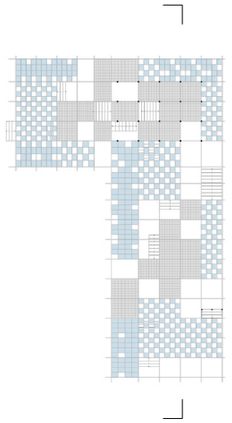




Ground floor plan: farming area



Promenade floor plan: main circulation

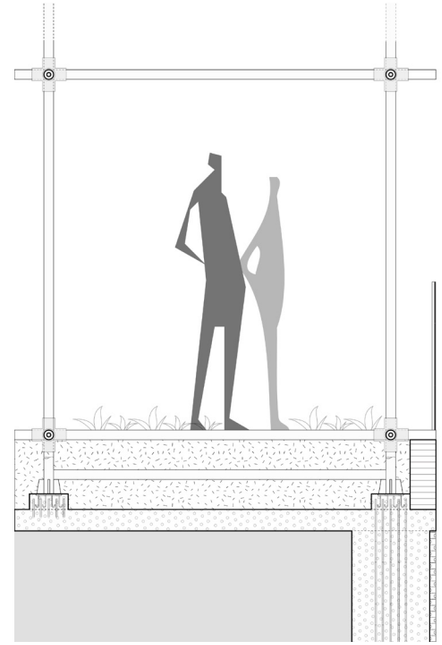


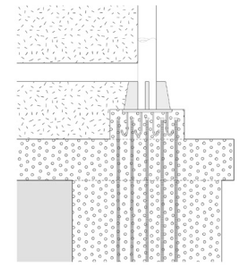
Roof plan: water collection pixel

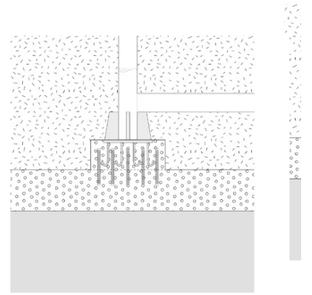
CONSTRUCTION:

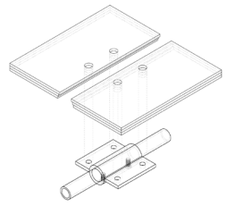
Site Adaptation

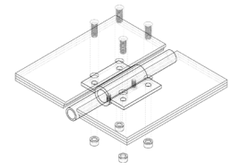
The scaffolding are adjusted to the existing structure of the Martel roof - where the columns are connected to the lower building structure, transferring the load.

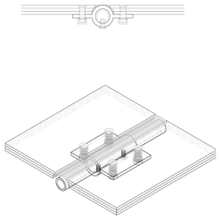






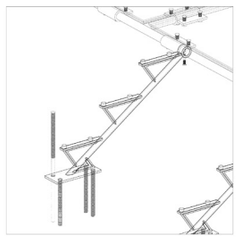


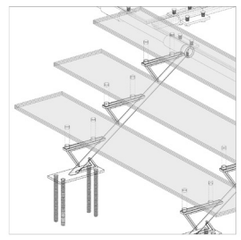


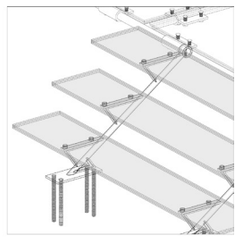


Dot Support System

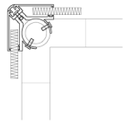
The project embraces the ecological concept of “circular construction.” This approach involves a deliberate use of materials, construction strategies, and structural systems that are both adaptive and reusable.

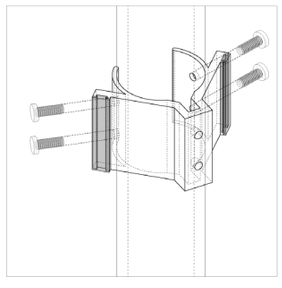


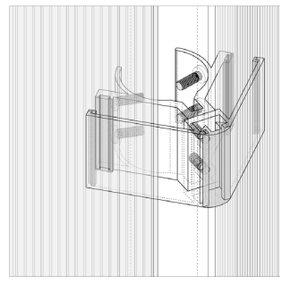


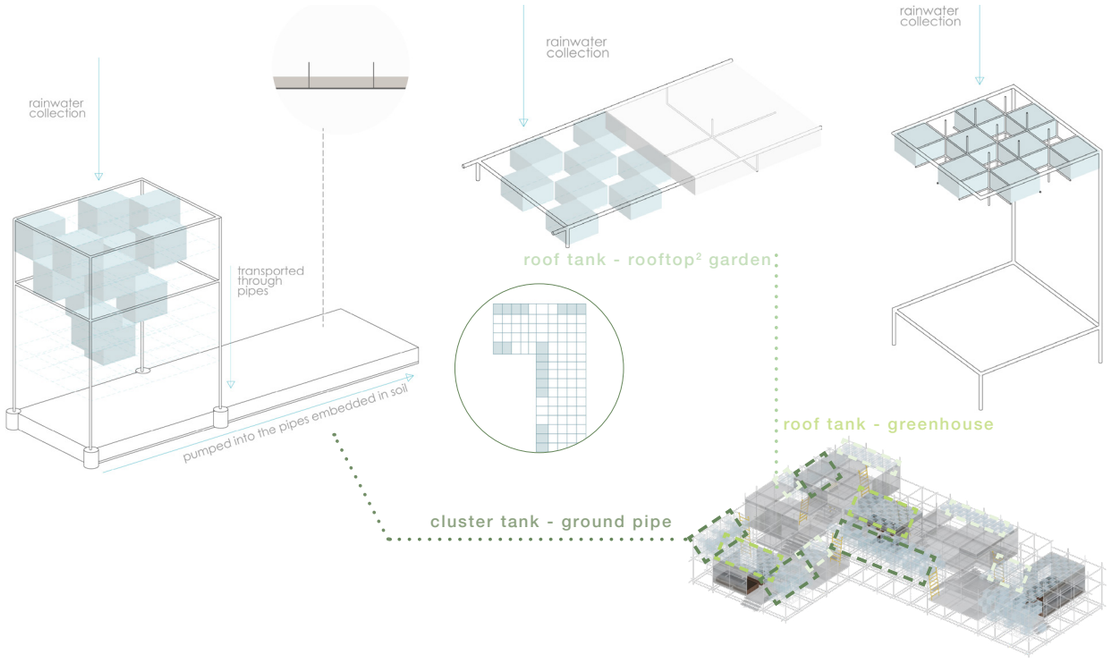


Prefabricated components are manufactured off-site and then assembled on-site using special dot connections/ joints. This method ensures structural continuity and easy assembly. Unlike traditional welding techniques, the dot connection system enables straightforward disassembly and substitution of joints for repair or future expansion purposes. This sustainable approach not only minimizes waste but also promotes longevity and flexibility in the building’s lifecycle.









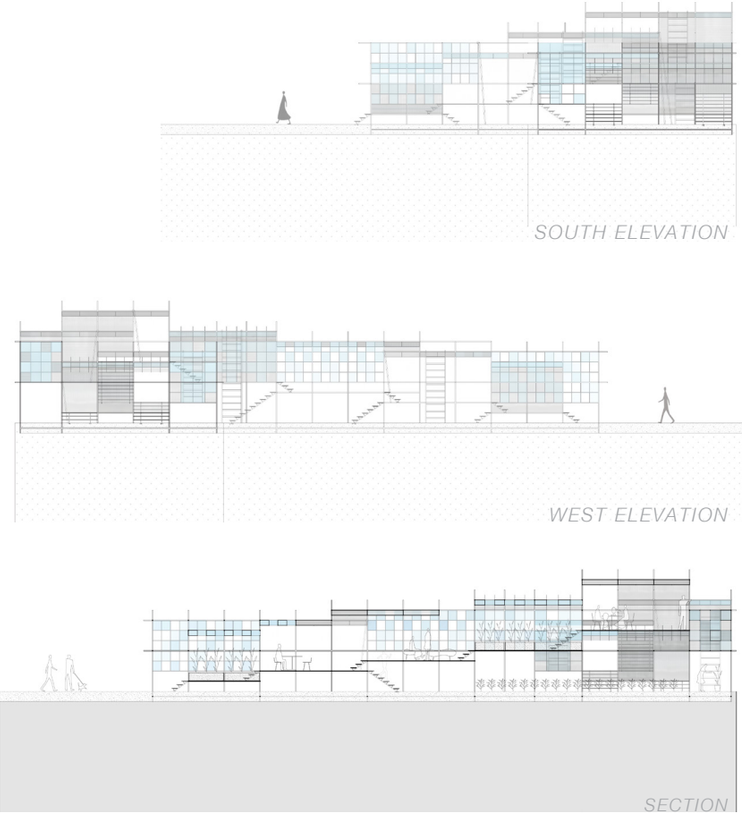
SUSTAINABILITY:

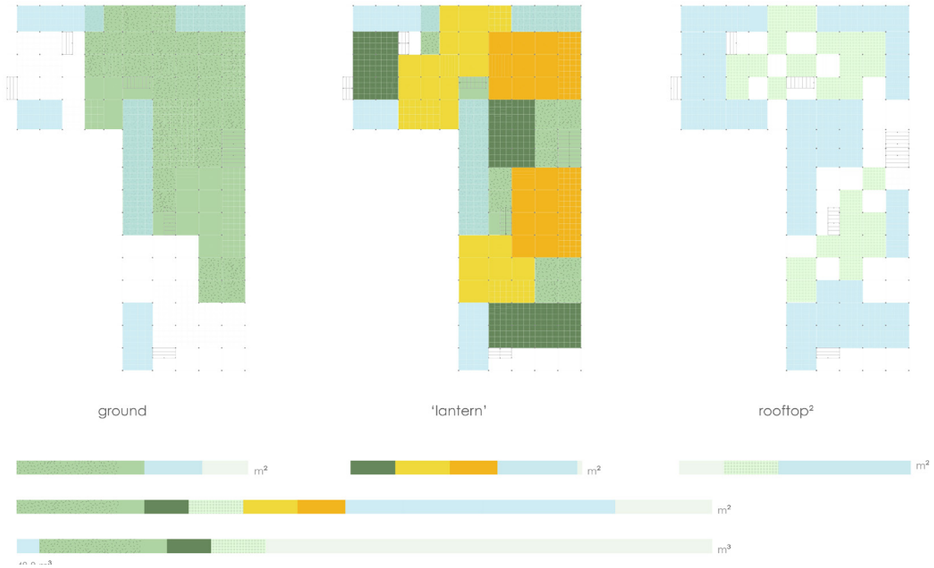
Water Harvesting System

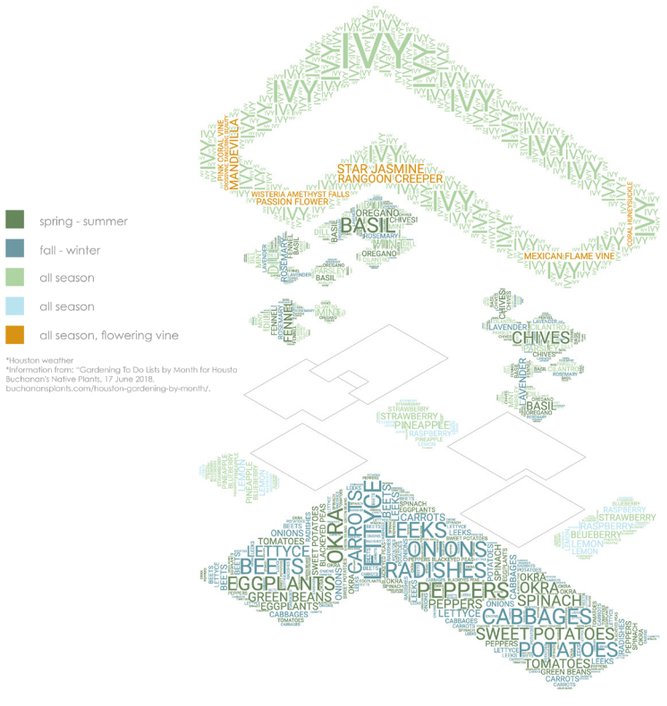
Instead of utilizing a traditional giant cistern, the volume is **pixelated** into cubic units, each representing an essential program: **water, air, and soil**. By mixing these elements, the technical systems of water harvesting and farming are integrated to the social interaction experience.

To accommodate plantation matrix, three sets of water **harvesting-irrigation** systems are positioned within the structure. These systems respond to the pull of **gravity**, efficiently gathering water and distributing it downwards. Plastic tanks, molded in factories, serve as water reservoirs suspended onto pre-welded clusters of thinner pipes on site.

The diagram above provides a detailed depiction of how tanks are associated with water **pipes** for transportation and irrigation, illustrating the path to the designated plant areas. This approach optimizes space utilization and communal interaction, creating a dynamic and sustainable living environment.







Urban Farming

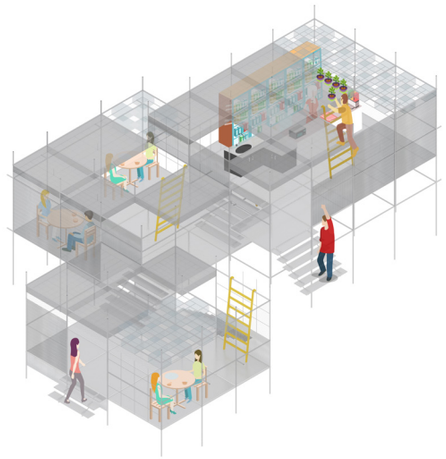
i. The **ground** is transformed into a lush greenery, with the corner area concentrated for **farmland**. This verdant landscape enhances **sustainable agricultural** practices within the community.

ii. Within the **middle lantern** spaces, a mix of greenhouses and human activities flourishes. Orange regions serve as bustling **farm markets**, where residents can exchange fresh produce and bond. Darker green areas are greenhouses, nurturing a diverse array of plant and contributing to the ecological balance of the environment.

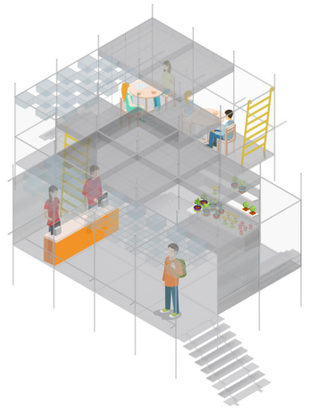
iii. Atop the **rooftop** square, unit tanks are installed to grow lighter plants and those that require ample daylight. This rooftop garden maximizes space use, while encouraging residents to cultivate their own green spaces and connect with nature amidst the urban landscape.

Seasonal Planting

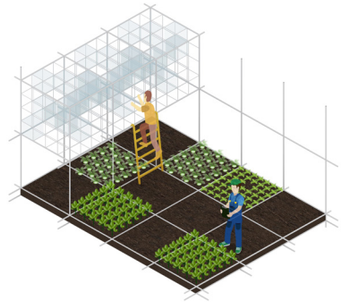
The word **'cloud'** shows the general distribution of plantation on the three horizontal layers and a vertical canvas for vine growth. The rooftop garden for herb, greenhouses for tropical plants, and ground farmland for other crops. The color legend shows the seasonal planting and crop rotation. The cloud will be covered with different colors seasonally.



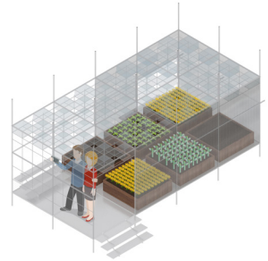
1 Rooftop glass farm. Processed food market.
Offering dishes made from the crops grown on-site. The **roof garden** tanks is for lightweight herbs in pots with pitlite soil, meanwhile offering an additional layer of shading and shelter.



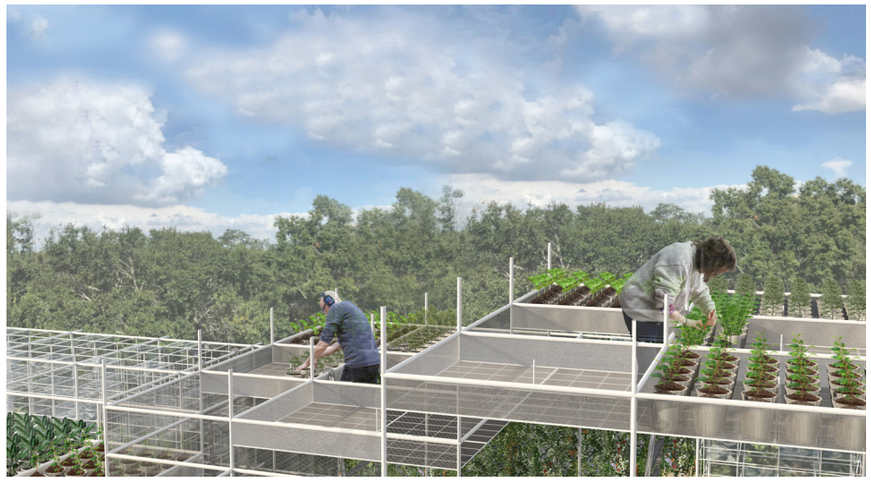
2 Raw food farm market.
Offering a direct outlet of the farm products. Primary revenue: sale of seedlings and ripe crops directly after harvesting.



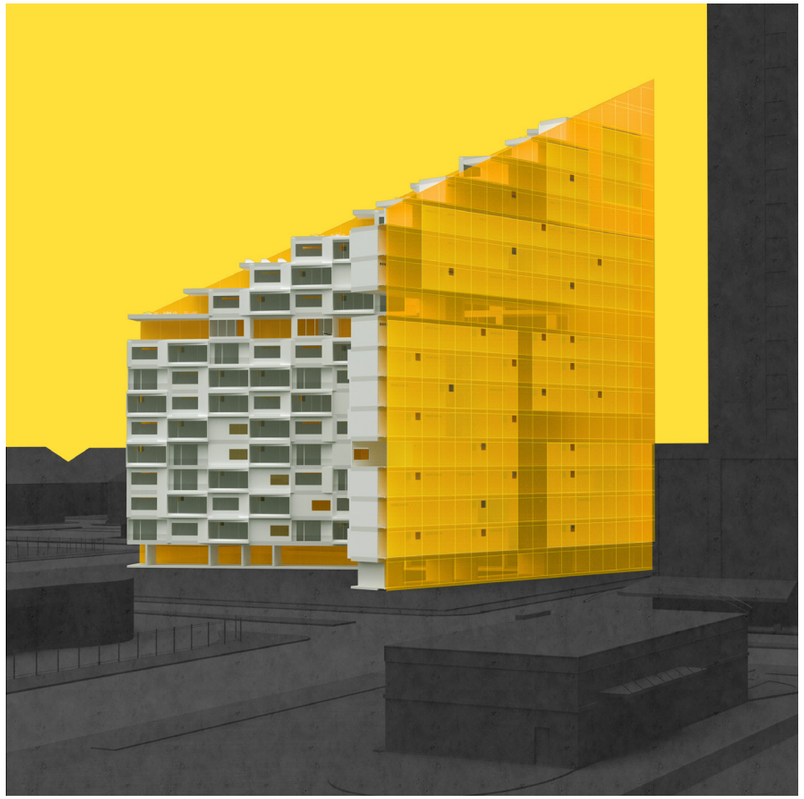
3 Ground floor farm.
The entire land is blanketed with soil and carefully zoned by the structural frame, maximizing space utilization.



4 Greenhouse Lantern
Cultivating tropical fruits and vegetables. Soil containers and polycarbonate envelopes are used to facilitate maintenance.



PROGRAM:



06

URBAN CAMOUFLAGE
A Housing Project in Midtown Houston

Spring 2020. ARCH 202.
Instructed by Brittany Utting.
#HoustonTexas; #Residential; #Theory.

Domestic space constitutes a complex assemblage of social, material, and technical conditions that frame the spatial practices of everyday life. It structures the most intimate modes of human interactions, texturing our identities. In this project, I delve into the intricate **dynamics of domestic space**, recognizing it as a **multifaceted construct** shaped by social, material, and technical factors that influence our everyday lives and identities. With a focus on reimagining communal living, I propose a new organizational strategy for a **multi-unit social housing** project situated in the bustling Midtown district of Houston, Texas.

Acknowledging the chaotic urban context, I aim to create an **urban camouflage** by utilizing existing elements, such as a tall hotel tower to the north, to shield the housing from external disruptions. Leveraging this natural barrier, I design the housing project in a 'V' shape plan, and create two additional **screens** that shield the interior from urban intrusion, enhancing its ability to blend into the surrounding environment while providing refuge from urban intrusions.

The 'V' shape plan and the two screens not only protect the interior from unwanted urban disturbances but also project the vibrant energy of the cityscape onto the communal territory shared exclusively by the residents within this enclosure. By prioritizing both functionality and social cohesion, this project seeks to **redefine the social formations of home** and enhance the quality of life for residents in the heart of Midtown.

‘A solid straight line in plan divides a plane into two parts, one and the other.

A dotted line suggests potential pervasion. A wall becomes a door.

You are welcomed to my region. If I will.’

‘An extruded dotted line becomes a translucent screen, as I interpret it.

Sometimes transparent, sometimes almost opaque: a game of hide-and-seek in the air,

An interactive play of domestic life on the urban stage.

You are allowed to see me. When the play begins.’

‘Two lines, forming an acute angle, claim a territory.

Like a shield that conceals private domesticity.

Two dotted lines, an acute angle extruded, however,

The ‘domestic shield’ becomes a curtain, for a stage or a bay window in the master bedroom.

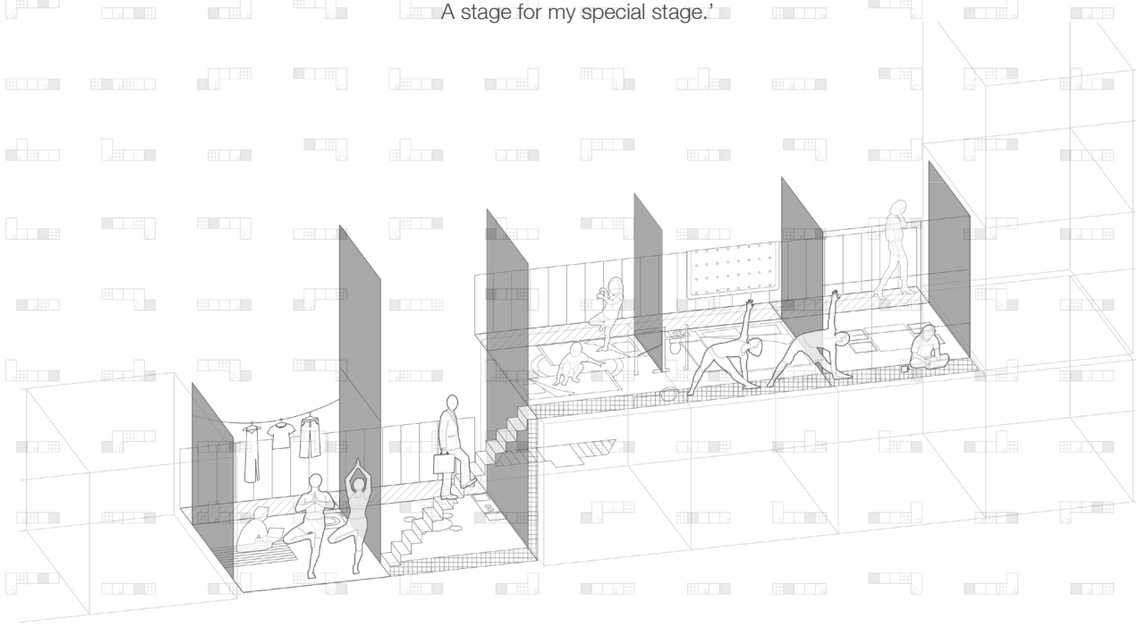
Letting in daylight, noise, and the cityscape, and audiences. If I will.’

‘Two vertical screens, two acute angles: distinct readings from elevation and plan.

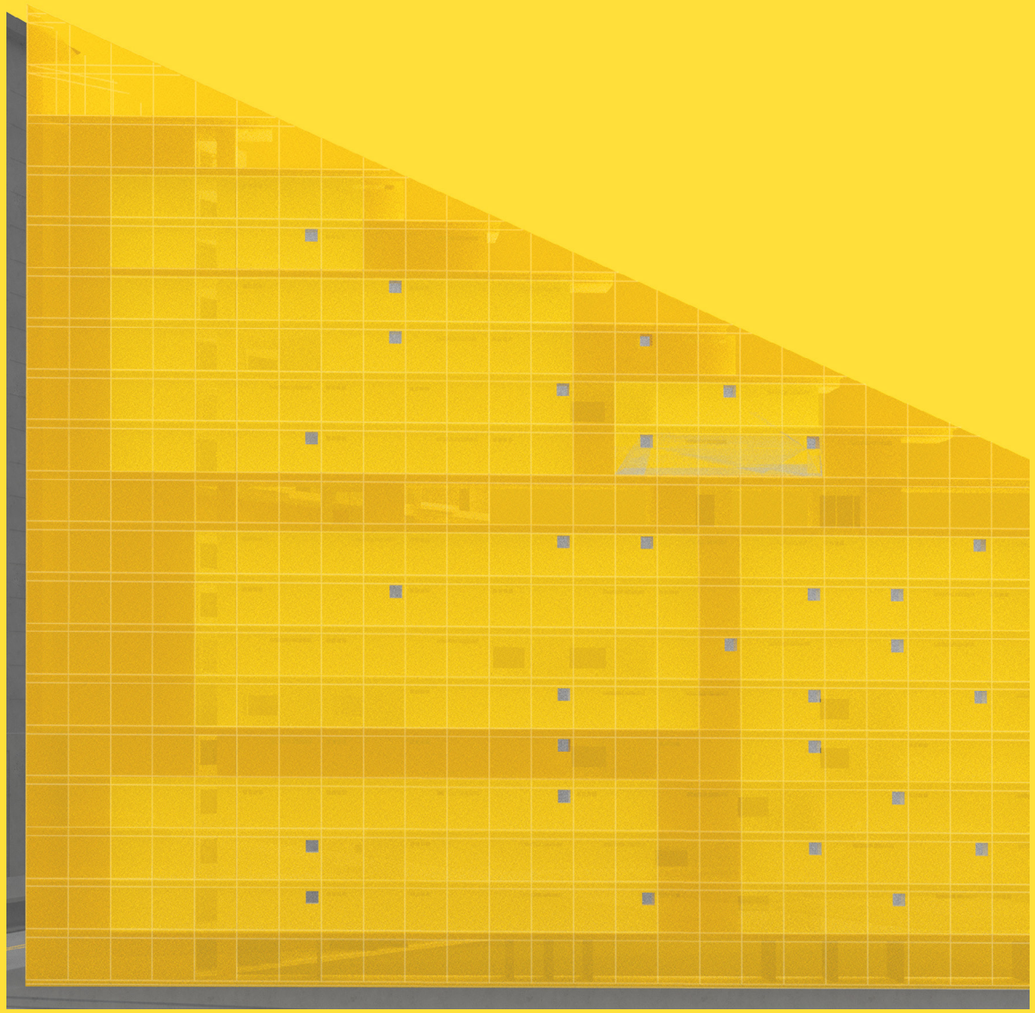
Halting the growth of all the perpendicular rectangles and cuboids in the urban-scape.

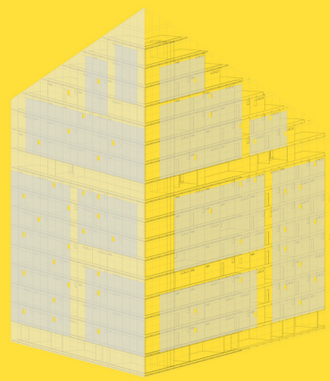
They are the backdrop in gray.

A stage for my special stage.’

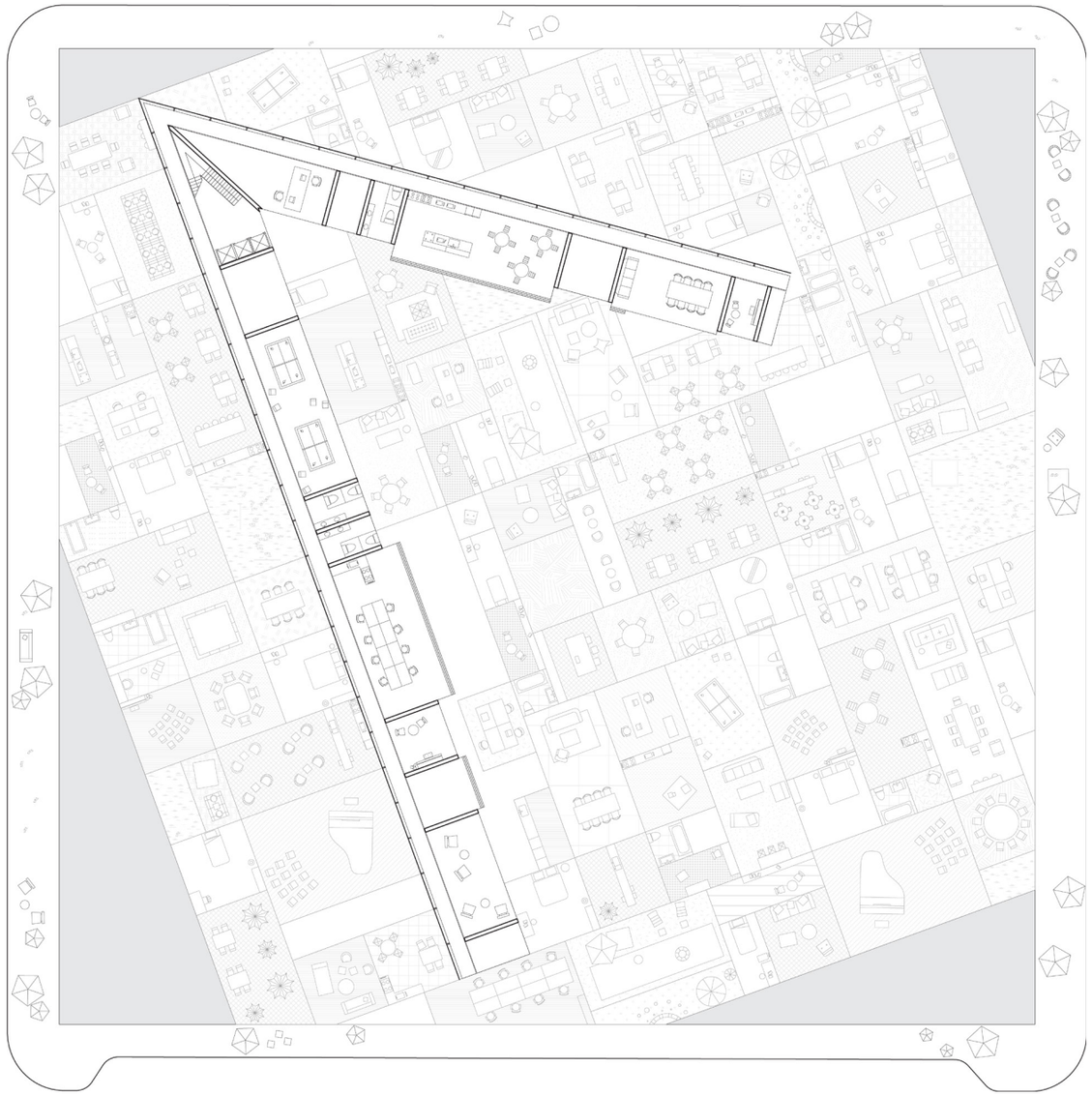


Case Study | Kitagata Gifu Housing Apartment, Living Cellular Configuration and Modular Living Units studies.



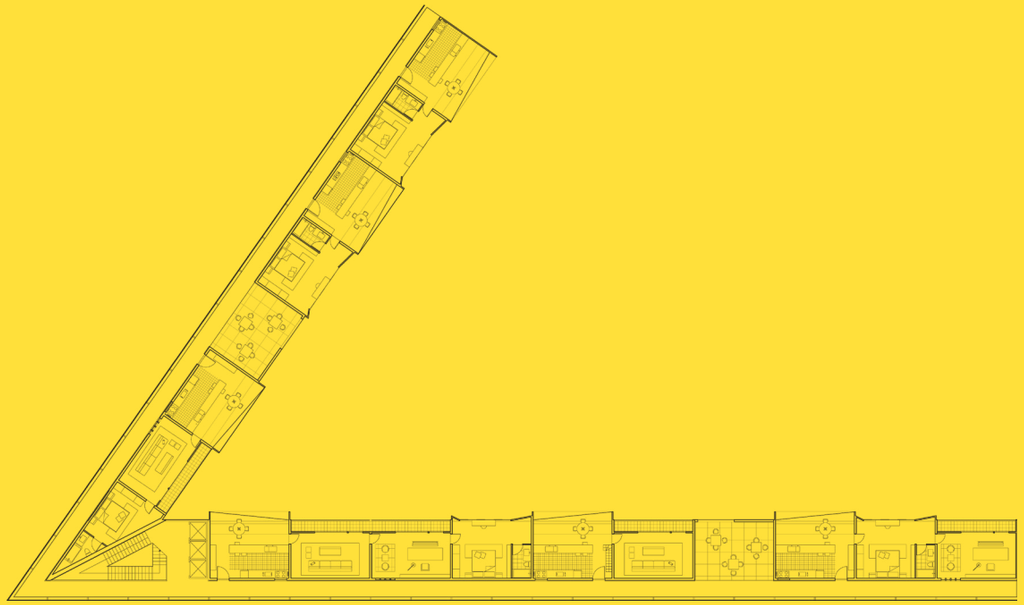


Axonometric |Tectonic Thesis: Domestic Facade & Urban Facade



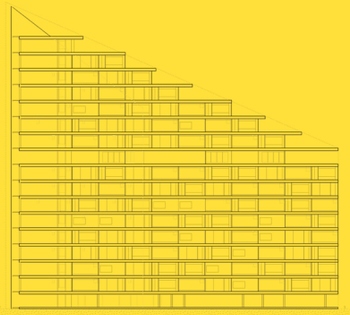
Ground Floor Plan

A free assemblage of **pre-fabricated living cells** unfolds upon an open ground, each designed with prototypical furniture pieces. Within this landscape, a tension emerges—a juxtaposition between the **crafted "designed prototypes" and the collective assemblage they form**. These living cells, curated with prototypical furnishings, offer a glimpse into the potential of **modern living**. Yet, their arrangement within the open expanse of the ground speaks to a collective unity—a **harmonious coexistence** born from diverse individual elements. The tension between the **precision** of the designed prototypes and the **organic** nature of the collective assemblage prompts thinking on **boundaries** between individuality and community, between design intent and communal evolution.



Typical Floor Plan. Five Modules of Living Scenarios.

Five modules were conceived, each tailored to basic **living scenarios**: shared indoor space, kitchen and dining, home office, bedroom and bathing, and shared patio. These modules serve as the foundamental building blocks for the **three residential types**: the single studio with a built-in home office within the bedroom, the double suite with a separate home office, and the party suite featuring an additional bedroom and office space. Each module is designed with a special **domestic facade** that aligns with its programmatic function. For instance, the kitchen/dining unit boasts a diagonal facade that subtly protrudes to accommodate a dining table with panoramic views.



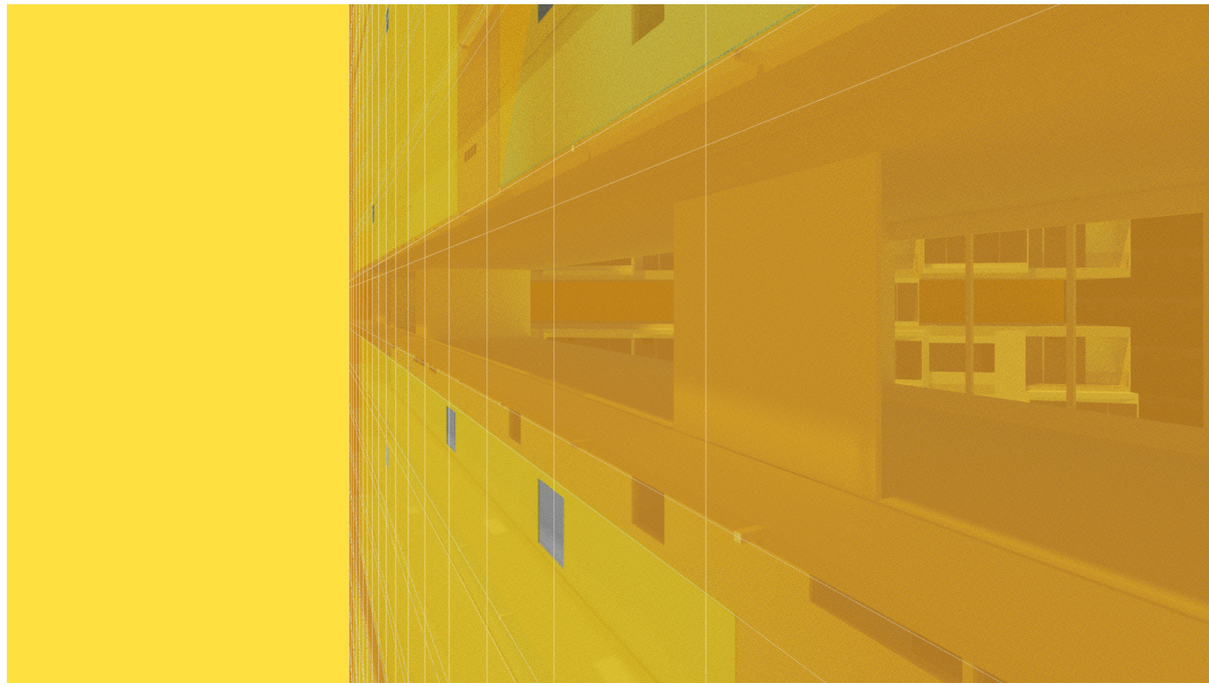
Longitudinal and Transverse Section. Central Elevator Core at the intersection.

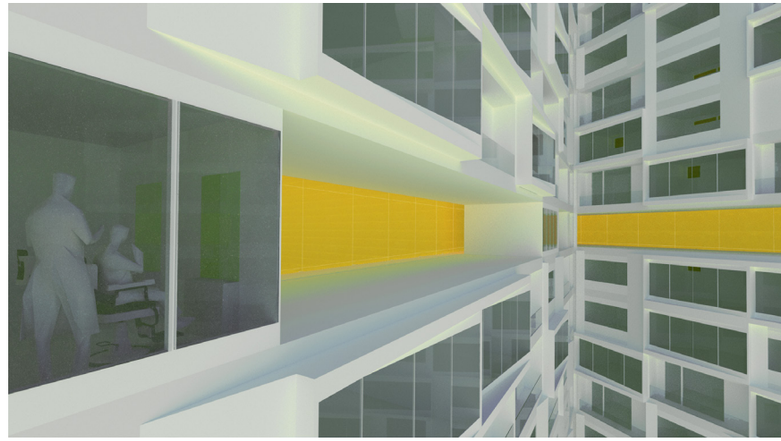
On every floor, a **communal lounge** is positioned next to the core, fostering social interaction. The ground floor houses shared indoor programs such as gyms and reading rooms, creating a **hub** of activity. As one ascends, the communal lounges evolve to cater to different preferences. The lounge on the tenth floor hosts more **inclusive** programs, such as private happy hours and townhall. Beyond the tenth floor, two small shared **terraces** are nestled at the ends of the 'V' shape plan, offering residents a tranquil outdoor retreat amidst the urban landscape.

(R) Revolving from the entirely shaded exterior facade that **shields** residents from the chaotic urban environment to the private inner side, whispering an inside joke: the program of each module is cleverly communicated through its facade.

(L) A juxtaposition emerges between the **urban screen** and the **domestic frame**. The **translucent** urban screen acts as a protective shield for the community, **camouflaging** them within the bustling urban landscape. Meanwhile, the domestic side mostly **transparent**, with various sizes of glazing assigned according to program.

From the inside looking out, the project becomes a **literal translation of the everyday rituals**—eating, sleeping, working, bathing, and gathering. This transparency fosters a deep **connection** between the residents and their surroundings, blurring the boundaries between interior and exterior spaces. As residents navigate through, they are **immersed** in a new set of spatial codes and social ecologies, shaped by the dynamic interplay between the urban screen and the domestic frame.

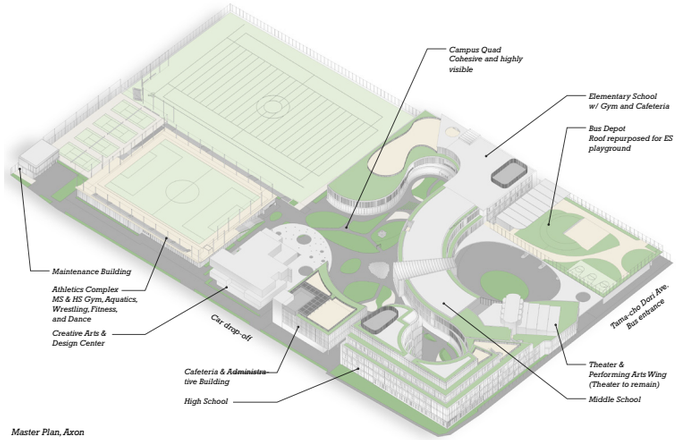




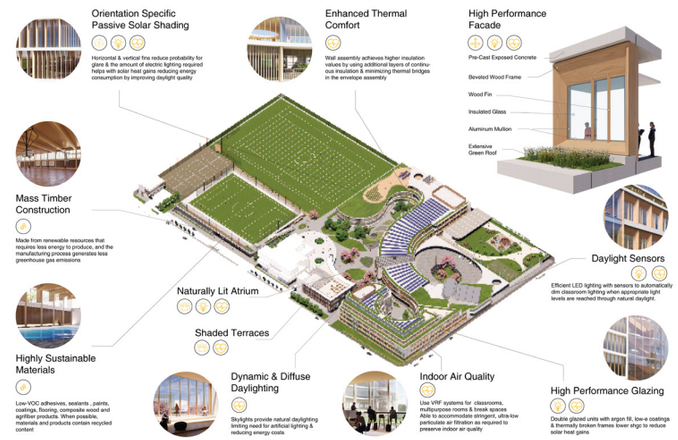
07

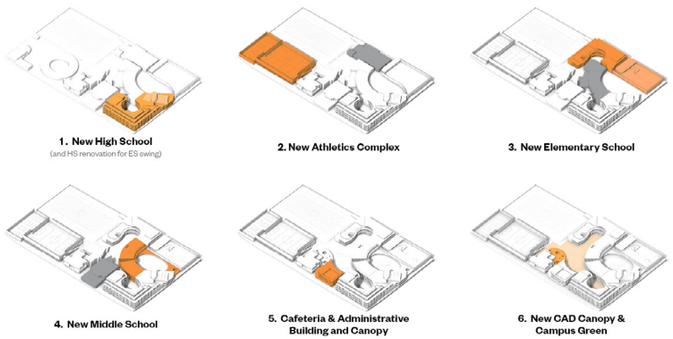
PROFESSIONAL WORKS
A K-12 School Master Plan

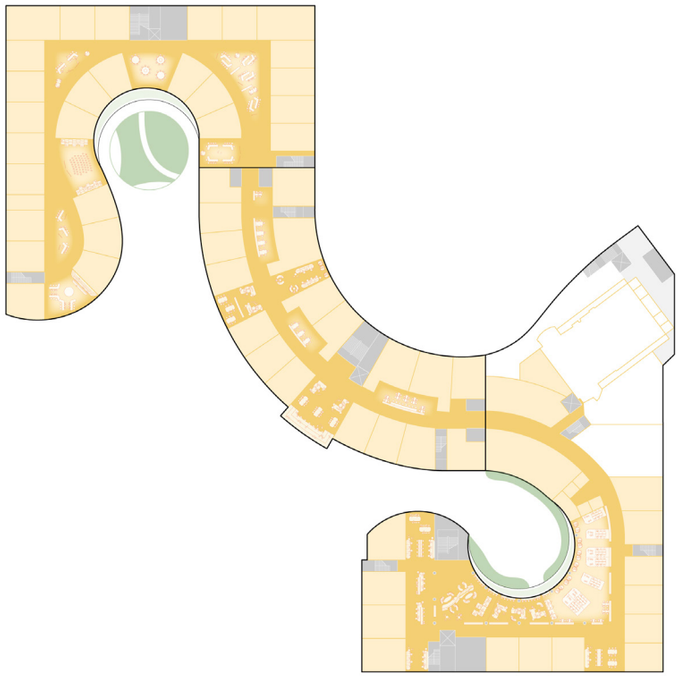
Internship at Ennead Architects.
August 2022 to April 2023.
#MasterPlan; #Education; #Program; #Render.



Master Plan, Axon







Phasing Proposal. Program Calculation and Test-fit. Design Proposal: River of Learning.

Second Floor. Program Test-fit. Continuous Path through all Academic Years.

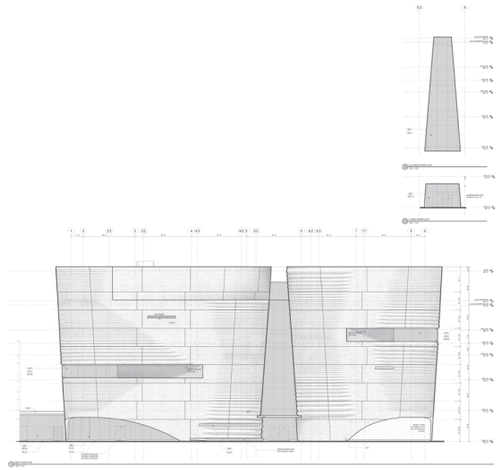
Ground Floor Campus Plan. Proposed Landscape and Preservation of Old Campus Legacy.

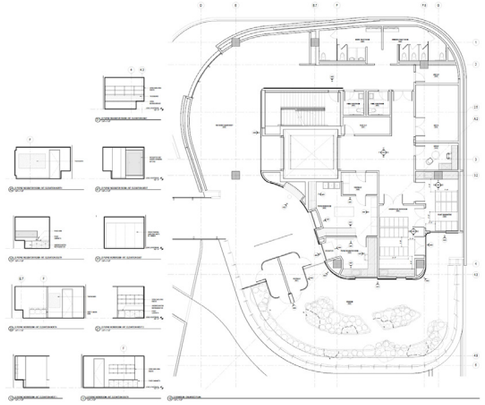
Campus Axon and Sustainability Assessments with Call-outs of Renderings. Interior Renderings.

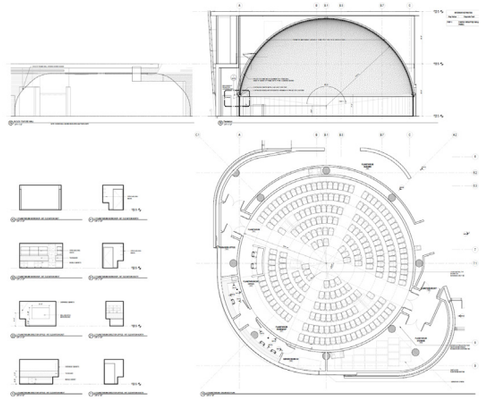
07

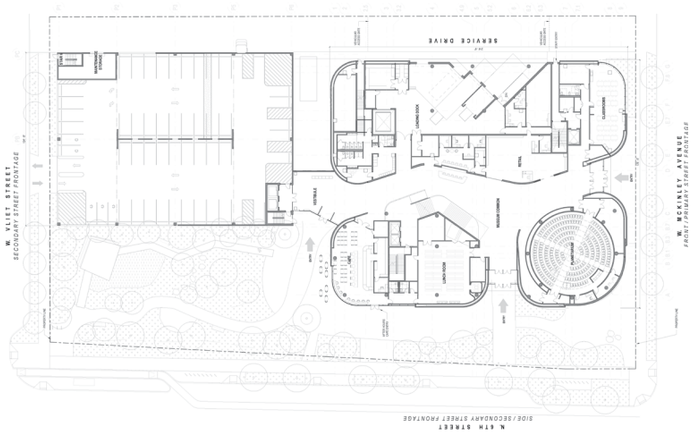
PROFESSIONAL WORKS
A Museum of Natural History (DD)

Internship at Ennead Architects.
April 2023 to June 2023.
#Cultural; #Interior; #Revit #Render.

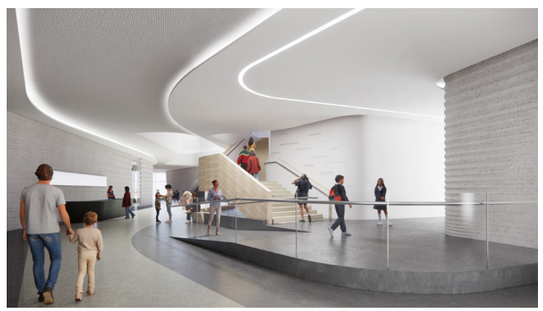








Landscape and Public Street Replan Proposal.



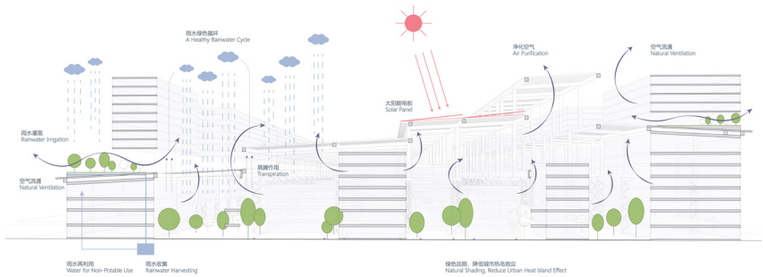
Interior Elevation Drawings in Revit. Program Interior Renderings with Rhino and Enscape.

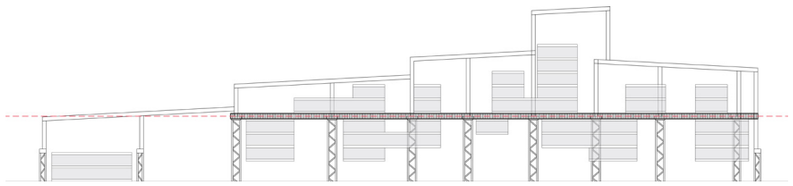
07

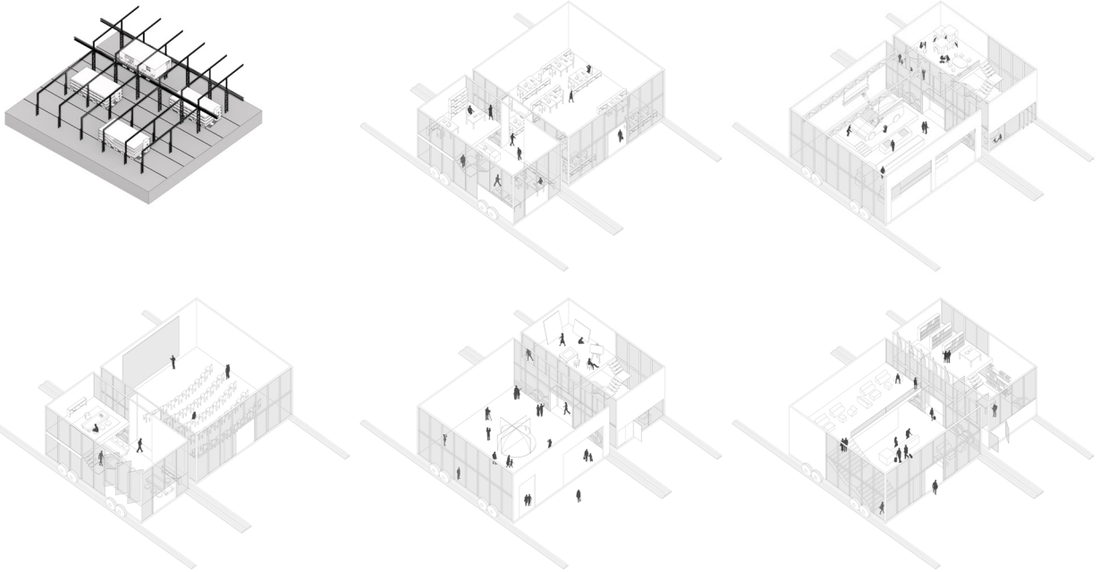
PROFESSIONAL WORKS

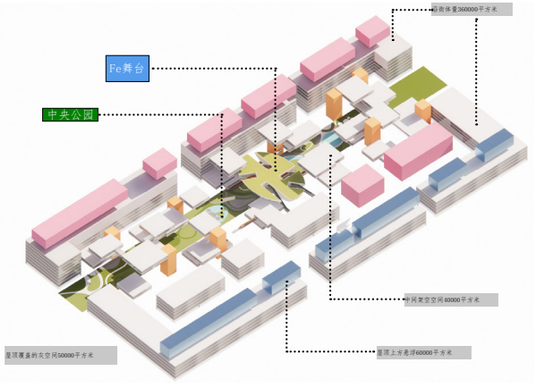
Adaptive Reuse Master Plan Proposal for a Warehouse

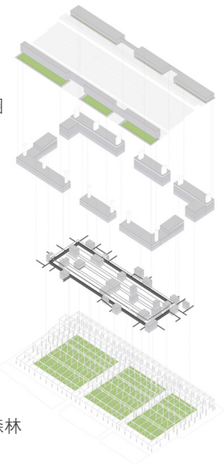
Internship at Atelier Deshaus.
May 2021 to July 2021.
#AdaptiveReuse; #SmartCity; #MixedUse.

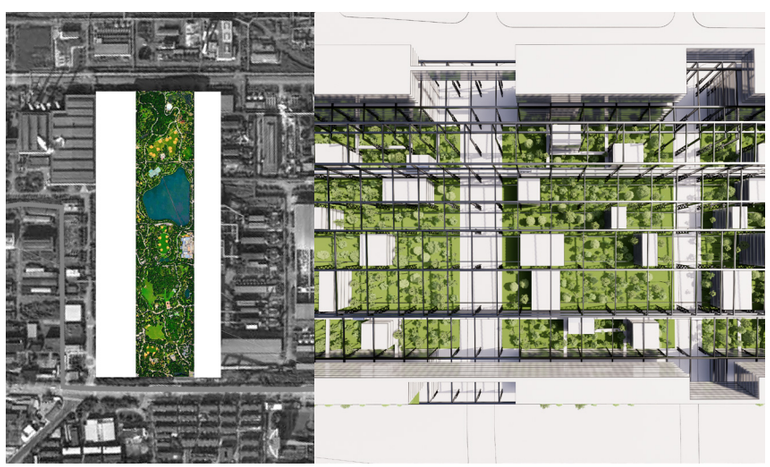












Moveable Modules at the Center. Program Temporality and Spatial Adaptability. Central Park Green Proposal - Collage and Render.

Two Sets of Master Plan Proposals. Sectional Relationship. Massing, Program Studies, and Renders in Rhino and Enscape.