

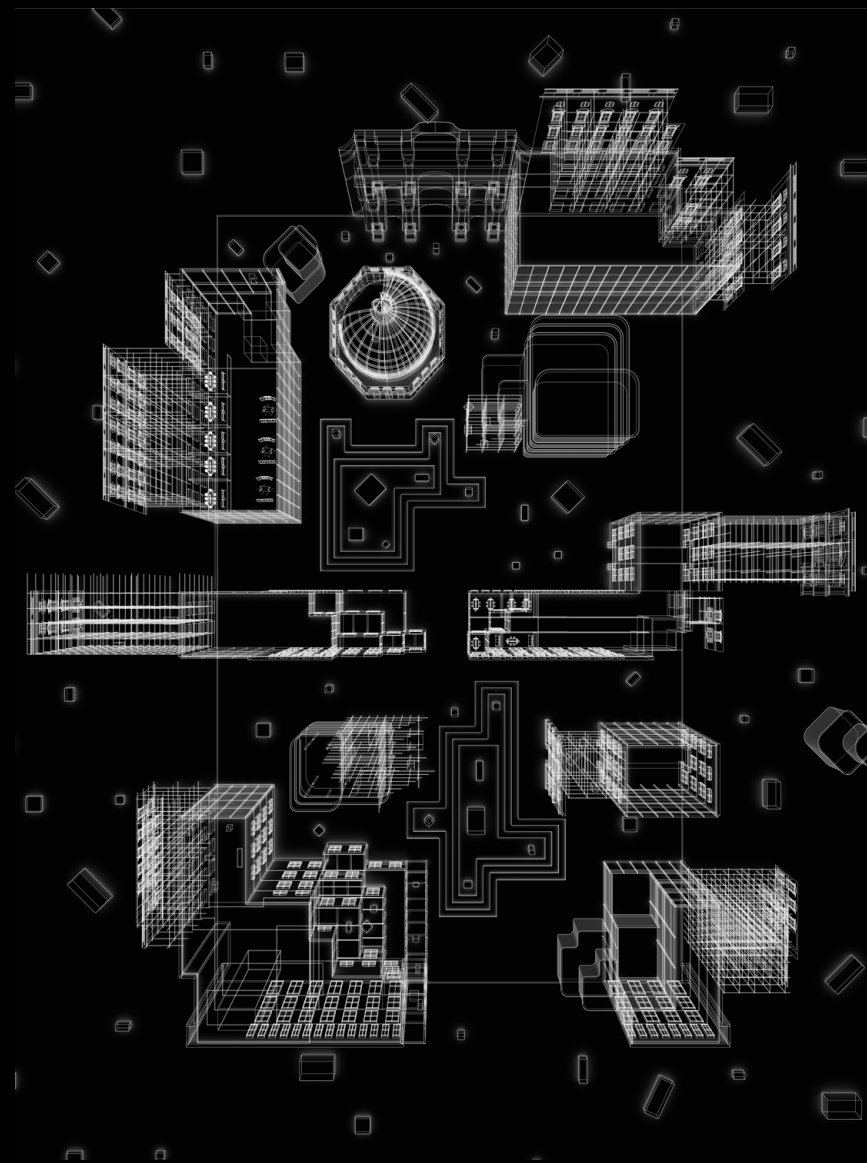
# PERSPECTIVES



Selected Works

Columbia GSAPP 2023

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Columbia GSAPP MArch/MSRED '24

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# Self-objectifying Humboldt

Studio: Advanced VI: Afterimages: On Restitution, Animism, and Diaspora

Tutor: Emanuel Admassu

Semester: Spring 2023

Currently, the Humboldt Forum exists as a singular institution in a monumental building that authorizes the display of ethnological objects from regions across the world, many of which were looted during the Prussian Empire. In the process of museumizing these artefacts, the Humboldt Forum is problematic in its ways of objectifying others, representing world cultures through fragmented objects.

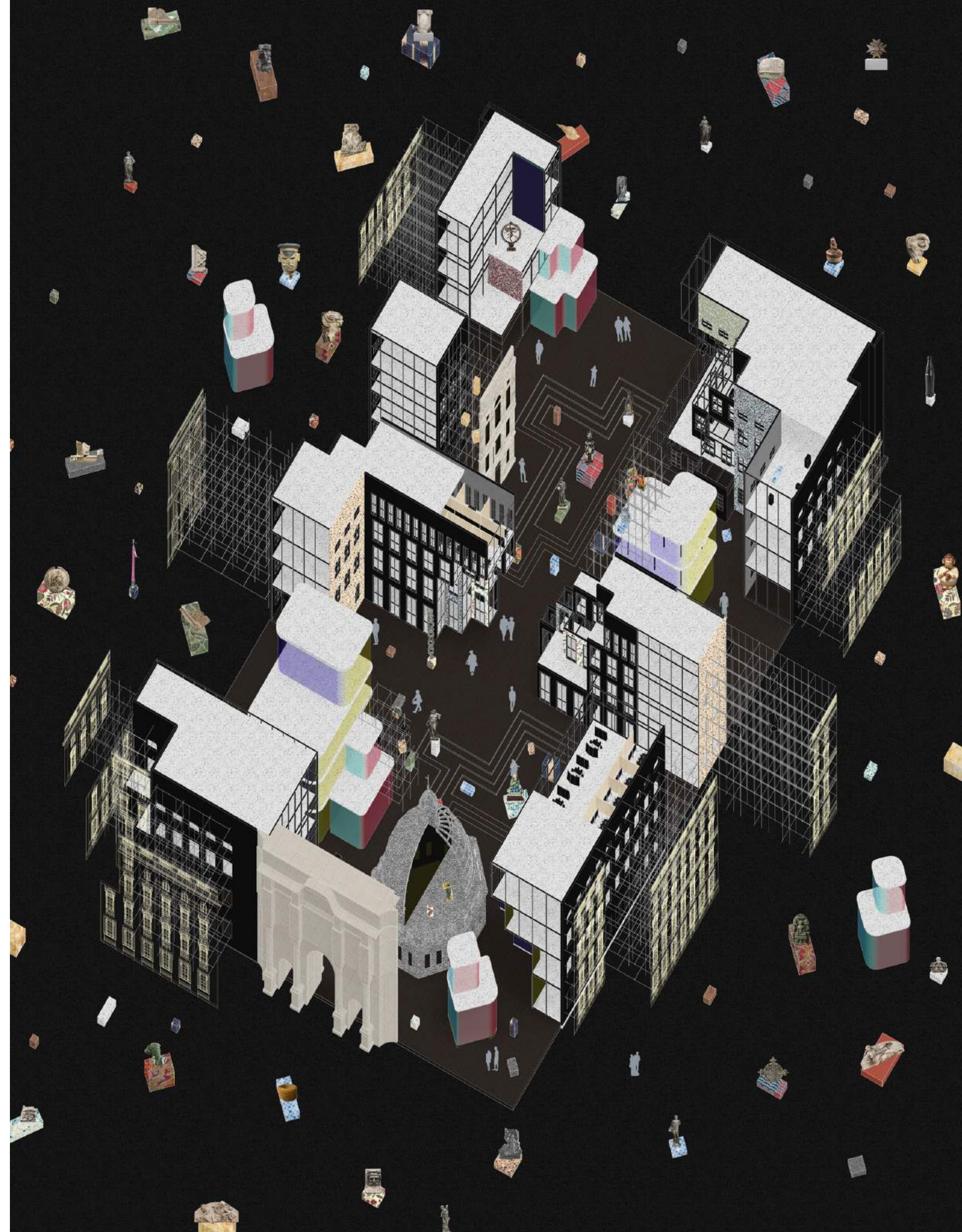
My proposal of the Humboldt Forum aims to objectify the Humboldt Forum itself primarily through the radical fragmentation of the structure, treating itself as a series of fragmented objects just like its own collection. Through fragmentation, the forum transforms from a singular site that represents a singular institution, into groups of smaller structures that resemble a village. The buildings are turned into community gathering spaces for people of different ethnicities, which include exhibition spaces, meeting rooms, performance spaces, markets, and workshops - the community leaders take charge of occupying various buildings of the Forum, an agora for ethnic minorities.

Through fragmentation and self-objectification, the forum should eliminate the hierarchy between the self and others, and remove its agency of narrating the others. Instead, the forum should engage in a mutual exchange between people of different ethnic backgrounds, becoming a platform for people to experience first-hand the voices of various communities. The engagement of multiple parties and institutions allows for a multiplicity of narratives and voices. In the process, it may begin to de-objectify its object collection and counter its own colonial legacy.

Currently, Humboldt Forum has reduced world cultures to a series of singular narratives, with fragmentation acting as a tool for objectification. Objects displayed in fragments, out of their original contexts are interpreted under the Eurocentric paradigm, under the Western gaze. However, fragmentation can be positive as a means to diversify and enable multiple narratives on the site of the Humboldt Forum. Fragmentation can be a way to create diversity and multiplicity. The process of fragmentation should be a way to acknowledge the impossibility of having a coherent view of any culture and history.

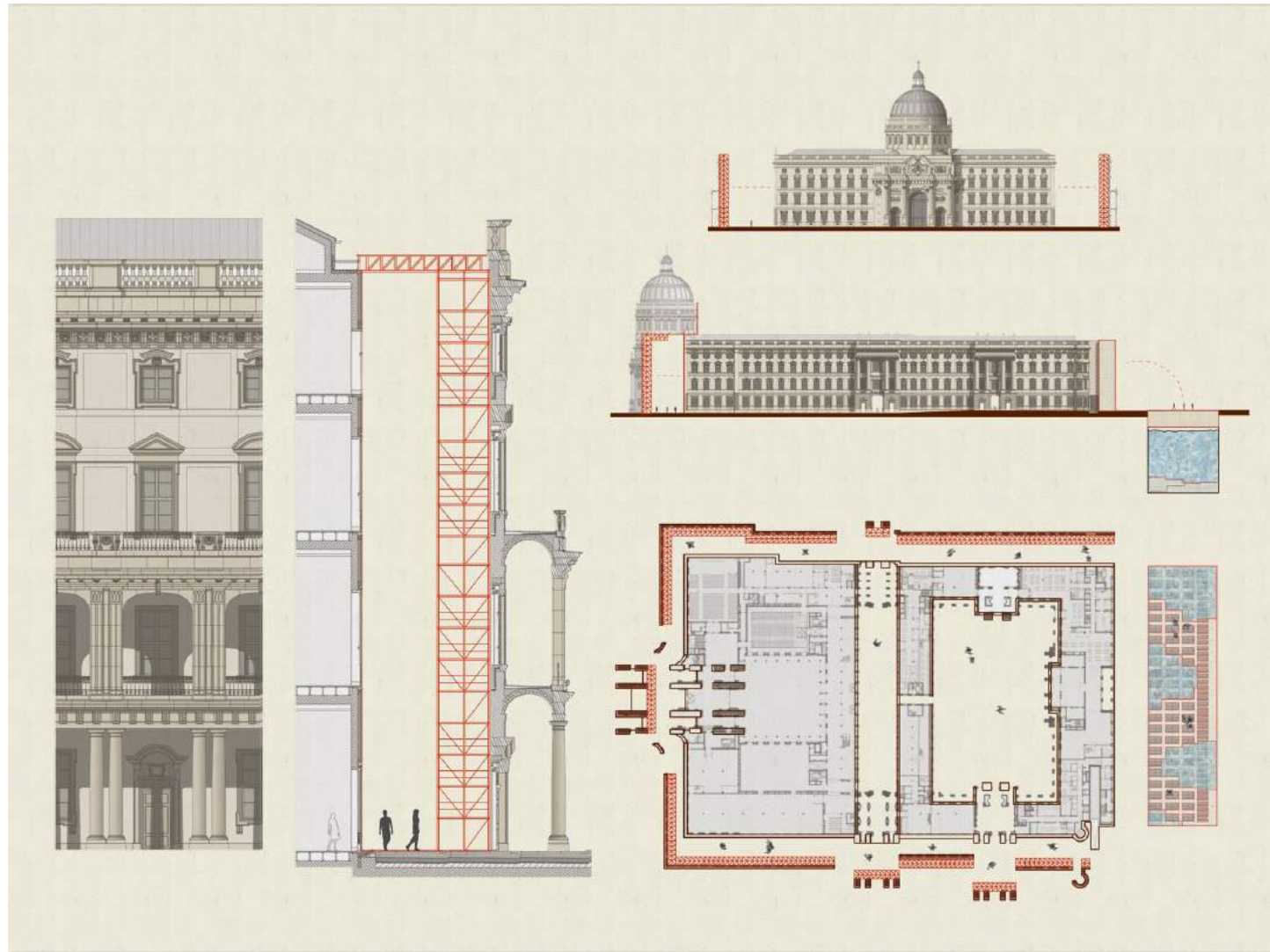
The Humboldt Forum should reflect that German society is trending towards a more heterogeneous society rather than a homogeneous one where people with a migrant background are othered in German society. The singular narrative about Germans and national identity no longer applies.

By renegotiating the relations between objects in the Humboldt Forum collection, the artefacts escape the singular lens under the same roof of the Humboldt Forum but confront the viewer from simultaneous points of view. The objects that are currently held within the Humboldt Forum should be represented as objects in progress that are bound to be displaced and potentially returned. The positioning of objects should be non-hierarchical and non-linear.

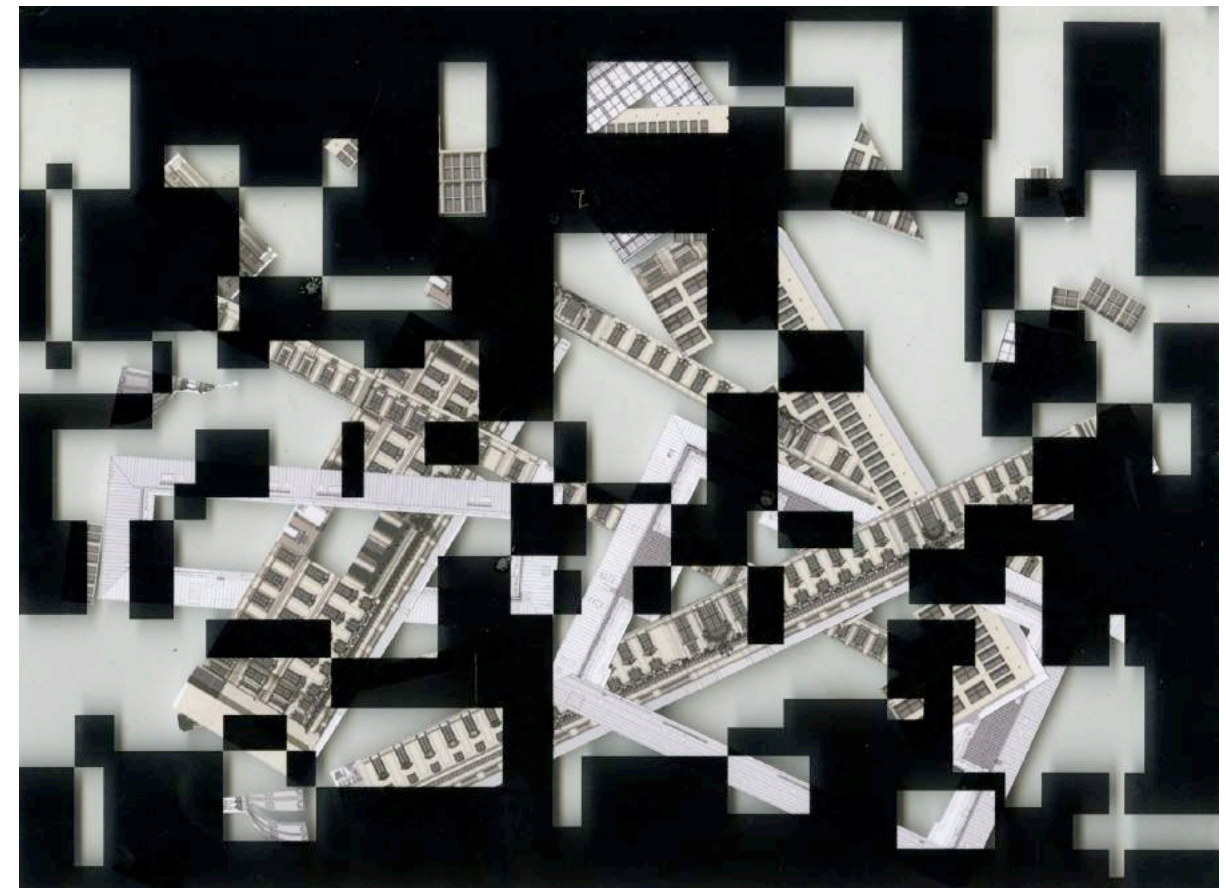
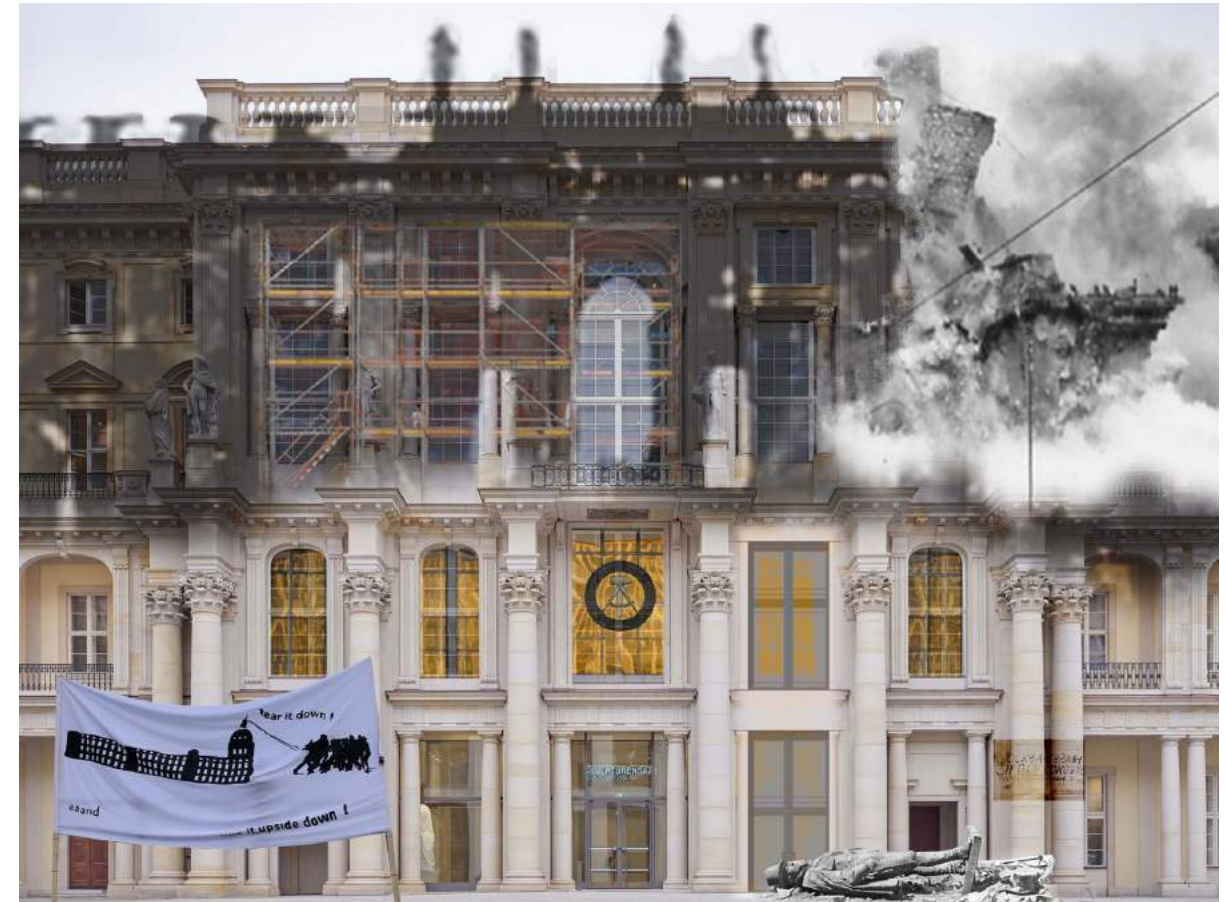






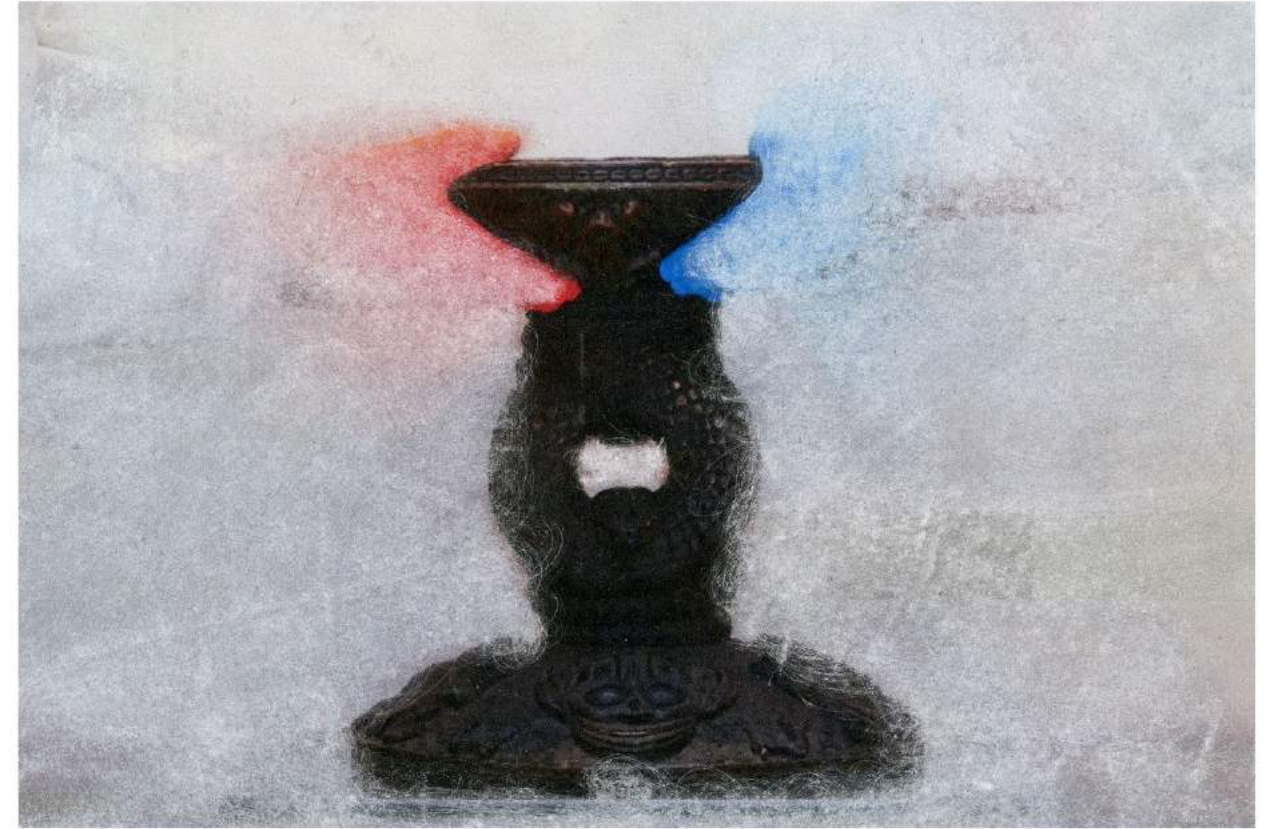


Experiments in Fragmentation





Objects: Blurring as Fragmentation



# De-cologne-izing Singapore

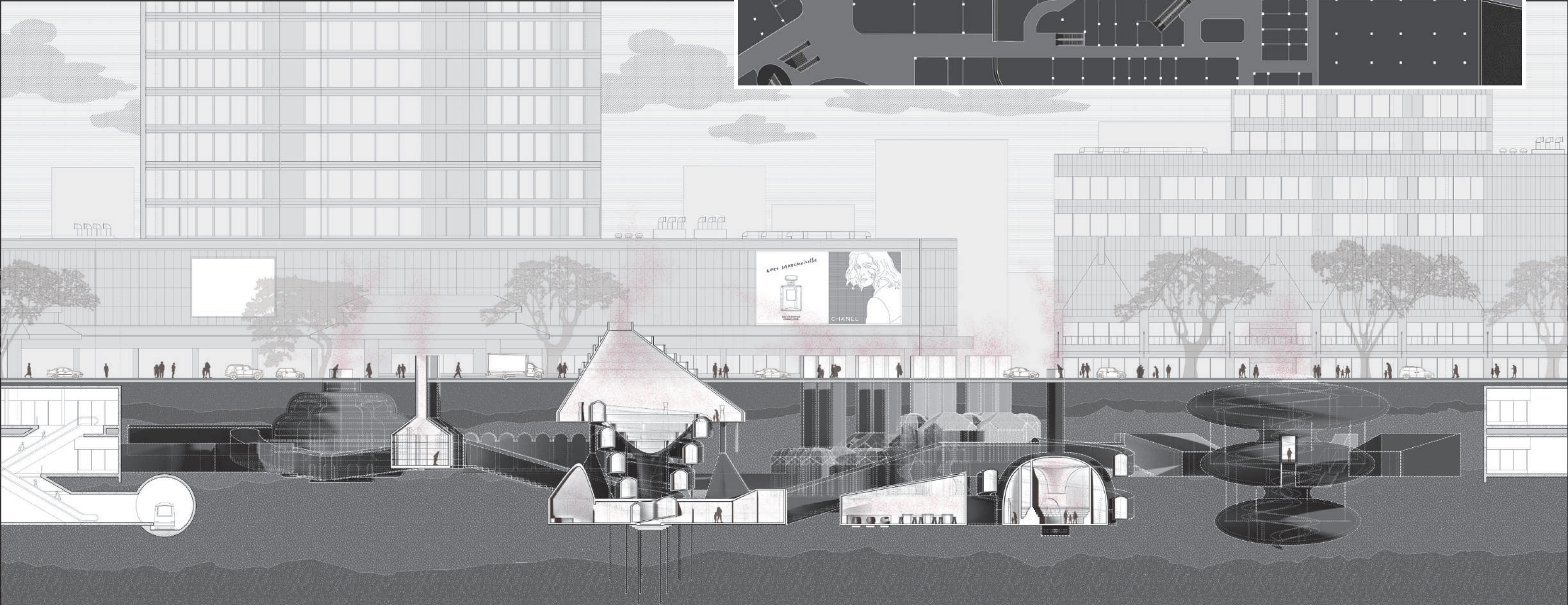
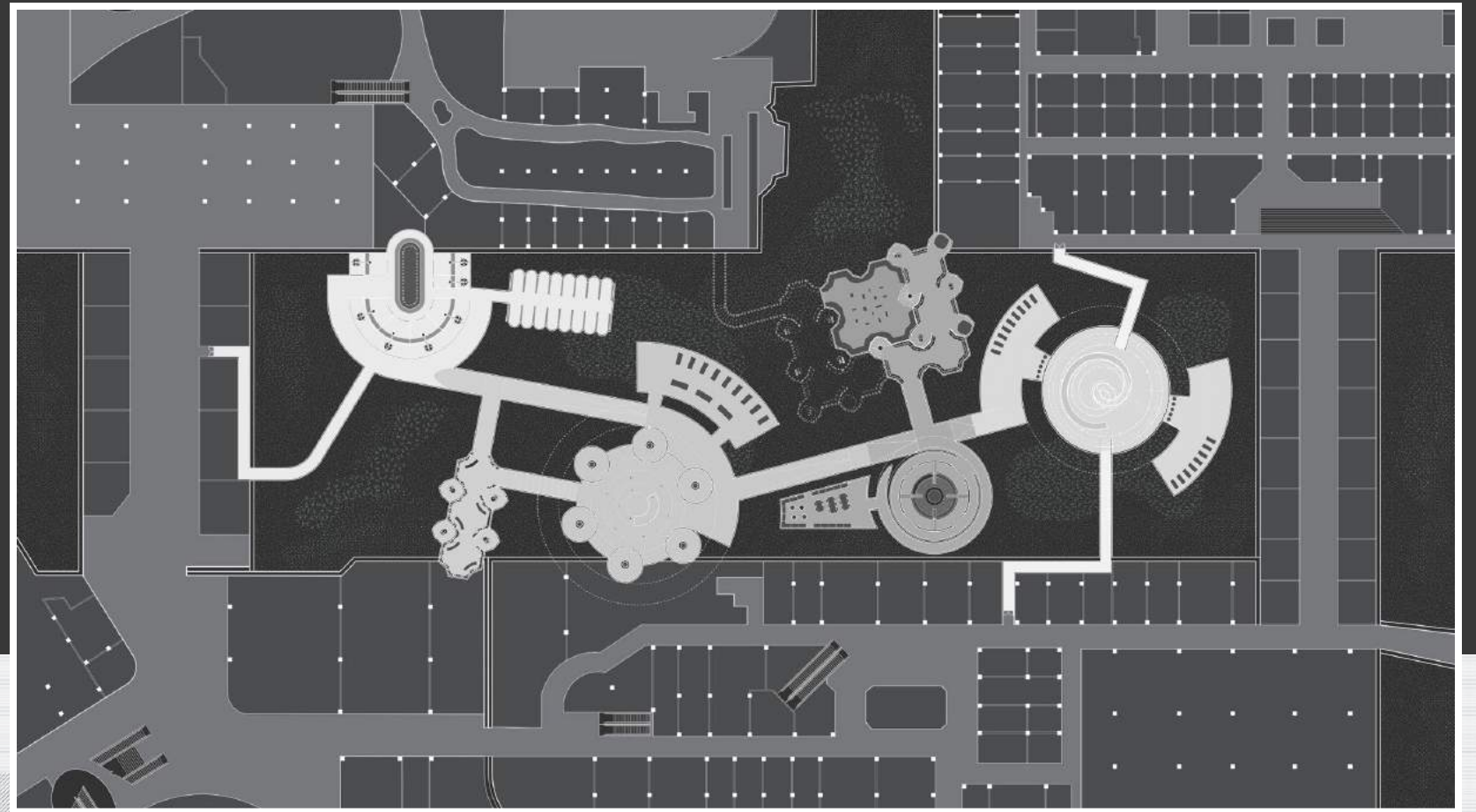
Studio: Advanced V: Plein Air Studio

School: Columbia GSAPP

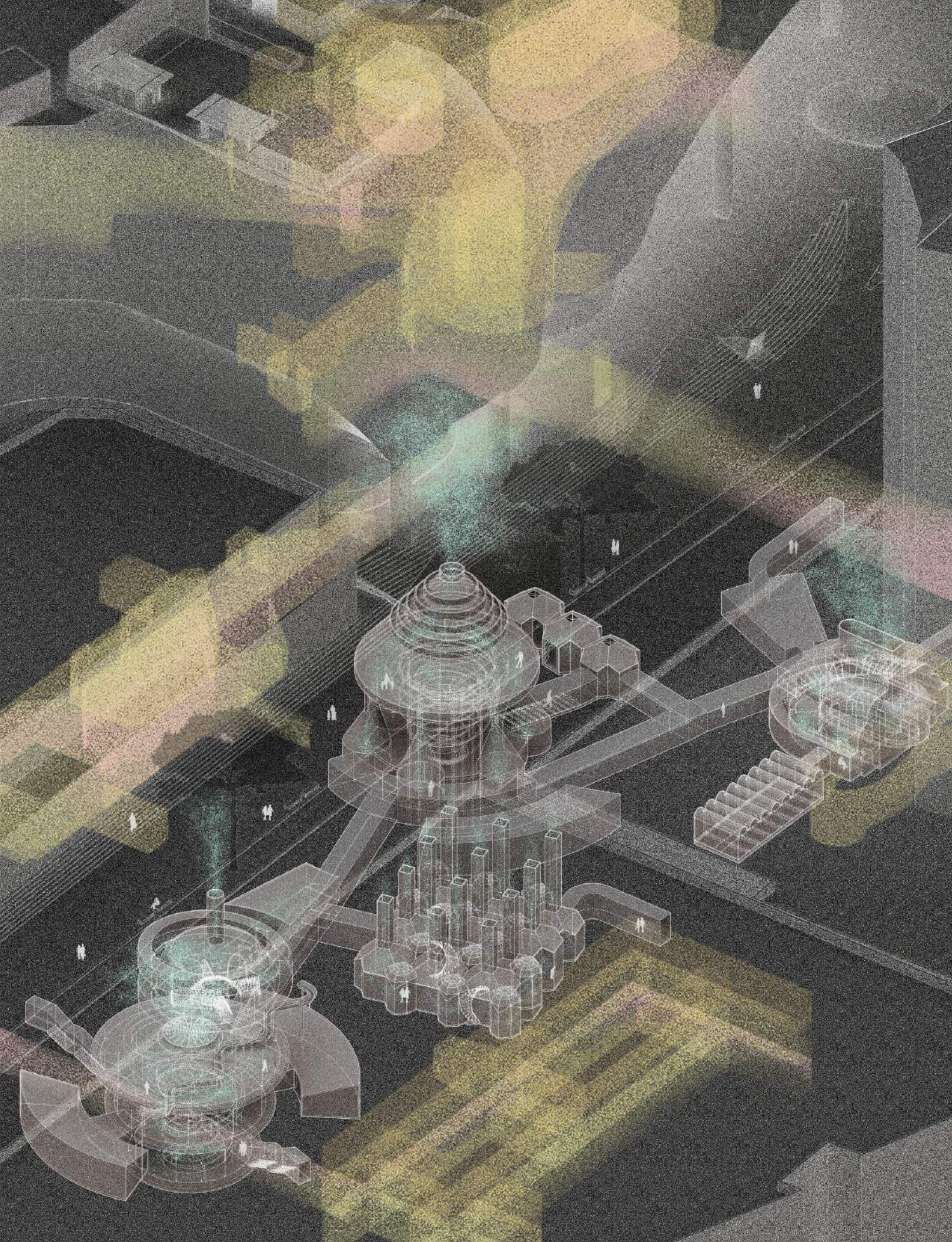
Tutor: Nahyun Hwang

Studio Partner: Tim Chen

Year: Fall 2022







The changing scentscape caused by the commercialization of Orchard road is emblematic of the displacement of communities and cultures in Singapore. Scents that were once owned by native dwellers of Singapore are now displaced by commercialized and controlled scents, most of which are imported and manufactured elsewhere. The project proposes to intervene Orchard road's highly controlled scentscape by creating a series of spaces underground that provides a parallel world for local people to retrace, preserve, and create scents that were lost and displaced by new developments in Singapore. The scents that are produced in these spaces are partially discharged to the streets and secretly disrupt the current scentscape of Orchard Road. These sites of scent preservation and production are highly participatory and communal, bringing people together to relive significant memories of Singapore.



**ION ORCHARD (2009) STRATIFICATION OF SCENT**  
Innovative use of building and strategy to improve customer traffic and profits through stratification of scent. ION Orchard's Scent by Technology to establish signature scents that used in appeal and controlled along with varying intensity throughout the building.

**ION Orchard Mall (2009)**

**WHEELLOCK**

**HABITAT 67**

**TANGS**

**TANGS Department Store (1954)**  
One of the most prominent symbols in Orchard Road's architecture occurred in 1954 when businessman Tang Chee Keng opened C.K. Tang Department Store in the district. Today, TANGS Department Store, along with the adjacent Hotel, has been transformed into retail and hotel collections offering luxury goods and hospitality.

**Burning Forests for Fuel**  
In addition to clearing surrounding areas for land, the production of gambier plants required so much charcoal that the nearby surrounding gambier plantations would be stripped of wood for fuel.

**Hilton Hotel (2025)**

**Hilton Branded Scents**  
Hilton Hotels create their own scents and produce a wide field of products while the hotel operates while the hotel operates so that guests will always associate the successful brand name. Thanks to the program provided by a scent-marketing company, the Hilton Hotels around the globe will be branded as Hilton's signature scent.

**Gambier and Pepper Plantations**

**PEPPER AND GAMBIER: EXHAUSTING THE SOIL (1820)**  
Pepper and gambier plants were grown together in what gambier farmers termed "the bonded plantation" for pepper plants. The combination of the two crops added a significant soil as the gambier needed to regenerate after 15 years. So, remaining forests would be stripped of wood for fuel in growing pepper orchards.

**Nutmeg and Clove Plantation**

**Government Resident**

**Stamford Raffles House (1822)**

**Raffles Hotel (1867)**

**FRANGIPANI AND THE RAFFLES HOTEL**  
An one of the most iconic structures of Singapore, Raffles Hotel first opened in 1867. The Raffles Hotel was built on 183 acres, 18 different mansions and lots, a Victorian-style structure and a 24-hour in every shopping mall. Since its founding, the hotel is less known for its signature and composed of frangipani and the famed Singapore Scent culture.

**STAMFORD RAFFLES COLONIZING SINGAPORE (1818)**  
Stamford Raffles was a British statesman who served as the Lieutenant Governor of the Dutch East Indies in 1811. He is best known for his role in the founding of modern Singapore and the Straits Settlements. Upon arriving here in 1819, he began "cultivating the land for good advantage wherever possible."

**"I am laying out a botanic and experimental garden, and it would delight you to see how rapidly the whole country is coming under cultivation."**

**CASH CROP EXPERIMENTAL GARDEN: NUTMEG AND CLOVE (1819)**  
Singapore's first botanical and experimental garden in planning for Stamford Raffles, including Nutmeg and Clove, Nutmeg is a cash crop that drives the island's economy in Southeast Asia.

**BRITISH EAST INDIA COMPANY (1600-1874)**  
The Royal Charter of 1600 led to the establishment of a British trading colony in Singapore was signed 203 years ago on 6 February 1819 between the British East India Company and Sultan Tengah of Johore.

**Singapore Key Map**

**British Spice Trade Colonies, 1820**

**Developing and Testing Perfume**

**France**  
Paris  
Grasse

**Perfume Bottle Manufacturing Multiple Locations (Global)**

**Mixing and Macerating Perfume**

**Distilling Jasmine into Absolute**  
1kg of Jasmine Absolute = 1000 kg of Jasmine Buds

**India Madurai District**

**1 Picking Jasmine Buds**  
1 kg of jasmine buds = 5000 Jasmine Buds

**2 Bidding Jasmine Buds Local Flower Market, Madurai**

**3 Soaking Jasmine in Alcohol**

**4 Distilling**

**5 Blending**

**6 Filling and Packaging Perfume**

**7 Perfume Bottle Manufacturing Multiple Locations (Global)**

**8 Shipping**

**9 Wholesale Distribution**

**10 Retail**

**11 Retail**

**12 Retail**

**13 Retail**

**14 Retail**

**15 Retail**

**16 Retail**

**17 Retail**

**18 Retail**

**19 Retail**

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**91 Retail**

**92 Retail**

**93 Retail**

**94 Retail**

**95 Retail**

**96 Retail**

**97 Retail**

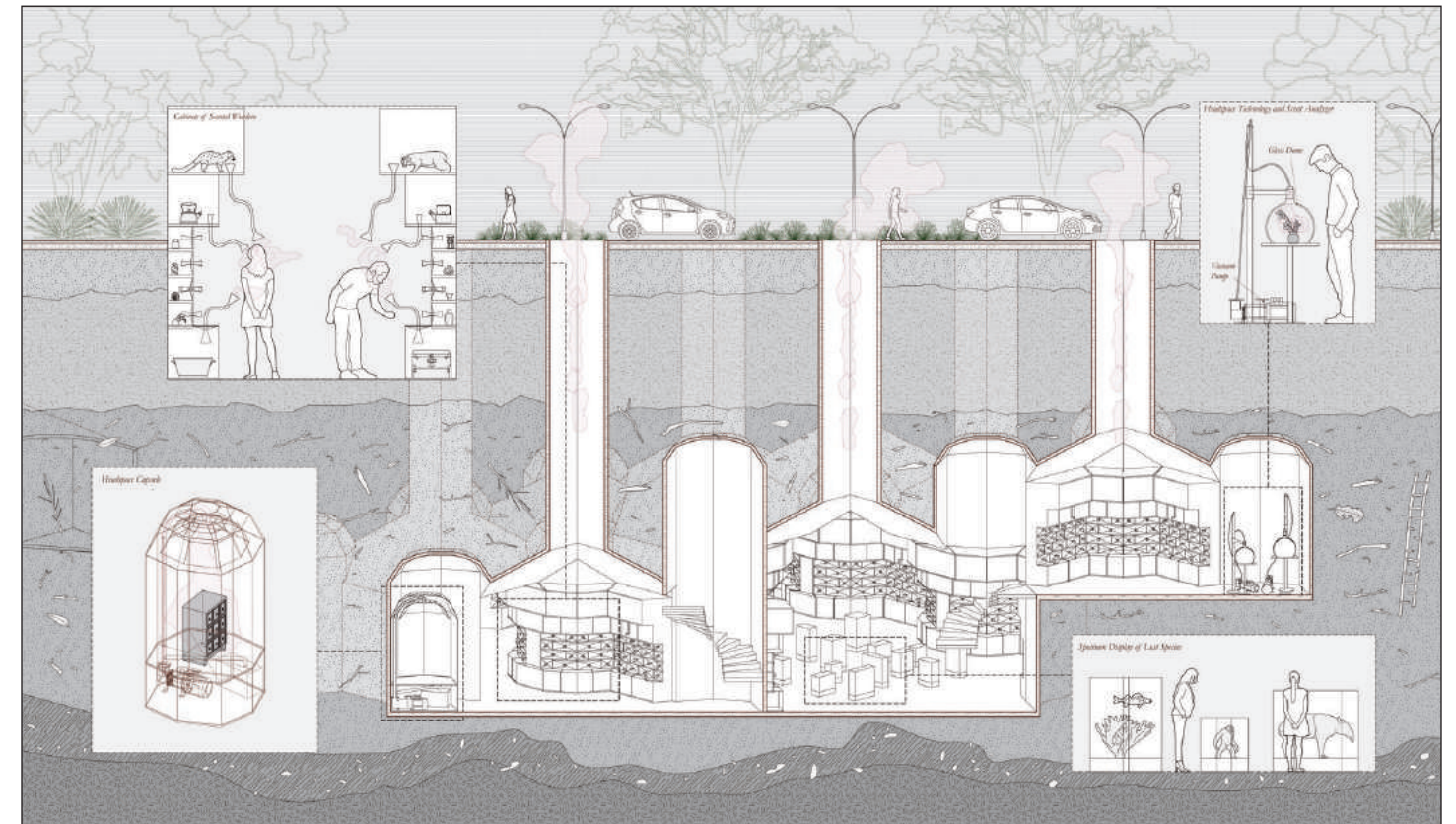
**98 Retail**

**99 Retail**

**100 Retail**

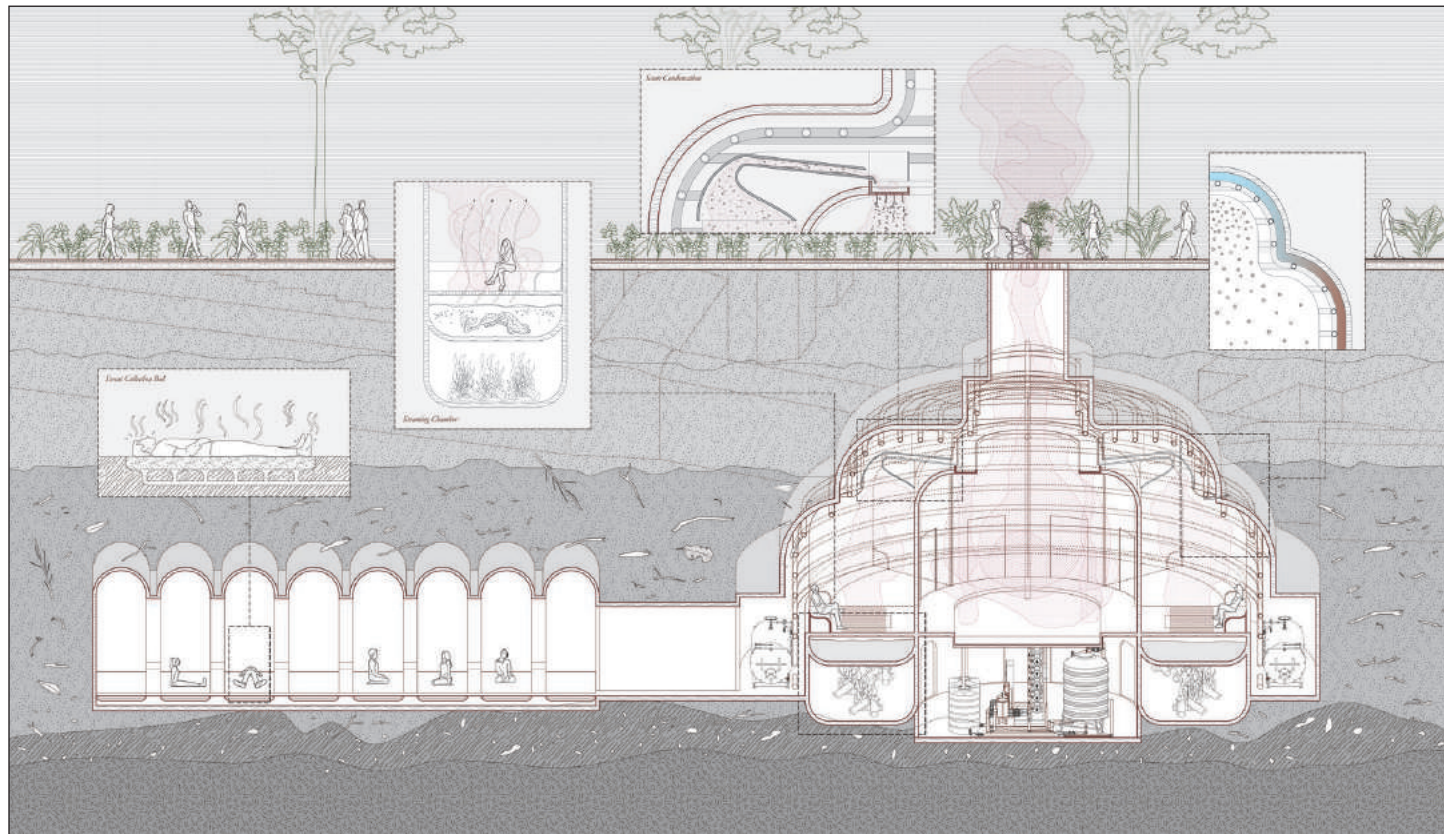


In the Scent Archives, smell cabinets that preserve the scent of uniquely Singaporean objects that are displaced by the commercialization of Singapore. The larger space in the lower level holds preserved animal and plant species, such as the Malayan Tiger, which have become extinct due to deforestation, landfills, and developments of Singapore.



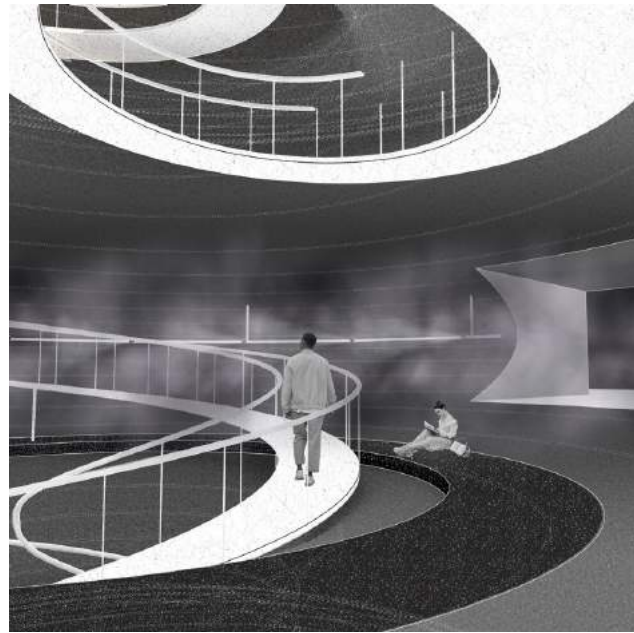


In the Steaming Rooms, personal smells and odors are collected and diffused. People can place personal garments and textiles into water. Through a distillation process, the solution vaporizes into water vapor through individual rooms where people can smell the vaporized scents. The vapor then condenses as it passes through the cooling area and turns into essence which trickling down and gathering in a central reflecting pool.

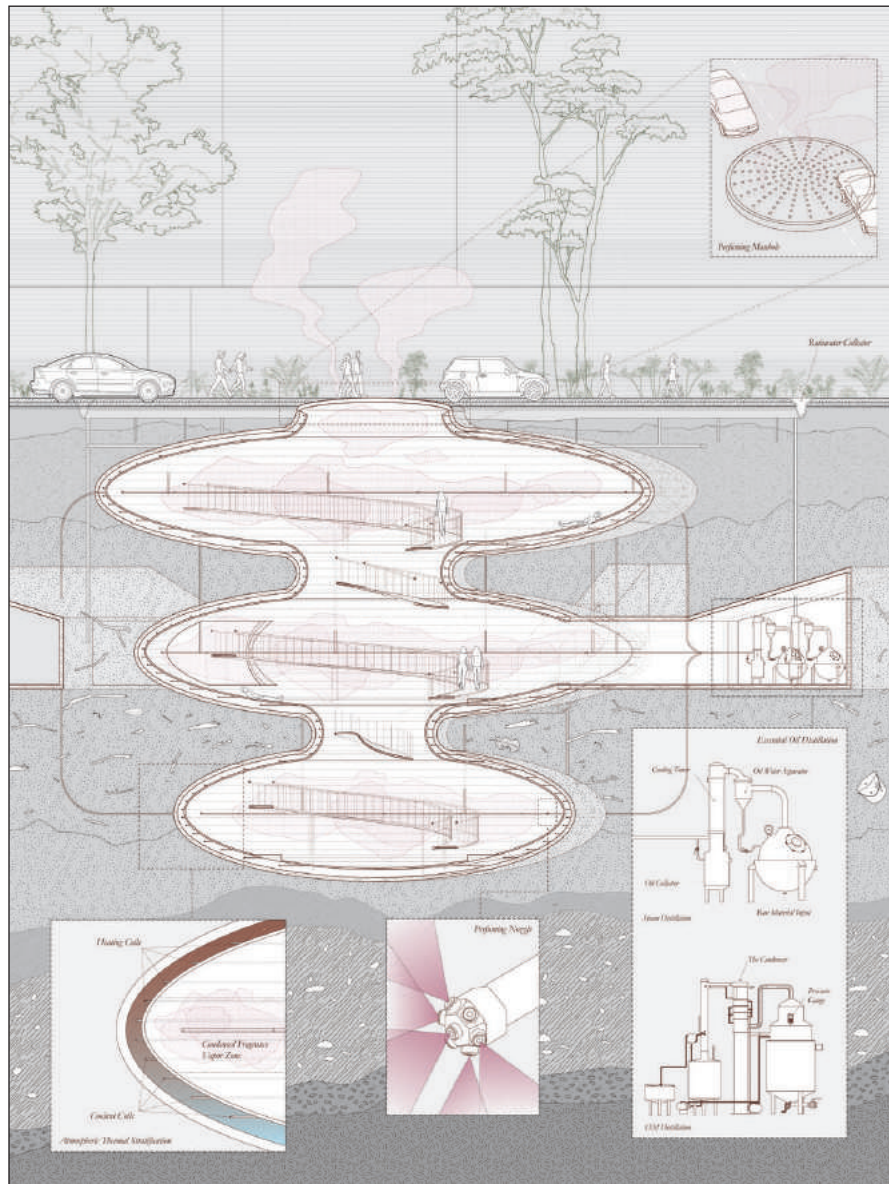


In the Incense Tower, the space aims to reveal the masked history of Orchard Road. Through excavating and probing historical soil layers underneath Orchard road, odors are released from the depths. The organic matter from the plantation soil layer in the lower level is burnt and released into the memorial hall in the upper level. The odors ultimately rise up and escape on the street level. On the street level the cone shaped volume integrates into the landscaped sidewalk of Orchard road with terraces of plants for growing Guar gum, an important ingredient for the making of incense that are made and then burned in these smaller chimney spaces in the lower level.

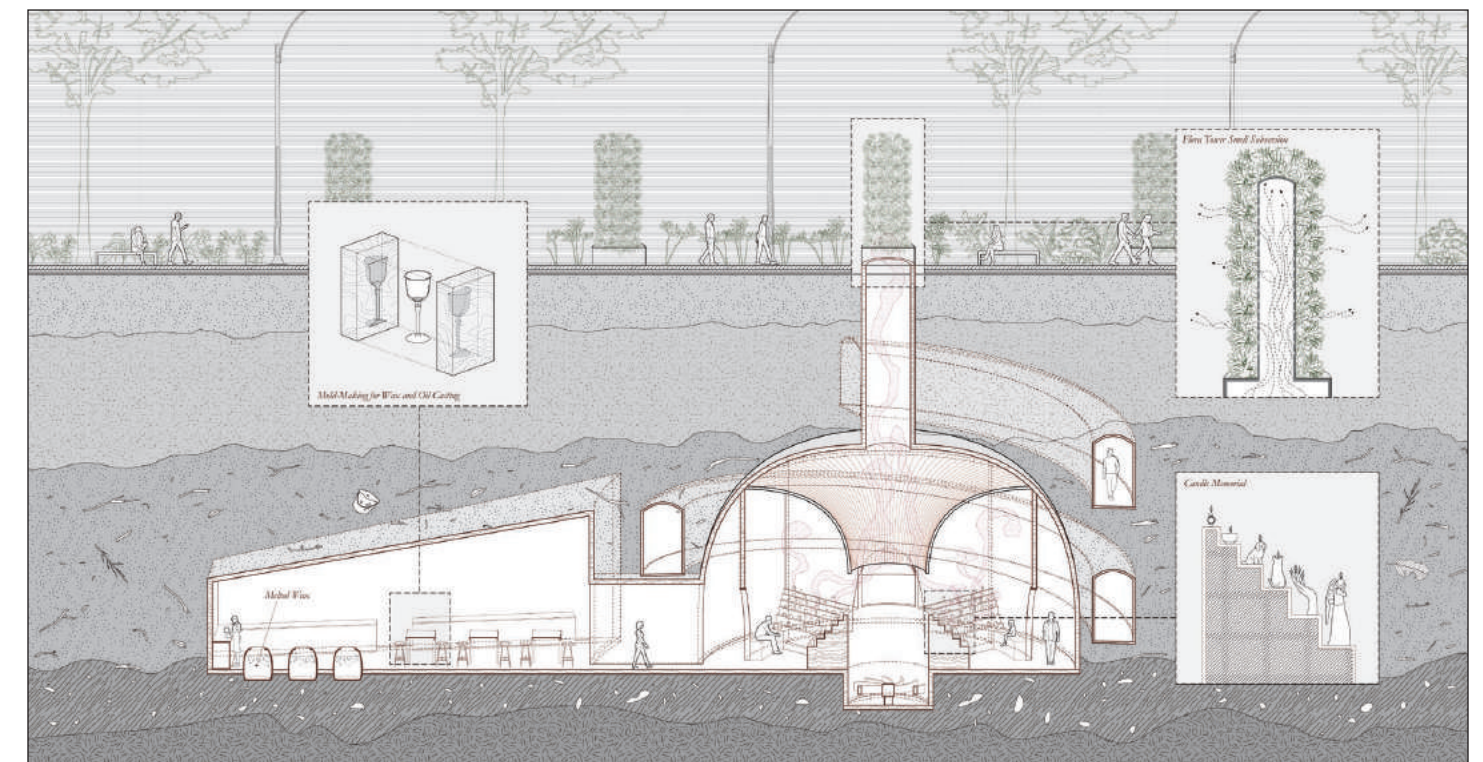


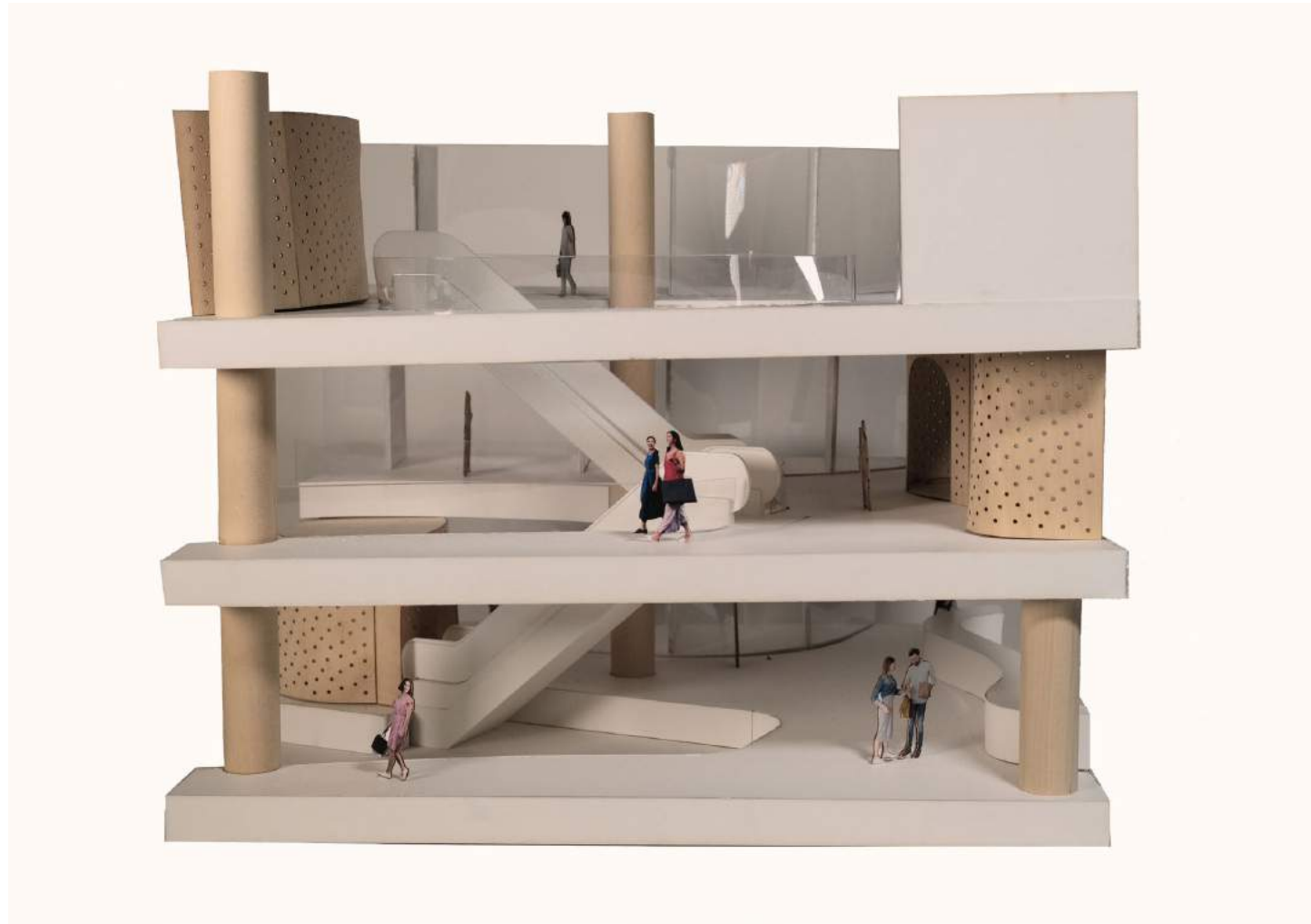


This space sources and recreates atmospheres of displaced places in Singapore, such as the Kampong fishing villages and disappeared forests of Singapore. Each elliptical volume is perfumed with atmosphere scents of a displaced place, which are recreated in its adjacent lab and production space. Rainwater from above the streetscape is collected as a medium to be mixed with scent molecules before being sprayed into each volume through nozzles. A stable thermal stratification of the air is then created by heating and cooling coils so that a cloud of scent condenses into a single layer, materializing clouds of scents that people can see and smell.

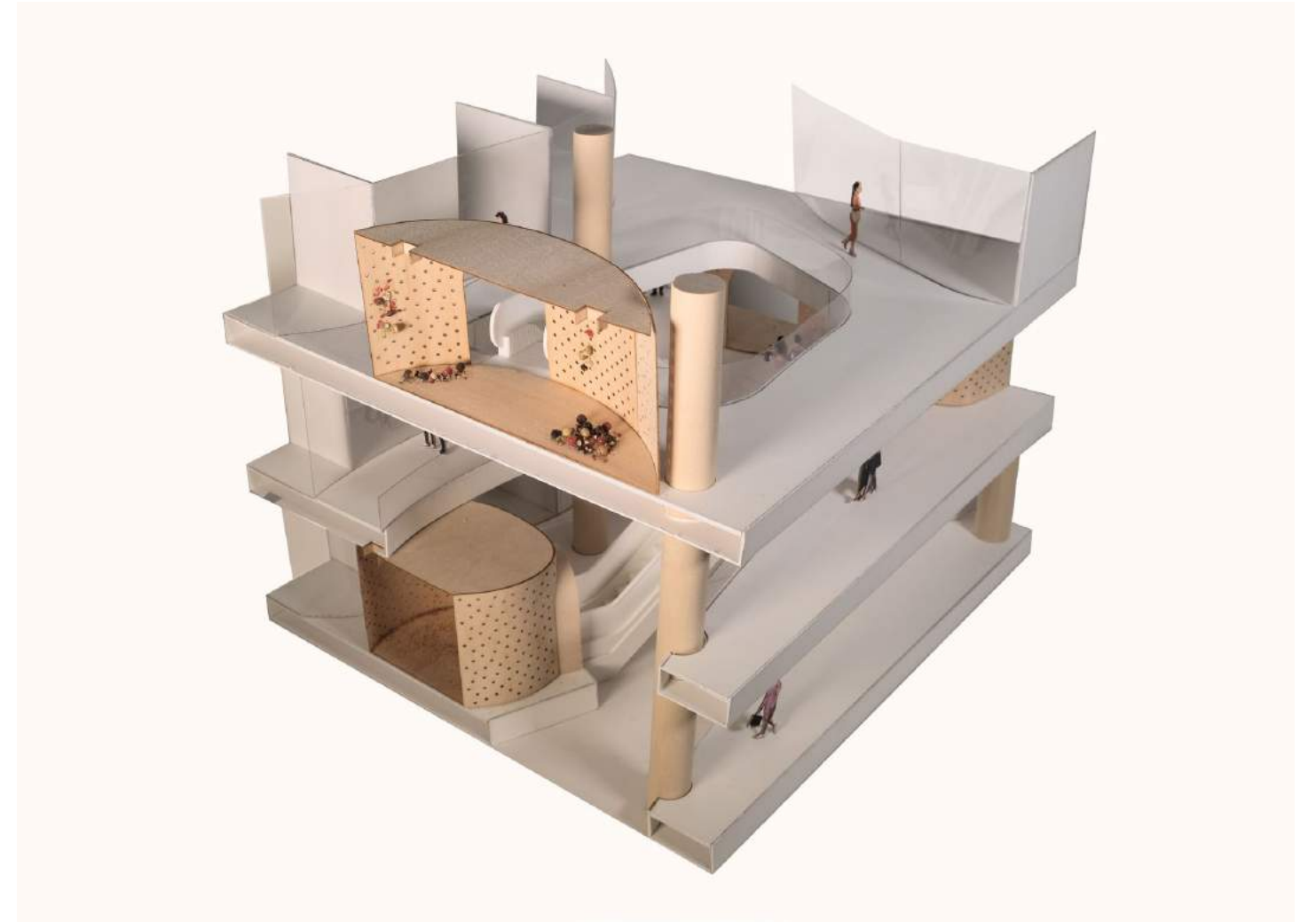


This is a candlelit memorial with a scented wax making studio, where people can bring in objects of people significant to them that may be sourced from the deceased, casting them and capturing scent molecules into candles that could be lit. These candles can be brought into the dome-shaped memorial chamber and lit up for the remembrance and honoring of lost memories.





Mall Intervention Study Model



# Pines Nest

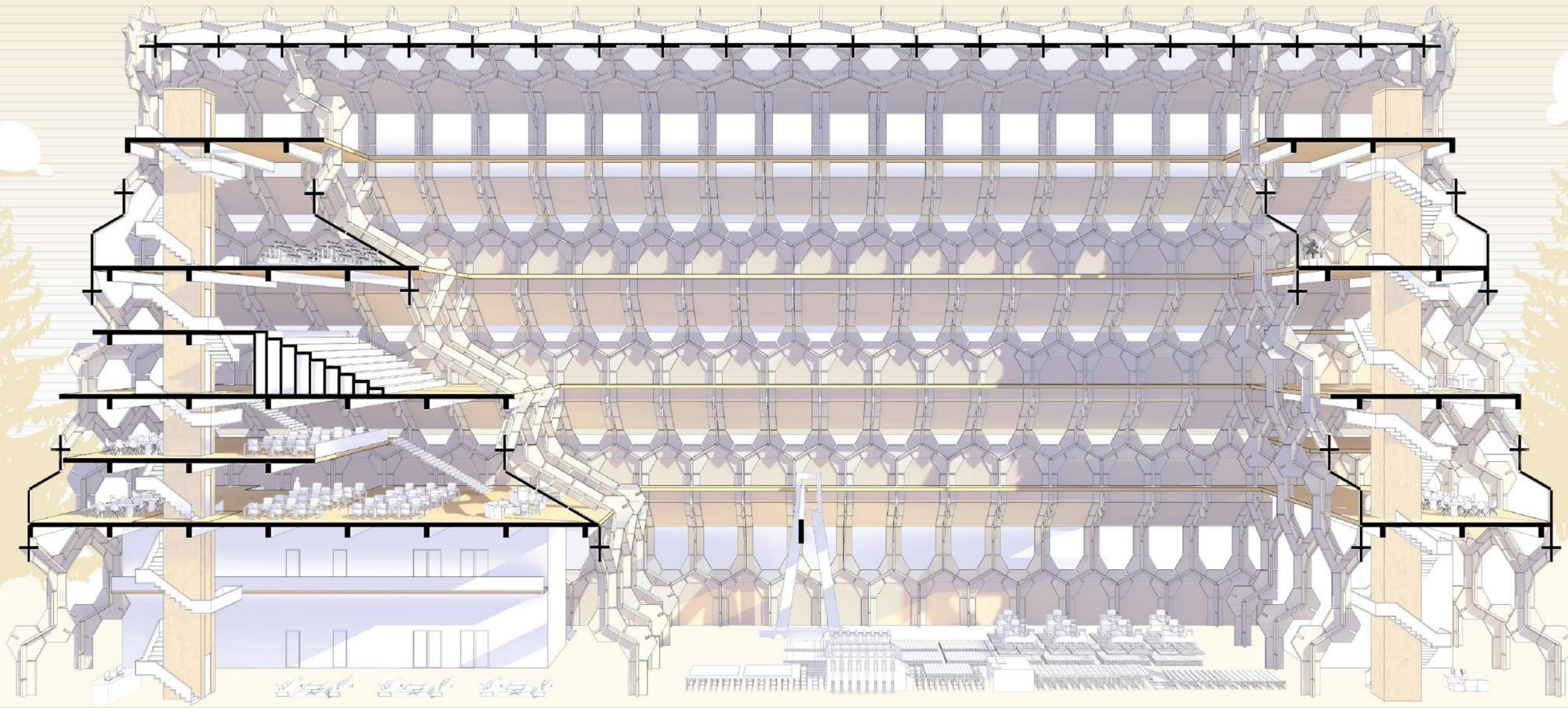
Studio: Advanced IV: Fringe Timber Studio

School: Columbia GSAPP

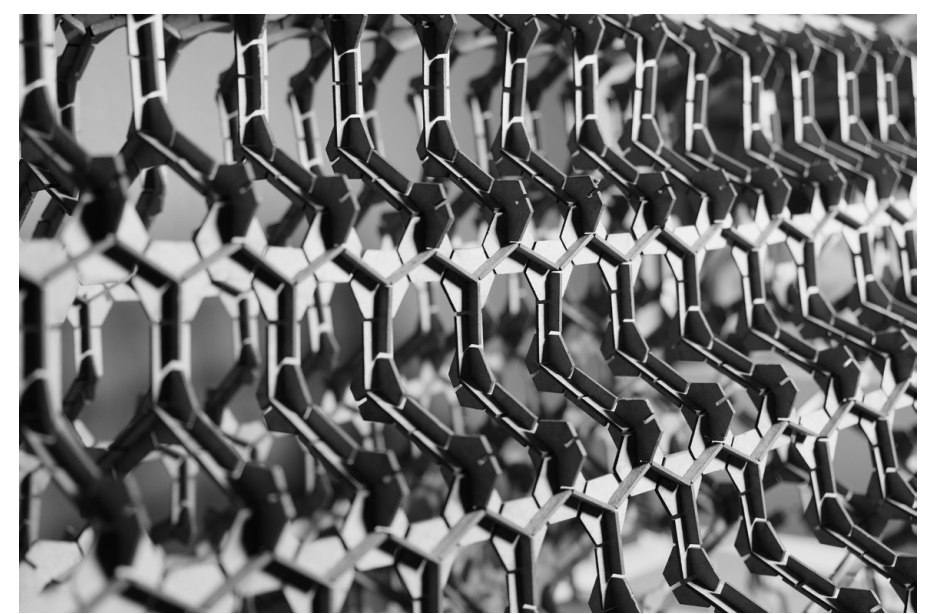
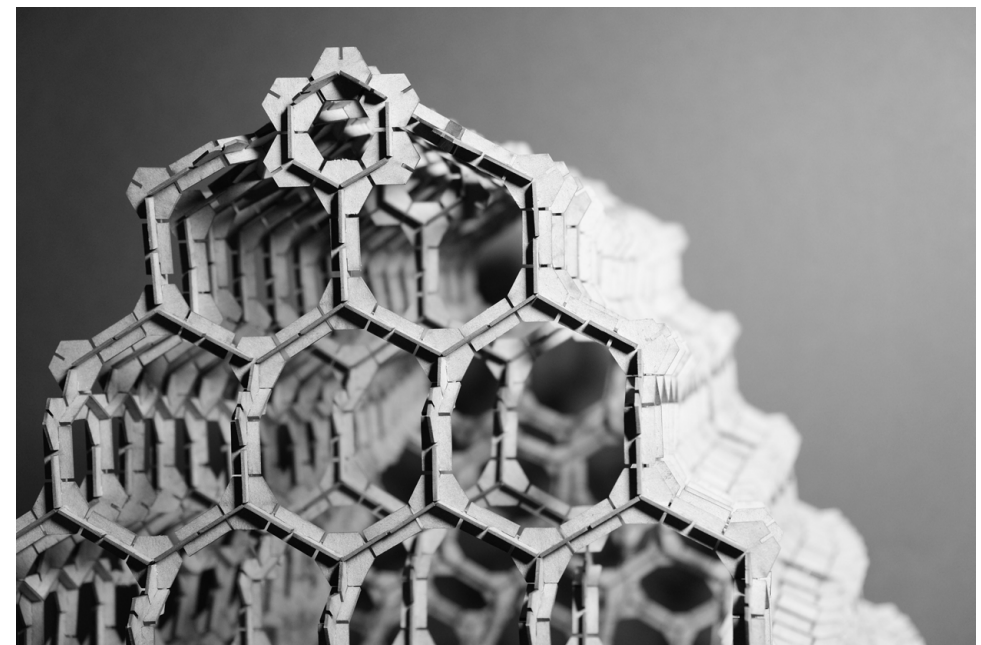
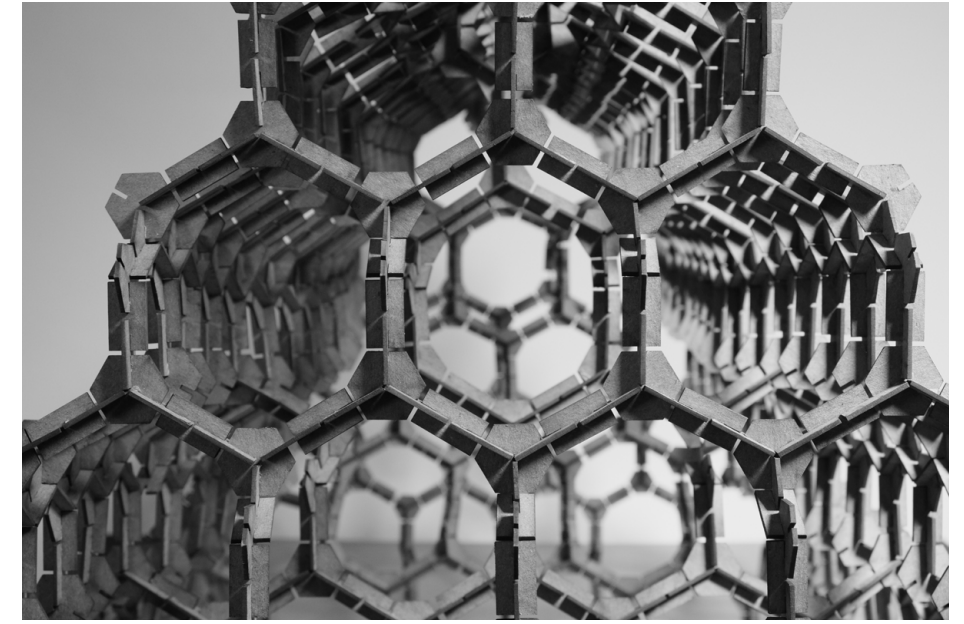
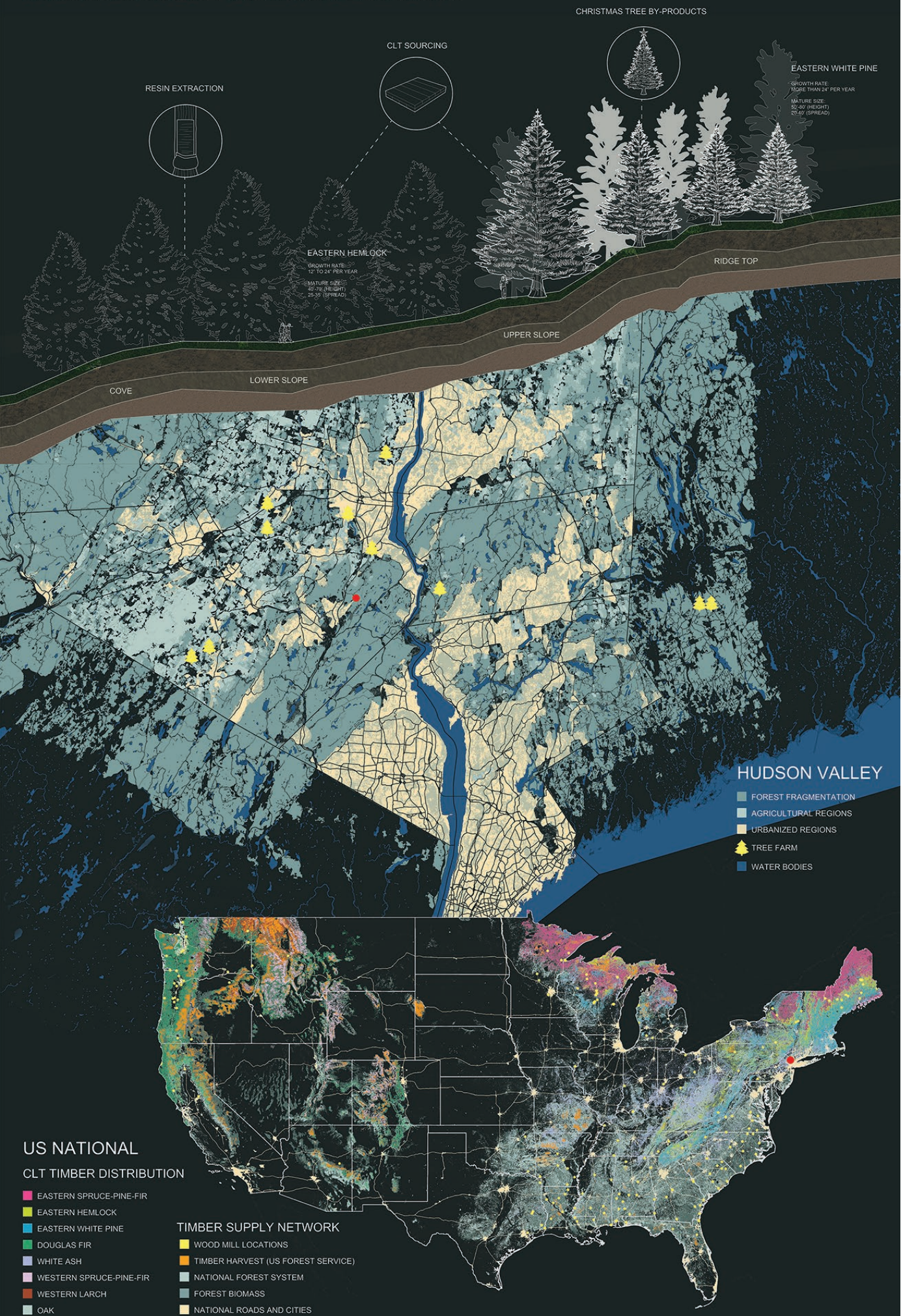
Tutor: Lindsey Wikstrom

Year: Spring 2022

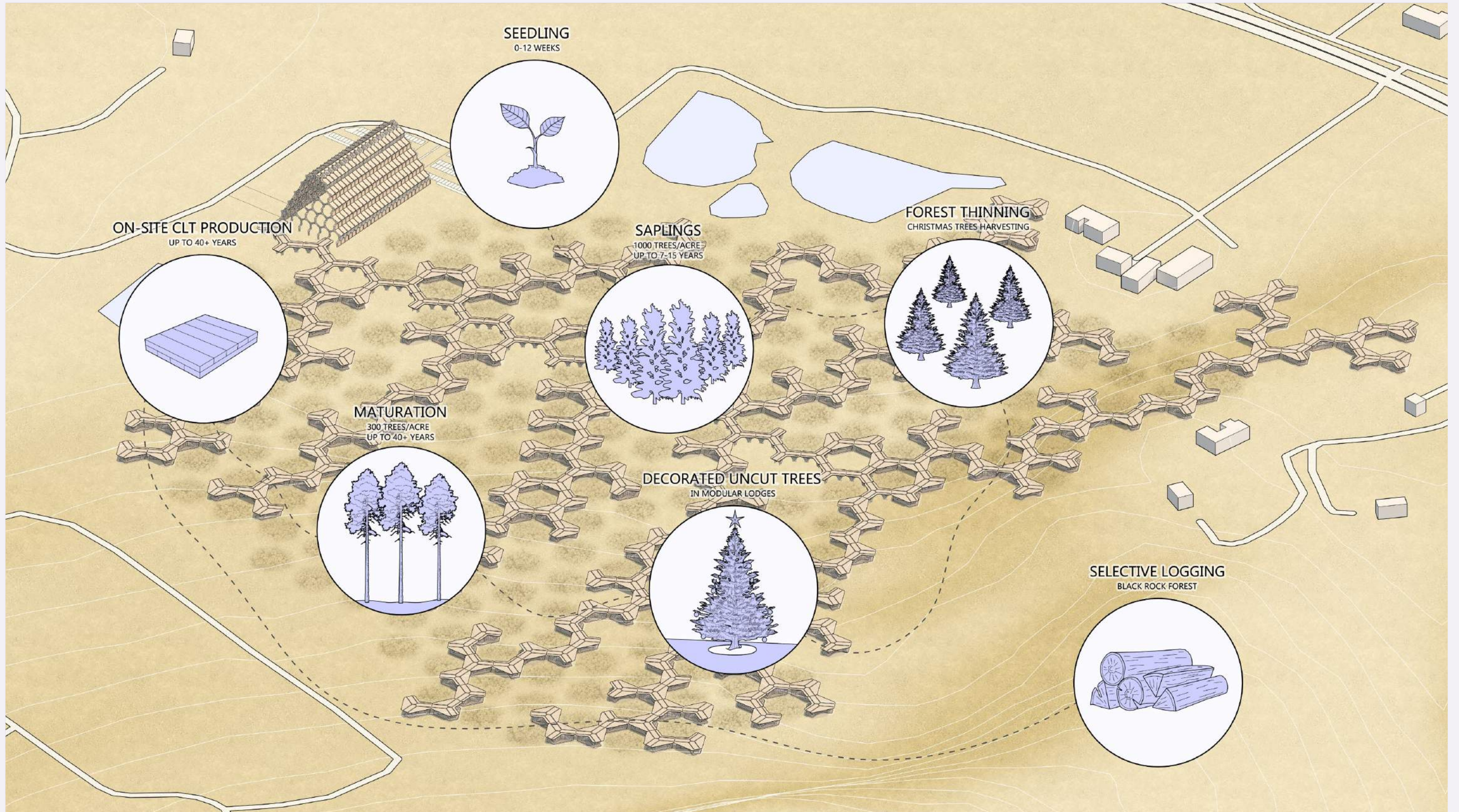
Pines Nest vertically integrates Christmas tree farming and mass timber harvesting and production on one site at the edge of the Black Rock Forest. The project reimagines an efficient and economically viable solution for mass timber production. Eastern white pine is selected as the main species to be grown as it is a common native species that can be used for both Christmas trees and wood for CLT and is moderately fast-growing. This hybrid tree farm uses the technique of forest thinning, in which trees are first grown at a high density, then are selectively removed to enable faster growth for the remaining trees. For every acre of trees, around 700 trees will be harvested as Christmas trees (7-15 years), and around 300 for mass timber (40+ years). A network of lodges is installed for families to enjoy a unique festive experience in a forest of Christmas trees instead of buying cut Christmas trees. The lodges are designed to be easily assembled with CLT modules and can be relocated to adjacent lots to accommodate different stages of tree growth. The mature trees are harvested and produced into mass timber products at the factory on-site, which also houses amenities for lodgers.



BLACK ROCK FOREST PLANTING AND EXTRACTION

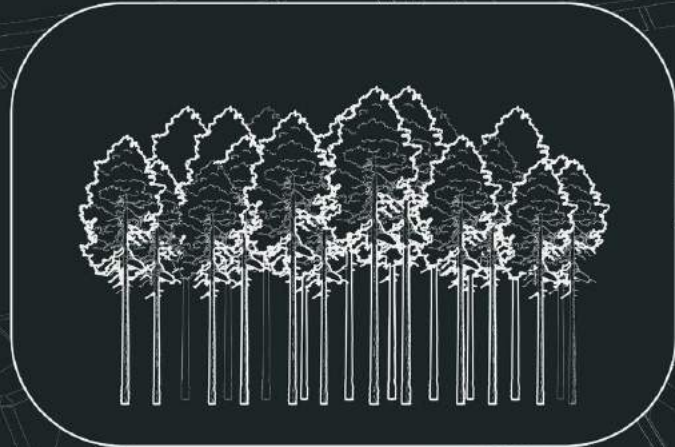






# PINES NEST ANNUAL PRODUCTION

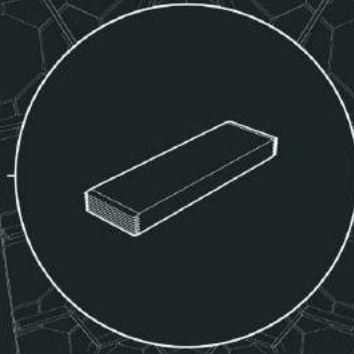
16 ACRES



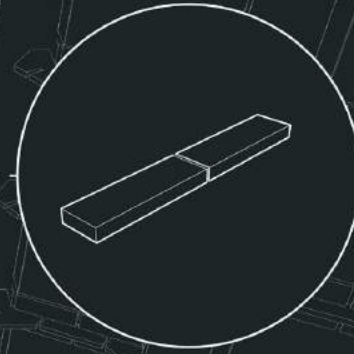
EASTERN WHITE PINE

INPUT

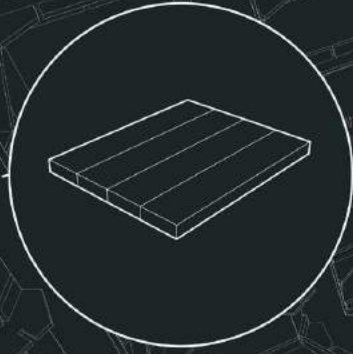
FINGER JOINTING



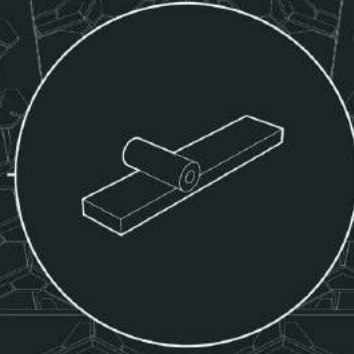
GLUING



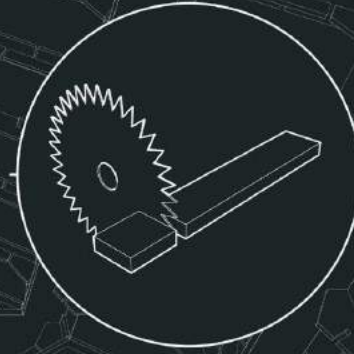
SIDE GLUING



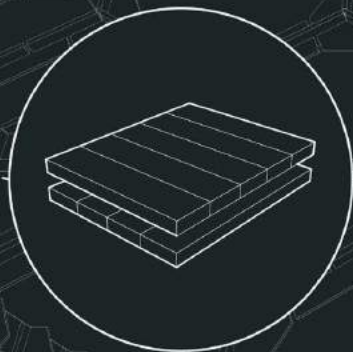
PLANING



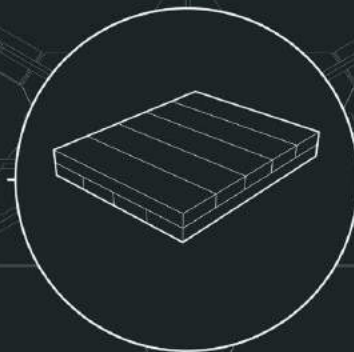
TRIMMING



STACKING

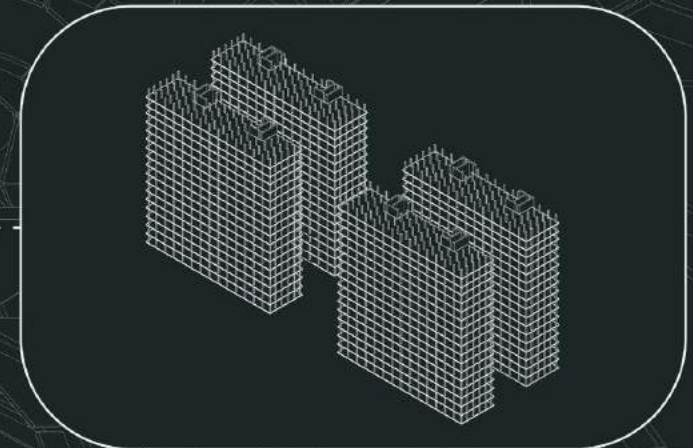


PRESSING

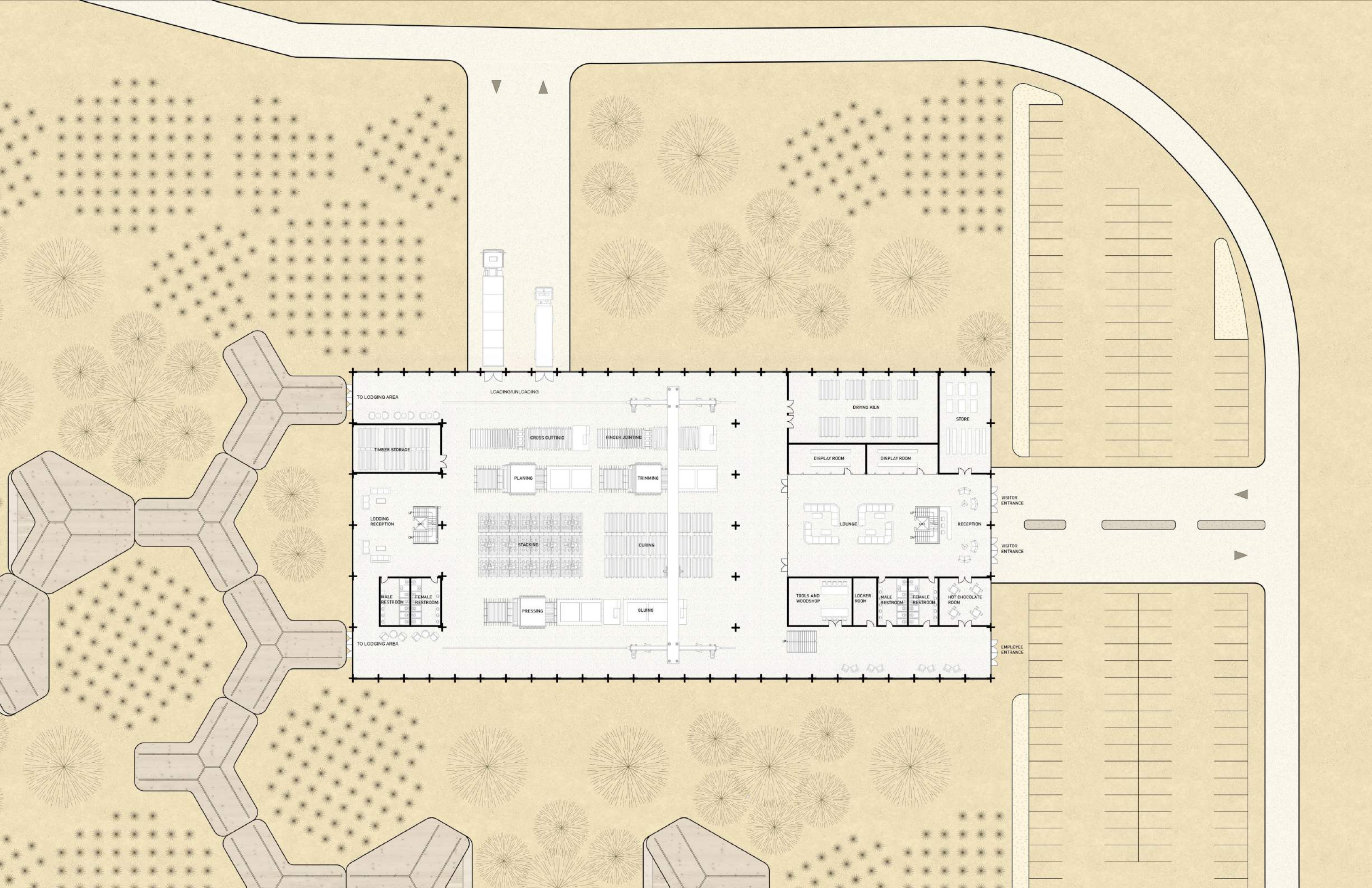


OUTPUT

4 x BROCK COMMONS



1616 INHABITANTS



TO LODGING AREA

LOADING/UNLOADING

TIMBER STORAGE

CROSS CUTTING

FINGER JOINTING

PLANING

TRIMMING

LOADING RECEPTION

STACKING

CURING

MALE RESTROOM

FEMALE RESTROOM

PRESSING

GLUING

TO LODGING AREA

DRYING KILN

STORE

DISPLAY ROOM

DISPLAY ROOM

LOUNGE

RECEPTION

VISITOR ENTRANCE

VISITOR ENTRANCE

TOOLS AND WOODSHOP

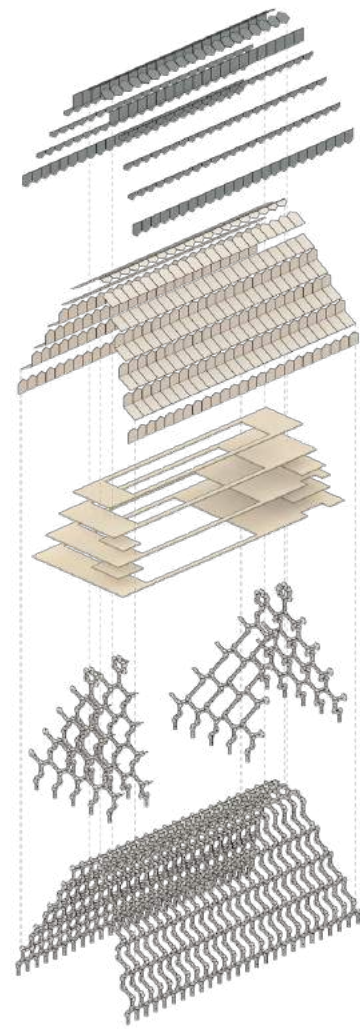
LOCKER ROOM

MALE RESTROOM

FEMALE RESTROOM

HOT CHOCOLATE ROOM

EMPLOYEE ENTRANCE



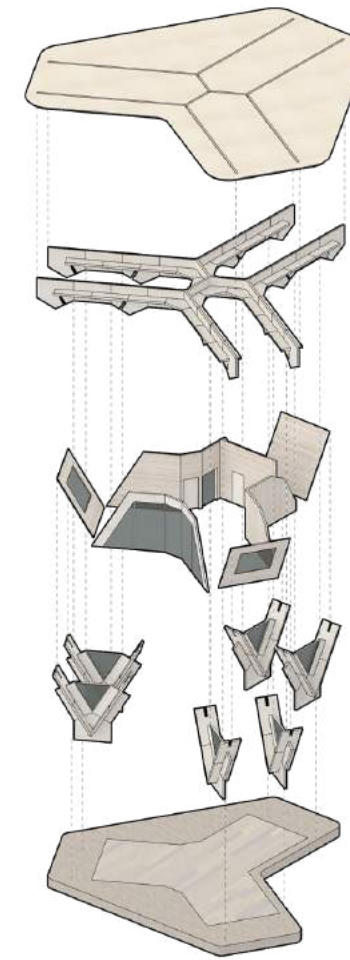
Insulated Glass Units

Wooden Wall Panels

CLT Floor Slab

CLT Modular Lateral Frame

CLT Modular Structural Frame



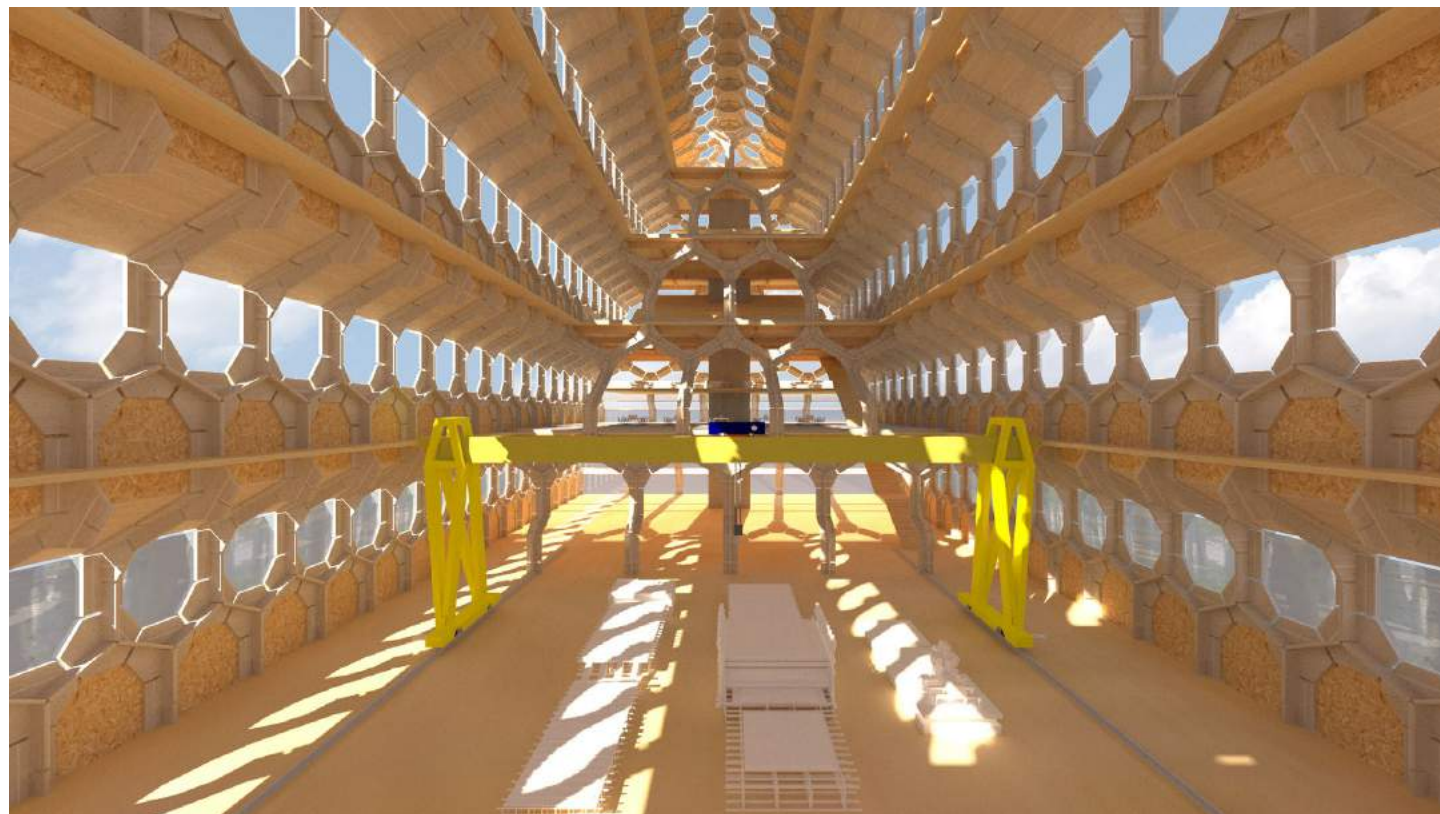
CLT Roof Panel

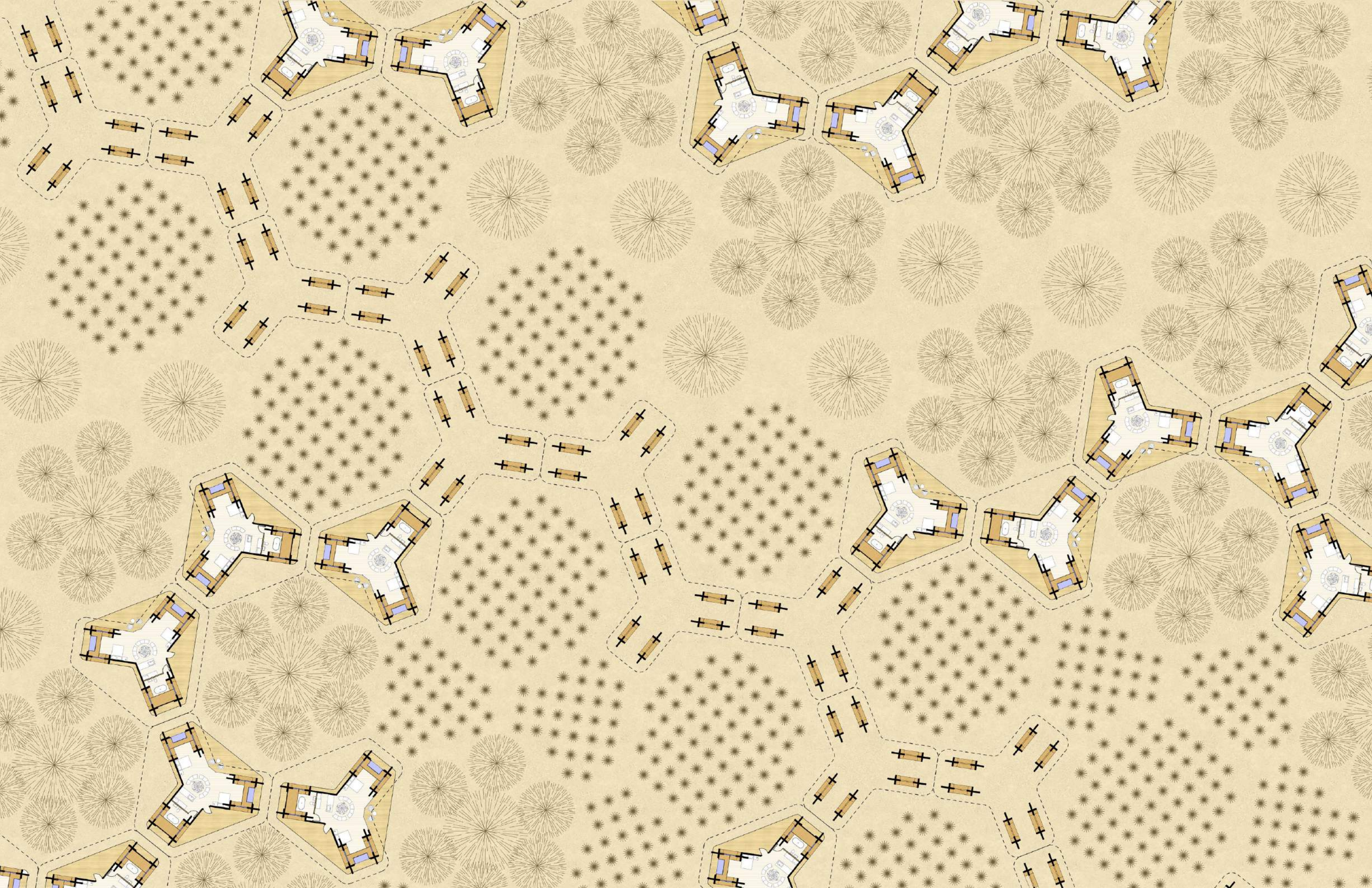
CLT Modular Beam

Wooden Wall Panels

CLT Modular Structural Frame

CLT Base with Concrete Anchor







# Inter-

Project: South Bronx Housing Complex

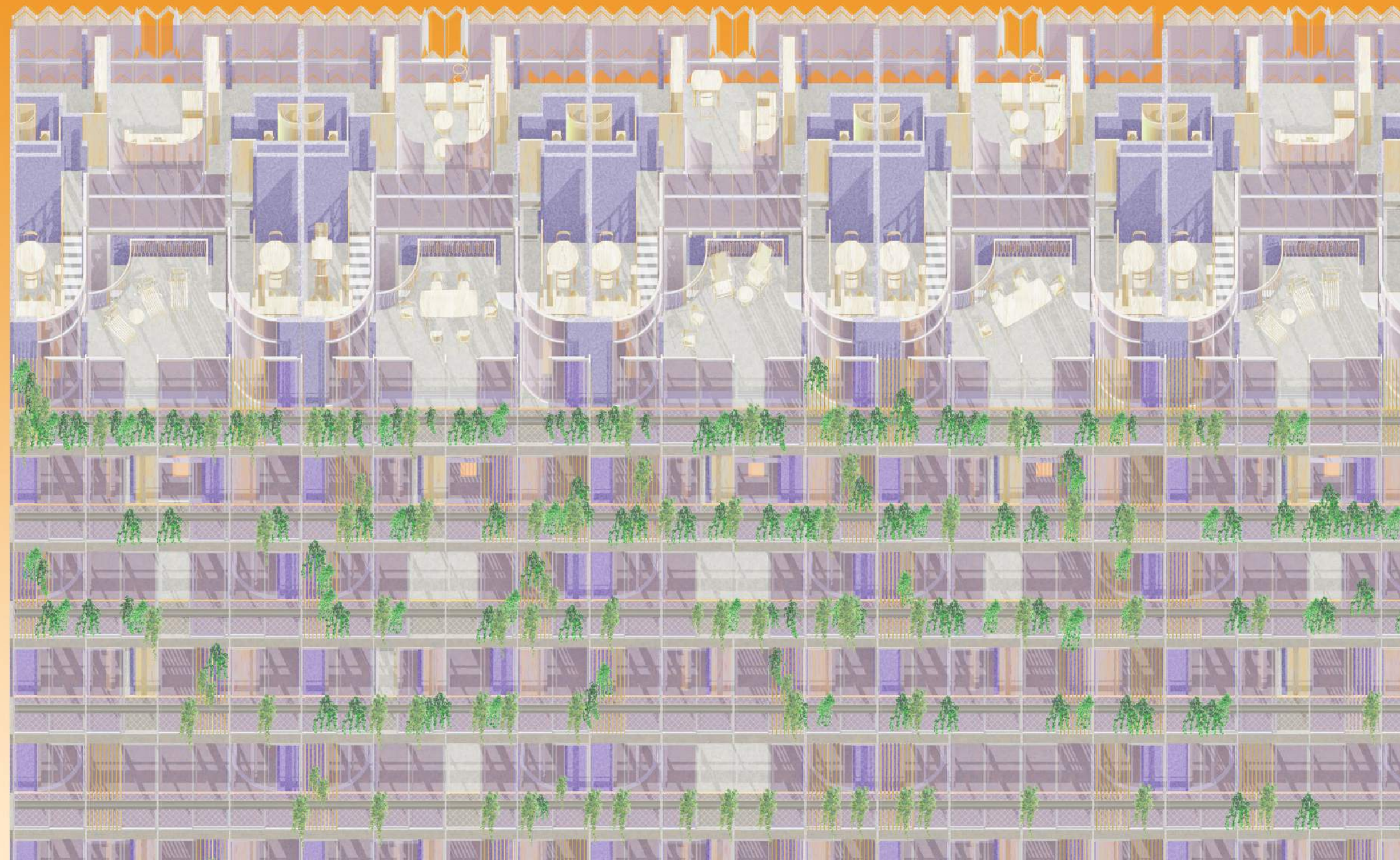
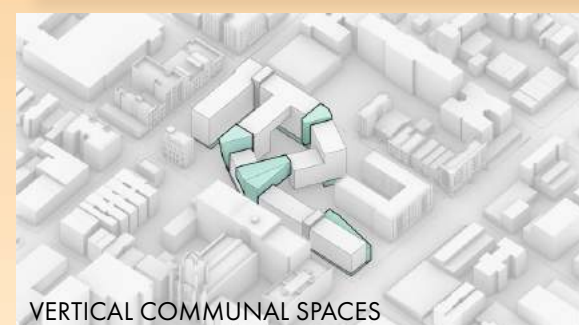
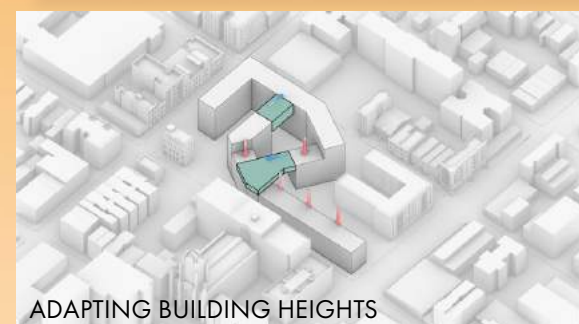
Studio: Core III

Tutor: Galia Solomonoff

Studio Partner: Ruonan Du

Semester: Fall 2021

With the aim to generate intergenerational housing that encourages mutual support among family units, the affordable housing complex composes of modular 5-unit clusters that share a courtyard that opens to the corridor. The project consists of a series of interconnected spaces from units to public plazas, connecting the residents to their neighbors and the public. Communal spaces that include childcare and elderly care facilities encourages interactions among people of all ages.



2 Bedroom | 774 sqft



2 Adults & 2 Children | Stepfamily

Studio | 582 sqft



1 Adult & 1 Child | Single Family

Micro Unit | 455 sqft



1 Adult | Jazz Player

1 Bedroom | 774 sqft



2 Adults | Newlyweds

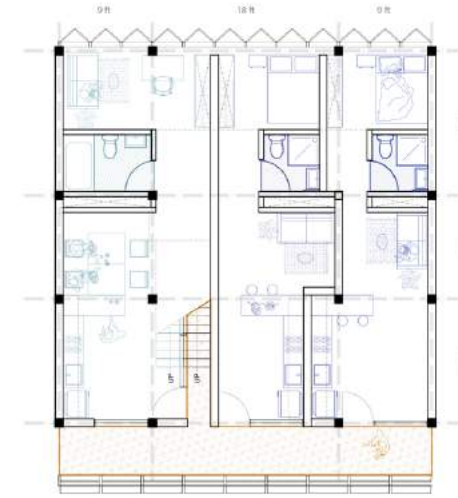
Micro Unit | 648 sqft



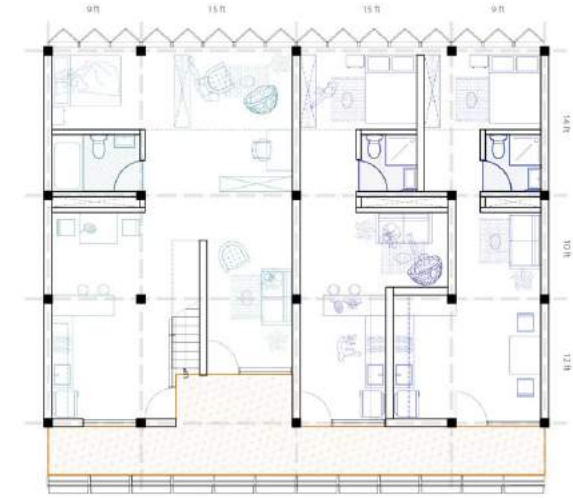
1 Adult | Botany Student

Unit Cluster A

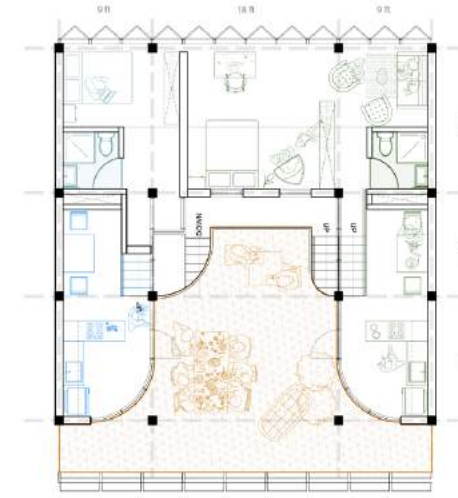
Unit Cluster B



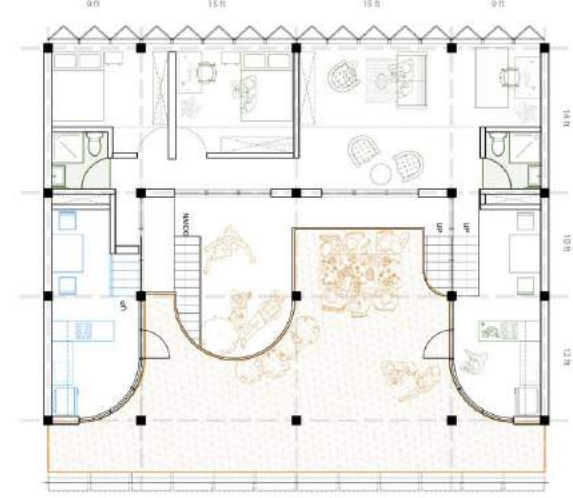
First Floor



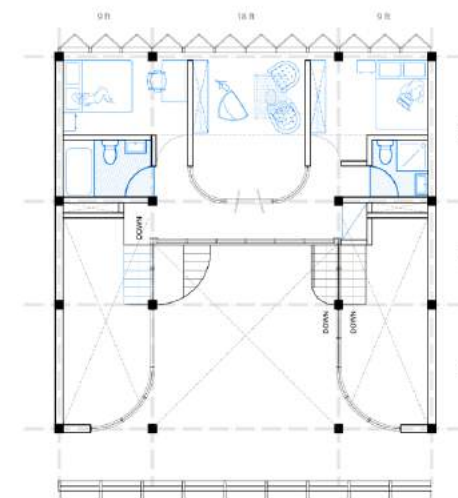
First Floor



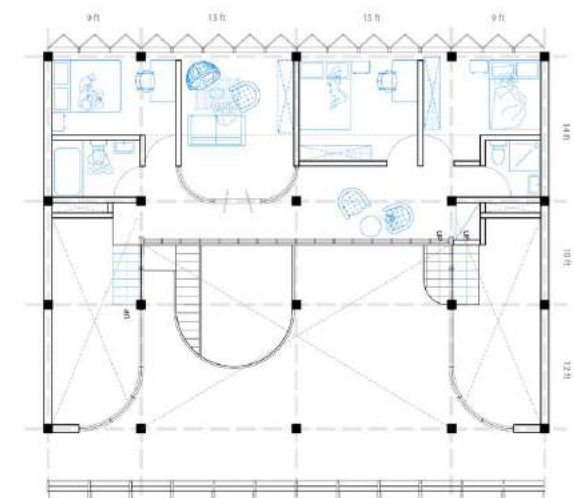
Second Floor



Second Floor



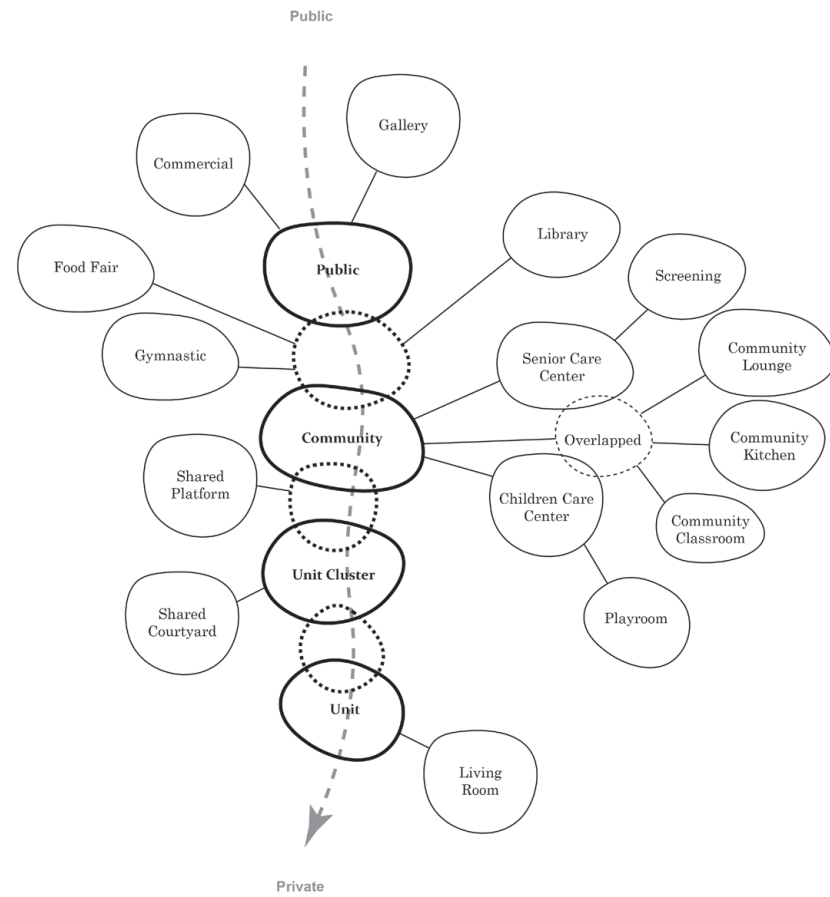
Third Floor



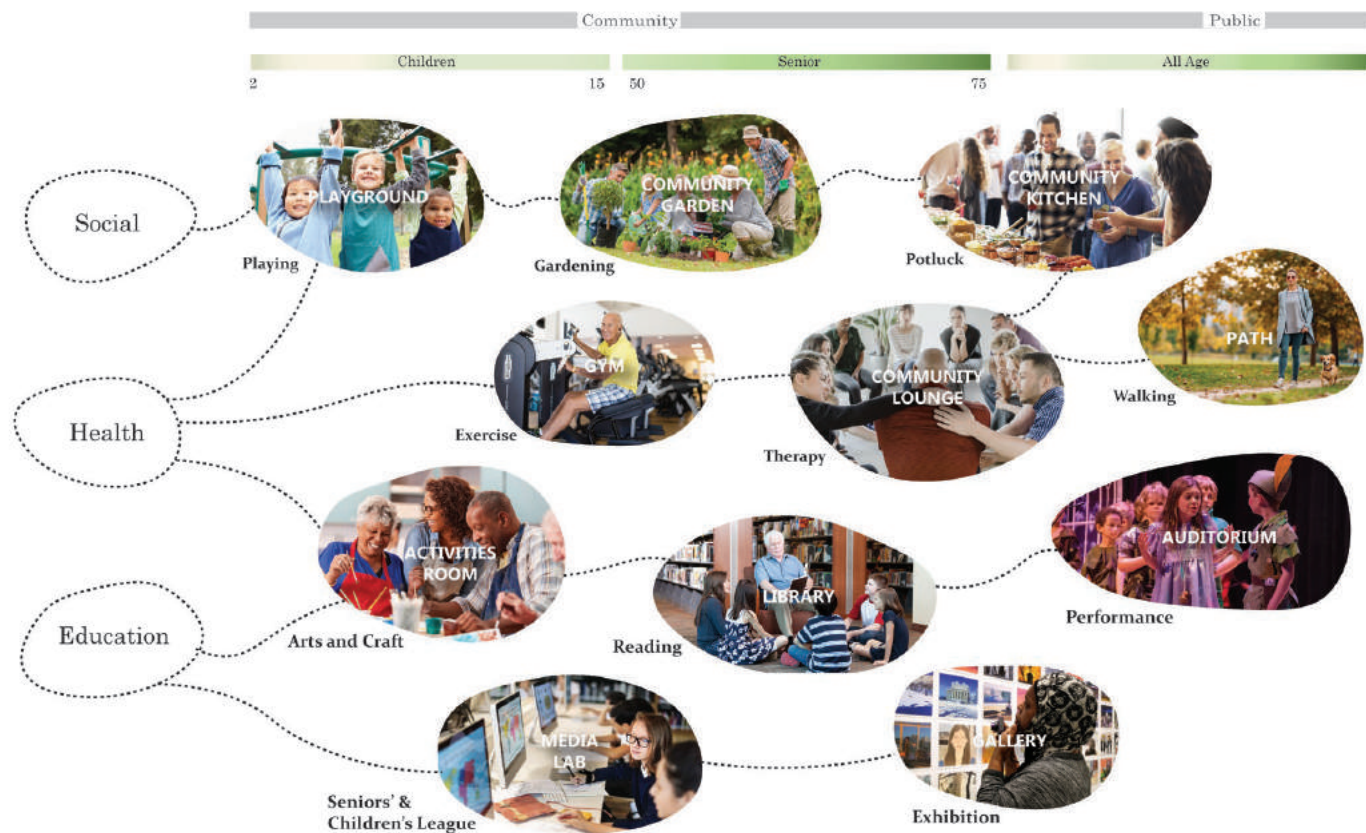
Third Floor







Interconnected Spaces



Programmatic Organization

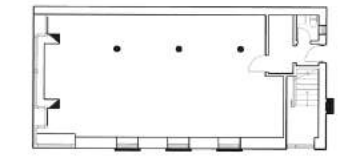
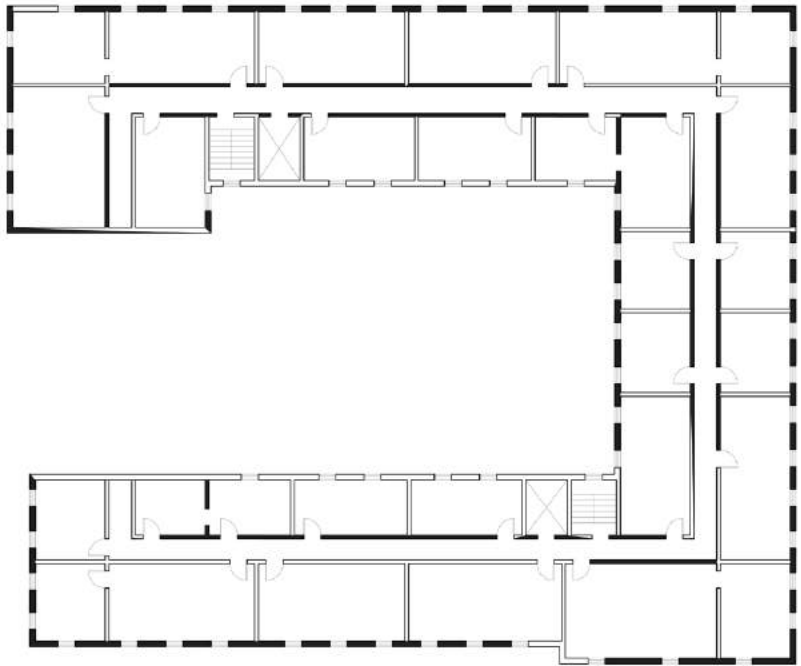




Ground Floor Plan

6ft 12ft 24ft





Typical Floor Plan

# Rue

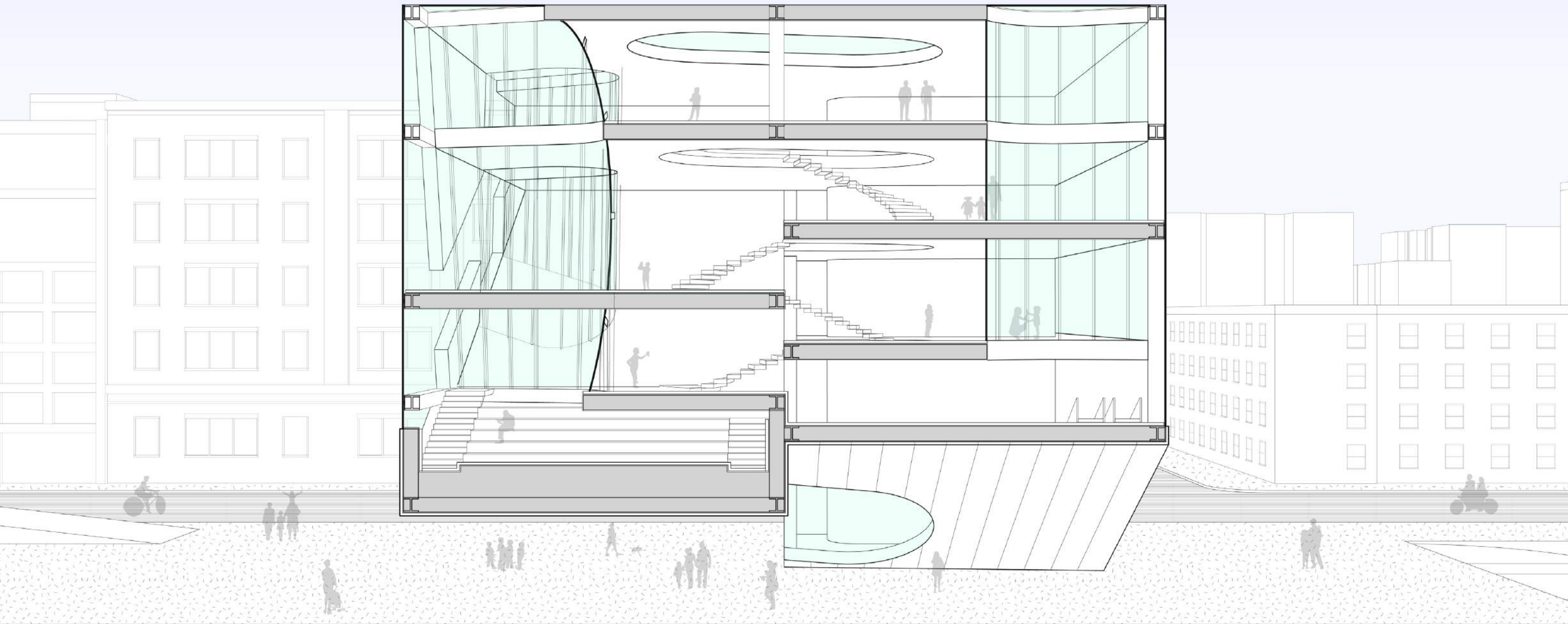
Project: Sara D. Roosevelt Park Library

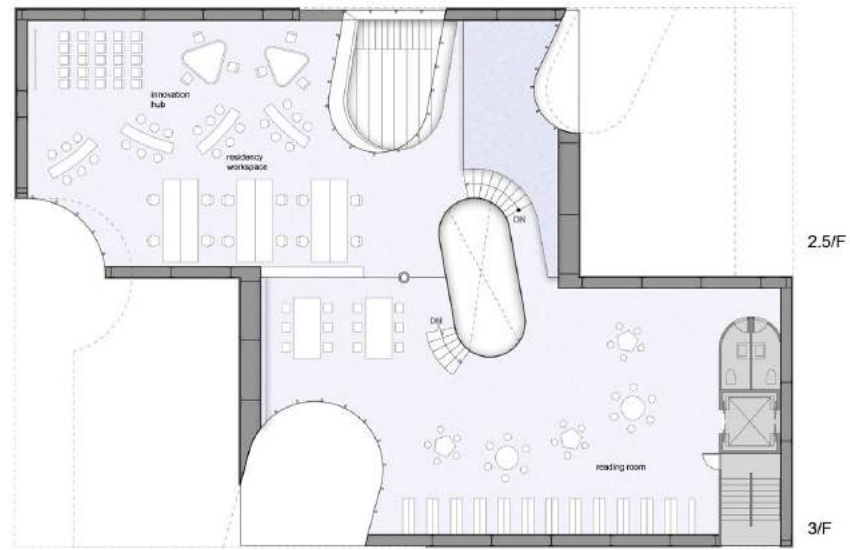
Studio: Core II

Tutor: Erica Goetz

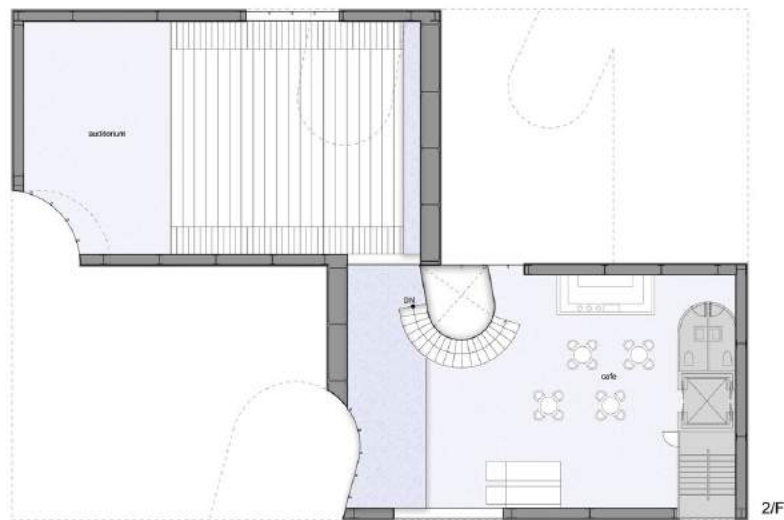
Semester: Spring 2019

Sited in Lower East Manhattan's Sara D. Roosevelt Park, this library aims to provide a platform for the intermingling between the multi-cultural public in the neighborhood and creative professionals in residence. The two legs provide separate entry points for the public and workers and give porosity at the ground level. The recessed glass pockets become the walls that define the program but maintain openness that allows visitors to be engaged in various activities in the library.





Third Floor

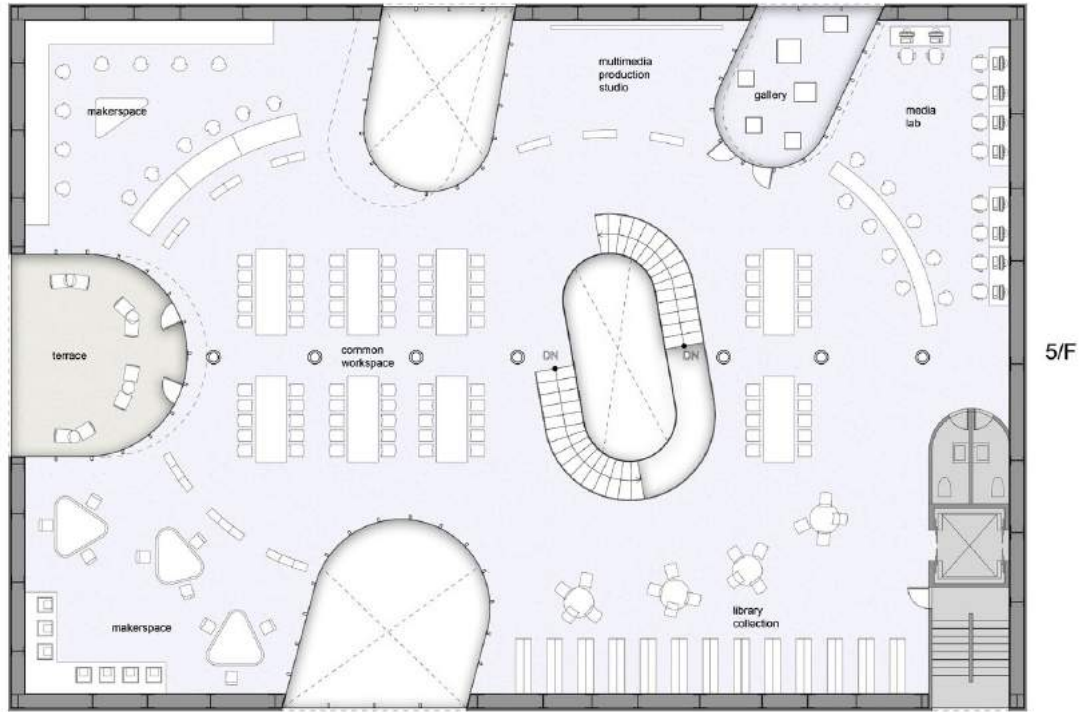


Second Floor

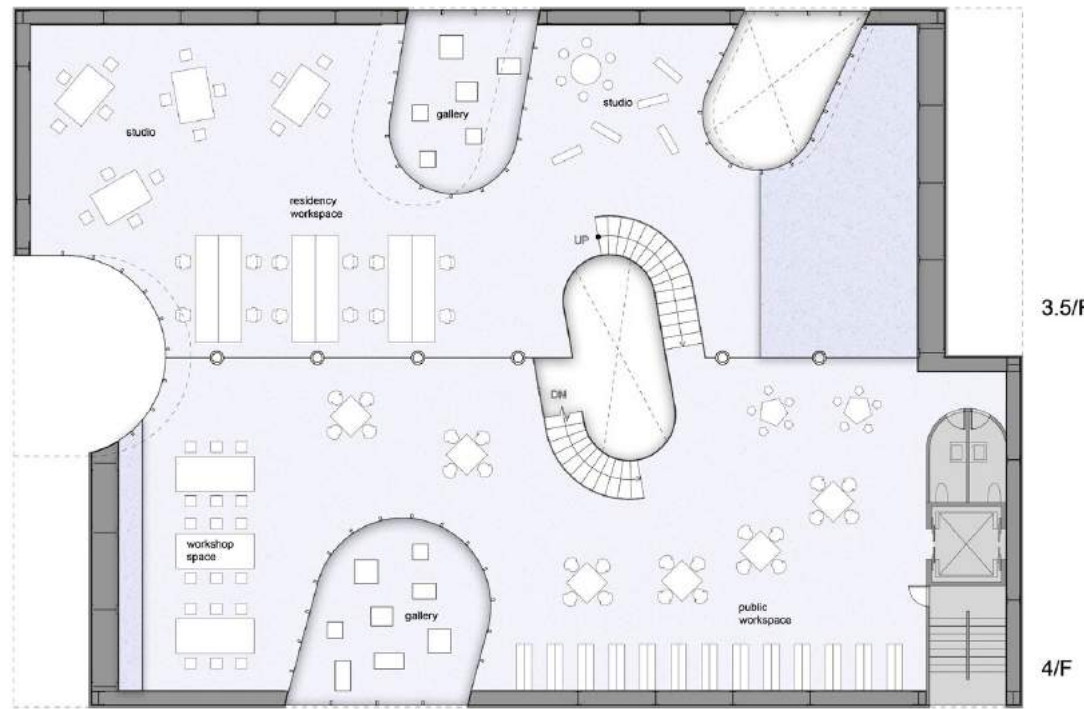


First Floor



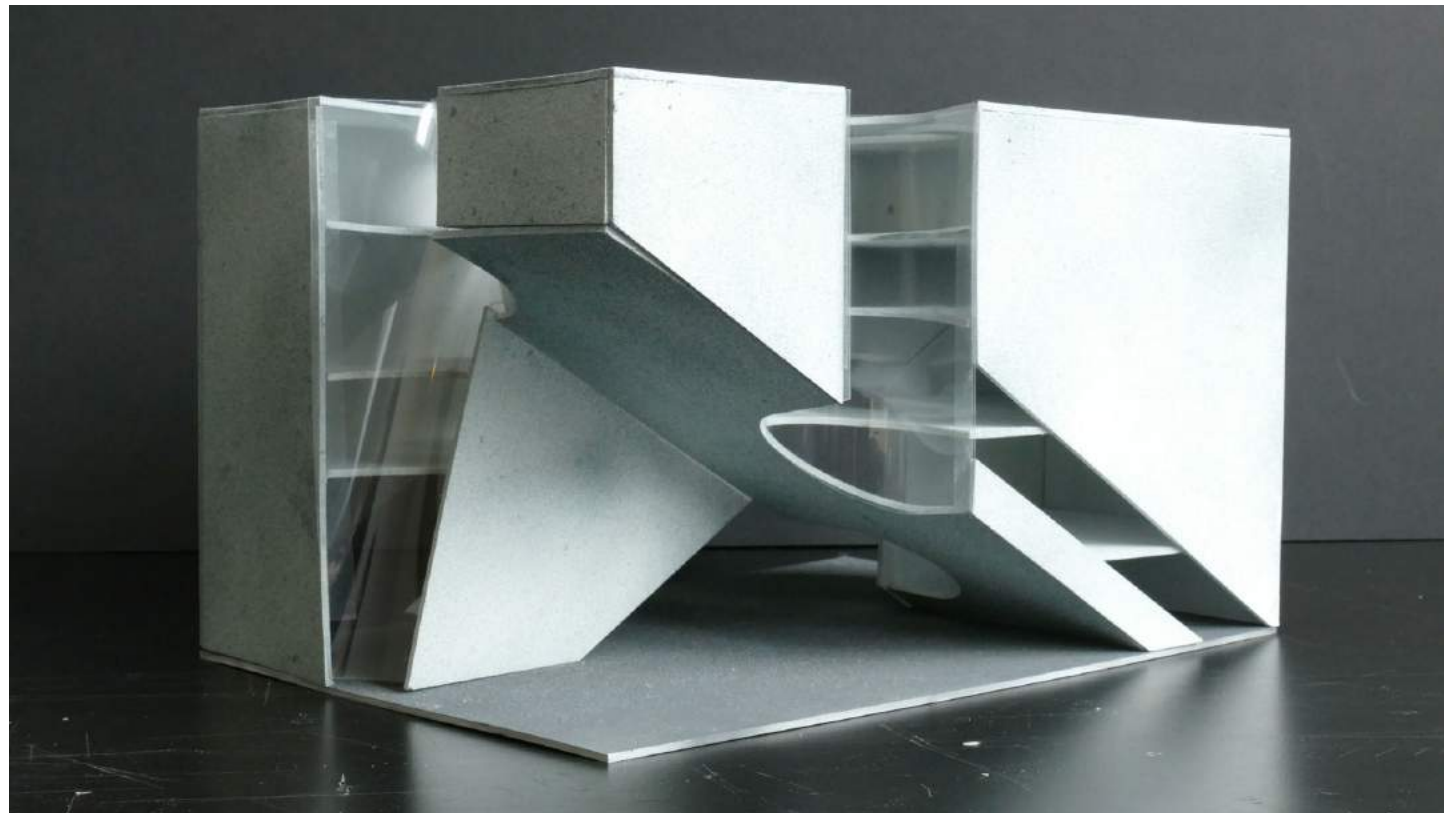
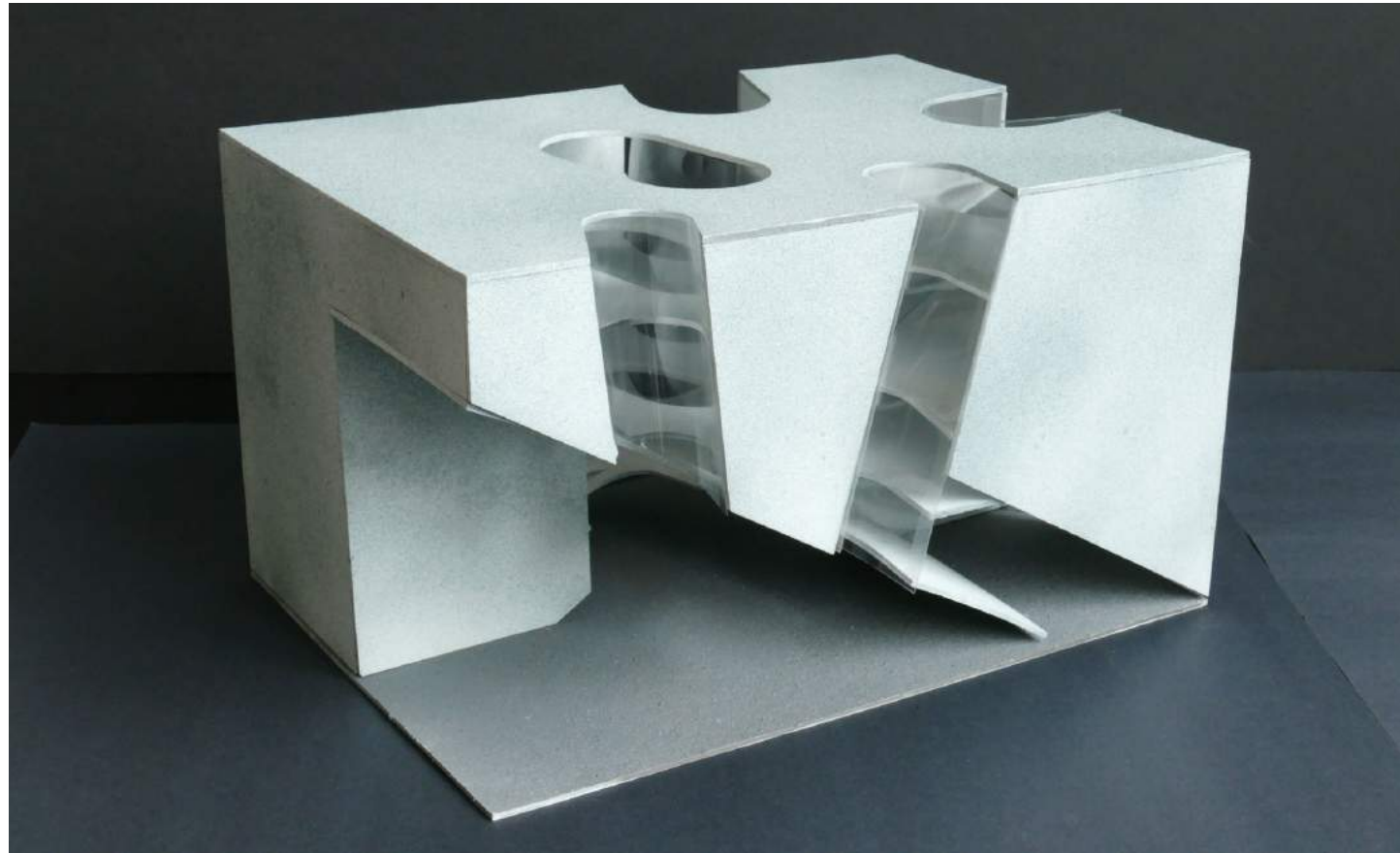


Fifth Floor

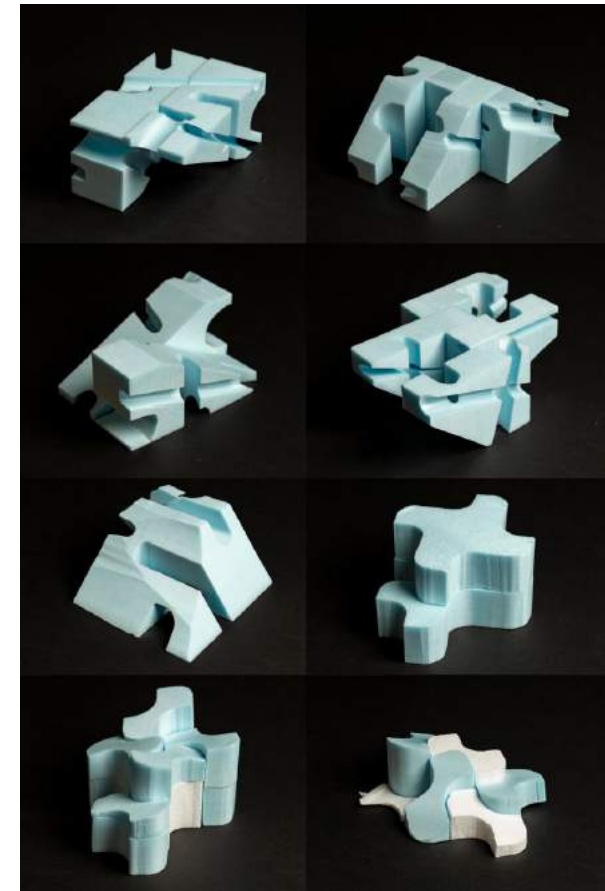


Fourth Floor





1/8" Model

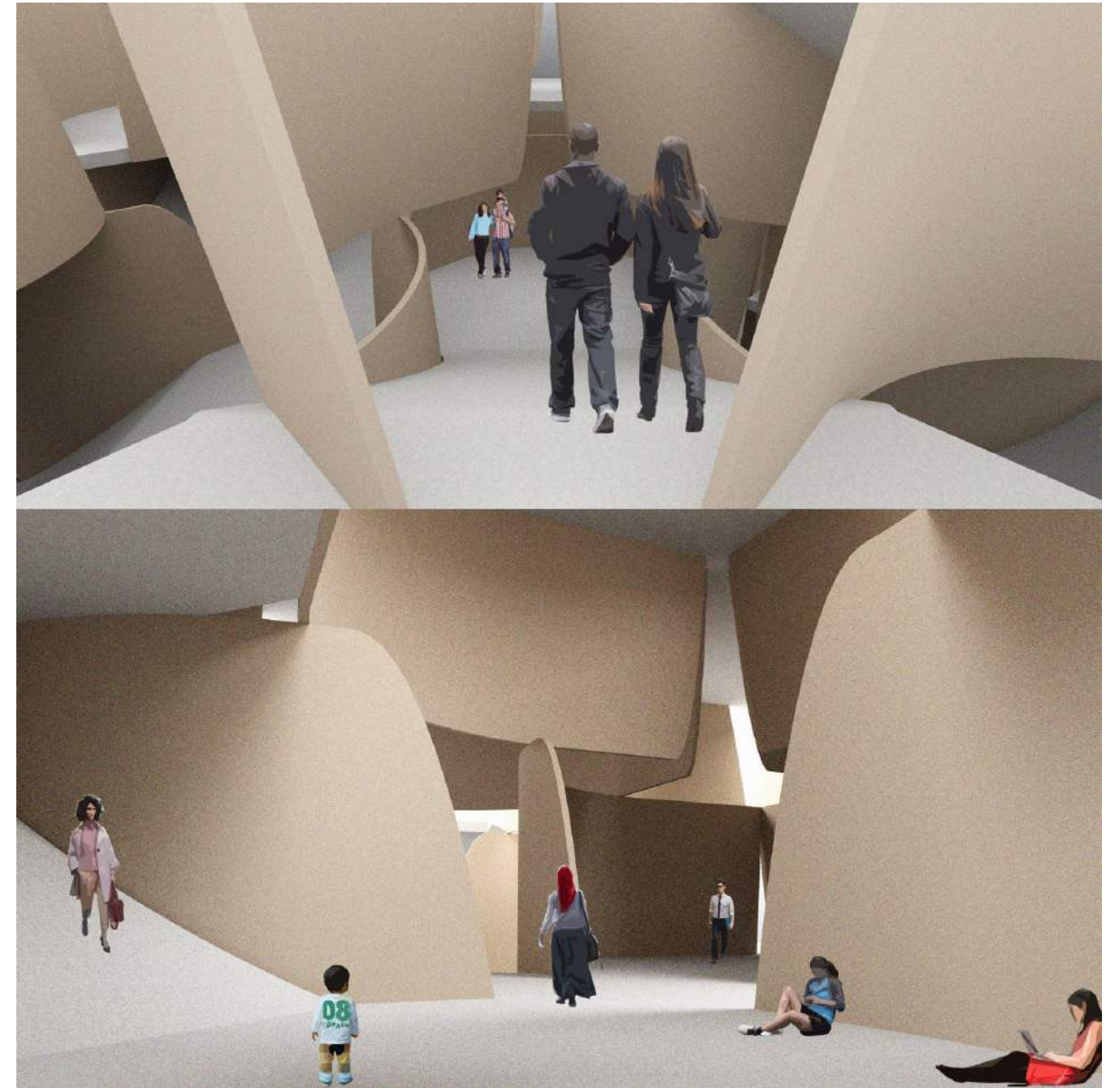


Massing Study





Prototype Space Study

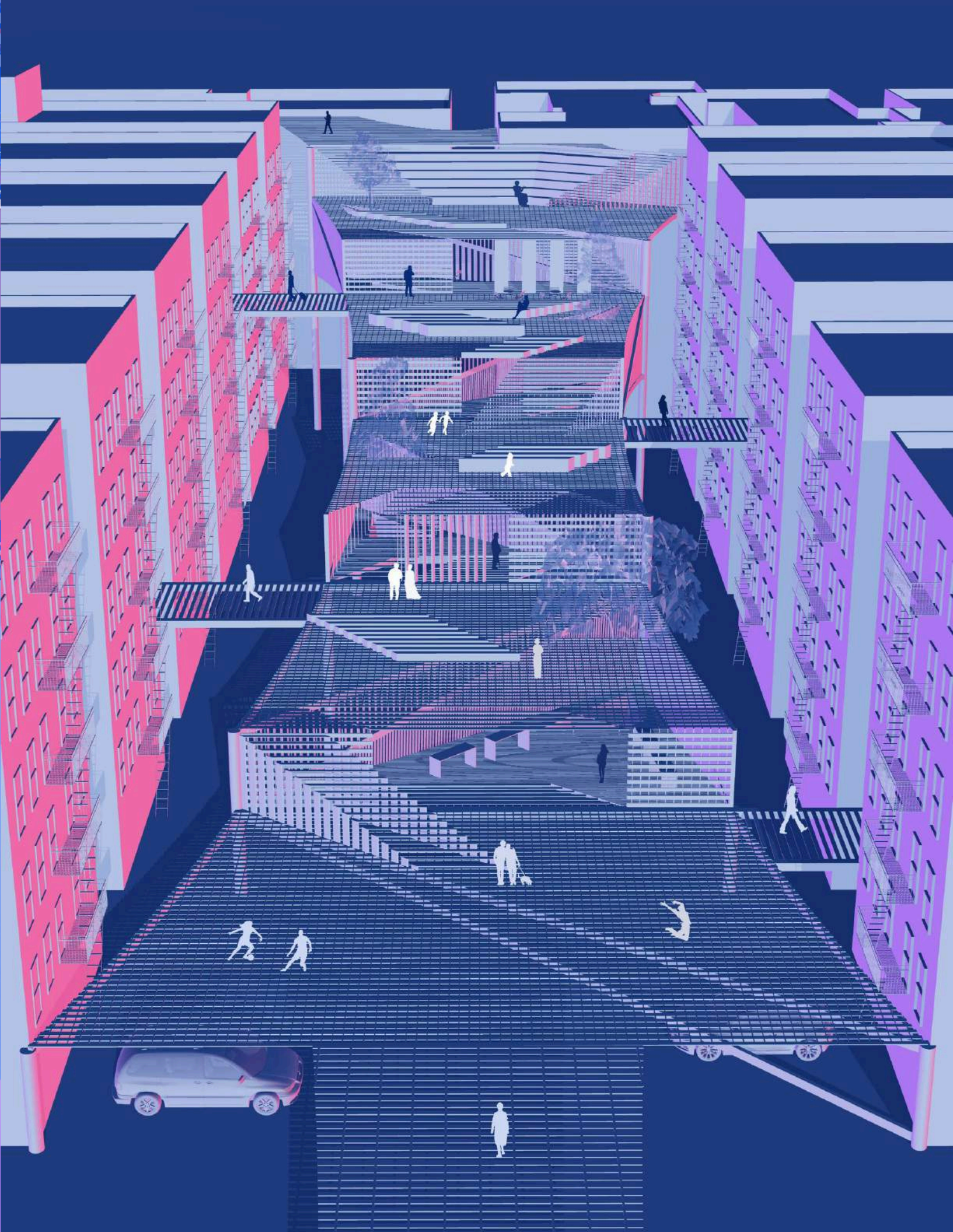


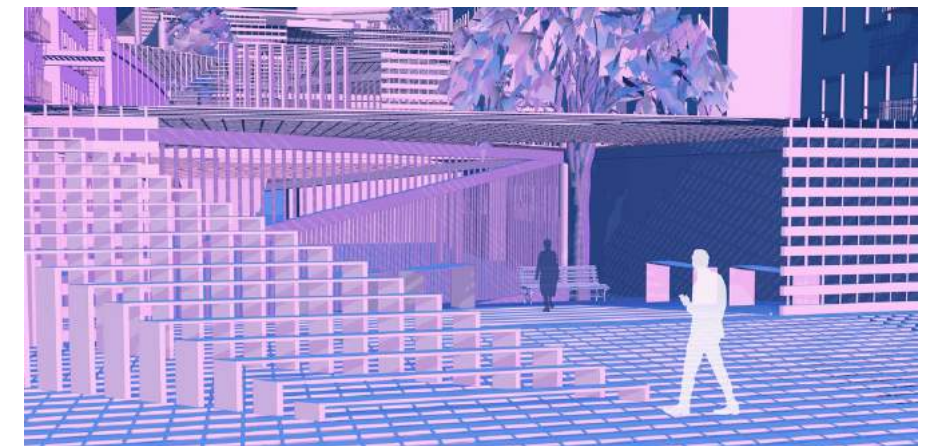
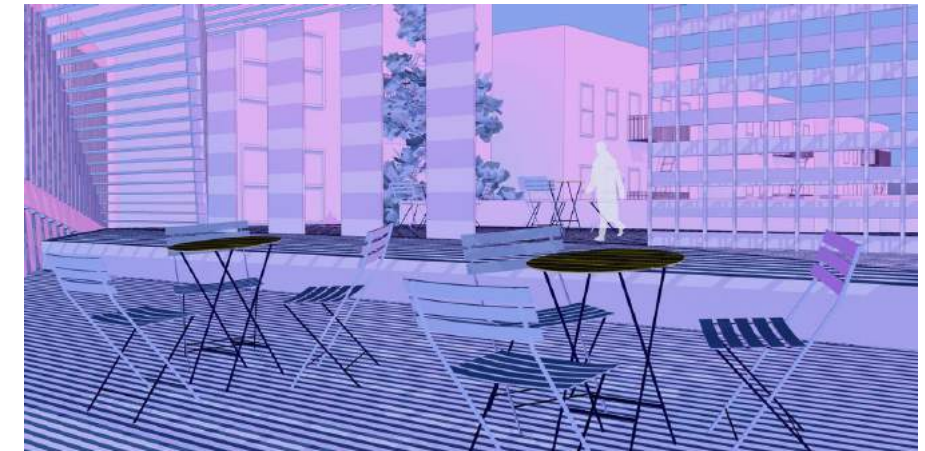
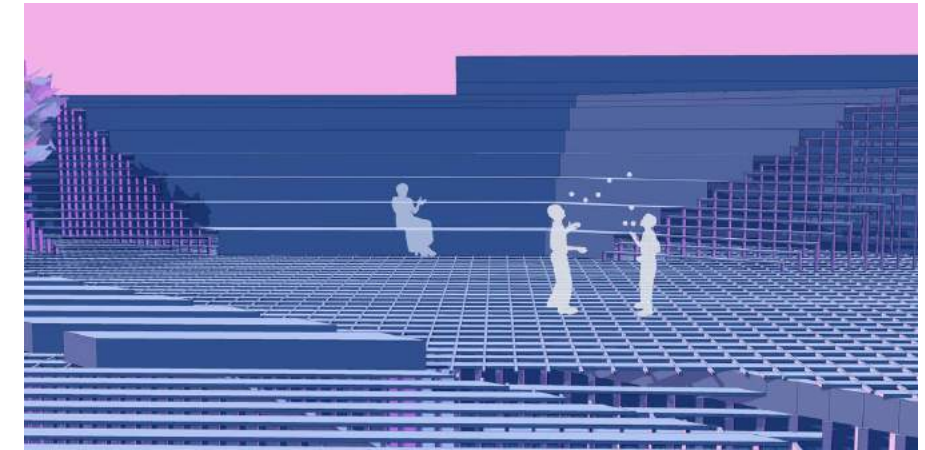
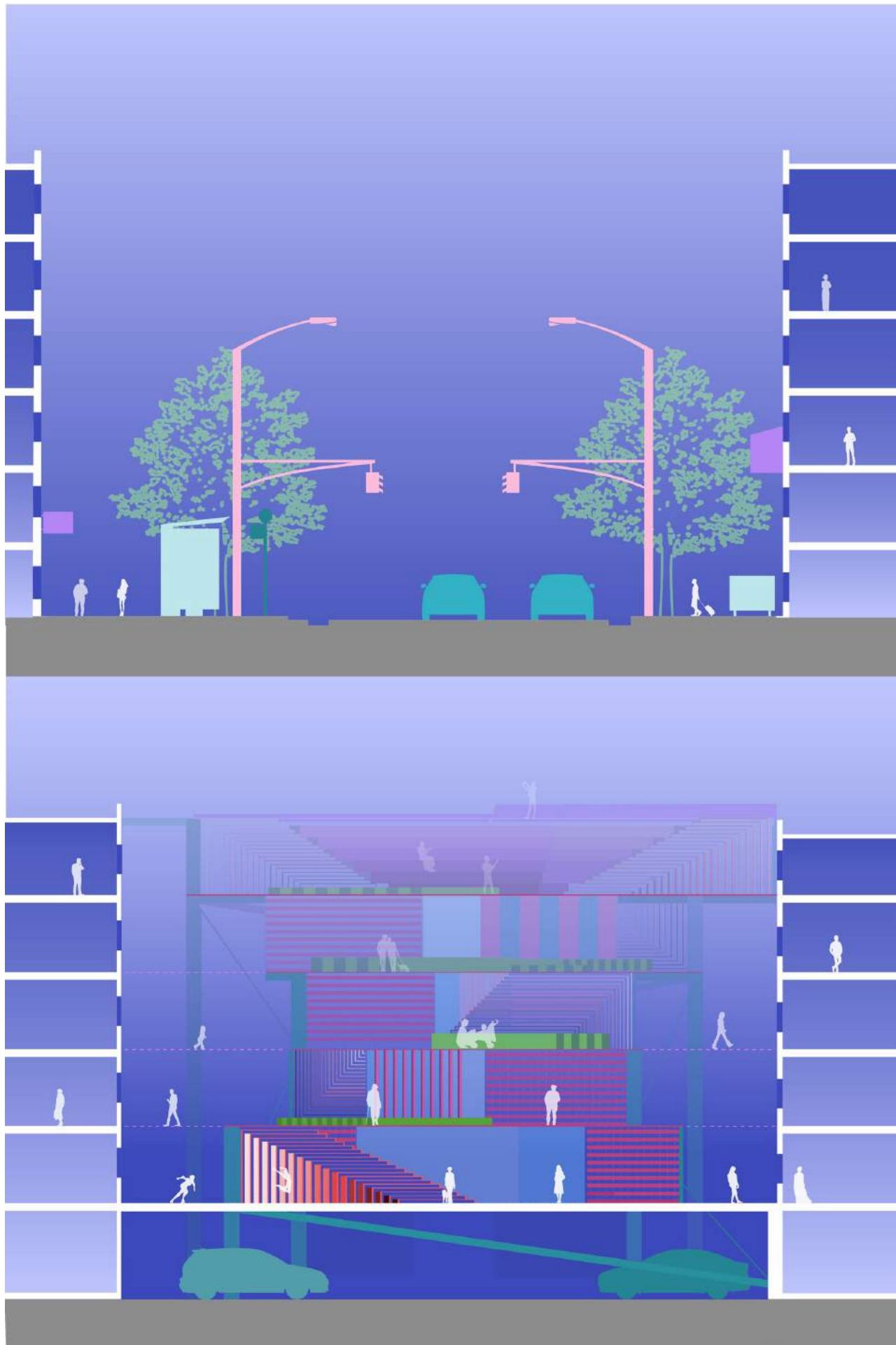
Prototype Space Perspective



# Terraced Commune

Project: The Grand Interior  
Studio: Core I  
Tutor: Josh Uhl  
Semester: Fall 2018





The neighborhood of Inwood has a strong sense of community with a lot of social interactions on the streets. My urban intervention seeks to provide a dynamic space to facilitate street activities, reinforcing community bonding among the residents. Most of the residential blocks in Inwood have underused interstitial space bounded by the residential buildings as wide as the street. The terraced commune stretches across the interstitial space, with direct access from the residential buildings of the block and the street, allowing residents to use shared facilities from community garden to mini market.



Design Animation Stills

# Black on Black

Class: Advanced Curtain Wall

Tutor: Daniel Vos

Semester: Fall 2022

The façade design is based on the painting Grille Collor Noir by Jean Degottex. It is a black-on-black painting with a diamond shaped pattern defined by thin white lines. The quality that I especially appreciate is the subtle shimmering effect achieved by faint bands of grey strips with horizontal patterns that offset from the thin white lines. Based on this painting, my façade design will be a black-on-black façade with a diagrid system using mostly dark tinted materials including dark-tinted glass dark coated diagonal mullions, and dark perforated metal screens with thin silver fins that outlines the pattern.

## System Description

WT-1: Aluminum and Glass Unitized Curtain Wall System with Diagonal Screen and Fin Attachment

System consists of insulating glass [GL01] four-side structural silicone glazed onto unitized frames of thermally broken, custom profile extruded aluminum [AL01, AL03]. At exterior, system features aluminum [AL02] unitized screen assembly composed of diagonal custom-profiled perforated aluminum panels spanning the length of diagonal mullions. Screen assembly is anchored black to curtain wall unit with clip mounts at the diagonal mullions. The aluminum panels provide attachment system for stainless steel fins. System is anchored to building structure at top of concrete slab.

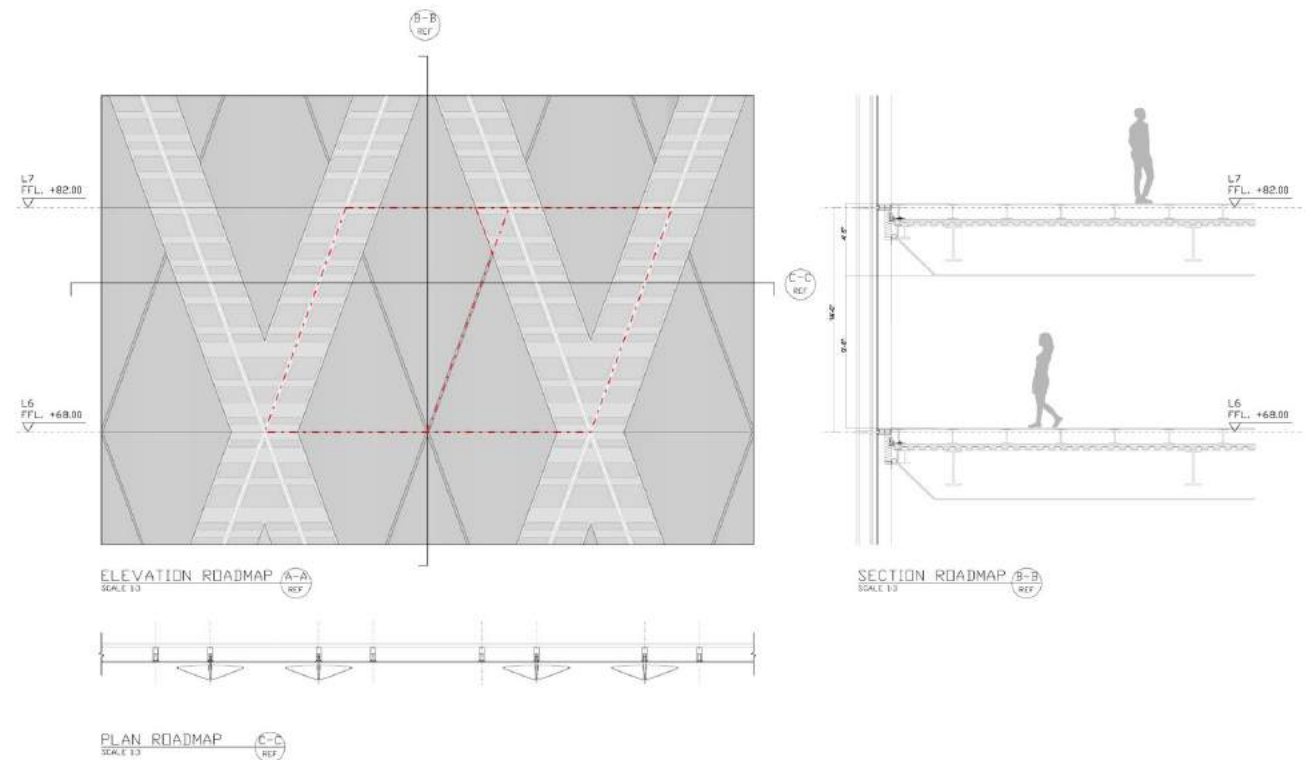
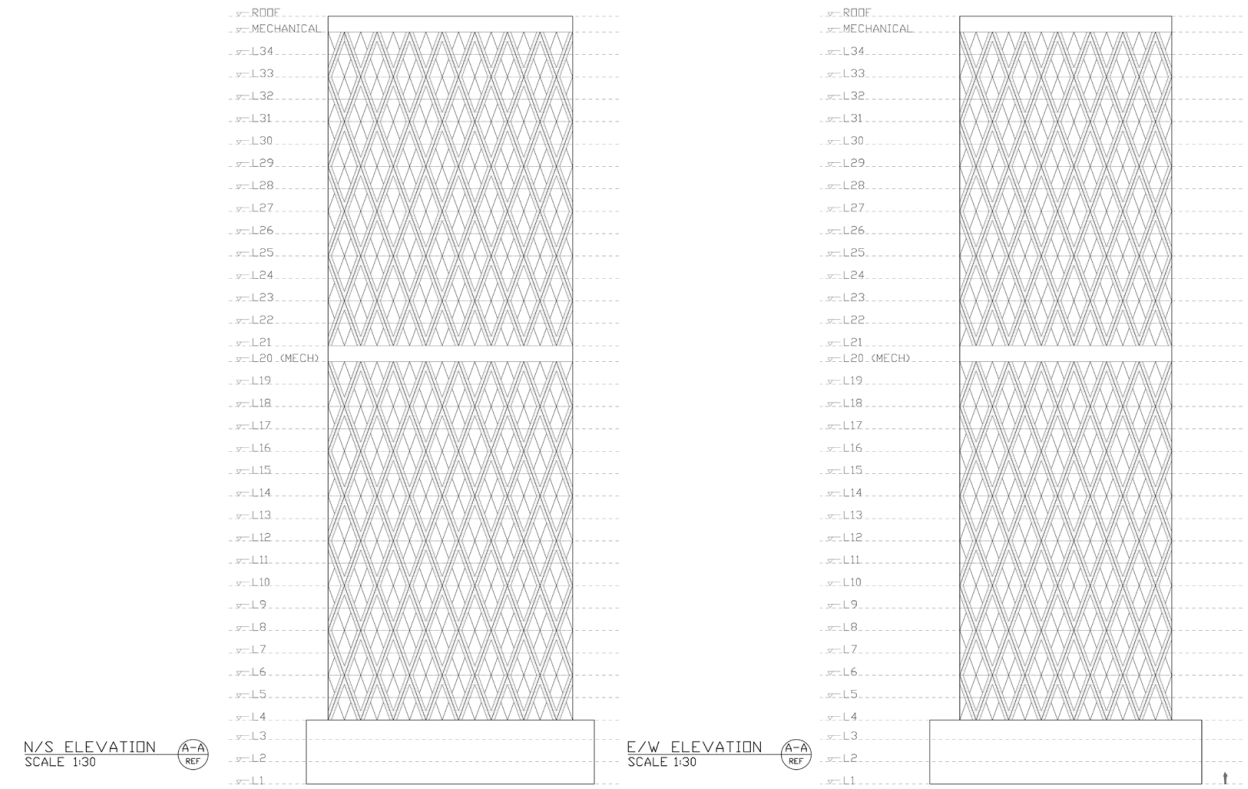
Finish of all aluminum exposed to the exterior wall shall be PVDF coated [AL01]. Finish of all aluminum exposed to the interior shall be one-coat acrylic resin [AL03]. Where visible, glazing accessories, glazing gaskets, and weather seal silicone color to be black.

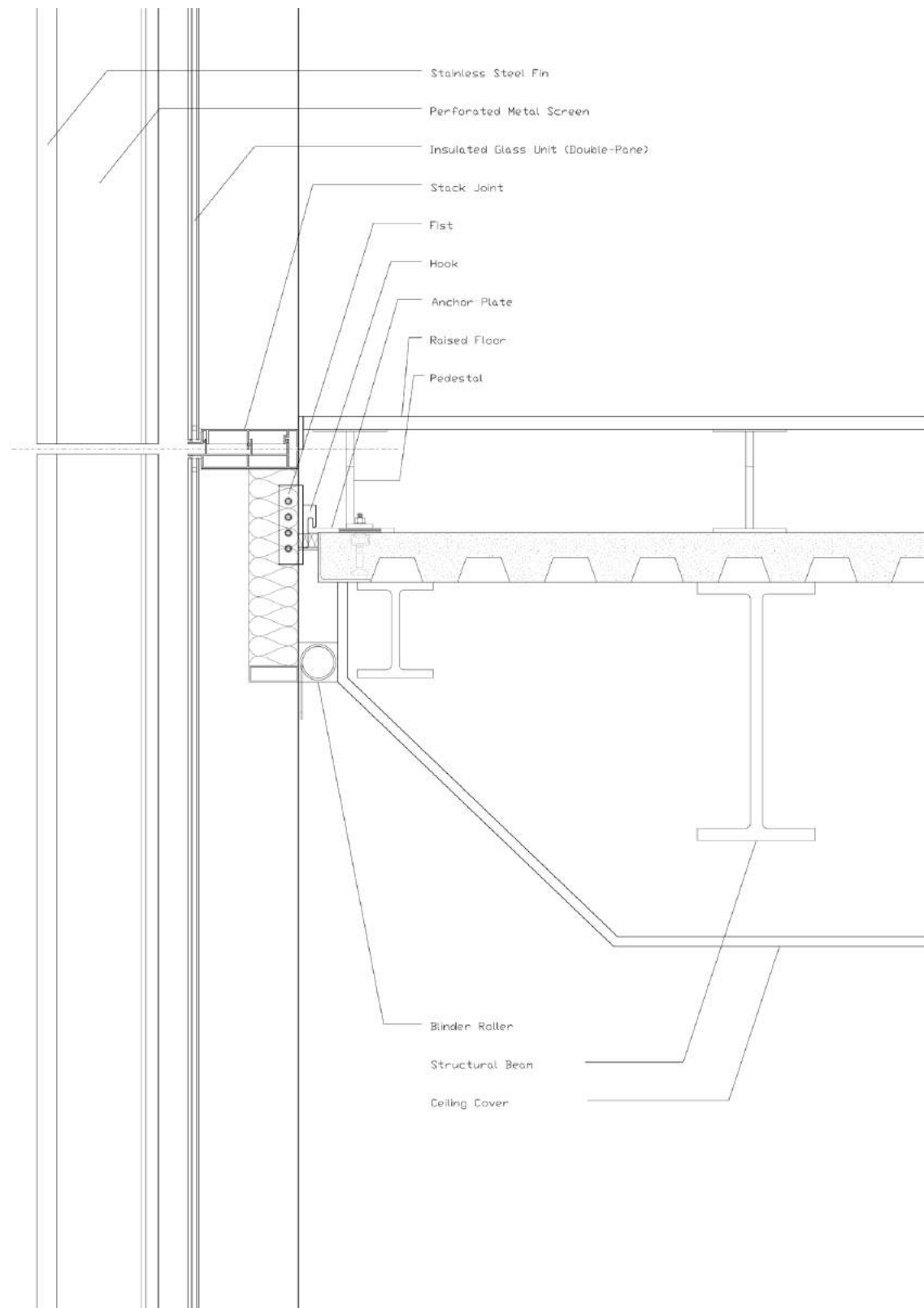


Grille Collor Noir

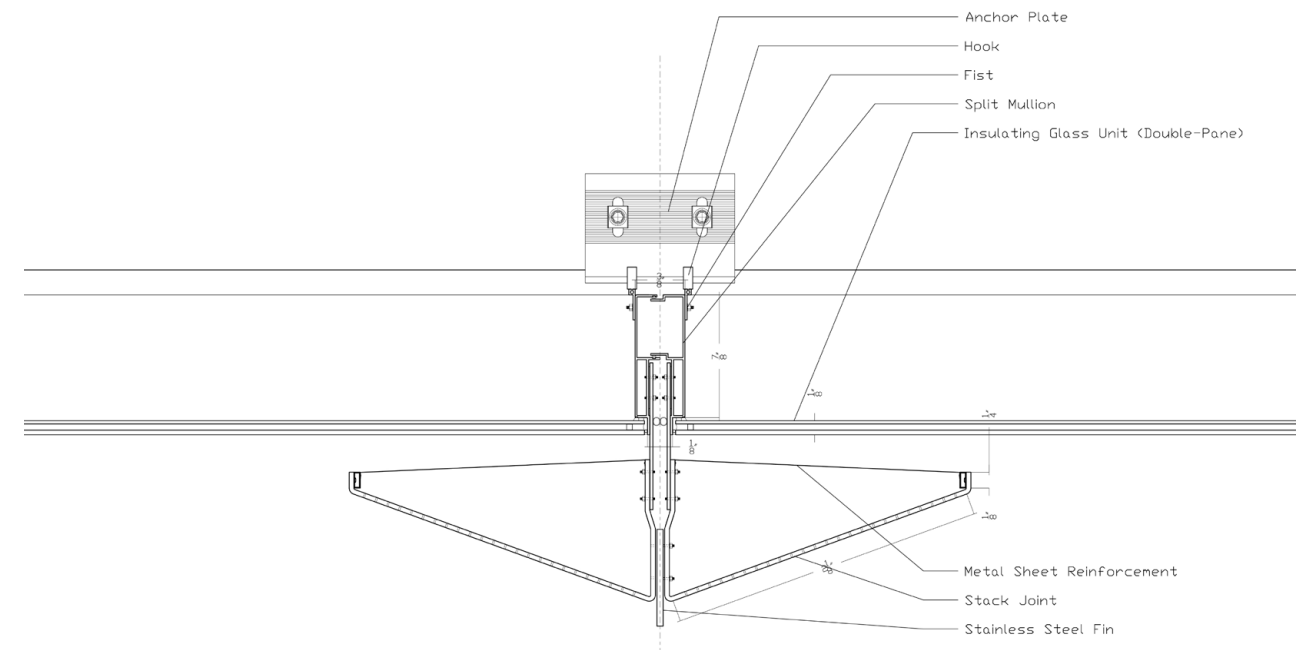


Project Site

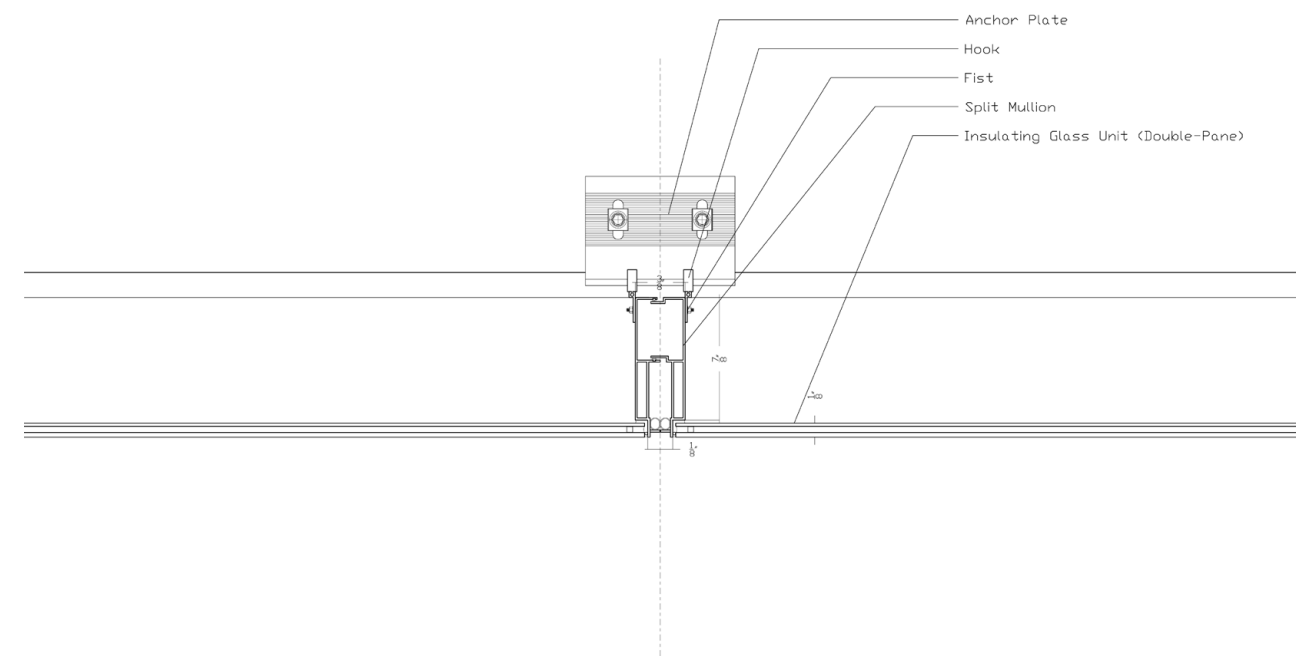




Typical Stack Joint



Typical Mullion (Type I: Thick) - Split Mullion (Sill)



Typical Mullion (Type I: Thin) - Split Mullion (Sill)

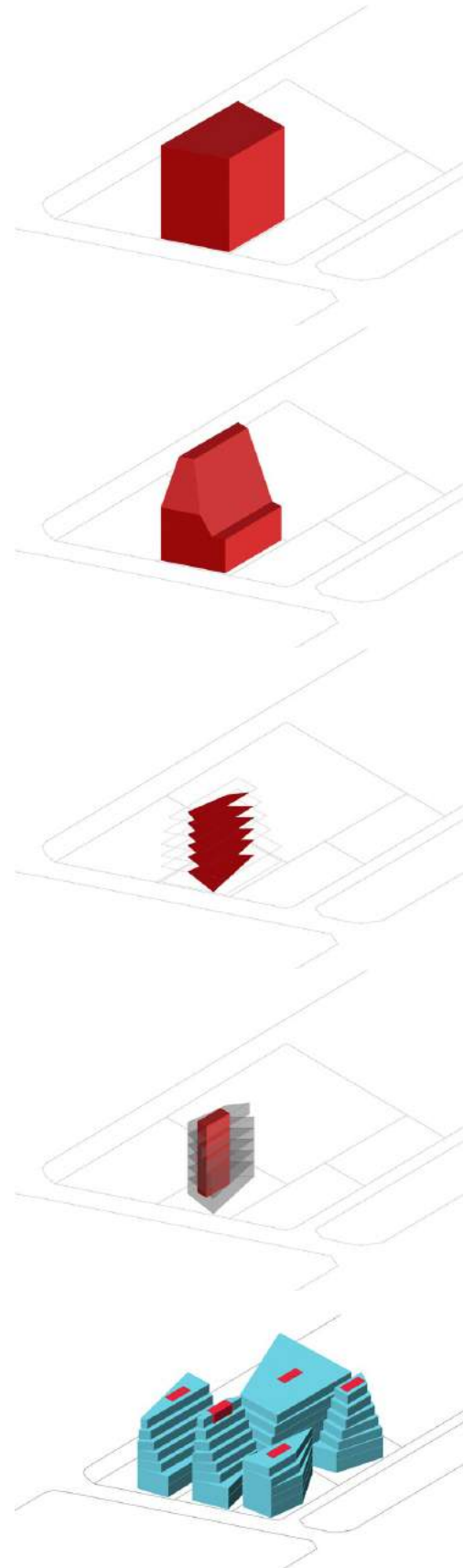
# The FAR Game

Class: Generative Design  
 Professor: Danil Nagy  
 Semester: Spring 2022

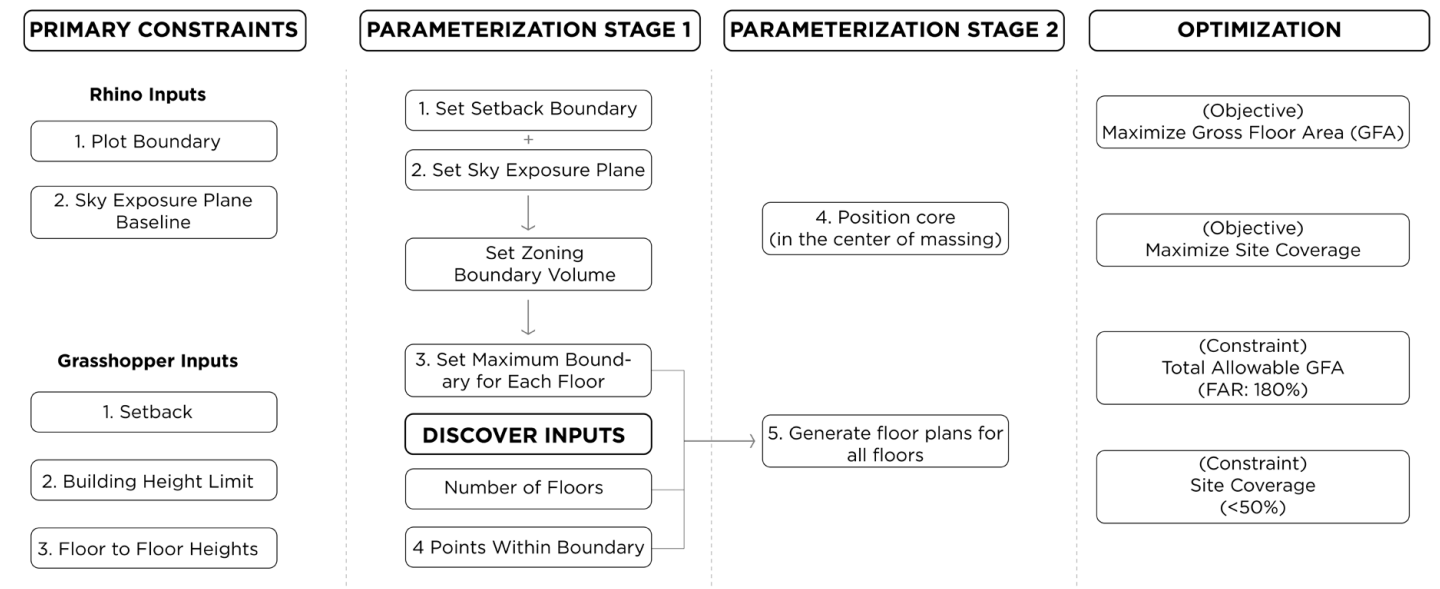
When designing for clients in high-density cities, an architect's top priority is typically maximizing their building's gross floor area while staying within the size constraints provided by local zoning codes. Maximizing gross floor area (GFA) enables the client, typically a developer, to optimize profits by maximizing the building's leasable space. Local zoning codes typically provide constraints for a building's maximum floor area ratio (FAR), height, and setback from site boundary, as well as further setbacks determined by environmental parameters.

Our team asked how automation can assist and expedite this process, hypothesizing that the computer can replace the architect in performing these first iterations and analyses. Using generative design, the computer can develop multiple design iterations that meet the constraints provided by zoning code, and then select among these iterations to determine a massing that maximizes gross floor area. This massing scheme can then be developed and refined by the hand of the architect.

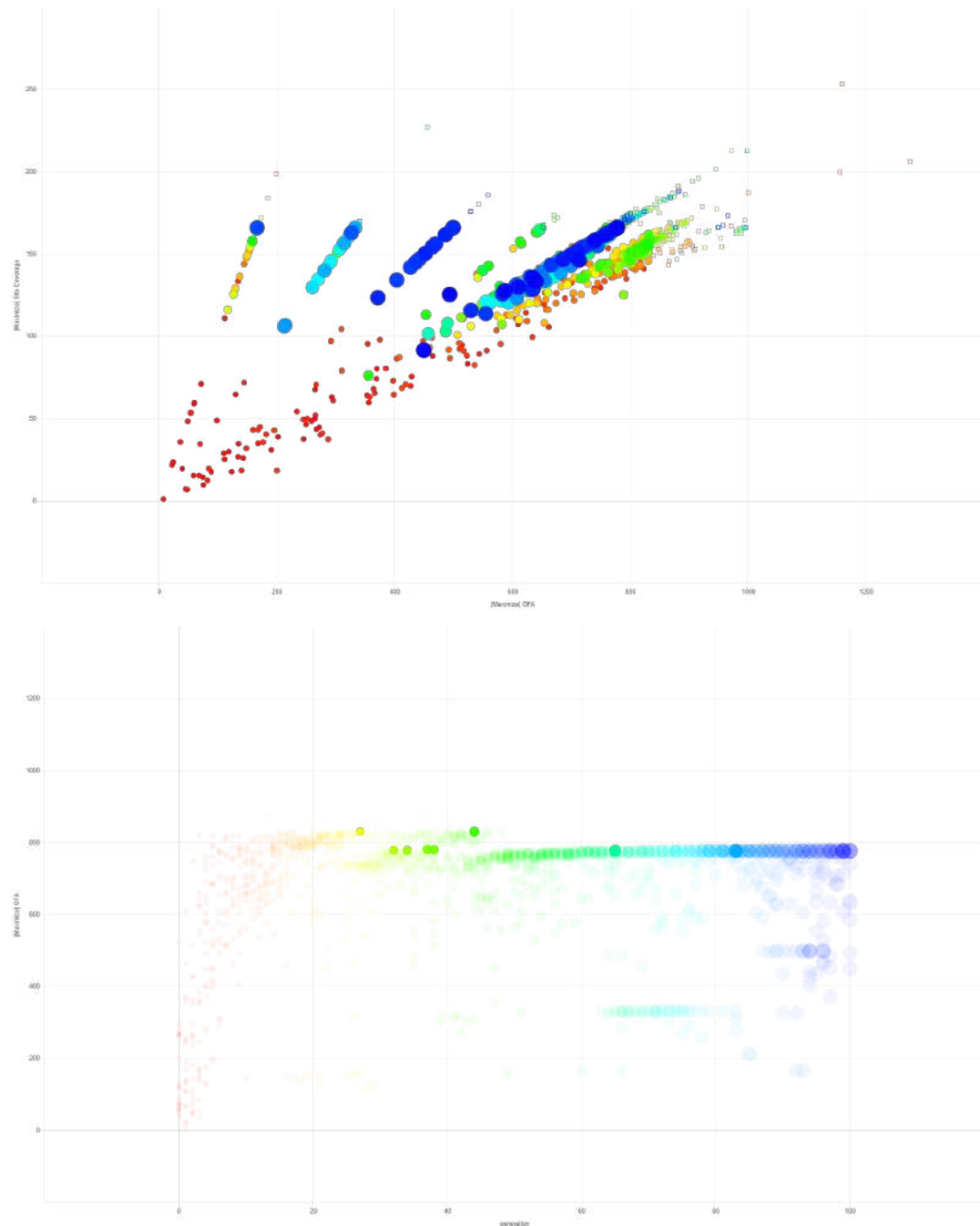
In our model, the computer maximizes gross floor area within zoning constraints provided by floor area ratio limits, setback requirements, height limits, site coverage limits, and limits provided by the sky exposure plane. Our model uses Rhino with Grasshopper and Discover to generate massing models computationally that can then be developed by the hand of the designer. Our project uses a site in Seoul as a case study, but the constraints provided could be retrofitted to any site globally by inputting the site boundary, represented by a simple polyline, into a rhino model and then plugging the setback requirements, building height limits, site coverage limits, maximum FAR, and setbacks determined by environmental parameters into the Grasshopper model.



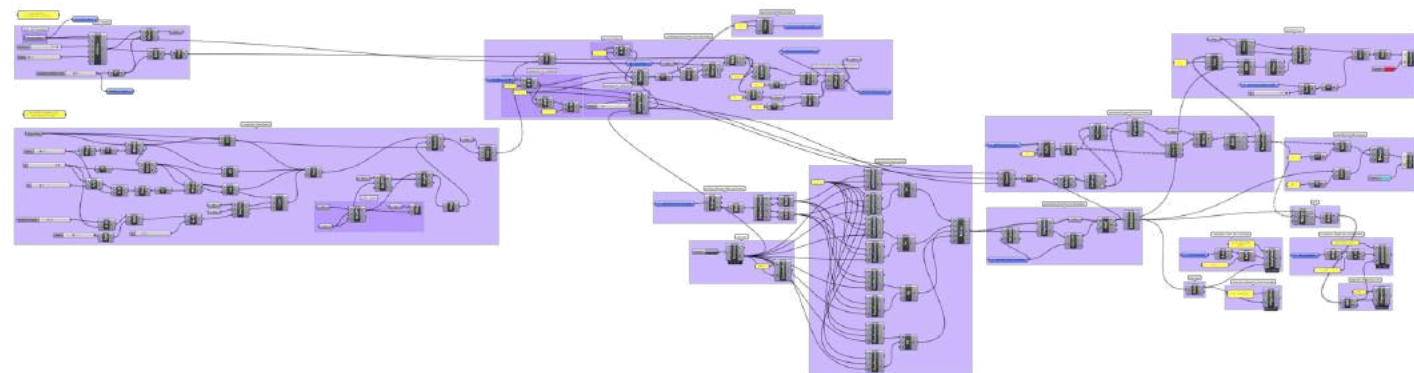
Iterative process of computationally derived building massing studies



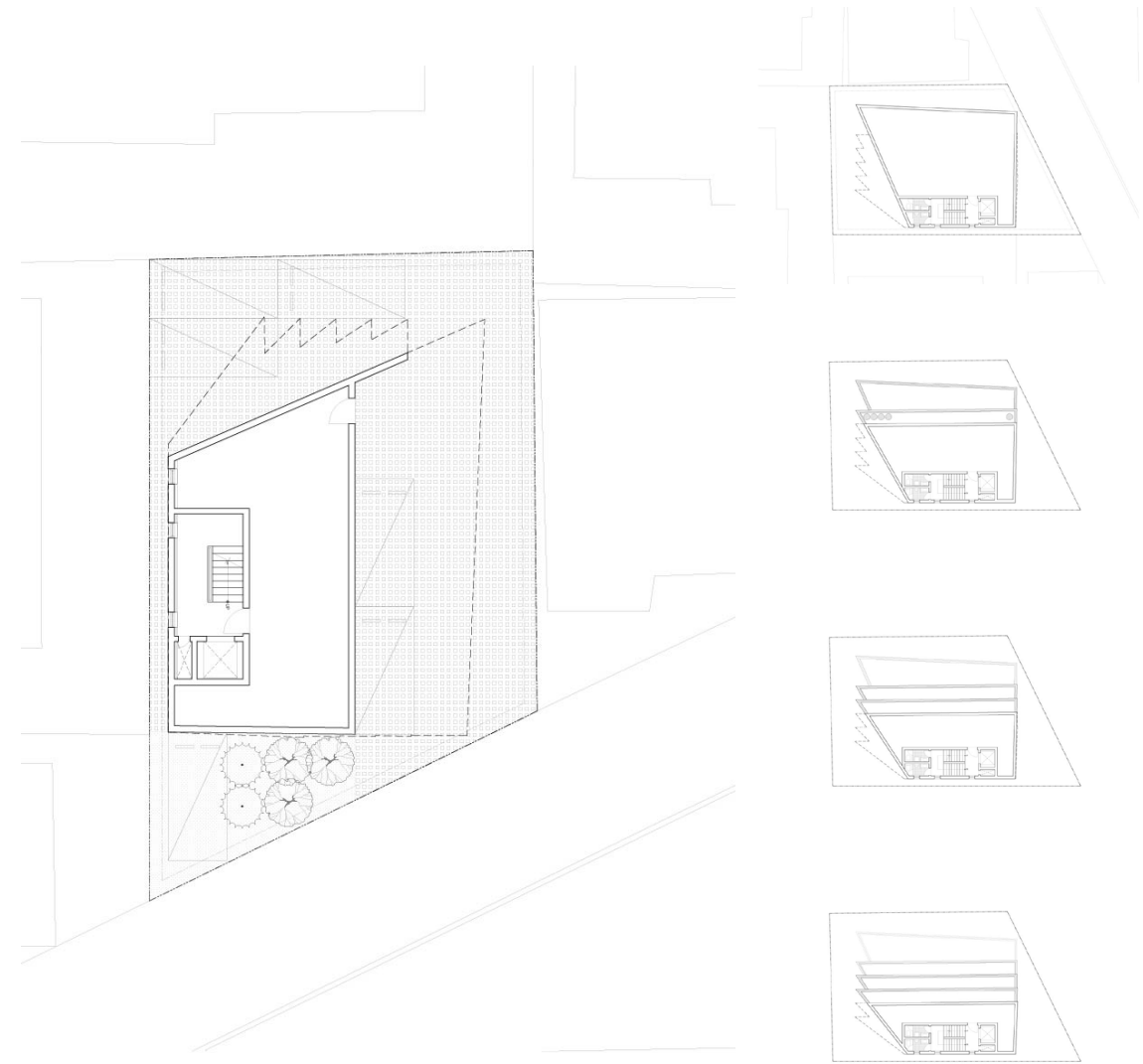
Overview of computational design process



Design iterations generated by Discover



Grasshopper Script



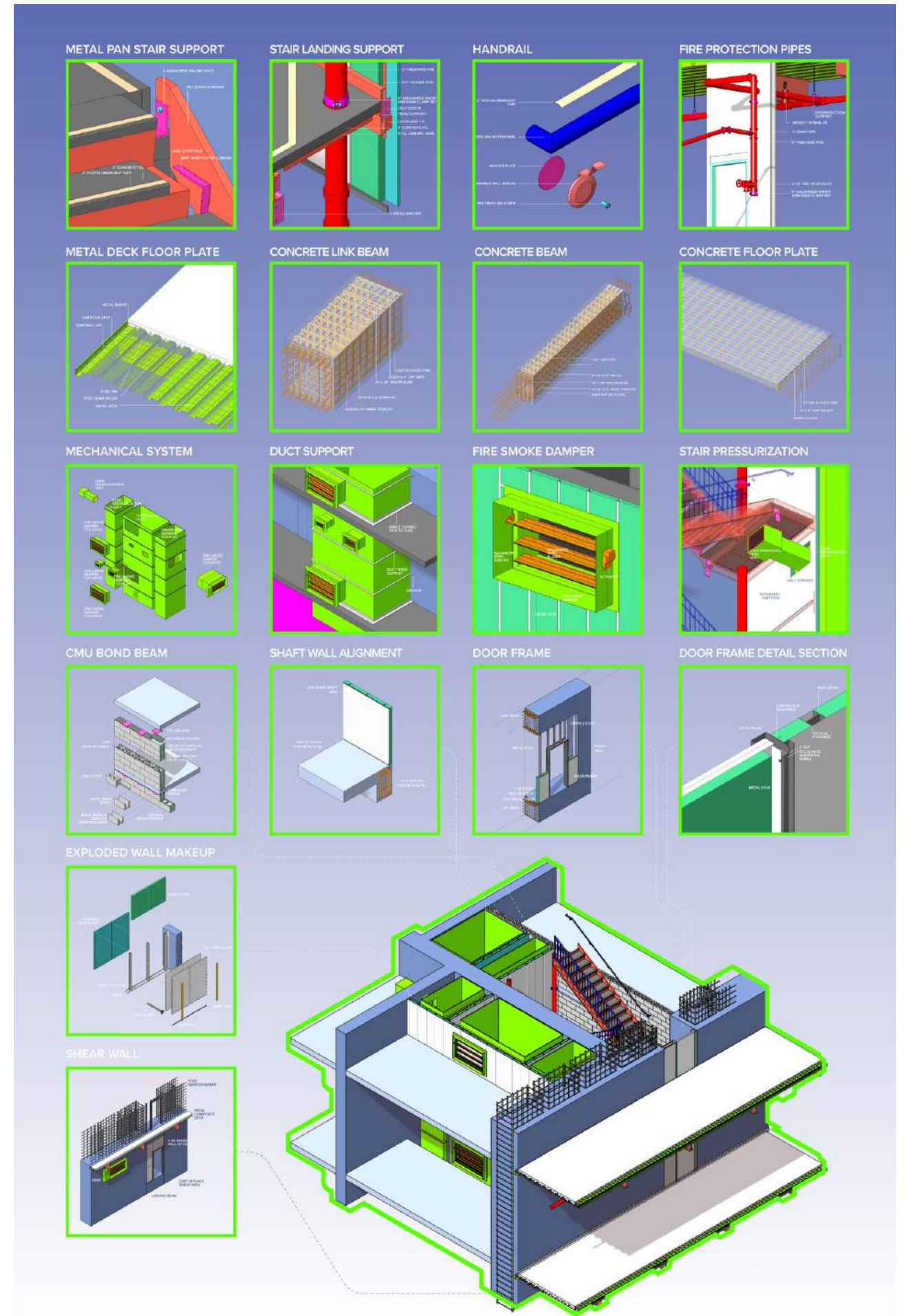
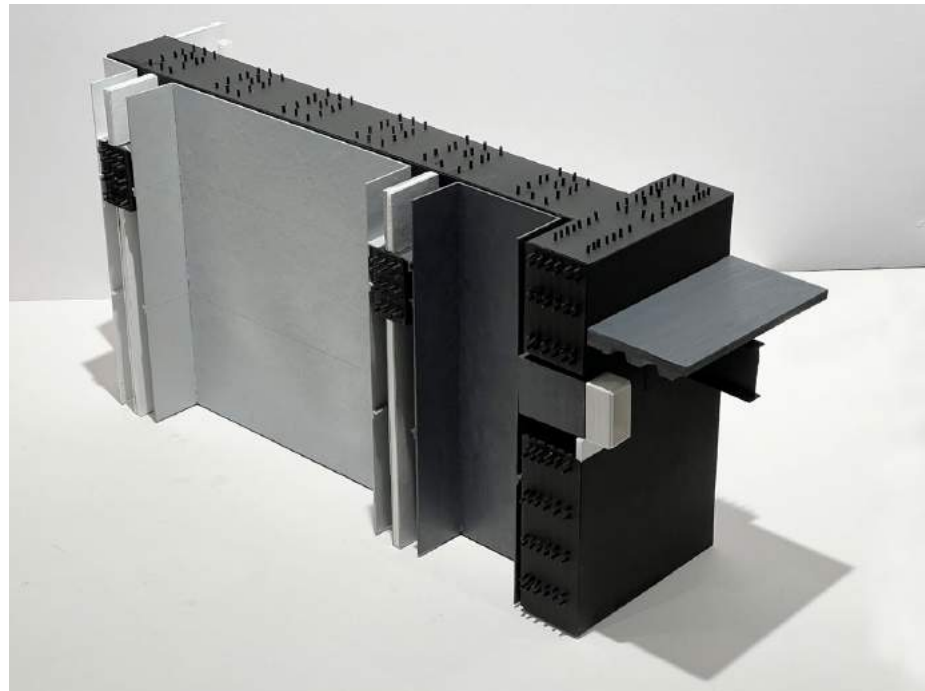
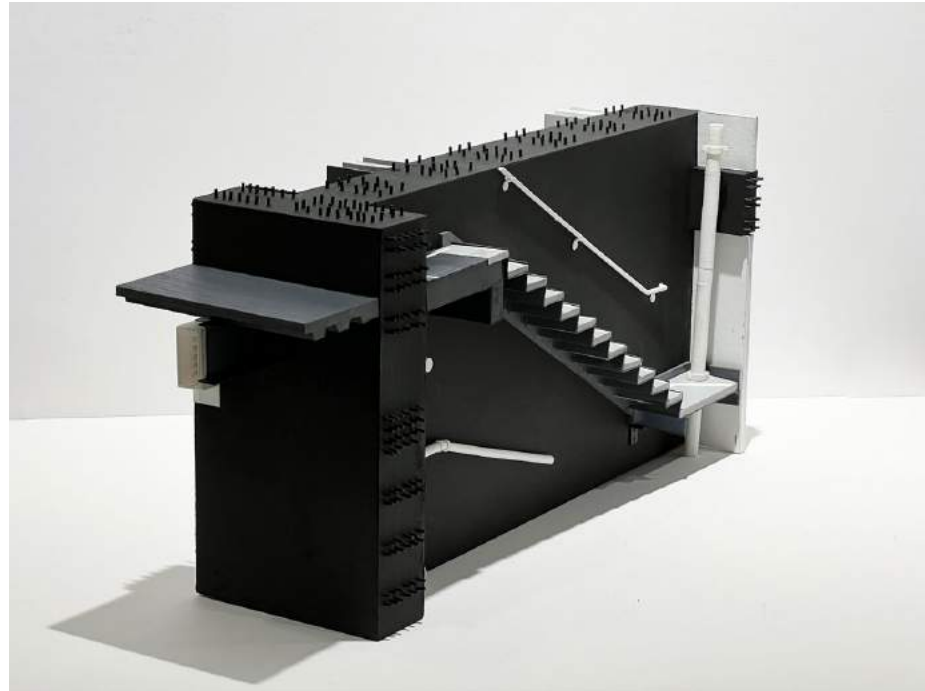


# EGRESS

Class: Architecture Technology V: Construction Systems

Professor: Nicole Dosso

Semester: Spring 2022



# LOOP

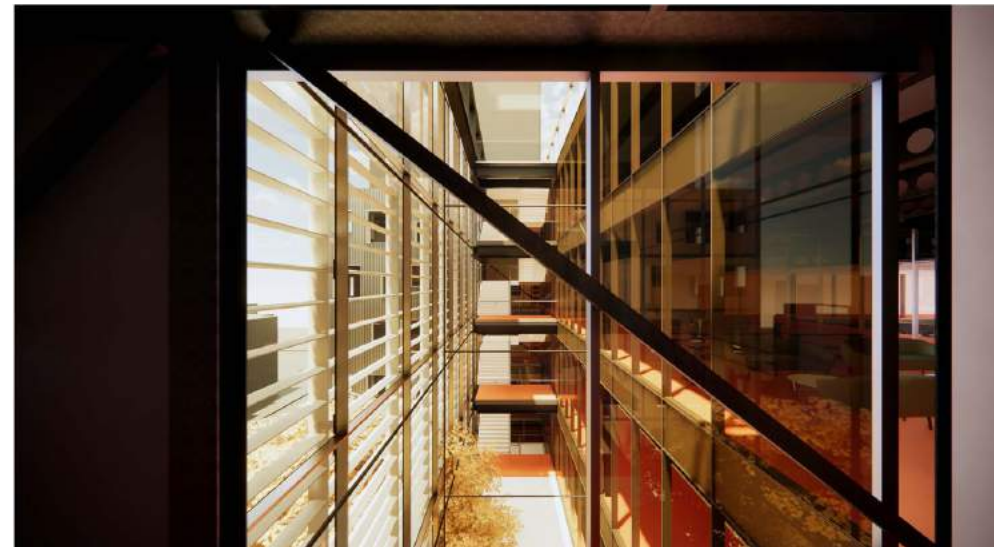
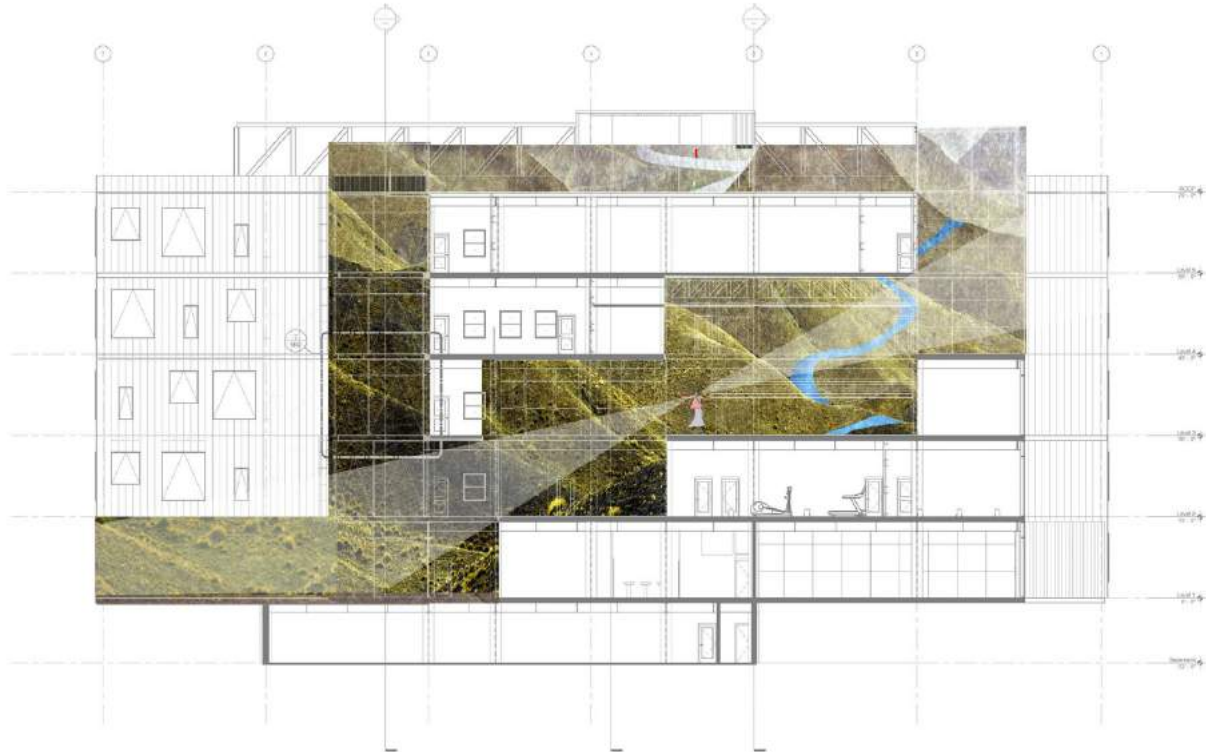
Project: P.S. 64 - A Series of Liminal Spaces for Community Engagement

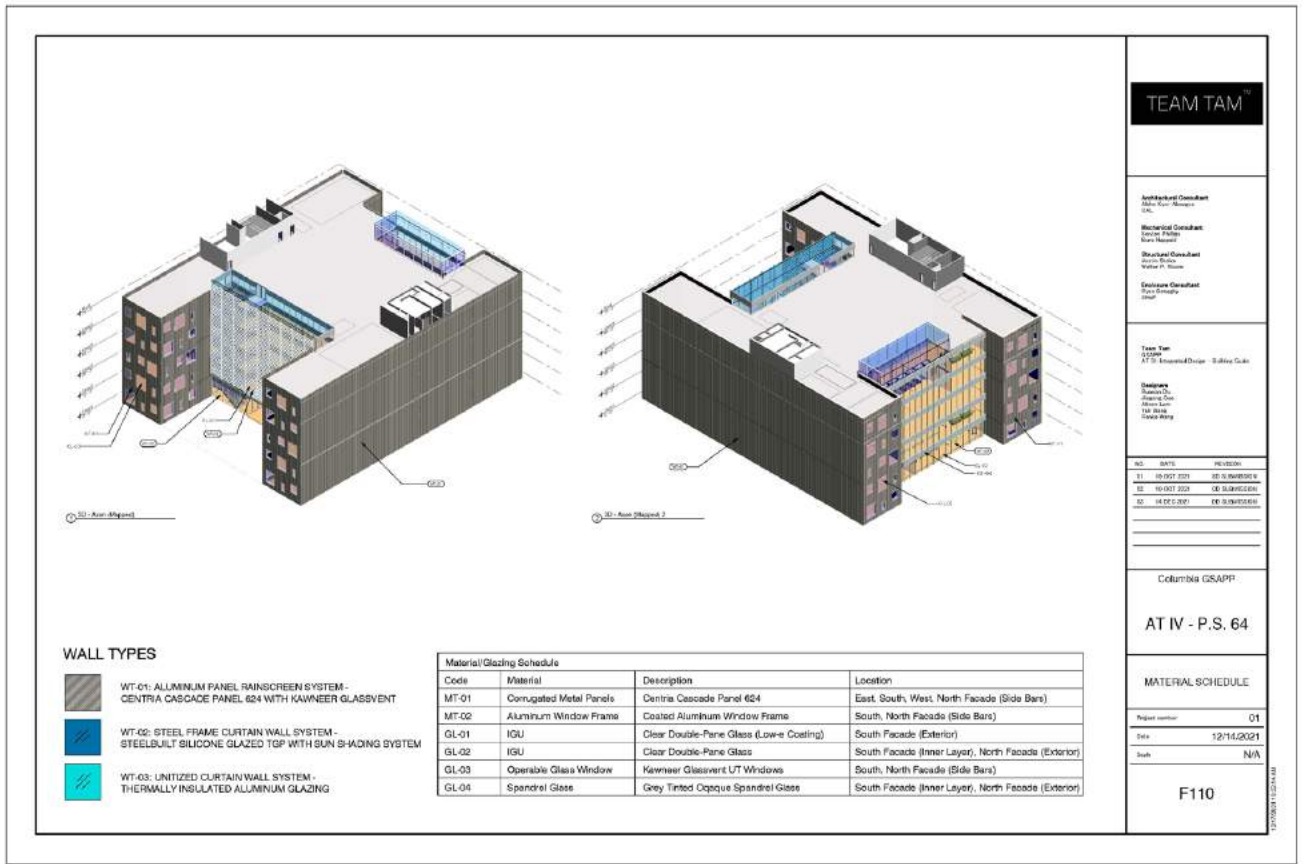
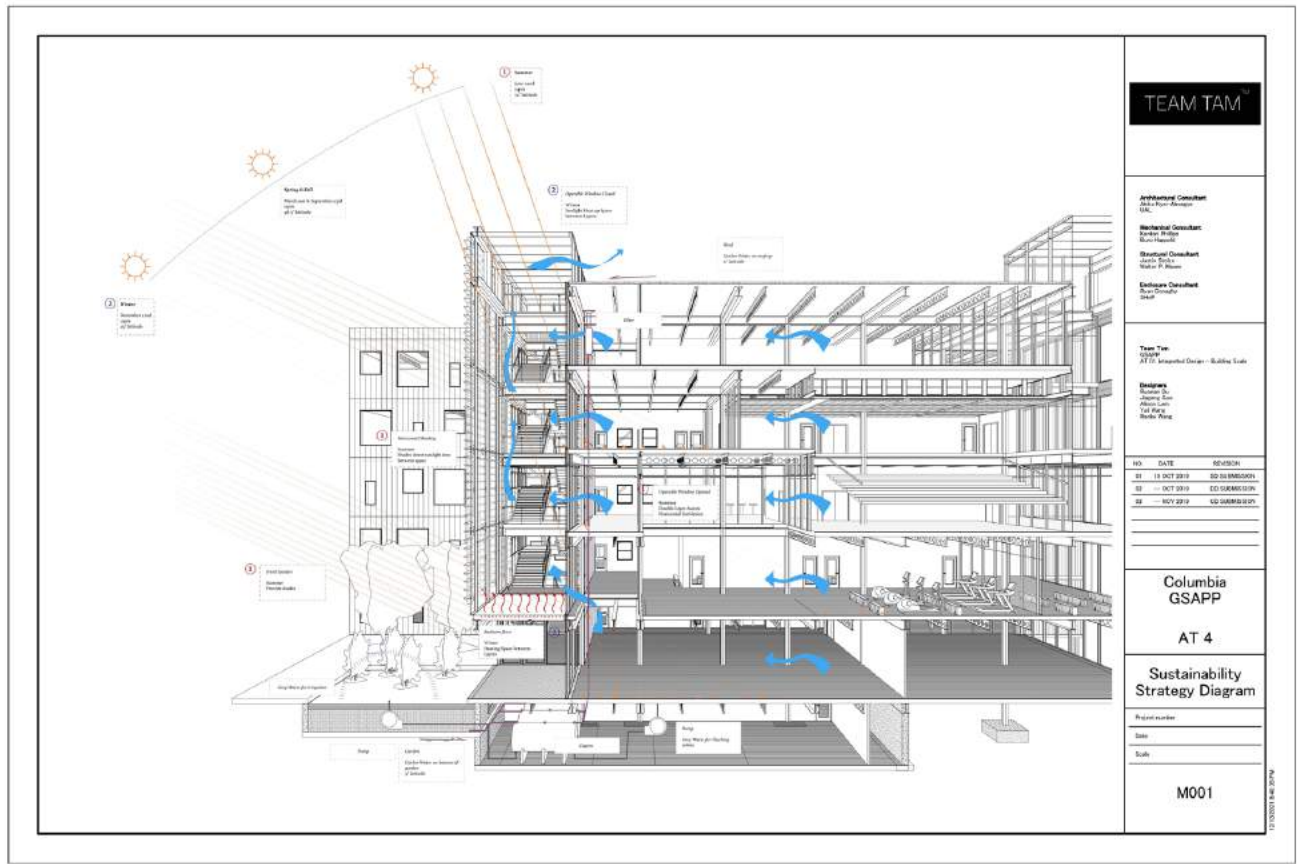
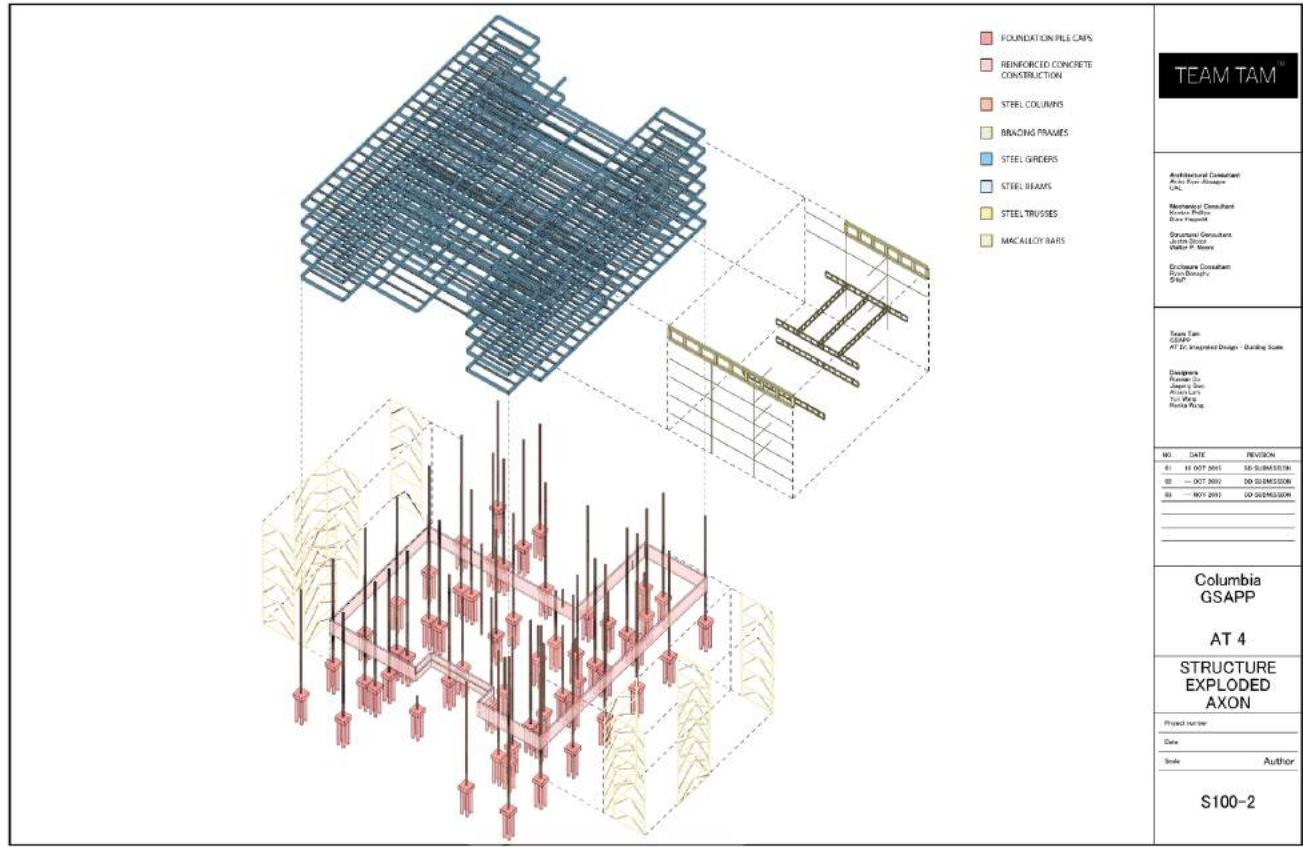
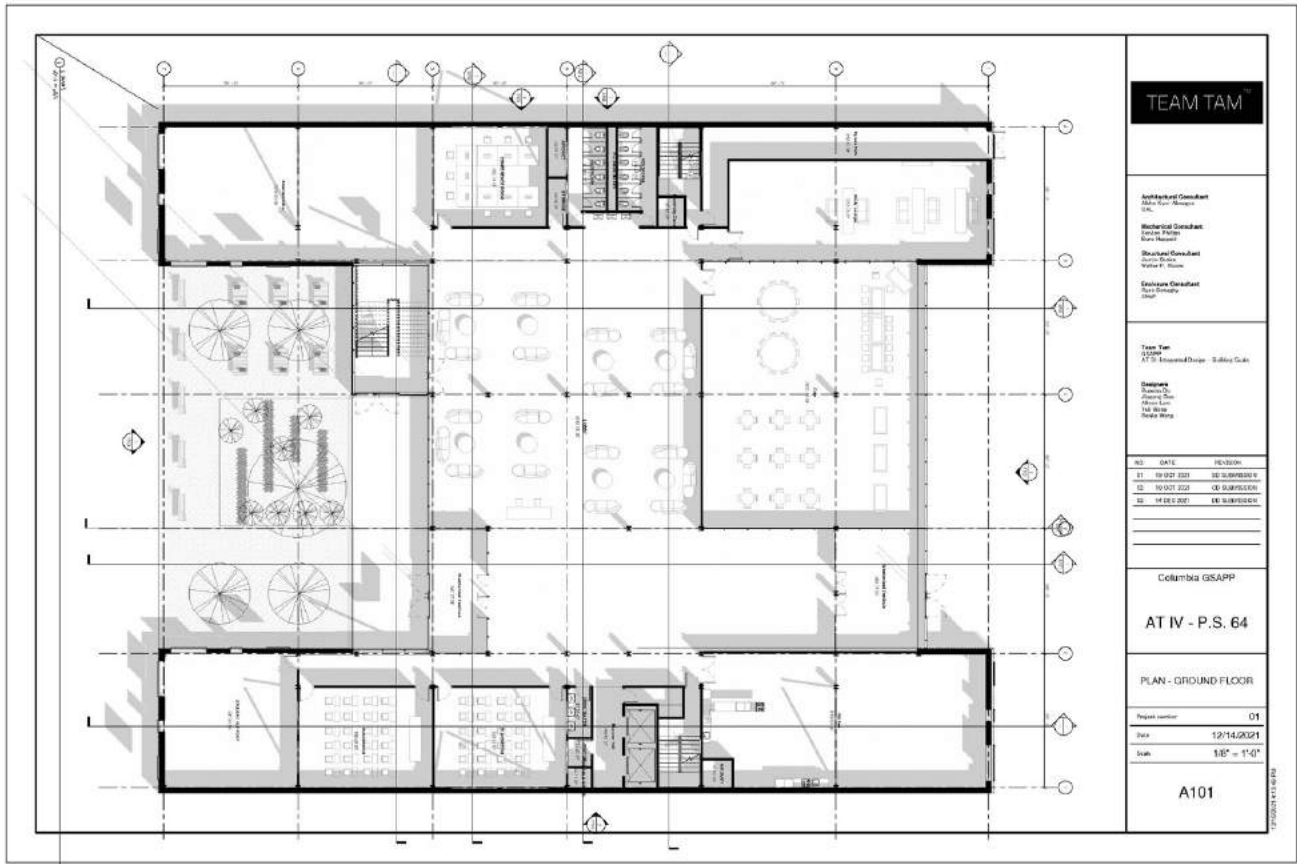
Architecture Technology III: Building Systems Integration

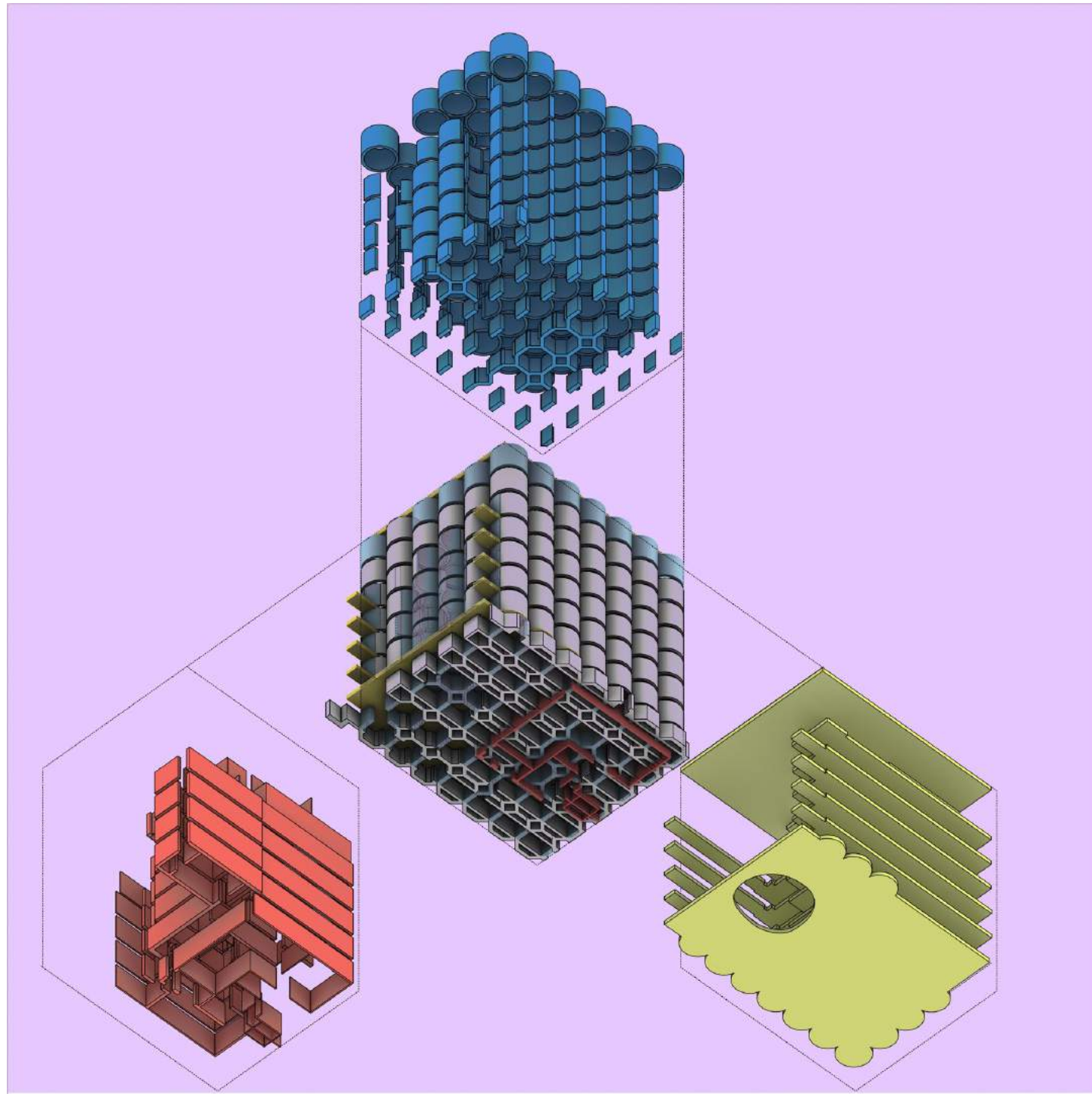
Professor: Berardo Matalucci

Group Partners: Ruonan Du, Jiageng Guo, Yuli Wang, Renka Wang

Semester: Fall 2021







# Zeit MOCAA

Architectural Drawing & Representation I  
Professor: Josh Uhl  
Semester: Fall 2018

