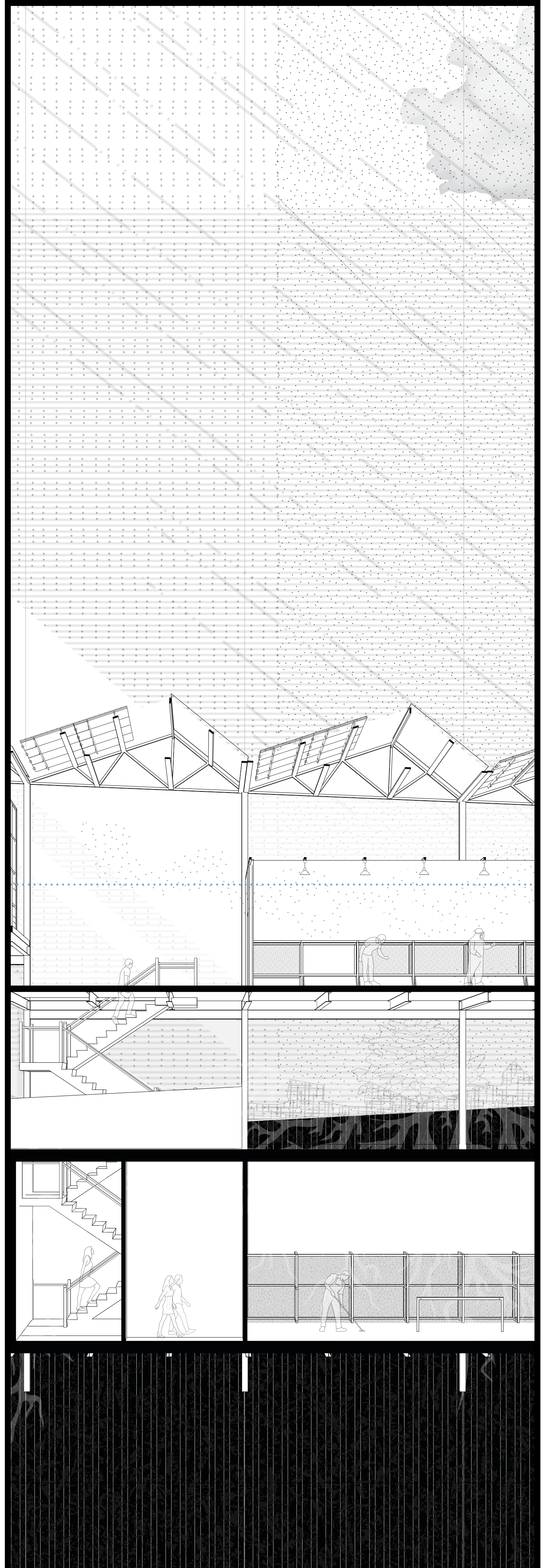
PORTFOLIO



Selected Works
Erin Nieto

ERIN NIETO

ARCHITECTURE

(832) 296-5665
erin@nieto.com
erinnieto.com

PROFILE

Recent architecture graduate with a strong foundation in design principles, technical drawing, and sustainable building practices. Known for a creative approach to problem-solving and a meticulous eye for detail, my design approach is deeply rooted in human experience and the beauty of nature. My passion for creating art influences the details of my design to evoke emotion and enhance the environment and landscape around it.

TECHNICAL SKILLS

DRAFTING & MODELING

- AutoCad
- Rhinoceros 3D
- Revit

PRESENTATION

- Photoshop
- Illustrator
- M-Office
- InDesign

ACHIEVEMENTS

PUBLISHED **2021**

Gerald D. Hines Prospectus 2020-21

My studio project titled CrystalFeild Center was selected as an outstanding project by staff and published in the Undergraduate Architecture Prospectus in my third year.

MGMC 1ST PLACE TEAM AWARD **2018**

AIA Houston

My high school team project won first place in the Michael G. Meyers Design competition, inspiring me to pursue a career in architecture.

STRENGTHS

Creativity

Team Player

Detail Oriented

Leadership

Passion and Enthusiasm

EDUCATION

Bachelor of Architecture
University of Houston
2024

Magna Cum Laude

LANGUAGES SPOKEN

English | Spanish

BLOOM

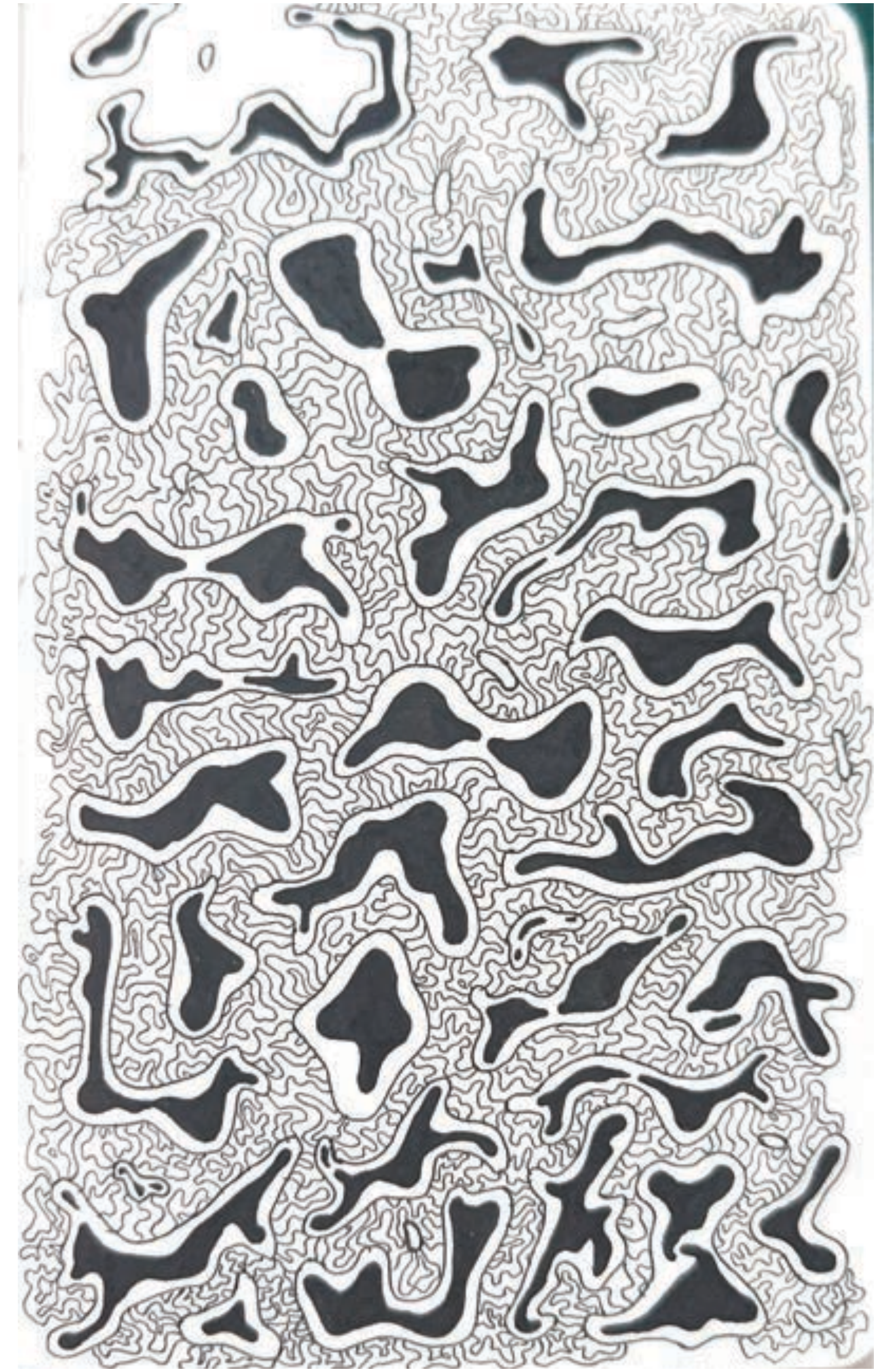
THE SPACE BETWEEN DEFINES THE LINES

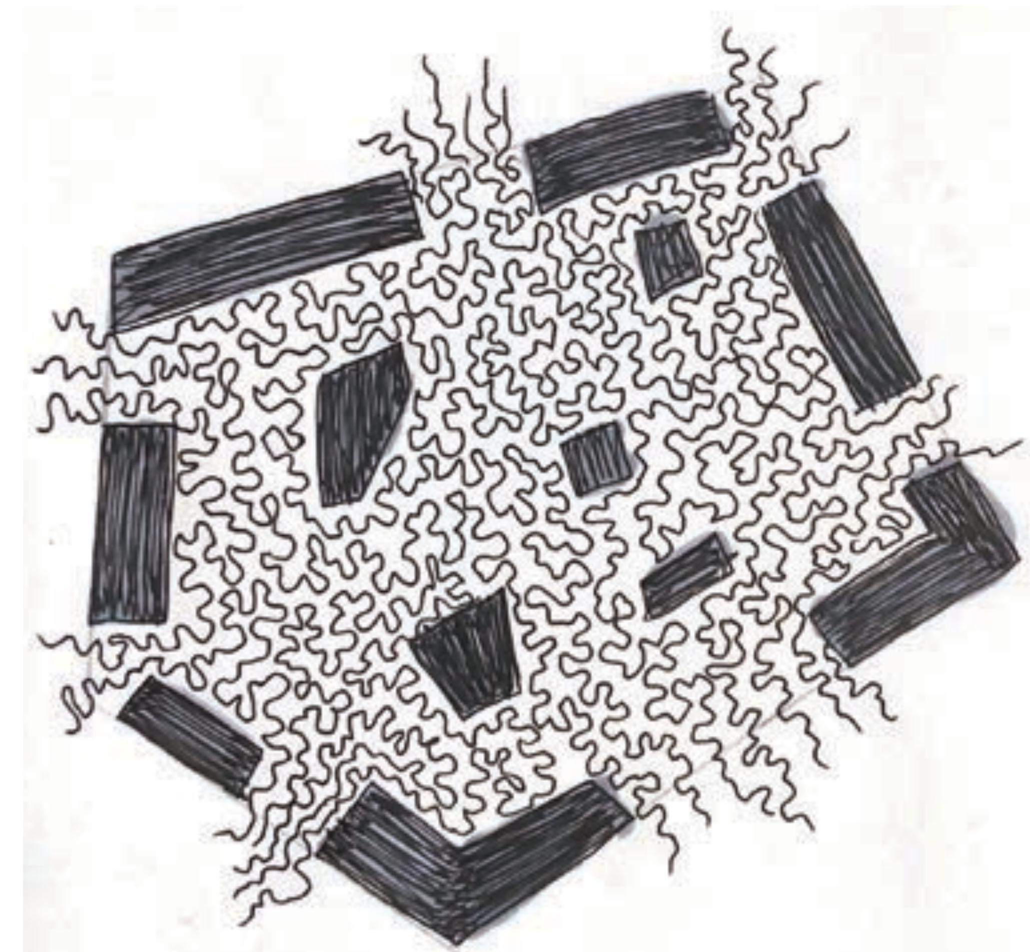
Compact Communal Housing

Software Used - AutoCAD, Rhino, Ilustrator, Photoshop, Procreate

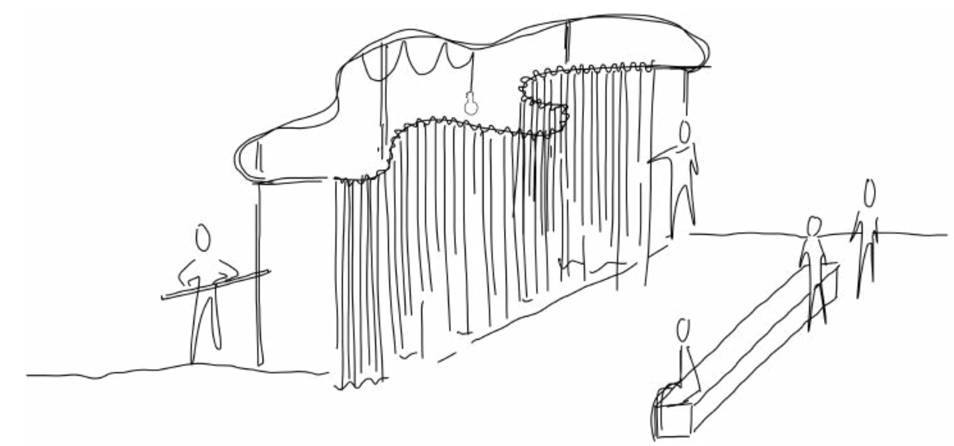
What is the meaning of the concept of social housing in the US? This project examines concepts of small footprint living, ethical dimensions of design, living and working together, and transformation and responsiveness. Phase 1 of the project was to research housing typologies and systems, and question the narrative of static space, allowing us to decide which factors stand out as our primary motivations for the project.

The goal was to design 40 nontraditional housing units, conceived from the inside out. There was a focus on adaptability and transformation through concepts like moveable partitions and equipped walls. We were asked to create a village-like type of living, with units ranging from 200 to 1000 sf, with every room, including bathroom and kitchen, having natural light and ventilation. We created proposals for different sites of the project in Los Angeles County with a focus on circular economy and social geography of the city.



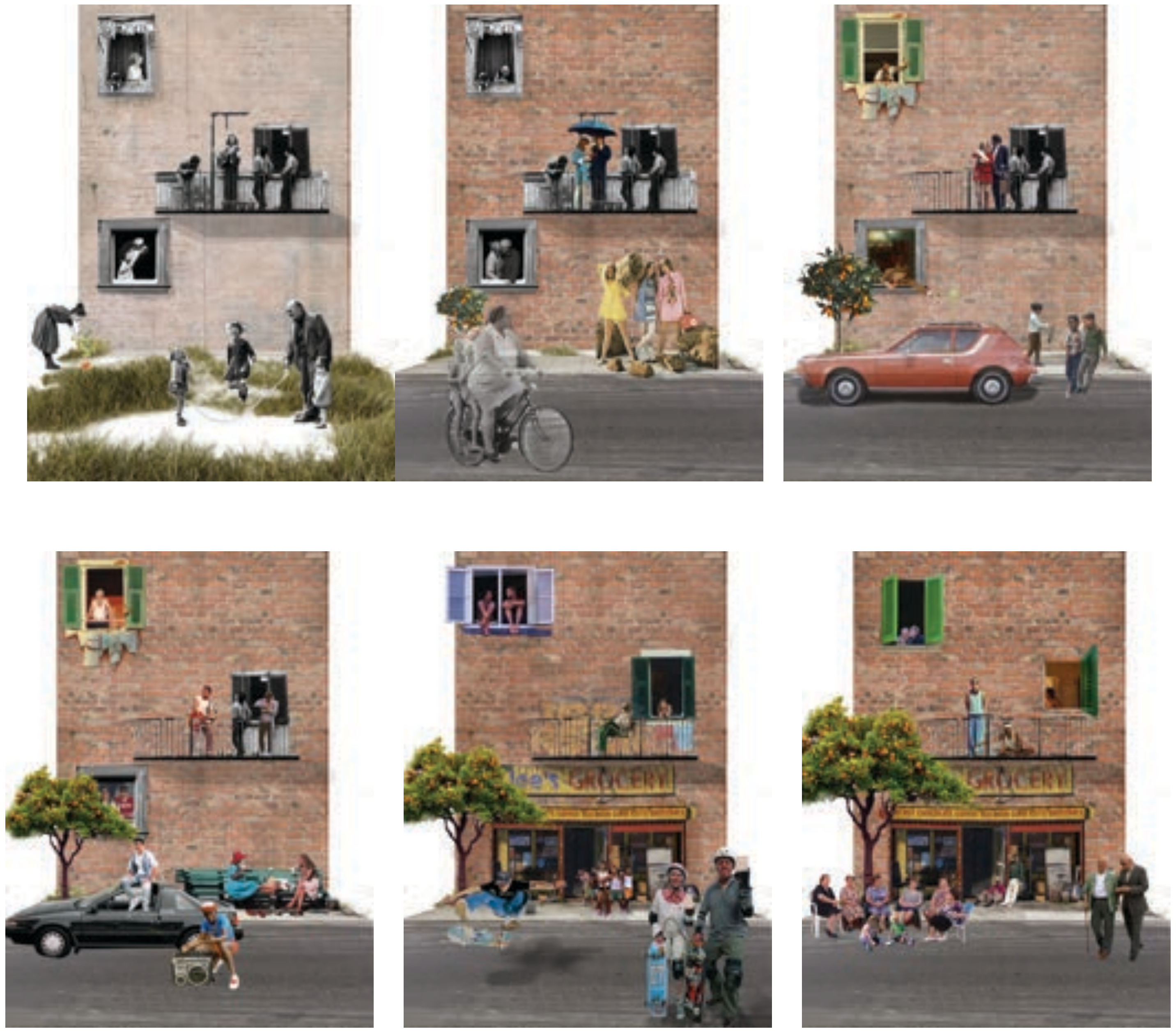


How can we use our imagination if we insist on closing off all paths that lead to rarities? - Anna Puigjianer

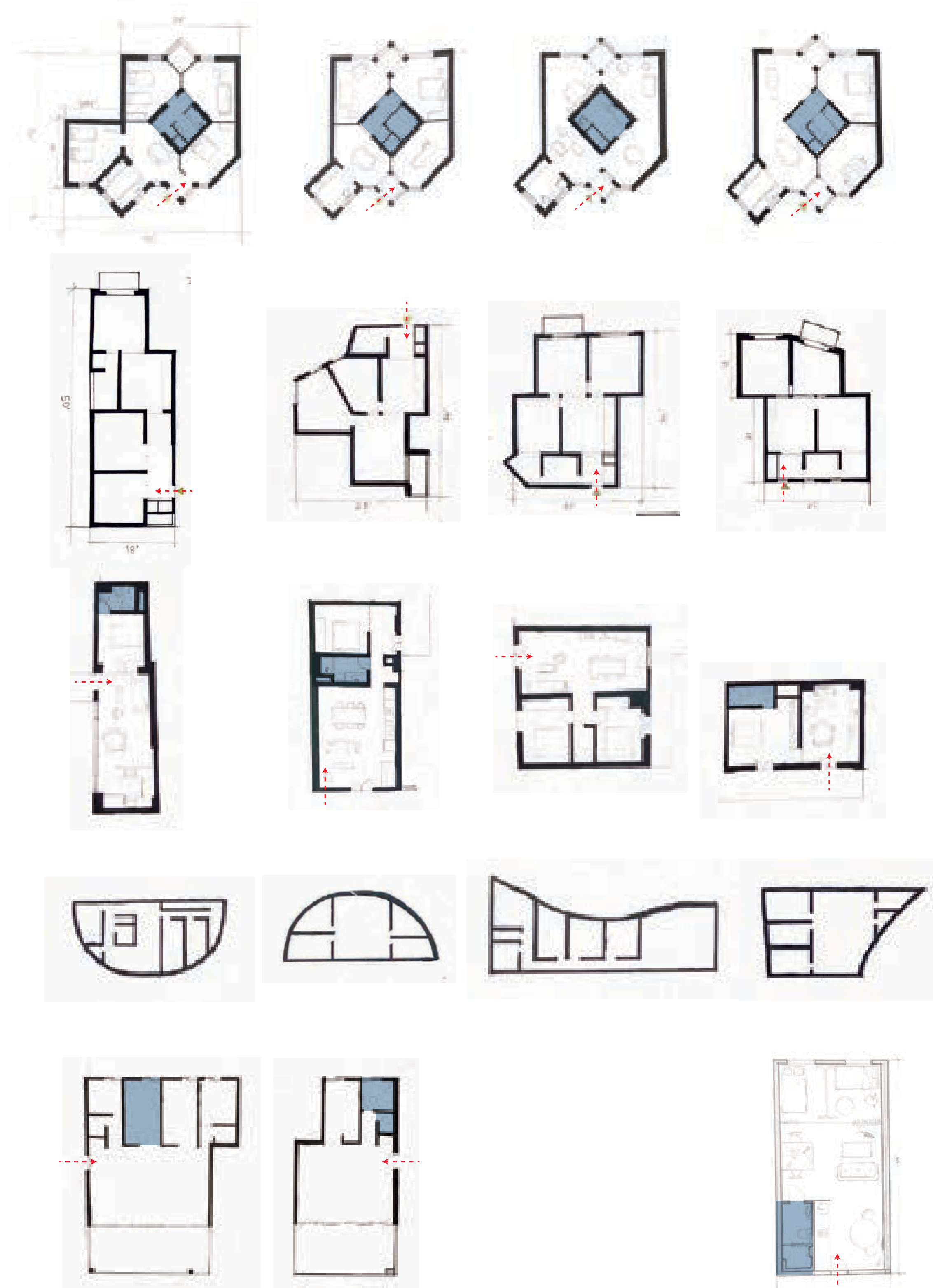


Play is a uniquely adaptive act, not suboordinate to some other adaptive act, but with a special function of its' own in human experience. - Johan Huizinga

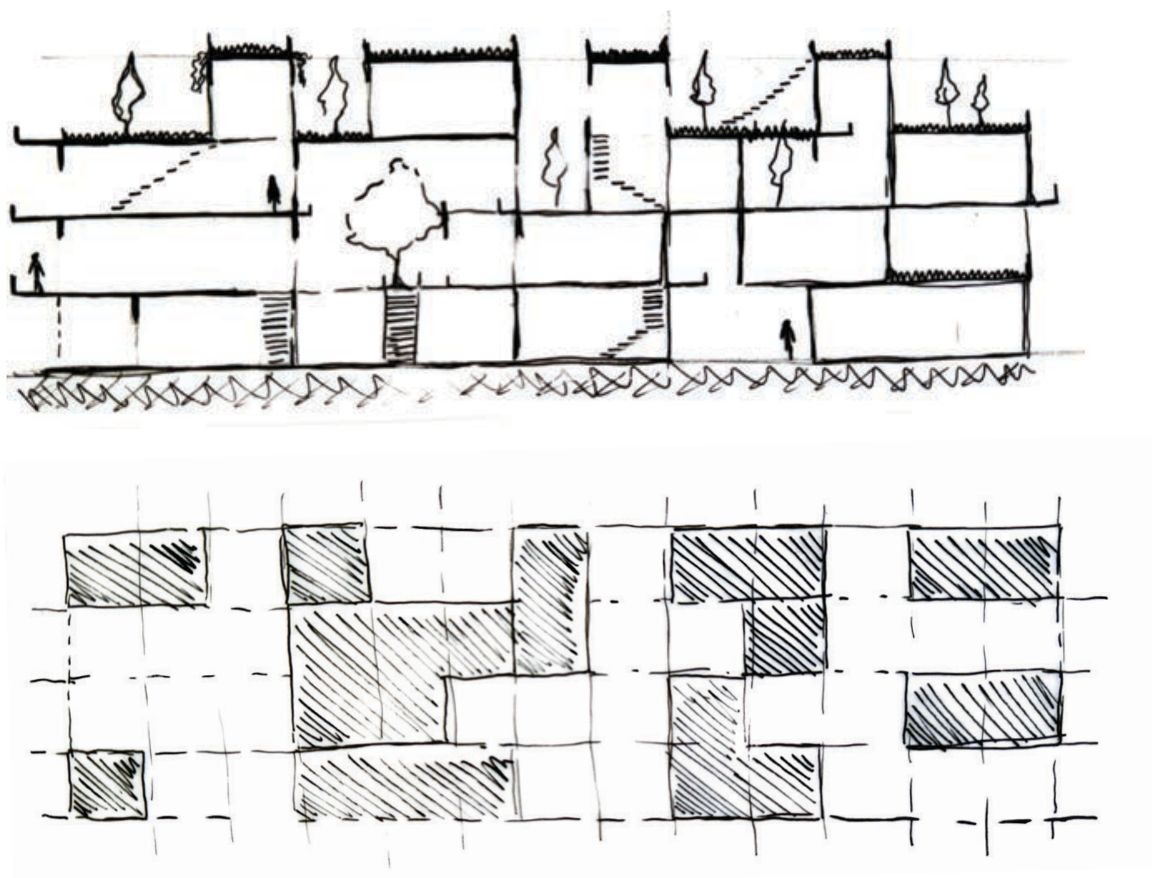
To preserve the organic quality inside the units, instead of using walls and doors, we used curtains to create adaptable spaces for privacy.

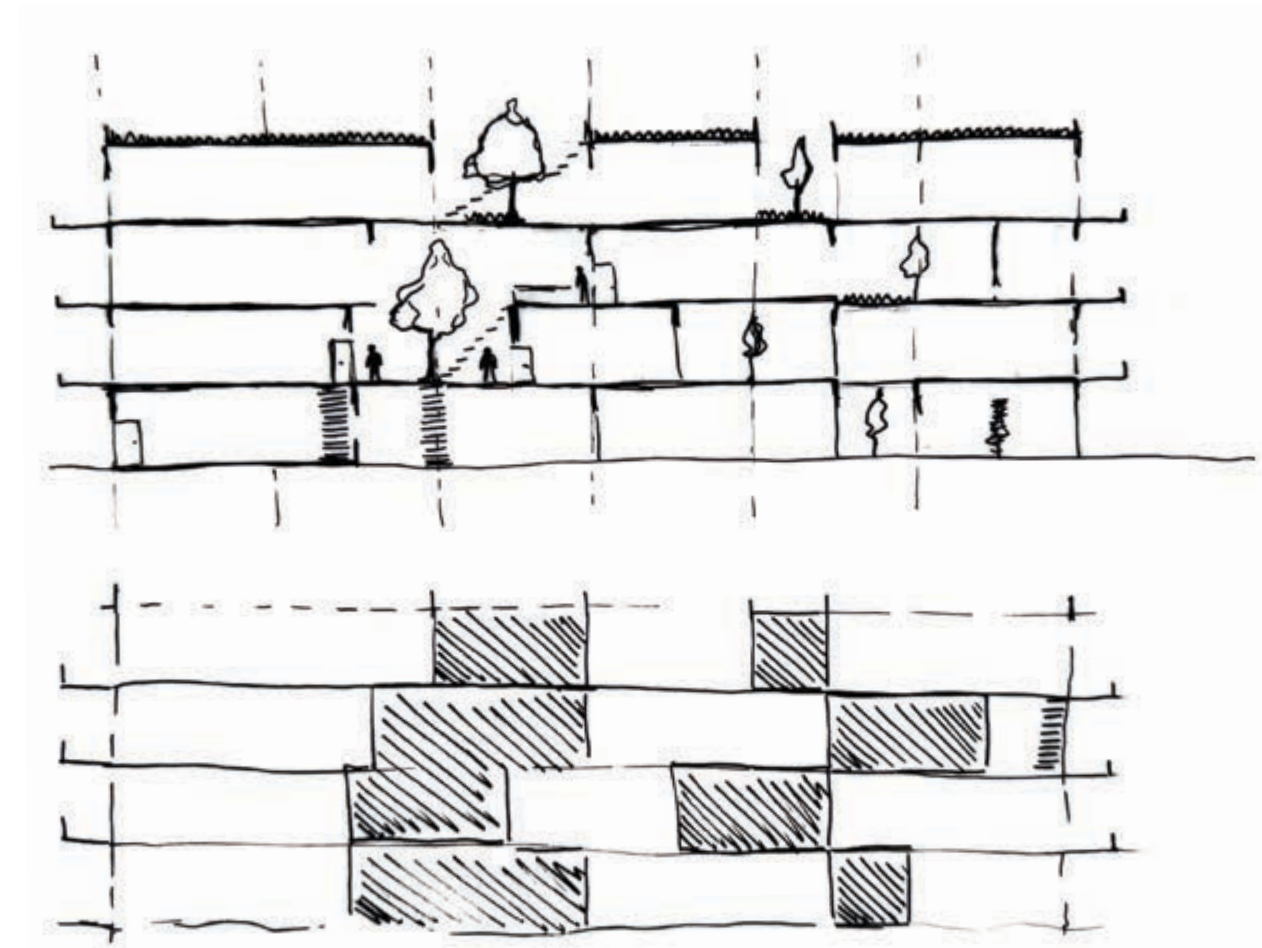


Gif Based on The Spirits of Architecture

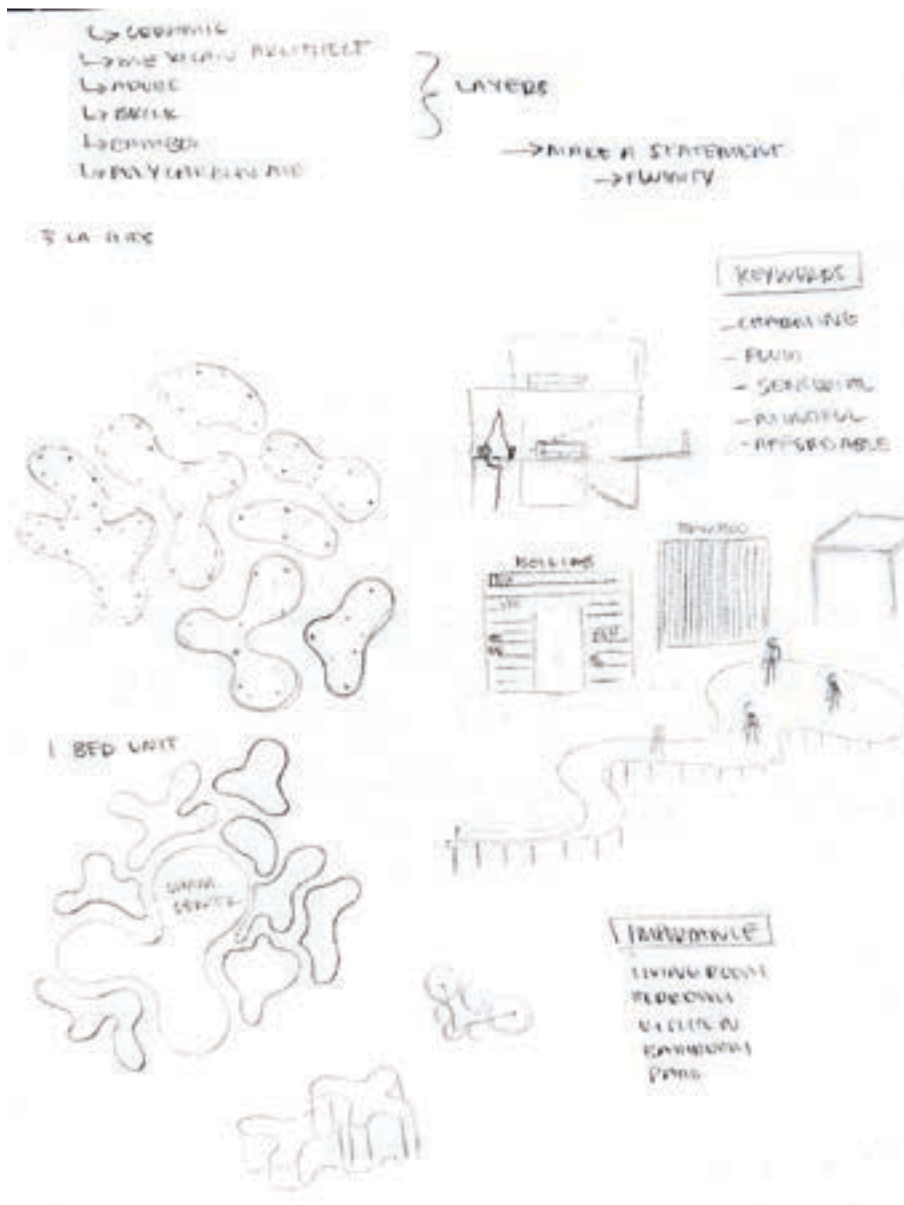


Unit Typology Studies

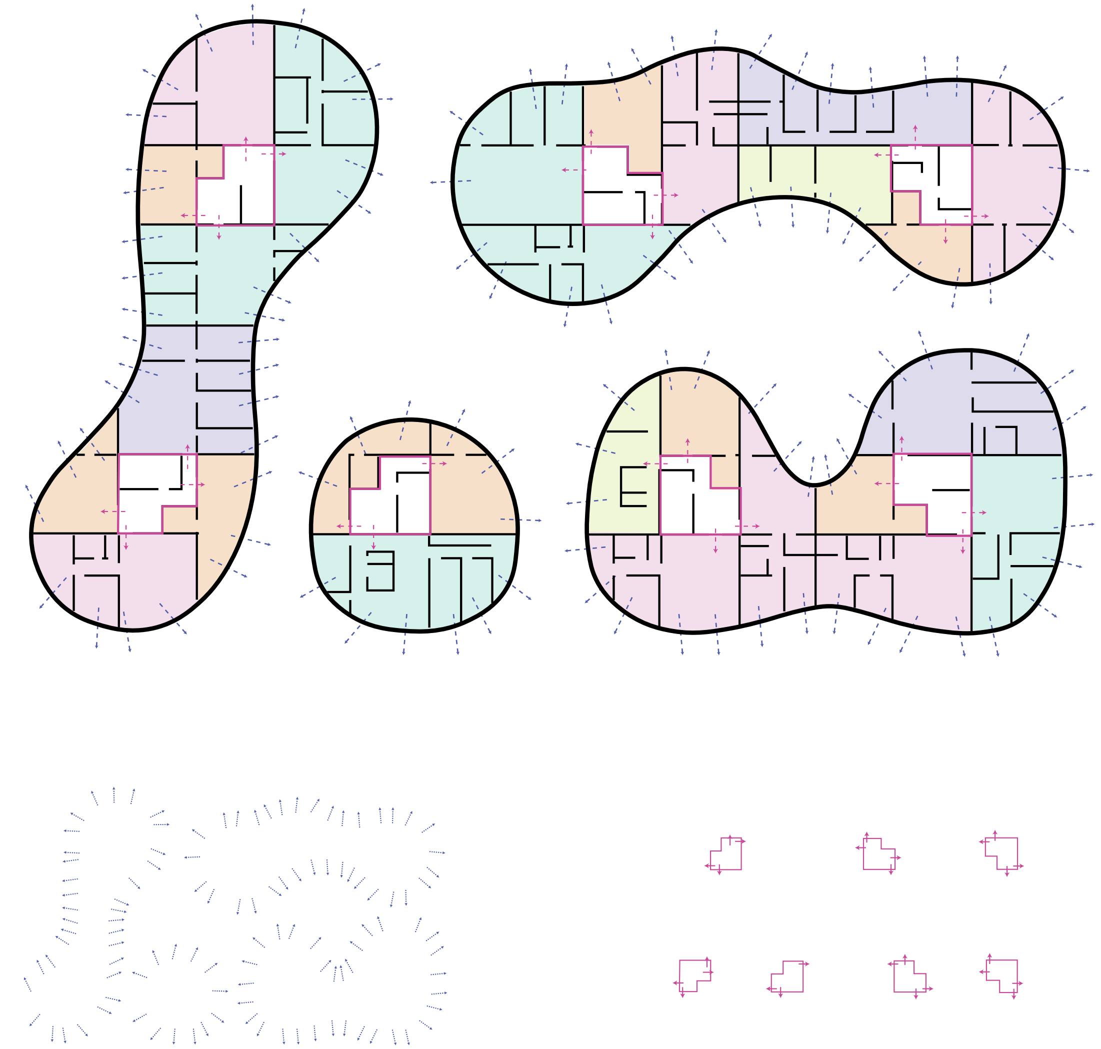




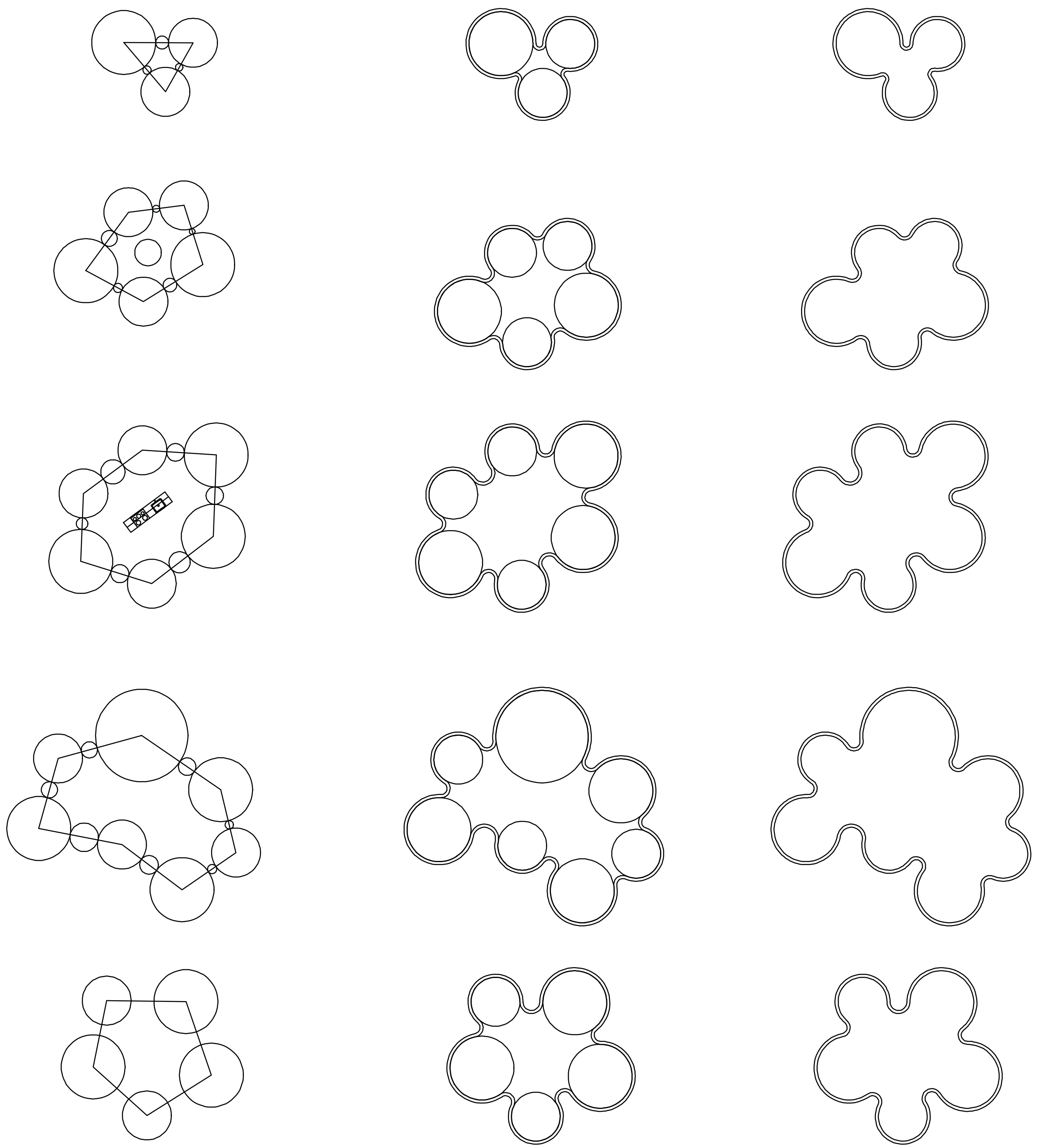
Proccess Iteration Sketch



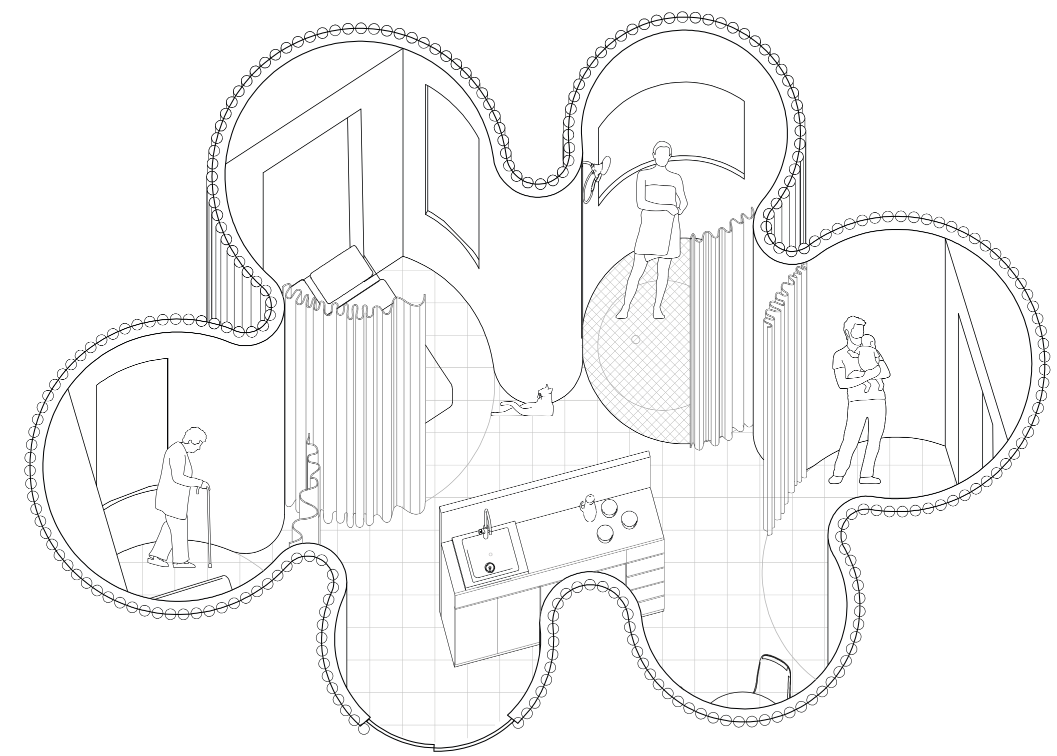
STUDY SKETCHES



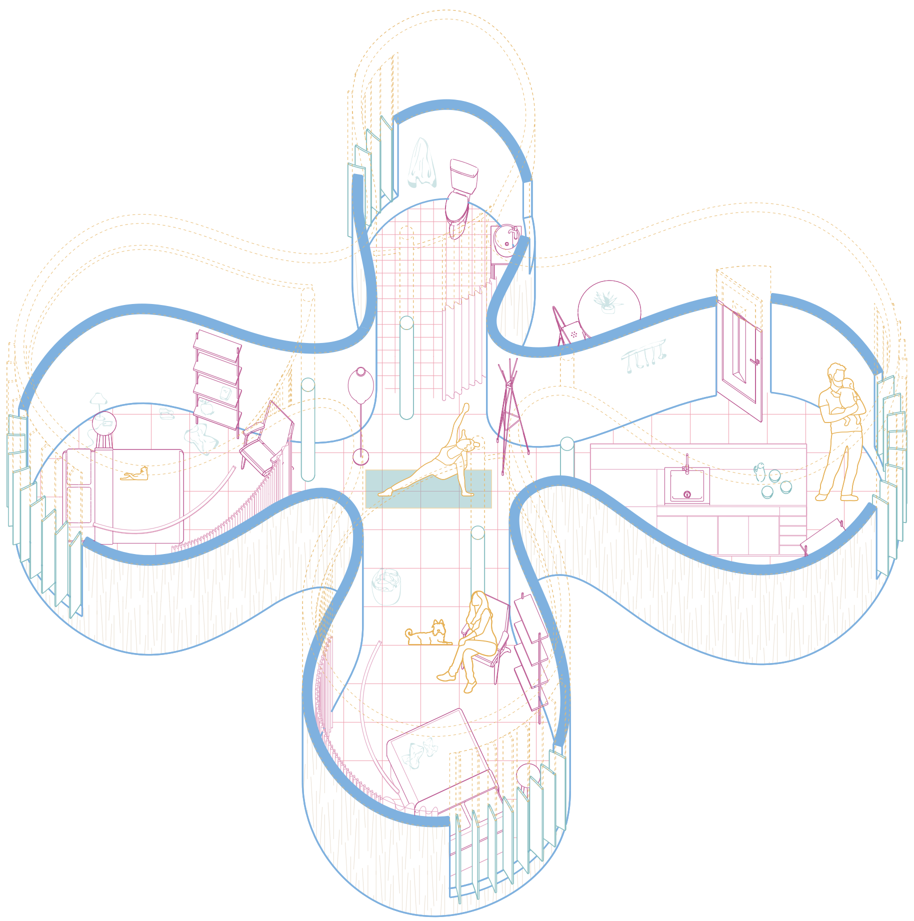
STUDY:
FAYOLLE APARTMENT COMPLEX - SANAA



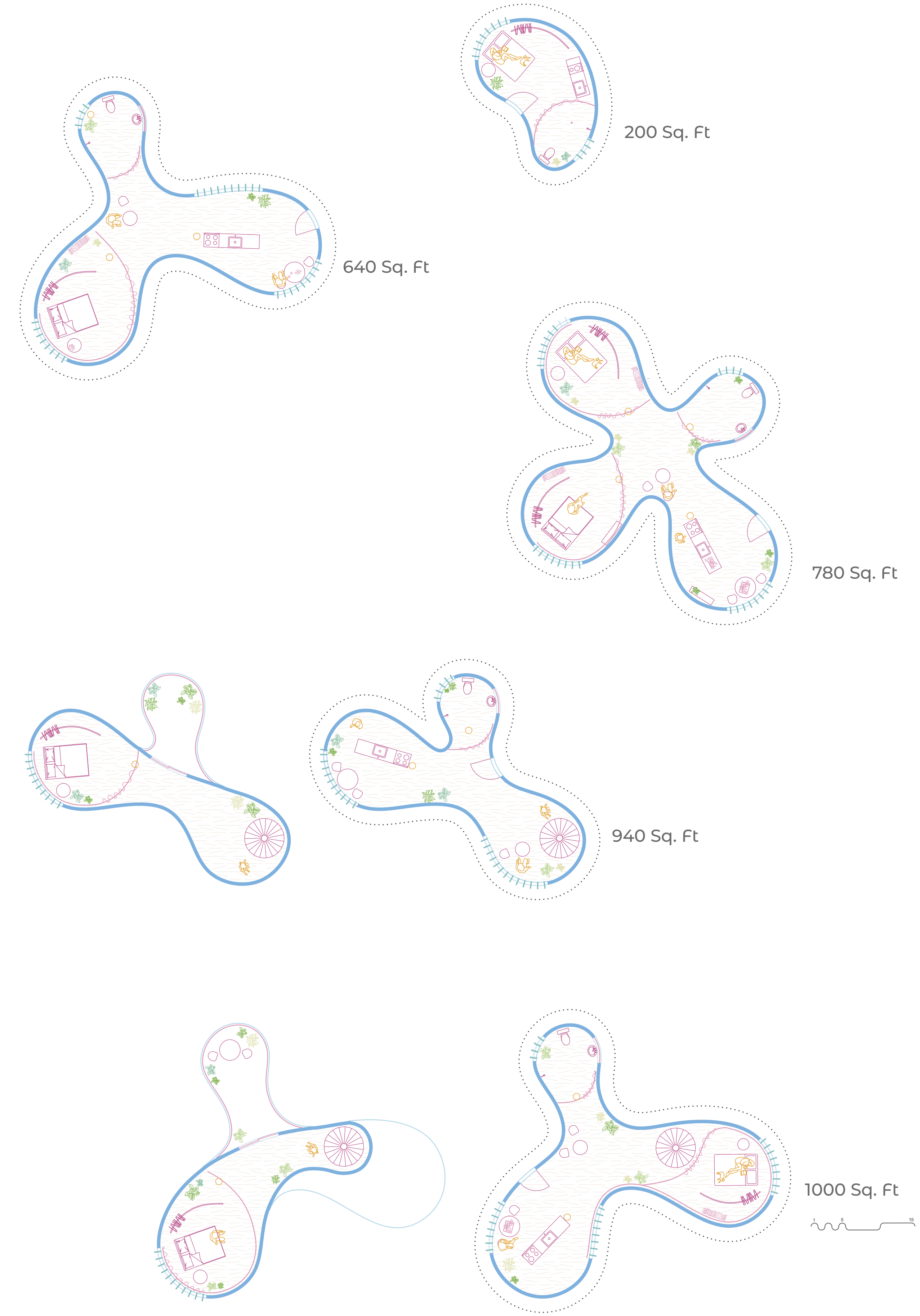
Unit Development

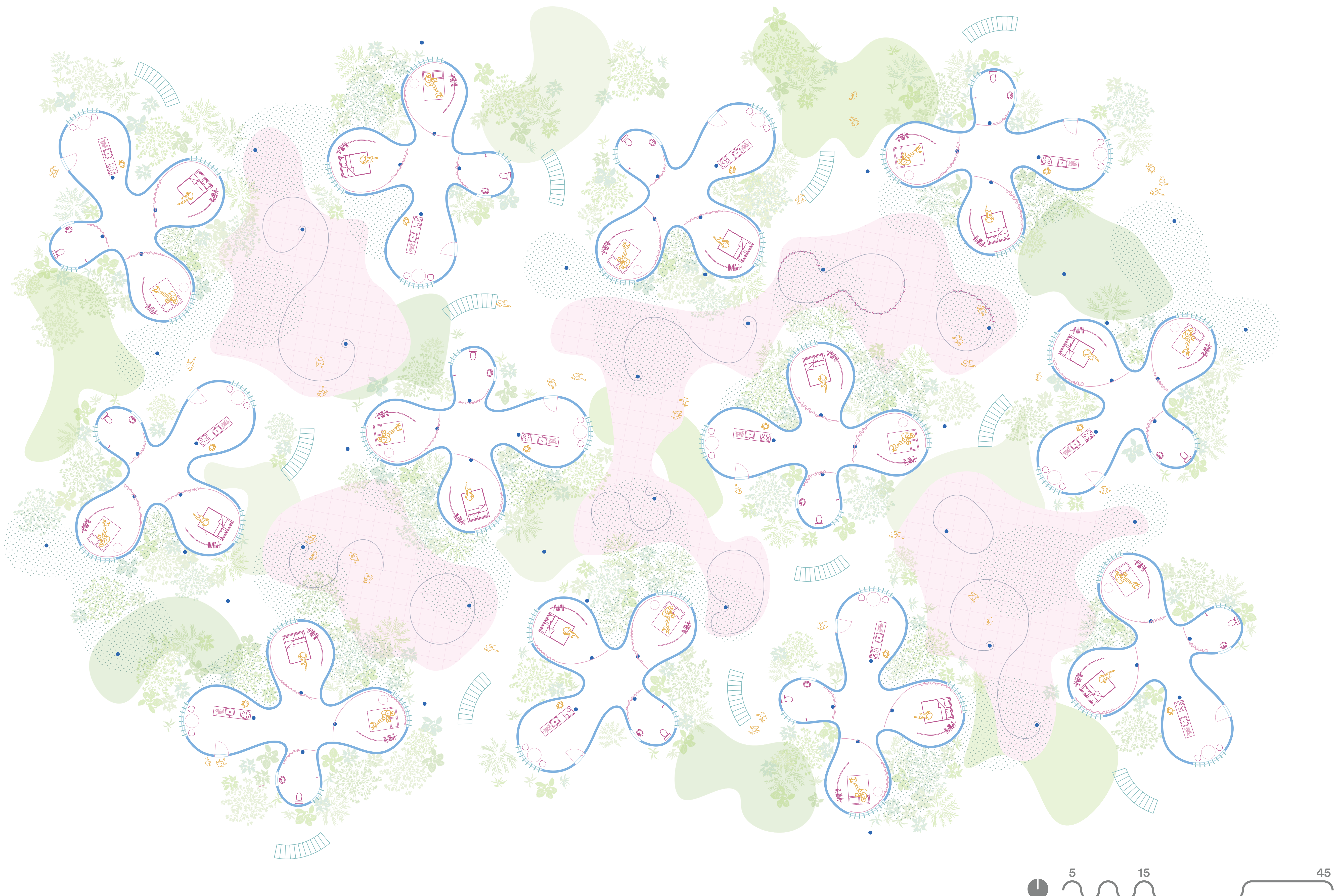


These units were too rigid. They needed to be loosened to allow fluidity.



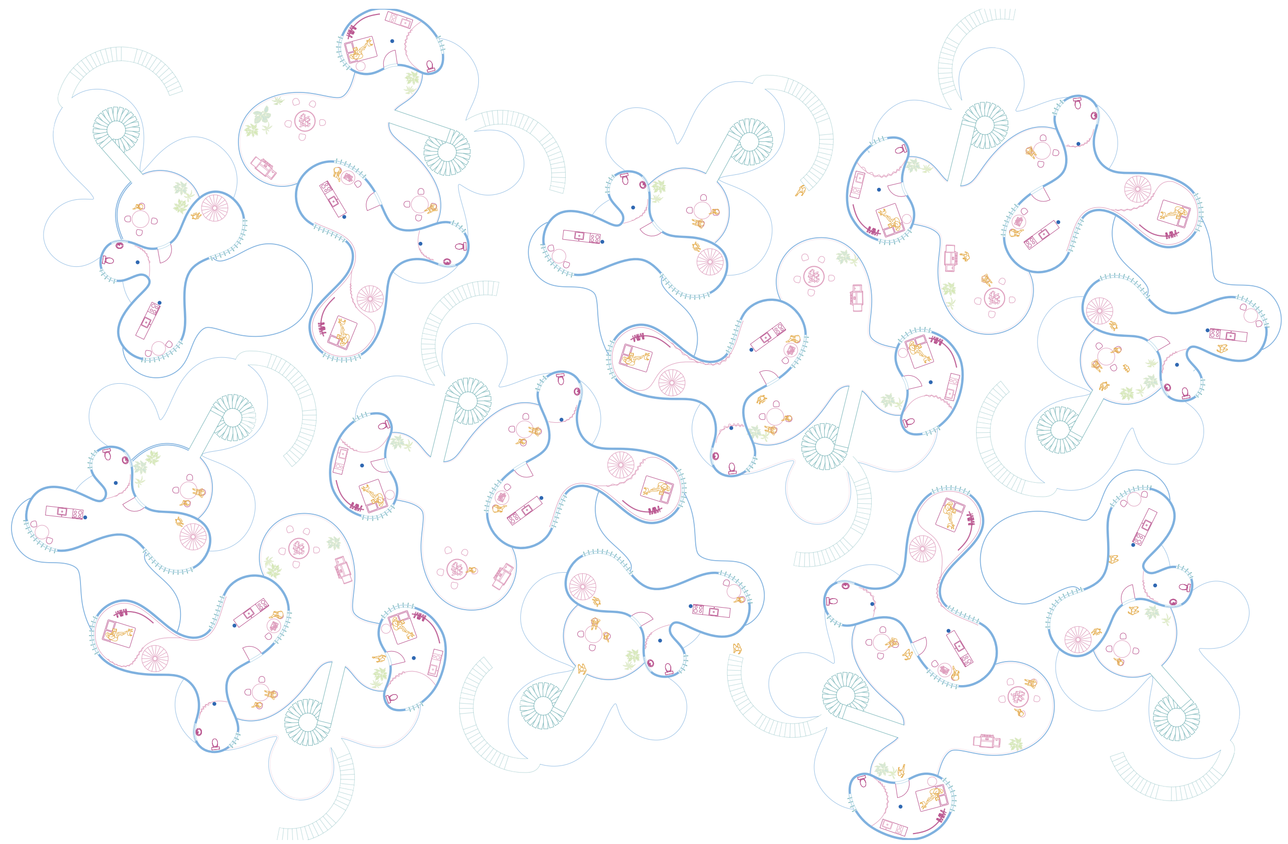
FINAL UNIT PERSPECTIVE



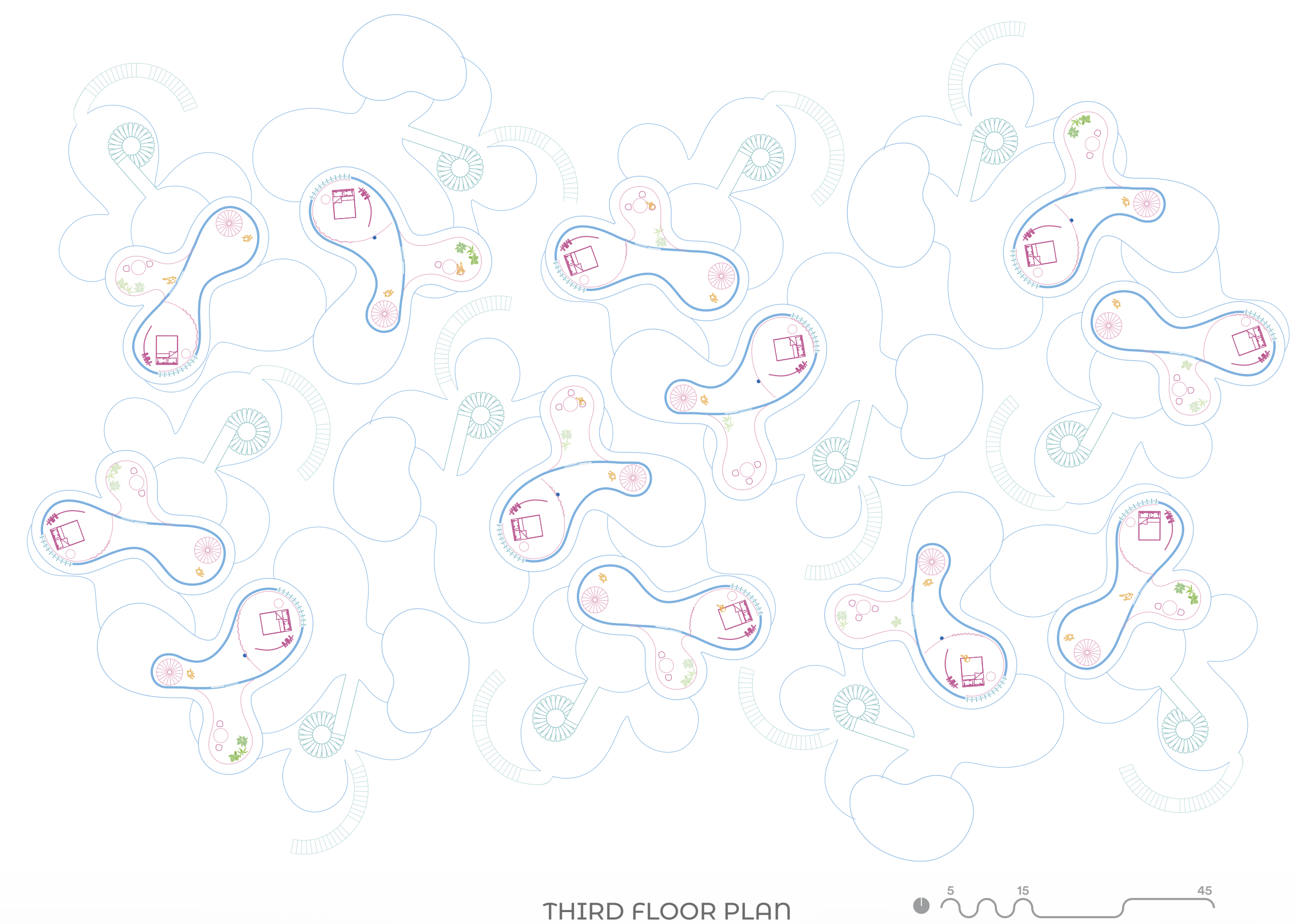


GROUND FLOOR PLAN

FIRST FLOOR PLAN

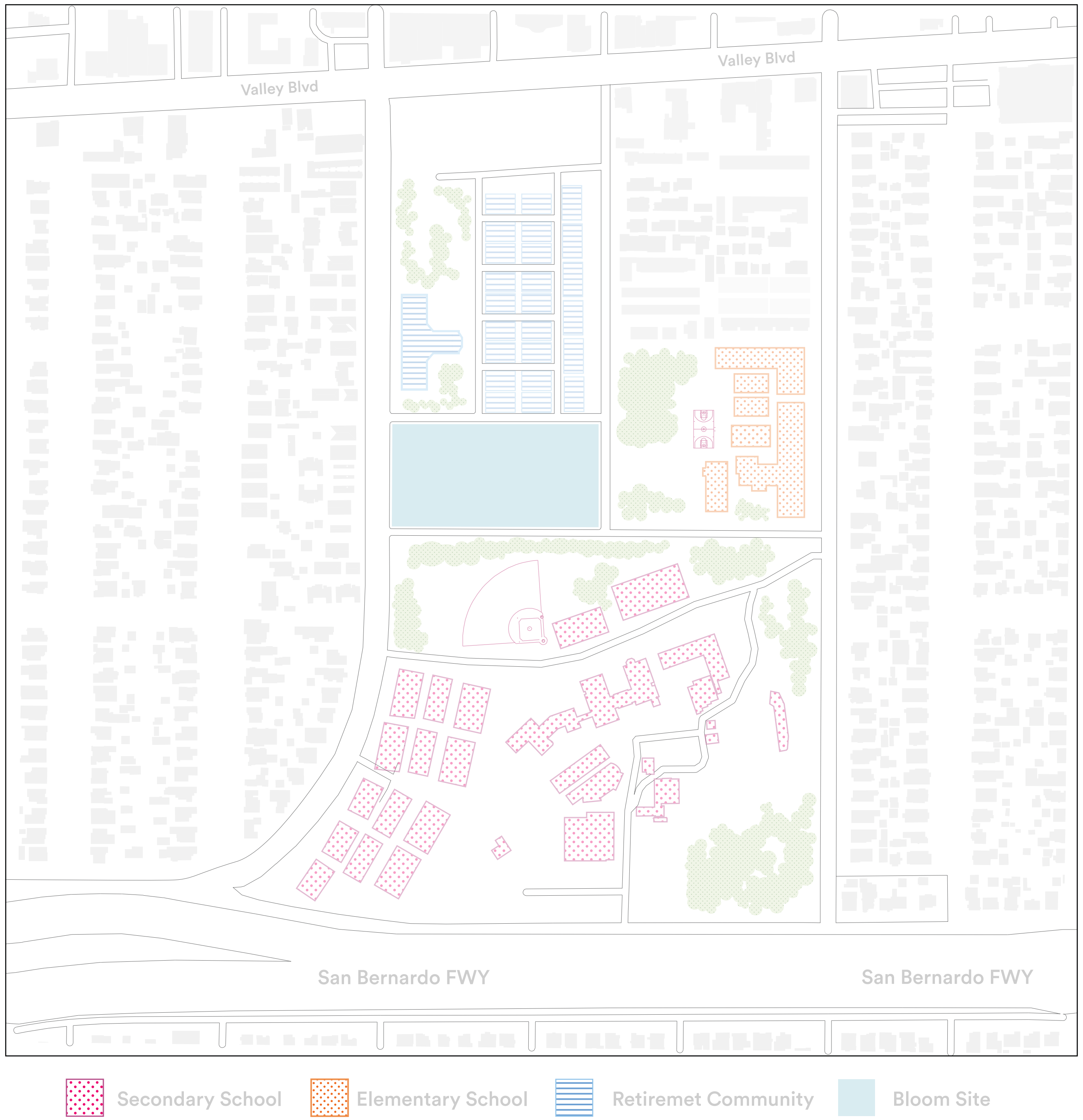


SECOND FLOOR PLAN

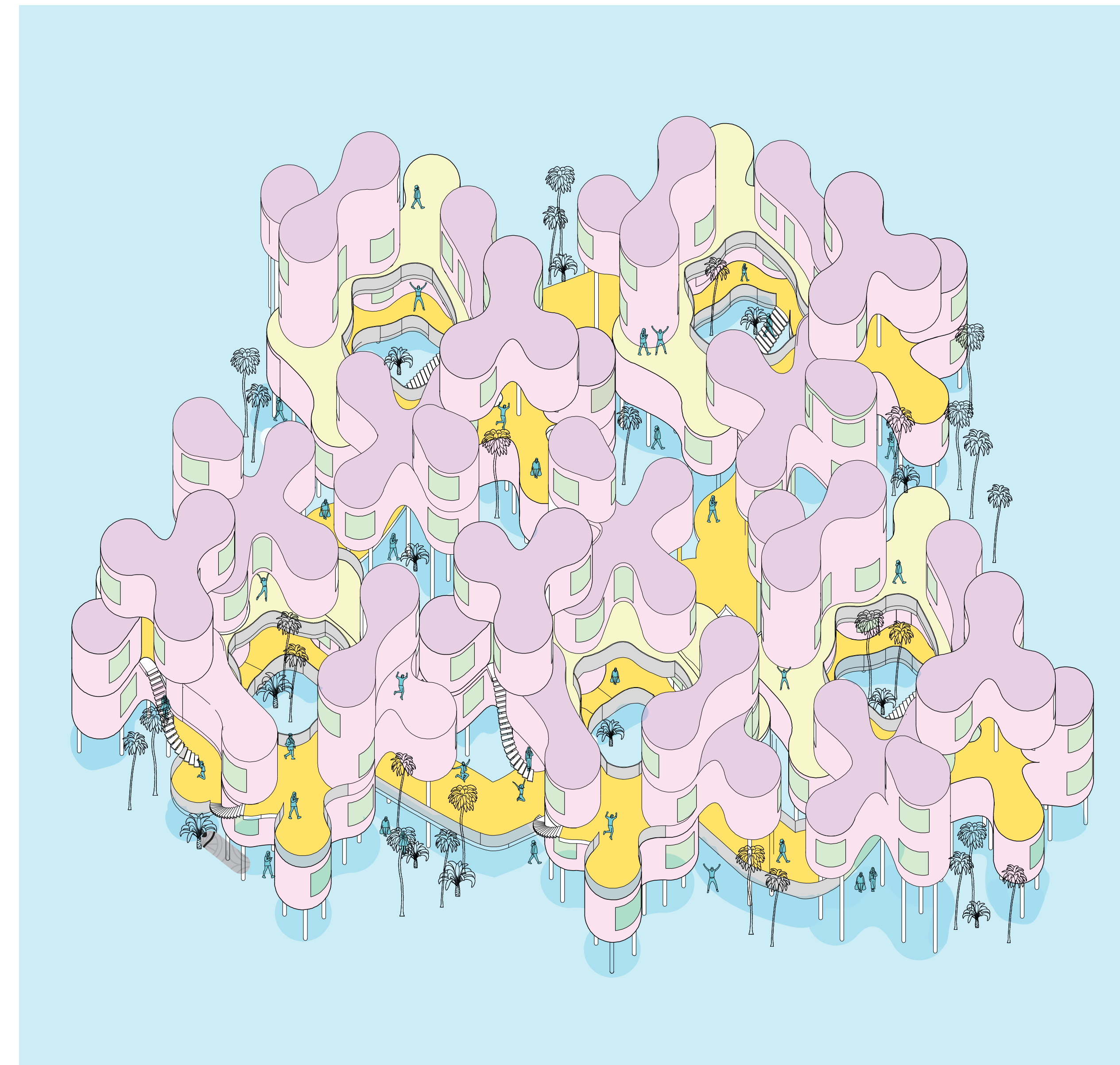


THIRD FLOOR PLAN

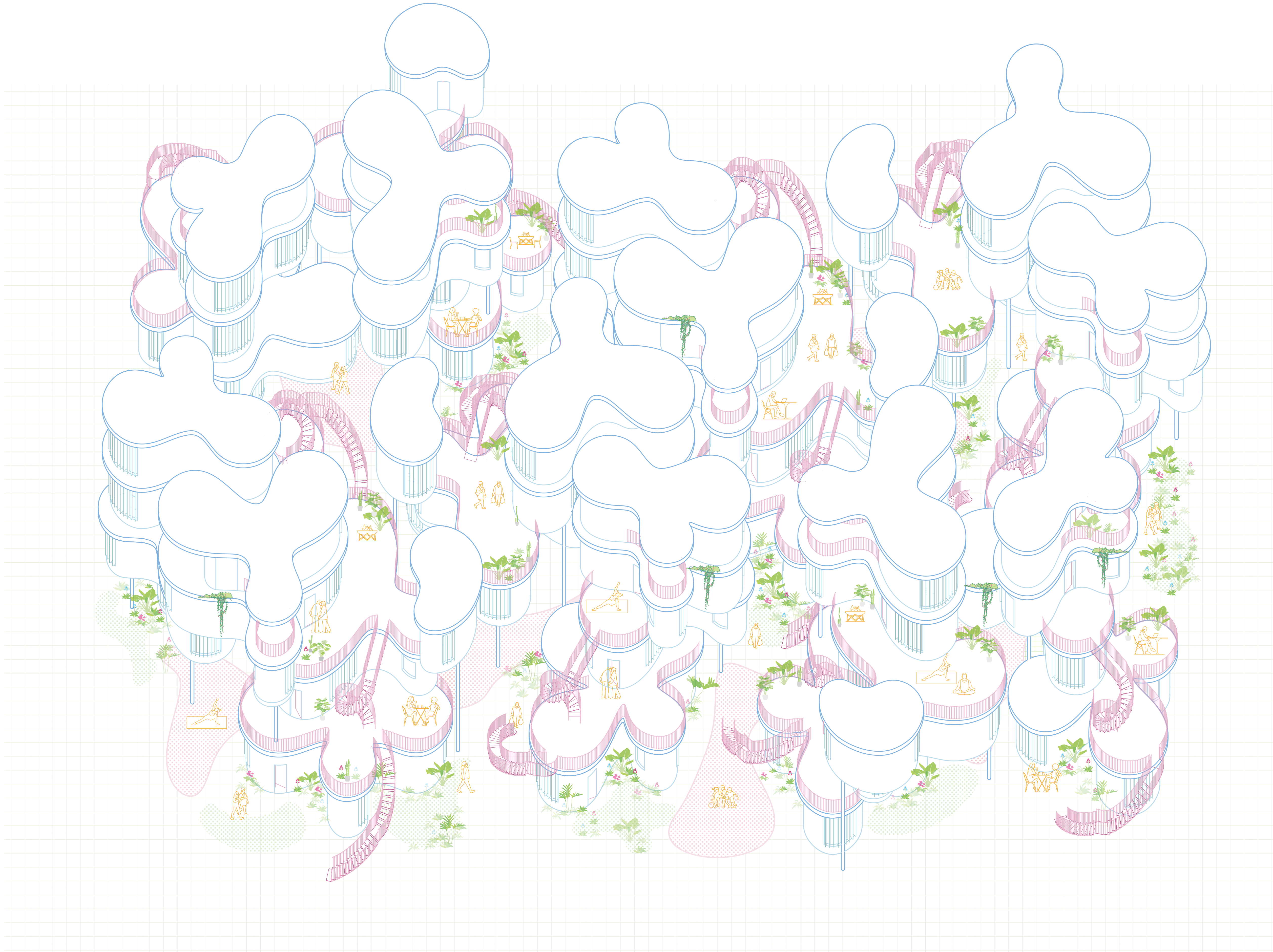
SECTION



This site was chosen because it is surrounded on all sitdes by an elementary school, a secondary school, and an elderly care community, acting as a central courtyard of play.



SITE STUDY DIAGRAM

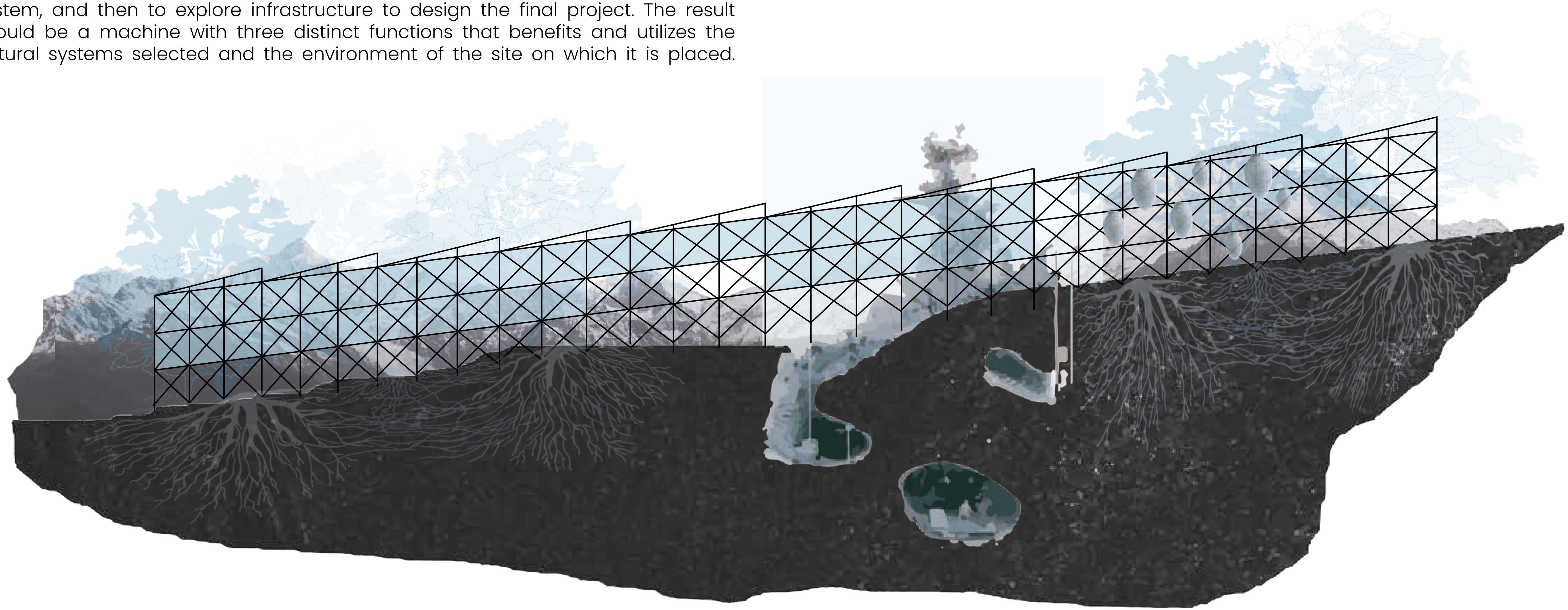


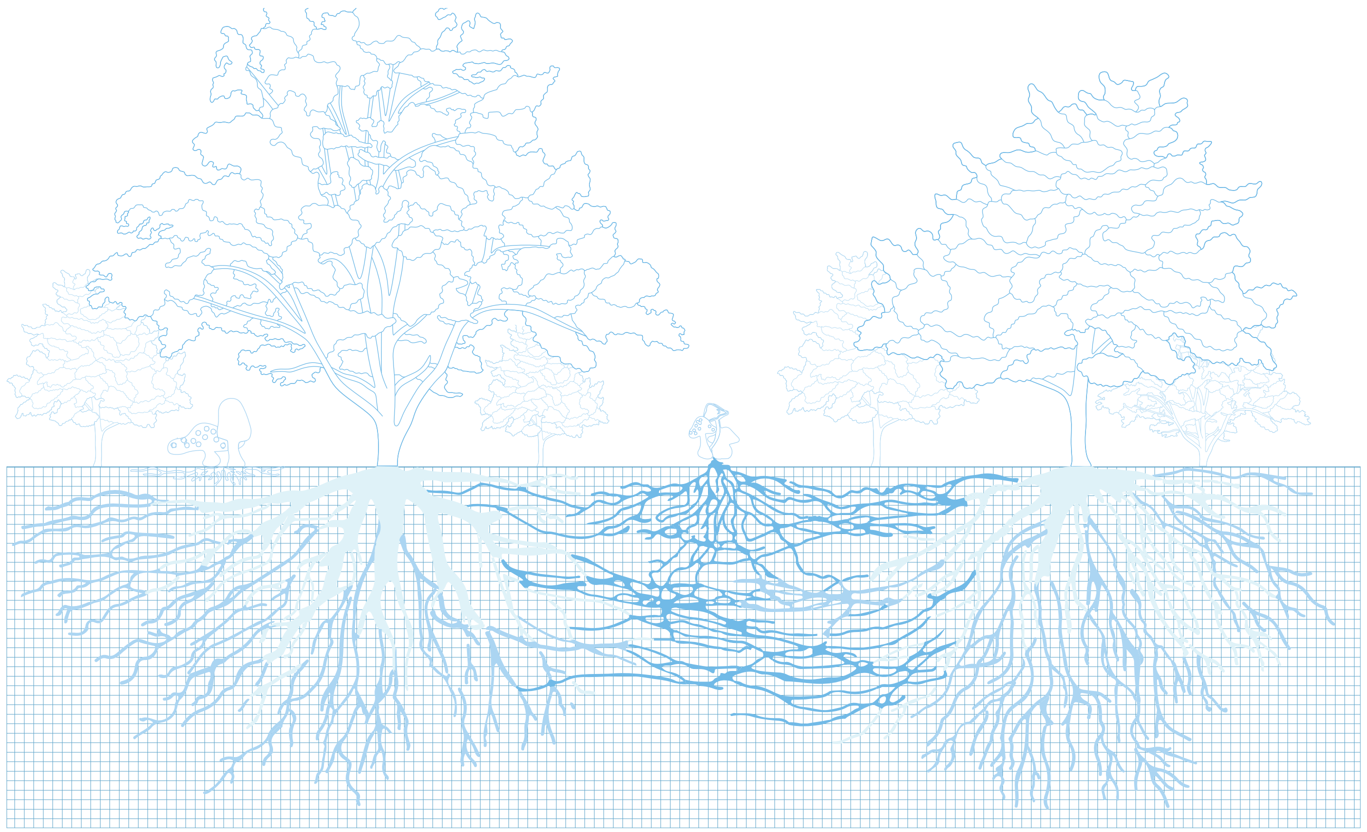
North Elevation

MycoHive

Habitat as Infrastructure

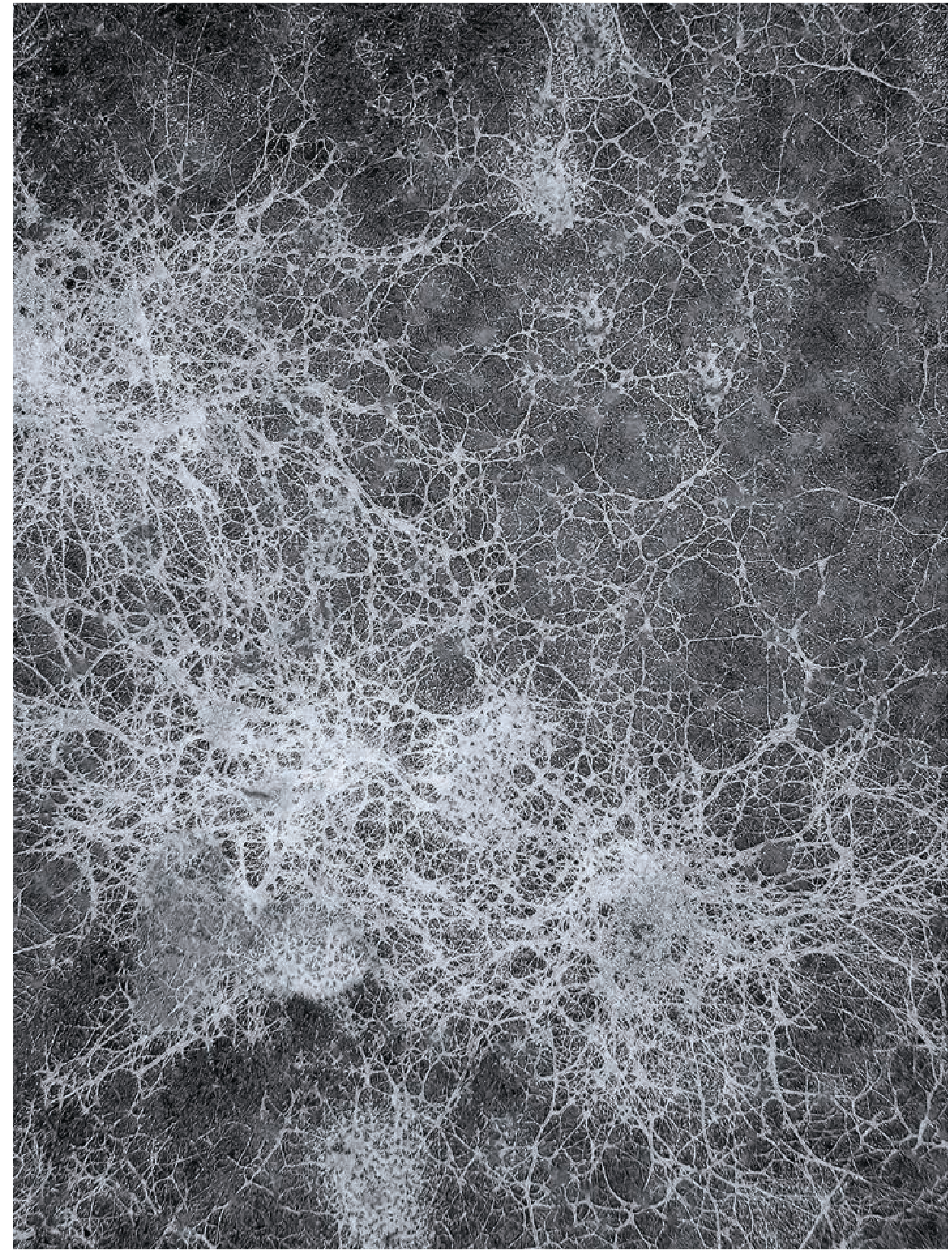
This design studio was an immersive exploration of nature and infrastructure that deeply influences our environment, particularly its intricate involvement in crucial ecological processes on a global scale. This encompasses its significant role in carbon and nutrient cycling, its provision of habitats for diverse species, and its remarkable capacity to function as a natural regulator of our atmosphere. The goal of this project was to choose a natural system and research its functions and needs, choose a site that can complement or benefit from this natural system, and then to explore infrastructure to design the final project. The result should be a machine with three distinct functions that benefits and utilizes the natural systems selected and the environment of the site on which it is placed.

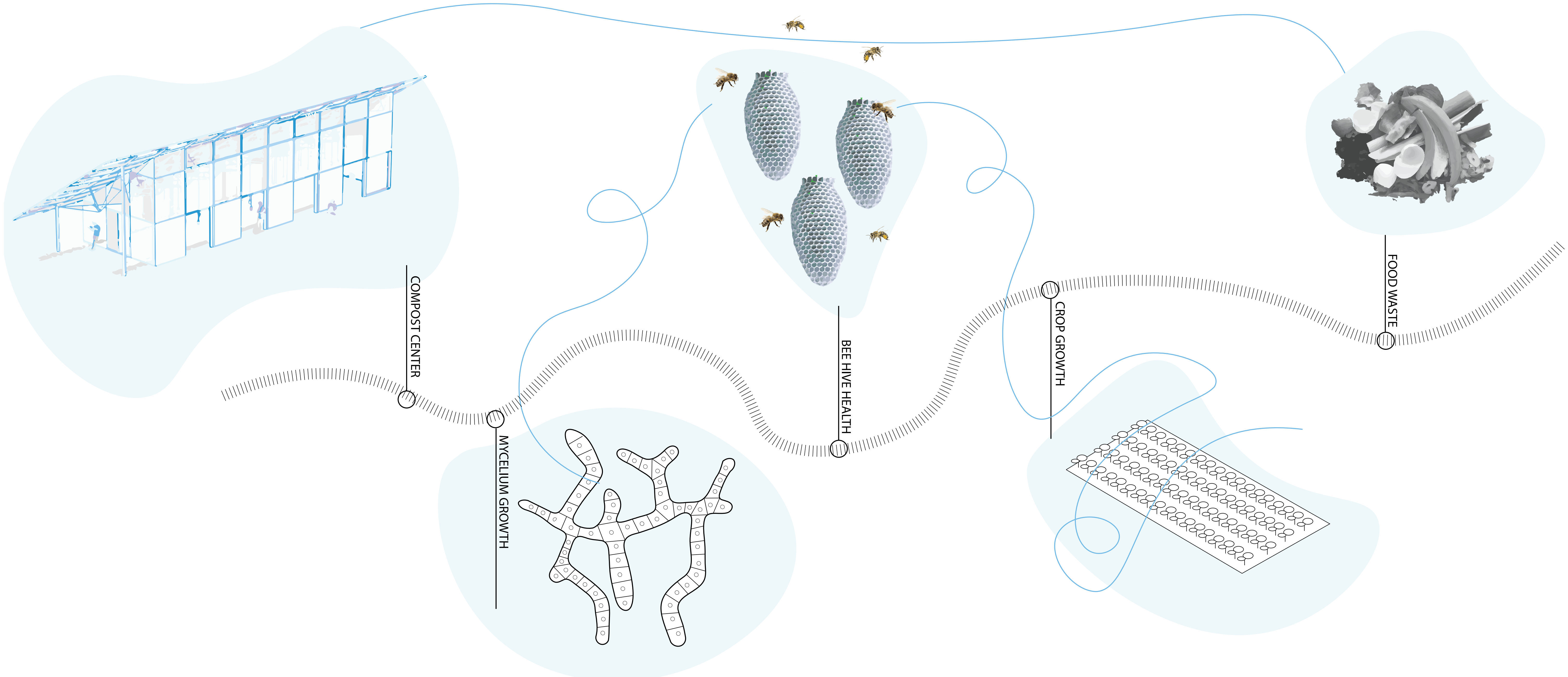




The Power of Mycelium

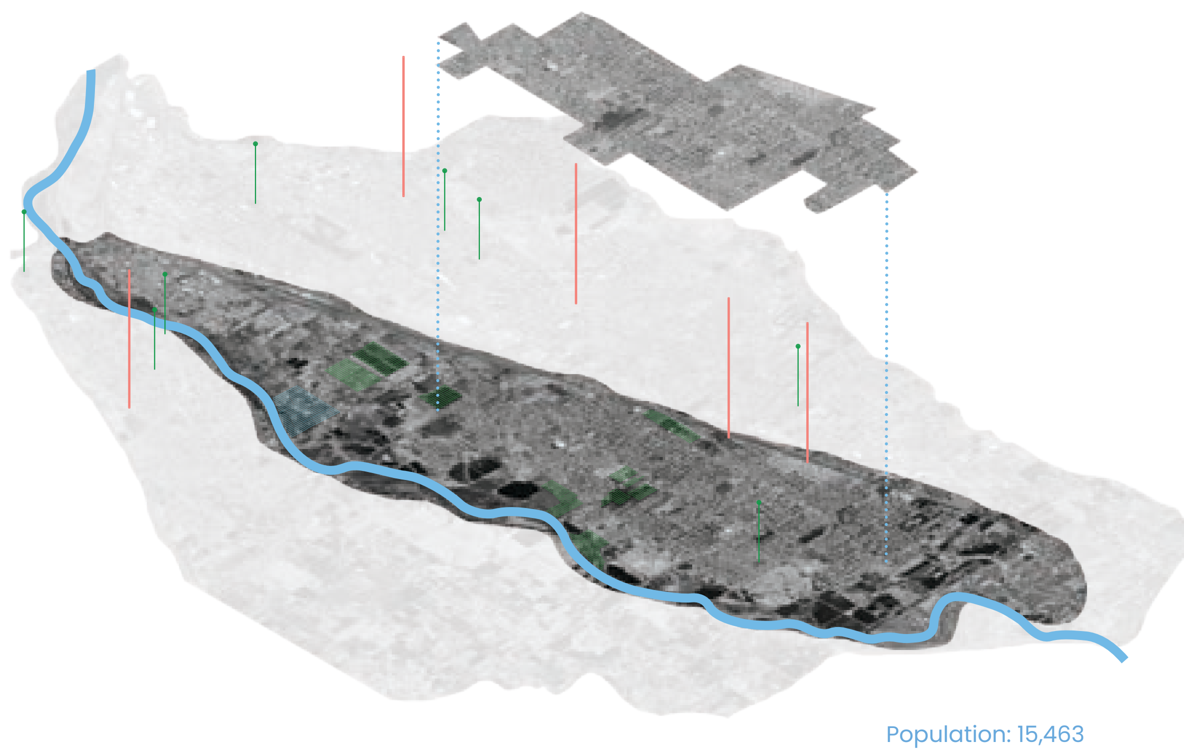
Mycelium is an extraordinary organism with immense environmental benefits, particularly in the areas of carbon sequestration, water filtration, and the preservation of bee colonies. As the root-like network of all fungi, mycelium plays a crucial role in capturing and storing carbon by breaking down organic material and stabilizing it in the soil, thus helping reduce atmospheric CO_2 levels. Its dense, fibrous structure also acts as a natural water filter, trapping pollutants and heavy metals while promoting cleaner waterways. Even more impressively, certain types of mycelia have been shown to produce compounds that protect bees from harmful viruses and pathogens, offering a promising natural solution to the global decline in bee populations. Not only is it a powerhouse for these issues, but can also be grown and harvested to create sustainable packaging, building, and even fashion materials.



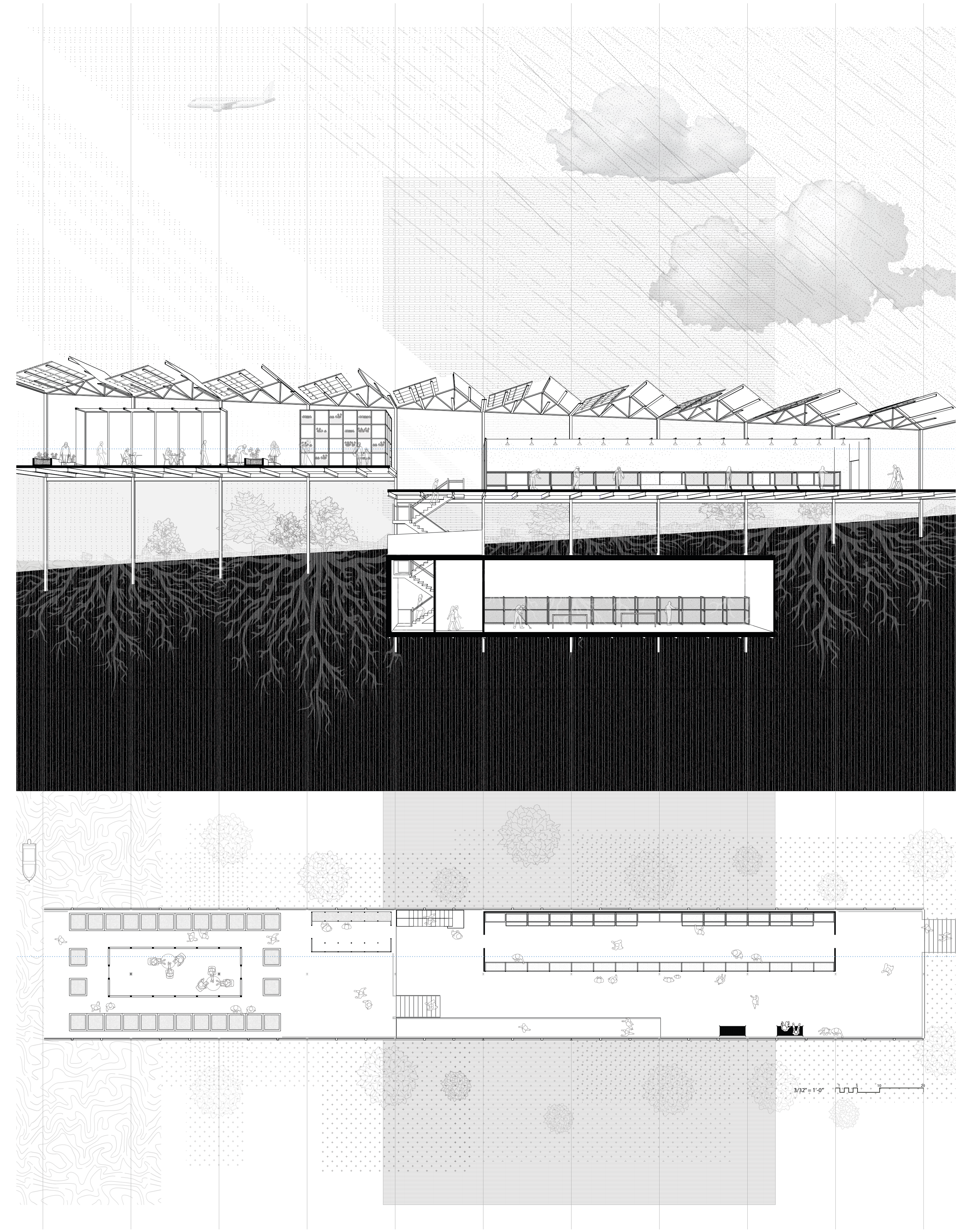


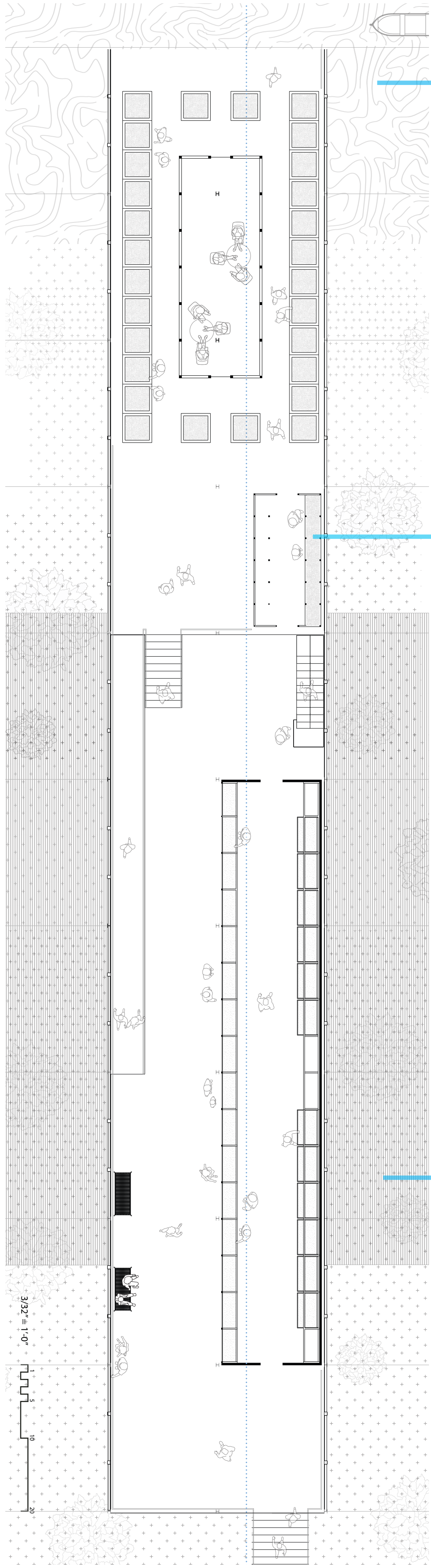
The main natural system of this project is Mycelium, but the addition of bee hives and honey harvesting enriches this machine with more opportunity for community involvement. The network of functions that allow the machine to operate are mycelium harvesting, automated bee sanctuaries, food and flower farming, and composting.

Additional opportunities for honey harvesting, water filtration, and repurposing mycelium into sustainable food packaging are just a few ways this machine reaches further than the project guidelines.



The Site is located on the Colorado river in Grand Junction. The blue zone is the site, the green zones are parks and green spaces, and the red markers are grocery stores. The highlighted portion of the map is a dense residential area in a zone lacking grocery stores, making a community farm beneficial. The Colorado river was voted most endangered river in 2022, so it is imperative that this project collects rainwater and recycles used water as much as possible. The soil on the site is Clay Loam Soil which is nutrient dense and alkaline and supports plant growth.





Colorado River:
The Community zone overhangs above the river

Solar Tiles:
Project is optimized for solar energy collection

Hive Zone:
Bee Sanctuary and greenhouse with viewing windows for visitors

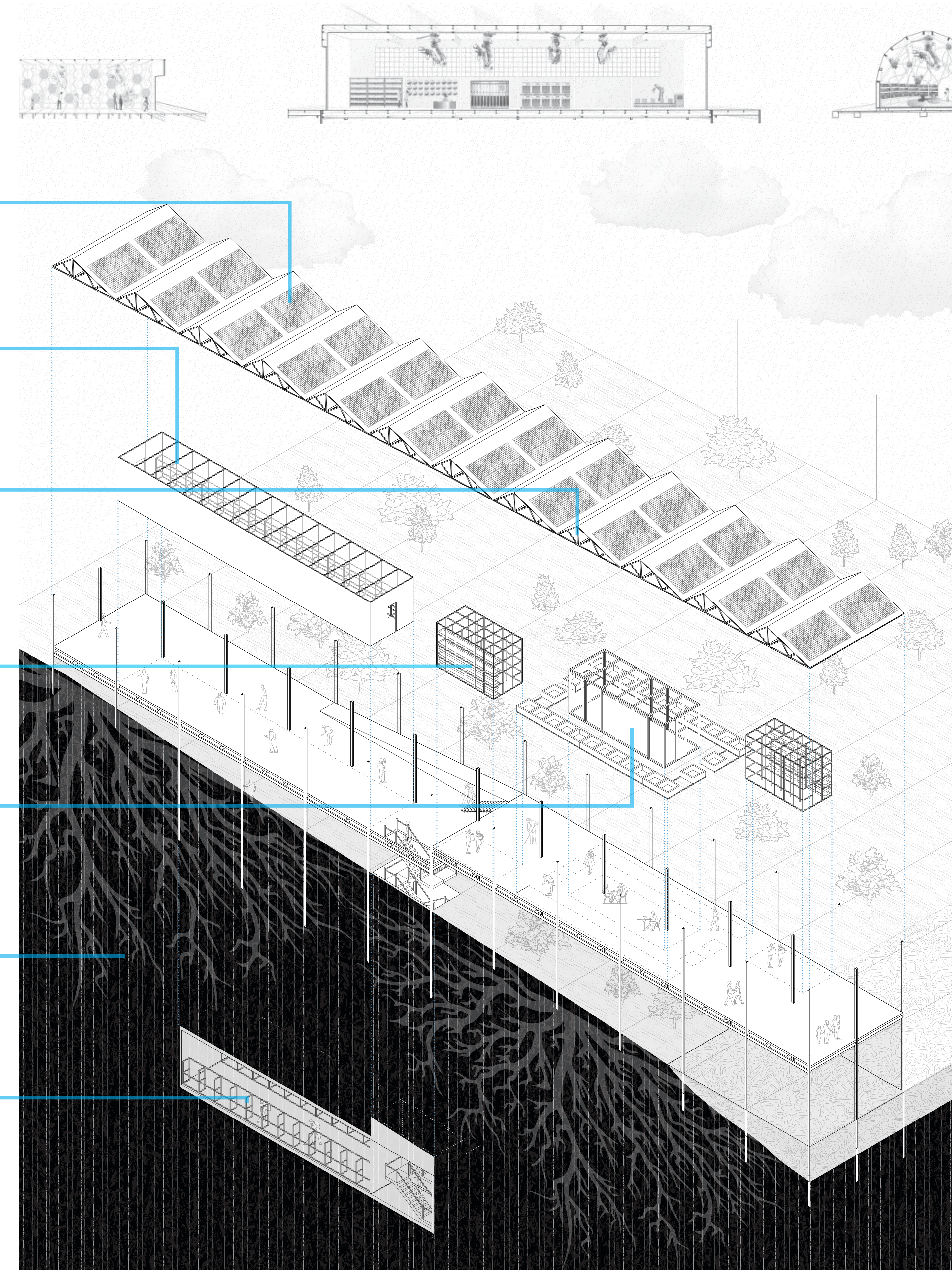
Rainwater Collection System:
Inside the roof system are rainwater tanks that filter to gardens below. Any water collected over tanks capacity will be drained into river.

Vertical Garden:
Adaptable gardening system open to community

Community Zone:
A small store for purchasing harvested goods, and adaptable educational classroom.

Habitat Support:
Mycelium is occasionally remixed into the ground soil to support indigenous plant species to thrive on site

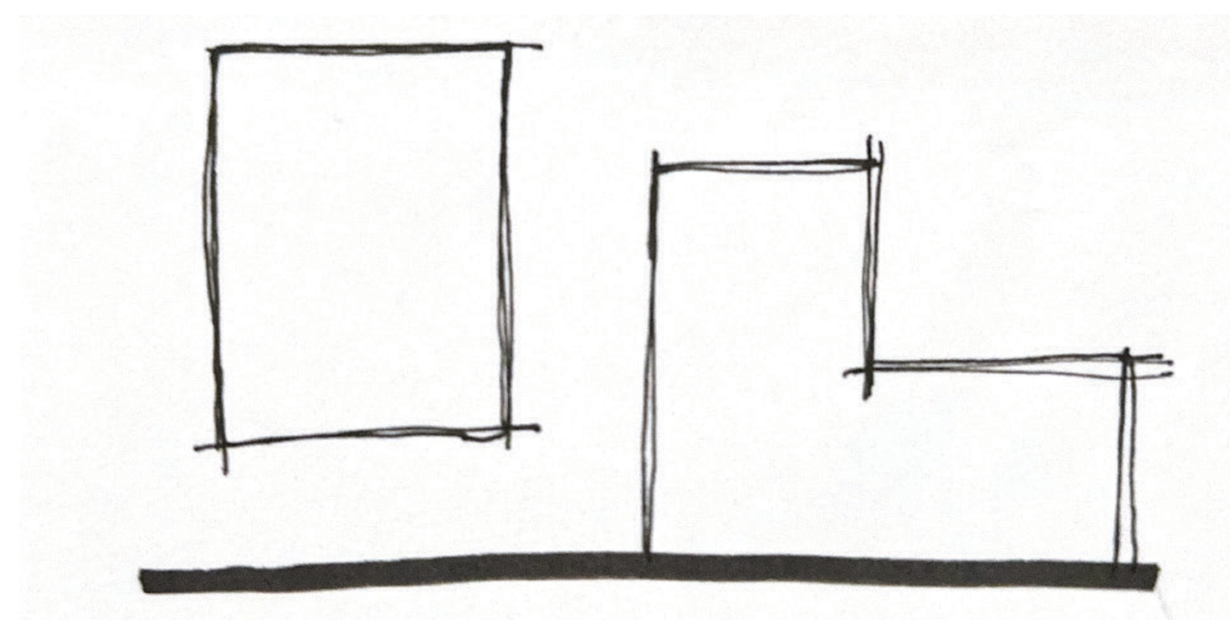
Compost/Mycelium Zone:
Mycelium needs a relatively sterile environment to grow for the purposes of the machine, so this area is separate from the rest of the building

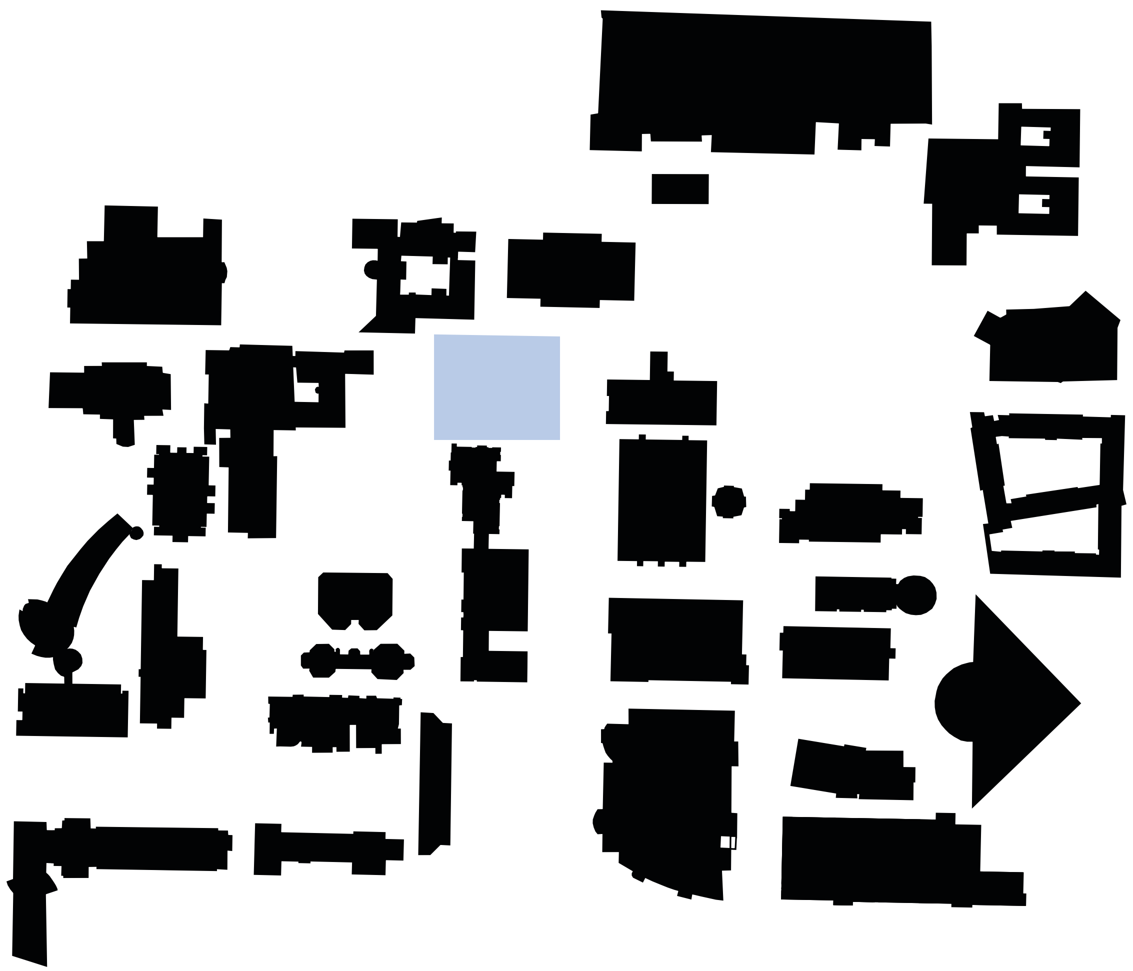


House of Renewable Futures

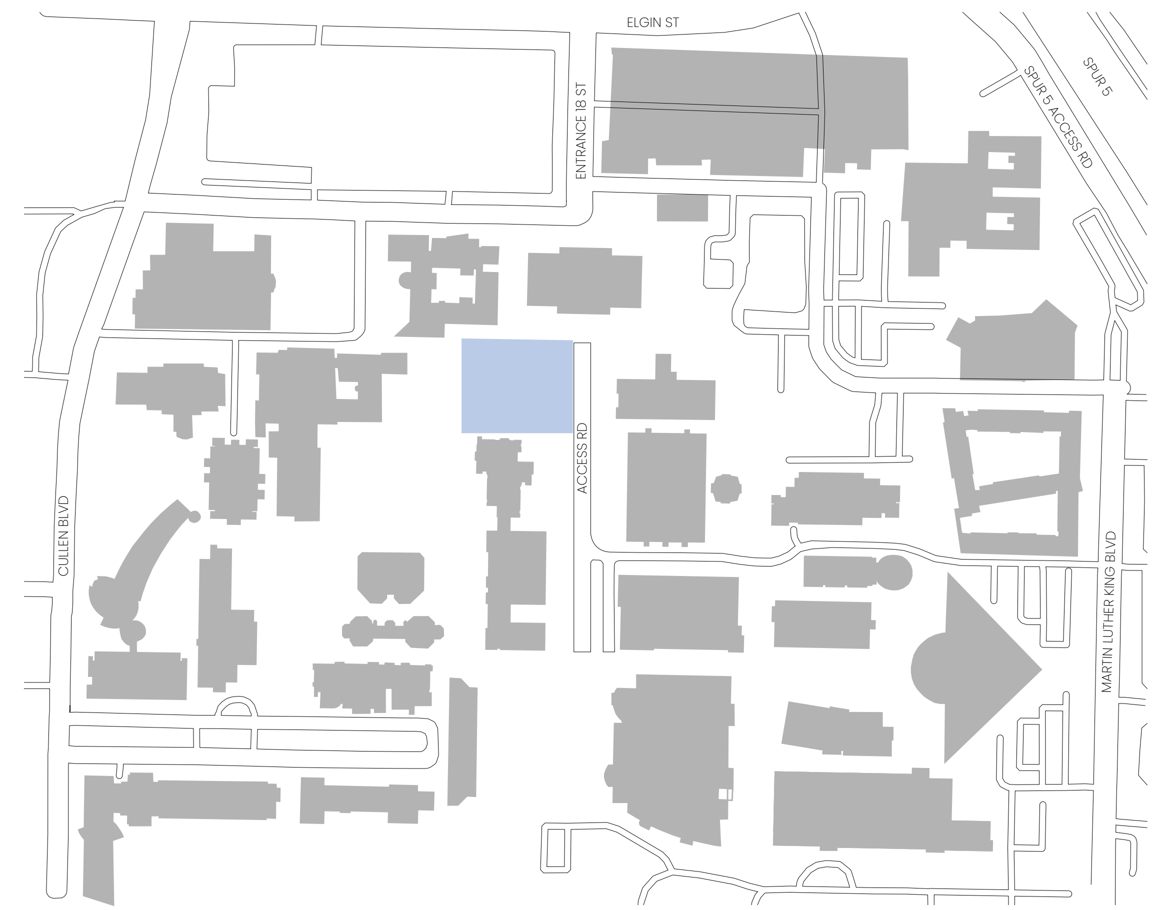
Energy Research Center

House of Renewable Futures is a convergence of atmosphere, matter, and thought. Spanning seven floors, it hosts five levels of renewable energy labs suspended above a transparent gallery and auditorium, inviting public engagement below and innovation above. The building is split by a central atrium that chanels light deep into it core, connecting two realms- research and learning, Galvanized steel clads the labs in a sleek, shining skin, while oxidizing copper wraps the seminar rooms and auditorium, alive and shifting with time and weather. Together, these materials mirror the union of technology and earth, grounding the building in both future and place.

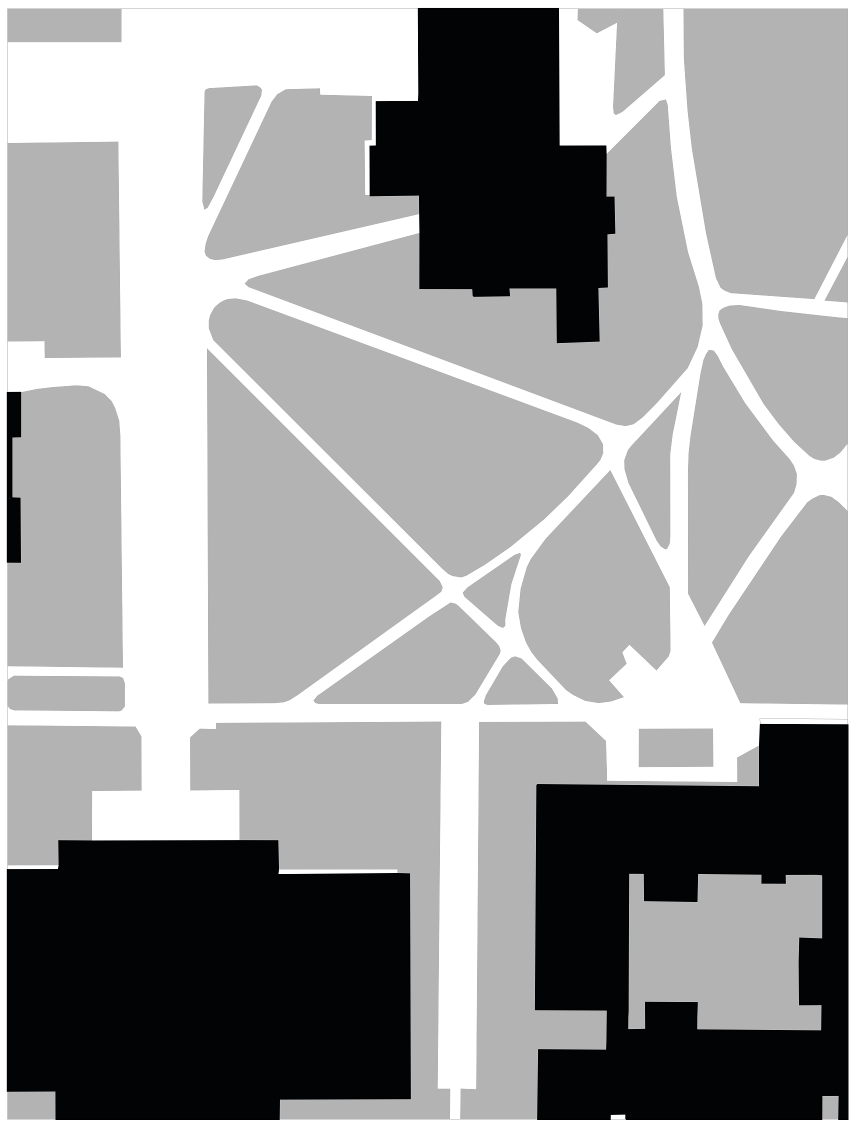




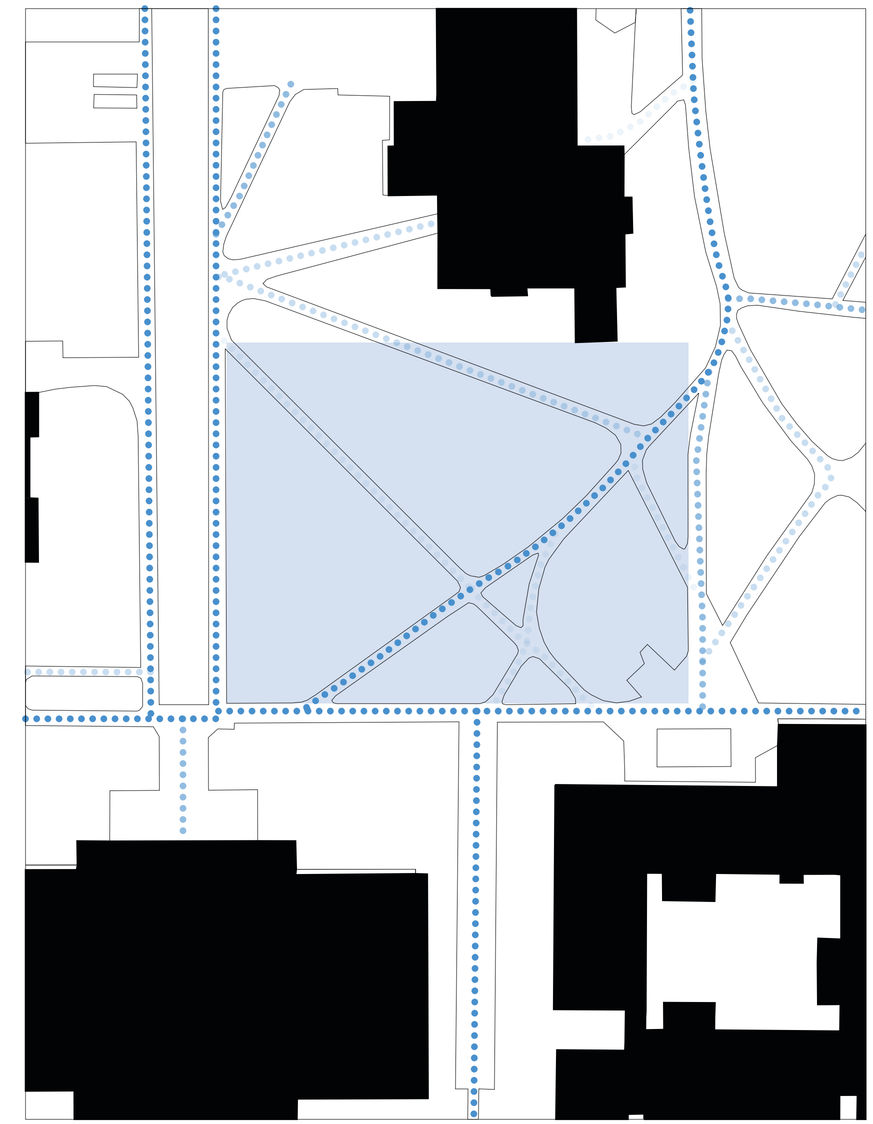
The surrounding buildings are all large and have slightly larger sites than the project.



The site is Located on the University of Houston campus, Nestled between the engineering, computer science, and architecture buildings.



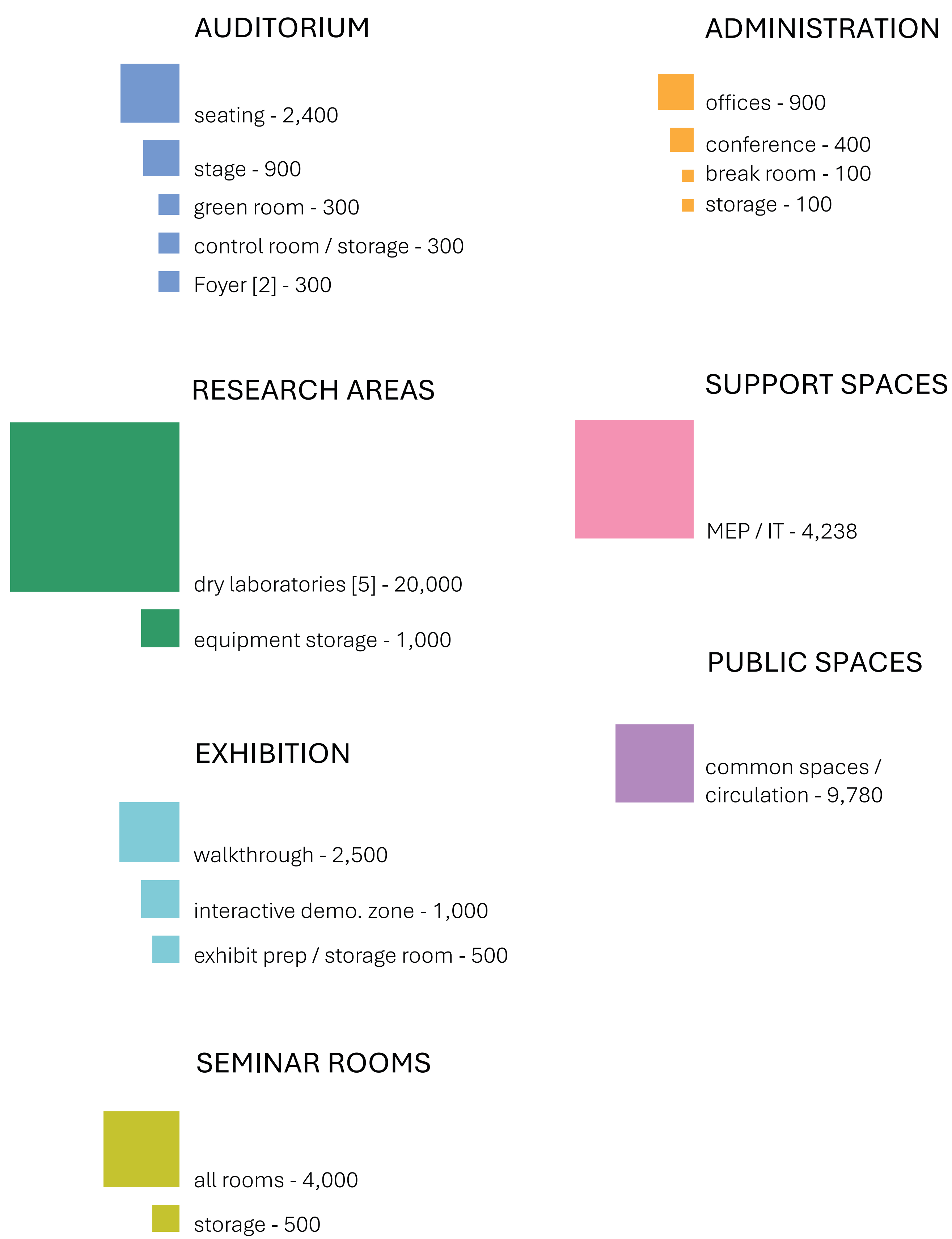
Green Space



Different sidewalks have varrying foot traffic use. This may present a constraint or an opportunity in the buildings design.

AREA COMPARISON

scale: 1/128 = 1’-0”



BUILDING PROGRAM

AUDITORIUM

	[SQ.FT.]
seating	2,400
stage	900
green room	300
control room / storage	300
Foyer (2)	300

RESEARCH AREAS

	[SQ.FT.]
dry laboratories [5]	20,000
shared equipment storage	1,000

EXHIBITION

	[SQ.FT.]
walkthrough exhibition	2,500
interactive demonstration zone	1,000
exhibit prep / storage room	500

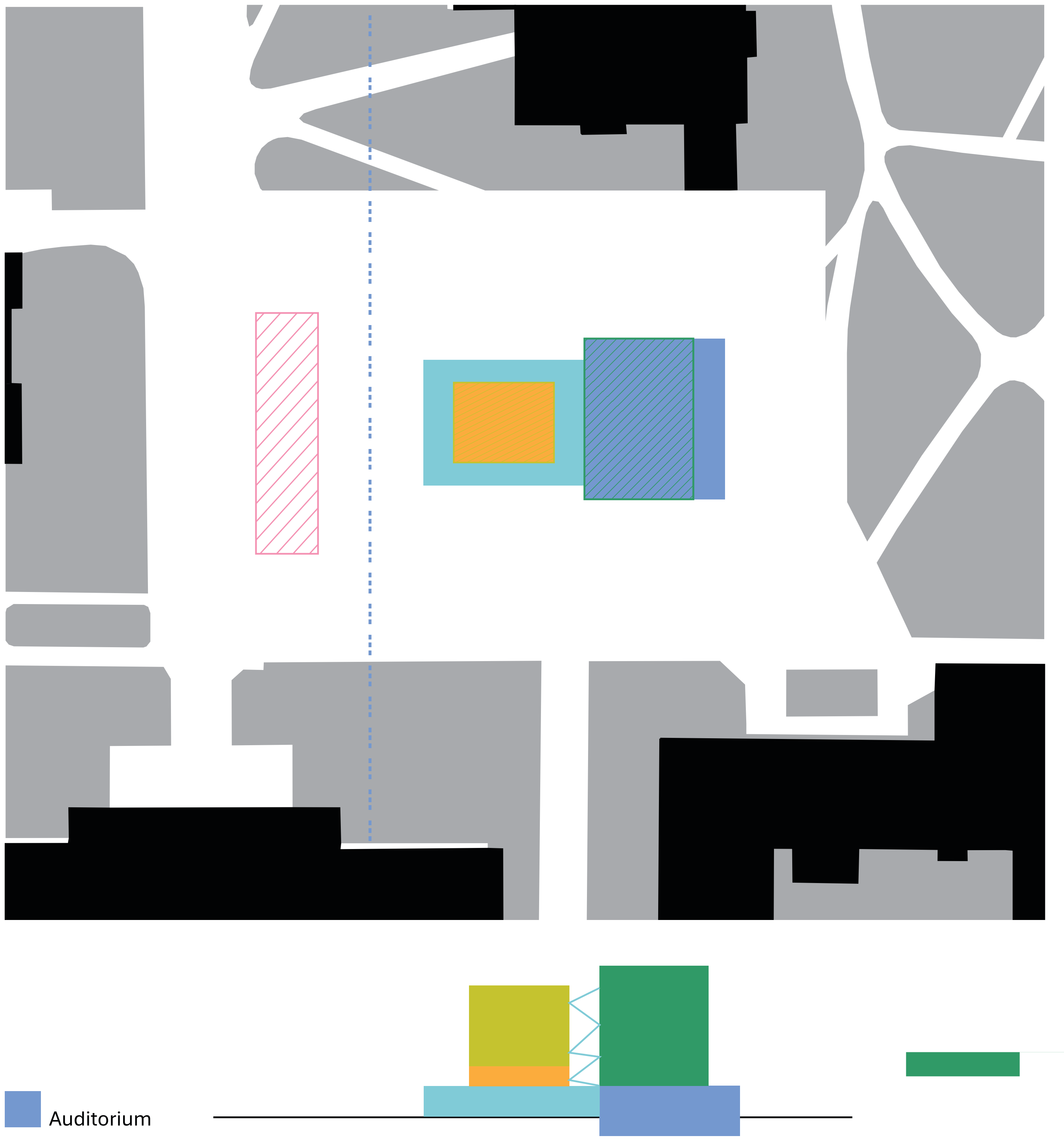
SEMINAR ROOMS

	[SQ.FT.]
all rooms [10] plus storage	4,000
storage rooms [10]	500

ADMININSTRATION

	[SQ.FT.]
offices [6]	900
conference	400
break room	100
storage	100
	32,600
common spaces (30%)	9,780`
MEP / IT (10%)	4,238
total area	46,618

exterior gathering	3,000
loading / service area	5,000

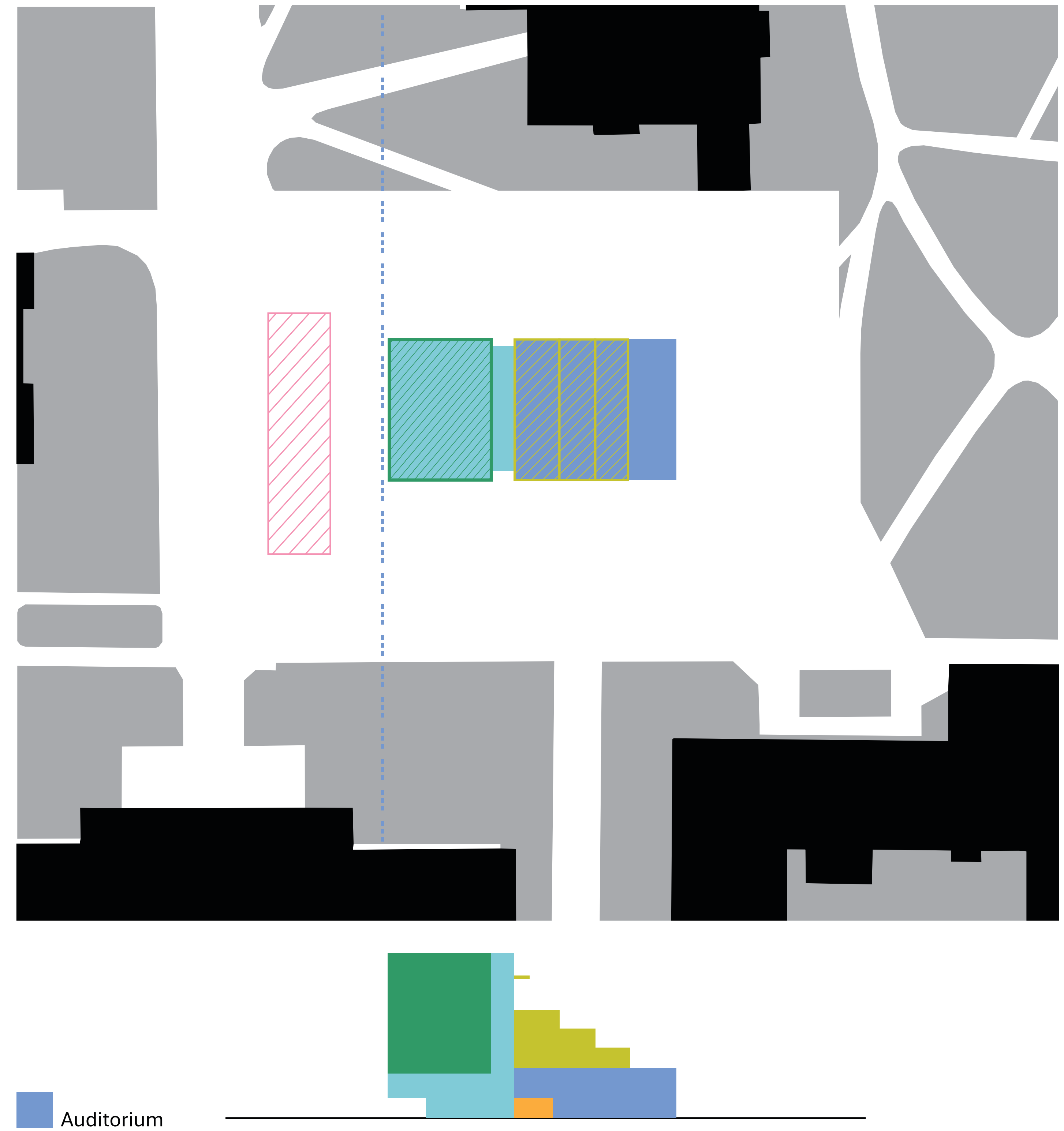


Auditorium
Research
Exhibition
Seminar
Admin
Parking

Lifting the private research and seminar spaces up removes them from the public areas on the ground floor, but creates an interesting space for movement between the two towers. The exhibition space is the main access to the building.

scale: 1/64 = 1'-0"

PROCESS ITERATIONS



Auditorium
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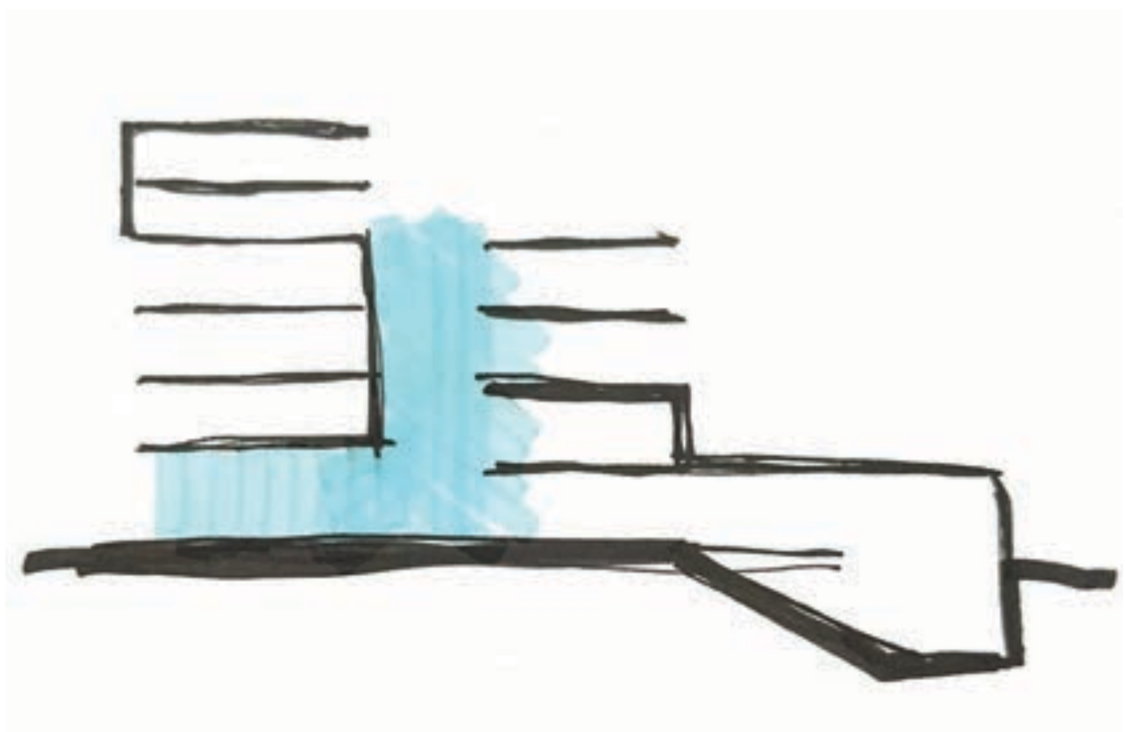
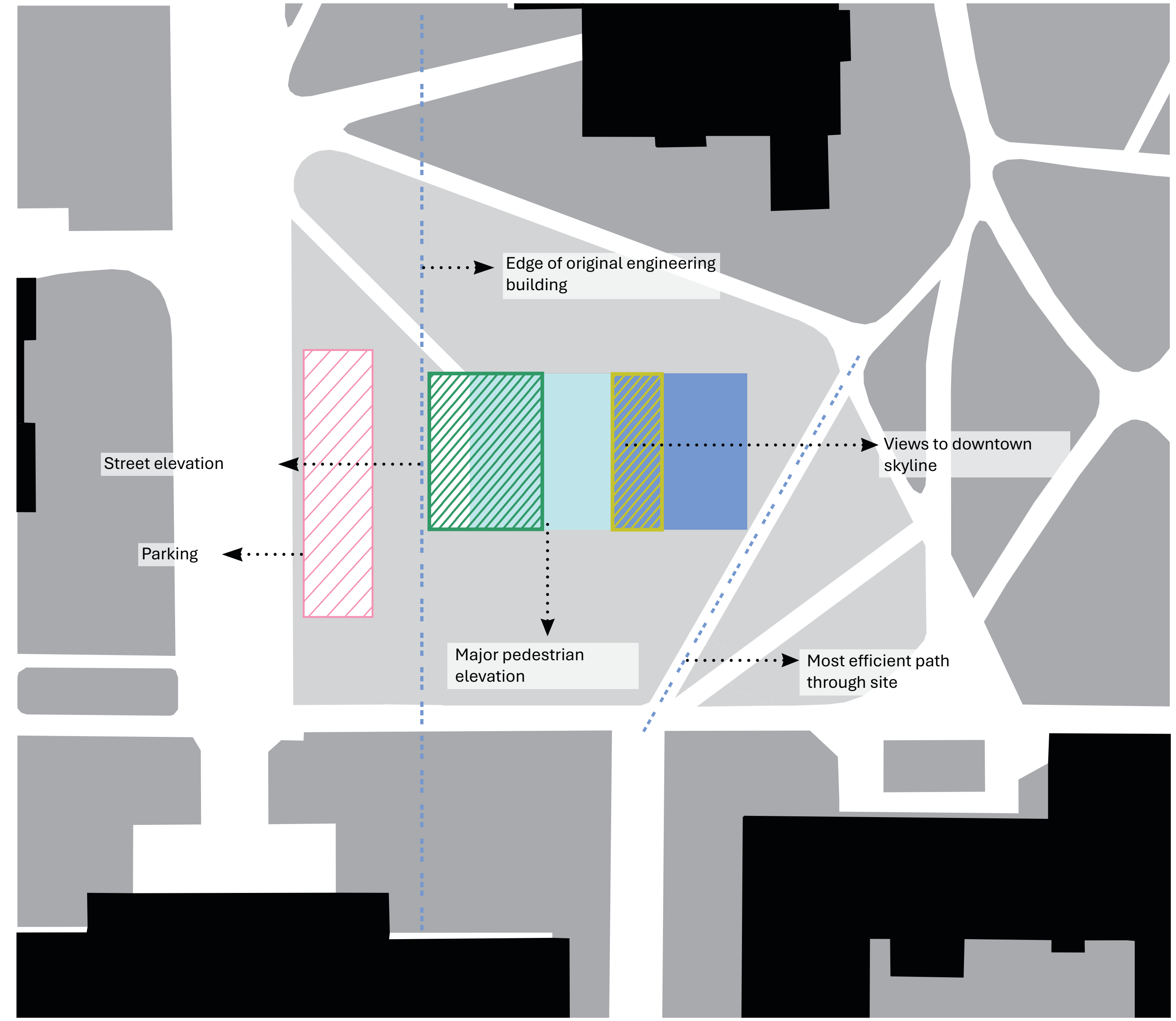
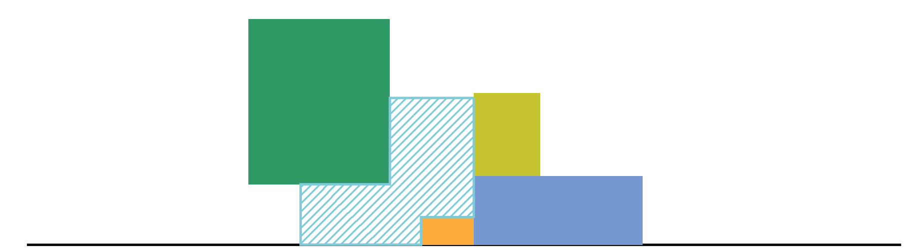
The exhibition space extends vertically, a glass elevator looking into the research areas. The stepped seminar spaces allow for balconies with a view across campus toward the downtown skyline.

scale: 1/64 = 1'-0"

PROCESS ITERATIONS







Auditorium
Research
Exhibition
Seminar
Admin
Parking

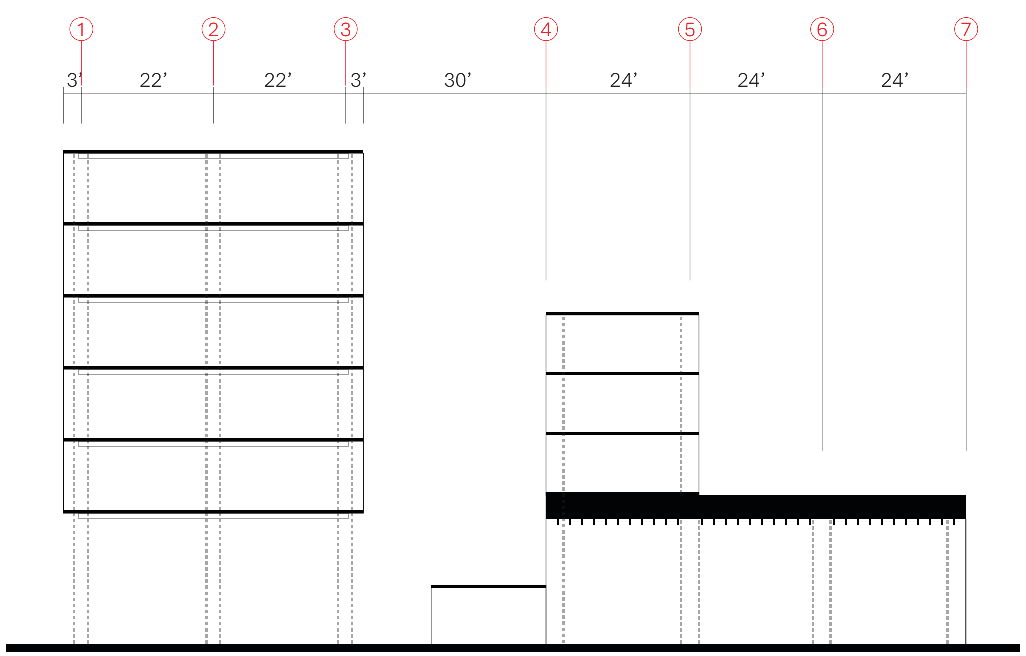
The exhibition space connects the research block, seminar rooms, and auditorium. Views are maximized from the seminar rooms to the campus and downtown skyline. The research block is the iconic architecture of the building.

scale: 1/64 = 1’-0”

STRUCTURAL SYSTEMS

Concrete

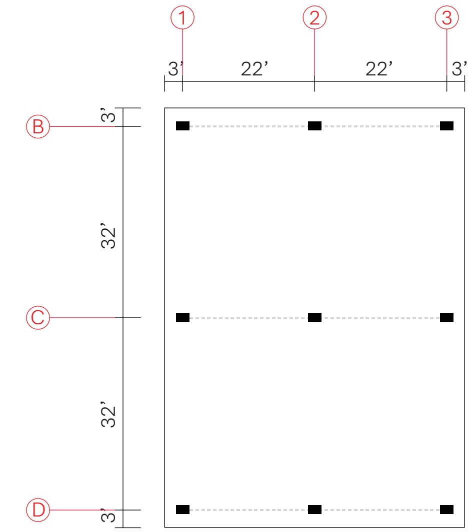
The building will utilize concrete as the primary structural system. The research block will have one-way concrete slabs and a grid of 9 columns extending through all 5 floors with concrete beams connecting the columns. The auditorium will be a one-way, poured in place concrete slab with columns at around the perimeter, with truss joists spanning across the space at 2' O.C. The ceiling of the auditorium will be 4' deep to support a rooftop garden above. The seminar spaces will be simple concrete slabs supported by columns, allowing for balconies and views over the garden across campus and in towards the atrium and exhibition space. The exhibition space may utilize a steel structural system to support the lightweight glazing material.



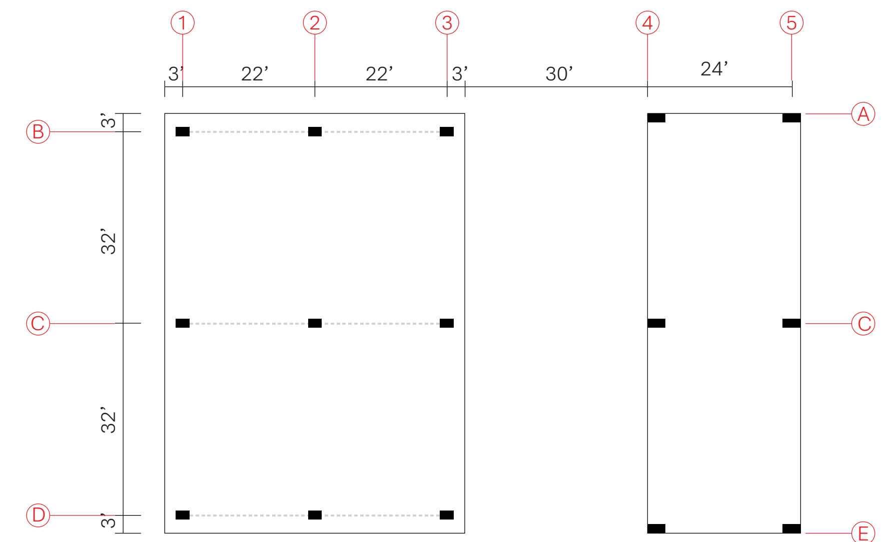
Section 1

INITIAL STRUCTURAL PLANS

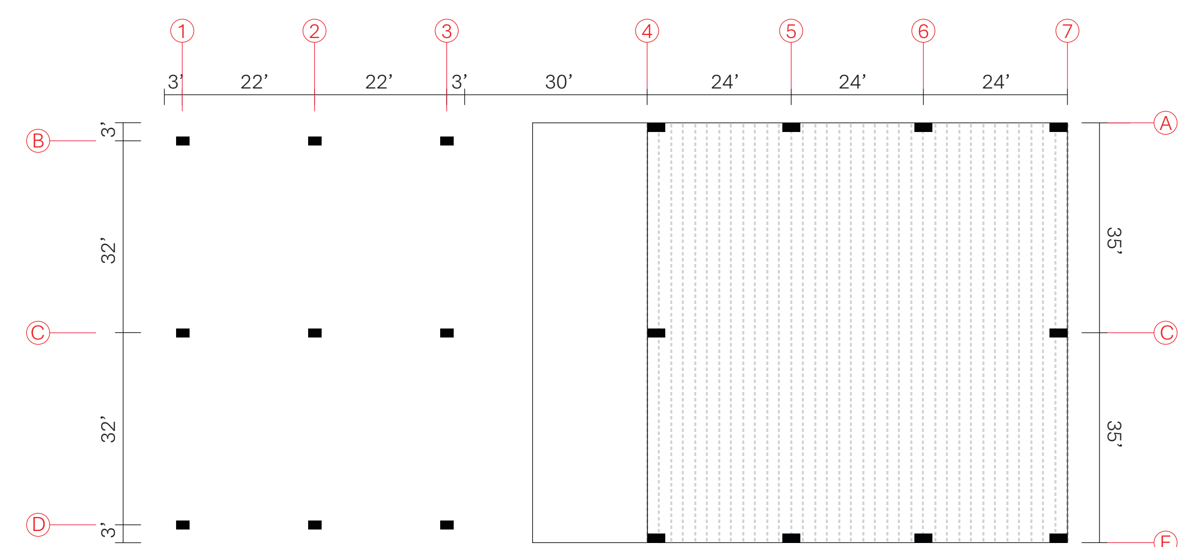
1/32" = 1'-0"



Floor Plans 6-7



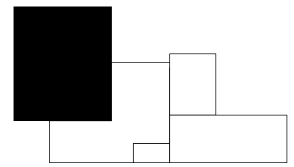
Floor Plans 3-5



First Floor Plan

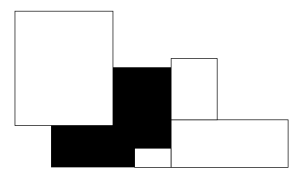
EXTERIOR CLADDING

Galvanized Steel, Channel Glass, Copper Panels



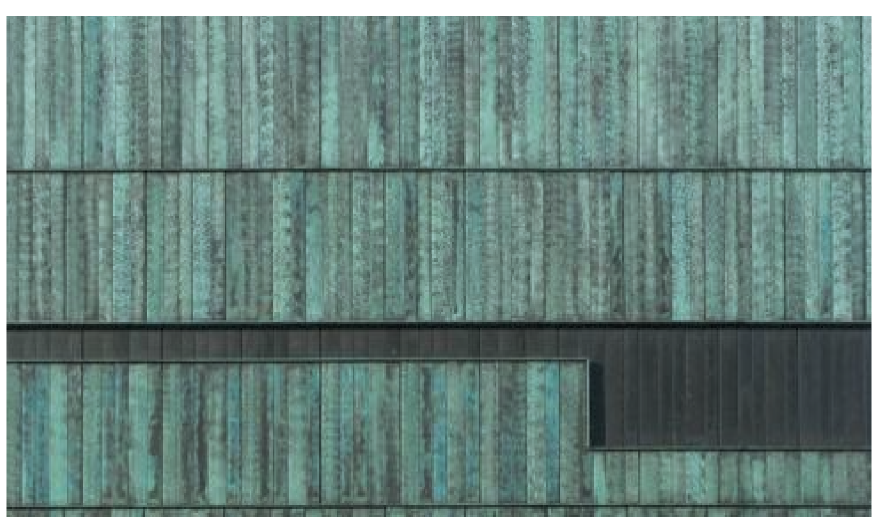
Research Block

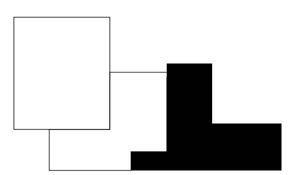
Shines in the sunlight and solid enough to stand out against a glass wall.



Exhibition

Translucent glass that allows light in an out without revealing the interior. Ideally, this would be paired with transparent glass.



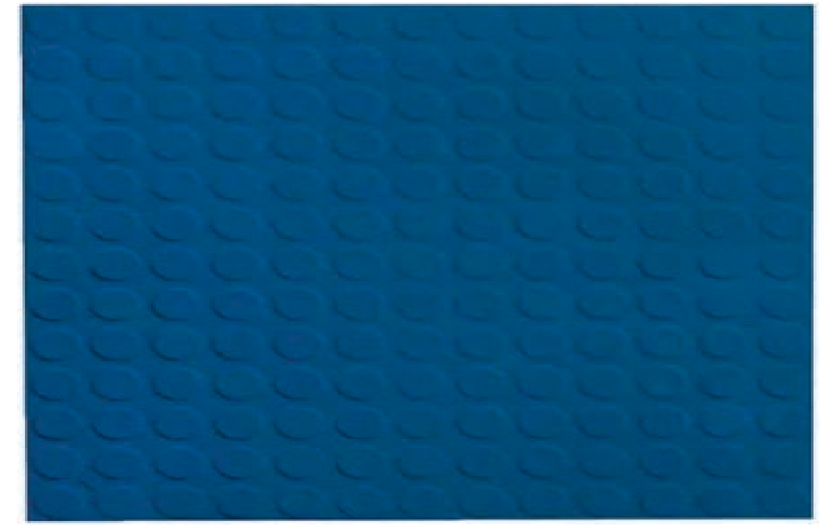


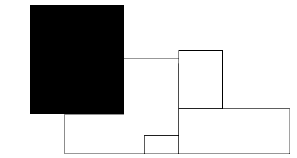
Seminar Rooms, Admin, and Audiorium

A green facade that naturally changes with time, complementing the adjacent landscape.

INTERIOR FINISHES

Research Block





Rubber floor tile
Sound- absorbing, comfotable underfoot, sustainable, and cost- effective.

Fluted MDF

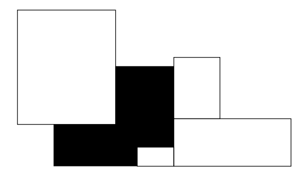
Choosing a manufacturer that produces low - VOC will reduce the negatives of MDF. It is easy to clean and maintain and provides visual interest to the space.

Wood Wool Suspended Ceiling

Wood Wool is cost efective, sustainable, and has great acoustic benefits. It can also come in a variety of patterns and colors to fit the design.

INTERIOR FINISHES

Exhibition



Terrazzo Tile

Brings interesting color to the space and is durable, long lasting, and easy to maintain.

Channel Glass & Concrete

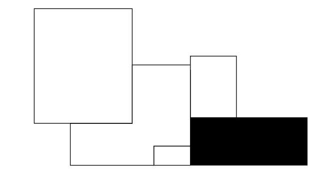
Allowing concrete structure to remain exposed with the channel glass creates contrast and an interesting canvas for the exhibition

CLT drop ceilings

Wooden CLT Ceilings have acoustic benefits and sustainability and durability characteristics that would benefit the ehibition space.

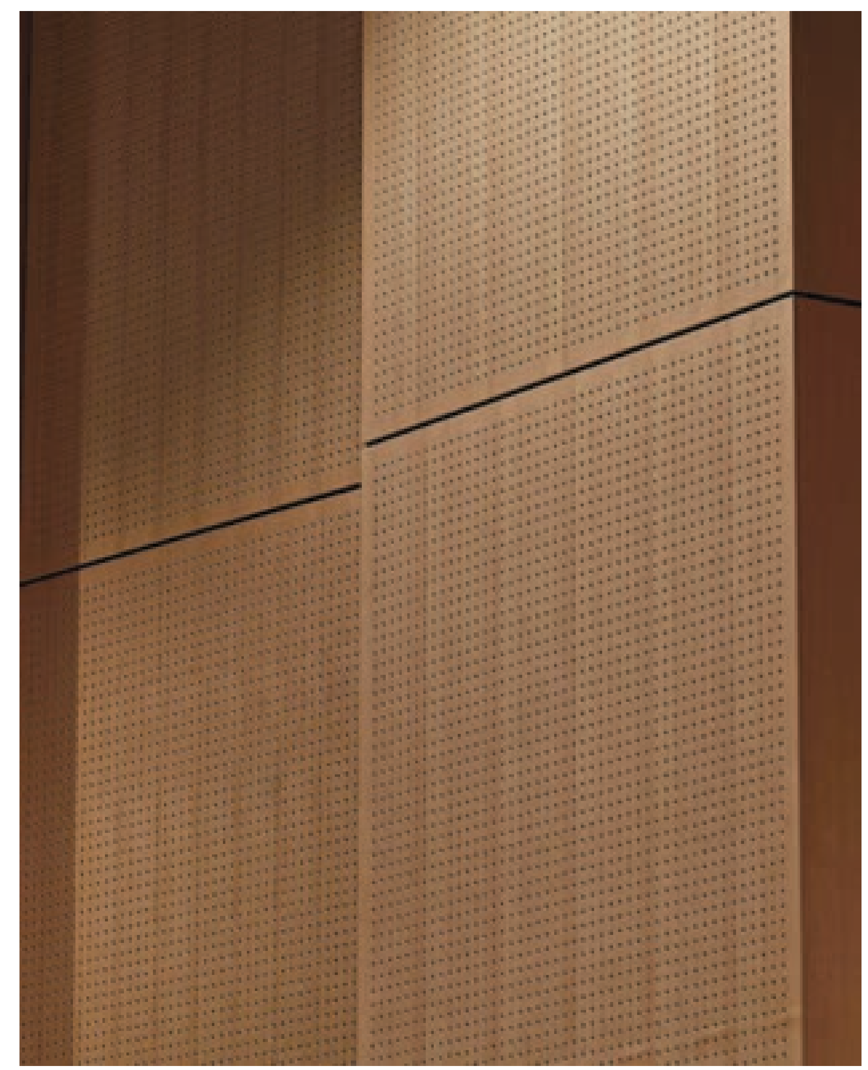
INTERIOR FINISHES

Auditorium



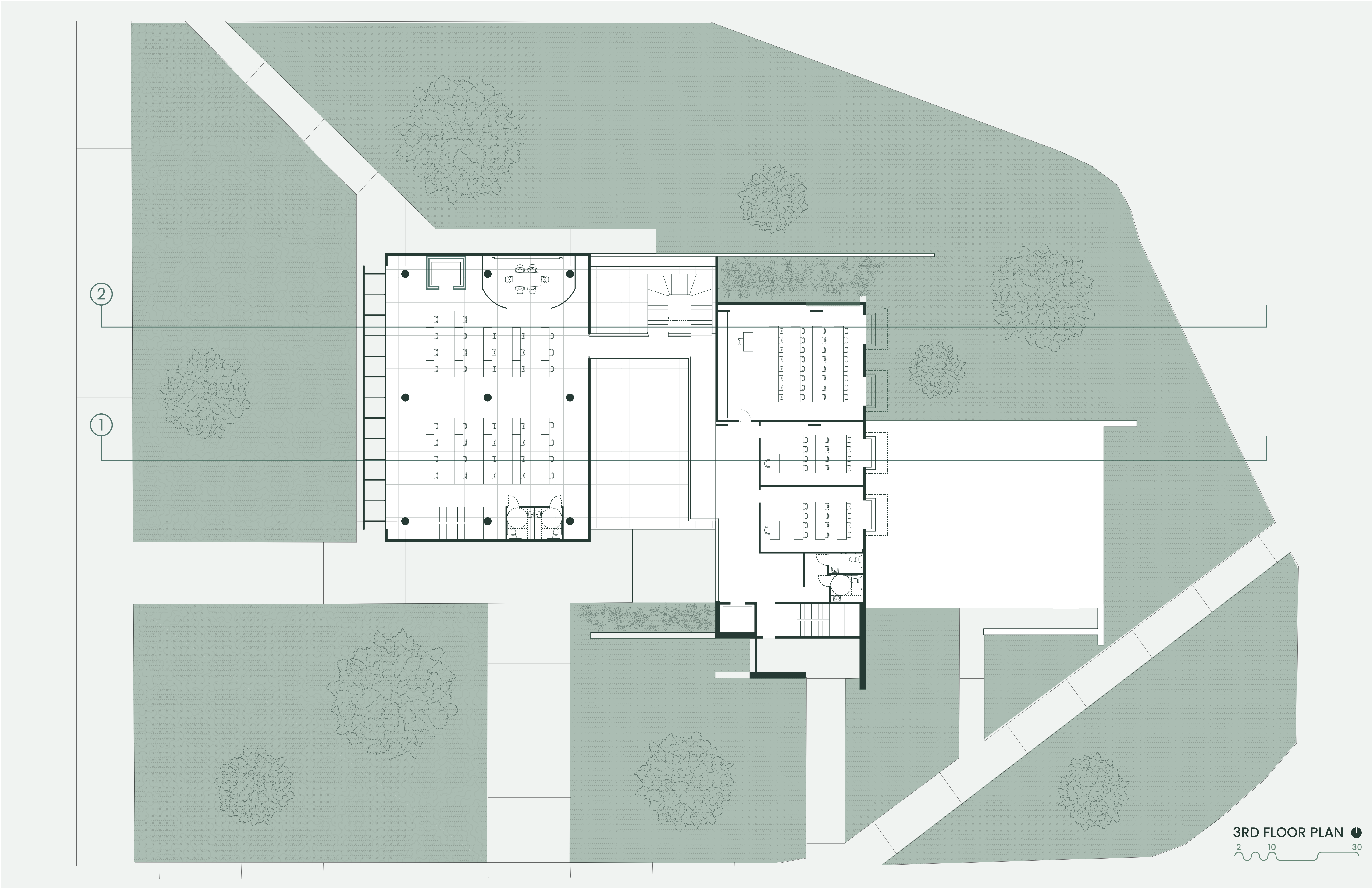
Hardwood Floors

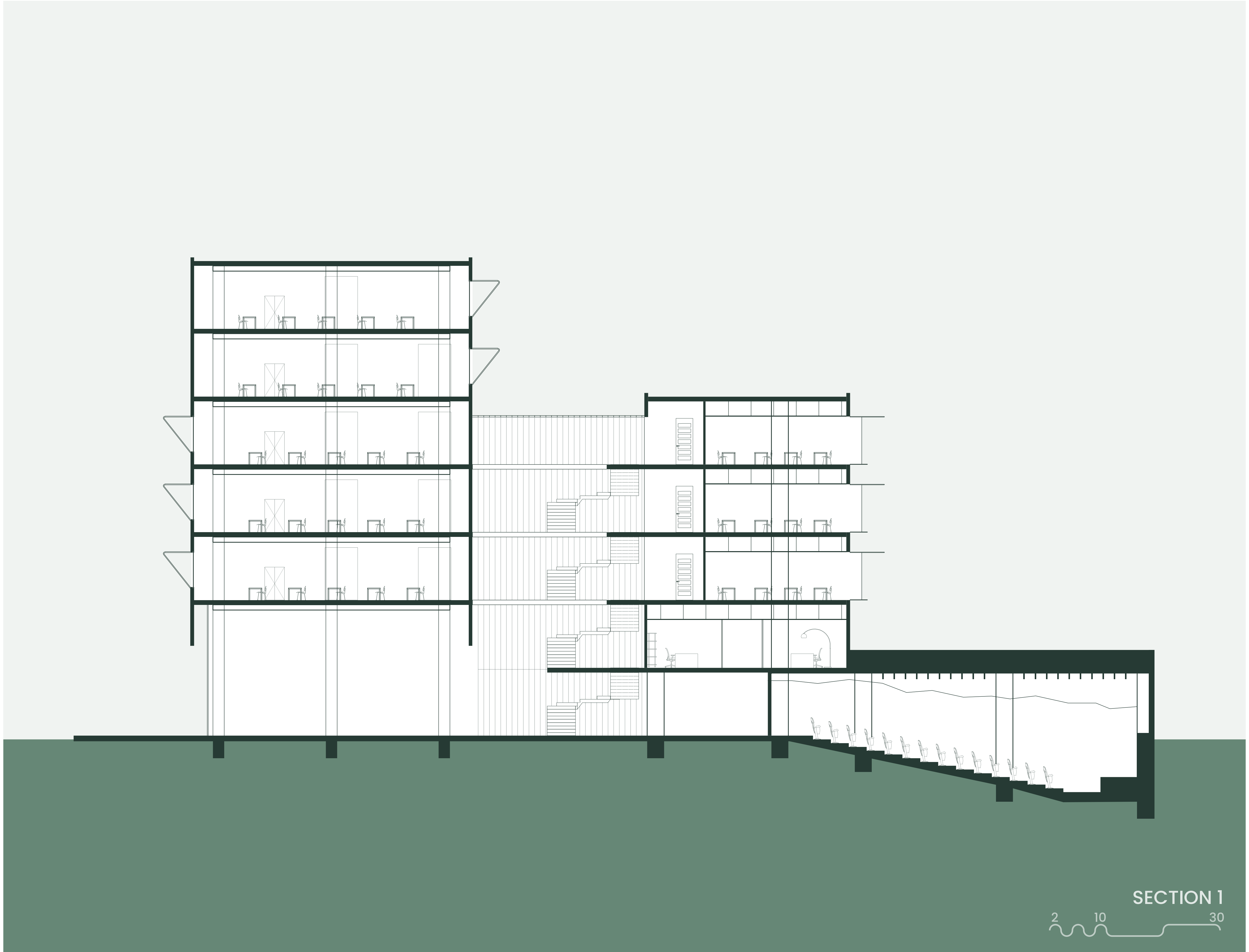
Warm, inviting, and creates a natural sound quality. Ideally sourced from reclaimed wood.

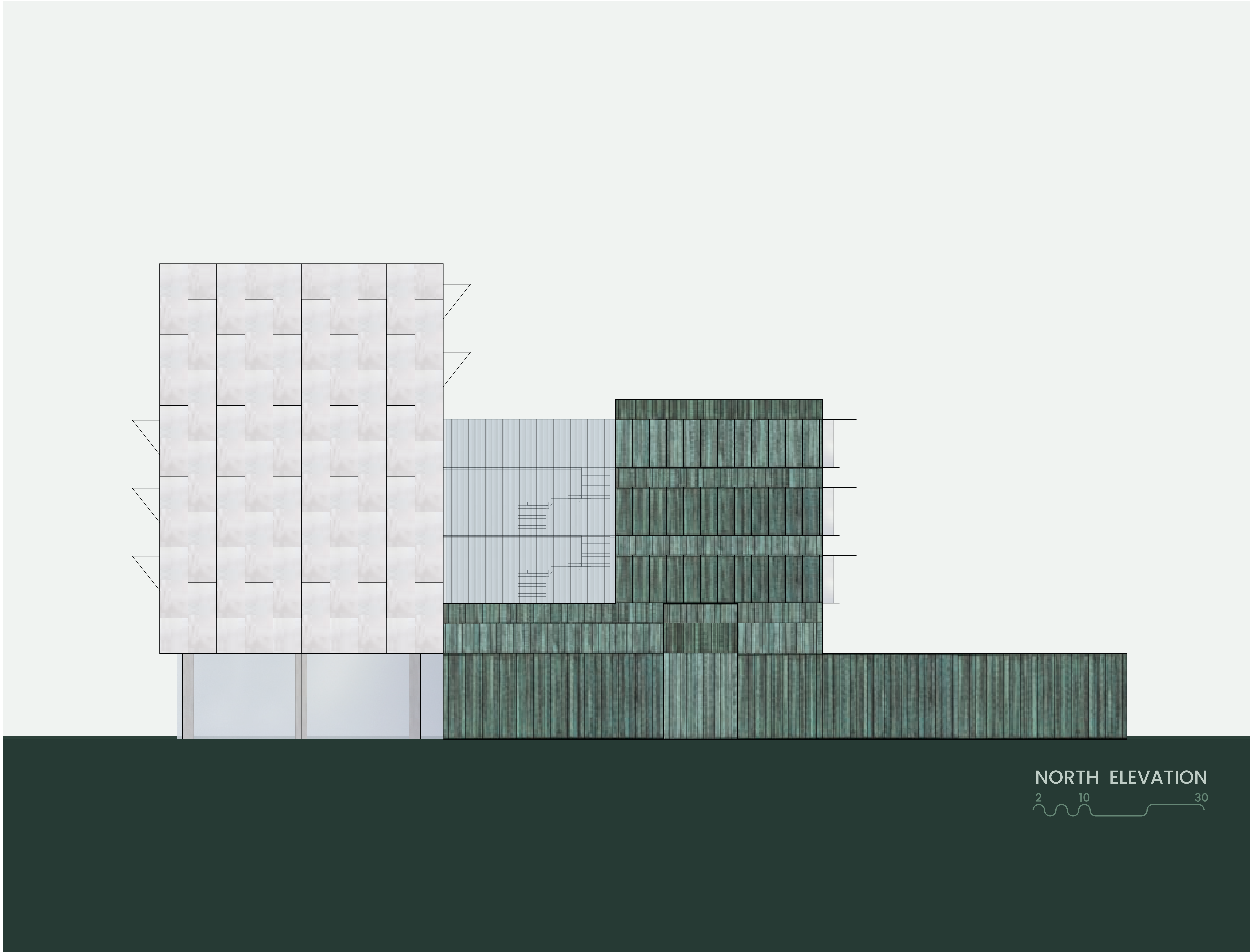


Perforated Pine Acoustic Panels

Acoustic quality with aesthetic character for recorded or live audio. This could be applied to the walls and a suspended ceiling.


2
1
3RD FLOOR PLAN
2
10
30


SECTION 1
2
10
30


NORTH ELEVATION
2
10
30

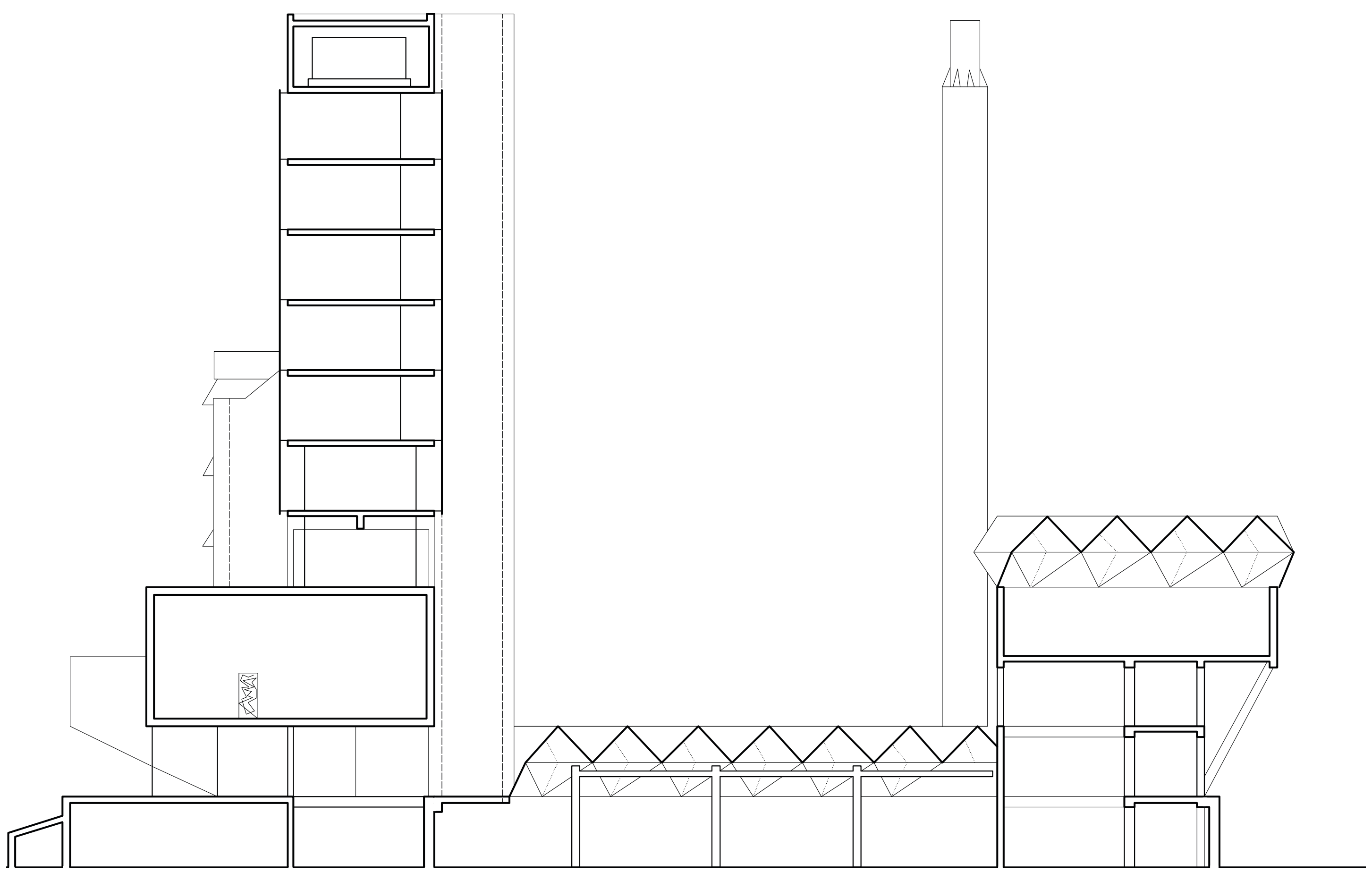
CRYSTALFIELD CENTER

Hybrid Athletic and Academic Center

The initial aim of this project was to rely on the use of precedent studies to inspire and guide an architecture of “lightness”. Located on an existing soccer field, the site is nestled between St. Thomas University and the Annunciation Orthodox schools grounds. The proposal of the project is to overlap the programmatic needs of both institutions in a singular building. The program requires a series of classrooms, sports fields, a book store, and a café, while preserving the existing soccer field.

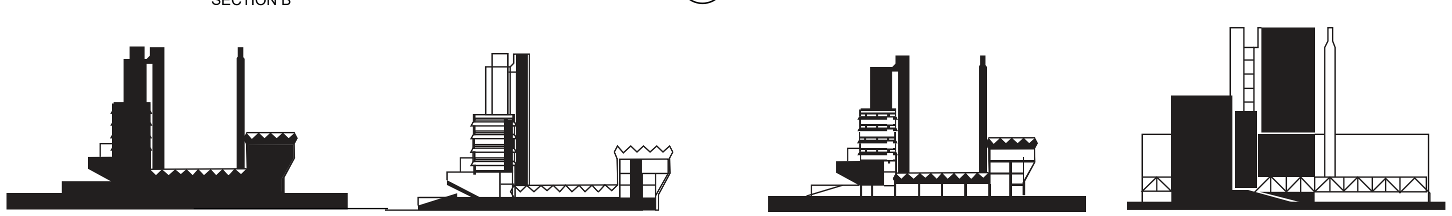
James Stirling's engineering building at Leicester pairs brutalist weight with crystalline lightness- its jagged glass canopy flooding the labs below with light. The fractured roof and jutting tower suggest a building in motion, constantly revealing its structure and systems.

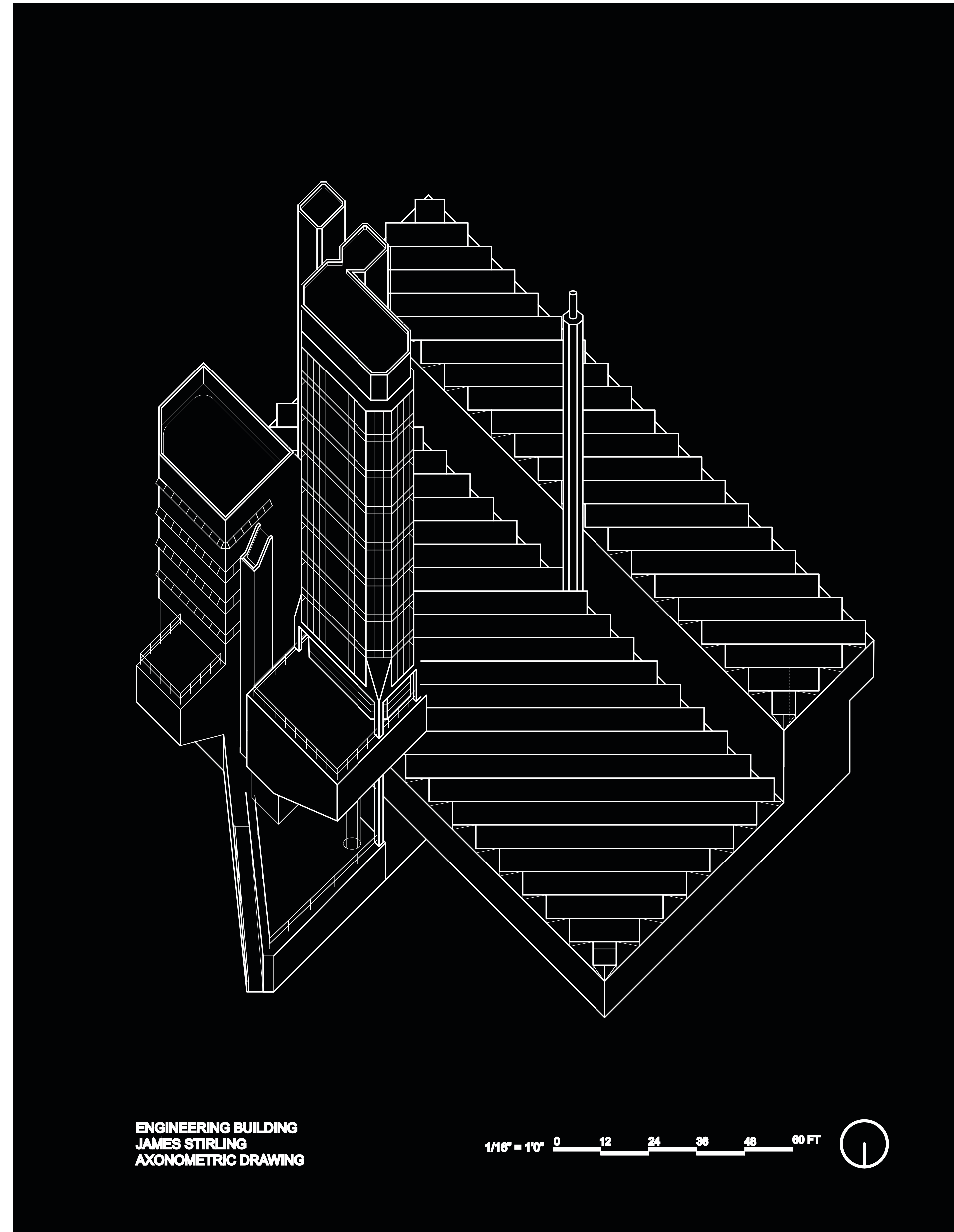
Through detailed studies of the building, I was Inspired by this interplay of heaviness and delicacy. My project reimagines the crystalline canopy as the centerpiece - an angular, perforated shelter that invites air, light, and movement into the heart of a new athletic and academic center.

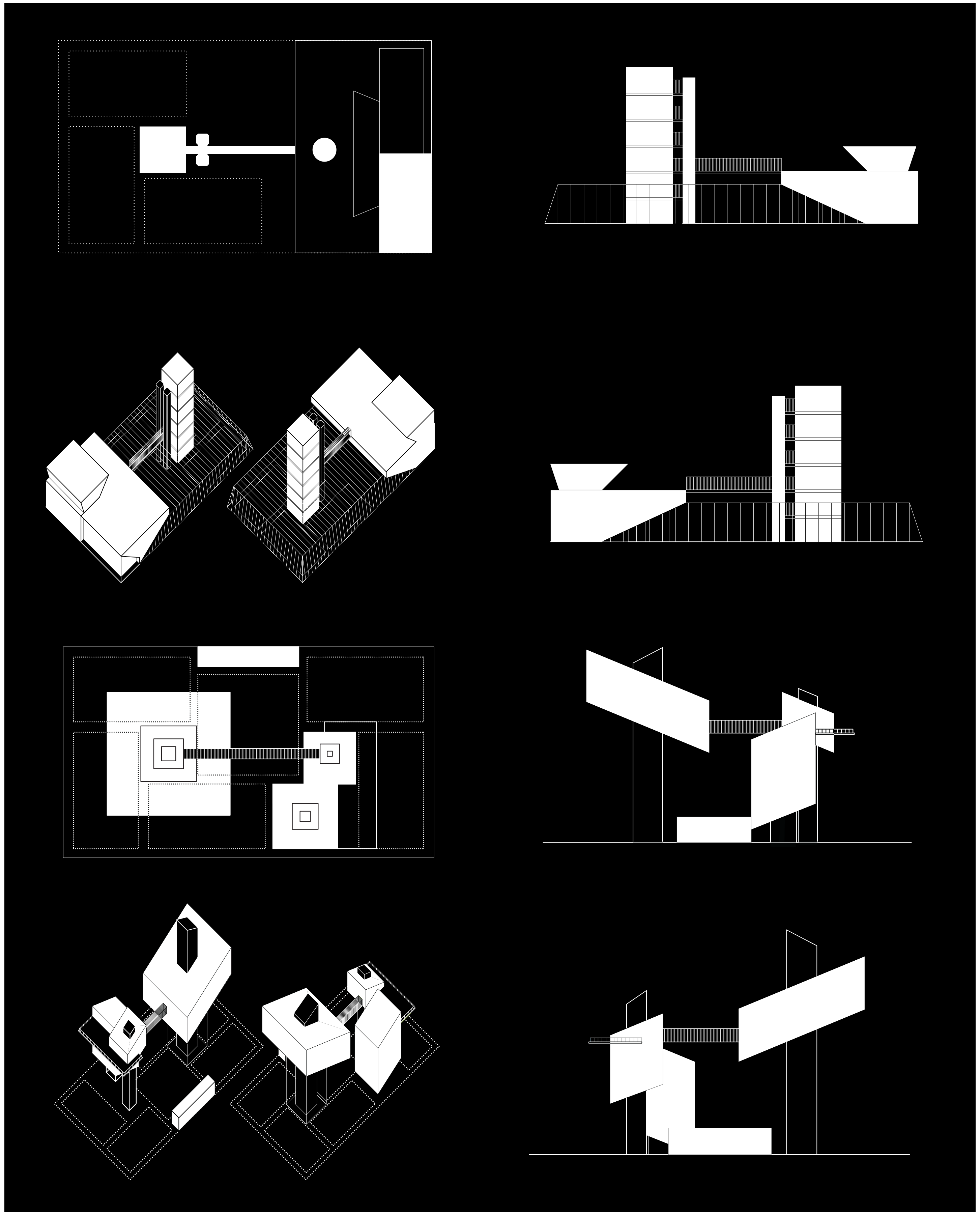


ENGINEERING BUILDING
JAMES STIRLING
SECTION B

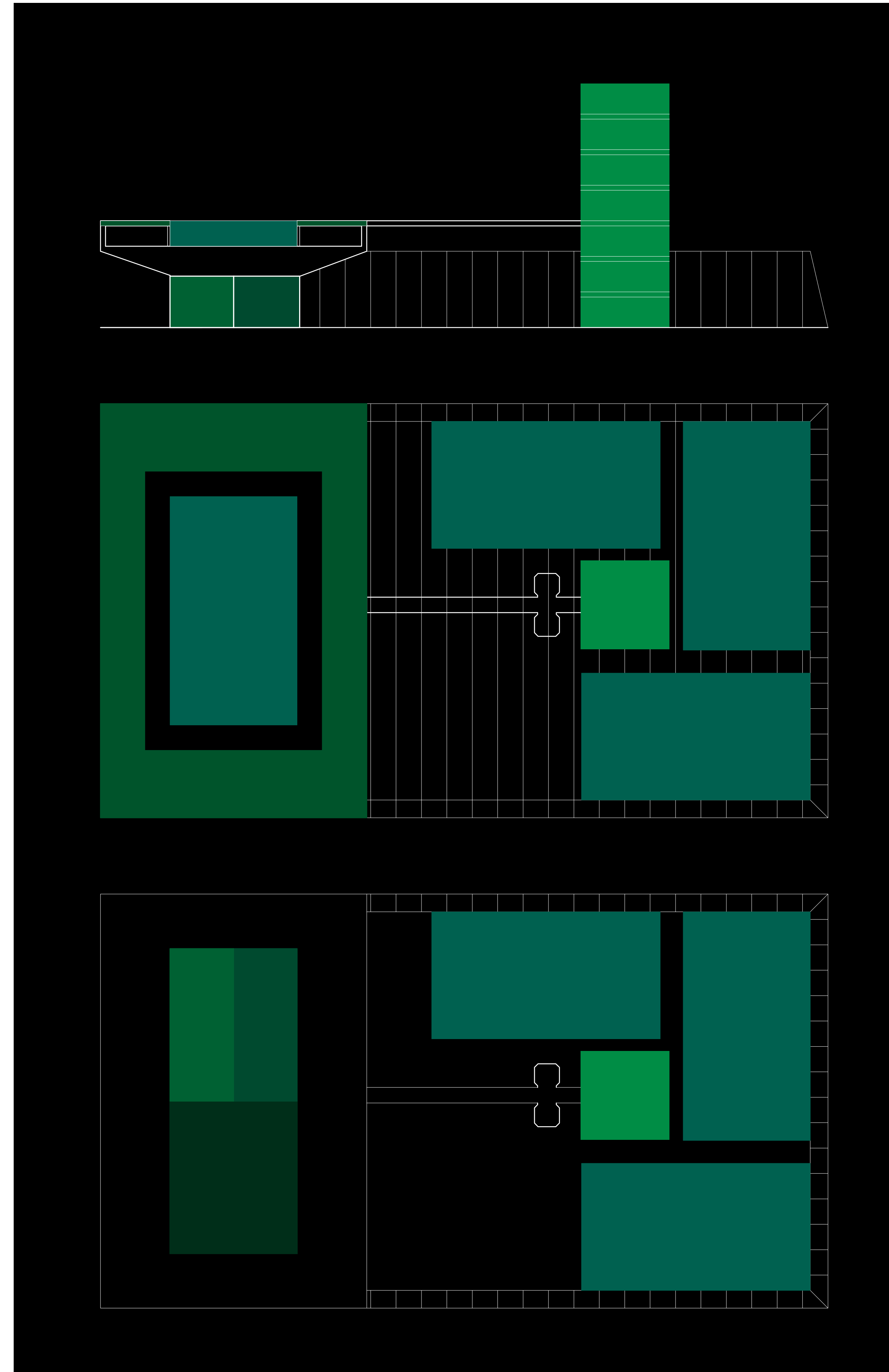
1/16" = 1'0" 0 12 24 36 48 60 FT



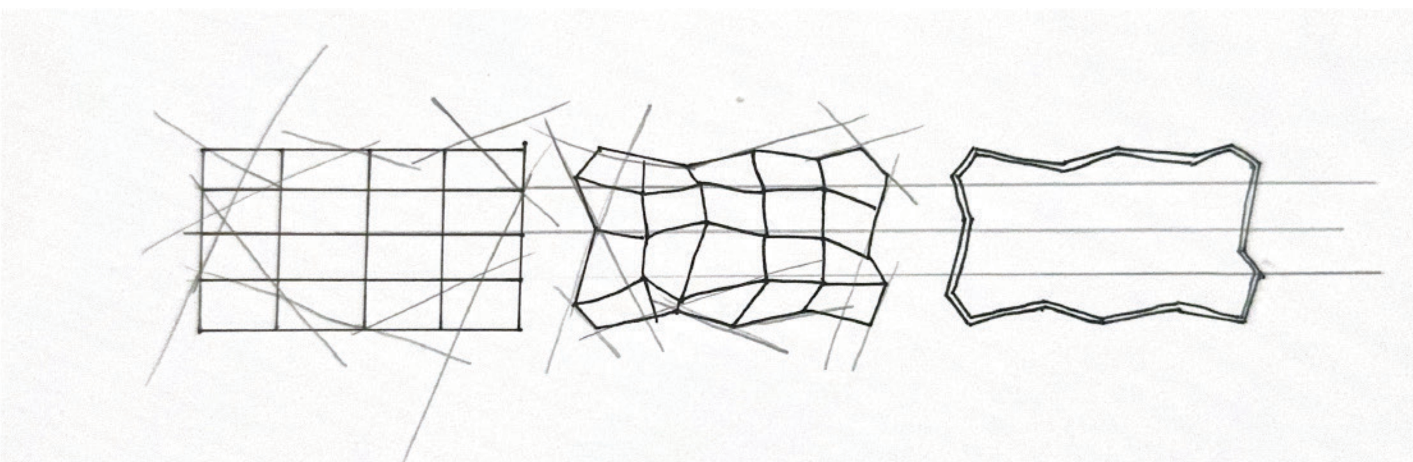




Progress Schemes

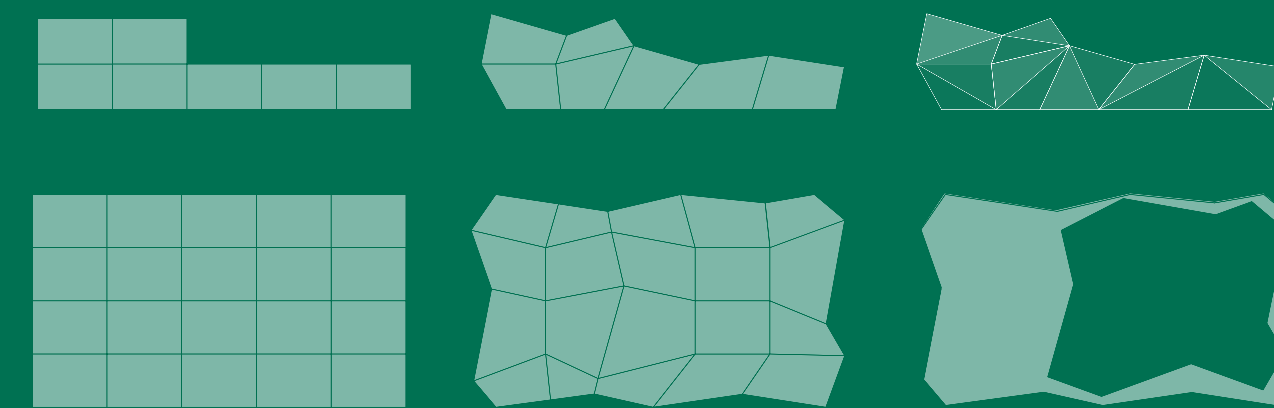


Moving into phase two, I began extracting what I considered to be the most interesting concepts in Stirling's design to create a building that would fit the requirements of the Houston site. Firstly, the idea of separating forms based on function would serve as a useful design process for this project. The classroom tower of the engineering building could easily be translated to my site, as classrooms are required. The multi-story space used for the stationary computer labs could be morphed into a coffee shop, bookstore, and locker rooms, and the large horizontal space used for the engineering labs could be transformed into occupying the sporting areas.



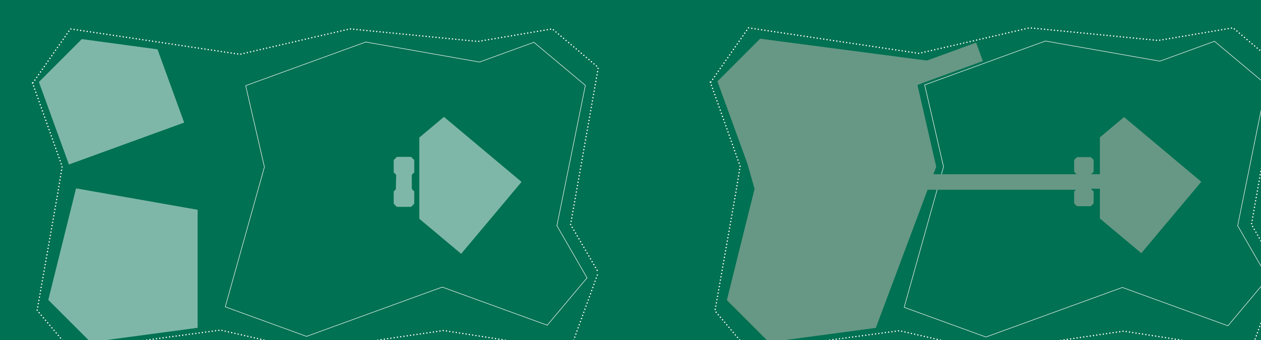
Once these formal components were realized in my design, I began to examine Stirling's use of the "glass blanket" in more detail. When inspecting the angularity and regularity of the glass at the engineering building, I expanded on the idea until this irregular "shell" was eventually created to enclose all the interior forms. With the understanding that technically, a glass structure of this magnitude would be extremely inefficient, the shell transformed into a breathable and operable canopy made of perforated steel panels. Ultimately, the design is a simple gridded system that is morphed into a playful transparent complex, alternating presence and lightness.

CRYSTAL BLANKET DEVELOPMENT

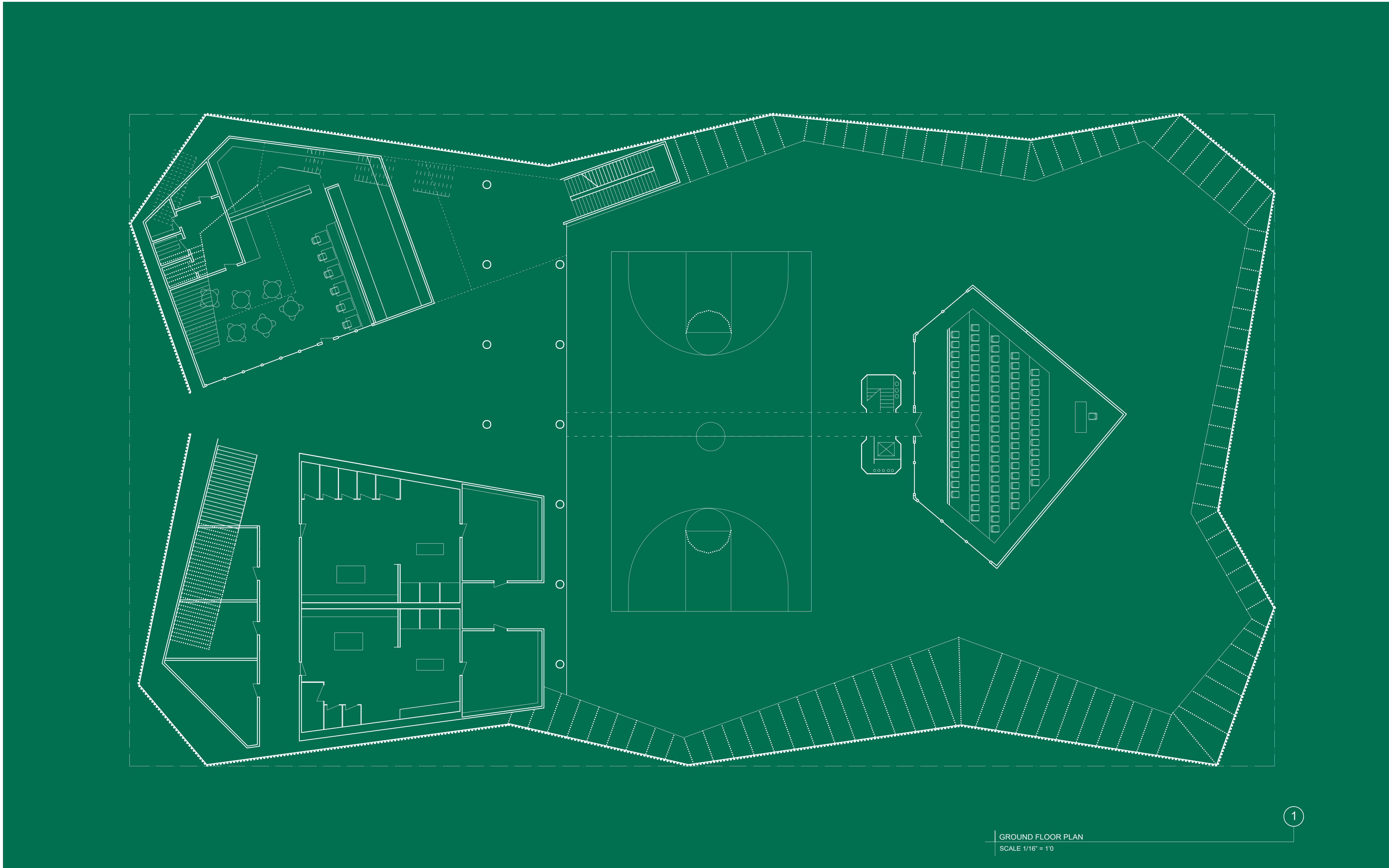


RIGID GRID | MORPHED GRID | RESULTING SHELL

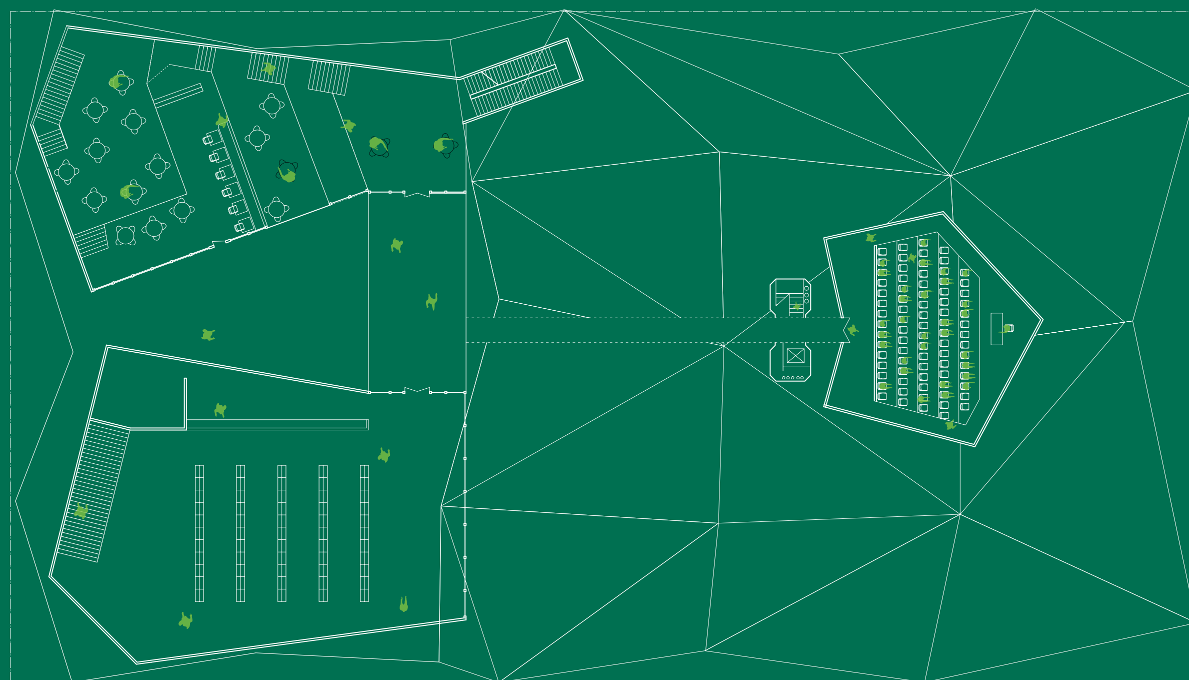
CRYSTAL BLANKET DEVELOPMENT



SEPARATION OF FUNCTIONS INTO FORMS | STRUCTURED SPACE VS FREE SPACE


1
GROUND FLOOR PLAN
SCALE 1/16" = 1'0

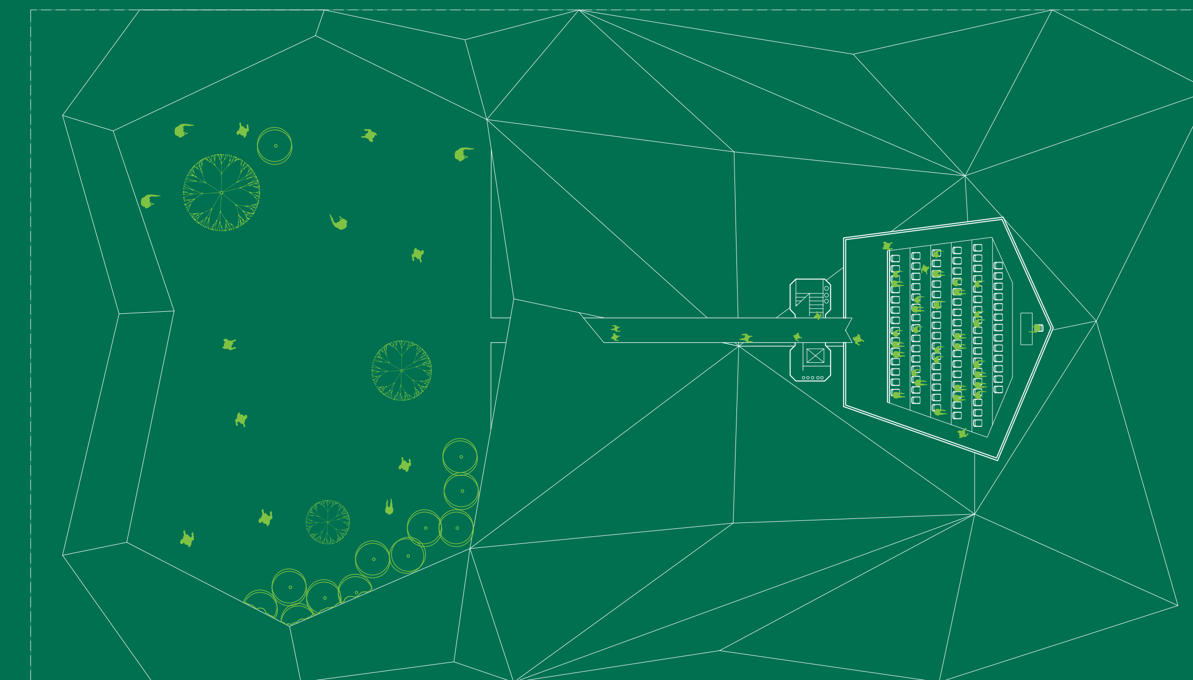

B
SECTION
SCALE 1/8" = 1'0



2

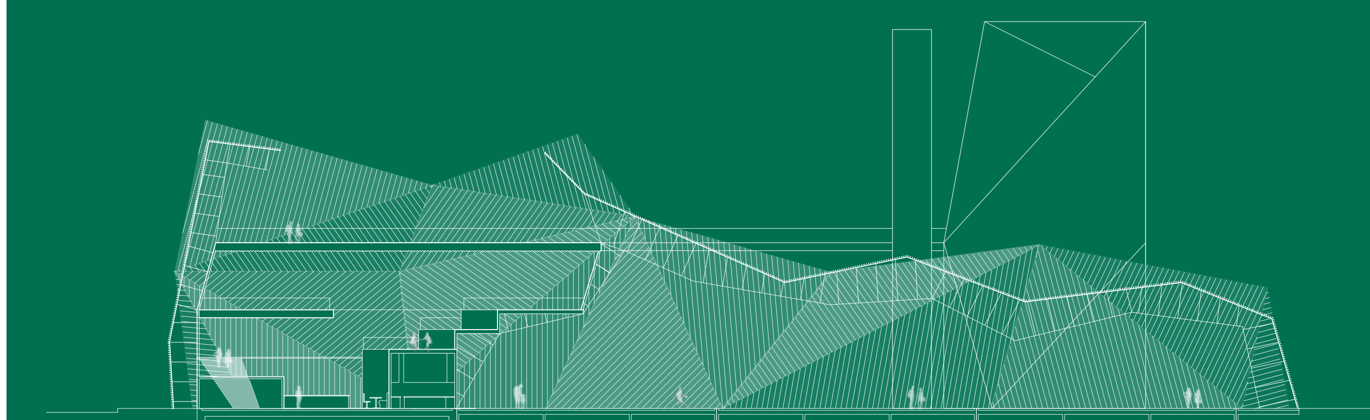
FIRST FLOOR PLAN
SCALE 1/16" = 1'0

WEST ELEVATION



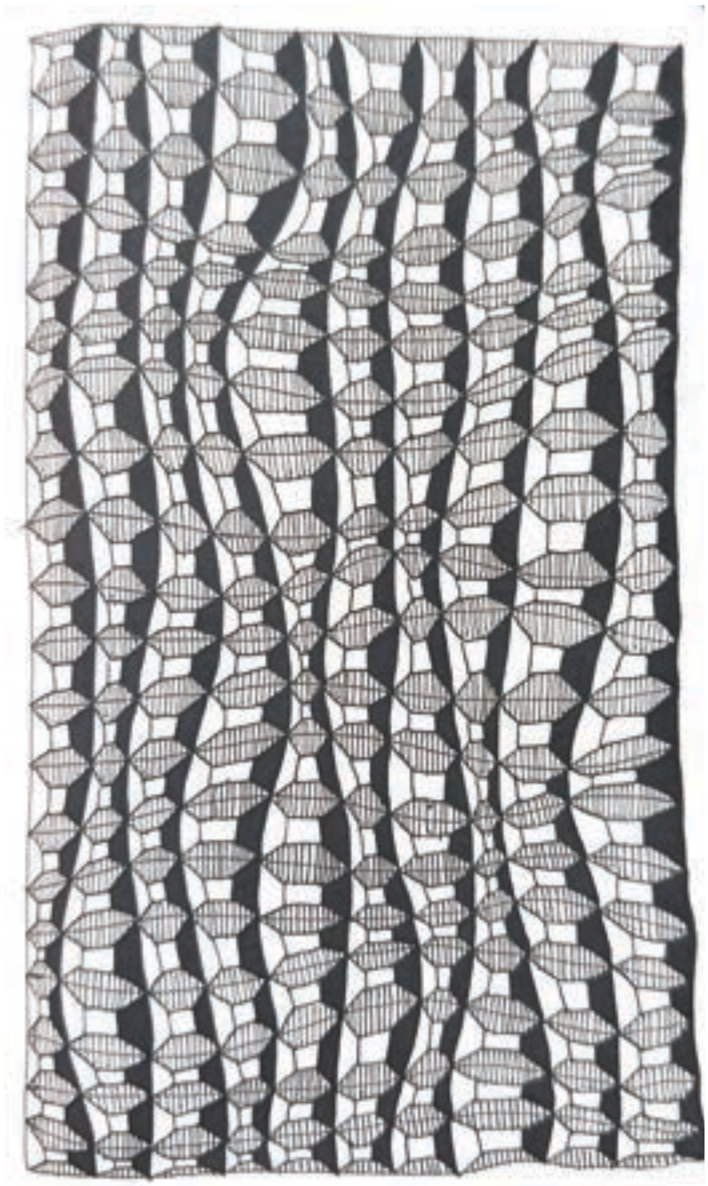
3

ROOF FLOOR PLAN
SCALE 1/16" = 1'0



A

SECTION
SCALE 1/8" = 1'0



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