PORTFOLIO

Weilan (Keira) Chen
2024

01 Coney Island Abandoned Tower Re-imagination

New York, NY

Group Project
Instructor: David Moon
Columbia ARCH6853A Summer 2023

Drawing inspiration from the highrises of Manhattan, we embarked on a journey to challenge the prevailing notion of architecture as a mere representation of metropolis might. Coney Island, originally conceived as a haven from urban life, bore a resemblance to its larger counterpart in some aspects. During the 1900s, multiple parks within Coney Island engaged in fierce competition, each vying to construct the tallest towers, resulting in a wasteful exploitation of resources, with the abandoned structures remaining idle to this day.

We adapted vertical structures as our typology and transformed it to benefit the nature. Our vision sought to transcend the limitations of capitalism-driven architecture. We chose to breathe new life into the landscape, reclaiming the abandoned capitalist towers, and redirecting their purpose towards nurturing nature's interrupted harmony. By repurposing these structures, we aimed to foster a symbiotic relationship between humans and the environment, fostering diverse ecosystems and vital food chains for both flora and fauna. Designed to cater to terrestrial and aquatic life alike, the towers now provided habitats for birds, flowers, and marine biology, addressing the critical lack of suitable living spaces for these species around Coney Island.

Moreover, our revitalized towers were accessible to the public, serving as a unifying space that brought the community together. This transformative project not only bridged the gap between humans and nature but also stood as a testament to the potential of architecture as a force for environmental preservation and communal harmony.

CONEY ISLAND Vertical Structures

1 The Airship Tower

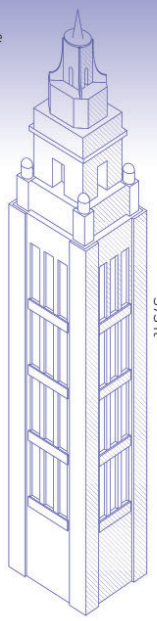
There was no documentation on how tall the Airship Tower was. It was built some time between 1897 and 1905. The Airship Tower rotated and featured a blimp ride. It was destroyed by the Steeplechase fire in 1907.

Current State: Demolished
Movement Direction
Min Height for Users NA

2 Parachute Jump Ride

The Parachute Jump is 250 ft tall and was a highlight of the 1939 Worlds' Fair in Queens. It was then purchased by Steeplechase Park and moved there in 1941, becoming the iconic Coney Island ride of the 1940s. Today it is used as lighting and lit up at night.

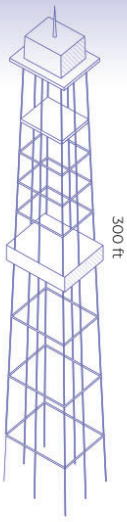
Current State: Existed, not in use
Movement Direction
Min Height for Users NA



6 The Beacon Tower

Beacon Tower was 375 ft tall. When Dreamland Amusement Park opened in 1904, its centerpiece the Beacon Tower was both taller than the Iron Tower and the Electric Tower. It was destroyed in the 1911 Dreamland fire and only existed for 7 years.

Current State: Demolished
Movement Direction
Min Height for Users NA



7 The Iron Tower

The Iron Tower was moved to its current location after the Philadelphia Centennial in 1877. It was 300 feet tall and the patrons could get to the top on steam powered elevators and see for 30 miles around. However, it was destroyed in the 1911 Dreamland fire.

Current State: Demolished
Movement Direction
Min Height for Users NA

3 Astro Tower

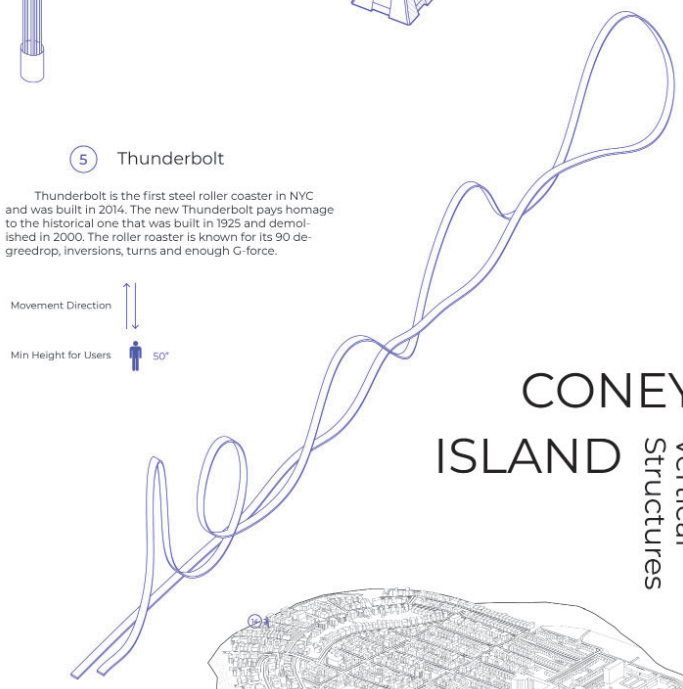
The old Astro Tower was built in the center of Astroland Amusement Park in 1964 and was 270 ft tall. It remained until 2013 and was dismantled due to safety issues.

Current State: Demolished, new one is built
Movement Direction
Min Height for Users NA

4 The Electric Tower

The Electric Tower was 200 feet tall and was the centerpiece of Luna Park when it opened for business in 1903. The most impressive point for this structure was its 20,000 electric lights which illuminated at night. It was a brand new way of using electric lighting back in the time. It was destroyed by fire in 1944.

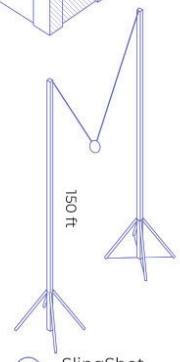
Current State: Demolished
Movement Direction
Min Height for Users NA



5 Thunderbolt

Thunderbolt is the first steel roller coaster in NYC and was built in 2014. The new Thunderbolt pays homage to the historical one that was built in 1925 and demolished in 2000. The roller roaster is known for its 90 degreedrop, inversions, turns and enough G-force.

Movement Direction
Min Height for Users 50"



8 SlingShot

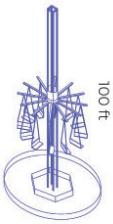
Riders are able to fly over 150 feet into the sky at speends up to 90 mph.

Current State: In use
Movement Direction
Min Height for Users 48"

9 Zenobio

This ride has two arms and the riders can catch a glimpse of ocean, sand, and sky as they swept 130ft in the air at speeds over 60 mph traveling in consecutive rotations

Current State: In use
Movement Direction
Min Height for Users 52"



10 Brooklyn Flyer

The users can rise to the height of approximately 100 feet and get a view over the Coney Island.

Current State: In use
Movement Direction
Min Height for Users 42"

11 Coney Tower

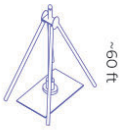
The ride provides you a jorney with a sequence of bounces and freefall drops.

Current State: In use
Movement Direction
Min Height for Users 42"

12 Atlantic Aviator

Atlantic Aviator takes riders on an amazing journey which replicates the experiences and sensations of an acrobatic airplane flight.

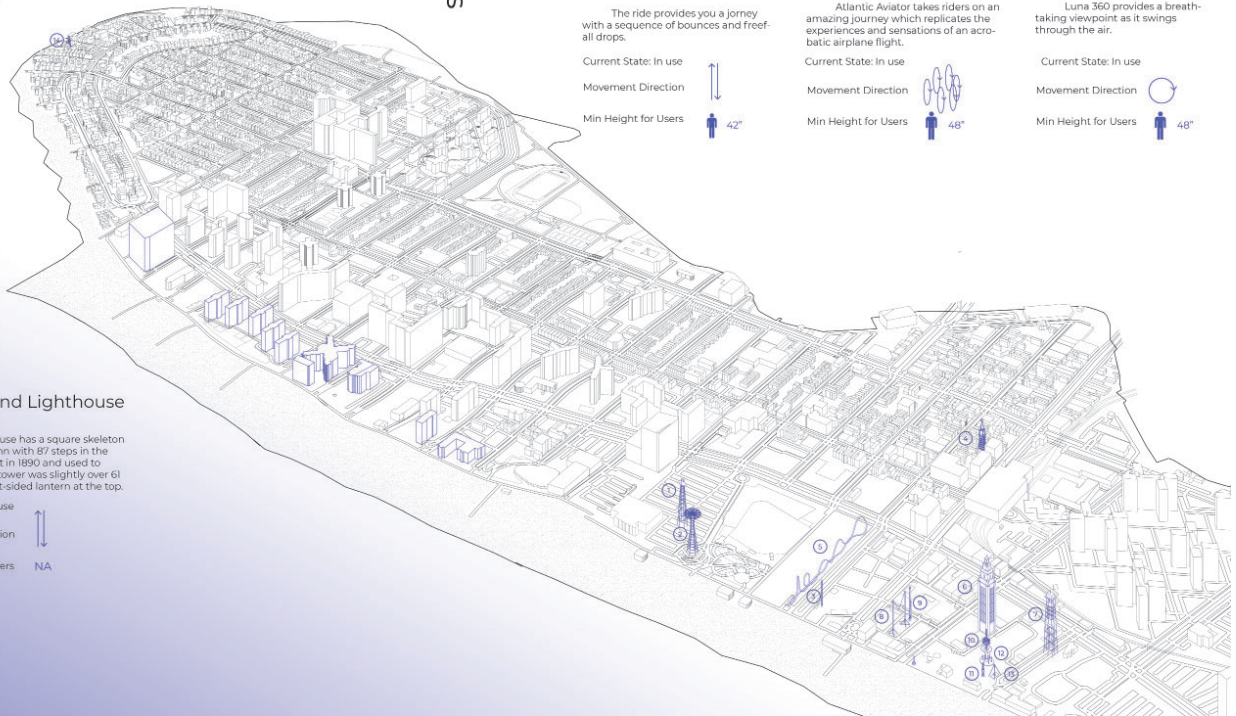
Current State: In use
Movement Direction
Min Height for Users 48"



13 Luna 360

Luna 360 provides a breathtaking viewpoint as it swings through the air.

Current State: In use
Movement Direction
Min Height for Users 48"

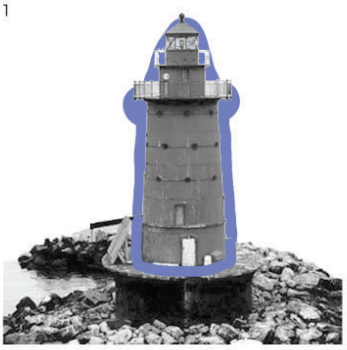


14 Coney Island Lighthouse

The lighthouse has a square skeleton with a steel column with 87 steps in the center. It was built in 1890 and used to guide boats. The tower was slightly over 61 feet, with an eight-sided lantern at the top.

Current State: In use
Movement Direction
Min Height for Users NA

1



West Bank Lighthouse
Constructed: 1910, NY
Type: Aquatic
Height: 55' (SL: 0')
Shape: Conical
Foundation: Caisson

2

Great Beds Lighthouse
Constructed: 1880, NJ
Type: Aquatic
Height: 62' (SL: 0')
Shape: Conical
Foundation: Caisson

3

Romer Shoal Lighthouse
Constructed: 1838, NY
Type: Aquatic
Height: 54' (SL: 0')
Shape: Conical
Foundation: Caisson

4

Old Orchard Shoal
Constructed: 1893, NY
Type: Aquatic
Height: 35' (SL: 0')
Shape: Conical
Foundation: Caisson

5

Robins Reef Lighthouse
Constructed: 1839, NY
Type: Aquatic
Height: 45' (SL: 0')
Shape: Conical
Foundation: Caisson

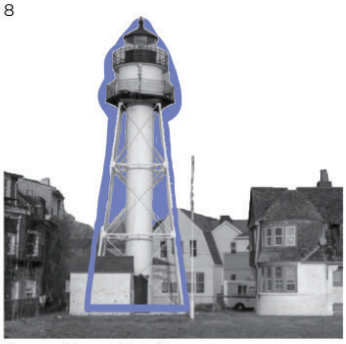
6

Lefrak Point Lighthouse
Constructed: 1872, NJ
Type: Terrestrial
Height: 50' (SL: 0')
Shape: Cylindrical
Foundation: Concrete

7

Sandy Hook Lighthouse
Constructed: 1764, NJ
Type: Terrestrial
Height: 85' (SL: 0')
Shape: Octagonal
Foundation: Masonry

8



Coney Island Lighthouse
Constructed: 1894, NJ
Type: Terrestrial
Height: 75' (SL: 0')
Shape: Square
Foundation: Steel Pile

9

Conover Beacon Lighthouse
Constructed: 1856, NJ
Type: Terrestrial
Height: 45' (SL: 0')
Shape: Hexagonal
Foundation: Steel Pile

10

Breezy Point Lighthouse
Constructed: 1914, NY
Type: Terrestrial
Height: 40' (SL: 0')
Shape: Square
Foundation: Concrete

11

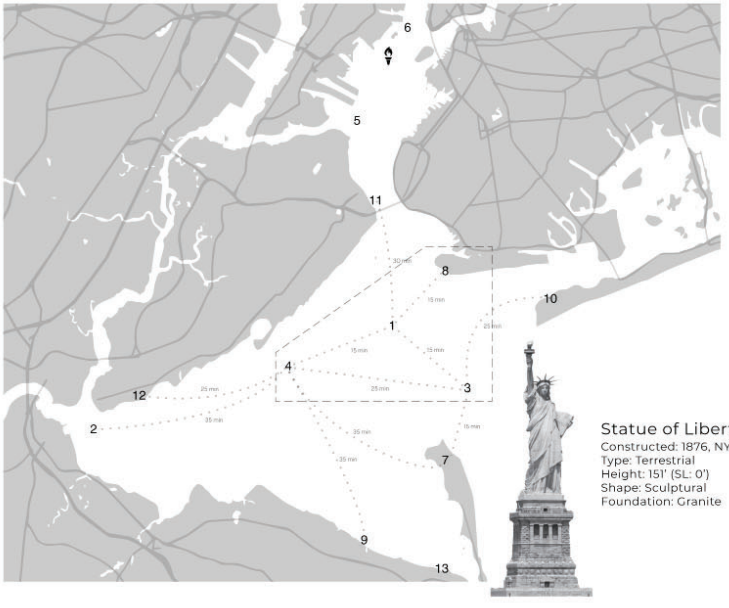
Fort Wadsworth Light
Constructed: 1903, NY
Type: Terrestrial
Height: 15' (SL: 75')
Shape: Cylindrical
Foundation: Fort's Parapet

12

Prince's Bay Lighthouse
Constructed: 1828, NY
Type: Terrestrial
Height: 40' (SL: 107')
Shape: Conical
Foundation: Rubblestone

13

Navesink Twin Lights
Constructed: 1862, NY
Type: Terrestrial
Height: 15' (SL: 200')
Shape: Octagonal
Foundation: Fort's Parapet

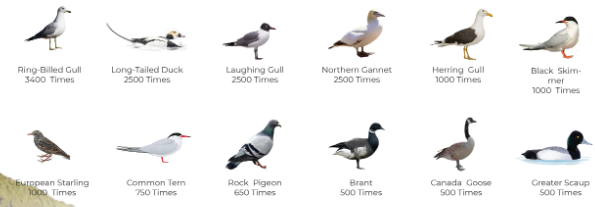


Statue of Liberty
Constructed: 1876, NY
Type: Terrestrial
Height: 151' (SL: 0')
Shape: Sculptural
Foundation: Granite

BIRDS

Protected Bird Species	Habitat	Nesting Area	Food
CLIFF SWALLOW Cliff Swallows consume millions of insects each year, they are very useful in controlling insect populations.		Canyons, Hills, Valleys, And Cliff Faces. Man-made Buildings And Structures Also Provide Shelter for Nesting Areas 	A Wide Variety Of Flying Insects, Particularly Beetles, True Bugs, Flies, Winged Ants, Bees, And Wasps 
ROSEATE TERN 160,000 Roseate Tern existed in the world and around 6,400 live in the US		On The Ground In Areas With Loose Sand, Gravel, Shell, Or Cobble Pebbles  & Artificial Nesting Box 	Small Fishes 
PIPING PLOVER 8,000 Piping Plover existed in the world		In open sandy situations near water 	Worms, Insect larvae, Beetles, and Small Shellfish 

Birds Frquently Observed at Coney Island



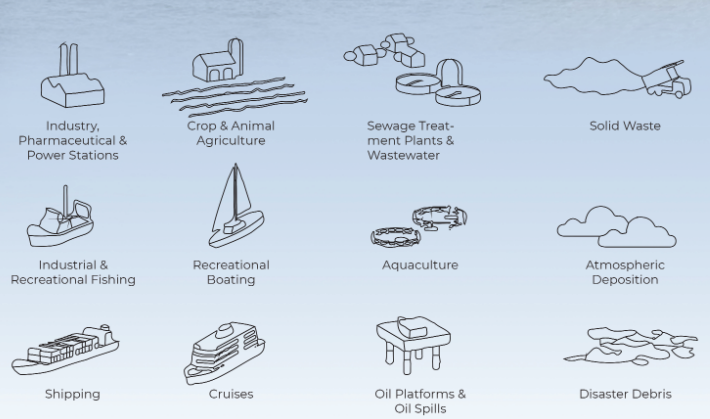
ROSES

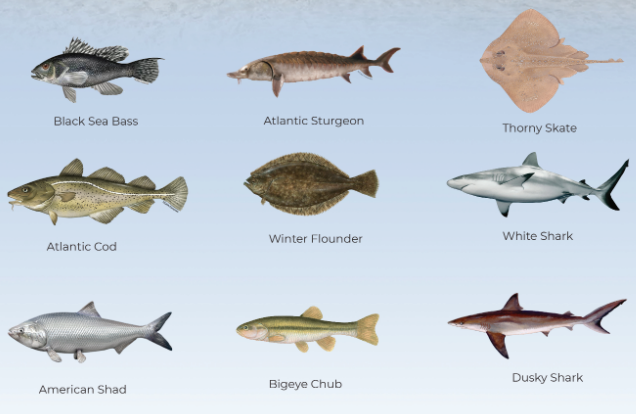
Common Rose Species	Growing Conditions
 ROSA NEW DAWN	They grow the best in fertile moist average garden loams in full sun to light shade. It can be grown on a trellis, fence, pergola or other verticle surfaces and will grow up to 15 feet tall and 8 feet wide. 
 CABBAGE ROSE	Found in woodland garden sunny edges and dappled shade. 

Pollinator Species		Harmful Insects (Attracted by Roses)	
HONEYBEES		APHIDS	
BUTTERFLIES		JAPANESE BEETLES	
HUMMINGBIRDS		SAWFLIES	

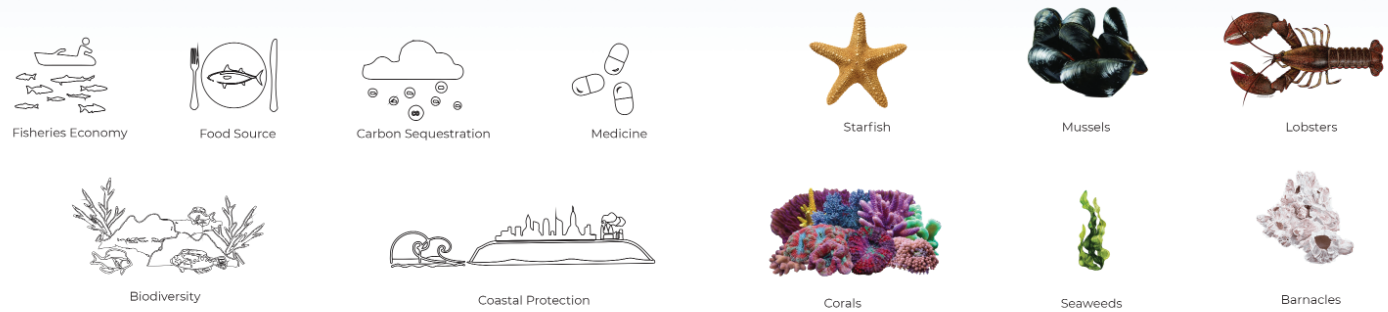
FISHES AND CORAL REEFS

THREATS TO MARINE LIFE

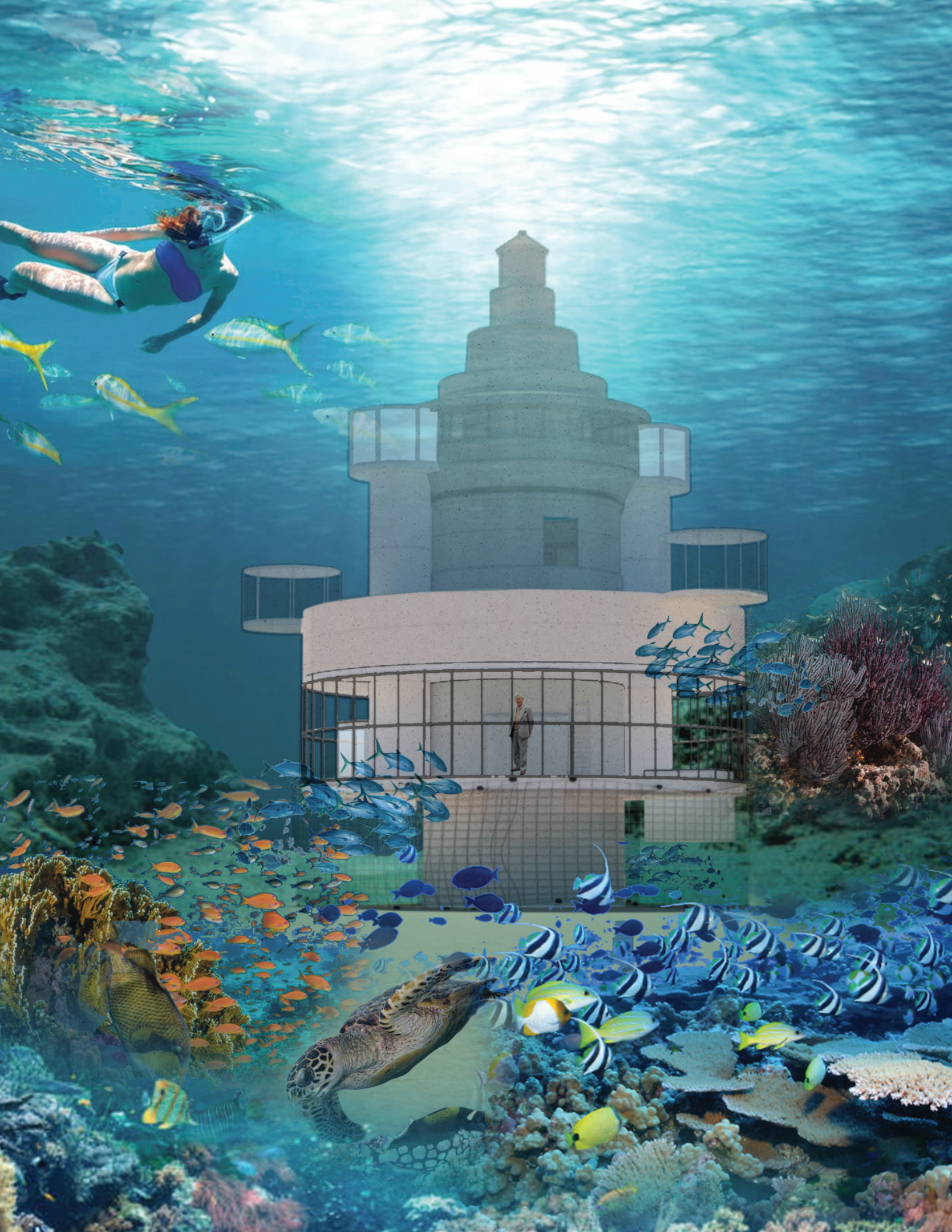


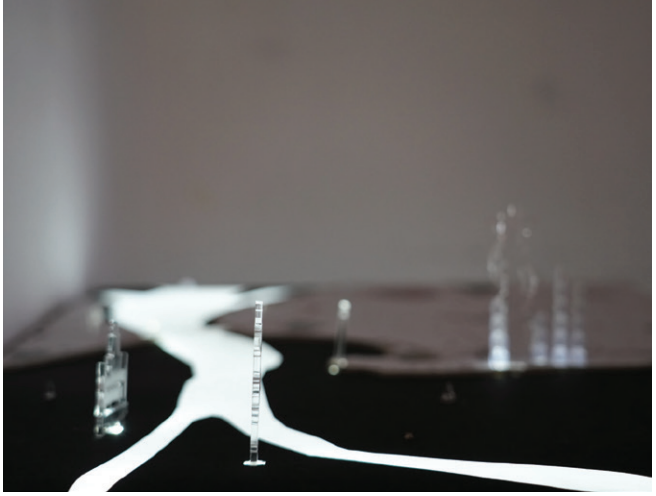


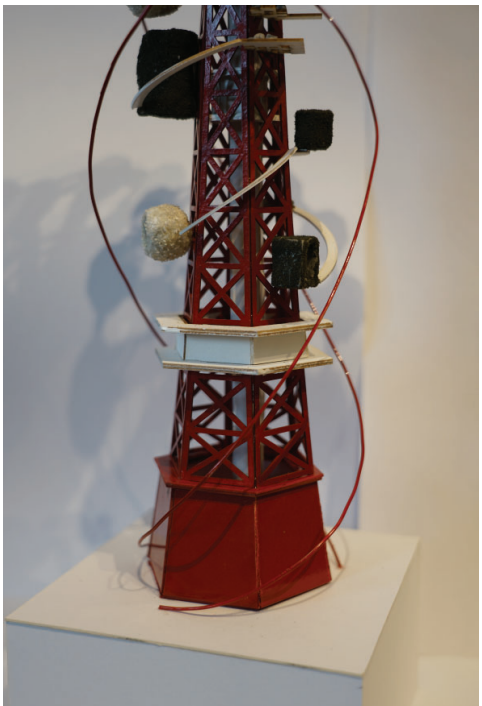
BENEFITS OF CORALS & FISH




FLOWER TOWER
BIRD NEST
CORAL REEF BOUTIQUE
OCEAN AQUARIUM







02 EDUCATION CENTER FOR THE SAMI

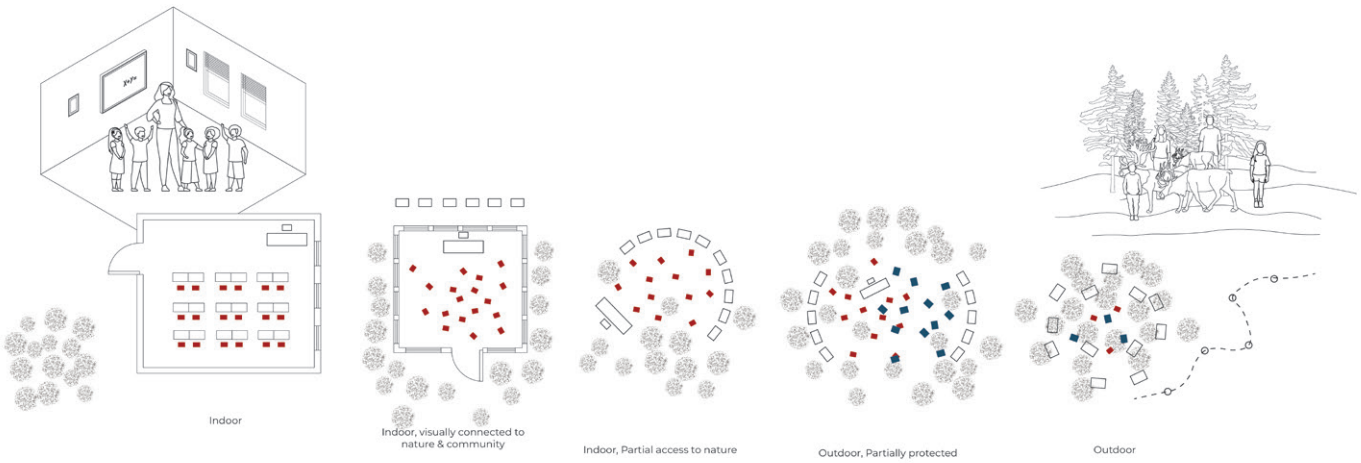
Oslo, Norway

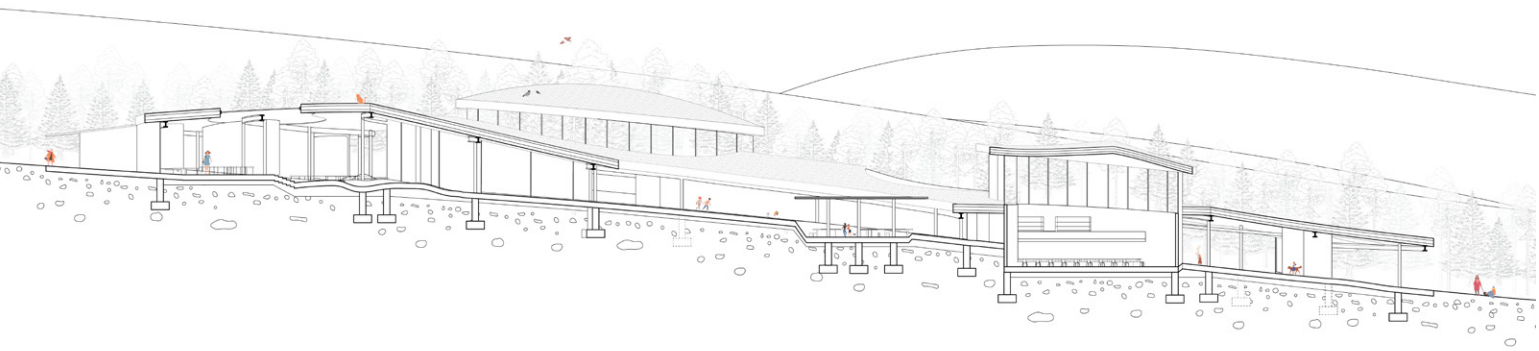
Individual Project
Instructor: Leslie Gill & Khoi Nguyen
Columbia A4005 Fall 2023

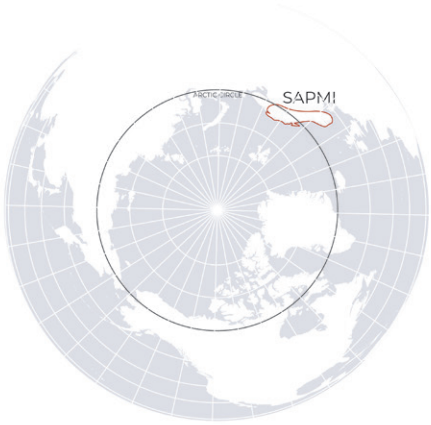
The Sami people are the indigenous people in Northern Europe and the estimated Sami language-speaking population is 80,000. Due to long periods of assimilation forced by the Norwegian government, there is a loss of Sami language and culture. The Norwegian government today sets up Sami schools in the Sami core areas and language classes for those outside the core area. However, the Sami students complained about it being meaningless to go to these classes since they're adapting to the modern day Norwegian education system. The Sami children outside the Sami core area go to Sami school once a month and stay there for a few days which barely improve their Sami language skills or build any strong friendships with their Sami peers.

The western and Sami pedagogy differs a lot. In the western model, knowledge emanates from a single stem and ends in predetermined 'fruits'. And the indigenous model is a nonlinear network that connects any point to any other point. It allows for multiple, non-hierarchical entry and exit points in learning and this represents the indigenous way of learning.

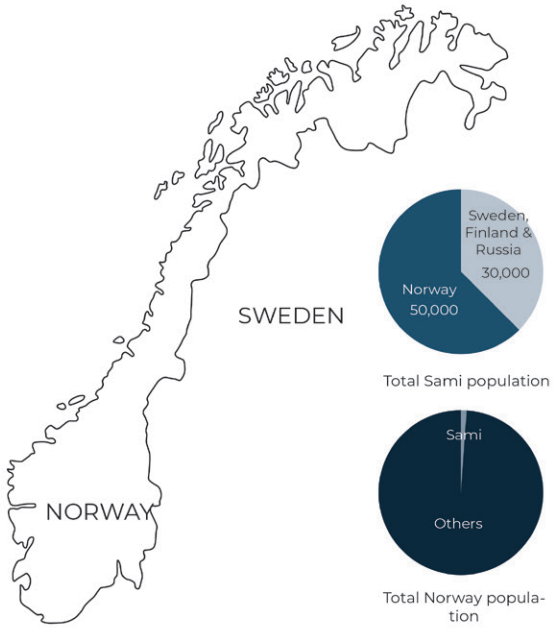
My proposal is to design a school that incorporates the Sami learning method. Many Sami children today have moved to bigger cities and are used to the Western modernity. Thus it is important for them to learn both under the western and Sami pedagogy. In this instance, my school plans to engage various community members and implement diverse educational approaches through the utilization of various architectural environments. More freedom is provided to the children for both interior and exterior. And nature, as the Sami people's most important spiritual element, will be wrapping around the school and there're natural elements appear in the indoor areas too.





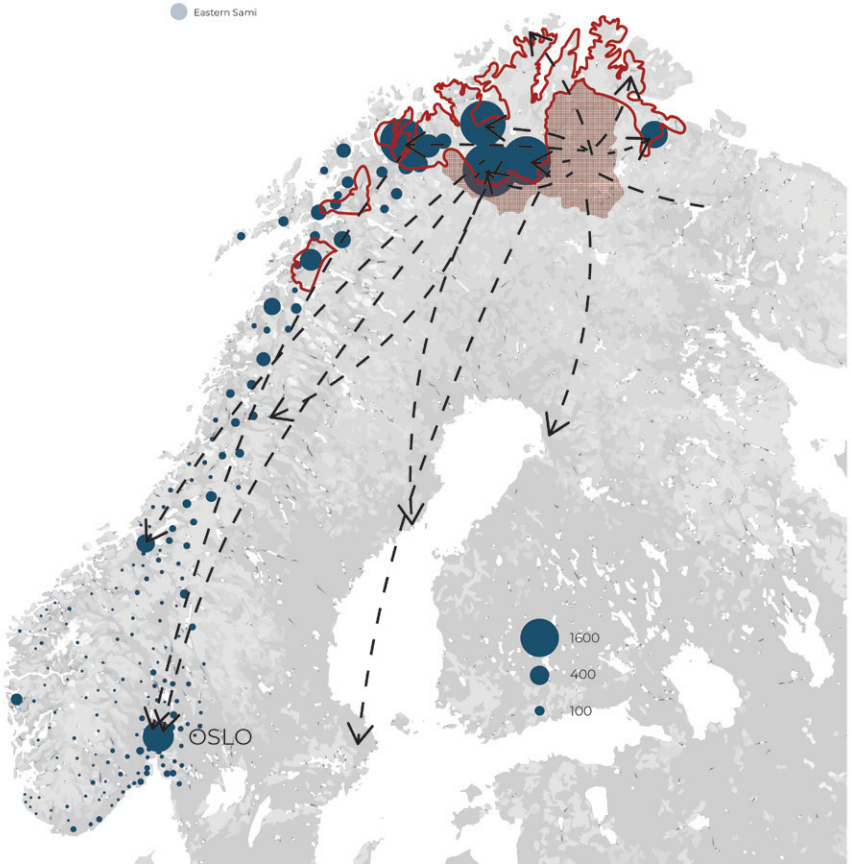


Southern Sami
Central Sami
Eastern Sami

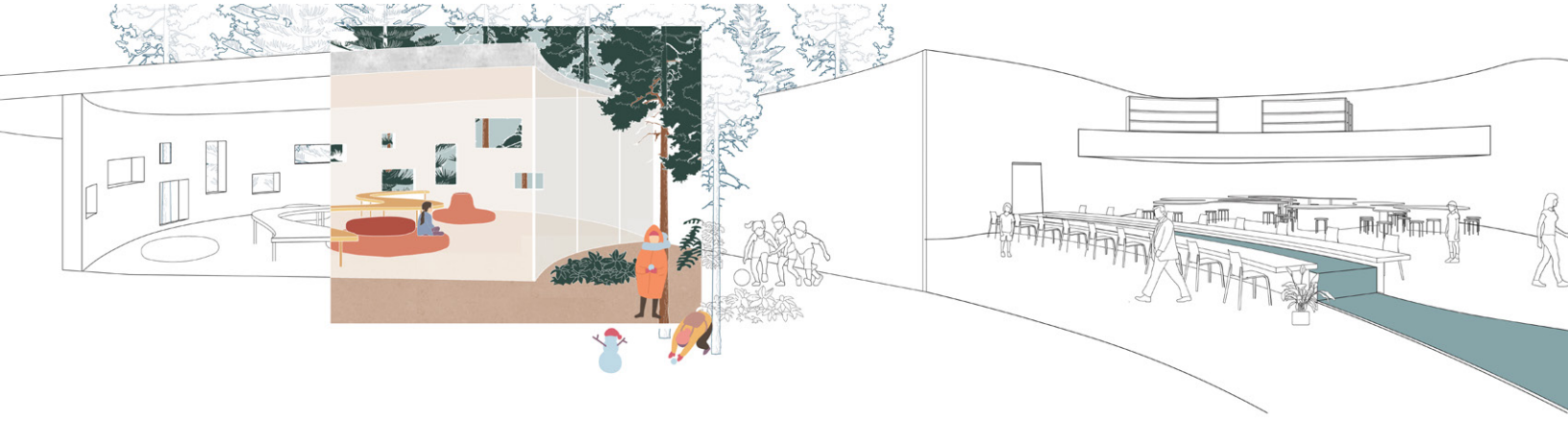


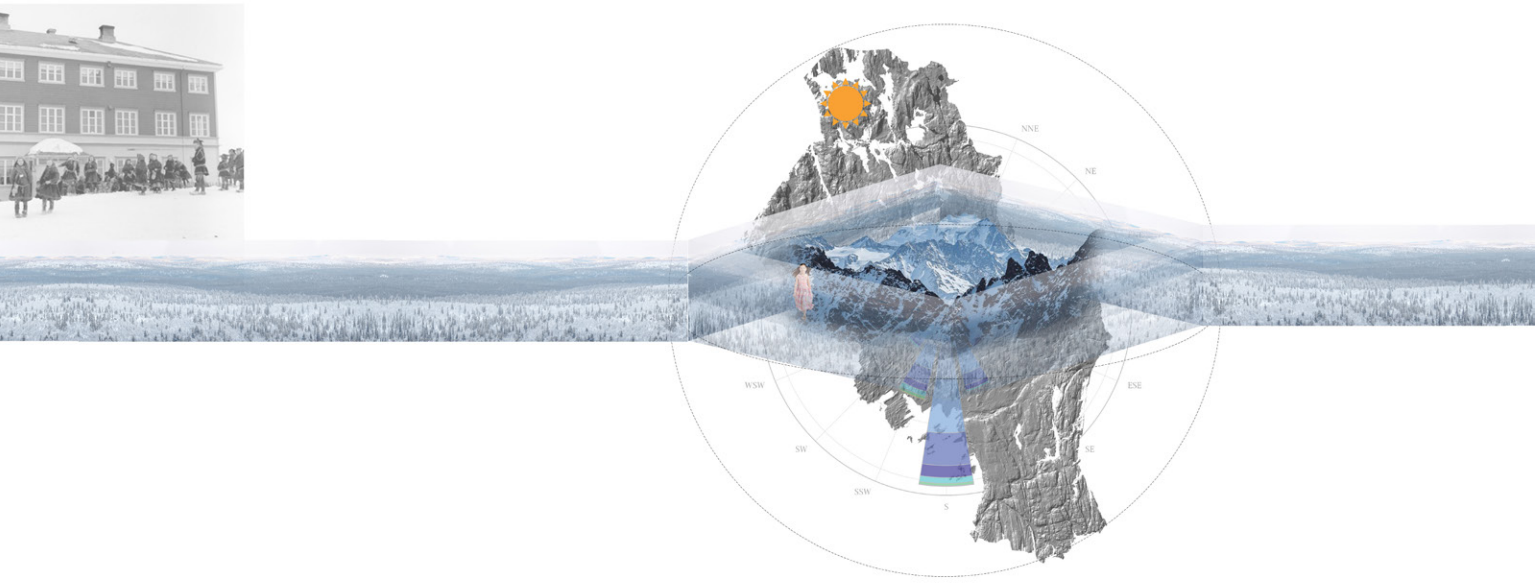
Total Sami population

Total Norway population

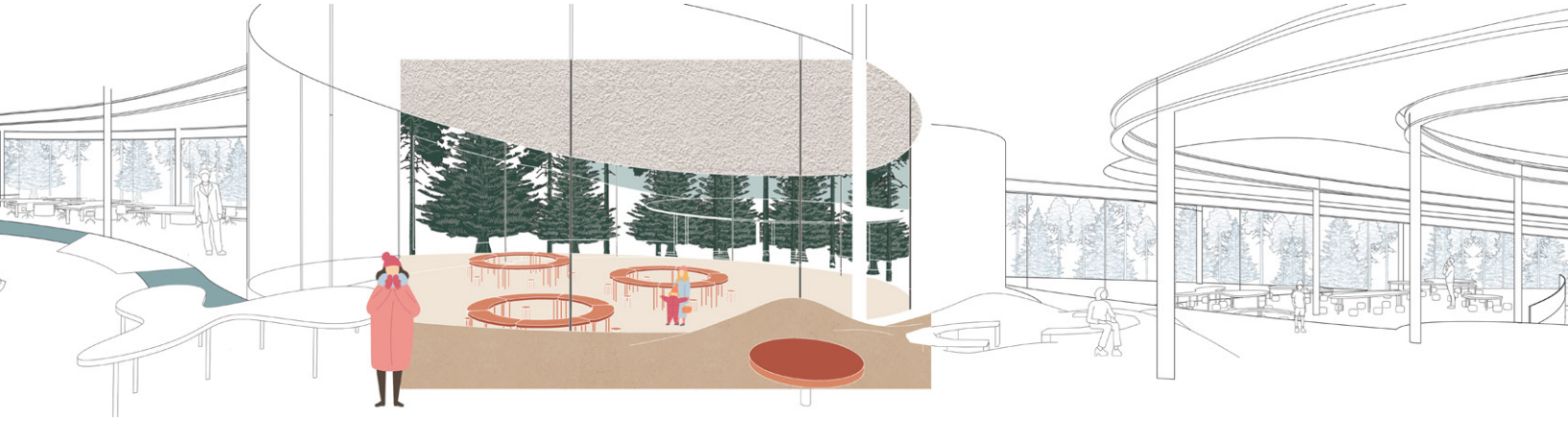


Sami Children's Connection to Family & Community

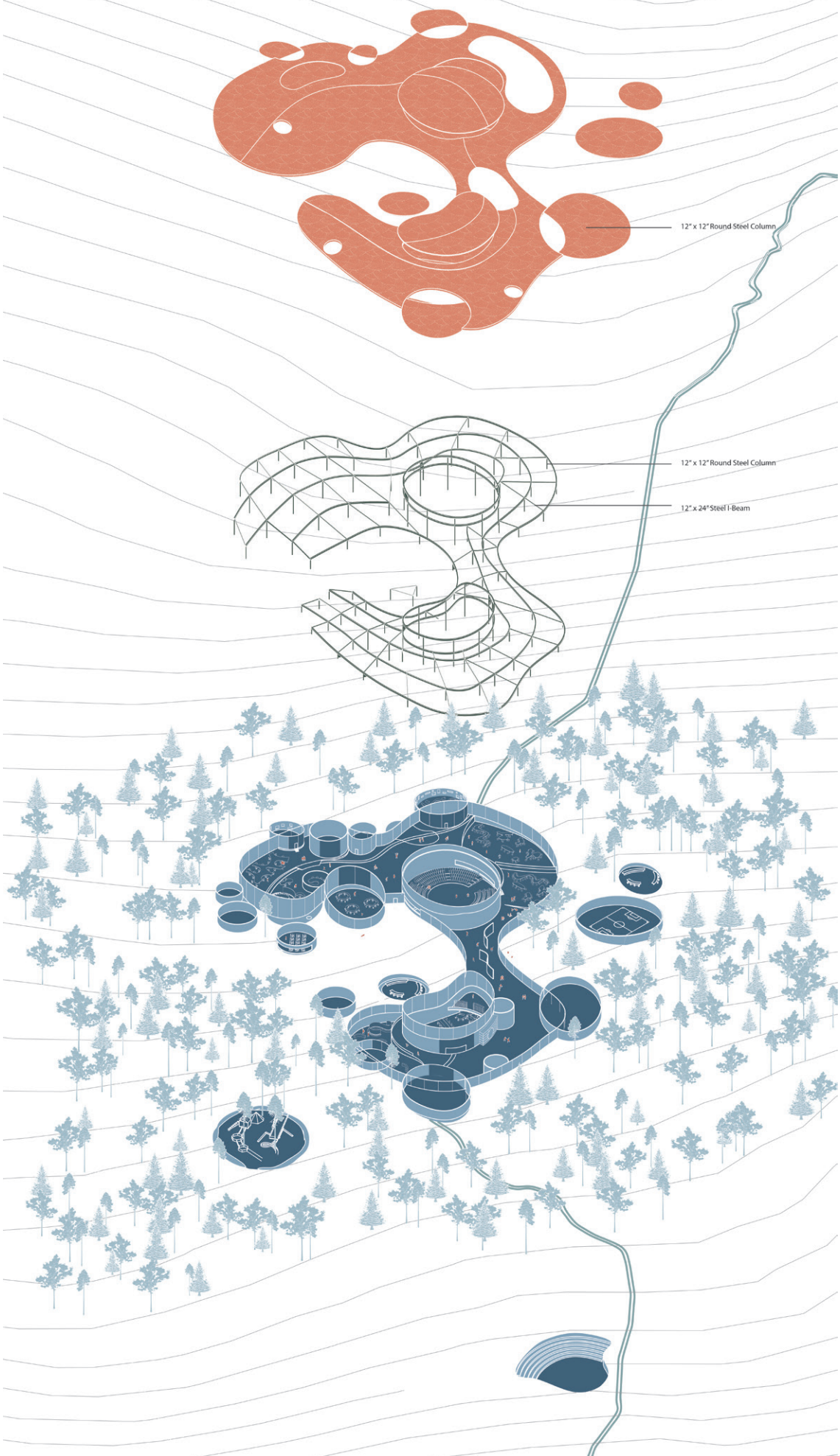




Sami Children’s Relationship with Nature and World



Ground Floor Plan


12" x 12" Round Steel Column
12" x 12" Round Steel Column
12" x 24" Steel I-Beam

03 East Village Business & Culture Incubator

New York, NY, United States

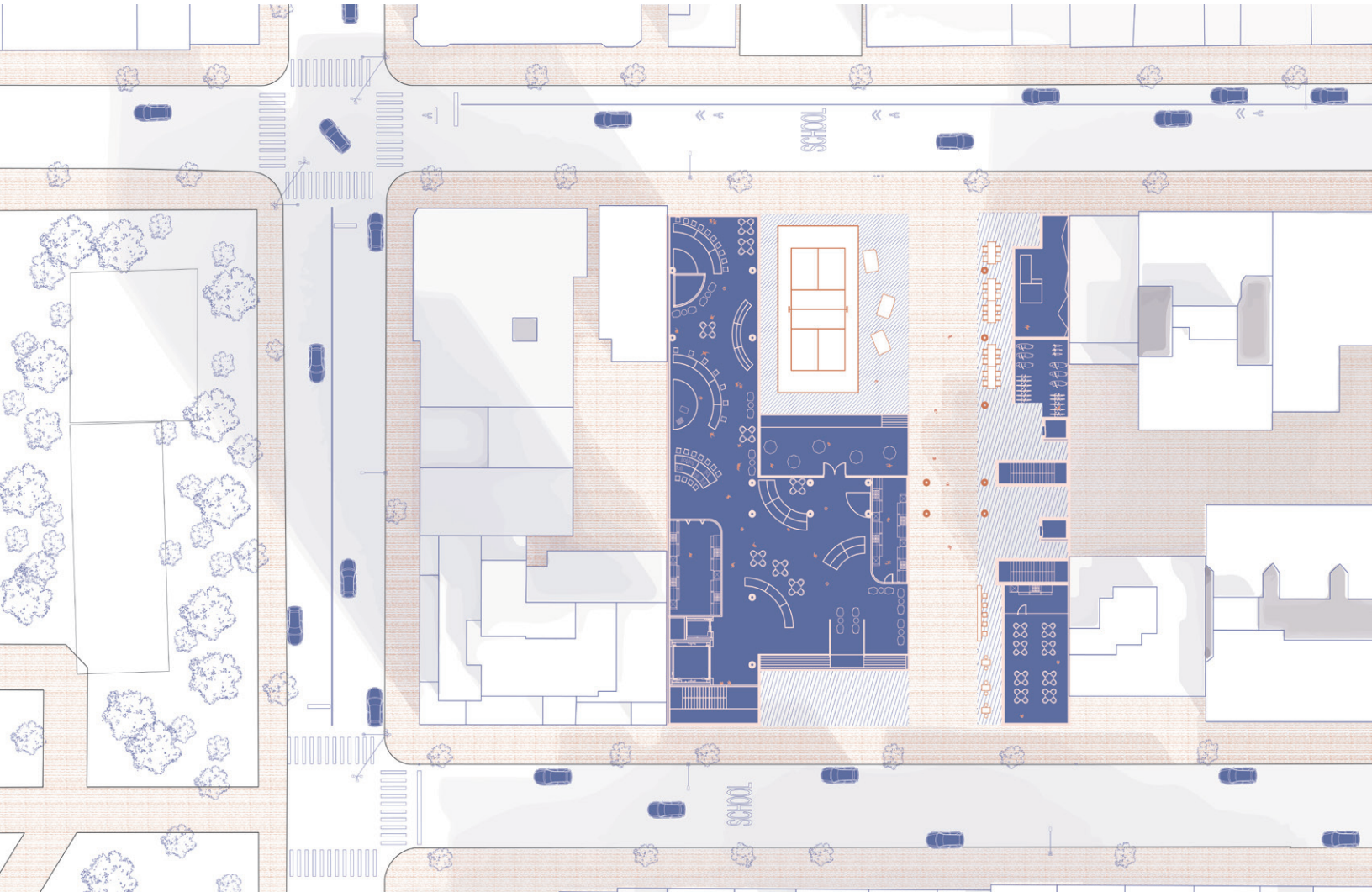
Individual Project
Instructor: Christoph Kumpusch & Patrice Derrington

The East Village was once celebrated for its rich cultural diversity and vibrant arts scene. However, escalating rents and the impact of pandemics have forced many artists and restaurants to relocate or shut down. Most business activities are now concentrated on the west side of Tompkins Square Park, leaving the east side dotted with vacant storefronts.

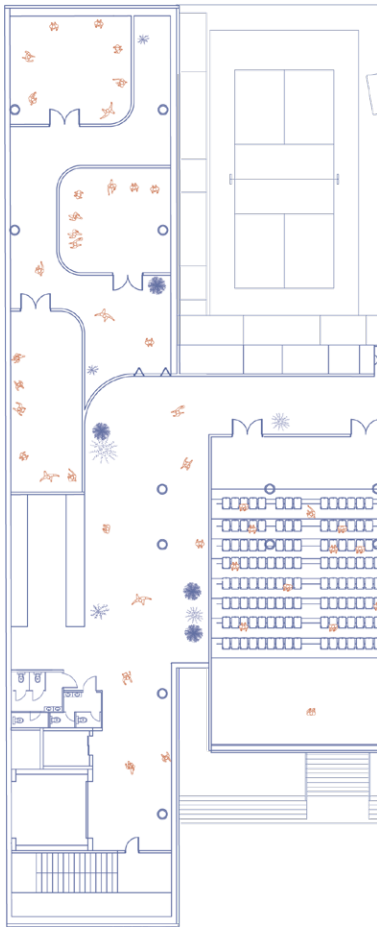
In my proposal, I aim to rejuvenate local businesses and art production by drawing community members through a variety of events and activities. Everyone is encouraged to participate and contribute to the community's cultural development.

My program is divided into two distinct types: absorption and distribution. The absorption component focuses on integrating artists, musicians, and local business owners into the community. The distribution component offers free community activity zones, encouraging participation and engagement. By melding these two aspects, we can create a dynamic mix of individuals and balance costs and revenues by charging rent to for-profit businesses.

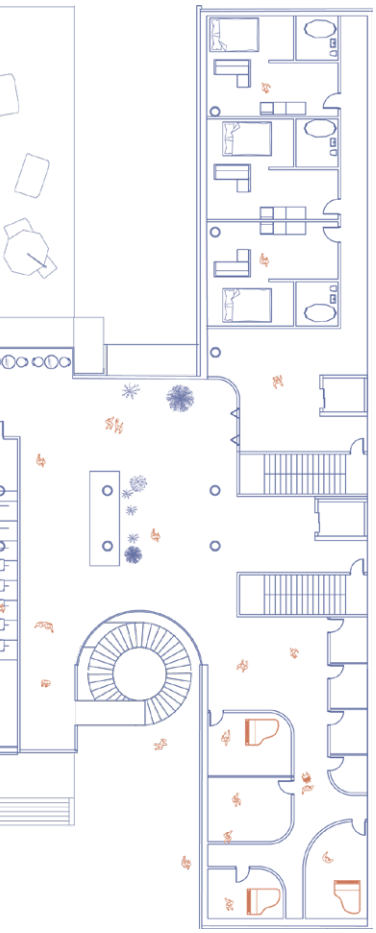
In terms of design, the two guiding principles are visibility and invisibility. I intend to preserve the building's facade as much as possible while making certain interior areas more visible to enhance the building's welcoming nature. The exposed areas will include major program centers, while the more private, "invisible" parts will house supportive programs such as workshops, music practice rooms, and residences.



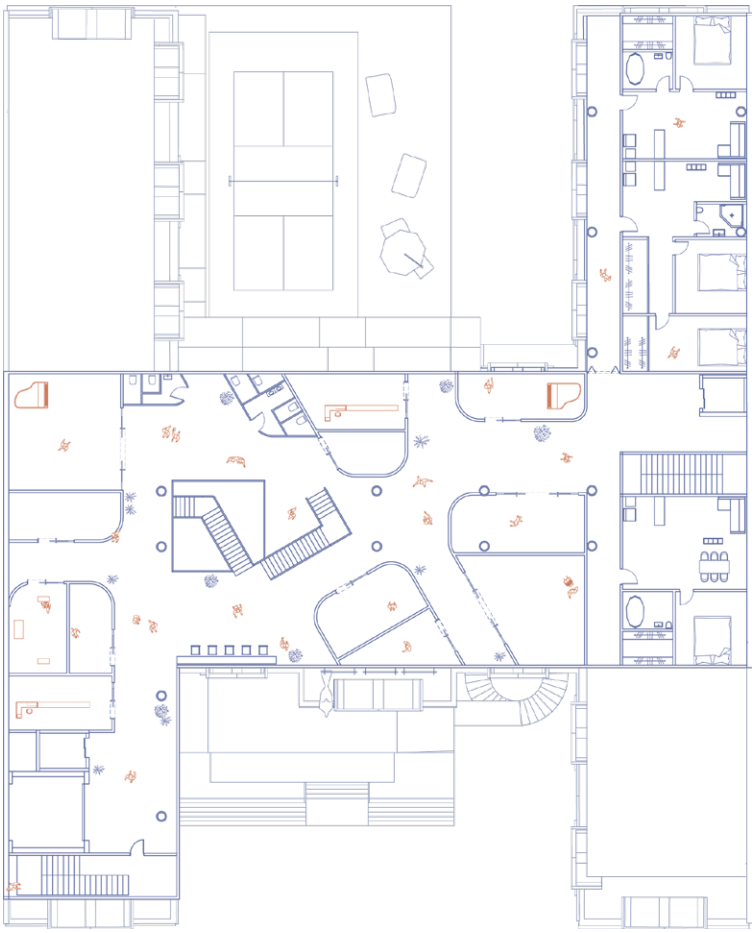
3rd Level



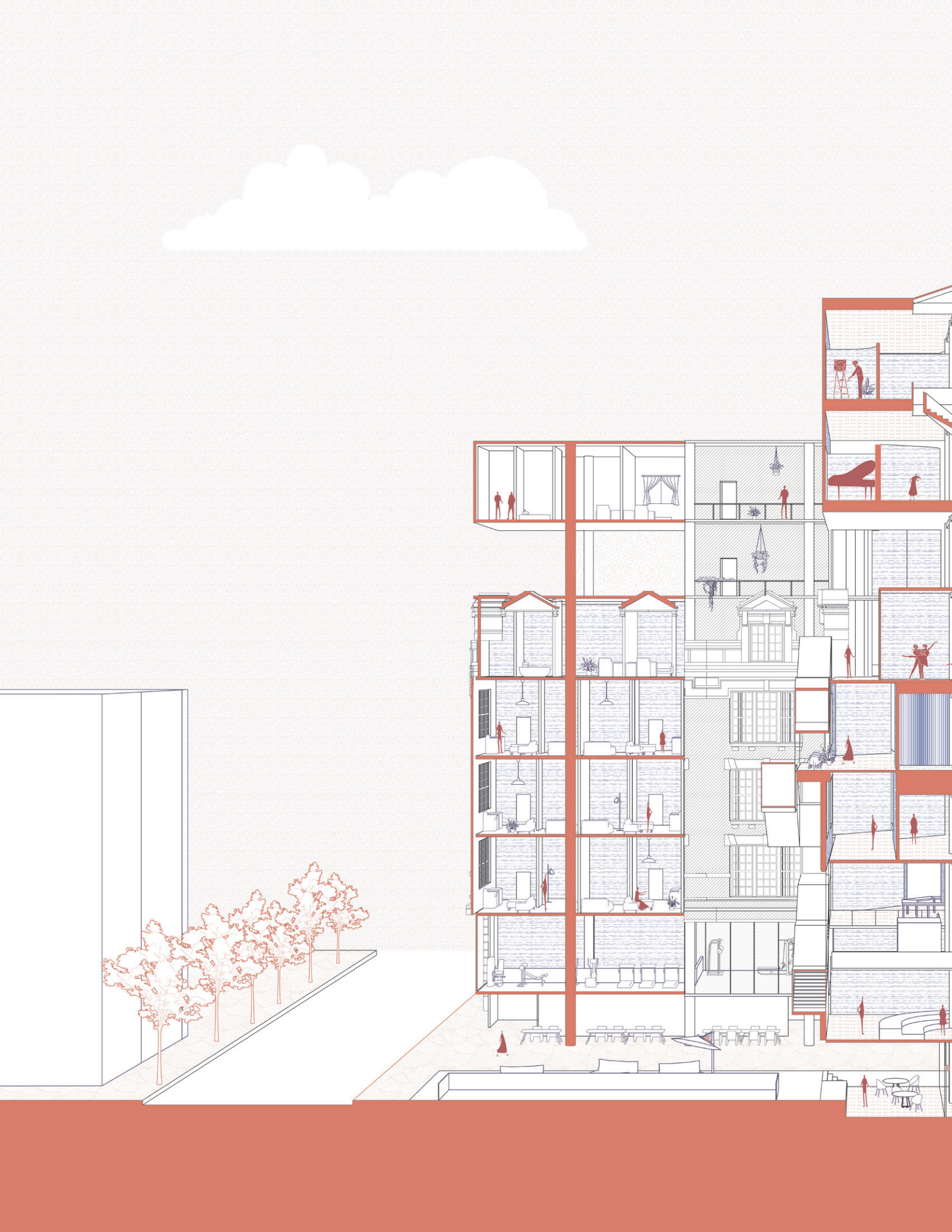
5th L

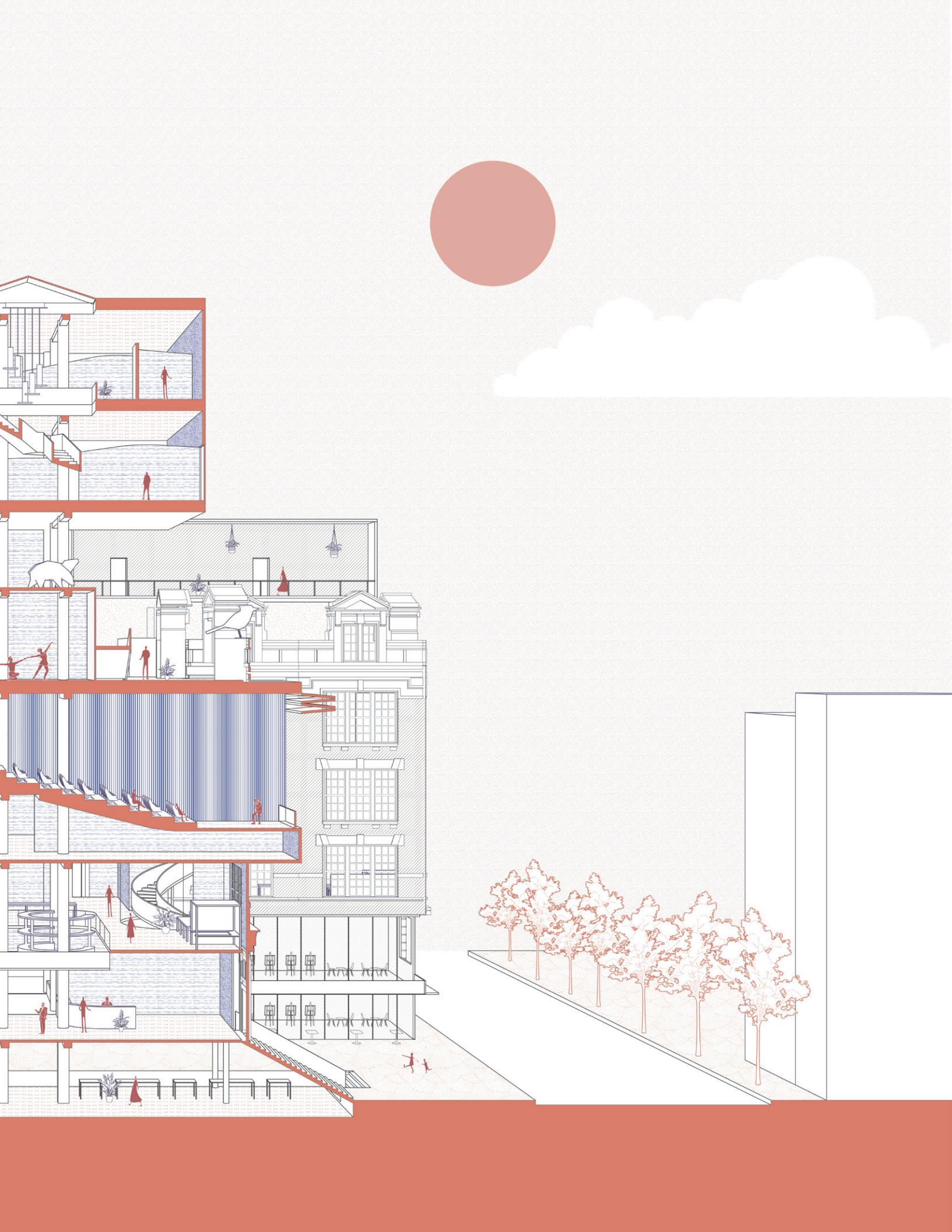


Level



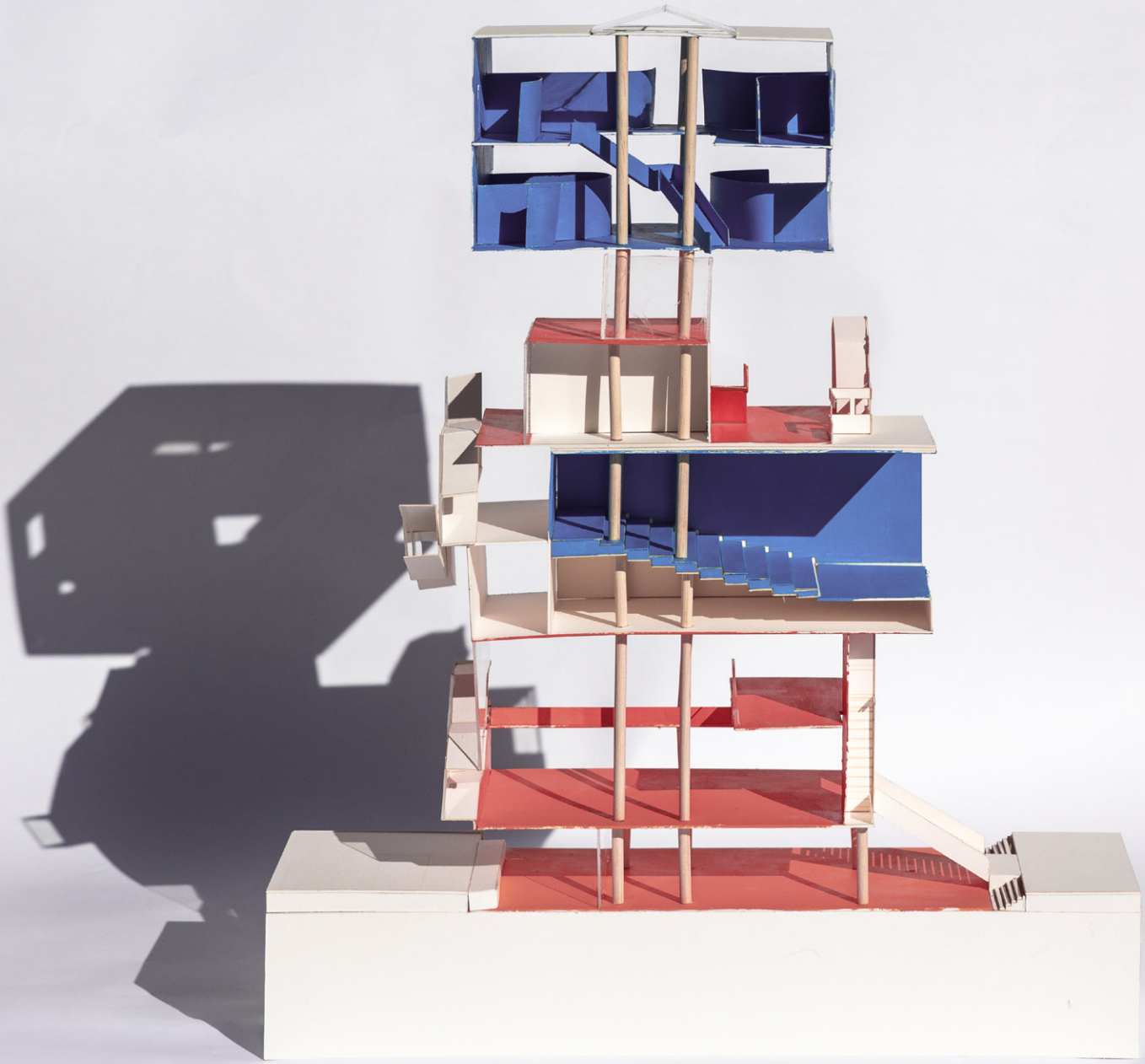
9th Level

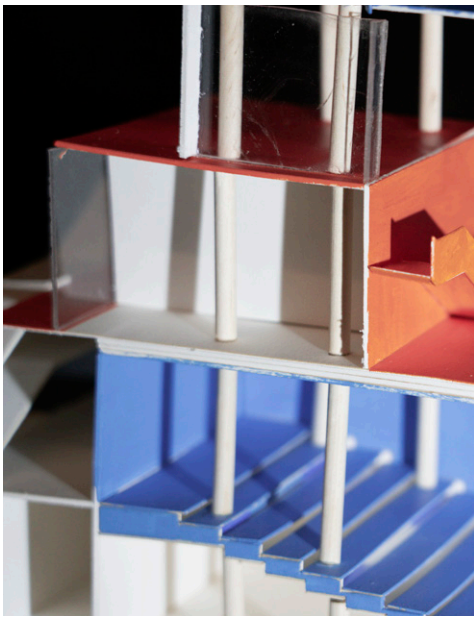


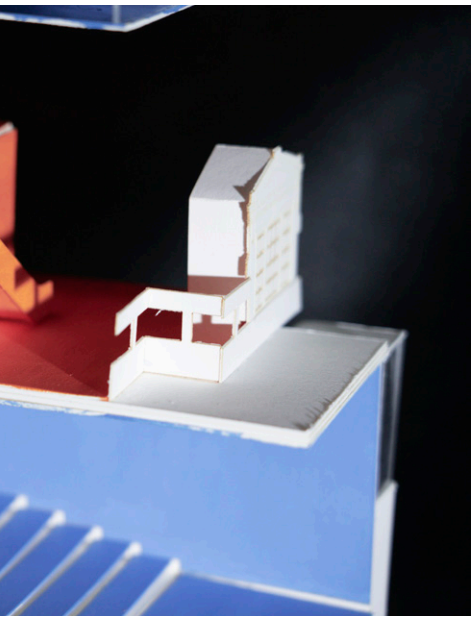


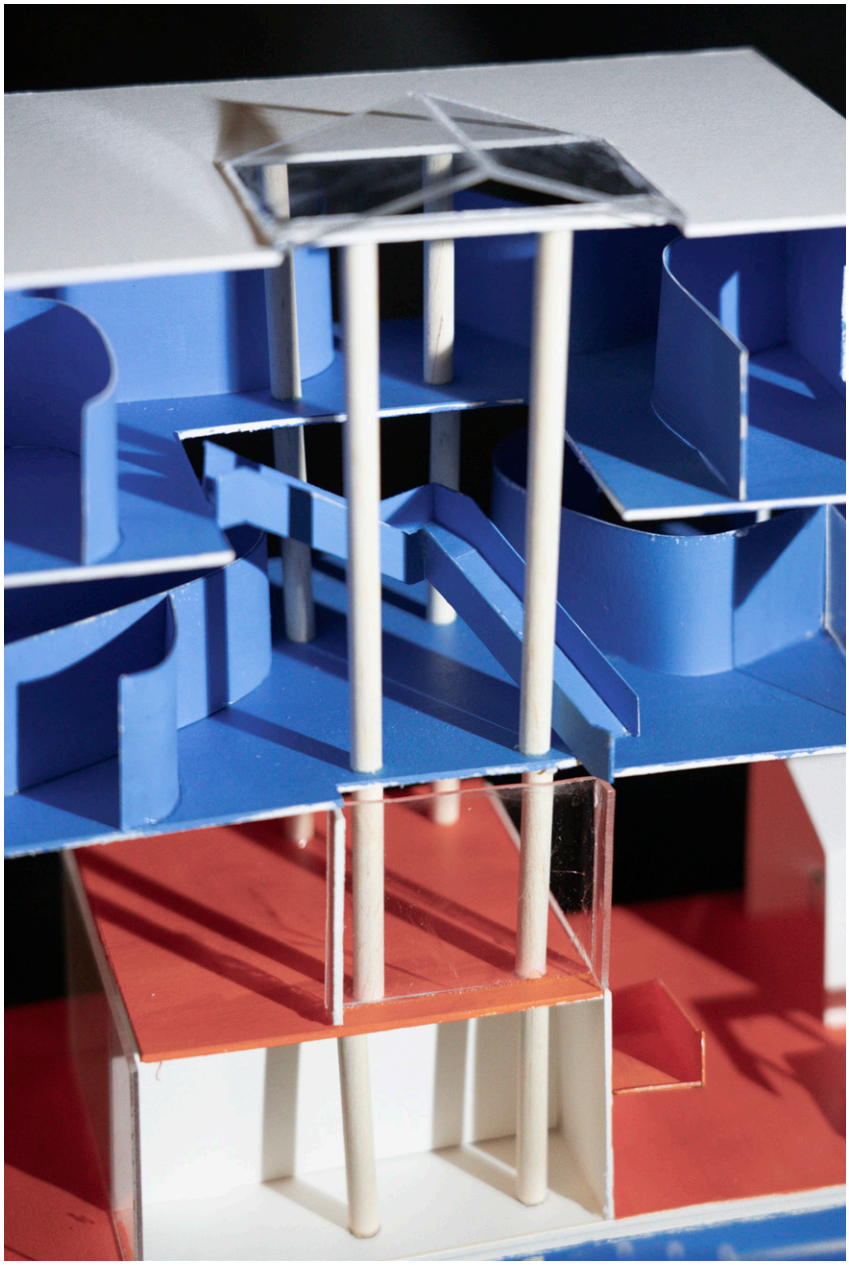
Backyard

Lobby



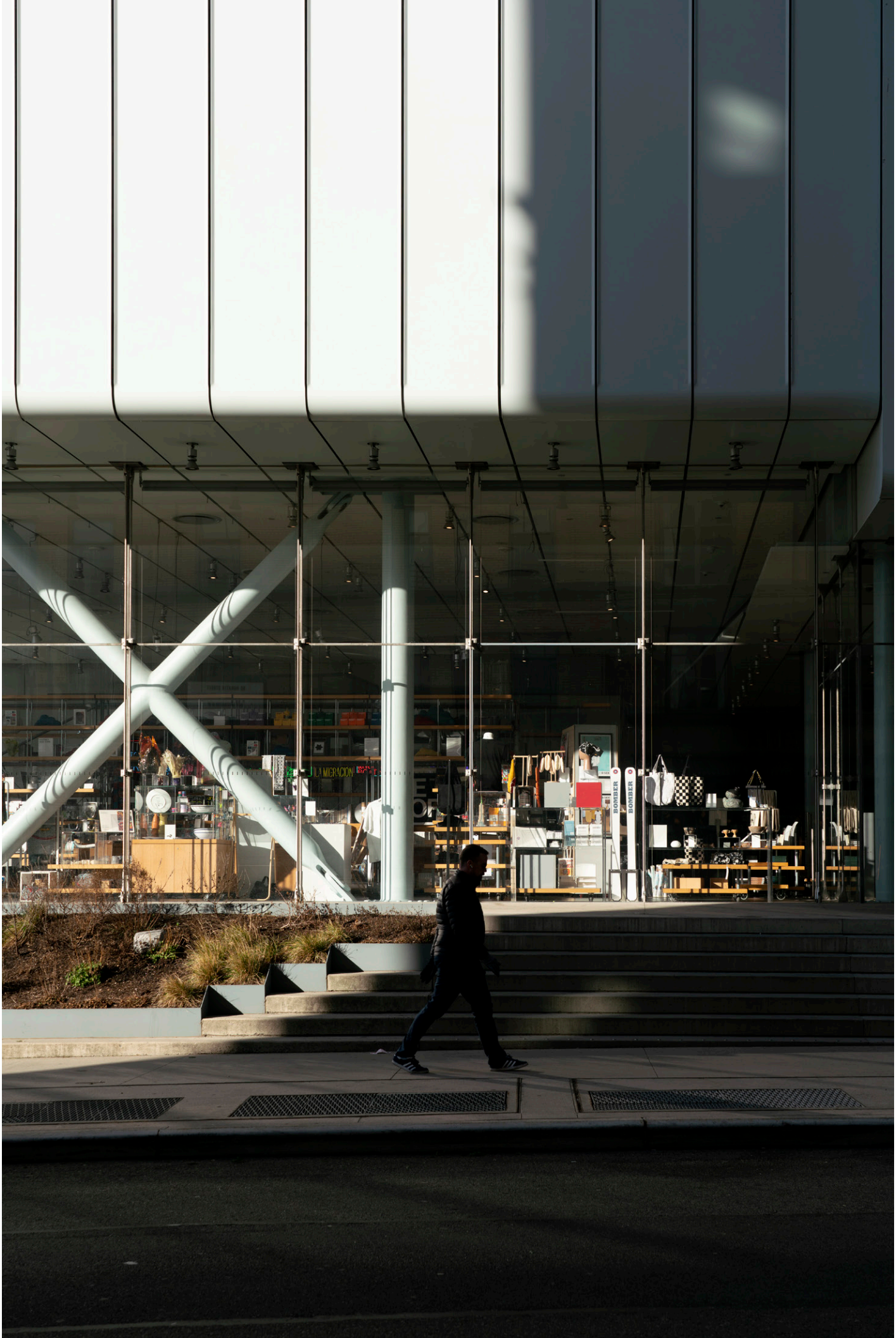






Chunk Model

04 Architectural Photography


LA MIGRACION
BOMBER
BOMBER


WHITNEY
WHITNEY
WHITNEY
INTERSTATE FOODS INC.
AUTHORIZED
VEHICLES
ONLY
SCHOOL BUS
STOP


S'LORVS (I)P NOBIS


NOT THE THRILLS
RoyalCaribbean
INTERNATIONAL
RETAIL OR
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