HSIN YING, HUANG

SELECTED WORKS at GSAPP

PROJECT

Fall 2023 / Academic Project / Prof. Leslie Gill

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01.
TROPICAL HIGHRISE

YEAR : SUMMER, 2023
LOCATION : AUROVILLE, INDIA
CATEGORY : GROUP WORK, ACADEMIC PROJECT
INSTRUCTOR : ANUPAMA KUNDOO

DESCRIPTION :

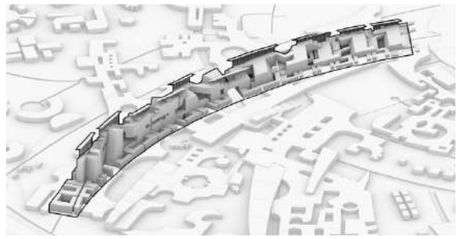
Auroville is a unique urban plan, because it fosters a shared community model with no land ownership, and no car traffic, and is an innovative laboratory-type city. This allows the experimentation of novel urban design and architectural design strategies that would otherwise be impossible in other city center. The site is located in one of the harshest tropical climate environments in the world: hot, humid, and rainy. The building mass is designed as a response to high-density housing, facing insufficient access to natural ventilation, inconsistent rainfall throughout the year, and consistently high temperatures throughout the year.

0.1 MASS

Line of Goodwill #11 as a selected site for the experiment. Gradual extrusion toward the south, based on Roger Anger's design guidelines.

01 Valley toward the North-East and South-West axis to align with the radial city plan

02 Interlock the mass, and introduce openings toward North-West and South-East axis.



03 Provide solar PV and wind turbines to generate renewable energy.

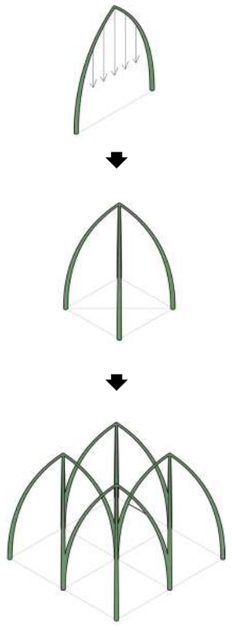
04 Combination of natural materials to define a distinct co-housing high-rise building

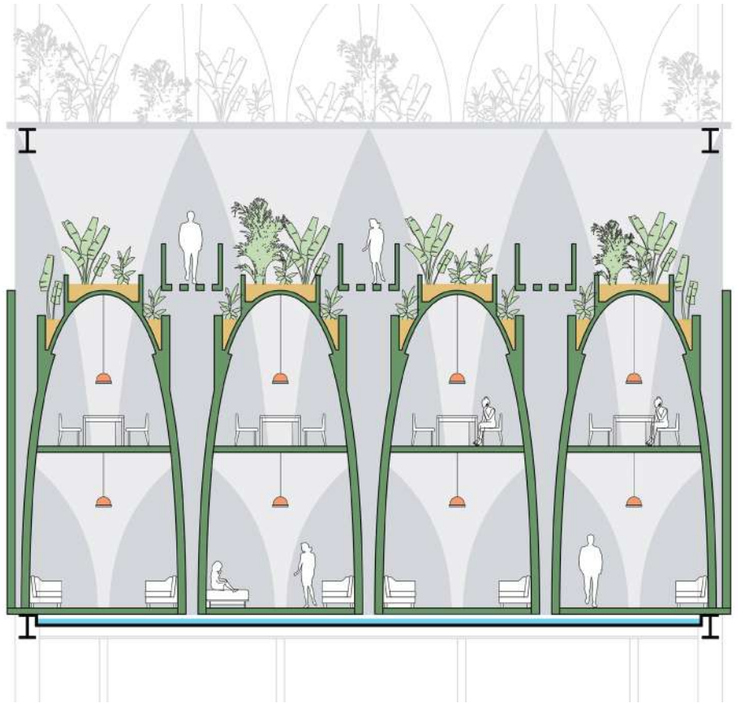
0.2 REDUCE EMBODIED CARBON

The building mass is designed as a response to the severe weather of Auroville: roughly 38°C, 66% humidity, with high wind speed at 4.9 meters per second in mid-May. In hopes of achieving a net zero building. The building is composed of bamboo and cross-laminated timber as the main structure with earth-plastered walls on the interior to reduce embodied carbon.

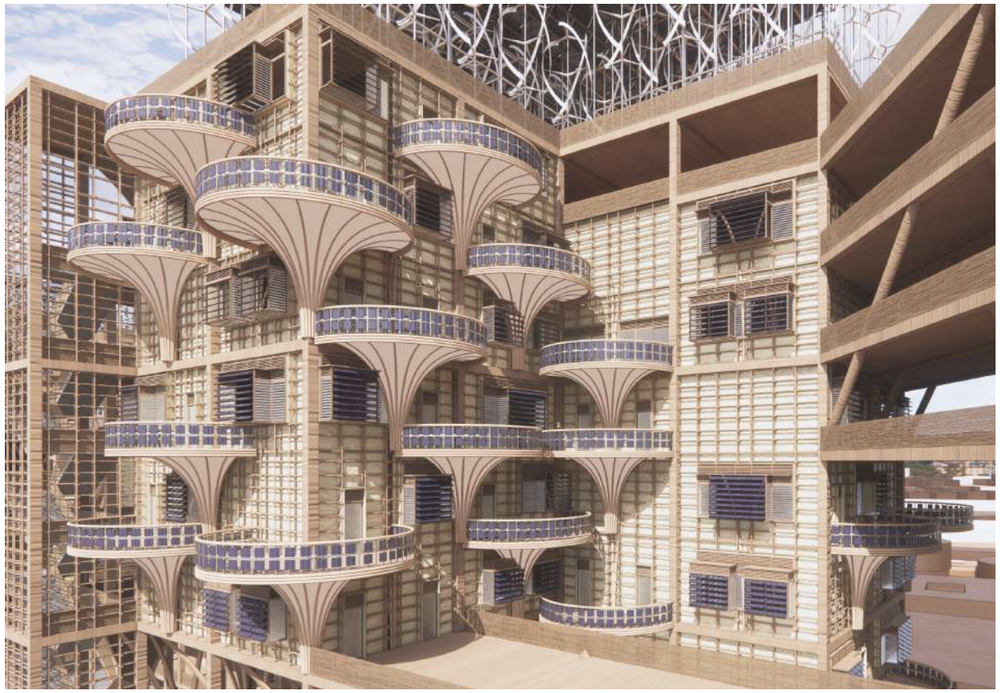
0.3 RAIN COLLECTOR

In Auroville's monsoon season, there are short-term heavy rains that cause flooding. Therefore, the rain collector is used to collect water for the daily usage of the residents. Inside the funnel, there are stepped potted plants and soil to contain more water and prevent the rapid loss of rain.





0.4 HARVEST RENEWABLE ENERGY



Energy generated from wind turbines and SPV is about 653,710 kWh per year, or 137.56% of total energy consumption, which makes building an operational Net Positive Building. Also, to optimize cross ventilation openings and louvres at the lower part of walls, doors, and windows are provided. The plenum and air gaps above the ceiling allow the heat from the inside to be released.

THIRD FLOOR PLAN

1. Private Room
2. Co-living Space of each cluster.
3. Public Space share with the village.
4. Rain Collector
5. Wind Turbine

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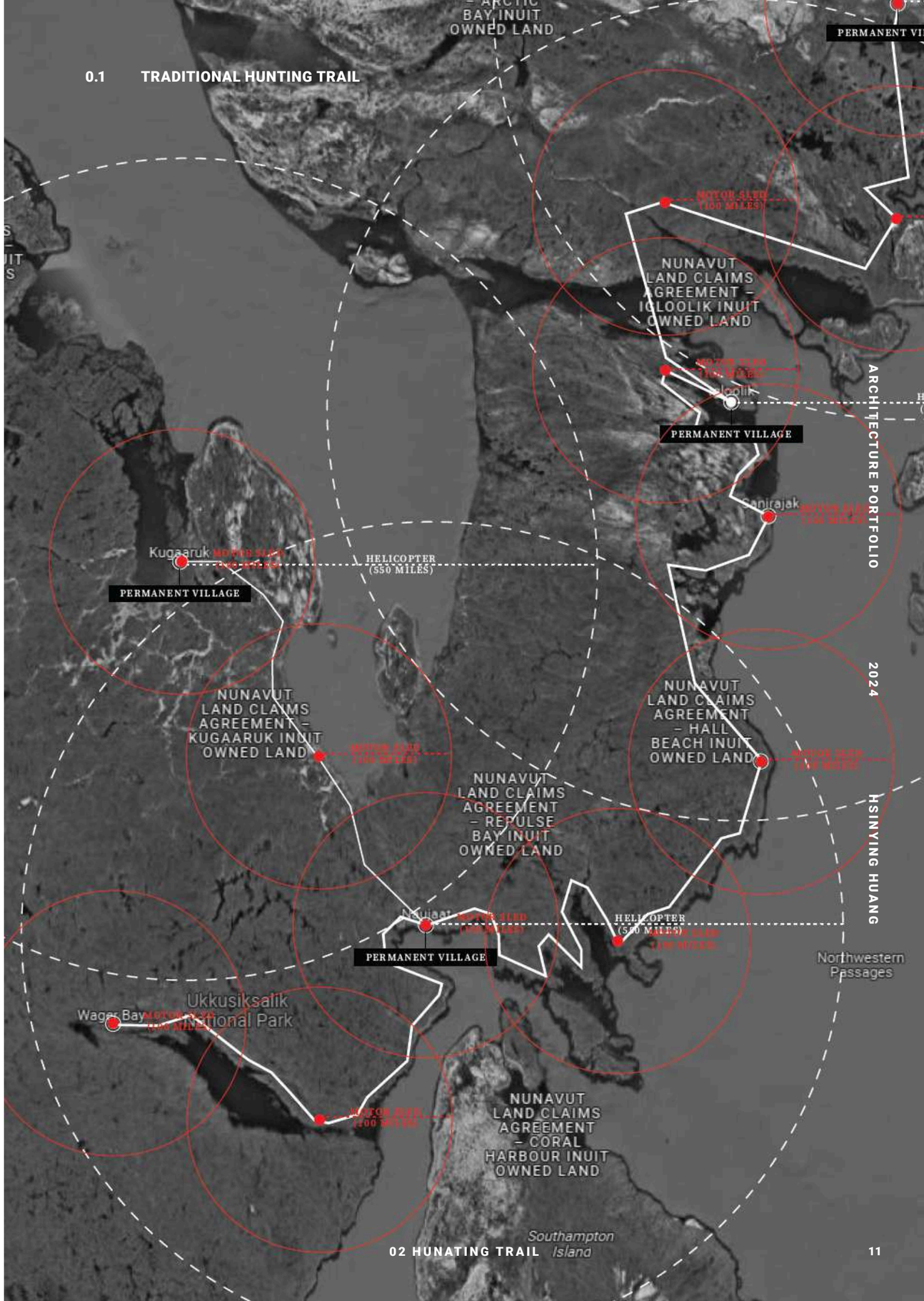
02.
HUNTING TRAIL

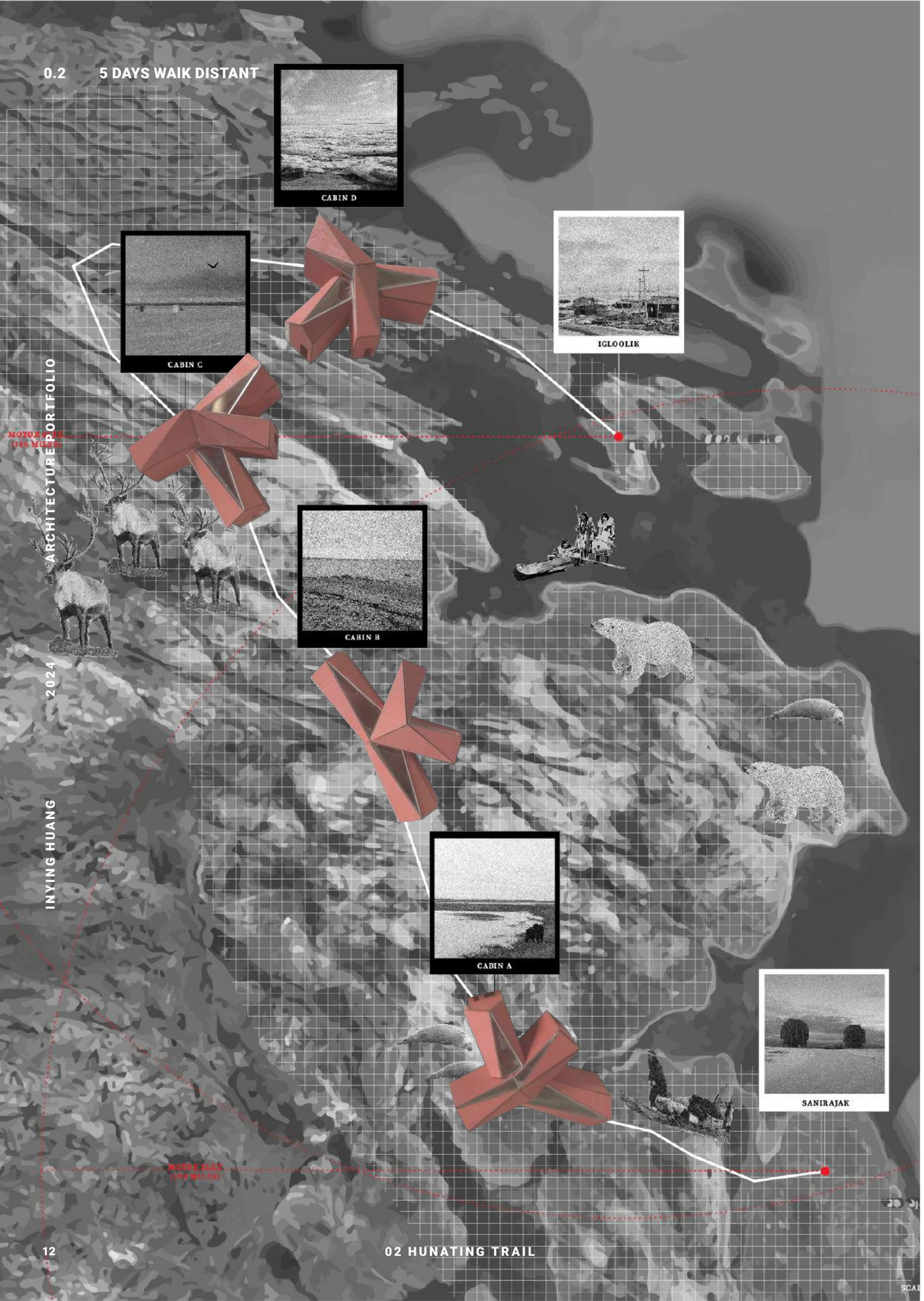
YEAR : FALL, 2023
LOCATION : FOXE BASIN, NORTH POLE
CATEGORY : INDIVIDUAL WORK, ACADEMIC PROJECT
INSTRUCTOR : LESLIE GILL / KHOI NGUYEN / KRITI SHIVAGUNDE

DESCRIPTION :

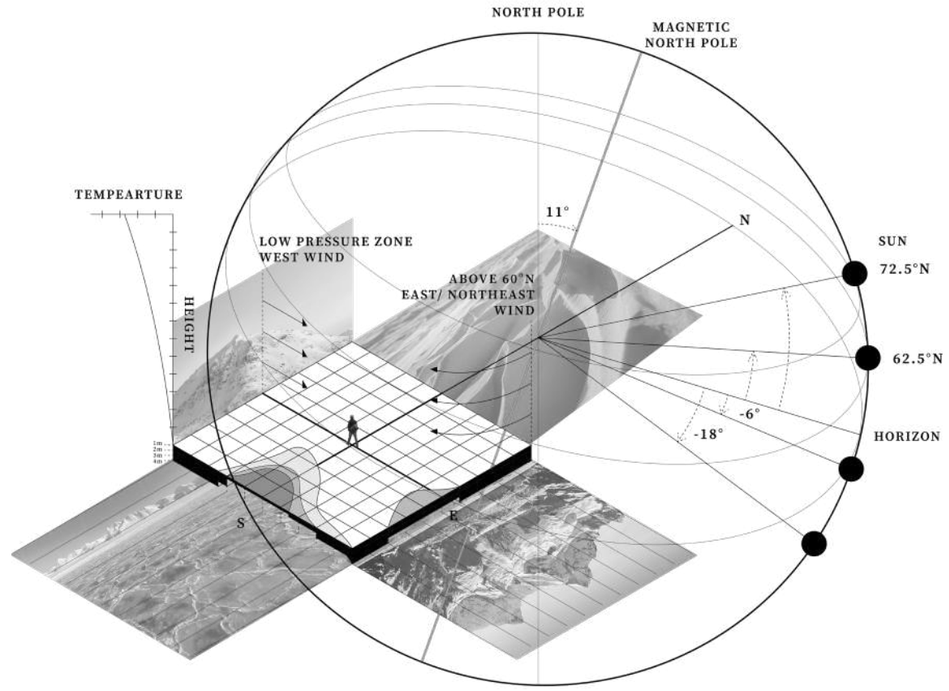
The polar landscape is changing rapidly due to global warming, and GPS cannot be effectively used above 60 degrees in the polar regions. Frozen foods imported from the south, which are more attractive to young people, further exacerbate the problem. This not only increases the obesity rate among the younger generation, but also causes the Inuit to gradually lose their identity. Therefore, we need to find a solution that preserves their culture while meeting modern challenges.
The core concept of the Fox Trail project is to combine the ancient and the modern wistom to create a trail for hunting learning and polar sightseeing. This trail option circles around the Fox Basin, hence the name Fox Trail. The region is home to 30,000 Inuit people scattered across 13 disconnected communities, with nearly 60% of the population under the age of 25.



0.2 5 DAYS WAIK DISTANT

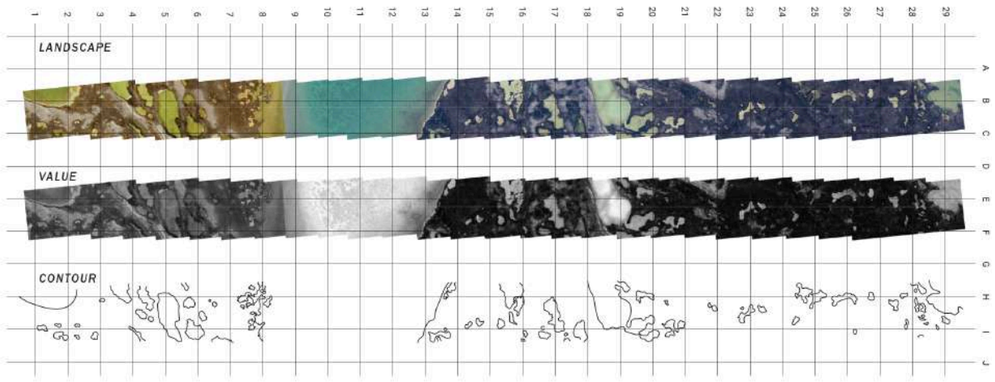


0.3 TRADIONAL WAY OF NAVIGATION



0.4 HUNT CABIN VARIATION

0.5 LANDSCAPE - WHAT THE INUITS SEE

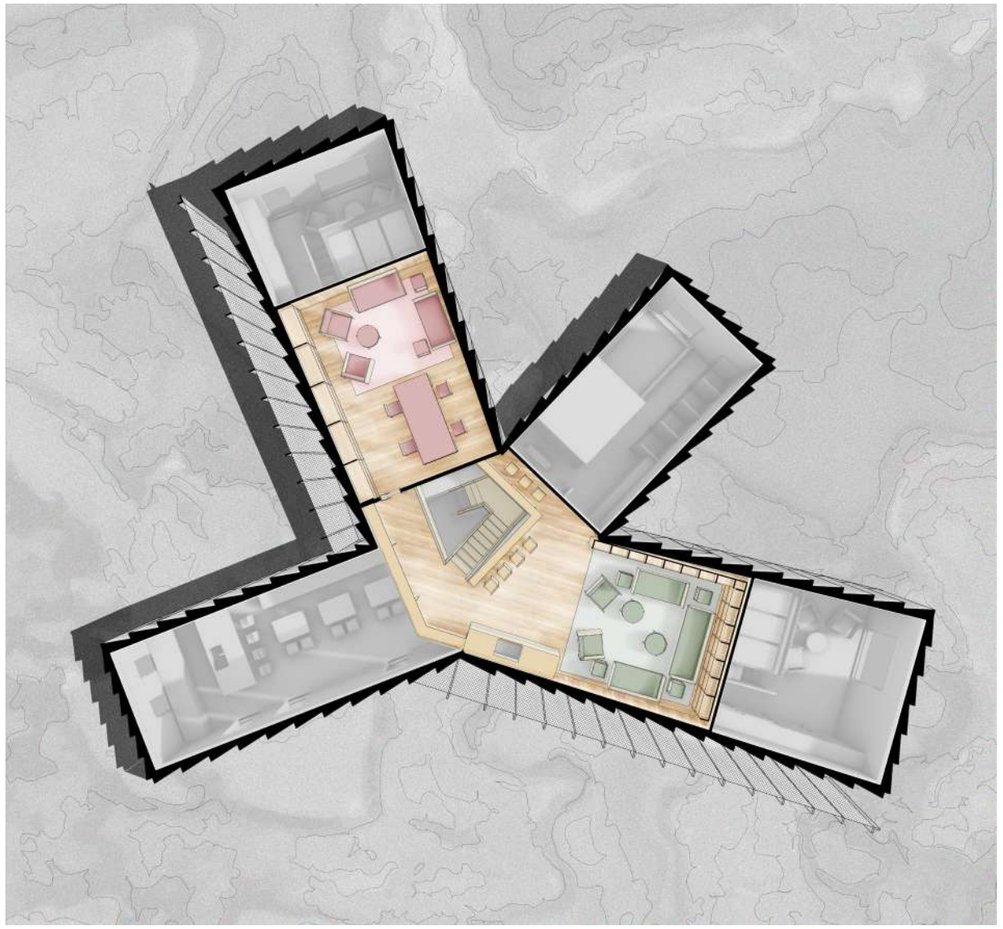


0.6 CABINE A ISOMETRIC

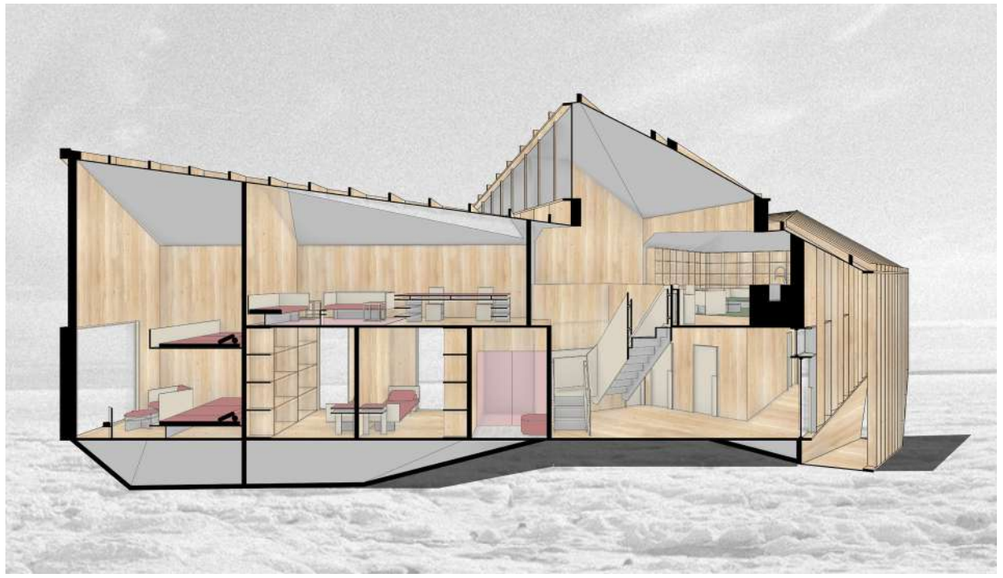
0.7 FIRST FLOOR PLAN

0.8 SECTION OF VISITOR AREA

0.9 SECOND FLOOR PLAN



1.0 SECTION OF CREW AREA



1.1 SKY LIGHT UNDER AURORA

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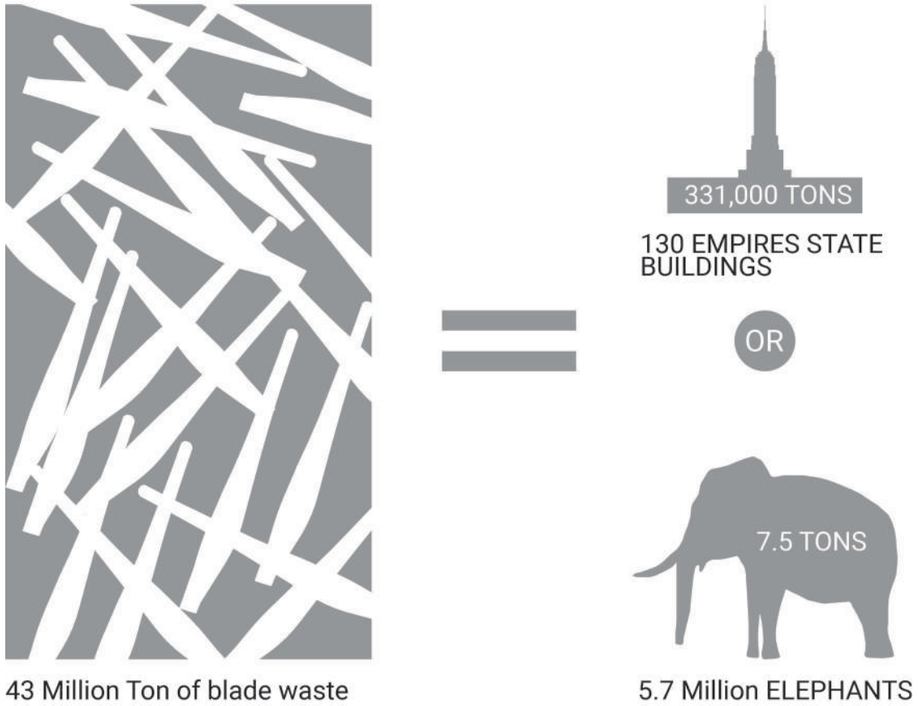
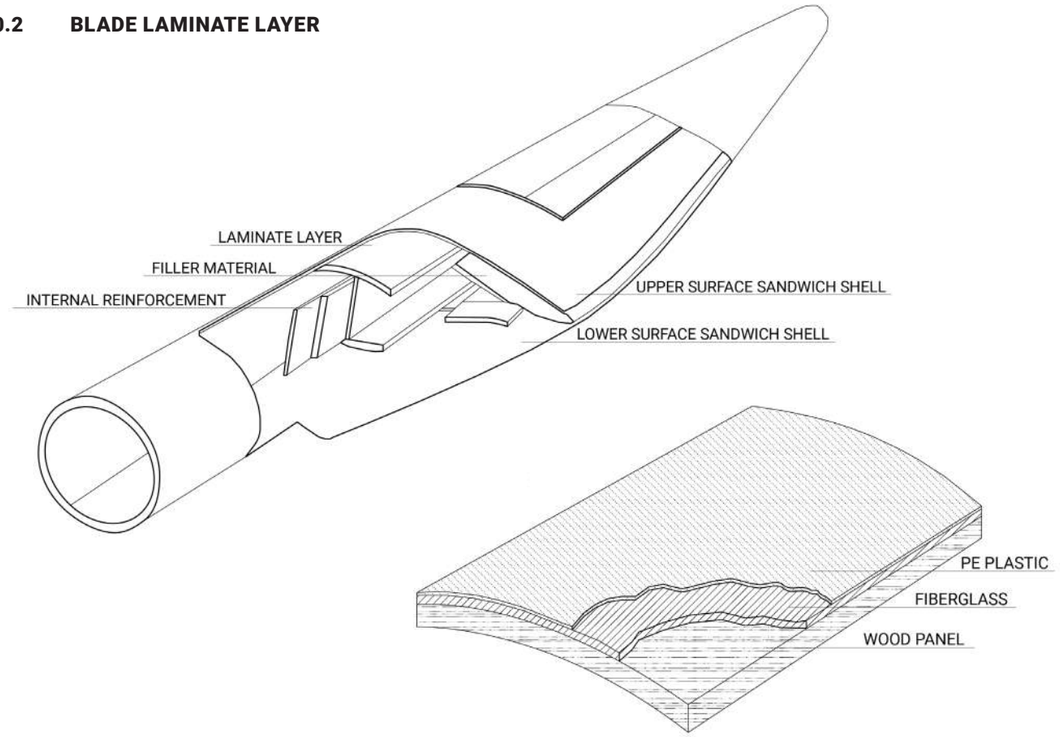
03.
SECOND LIFE

YEAR : SPRING, 2024
LOCATION : SBMT, BROOKLYN NEW YORK
CATEGORY : GROUP WORK, ACADEMIC PROJECT
INSTRUCTOR : LAURIE HAWKINSON / STEVEN LIN

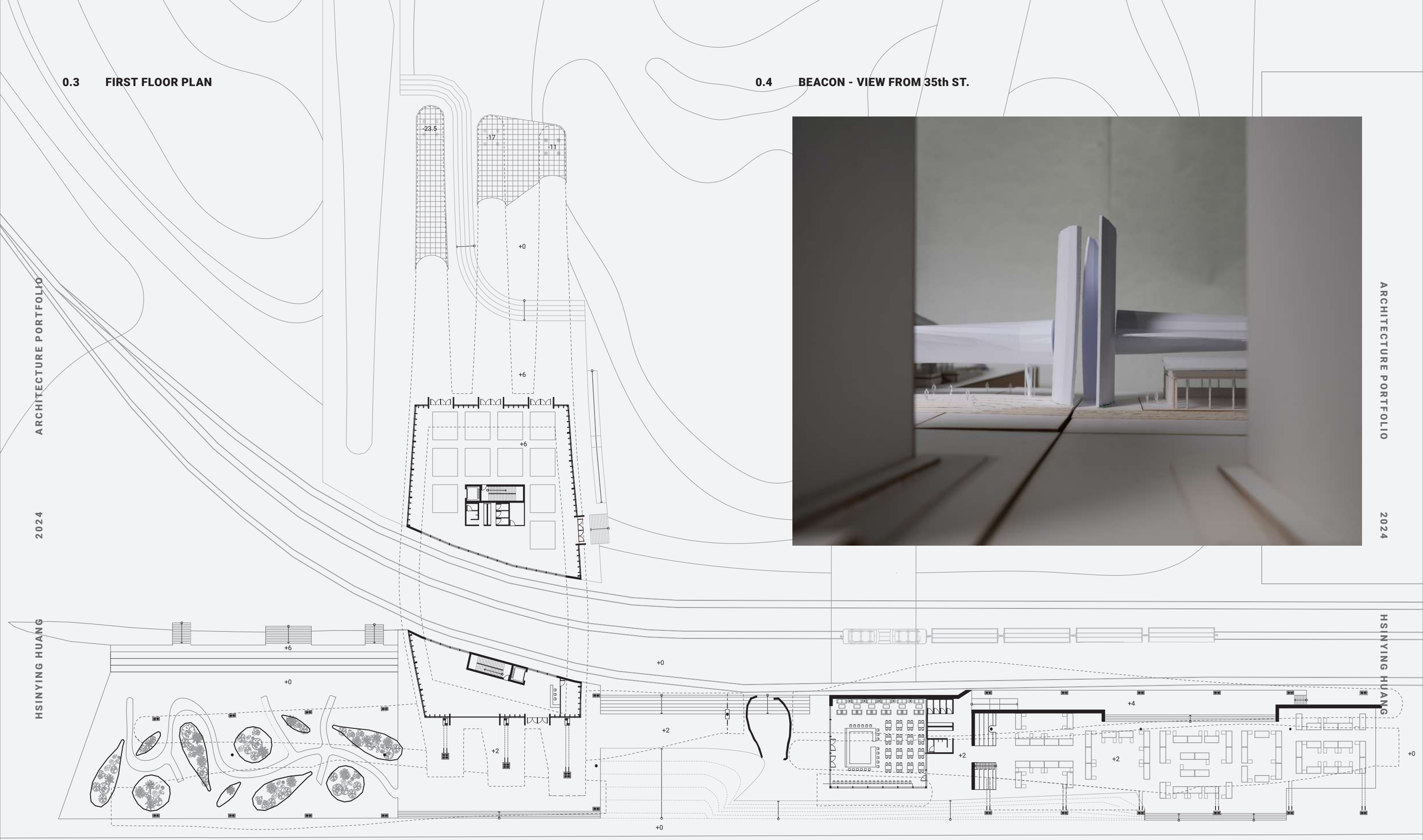
0.1 BLADE WASTE



0.2 BLADE LAMINATE LAYER



0.3 FIRST FLOOR PLAN



0.4 BEACON - VIEW FROM 35th ST.

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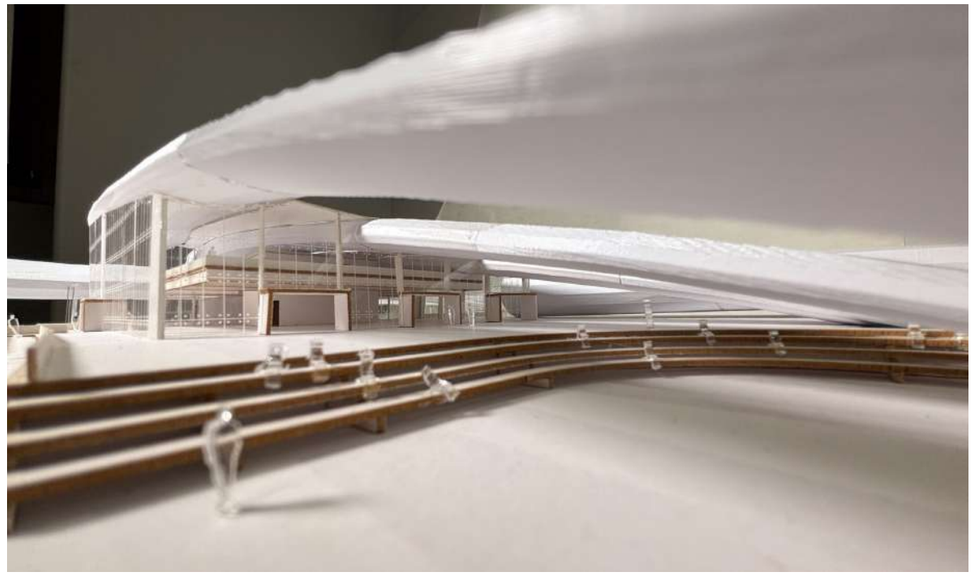
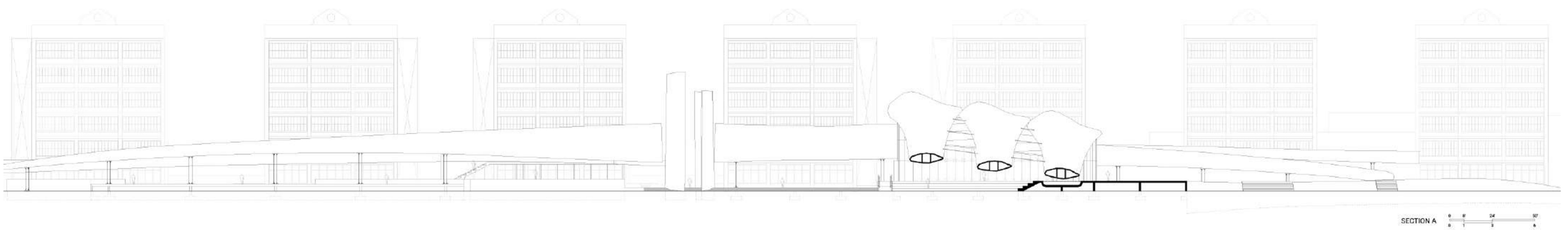
0.5 ENTRANCE

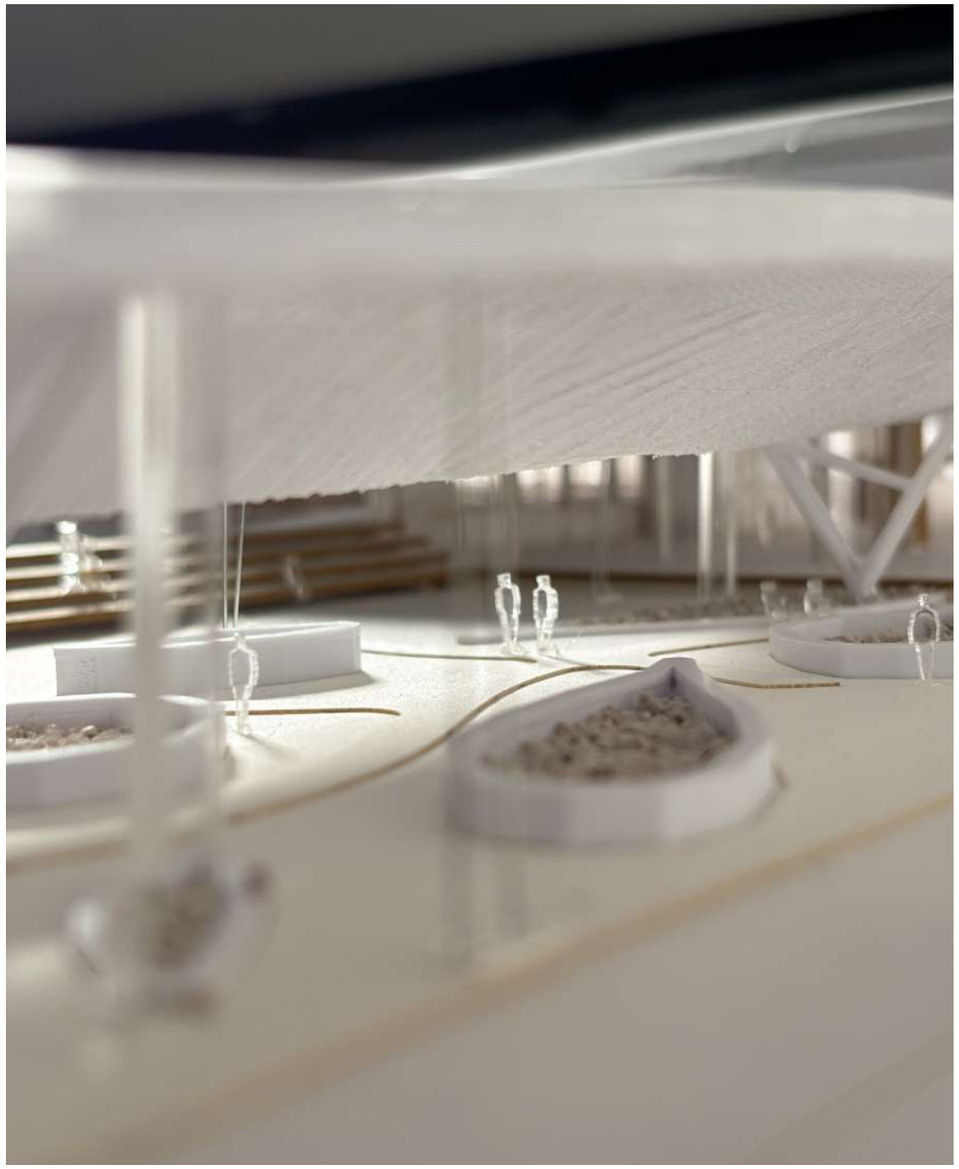
0.6 INCUBATION - OUTDOOR SPACE



0.7 LONG SECTION A

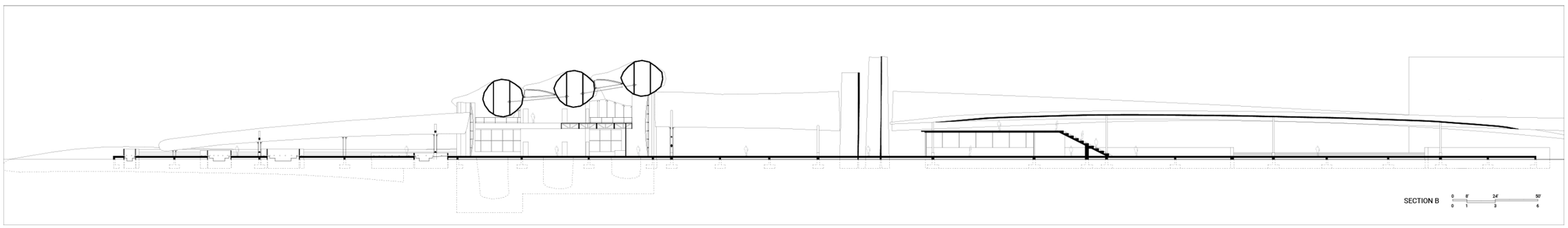


0.8 BIO-SWELL GARDEN



0.9 MARKETSPACE

1.0 LONG SECTION B



03 SECOND LIFE

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1.1 INCUBATION - EAST FACADE

1.2 SHORT SECTION C

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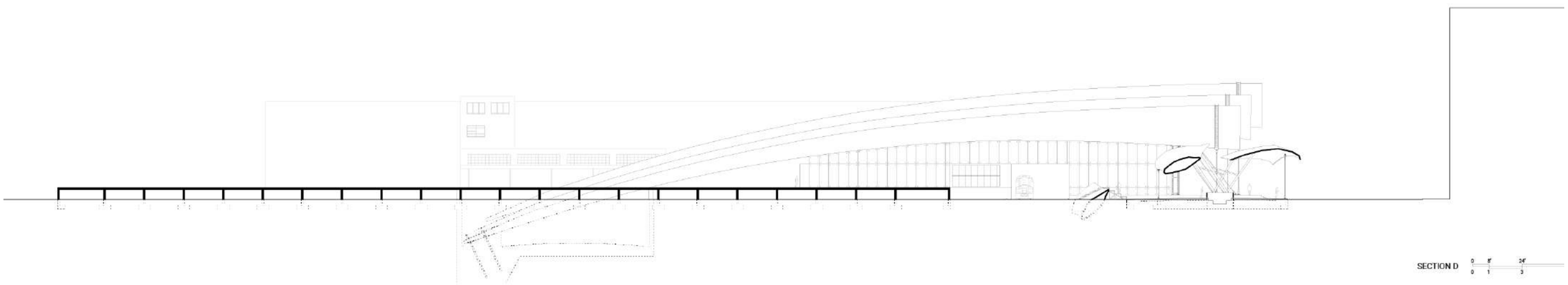
1.3 INCUBATION - WEST FACADE

1.4 SHORT SECTION D



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1.5 LOOKING AT THE INDUSTRY CITY ON THE SITE

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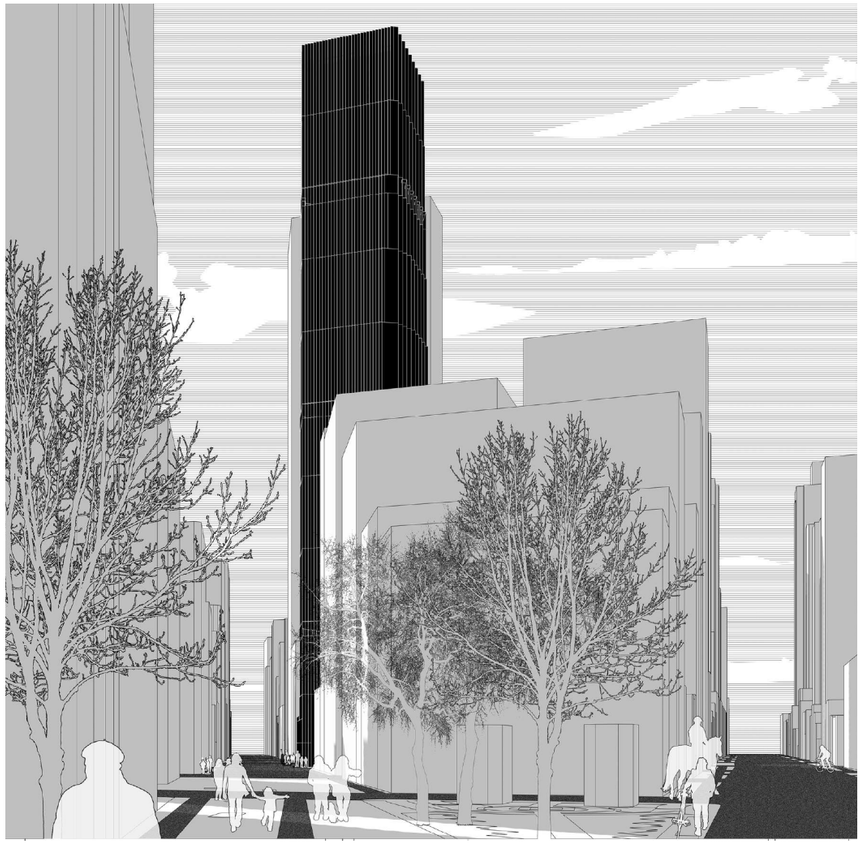
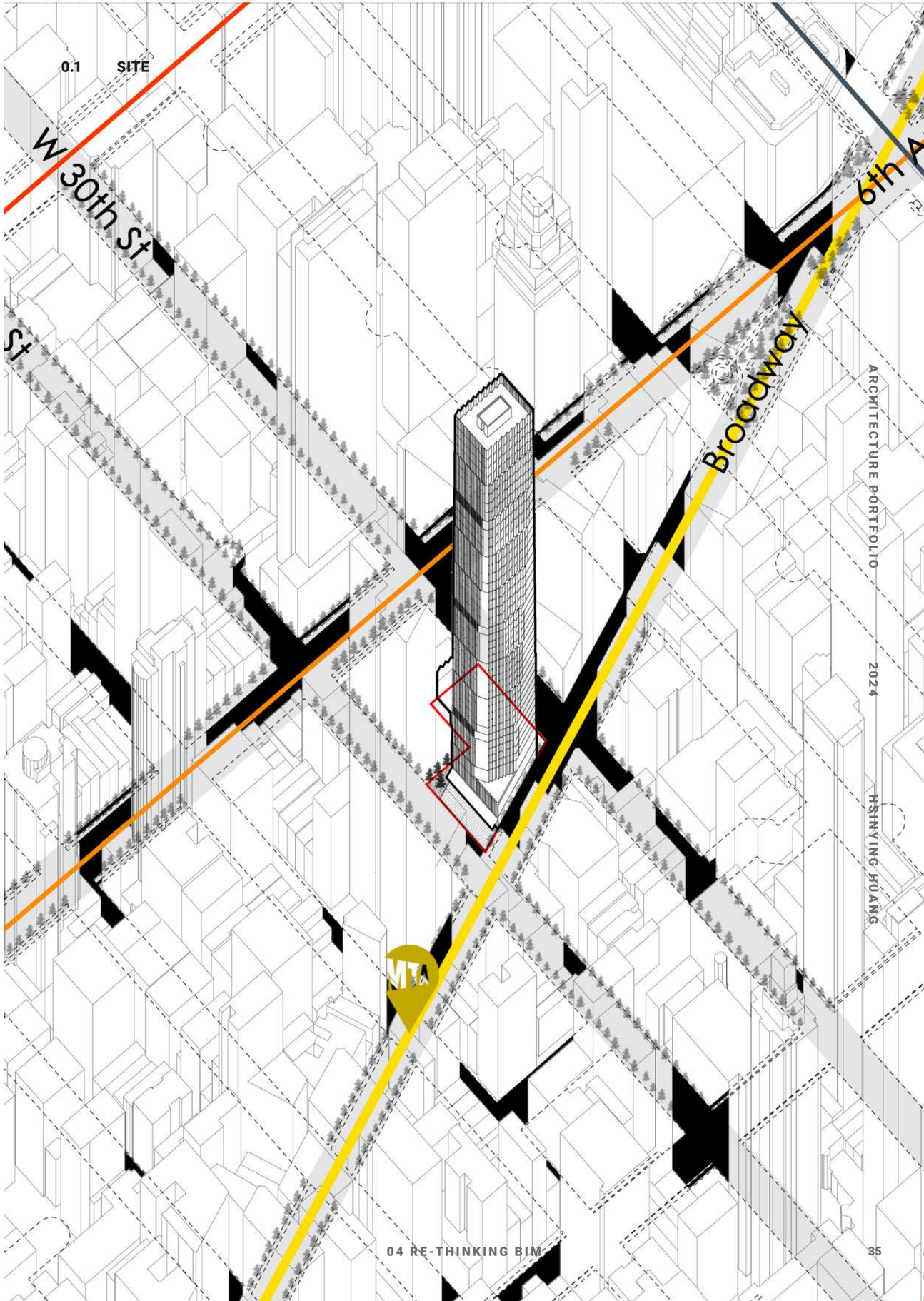
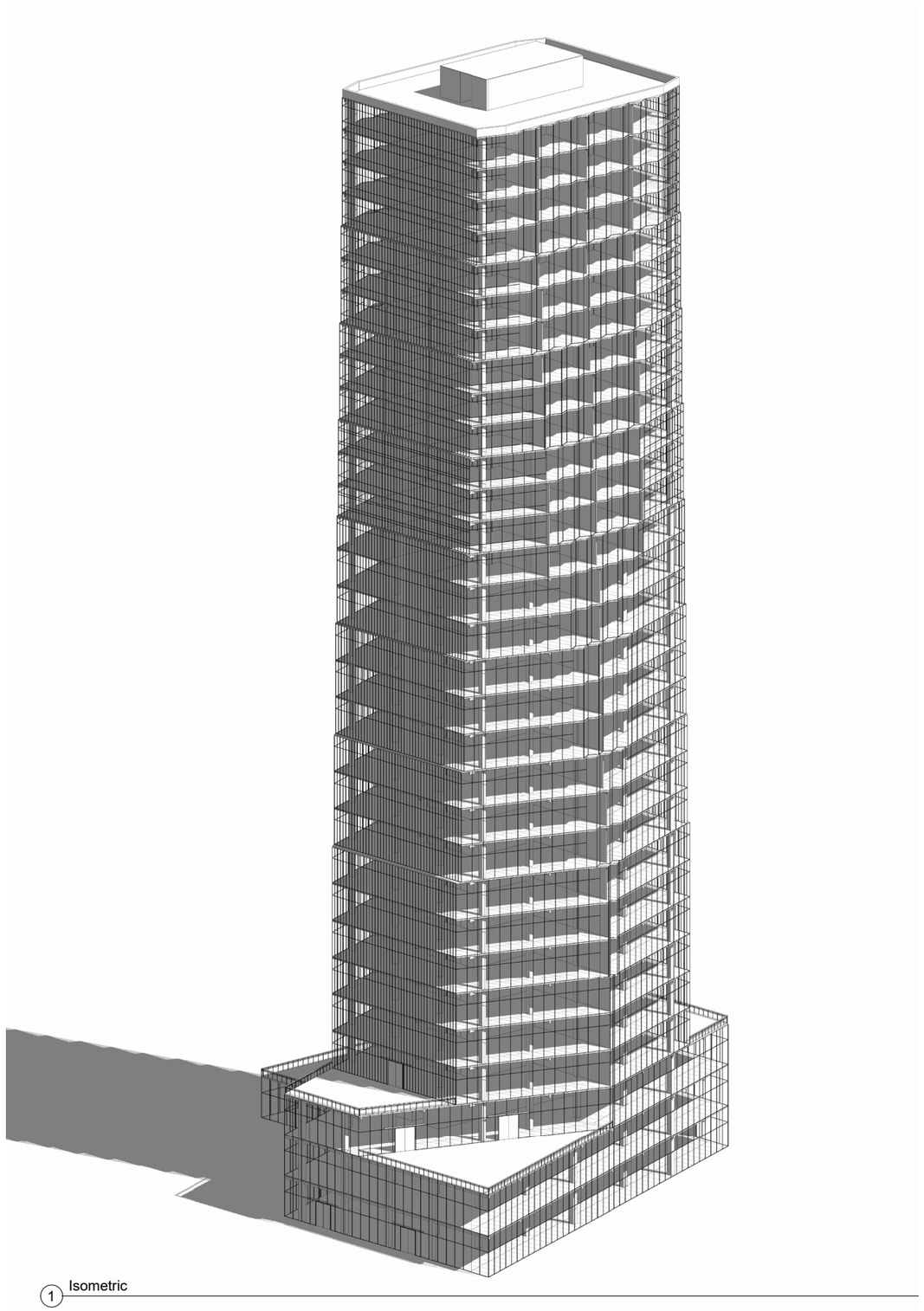


04.
RE-THINKING BIM

YEAR : FALL, 2023
LOCATION : NEW YORK CITY
CATEGORY : GROUP WORK, ACADEMIC PROJECT
INSTRUCTOR : JOE BRENNAN

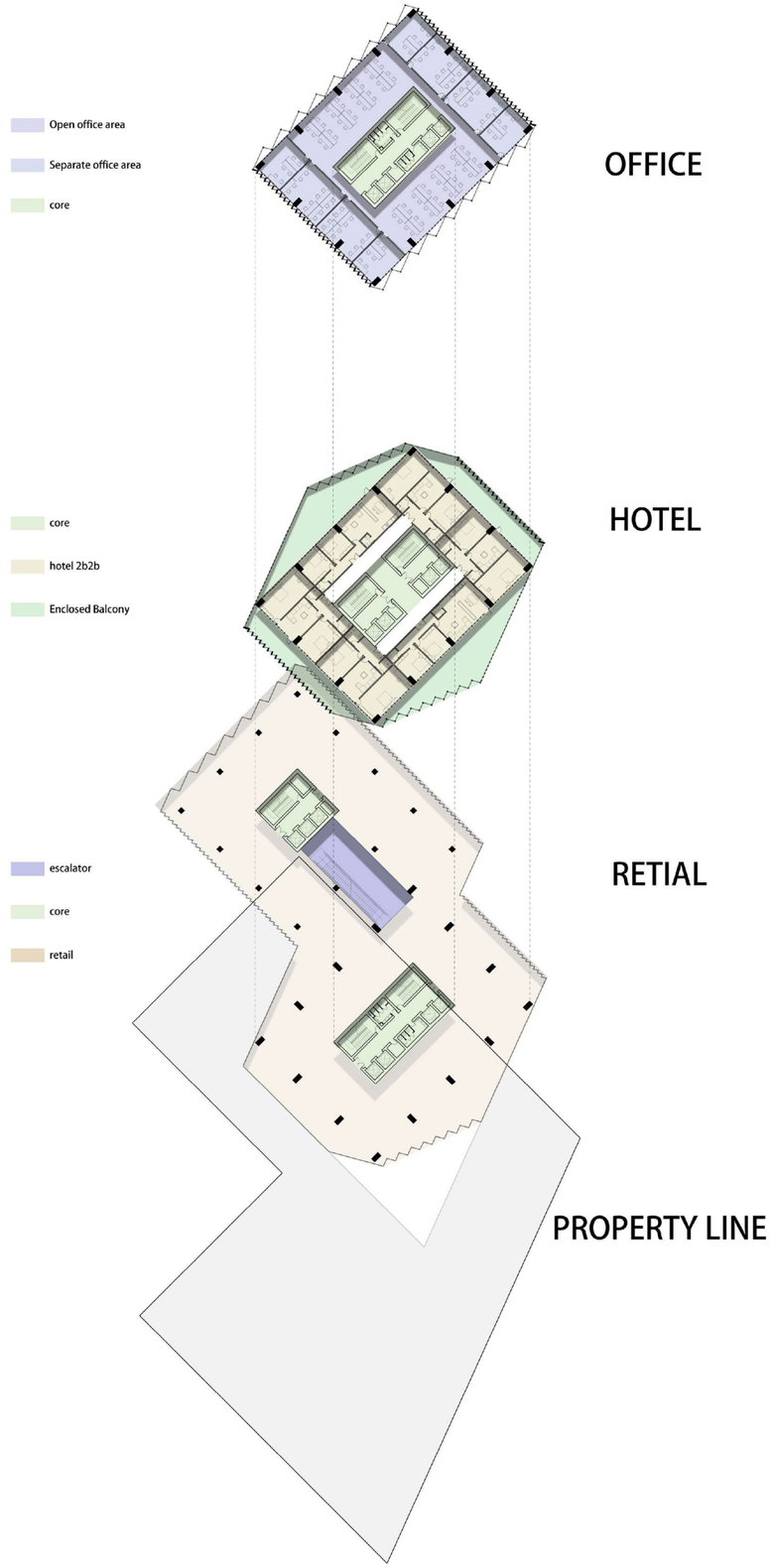


0.2 ISOMECTRIC GENERATE FROM BIM

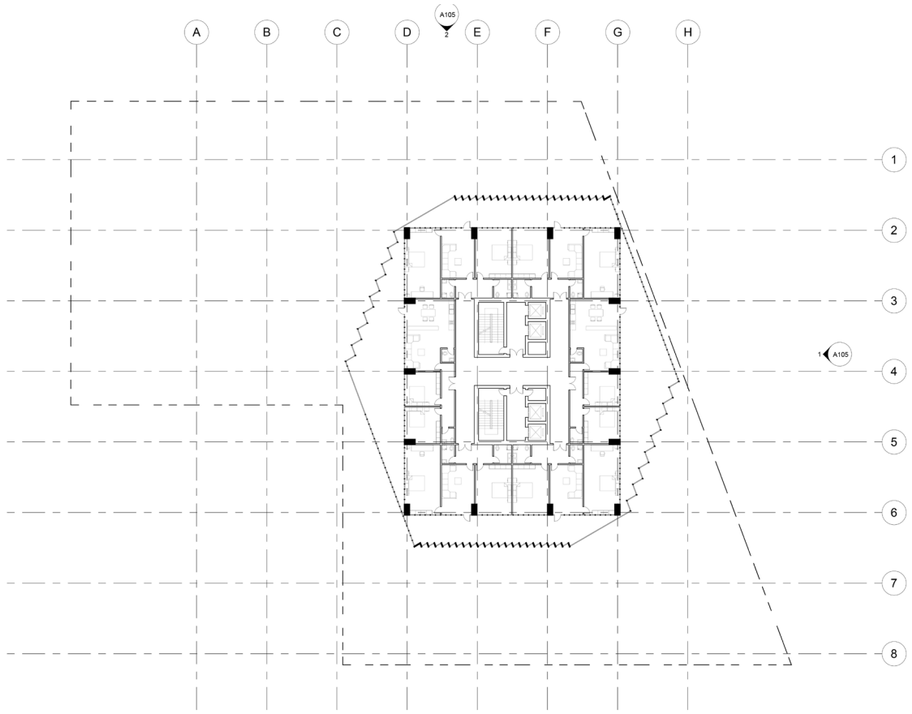


1 Isometric

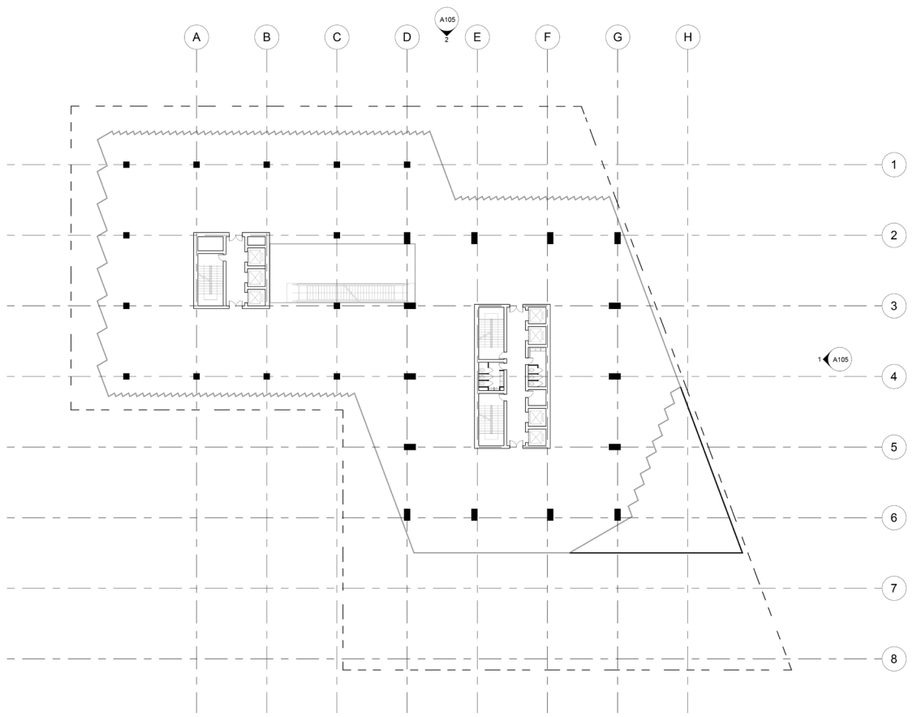
0.3 STANDER FLOOR PLAN



0.4 HOTEL SD FLOOR PLAN



0.5 RENTAIL SD FLOOR PLAN



0.6 EAST BIRD EYE VIEW