Selected Works

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CHOI

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CONTENTS

Studio Work

COURTYARD HOUSE ........................................................................................................... 01
Core III Studio, Crit: Eric Bunge

SEDIMENT LAB ..................................................................................................................... 02
ADV IV Studio, Crit: Nahyun Hwang

SPIRAL SCHOOL ...................................................................................................................... 03
Core II Studio, Crit: Gordon Kipping

Gateway ................................................................................................................................... 04
ADV VI Studio, Crit: Eric Bunge

Pathway ................................................................................................................................. 05
Core I Studio, Crit: Anna Puigjaner

Electives

Days After ............................................................................................................................... 06
Visual Studies,
Located in the Melrose neighborhood of the South Bronx, the site has diverse context: three public schools, two senior housings, one cultural center, and two community gardens. But the buildings are planned out first, and the vacant lots became the leftover space that is unused.

The main logic in building a strong community is through connecting the adjacent context to the site and to create different levels of community spaces.

Massing strategy is done to create connection with the adjacent site and to build multiple levels of community spaces within the site.
Courtyard placed in the middle, the buildings will be stacked up by creating a setback. Total four layers of community spaces will be created: The central courtyard, the shared balconies, the shared roof garden, and the Underground Bronx Documentary Center.
The geometry goal is to create a smooth continuum. The large courtyard space in the middle is carved in toward each building, creating one singular yet more intimate space for the community.

Smooth Continuum

A floor is used as an element to achieve the concept of community-centered design. It can create multiple layers of community spaces. A floor can be stretched to become a bridge, tear down to become a stairs, expanded to become a balcony.

Connected with a Floor
Inside the Unit
Total three types of units exist in the housing: micro studio for the seniors, 1 & 2 bedrooms for the families.

Central Courtyard
Ramped up from the street level, the central courtyard invites the whole community to play and gather.

Stairways to BDC
Connecting ground level courtyard to the sunken courtyard with stairs, BDC invites students to learn.

Shared Balcony
Shared balcony for each floor resident has mini garden and outdoor terrace space.
green roof plants
soil
Moisture portals
standard modules
waterproof membrane
bonding adhesive

01 Insulation
02 Concrete with Rammed Earth
03 Rammed Earth
04 Green Roof
05 Water Proof Balcony Decking
06 Wood Stud
07 Aluminum Window Frame
Currently managed by New York City DEP, the Ashokan Reservoir is releasing large amounts of turbid water into the Hudson River, which is affecting daily lives of communities near the Hudson River with contamination while providing clean drinking water to New York City.

Before it was filled with water, Ashokan Reservoir was a village made up of thousands of acres of farmland and small towns. However, in 1820, after the legislation of New York City’s Board of Water Supply, New York City started to find their water source outside the city, which was Ashokan. The evacuation was forced to construct the world’s largest reservoir at the time.

In 1915 Ashokan reservoir was completed. And now the reservoir has established itself as a famous tourist attraction. However, in 2020, an unexpected storm caused large amounts of turbid water to flow into the reservoir. This turbid water contaminated the west basin, as well as New York City’s drinking water. DEP discharged this turbid water to the lower Esopus creek which leads to the Hudson River in order to provide clean water to New York City. Such an incident affected the drinking water of the community nearby who obtains a source of drinking water from the Hudson River.

Recently, DEP is spending another 33 million dollars in Century Project, which is to renovate tourist attractions for recreation and reservoir restorative purpose to repair the dams and dikes to improve water quality for New York city, while still neglecting the turbidity affecting the community.
Formation of Sediment Piles
Currently within the reservoir, sediments are piled, creating a sediment island. The methodology behind the compilation is due to the water wave and bottleneck phenomenon with the dividing weir.

Tangible Sediment Lab
The Sediment Lab will operate fully over the year to generate sediment collectors as well as to provide multiple experience-based spaces to the public.
The island will provide a new and surreal form of a garden that visitors can have tangible experience and understand what is now filled with water was once a village and a land that people used to habitat.

To understand the way that sediments get accumulated, and finding the form of the collectors that captures sediments in effective way, we tested different combinations with quarter of circles as a module type for the possibility of expansion.

The quarter of circles are in three different sizes - 30’, 60’ and 90’; and they are linked to one another creating different combinations. With this experiment, we could find out that the sediments get captured within the collectors, and create an island-like shape within it.

In order to test different types of materiality of the collectors when we reuse the sediments, we used soil that we collected from our site. We mixed it with rockite to harden the material, and experimented with the texture, color, and strength.

SEDIMENT BLOCK MODEL

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SEDIMENT ACCUMULATION TEST MODEL

The location of the sediment collectors will be flexible as it reflects the changing landscape in the future. As sediments get accumulated along the collectors, the sediment island will be created in a longer term, similar to the already existing sediment piles along the reservoir edge.
Encountering the Raw Nature

By stepping on the floor composed of the same material as a wall, visitors can encounter the raw nature and reverse to the artificial beauty of an artificially created reservoir. This is the most accidental and therefore roughest form of nature created by the reservoir.
Barges are connected to one or more sediment islands during the settling and collecting process, allowing people to freely roam between the islands and the labs.

The barge is a combination of collecting, producing, and experimentation space.

The collecting happens at the bottom of the barge. The puller inhales water and sediment to the main conditioning place, and there is a flow rate sensing facility for hydraulic energy.

The sphere is a hydro-electric power supplier that produces energy with the velocity of the water flow. Such natural form reduces collisions with other underwater ecosystems such as fish and sea plants. This new form of hydroelectric power becomes a fuel for the whole facility.
In the largest module among some sediment islands, an indoor archive space is created to display and archive the wreckage of hamlets, underwater ecosystem, or sediment layers during the collecting process.

Proposing another public accessible space, in order to expose the re-usage of sediments, a bridge over the Geotube and 3D printing spaces is provided for the public to look and speculate on the sediments produced.

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**Remembering the Sacrifice**

In the largest module among some sediment islands, an indoor archive space is created to display and archive the wreckage of hamlets, underwater ecosystem, or sediment layers during the collecting process.

**Learning the Making**

Proposing another public accessible space, in order to expose the re-usage of sediments, a bridge over the Geotube and 3D printing spaces is provided for the public to look and speculate on the sediments produced.
A Shared Activity Center

As number of student population decreases and classroom becomes more vacant, I propose PS 64 to be connected with surrounding school as a shared activity center.

Number of student population in NYC decreased over 20%.

Physical built structure remained same: limited activity space and multiple classrooms.

Creating a shared activity hub for the neighboring schools.

Vertical and Horizontal Interactions

While existing structure had limitations in vertical and horizontal interactions, I propose center void and centralized community spaces, and pocket space for community and individual interactivity.

EXISTING

Vertical interaction is blocked

Divided community spaces

Linear and rigid classrooms

PROPOSAL

Adding void in the middle to generate view and vertical interactions

Centralized community spaces

A pocket space for individual activity

Massing Strategy

Center part of the existing structure is removed, and a rotating floor slabs along the center void is added to introduce interactivity.
Parallel Community Space Along the Classrooms

Along the series of activity classrooms, a parallel community space are introduced. Theses programs are wrapped along the center void to enhance interactiveness.
Integrating the Old and New

Leaving the East and West wings of the original building and integrating the center with modern materials of perforated steel and glass, the mix-match of old and new is created.

Creating Multiple Visual Connections

With each floor slabs creating a different floor heights, and classrooms extruded in diagonal way, an interactive visual connection is created.

Integrating the Old and New

Leaving the East and West wings of the original building and integrating the center with modern materials of perforated steel and glass, the mix-match of old and new is created.
Expansion of Public Realm

By bringing the migrant related offices to the plaza, the New City Hall defined a more active role and by lifting we want to propose a city hall Campus by re-defining the boundaries of the city hall. It will be a collective working environment for the offices, a tangible public experience for the citizens, and a symbolic representation of the next new york city citizens - the immigrants.

Citi Hall as a Library

In order for the city hall to be departed from conventional bureaucratic form, we believe that the new city hall should be derived from the idea of a “civic space”. We defined Civic Space in three different types.

First, the representation of governance where government officials meet with civilians for in-person guidance, and have public speech and hearing. Second, the exchange of knowledge and public value, where government’s 3rd party meet with civilians to work collaboratively and provide educational lectures. Third, the free interactions among civilians where festivals or events is hosted, and civilians have free interactions.

As a response to creating a civic space, we want to suggest the city hall as a library acting as an information center for immigrants, a fast-track center for certain straightforward needs of immigrants, a place for political exchanges, and also hosting civic functions.
Undulating Vault Structure

These curves will blur the boundaries between civilians and government offices, creating an ambiguity in space. The carved out curves create a vertical and horizontal interactive space. And the arches will be a symbol of a welcoming gateway for migrants.
This low-rise City Hall campus, which is very rare in high-density Manhattan, people walk through the City Hall in a horizontal motion rather than vertically. If you go up along the white pavement, you will naturally bump into the immigration service space, and while handling government work there, you can also have a more pleasant and enjoyable time by freely going outdoors and indoors next to it.

This flow is also connected to the subway line and naturally raises the underground flow upwards.
In researching the Upper West Side, my interest grew in the deep disparity of economy and racial demographics, and how it was creating a social boundary.

Such wealth gap affects the living condition that the residences faced everyday. Furthermore, the wealth gap extended to cultural centers, and gathering spaces that people used. Even though they live in the same street, their journey differs that it seems like they live in two very different worlds — which eventually creates an unseen boundary.

I focused specifically on the Fredrick Douglas Housing located in the 100th street and Broadway. While the Housing has diverse population such as student population and active commercial users, the unseen boundary existed that limited and isolated the housing residents from the rest of the community.

To mitigate and erase the unseen boundary, I propose a scattered program design that creates a smooth continuous passage toward and within the housing area to attract outside population into the neighborhood, and engage the housing community with them.
Scattered Design
Three scattered programs will not only attract the population from commercial area, schools, and central park visitors, but also support the current housing residents with job opportunities, culture and recreations activities.

Cafe with a Volunteer Events
As the housing comprises of 38% of single parent household, the cafe could be used as a volunteer and sponsoring event space from the non-profit organizations during the weekend, and as a shelter and a playground during the weekdays.
The library for the students from the schools and the housing provides not only a collective studying area but also a performance hall on the roof which could be used as a place to gather and share their interests and learning for students.

The market will be connected with the sidewalk that pedestrians can walk through. Also the roof will be extended that it creates outdoor areas of farmers market and picnic zone where the visitors and residents can come together.
FALL 2022
ELECTIVE: ULTRA-REAL
Collaboration w/ Sky Zhang, Will Rose, and Issac Kaufman

DAYS AFTER
06
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