



# JIAMIN HUANG

Columbia University GSAPP 2022  
MSAUD Graduation Portfolio



01

REEF / MAX

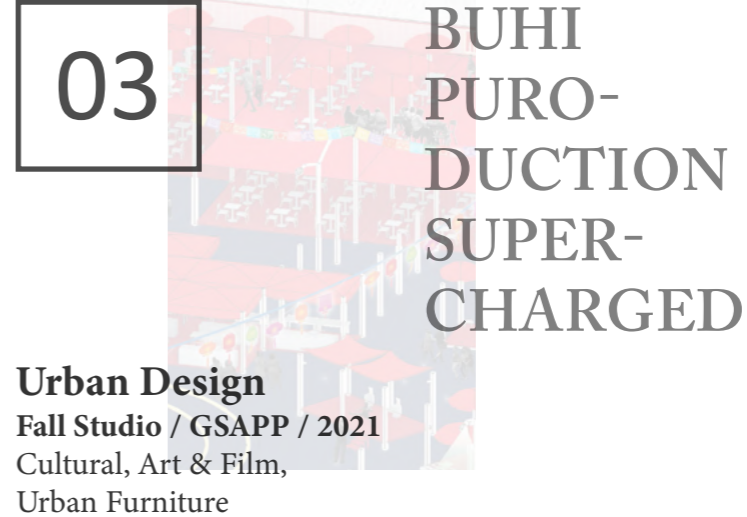
**Urban Design**  
Spring Studio / GSAPP / 2022  
Co-housing, Restoration,  
Eco-tourism



02

REGENERATIVE  
FLOW

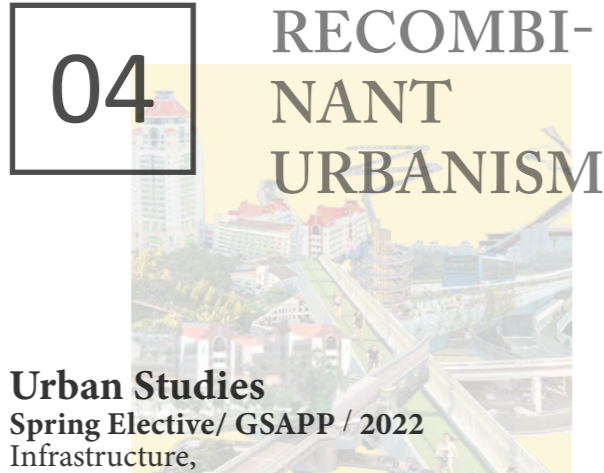
**Urban Design**  
Summer Studio / GSAPP / 2021  
Infrastructure, Restoration,  
Superfund



03

BUHI  
PURO-  
DUCTION  
SUPER-  
CHARGED

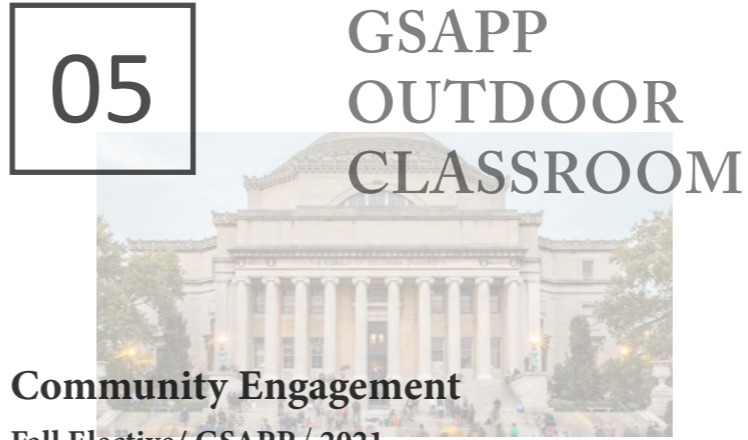
**Urban Design**  
Fall Studio / GSAPP / 2021  
Cultural, Art & Film,  
Urban Furniture



04

RECOMBI-  
NANT  
URBANISM

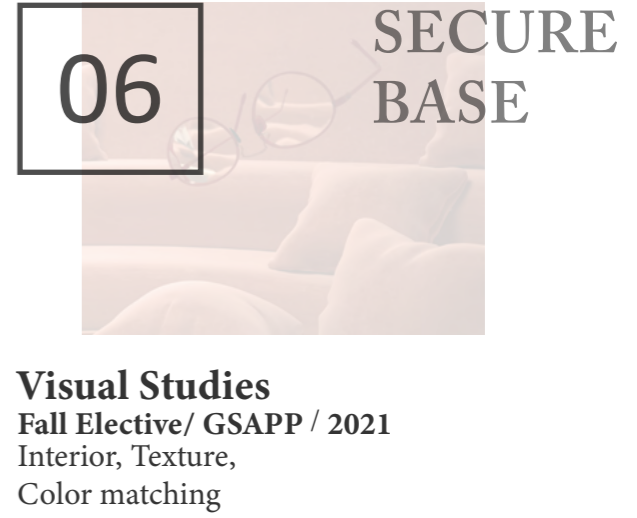
**Urban Studies**  
Spring Elective/ GSAPP / 2022  
Infrastructure,  
Mix-use, History



05

GSAPP  
OUTDOOR  
CLASSROOM

**Community Engagement**  
Fall Elective/ GSAPP / 2021  
Education,



06

SECURE  
BASE

**Visual Studies**  
Fall Elective/ GSAPP / 2021  
Interior, Texture,  
Color matching





01

## REEF/MAX

**Location:**

Ambergris Caye, Belize

**Keyword:**

Co-housing, Restoration, Eco-tourism

**Team:**

Jiamin Huang, Shinan Liu, Hao Ma, Curran Zhang

**Professor:**

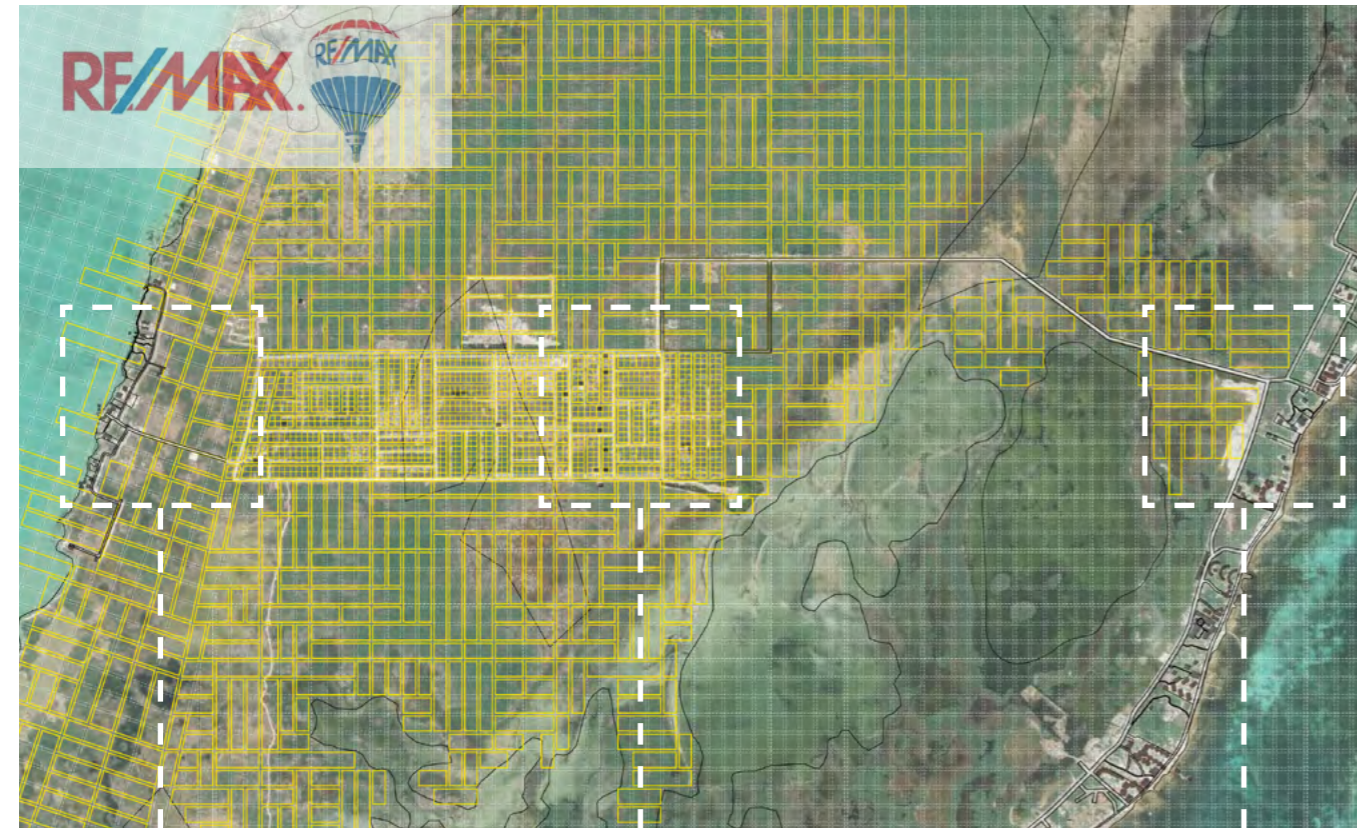
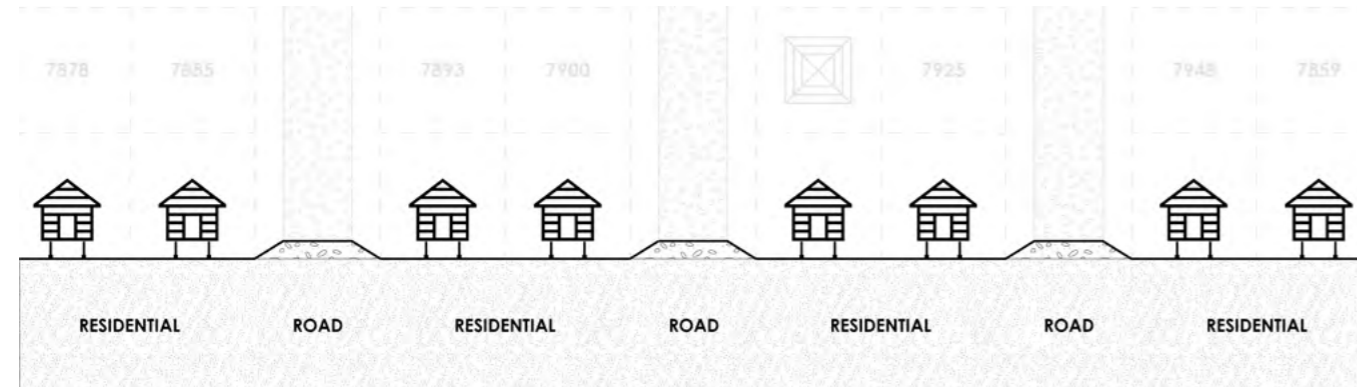
Kate Orff, Geeta Mehta, Adriana Chavez, Thad Pawlowski, Lorena Bello Gomez

Our project provides an alternative street-based urban design framework to the existing parcel-based development. We propose an urbanization that focuses on mangrove restoration and creates an urban pattern using the existing roads. By stopping the current model of extractive development and implementing a community land trust model, our design provides maximum protection of the reef through sustainable development and nature restoration.



## EXISTING: RE/MAX

Ambergris Caye is currently a playground for foreign development and tourism. With two major pressure points located in the Eastern Shoreline Resorts and the Grand Belizean Estate. These 2 invasive entities force the intermediate area of wetlands and marshes to be buried by the extractive tourism industry. In the future, if the government keeps selling the land to foreign speculations, the grid will continue expanding, exaggerating the environmental and social issues.



### SECRET BEACH

Secret Beach puts in extra effort to fabricate a vacation hot spot in the middle of natural reservations.



### NEW TOWN

Expecting Secret Beach to be a new real estate market, developers has superimposed a "foreign" grid onto the nature.



### EAST SHORELINE RESORT

The resort strip is the example of tourism and an environment that is fabricated to suit the needs of the occupant.



## PROPOSED: REEF/MAX

Our project provides an alternative **STREET-BASED URBAN DESIGN FRAMEWORK** to the existing parcel-based development. We propose an urbanization that **FOCUS ON MANGROVE RESTORATION** and creates an urban pattern using the existing roads. By stopping the current model of extractive development and implementing a community land trust model, our design provides maximum protection of the reef through sustainable development and nature restoration.

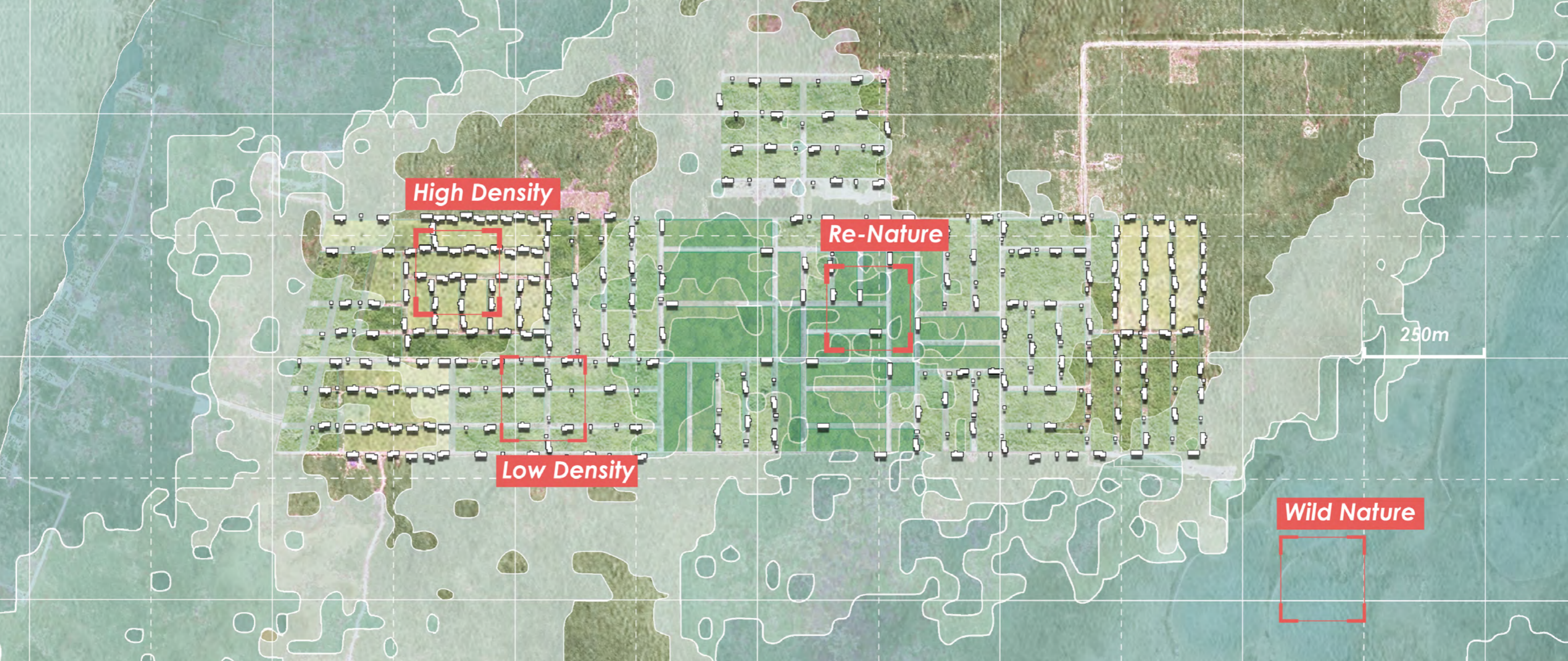


### CONDITION:

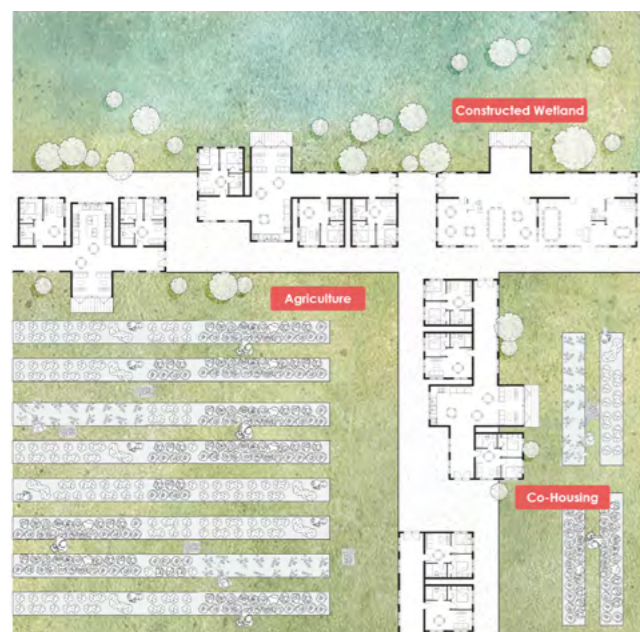
Roads in the site are relatively wide, with an average of 40 ft. They have been elevated and paved with limestone by the developers



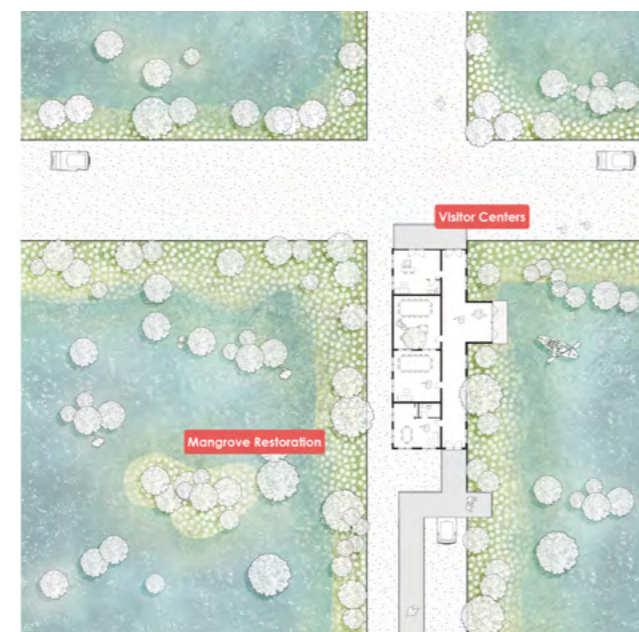




**01 HIGH DENSITY**



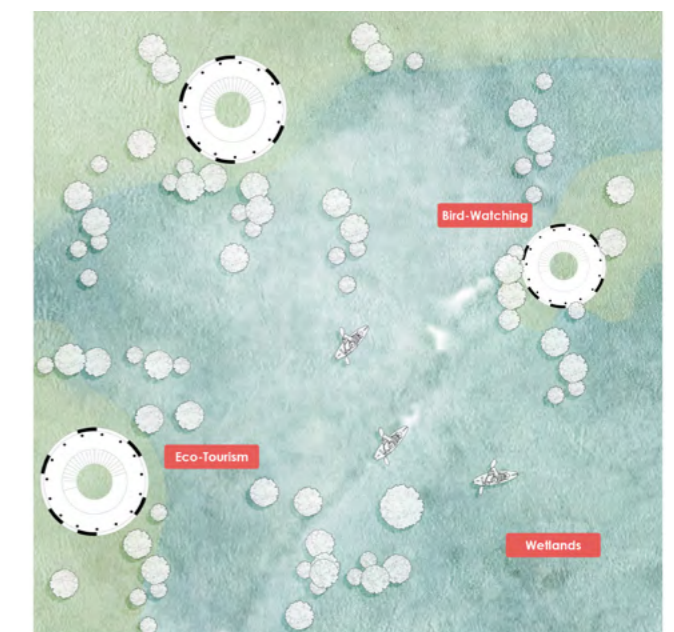
**02 LOW DENSITY**



**03 RE-NATURE**



**04 WILD NATURE**





# 01 HIGH DENSITY ZONE



Planting



Waste Management



Market Space





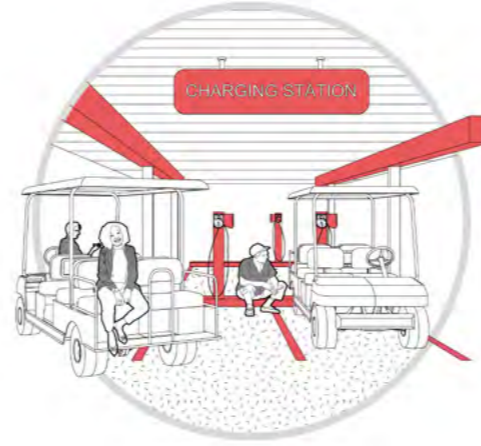
## 02 LOW DENSITY ZONE



Communal Eating



Module Buildings



Charging Station





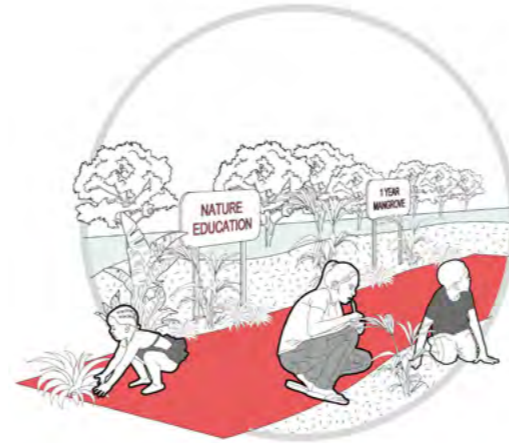
### 03 RE-NATURE ZONE



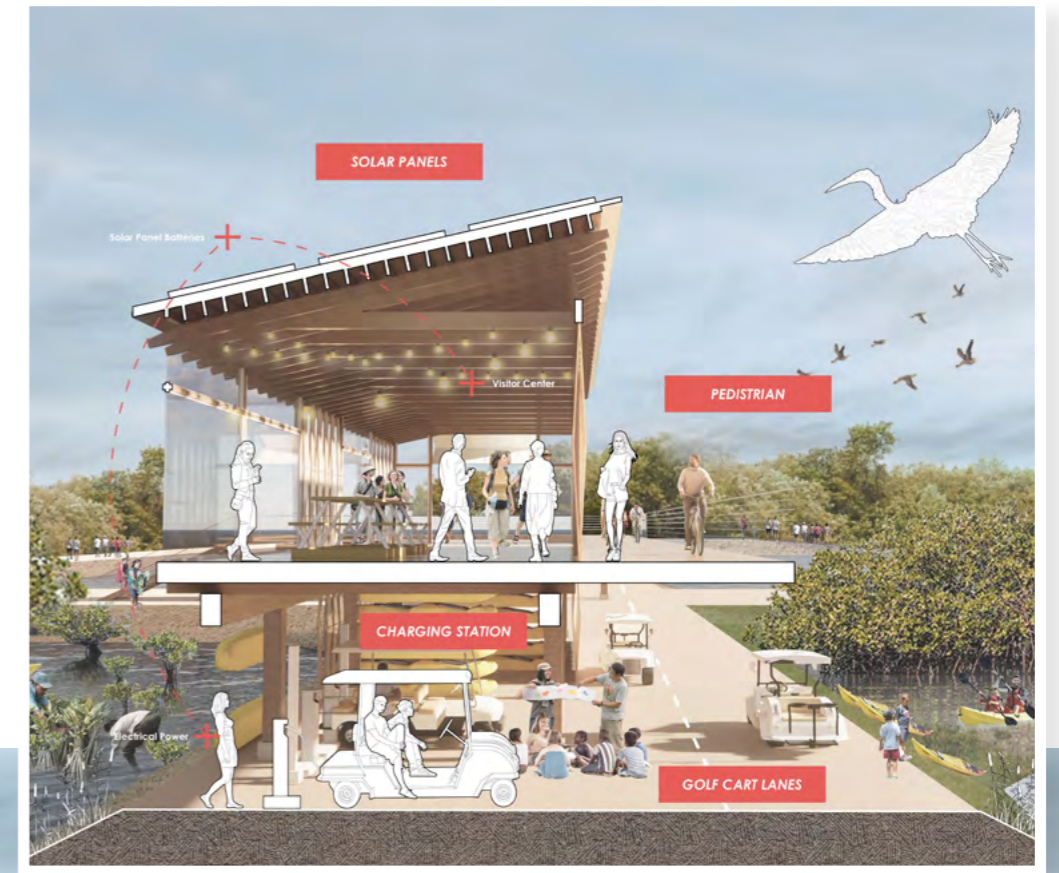
Kayak Storage



Mangrove Nursery

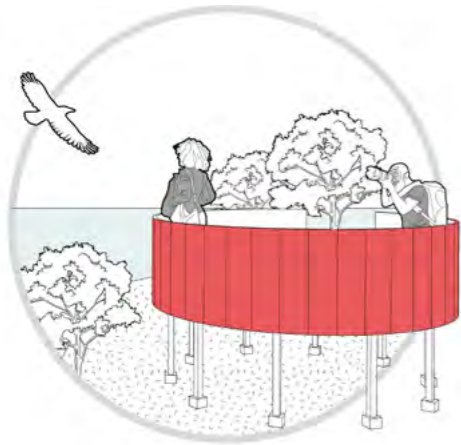


Nature Education





## 04 WILD NATURE ZONE



Bird Watching



Kayaking



Raised Platform

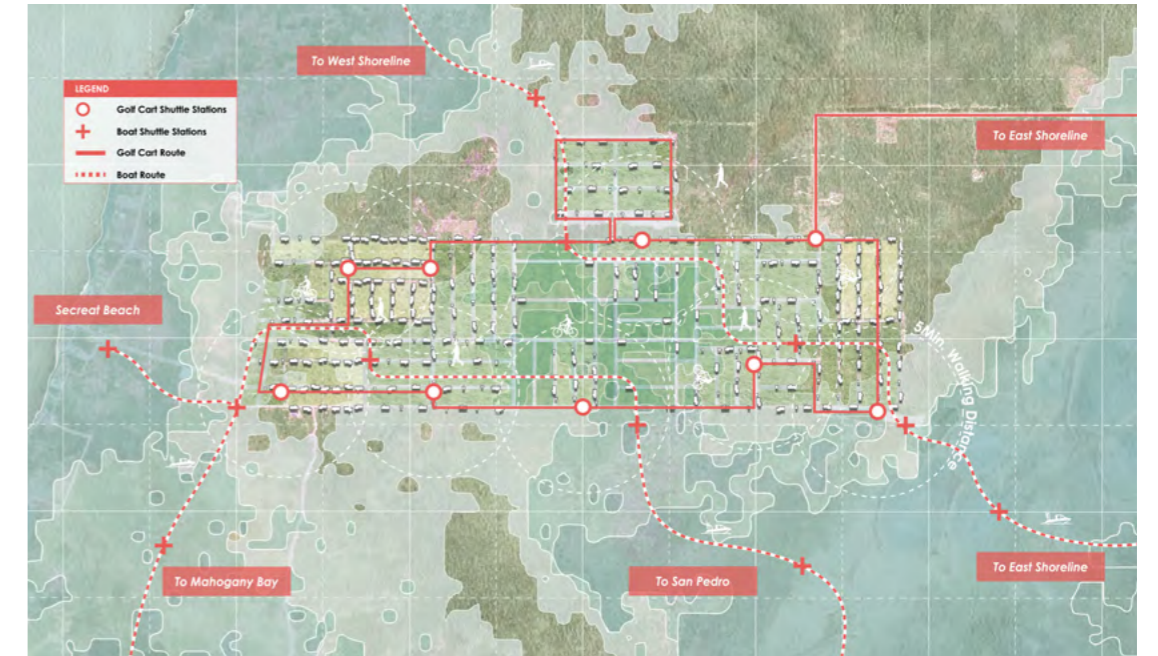


Watchtower

Mangrove Reservation

## BEYOND REEF/MAX

These four zones are connected by a golf cart and boat shuttle system. All the residents can reach the shuttle stop within a five minutes walk. In the future, when the sea level rises, this network has the ability to rely more heavily on a boat system to connect to the eastern shoreline and lower ambergris caye



In the end we envision this alternative street base urban frame work as a tool for housing justice in Belize. By replacing an extractive model into a community livelihood model, we can use stewardship to maximize protection of the reef with sustainable development and nature restoration







02

## REGENERATIVE FLOW

**Location:**

New Jersey, USA

**Keyword:**

Infrastructure, Restoration, Superfund

**Team:**

Jiamin Huang, Yasmine Katkhuda, Lucas Netto, Jiayi Zhao

**Instructor:**

Nans Voron, Sagi Golan, Jae Shin, Galen Pardee, Austin Sakon, Sean Gallagher, Tami Banh, Candelaria Mas Pohmajevic

The project considers the two rivers and treat their waters not as the byproduct of a constructed and defined site, but through a lens of material practices and physical metamorphosis: less concerned about the way it looks, but the way it performs. Through land swap and eminent domain, we propose a calculated retreat from Kearny point - a flood prone area - and envision a strategy where every component plugs into a larger network towards a resilient ecosystem.





EXTRACTION / INDUSTRY  
*IronBound*



LIVING / RECREATION  
*Harrison / IronBound*



PUNCTURED WETLANDS  
*Hackensack*



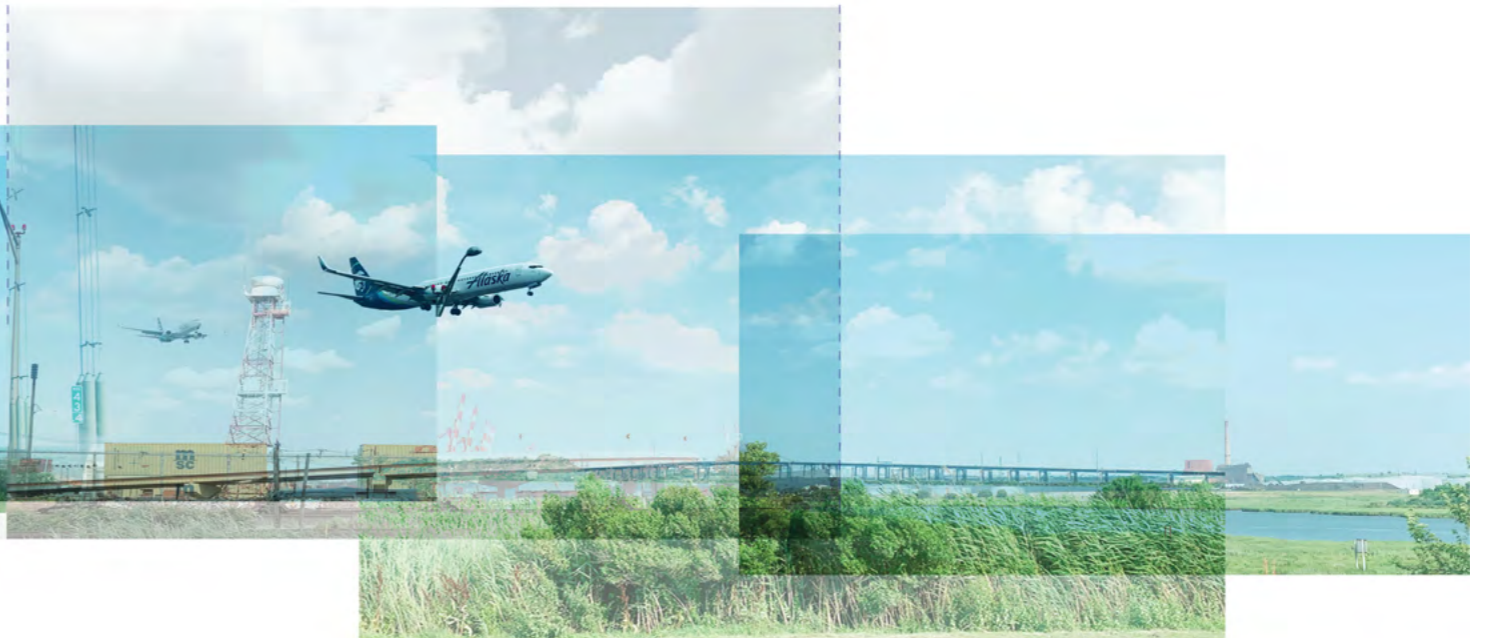
LAND X INDUSTRY  
*Newark Bay / Ironbound*



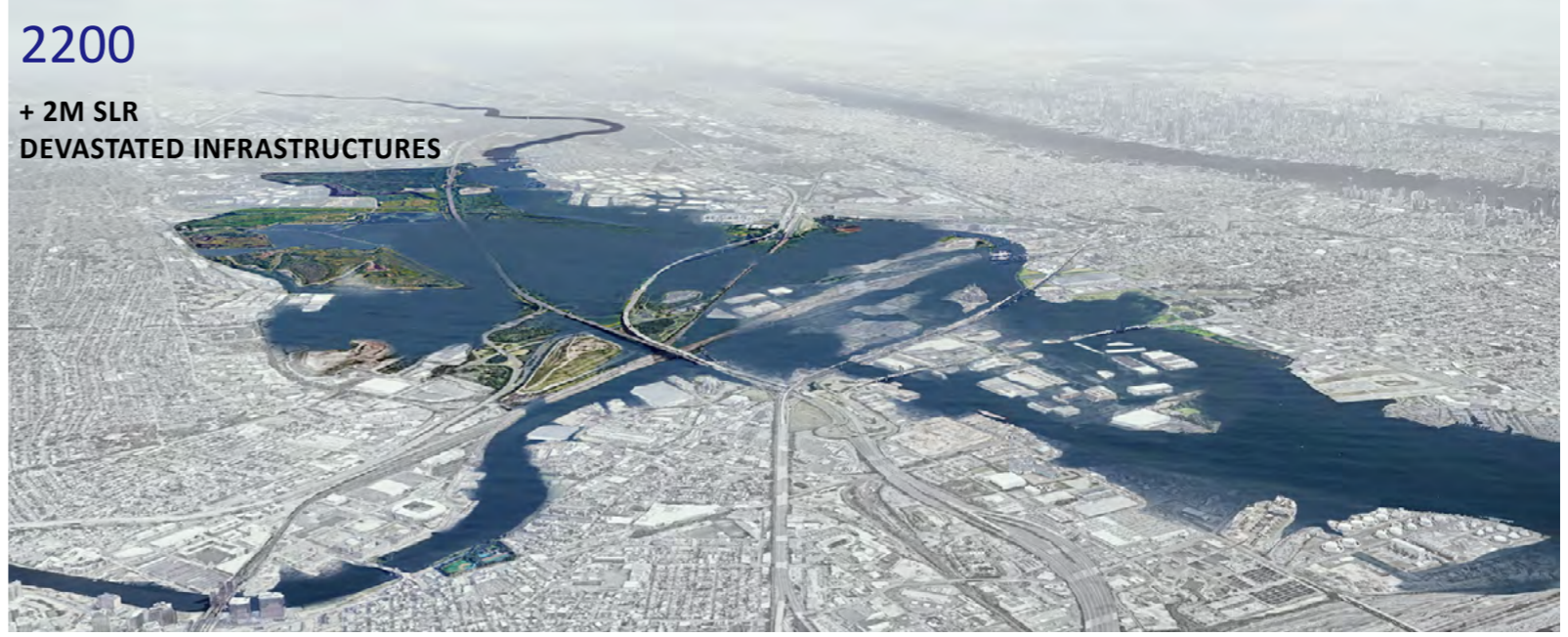
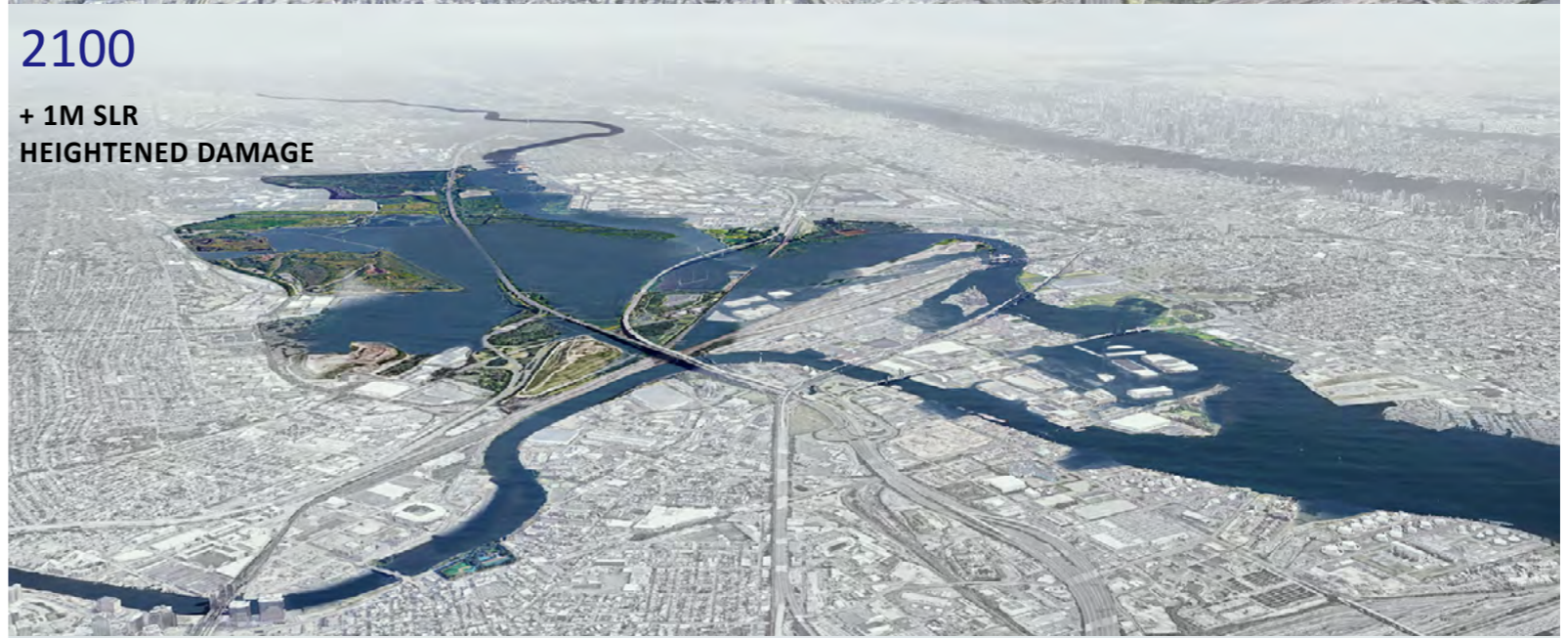
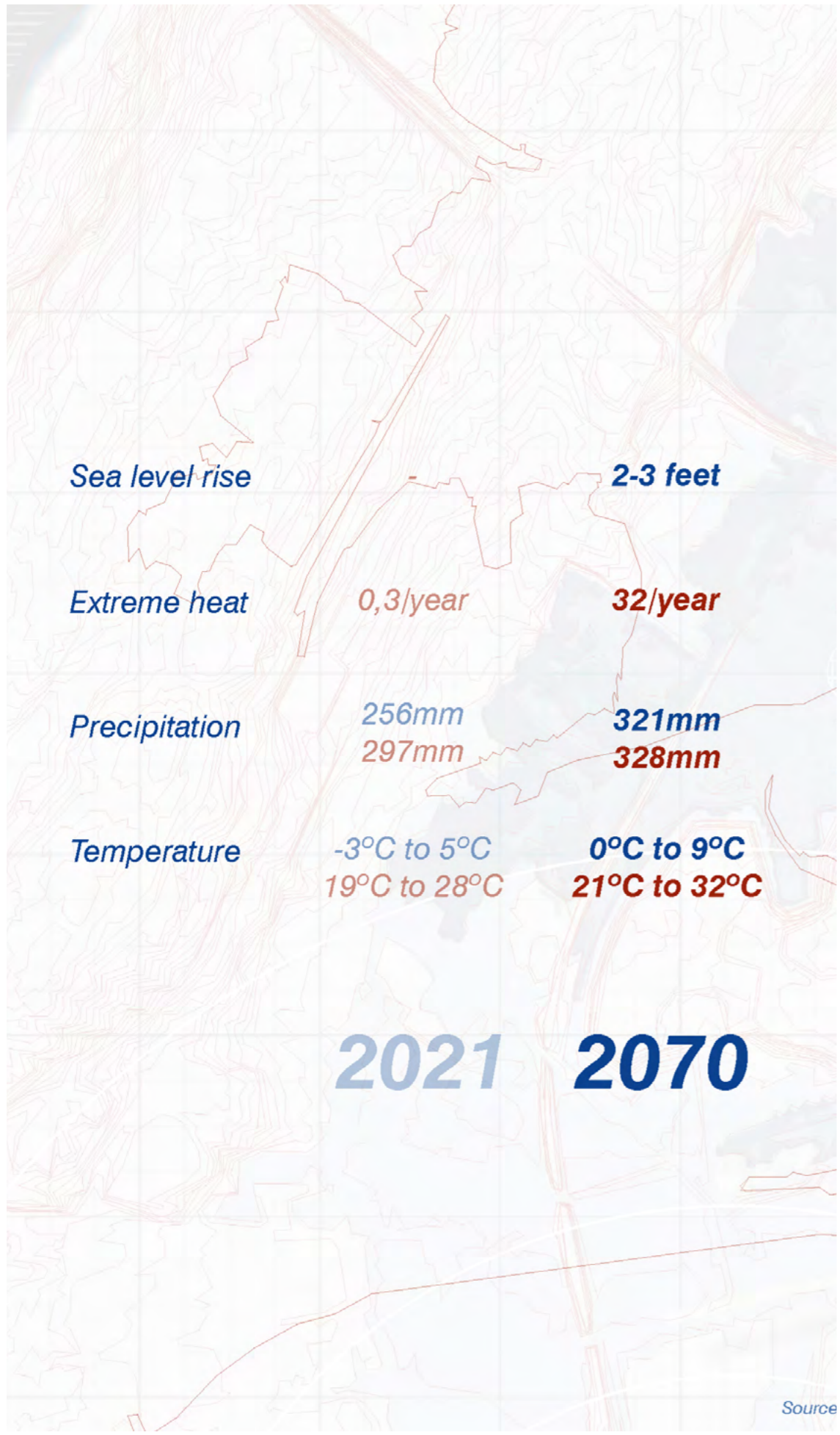
TRANSPORT INFRASTRUCTURES  
*Land, Air, and Water*



PUNCTURED WETLANDS, cont.  
*Hackensack*

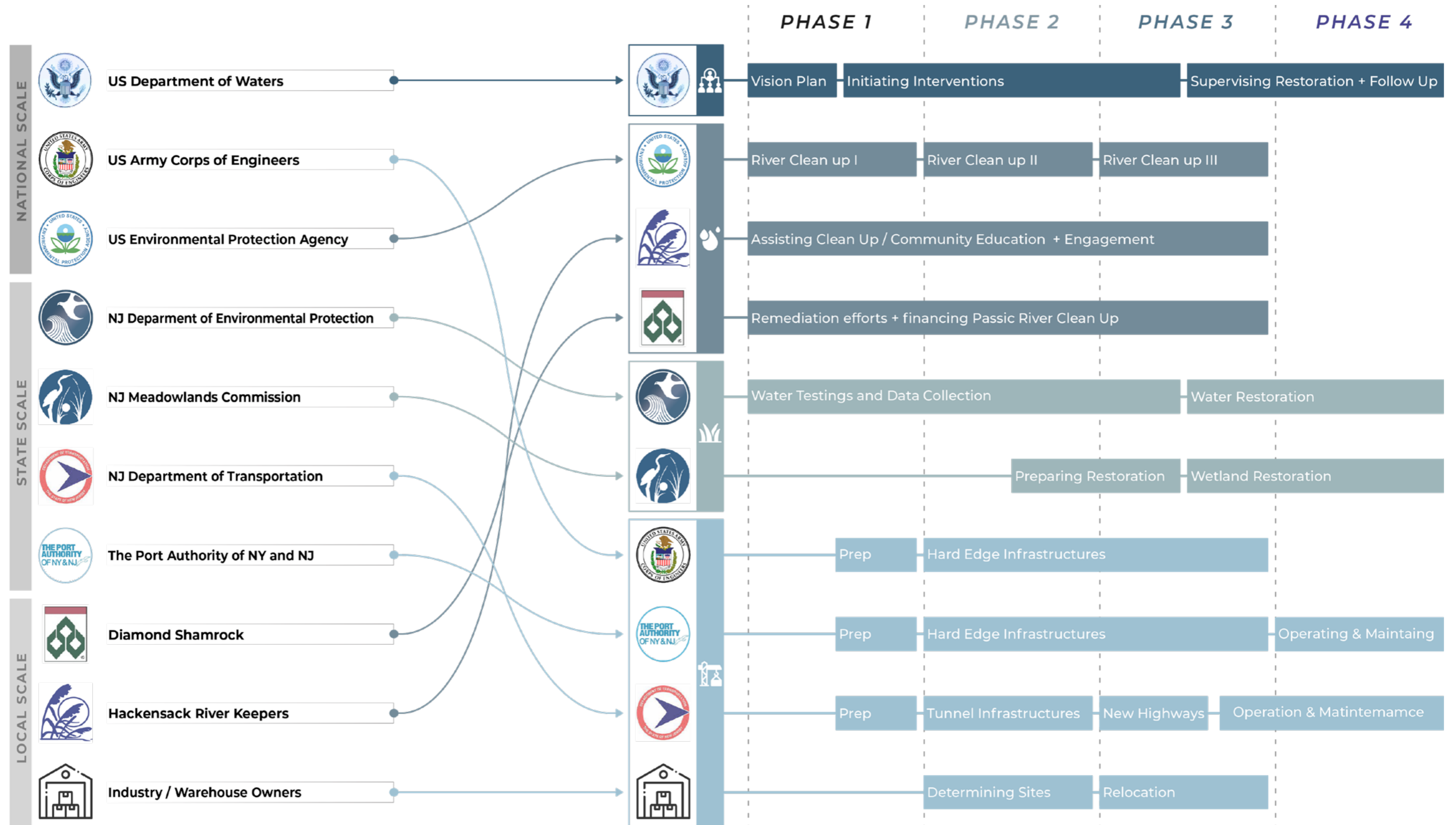




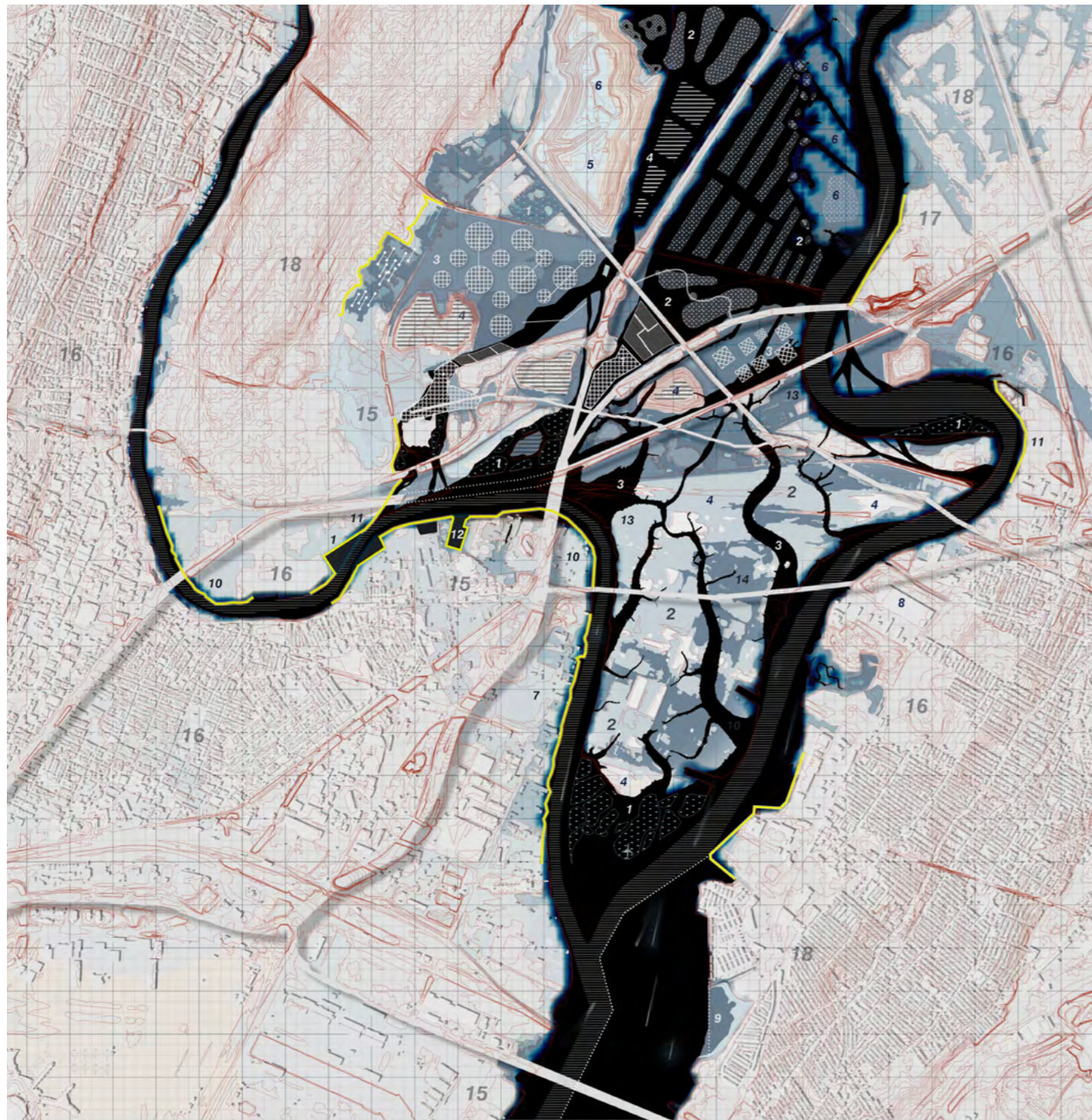




“At the juncture of the **built environment x climate research**, we are a diverse group of government officials who have gained momentum in our call to action: shifting focus from crisis on land to water. We have since founded the **US. Department of Waters**- a federally funded government program, practicing within and beyond urban design in relation to the water crisis - propelled from a contested past towards our equitable and collective futurities.”





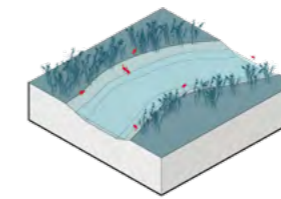


- 1 Filtration gardens
- 2 Wetland restoration
- 3 Aquaculture
- 4 PV panels
- 5 Sediment treatment plant
- 6 Landfill
- 7 Power plant
- 8 Recycle facility
- 9 Bay deck
- 10 Hard Edge
- 11 Berm
- 12 Water sampling tanks
- 13 Breeding area
- 14 Landing area

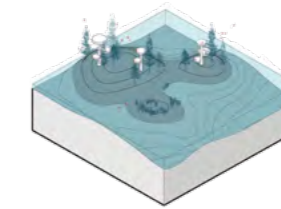
- 15 Light industry
- 16 Recreational
- 17 Warehouses
- 18 Residential

EDGE INTERVENTION | Soft edge & Hard edge

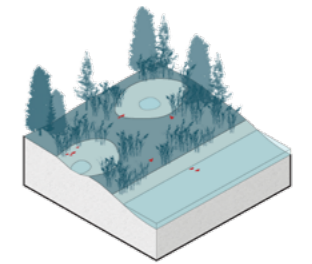
1. WATERFLOW



Landing Area

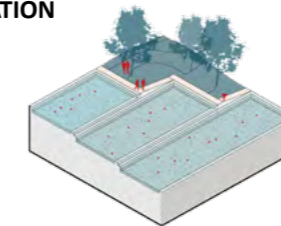


Bird Shelter

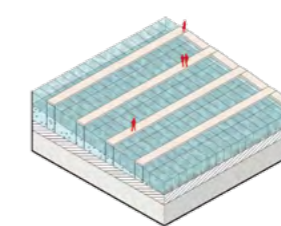


Breeding Pool

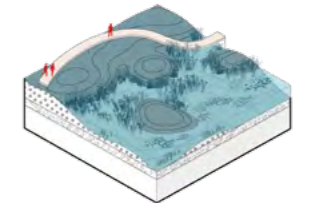
2. WATER PURIFICATION



Setting Tank

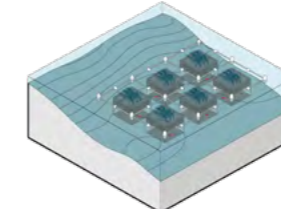


Chemical filter

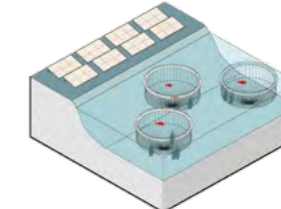


Plant purification

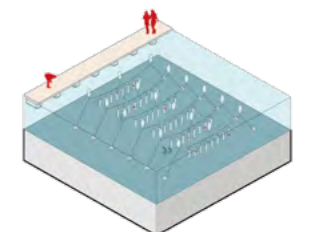
3. AQUACULTURE



Shrimp vertical farm

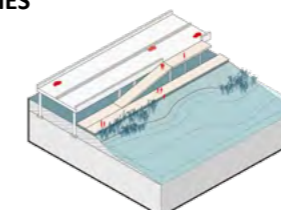


Fish farming

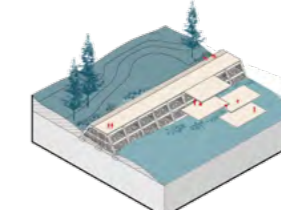


Shellfish farming

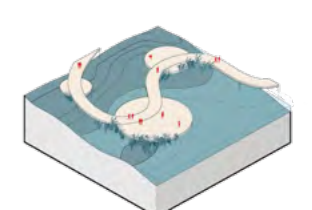
4. HUMAN ACTIVITIES



Highway platform

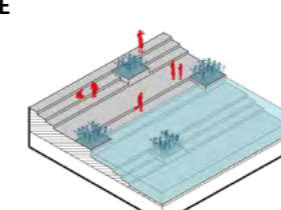


Reinforced dike

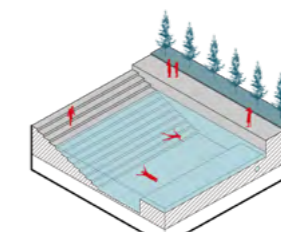


Waterborne track

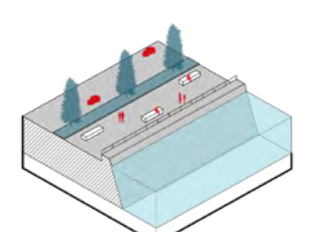
5. COMMUNITY USE



Waterfront stair

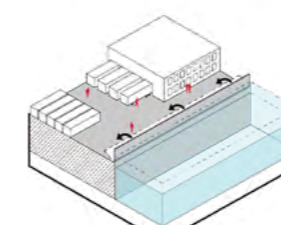


Tidal pool

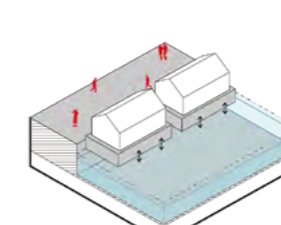


Bulkhead

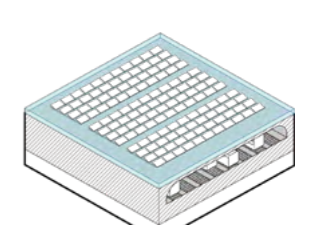
6. INDUSTRY USE



Deployable flooding wall



Floating warehouse



Tunnel & Solar farm



# SUPERFUND SITE: BEFORE



# SUPERFUND SITE: AFTER







TRANSPORT  
INFRASTRUCTURES

REINFORCED DIKES +  
NESTING POOLS

RESEARCH LANDINGS

BIRD SHELTERS



ACTIVATED  
ESTUARY DOCKS

• STEPPED TIDAL POOLS

• RESEARCH PAVILIONS







# 03

## BUFORD PRODUCTIONS SUPERCHARGED

**Location:**  
Atlanta, USA

**Keyword:**  
Cultural, Art & Film, Urban Furniture

**Team:**  
Jiamin Huang, Shinan Liu, Rotina Tian, Kenny Zhou,

**Professor:**  
Emanuel Admassu, Nina Cooke John, Chat Travieso, Alexa Tsien-Shiang

The film industry is transforming Atlanta. The spread of new studios as gated communities form physical barriers and the creation of “camera-ready communities” initiative turns people’s backyards into the film studios’ property.

Studio City as a proposed gated film community will bring an exploitative relationship into our site Buford Highway. Provided with infrastructure built into local culture, Buford Highway will be transformed into a supercharged cultural corridor that fully embraces the liberation of cultural production. The film studio is Buford Highway and Buford Highway is the film studio.







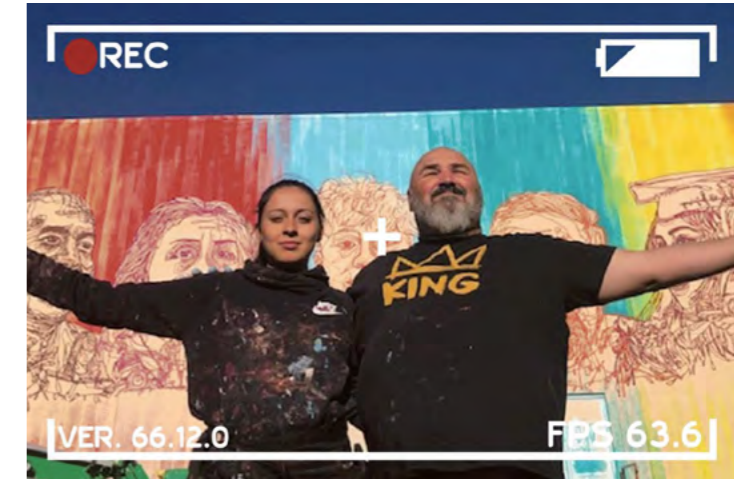
# WE WANT TO...



1. Encourage self-expression



2. Encourage authentic culture production



3. Encourage small-scale filmmaking











We are proud to share our culture and customs by decorating outdoor dining with traditional fabrics.

**Accessible Film Workshop**  
 The film school consists of a series of film workshops in open spaces. Everyone can learn about the film-making process so they can promote their cultures.

**Multi-cultural Food Bazaar**  
 Accessibility of local food shapes the community's sense of belonging. The international bazaar is the best stage to showcase authentic food and culture.

**Community Theater**  
 The theater is a place to showcase all the cultural products produced by the local community. It's a place for people to test out their products and enjoy unfamiliar cultures.

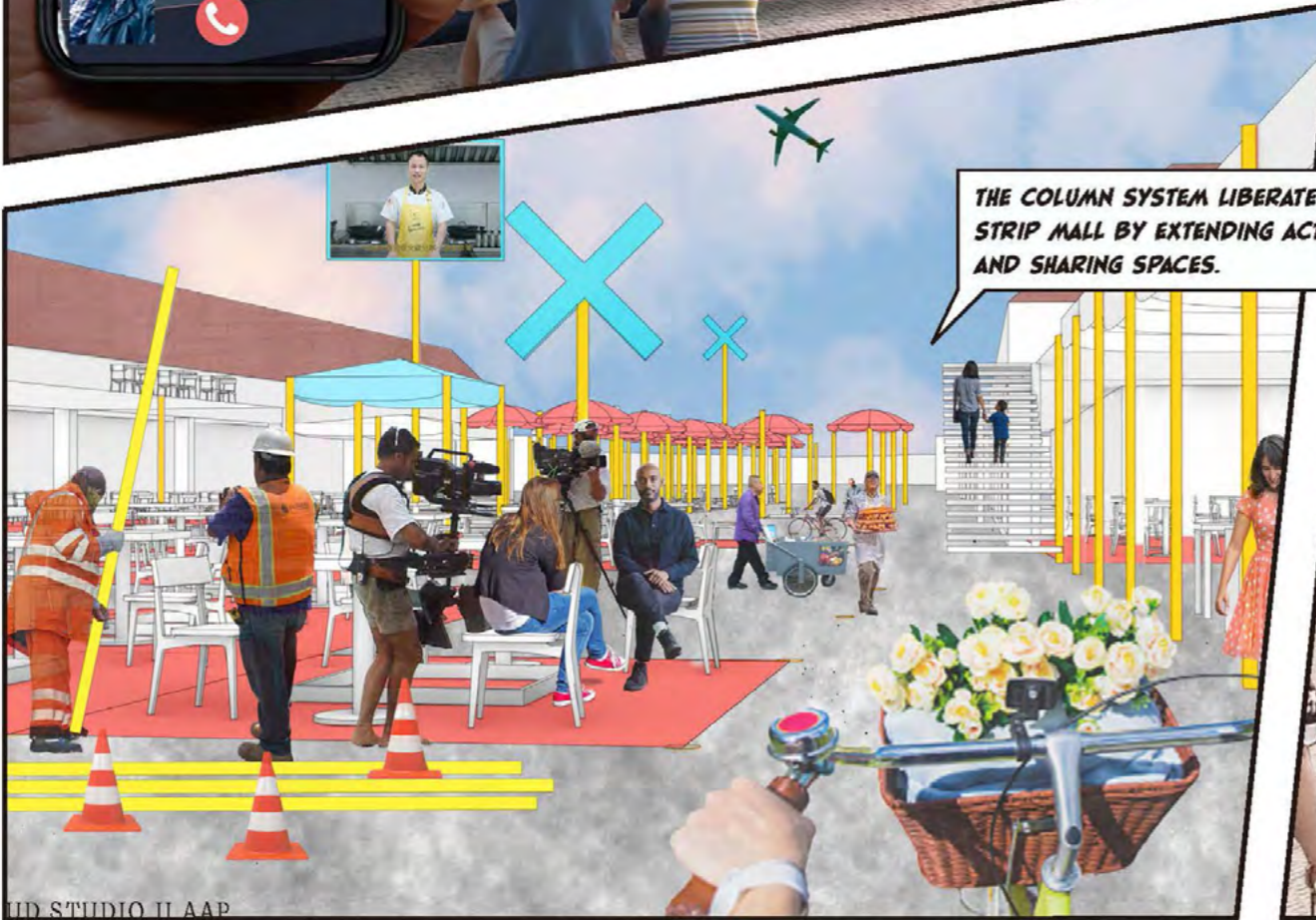




WE CAN ATTACH LIGHTS AND EQUIPMENT ON THE COLUMNS. THIS PROVIDES FOR A SAFE WAY TO EXPERIENCE OUR ABUNDANT NIGHTLIFE.



OUR FOOD BAZAAR AND BLACK BOX STUDIO MAKE A PAIR OF SPACES THAT EMPOWER US TO PROMOTE AUTHENTIC CULTURE.



THE COLUMN SYSTEM LIBERATE THE STRIP MALL BY EXTENDING ACTIVITIES AND SHARING SPACES.



I WANT TO SHOW OFF MY FOOD TO THE WORLD, SO MORE PEOPLE CAN UNDERSTAND THE TRADITIONS AND CULTURE BEHIND THEM!

BUHI THEATER





04

## PUB SPACE/RECOMBINANT URBANISM

**Location:**

Xiamen, China

**Keyword:**

Urban Studies, History

**Team:**

Jiamin Huang, Changbin Kim, Jisoo Kim, Kenny Zhou,

**Professor:**

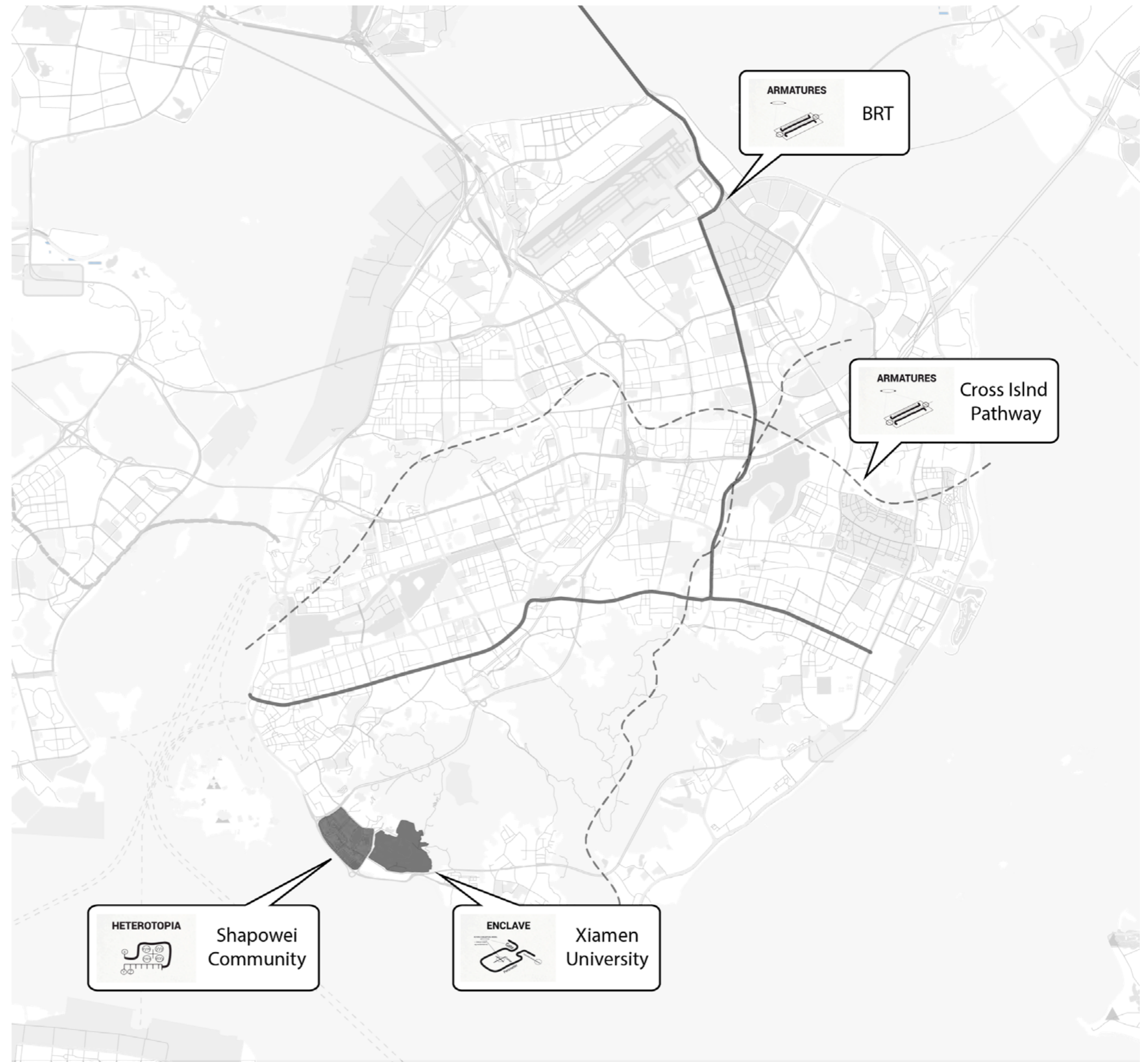
David Grahame Shane

This seminar examines how cities grow and develop over time. It employs a theory of urban actors and conceptual models as tools for the analysis of the city, its urban systems and design ecologies. The course maps transformations in these actors and their models at various scales over time in specific locations. Urban actors use conceptual models to link to the larger forces shaping a city network.



## GEOGRAPHY:

Xiamen is a sub-provincial city in southeastern Fujian whose urban core grew up from the port of Xiamen on southern Xiamen Island, now located within Siming District. It now also includes Gulangyu Island and the rugged coast of the mainland from the northeast bank of the Jiulong River in the west to the islands of Xiang'an in the east. Xiamen Island lies about one degree north of the Tropic of Cancer.[12] It is divided between Huli District in the north and Siming District in the south. Siming also includes Gulangyu. Its mainland territory is divided among Haicang, Jimei, Tong'an, and Xiang'an districts.





# XIAMEN

262 Tongan county was set up.

933 Tong'an County was again established in 933 under the Later Tang.

968 Song Dynasty put the Xiamen area on the map. Opening a sea port for foreign trade

1058 Imperial troops stationed in Xiamen

1,000 soldiers oversaw political and military affairs in the "Thousand Households District."

1282



Ciji Palace

1387 "Xiamen City" was created in the Ming Dynasty, meaning "the Gate of the nation".

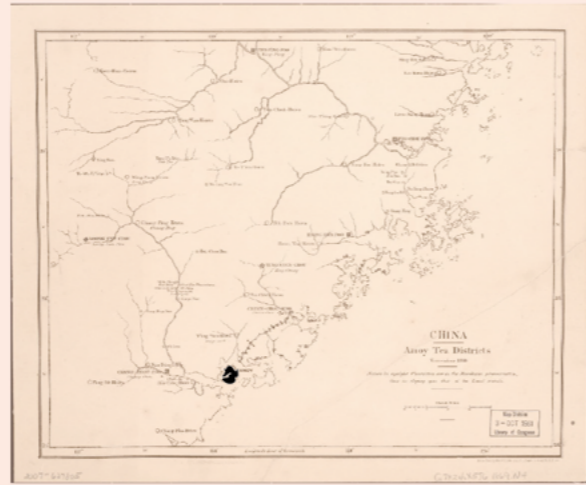
1400 As a defense against Japanese invasion, Xiamen was fitted with heavily fortified walls



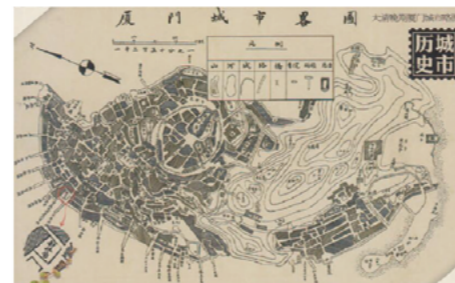
1516 Portuguese(1516) and Spanish(1575) traded with Xiamen.



1612 The Qing annexed Taiwan and designated Xiamen as an important hub for trade between Fujian and Taiwan



1636 During Qing Dynasty, Xiamen functioned as a port city until 19th century.



"Xiamen occupies an important military position against Taiwan and is gate of Southeast China"

1839 British Occupation: 1839-1842 First Opium Wars

1843 Under the Nanjing Treaty of 1843, Xiamen was opened as one of five treaty ports for foreign trade, previously limited only to Canton.

1938 Japanese Occupation: 1938-1945 Sino-Japanese War/WW II

1895 Jumpstart of Xiamen's urban development

In 1895, when Japan occupied Taiwan, Xiamen ceased to serve as the center of Taiwan's foreign trade.

However, due the British colonial economy in Southeast Asia, the demand for labor increased, so many Xiamen residents moved there.

It also served as the gathering place of returning Chinese diaspora.



1949 Xiamen became a provincially administered city

1955 The Gaoji Causeway connected Xiamen Island into a peninsula

Shells launched from Xiamen to nearby Kinmen Islands of Taiwan during the 1st and 2nd Taiwan Strait Crises

1980 Deng Xiaoping's economic reforms makes Xiamen one of the first four special economic zones in 1980

1988 Xiamen was promoted to sub-provincial status and began to be specially considered in China's state planning.

2001 Governments of PRC and Taiwan initiate "Three Mini-Links." Trade and travel between Xiamen and Kinmen Island was restored and later expanded to include all of Taiwan

2010-now Expansion into surrounding suburbs outside of Xiamen Island: Jimei, Haicang, Tongan, Xiang'an districts.

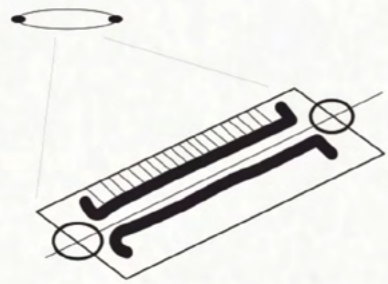
More dense urban development focusing on industrial, high-tech districts, as well as a boom in residential development, public infrastructure, and entertainment venues for tourism.



Pre-Historical City				Pre-Modern City			Modern City			Contemporary City	
266-420	581-619	618-907	907-979	960-1279	1271-1388	1388-1662	1636-1912	1912-1949	1949-1988	1988-now	
Jin Dynasty	Sui Dynasty	Tang Dynasty	5 Dynasties 10 Kingdoms	Song Dynasty	Yuan Dynasty	Ming Dynasty	Qing Dynasty	Republic of China	People's Republic of China	People's Republic of China	



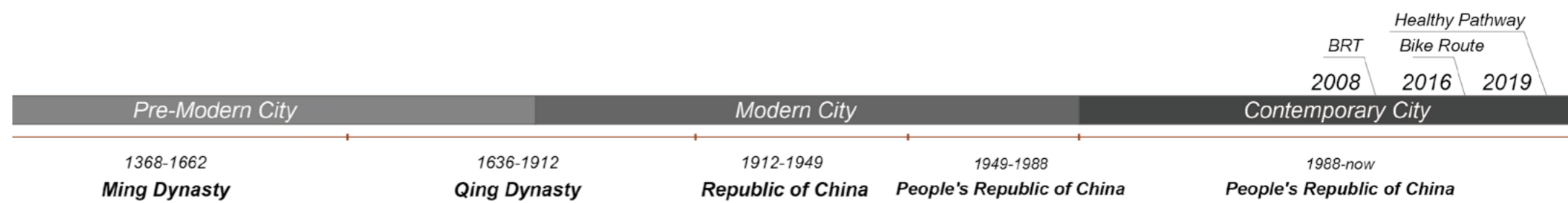
# ARMATURES



ARMATURES  
Ring Roads  
BRT  
Streets & Highways

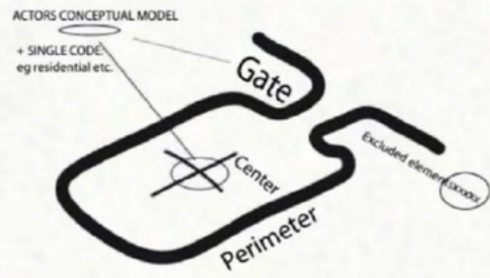
The Xiamen City Healthy Pathway Across the Island project is a trail that stitches together many of the city's public spaces— including parks, mountains, and plazas— across varying elevated and ground-level pedestrian pathways.

Xiamen's BRT system was the first in China, connecting many key points while facilitating new transit-oriented development. The Xiamen bicycle skyway cover five residential areas and three business centers, together creating a recombinant armature transport system for pedestrians, buses, and bicycles.





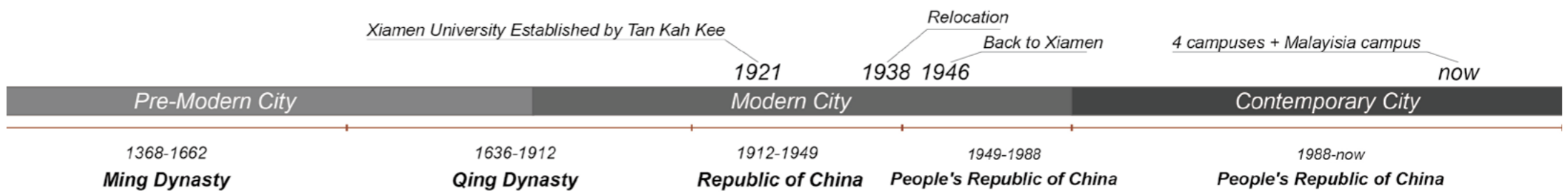
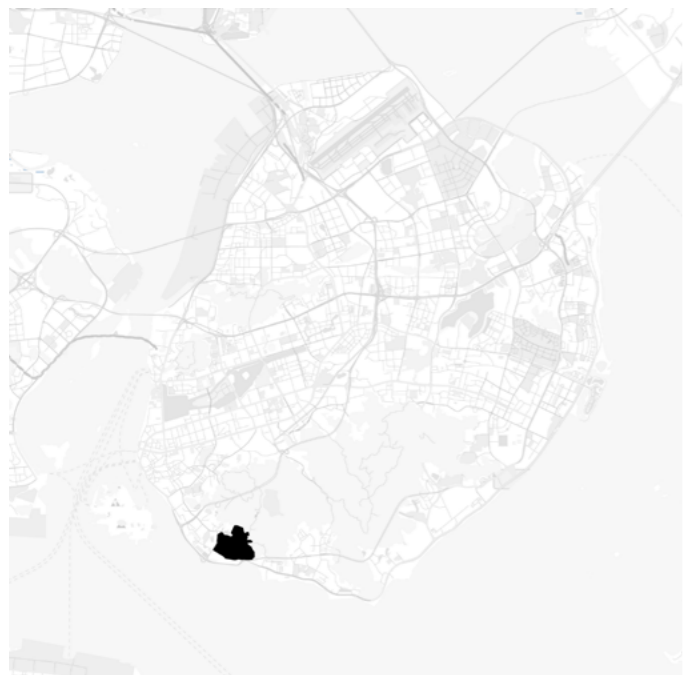
# ENCLAVE



- ENCLAVES  
Plazas  
Public Spaces  
Suburbs

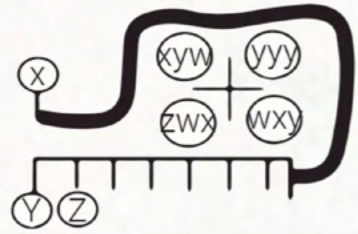
Xiamen university is an exmple of enclave that allows only certain people to access its facilities. Visible fences such as the main gate seperate people allowed and not allowed inside.

The campus is also bordered by a road, seperating it from the rest of the city. Invisible fences, such as ID cards works as a soft boundary. There is a major gathering point in the middle of campus for informal and formal public gatherings. The university is located near Shapowei, a former fishermen’s village turned into tourist attraction.





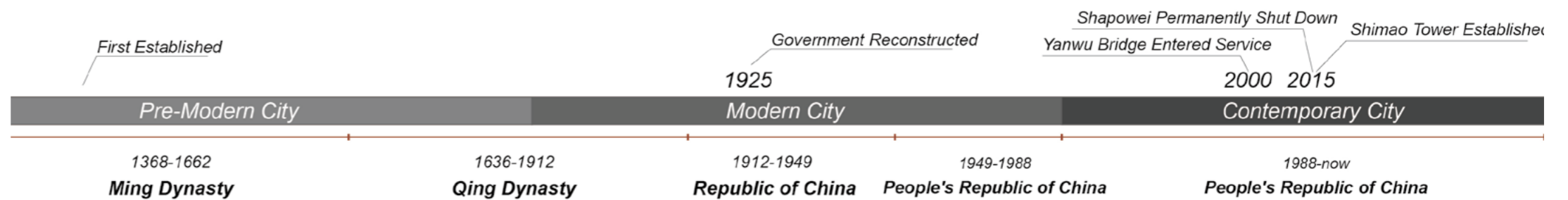
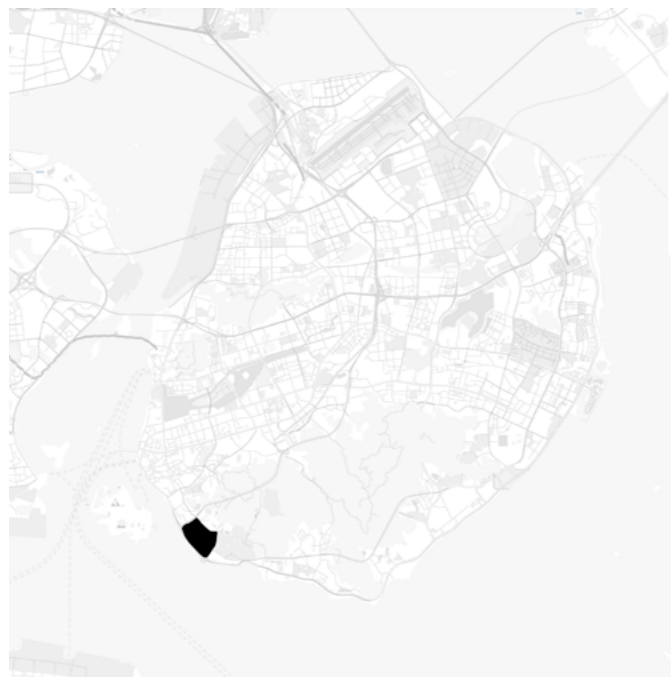
# HETEROTOPIA



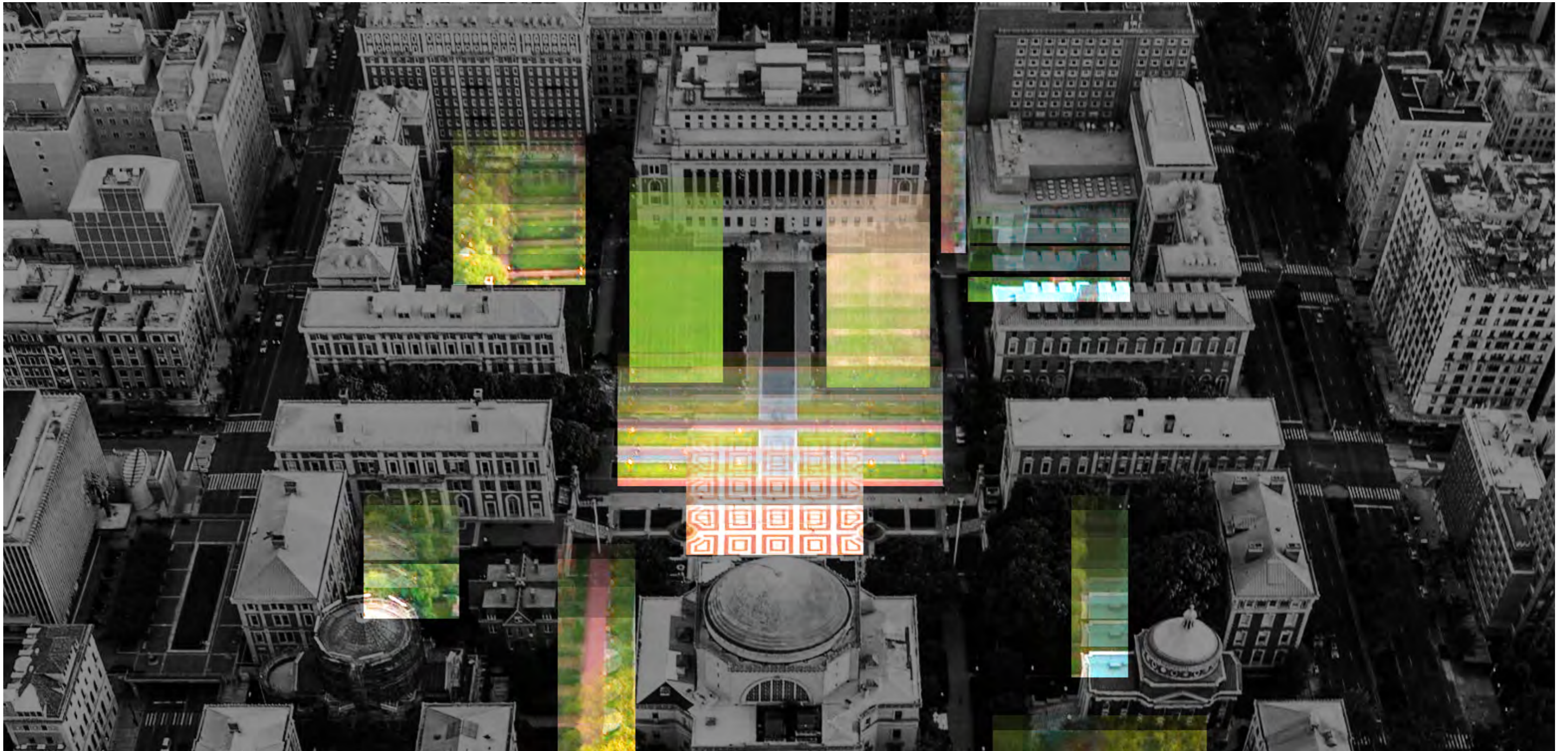
HETEROTOPIAS  
 Massive Industries  
 Oil Companies  
 Product Export - Textile & Diamond

Shapowei is a traditional fishermen's community and the birthplace of Xiamen. The native fishing community gradually diminished until 2015, when the government completely shut the area down.

Recently, due to the prime location adjacent to Xiamen University, Huandao Road tourist belt, and Zhongshan Road business district, Shapowei has become the most popular tourist attraction. In addition, the Shapowei community brands as "Western Art District" as a catalyst to stimulate the revival of the "old community" in order to attract young people.







05

## GSAPP OUTDOOR CLASSROOM

**Location:**

Garden between Avery Hall and Fayerweather, NY

**Keyword:**

Education, Urban Design

**Team:**

Lamisa Haque, Jiamin Huang, Jisoo Kim, Shinan Liu

**Professor:**

Kaja Kuehl

Students' mental health may benefit from spending time outdoors, a finding that is especially relevant for students who attend college during COVID-19. During the age of COVID-19 it becomes even more important to create viable options for alternate settings to continue learning in person, while keeping everyone involved safe and comfortable.

Through co-designing multiple settings of learning experiences, students and faculty have more opportunities to foster engaged learning while activating the space and energizing the culture of Columbia University's campus.





## ORGANIZING, SUPPORTING + FUNDING ENTITIES:

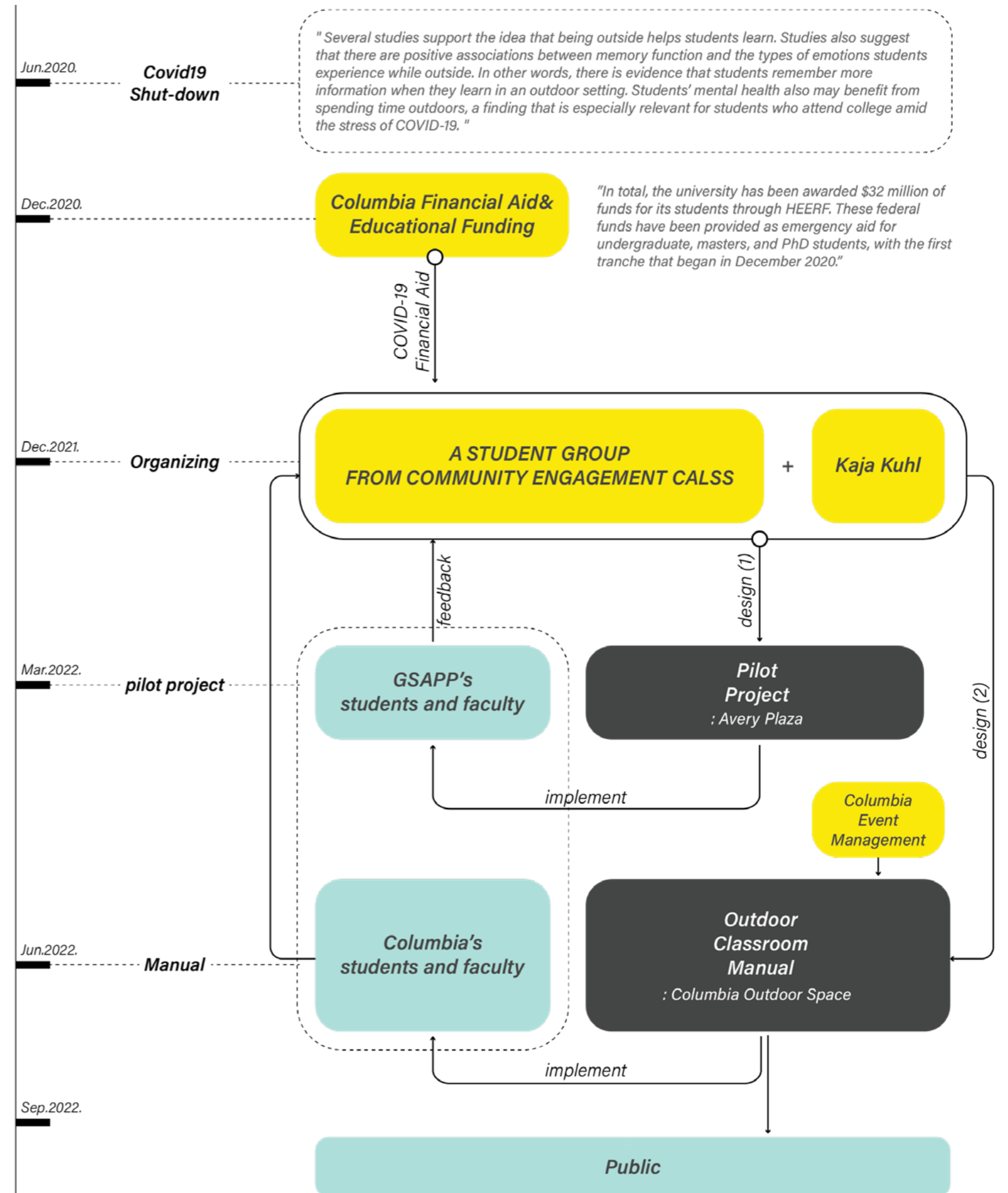
Columbia University COVID Emergency Funds are available for students and have been extended to initiatives that support safe in person learning on campus.

This project was initiated by a group of students in the Urban Design Program. Following the announcement of the idea, the students invited all other GSAPP students to be involved. After finalizing the student group a faculty advisor was instated to facilitate and mentor the students as they pursued the goal of attaining the outdoor classroom.

The first step was to implement a Pilot Project that exposed the campus to how an outdoor setting could function. This also allowed the organizing group to gather feedback and improve their ideas.

After compiling the information gathered from the Pilot Project, the team develops a Manual for holding Outdoor Classroom Day. In collaboration with Columbia Event Management the student team and faculty finalize a structure.

The end result is a prototype, accesible to all, to allow people around the globe at all universities to participate in Outdoor Classroom Day and other oppourtunities to implement outdoor learning.



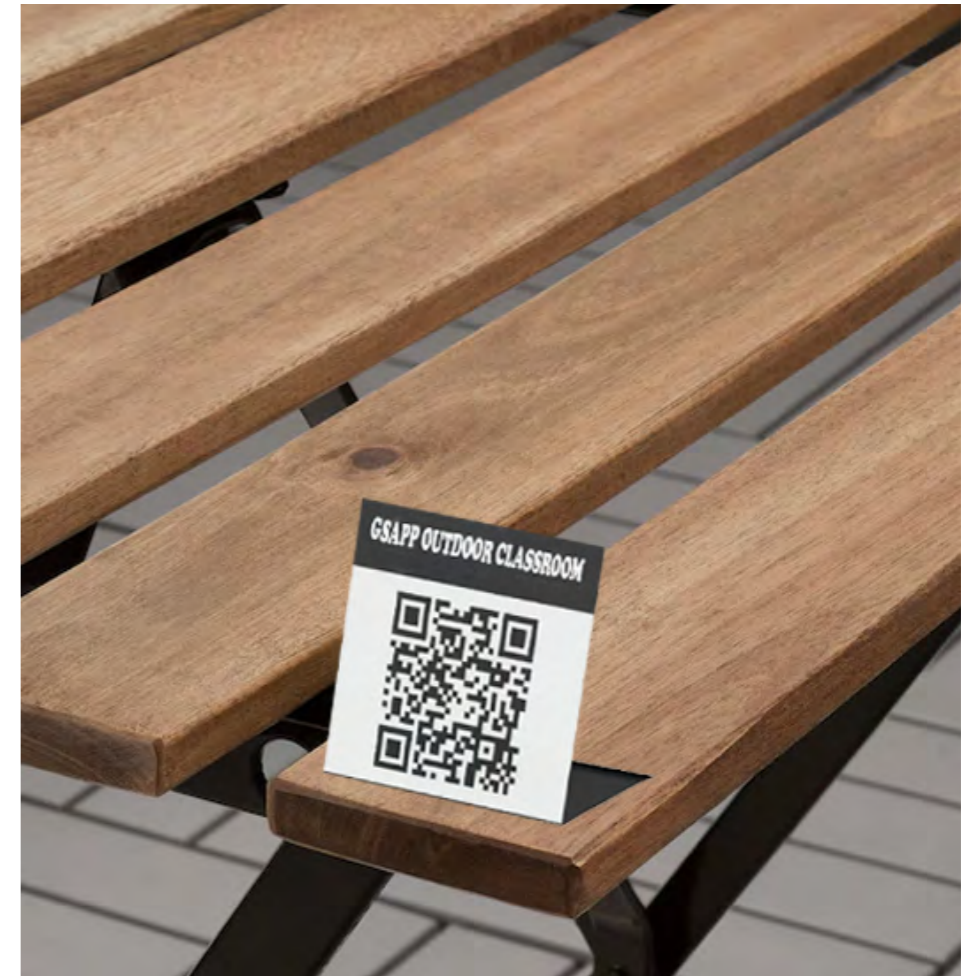


## PILOT PROJECT

Through utilizing outreach tools such as emails, posters, social media and word of mouth, the first event was held as the Urban Design Presentations where reviews were held in outdoor courtyard between Avery and Fayweather Halls. This initial event allowed the team working on the initiative to gather data of additional needs as well as to involve the students and professors in providing feedback for the future.







## METHODS & TOOLS USED

Outdoor Classroom Day is a way to engage the community of Columbia University to take part in holding classes outdoors. Through this, the benefits of holding classes outdoors will be felt at a personal level and thus the future of a potentially permanent outdoor space is higher.

To develop the guide, firstly we take inventory of available outdoor spaces, evaluating each location for shade and other conditions. Then working along side Columbia Event Management to design a system for reserving space for classes. Also coordination with IT to have suitable Wi-Fi access.

Handout will contain a map of all locations that can effectively hold outdoor class, an inventory of the available furnishings such - as tents, chairs, tables, outdoor furniture, technology (sound systems, projectors, microphones, wi-fi access...etc.- and the sites which have them available and the sites which can be added to. The guide can be used by both students and professors to facilitate Outdoor Classroom Day.





# The OUTDOOR CLASSROOM DAY MANUAL

## Introduction: The Ideas Behind Outdoor Classroom Day

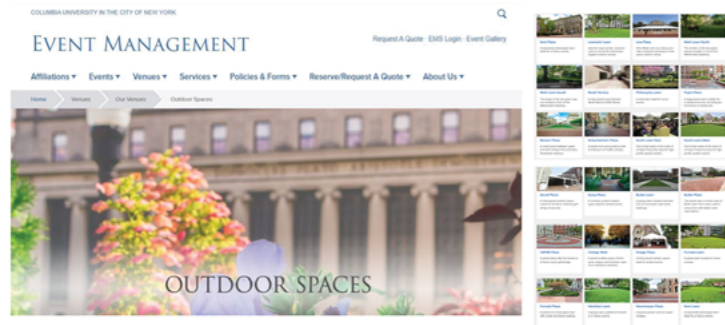
Through co-designing multiple settings of learning experiences, students and faculty have more opportunities to foster engaged learning while activating the space and energizing the culture of Columbia University's campus.

### So, how to move our classroom outside?

## 01 Choose the spot






Columbia's Morningside campus offers grass and hardscape areas that can be used for various outdoor or tented events, from casual picnics to formal, seated dinners. You can find them on the website <https://eventmanagement.columbia.edu/content/outdoor-spaces>.

So, firstly, choose a spot you wish to hold an outdoor class on campus!



## 02 Make a plan

Things you need to consider organizing in advance are:

-  Checking the weather, and choose a day with great weather without rain and strong wind.
-  Sourcing essential materials to provide shade, ground cover and seating at least a week or two in advance.
-  Assembling professors, TAs, students to help you plans, arriver early at the site to hold a space, and to help you setup and clean up at the end of the day.
-  People to photograph/document the event. Locate your CLASSROOM where it will receive good visual exposure.
-  A plan for engaging people who come by your CLASSROOM.

## 03 Reserve the spot

### About Our Outdoor Spaces

Columbia's Morningside campus offers grass and hardscape areas that can be used for a variety of outdoor or tented events, from casual picnics to formal, seated dinners.



First-time Users: Request a Quote Returning Users: Log-in to EMS

Request a Quote Log-in to EMS

### AVAILABILITY



#### During Academic Year

Outdoor spaces can be reserved by Columbia students, faculty and staff during the academic year from 8:00 a.m. - 1:00 a.m. Spaces are available to outside guests as well, if they have a University sponsor.



#### Summer & Winter Breaks

Outdoor spaces are available to students, faculty, staff, and outside guests with a University sponsor between 8:00 a.m. - 1:00 a.m. during academic year intercessions.



#### Pricing

Submit the quote request form and we will contact you with additional details and estimated pricing. Faculty, staff and students can log into EMS to obtain estimated pricing.

Visit Event Management website <https://eventmanagement.columbia.edu/content/outdoor-spaces> to check the availability of the spot and reserve the spot 1 week before your event.

If the class is open to public, you can also put up a sign on the spot 2 days before your event to engage and invite students from other programs to participate in the class!

## 05 Clean up and recycle

Be prepared to completely, totally, utterly leave your campus landscape in a better condition than you used it.

Bring a broom, dustpan, trash bags and a good pair of gloves.



Sweep like this is your property, because it is. Help your campus erase the trace of others by sweeping the whole block!

Return the materials you borrow in 1 day when the project is over.

Use Craigslist or Freecycle to keep materials from entering the waste stream.



Re-use first and recycle if you can't re-use.

## 04 Set up

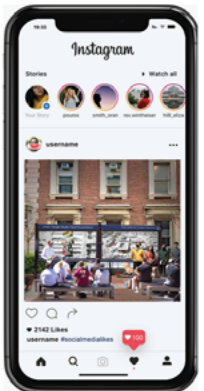
The fundamental elements of a good outdoor classroom space are seating, shade, devices and technology, and a sense of relaxation and focusing.



You can take them from your classroom or borrow it from Columbia Event Management office 1 week in advance.

## 06 Getting the word out

Join the OUTDOOR CLASSROOM Day Network!



OUTDOOR CLASSROOM Day Network is the open-source, user-generated living archive of the worldwide event.

We strongly encourage prospective participants and anyone interested in the event to join the Network to share and gather information, advice and, of course, photos, videos, interviews and anecdotes related to OUTDOOR CLASSROOM Day installations. Check the OUTDOOR CLASSROOM Day Network and make some new friends!





06

## SECURE BASE

**Software:**

3D Studio Max, V-ray

**Keyword:**

Rendering, Psychology

**Team:**

Individual Work

**Professor:**

Joseph Brennan, Phillip Crupi

Secure base, a place of safety, represented by an attachment figure (e.g., a parent), that an infant uses as a base from which to explore a novel environment.

In the first view, surrounded by the glacier, the secure base was very close to the ground, representing its closeness and availability to the attached one. Inspired by the color of the womb, everyone's first physical secure base, decorations (sofa and the cushions) are all pinkish and grounded, which offer a feeling of security and reliability. Personal belongings such as a diary book and glasses floating in the air symbolize there's no judgment within the secure base, and one can freely express and be themselves.



**SCENE I:  
Availability**



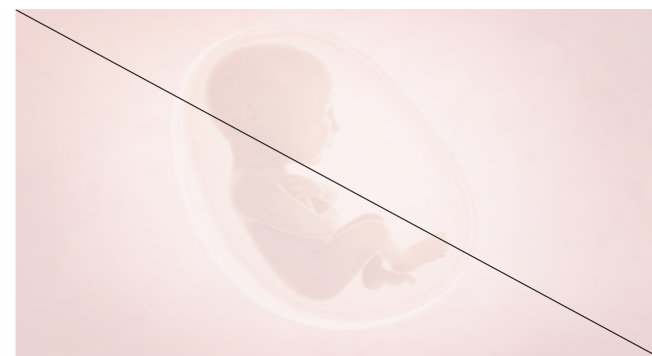
1 Modeling



2 Color blocking



3 Concept Texture\_Womb

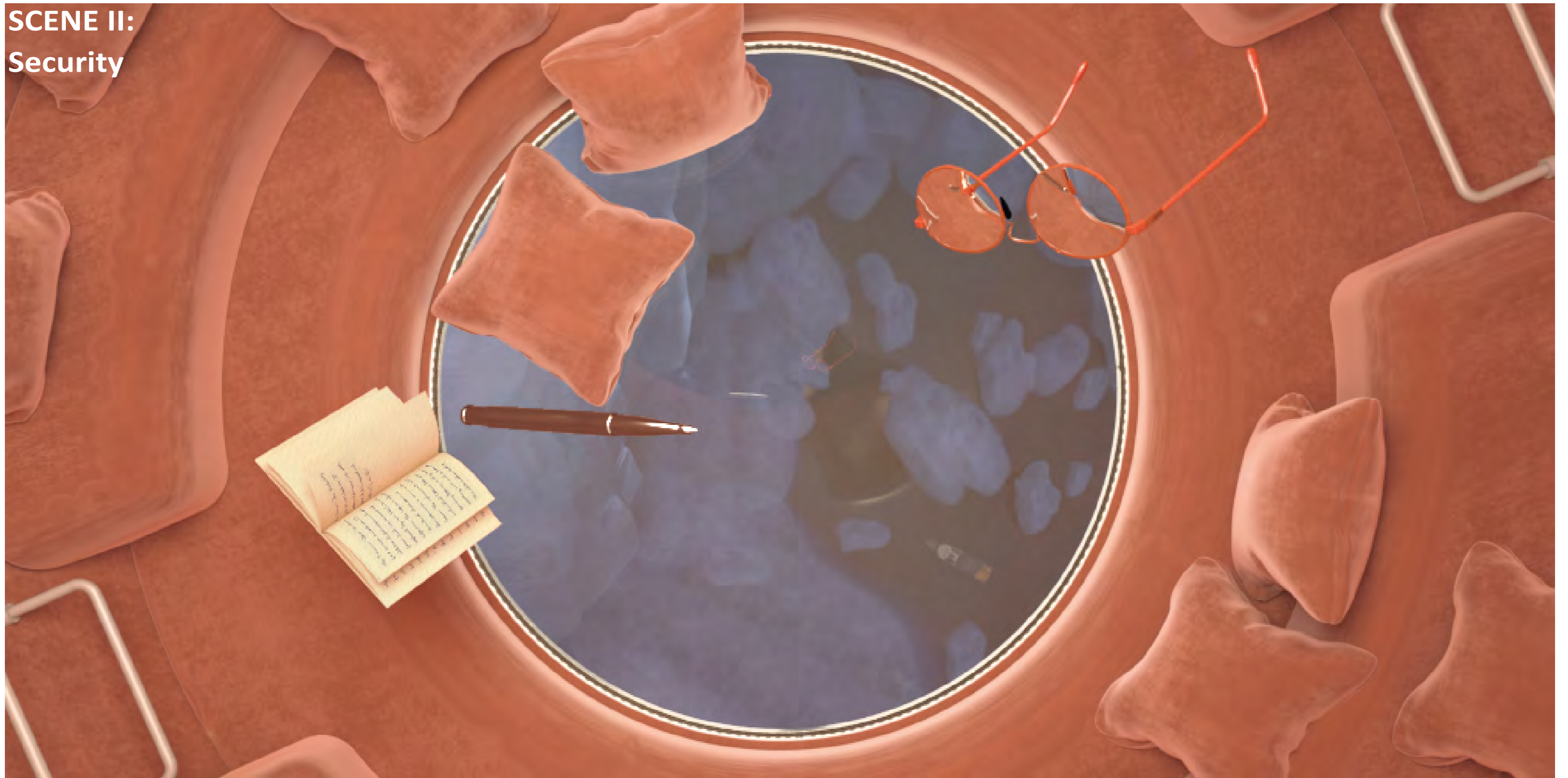


4 Concept Texture\_Glacier





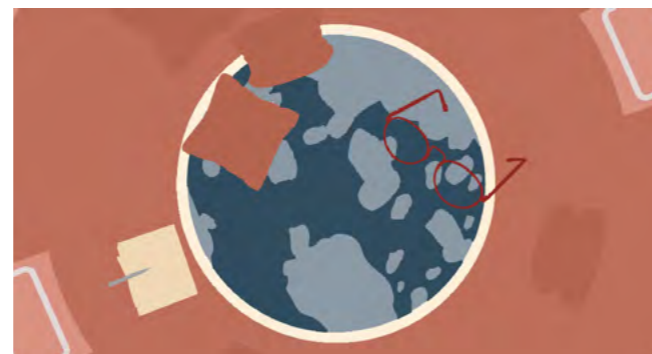
SCENE II:  
Security



1 Modeling



2 Color blocking



3 Concept Texture\_Womb



4 Concept Texture\_Glacier



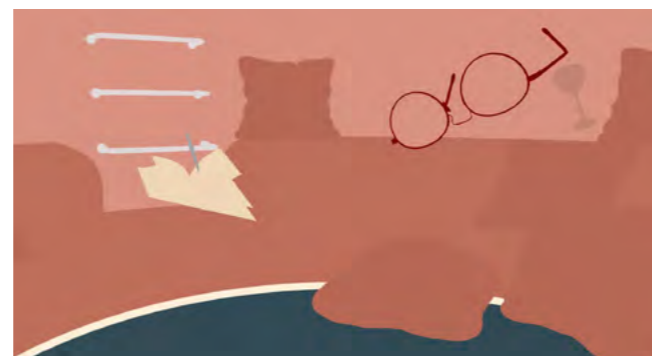




1 Modeling



2 Color blocking



3 Concept Texture\_Womb



4 Concept Texture\_Glacier

