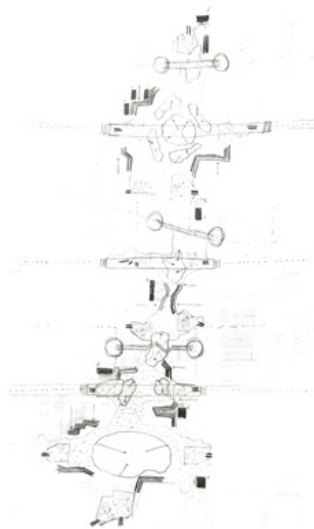


SEUNGHU KIM

Work Samples



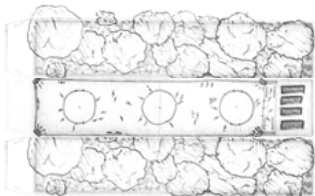
Blue Scar

QGIS
Rhino
Illustrator
Photoshop
Indesign
Lumion
Excel



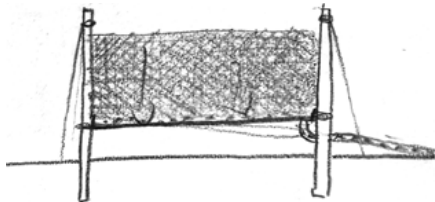
Dreaming the Ruins

Rhino
Grasshopper
ArcGIS Pro
Enscape
Illustrator
Photoshop
Physical Model



Mon Valley Solar Co-op

QGIS
Rhino
Illustrator
Photoshop
PowerPoint



Atrapanieblas - The Fogcatcher

QGIS
Illustrator
Photoshop



Coastal Braces

QGIS
Illustrator
Photoshop
Rhino
InDesign

Blue Scar

Summer Studio Project

Project Statement

In the face of unprecedented climate crisis, New York City’s deteriorating sewer system is at a critical point of failure, especially with the mismatch between the water and sewershed. This project deconstructs parts of the Gravesend neighborhood in Brooklyn, a flood prone area where water wants to occupy, to construct water basin that captures the stormwater with gravity.

Critical Research

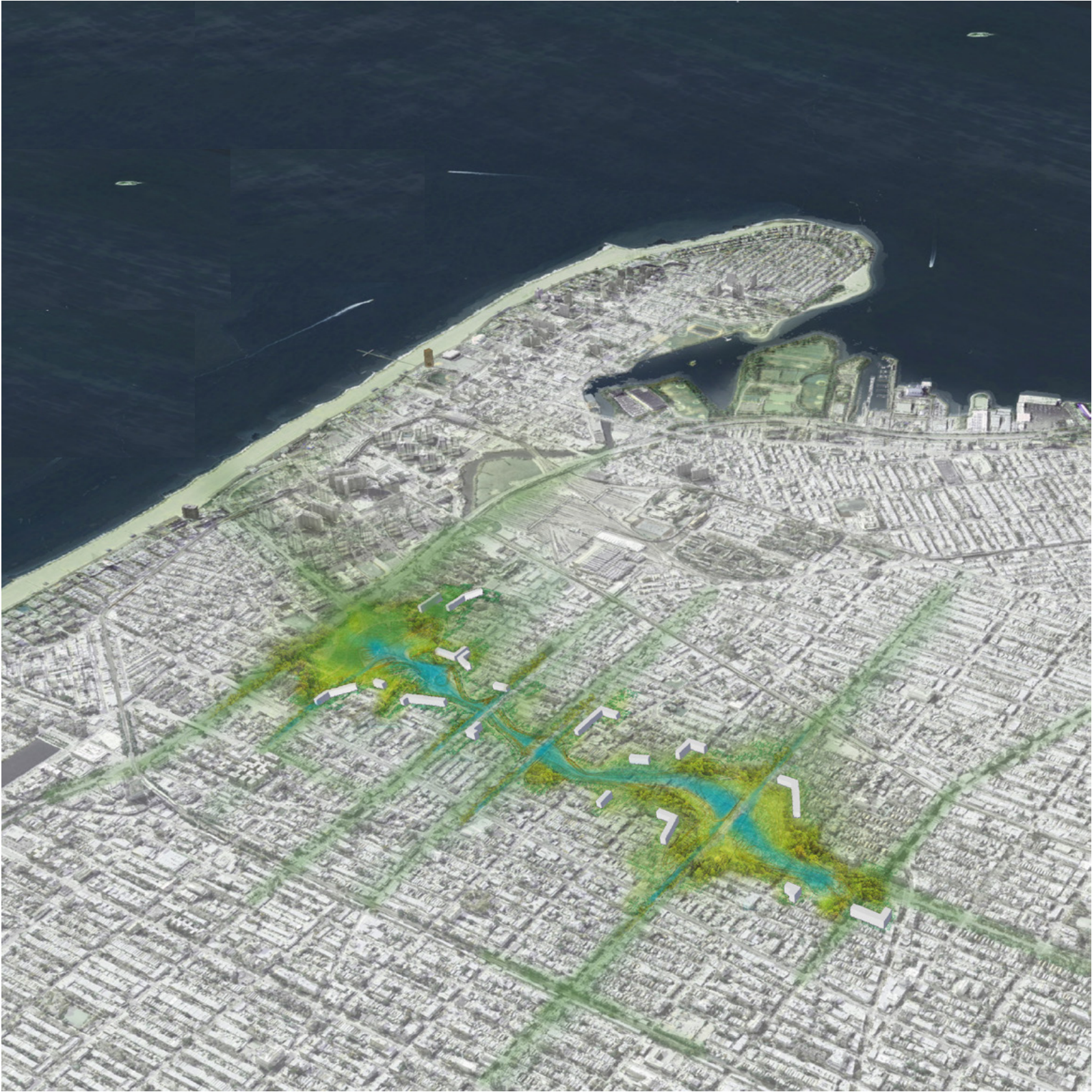
John Wesley Powell - Watershed Map
Dogma - Everyday is Like Sunday

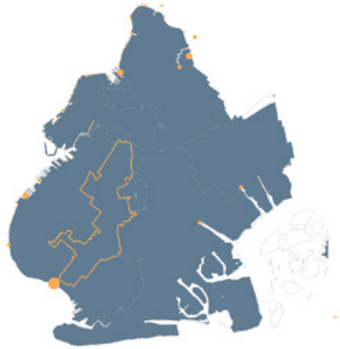
Summer 2024
Seunghu Kim, Jiali Jia, Maissa Eid, Patricio Munoz
M.S. Architecture and Urban Design
Columbia University

Managed Retreat

→ Transition of Frequent Flooding Neighborhood

Blue Scar filled after a flashflood event, holding 382 Olympic size pools worth of stormwater, buying time and slowly releasing towards wastewater treatment plant, minimizing massive combined sewer overflows.

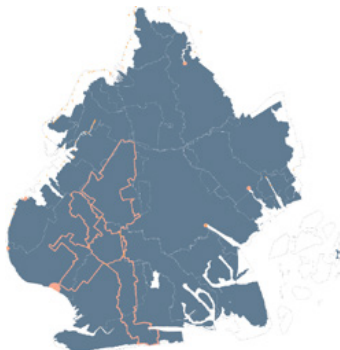




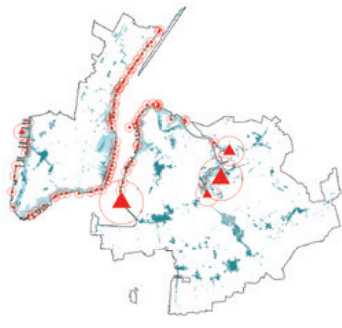
Brooklyn Sewershed



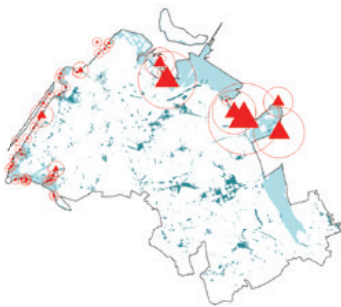
Brooklyn Watershed



Mismatch



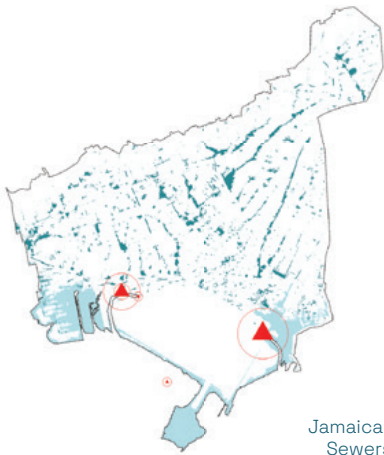
003
Newtown Creek (MN-BK)
Sewershed



004
Bowery Bay (QN)
Sewershed



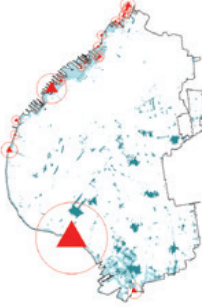
005
Hunts Point (BX)
Sewershed



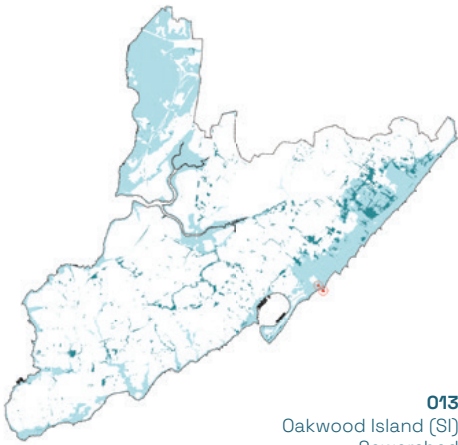
008
Jamaica (QN)
Sewershed



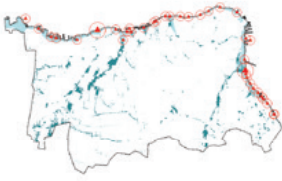
009
26th Ward (BK) Ward
Sewershed



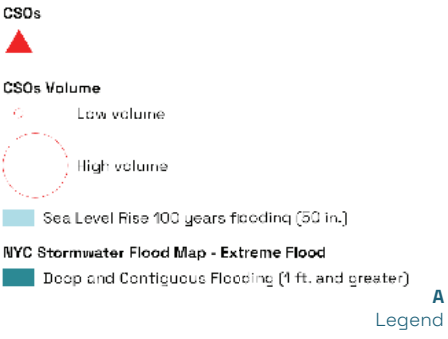
010
Owls Head (BK)
Sewershed



013
Oakwood Island (SI)
Sewershed



014
Port Richmond (SI)
Sewershed

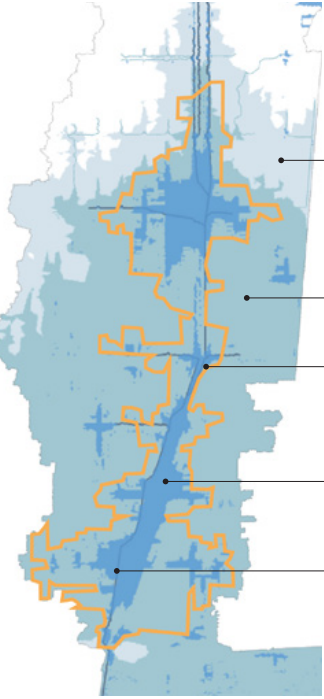
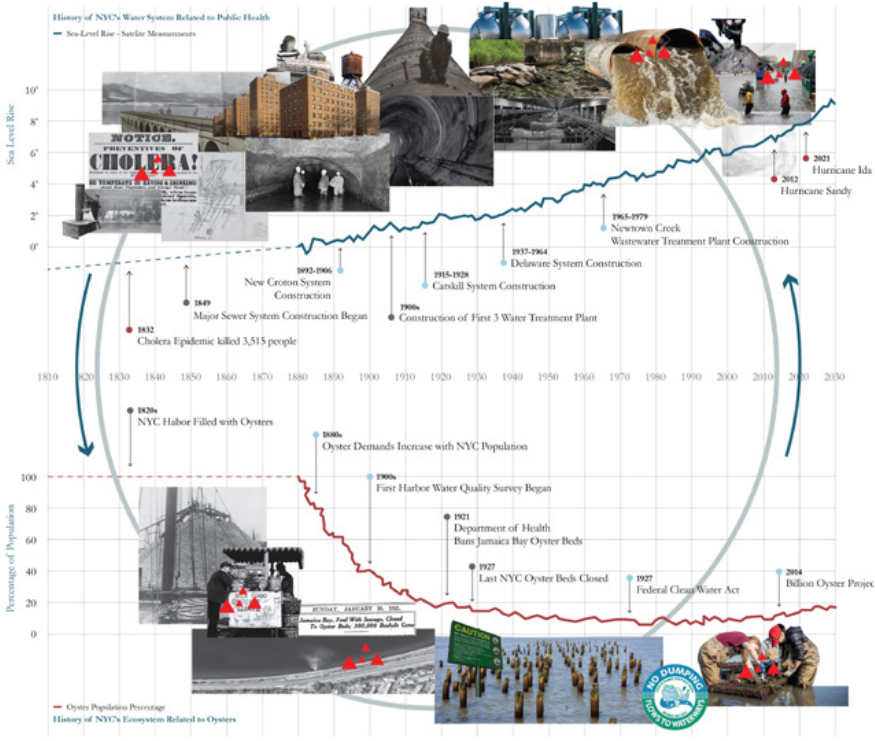


Systematic Mismatch

Conflict between two systems, causing massive infrastructure failure.

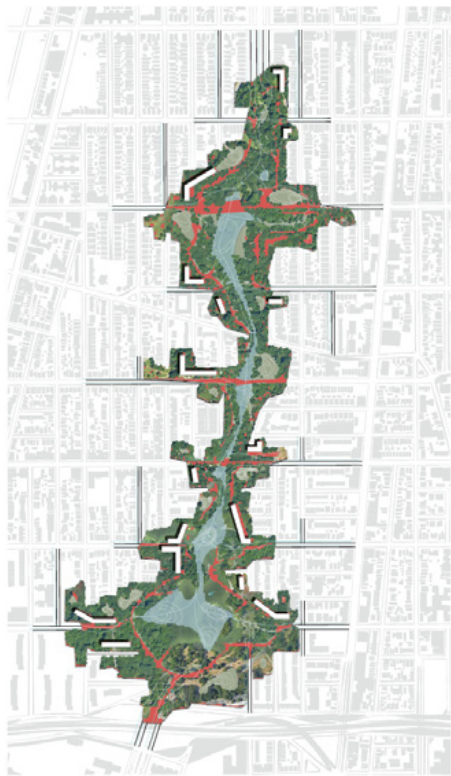
NYC Sewershed Catalog

A new way of mapping NYC. Ever more increasing pluvial flooding threatens to revert the glorious New York City back to the 1850s when waterborne diseases were out of control. This sewershed catalog reveals where infrastructure is failing.

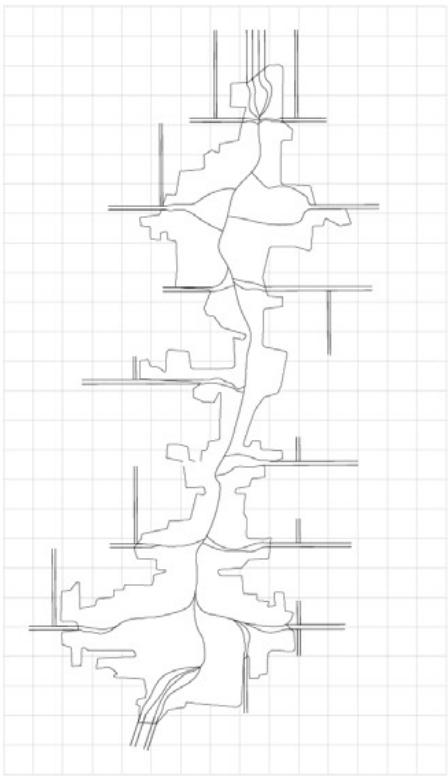


CSOs Storymap / Boundary of the Blue Scar

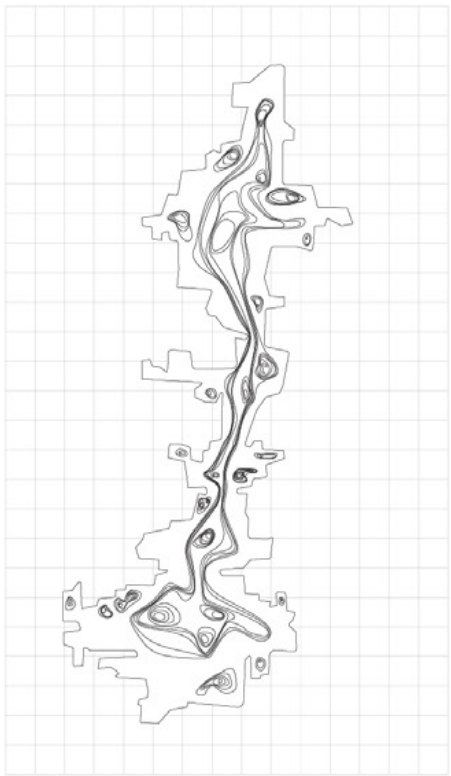
↑ Understanding the history of NYC getting its freshwater from 120 miles up north, using it and dumping it as CSOs, resulting sea level rise and near extinction of oysters.
↓ The boundary of the Blue Scar was given by the area stormwater flooding area, acknowledging that this is where the water wants to be.



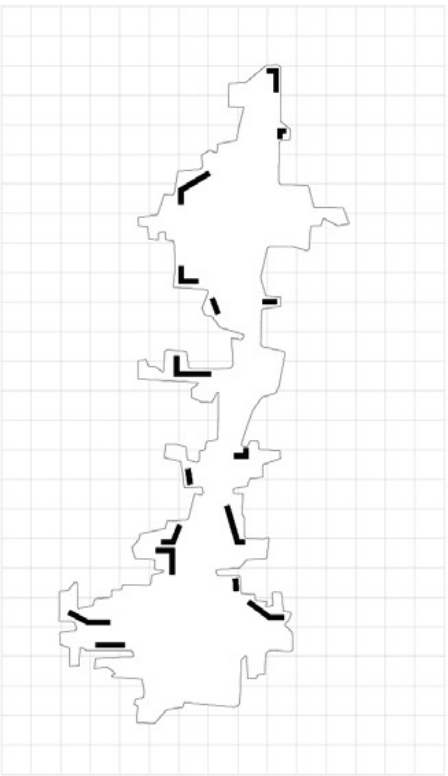
Blue Scar
New Ecological Infrastructure



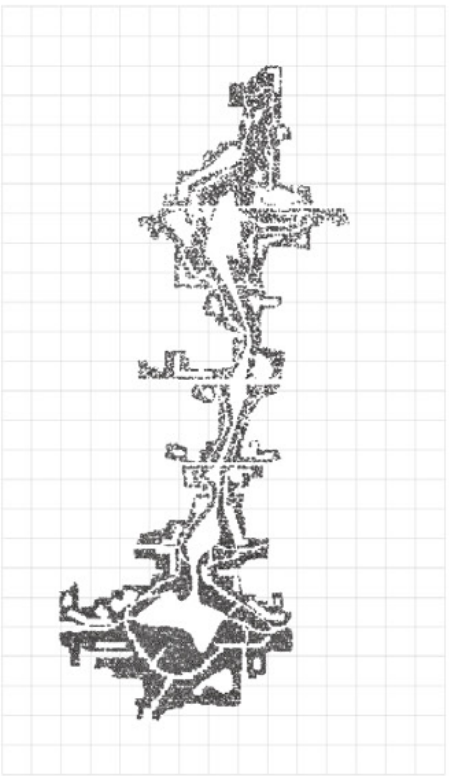
Water Entry
Street Water Collection



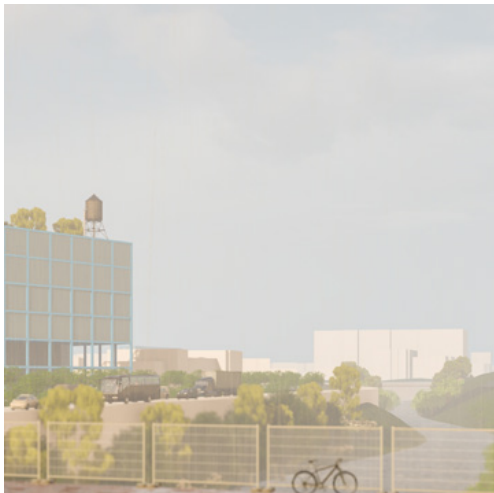
Topography
Mounds / Basins



New Housing
Housing for Migrating Residents

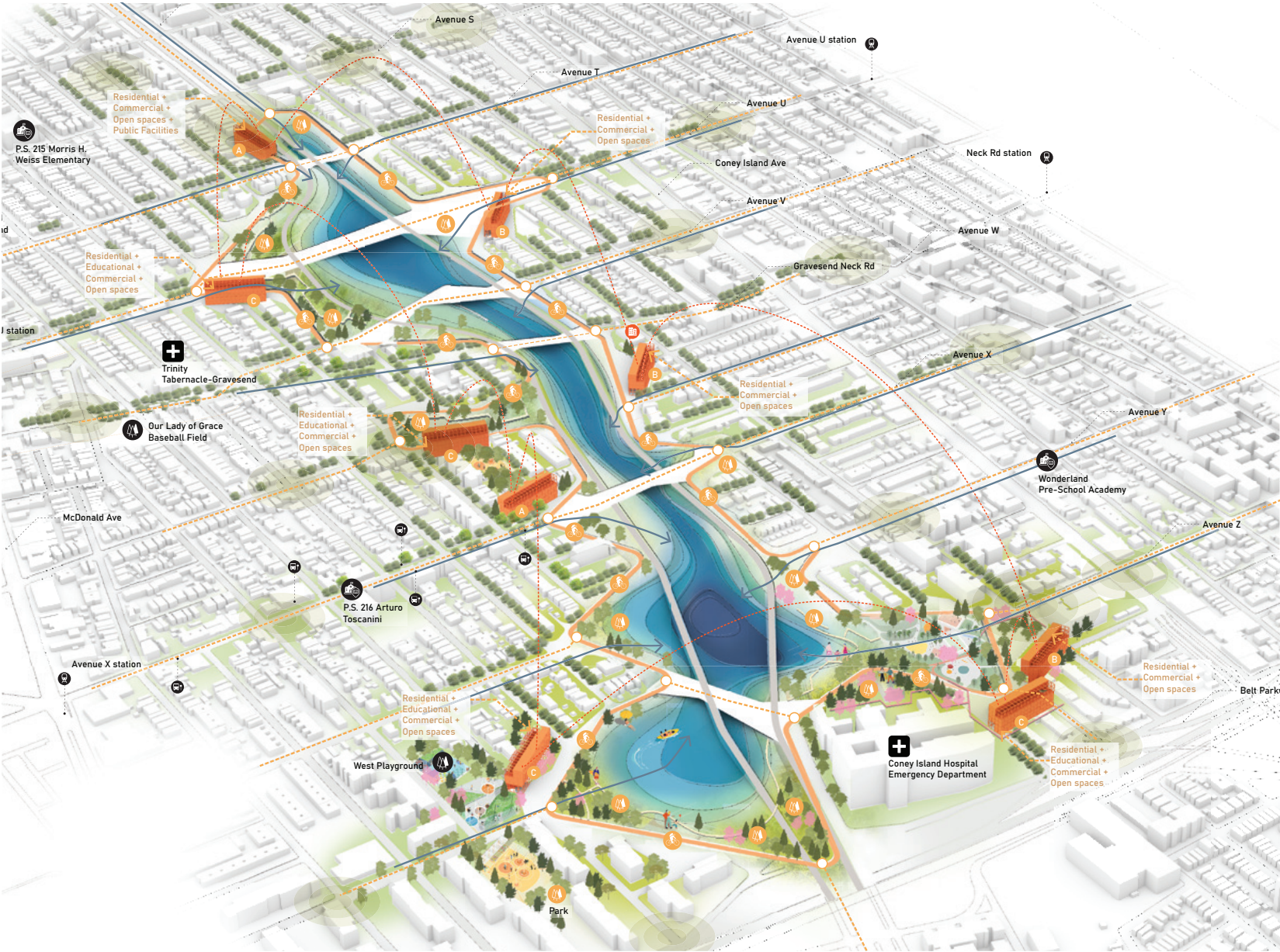


Vegetation
Trees, Shrubs, and Grass



Elements of the Blue Scar

Different layers of elements playing crucial role of holding rainwater. How does the water actually come into the Blue Scar? Ways to capture stormwater by closing catchment basins on streets towards treatment plants, creating water corridor to guide the stormwater effectively.



Overall Diagram of the Blue Scar

Blue Scar integrated in the neighborhood, providing stormwater basin and unique experience for community. Filled with stormwater after flash flood event, rather than going towards sewer system, causing CSOs.

Through permanent dry/wet areas, the Blue Scar becomes an recreation assets during dry seasons. Previously neglected area of the neighborhood became a place of building new relationship with nature.



NYC Stormwater Flooding Map

Once mapped as a threat, this is now an opportunity to dismantle parts of our city to cohabitate with nature, creating a meaningful dialogue and relationship with nature.

Dreaming the Ruins

Capstone Thesis Project

Project Statement

Historically, humans tried to tame the nature, building an extractive relationship, believing that we could control it. The continuous development of land, growth of industry along the waterfront caused massive environmental harm against the nature. In the context of Port Morris, rather than resisting rising sea levels with engineering, this project surrenders to flooding in a purposeful manner, fostering meaningful dialogue between the humans and nature by dismantling.

Critical Research

- Dilip Da Cunha - The Invention of Rivers
- Gordon Matta Clark - Conical Intersect
- Natalie Jeremijenko - Amphibious Architecture
- Toyo Ito - Learning from a Tree
- Yusuke Obuchi - The Wave Garden

Spring 2024
Seunghu Kim
B. Architecture
The University of Arizona

Dismantling

→ Capstone Exhibition Curation 36x120 in.

Top white space showing process and concept, bottom blue space illustrating dismantled built environment submerged under water. Exhibition curated with iPad, utilizing time-based medium and physical model integrated to the board.





Four Phases to Create a Meaningful Dialogue

From the beginning, we see our action of drawing lines against nature. In this phase of introspect, we slow down and perceive what is around us. Assess and examine status. Then we begin to see the deteriorating architecture in the phase of probe. Here, based on our understanding, we begin to question. What do we expect to happen, the information’s we gathered, what are the things we are getting out of?



Introspect
Slow Down. Perceive what is around us. What have we been doing? Understanding history to build up for future change. Assess current status. What do we have currently? Examine what has been happening and how we feel about it. How does nature feel about it?



Probe
How things has been changing? Based on our understandings, what do we expect to happen? What is moving? What is the lifespan of things and what is their destiny? How do we gather information about things? What did we get out of? What can we yield and do for others?



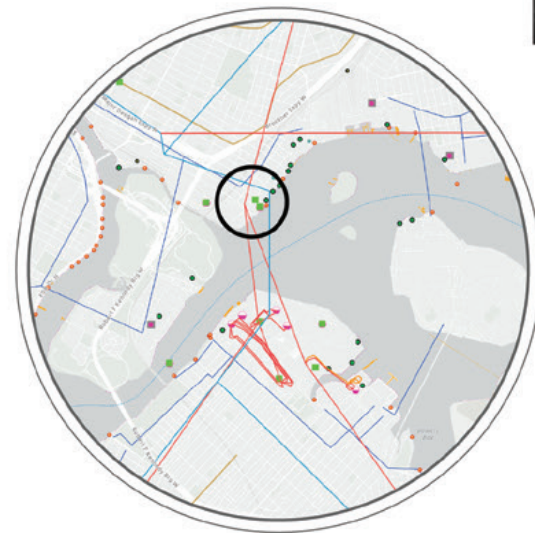
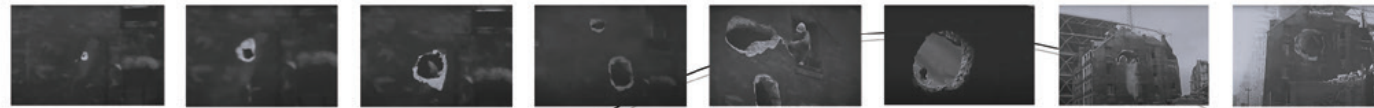
Deliberation
What did we learn? What is the action that we could do for better results? Actions to connect each other. With thorough research and understandings, what action can be taken to promote and prepare better for next step? What is the action from both sides that step towards to cohabitation?



Symbiosis
How our cohabitation has been changing space? what are we sharing? How things has been working for each other? Leaning on to each other. Connection, harmony, communication. Long-term goal.

Based on the past two phases of conversation, in deliberation phase, we dismantle the built environment that will be useful for us today and be beneficial for nature tomorrow. Here we see actions that leads to cohabitation between humans and natures. At the end, symbiosis. We lean onto each. Connect, harmonize, and communicate. The long-term goal.

Dismantling existing architecture form to create new spatial experience. Provide new function to the building that can cohabitate with ecology.



Nature



-
- The diagram illustrates a circular economy for oyster shells, showing three main stages of utilization:
- Biomaterial Manufacture:** Recyclable materials like oyster shells will be processed to create ecological materials.
 - Oyster Water Filtration Plant:** Oysters will be utilized to filter plankton and contaminants and provide clean water.
 - Electricity Storage + Wave Power Generation:** Capturing wave energy and stored to meet the peak electricity demand.

Starting to understand what is around us and what will happen. Feeling of history, in search of memory to speak.



Con Ed Gas Line Explosion



Decayed Gantry

Post-industrial landscape, Bronx community's waterfront loss.



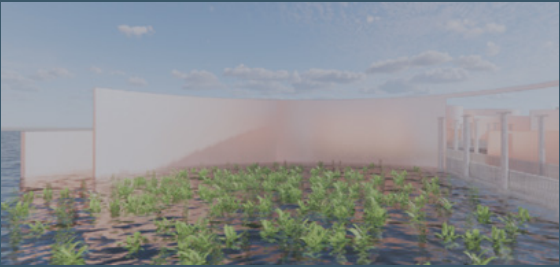
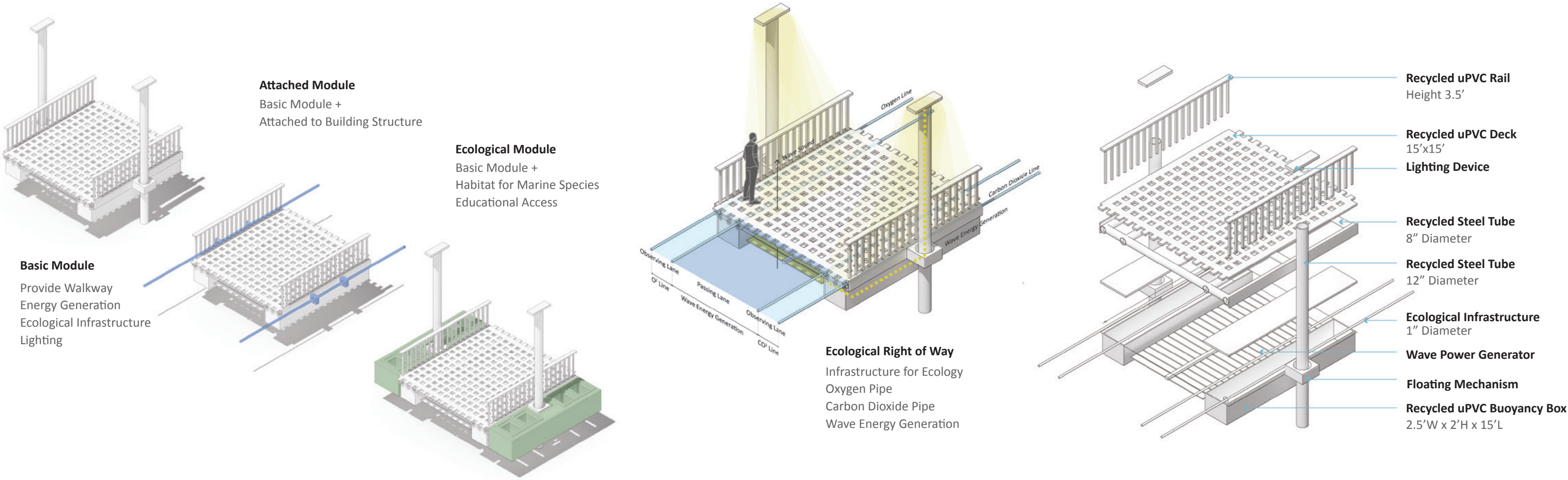
SLR_1-5'



SLR_6-9'



SLR_10'+

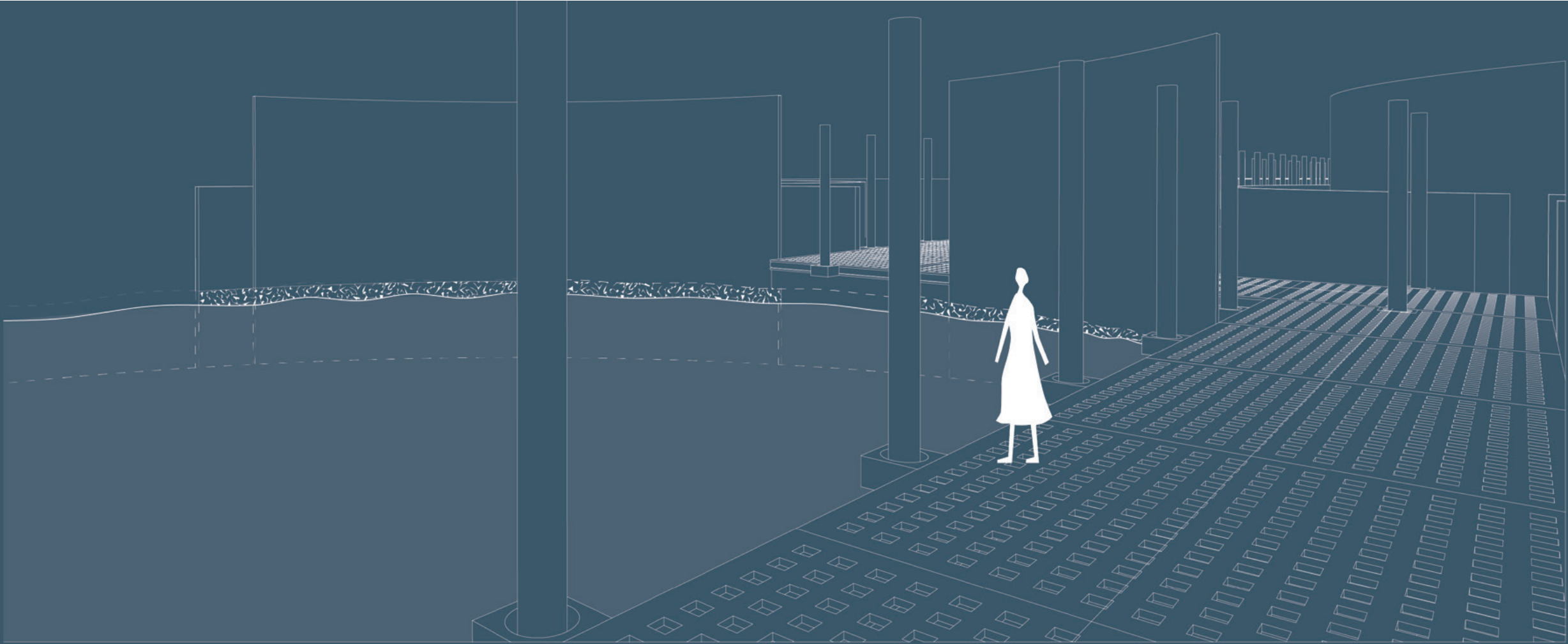


Deliberation / Symbiosis

Actions based on research. Preparing for the nature to take over. Cohabiting the only planet we have.

Building as Memory Device

Corrugated Oil Tank Marking Sea Levels. This becomes an educational device which people who passes by starts to understand the rhythm of nature. Advocate to embrace flux, not permanence.



Mon Valley Solar Co-op

Fall Studio Project

Project Statement

This project reimagines the Monongahela River as an engine of community power. Although the Mon Valley has historically been an industrial power-house, the people of the valley have long suffered from all of the industry's excesses: pollution, labor exploitation, and lack of access to economic opportunity. Now the valley can bring energy back to the river. Rooted in the legacy of the steel industry, this project reclaims iconic river infrastructure by retrofitting a tugboat and barge, creating a unique river experience operated by Braddock locals. Harnessing solar energy, these barges will serve as mobile, water-based battery storage and most importantly, shared regional assets.

Critical Research

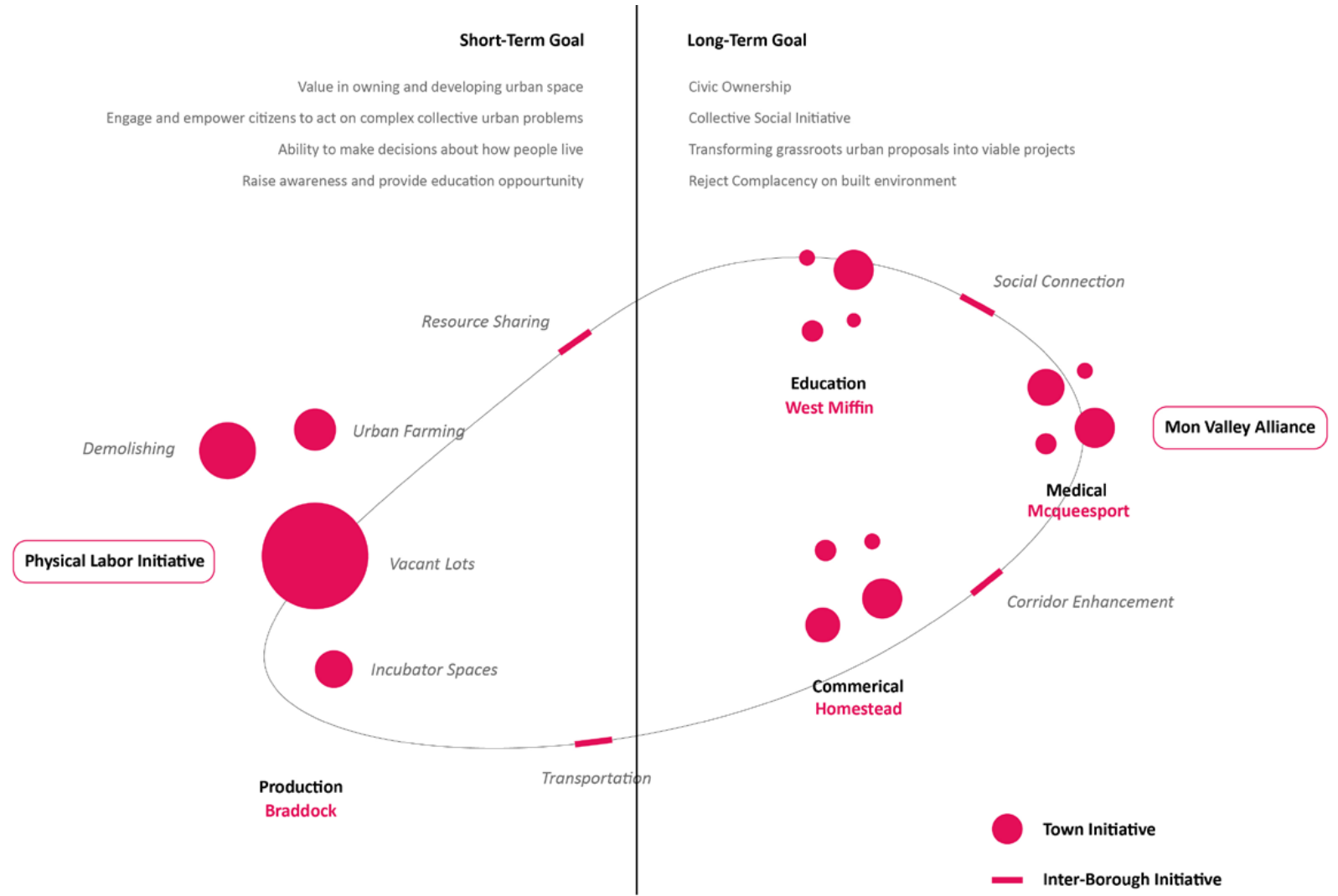
Atelier D'Architecture Autogeree - R-Urban
Aldo Rossi - Floating Theater in Venice

Fall 2024
Seunghu Kim, Bria Miller, He Dong, Qingyi Gan
M.S. Architecture and Urban Design
Columbia University

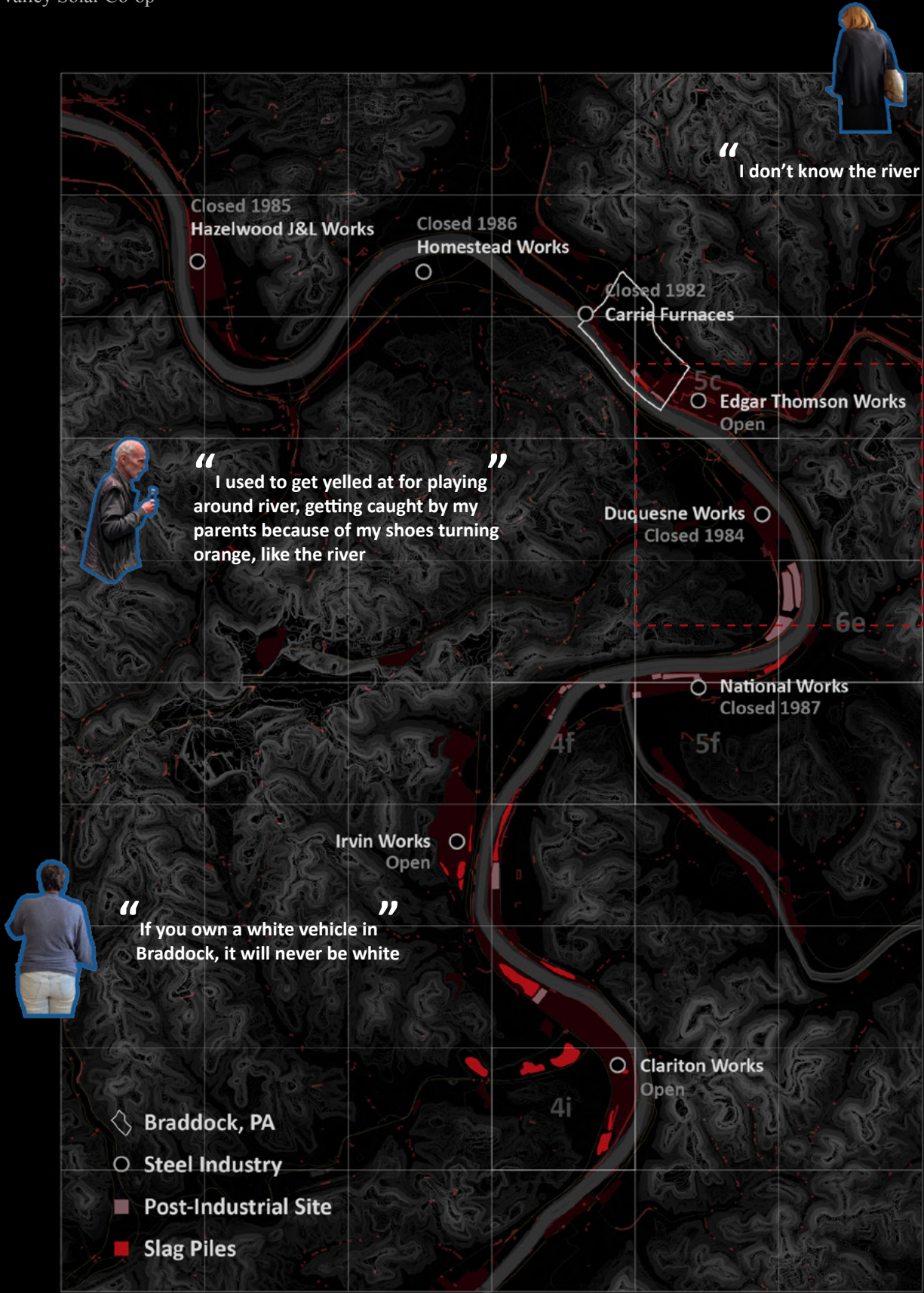
Civic Ownership

→ Mon Valley Framework / USS Edgar Thomson 1987

Neighboring towns collaborate to meet the basic needs of their residents, recognizing that it's difficult for any single town to provide everything on its own. At its core, this initiative addresses historic and ongoing injustices by fostering sovereignty, building local wealth, and connect short and long term goals.

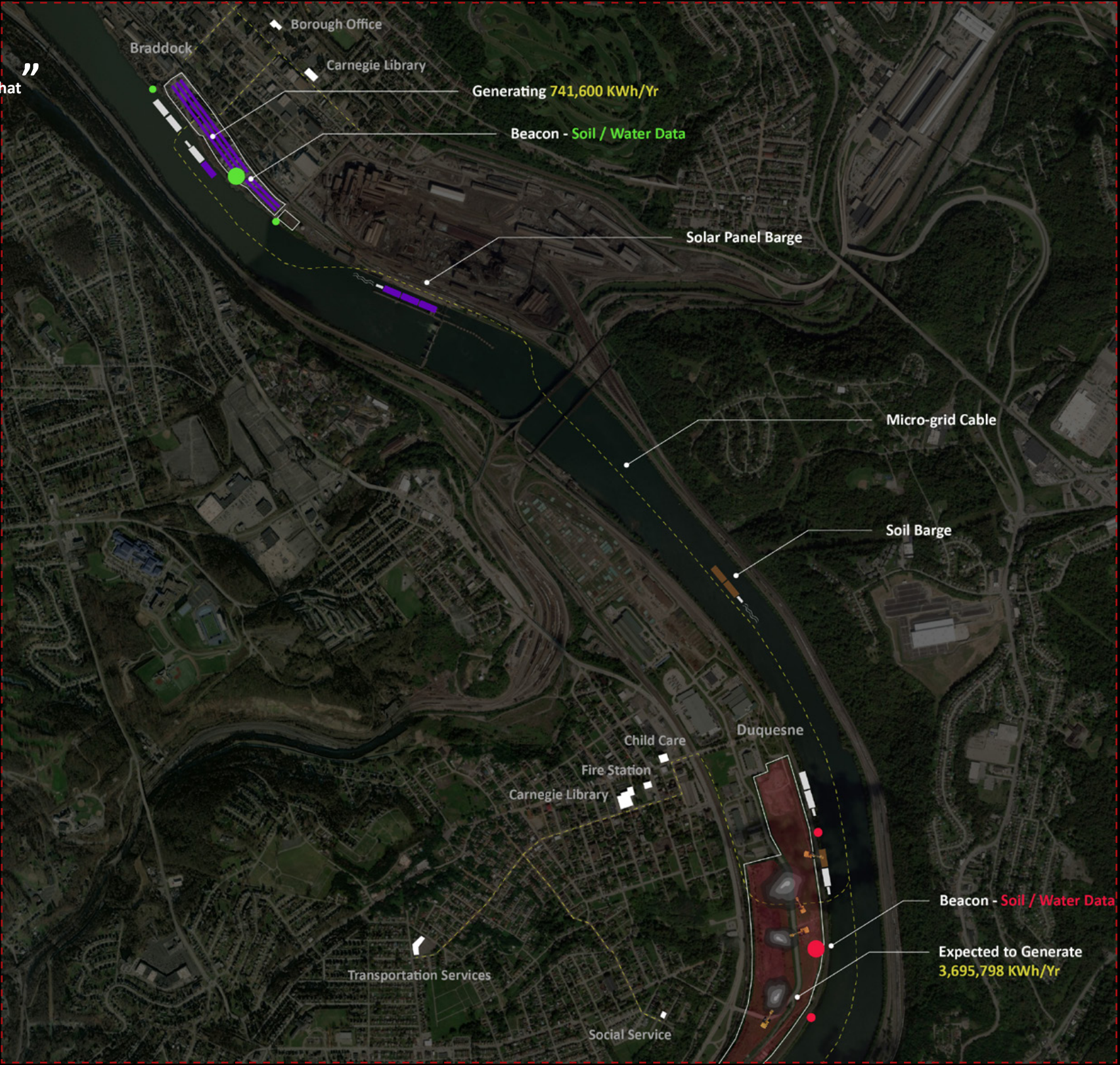


<https://historicpittsburgh.org/islandora/object/pitt%3AMSP328.B001.F24.I01/viewer>



Decades of Environmental Injustice

For people in the Mon Valley, the river is not a recreational asset. It has been working for them and resulted a long-term pollution of the environment.

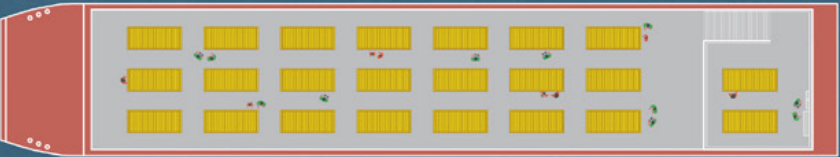


Brown Fields to Power Generator

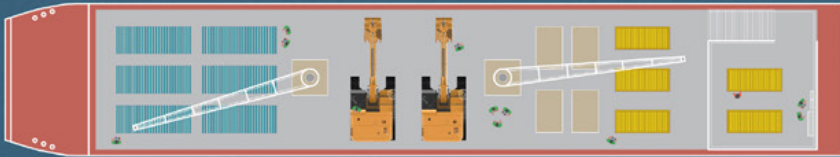
Braddock becomes a hub for regional expansion through the Mon Valley, with trained local workers traveling to various brownfield sites along the river using retrofitted coal barges. During remediation process, solar panels are installed to generate energy, giving local residents power sovereignty.

Barge Typologies

Retrofitted coal barges transport energy, land remediation equipment, and even an ice link.



Battery Barge



Equipment Barge



Soil Barge



Community Design Barge



Nursery Barge



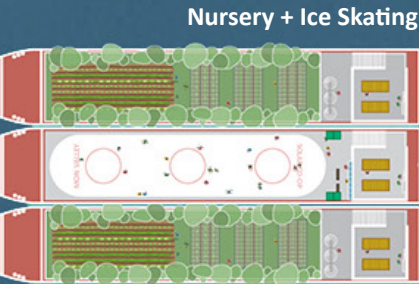
Market Barge



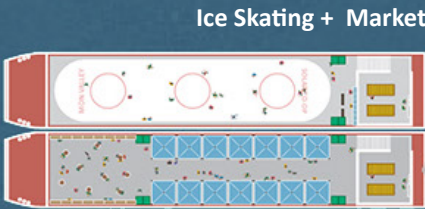
Research & Development Barge



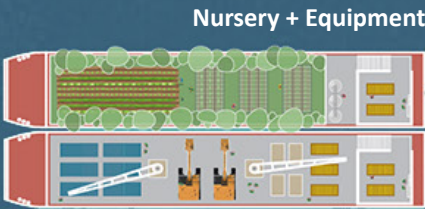
Ice Skating Barge



Nursery + Ice Skating



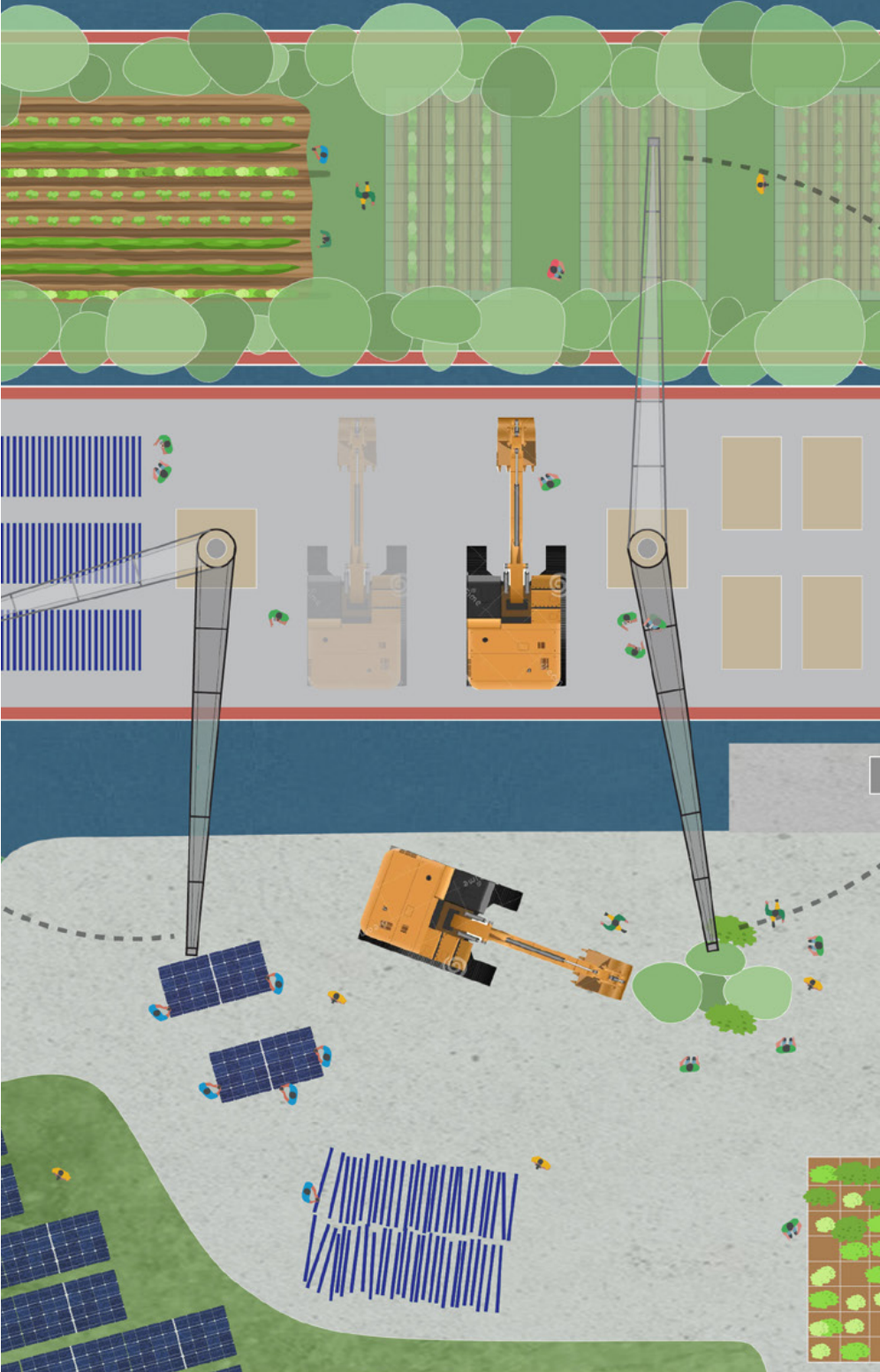
Ice Skating + Market



Nursery + Equipment

Nursery + Equipment Barge in Action

Different typologies can merge to support collaborative efforts. Over time, new typologies and configuration emerge, serving multiple purposes along the river.





Rockefeller Plaza on the River

Showing unforeseen recreational opportunities by merging 2 nursery and ice skating barges for communities to change their relationship with the river

Atrapanieblas - The Fogcatcher

Spring Studio Case Study

Project Statement

Atrapanieblas, or fogcatchers, are simple yet ingenious devices that harvest water in places where rain is almost nonexistent, such as the Atacama Desert—the driest desert in the world. Made of nothing more than locally sourced materials, they capture droplets from the dense coastal fog known as la camanchaca, which condense on the mesh and trickle down into storage. These structures provide a steady, reliable source of freshwater, offering communities not only a practical solution to extreme scarcity but also a form of water sovereignty—empowering them to secure their own resources independently of costly infrastructure relied on energy.

Critical Research

Blur Building - Elizabeth Diler / Ricardo Scofidio
Noel Ban Dooren - Drawing Time

Spring 2025
Seunghu Kim
M.S. Architecture and Urban Design
Columbia University

Low-Technology

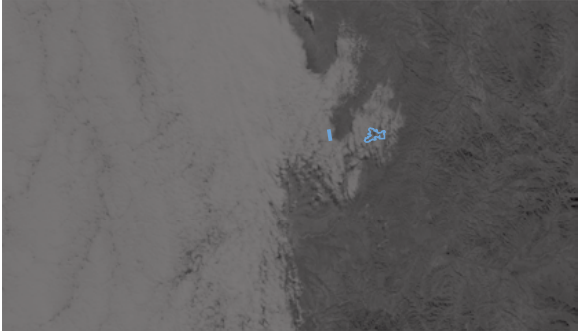
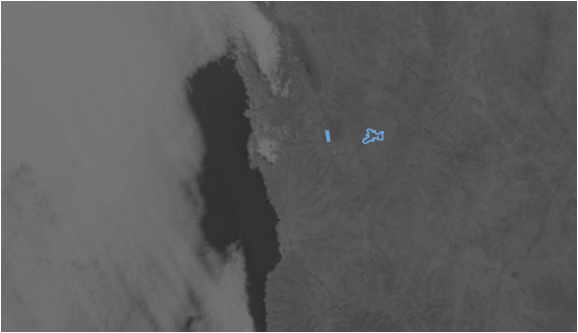
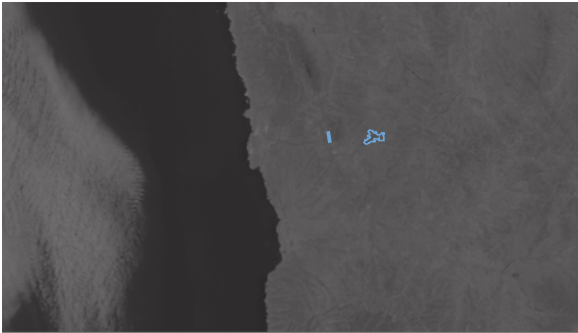
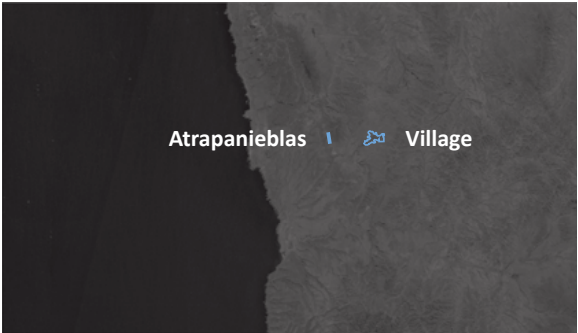
Water Sovereignty

→ Atrapanieblas in Action

Capturing 20L/m²/day of freshwater using only four materials: poles, pipes, net, and stone. The water then flows to the villages by gravity.



Sofia Yanjari - Atrapanieblas in the Cerro Grande Ecological Reserve in the town of Peña Blanca, in Coquimbo, Chile.



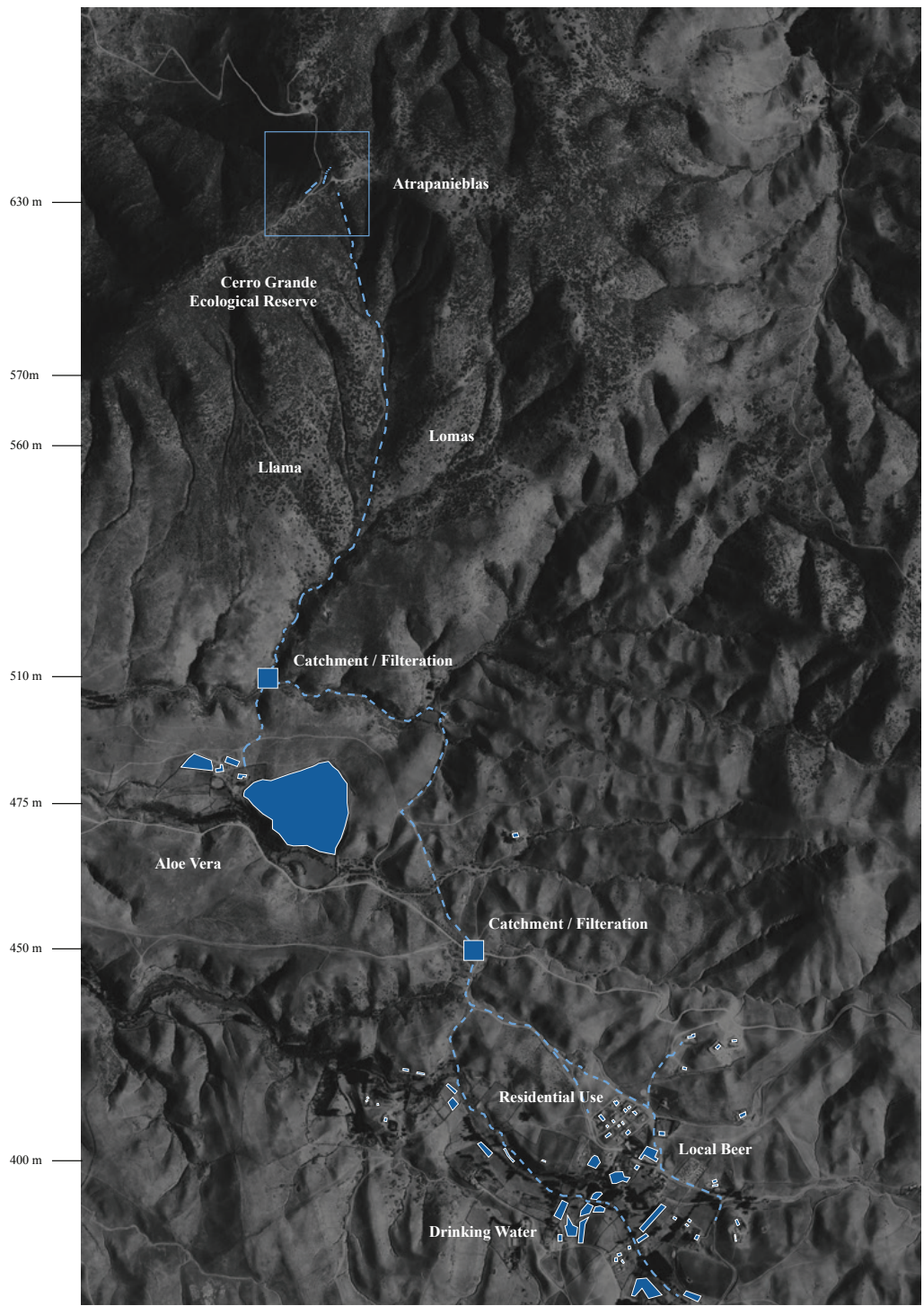
La Camanchaca - The Coastal Fog

A thick fog phenomenon; marine stratocumulus cloud banks that form on the Chilean coast, along the Earth's driest desert, the Atacama Desert.



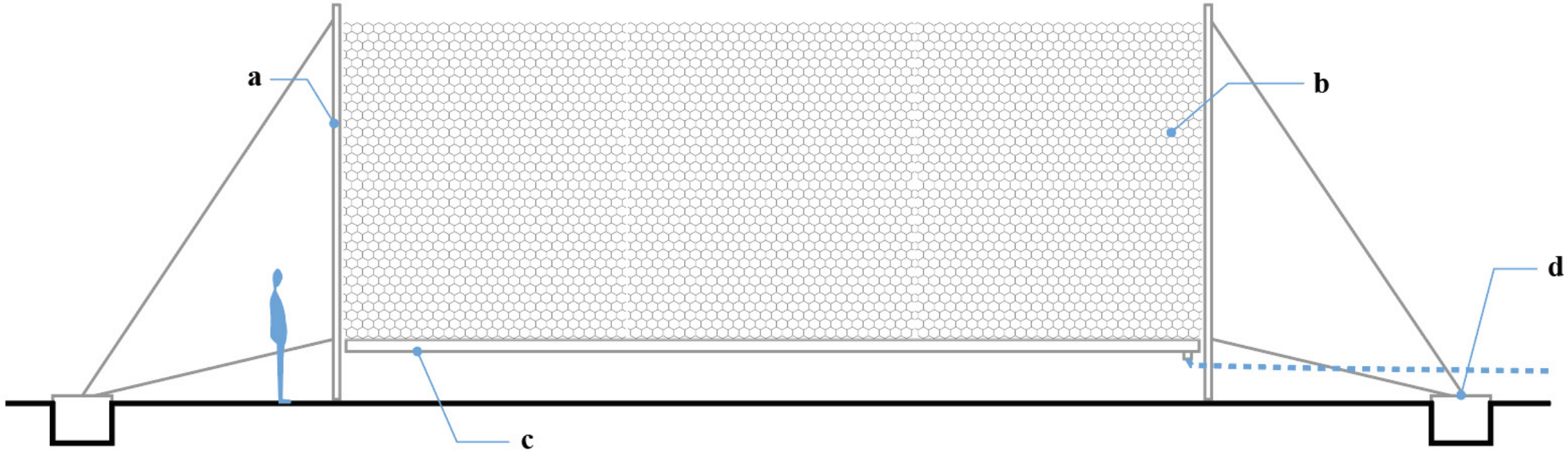
Implementation

Placed at a high elevation, it effectively harvest fog where the wind is strong, provides reliable source of freshwater.



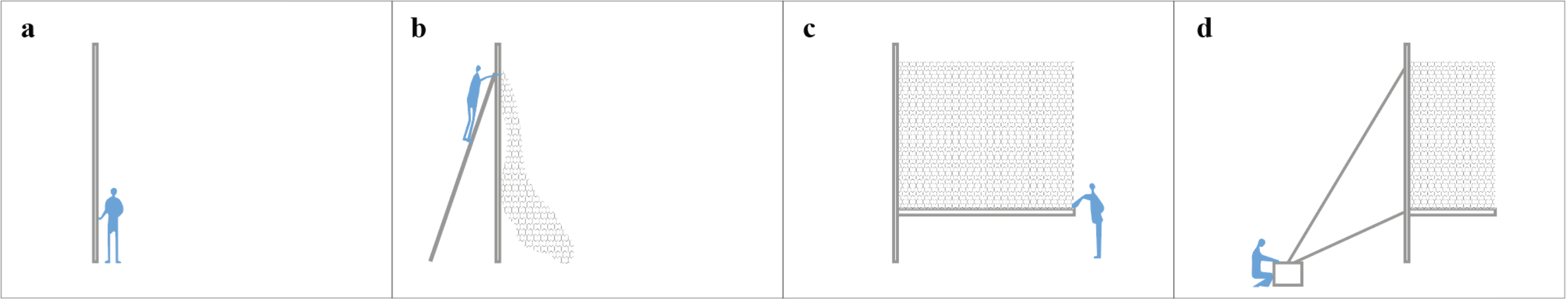
Atrapanieblas Watershed

The water flows naturally along the valley into catchment basins and is filtered towards the village, all without using any external power.



Low-Technology Using Local Materials

A net structure, held by two poles with small openings, harvests water from the fog.



Pole
Stainless Steel
or
Wood
Bamboo

Mesh
Plastic Net
or
Shade Cloth

Water Collector
Rain Gutter
or
U-Shape Pipe

Anchor
Stone Footing
+
Rope

Coastal Braces

Spring Studio Project

Project Statement

Built in 1915, the coastal road triggered massive urban expansions in Chile, resulting a fragmented coastal landscape. The hanging dune of Concon - an important naturally-occurring geological formation - has been parcelized for real estate development and its geological presence has vanished in public memory. The poor edge condition, threatened biodiversity, and micro-sandslide shrunk the dunes 12 meters in height in decades. This project proposes a paradigm shift, transforming the surrounding road into a park and trail system to protect the remaining dunes and eventually become a catalyst for resiliency. This shift will ripple out from Concon city, becoming the coastal trail network that highlights Chile's 4,000-mile coastline.

Critical Research

Atrapanieblas - The Fogcatcher
SCAPE - Hudson Highlands Fjord Trail

Spring 2025
Seunghu Kim, Rajiv Ribeiro, Bimo Wicaksana, Jiali Jia
M.S. Architecture and Urban Design
Columbia University

Coastal Network

→ Network of Experience

The coastal trail runs through a series of scenic nodes along the shoreline. It acts as a key interface, reconnecting the ecology with the coastline.





Paradigm Shift

What if the coastal road that once broke the landscape, now builds it? Closing the coastal road becomes the catalyst to repair the coastline.

Coastal Zoning

Closed coastal road is categorized into different zones to serve its role towards the entire network. Residential zones will be provided with detour connection towards the main road, ecological zones will focus on creating ecological connection towards the inland, and tourism zone will focus in creating sustainable tourism opportunities.



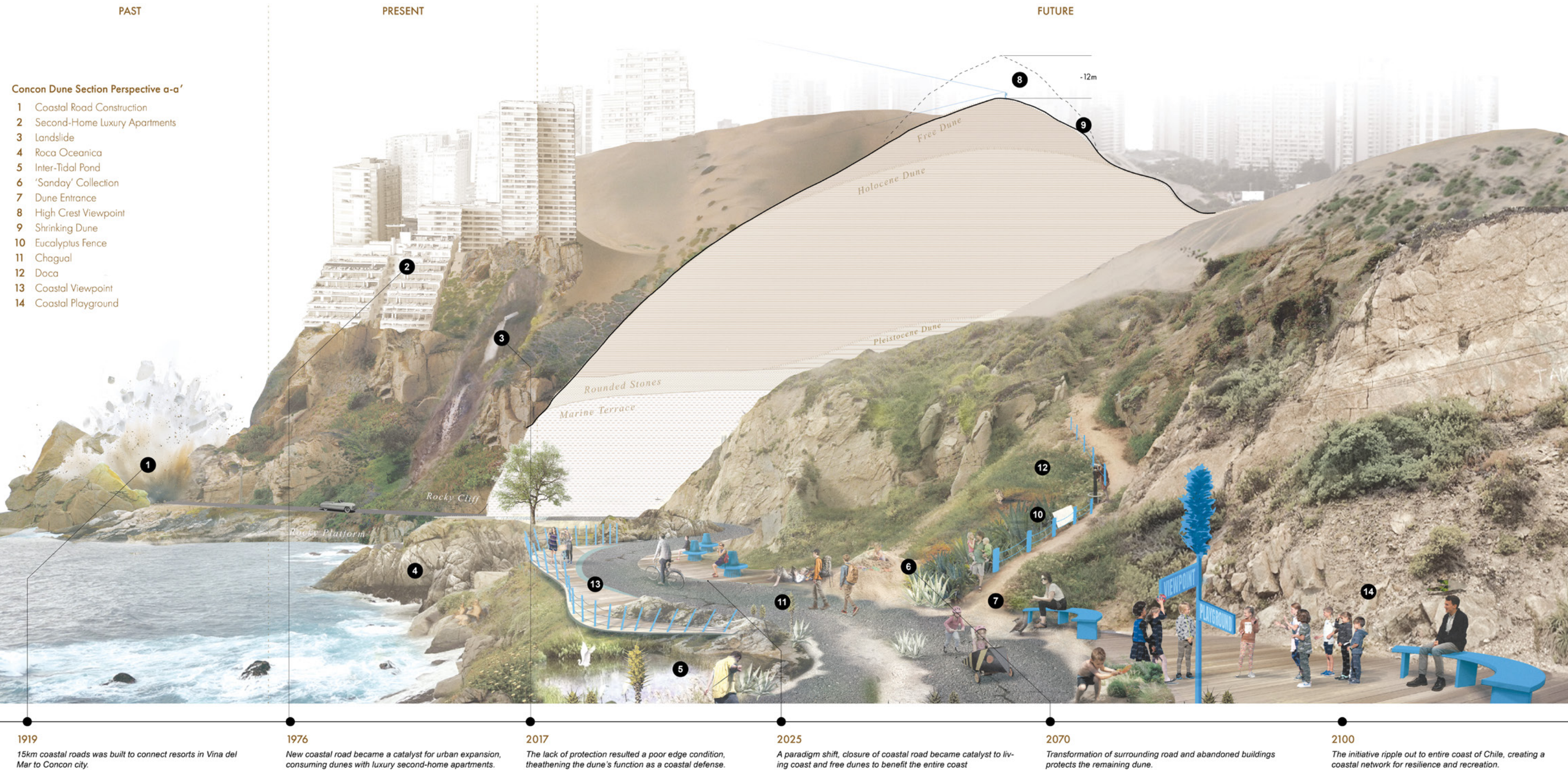


“We believe we are a country, but the truth is we are just a landscape”

- Nicanor Parra

Perspective of the Timeline

Through past, present, and future, this drawing illustrates how the paradigm shift of coastal road being a catalyst to free the coast. Highlighted in blue, the design intervention around the dune will decelerate landslide and also provide unique recreational opportunity as a coastal trail network.



Visit www.seunghu.kim for more

Daylighting Democracy: Repairing Tibbetts Brook

Framing daylighting not only as ecological repair, but also civic restoration.

How to Break a City?

From dismantling cityscape to hacking infrastructure.

Deproblematizing Flooding by Problematizing the Waterfront

GIS-based analysis of waterfronts based on the notion of flooding as a human invention.

Saemaul Undong: South Korea's New Village Movement

Analysis of Korean rural village transformation through collective action.