

An aerial photograph of a coastal region, likely Long Island Sound and the tip of Long Island. The water is dark and occupies the right half of the image. The land is a mix of dark and light patches, indicating forests and urban areas. A narrow peninsula is visible on the left side of the water.

# THE BIGHT STUDIO

MASTER OF SCIENCE  
IN ARCHITECTURE  
AND URBAN DESIGN

COLUMBIA  
GSAPP



# ***REGIONAL URBAN DESIGN STUDIO***

-  
Pine Barrens,  
Power Brokers,  
Development and Displacement  
on the World's Most Contested Coastline  
-



# WHERE AND HOW CAN WE GROW?

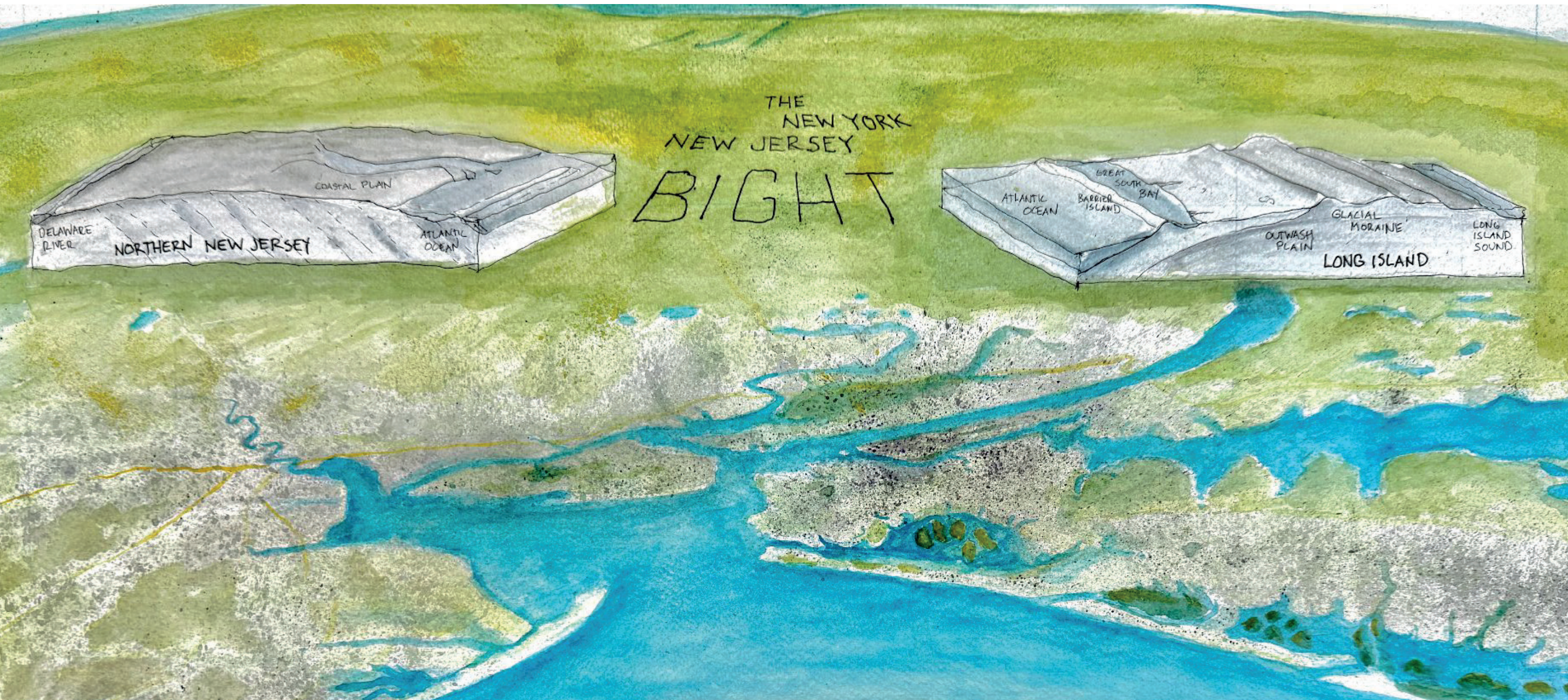
*“The hope of the city lies outside itself. Focus your attention on the cities – in which more than half of us live – and the future is dismal. But lay aside the magnifying glass which reveals, for example, the hopelessness of Broadway and Forty-Second Street, take up a reducing glass, and look at the entire region in which New York lies. The city falls into focus. Forests in the hill counties, waterpower in the mid-state valleys, farmland in Connecticut, cranberry bogs in New Jersey, enter the picture. To think of all these acres as merely tributary to New York, to trace and strengthen the lines of the web in which the spider city sits unchallenged, is again to miss the clue. But to think of the region as a whole and the city merely as one of its parts—that may hold promise.”*

*Lewis Mumford,  
The Regional Framework For Civilization*

# WHERE AND HOW DO WE MANAGE LOSS?

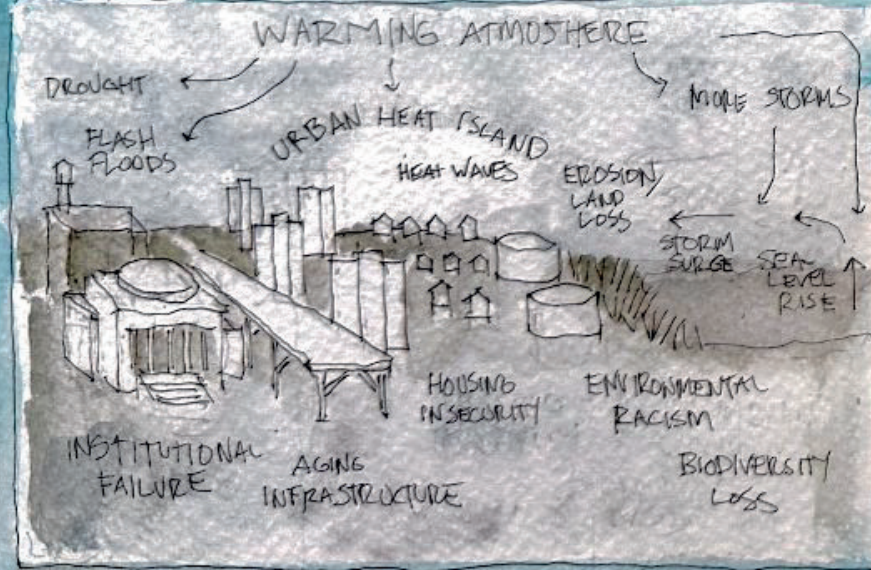


# UNDERSTANDING HISTORY



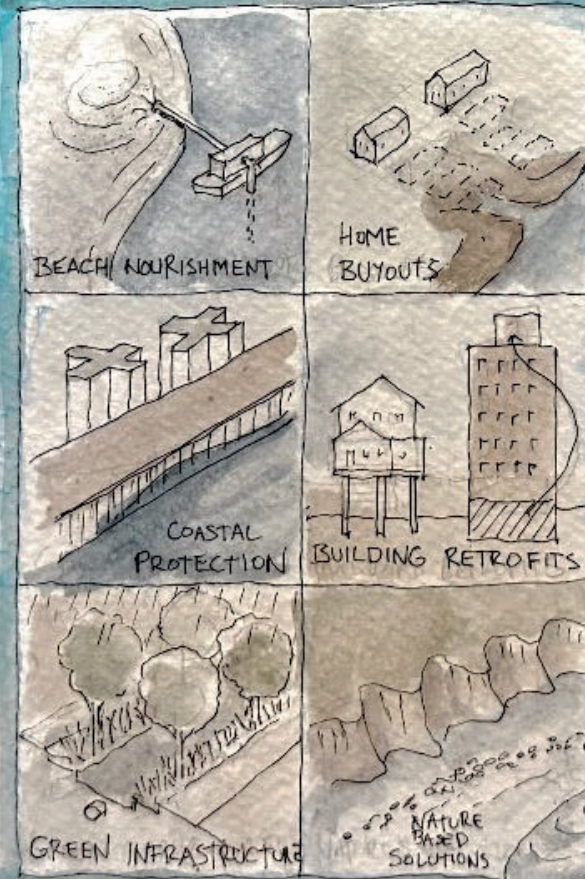


## CLIMATE RISK

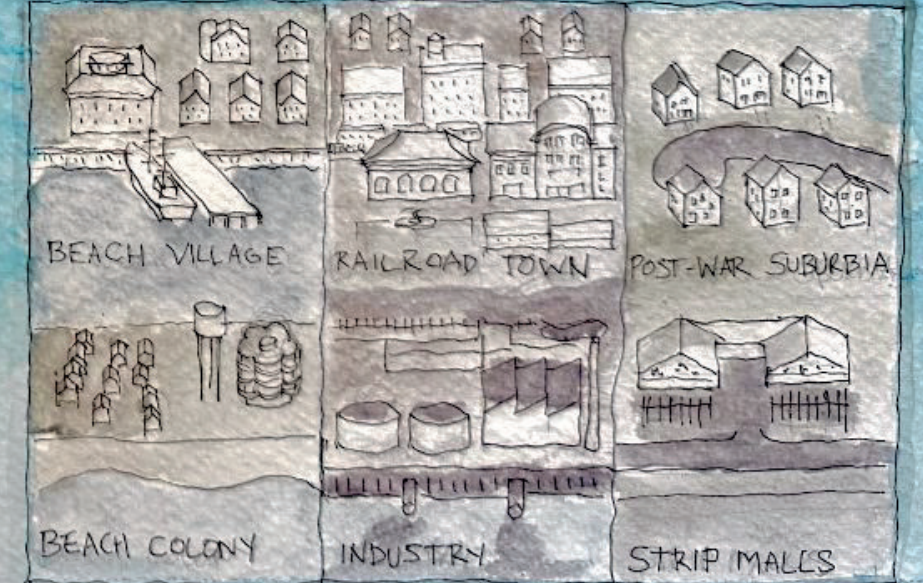


## SOCIAL VULNERABILITY

## RESILIENCE STRATEGIES IN 2025



## HISTORIC URBAN DEVELOPMENT PATTERNS



**TO IMAGINE A  
BETTER FUTURE**



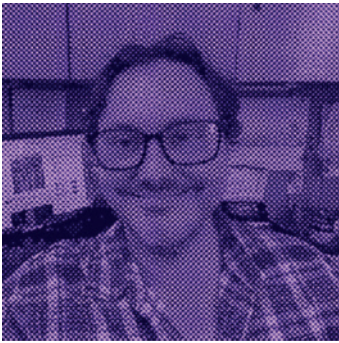
*“Robert Moses may have moved more earth than any human in history, but he was not a movement. Movements also build. Movements have built nations, have cultivated transformative ideals like democracy, and driven innovation in science and technology. Individuals with dictatorial tendencies like Moses, are limited by their ambition, because it always comes down to serving one person—themselves. But movements keep growing, serving more people, building hope and trust instead of fear.”*

**Thaddeus Pawlowski**

**INSTRUCTORS**



Thaddeus Pawlowski



Frank Ruchala, Jr.



Nadine Maleh



Christopher Kroner



Julia Murphy



Candelaria Mas Pohmajevic

**TEACHING ASSOCIATE**



Bria Miller





TEACHING ASSISTANTS



Samantha Nowak



Yi-Jou (Zoe) Lin



Susana Chinchilla



Yung-Hsiang Yang



Dzormo Naa Cofie



-What we will achieve together?

- Confront the twin crises of housing affordability and climate change, especially their combined effects of economic insecurity and displacement.
- Research patterns, stories, and situations of development and displacement on the South Shore of Long Island and Coastal New Jersey.
- Review precedents of housing typologies, policies, and funding mechanisms from other regions of the United States.
- Develop long term scenarios for future “climate resilient development pathways” at a regional scale.
- Visualize site-specific housing, landscape, and infrastructure strategies.
- Produce roadmaps for the implementation of these strategies.
- Map power dynamics and identify the stakeholders of the housing building industry and coastal transformation within the NYC metro region.

THE HOUSING CRISIS

The United States faces a critical problem of inadequate and unaffordable housing that disproportionately affects low-income families, people of color, and individuals experiencing homelessness. The escalating unaffordability of housing, particularly the “missing middle,” has been the primary driver of the rapidly widening wealth gap and the disappearance of the middle class. Owning a home was once perceived as a bedrock of social mobility, the “American Dream,” but now that goal is out of reach for most people in the United States, even professional double-salaried families. According to a recent survey, 82% of Gen Z believe homeownership is unattainable.<sup>1</sup> The lack of affordable housing is endemic in both urban and rural areas. The United States currently lacks 3.8 million available and affordable housing units, and over 8 million extremely low-income households spend more than 50% of their income on housing, putting them at a high risk of housing instability and homelessness.

The New York City metropolitan region, encompassing New York City, New Jersey, and Long Island, is grappling with a severe and multifaceted housing crisis that has intensified between 2023 and 2025. Characterized by critically low rental vacancy rates, escalating housing costs, and a dramatic rise in homelessness, the region’s housing market poses significant challenges to residents across all income strata. Decades of underbuilding, coupled with restrictive zoning policies and a widening gap between wages and housing expenses, have created an unsustainable environment. While various policy initiatives are underway, particularly in New York City - “City of Yes” - their effectiveness can be hampered by inherent structural barriers, community resistance, and the sheer scale of the deficit.

Exacerbated by the high cost of living in the region, this condition forces longer work commutes, overcrowded or unhealthy living situations, and can lead to homelessness.

The underlying causes of the housing crisis in the region can be attributed to supply shortage, sluggish growth in wages, and restrictive land use policies (a reaction to past failures of Urban Renewal). The effects of the crisis are felt most by low and middle income populations, especially racial and ethnic minorities. Housing insecurity affects health outcomes, stymies personal growth, and fractures communities and social bonds.

A recent analysis conducted by McKinsey & Company for Regional Plan Association shows that the region may face a housing gap of 920,000 units by 2035. The analysis also highlights a current shortage of 540,000 housing units in the region. To keep pace with this demand, the region would have to engage in housing production at the scale of the post-World War II era, when newly-constructed interstate highways opened vast tracts of land for single-family homes, and the mortgage subsidy and GI Bill helped (mostly white) middle-class people buy those homes. This megapolitan expansion left many cities struggling with the legacy of red-lining and failing infrastructure. As most would agree, suburbanization driven by fossil-fuel consumption and racism is not a pattern that should be repeated.

What does housing production at the necessary scale look like today in the era of climate change, historic levels of inequality, starkly divided views on governance, and mental and physical health crises?

-  
1. Homeownership Data Statistics 2024 - IPX1031

# LEARNING OBJECTIVES

## - What will you take away from the studio?

- Understand and interrogate the regulatory and policy environment that limit dense, mixed-use developments; and leverage design practice to create an enabling environment for action.
- Understand historic regional development pathways, especially the influence of climate, landscape, and infrastructure on the built environment.
- Nurture a refined and crisp design vocabulary to visualize and communicate Design-Driven “Climate-Resilient” Development Pathways.
- Leverage communities of knowledge to inform design on a regional scale.
- Develop urban design propositions manifest at multiple scales across multiple sectors including housing, infrastructure, energy, water, lifestyle, and food.
- Design with care for nature, health and wellbeing, social and cultural context, and reduced embodied carbon.
- Build empathy and understanding for who we are working for and why we are doing this work.

## THE POWER BROKER, ROBERT MOSES AND THE FALL OF NEW YORK BY ROBERT CARO

Last year was the 50th anniversary of the publication of *The Power Broker*, an occasion that has inspired many urban designers to reevaluate what we can learn from this book in our times. The legacy of Robert Moses, New York’s most aggressive builder, is all around us today and has been instrumental in creating many of the challenges urban designers face. Robert Caro’s book about him is a roadmap to understanding the systems of power that shape our built environment.

Robert Caro estimated that Moses’s highway construction and urban renewal projects displaced about 500,000 people over his four decades in power, which has led to intergenerational housing insecurity throughout the city. His projects also buried whole and irreplaceable ecosystems, erasing millennia of accumulated biodiversity, locking the City into an inescapable urban heat island, and choking off natural drainage systems leading to constant localized flooding. Moses’s car-centric regional planning sponsored suburban expansion and indefinite dependence on fossil fuels, a pattern which has been replicated in every global metropolis and is perhaps the primary driver of the global climate crisis. His centralized control of the machinery of city building inspired a generation of policymakers to create many of the rules and procedures that govern land use and infrastructure today, especially environmental review and land use reviews. These rules and procedures are often blamed for the housing crisis and the sluggishness with which any urban improvements happen today.

Caro offers a critique of Moses and advice for urban designers working on resilient cities. He exhorts future city builders to know the people and the place before you changing it. He gives value to human communities and ecosystems. He also emphasizes, as critique of Moses’s authoritarian character, the ability to learn from your mistakes and listen to your critics. In the first semester of the MSAUD program, students learned about one of his most ardent critics, Jane Jacobs, who made compelling arguments for preserving the human scale of walkable cities. In this semester, the class considers another of Moses’s critics, the philosopher Lewis Mumford. Mumford believed that modern cities were spiraling toward social and ecological disaster. His theory of “megatechnics,” machines which control humans, presaged our current debates about artificial intelligence and the surveillance economy. He advocated for “biotechnics,” ways of accomplishing human needs in harmony with nature. He also believed that collectives of people are wiser than individuals, a view which remains controversial in our current politics.





## CONTEXT OF ENVIRONMENTAL CRISES AND SOCIAL UPEHAVAL

Across the New York metropolitan region — from Long Island’s South Shore to the tidal marshes of New Jersey — we face a double emergency: an accelerating ecological crisis and widening social upheaval. Intensifying flash floods and more frequent coastal storms, together with ongoing sea-level rise, are exposing aging infrastructure and amplifying displacement pressures in neighborhoods that have faced systemic disinvestment. At the same time, heat waves, episodic drought and even wildfire smoke now reach into suburban and exurban communities, multiplying health risks and stressing energy and water systems. These environmental shocks compound entrenched environmental justice problems — higher asthma and chronic-illness burdens, food insecurity, and the social-determinants-of-health effects produced by segregated housing and underresourced neighborhoods — so that vulnerability is unevenly distributed across race and class. Institutional capacity to manage these converging crises is fraying: emergency response, scientific agencies, and regulatory bodies face political headwinds and resource constraints that complicate coordinated regional action.

The coastline’s long history of loss and renewal offers a lesson in adaptive design: living shorelines, managed retreat in the most vulnerable places, and regionally coordinated land-use strategies suggest that resilient urban development must be relational (linking city and countryside), equity-driven, and iterative rather than purely technological. This course draws on the Regional Plan Association, the Furman Center, Harvard’s Joint Center for Housing Studies, the NYC Panel on Climate Change, and local public-health and environmental justice reports to ground policy proposals in up-to-date evidence and to assess both governance

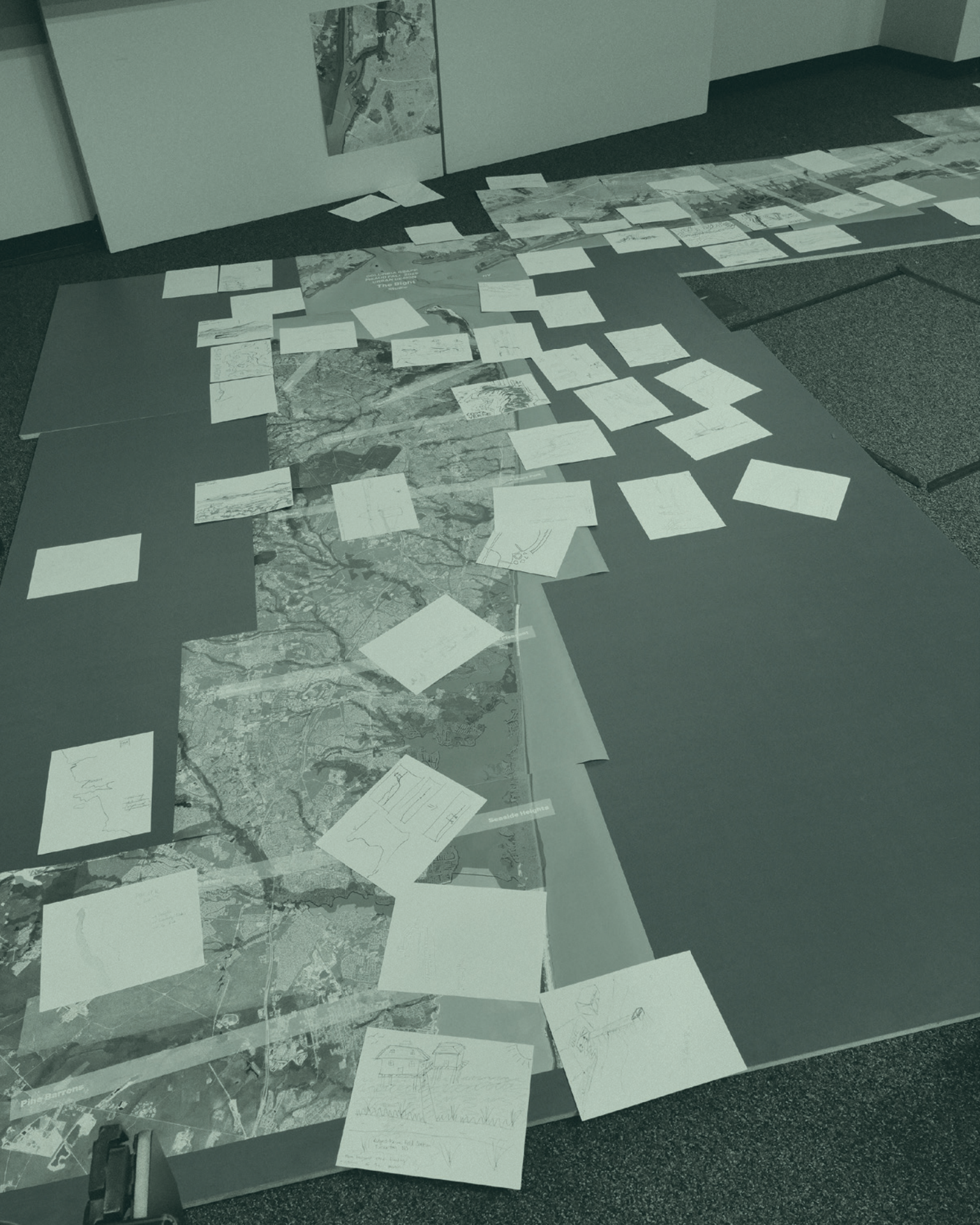
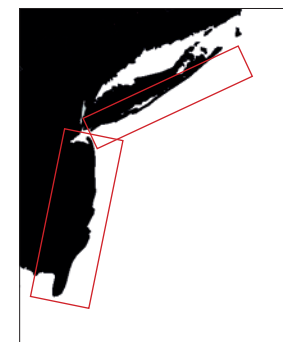
failures and practical pathways for a more just, resilient region.



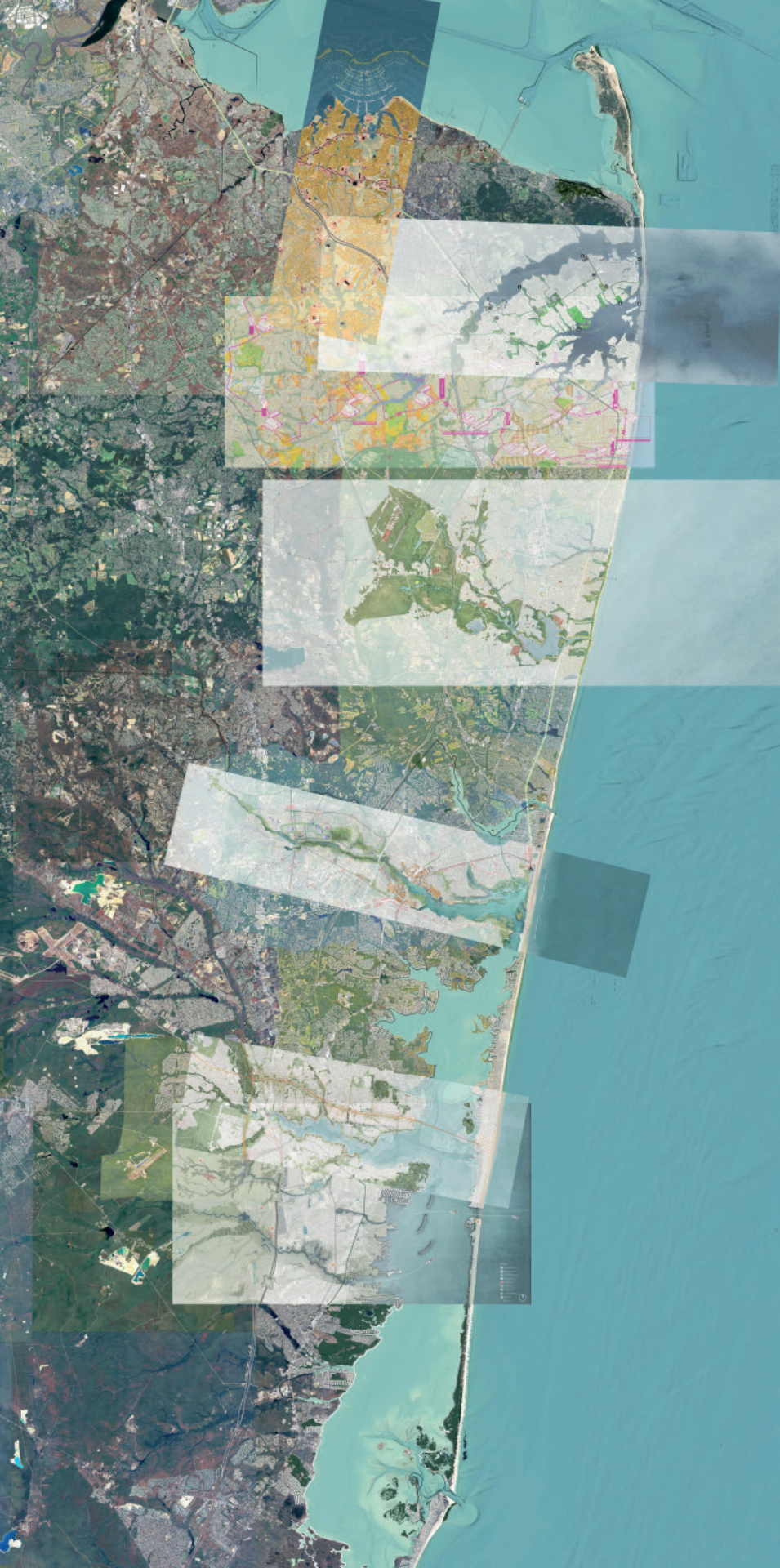
## THE BIGHT

The New York-New Jersey Bight refers to the angle created by the coastlines of northern New Jersey and southern New York. Meteorologists have noted that this geographic feature makes the densely populated area in and around New York City particularly vulnerable to tropical-storm-generated storm surge. In 2012, Hurricane Sandy crashed into the Bight, causing billions in damage, displacing tens of thousands of people, and causing dozens of deaths across the region. In 2022, the Biden administration designated the continental shelf off the Bight as an “offshore wind zone,” but the fate of all future renewable energy projects is not clear in the current political landscape.

Another way to look at the Bight is as the borderland between the urbanized land and the vast wilderness of the ocean, but this does not sufficiently describe the wildness of the land and the human impression on the ocean. For many, the shoreline remains a contested boundary between what we regard as civilization and nature, two ideas without fixed meaning. We understand that the constriction of freshwater and sediment from the rivers, and the dumping of chemicals from farms, factories, and housing, have altered the chemistry of the biosphere, and its vast engine of life, the ocean. We shape and are shaped by the ocean.







## New Jersey

New Jersey is the most densely populated U.S. state. The beach towns, boardwalks, and expensive second homes strung along “The Jersey Shore” are the most popular summer destination for the mid-Atlantic states, and loom large in the public imagination as a place of escape from the city. The coast’s geography is varied: a mix of barrier islands, headlands, and inland bays. Hurricane Sandy’s ravages can still be seen here more than 12 years later. But so can the wholesale revitalization (gentrification?) of once-downtrodden towns like Asbury Park, the town made famous in the music of “The Boss” Bruce Springsteen.

Springsteen’s lyrics paint a broad and complicated picture of this area. He grew up 15 miles inland from the coast in the farm town of Freehold. After World War II, and gaining more steam since the 2000s, the inland areas have exploded with suburban sprawl. As of 2020, more than one million people live in the two counties (Monmouth and Ocean) that make up the northern half of the Bight. Ocean County, particularly, is the fastest-growing region of New Jersey. Still, the area has seen housing costs skyrocket. This has been particularly caused by people from elsewhere in the region moving here to take advantage of its relatively lower housing costs. Traffic, driven largely by automobile dependence, continues to worsen each year. Unlike Long Island, which has blessed with multiple railroad lines, Ocean County has just one train line far from most of the region’s recent and expected growth.

The Jersey Shore is surrounded by a great variety of coastal ecologies and settlements.. Military bases dot the region (the Hindenburg exploded here!), driving the overall “conservative” leaning here. Pockets of farmland remain, but even these are being transformed into expensive

horse farms. The office complex made famous in the television show “Severance” is here. Lakewood, down south, has become a major center of Orthodox Judaism. Finally, at the southern edge, sprawl gives way to the mysterious Pine Barrens – the largest remaining open space in the entire Northeast megaregion.





## Long Island

American poet Walt Whitman wrote poems about Paumonock, using the Lenape name for his native Long Island. In "Leaves of Grass," he praised the landscape and people of this "fish shaped island" that stretches 120 miles east into the ocean from New York City. Long Island was created by a glacier 20,000 years ago. The central ridges of the island mark the edge of the ice sheet's advance, beyond which the glacial outwash created the gentle slope of Long Island's south shore, the Great South Bay, numerous lakes, kettle ponds and streams. Long Island's geography, stores of freshwater in its aquifers, diverse flora and fauna, rich soils, and most importantly, bountiful ocean all around have made it prized home of many generations of people throughout human history. European colonization beginning in the 17th century

began a period of radical landscape and social transformation. As the indigenous people were pushed out, the area became home to farmers, fishers and whalers.

In the 19th century, due to the construction of railroads, part of Long island began to rapidly urbanize. The North Shore became reserved for the estates of the Robber Barons of the Gilded Age—Morgans, Vanderbilts and Rockefellers—as memorialized in F. Scott Fitzgerald's novel. Long Island's most rapid period of urbanization came with the early works of Robert Moses including the construction of: the Northern State Parkway (1925), the Southern State Parkway (1927), and the construction of Jones Beach (1929). The rapid acceleration of highway construction led to a building boom in the post World War II era, especially car-centric suburbs like Levittown (1947). Many of these new suburbs

were populated by middle class families fleeing the city, a phenomenon that came to be known as "white flight." Many of the new suburbs adopted racist zoning policies and other means of discriminating against minorities seeking affordable housing, such as deed restrictions.

Today, Long Island remains car-dependent and segregated, and there is a clear socio-economic division between the North Shore and the South Shore, and pockets of extreme privilege (the Hamptons) and persistent poverty (Hempstead). Nonetheless, Long Island continues to attract people pursuing the American dream, particularly new immigrants. In the last census, 19% of Long Islanders were born outside of the United States. The island's proximity to New York City allows residents to dream big, but structural inequality keeps those dreams out of reach for many.

*"For a transitory enchanted moment man must have held his breath in the presence of this continent, compelled into an aesthetic contemplation he neither understood nor desired, face to face for the last time in history with something commensurate to his capacity for wonder."*

F. Scott Fitzgerald, *The Great Gatsby*



# ***ASSIGNMENT 0: INDIVIDUAL STORIES OF REGIONS***

-  
Each of the 56 students produced one drawing and a short essay  
describing the region or regions that shaped their lives.  
-





ASSIGNMENT 0: INDIVIDUAL STORIES OF REGIONS



# ***ASSIGNMENT 1: COASTAL CASE STUDIES***

-  
Mapping Patterns of Development and Displacement  
-



# From The Coastal United States 14 Case Studies

## ASSIGNMENT 1: COASTAL CASE STUDIES

Puget Sound, WA

San Francisco Bay, CA

South Coast, CA

Anchorage, Alaska

0 100 200  
(mi)

New England  
(Boston, MA; Providence, RI; Bridgeport, CT)

Chesapeake Bay  
(Norfolk, Virginia Beach, VA; Baltimore, MD)

North Carolina Outer Banks

Bluffton, Beaufort, Charleston, SC

Savannah, Sapelo Island, Darien, GA

Jacksonville, FL

Gulf Coast  
(New Orleans, LA; Biloxi, MS; Mobile, AL)

Houston-Galveston, TX

Florida Gulf Coast  
(St. Petersburg, Tampa)

Miami and Florida Keys, FL

- Lakes and Reservoirs
- Major Rivers
- Secondary Rivers
- Minor Rivers

Through this assignment, students will research, map and analyze regional patterns of development and displacement in coastal regions in the United States. What geomorphological processes shaped this place? What economic and political forces wielded power and influence over time? Which groups have been included and who has been left out? How has the production of housing and infrastructure evolved? What types of housing typologies were developed, which were not? Why? What institutions and systems have evolved to care for people and nature? How has the place shaped human culture and experience? What climate adaptation plans, policies, and projects are being implemented?

0 250  
(mi)

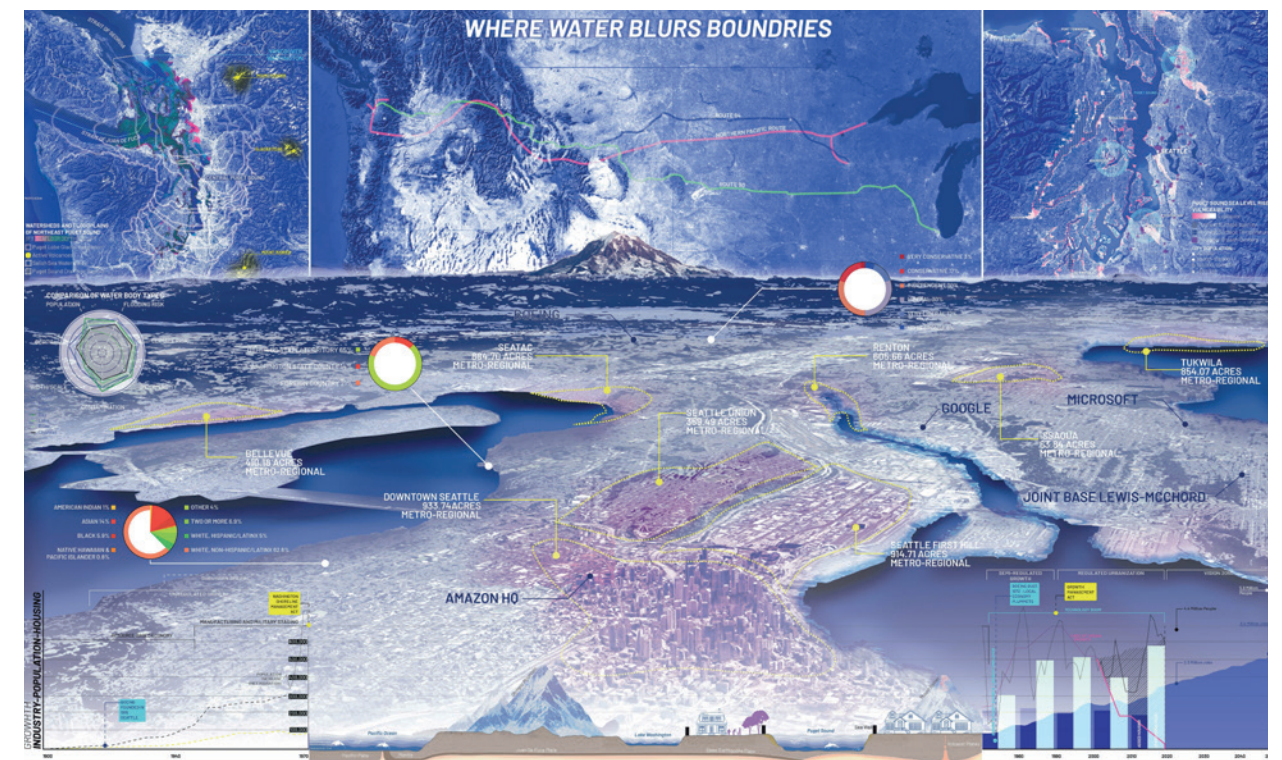


## FROM THE COASTAL UNITED STATES 14 CASE STUDIES

Students researched, mapped, and analyzed regional patterns of development and displacement in coastal regions in the United States. What geomorphological processes shaped this place? What economic and political forces wielded power and influence over time? Which groups have been included and who has been left out? How has the production of housing and infrastructure evolved? What types of housing typologies were developed, which were not? Why? What institutions and systems have evolved to care for people and nature? How has the place shaped human culture and experience? What climate adaptation plans, policies, and projects are being implemented?

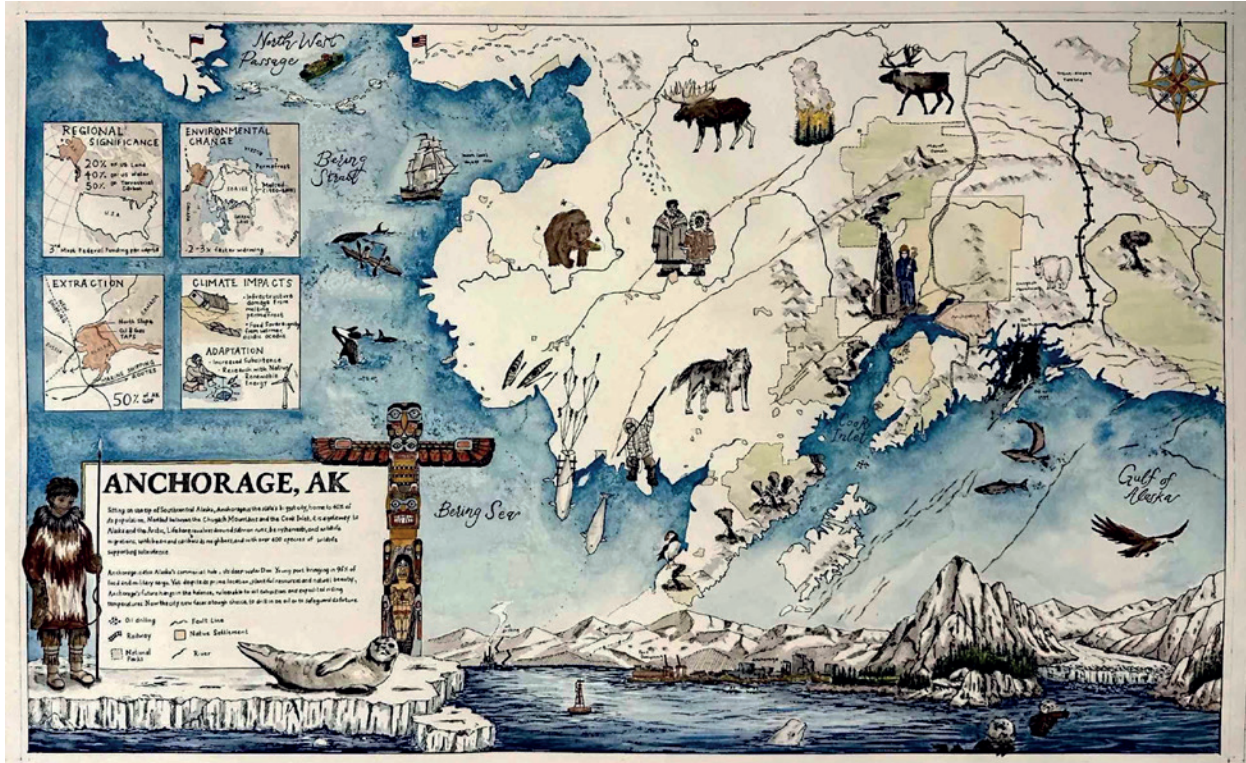


*Selling the Dream* by Prawira Putra, Ambika Kannusami, Elsa Paas, Henry Zhao

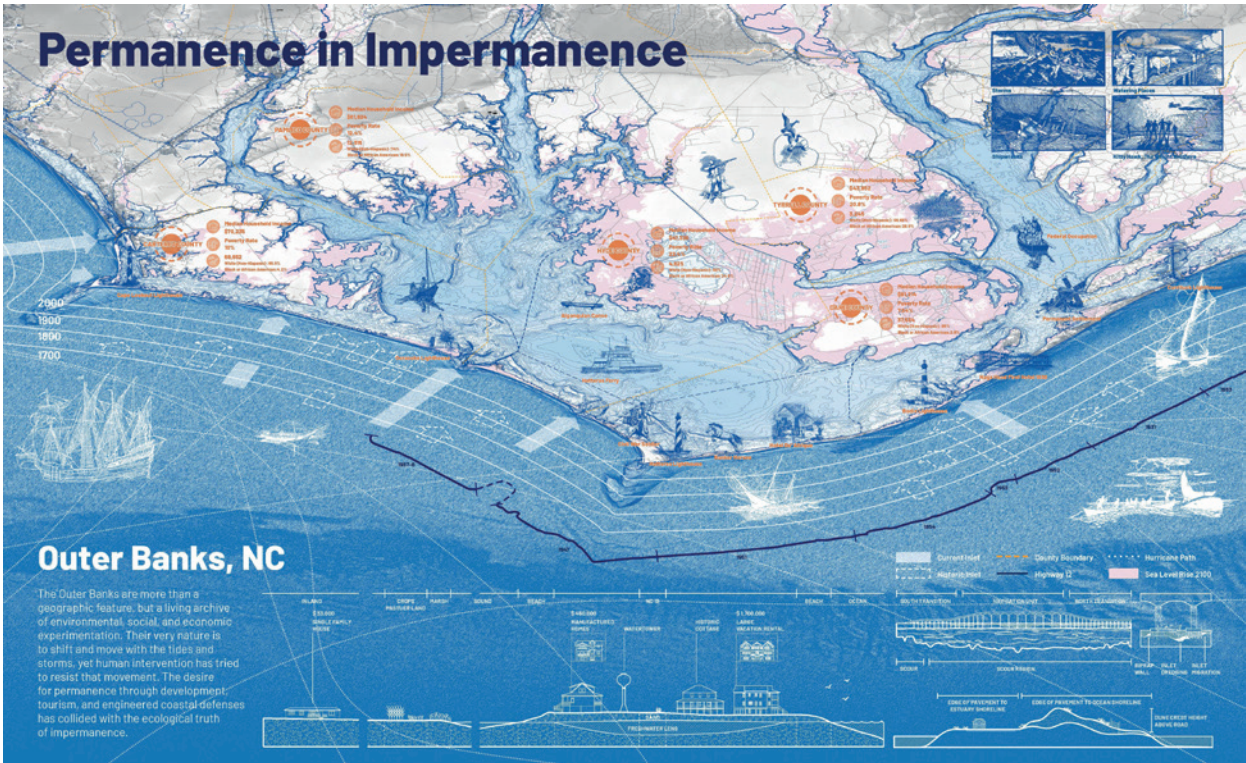


*Where Water Blurs Boundaries* by Susana Chinchilla, Manuela Hurtado, Yi-Jou Lin, Deepanksha Gillakamsetty

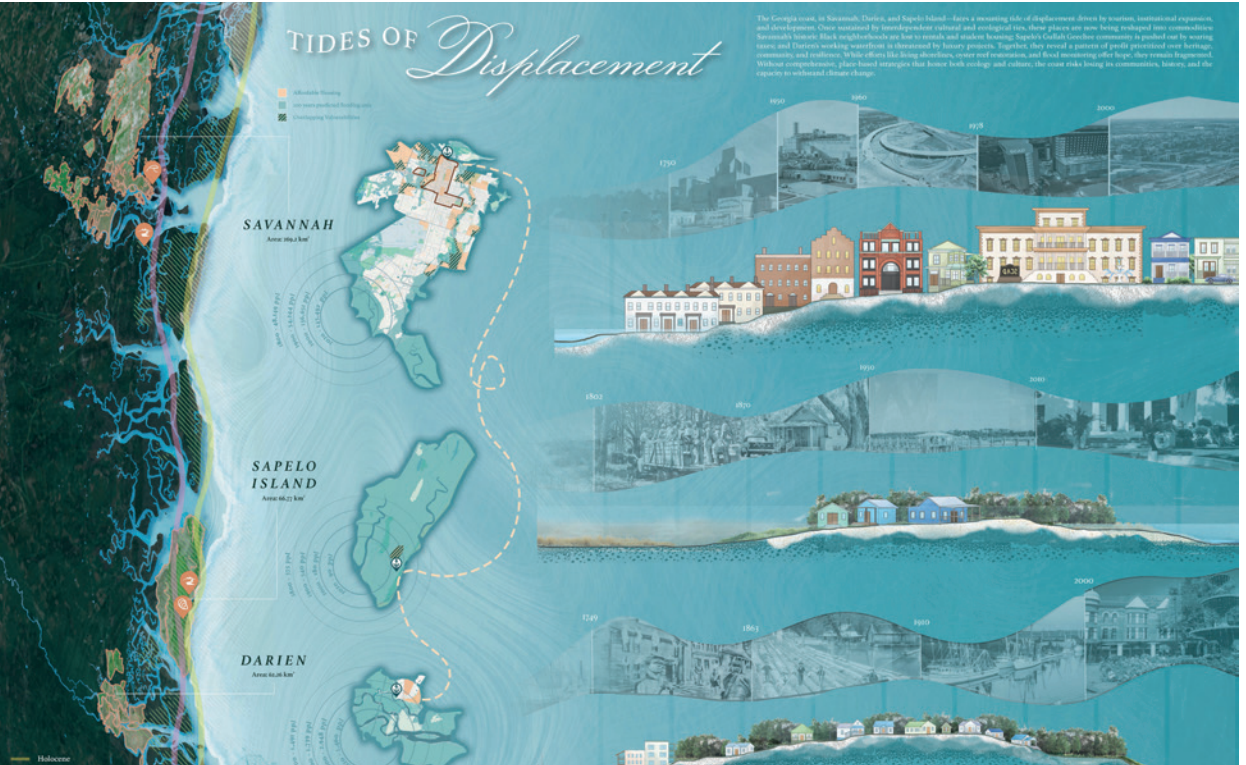




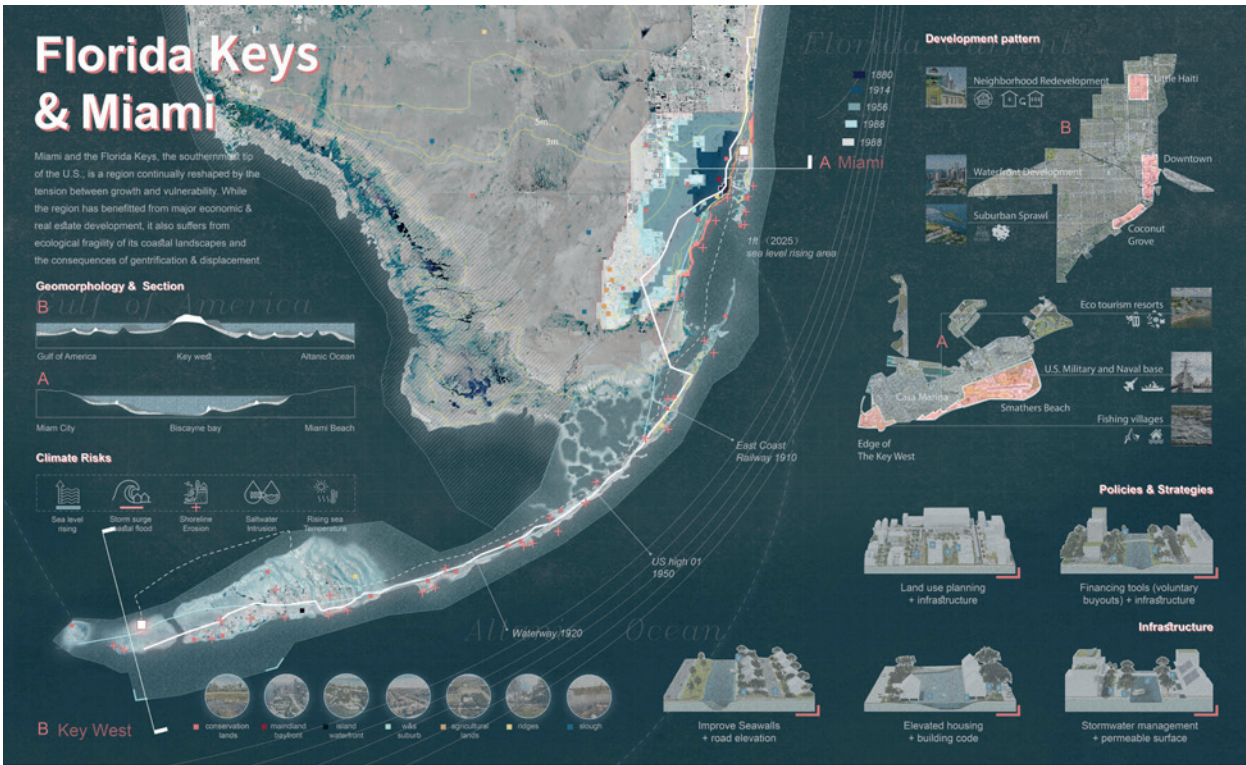
The Treasure Trap by Rebecca Koh, Romina Quinn, Xinyue Wang, Yung Hsiang Yang



Permanence in Impermanence by Amalia Kamien, Kuan Fu Huang, Jihye Park, Wenxin Dai

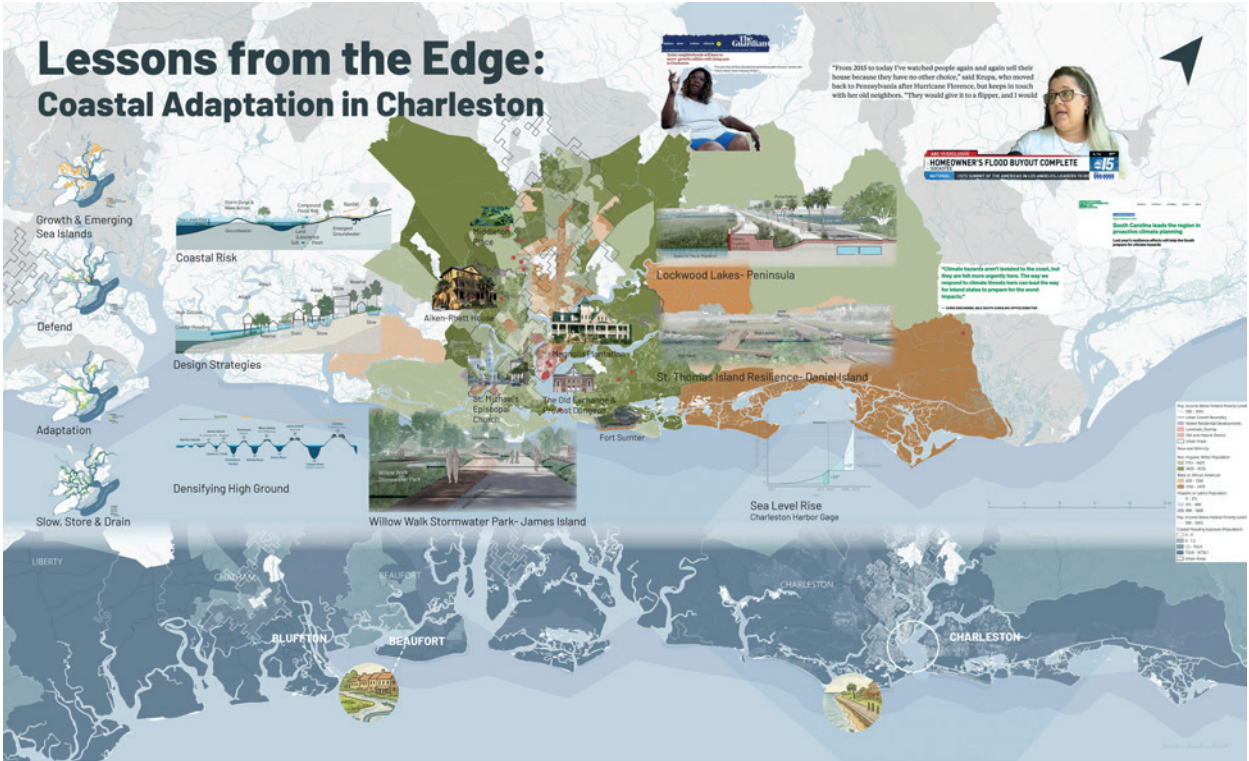


Tides of Displacement by Gracia Ignatius, Jianing Tang, Yangjing Cheng, Vera Leon

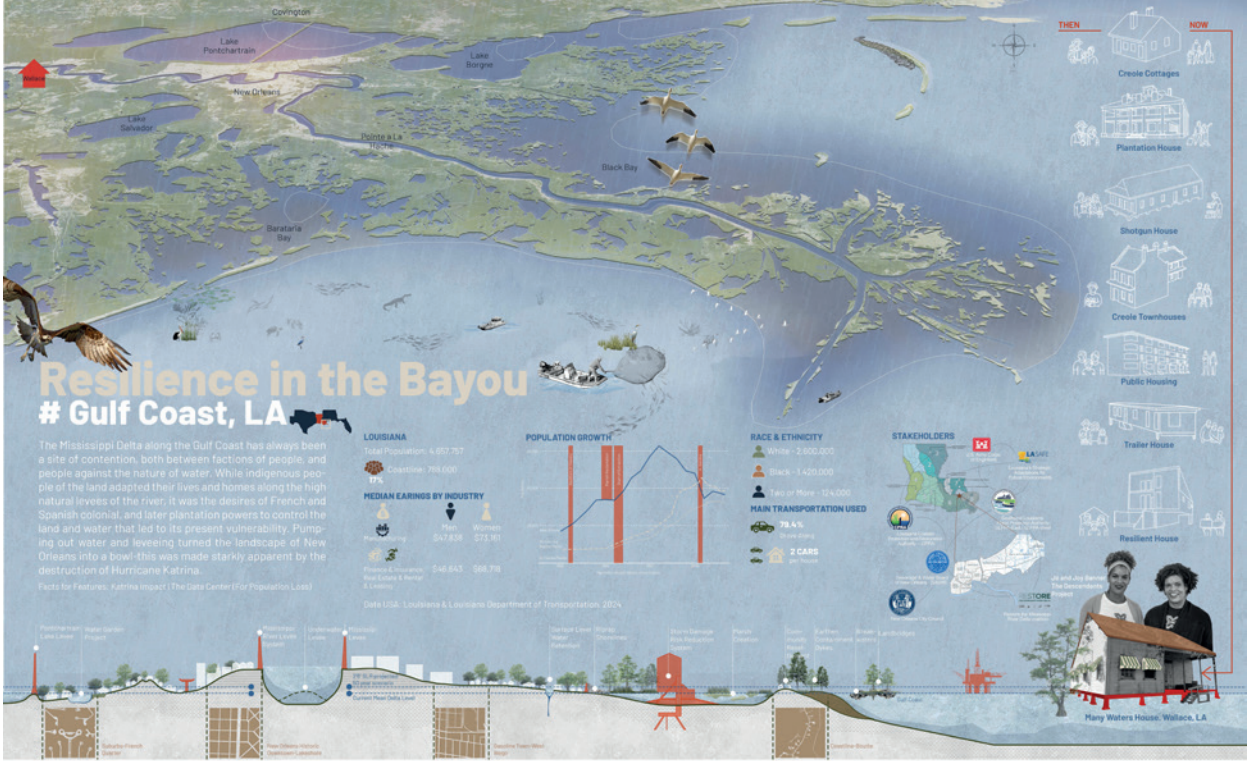


Florida Keys & Miami by Nicole Quah, Geethika Lakshmi T S, Junbo Chen, Zongping Liu

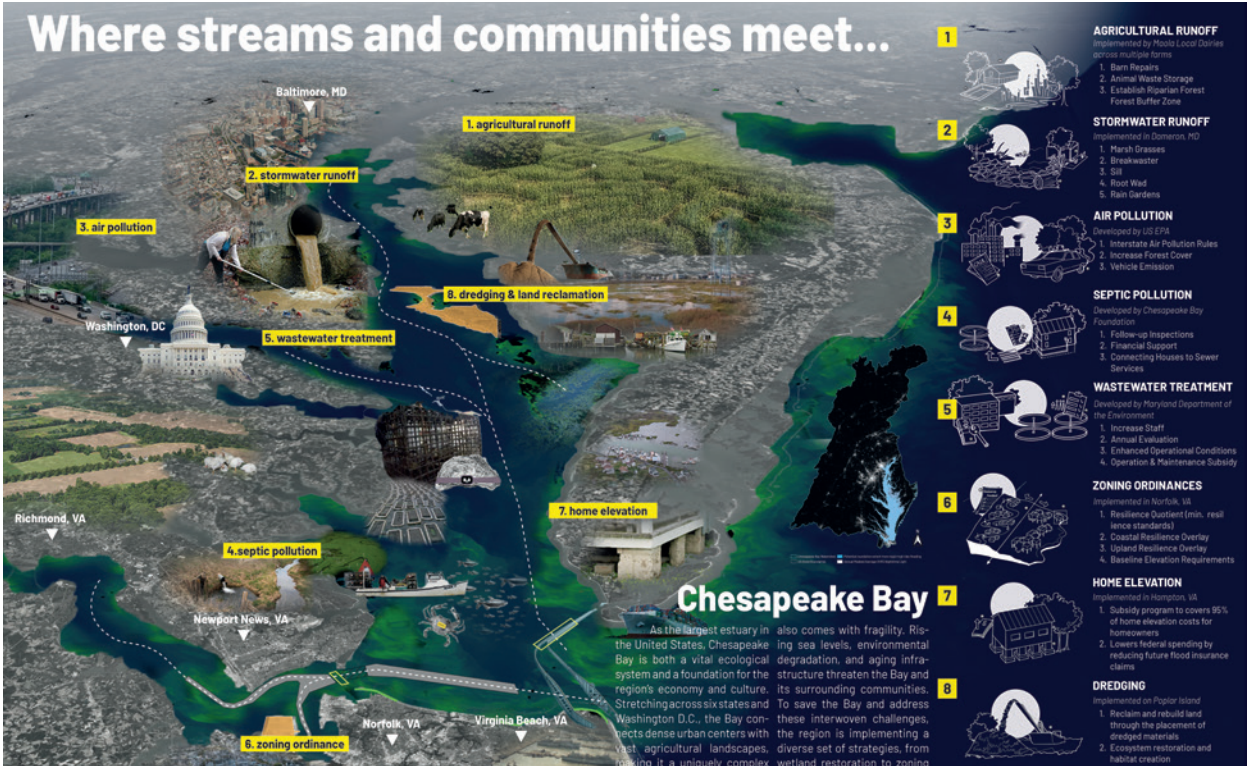




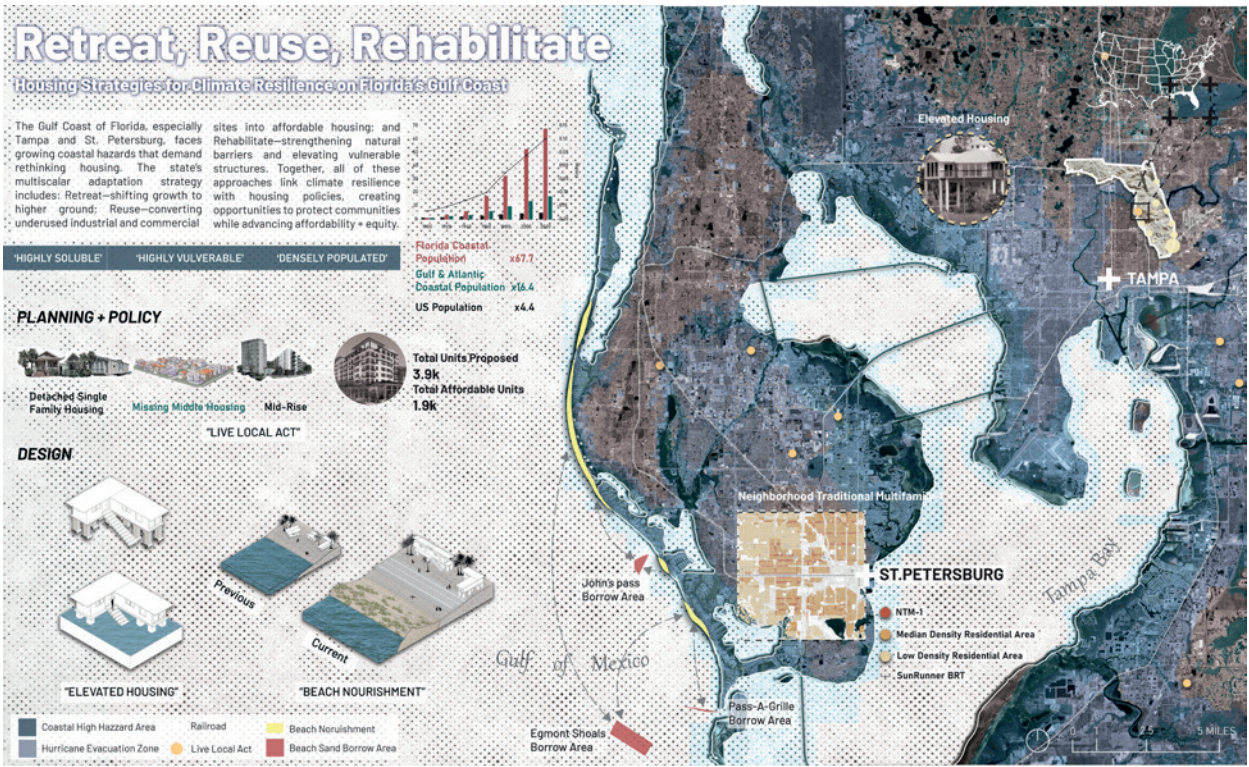
Lessons from the Edge by Giovanna Luz Moreira, Yijing Xiao, Remilekun Omoleye, Tianyi Shi



Resilience in the Bayou by Ayesha Maria de Sousa, Guoguo Chen, Juliana Leite Neri, Vanessa Gallego



Where Streams and Communities Meet by Jennie Zhou, Yuchen Zhang, Tianyi Dai, Atharv Bhole

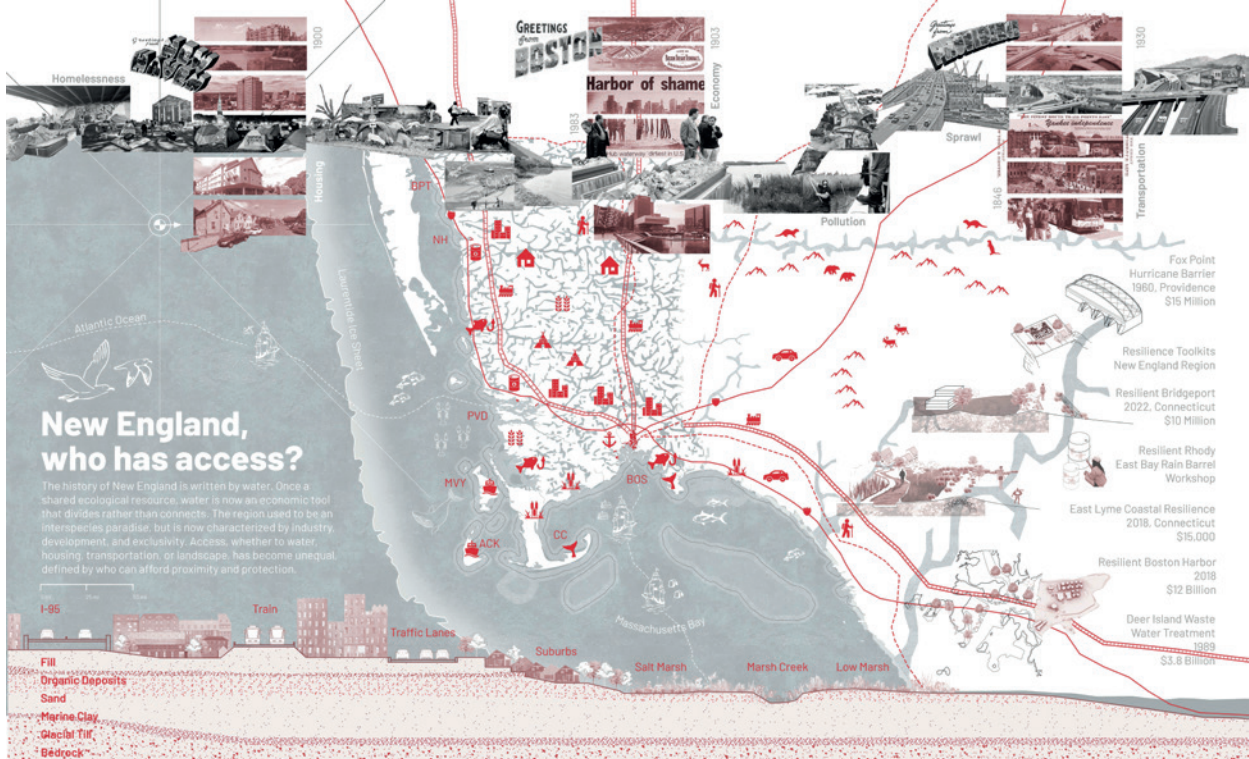


Retreat, Reuse, Rehabilitate by Ting Chu, Yiting Li, Sunghwan Park, Haoyang Chang

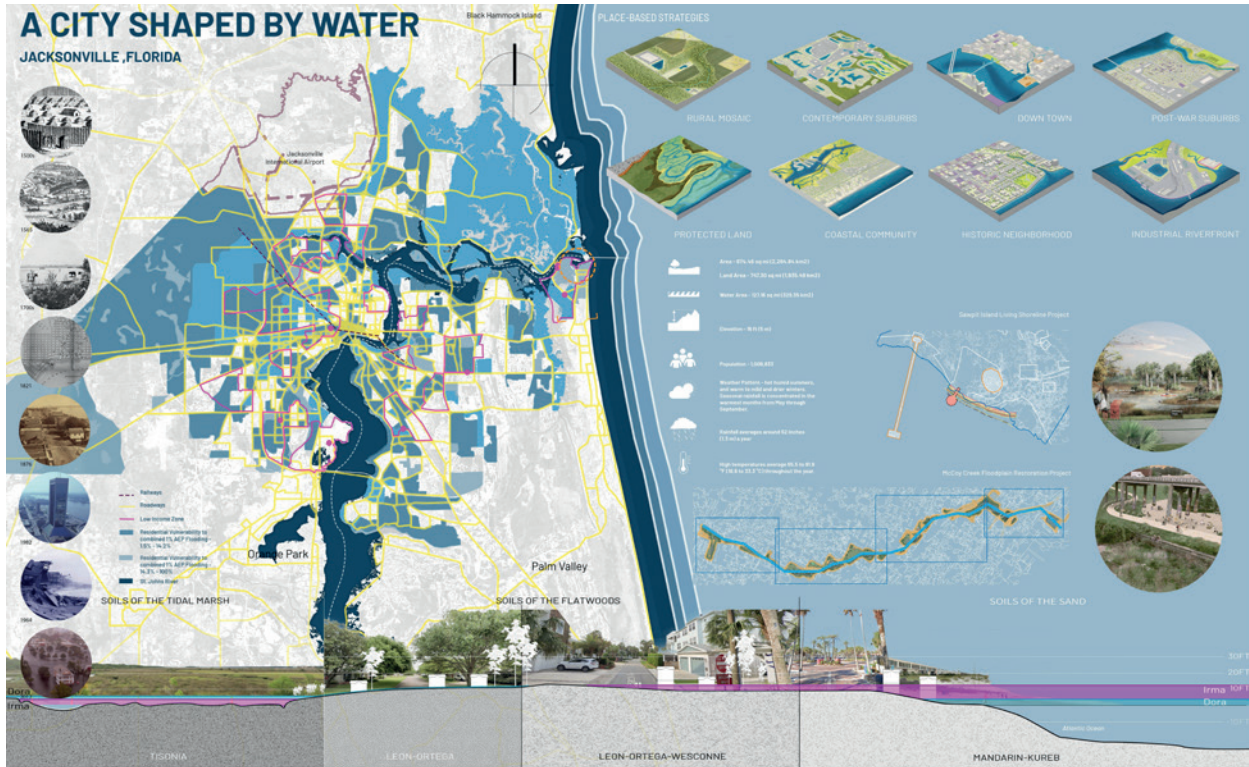




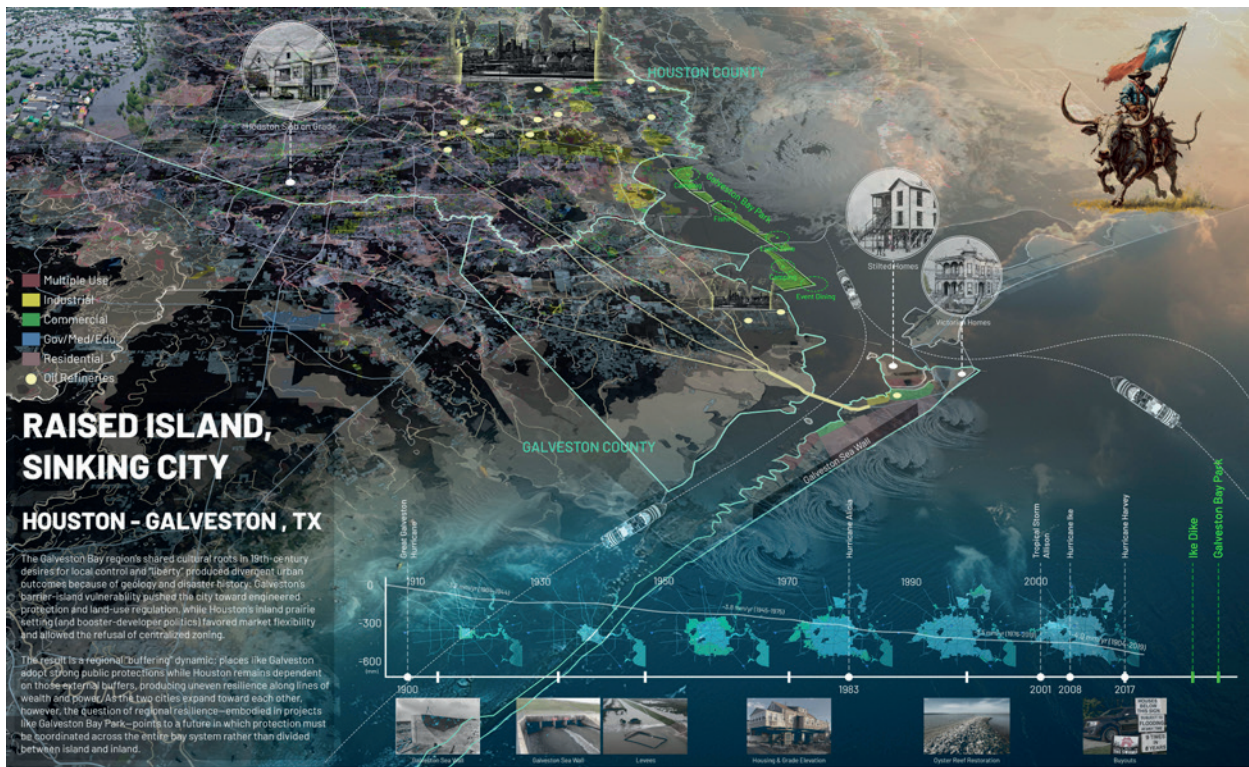
Mapping Bayscape by Vritti Bhamri, Zehra Zaheer, Aljoharah Althunayan, Vidhi Trivedi



New England, Who Has Access? by Daniela Monroy, Samantha Nowak, Mason Rape, Miguel Santivanez



A City Shaped By Water by Aishwarya Warad, Dzormo Naa Cofie, Xiaonan Li, Zhuoheng Yu



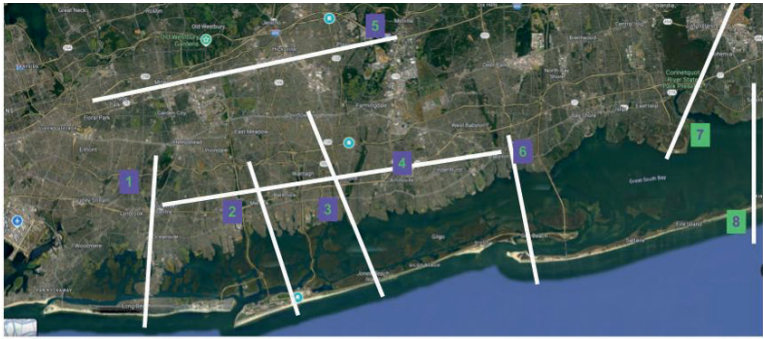
Raised Island, Shrinking City by Eric Lin, Xire Sangpei, Inhoo Seo, Mengtian Chen



# ***ASSIGNMENT 2: SITE INVESTIGATION***

-  
Regional Urban Design: The Bight  
New Jersey + Long Island  
-





|    |                                  |    |                              |
|----|----------------------------------|----|------------------------------|
| 01 | Long Beach to Rockville Center   | 06 | Robert Moses Park to Babylon |
| 02 | Jones Beach to Freeport          | 07 | Ronkonkoma to Hecksher Park  |
| 03 | Jones Beach to Levittown         | 08 | Sayville to Fire Island      |
| 04 | Long Branch through Colts Neck   |    |                              |
| 05 | LIE - Roslyn Heights to Melville |    |                              |



|    |   |    |   |
|----|---|----|---|
| 01 | Old Bridge to Freehold on Route 9 (Bruce to Bon Jovi) | 06 | Belmar through Wall toward park areas                   |
| 02 | Keansburg/Union Beach down to Holmdel                 | 07 | NJ Transit from Long Branch to Pt Pleasant              |
| 03 | Rumson to Red Bank (wealthy and big town)             | 08 | Point Pleasant to Lakewood (fastest growing town in NJ) |
| 04 | Long Branch through Colts Neck                        | 09 | Seaside Heights to Toms River (iconic shore town)       |
| 05 | Asbury Park toward Freehold (through naval base)      | 10 | Berkeley into the Pine Barrens                          |

FROM THE BIGHT: THE TRANSECTS

The term “site” in urban design can be controversial. Focusing too much on “site” can immediately limit our imagination and curiosity to the extent of a possible intervention. To consider design interventions at the scale of the region, we have to broaden our understanding of “site” to encompass a field of emerging possibilities, inclusive of geography, technology, and politics. Collectively this assignment will help us all understand how the coasts of southern Long Island and northern New Jersey have come to be what they are, and how they may change in the future.

“Scenarios are not predictions of what will happen. They are an exploration of what might happen. They are structured narratives about the possible future paths of a social-ecological system (Peterson et al. 2003b). Rather than forecasting the future, they involve a group of experts working together with a representative cross section of local residents to explore what might happen to the region if certain trends are followed...”

Walker and Salt from Chapter 4 of “Resilience Thinking”

Part 1: Mapping Along a Transect

Each student team traveled along a transect in Long Island or New Jersey. We borrow the term “transect” from ecology where it refers to a systematic sampling of organisms or events along specified pathways. Multiple transects read together can establish a more nuanced and complete understanding of a territory and its ecology. A comparable method is used in search and rescue operations, when territory is divided into a grid to allow multiple actors to collectively and comprehensively cover the most ground.

Part 2: Stakeholder Identification and Powermapping

The first part of the assignment helped students gain an understanding of the physical environment. The second part was an introduction to the social and political environment. Who today makes decisions about housing, zoning and land use, conservation, and infrastructure? What voices are dominant and which voices are suppressed? How is the political landscape changing?

Part 3: Site Visits

Part 4: Scenarios

Scenarios are geographically-specific tools to engage a broad audience in envisioning the future of place. Scenarios help us understand how a place is likely to evolve in the future, given trajectories of the economy, demographics, climate, and other trends.

Part 5: Workshop





# Workshop

# Site Visits



## *Resilient Coastal Communities: Our Coast, Our Future*

*Saturday, October 25, 2025 | 10:00 AM – 6:00 PM*

*Columbia Graduate School of Architecture, Planning and Preservation*

The beaches, bays, and boardwalks of New York and New Jersey are places where we connect with nature and with each other. As sea levels rise, storms intensify, and development threatens displacement, how can we protect these beloved natural places while also ensuring that their communities thrive into the future?

On October 25, join students, youth activists, local leaders, and neighbors across the region for a day of collaboration and imagination. All participants will be asked to join a series of activities led by urban design students who are exploring future scenarios for the coastlines of Monmouth and Ocean Counties in New Jersey and Nassau and Suffolk Counties in New York.

### *What we'll do together:*

**Celebrate and Protect Our Shores** – Share stories about what the beach and waterfront mean to us, and how we can safeguard them for future generations.

**Build Community Connections** – Learn from each other and strengthen networks that link housing, climate resilience, and community wellbeing.

**Explore New Ideas** – See urban design scenarios from students at Columbia, NYIT, and Penn that reimagine the future of our coasts, and discuss how we can turn these ideas into action.

**Shape a Shared Future** – Reset goals for resilience and recovery, grounded in care for our environment and our communities.

Young people have the most important role in shaping the future of our coastal communities. Come add your voice, your ideas, and your love of the coast to this important conversation.

*Breakfast and lunch (tacos) will be served, and a happy hour will follow.*

*Please send us your RSVP by October 15th.*

*RSVP by October 21 and join us on October 25.*

# Workshop





# ***ASSIGNMENT 3: REGIONAL DESIGN AND ACTION PLANS***

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During the second half of the semester, students used an iterative and layered approach to developing studio projects. Throughout the design process, student teams were encouraged to revisit the site and to connect or re-connect with stakeholders on their own time.

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# NEW JERSEY

## UNION BEACH

Amalia Kamien, Kuan-Fu (Jeff) Huang, Jihye Park, Wenxin Dai

## RUMSON

Ambika Kannusami, Elsa Paas, Ziheng Zhao (Henry), M.Raffy.Prawira.P

## LONG BRANCH

Ayesha De Sousa, Juliana Leite Neri, Vanessa Gallego, Guoguo Chen

## ASBURY PARK

Geethika Lakshmi T S, Nicole Quah, Junbo Chen, Zong Ping

## POINT PLEASANT

Gracia Ignatius, Jianing (Cecily) Tang, Yangjing Cheng, Vera Leon

## TOMS RIVER

Jennie J. Zhou, Yuchen Zhang, Atharv Bhole, Tianyi Dai

## PINE BARRENS

Eric Lin, Xire Sangpei, Inhoo Seo, Megan Chen

54

64

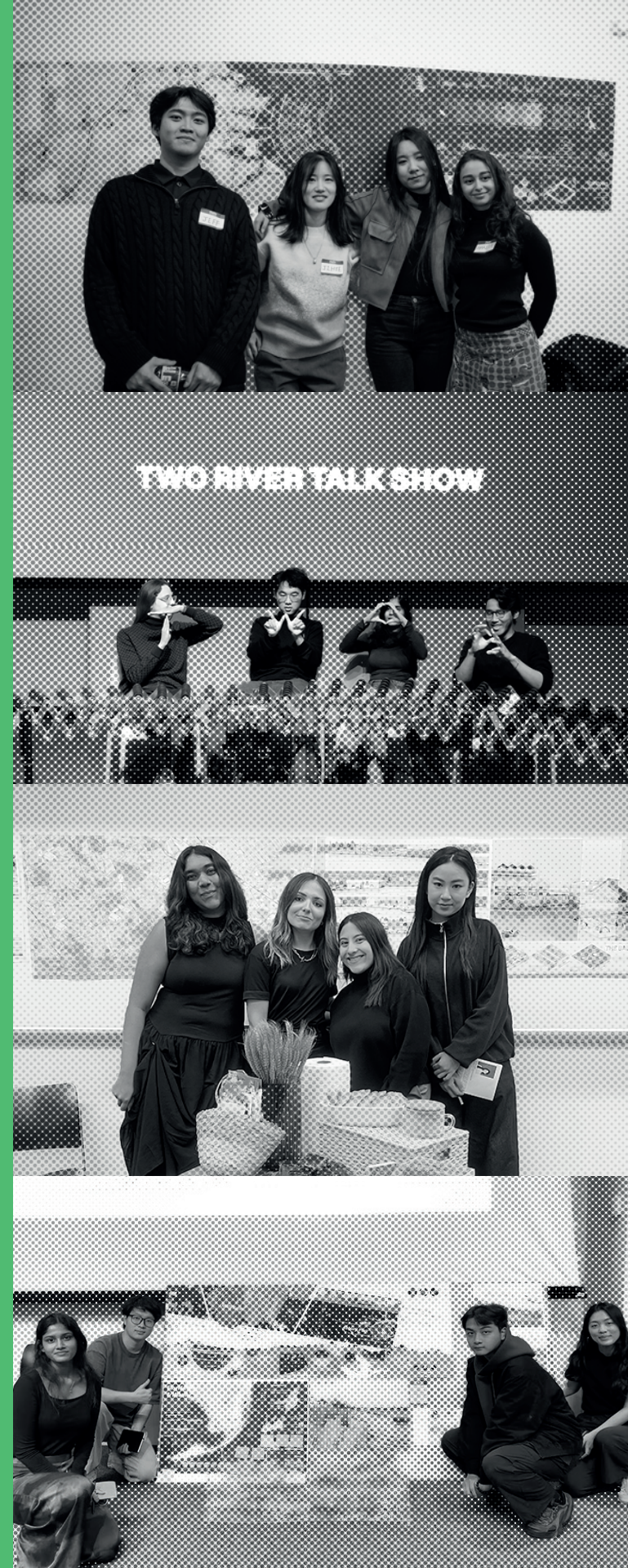
72

80

88

96

104





# Raritown:

## A New Way to Stay in Place

### HOLMDEL TO UNION BEACH, KEANSBURG, NEW JERSEY

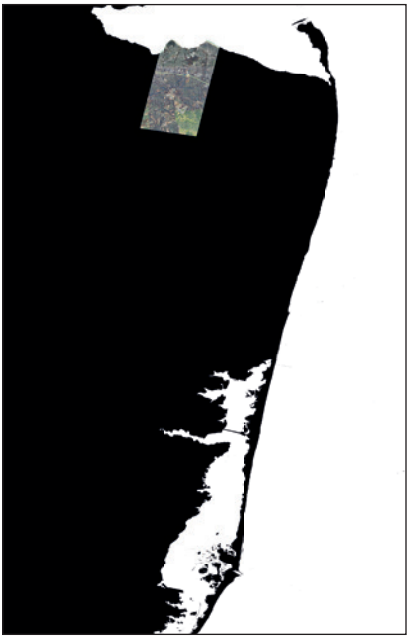
#### Team

/ Amalia Kamien  
/ Kuan-Fu (Jeff) Huang  
/ Jihye Park  
/ Wenxin Dai

Raritown begins from a simple but urgent question: what does it mean to stay in place along the New Jersey coast when rebuilding in place no longer ensures survival?

Beneath the familiar image of suburban stability, long-standing vulnerabilities have accumulated through fragmented mobility, limited housing choice, and an increasingly unstable relationship with water. Rather than responding to each disaster by repairing damage in isolation, the project asks how coastal communities might remain while fundamentally changing the spatial logic that produced their vulnerability.

Raritown explores a new way of staying—one that gradually inhabits water through canals, floating housing, and protective barrier landscapes. Existing creeks become connective infrastructure, linking inland towns to a shared waterfront spine and a new water-based transit corridor. Raritown is a bay community that lives with water, not against it.



UNION BEACH

#### Video Link







Master Plan

Land Use

- Municipal Boundaries
- Forest
- Agriculture
- Recreation Area
- Education
- Commercial
- Cultural Building
- Corporate Campus
- Barrier Island
- Floodable Park
- Canal
- Transportation Hub

Residential

- High Density
- Medium Density
- Low Density
- Rural

Hydrology

- Water
- Wetlands
- Ridgeline

Transportation Infrastructure

- Major Roadways
- Local Roads
- Railroads

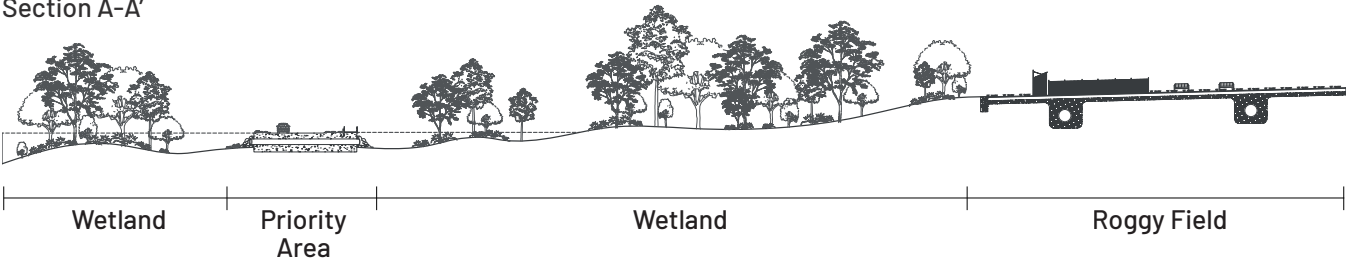


- A Garden State Parkway
- B North Jersey Coast Line
- C Route 35
- D Route 36
- E Route 37

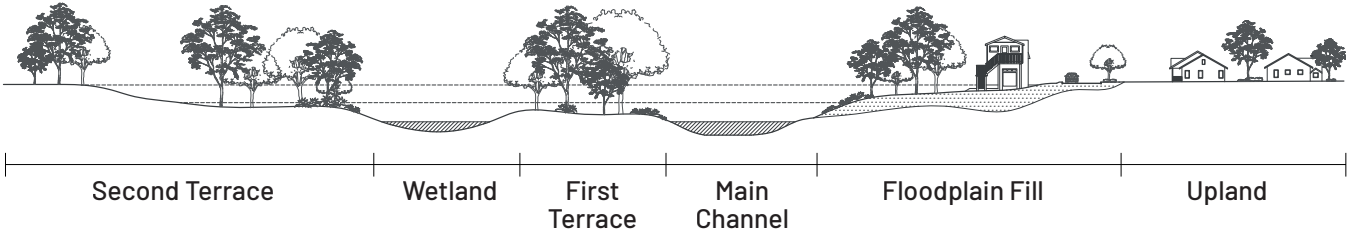


Existing Condition

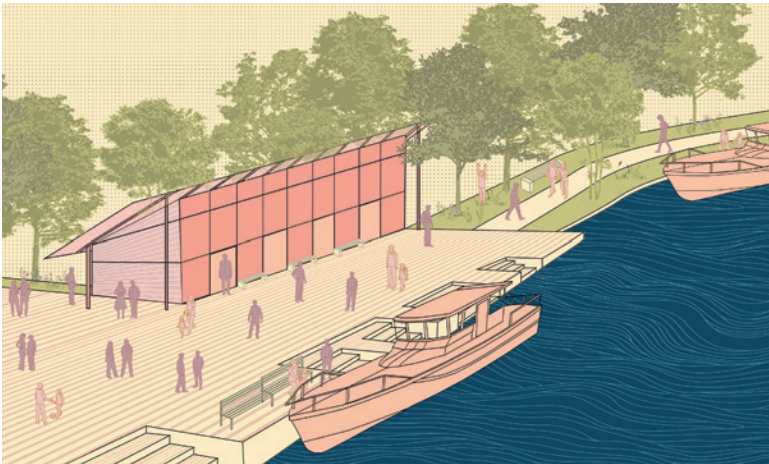
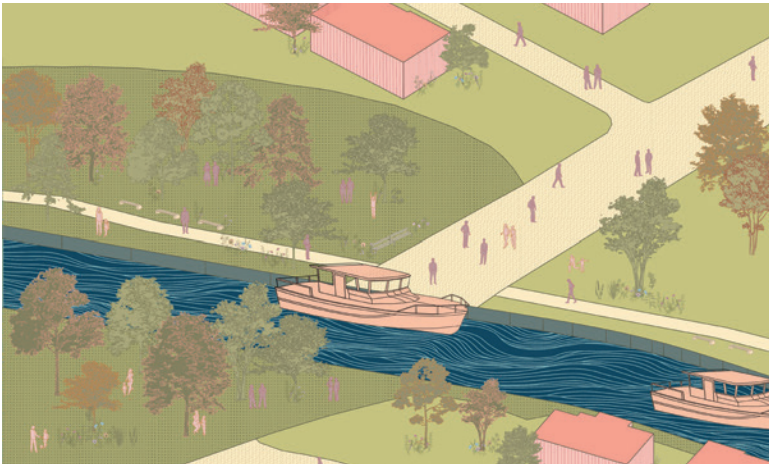
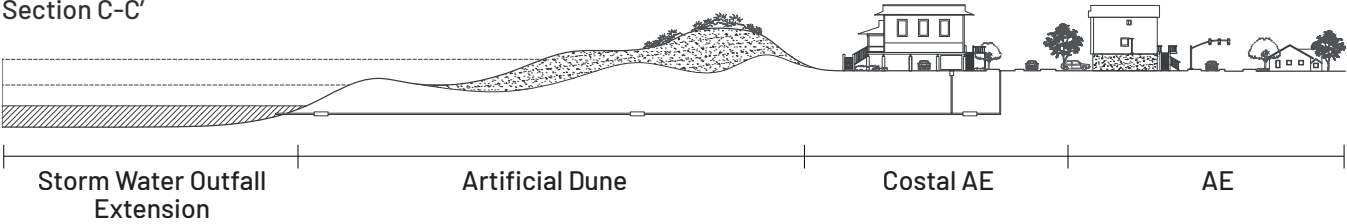
Holmdel  
Section A-A'



Hazlet  
Section B-B'



Union Beach  
Section C-C'

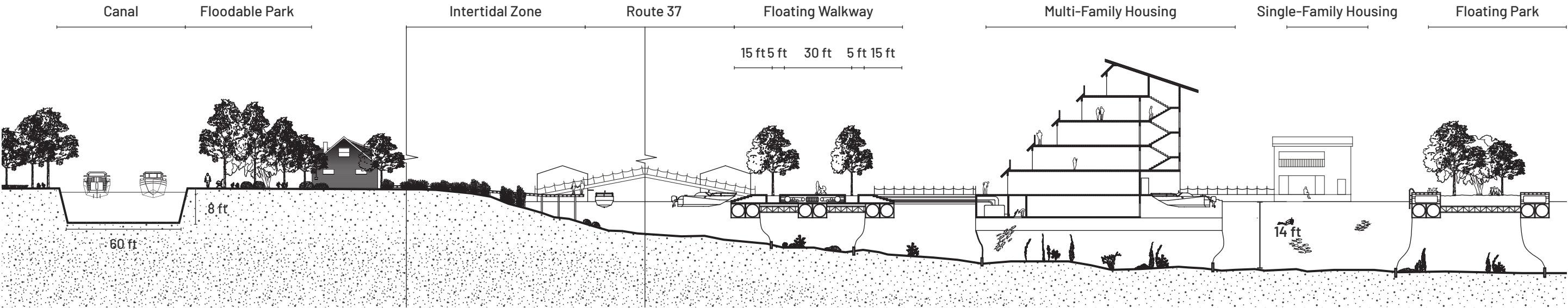


- 1
- 2
- 3

1 Canal  
2 Transportation Hub  
3 Floating Park

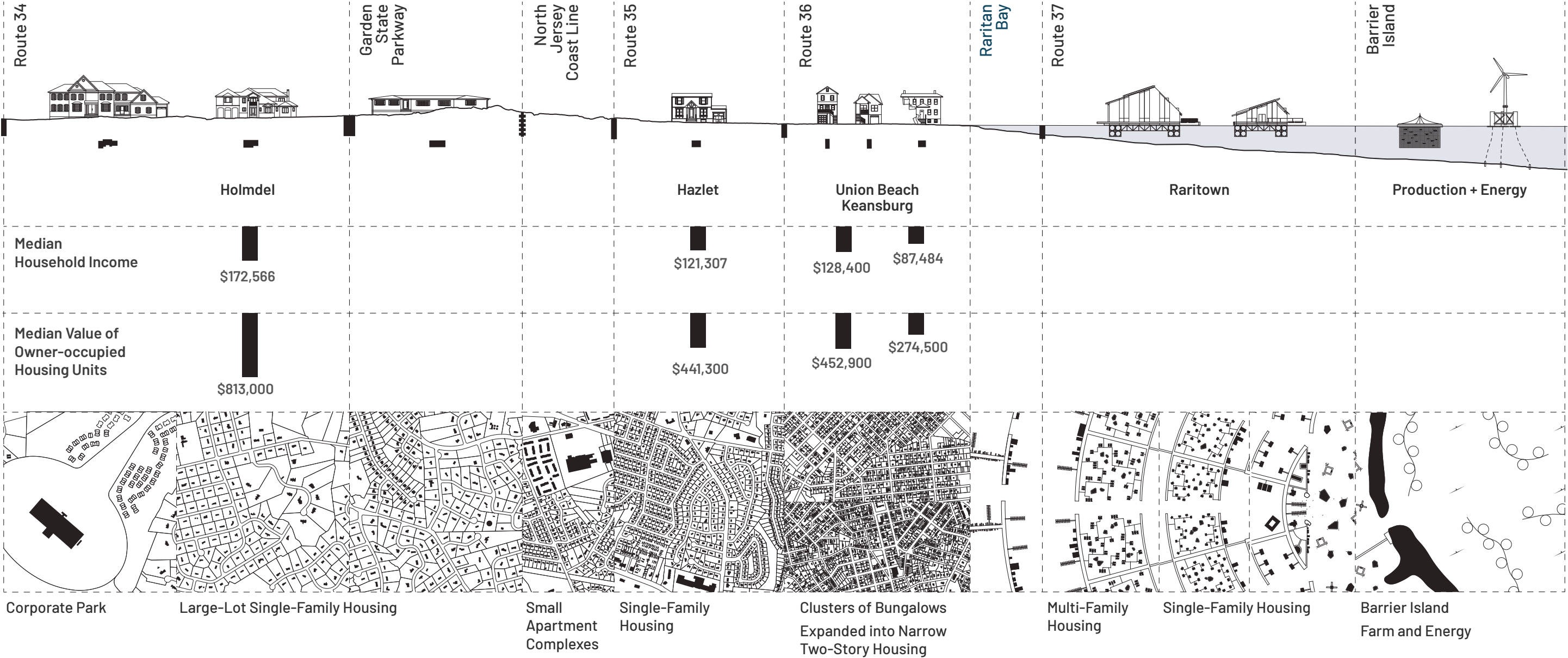
Proposed Section

Inland – Intertidal Zone – Raritown





Development Pattern and Housing Typology

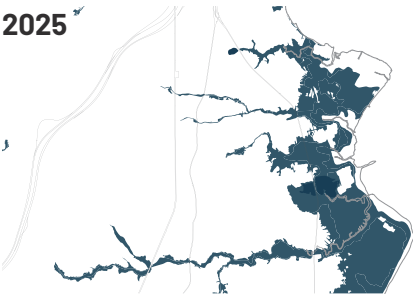


The research examines how water and transportation infrastructure have historically shaped Holmdel, Hazlet, Union Beach, and Keansburg. State highways divide the area into four distinct quadrants, each defined by different development patterns, housing typologies, and property values. While these routes function as regional connectors, they also act as boundaries, reinforcing an inversion in which inland suburbs accumulate stability and value while waterfront communities remain more exposed to flooding and disinvestment. Sectional studies across inland, wetland, and coastal zones reveal how this perpendicular relationship between infrastructure and water organizes settlement and risk.

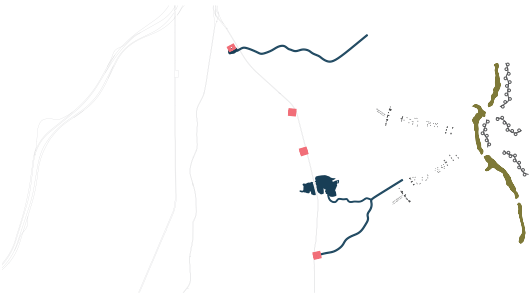


Phasing

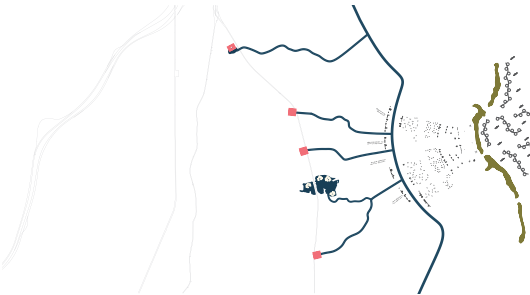
2025



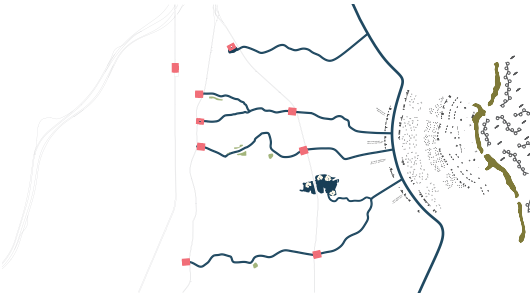
Initial development begins at flood-prone creeks.



Dredged soil from these canals forms new barrier islands at the edge of the eventual neighborhood, slowing storm impacts as growth begins.

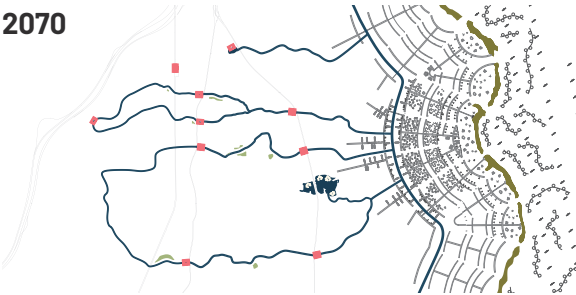


A waterway becomes a transit corridor for boats along the coast—Route 37. Local wind and tidal stations replace reliance on inland energy.



A transportation hub connects waterways with existing transit.

2070



Raritown emerges as a resilient bay community linked to Keansburg, Union Beach, Hazlet, and Holmdel through its canal network.



Through canals, housing, and shared blue space, Raritown introduces a new coastal condition that connects inland communities to the water while remaining adaptable to flooding.

It is imagined as a settlement logic that can continue along the Raritan Bay coastline. In this way, Raritown operates not only as a place, but as an expanding framework for coastal living—one that links multiple towns through a common relationship to water.



# Two River Times

## RUMSON TO RED BANK , NEW JERSEY

### TEAM

/ Ambika Kannusami  
/ Elsa Paas  
/ Ziheng Zhao (Henry)  
/ M.Raffy.Prawira.P

Water is regarded by local residents as the most vital and meaningful part of everyday life, yet it is also the element they fear the most. For a peninsula surrounded on three sides by water, genuine water access has become a rarity. In Rumson, where privatization is deeply entrenched, nearly all waterfront areas have been enclosed as private property. In Sea Bright, despite possessing kilometers of continuous sandy shoreline, people are unable to reach, or even see the ocean because the sea wall cuts off all physical and visual access.

This inability to engage with the water has gradually eroded people's sense of care for it, leading to long-standing issues of water pollution and chronic flooding that have never been properly addressed.

Our strategy responds to this condition at a regional scale. Through a combination of strategic renovation and retreat in Sea Bright, the creation of resilient landscapes within existing parks and parking lots across Rumson, Fair Haven, and Red Bank, and the introduction of new housing along the Red Bank waterfront and the upper Swimming River, designed respectively to support rainwater collection and algae-bloom remediation, we systematically improve the region's hydrological and ecological performance.

Ultimately, by connecting all resilience landscapes and housing nodes, we establish a continuous Green Trail that restores public access, reshapes environmental stewardship, and redefines the relationship between people and water in this unique estuarine territory.

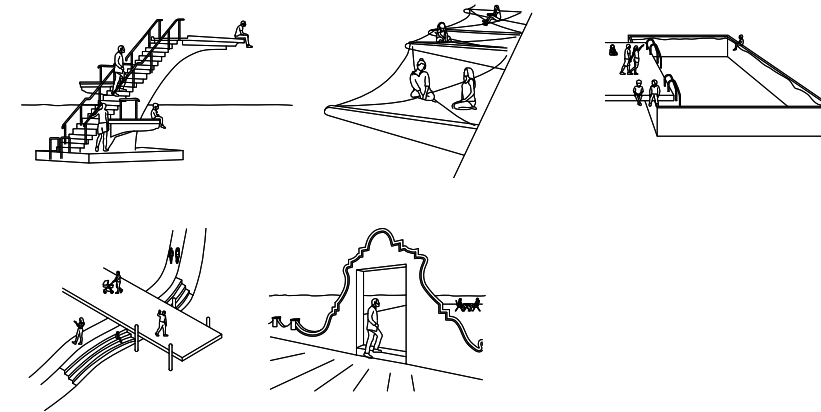


### RUMSON

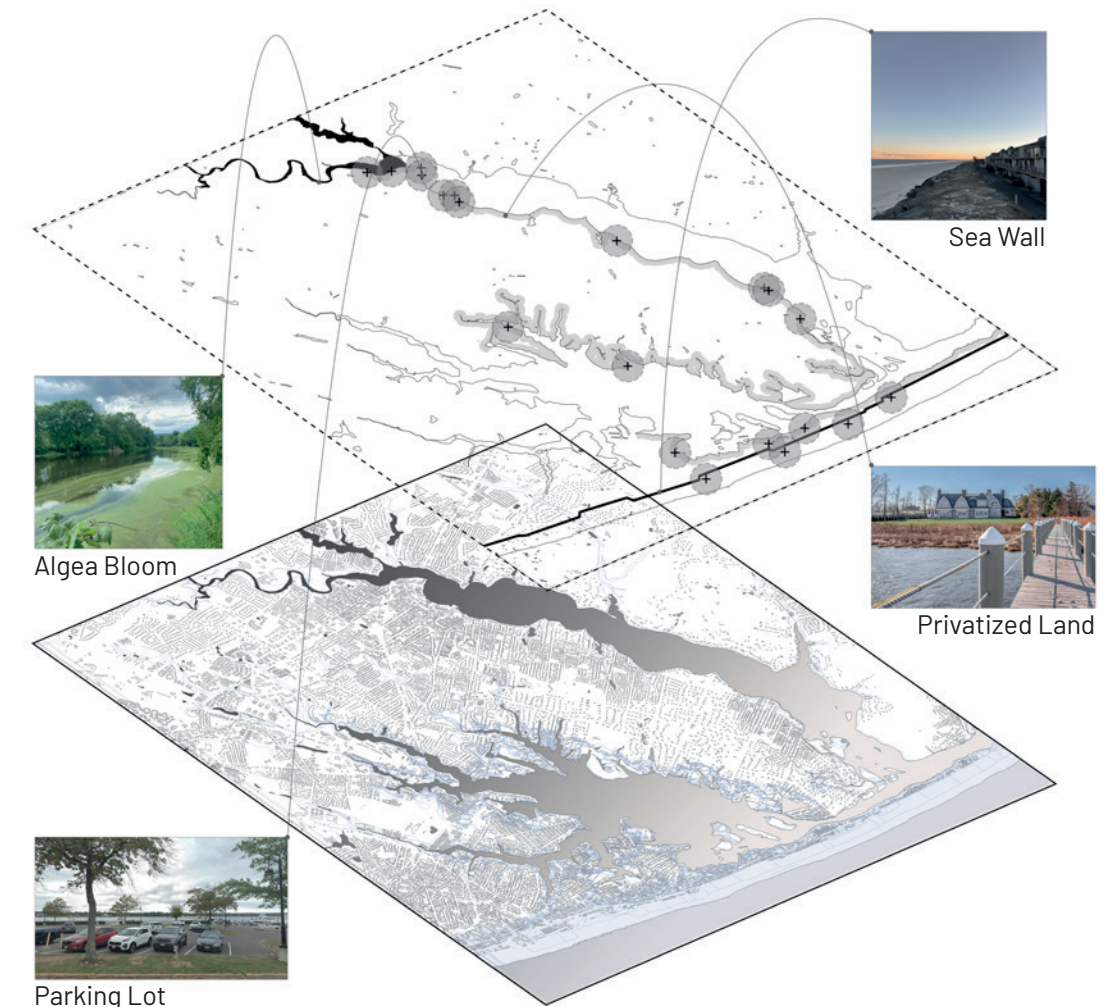
### Video Link



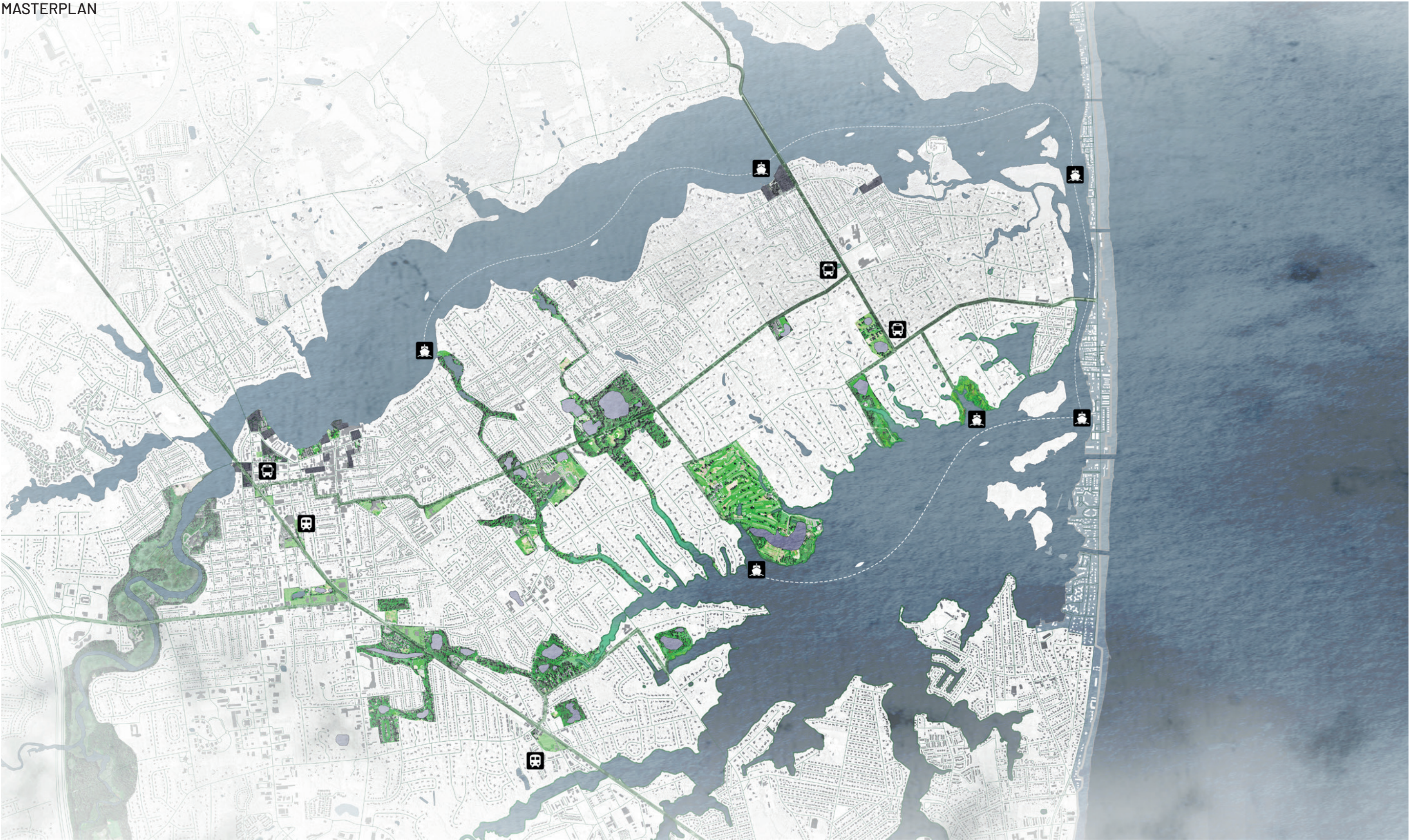
### MANIFESTO



### CONTEXT









SEA BRIGHT

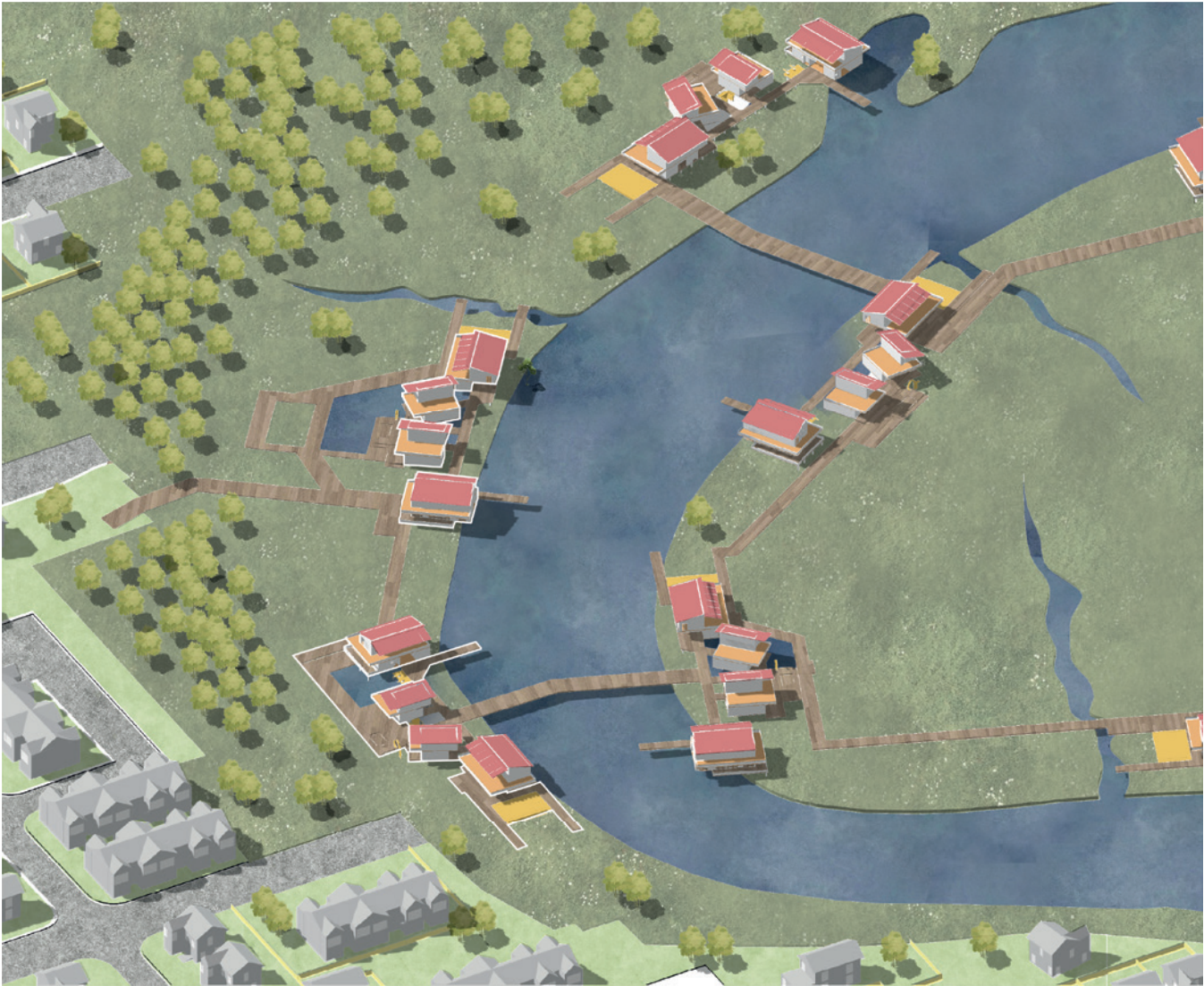


RED BANK





SWIMMING RIVER



RED BANK



SWIMMING RIVER





# The Bale Trail:

## Growing the future of the Region

LONG BRANCH TO COLTS NECK,  
NEW JERSEY

TEAM

- / Ayesha De Sousa
- / Juliana Leite Neri
- / Vanessa Gallego
- / Guoguo Chen

Looking beyond its summer-centricism, the region revealed the earth’s rich agricultural potential, and the opportunity to use preserved farm-land as a catalyst for new forms of development. We explored how locally grown straw can serve as a sustainable construction material, offering a carbon-negative alternative to conventional building systems.

The project also proposes a shared ADU system that incentivizes homeowners in the suburbs to build ADUs and open up backyards to longer grasses for shared harvesting, and supporting aging in place and strengthening long-term community ties. By integrating cultivation, construction, and education, the project envisions a model where agricultural practices not only shape the built environment but also engage and inspire younger generations.



LONG BRANCH

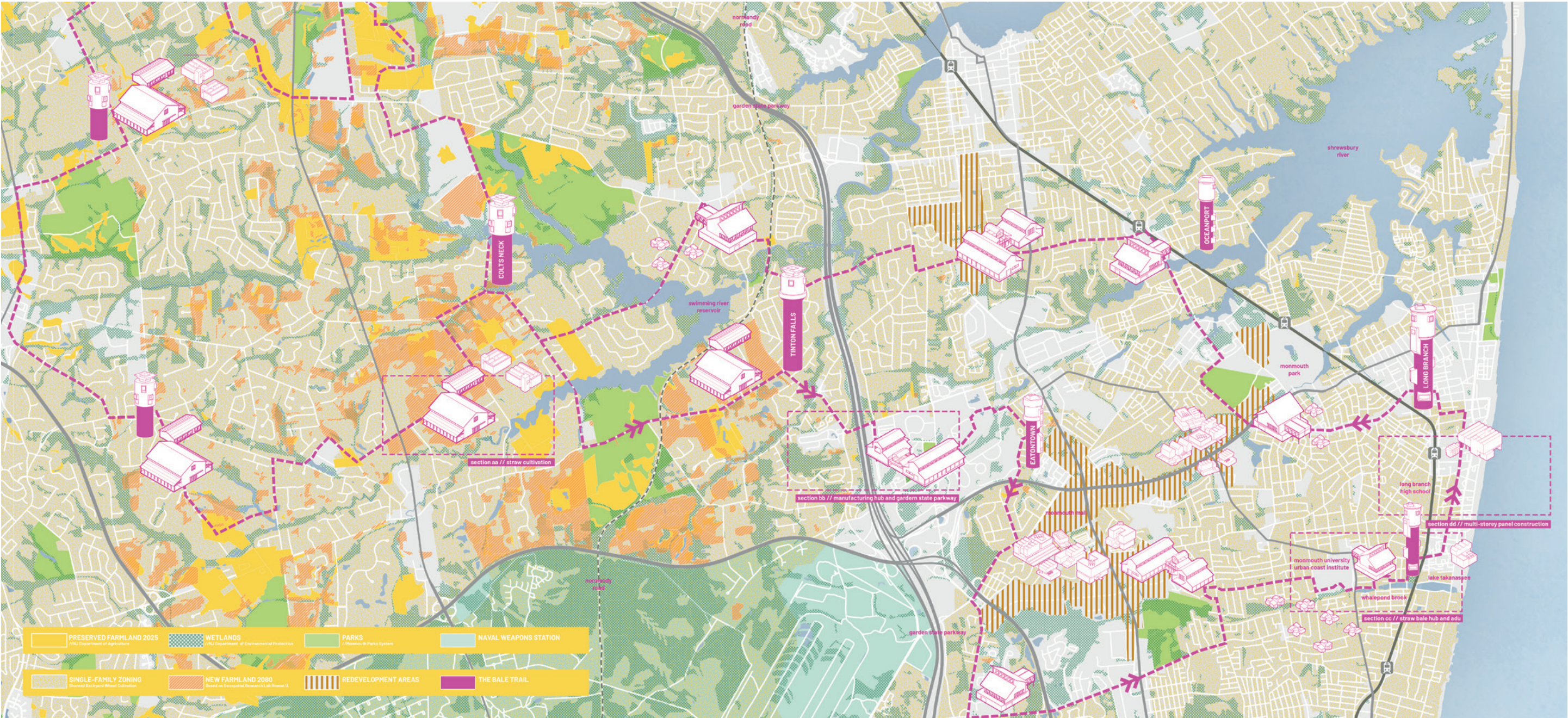
Video Link



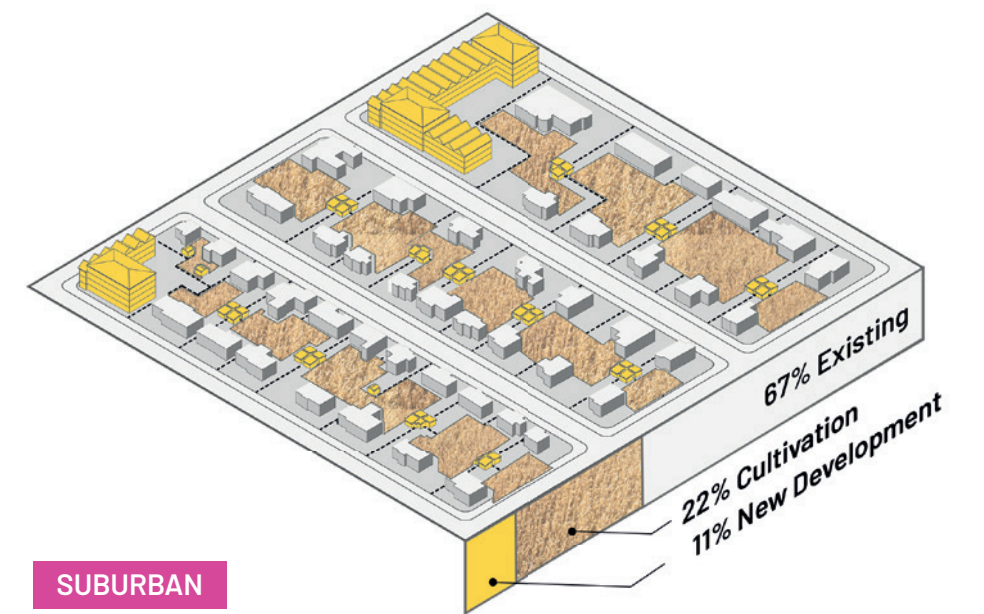
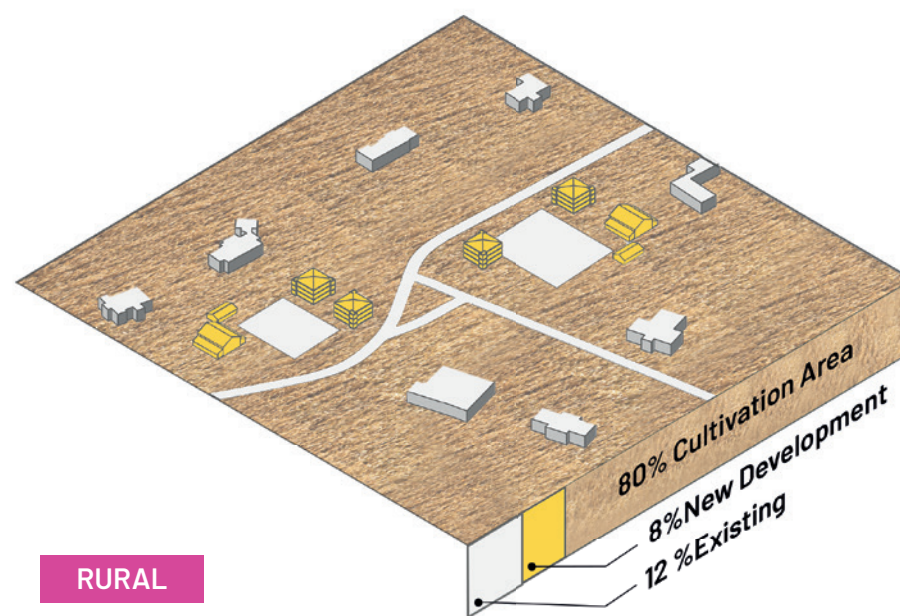
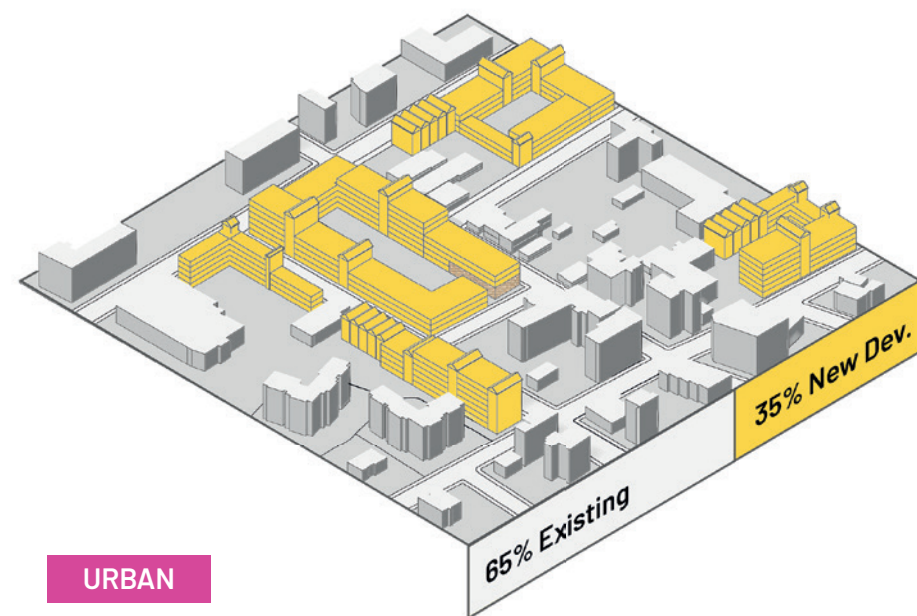
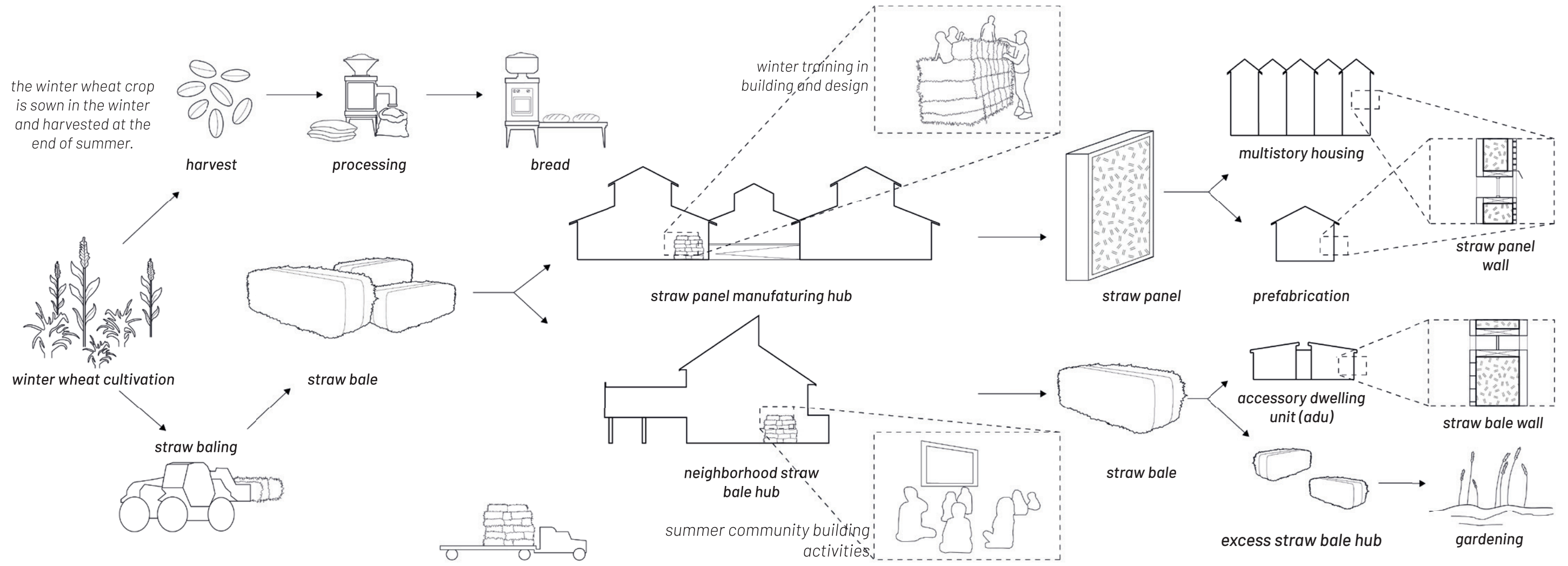


# Design Principles:

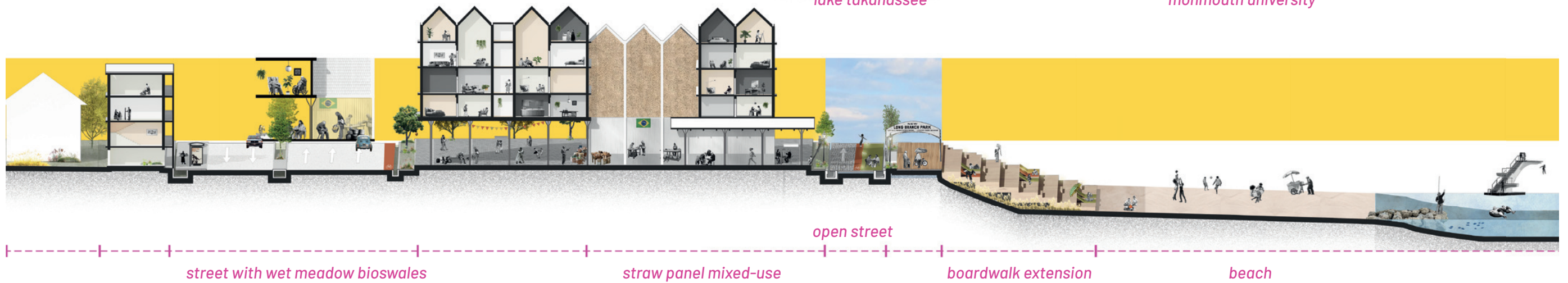
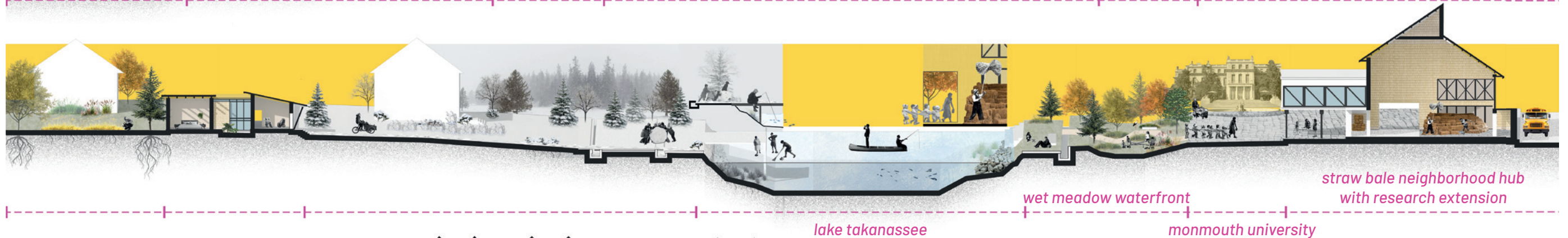
- giving people visceral connections with ecology as a connective tissue across the transect
- allowing more opportunities for people to connect to each other and to place
- building knowledge around water systems, and build capacity in carbon negative growth
- expanding local and new economies to support equitable growth across the transect













# Stewards of the Coast

## ASBURY PARK - NWS WEAPONS STATION EARLE, NEW JERSEY

### TEAM

- / Geethika Lakshmi T S
- / Nicole Quah
- / Junbo Chen
- / Zong Ping

The United States faces a critical problem of inadequate and unaffordable housing that disproportionately affects low-income families, people of color, and individuals experiencing homelessness. The escalating unaffordability of housing, particularly the “missing middle,” has been the primary driver of the rapidly widening wealth gap and the disappearance of the middle class. Owning a home was once perceived as a bedrock of social mobility, the “American Dream,” but now that goal is out of reach for most people in the United States, even professional double-salaried families. According to a recent survey, 82% of Gen Z believes homeownership is unattainable. The lack of affordable housing is endemic in both urban and rural areas. The United States currently lacks 3.8 million available and affordable housing units, and over 8 million extremely low-income households spend more than 50% of their income on housing, putting them at a high risk of housing instability and homelessness.



ASBURY PARK

### Video Link



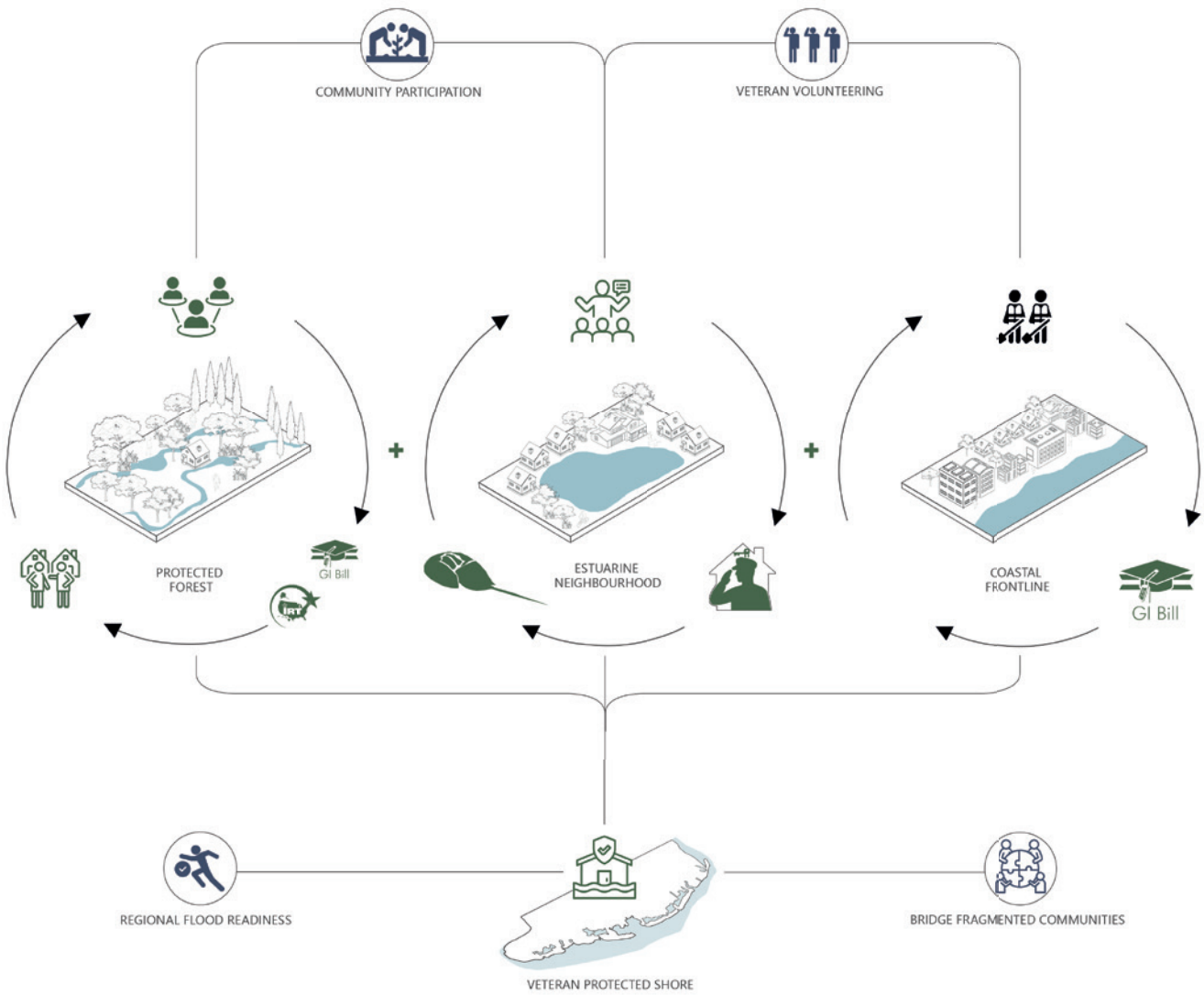
PROTECTED FORESTS NEAR  
NWS WEAPONS STATION EARLE



RESIDENTIAL TOWNSHIPS  
SURROUNDING SHARK RIVER



COMMERCIAL WATERFRONT  
ALONG ATLANTIC OCEAN

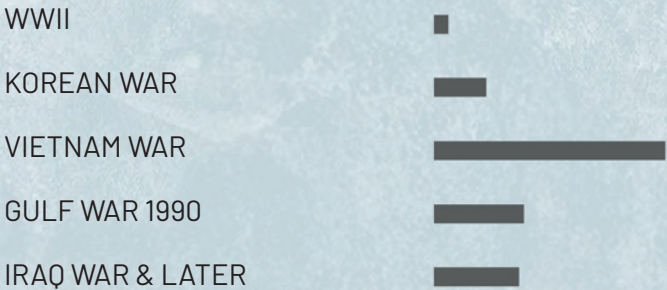






VETERAN POPULATION

MONMOUTH COUNTY



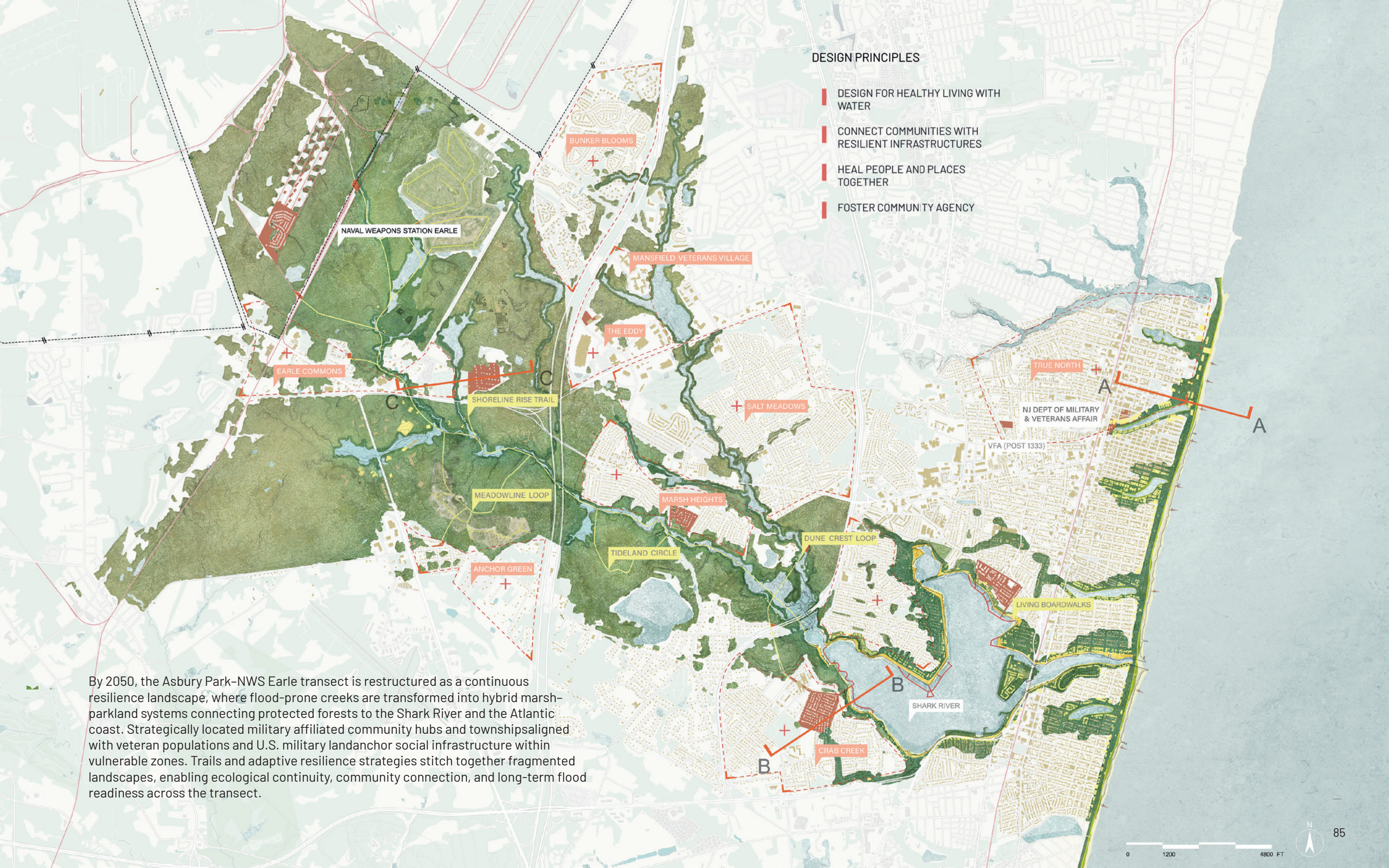
This transect from Asbury Park to Naval Weapons Station Earle maps the overlap between projected FEMA 2050 flood risk and the concentration of veteran populations along Monmouth County's coast. Within this vulnerable corridor, four key actors guide the project's framework: historic ammunition bunkers, the Asbury Park boardwalk as an economic and cultural edge, retired veteran volunteers, and horseshoe crabs whose spawning cycles anchor the region's ecological health.



Today, many of these veterans face new pressures such as rising housing costs, limited local job opportunities, and increasing climate risk. Through maintaining living shorelines, adapting boardwalk infrastructure, and activating community hubs, veteran stewardship becomes both a pathway to local employment and a mechanism for strengthening ecological resilience and social cohesion across the Jersey Shore.







DESIGN PRINCIPLES

- DESIGN FOR HEALTHY LIVING WITH WATER
- CONNECT COMMUNITIES WITH RESILIENT INFRASTRUCTURES
- HEAL PEOPLE AND PLACES TOGETHER
- FOSTER COMMUNITY AGENCY

By 2050, the Asbury Park-NWS Earle transect is restructured as a continuous resilience landscape, where flood-prone creeks are transformed into hybrid marsh-parkland systems connecting protected forests to the Shark River and the Atlantic coast. Strategically located military affiliated community hubs and townships aligned with veteran populations and U.S. military land anchor social infrastructure within vulnerable zones. Trails and adaptive resilience strategies stitch together fragmented landscapes, enabling ecological continuity, community connection, and long-term flood readiness across the transect.



PHASE1 2030  
FORTIFY THE COAST



PHASE 2A 2035  
BUILD LIVING SHORELINES



PHASE 2B 2035  
RESTORE INLETS



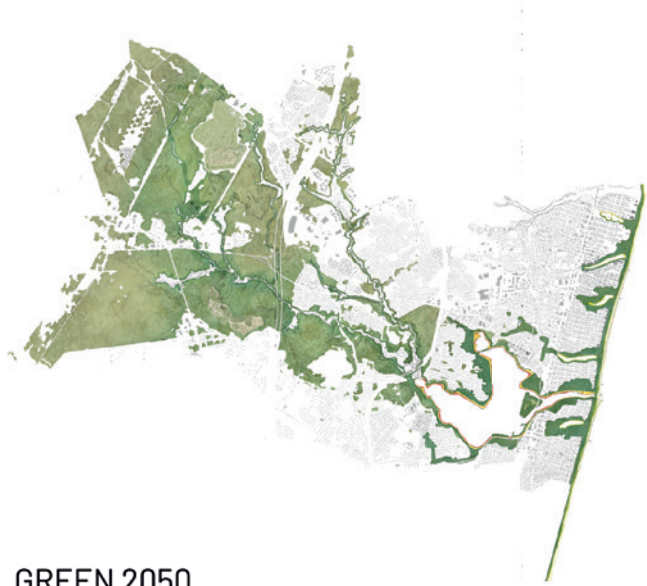
PHASE 3A 2050  
CONNECT FRAGMENTED LANDS



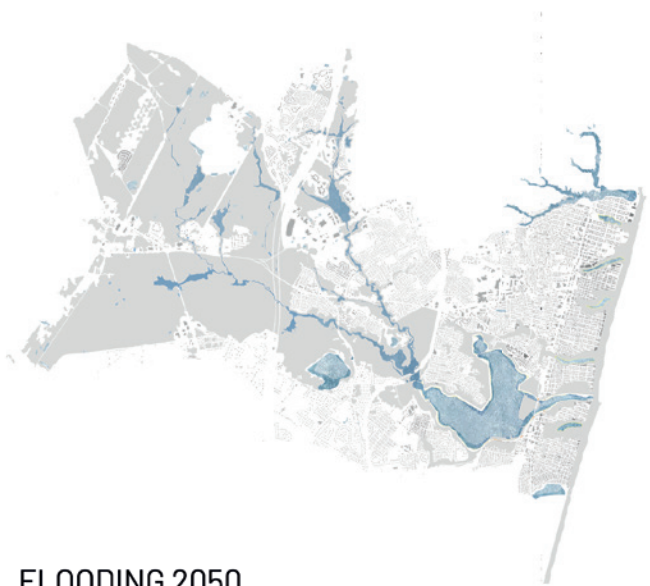
PHASE 3B 2050  
ESTABLISH COMMUNITY HUBS



The transformation of the transect is illustrated through a series of phased plans. Beginning with coastal fortification, the project progresses toward restoring softer edges along inlets and ultimately establishing a network of community hubs, unfolding across key milestones in 2030, 2035, and 2050. Complementary diagrams overlay the final 2050 condition to reveal the expanded green landscape, emergent flood-driven streams and rivers, enhanced connectivity networks, and the strategic distribution of community hubs—together illustrating a coordinated ecological and social framework for long-term coastal resilience.



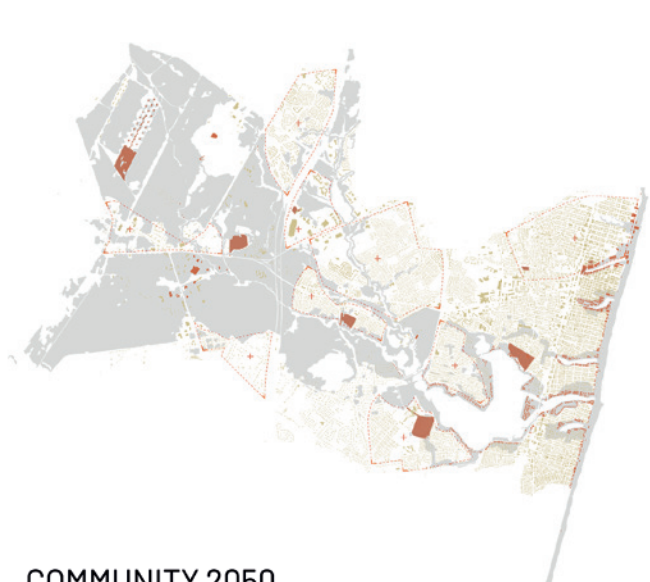
GREEN 2050



FLOODING 2050



CONNECTIVITY 2050



COMMUNITY 2050



# Moving Riverward

## POINT PLEASANT, BRICK, LAKEWOOD NEW JERSEY

### TEAM

- / Gracia Ignatius
- / Jianing (Cecily) Tang
- / Yangjing Cheng
- / Vera Leon



POINT PLEASANT

For decades, the Metedeconk River has been treated as a forgotten backyard—polluted in Lakewood, privatized in Brick, and overburdened by commercial infrastructure and flood vulnerability in Point Pleasant—fracturing ecological systems and social ties.

This project proposes a fundamental reorientation, transforming the river into a shared public front door. Guided by principles of living waters, inclusive access, connective infrastructure, and place-based resilience, we dissolve hard boundaries between town and river, democratize the waterfront, and weave blue, green, and gray mobility networks. New mixed-income centers anchor growth, address housing and climate risk, and reconnect communities to their greatest natural asset.

### Video Link



BRICK - DENSIFIED CITY CENTER



LAKEWOOD - GREEN HIKING TRAIL





MASTERPLAN



LAKEWOOD WATERFRONT



LAKEWOOD PLAZA



HIKING TRAIL



BRICK BOARDWALK



FLOATING HOUSES



YEAR-ROUND BOARDWALK



LIVING SHORELINE

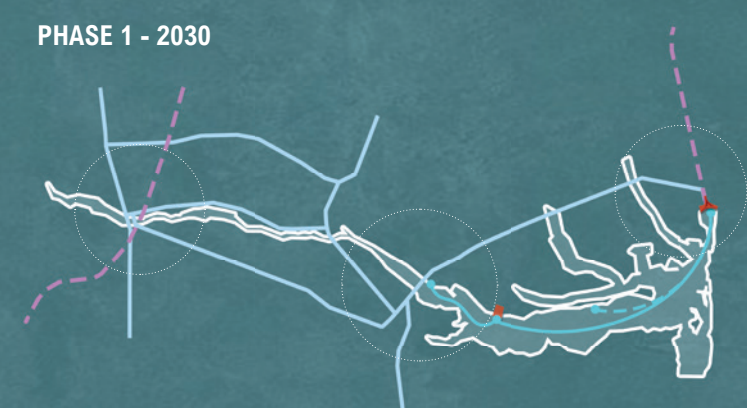
**Phase 1 (2030)** addresses the immediate need for regional connectivity by activating a comprehensive multi-modal transportation system. Building upon this foundation.

**Phase 2 (2040)** anticipates population growth by developing a City Center in Brick and inaugurating ferry routes between Brick and Point Pleasant, solidifying the “Public Front Door.”

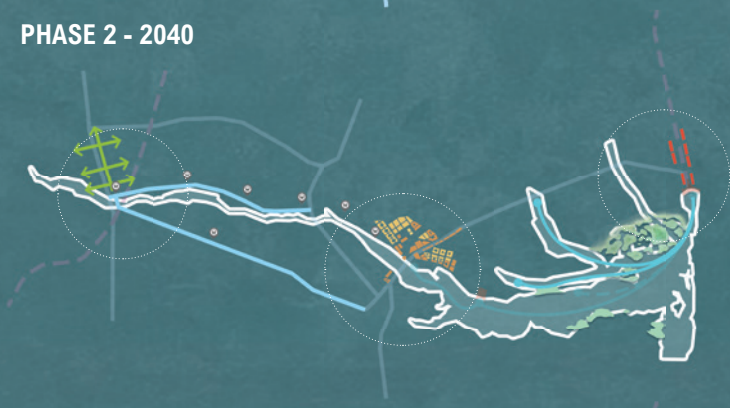
**Phase 3 (2050)** is strategically timed to utilize the opportunity presented by a hypothetical major climate event (e.g., Hurricane Cecily) to implement large-scale resilience measures, including a resilient housing adaptation program, extensive dune restoration, and the activation of a riverfront boardwalk.

**Phase 4 (2060)** represents the full realization of the project, establishing a new commercial corridor and riverwalk in Brick, completing a hiking trail to Lakewood, and constructing the emblematic Brick Bridge Terminal, an infrastructural and affordable housing hub.

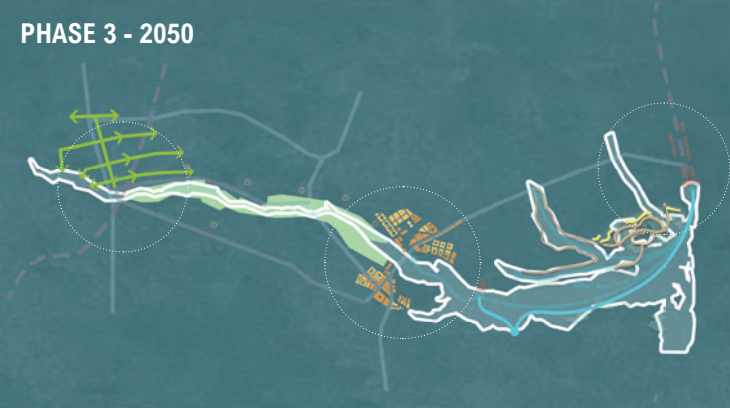
PHASE 1 - 2030



PHASE 2 - 2040



PHASE 3 - 2050

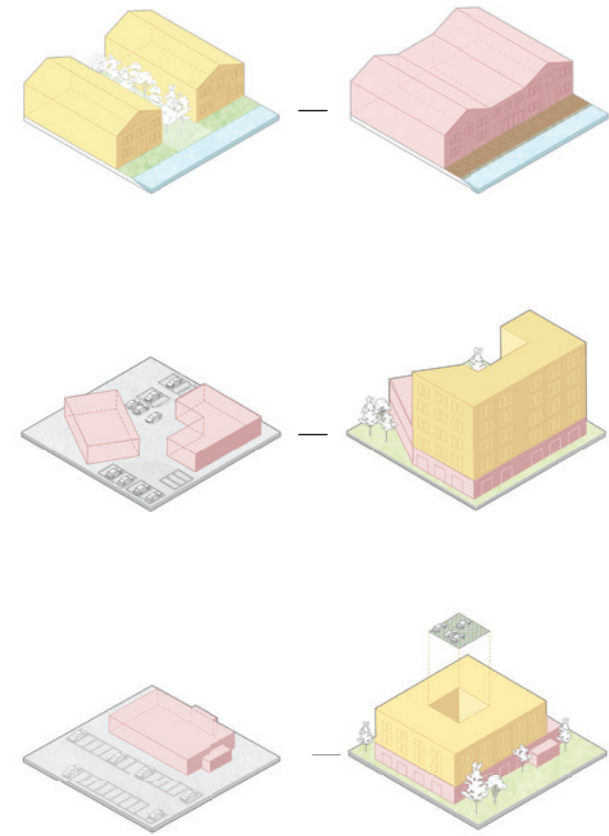


PHASE 4 - 2060





EXISTING TYPOLOGIES    PROPOSED ADAPTATION



PRINCIPLES

**Creating Fluid Boundaries & Living Waters:** This principle centers on ecological restoration. By integrating local ecology and restoring the aquatic habitat, the design aims to revitalize the river’s biological health, enhancing the overall resilience of the watershed ecosystem.

**The Public Front Door:** This addresses issues of accessibility and connectivity. The goal is to transform the waterfront from a neglected boundary into a shared, inclusive, and highly accessible public space.

**Forge the Connecting Spine:** This is an infrastructural imperative focused on regional integration. By weaving the three municipalities together through a comprehensive multi-modal transportation network, the project aims to create a central connecting spine.

**Cultivate Place-Based Resilience:** This principle focuses on socio-economic durability. It seeks to celebrate and highlight the distinct local cultures and communities within each town while simultaneously addressing critical regional needs, most notably the persistent demand for diverse and affordable housing options.

POINT PLEASANT RAISED DUNE SECTION



BRICK COMMUNAL BOARDWALK SECTION



BRICK CITY CENTER & BRIDGE SECTION



POINT PLEASANT COMMERCIAL CORRIDOR

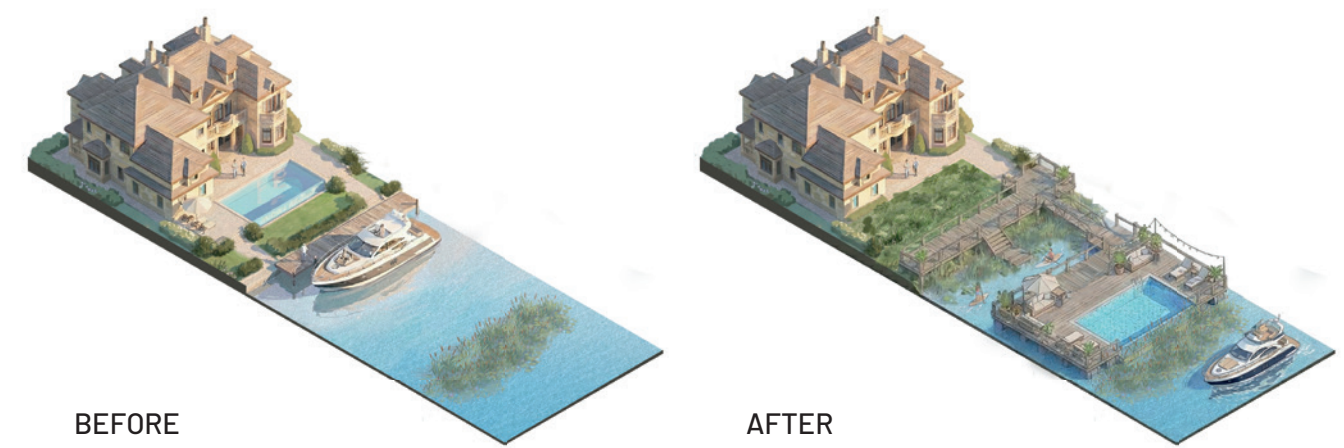


POINT PLEASANT TRANSIT - ORIENTED DEVELOPMENT





BRICK NEIGHBORHOOD - SHARED BOARDWALK & FACILITIES



Here, instead of each household maintaining its own private swimming pool—which pushes backyards away from ecological resilience and diminishes the vitality of the riverfront—we propose a system of shared boardwalks and floating water-based facilities. This approach allows the land to remain ecologically productive while creating an open, collective riverfront where people can share leisure and everyday enjoyment together.

At the same time, this vision opens up new opportunities for the many families in the area who already own yachts. We imagine using yachts as a form of water-based mobility to replace part of the existing Uber traffic, easing pressure on roads while fostering a way of life that is more closely intertwined with ecology, water, and the riverfront itself.



FERRY TERMINAL



POINT PLEASANT BLUE CRAB & OYSTER





# Searching for New Resilient Landscapes of Joy

## TOMS RIVER, NEW JERSEY

### TEAM

/ Jennie J. Zhou  
/ Yuchen Zhang  
/ Atharv Bhole  
/ Tianyi Dai

Seaside Heights is a popular coastal destination known both for its vibrant boardwalk and its nightlife scene as documented in MTV's iconic reality show, Jersey Shore. Yet beneath this familiar image lies a region increasingly defined by vulnerability, from rising seas to intensifying storms. Together with Toms River, the neighboring township across the Barnegat Bay, the two form a landscape shaped by intersecting forces: seasonal tourism, party, suburban expansion, and coastal flood risks.

This project investigates how joy, play, and resilience can coexist across Seaside Heights and Toms River. By viewing the region as a landscape of joy, the project reimagines how urban design and place-making can utilize our desires for fun to advance ecological resiliency and revive suburban towns.

The final design creates a distributed geography of playspaces that relieves tourism pressure on Seaside Heights by dispersing pockets of joy, while still honoring the party culture that the region embodies.



TOMS RIVER

### Video Link







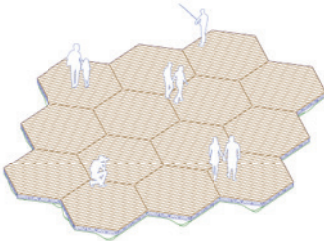
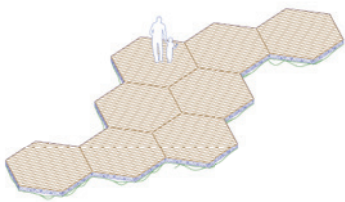
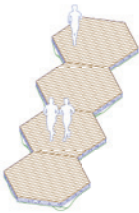
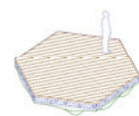
# REIMAGINED PLAYScape OF SEASIDE HEIGHTS



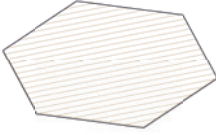
MULTI-USE TUNNEL running through natural sand dune:

- DAYTIME: direct access to the elevated Seaside Heights boardwalk, amusement park, and beach.
- NIGHTTIME: event and party space for concerts and raves.

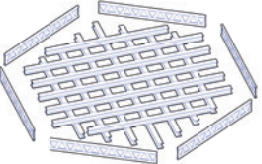
## WAVE ATTENUATOR CONFIGURATIONS



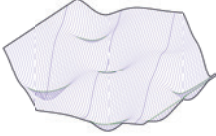
## MODULAR ATTENUATOR DESIGN



TOP SURFACE: wooden decking

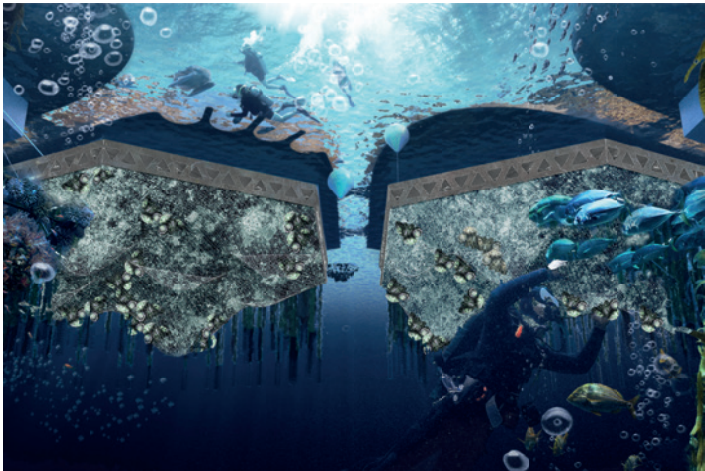


STRUCTURE: aluminum connectors



SUBMERGED SURFACE: for oyster reef growth

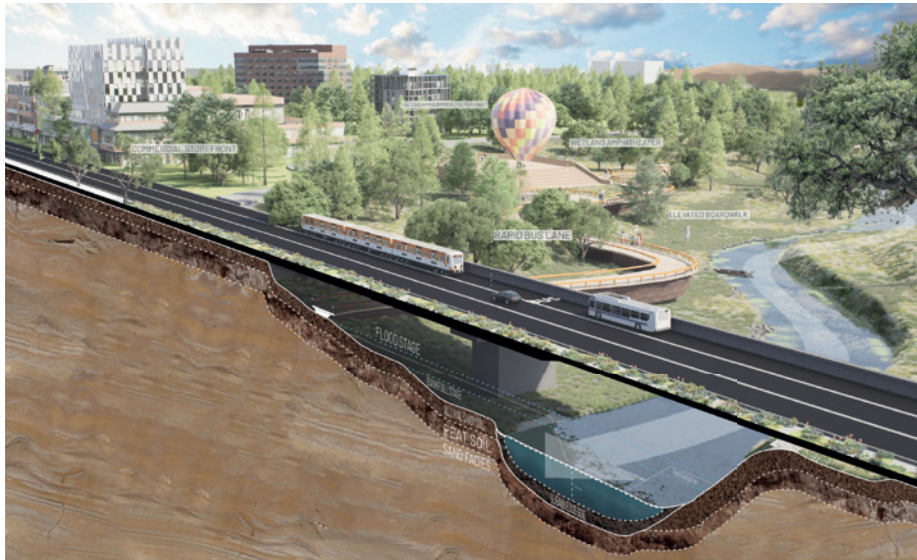
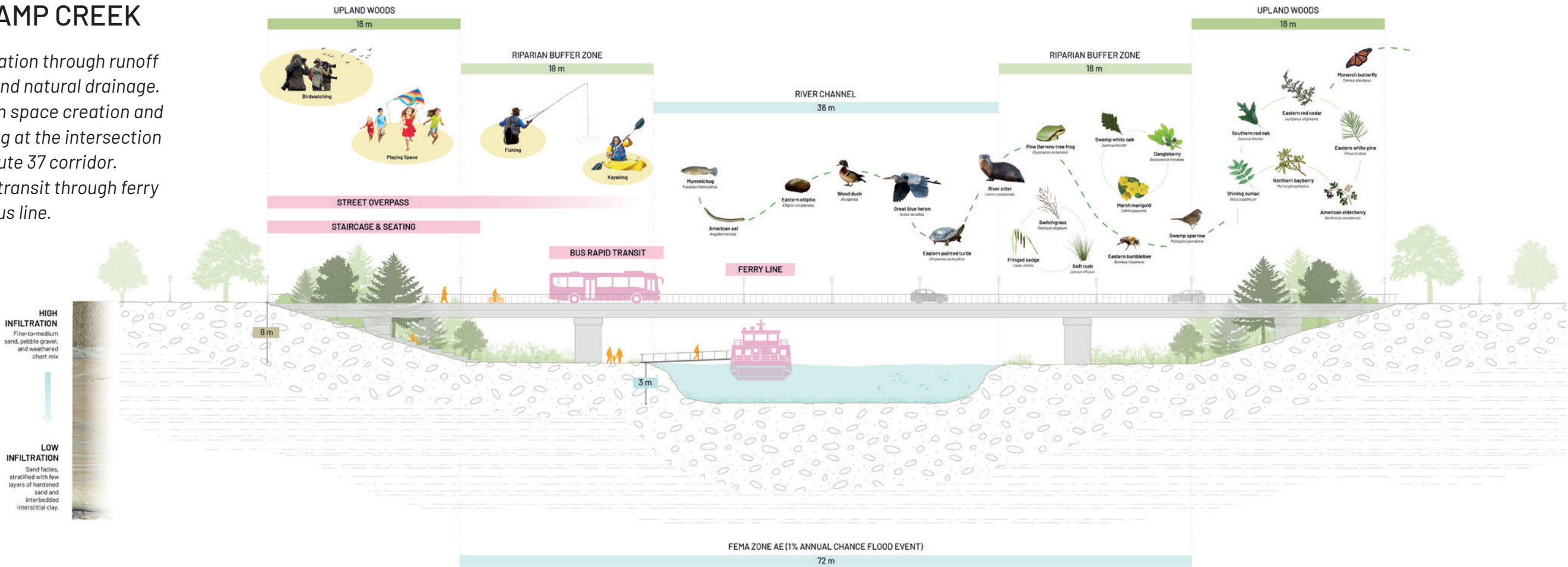
## ACTIVATING THE THOMAS A. MATHIS BRIDGE AS A FLOATING PARTY





# DAYLIGHTING THE LONG SWAMP CREEK

- Flood mitigation through runoff collection and natural drainage.
- Public green space creation and placemaking at the intersection with the Route 37 corridor.
- Diversified transit through ferry and rapid bus line.

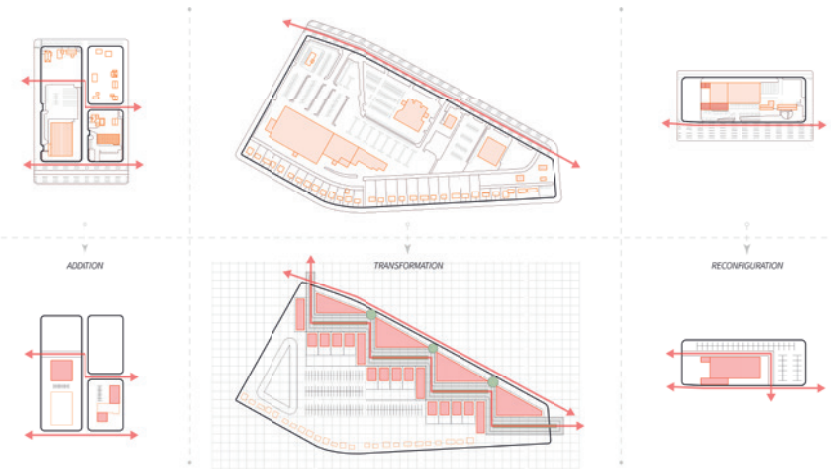




ROUTE 37 COMMERCIAL AND TRANSIT CORRIDOR

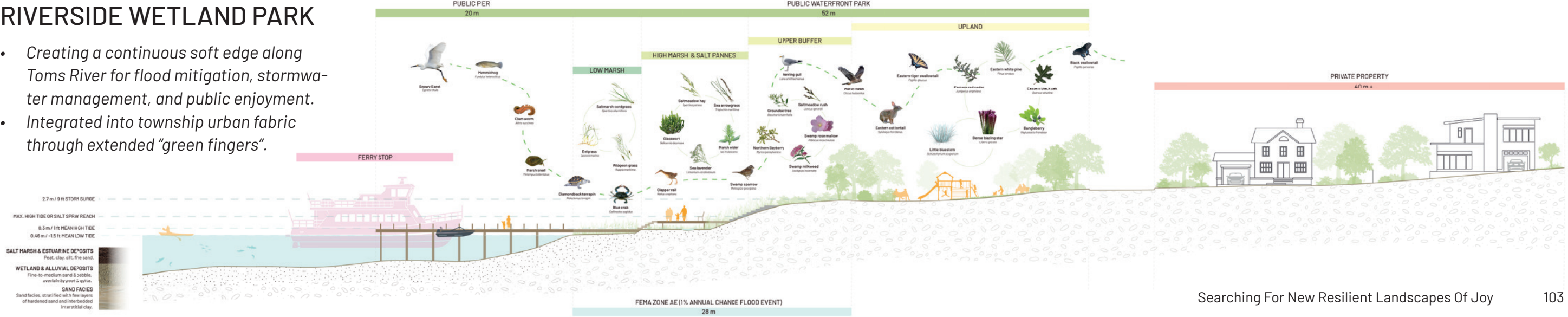


SUBURBAN BLOCK TYPOLOGY TRANSFORMATIONS



RIVERSIDE WETLAND PARK

- Creating a continuous soft edge along Toms River for flood mitigation, stormwater management, and public enjoyment.
- Integrated into township urban fabric through extended “green fingers”.





# The Hearth Barren

PINE BARRENS,  
NEW JERSEY

TEAM

- / Eric Lin
- / Xire Sangpei
- / Inhoo Seo
- / Megan Chen



PINE BARRENS

The Pine Barrens is a unique ecosystem nested in the heart of New Jersey. The local piney people have lived in the area for years, developing a unique culture and economy dependent on the ecology. Towards the coast, baypeople thrive cultivating oysters and navigating the streams of water. Once believed as separate communities, pineys and baypeople are one of the same, migrating across the landscape and the seasons.

By 2050, a naturally forming coastal inlet begins to reshape the shoreline. Our proposal embraces it, leveraging the inlet to improve tidal flushing and establish a new ecological exchange corridor between the bay and the forested interior. The future of the Pine Barrens will be determined by its ability to adapt to accelerating environmental pressures of sea-level rise, fire risk, habitat fragmentation, and growing warehouse development along the highway.

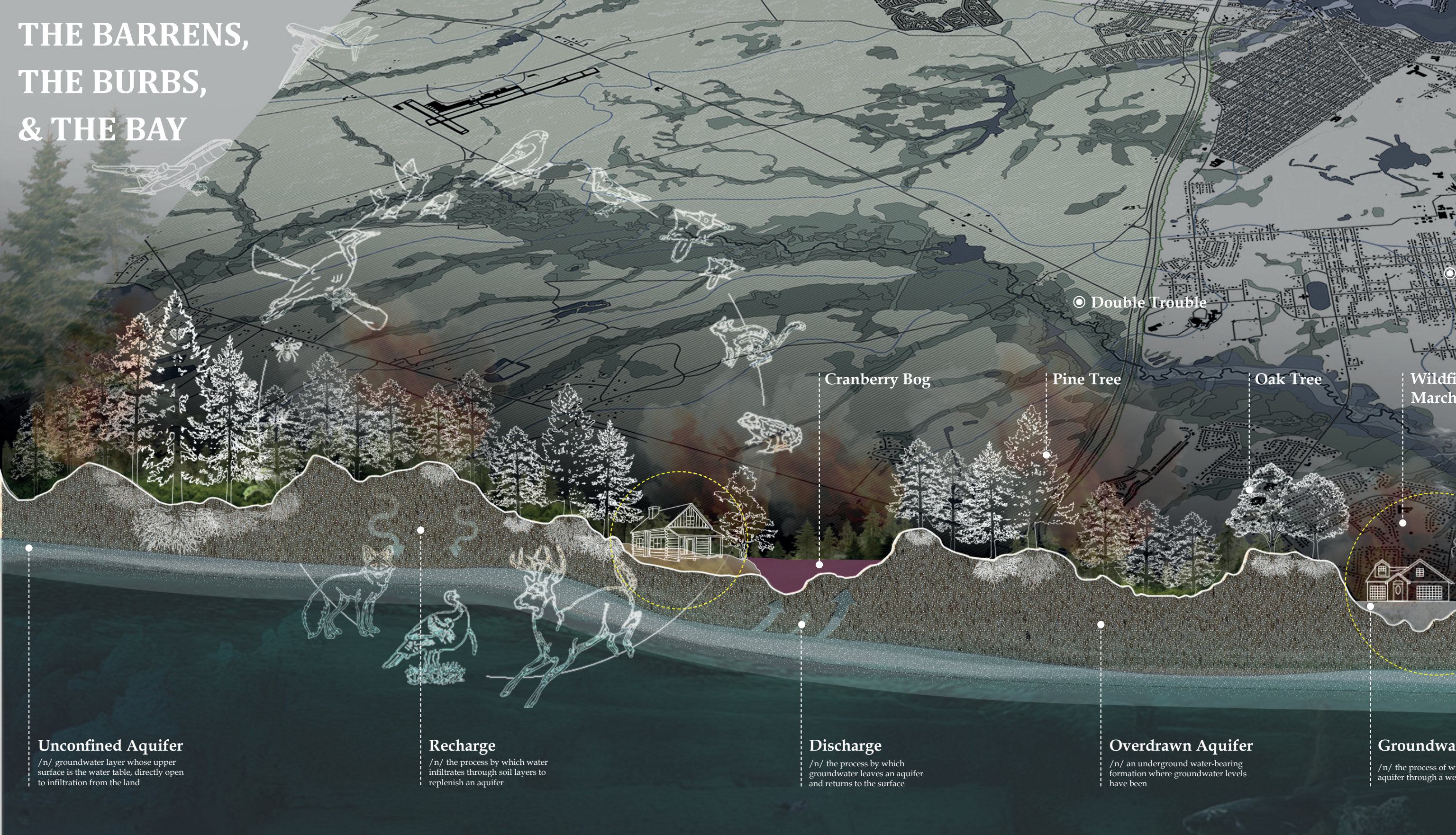
The Hearth Barren envisions a future of reconnected ecologies, productive infrastructures, and adaptive settlement patterns that transforms the Pine Barrens into a regenerative landscape while continuing to sustain the communities that depend on it. The proposal ultimately reframes the territory as a model for how coastal forests, working lands, and logistics regions can transition toward a climate-adaptive future without losing their cultural identity or ecological depth.

Video Link





# THE BARRENS, THE BURBS, & THE BAY



## Unconfined Aquifer

/n/ groundwater layer whose upper surface is the water table, directly open to infiltration from the land

## Recharge

/n/ the process by which water infiltrates through soil layers to replenish an aquifer

## Discharge

/n/ the process by which groundwater leaves an aquifer and returns to the surface

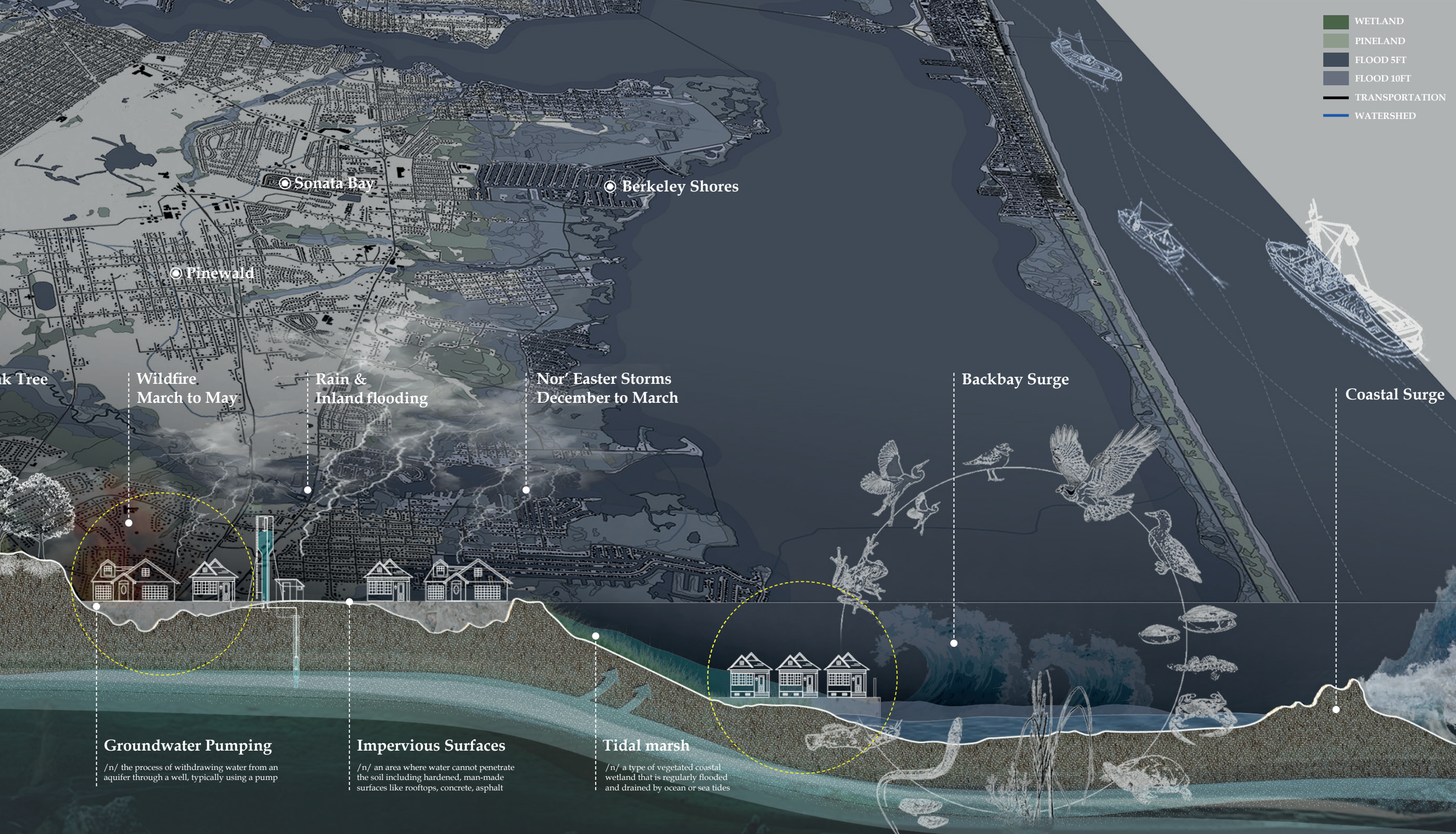
## Overdrawn Aquifer

/n/ an underground water-bearing formation where groundwater levels have been

## Groundwater

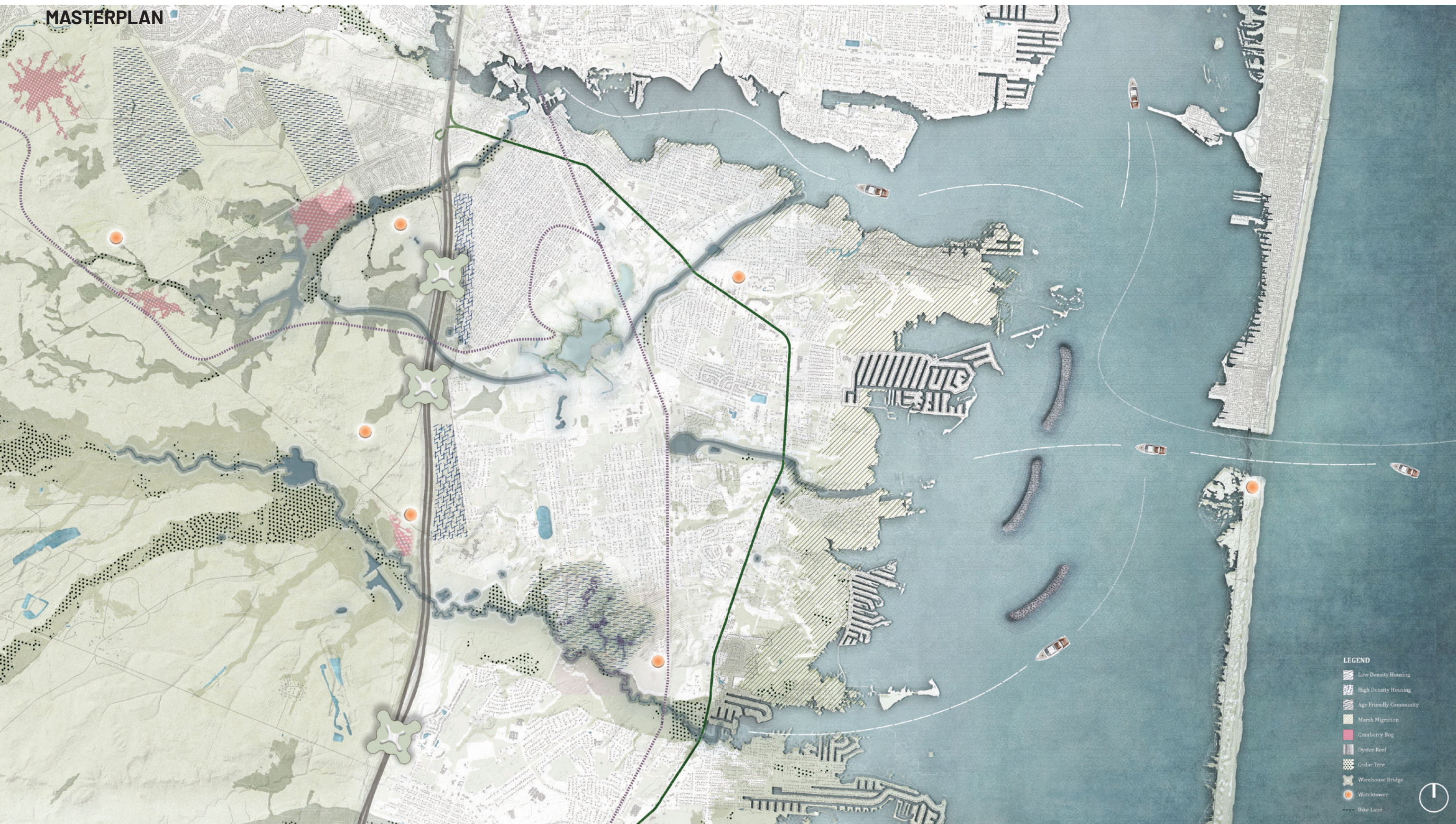
/n/ the process of water moving through an aquifer through a well







# MASTERPLAN



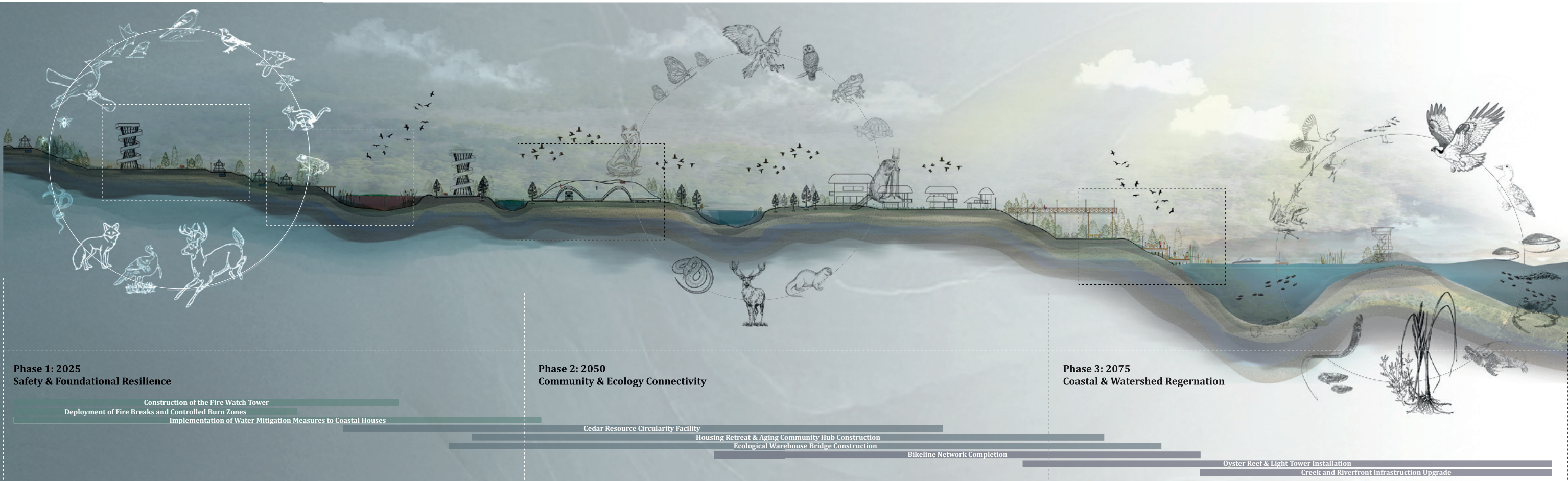
- LEGEND
- Low Density Housing
  - High Density Housing
  - Age Friendly Community
  - Marsh Migration
  - Cranberry Bog
  - Dyster Reef
  - Cedar Tree
  - Warehouse Bridge
  - Watchtower
  - Bike Lane



MATERIAL CYCLE



SECTION & PHASES









# LONG ISLAND

## FREEPORT

Remilekun Omoleye, Yijing Xiao

## LEVITTOWN

Vritti Bhamri, Aljoharah Turki Althynayan, Vidhi Trivedi

## BELLMORE

Zehra Zaheer, Giovanna Luz Moreira, Tianyi Shi

## LONG BEACH

Aishwarya Warad, Xiaonan Li, Zhouhang Yu, Dzormo Naa Cofie

## BABYLON

Daniela Monroy Zendejas, Samantha Nowak, Mason Rape, Miguel Ángel Santivañez López

## LIRR

Yiting Li, Haoyang Chang, Ting Chu, Sunghwan Park

## RONKONKOMA

Rebecca Koh, Romina Quinn, Xinyue Wang, Yung-Hsiang Yang

## FIRE ISLAND

Deepanksha Gillakamsetty, Manuela Hurtado, Susana Chinchilla, Yi-Jou (Zoe) Lin

118

122

130

140

148

158

166

176





## FREEPORT, LONG ISLAND

/ Remilekun Omoleye  
/ Yijing Xiao

Today, the Meadowbrook Parkway and a cluster of big-box retail and a regional data center occupy the higher ground, while 400–600 mostly single-family homes sit inside the 2050 coastal flood zone. A buried tidal creek runs invisibly through the site, carrying water risk into people’s backyards.

Our proposal transforms this strip from a risk corridor into a Climate Corridor. We replace part of the parkway with a new light-rail spine that links Freeport station to Jones Beach, daylight the tidal creek into a chain of ponds and marsh terraces, and wrap the existing data center with housing and greenhouses that reuse its waste heat. Together, these moves connect regional energy and mobility infrastructure to local housing, landscape and everyday life.



## FREEPORT



## Video Link

**Wind Solar**

**Geothermal**

**Batteries**

**High Voltage Lines in Kilovolts (kV)**

- 765 kV
- 345 kV
- 345 kV
- 138 kV
- 69 kV
- 69 kV

**Solar Power on Public Buildings with SMIA Power Plants, and BODM**

- Control & or Proposed Solar Projects
- Solar Ready Public Buildings
- Red Solar Plants
- Power Plants (Total kW)
- 1,000,000 - 17,000,000
- 17,000,000 - 128,000,000
- 128,000,000 - 250,000,000
- 250,000,000 - 400,000,000
- 400,000,000 - 1,000,000,000

**Other Features:**

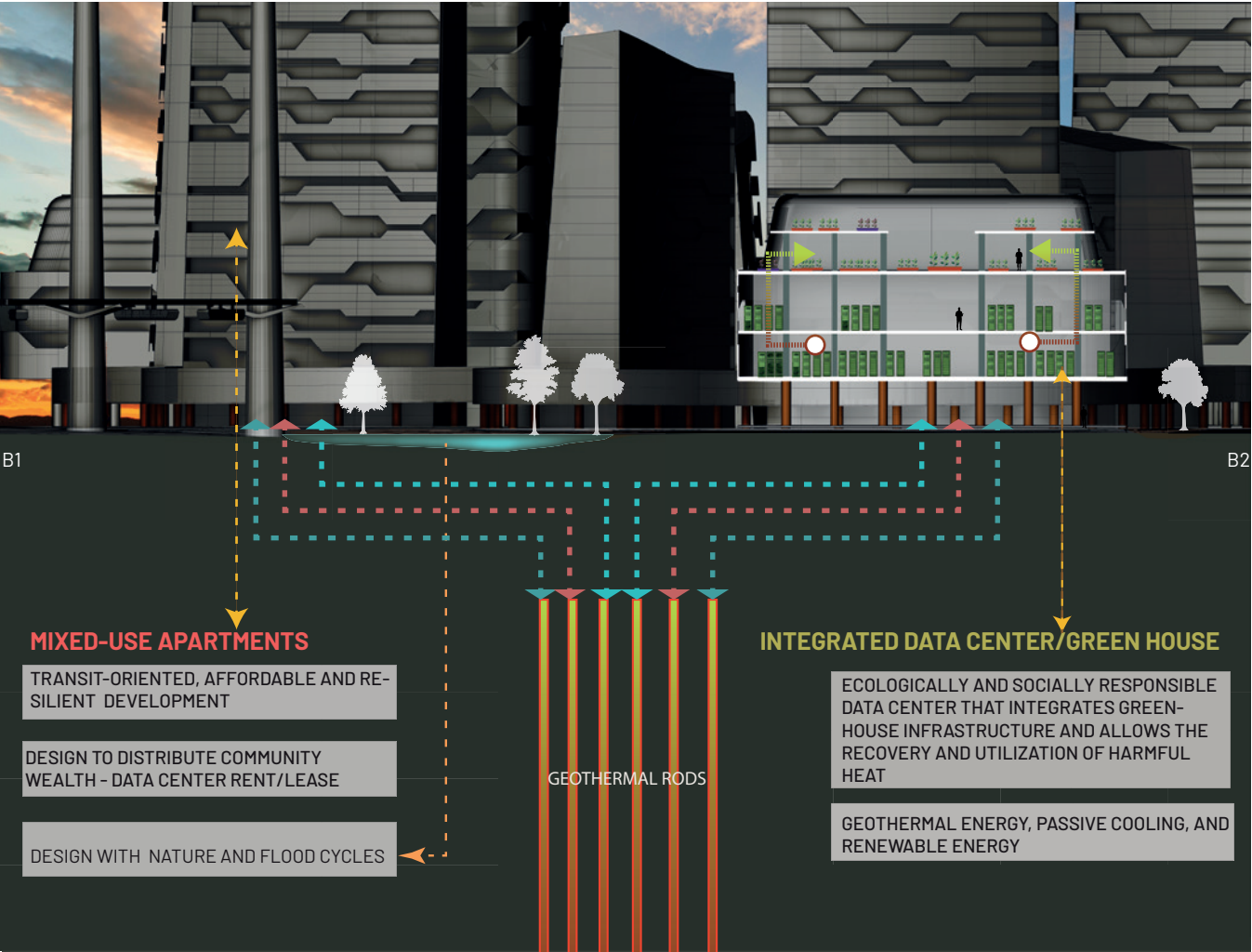
- Data Center
- Potential Environmental Justice Area
- Peaker Power Plants

The project sits on a higher ridge where the LIRR, parkways and regional data center already concentrate infrastructure. We relocate big-box retail and replace parking lots with mixed-use housing, parks and ponds, while a new light-rail line and a restored stream turn this ridge into a continuous corridor linking Freeport to the bay.





Design Principles



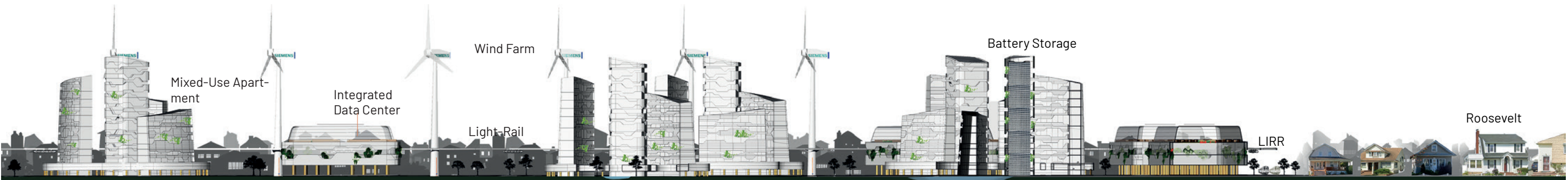
With Meadowbrook Parkway Removed, the Marsh and Stream Are Restored



The Meadowbrook Parkway, though vital to regional mobility, has long been a silent contributor to environmental decline. Vast asphalt surfaces prevent rainwater from seeping into the ground, increasing runoff and flooding. The dark pavement absorbs heat, amplifying the urban heat island effect. The dependence on personal vehicles powered by fossil fuels accelerates carbon emissions and global warming.

Section A1-A2:Renewable Corridor – Urban Elevation

The section compares today’s LIRR line and surrounding low-rise houses with our proposed climate corridor: a light-rail viaduct, wind turbines, energy towers with mixed-use programs, integrated data centers with greenhouse podiums, and water-retention basins forming a new landscape between the rail and the neighborhood.



A1

Catchment Basin

Anticipating The Data Ridge - Creek, Rail And Housing



# Unfenced: The New Recipe

## LEVITTOWN TO JONES BEACH, LONG ISLAND

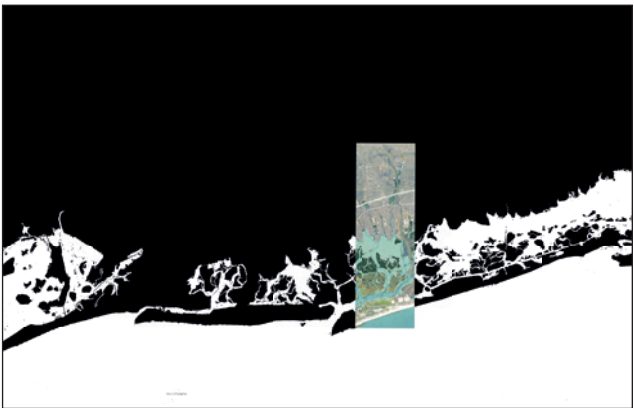
### TEAM

/ Vritti Bhamri  
/ Aljoharah Turki Althynayan  
/ Vidhi Trivedi

The New Recipe reimagines Levittown as a place where fences fall, trust returns, and everyday spaces become shared ground. School lawns turn into welcoming community commons where people gather, learn, and celebrate. Streets become walkable, shaded, and safe, helped by small electric AI pods that make movement easy for kids, seniors, and families.

Backyards, once closed off and isolated, open up to become shared places of life: artist workshops, community gardens, backyard pool decks, and small gathering spaces that bring neighbours together in simple, joyful ways. Through a community land trust, new homes can grow gently in underused spaces using two housing typologies: customizable prefabricated co-living homes, and accessory dwelling units added to existing suburban houses. This approach allows long-time residents to remain in their neighbourhoods while welcoming new families with affordable places to live.

At the coast, a resilient market reconnects people to the water and to one another. Together, these pieces form a new recipe for suburbia open spaces, shared care, and mutual trust creating a neighbourhood where people feel connected, supported, and truly at home with each other.



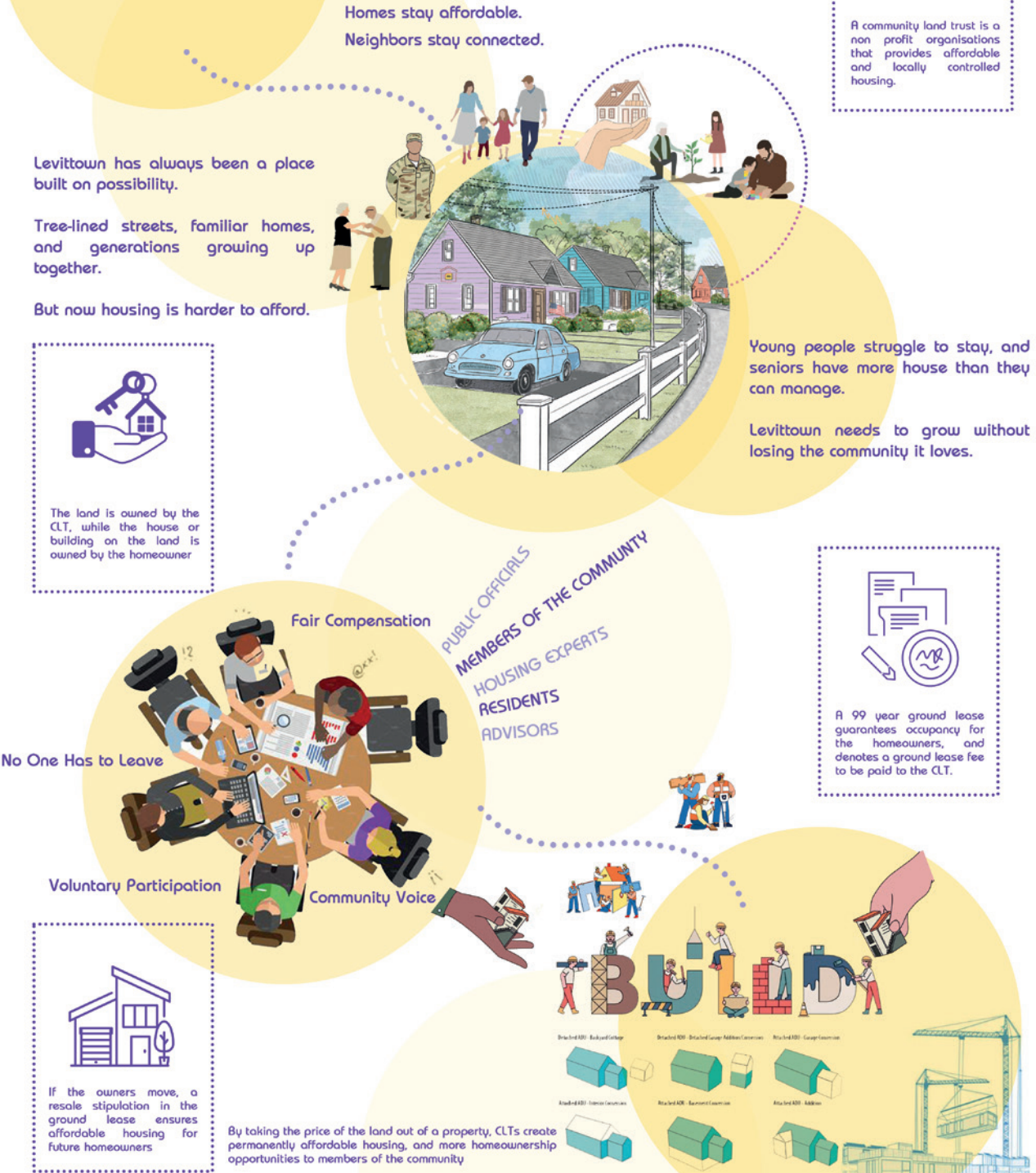
LEVITTOWN

### Video Link

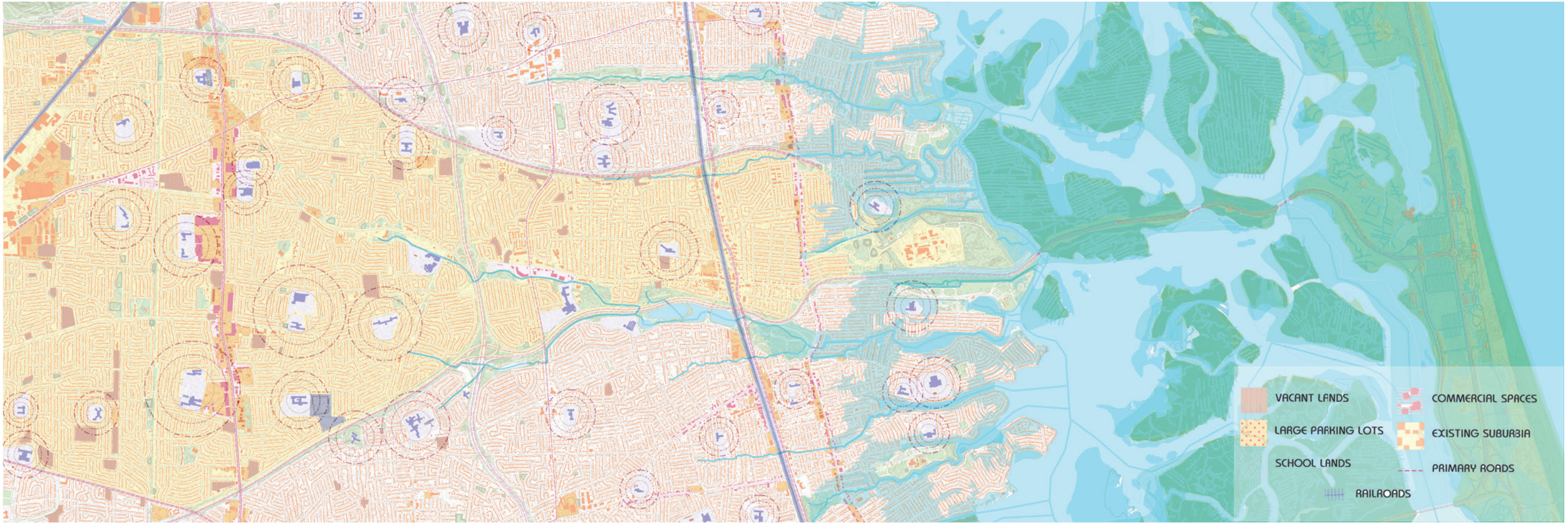


### COMMUNITY LAND TRUST GROWTH WITHOUT DISPLACEMENT

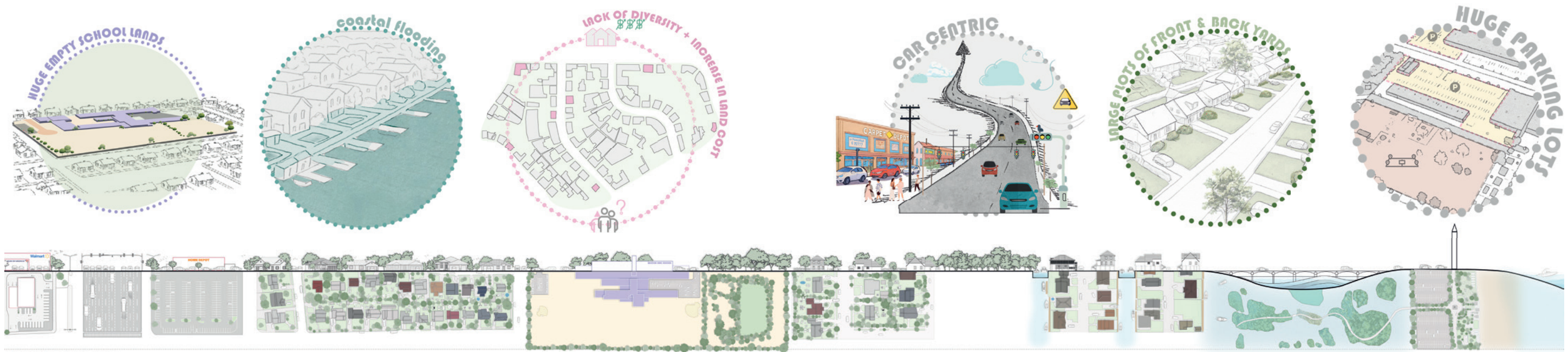
## UNFENCED: THE NEW RECIPE







MASTER PLAN



ALJAHRAH ALTHAWAN - VRIITI - VIDHI



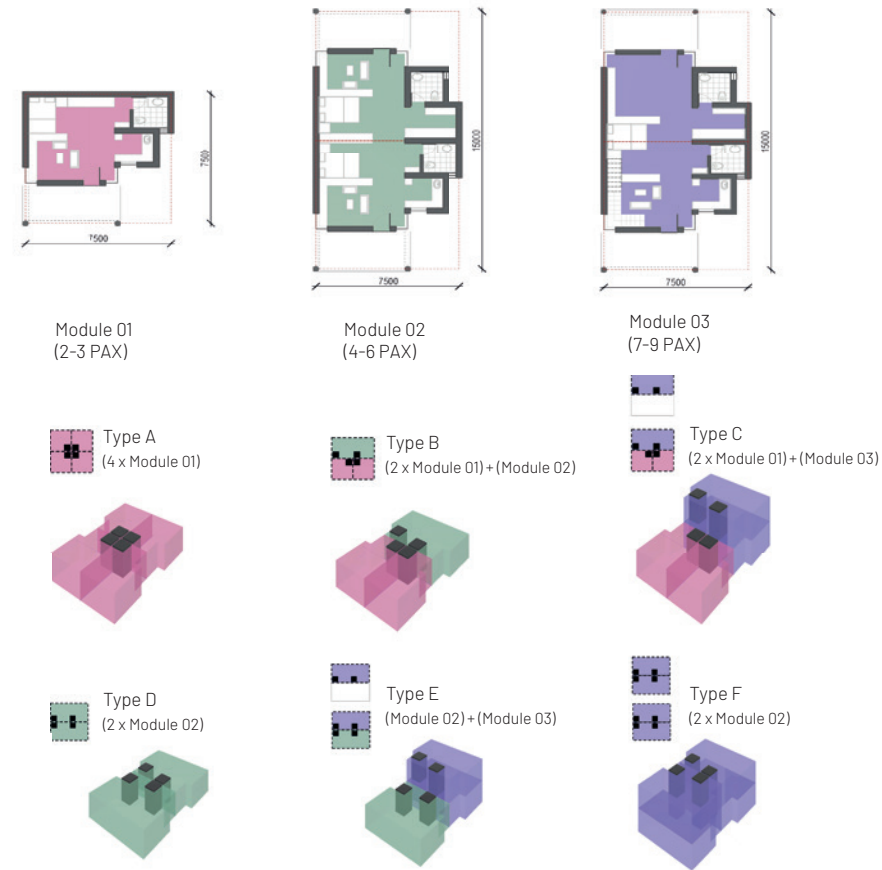


THE 15-MINUTE NEIGHBOURHOOD

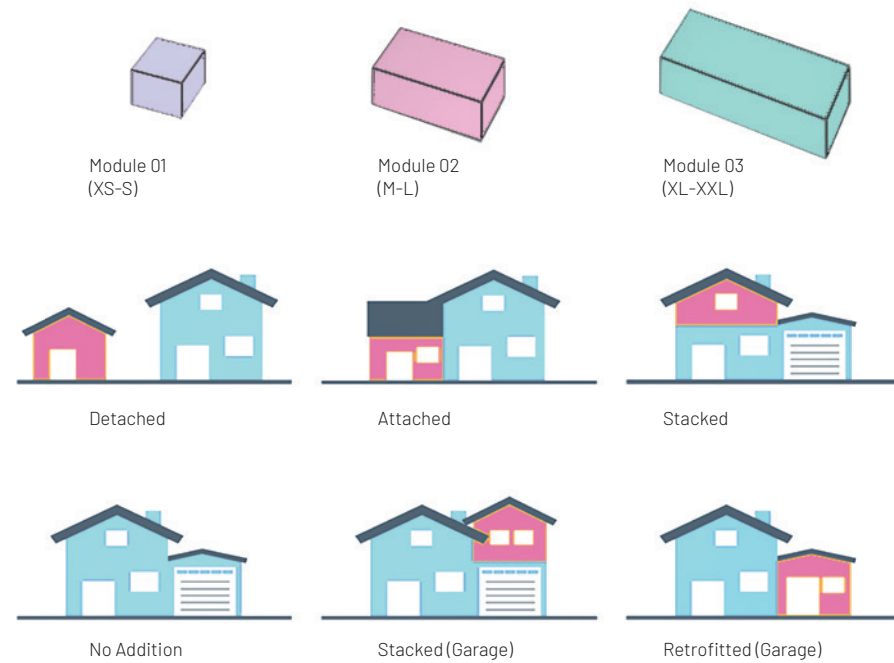


RUOHARAH ALTHUNAYAN - VRIITI - VIDHI





## CO-HOUSING MODULES



## PRE-FABRICATED ADU



## DESIGN STRATEGIES



# Living With Water

## LEVITTOWN TO BELLMORE, LONG ISLAND

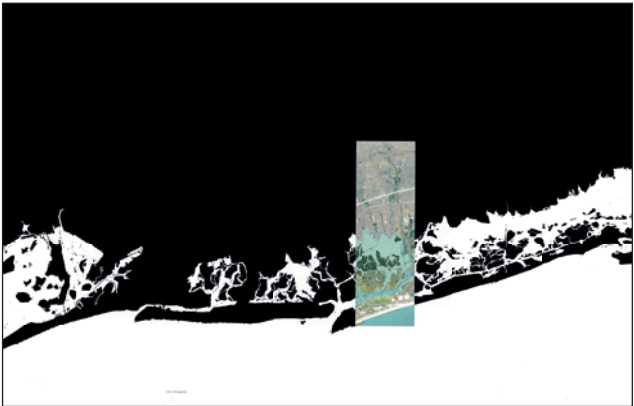
### TEAM

/ Zehra Zaheer  
/ Giovanna Luz Moreira  
/ Tianyi Shi

This project begins with a simple belief: that places shaped with love can shape people who care for each other, for nature, and for the generations that follow. This project is a commitment to care for the land and the water that have cared for us. For decades, the region's streams, marshes, and shorelines carried the memories of the people who lived there children playing near creeks, families sharing meals by the water, elders watching the tides rise and fall. But as development overtook the landscape, these natural rhythms were forgotten.

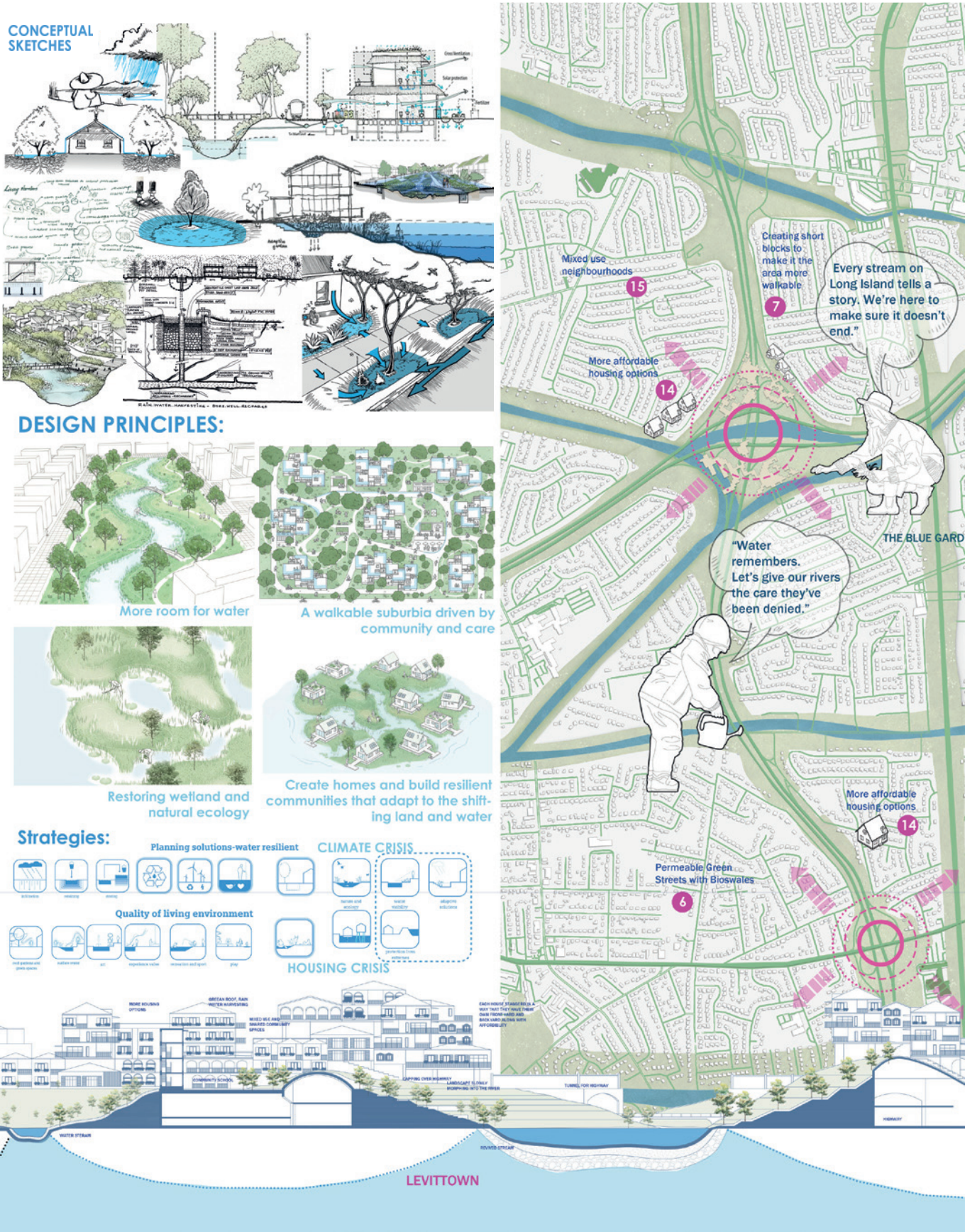
The land grew tired and water had no place to go. Communities slowly drifted apart.

This project is an act of compassion toward that forgotten landscape and an act of love towards the people who call it home. By reviving historic streams and restoring tidal marshes, we are returning care to the land, acknowledging that nature has its own needs, its own stories. We make room for water not out of fear, but out of respect for its memory, its power, and its quiet wisdom.

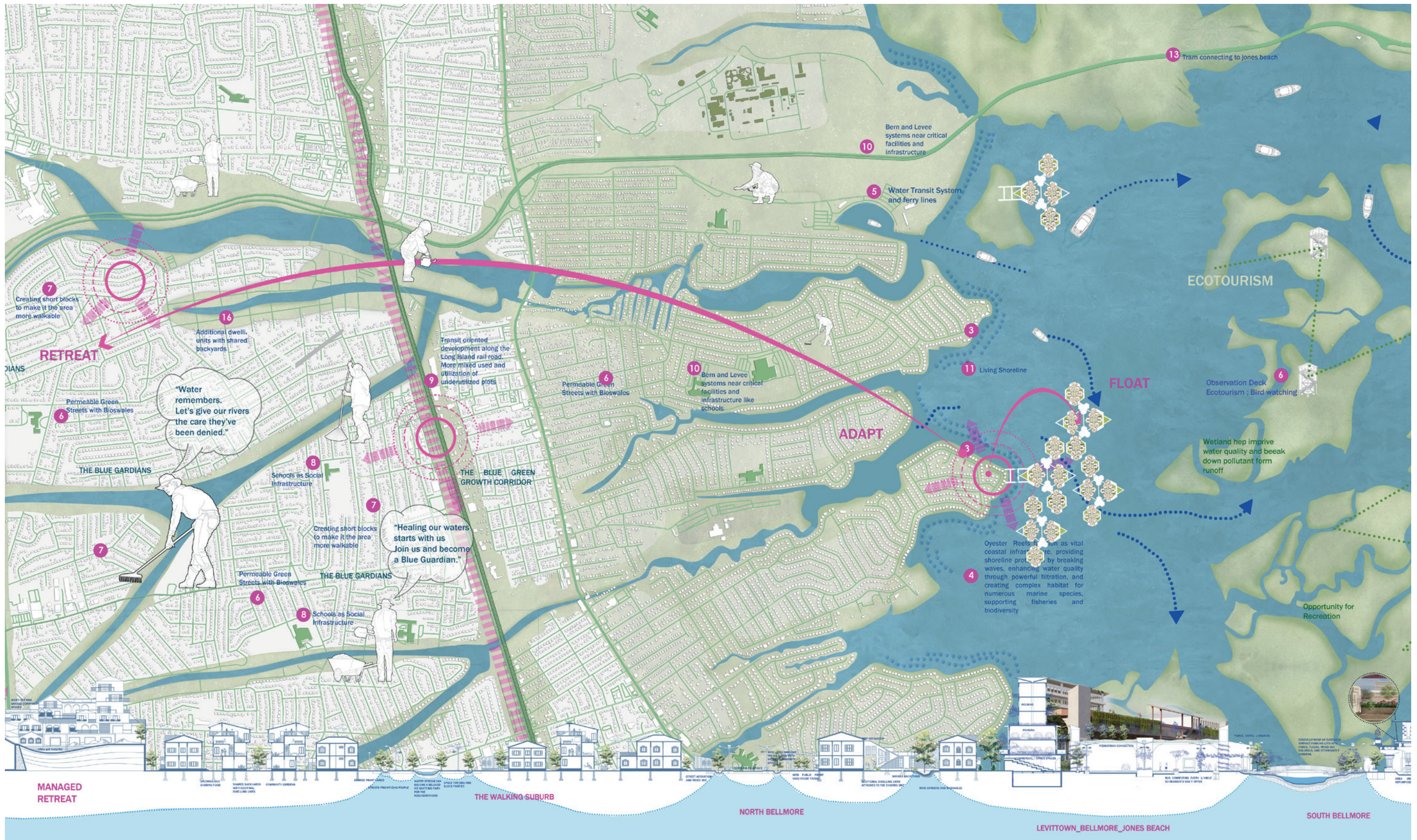


BELLMORE

### Video Link















AN ELEVATED COASTAL NEIGHBORHOOD WHERE RESILIENCE, SHARED COMMUNITY SPACES, AND BOARDWALKS ENABLE EVERYDAY LIFE WITH WATER.



NEIGHBORHOOD SCALE ADDITIONAL DWELLING UNITS WITH BACKYARDS AS SHARED SPACE OF FOOD FRIENDSHIP , AND BELONGING



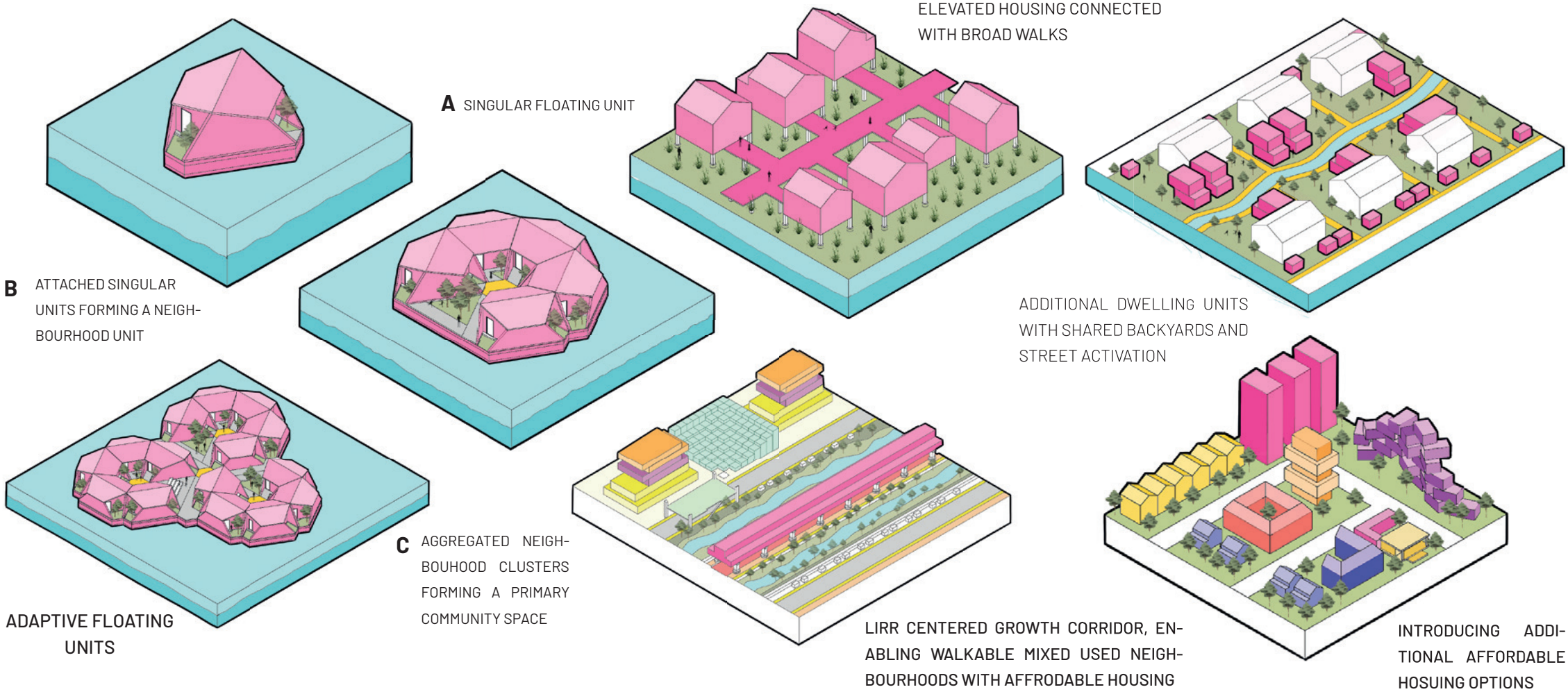
VIEW OF AFFORDABLE HOUSING, REIMAGINING THE HIGHWAY CORRIDOR AS A GREEN, PEOPLE-CENTERED NEIGHBORHOOD WITH SHARED TERRACES AND COMMUNITY SPACES SUPPORTIN EVERYDAY LIFE, BLOCK PARTIES, AND COLLECTIVE JOY.



"SOMETHING THERE IS THAT DOESN'T LOVE A LOVE ", A NEW SURBIA WHERE NATURE DISSOLVES THOSE RIGID WALLS BETWEEN NEIGHBOURS.

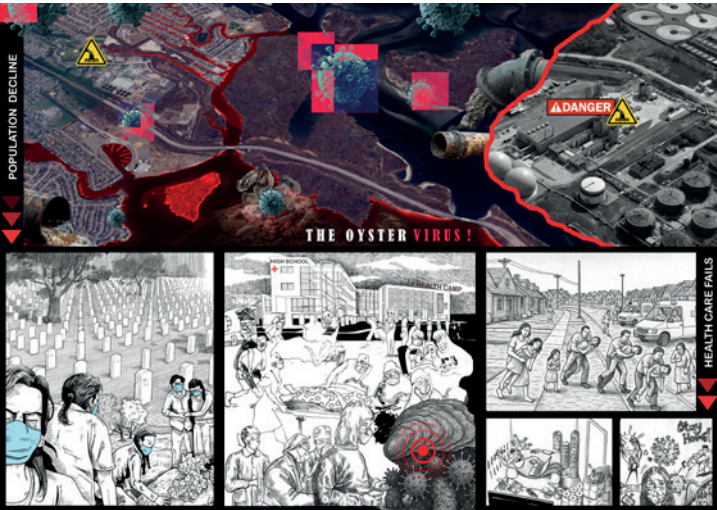


RESILIENT ADAPTIVE STRATEGIES FROM THE BAY TO UPLAND

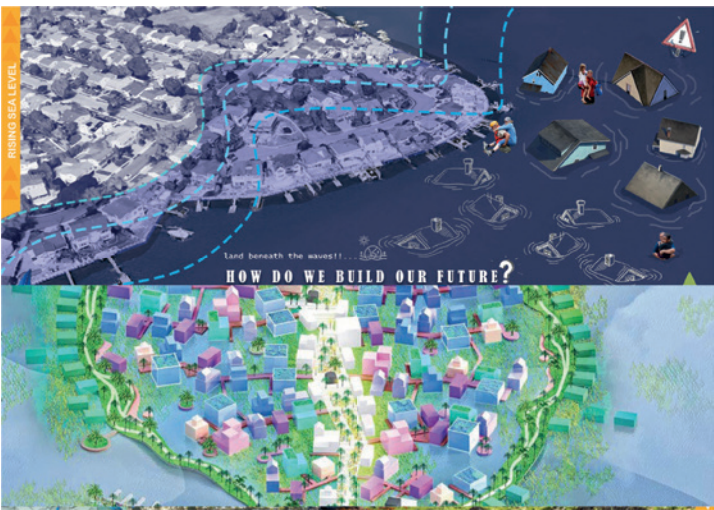


MODEL

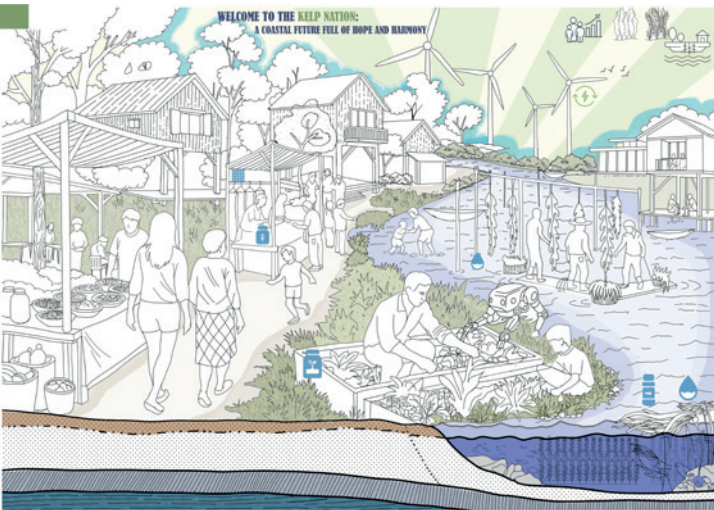
FUTURE SCENARIOS



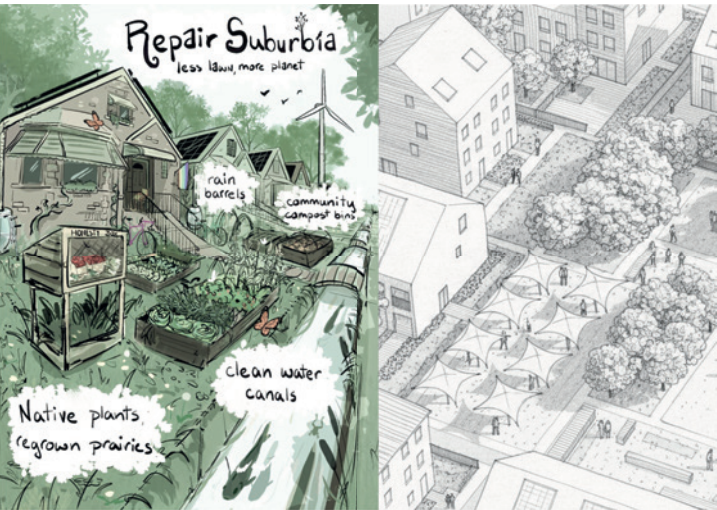
THE SPREAD OF OYESTERVIRUS  
(WATER CONTAMINATION +PUBLIC HEALTH)



RIISING SEAS: WATER SUBURBIA RISES FROM THE WATER  
LIKE A RESILIENT ARCHIPELAGO



THE KELP NATION (RESILIENT COASTLINE+EDUCATION)



A RENEWED SUBURBIA, LIBERATED FROM CARS AND RE-CLAIMED BY NATURE



# Long(er) Beach:

## An Energy Resilient Sandscape

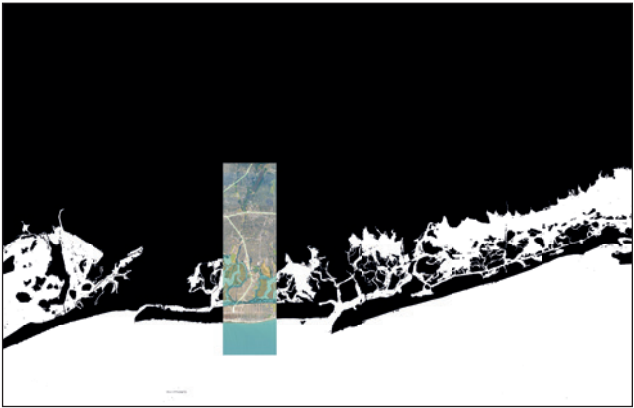
### LONG BEACH TO ROCKVILLE CENTER, LONG ISLAND

#### TEAM

/ Aishwarya Warad  
/ Xiaonan Li  
/ Zhouhang Yu  
/ Dzormo Naa Cofie

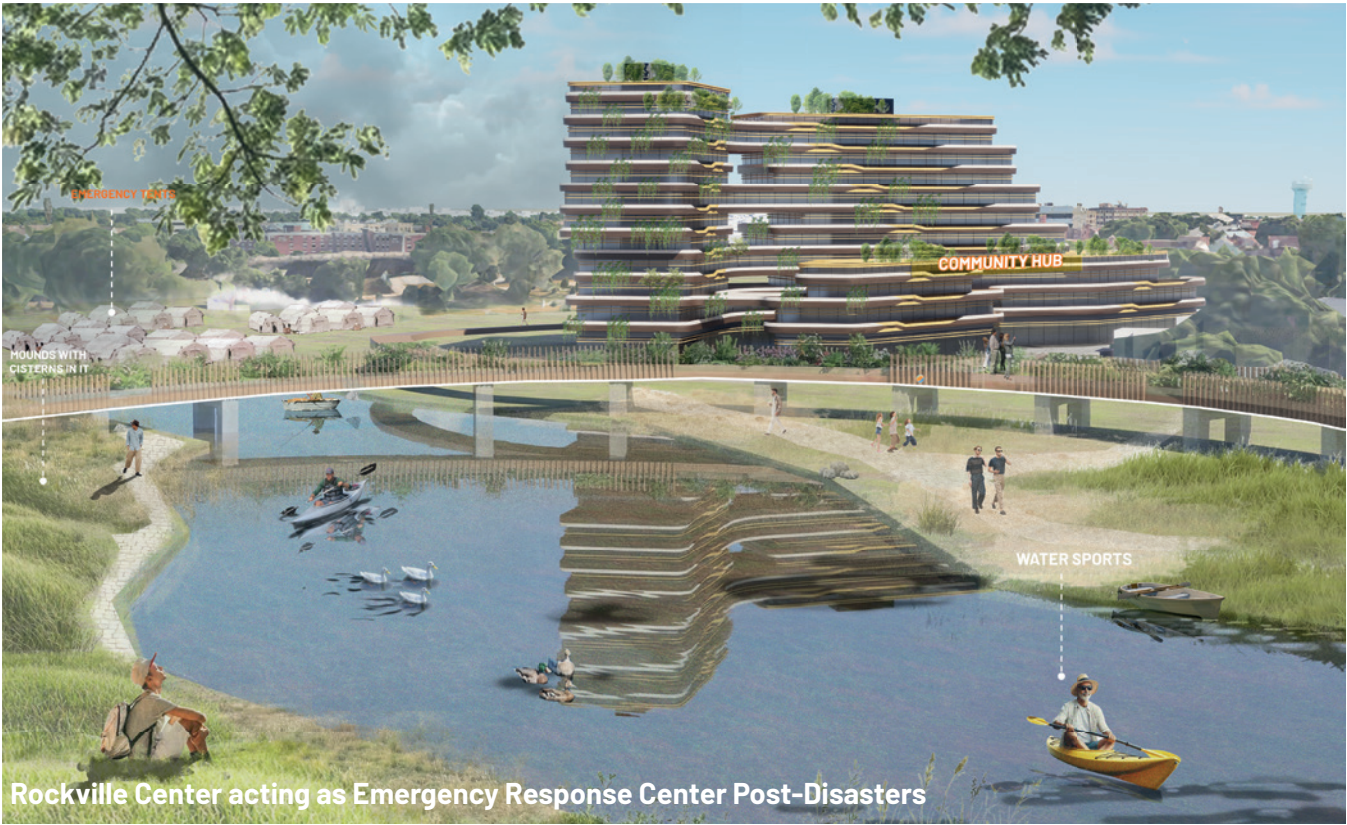
Situated on the South Shore of Nassau County, New York, the region spanning Long Beach, Island Park, Oceanside, and Rockville Centre comprises coastal and inland settlements along the western edge of the New York Bight. In a moment shaped by the housing crisis, climate change, and growing economic displacement, the project aims to strengthen community resilience through coastal infrastructure that supports both ecological and social stability.

A proposed boardwalk along the transect reinforces connectivity; it acts as a platform for equity and becomes a shared identity rooted in culture and coastal ecology. At Long Beach, the boardwalk extends into the ocean, forming a tidal lagoon that supports marine life by transforming sea walls into reefs and reduces reliance on the E.F. Barrett power plant. Collectively, these interventions form an adaptive framework for housing resilience and climate readiness.



LONG BEACH

#### Video Link

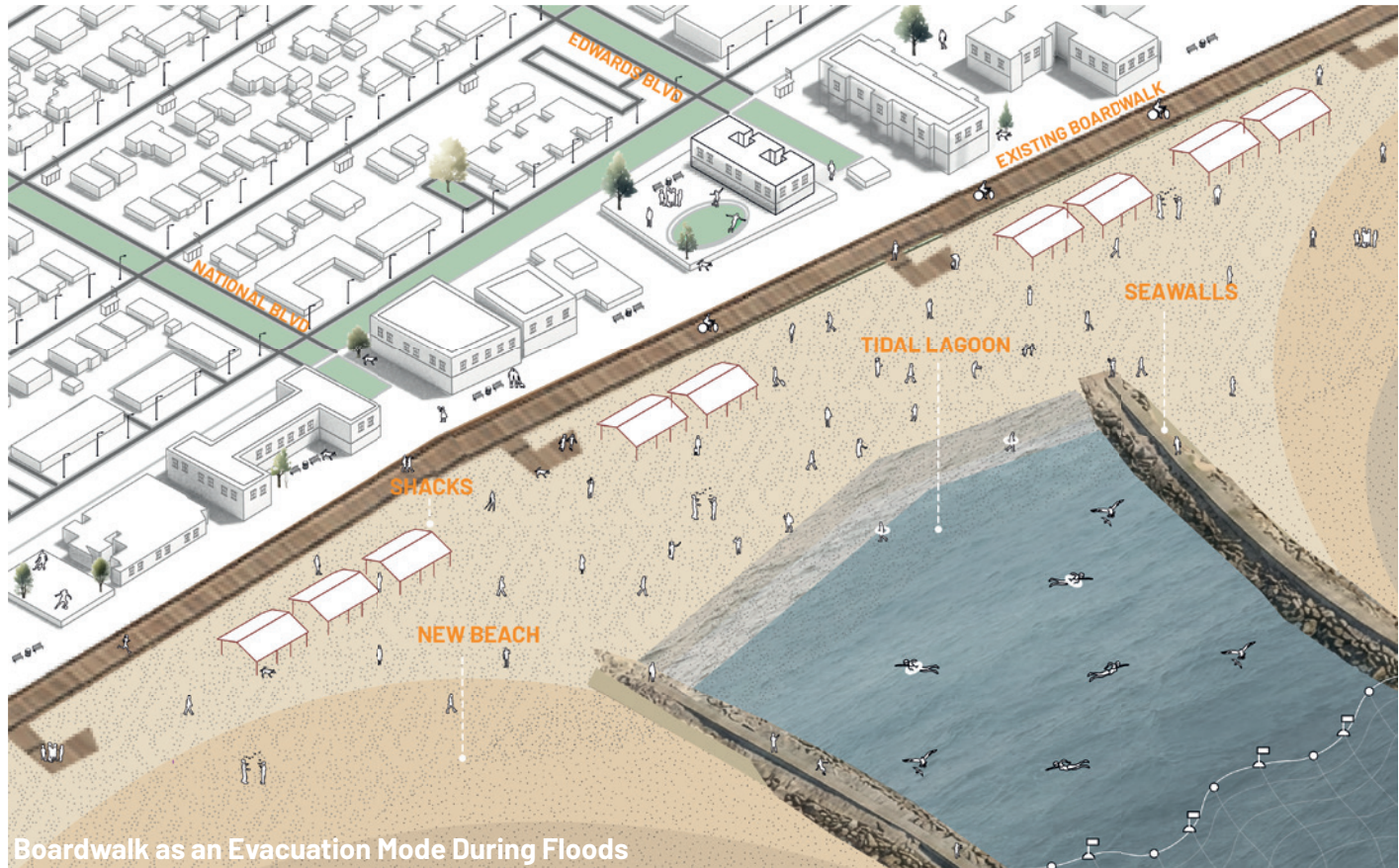


Rockville Center acting as Emergency Response Center Post-Disasters

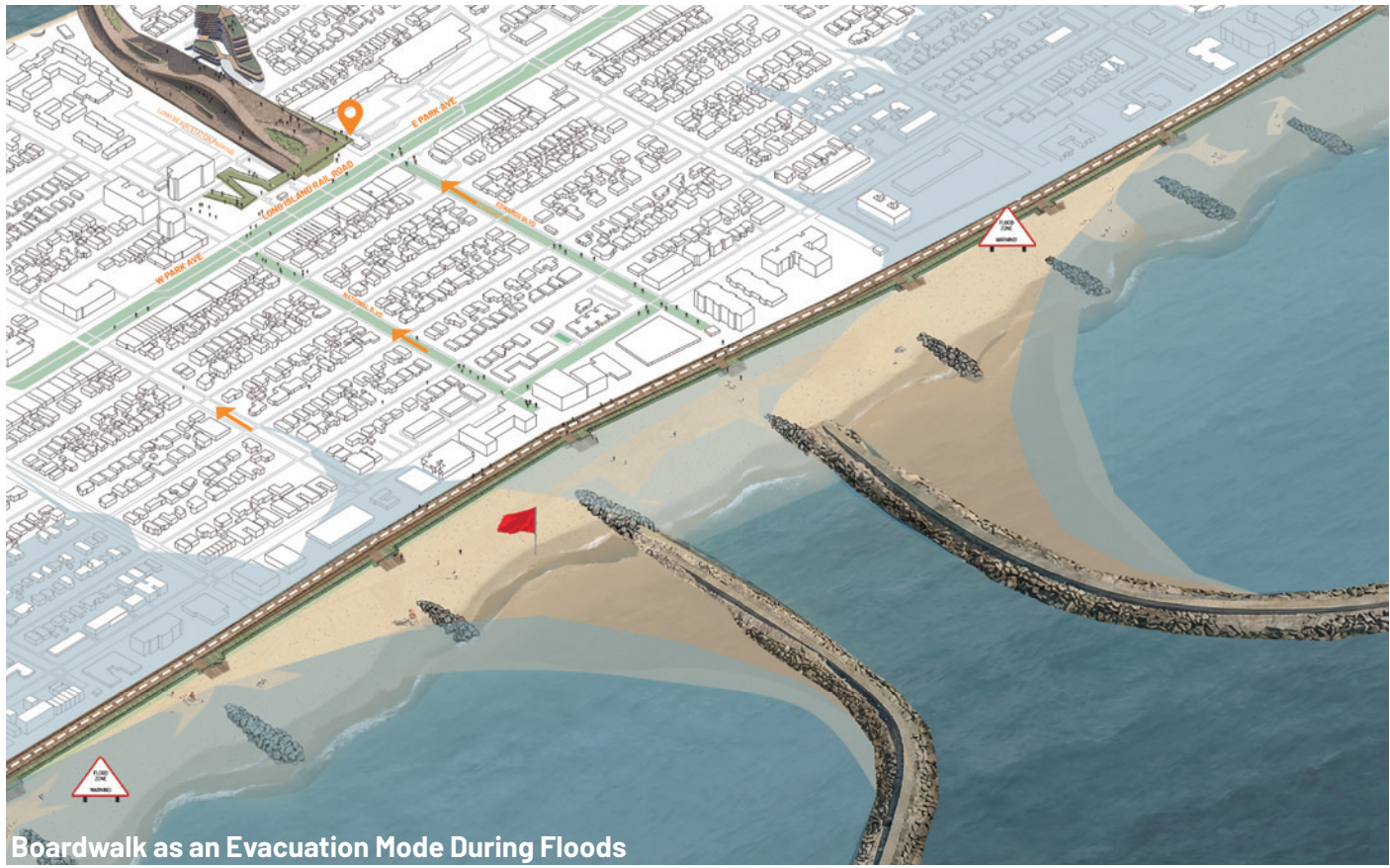


Proposed Beach at Island Park as a Community Resilience Feature





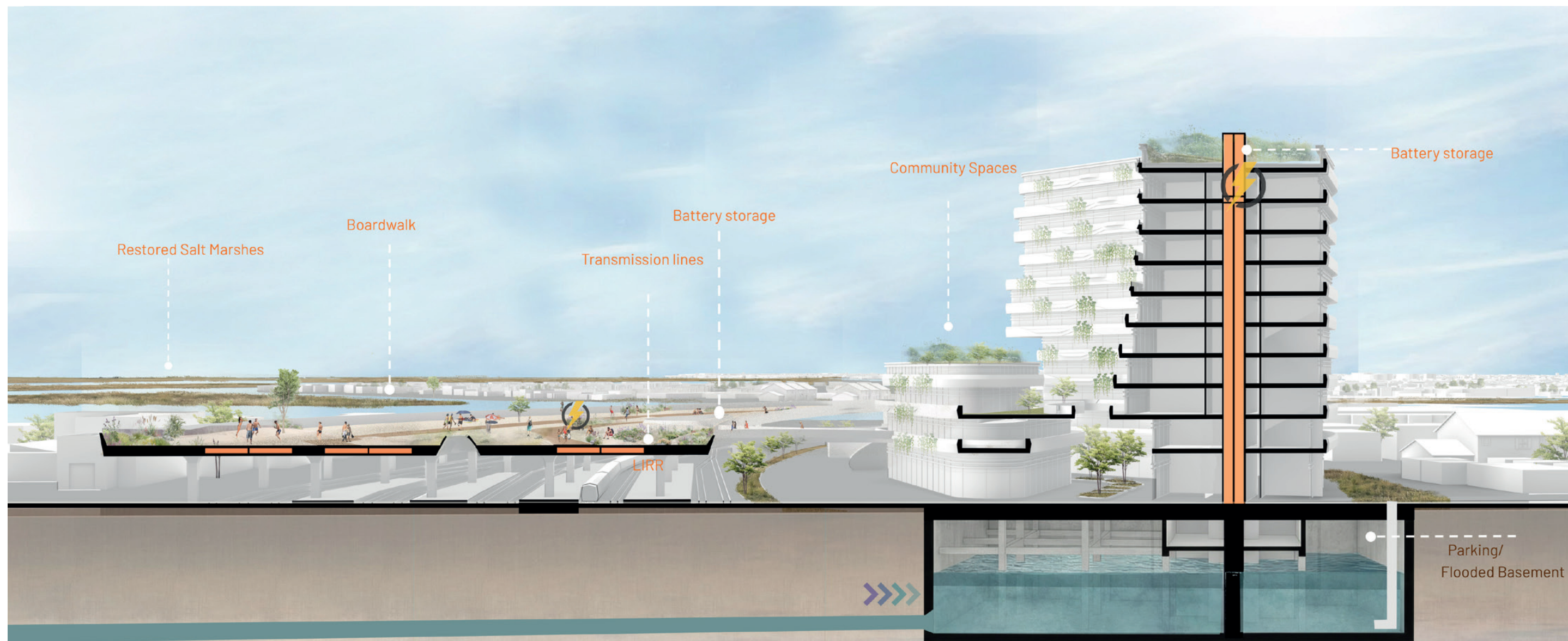
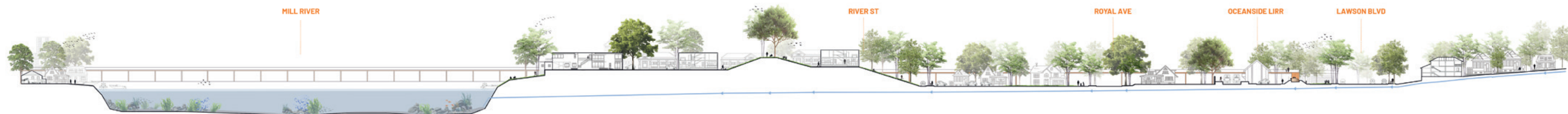
Boardwalk as an Evacuation Mode During Floods



Boardwalk as an Evacuation Mode During Floods













# Marshkeeperland

## BABYLON, LONG ISLAND

### TEAM

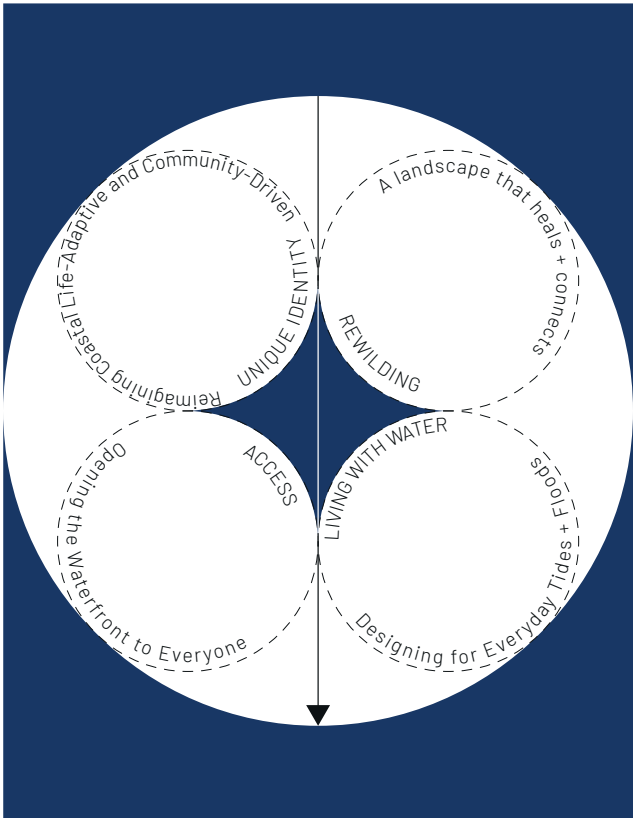
/ Daniela Monroy Zendejas  
/ Samantha Nowak  
/ Mason Rape  
/ Miguel Ángel Santivañez López

MarshkeeperLand reimagines the coastal landscape from Babylon to Robert Moses State Park through the historic marsh habitats that once shaped Long Island's edge.

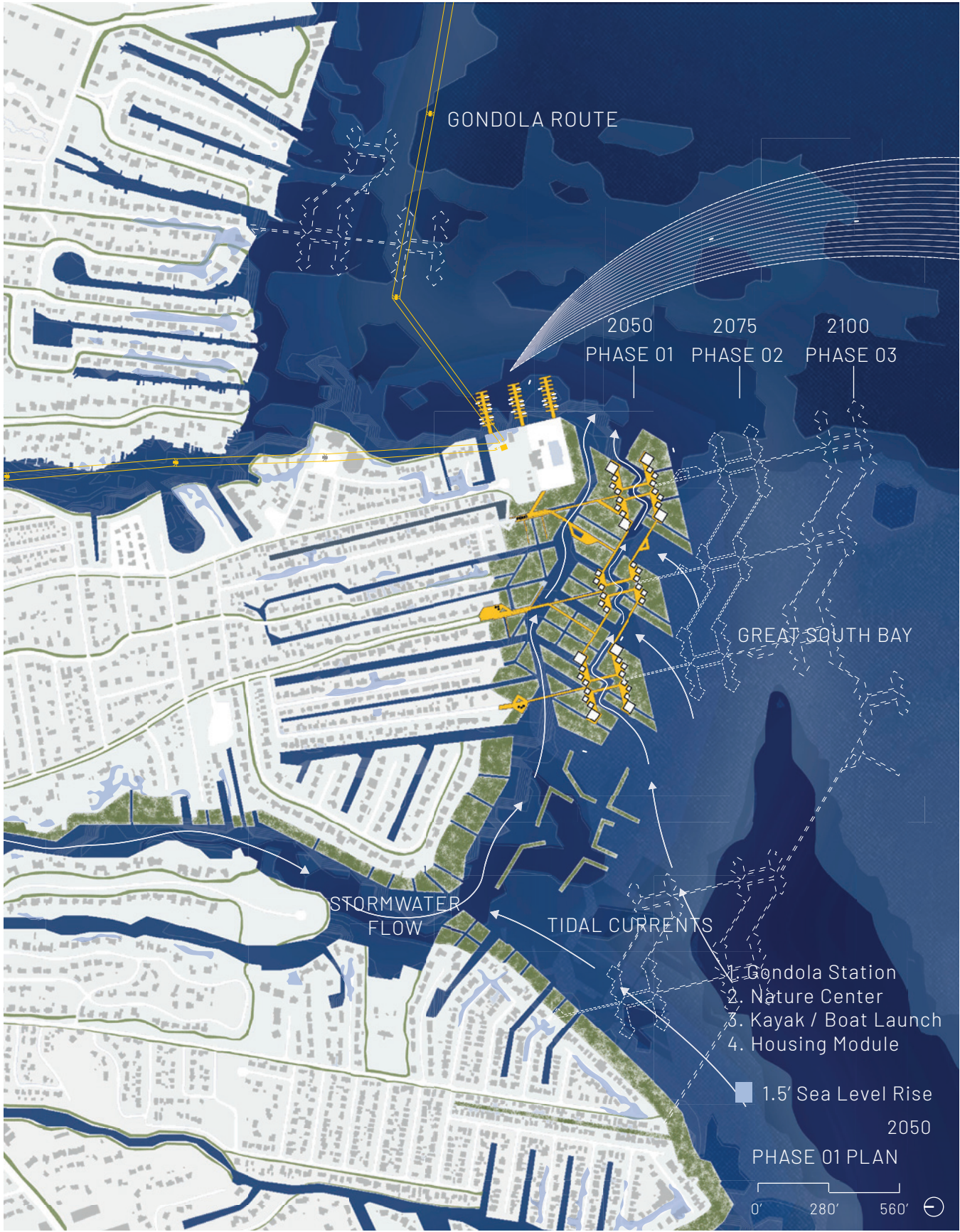
The project envisions inclusionary coastal landscapes where access to water, opportunities for environmental stewardship, and a renewed sense of community identity come together. Understanding the marsh as both social and resilient infrastructure, the design creates spaces that bring people together while restoring natural systems that filter stormwater and reduce coastal flood risks. Guided by the principles of access, rewilding, living with water, and cultivating a unique identity, the proposal weaves tidal paths and adaptive habitats into a unified coastal fabric.



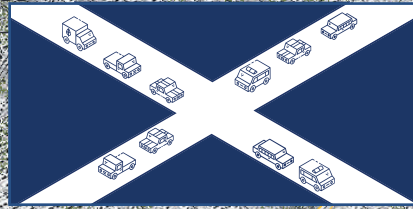
### BABYLON



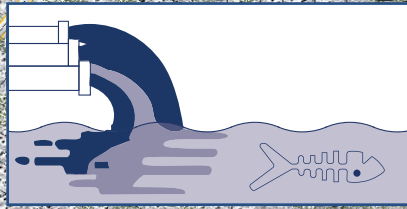
### Video Link







CAR DEPENDENCY



STORMWATER POLLUTION



RISING SEA LEVELS

Environmental Stewardship

Communal Living

A Unique Sense of Identity

Gained Marsh Expertise

Economic Opportunity

Building Relationships



MARSHKEEPER VALUES

Ecological Corridor



CAPTREE ISLAND

R.M. CAUSEWAY

GREAT SOUTH BAY

OAK ISLAND

Marsh Reseeding



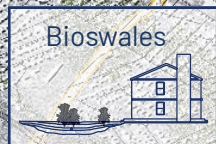
Dune Recovery



OAK BEACH

R.M. STATE PARK

GILGO STATE PARK



Bioswales

LIRR

Native Backyards



WEST ISLIP

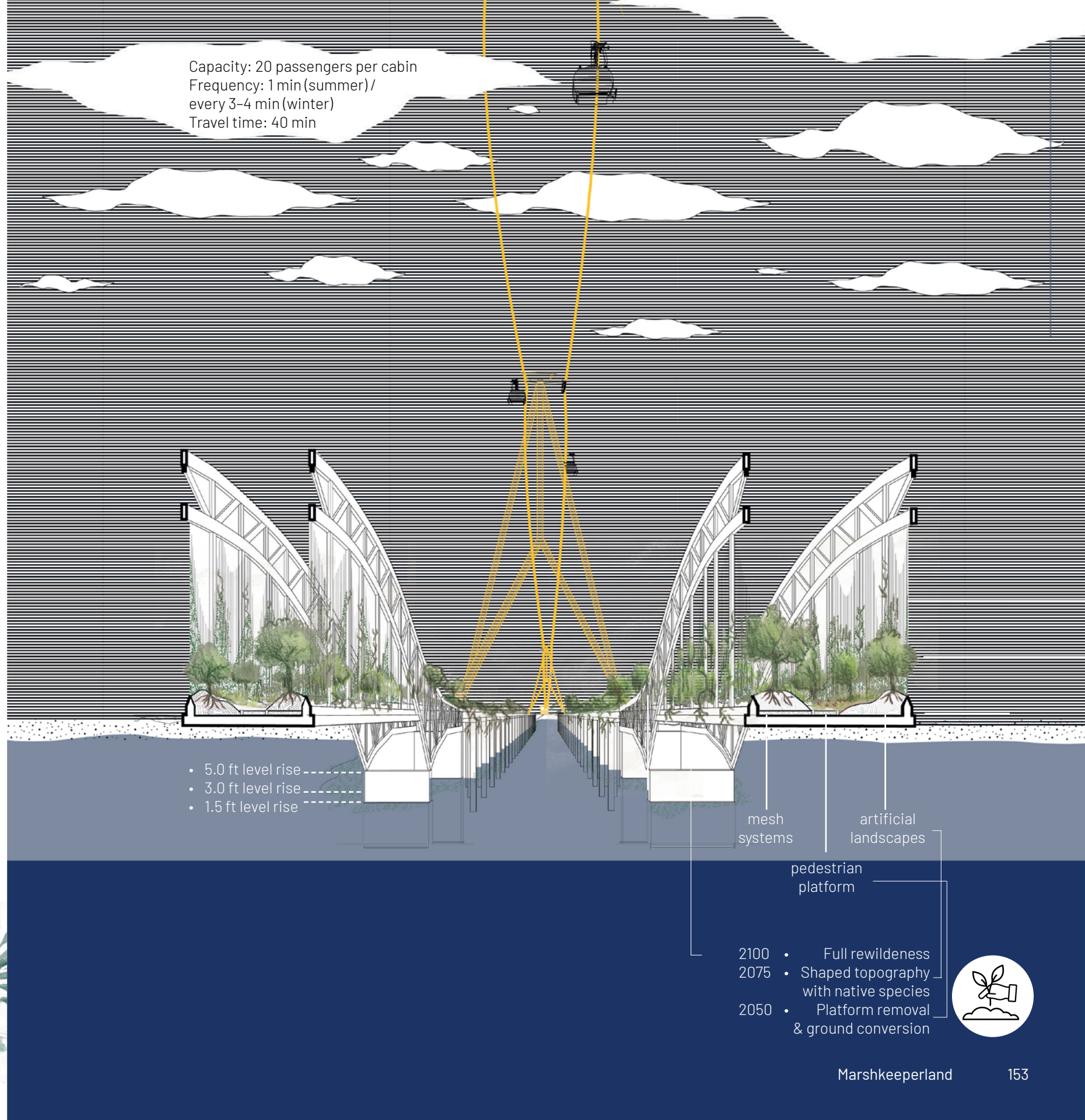
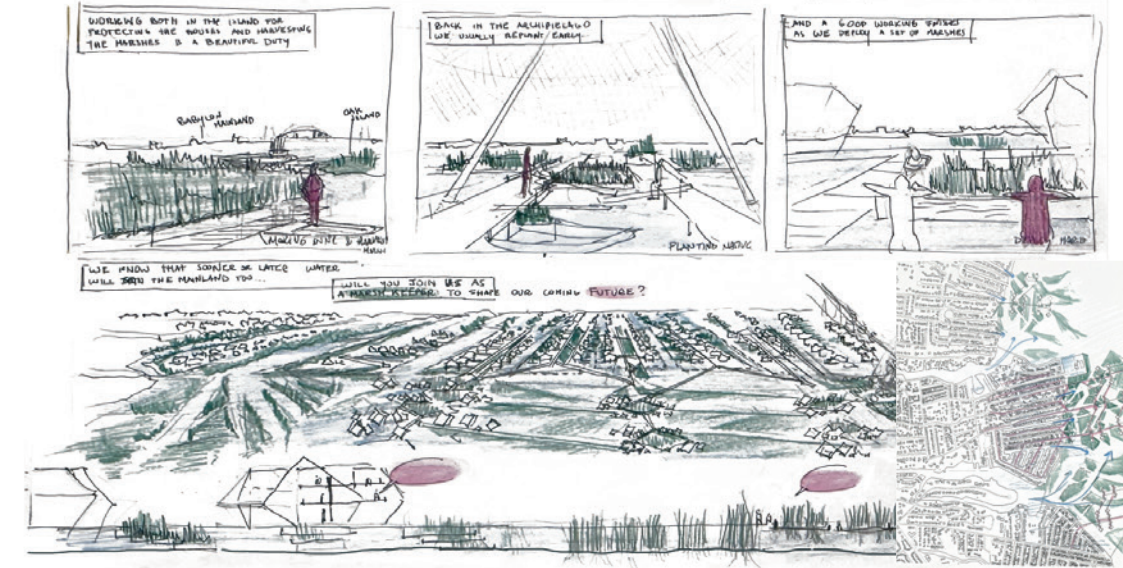
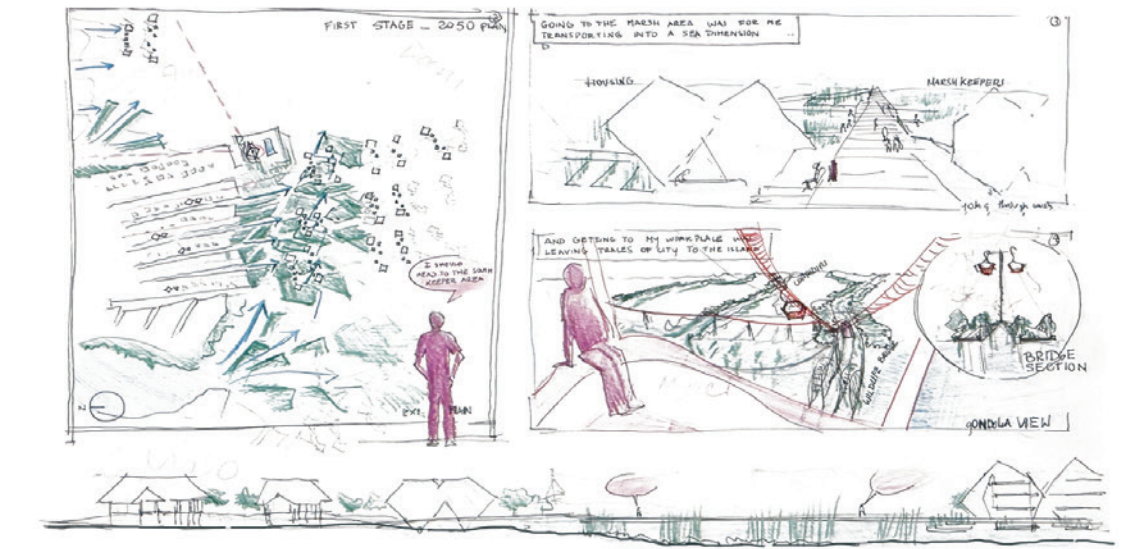
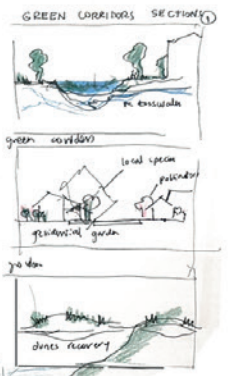
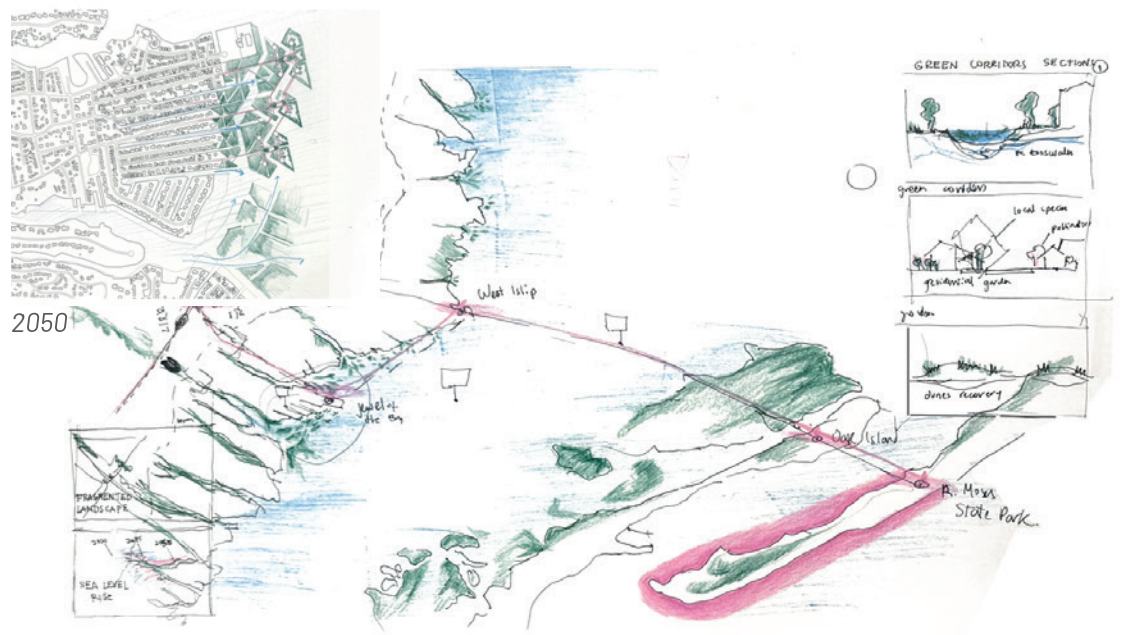
BABYLON

Marsh Planting



2050 SITE AERIAL





Capacity: 20 passengers per cabin  
Frequency: 1 min (summer) /  
every 3-4 min (winter)  
Travel time: 40 min

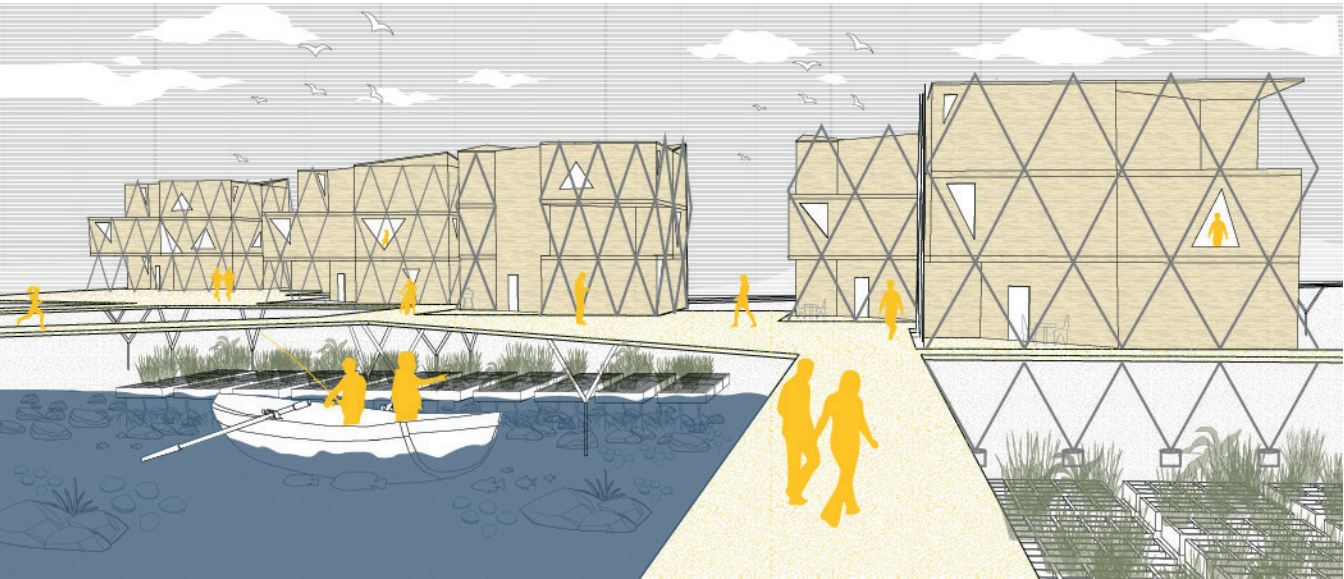
- 5.0 ft level rise
- 3.0 ft level rise
- 1.5 ft level rise

mesh systems  
artificial landscapes  
pedestrian platform

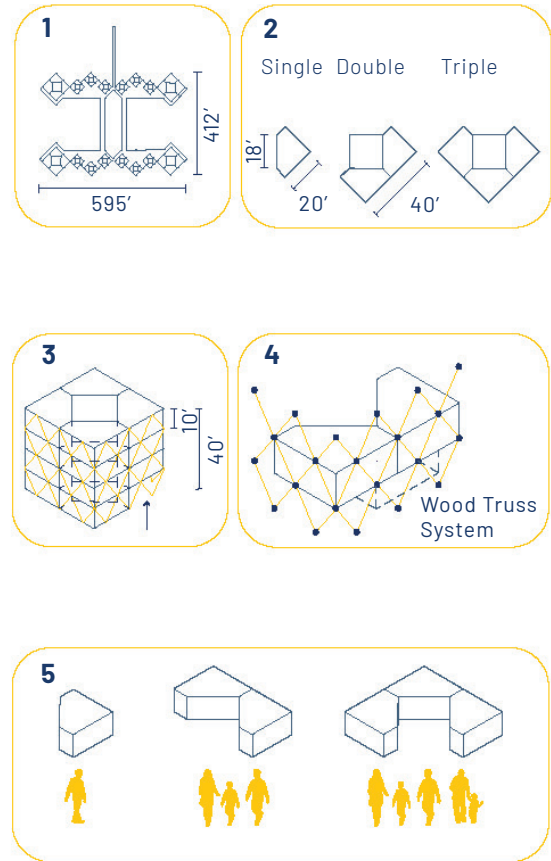
- 2100 • Full rewildeness
- 2075 • Shaped topography with native species
- 2050 • Platform removal & ground conversion



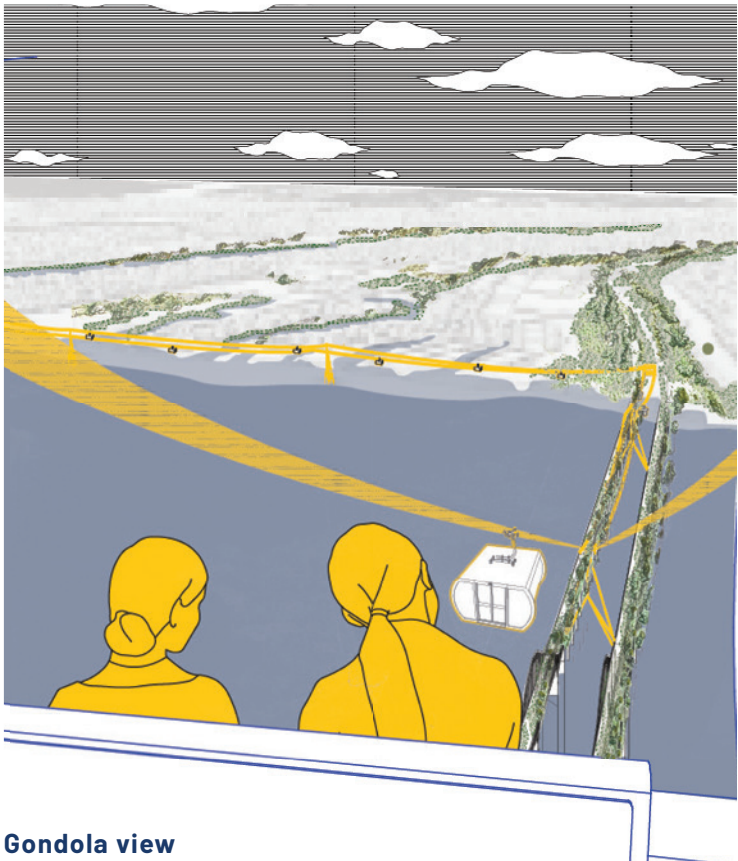




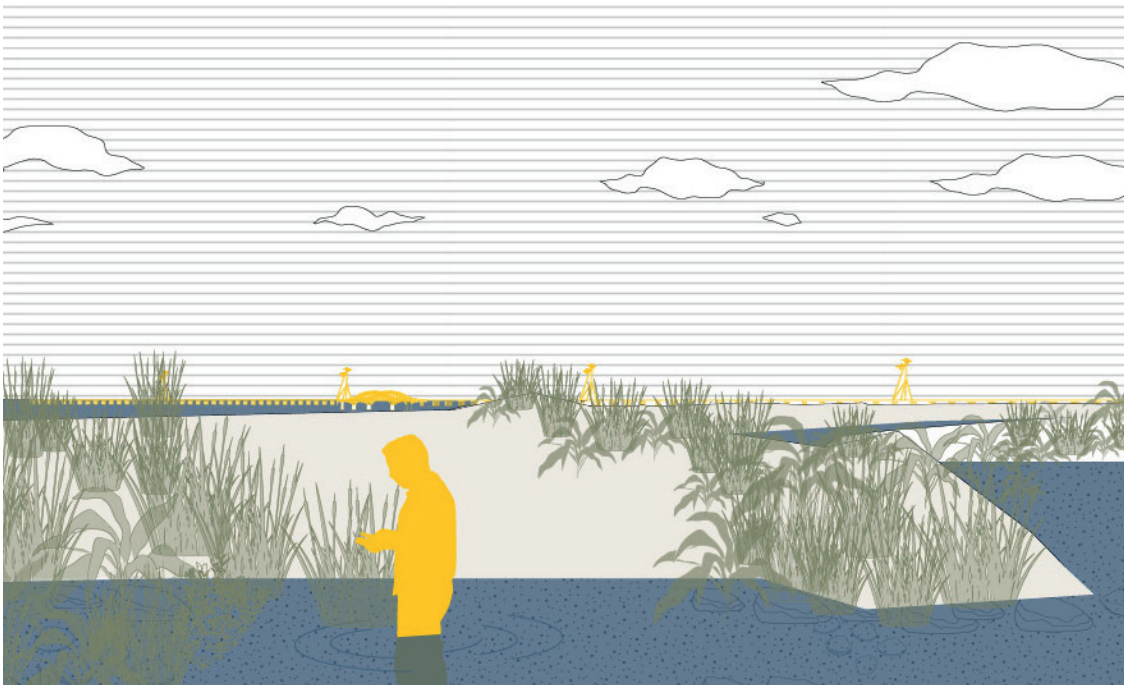
Marshkeeper housing



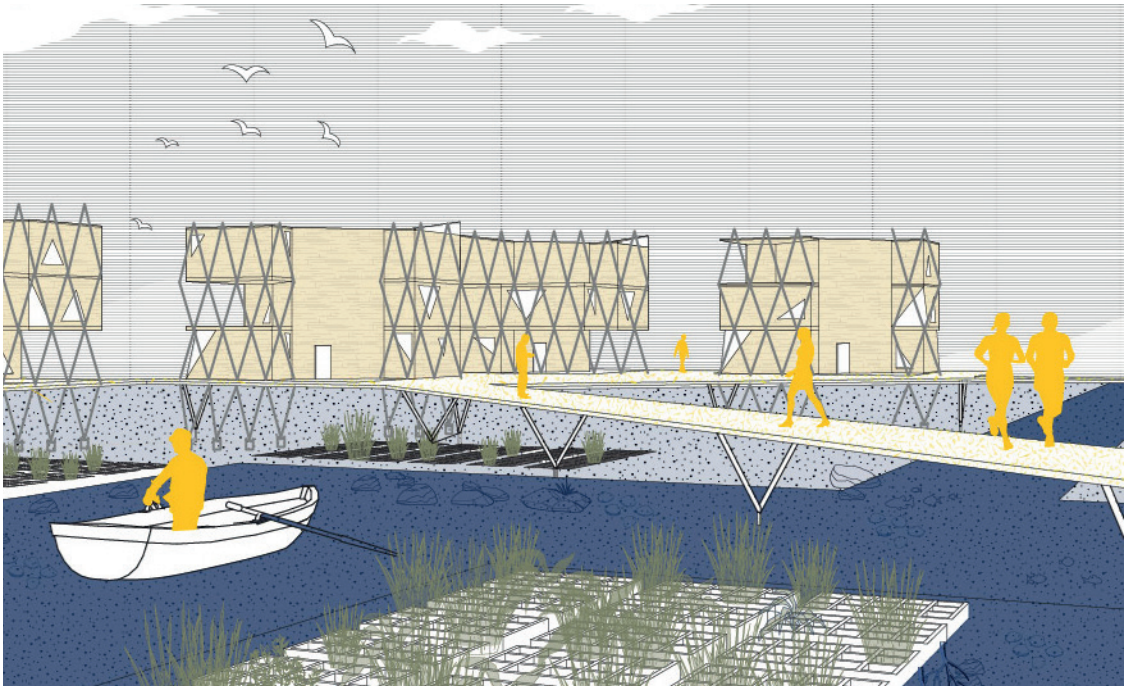
SALTpod HOUSING



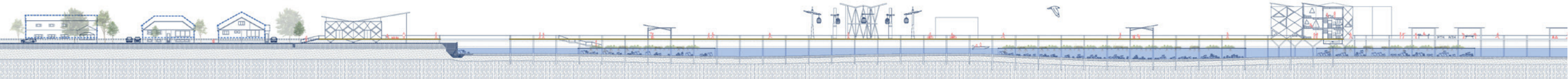
Gondola view



Marsh implementation - healthy marsh seeds are reseeded



Marsh implementation - modular marsh nursery prepare plants to be rooted and self sustain







NATURALLY-GROWING  
MARSH

TIDAL CURRENTS



LET'S GROW WITH THE MARSH!



# The First Ridge

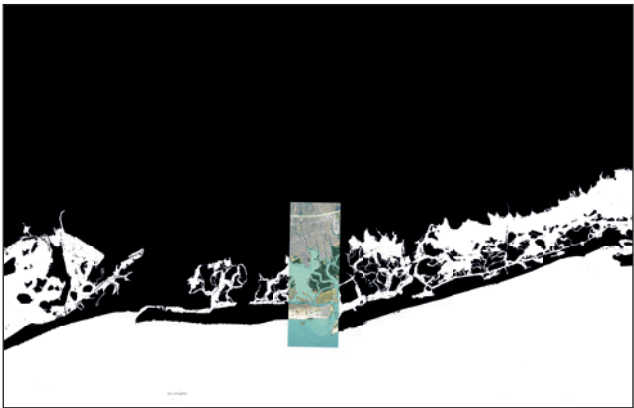
## ROCKVILLE CENTRE - BABYLON LONG ISLAND

### TEAM

- / Yiting Li
- / Haoyang Chang
- / Ting Chu
- / Sunghwan Park

Across much of the United States, suburban development has produced fragmented landscapes, discontinuous mobility networks, and housing patterns increasingly misaligned with emerging climate realities. Along the Long Island Rail Road corridor from Rockville Centre to Babylon, our regional analysis reveals a critical convergence: large portions of existing neighborhoods lie within future flood hazard zones, placing significant housing stock and the communities that depend on them at long-term risk.

By examining the interplay between connectivity, mobility, land use, and coastal vulnerability, we developed a comprehensive framework for resilient and equitable adaptation at the metropolitan scale. Within this regional framework, Freeport stands out as an epicenter where transit accessibility, flood vulnerability, and development pressure intersect most sharply, making it an ideal pilot site to test and refine long-term adaptation strategies.



LIRR

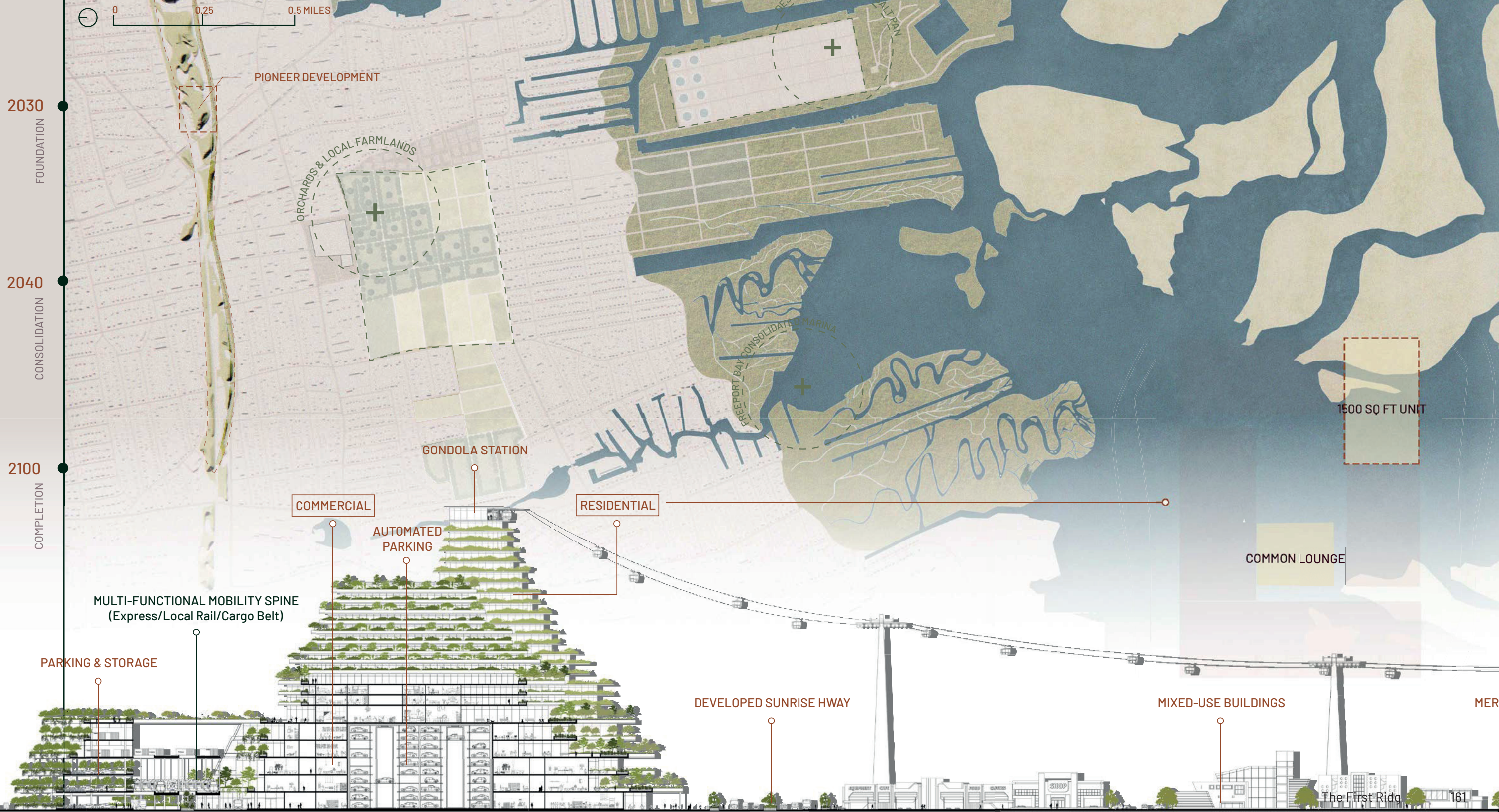
### Video Link





# THE FIRST RIDGE - Freeport as the Pioneer Site

Haoyang Chang, Ting Chu, Sunghwan Park, Yiting Li



FIRST PIONEER DEVELOPMENT

CULTURAL PRESEVATION ZONE





## DEVELOPED MOUNTAIN COORIDOR

The corridor transforms the LIRR into a terraced, high-density spine that concentrates housing, mobility, and public services on higher, safer ground. By lifting daily life above flood risk, the corridor replaces underused surface parking with a vertical, walkable, transit-oriented neighborhood.

## CULTURAL PRESEVATION ZONE

The zone protects the historic character, social identity, and everyday rhythms of existing communities while integrating them into the new corridor. Instead of erasing local fabric, the strategy strengthens main streets, supports existing small businesses, and preserves civic landmarks.

## RESTORED COASTAL MARSHLAND

The marshland creates a continuous ecological buffer along the South Shore, allowing tidal wetlands to expand and absorb storm surges. These revived marsh systems reduce flood energy, improve water quality, and bring back critical habitat. By pulling development inland, the coastline becomes a living landscape of protection and biodiversity.



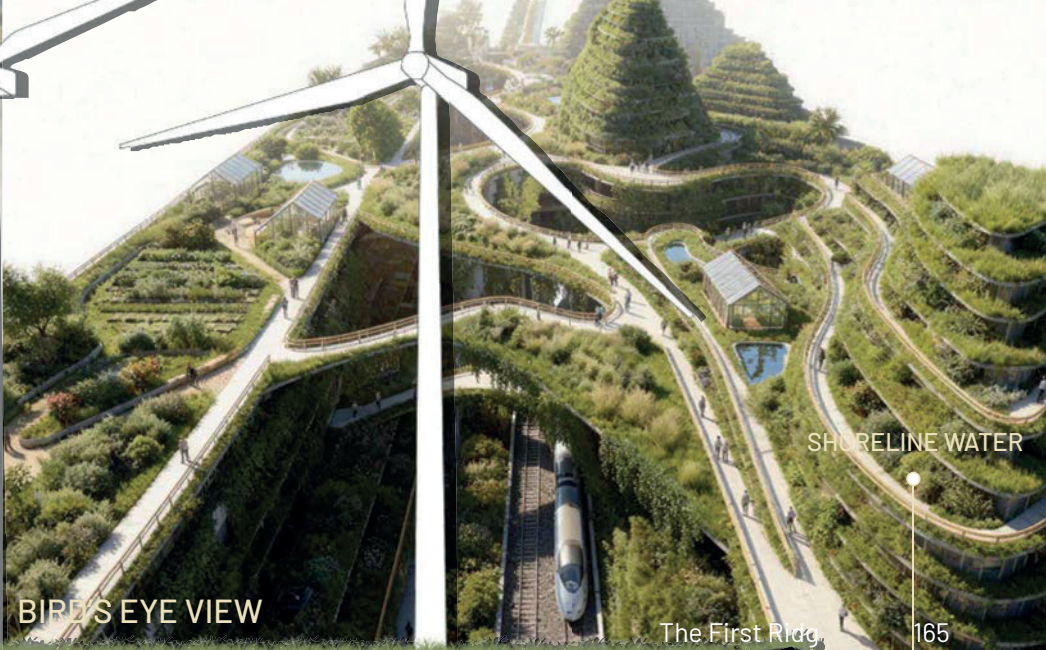




MARSHLAND PARK



VIEW FROM BALCONY



BIRD'S EYE VIEW

SHORELINE WATER

The First Ridge

MARSHLAND PARK

COASTAL ENERGY FIELD



# Neighborhood Oriented Sewered Housing Integrated Town

Ronkonkoma, Long Island

TEAM

- / Rebecca Koh
- / Romina Quinn
- / Xinyue Wang
- / Yung-Hsiang Yang

Suffolk County faces a growing water crisis caused by nitrogen pollution in the aquifer that supplies all of its water. Our proposal tackles these issues by creating decentralized, walkable, denser node towns, each built around its own wastewater treatment hub. These nodes curb sprawl, restore groundwater recharge, and provide mixed-use, pedestrian-friendly communities that support both aging residents and new arrivals.



RONKONKOMA

Video Link

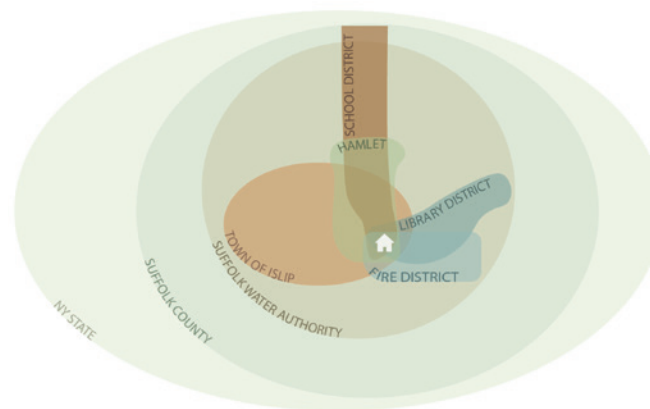


Neighborhood Oriented Sewered Housing Integrated Town

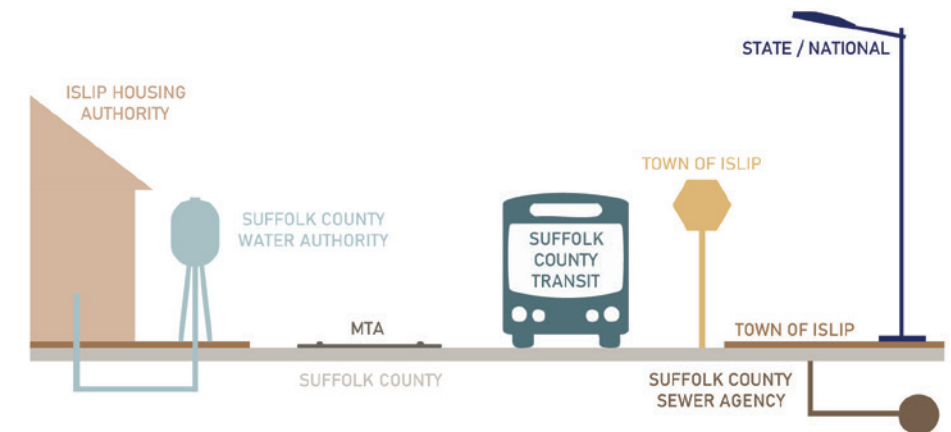




CONTEXT MAP

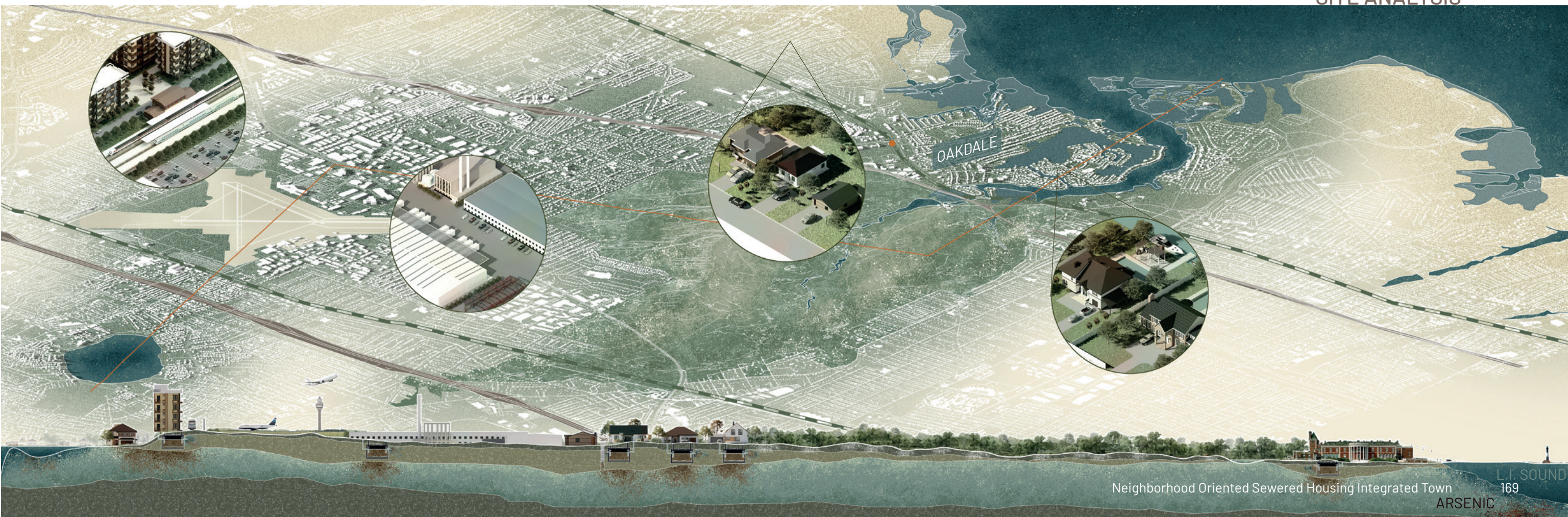


SCALES OF GOVERNANCE

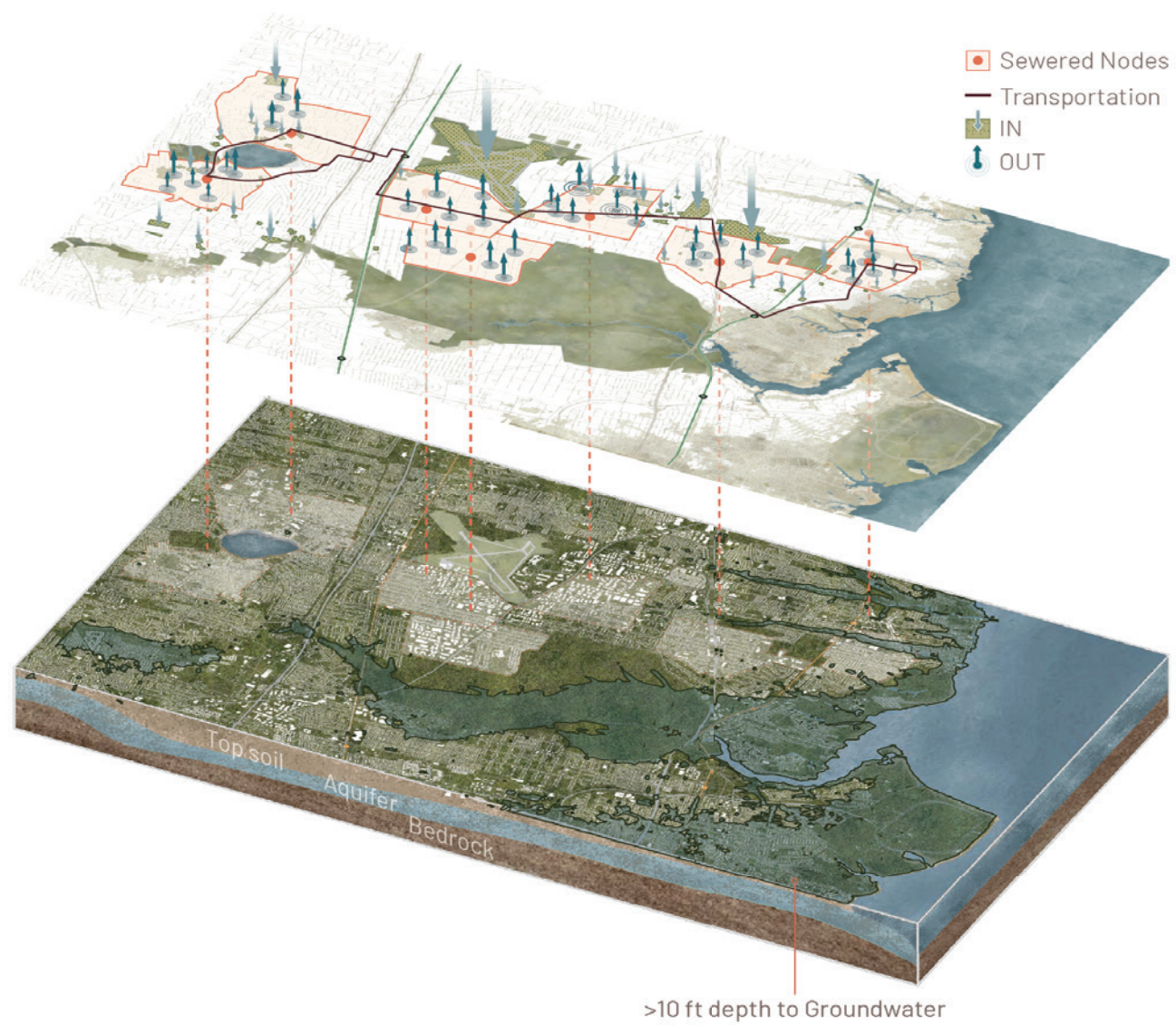


GOVERNING AUTHORITIES

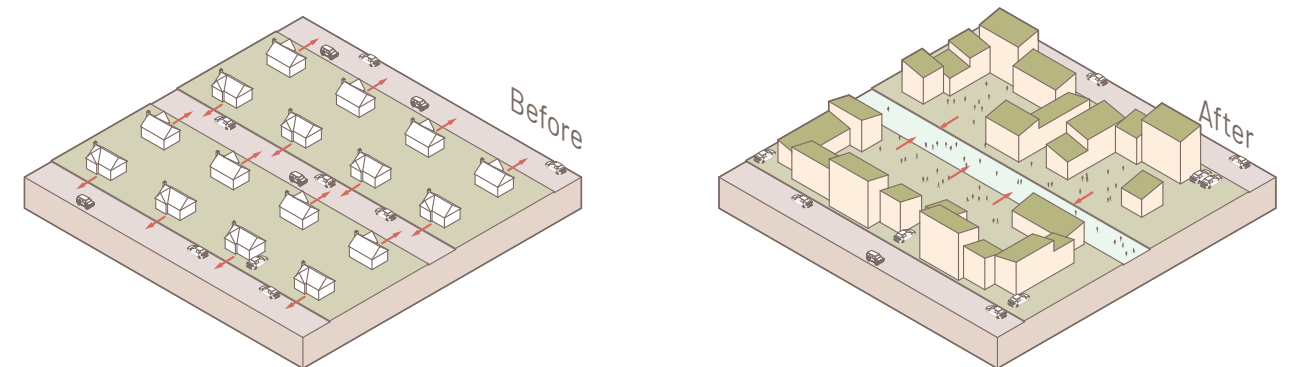
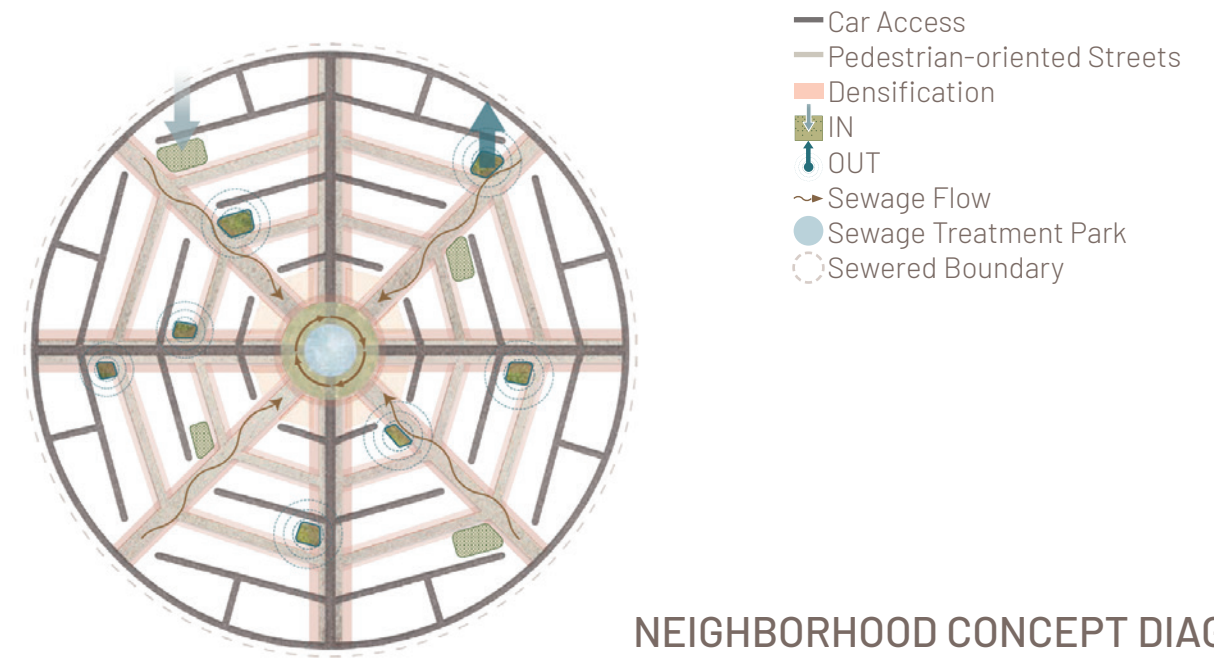
SITE ANALYSIS







TRANSECT PLAN





NODE PLAN

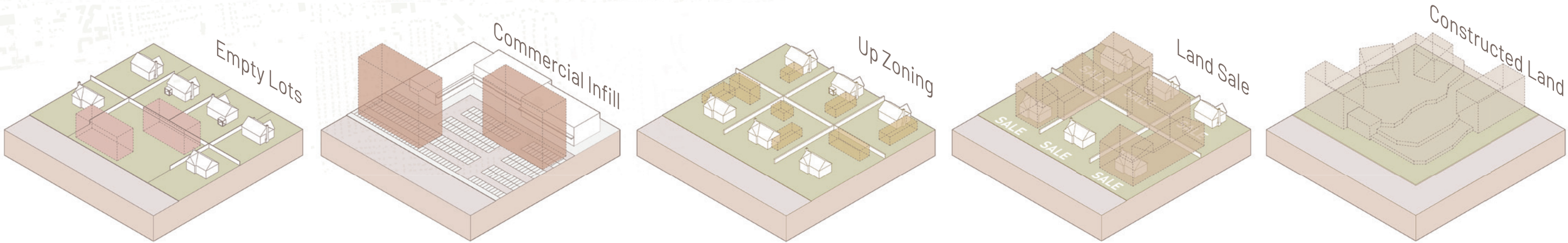
1:7500

- Conserved Existing Buildings**
- Schools
  - Cultural Centers
  - Fields / Green Space

- Water Repair Interventions**
- Sewershed Boundary
  - IN - Restored Sumps
  - OUT - Groundwater Filtration

- Street Hierarchy**
- Pedestrian Oriented Street
  - Converted Pedestrian Access
  - Car Road
  - New Car Roads

- Buildings**
- P1 - Empty Lots
  - P2 - Commercial Infill
  - P3 - Post Zoning Adjustment Infill
  - P4 - Opportunity for Remodelling
  - P5 - Newbuild on Landscape



OPPORTUNITIES FOR DENSIFICATION





SEWAGE PARK



GROUNDWATER FILTRATION POCKET PARK



COURTYARD HOUSING



PEDESTRIAN STREET

Our project addresses the pollution already present in the groundwater and ensures long-term recovery of the water cycle. Polluted groundwater is pumped out at designated locations and treated in small underground facilities, primarily in denser and historically industrial areas most affected by decades of contamination. At the same time, clean water is returned to the ground through restored sumps and rewilded, permeable landscapes that absorb rain and runoff. Former creeks, wetlands, and channel junctions are prioritized, including large underused lawn areas at MacArthur Airport, which could be restored as grassland or marshland to filter stormwater back into the aquifer.

The nodes anticipate climate-driven displacement, particularly in low-lying southern areas like Oakdale, where shallow groundwater and chronic flooding already threaten homes. By concentrating growth on safer ground, the new towns support aging residents, welcome new populations, and reshape suburban life around walkability, social connection, and environmental repair.



WATER CIRCULATION



# The Blooming Bay

## Inhabiting a Changing Coast

### SAYVILLE TO FIRE ISLAND, LONG ISLAND

#### TEAM

/ Deepanksha Gillakamsetty  
/ Manuela Hurtado  
/ Susana Chinchilla  
/ Yi-Jou (Zoe) Lin

*Blooming Bay* is a radical vision for the future that reimagines the The Great South Bay as a space for adventure, self expression, and collective living.

This project proposes a new way of inhabitation in response to increasing threats of climate change in coastal US cities. By shifting how we value water, land, and ultimately each other, the Bay emerges as a site for alternative human and wildlife settlement.

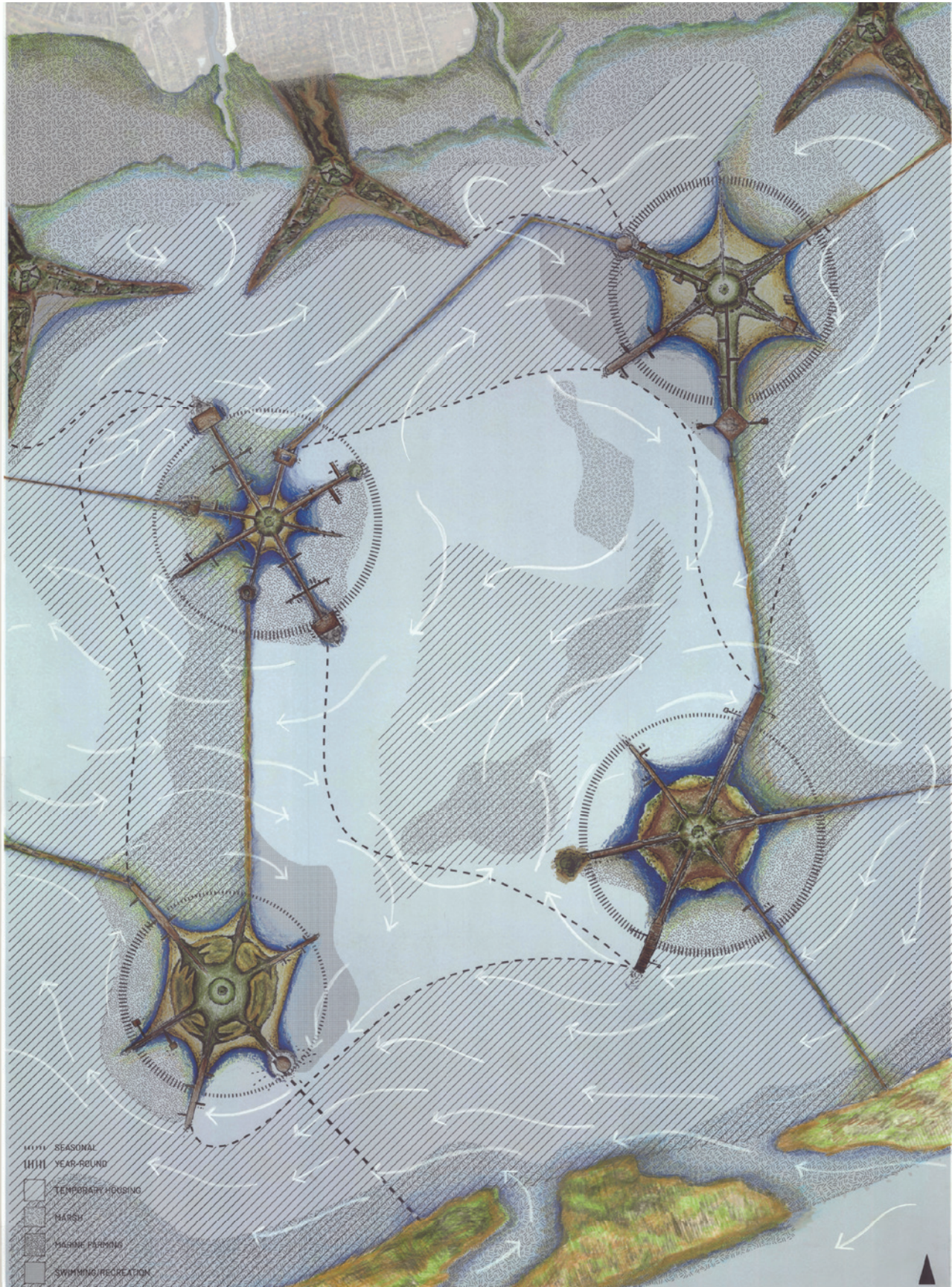
To Bloom is to Grow.

To Grow is to Care.

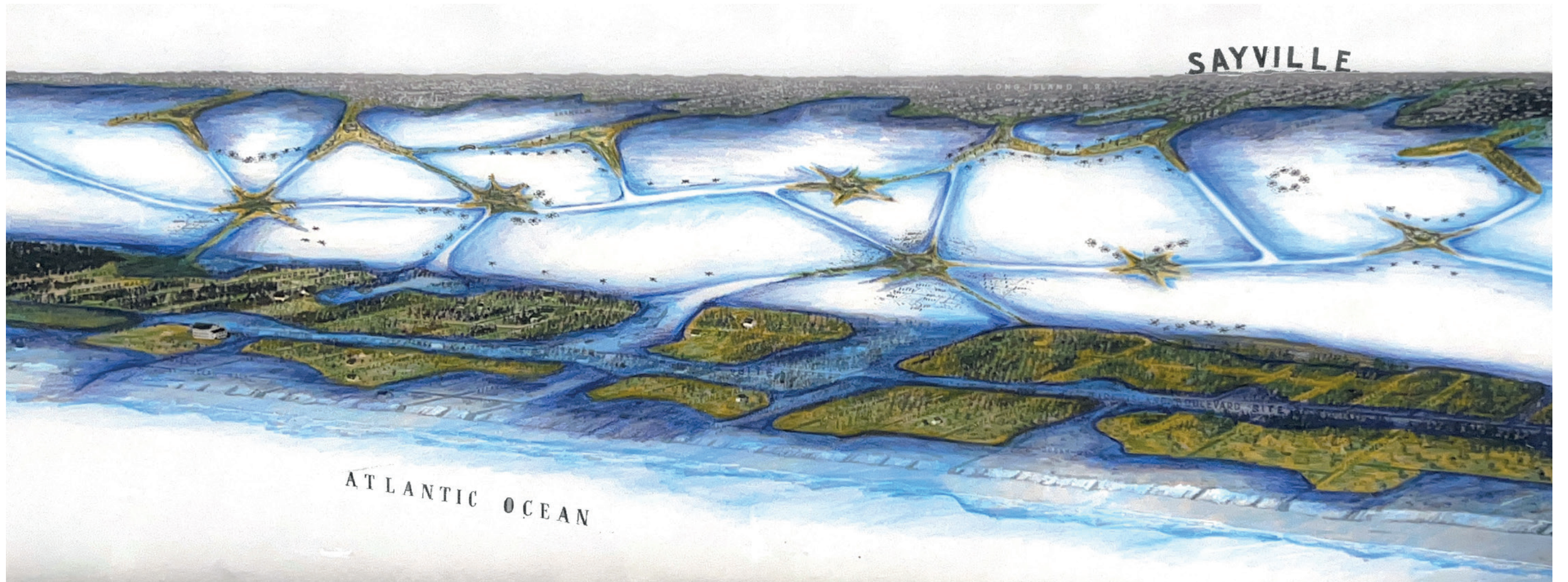


FIRE ISLAND

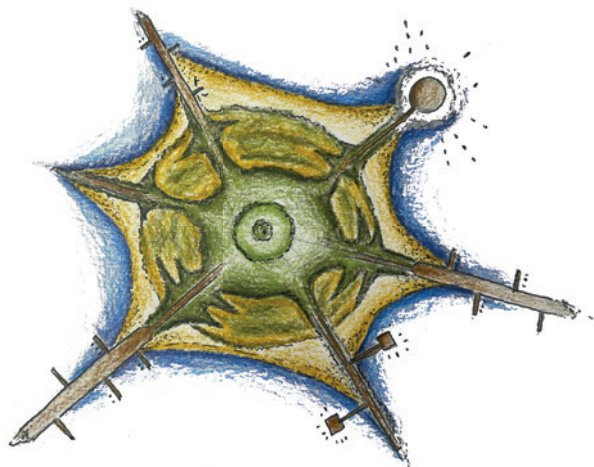
#### Video Link



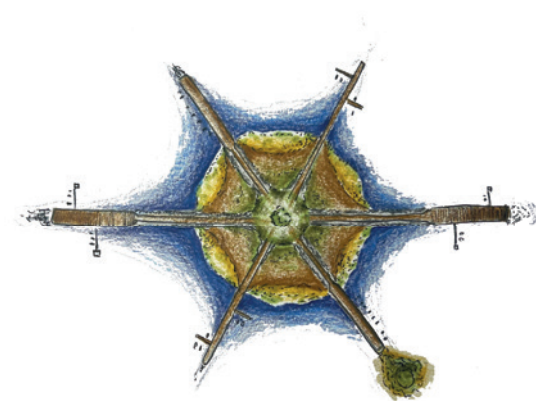




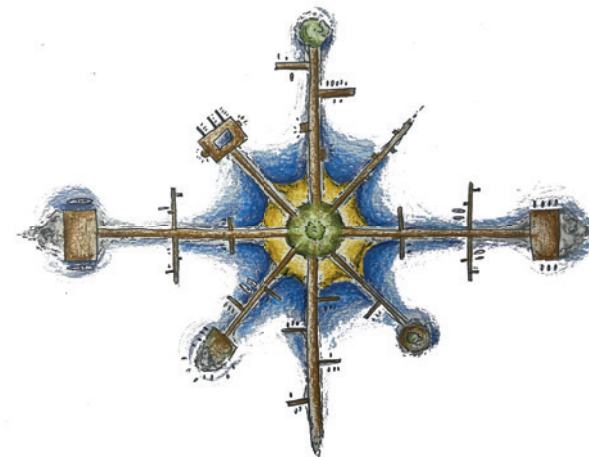
REGIONAL BLOOM



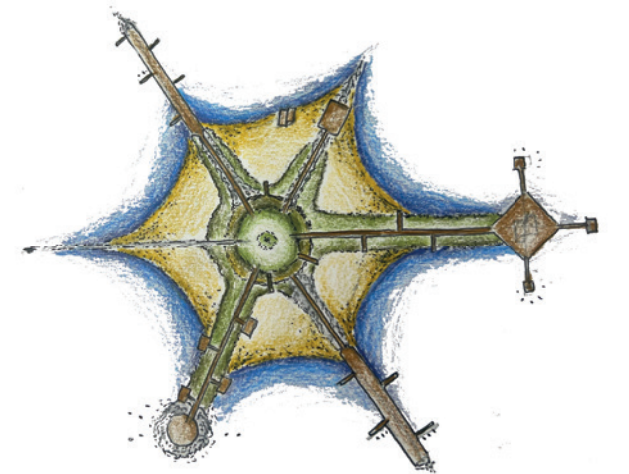
KIKI ISLAND



CAMPY CAMP

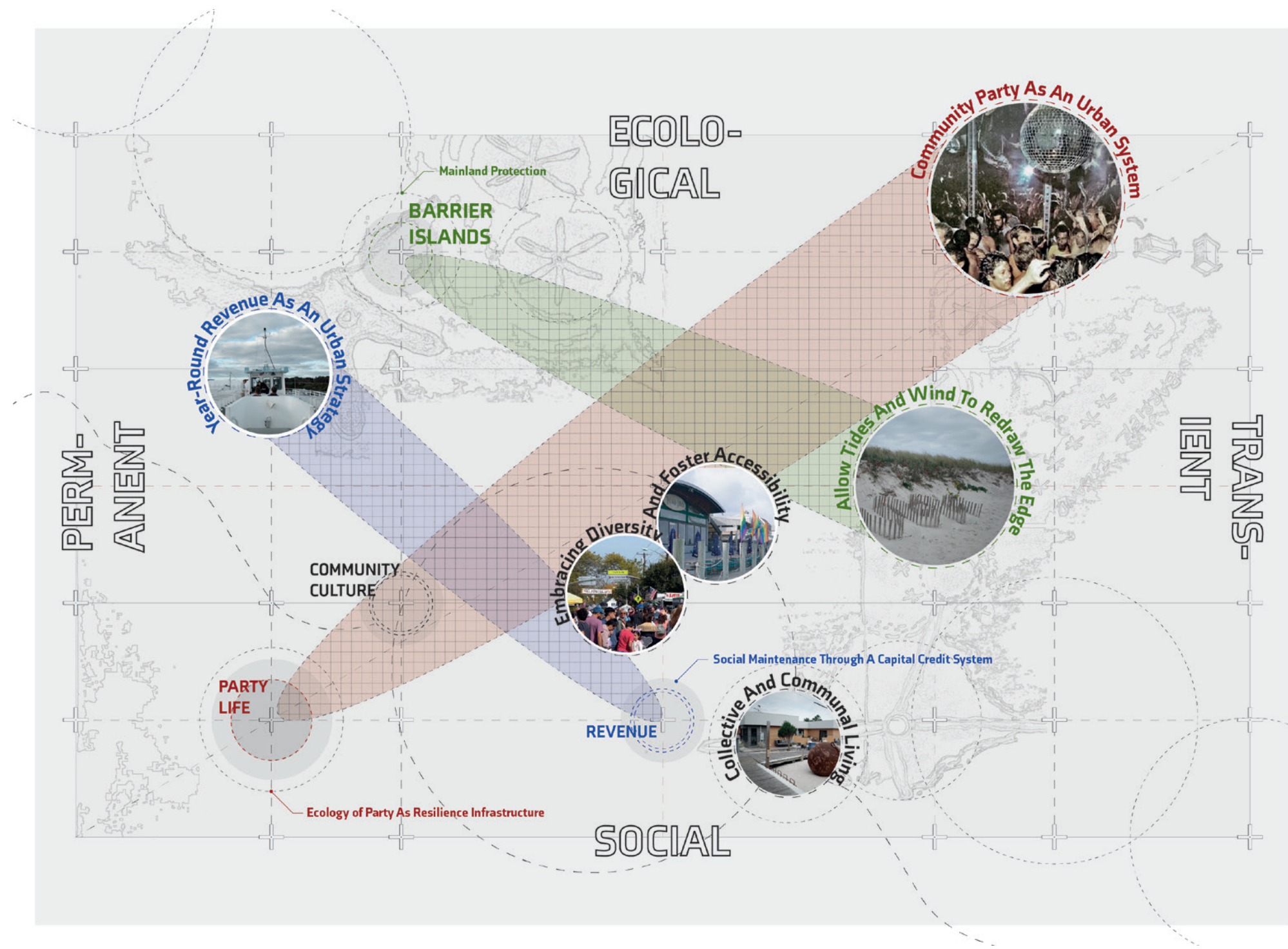


SOMETHING FISHY

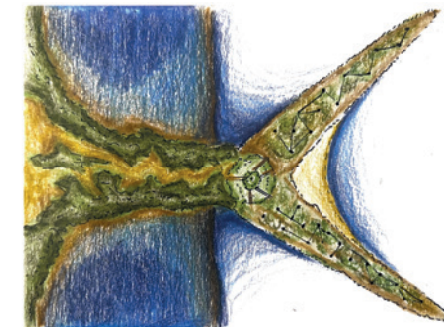


THE TEA





BLOOMING PRINCIPLES



**GROVE HOMES**

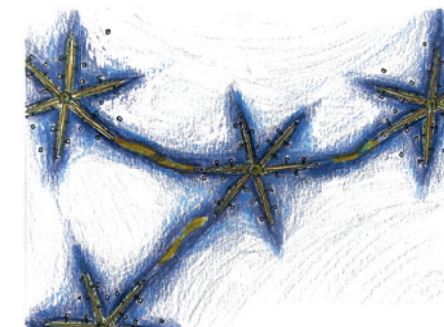
SCALE  
0 0.1mi 0.2mi

USE  
PERMANENT HOUSING

CAPACITY  
200 DETACHED HOMES (PER LEG)

CONSTRUCTION  
CONSTRUCTION BY OWNER

OWNERSHIP  
LAND OWNED BY BLOOMING BAY NON-PROFIT. HOMES ARE OWNED BY RESIDENTS



**PINE HOMES**

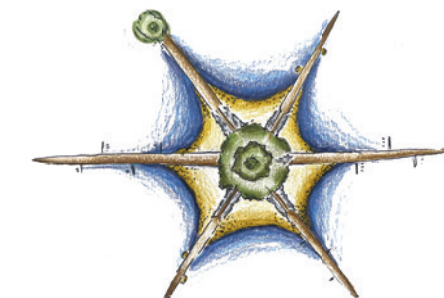
SCALE  
0 0.1mi 0.2mi

USE  
SEASONAL RENTAL HOUSING

CAPACITY  
3000 FLOATING HOMES

CONSTRUCTION  
SOCIAL CAPITAL CREDITS

OWNERSHIP  
OWNED AND MAINTAINED BY BLOOMING BAY NON-PROFIT



**BLOOMED ISLANDS**

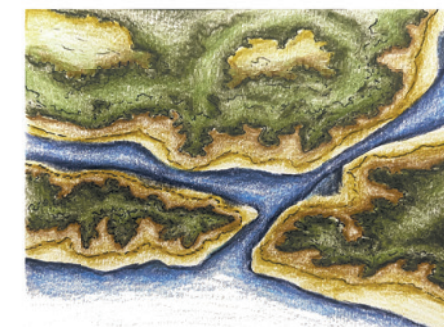
SCALE  
0 0.1mi 0.2mi

USE  
RECREATION, COMMUNITY FACILITY

CAPACITY  
500 PEOPLE

CONSTRUCTION  
SOCIAL CAPITAL CREDITS

OWNERSHIP  
LAND OWNED BY BLOOMING BAY NON-PROFIT.



**FIRE ISLAND MARSH**

SCALE  
0 0.1mi 0.2mi

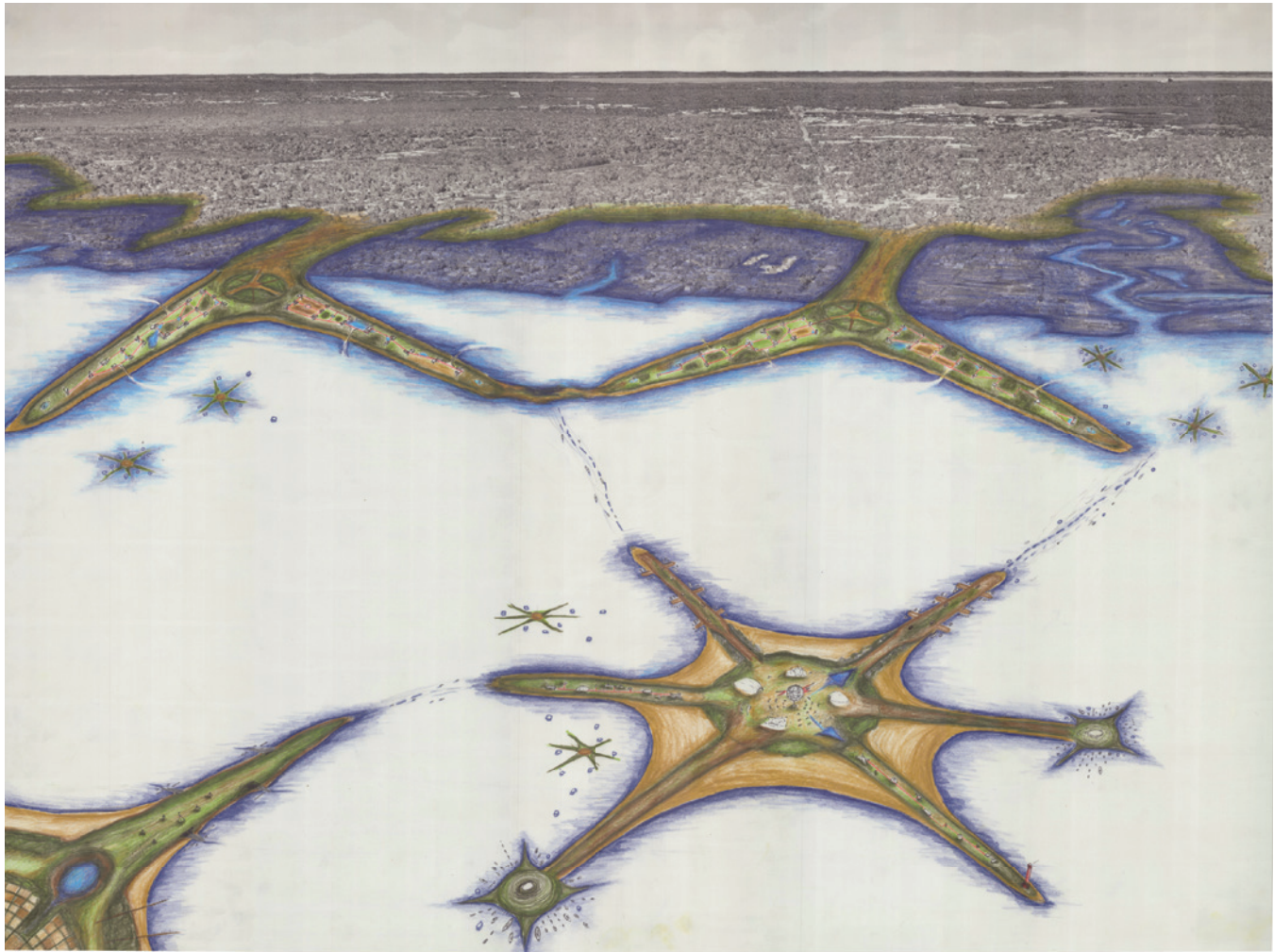
USE  
NATURAL RESERVE/PARK

CAPACITY  
150 PEOPLE

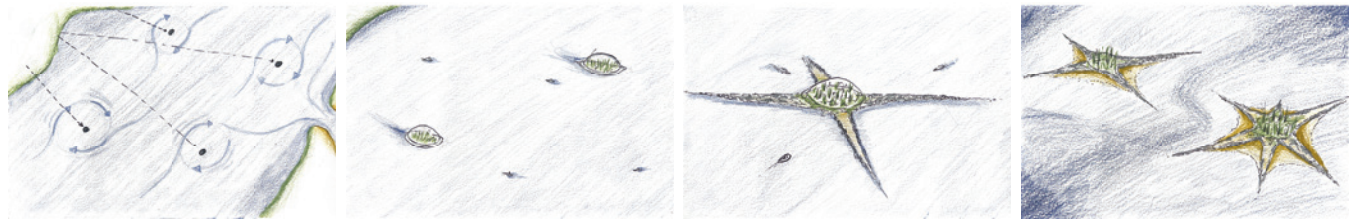
CONSTRUCTION  
NO CONSTRUCTION

OWNERSHIP  
NATIONAL PARKS SERVICE

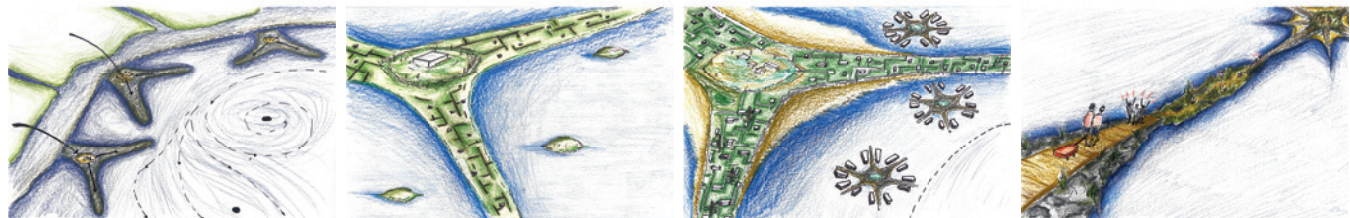




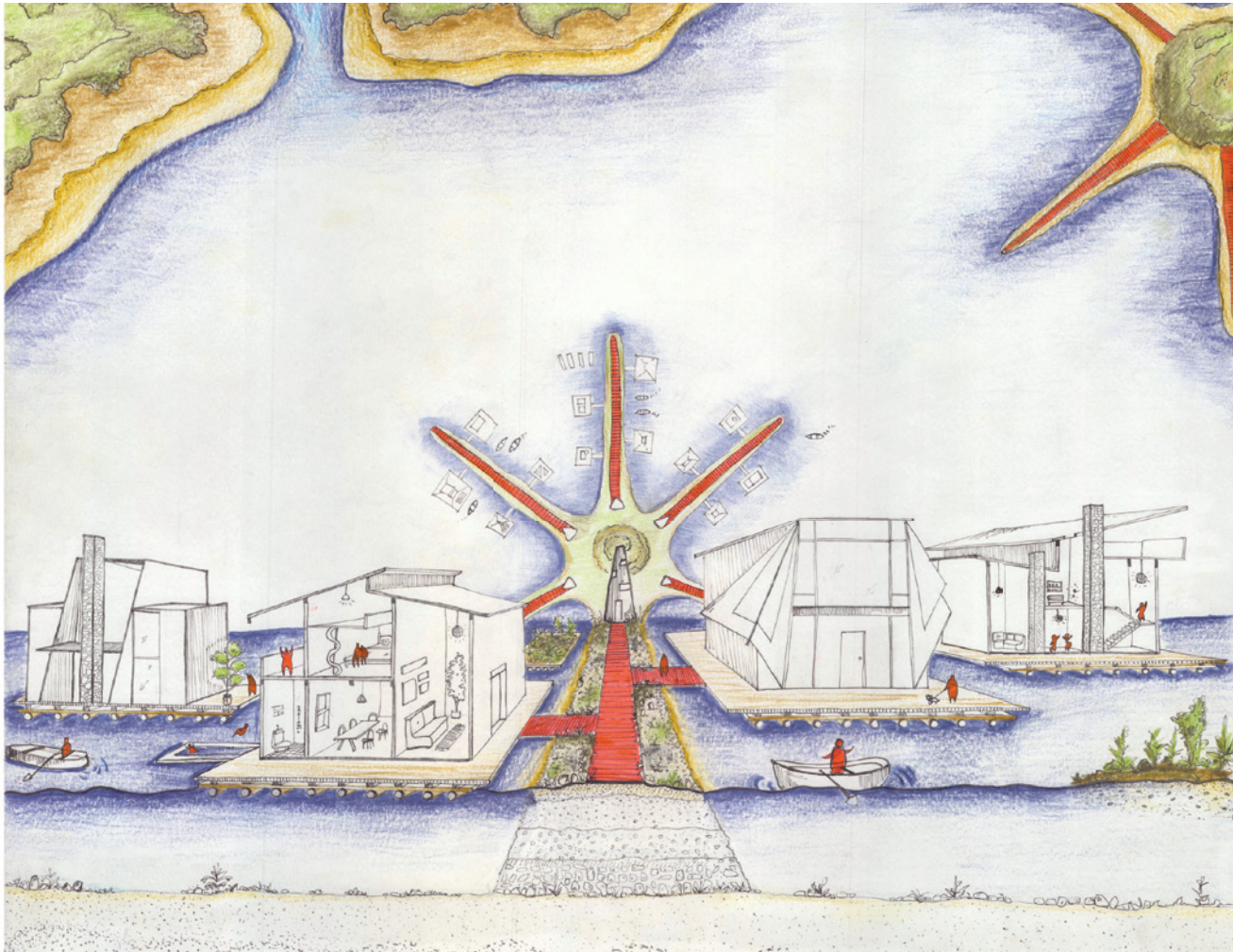
NEIGHBORHOOD BLOOM



ISLAND IMPLEMENTATION



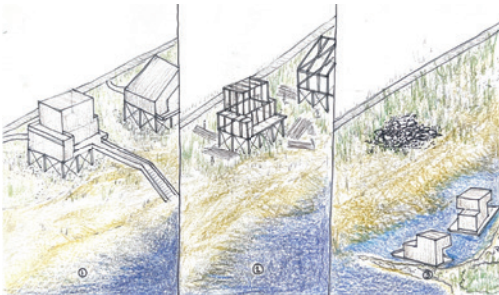
HOUSING IMPLEMENTATION



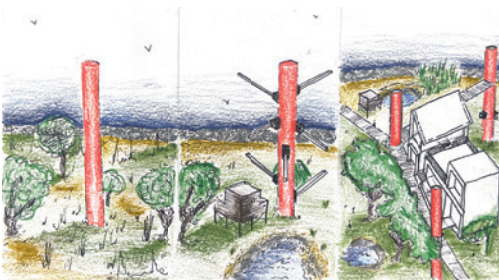
PORTRAIT OF THE LIVING PINE

**Principles:**

- 1/ Let Tides and Wind Redraw the Edge**  
*From erosion to adaptation.*
- 2/ Infrastructure as Collective Care**  
*Infrastructure becomes visible, social, and negotiable.*
- 3/ Bloom Through Culture, Not Control**  
*Party, ecology, and care coexist.*
- 4/ Inhabit Seasonally, Not Permanently**  
*Housing as rhythm, not asset*

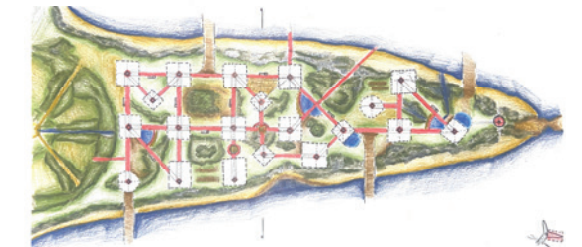
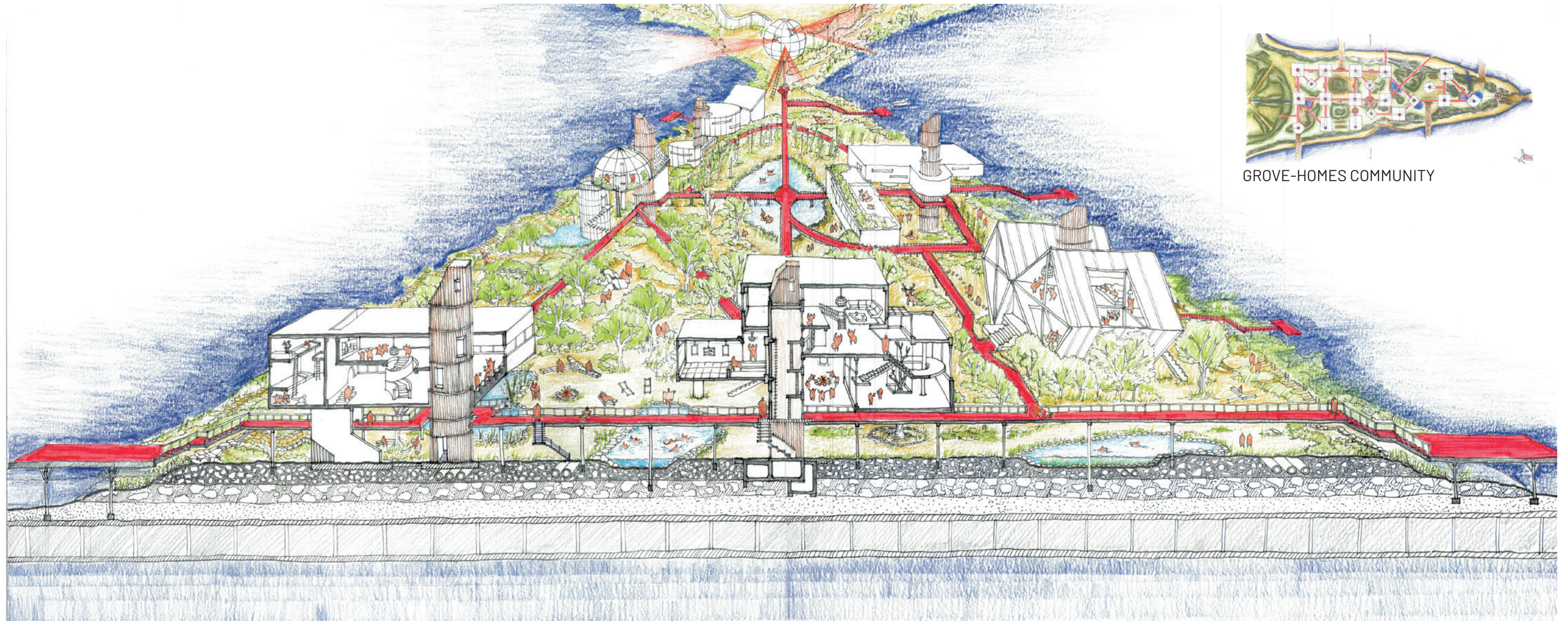


FIRE ISLAND'S DECONSTRUCTION



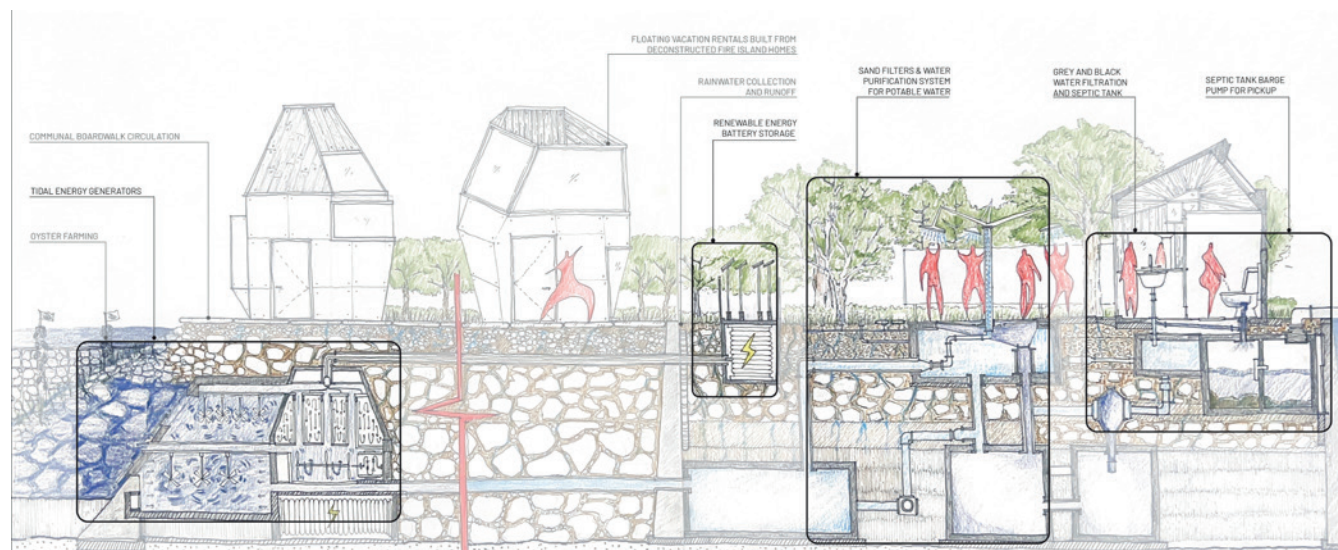
GROVE HOUSE CONSTRUCTION





GROVE-HOMES COMMUNITY

PORTRAIT OF THE PARTY GROVE



*The Blooming Bay* reframes coastal living not as a battle against water, but as a negotiated coexistence with it. By allowing tides and wind to redraw the edge, embracing seasonal inhabitation, and treating infrastructure as a form of collective care, the project resists permanence as the default response to climate risk. Instead of control, it proposes culture: gathering, celebration, repair, and rest, as an adaptive force. *Blooming Bay* is not a fixed utopia, but a living system that accepts change, withdrawal, and return as part of resilience. In doing so, it imagines a future where

inhabitation is rhythmic, shared, and deeply attuned to environmental uncertainty.

-

***The Blooming Bay proposes a cultural shift where gathering becomes adaptive, pleasure becomes cyclical, and coastal life is shaped by timing, withdrawal, and shared responsibility rather than permanence or control.***

-



ROOM

FAYERWEA  
HALL





| Monday  | Thursday  | Friday   |
|---|---|--|
|   | September 4<br><br>Studio and Faculty - Introductions<br>Climate Justice - Thad<br>Team Formation<br>1st Assignment | September 5 + 7<br><br>Public Narrative Workshop with Katie Swenson  |
| September 8<br><br>Teams Meet with Assigned Faculty<br>Case Study Desk Crits<br>Personal Region Due                             | September 11<br><br>Individual Stories of Regions Pinup   | September 12<br><br>Averting Crisis: Housing and Climate Change with Christine Garner, Regional Plan Association;<br>Johanna Lawton, Rebuild by Design |
| September 15<br><br>Case Study Desk Crits   | September 18<br><br>Case Study Review<br>Transect Kick-off  | September 19<br><br>Managed Retreat with Despo Thoma, SCAPE; Allison Branco, Nature Conservancy; and Hannah Glosser, HR&A                              |
| September 22<br><br>Transects Desk Crit (drawing + model)<br>Resilience Strategies - Thad                                       | September 25<br><br>Transects Desk Crit (drawing + model)<br>Powermapping Kick-off                                  | September 26<br><br>Mandatory Training for GSAPP   |
| September 29<br><br>Transects + Powermapping Desk Crit  | October 2<br><br>Transect & Powermapping Pinup (Assignment Part 1 & 2)<br>Site Visit Kick-off                       | October 3<br><br>Structures of Coastal Resilience, Guy Nordenson and Catherine Seavitt   |
| October 6<br><br>Public Life Tools & Methods - Candelaria<br>Site Visit Prep Desk Crit<br>Engagement Plan<br>Scenarios Kick-off | October 9<br><br>Site Visit   | October 10<br><br>Regional Planning with Carolyn Grossman, NYC Department of City Planning   |
| October 13<br><br>Scenarios Desk Crit<br>Video Rough Cut  | October 16<br><br>Scenarios Pinup<br>Thesis / Flrst Grain   | October 17<br><br>Workshop Preparation   |
| October 20<br><br>Video Crit<br>Bria's Talk on Research   | October 23<br><br>Work Day<br>Mission Statement Kick-off  | October 24 + 25<br><br>MIDREVIEW AND WORKSHOP  |

| Monday  | Thursday  | Friday  |
|---|---|---|
| October 27<br><br>Chris on IDM explanation,<br>Workshop Debrief Desk Crit | October 30<br><br>Mission Statement : Pin-Up<br>Introduce Sprint Method for Landscape               | October 31<br><br>Landscape Panel - Sussanah Drake on the Bight   |
| November 3<br><br>BREAK<br>Optional On-line desk crits                    | November 6<br><br>Landscape Design Sprint #1 Pinup<br>Frank on Mayoral Transition                   | November 7<br><br>Infrastructure Panel -Jeremy Colangelo and Emily Korman, NJT; Frank Ruchala +Phil Orton on coastal dynamics |
| November 10<br><br>Infrastructure Desk Crit                               | November 13<br><br>Infrastructure: Pinup<br>Housing Design Sprint workshop                          | November 14<br><br>Housing Panel - Julia and Nadine and Noah Chasin   |
| November 17<br><br>Housing Desk Crit                                      | November 20<br><br>Housing Pinup<br>Implementation/Action Plan Talk                                 | November 21<br><br>10 AM SPRING TRAVEL BRIEFING   |
| November 24<br><br>Action Plan Desk Crit                                  | November 27<br><br>Thanksgiving   |   |
| December 1<br><br>Flnal Design Desk Crit                                  | December 4<br><br>One MORE Desk Crit!   | December 5<br><br>On-line Review Rehearsal, send videos to critics.   |
| SATURDAY December 6<br><br>FINAL REVIEW                                   | December 8<br><br>Sketchbook Review!<br>Final studio meeting<br>Bria's Goodwin Presentation at 6 PM |   |

BIGHT STUDIO SCHEDULE



**ARTIFICIAL INTELLIGENCE POLICY**

We are experiencing radical change in the way we work and learn with the widespread use of Large Language Models and other AI technology. This studio cautiously accepts that AI tools are becoming mainstream, but we will enforce these community guidelines:

- Transparency and Disclosure: Students must clearly cite and describe the AI tools used for each assignment or project component. This includes specifying the AI model, version, purpose of use, and the extent of its contribution.
- Beware the Sycophancy Trap. AI tools reinforce existing biases, especially the “confirmation bias.” ChatGPT always tells us what we want to hear and never challenges our assumptions. Students must use AI in concert with research and critical thought, or else the tools can further spread harmful misinformation, and reportedly, can damage a person’s psyche.
- Use Sparingly and with Great Skepticism. AI Tools are developing ahead of society’s ability to develop reasonable rules for their use. The computing power involved requires vast amounts of energy and water, and perhaps more disturbingly, everything it uses is stolen intellectual property. There are on-going lawsuits against AI companies from actual sources of information like the New York Times, but in the meantime, the use of this property is a free-for-all and is becoming another engine of inequality.

**STUDIO SKETCH BOOKS**

Each student will keep a sketchbook for the studio and will be expected to bring it to all studio meetings, events, and lectures. Sketchbooks will be used in all desk crits. Students will use sketchbooks to draw and take notes during pinups, reviews and lectures.



**Special Thanks**

**Guest Lecturers,  
Workshop Instructors,  
Mid-Term Reviewers,  
Final Review Guests,  
All Community Participants**

**Organizer |**  
Master of Science in Architecture and Urban Design (M.S.AUD),  
Columbia GSAPP

**Chief Editor |**  
Yi-Jou (Zoe) Lin

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**Photographers |**  
Vincent Zhang  
Faculty and Students, M.S.AUD Class of 2026



