

# KINGSTON RISING

*Increasing Awareness and Education  
Through Revelatory + Adaptive Design*

KIMBERLY BLACUTT | IVY WONG



## PHASING

Present - 2016

- 2025 - Elevated Walkway
- 2025 - Tide Pools/Tide Gates

- 2025 - Start Testing of Shorelines
- 2030 - Buy Marina/Make Marina Public
- 2040 - Educational Programs with Local Schools

- 2050 - Construct Wetlands in Block Park
- 2050 - Start Planting Tested Plants in Constructed Wetlands
- 2050 - Relocate Baseball Field
- 2050 - Build Flood Adaptable Kayak/Canoe Center

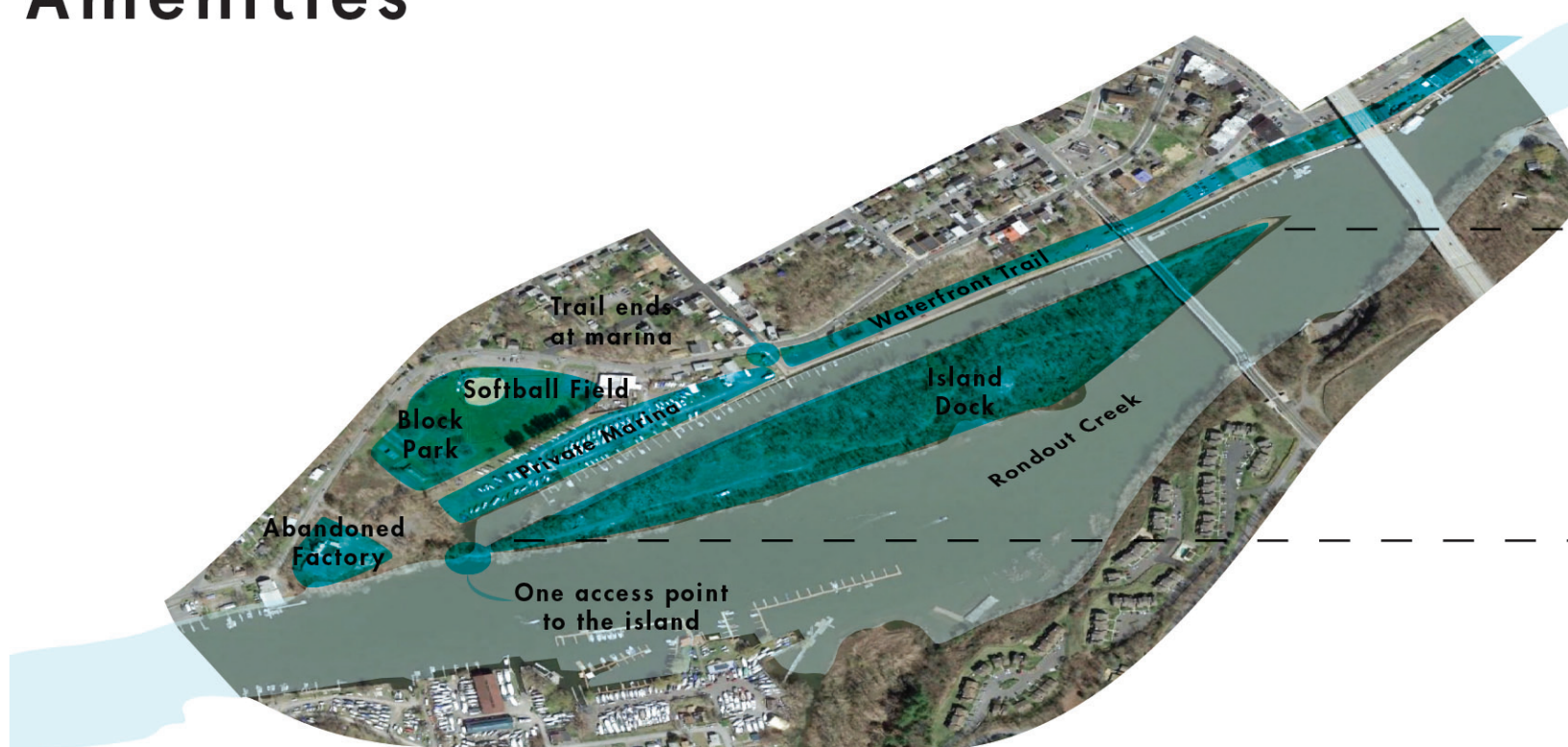
- 2060 - Build Flood Adaptable Education Center

- 2080 - Established Wetlands on Island Dock

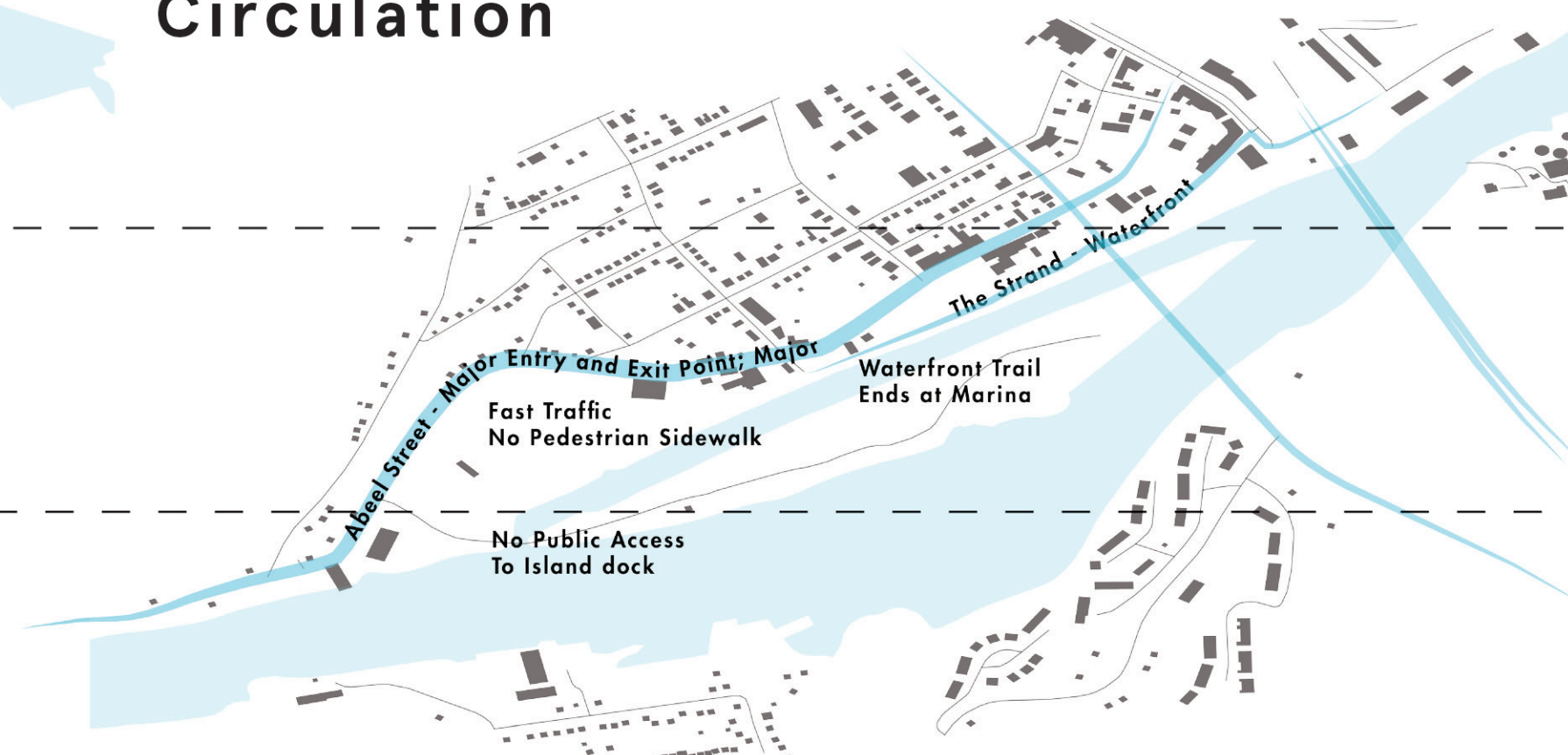
Future - 2080

## KEY SITE CONDITIONS

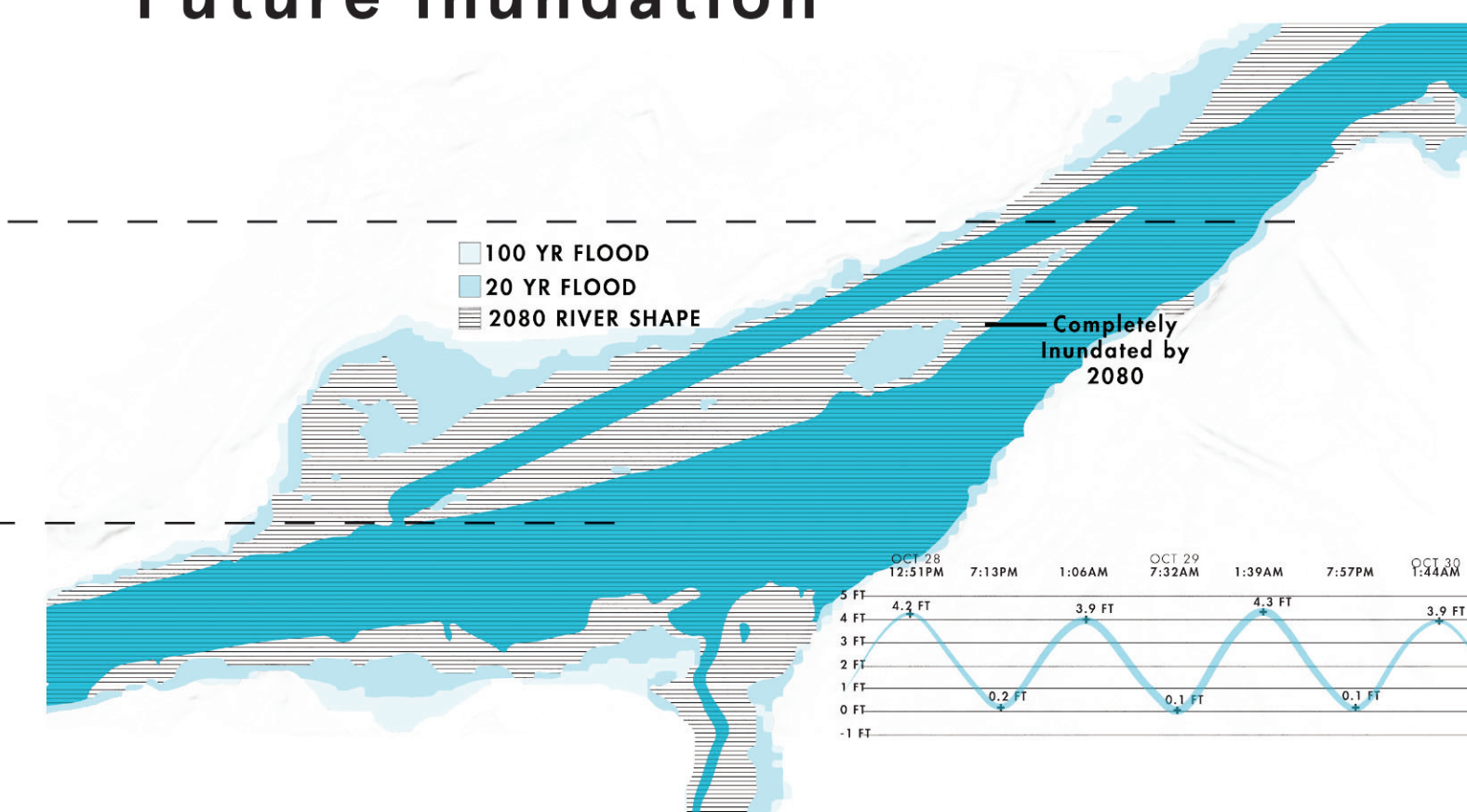
### Amenities



### Circulation



### Future Inundation



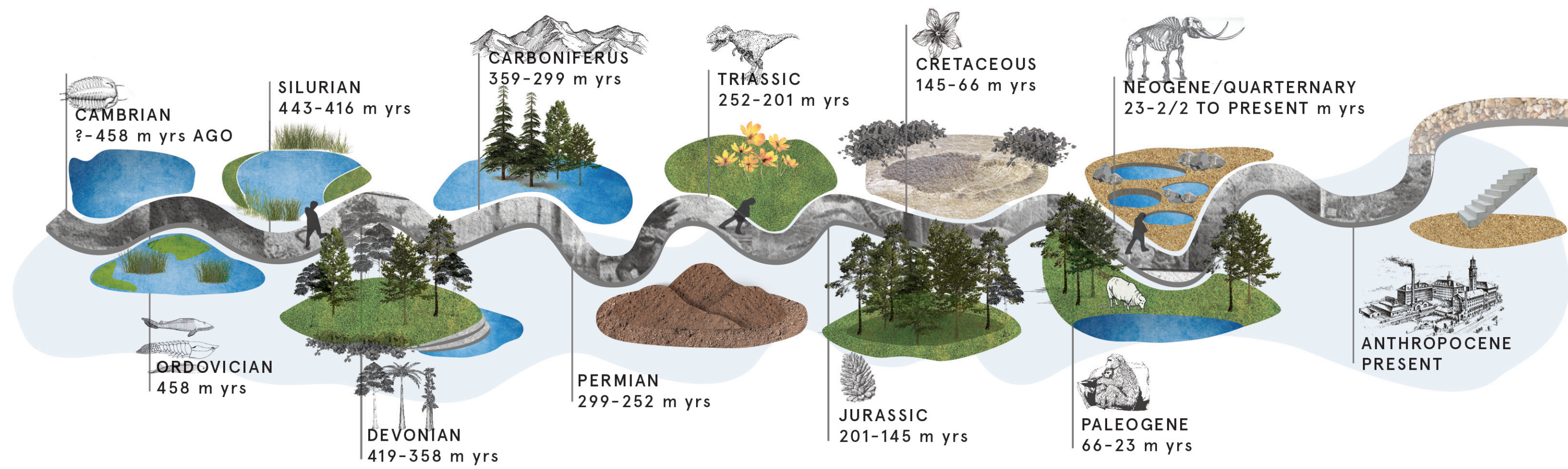


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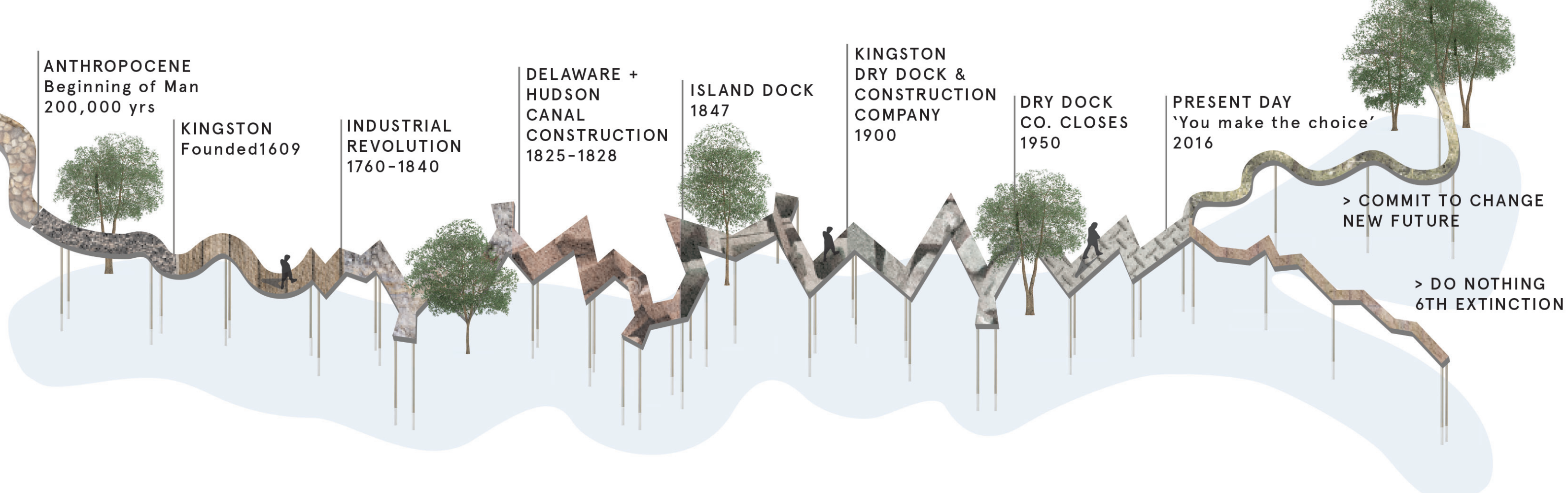
> ALLEGORICAL PATH

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Beginning of Earth to Age of Human (Naturalistic Path)



Age of Human to Present (Highly Constructed Path)



DESIGN GOALS



Allegorical Decision Point 9

Those who traverse the elevated walkway will reach a point in the path where arrive at a crossroads. Visitors can choose to take one path that leads to a descends into the water and to a dead end, representing the course of humanity if it decides to continue business as usual, without regards to the environment; or, visitors can choose the other path, which returns to Kingston and civilization. The later path also connects to the Kingston waterfront trail network. This decision represents a commitment to change, sustainable lifestyle and preservation. In this way Kingston Rising makes a powerful statement.

CONCEPT DIAGRAM

Our visitor's journey and experience through the space is meant to be educational and revelatory. There will be signs throughout the entire path network that indicate Kingston's history, as well as human impacts on the environment, and even geological time periods. Our path functions as an outdoor museum where people can both learn and recreate.

User

- The parent
- The research-focused student from high school or college
- The child in elementary school on an educational field trip
- The person who wants to exercise
- The person who loves kayaking or canoeing
- the person who loves nature
- The person who loves learning about history, or learning in general



Ecological

Our site should support different ecological habitats and allow for marsh migration and the development of natural wetlands. We will also promote biodiversity by creating different micro-climates throughout the site; these various habitats will support diverse flora and fauna. Our hope is that we will discover the best ways to set up sustainable ecosystems through testing.

Education

Our goal is to increase awareness about the human impact on the environment through educational opportunities throughout the site. We want to educate visitors about Island Dock's historical uses, and, more generally, we want people to learn about the history of human impacts on the environment. Our path features a time-line that moves through the earth's geological ages and reaches the anthropocene.

Experimental

Our goal is to create an experimental zone where we can test different sustainable shoreline strategies. We will test several edge conditions, including a mixture of soft and hard edges, where appropriate. We will prematurely induce projected changes on our site with regard to climate change and sea-level rise to see how our design responds before it the changes naturally occur.

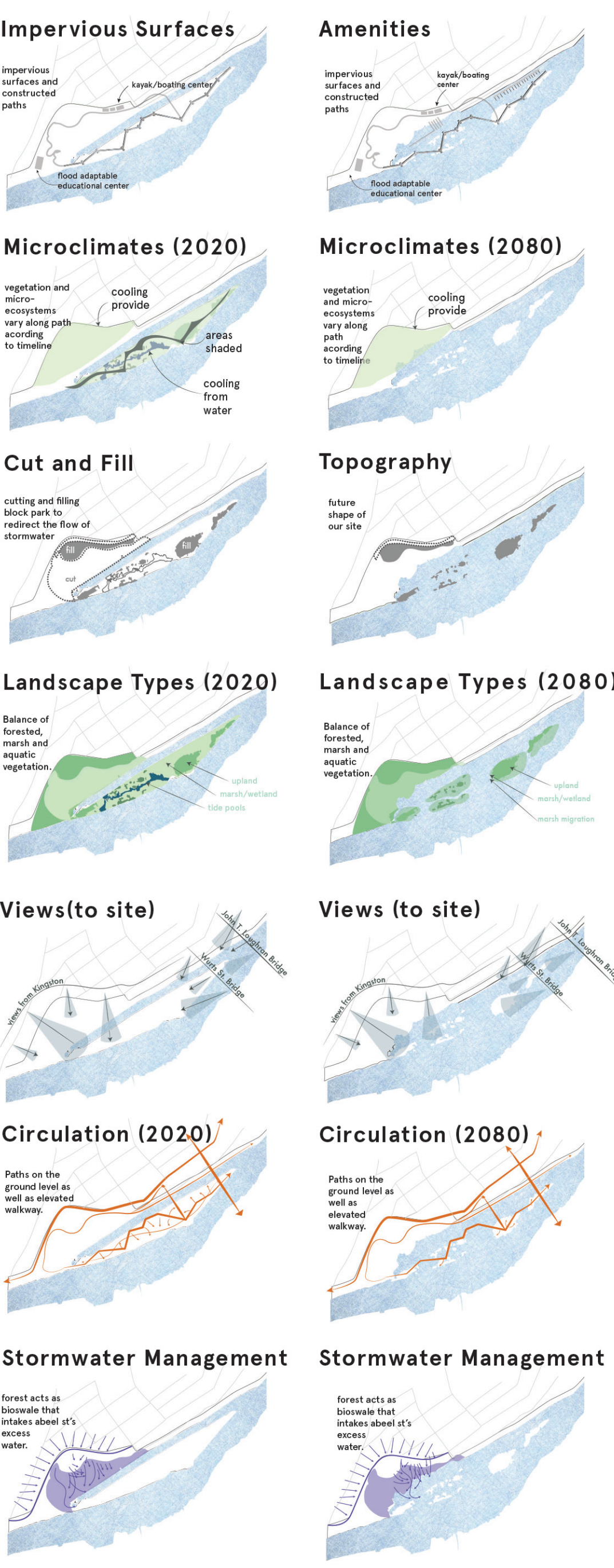
Economic

Creating a waterfront park has the potential to increase revenues and value of the waterfront. The potential for our site to be a learning platform also increases its value. We also would like to allow vendors to set up in our park to allow to further support our economy, which is already largely based on the food & beverage industry.

Recreational Space

The elevated walkway is proposed to be a recreational space for runners, walkers, and dog-walkers. Before 2080, they will be able to access island dock through various stair access points throughout the entire walkway. The ground will include different stepping stones and economical playground equipment. In 2080, they will no longer be able to access various parts of the site because it will be partially inundated. Visitors will be able to see the vestiges of the original site. We also plan to open up the marina to encourage water-dependent uses on the site such as kayak or canoe usage.

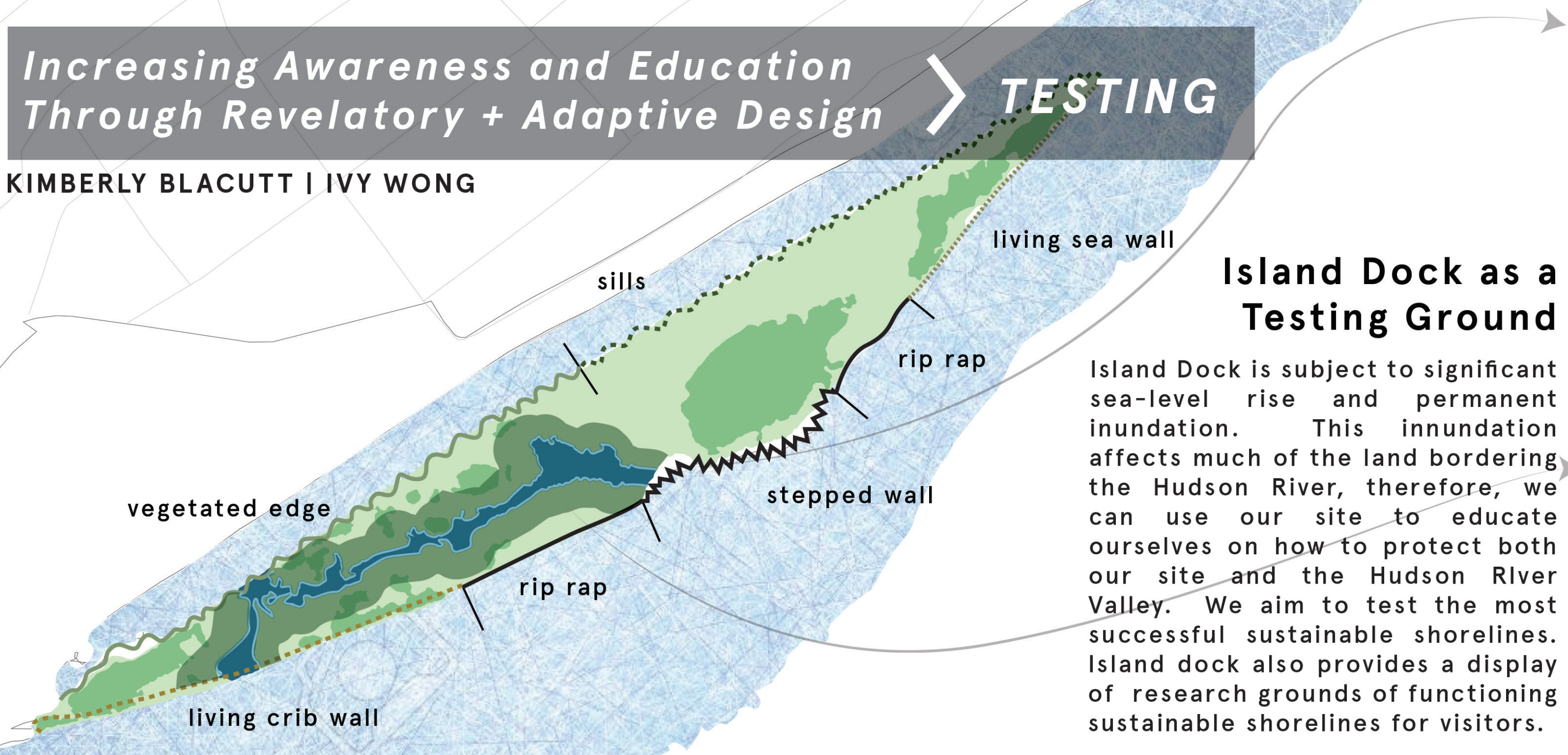
SYSTEMS DIAGRAMS





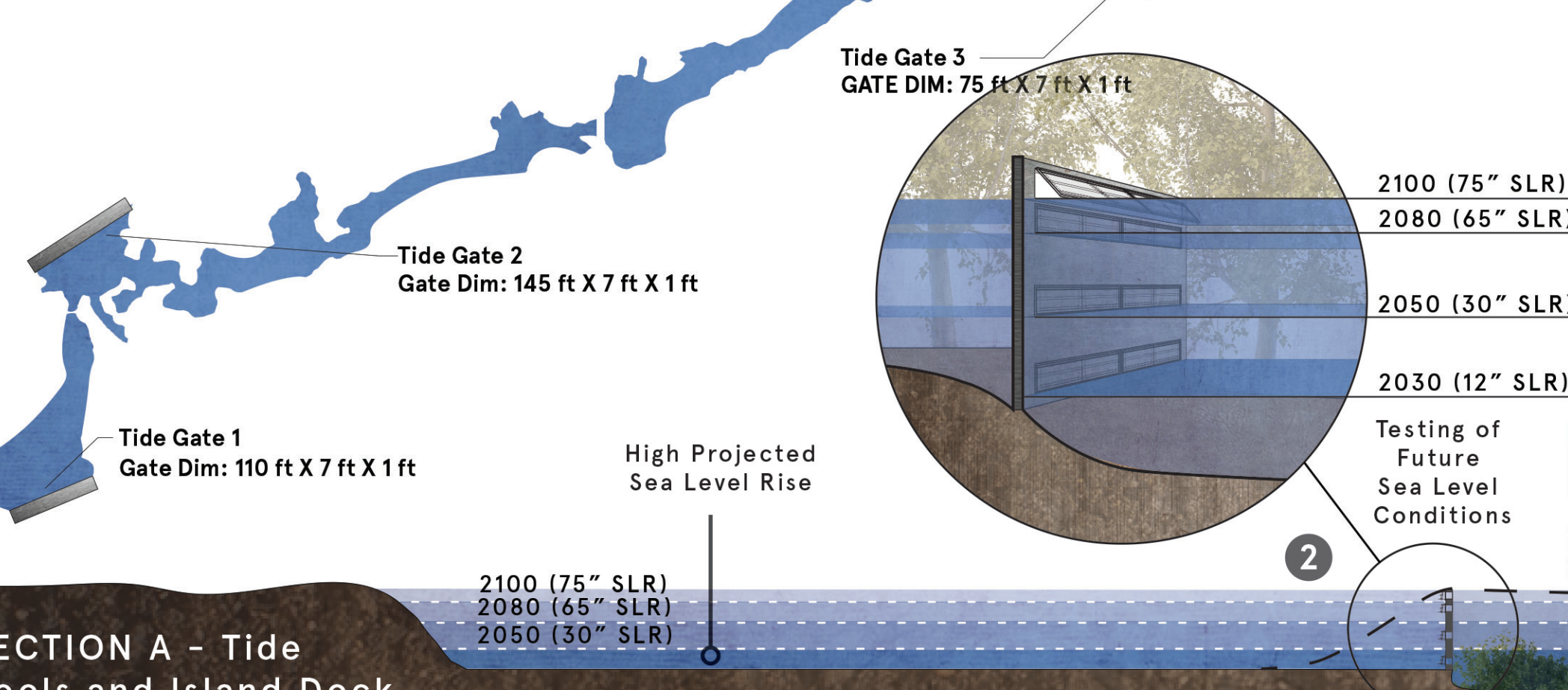
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Tide Gates & Tide Pools

SECTION A - Section of Elevated Walkway and of Tide Pools



SECTION A - Tide Pools and Island Dock

Different Slope Geometries on Tide Pool Edges

Why are we testing this?

We know that ecosystem migration requires soft, sloped edges, but are there certain slope shapes that prove to be more advantageous than others? Do certain plants root better or migrate better on differently shaped slopes? Which shape best prevents erosion? Observing the survival of the plant communtie along these various slope shapes will inform us of the best slope shapes.

Different Sustainable Shorelines

Why are we testing this?

Shoreline edges are different, and for good reason. We are varying the shoreline type based on edge condition. In some cases, a harder edge is most appropriate and in others, a low-impact vegeated edge will suffice. Varying the edges will protect our site from eroding forces and encourage ecosystem percolation and survival.

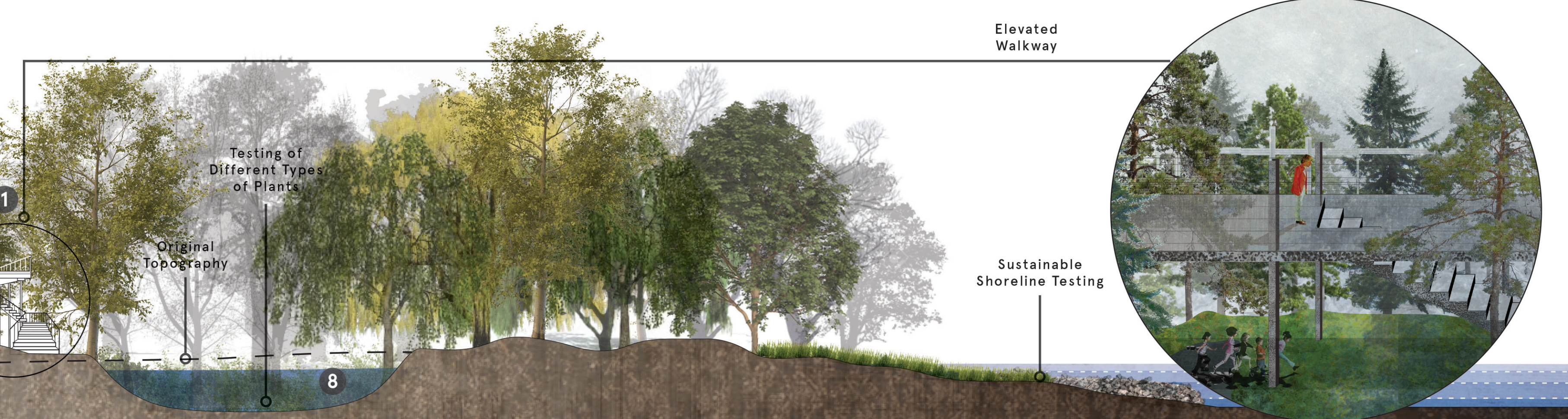
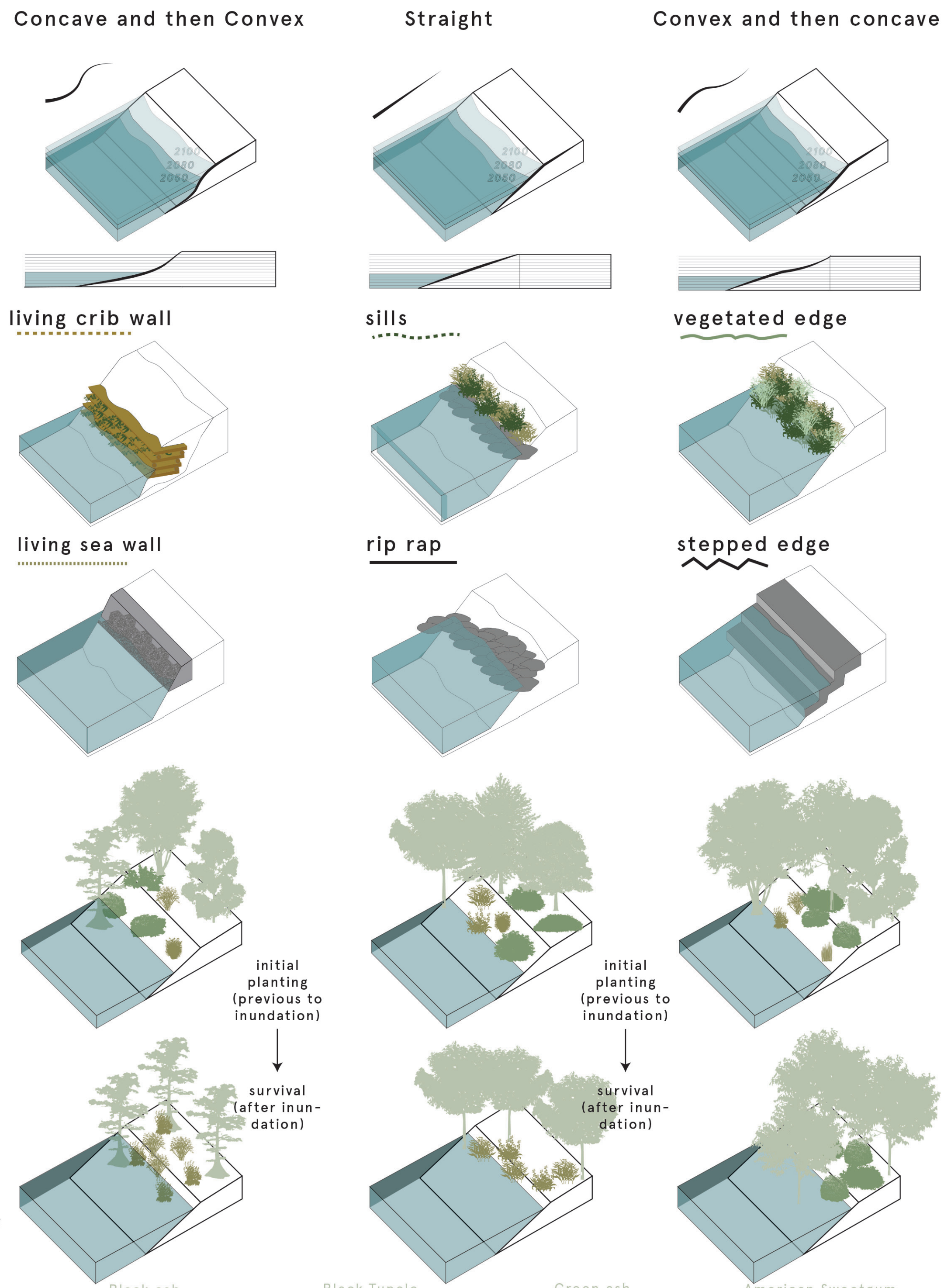
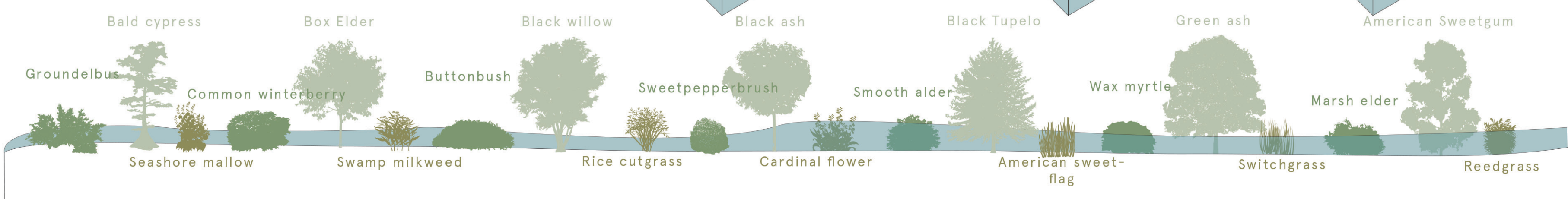
Different Combinations of Plants Near Shoreline

Why are we testing this?

We know of individual flood-tolerant plants that are, but what happens when these individual plants are planted together? Are some better adapted than others? Will they compete with or complement each other? By placing plant communities of individual species on different areas of the site, we will be able to get a better idea of which combinations work best.

\*Each plant icon on each figure is representative of a number of that species in each testing area. The diagrams are not meant to illustrate what the quality of the planted space will look like, instead they try to suggest a process.

All of the following plants are classified in the three following groups: SLAMM 7 - Transitional Salt Marsh - MHHW-Spring (Estuarine Intertidal Scrub-shrub Broad-leaved Deciduous), SLAMM 8 - Regularly Flooded Marsh - Mean Tide-120%MHHW (Salt Marsh, Estuarine Intertidal Emergent), and SLAMM 10 - Estuarine Beach - MLLW/MTL-Spring (Estuarine Intertidal Unconsolidated Shore Sand or Beach-bar). This means that they should be well adapted to both high and low levels of inundation.





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GREEN INFRASTRUCTURE

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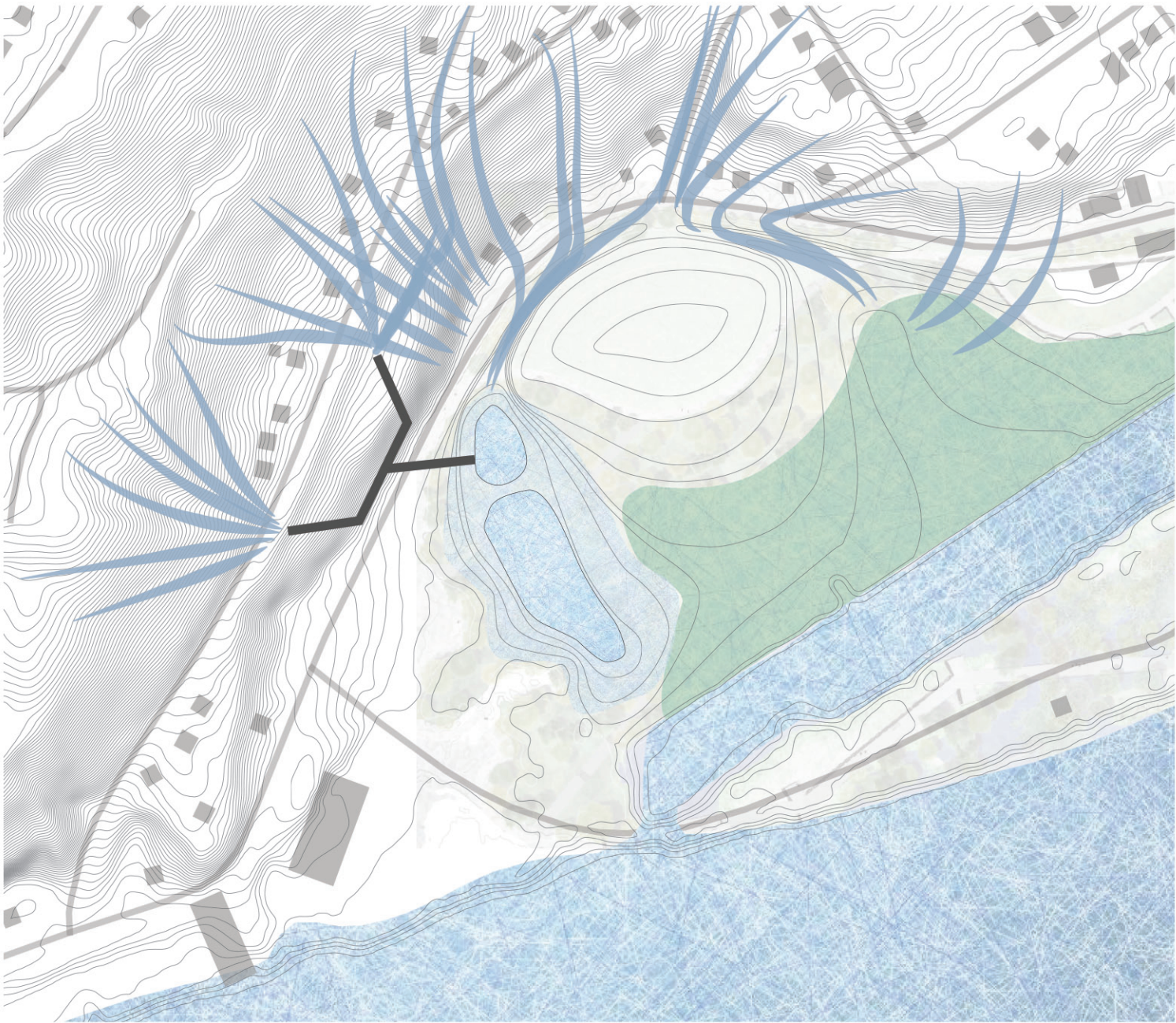
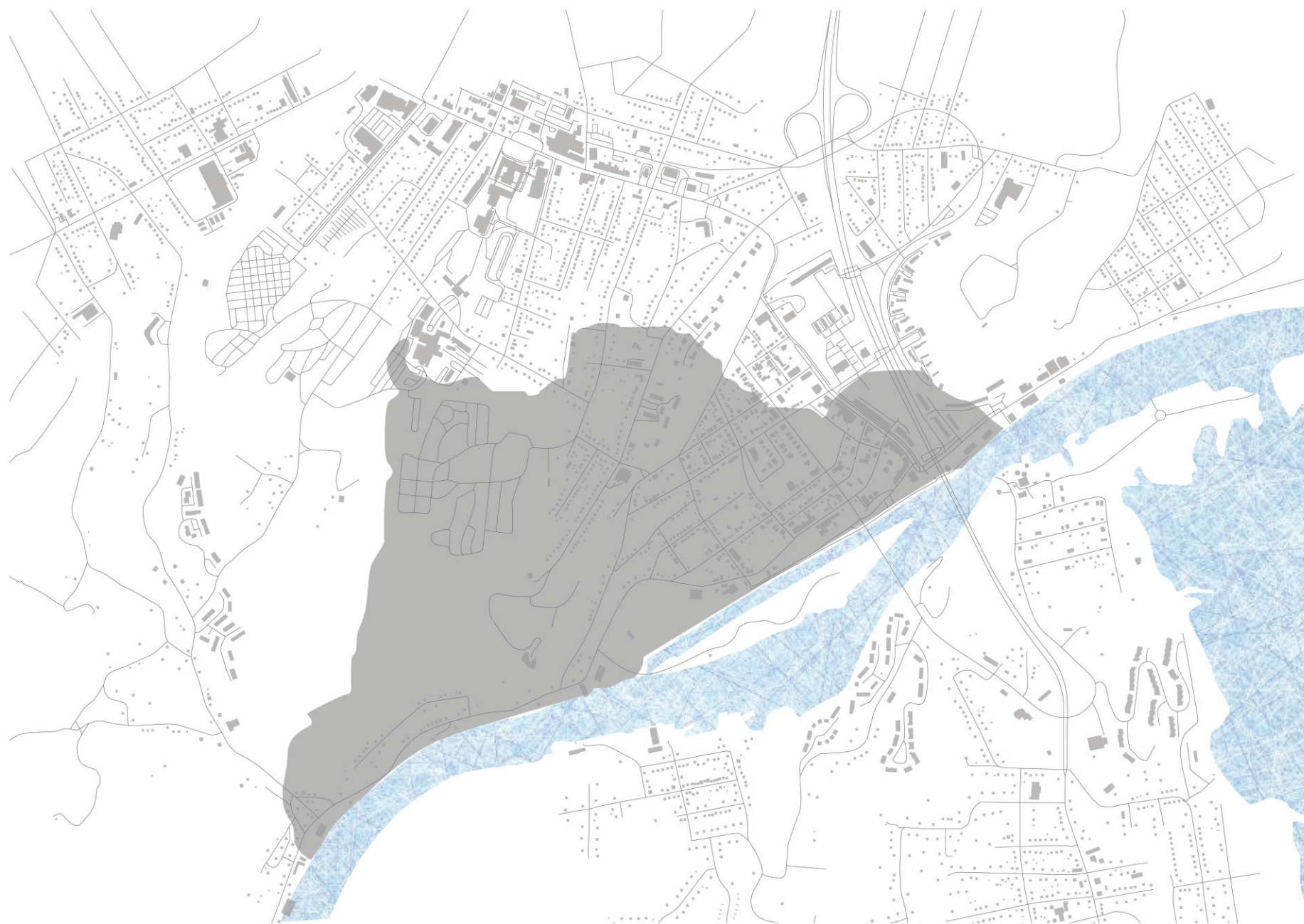
FLOODING

Subwatershed 3:  
Downtown West

Size: 295 Acres  
Wetlands: 2.2 Acres  
Larger Watershed: Rondout

Our Intervention:  
Constructed Water Quality Wetland

Through one culvert and a grass-channel, the total amount of surface water runoff from the Downtown West Watershed will be diverted into our water quality wetland. This wetland has two ponds with varied depths, and can carry 100% of the runoff from the storms. We have planned this detention basin to account for the 10-year flood with a 24 hour duration; it is also able to filter the water before it enters the river.

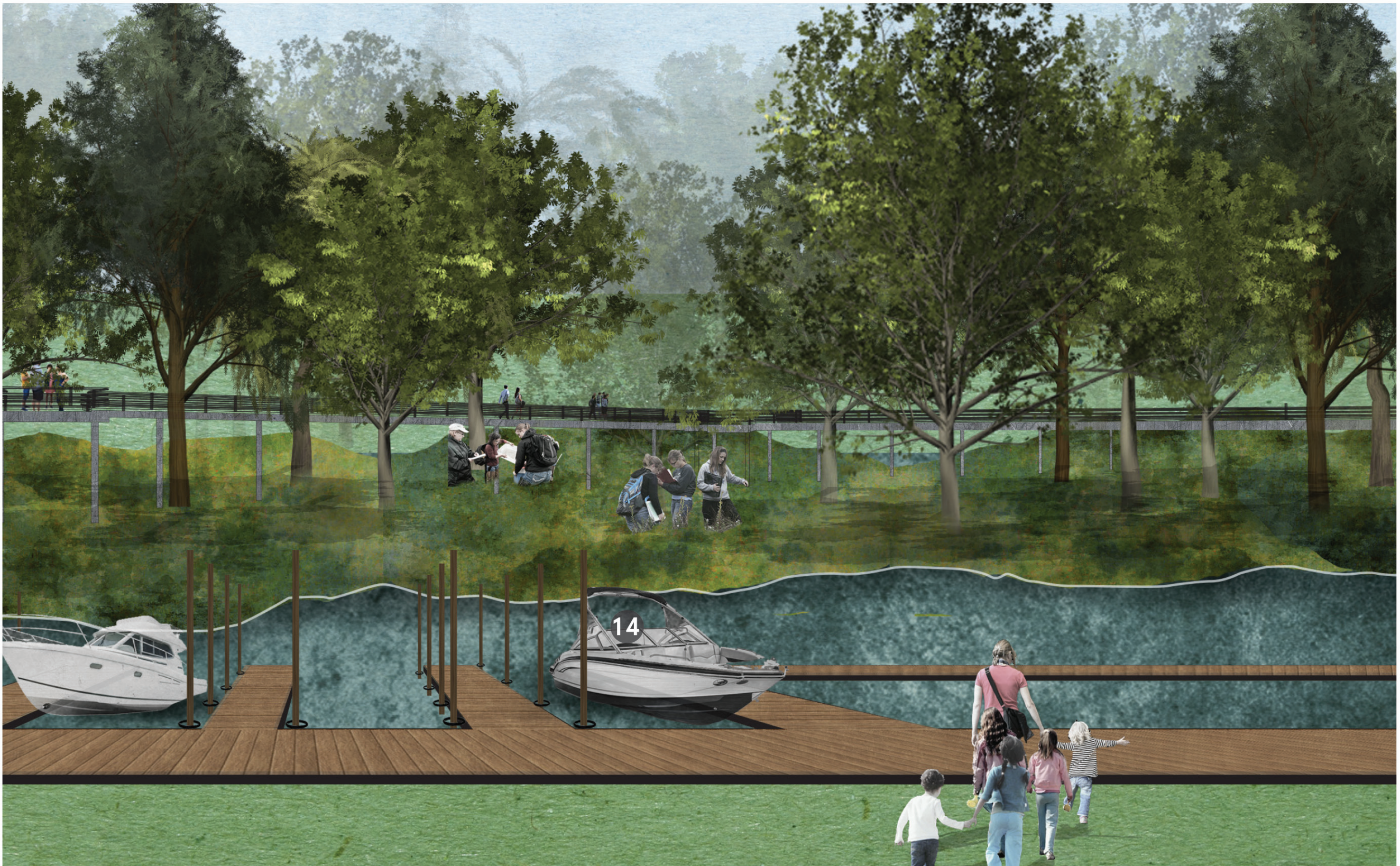


ECOSYSTEM  
SERVICES  
FRAMEWORK

- + Captures 100% of 10-Year 24 Hour Flood (Stormwater Runoff)
- + Water Quality
- + Shore Stabilization
- + Additional 2 Miles of Public Trails
- + Species/Habitat Diversity
- + 15 New Acres of Recreational Space
- + Educational Programs



Constructed Water Quality Wetland with Playground/Path Features



Future Public Marina - With Floatable Docks

