

# Ralph C. Wilson, Jr. Centennial Park

City of Buffalo | Buffalo Urban Development Corporation

MVVA | 09-11 March 2020

# Project Partners





# Design Vision (May 2019)





# Contextual Master Plan (May 2019)





# Schematic Design (June - November 2019)





# **Schematic Design (June - November 2019)**

**05 June** Technical Stakeholders

**19 June** Regulatory Agencies

**17 July** Regulatory Agencies (in Albany)

**05 September** Focus Group

**11 September** Pedestrian Bridge Competition - Phase I  
Community Family Workshop

**12 September** Playground Workshop w/Belle Center  
Technical Stakeholders  
Regulatory Agencies

**17 October** Pedestrian Bridge Competition - Phase II

**23 October** Transportation Workshop

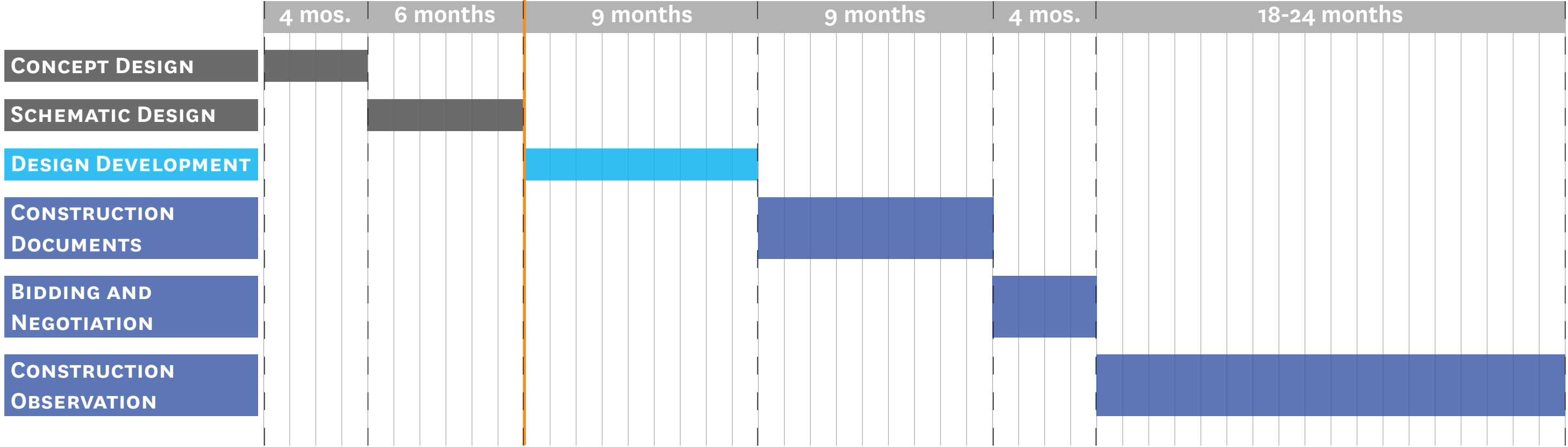


# Design Development Phase



# Project Schedule

→ We are here!





# **Design Development Phase**

- 1.** Greater definition of the park program elements and their relationship with each other.
- 2.** Exploration of park materials, including pavements, planting, site furnishings, etc...
- 3.** Continued strategic development of design and construction schedule, and project budget and delivery, in collaboration with the Client Group and Stakeholders.

# Design Team

<b>Landscape Architecture</b>	Michael Van Valkenburgh Associates, Inc.
<b>Structural Engineering (bridge)</b>	Schlaich Bergermann Partner
<b>Marine Engineering</b>	Beech and Bonaparte Engineering P.C.
<b>Civil and Structural Engineering\ Infrastructure and Utilities</b>	Wendel
<b>Hydrologist</b>	LimnoTech
<b>Ecologist</b>	Biohabitats
<b>Soil Scientist</b>	Craul Land Scientists
<b>Irrigation Designer</b>	WC3 Design
<b>Geotechnical Engineering</b>	Empire Geotechnical Engineering Services
<b>Lighting Designer</b>	Domingo Gonzalez Associates
<b>Code Consultant</b>	Foit-Albert
<b>Playground Code Consultant</b>	Abundant Playscapes
<b>Traffic/Transportation Engineering</b>	WSP
<b>Cost Estimating</b>	Trophy Point



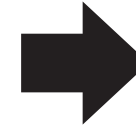
# Design Update



**Existing Conditions**



**Design Vision  
(May 2019)**



**March 2020 Scheme**

## **7 Key Design Moves**

- 1. Improve Neighborhood Connections with a Bridge.**
- 2. Enhance Circulation Networks.**
- 3. Create a Great Lawn.**
- 4. Update Existing Fields and Increase Sports Variety.**
- 5. Create a Destination Playground.**
- 6. Provide Opportunities for Active and Passive Recreation.**
- 7. Improve Shoreline Resiliency and Water Access.**



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# Improve Neighborhood Connections with a New Bridge



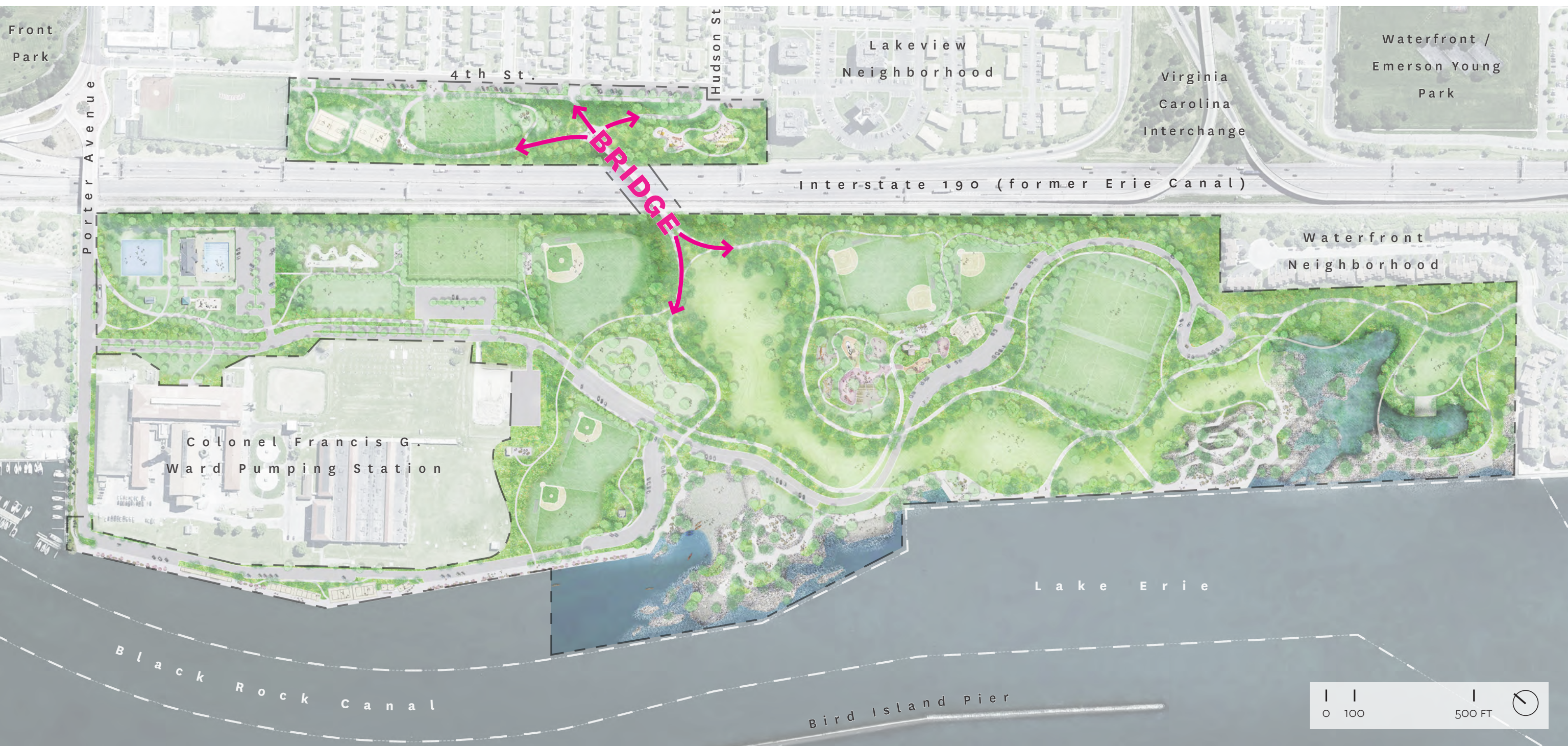


# Improve Neighborhood Connections with a New Bridge

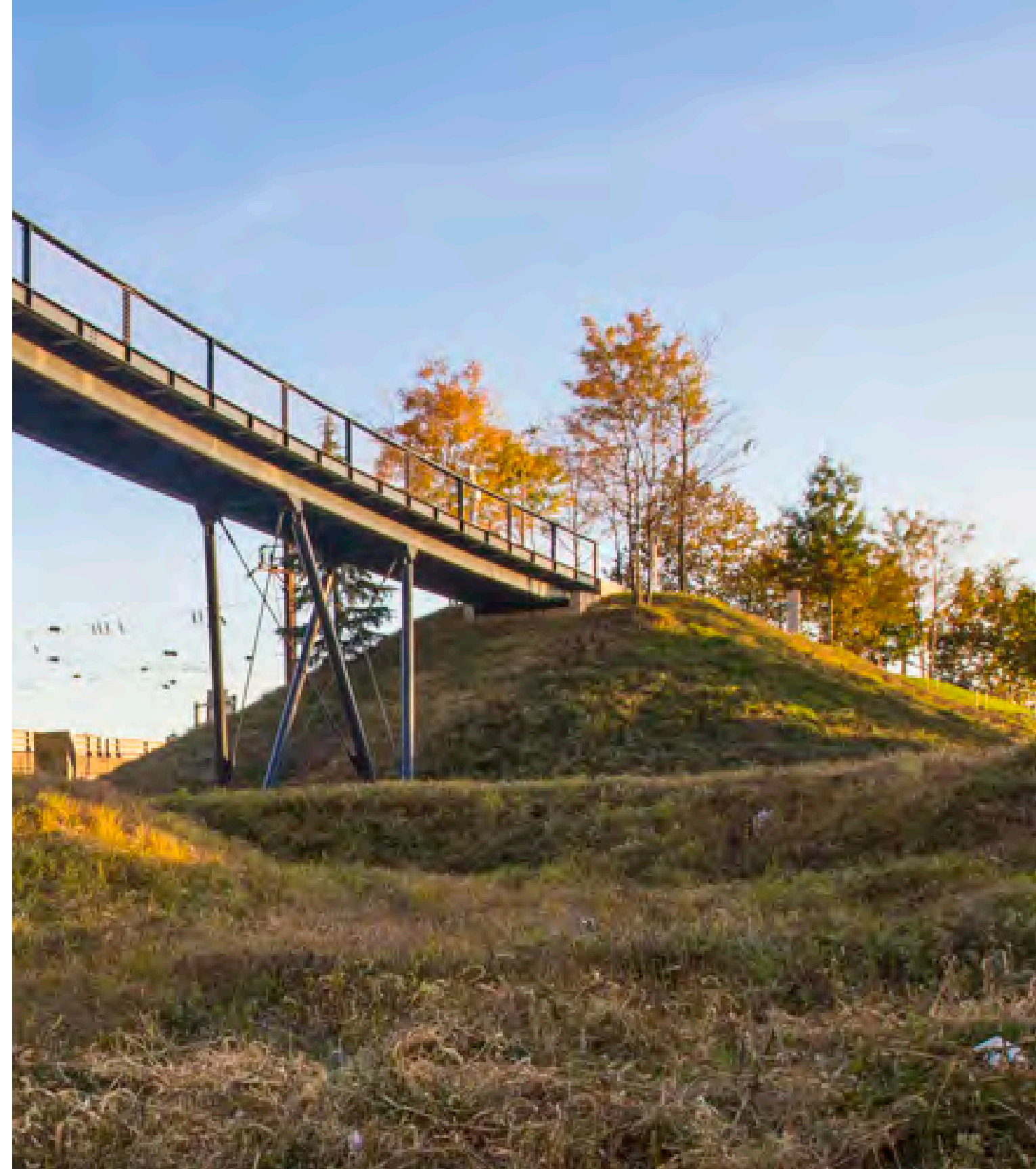




# Improve Neighborhood Connections with a New Bridge













# Selecting a Bridge Designer

- Ten bridge designers from around the world submitted qualifications.
- Four bridge designers participated in a two-phase idea competition.
- Jury members included:  
Michael Finn, Matthew Latko, Amanda May, Robert Shibley, and Michael Van Valkenburgh.
- Schlaich Bergermann Partner was selected.



**sbp**

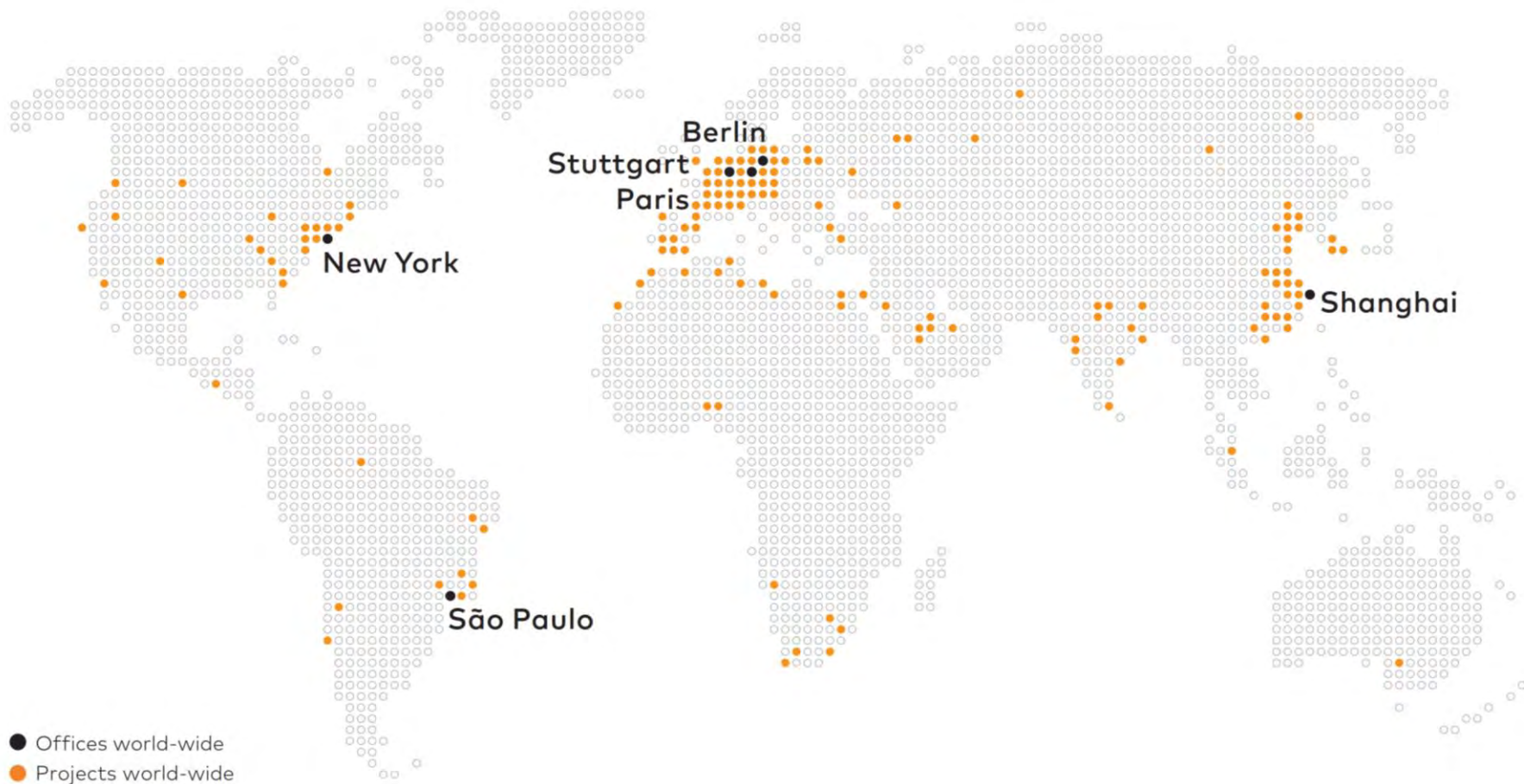
schlaich  
bergemann partner

# **Ralph C. Wilson Jr. Centennial Park Pedestrian Bridge**

Abstract geometric lines in the bottom right corner, consisting of several thin, curved lines that sweep upwards and to the right, and a few vertical lines intersecting them.

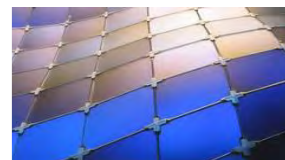
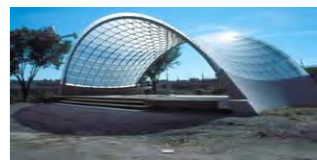




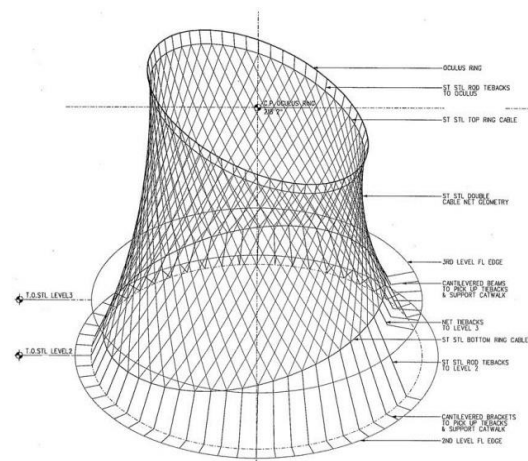
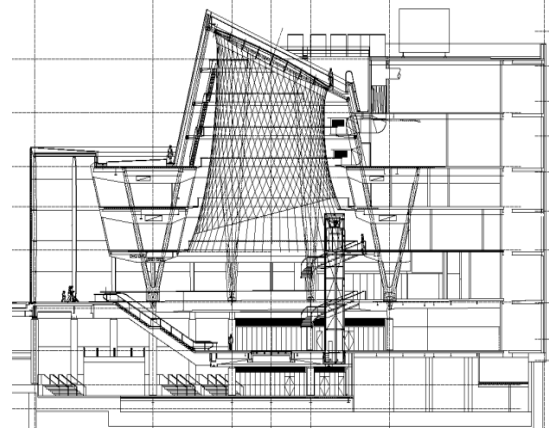












**sbp**

schlaich  
bergmann partner

Sky Reflector Net, Fulton Center





















sbp

context



1883



2019



Erie Canal at Virginia Street, then and now







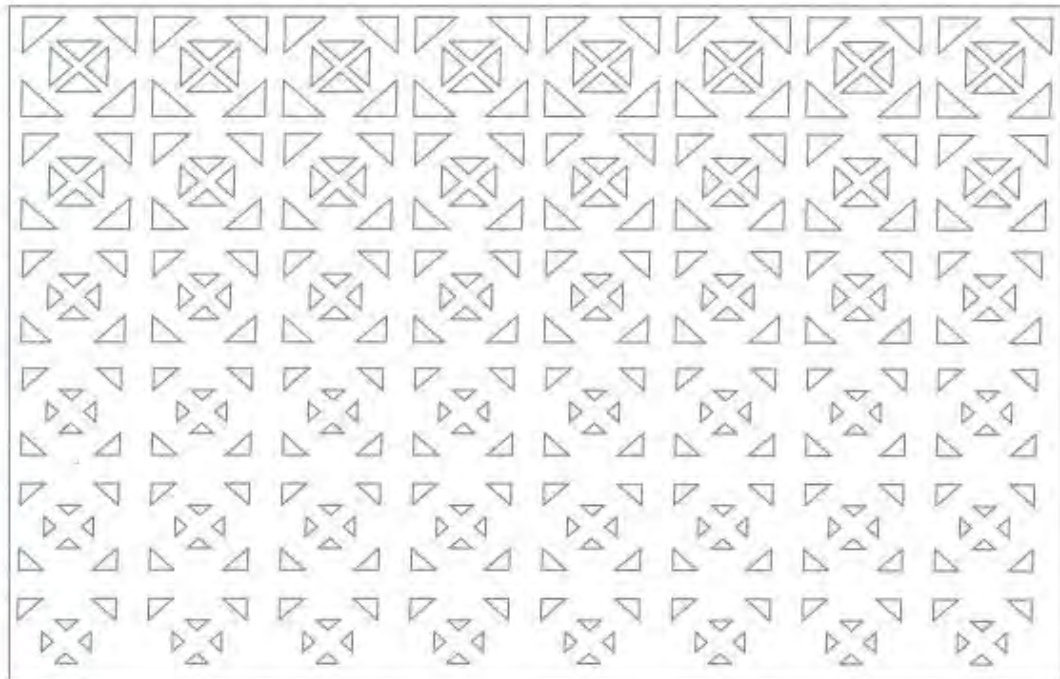
"Tree of Life" F. L. Wright



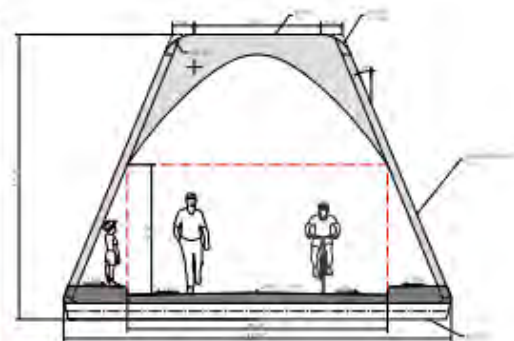
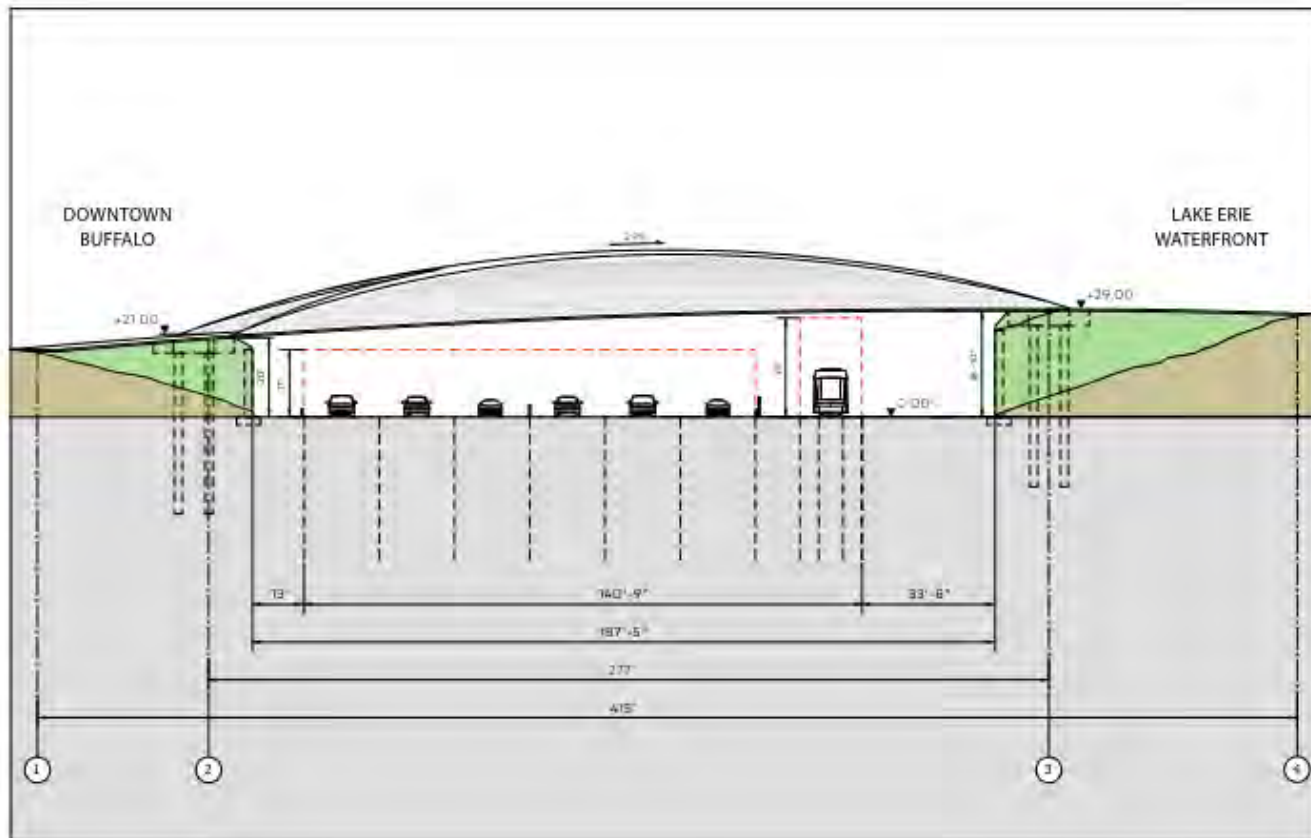
Pan-American Exposition, 1901



Louis Sullivan's Guaranty Building, 1896















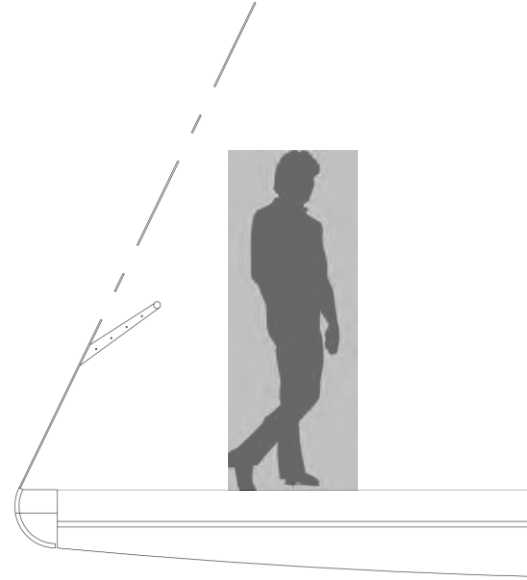








## Railing























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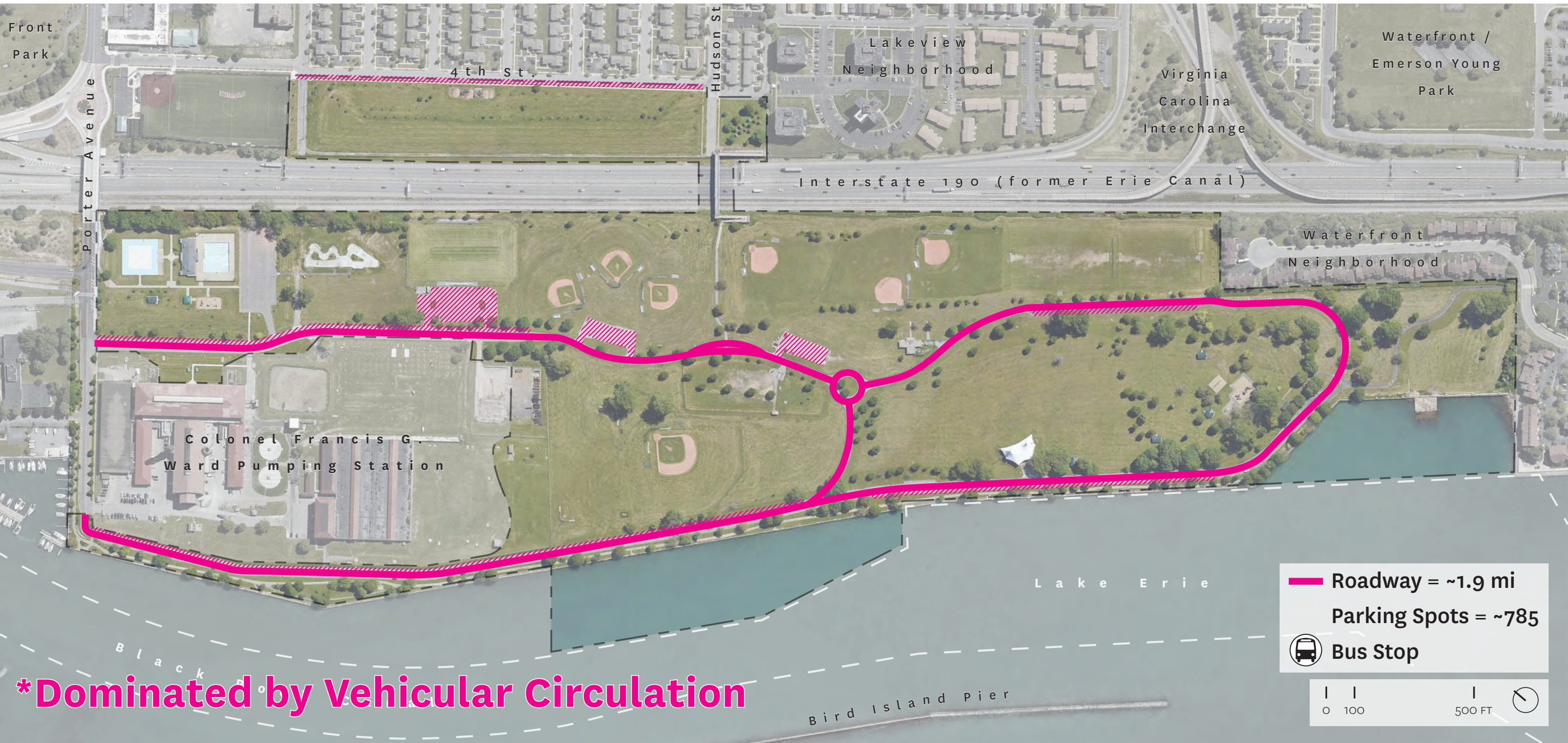


# Enhance Circulation Networks

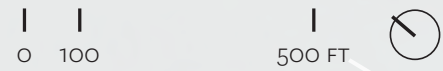




# Enhance Circulation Networks - Vehicular



— Roadway = ~1.9 mi  
Parking Spots = ~785  
Bus Stop



**\*Dominated by Vehicular Circulation**



# Parking Strategy



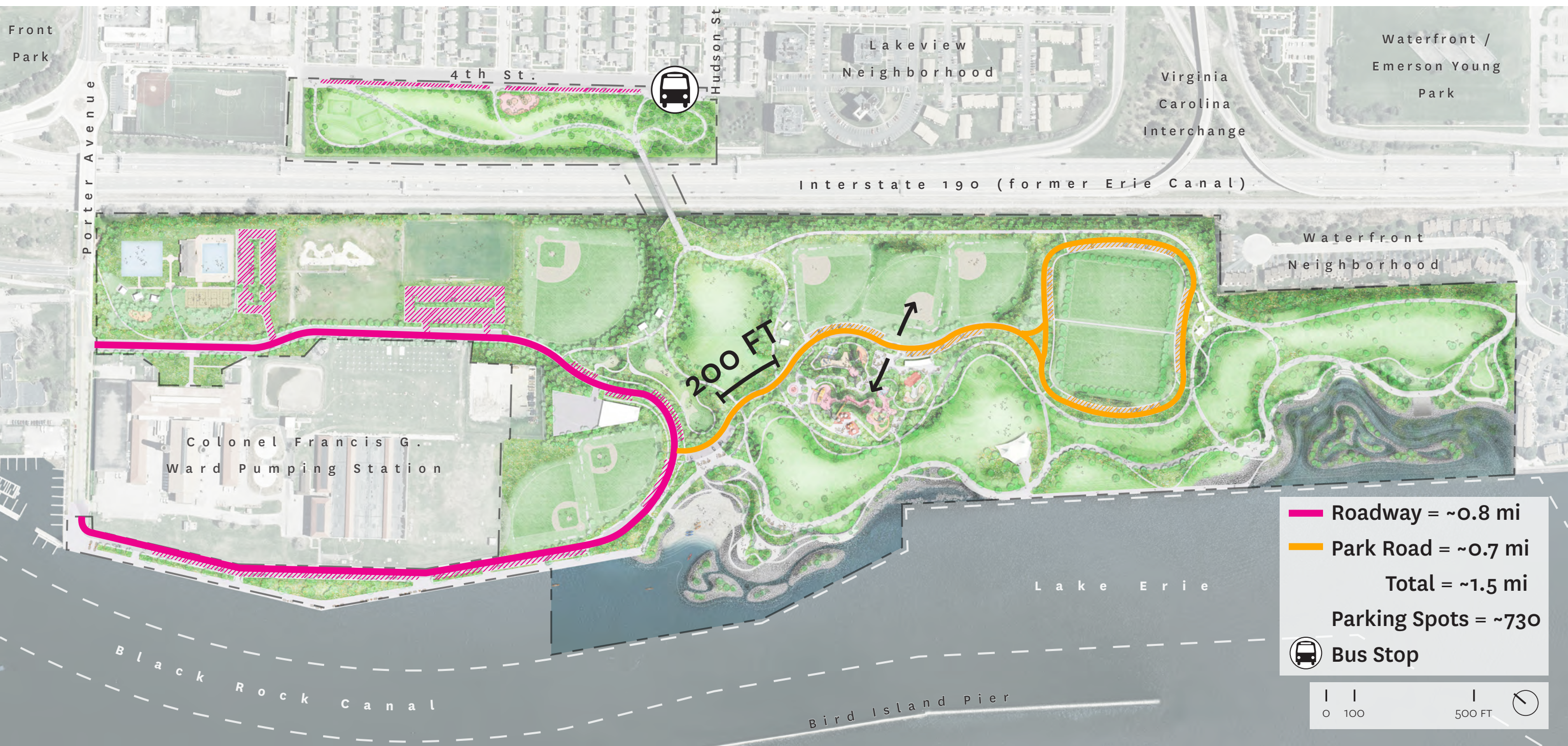


# Enhance Circulation Networks - Vehicular





# Enhance Circulation Networks - Vehicular





# Enhance Circulation Networks - Cycling





# Enhance Circulation Networks - Cycling





# Enhance Circulation Networks - Pedestrian



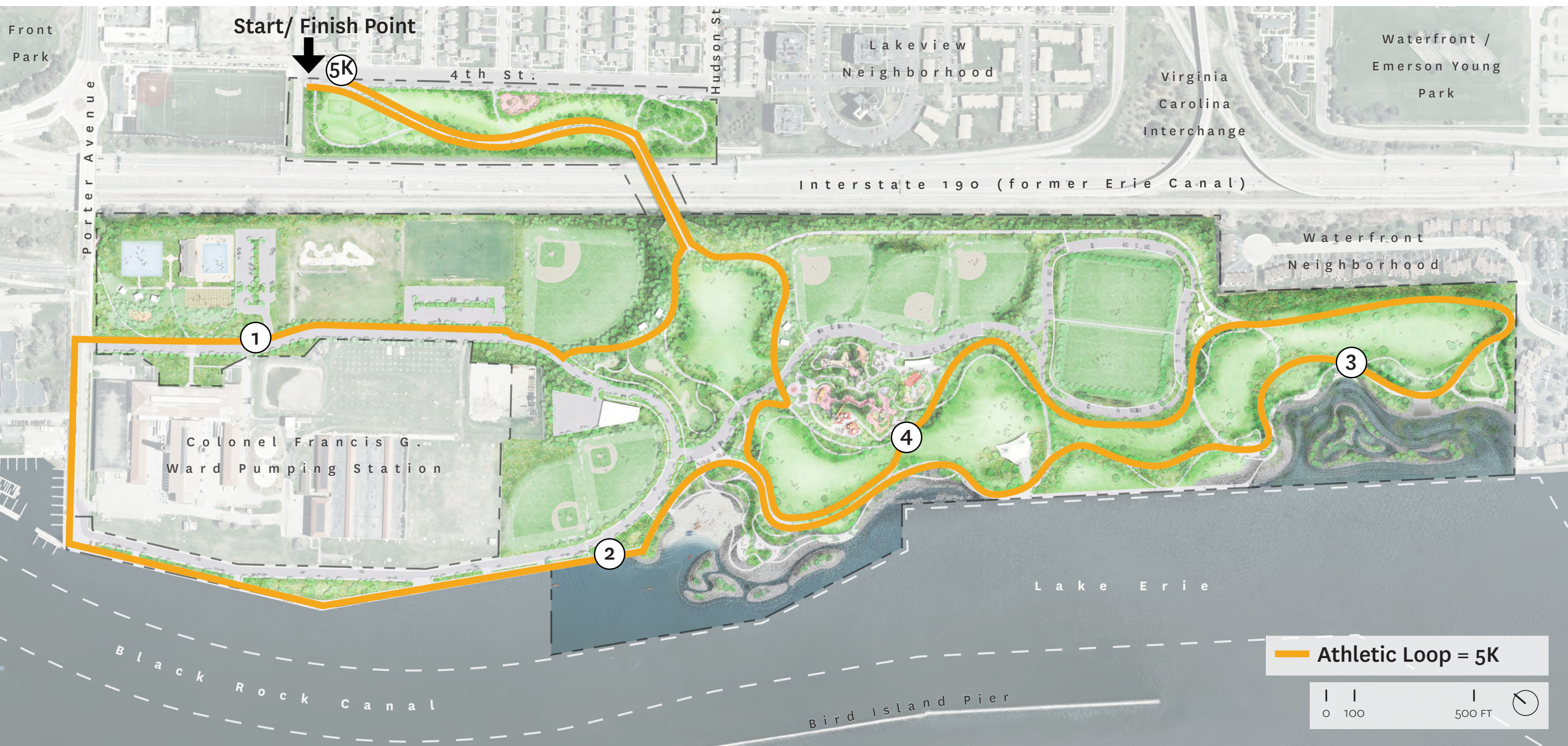


# Enhance Circulation Networks - Pedestrian





# Enhance Circulation Networks - Athletic Loop



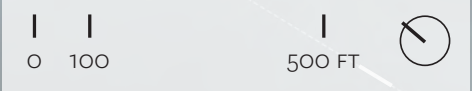


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# Create a Great Lawn





# Create a Great Lawn





# Great Lawn - Yearround Daily Use



**Spring**



**Winter**



# Great Lawn - Accommodating Events

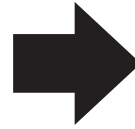




# Great Lawn - Large Events



**Daily Use**



**Large Event**



# Existing Pavilion





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# Update Existing Athletic Fields & Increase Sports Variety

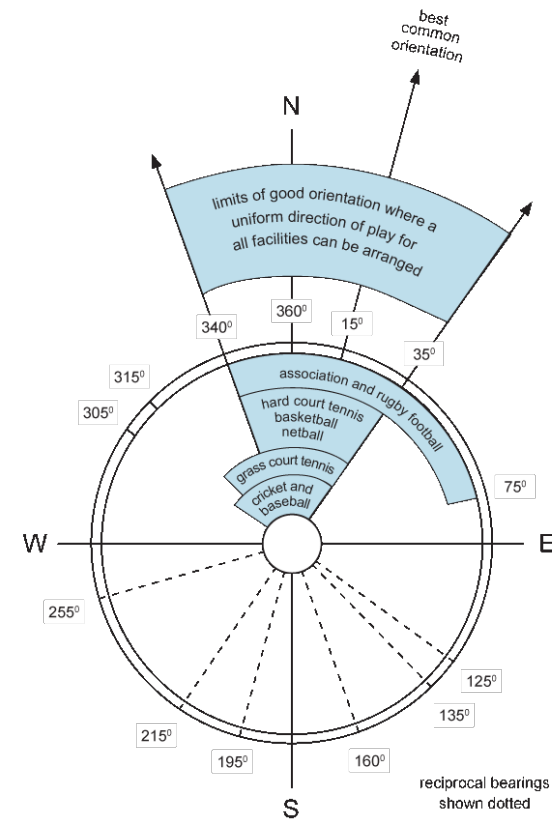




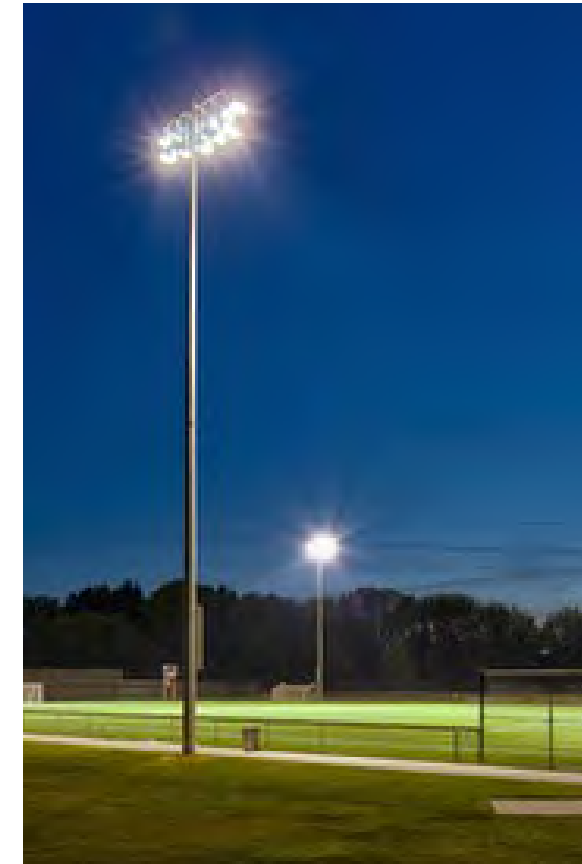
# Update Existing Athletic Fields & Increase Sports Variety



**BPS Standards**



**Orientation**



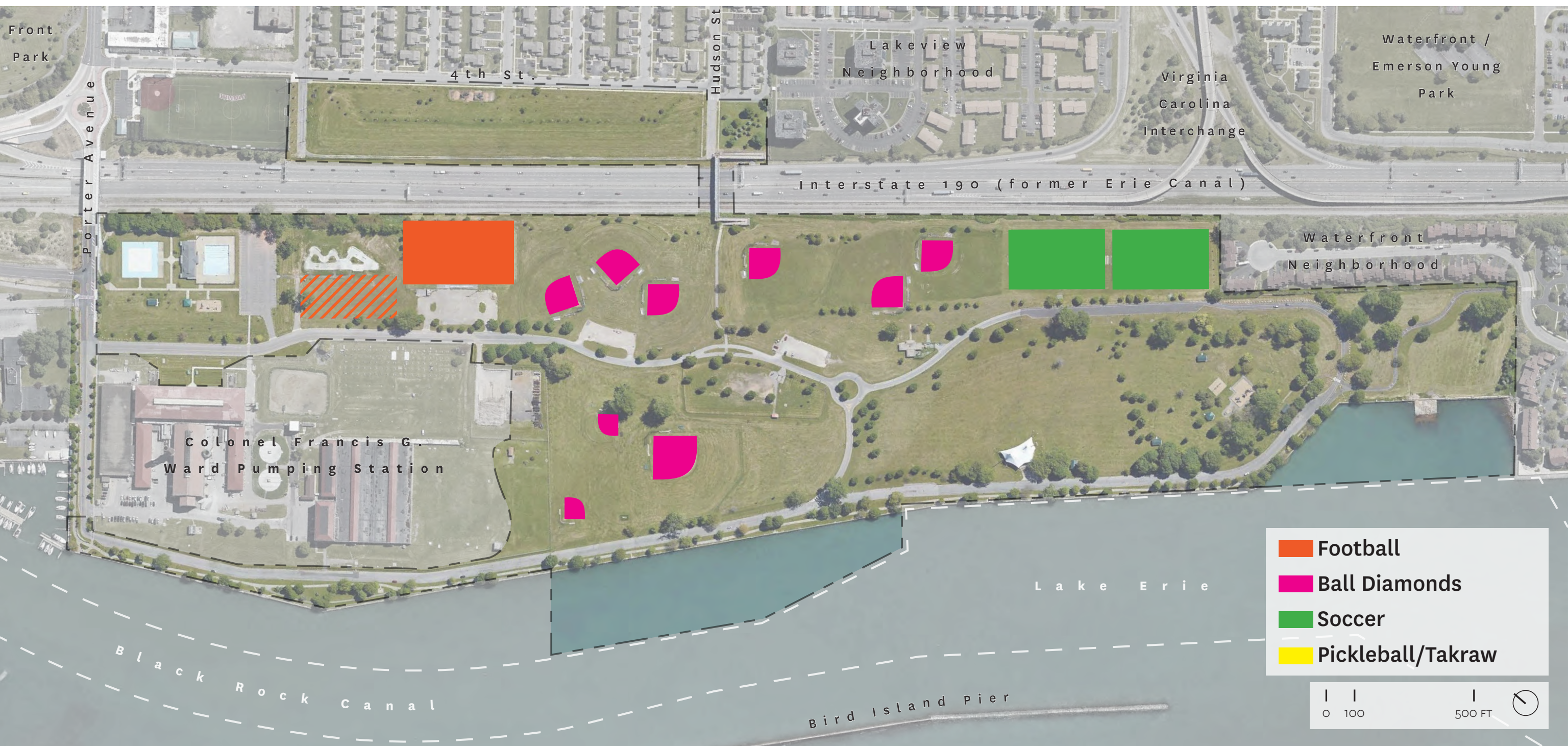
**Furnishings**



**Drainage & Soil**



# Update Existing Athletic Fields & Increase Sports Variety





# Update Existing Athletic Fields & Increase Sports Variety





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# Create a Destination Playground





# Play Themes





# Play Garden Model - September 2019





## **7 Key Design Moves**

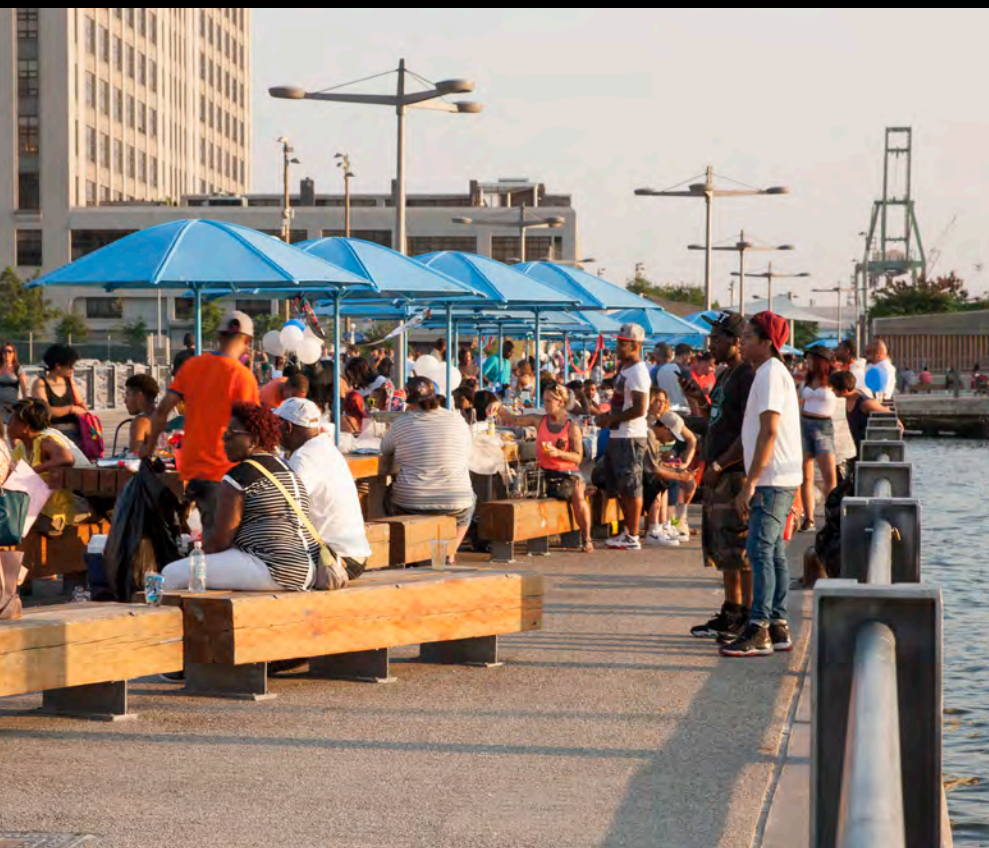
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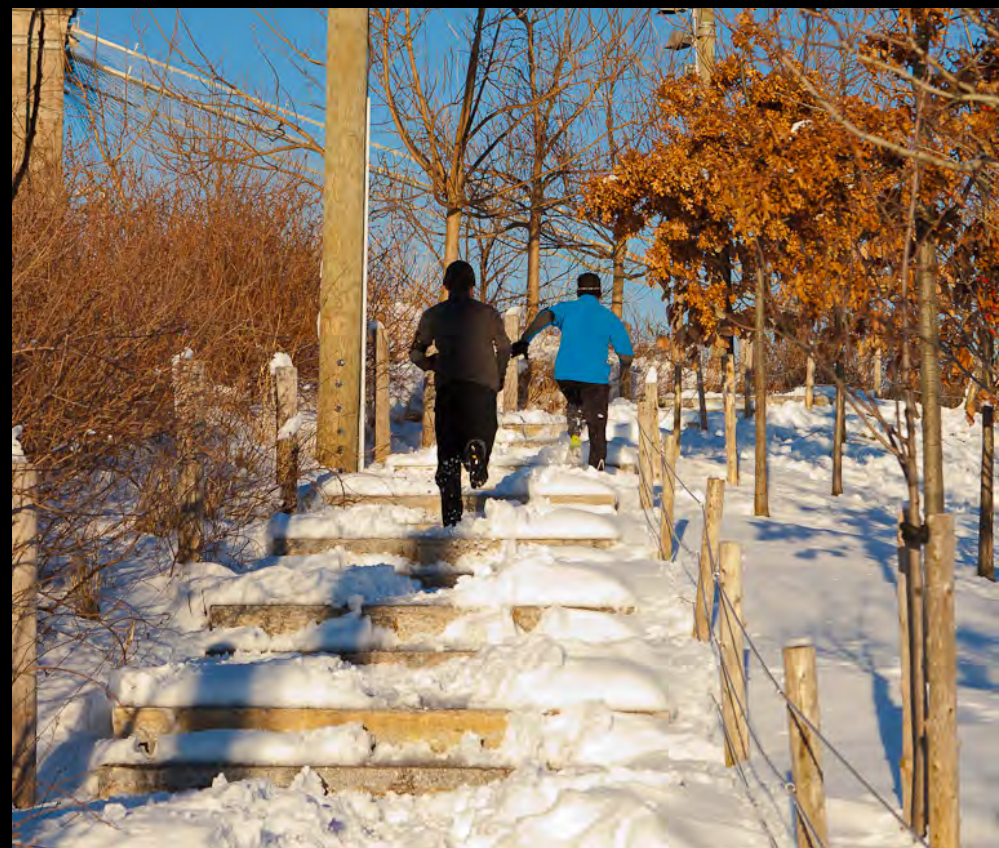
## Provide Opportunities for Active and Passive Recreation













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# Shoreline Design Goals



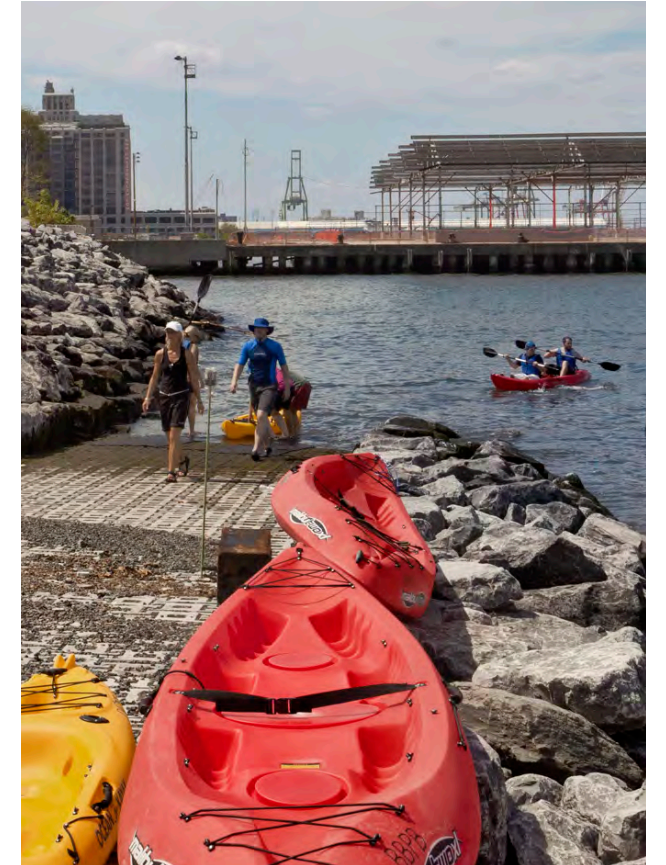
**Structural  
Resiliency**



**Flood  
Protection**



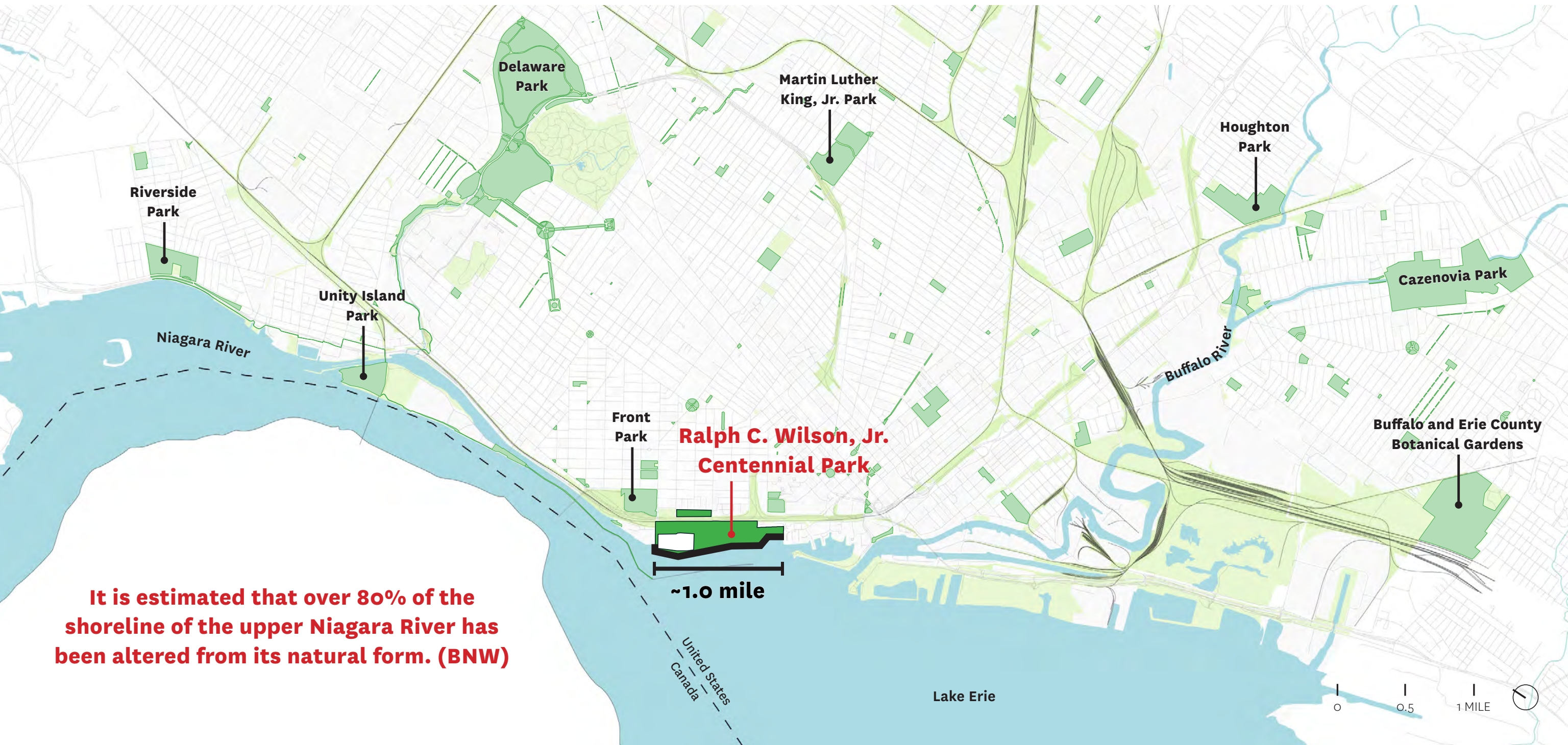
**Ecological  
Function Uplift**



**Enhanced  
Experience**



# One of the Largest Waterfront Park in the City of Buffalo



**It is estimated that over 80% of the shoreline of the upper Niagara River has been altered from its natural form. (BNW)**



# Large Network of Regional Habitats







**Least Bittern (*Ixobrychus exilis*)**



**Cooper's Hawks (*Accipiter cooperii*)**



**Sedge Wren (*Cistothorus platensis*)**



**Ring-billed Gull (*Larus delawarensis*)**



**Cerulean Warbler (*Setophaga cerulea*)**



**Bonaparte's Gull (*Chroicocephalus philadelphia*)**



# Exposed to Extreme Environmental Conditions







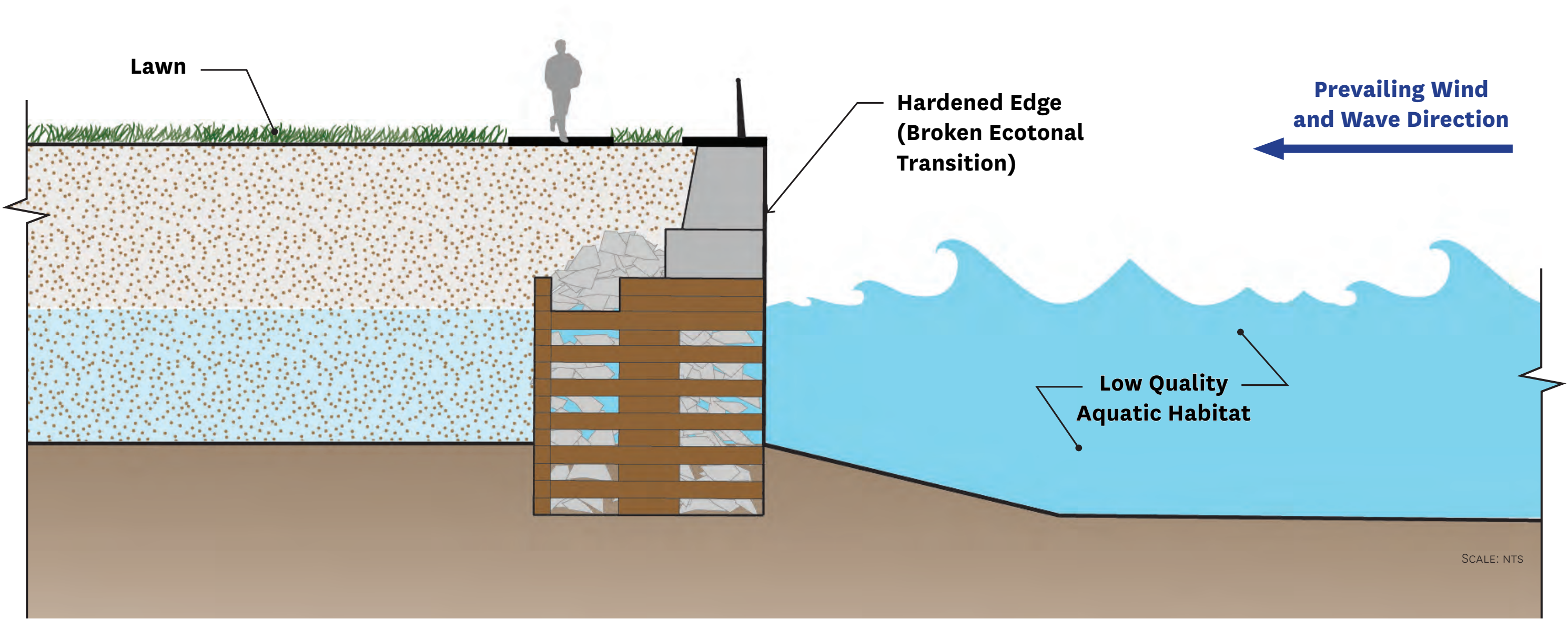


# Identified as a Blueway Site



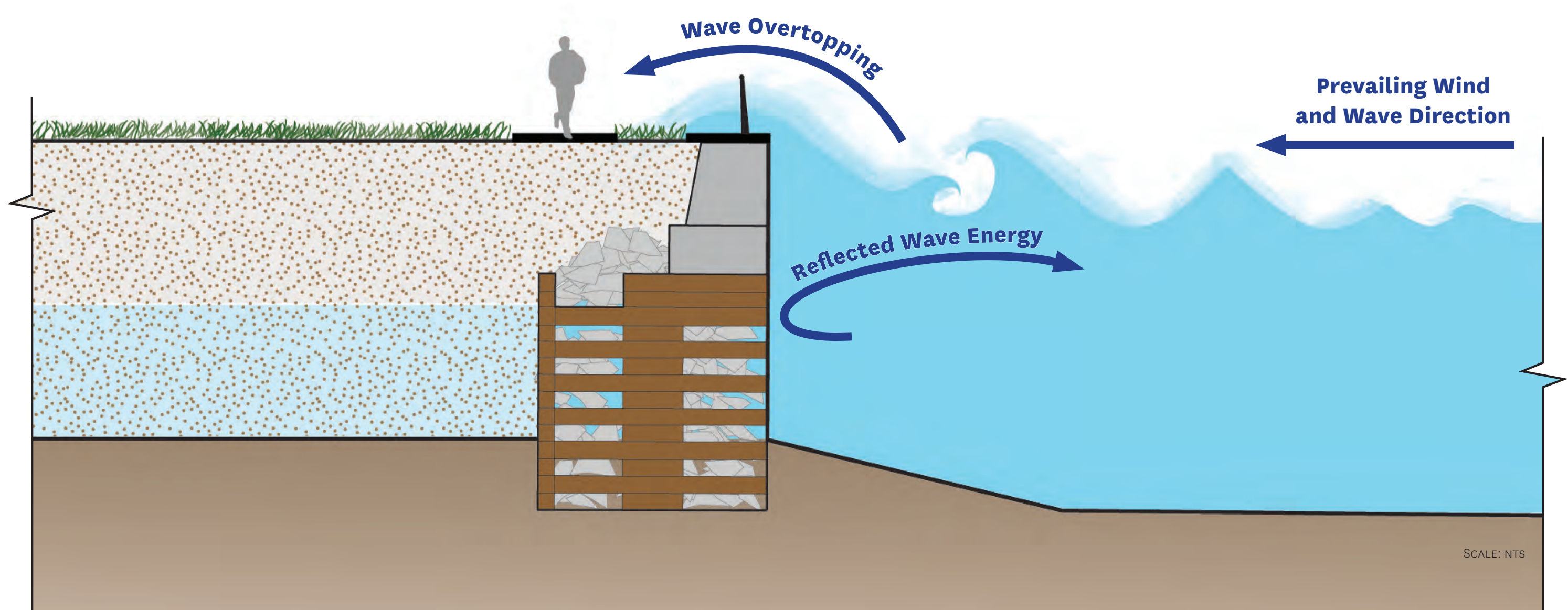


# Existing Bulkhead Profile



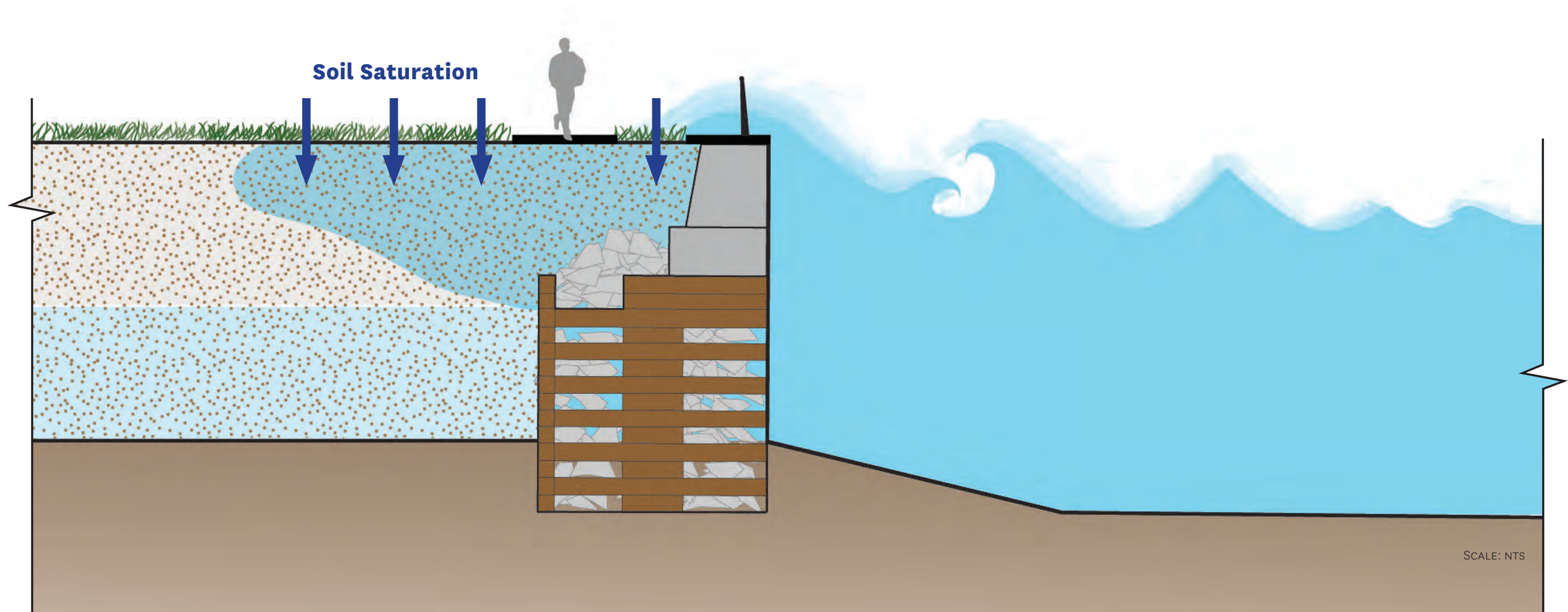


# Land Subsidence behind Existing Bulkhead



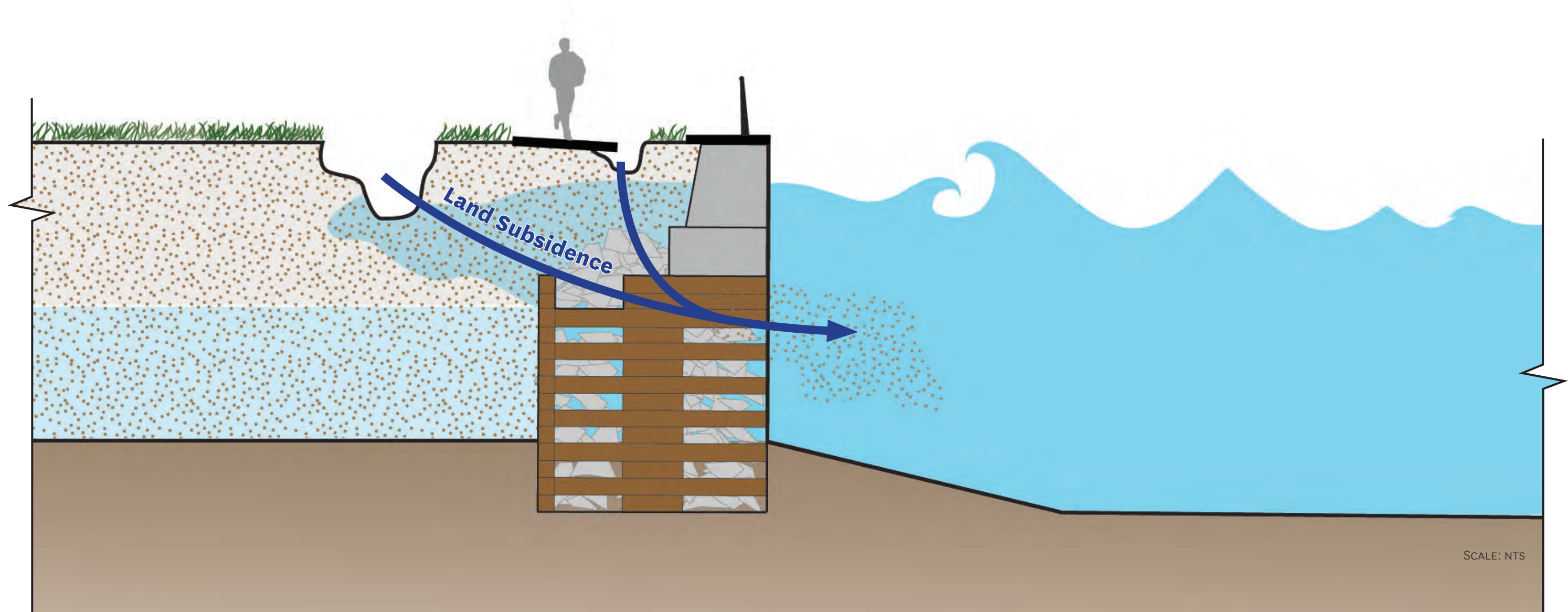


# Land Subsidence behind Existing Bulkhead





# Land Subsidence behind Existing Bulkhead



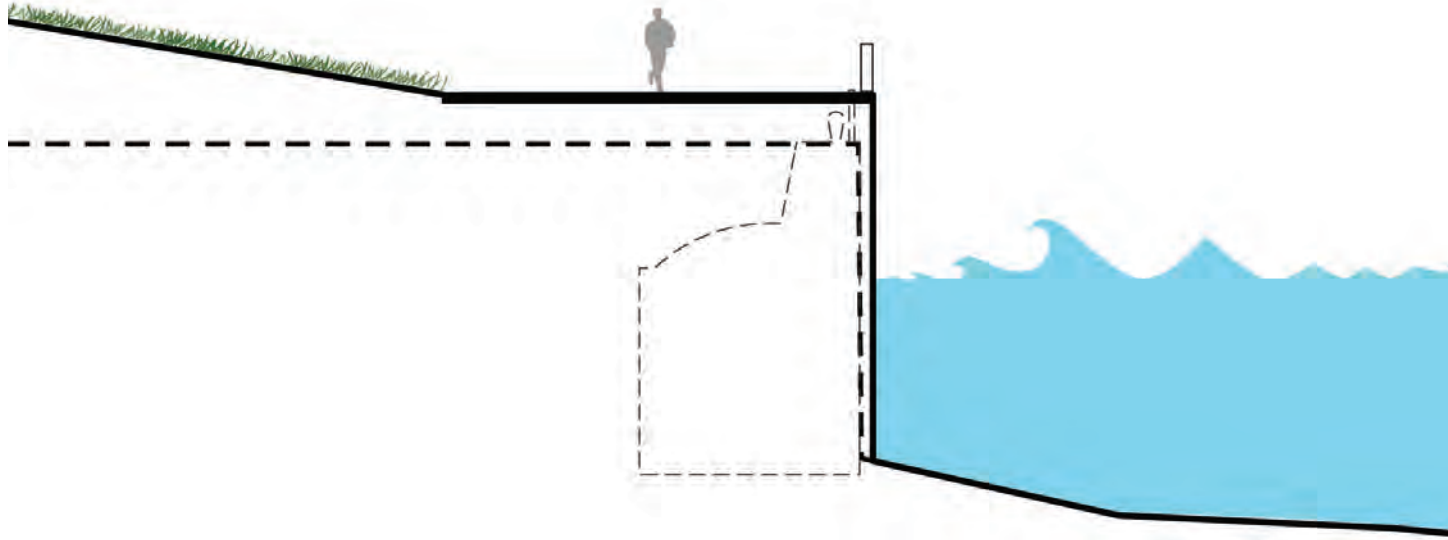


# Land Subsidence behind Existing Bulkhead

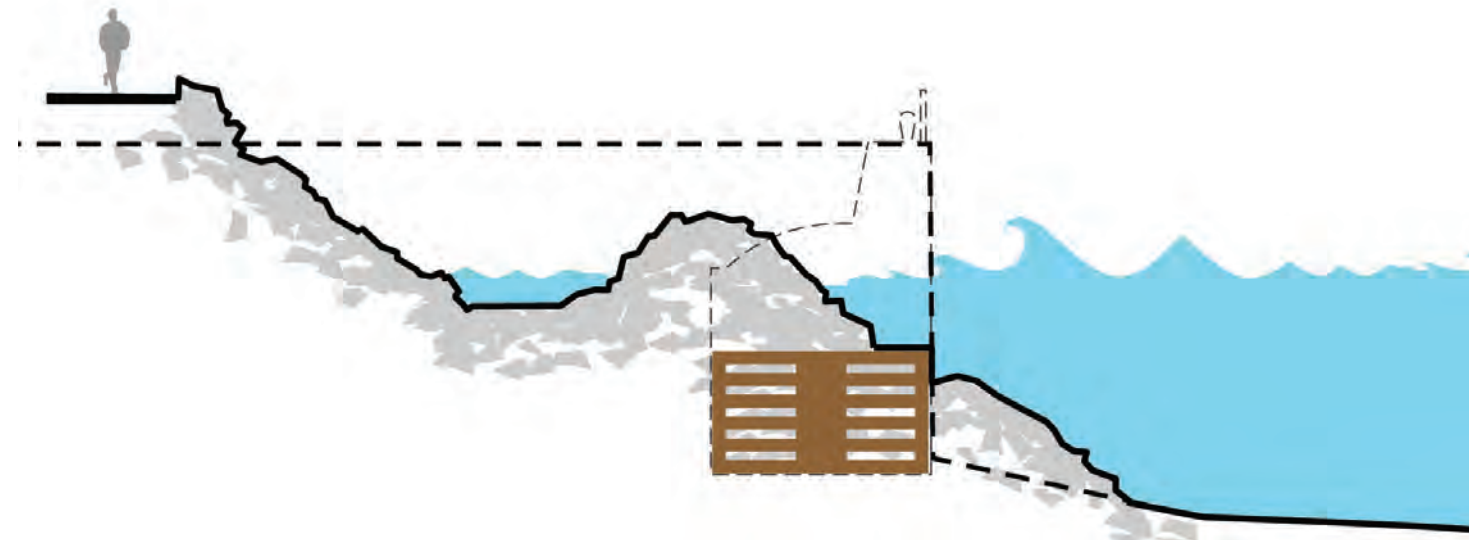




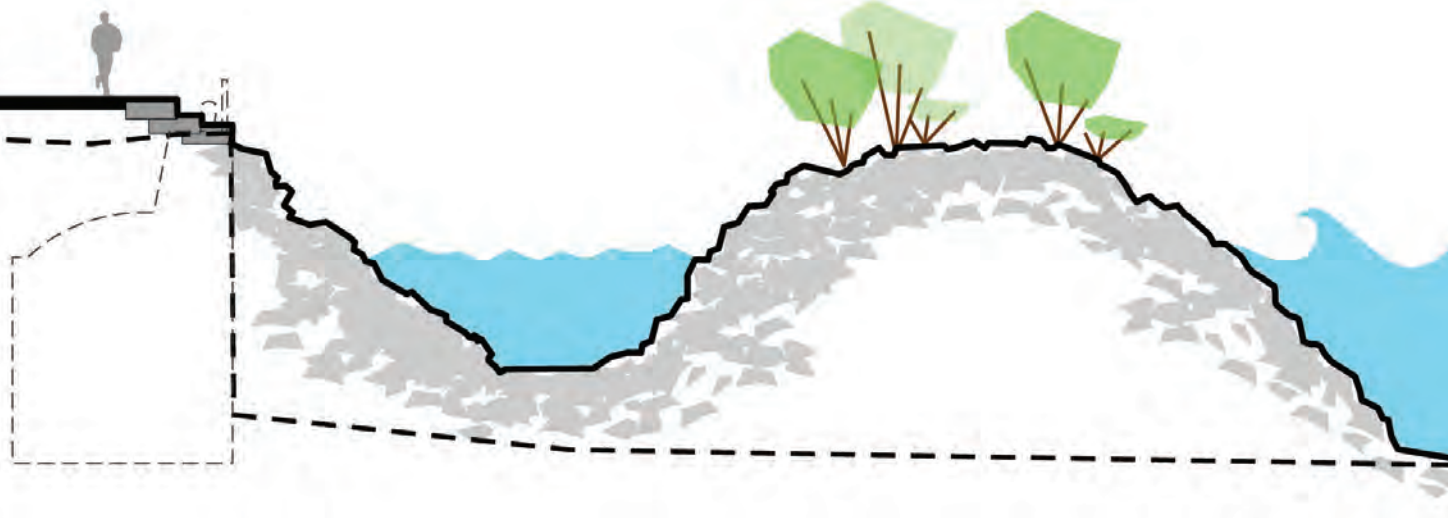
# Shoreline Edge Strategies



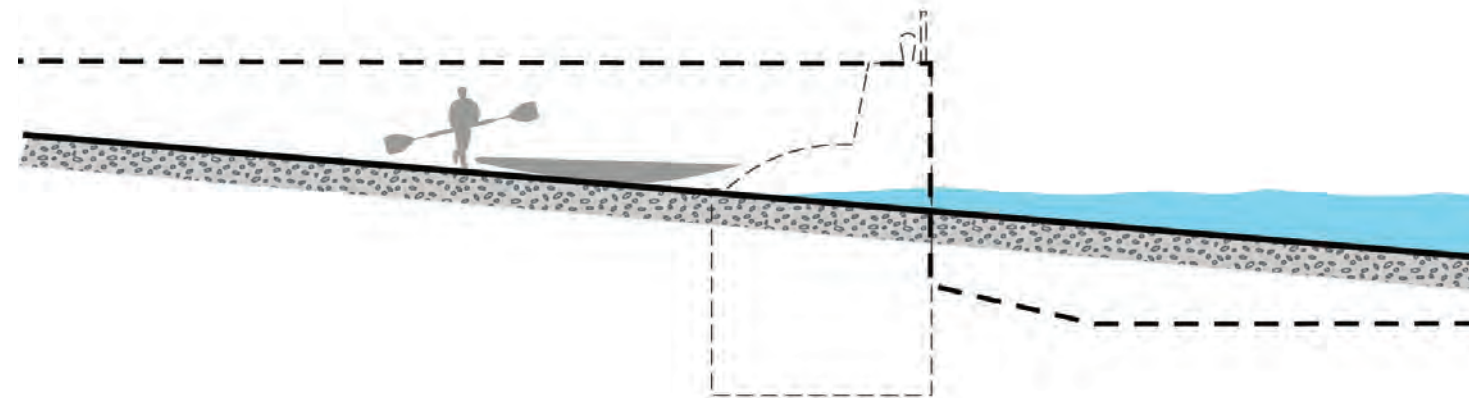
**Raised Bulkhead**



**Layered Armored Edge**



**Breakwater Island**



**Blueway Access Site**



# Transform the Shoreline





# Transform the Shoreline





# Transform the Shoreline - Scheme A



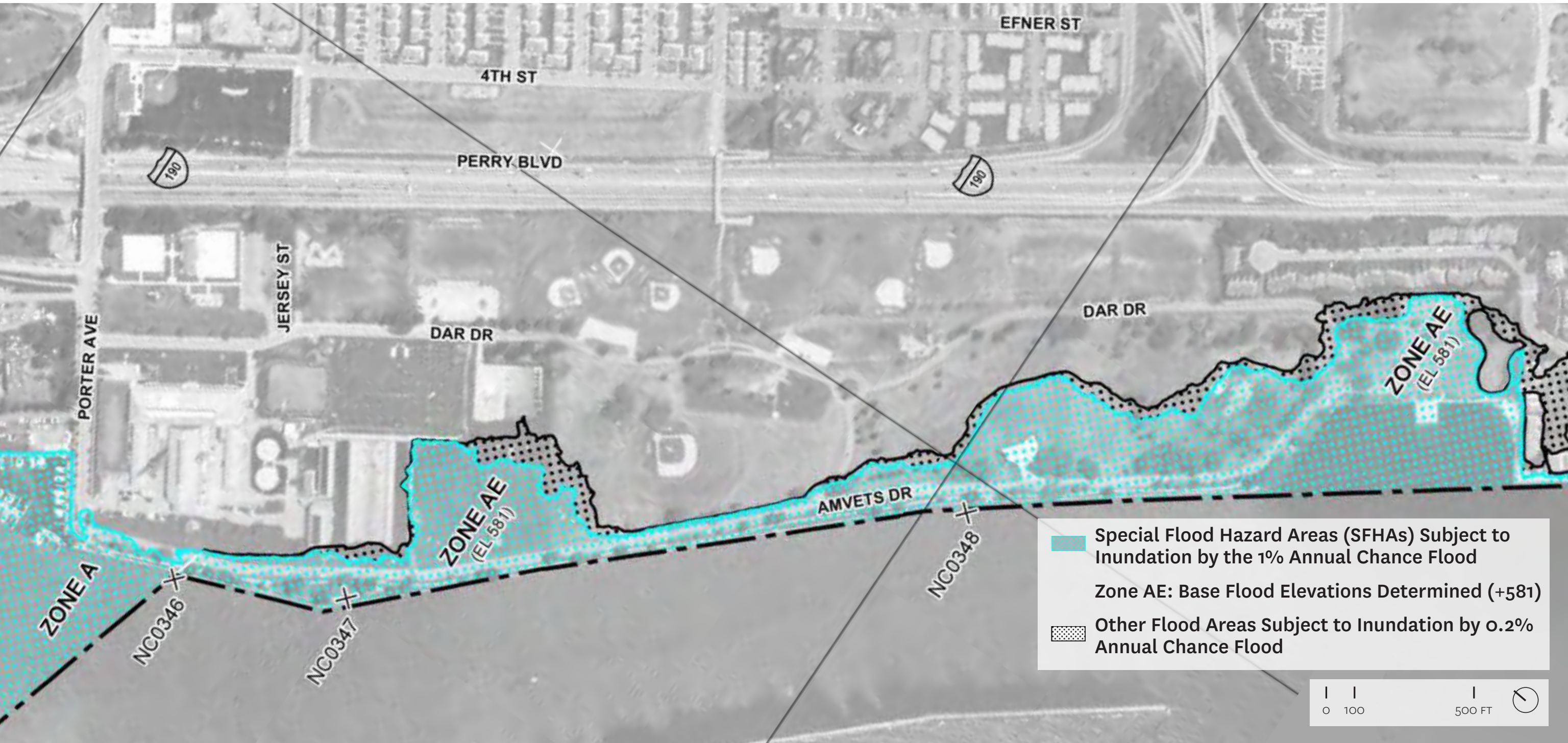


# Transform the Shoreline - Scheme B





# FEMA Flood Map - Elevation +581 (June 2019)





# Elevation +581 Comparison





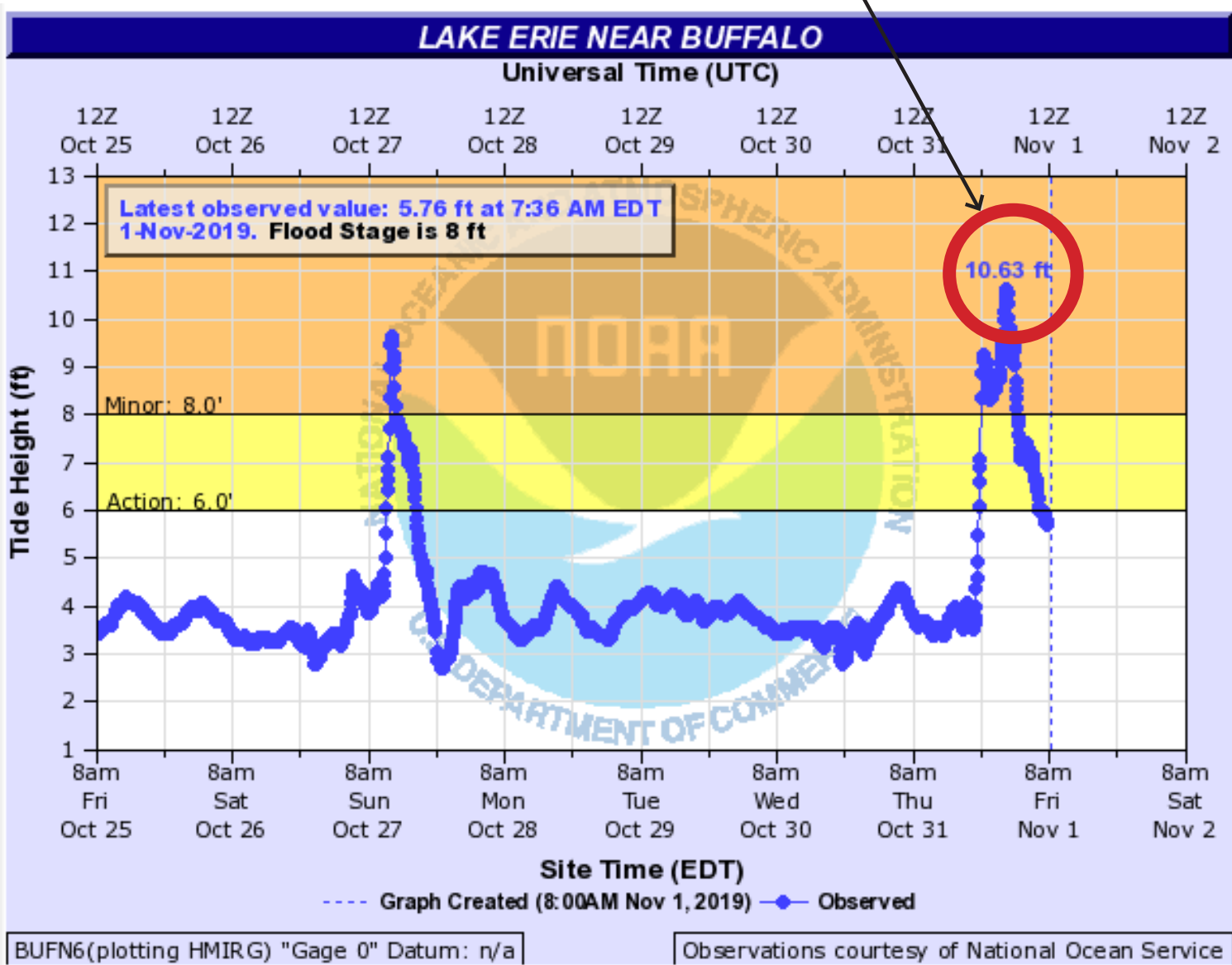
# Flood Protected Park Land Above FEMA Elevation





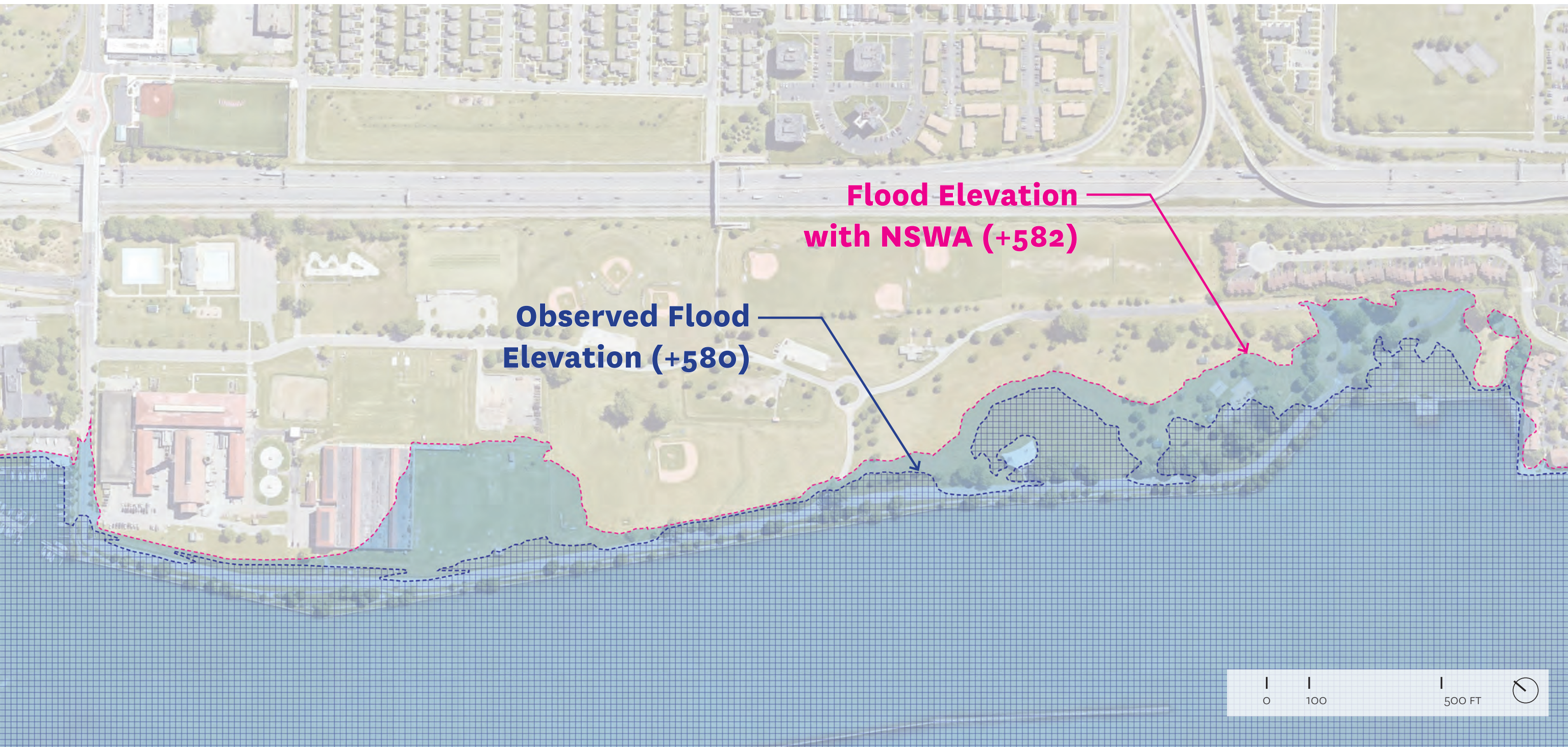
# October 2019 Storm

Observed Flood Elevation over 10ft  
above Average Water Level



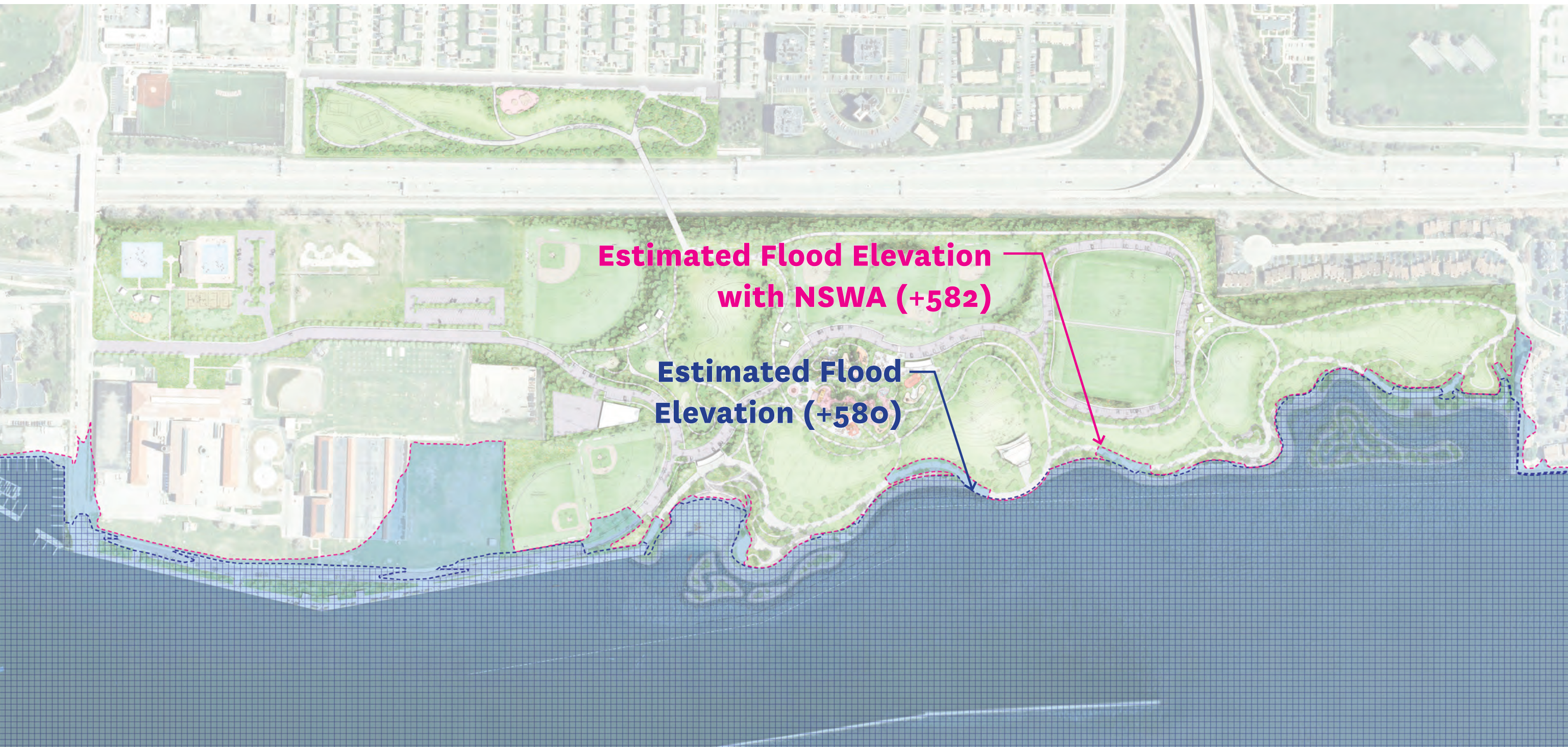


# October 2019 Storm - Existing Conditions





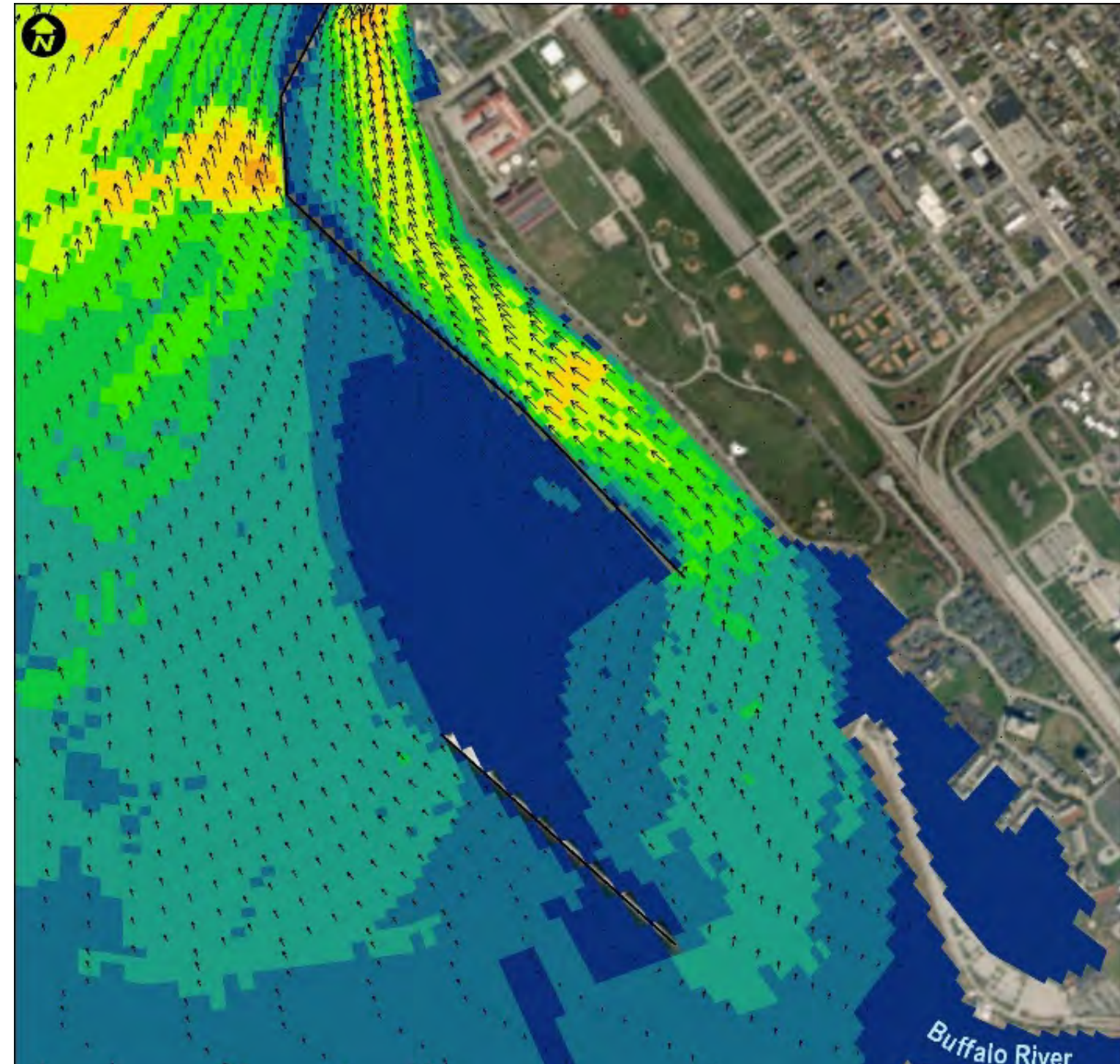
# October 2019 Storm - Proposed Plan





# Hydrological Modeling

- Water flow
- Flooding
- Wave, seiche, and ice
- Water velocity as it relates to aquatic habitat
- Particle tracking simulation (sediment and debris accumulation)



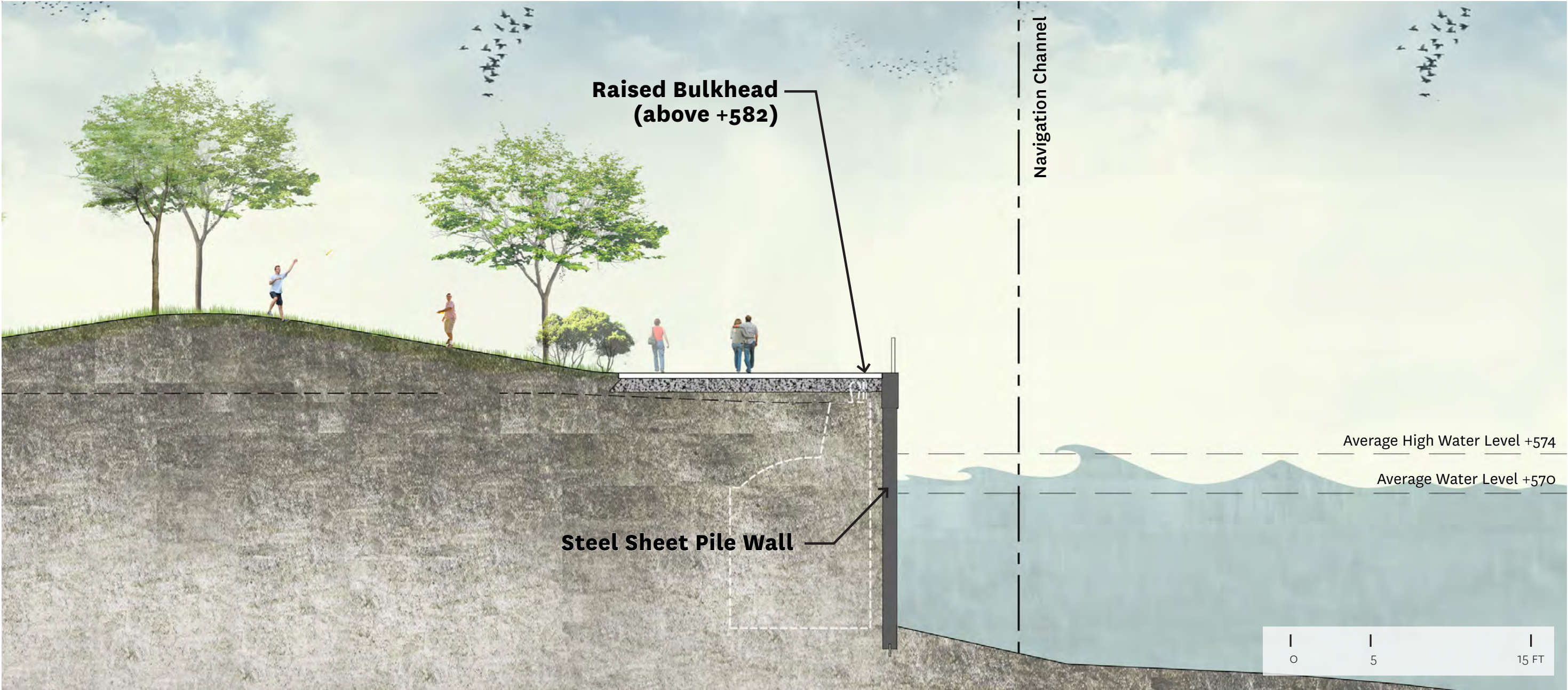


# Shoreline Edge Strategy: Raised Bulkhead





# Shoreline Edge Strategy: Raised Bulkhead



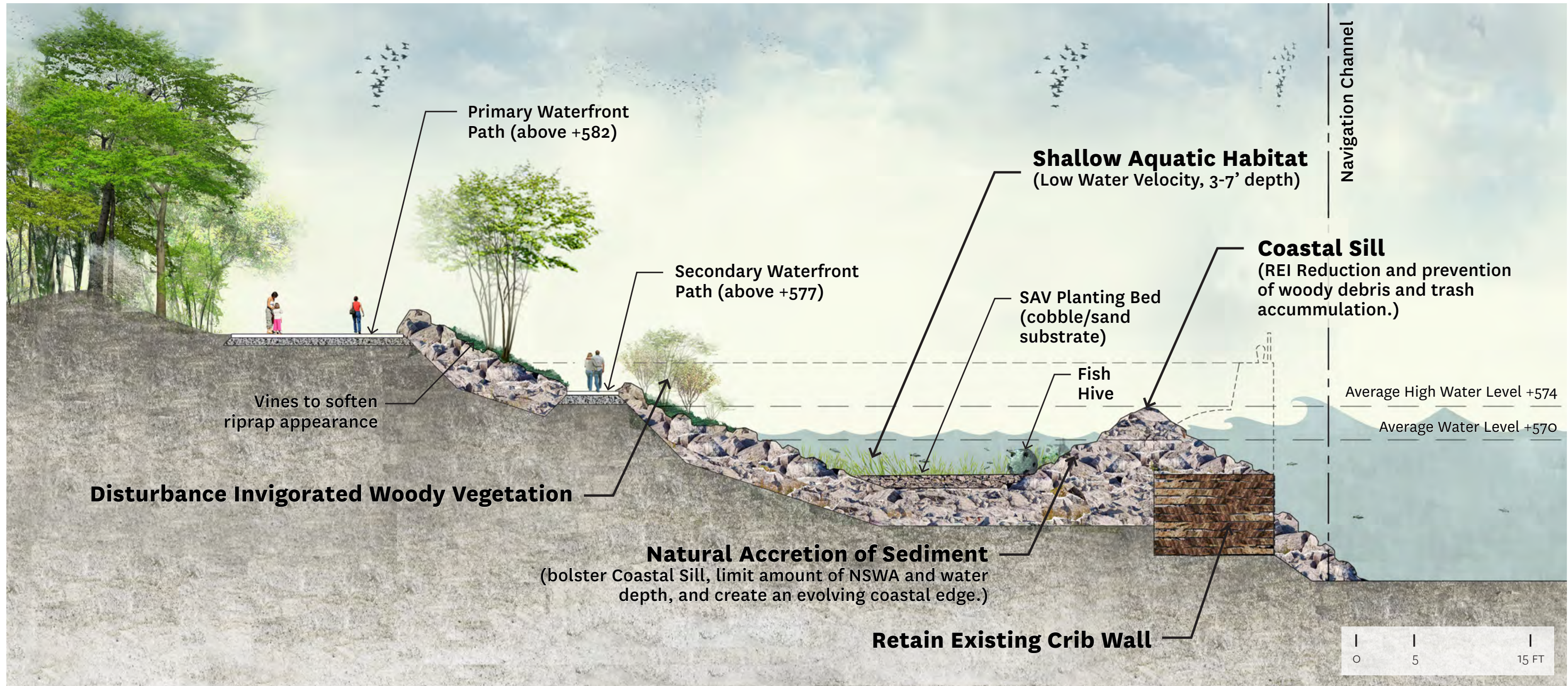


# Shoreline Edge Strategy: Layered Armored Edge





# Shoreline Edge Strategy: Layered Armored Edge



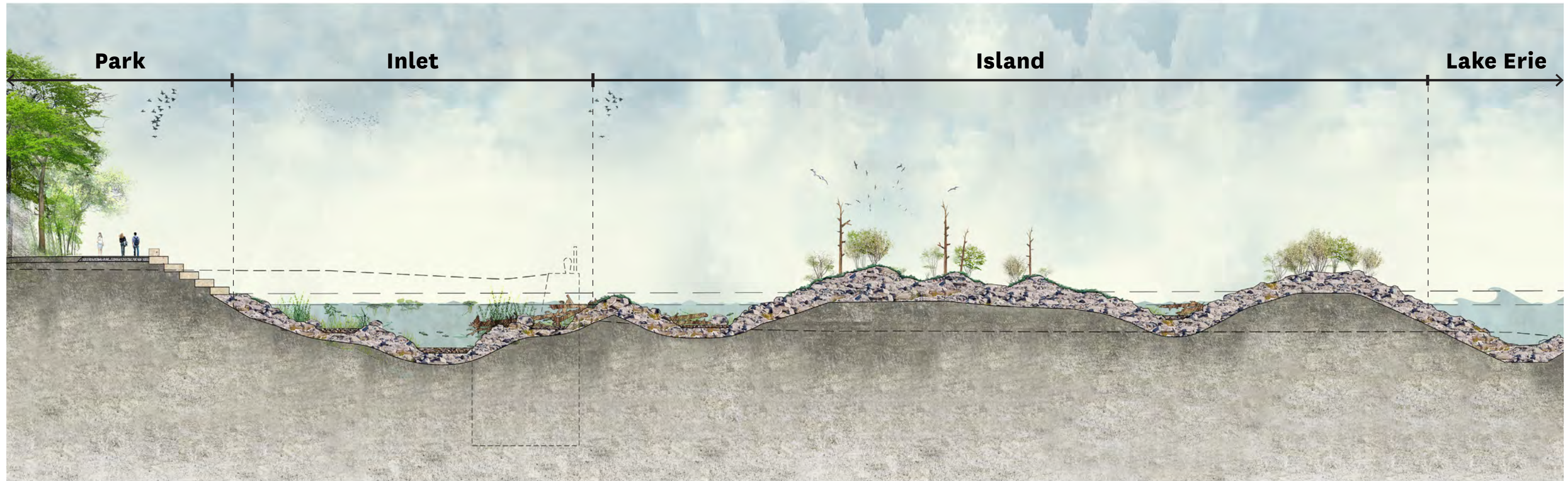


# Shoreline Edge Strategy: Breakwater Island





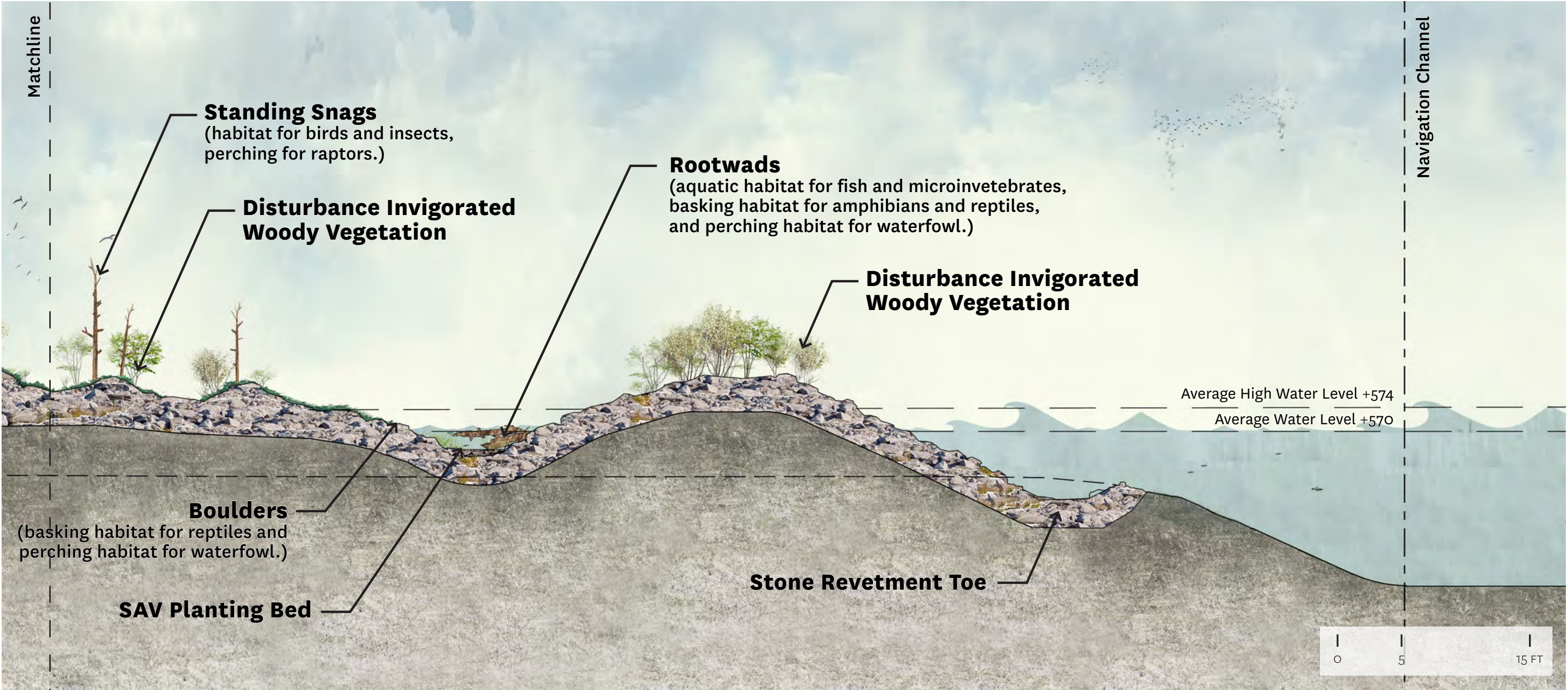
# Shoreline Edge Strategy: Breakwater Island



0 5 15 FT

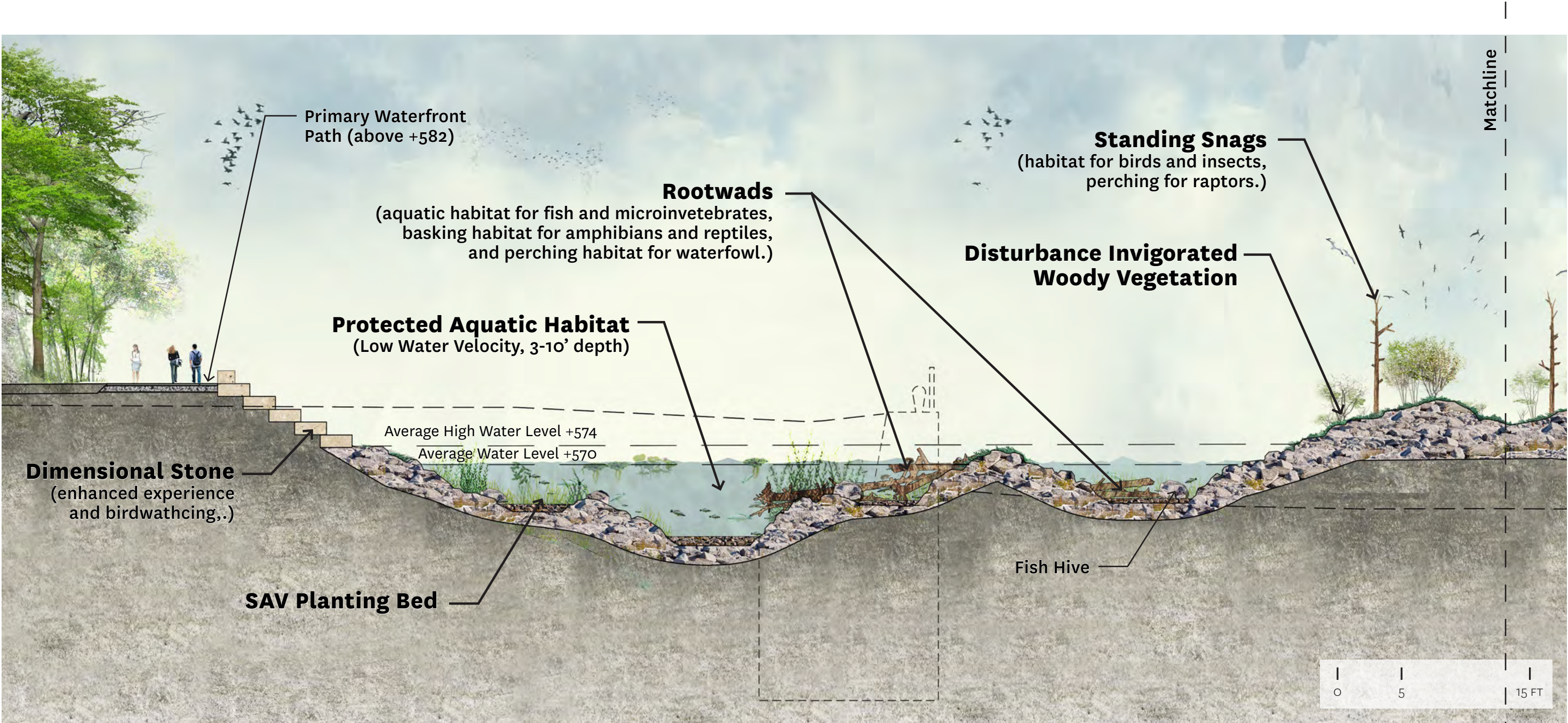


# Shoreline Edge Strategy: Breakwater Island





# Shoreline Edge Strategy: Breakwater Island

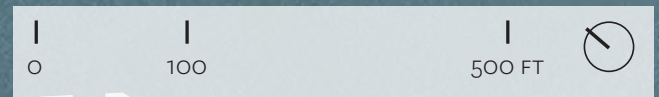




# Shoreline Edge Strategy: Blueway Access Site



B l a c k   R o c k   C a n a l





# Shoreline Edge Strategy: Blueway Access Site

