

MIAMI-DADE COUNTY BACK BAYS COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

THE FEASIBILITY STUDY PROCESS: KEY DECISION & PRODUCT MILESTONES



US Army Corps
of Engineers
Norfolk District



The draft integrated Report/Environmental Impact Statement will be available for public review approximately March 2020.

PUBLIC INPUT DURING SCOPING

MIAMI-DADE COUNTY BACK BAYS COASTAL STORM RISK MANAGEMENT FEASIBILITY

National Environmental Policy Act (NEPA)

- One of the nation's oldest environmental laws.
- Applies to federal agencies.
- Requires federal agencies to consider and disclose the environmental effects of their proposed actions in a public document.
- Encourages federal agencies to make environmentally responsible decisions.

What type of NEPA document will be prepared?

- The U.S. Army Corps of Engineers (USACE) intends to prepare an Environmental Impact Statement (EIS).
- An EIS results in a Record of Decision document.
- The integrated feasibility report/EIS is scheduled for public release in March 2020.

What environmental topics may be considered?

- Air Quality
- Climate Change/Sea Level Rise
- Cultural and Historic Resources
- Demographics
- Economics
- Wetlands
- Fish and Wildlife Resources
- Hazardous, Toxic, and Radioactive Materials
- Hydrology
- Land Use
- Navigation
- Noise and Vibration
- Recreation
- Protected Species
- Socioeconomic and Environmental Justice

How can I provide comments?

- You may fill out a written comment form at this meeting and place it in the comment box.
- You may e-mail or mail comments to:
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Phone Number: 757-201-7752

USACE Norfolk District
ATTN: Carissa Agnese
Planning and Policy Branch
803 Front Street
Norfolk, VA 23510

- You may enter your comments electronically at:

<http://arcg.is/fm0Xe>

NEPA Scoping Comments are due by October 10, 2019.

What is "scoping"?

"Scoping" is the step in the NEPA process when the public is invited to participate in identifying issues, alternatives, and potentially significant effects to be considered in the analysis. This helps the USACE identify and eliminate from detailed study issues that are not significant or that have been covered by prior environmental review.



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MIAMI-DADE
COUNTY

PROBLEMS, OPPORTUNITIES, OBJECTIVES AND CONSIDERATIONS

PROBLEMS

- The geographic location, low elevation, and high population of Miami-Dade County make it vulnerable to storm surge from hurricanes and tropical storms.
- Increasing high tides and king tides resulting from sea level rise result in recurrent flooding to roads and properties.
- Increasing groundwater elevations from sea level rise result in flood risks to inland areas.
- Increasing flooding from rain events due to the higher groundwater elevations and higher tailwater elevations from sea level rise threaten properties and infrastructure.

OPPORTUNITIES

- Reduce risk of loss of life due to high flooding events or infrastructure failure.
- Reduce coastal storm-related economic damages and improve economic resiliency of the local economy and communities, particularly low-income communities.
- Increase resiliency and structural integrity of critical infrastructure.
- Reduce transportation and evacuation route impacts during high flooding events.
- Utilize available natural areas and open spaces for improving wave attenuation, water retention, and/or water storage.

OBJECTIVES

- Increase the resiliency of Miami-Dade County to function effectively before, during, and after coastal storm events by decreasing the vulnerability of critical infrastructure to flooding damages sea level rise and storm surge.
- Reduce economic damages to structures in communities vulnerable to severe flooding damages from sea level rise and storm surge.
- Incorporate natural and nature based features to reduce flood damages and complement the recommended nonstructural and structural measures.

CONSTRAINTS AND CONSIDERATIONS

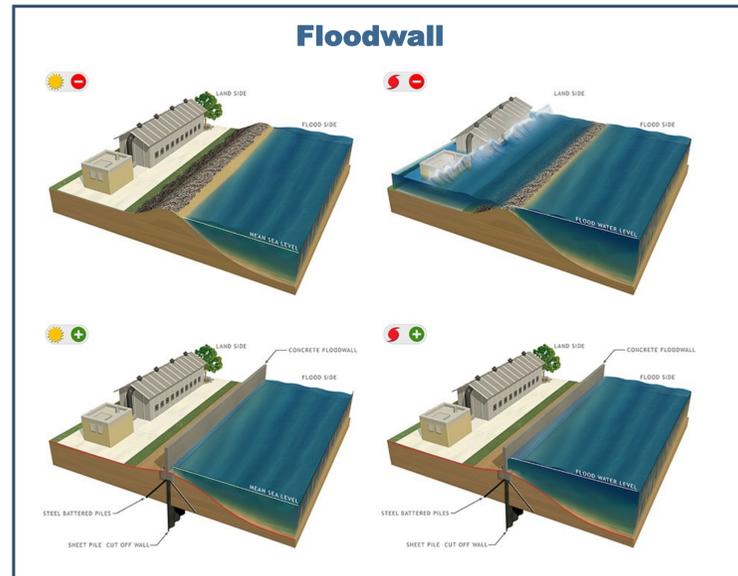
- Avoid creating or exacerbating flooding within the project area, to other local municipalities, and to local military installations.
- Avoid flooding solutions for the study area that would induce increased flooding issues in locations outside of the study area.
- Avoid impacts to environmental and cultural/historic resources in the study area and nearby (e.g. Everglades and Biscayne Bay National Parks).
- Cannot exacerbate saltwater intrusion which will negatively impact fresh water for drinking and agriculture.



MANAGEMENT MEASURES FOR CONSIDERATION

Structural

Structural coastal storm risk management measures are engineering solutions to manage flood risk and reduce damage from coastal storms by physically limiting flood water inundation.



Examples



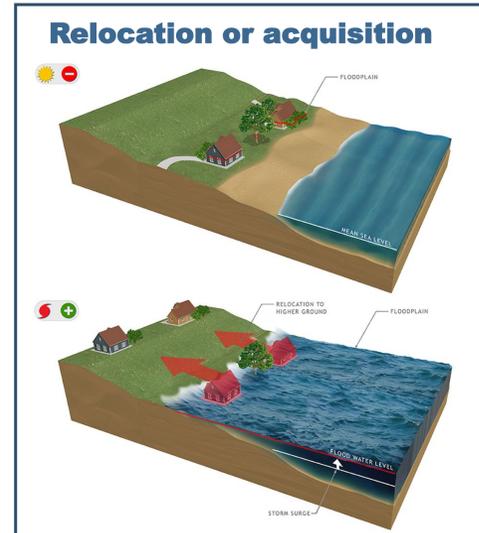
Floodwall with road closure, Norfolk, Virginia



Bayou Bienvenue Sector Gate, Louisiana

Nonstructural

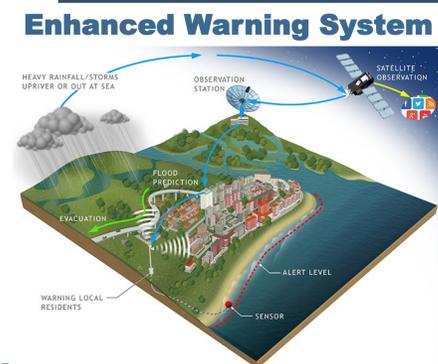
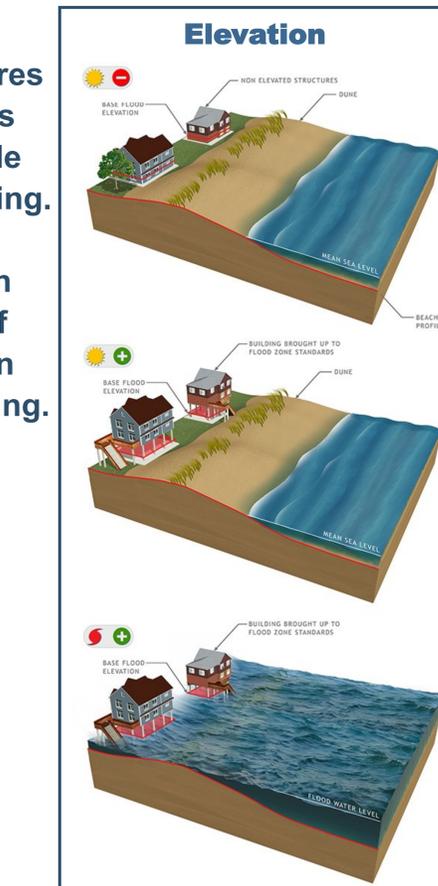
Nonstructural measures are permanent or contingent measures applied to a structure and/or its contents that prevent or provide resistance to damage from flooding. They differ from structural measures in that they focus on reducing the consequences of flooding instead of focusing on reducing the probability of flooding.



Examples



Removable flood barriers of an office, Bothell, Washington



Elevated home with drive under garage, New Orleans, Louisiana

Natural and Nature-Based Features

Mangrove Planting and Restoring

Mangroves may contribute to reducing damage to property from storms and cyclones as they reduce the impacts of waves, storm surges and high winds.

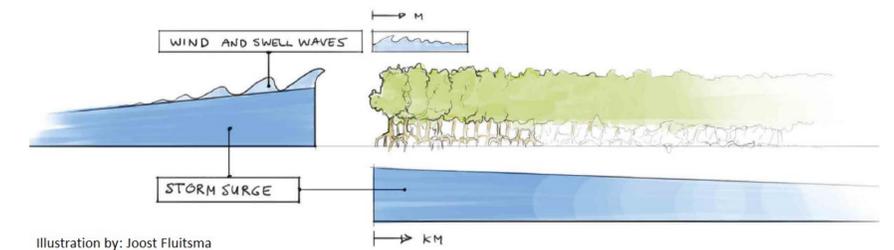


Illustration by: Joost Fluitsma

Illustration showing storm surge reduction due to mangroves.

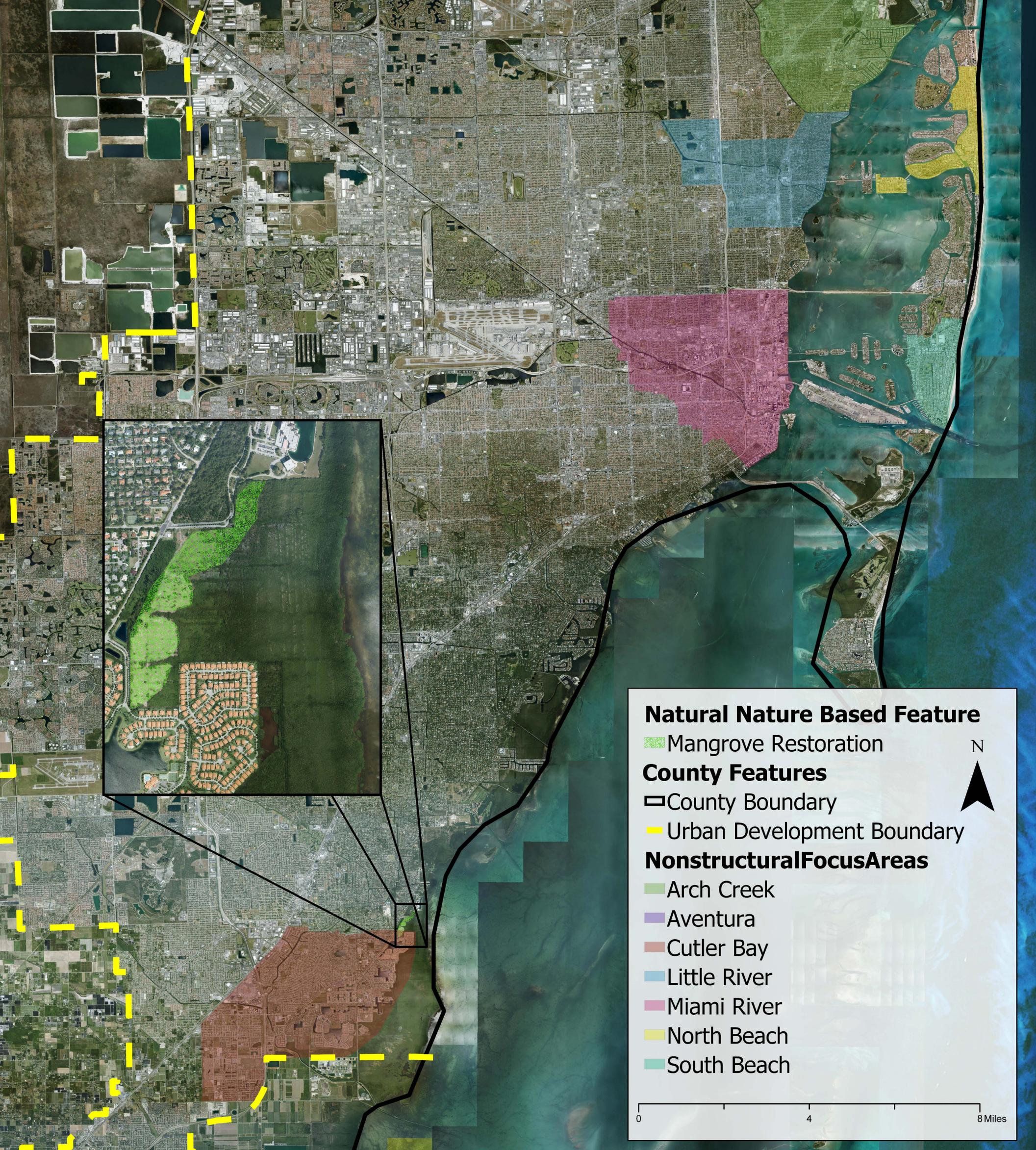
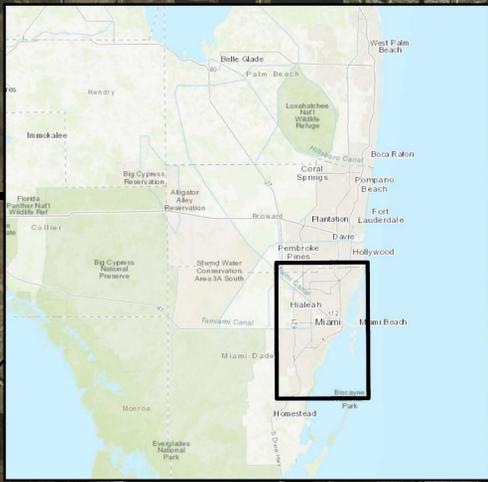


Mangroves offer critical nursing environments for juveniles of thousands of species.



Mangroves from Salinas, Puerto Rico.

NONSTRUCTURAL AREAS & NATURAL NATURE-BASED FEATURES MIAMI-DADE COUNTY, FL



Natural Nature Based Feature

- Mangrove Restoration

County Features

- County Boundary
- Urban Development Boundary

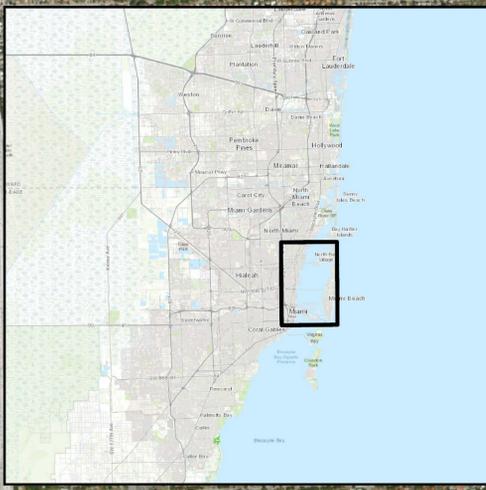
Nonstructural Focus Areas

- Arch Creek
- Aventura
- Cutler Bay
- Little River
- Miami River
- North Beach
- South Beach

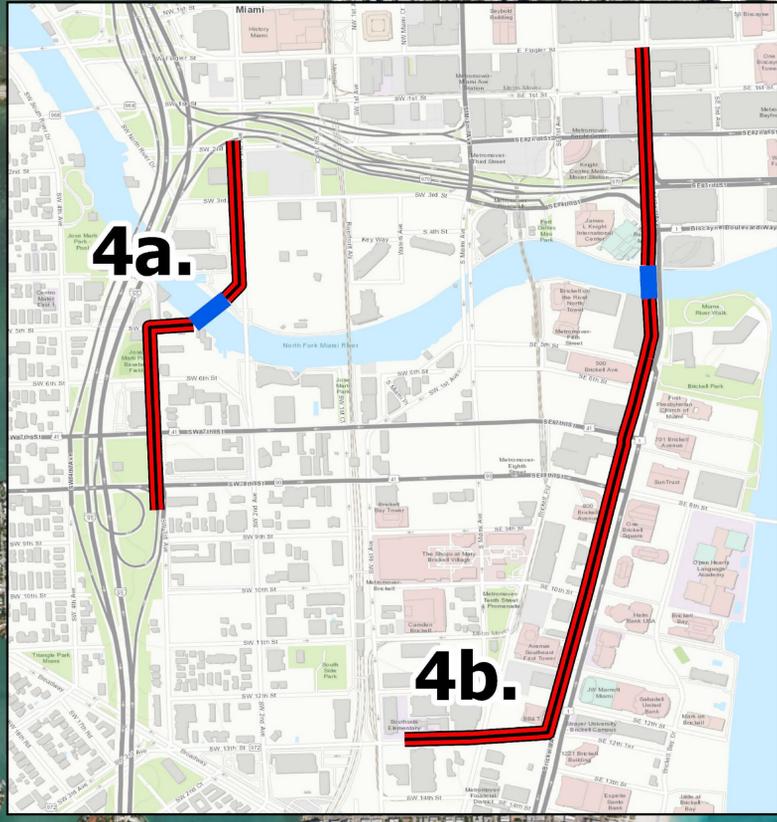
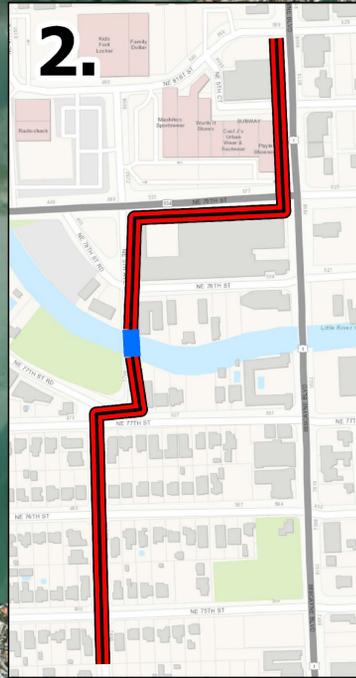
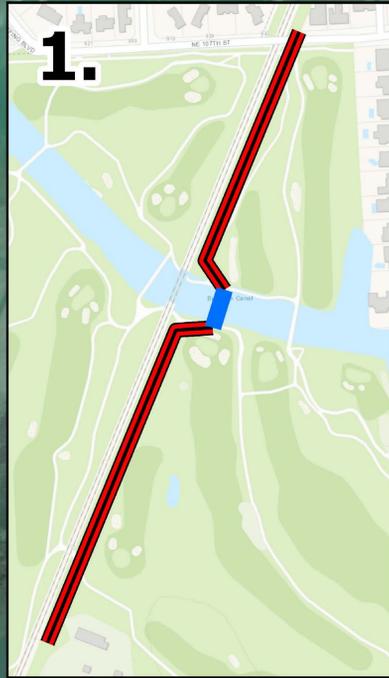
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PROPOSED STRUCTURAL MEASURES & ALIGNMENTS MIAMI-DADE COUNTY, FL



- 1. Biscayne Canal Storm Surge Barrier
- 2. Little River Storm Surge Barrier
- 3. Edgewater Floodwall
- 4a. Miami River Storm Surge Barrier Option A
- 4b. Miami River Storm Surge Barrier Option B



Structural Measures
 Floodwall
 Storm Surge Barrier & Pump Station

*DRAFT alignments for proposed structural measures



CRITICAL INFRASTRUCTURE MIAMI-DADE COUNTY, FL

-  Treatment Plant
-  Hospital
-  County & Municipal Fire Station
-  County & Municipal Police Station
-  Emergency Operations Center
-  Urban Development Boundary
-  County Boundary



Critical Infrastructure (CI) will continue to be refined as the study progresses.

*CI includes pump stations and evacuation shelters, though these CI are not displayed in the map.

0 2.5 5 10 Miles



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