

Miami-Dade Back Bay Coastal Storm Risk Management Study Miami River Commission



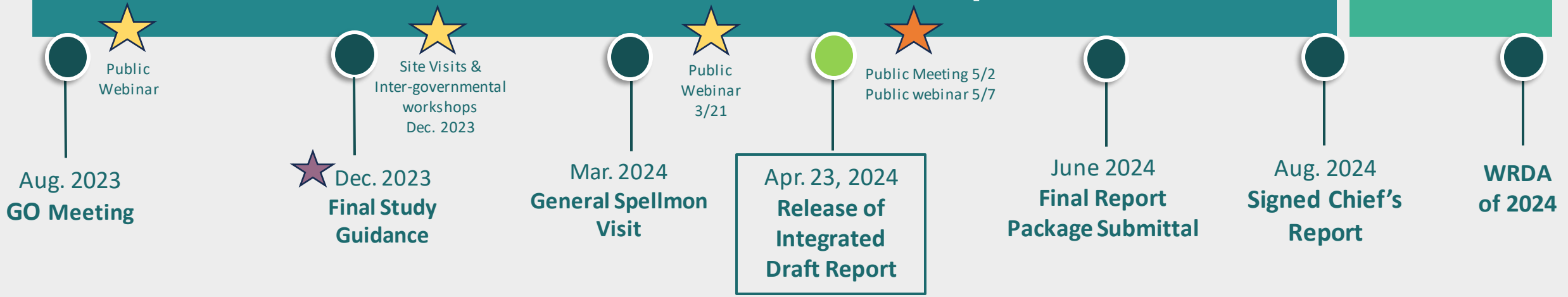
May 6th, 2024
Miami-Dade County Office of Resilience



MIAMI-DADE BACK BAY COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Schedule to 2024 Chief's Report

Authorization



- We are here**
- Stakeholder Engagement**
- USACE Headquarters:** Develop interim report with recommendations for 2024 Water Resources Development Act (WRDA) while creating comprehensive framework to continue further study



Formal NEPA public comment period (Apr. 23 – May 23)



What is WRDA?

Congress provides authorization for USACE studies and projects through a Water Resources Development Act (WRDA). WRDAs typically occur every two years.

- Considers and evaluates impacts to the resource areas identified below in Chapter 7



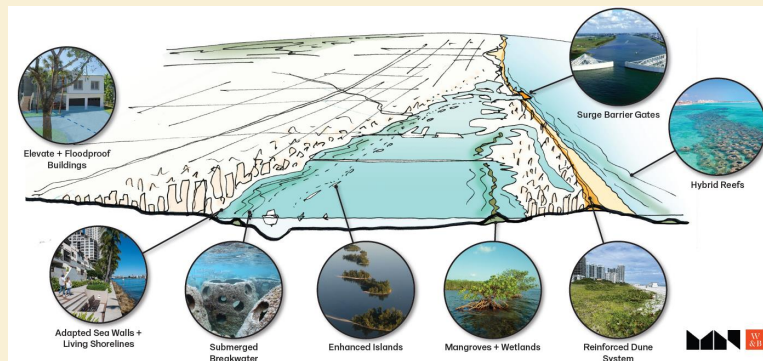
National Environmental Policy Act (NEPA)

- Requires federal agencies to evaluate alternatives, disclose the environmental effects of their proposed actions, and consider public input during the NEPA process.
 - Encourages federal agencies to make environmentally responsible decisions.
- Includes a high-level evaluation of potential impacts to each of these resource areas associated with the Nature-Based Solutions (NBS) Pilot Program and Nonstructural Program. Additional NEPA documentation will be prepared in the future for the programs.
 - Based on the evaluation, there are **no significant impacts** anticipated to the resource areas listed above.

Comprehensive Study Framework

3 Pillars

1. **Multiple Lines of Defense** strategy
2. **Adaptive Management** through 2026, 2028 WRDA cycles
3. **Integration** of studies, policies, etc.



Recommended Measures

Across six initial focus areas:

- 27 Critical Infrastructure Buildings Floodproofing
- ~2100 Elevations of residential buildings
- ~400 Floodproofing of nonresidential buildings



** No in-water impacts*

New Program Authorization Requests

Nature-Based Solutions (NBS) Pilot Program

Requested Amount: \$180 million



Collaboratively design, construct & monitor a diverse set of projects to test ability to reduce storm surge energy

Nonstructural Program

Requested Amount: \$200 Million



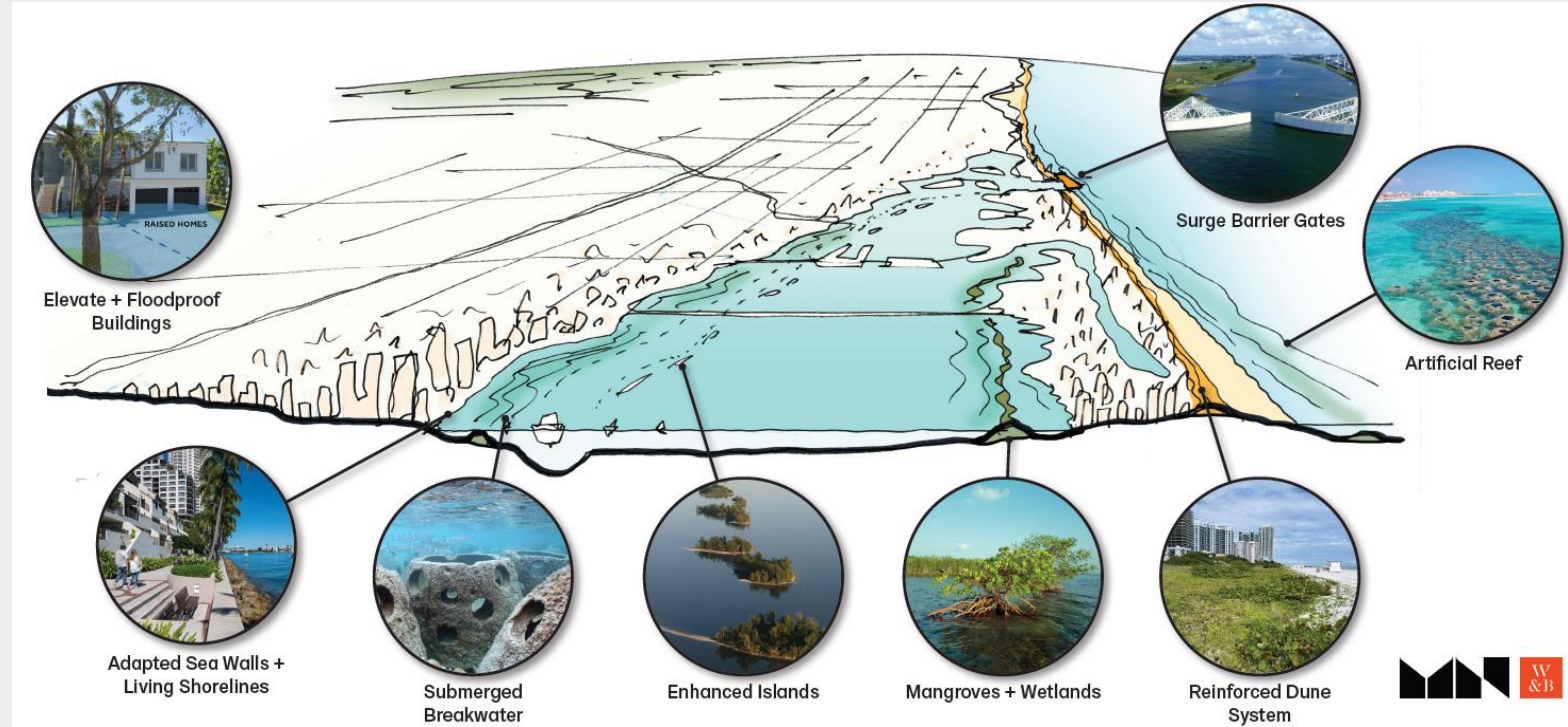
Will identify and implement nonstructural measures for which USACE policy guidance and implementation practices are still developing.

Why a study new framework?

Similar to the Comprehensive Everglades Restoration Plan (CERP) efforts, addressing coastal storm risk in a highly complex, dynamic and vulnerable area like Miami-Dade County requires a long-term holistic approach.

Pillar #1

Multiple Lines of Defense
the vision for reducing coastal storm risk across the range of natural, built, and hybrid environments in the water, along the shoreline, and on land.



Pillar #2

Adaptive Management
the flexible decision-making process for addressing evolving circumstances as well as short- and long-term needs.

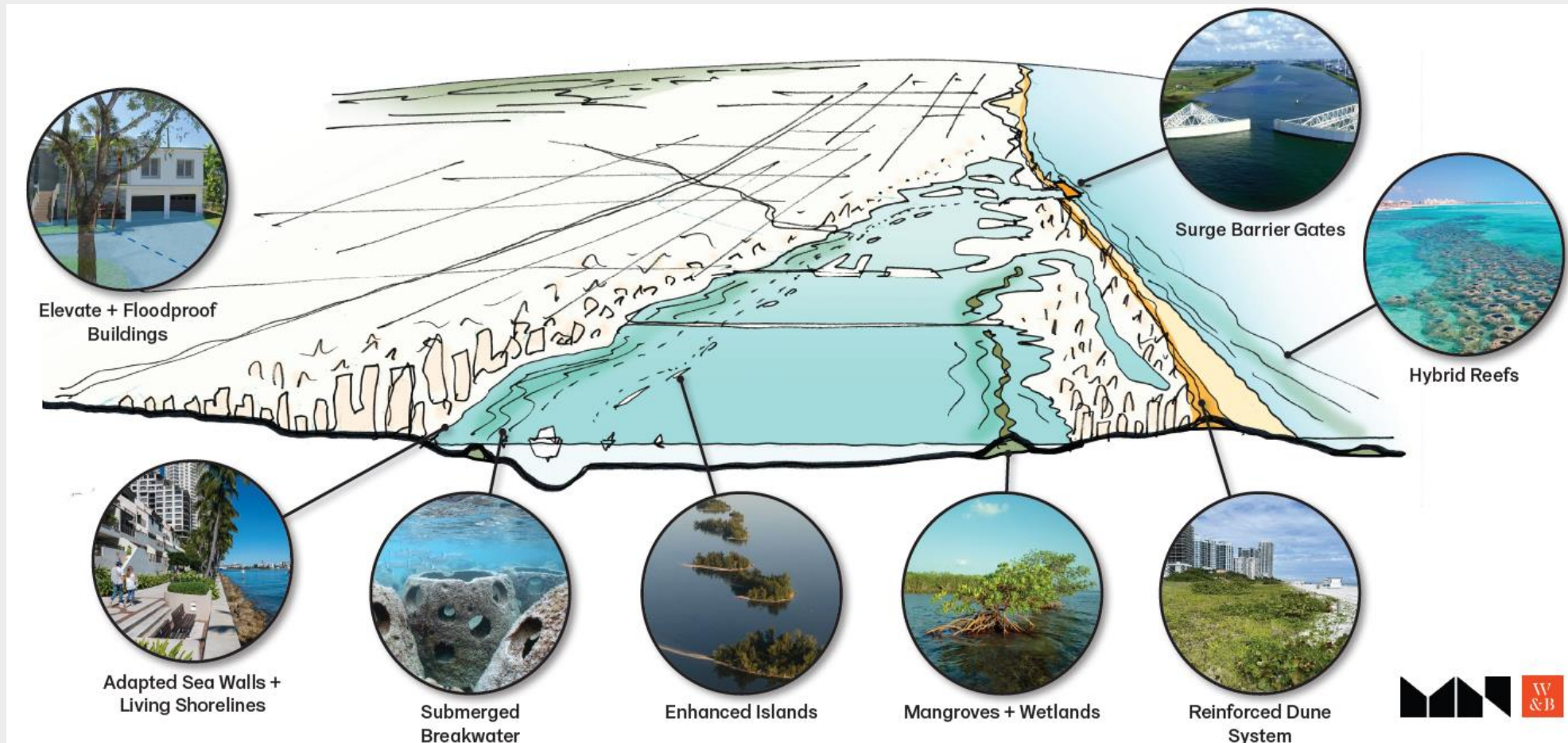
Pillar #3

Integration of Programs, Projects, and Studies
the collaborative effort for ensuring the development of plans, policies, programs, & projects that are streamlined, complementary & equitable across scales.

Pillar Multiple Lines of Defense

#1

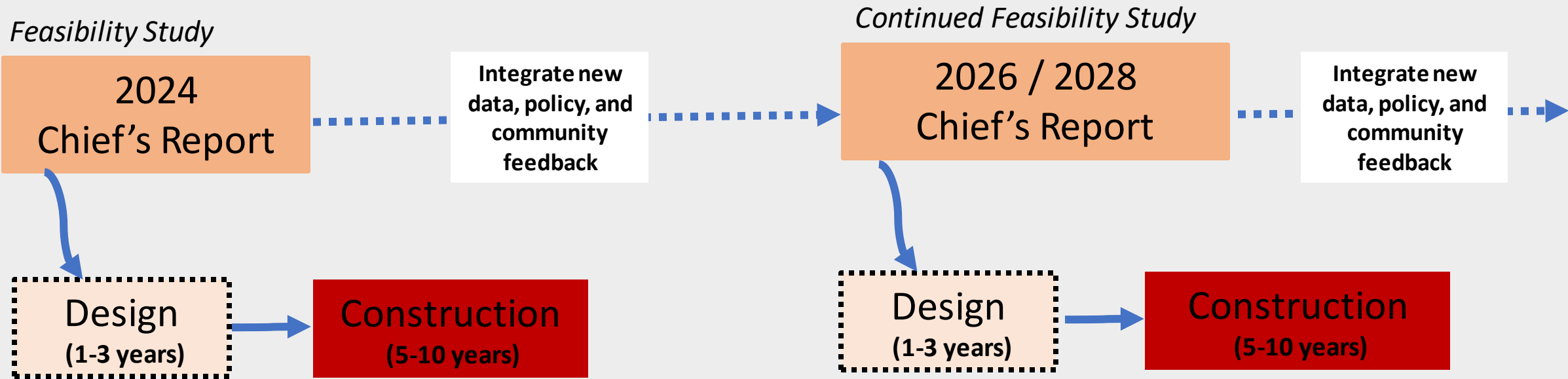
the vision for reducing coastal storm risk across the range of natural, built, and hybrid environments in the water, along the shoreline, and on land.



Pillar #2

Adaptative Management

the flexible decision-making process for addressing evolving circumstances as well as short- and long-term needs.

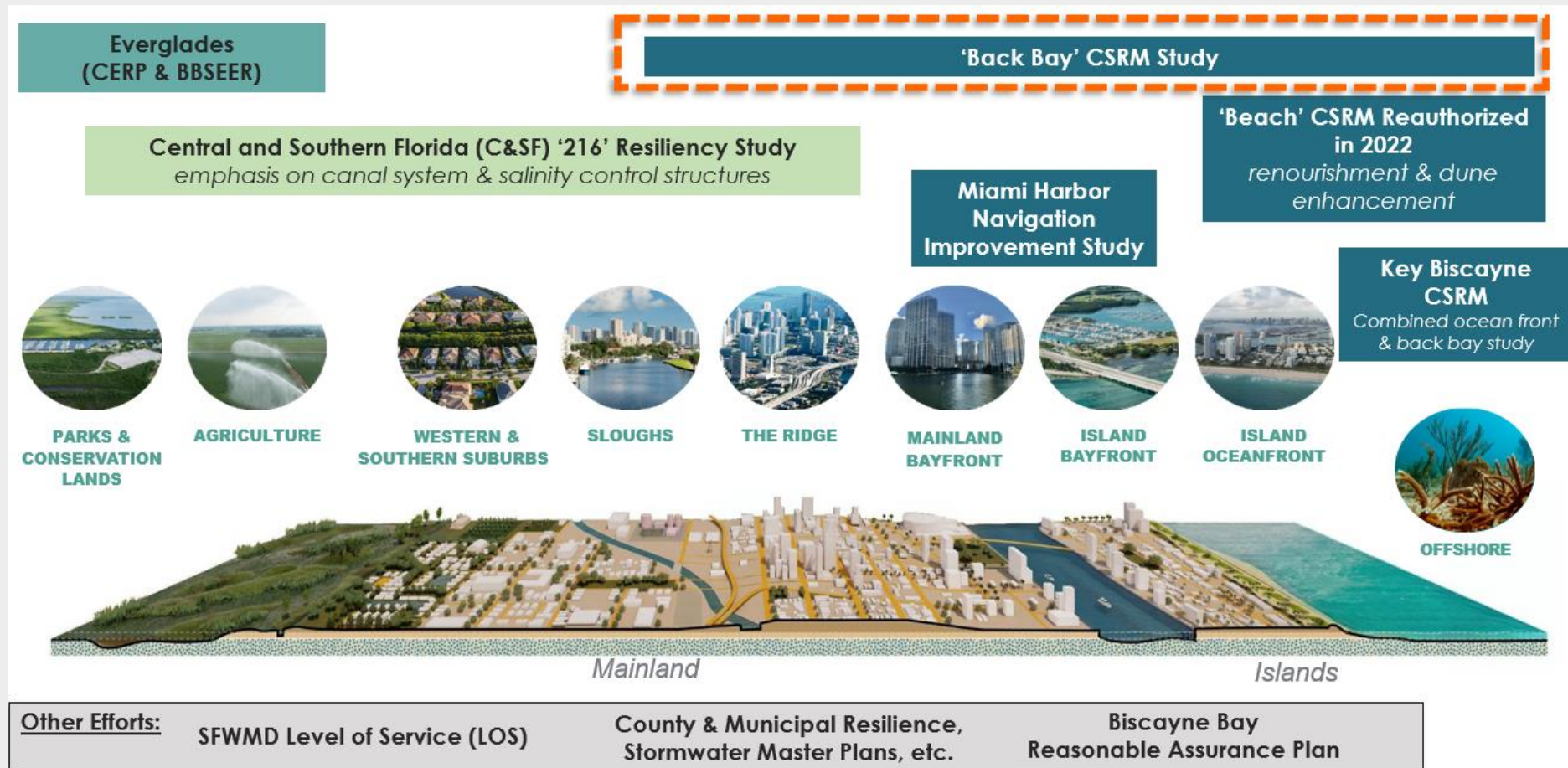


Goal: Continuously learn, collaborate and adjust to recommend projects in Congressional WRDA every 2 years

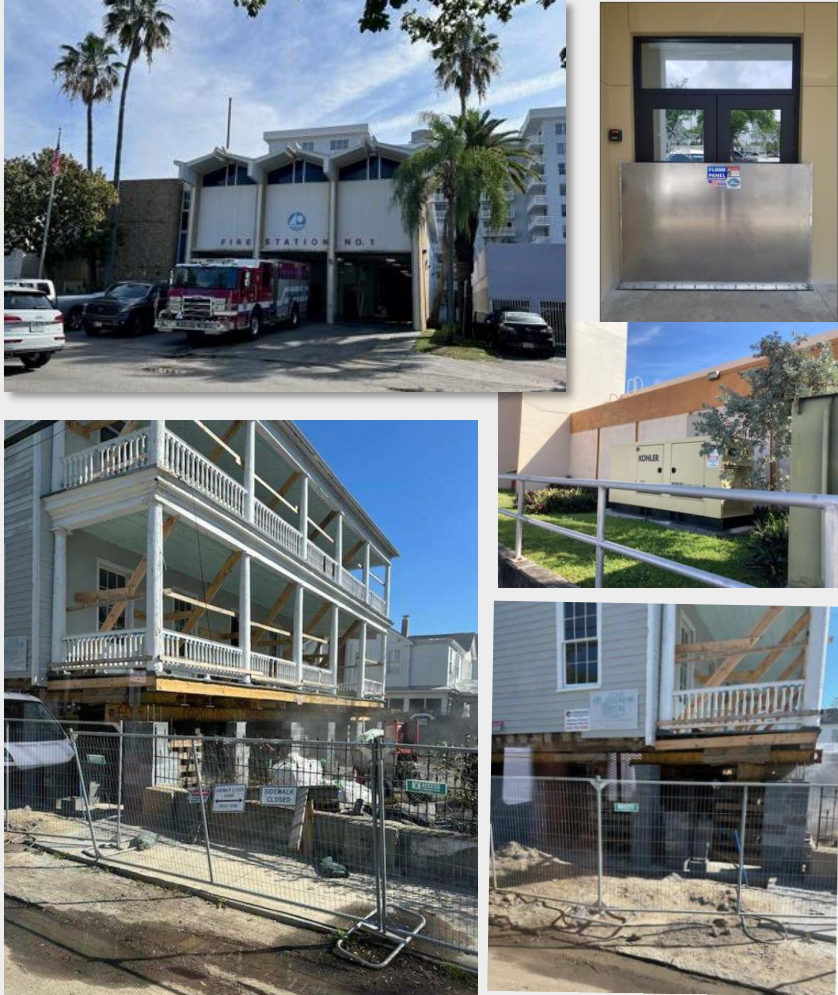
Pillar #3

Integration of Programs, Projects, and Studies

the collaborative effort for ensuring the development of plans, policies, programs, & projects that are streamlined, complementary & equitable across scales.



Across 6 Focus Areas



Critical Infrastructure

- 27 of critical facilities
- Proposes dry floodproofing such as:
 - flood panels at doors + other openings
 - elevation of exterior equipment such as HVAC units, backup generators, etc.

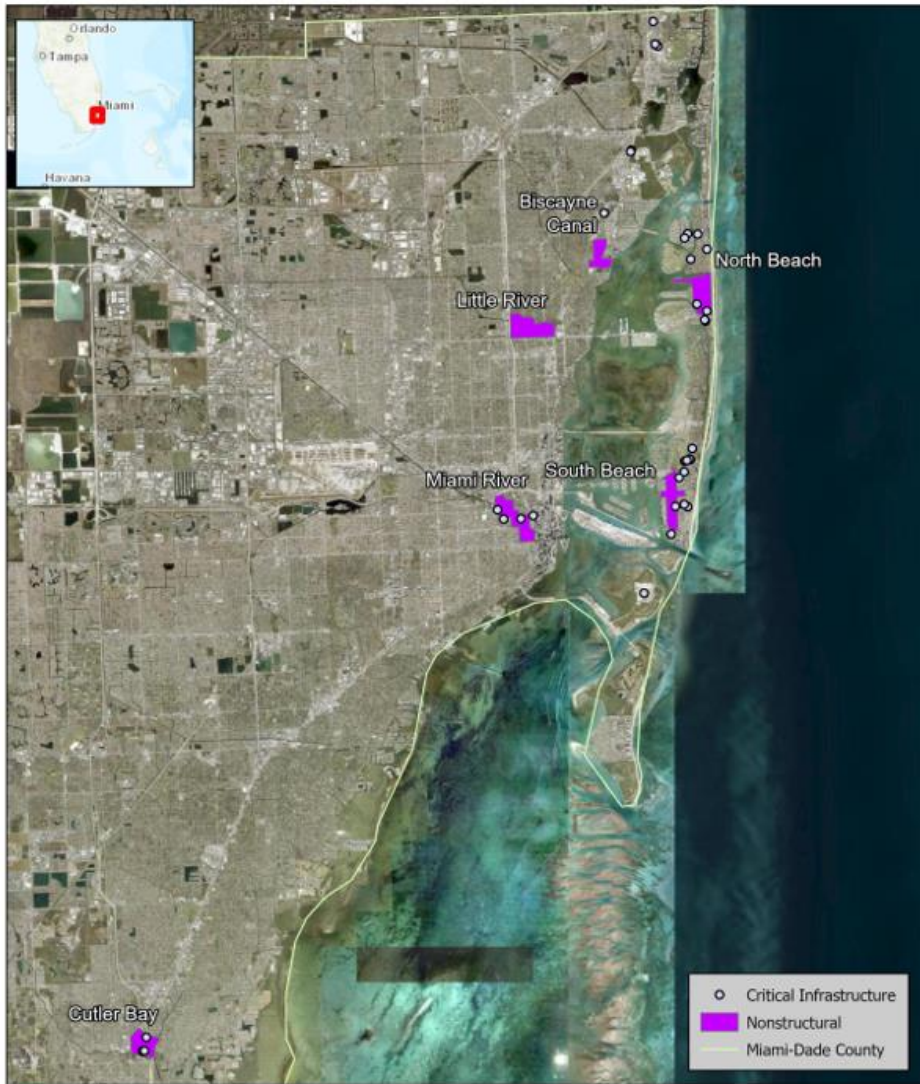
Nonstructural Focus Areas

- 2,100 Residential buildings:
 - single family and 4-unit multi-family buildings
- 400 Non-residential buildings:
 - Dry floodproofing (see above)

* Once authorized in WRDA and funds appropriated by Congress, the project advances to Pre-construction Engineering & Design (PED) Phase to be led by USACE-Jacksonville District along with MDC and Municipalities.

* *No in-water impacts*

NONSTRUCTURAL MEASURES: FOCUS AREAS



Focus Area	Jurisdiction	# of Residential Elevations	# of Nonresidential Floodproofings	Total CI Floodproofing
Biscayne Canal	UMSA	290	20	3
Cutler Bay	Cutler Bay	70	40	3
Little River	UMSA, Miami, El Portal	830	90	0
Miami River	City of Miami	250	100	4
North Beach	Miami Beach	440	50	8
South Beach	Miami Beach	170	100	8
Total		~2,100	~400	27*

***Aventura:** there is 1 critical facility recommended in draft report

Overview

- The purpose of the Nonstructural Program is to further assess, innovate, and implement nonstructural measures to vulnerable critical infrastructure and buildings for which USACE nonstructural policy is still developing while the *Miami-Dade Back Bay CSRM Feasibility Study* continues to analyze and recommend nonstructural measures such as single-family home elevations

What to Expect

- Expanded community education and engagement efforts for the program throughout upcoming planning, design and construction phases
- Long-term benefits to vulnerable communities by reducing flooding damages following a storm surge event

Key Highlights

- Programmatic authorization request for **\$200,000,000**
- The Program will consider complex buildings such as hospitals, multifamily residences, and other critical infrastructure and non-residential facilities identified by the community
- Planning and environmental coordination will continue; additional NEPA documentation will be prepared in the future; no in-water impacts anticipated



Deployable stop logs to protect vulnerable entryways

What are Nature-Based Solutions?

Nature-based solutions are flood risk management solutions that use existing natural features with sustainable engineering design to enhance resilience to coastal storms while providing additional environmental co-benefits.



Intent

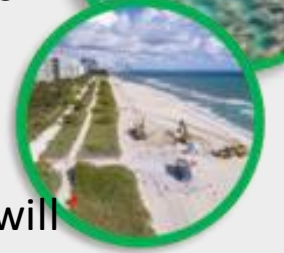
Develop a suite of demonstration projects that will individually inform the calculation of benefits provided by different types of NBS, and collectively contribute to a greater understanding of how NBS reduce coastal storm damage to property and infrastructure in the study area.

Types of NNBF (Natural and Nature-based Features) Proposed by Miami-Dade County and Stakeholders:

- Hybrid coral reef structures
- Dune reinforcement
- Humanmade island enhancements
- Living shorelines
- Restoration of canal/mosquito ditches and dredge holes
- Mangrove and wetland restoration
- Hydrological parks

Key Highlights

- Programmatic authorization request for **\$180,000,000**
- Site-specific projects for the Program will be identified in the future
- Projects will be independently justified
- Environmental and social co-benefits anticipated
- Planning and environmental coordination will continue; additional NEPA documentation will be prepared in the future



PRINCIPLES FOR SUCCESS

BASED ON YOUR COMMUNITY INPUT



Multiple Lines of Defense



Comprehensive Benefits



Environmental Justice



Integration

Formal comments can be submitted through the following:



- **May 2, 2024 In-Person Public Meeting using a Comment Card**
- **Email:** MDBB-CSRStudy@usace.army.mil
- **Online through the Public Crowdsourcing Reporter Tool:** <https://arcg.is/0ub0Cf>
- **Standard Mail:**
U.S. Army Corps of Engineers Norfolk District
c/o Justine Woodward
803 Front St.
Norfolk, Virginia 23510

For any accessibility issues that prevent written comments, please call (757) 201-7728.

The draft Report is available from the Project Website:

<https://www.saj.usace.army.mil/MiamiDadeBackBayCSRFeasibilityStudy/>

**Public Comment Period:
April 23 – May 23, 2024**

Formal comments must be received by **May 23, 2024** to be considered in the development of the Final Report.



Scan to visit USACE
Study Website