

St. Augustine, Florida Back Bay Coastal Storm Risk Management (CSRM) Feasibility Study

PUBLIC WORKSHOP

OCTOBER 4, 2023

Workshop Agenda

6:30 – 7:00: Study Presentation

7:00 – 8:00: Open Workshop Session

8:00 – 8:30: Formal Q&A

Presented by:

Jason Harrah, Senior Project Manager (Jacksonville District, USACE)

Jessica Beach, Chief Resiliency Officer (City of St. Augustine)



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House Resolution 2646 (June 21, 2000): St. Johns County, Florida

Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, That in accordance with Section 110 of the River and Harbor Act of 1962, the Secretary of the Army, acting through the Chief of Engineers, is **requested to survey the shores of St. Johns County, Florida**, with particular reference to the advisability of providing beach erosion control works in the area north of St. Augustine Inlet, the shoreline in the vicinity of Matanzas Inlet, and adjacent shorelines, as may be necessary in the interest of **hurricane protection, storm damage reduction, beach erosion control, and other related purposes.**

Non-Federal Sponsor: City of St. Augustine (COSA)

POC: Jessica Beach, P.E., Chief Resilience Officer, jbeach@citystaug.com

Study Area

- Entire COSA Municipal Boundary
- 17 Distinct Neighborhoods
- 3 Separate Land Masses
- Interconnected Water Bodies

Objectives to be achieved within the City of St. Augustine over a 50-year period of analysis from 2035-2085 are to...

1. Manage risk of coastal flood damages.
2. Manage risk to health and life-safety.
3. Manage risk to cultural and natural resources.
4. Manage flooding impacts to the local economy.





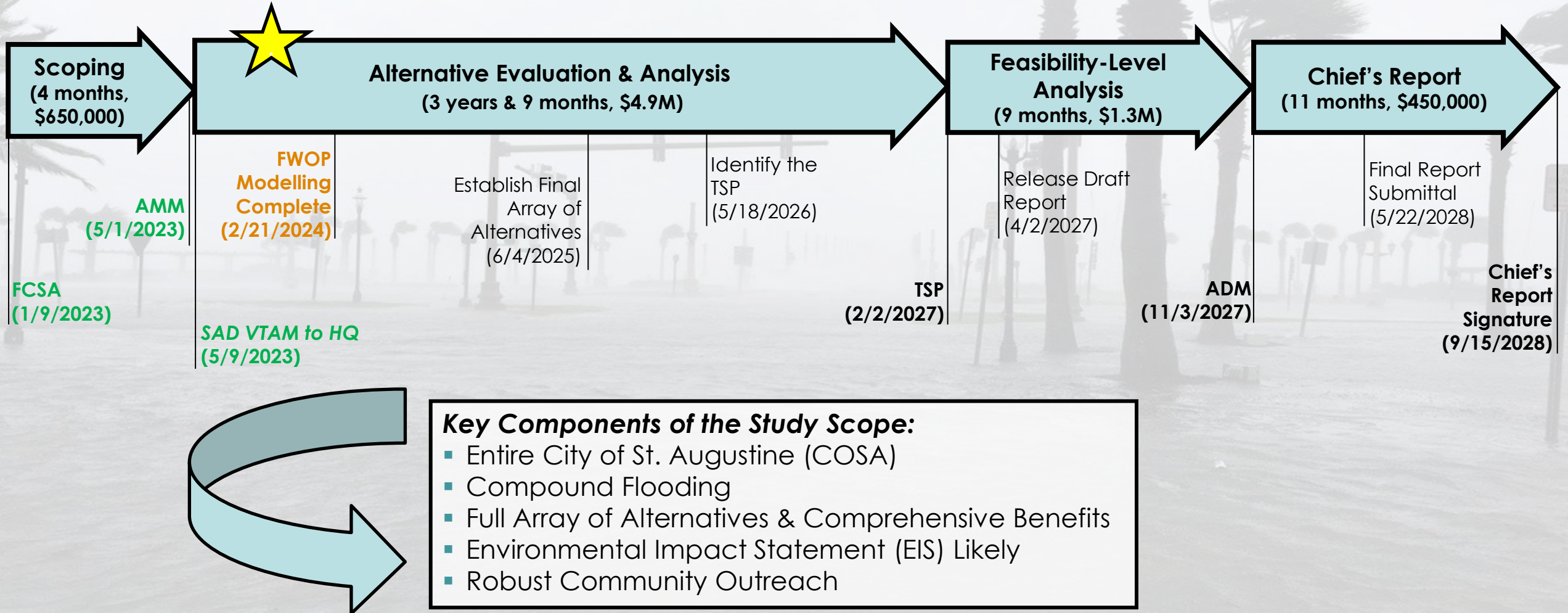
STUDY SCHEDULE & BUDGET

★ We Are Here



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Schedule & Budget Overview: **5 years & 9 months, \$7.3M, Cost Share ~50% Fed, 50% Sponsor**



Measure Function → Initial Array of Alternatives

Wall/Levee/Dune features stop flooding at the back bay shoreline.

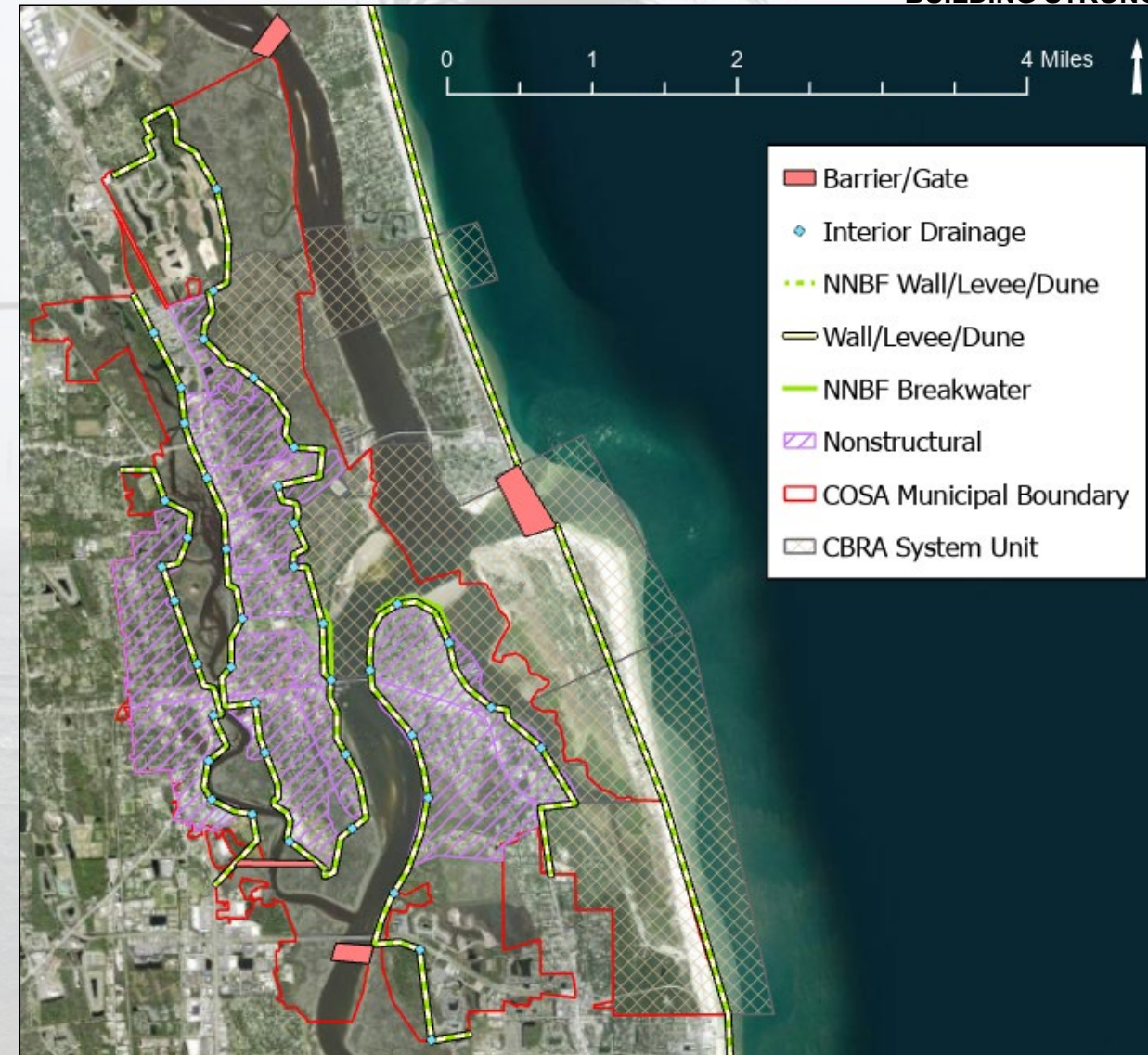
Surge Barrier/Gate features stop flooding before it gets into the back bay waters.

Interior Drainage features get flooding out of upland areas.

Nonstructural features reduce flood risk without directly effecting flooding processes.

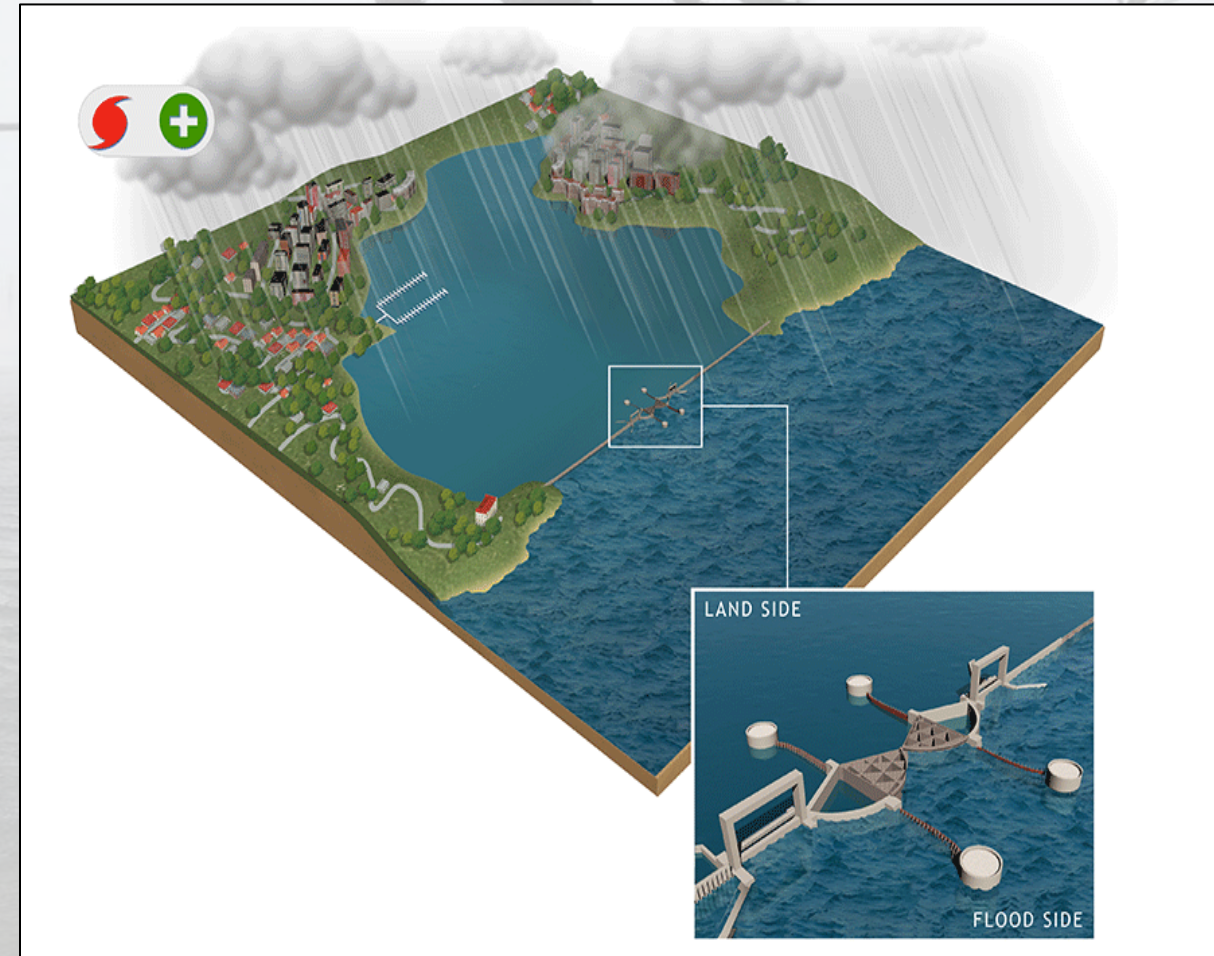
Breakwaters/NNBFs can reduce wave energy before it gets to the back bay shoreline.

0. No Action
1. Wall/Levee with Interior Drainage Features & Breakwaters/NNBFs
2. Storm Surge Barrier at Inlet(s)/IWW with Wall/Levee/Dune tiebacks
3. San Sebastian River Flood Gate with Wall/Levee & Interior Drainage Features & Breakwaters/NNBFs
4. All Nonstructural
5. Wall/Levee with Interior Drainage Features & Breakwaters/NNBFs & Nonstructural
6. Storm Surge Barrier at Inlet(s)/IWW with Wall/Levee/Dune tiebacks & Nonstructural



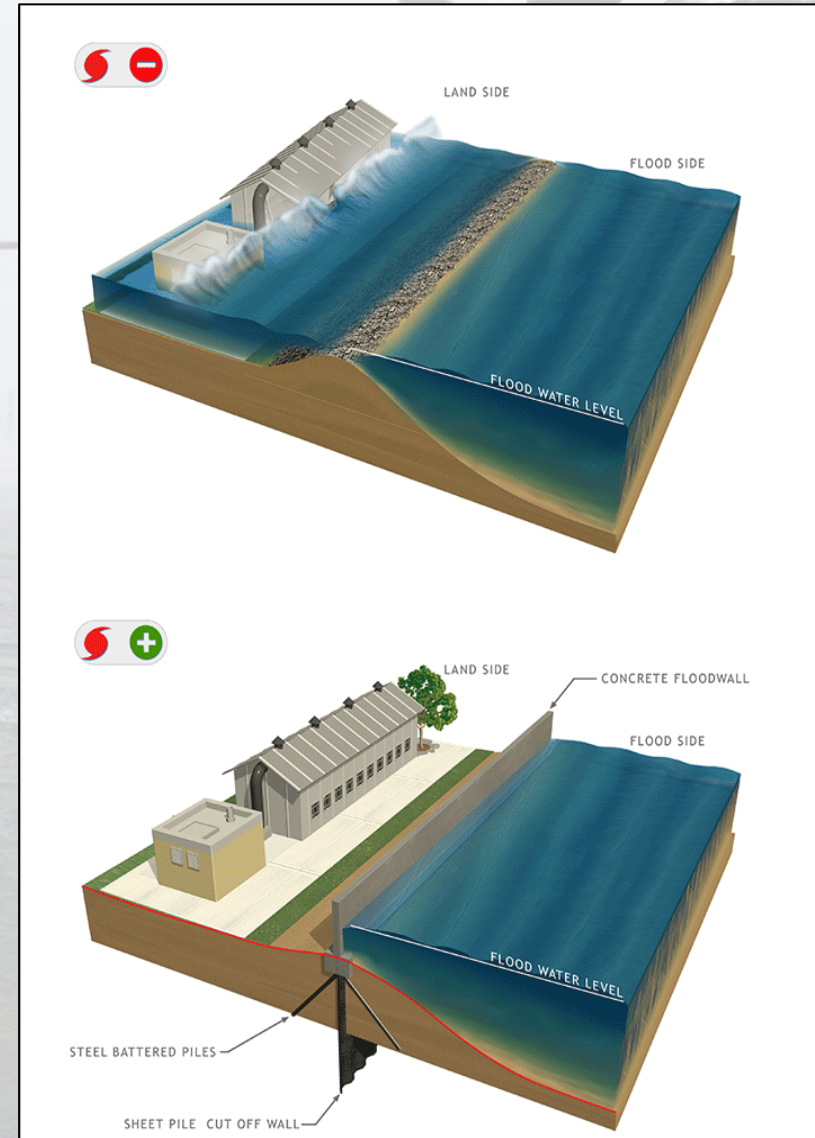
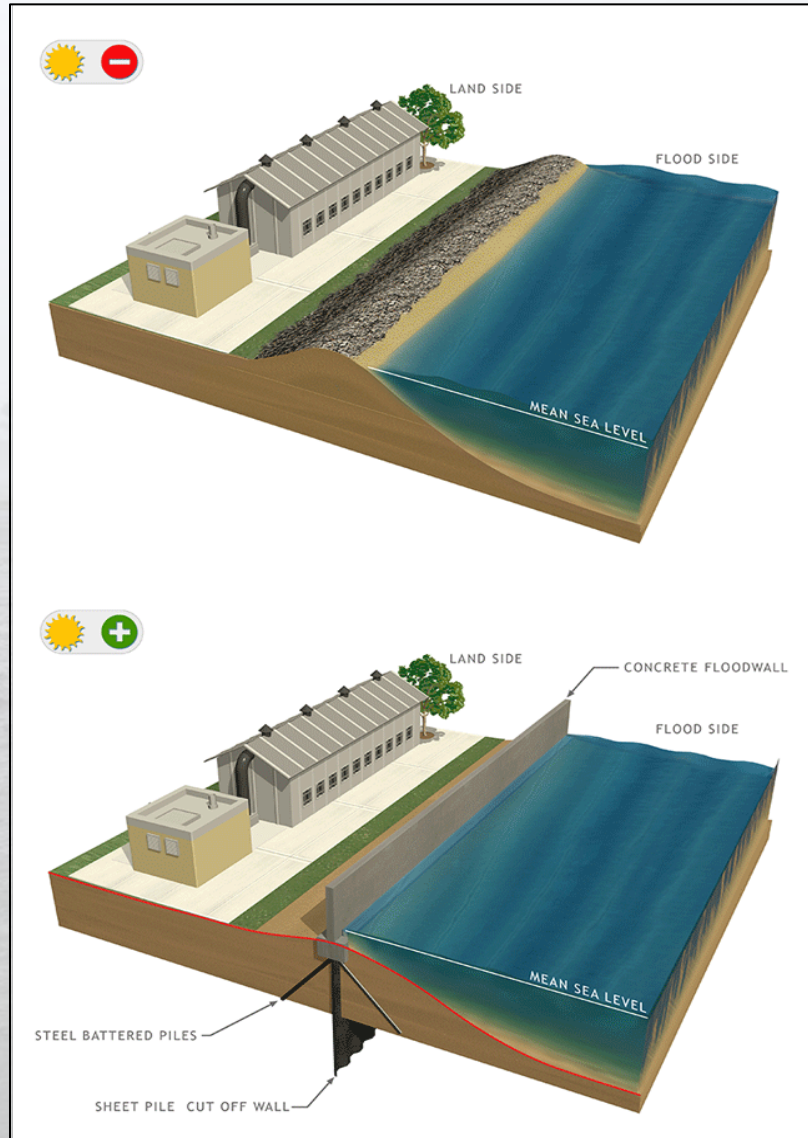
ALTERNATIVES EVALUATION

Alternative Example: Storm Surge Barriers



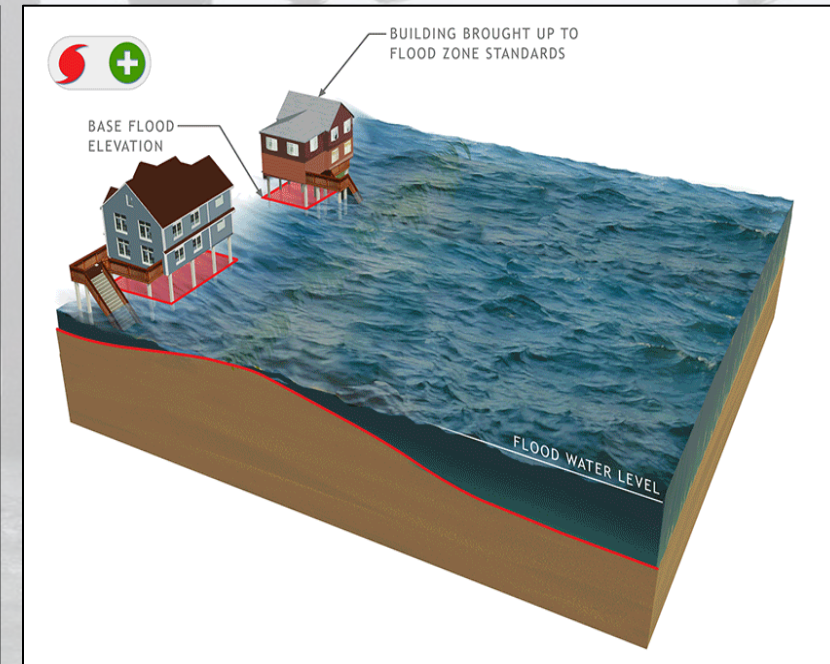
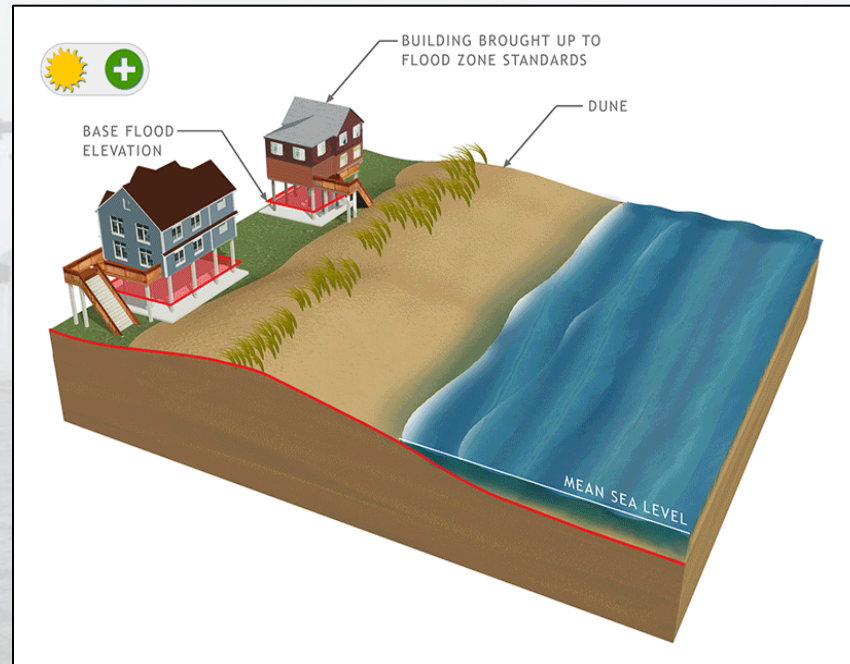
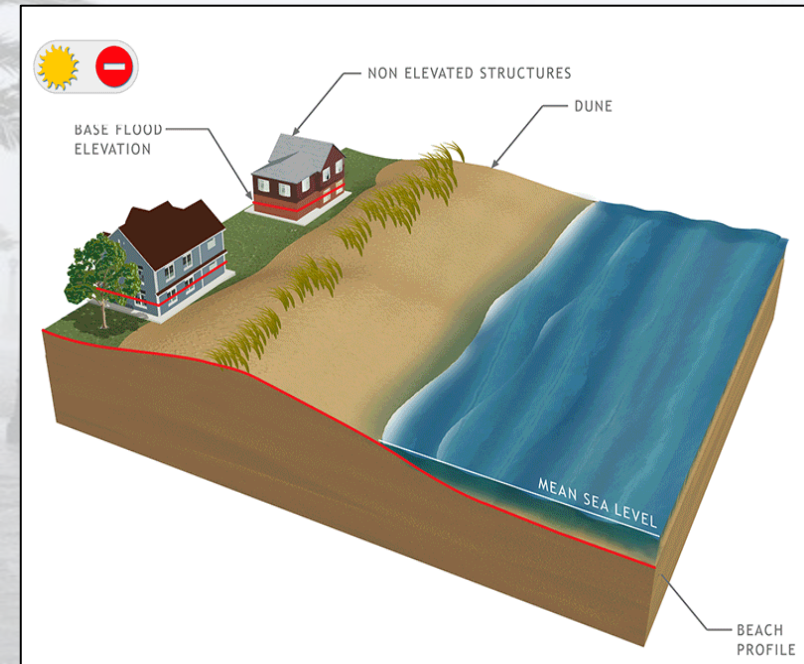
ALTERNATIVES EVALUATION

Alternative Example: Floodwalls



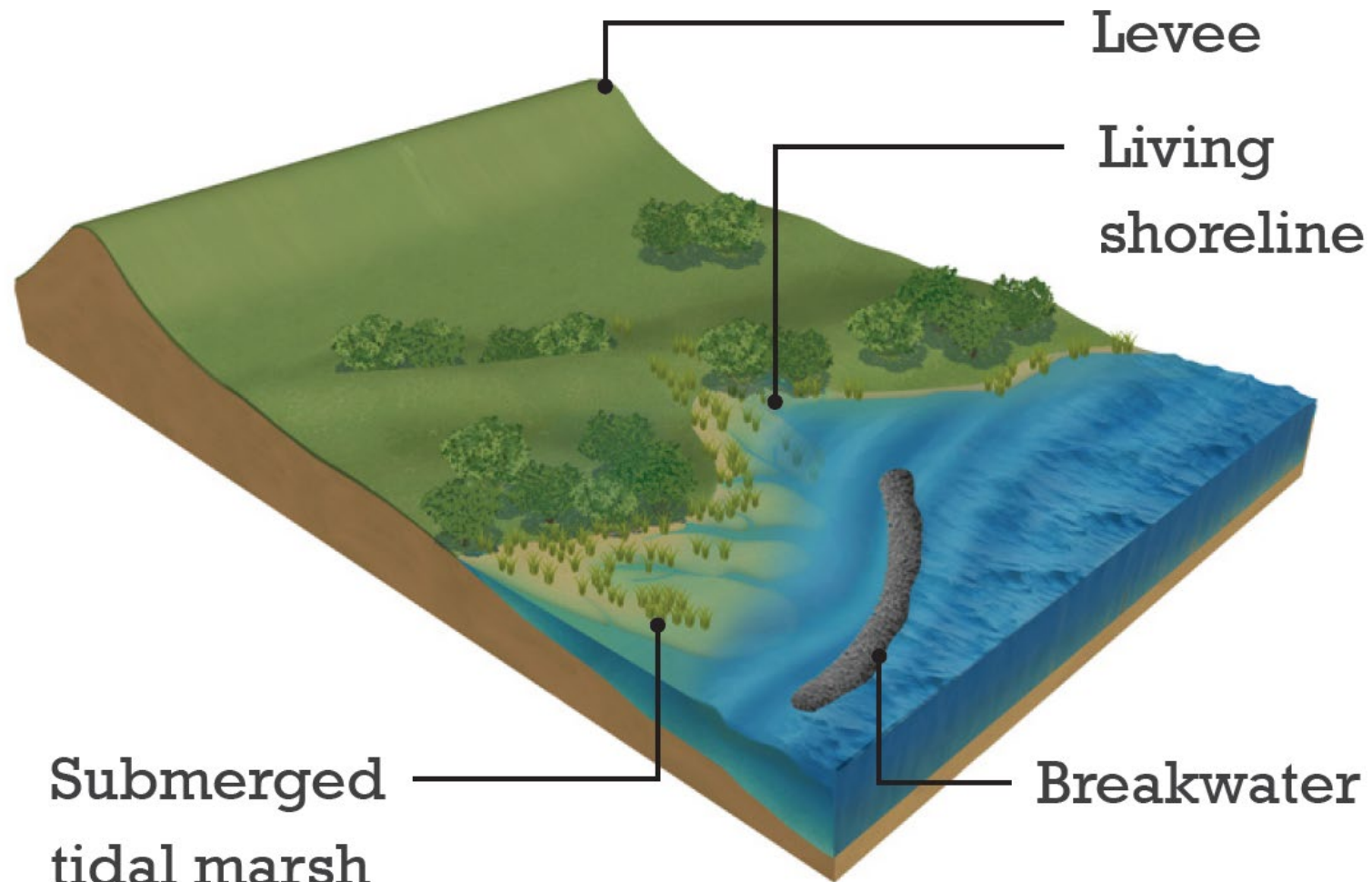
ALTERNATIVES EVALUATION

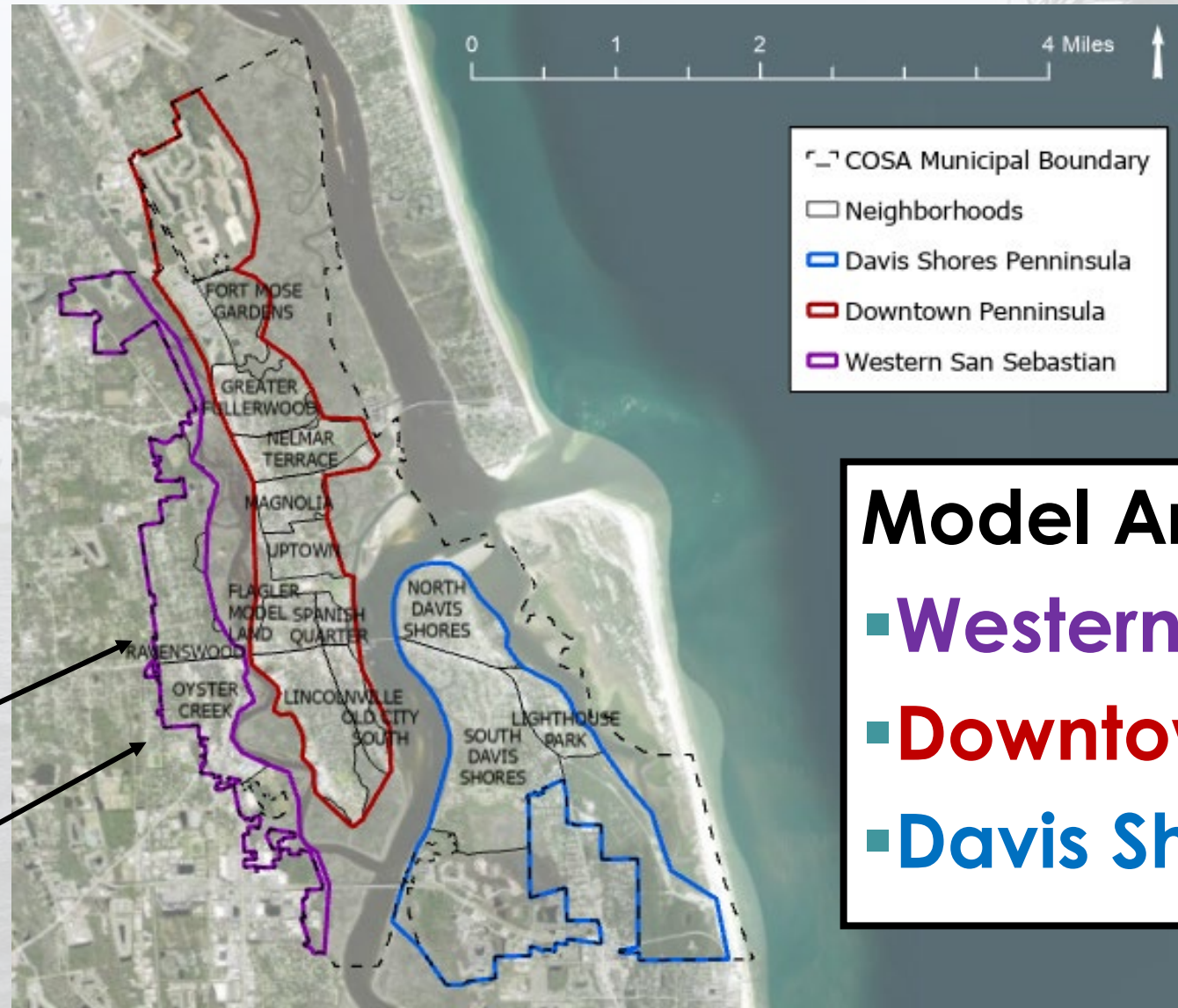
Alternative Example: Non-Structural (Elevating Structures, Floodproofing, Ring Walls, Acquisition/Relocation)



ALTERNATIVES EVALUATION

Alternative Example: Natural & Nature-Based Features





Model Areas

- Western San Sebastian
- Downtown Peninsula
- Davis Shores Peninsula

Environmental
Justice (EJ)
Communities



UPCOMING PUBLIC ENGAGEMENTS



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Dates	Events
October 4 th , 2023 (every 6 months)	Public Workshop (6:30 pm, 75 King Street- Alcazar Room)
October 19 th , 2023	Monthly Planning Webinar
November 16 th , 2023	Monthly Planning Webinar
December 21 st , 2023	Monthly Planning Webinar
January 18 th , 2024	Monthly Planning Webinar
February 15 th , 2024	Monthly Planning Webinar



PUBLIC OUTREACH (STUDY WEBSITE)



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St. Augustine Back Bay Study - V x +

experience.arcgis.com/experience/06bb9c98d9184bd9a374a244f6d27474/

_USACE Finance Mapping News USACE Google All Bookmarks

St. Augustine, FL Back Bay Coastal Study

Engineering Economics Environmental Cultural Resources Real Estate About

U.S. Army Corps of Engineers – Jacksonville District Main Website

Welcome to the St. Augustine, Florida Back Bay Coastal Storm Risk Management (CSRM) Web Experience Homepage

Upcoming Events: Our Next Public Meeting will be held on October 4th, 2023 at 6:30pm. < Prev Next >

This Web Experience Homepage is a visual representation of the ongoing St. Augustine CSRM Study. During the study, this page will be updated with the latest information to include meeting agendas, minutes, graphics, etc. to keep the public and agencies engaged as partners in developing a long term solution to flooding within the City of St. Augustine.

U.S. ARMY US Army Corps of Engineers Jacksonville District

ST. AUGUSTINE

Page Contents

- Study Overview
- Plan Formulation
- Monthly Planning Meetings
- Interactive Map
- Public Meetings/Workshops
- News, Social Media, Helpful Links
- Scope, Schedule, and Budget
- Contact Information

For better viewing experience, please use Google Chrome or Mozilla Firefox browsers. Also, please use a PC to interact with the web experience homepage.

ArcGIS Experience Builder technology animates the complicated concepts considered by the design team by allowing users to:

- See the improvements and reduced flooding impacts from this study in the City of St. Augustine (COSA)
- Experience the various alternatives and recommended plan with detailed artistic graphics and renderings
- Examine Engineering, Economic, Cultural, and Key Environmental Features

STUDY OVERVIEW

Study Authority

This study is being conducted under the authority from the June 21, 2000, House Resolution 2646 that granted authority for a Coastal Storm Risk Management (CSRM) study in St. Johns County, Florida:
"Resolved by the Committee on Transportation and Infrastructure of the United States House

<https://experience.arcgis.com/experience/06bb9c98d9184bd9a374a244f6d27474/>




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PUBLIC OUTREACH (SOCIAL MEDIA)



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 U.S. Army Corps of Engineers, Jacksonville District  1 d · 




Join USACE Jacksonville and the City of St. Augustine Thursday, Sept. 21, from 1-2:30 p.m. for the monthly St. Augustine Back Bay Study planning meeting. Join online at <https://usace1.webex.com/meet/jason.s.harrah> or dial in at 1-844-800-2712; enter access code 199 927 9909 when prompted. @CityStAug

St. Augustine, Florida, Back Bay CSRM Feasibility Study Monthly Planning Webinar
Sept. 21, 2023, 1-2:30 p.m.

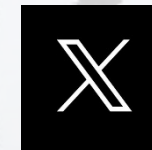
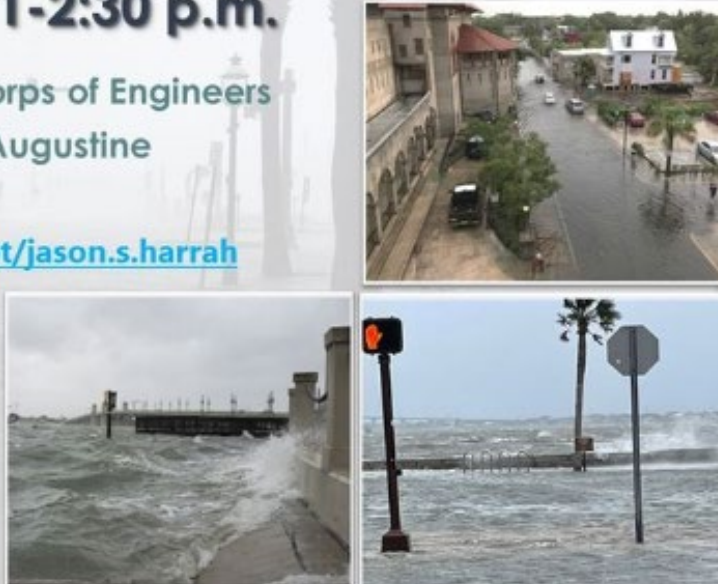
Presented by U.S. Army Corps of Engineers
and the City of St. Augustine

Join online
<https://usace1.webex.com/meet/jason.s.harrah>

Call in
Dial 1-844-800-2712
Enter access code 199 927 9909

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Submit Public Comment

US Army Corps of Engineers Jacksonville
District: St. Augustine Florida Back Bay
Feasibility Study


Scoping Meeting and Comment Period
Notice Letter for USACE St. Augustine
Back Bay Coastal Storm Risk Management
(CSRM) Feasibility Study (PDF)

[Home](#) > [Government](#) > [Resiliency](#) > [Planning/Studies](#) > Back Bay Feasibility Study with the Army Corps of Engineers


Back Bay Feasibility Study with the Army Corps of Engineers

The objectives of the study include (1) reduce flooding caused by coastal storms, extreme high tides, and future projected sea level rise in the study area; (2) explore opportunities to increase community resiliency from future coastal storms. Issues that are anticipated include concern for aesthetics, cultural resources, recreation, socioeconomic, environmental justice, wetlands, fish and wildlife resources, threatened and endangered species, and water quality. CSRM measures to be evaluated may include a combination of structural (i.e., tidal gates, seawalls, revetments, levees, drainage improvements, building elevation, etc.), non-structural (i.e., relocation, buyouts, etc.), and natural and nature-based features (i.e., living shorelines, vegetated features, oyster reefs, and maritime forests). Public Comments will be accepted throughout the life of the study.


Back Bay Signing Ceremony January 9th, 2023



Submit Public Comment



Email: BackBay@citystaug.com



**US Army Corps
of Engineers**®
Jacksonville District

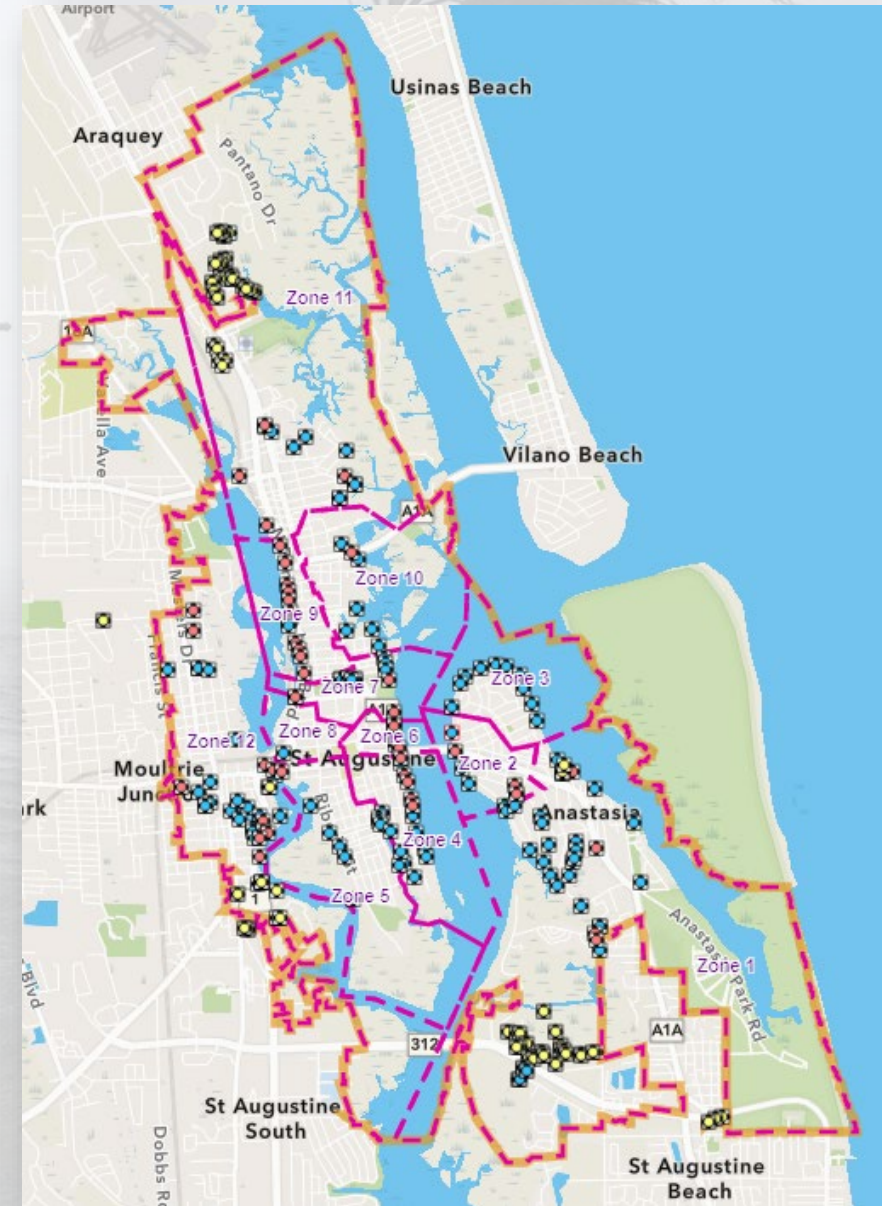
[Jacksonville District Website](#)

Monthly Project Delivery Team (PDT) Meetings

Social Media

<https://www.instagram.com/citystaug/>
<https://www.facebook.com/citystaug>
<https://twitter.com/citystaug>

- **Why do we need this study?**
- **Stormwater Infrastructure:**
 - ▶ 133 Outfalls Tidally Influenced (excluding FDOT)
 - ▶ 1,155 Storm Inlets
 - ▶ 22 miles of Storm Pipe
 - ▶ Twelve (12) maintenance zones
 - ▶ **Subject to flooding – both from rainfall and tidal/coastal influence (compound flooding)**





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Project Map Key

1. Lake Maria Sanchez Flood Mitigation
2. South Whitney/West King Street Drainage
3. Inlet Drive Shoreline Stabilization
4. South Davis Shores Drainage
5. Court Theophelia Neighborhood Drainage
6. Avenida Menendez Seawall

City Wide Projects

- Tidal Backflow Prevention Program
- Groundwater Monitoring Network

City Planning Studies

- Back Bay Feasibility Study (Federal)
- Vulnerability Assessment Update (State)

City Programs

- Flood Mitigation Assistance (FMA) Program

City Ordinances

- Proposed Resilient Shorelines Ordinance

RESILIENCE STRATEGIES



RESILIENCE EFFORTS TIMELINE

INITIATIVES		2023	2024	2025	2026	2027
DESIGN / PERMITTING / CONSTRUCTION	Avenida Menendez Seawall					
	Lake Maria Sanchez Flood Mitigation and Drainage Improvements					
	South Whitney/West King Street Drainage					
	Inlet Drive Shoreline Stabilization					
	South Davis Shores Flood Mitigation and Drainage Improvements					
	Court Theophelia Neighborhood Flood Mitigation and Drainage Improvements					
	City Wide Tidal Backflow Prevention Improvements					
	Groundwater Monitoring Network					
DATA COLLECTION / COMMUNITY OUTREACH / PLANNING	Vulnerability Assessment Update with DEP (State)					
	Proposed Resilient Shorelines Ordinance					
	Back Bay Feasibility Study with the Army Corp of Engineers (Federal)					
Yearly	FEMA's Annual Flood Mitigation Assistance (FMA) Program					




www.CityStAug.com/Resiliency | 904-825-1040 | Stormwater@CityStAug.com



- **USACE-COSA Back Bay Feasibility Study**
 - ▶ Public Input is Important!
 - ▶ Project updates also available at the City website:

www.citystaug.com/BackBay

- Contact us:
BackBay@citystaug.com



BACK BAY COASTAL STORM RISK MANAGEMENT

A City Wide Feasibility Study With The U.S. Army Corps of Engineers

What is this study?

The City of St. Augustine Coastal Storm Risk Management Study is a three-year federal feasibility study that investigates coastal storm impacts on the City of St. Augustine. In partnership with the Army Corps of Engineers, City of St. Augustine and its stakeholders, the study will also explore economically-viable and environmentally-sound solutions to mitigate coastal storm risks.

Why is this study needed?

The reduction of flood-related damages to residential, commercial and historic/culturally significant resources, and critical infrastructure is vital. The study will identify comprehensive Coastal Storm Risk Management strategies to increase resilience and to reduce risk from future storms and compounding impacts of sea level change.

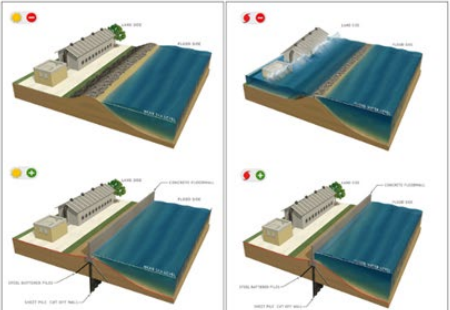
How will this study benefit the community?

The objective of the study is to investigate Coastal Storm Risk Management problems and identify solutions to reduce damages from coastal flooding that affects population, critical infrastructure, historic and culturally significant resources, and ecosystems, which will benefit the community as future projects are designed to mitigate flooding.

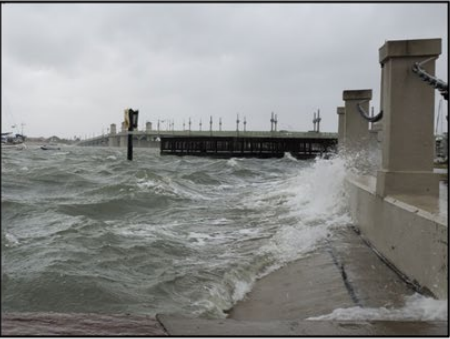
How is this study being funded?

The City of St. Augustine will be utilizing \$1,500,000 in American Rescue Plan Act (ARPA) funds, while the Army Corps of Engineers will fund \$1,500,000 for a total cost of \$3,000,000.

Flood Wall Example



St. Augustine Bay Front During a Storm



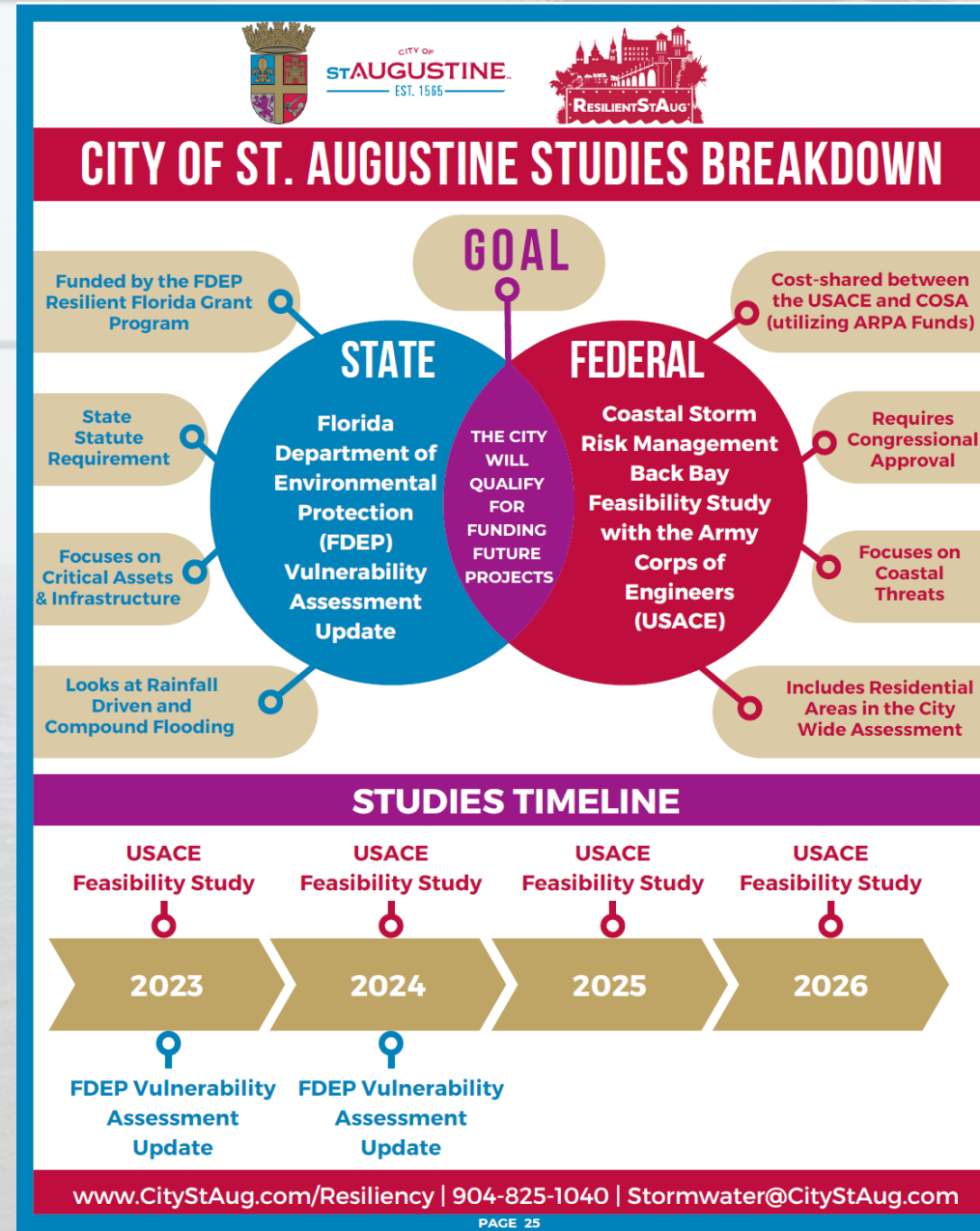
City of St. Augustine | Public Works Department | 904.825.1040 | Stormwater@CityStAug.com

PAGE 22

Other On-Going Coordination Efforts

- ▶ USACE Back Bay Study
- ▶ State Funded Vulnerability Assessment:
 - City of St. Augustine
 - St. Johns County
 - City of St. Augustine Beach
- ▶ FDOT Seawall Rehabilitation
- ▶ National Park Service (NPS) Seawall Rehabilitation
- ▶ Northeast Florida Regional Council – Resilient First Coast Collaborative

www.citystaug.com/Resiliency





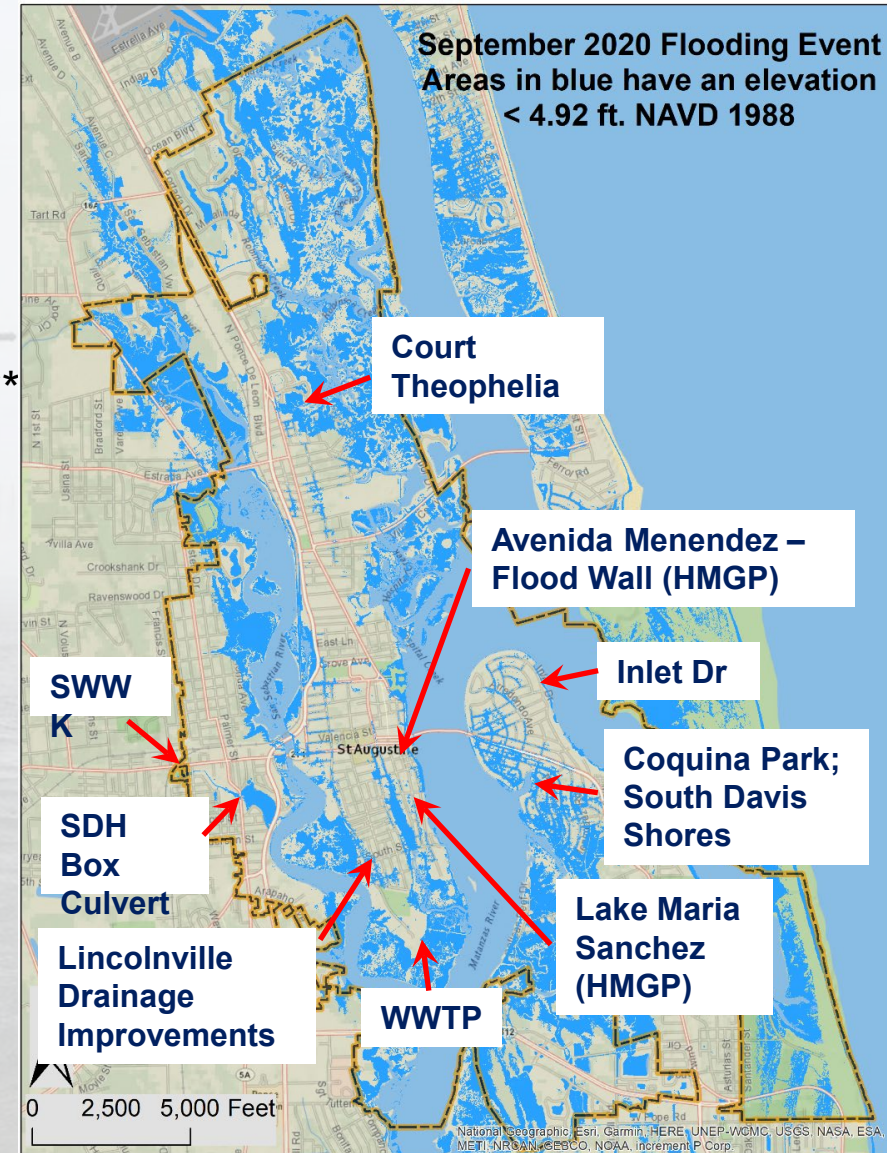
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**Current Flood Mitigation Investments ≈ \$69,741,833
(\$58,218,292, grant funded, 83%):**

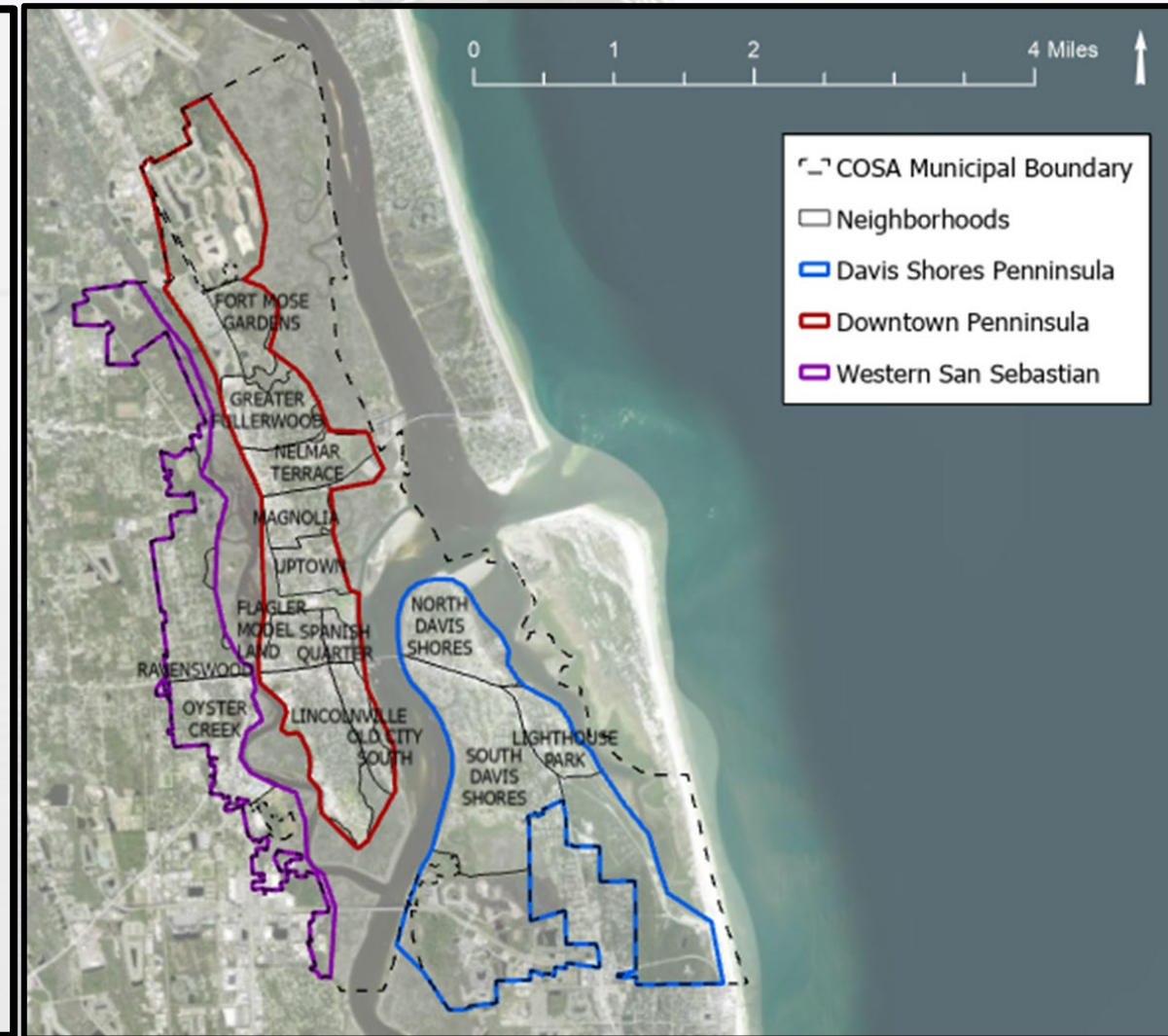
- Lake Maria Sanchez*, **
- FEMA 13 Lift Station Hardening and Flood Proofing*
- Wastewater Treatment Plant (WWTP) Flood Proofing
- South Whitney/West King (SWWK) Flood Mitigation*, **
- Avenida Menendez Flood Wall*
- City-wide tide check valves (43 installed, 20 future)**
- Coquina Park
- South Dixie Highway Culvert Replacement**
- Lincolnville Utility and Drainage Improvements*, **
- South Davis Shores Flood Mitigation and Drainage Improvements *, **
- Inlet Drive Shoreline Resiliency Improvements *, **
- Flood Mitigation and Drainage Improvements for the Court Theophelia Neighborhood *, **
- Updated Vulnerability Assessment (State)**
- USACE Back Bay Feasibility Study (Federal)**



*Denotes Federally Funded Project (FEMA –PA, HMGP; HUD/DEO-CDBG-NR)

**Denotes State Funded Project (SJRWMD, FDEP)

- 3 Separate Workshop Areas to Focus on Your Specific Area!
- Technical Experts are Ready to Answer Questions
- USACE and City of St. Augustine Want to Hear from You!
- Stickers will be used to Document Public Info:
 - ✓ **Blue** = **Flooding**. What kind of flooding are you experiencing?
 - ✓ **Green** = **Solutions**. What kind of solution would you like to see in a specific location?
 - ✓ **Red** = **Concerns**. Solutions should be avoided for this area due to cultural, environmental other concerns.
 - ✓ **Yellow** = **Questions?** I would like to know more about ____ in this specific location.
- Formal Q&A will start at 8:00





THANK YOU!



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