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

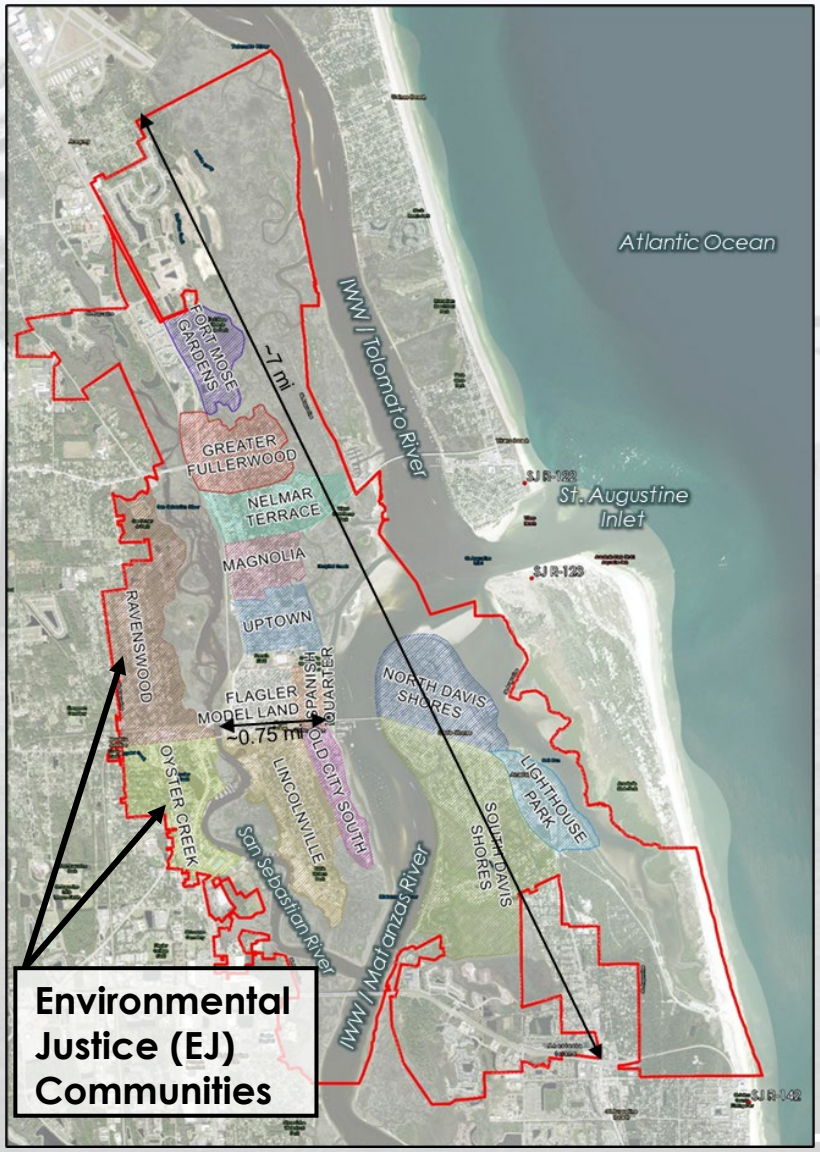
7:00 – 8:00: Open Workshop Session

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)

STUDY OVERVIEW

BUILDING STRONG



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**

Scoping
(4 months, $650,000)

Alternative Evaluation & Analysis
(3 years & 9 months, $4.9M)

Feasibility-Level Analysis
(9 months, $1.3M)

Chief's Report
(11 months, $450,000)

FCSA
(1/9/2023)

AMM
(5/1/2023)

SAD VTAM to HQ
(5/9/2023)

FWOP Modelling Complete
(2/21/2024)

Establish Final Array of Alternatives (6/4/2025)

Identify the TSP (5/18/2026)

TSP
(2/2/2027)

Release Draft Report (4/2/2027)

ADM
(11/3/2027)

Final Report Submittal (5/22/2028)

Chief's Report Signature
(9/15/2028)

Key Components of the Study Scope:

- Entire City of St. Augustine (COSA)
- Compound Flooding
- Full Array of Alternatives & Comprehensive Benefits
- Environmental Impact Statement (EIS) Likely
- Robust Community Outreach

INITIAL ARRAY OF ALTERNATIVES

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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

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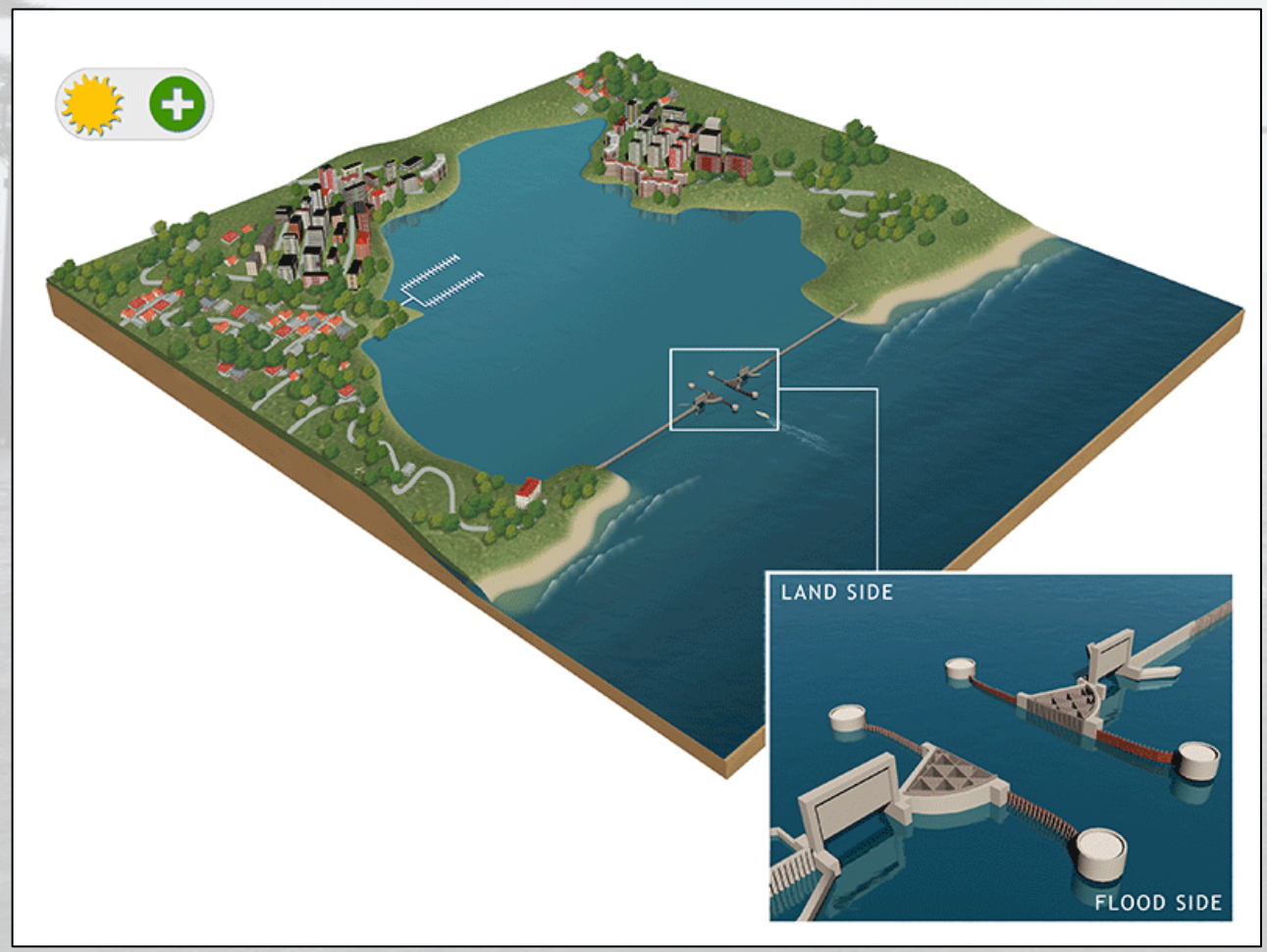
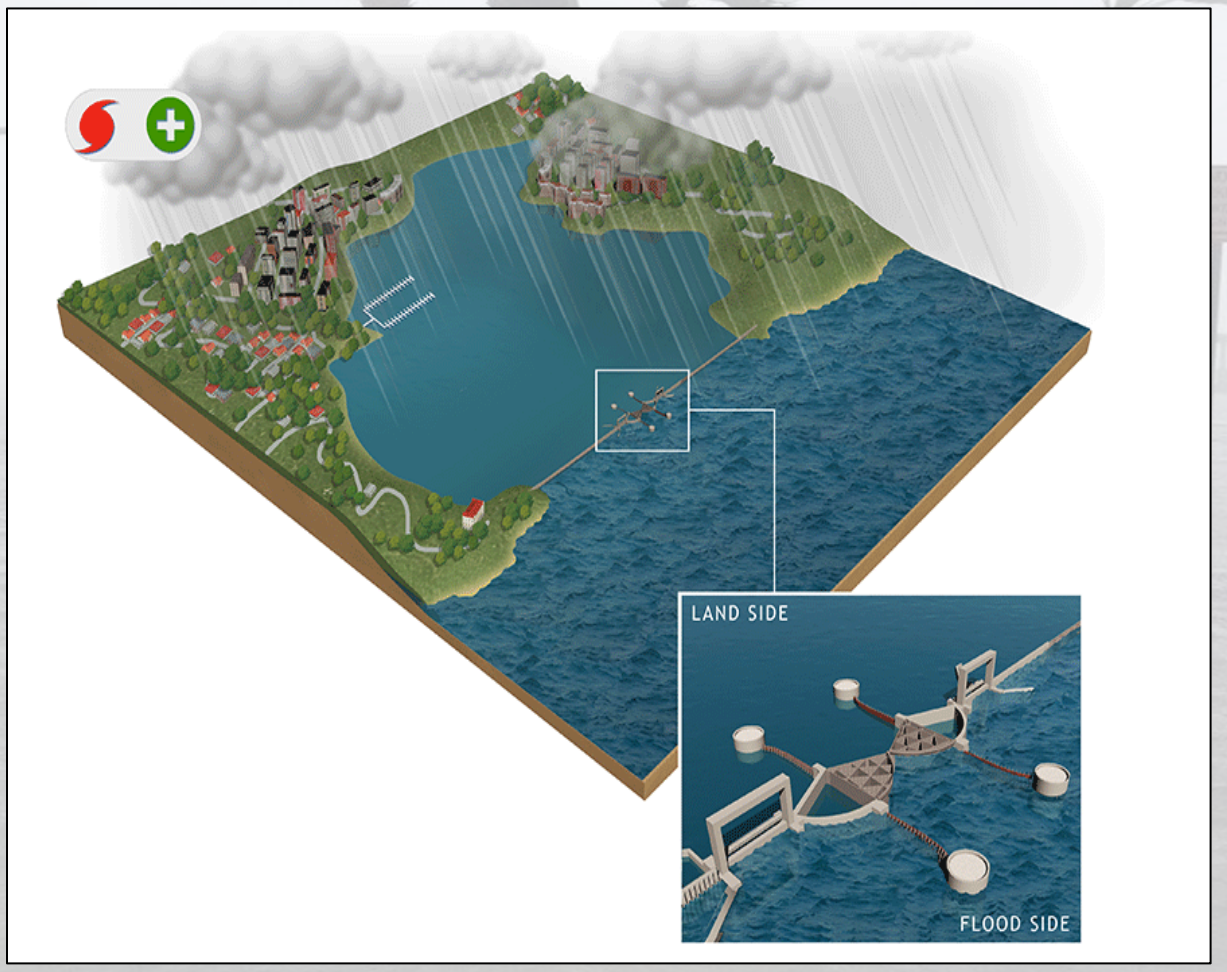
Alternative Example: Storm Surge Barriers





ALTERNATIVES EVALUATION

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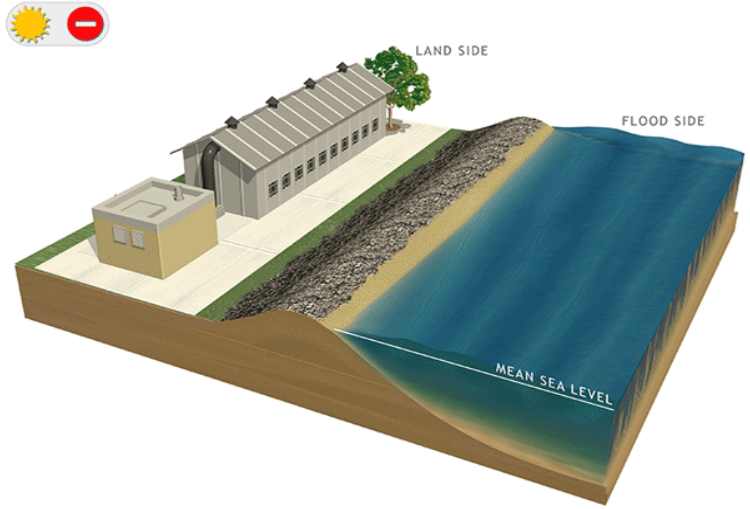
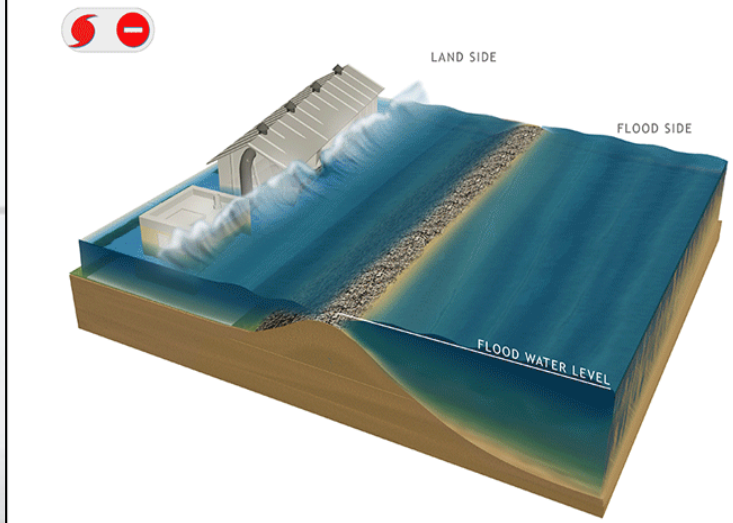
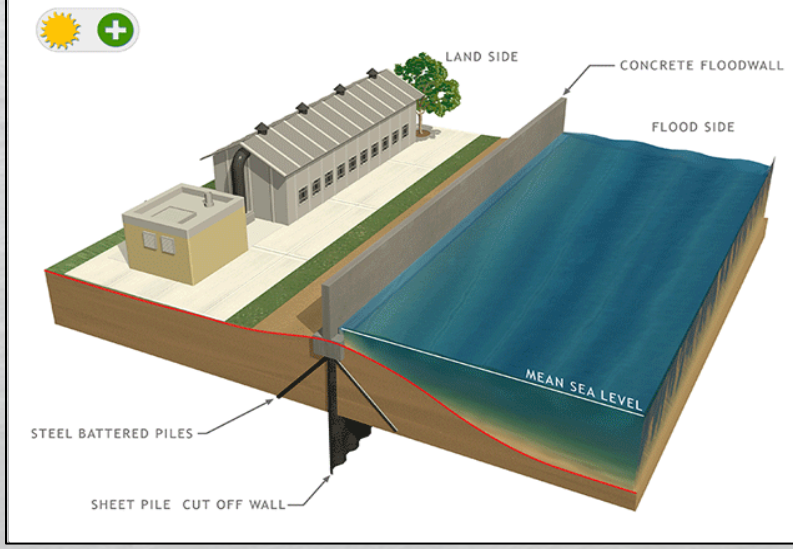
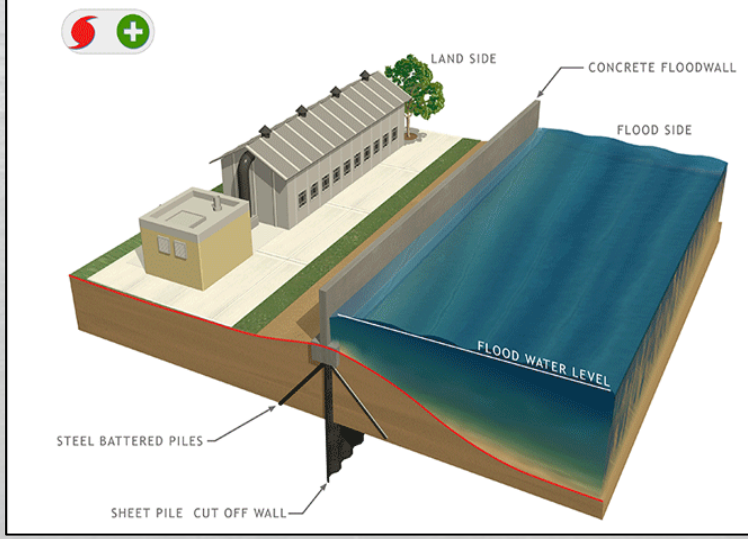
Alternative Example: Floodwalls









ALTERNATIVES EVALUATION

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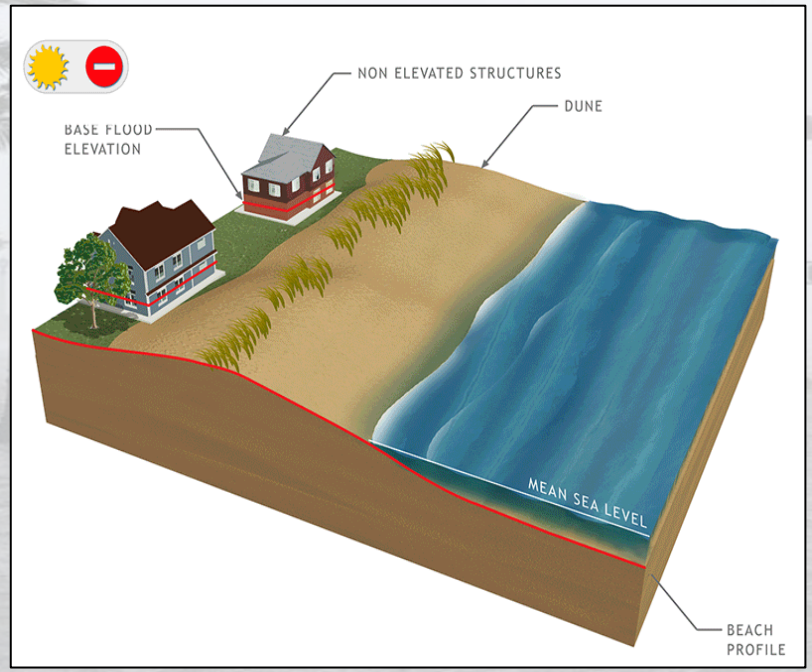
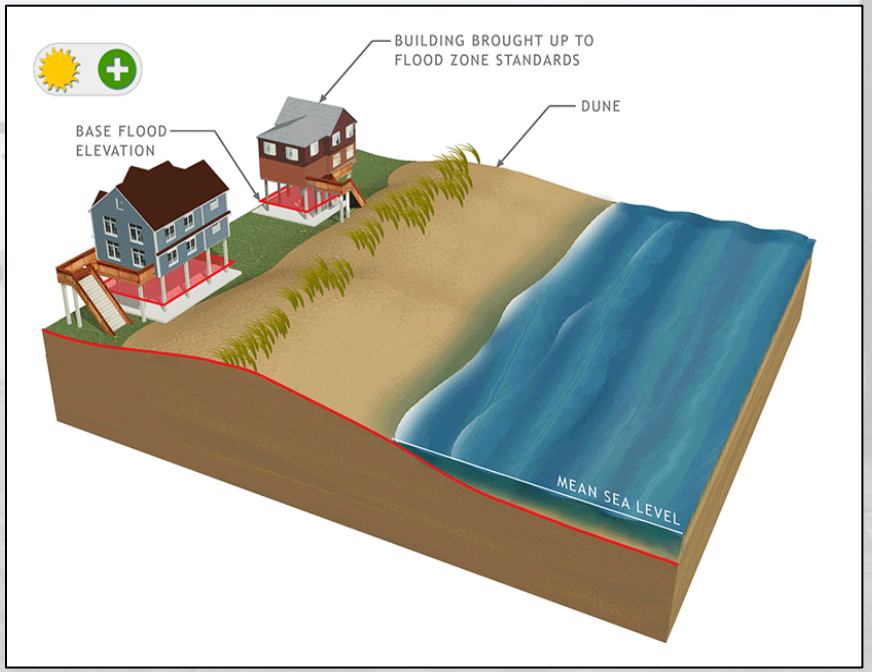
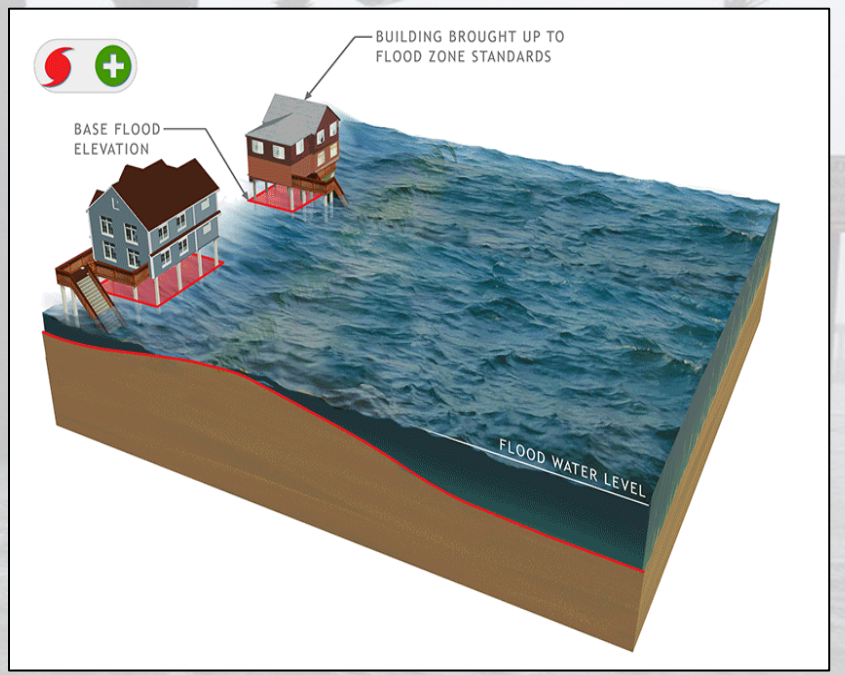
Alternative Example: Non-Structural (Elevating Structures, Floodproofing, Ring Walls, Acquisition/Relocation)







ALTERNATIVES EVALUATION

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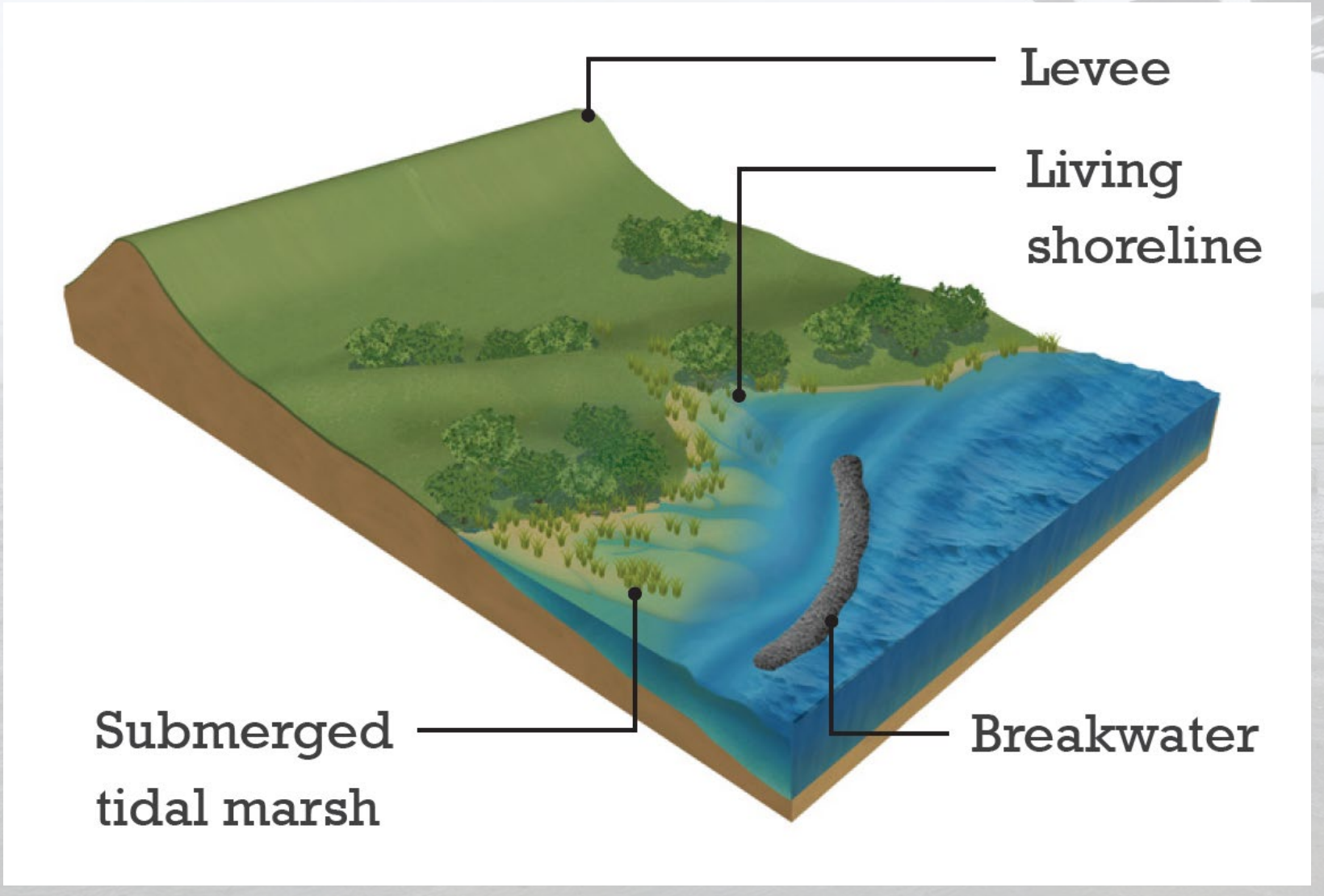
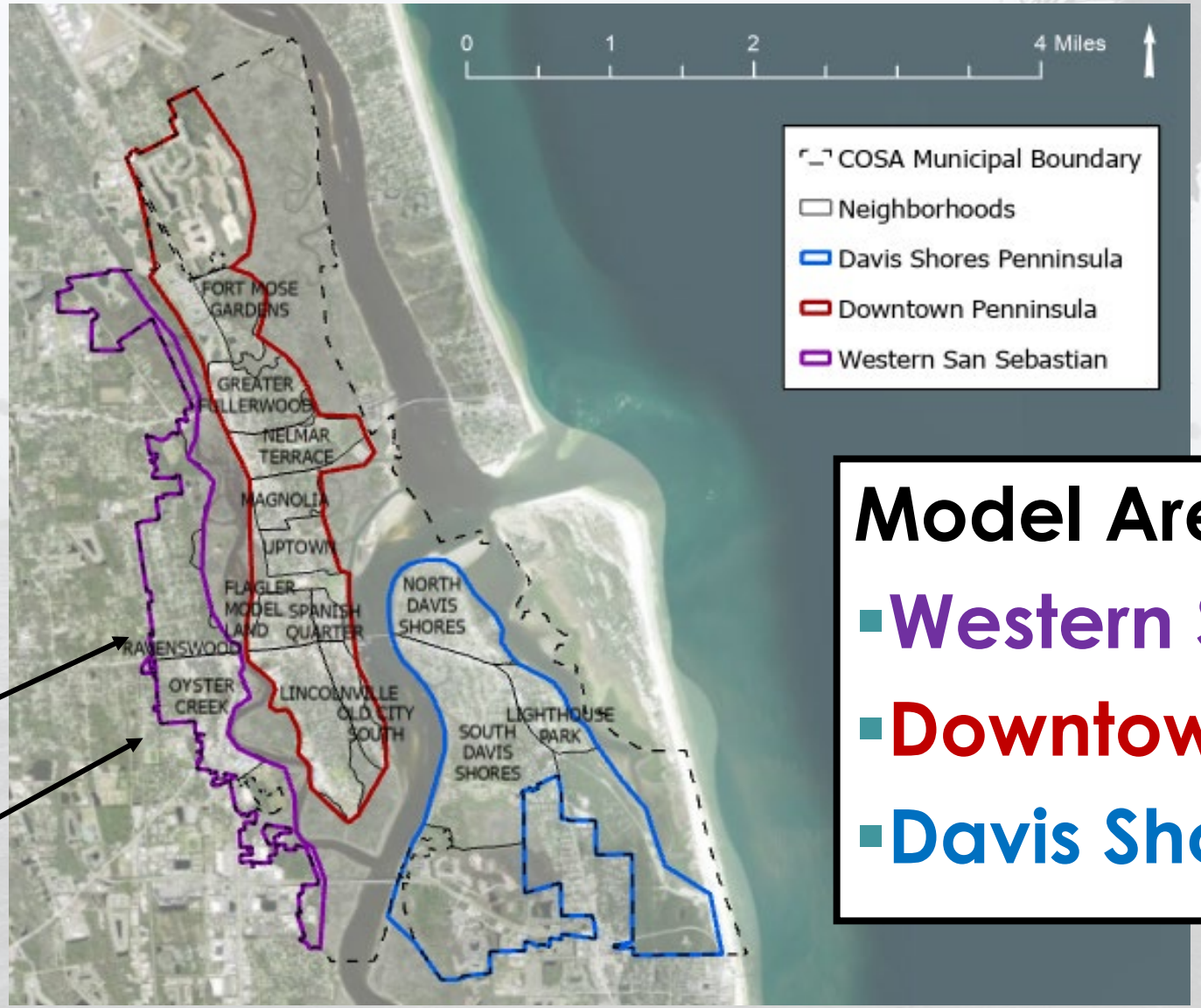
Alternative Example: Natural & Nature-Based Features



STUDY MODEL REACHES



Environmental Justice (EJ) Communities

Model Areas

- Western San Sebastian
- Downtown Peninsula
- Davis Shores Peninsula

UPCOMING PUBLIC ENGAGEMENTS

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

PUBLIC OUTREACH (STUDY WEBSITE)

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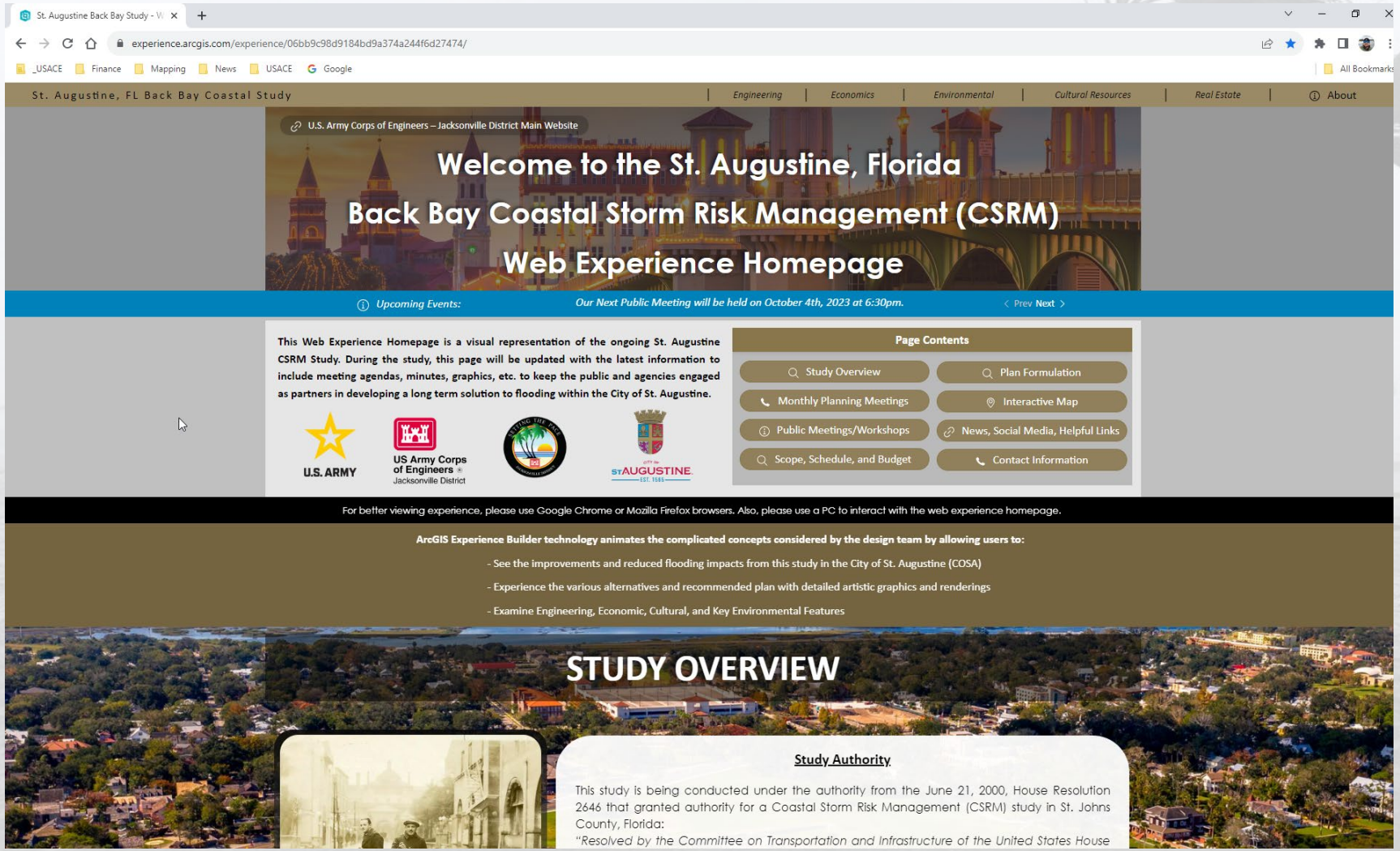

https://experience.arcgis.com/experience/06bb9c98d9184bd9a374a244f6d27474/

Trusted Partners Delivering Value Today for a Better Tomorrow

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

PUBLIC OUTREACH (SPONSOR SITES)

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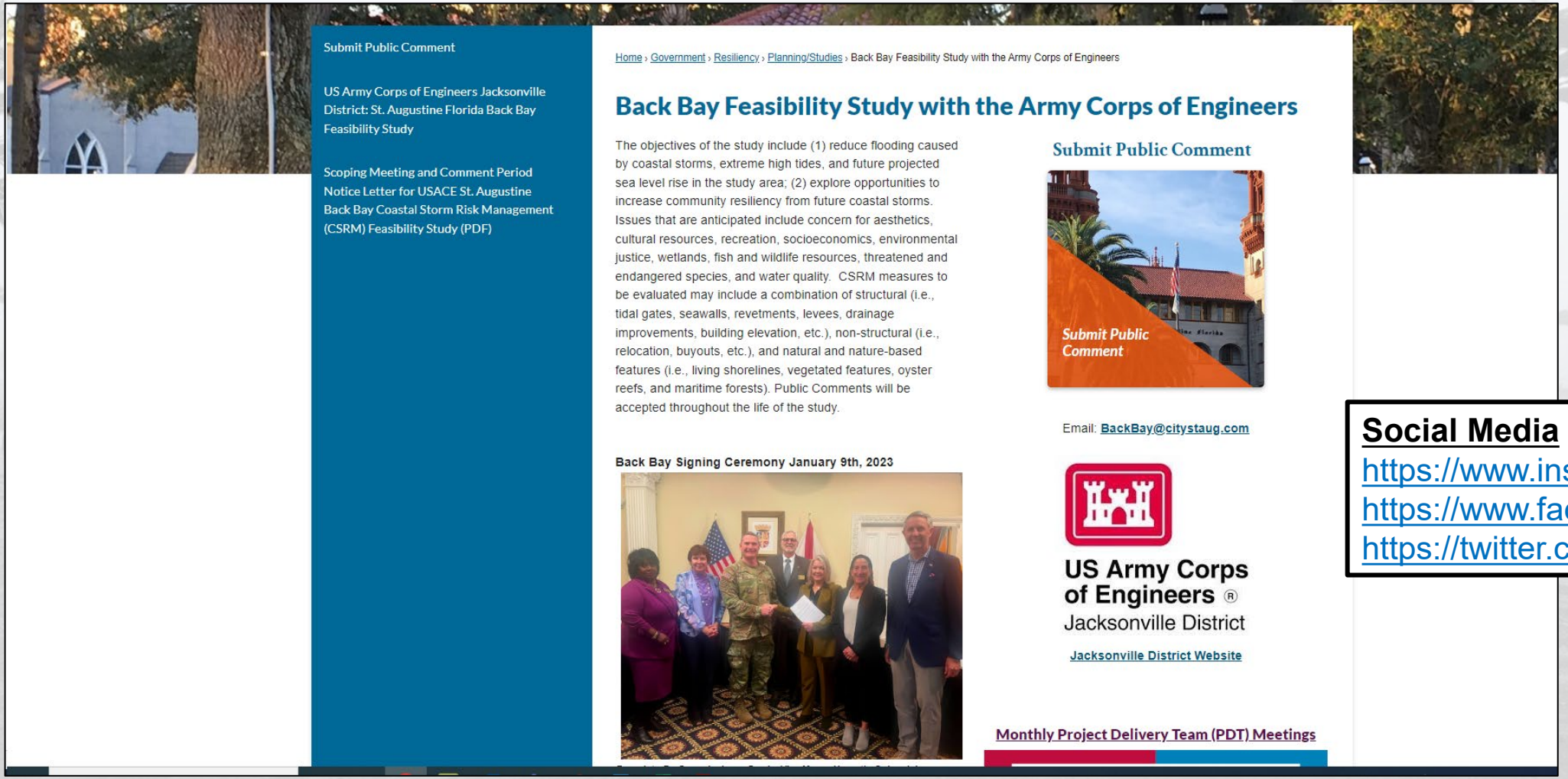

Social Media

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

https://www.citystaug.com/1046/Back-Bay-Feasibility-Study-with-the-Army

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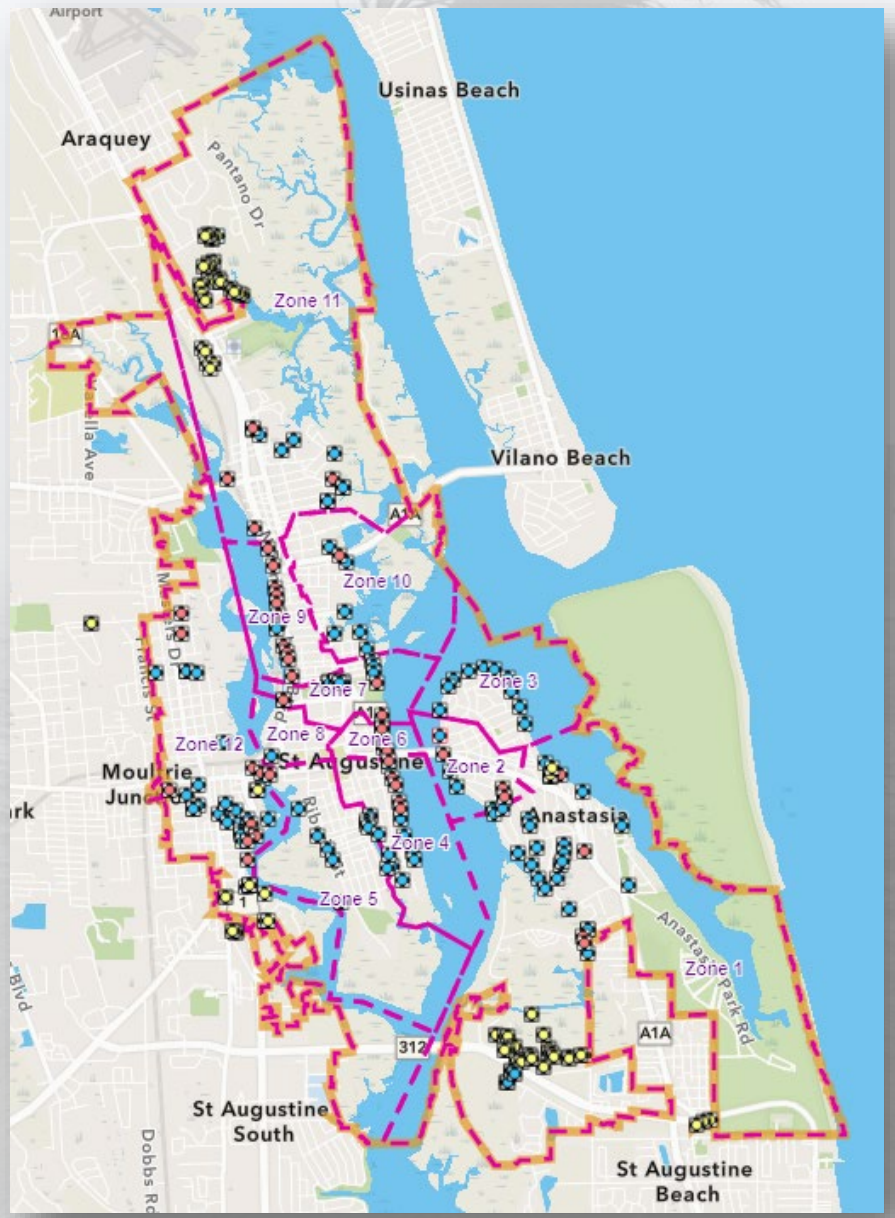
- **Why do we need this study?**
- **Stormwater Infrastructure:**
  - 133 Outfalls Tidally Influenced (excluding FDOT)
  - 1,155 Storm Inlets
  - 22 miles of Storm Pipe
  - Twelve (12) maintenance zones
  - **Subject to flooding – both from rainfall and tidal/coastal influence (compound flooding)**



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U.S.ARMY

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RESILIENT ST AUG

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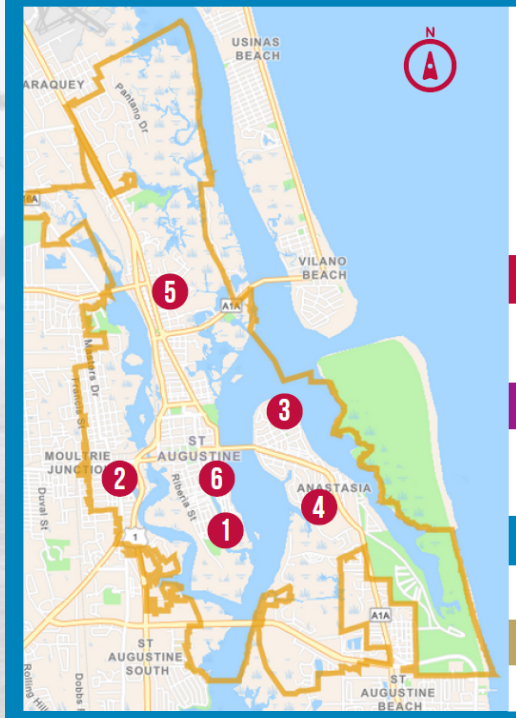


Project Map Key

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

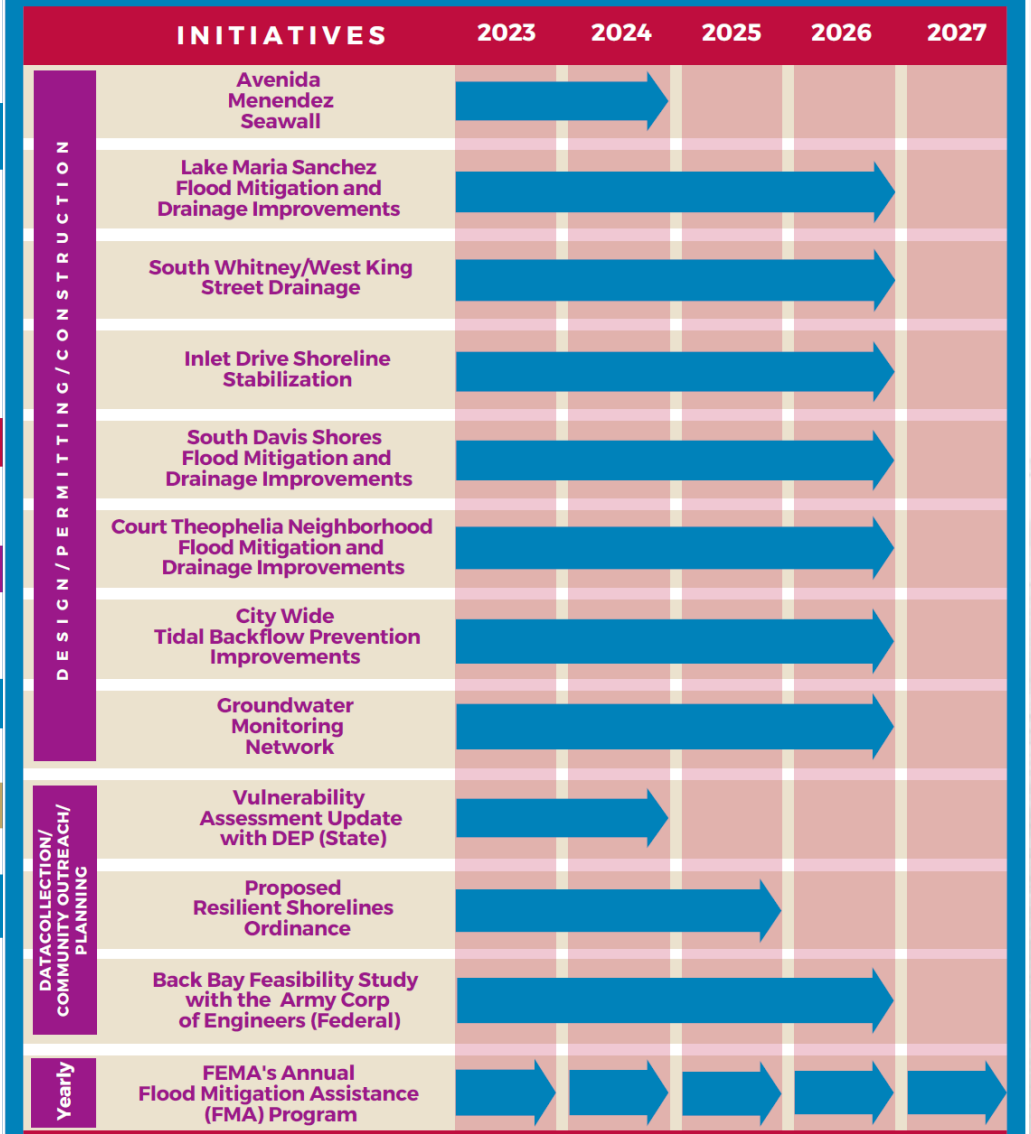
- Flood Mitigation Assistance (FMA) Program

City Ordinances

- Proposed Resilient Shorelines Ordinance

RESILIENCE STRATEGIES

RESILIENCE EFFORTS TIMELINE



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

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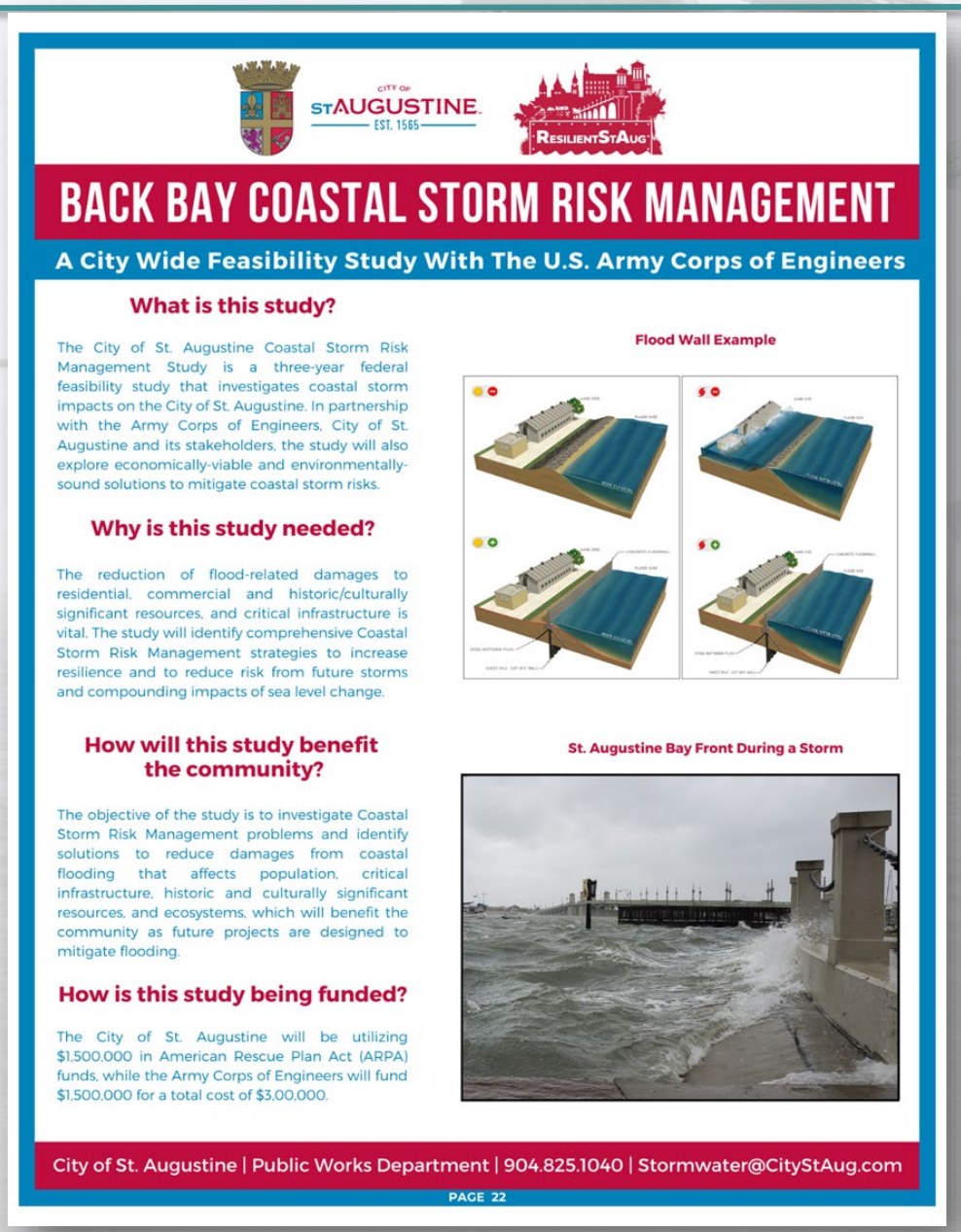
- **USACE-COSA Back Bay Feasibility Study**
  - Public Input is Important!
  - Project updates also available at the City website:

www.citystaug.com/BackBay

- Contact us: BackBay@citystaug.com



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RESILIENT STAUG

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 $3,00,000.

Flood Wall Example

St. Augustine Bay Front During a Storm

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

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- **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

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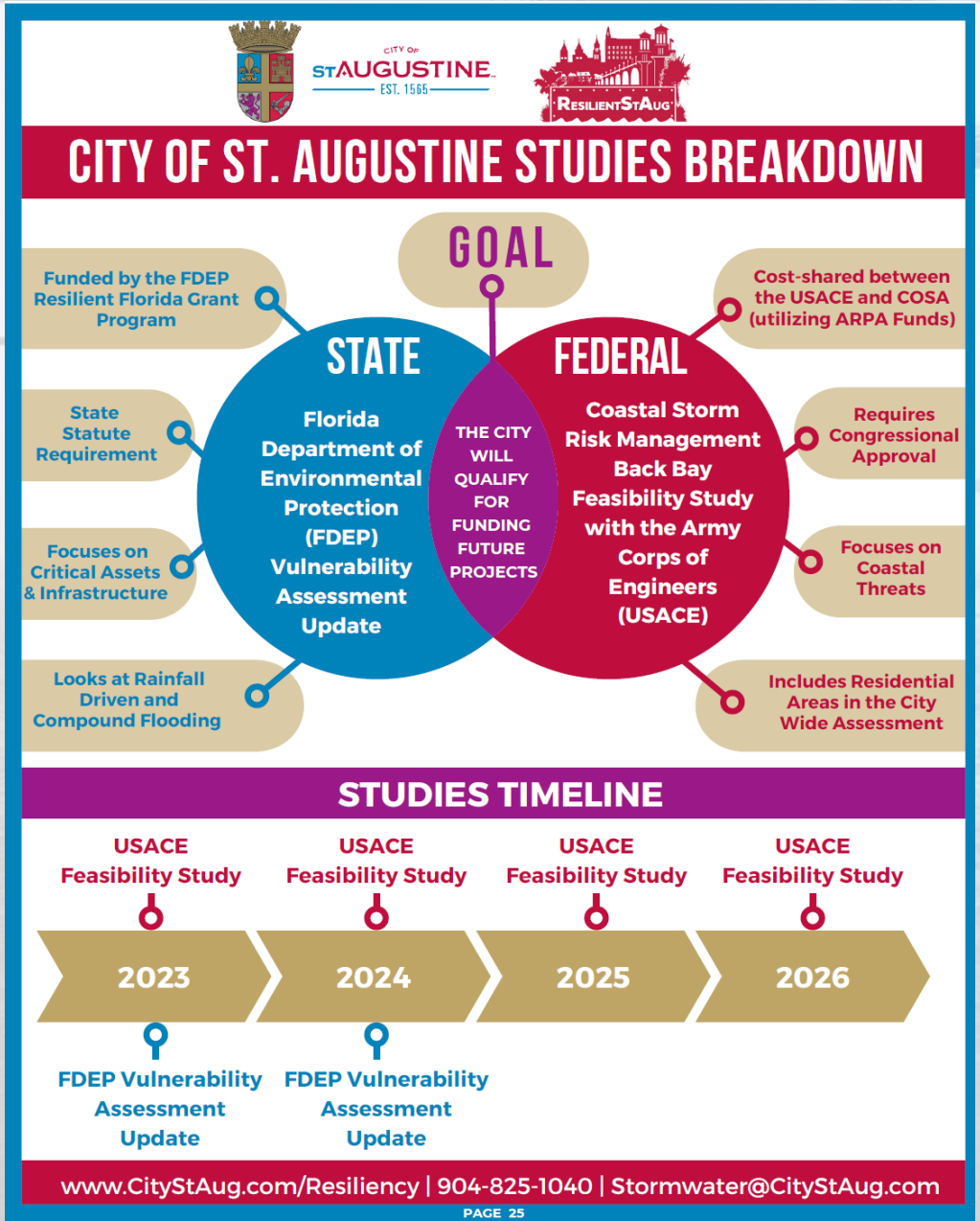

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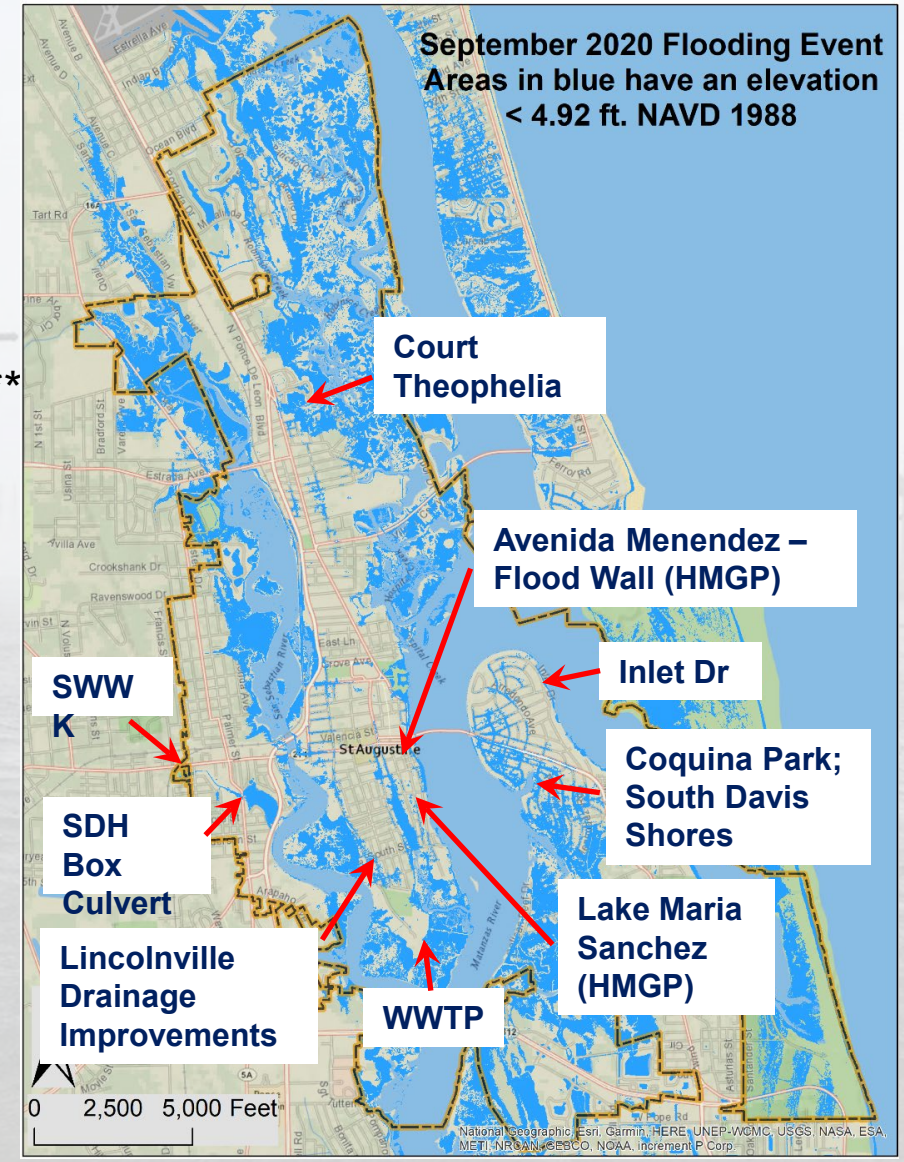
Current Flood Mitigation Investments ≈ $69,741,833 ($58,218,292, grant funded, 83%):

- 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)

WORKSHOP OVERVIEW (7:00 – 8:00)

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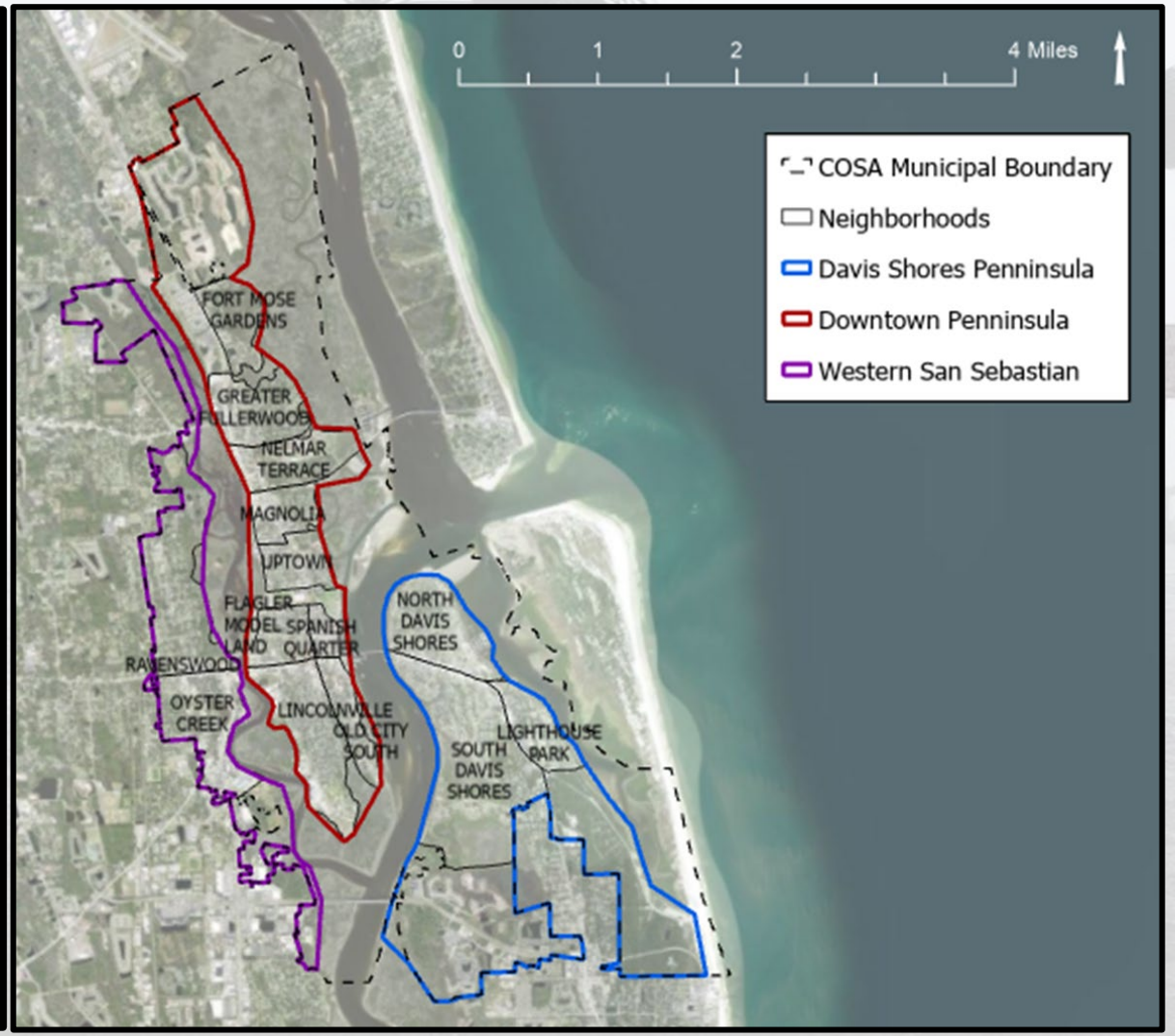
- 3 Separate Workshop Areas to Focus on Your Specific Area!
- Technical Experts are Ready to Answer Questions
- USACE and City of St. Augustine Want to Hear from You!
- Stickers will be used to Document Public Info:
  - ✓ **Blue** = **Flooding**. What kind of flooding are you experiencing?
  - ✓ **Green** = **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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