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

## MONTHLY PROGRESS MEETING
## *AUGUST 2024*

**PLEASE MUTE YOUR PHONE AND COMPUTER TO AVOID BACKGROUND DISRUPTIONS.**

**WE WILL START PROMPTLY AT 1:05**

**Presented by:**
Jason Harrah, Senior Project Manager (Jacksonville District, USACE)
Marty Durkin, Planning Technical Lead (Jacksonville District, USACE)
Jessica Beach, Chief Resiliency Officer (City of St. Augustine)

CITY OF ST AUGUSTINE EST. 1565

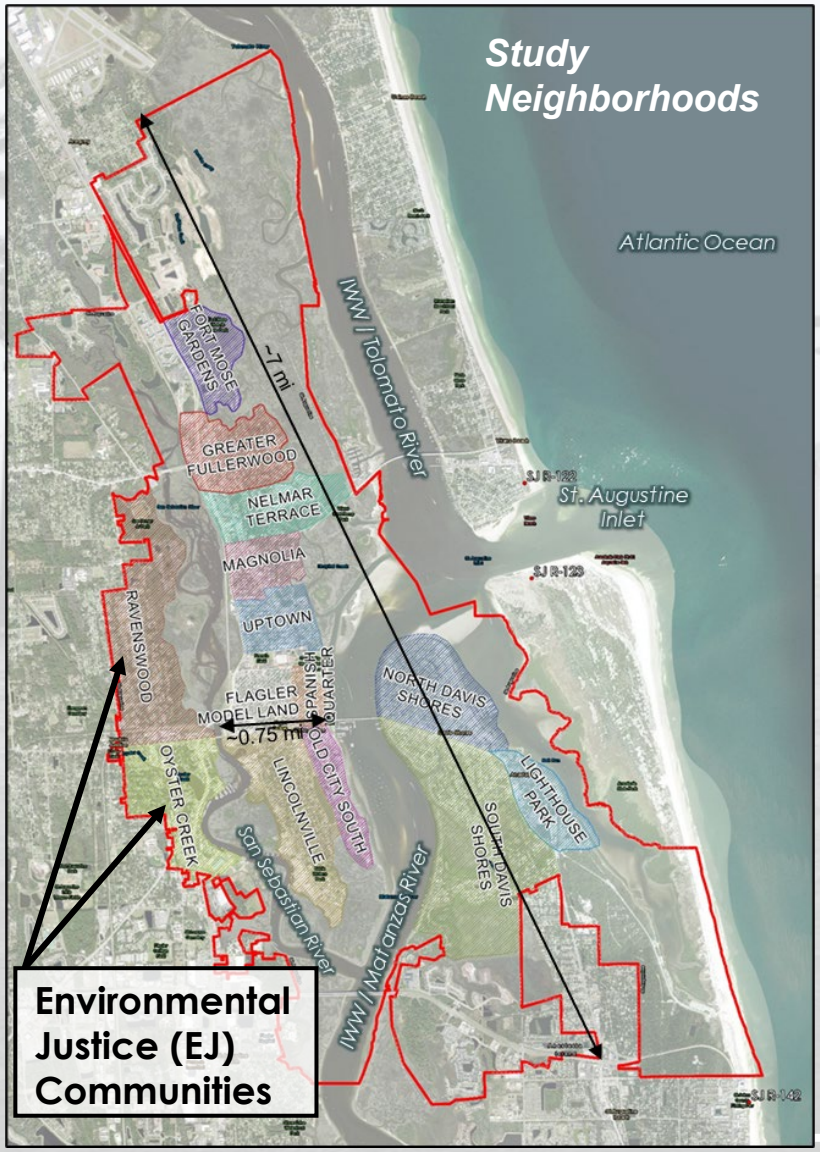
# AGENDA

BUILDING STRONG

- Opening Remarks
- Study Overview
- Overall Study Schedule & Budget
- OSE, EQ, & RED Benefit Metrix
- Schedule Updates (90-Day Window)
- Discipline Specific Study Updates
- Upcoming Public Engagements
- Sponsor Remarks
- Agency Questions/Comments
- Public Comments
- Closing Remarks

# STUDY OVERVIEW

BUILDING STRONG




**Study Authority: 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

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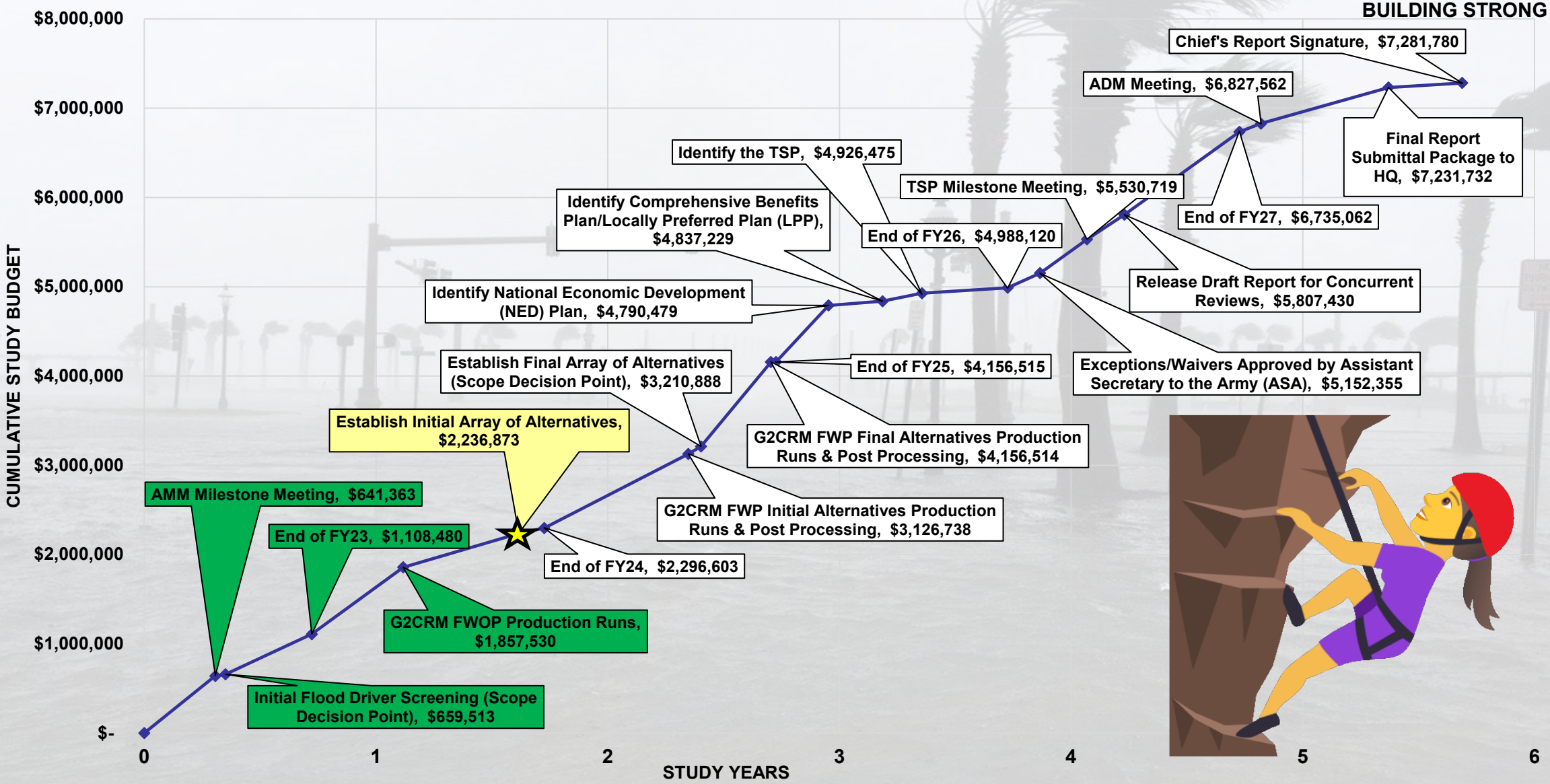




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# STUDY OVERVIEW

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 Modeling Complete (2/21/2024)**
- Establish Initial Array of Alternatives (8/21/2024)
- 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

Acronyms:
FCSA = Feasibility Cost Share Agreement
AMM = Alternatives Milestone Meeting
FWOP = Future Without Project
SAD = South Atlantic Division
VTAM = Vertical Team Alignment Memo
HQ = Headquarters
TSP = Tentatively Selected Plan
ADM = Agency Decision Milestone

# INITIAL AMM ALTERNATIVES

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***Measure Function*** → ***Initial Array of Alternatives***

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

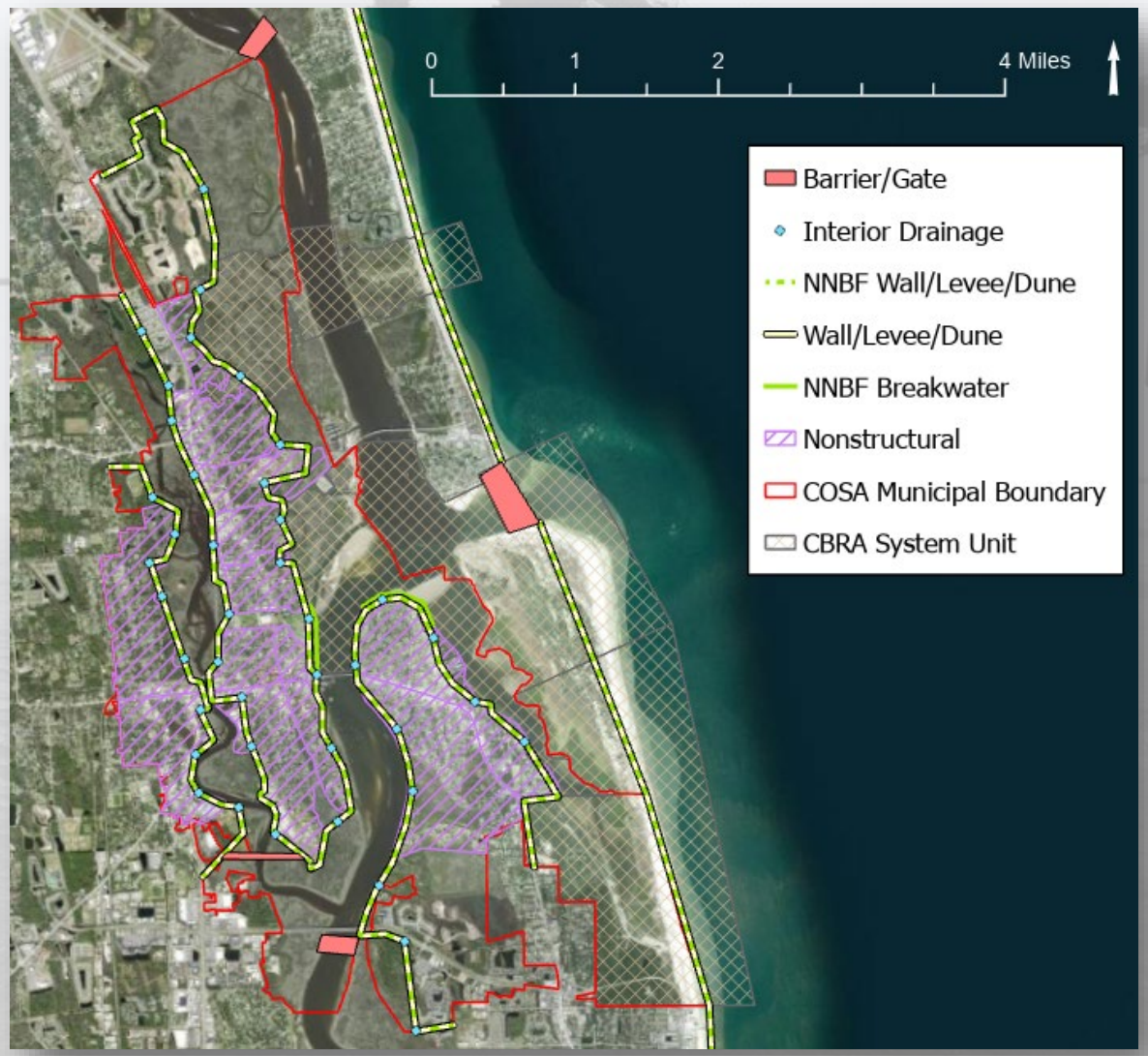
Surge Barrier/Gate features stop flooding before it gets into the back bay waters.

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



# WALL/LEVEE FEATURES

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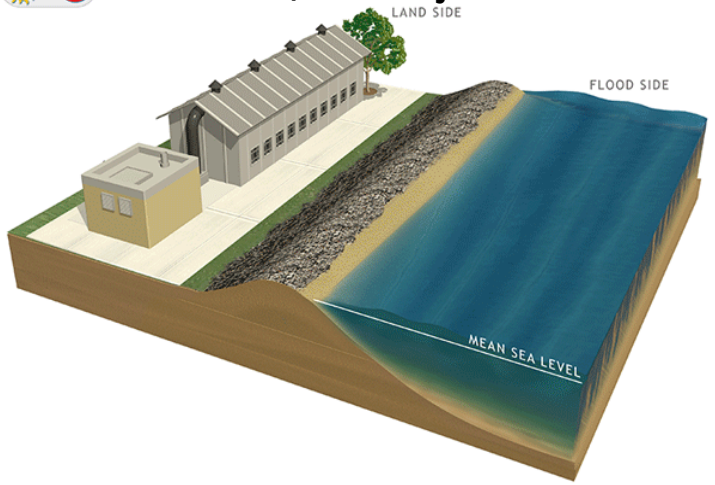
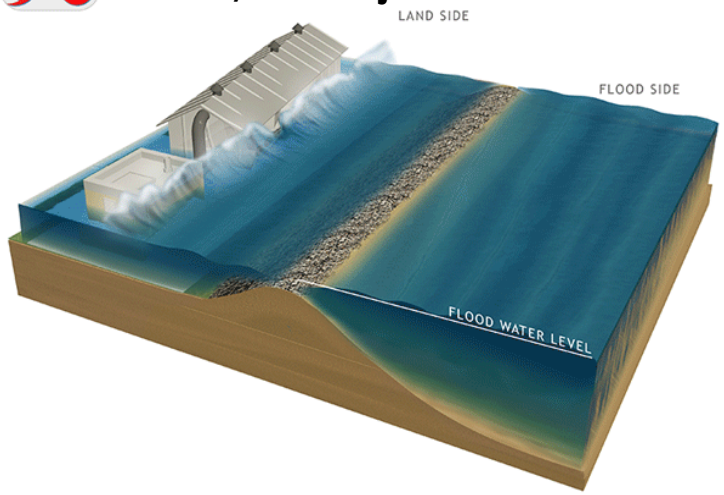
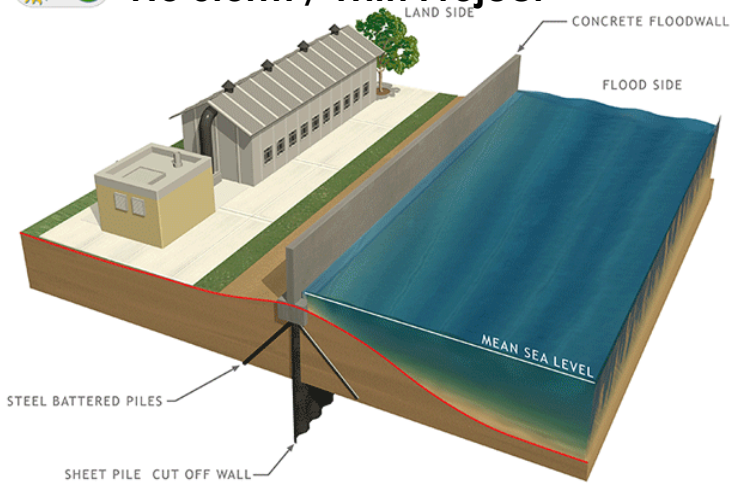
## No Storm / No Project



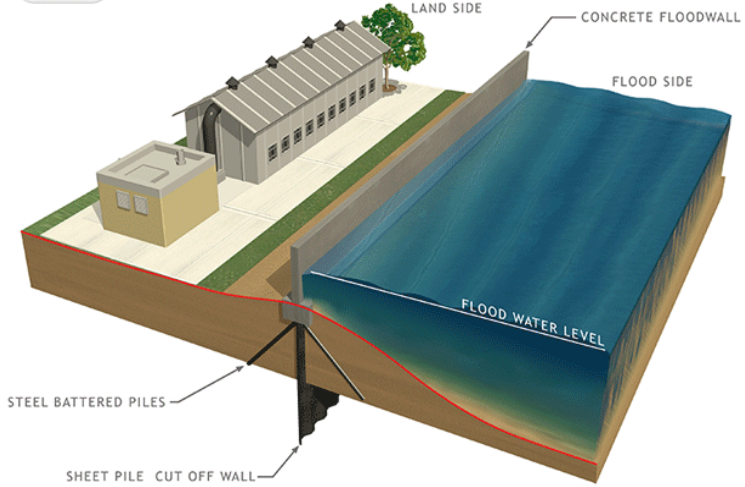

## Storm / No Project




## No Storm / With Project




## Storm / With Project

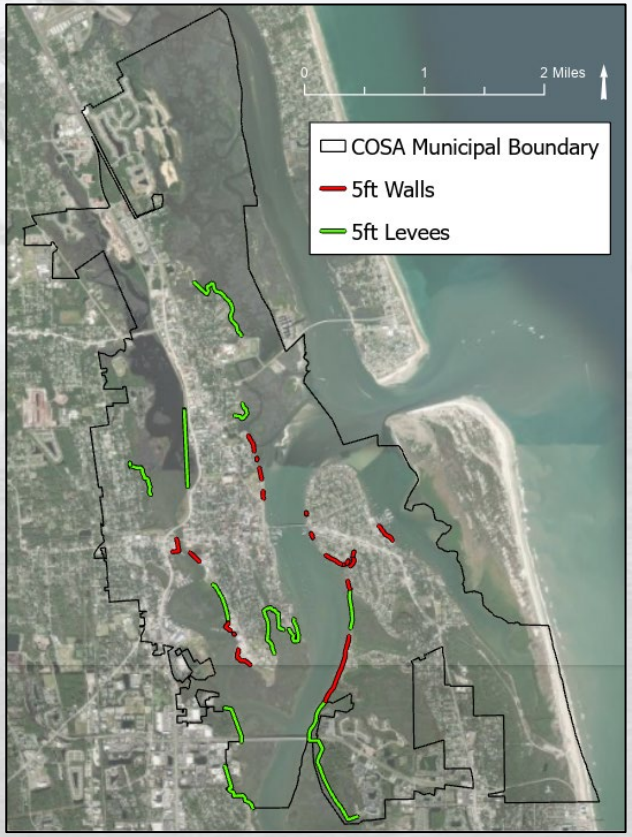


# WALL/LEVEE FEATURES

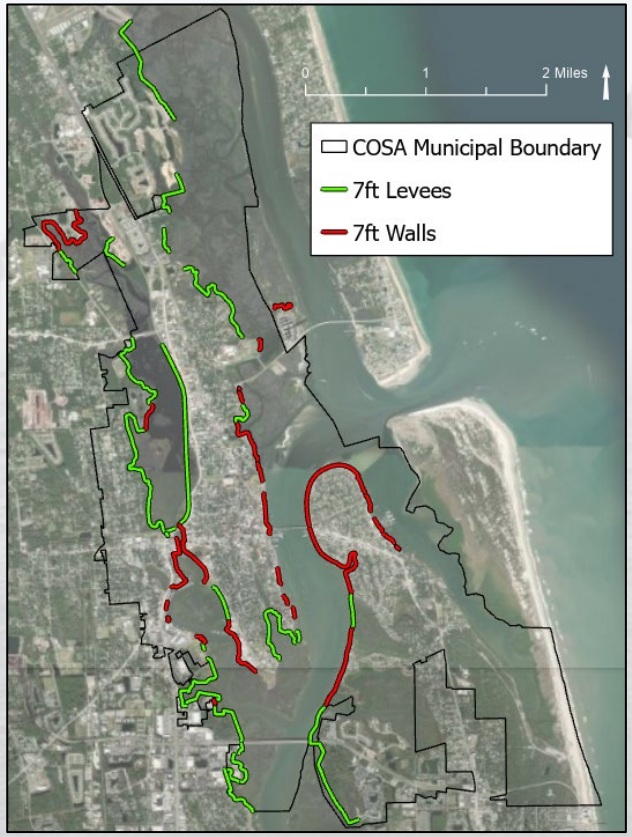
*Design elevations in reference to NAVD 88

BUILDING STRONG

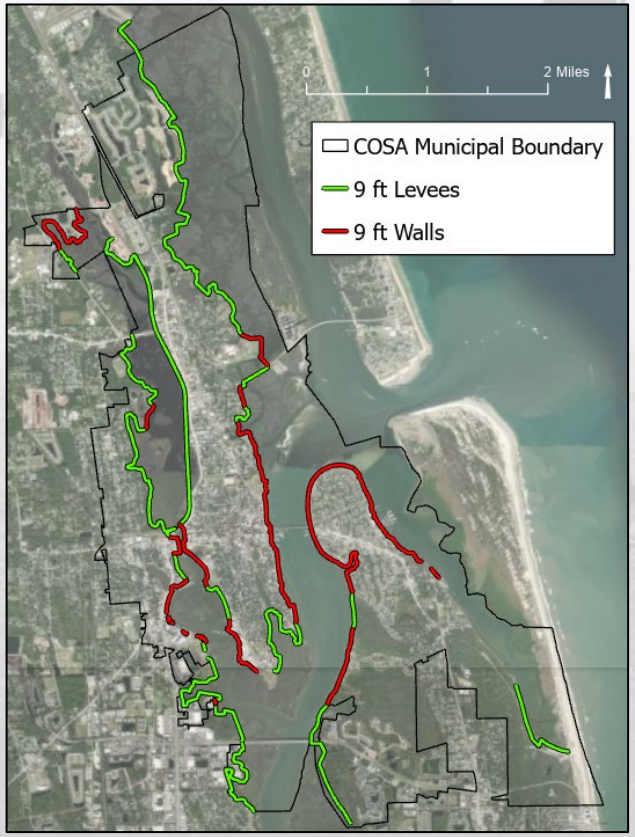
## 5’ Design Elevation
~2 miles of wall
~6 miles of levee



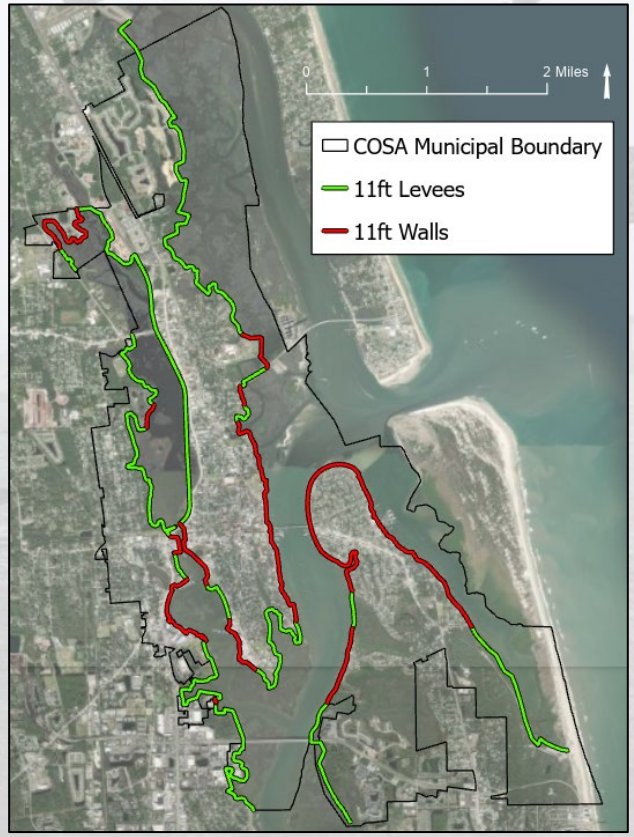

## 7’ Design Elevation
~13 miles of wall
~8 miles of levee




## 9’ Design Elevation
~18 miles of wall
~10 miles of levee

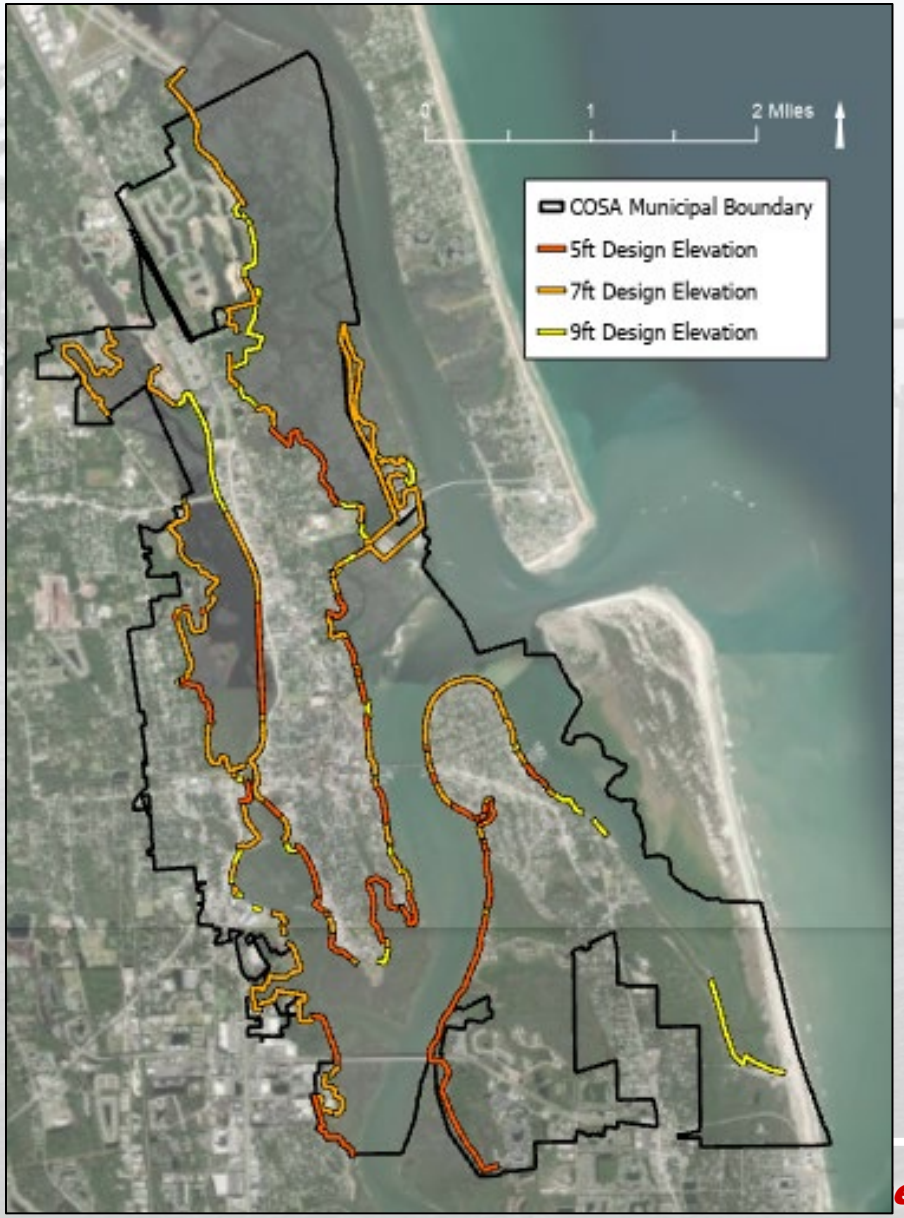



## 11/13’ Design Elevation
~19 miles of wall
~11 miles of levee



# WALL/LEVEE FEATURES

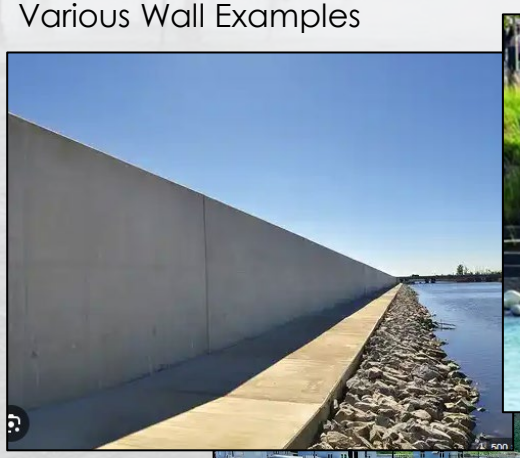
BUILDING STRONG

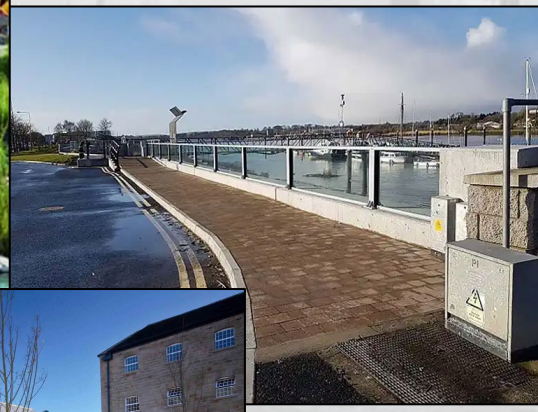



| Design Flood Stage (feet NAVD88) | Approximate length of wall/levee (miles) |
|---|---|
| 5 | 8 |
| 7 | 21 |
| 9 | 27 |
| 11/13 | 30 |

Ohio Creek Levee, Virginia

Various Wall Examples

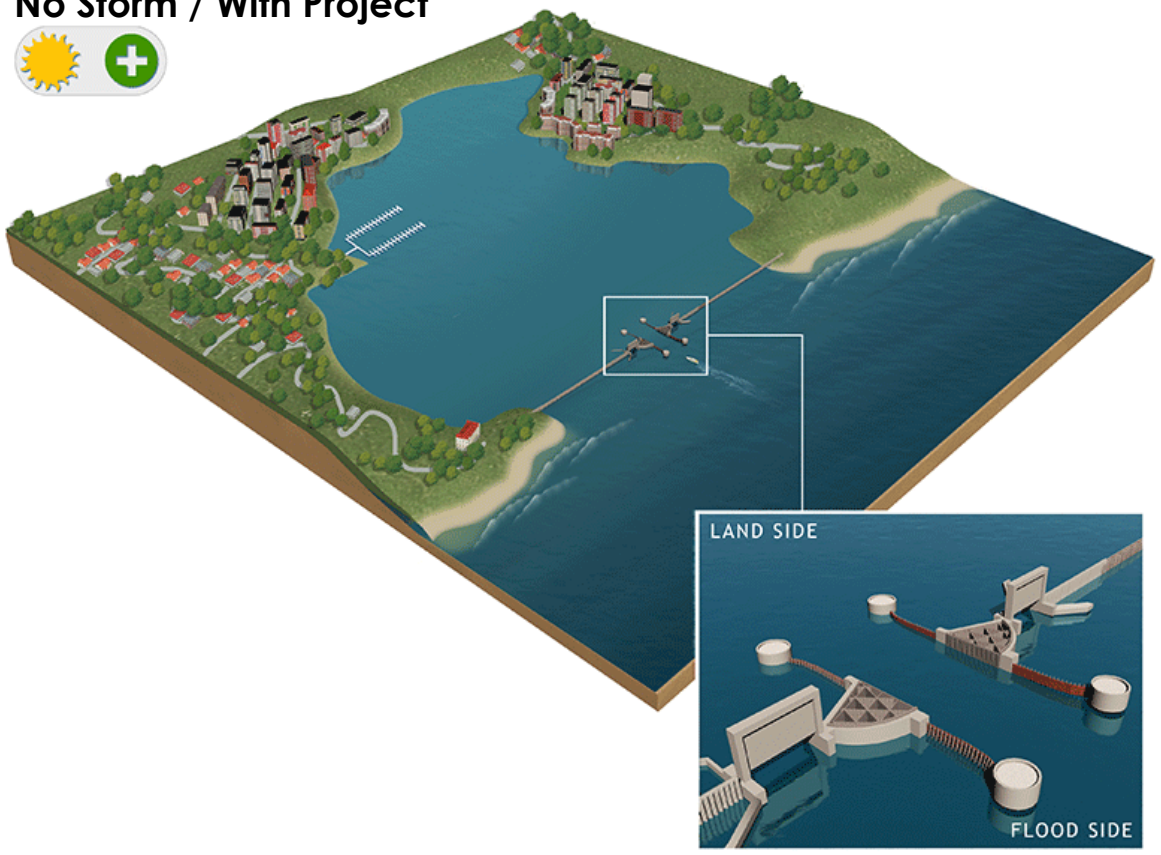




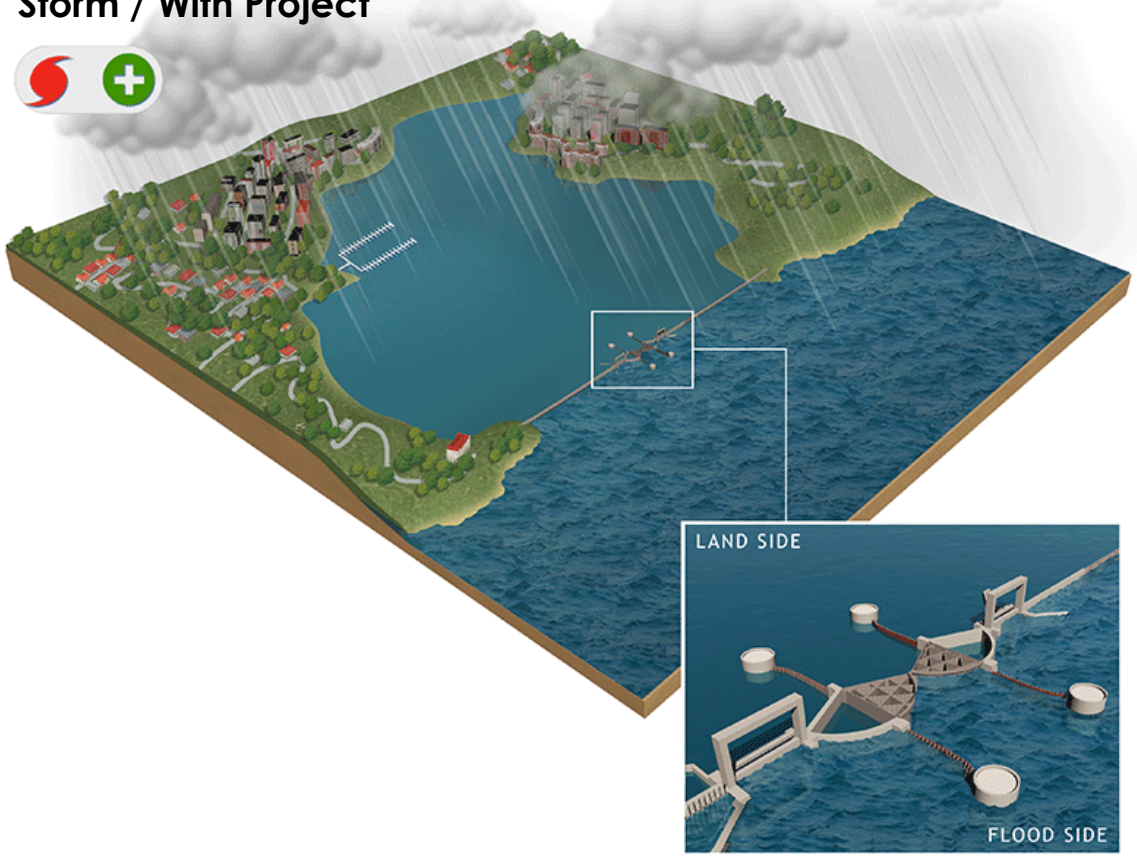
# SURGE BARRIER/FLOOD GATE FEATURES

BUILDING STRONG

No Storm / With Project




Storm / With Project

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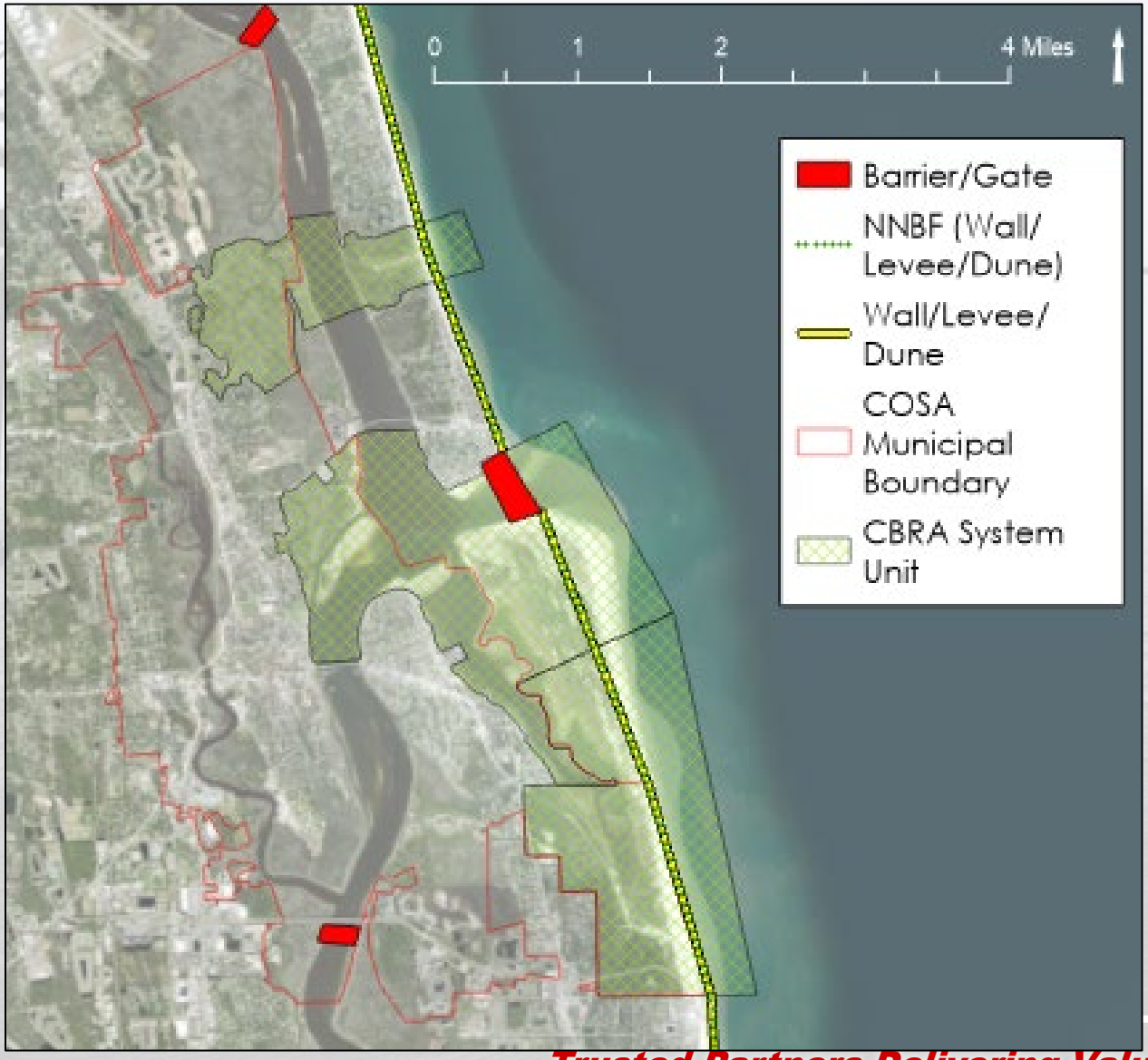
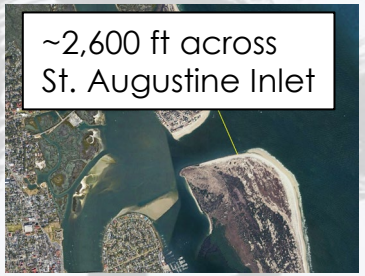
# CONCEPTUAL SURGE BARRIER ALTERNATIVE

BUILDING STRONG

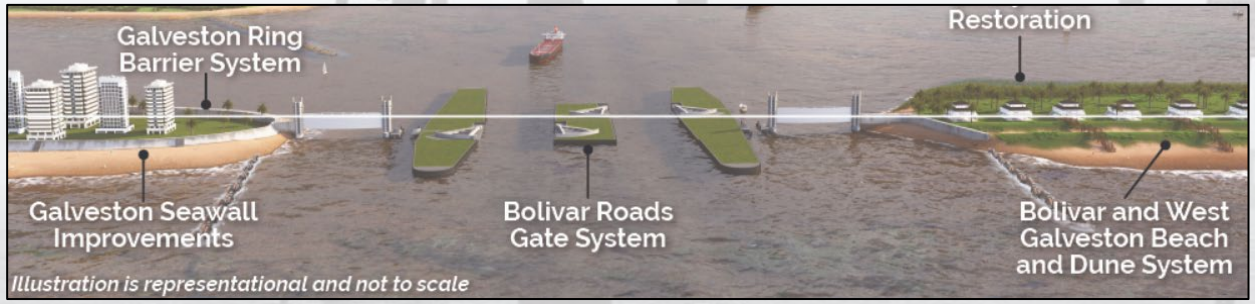








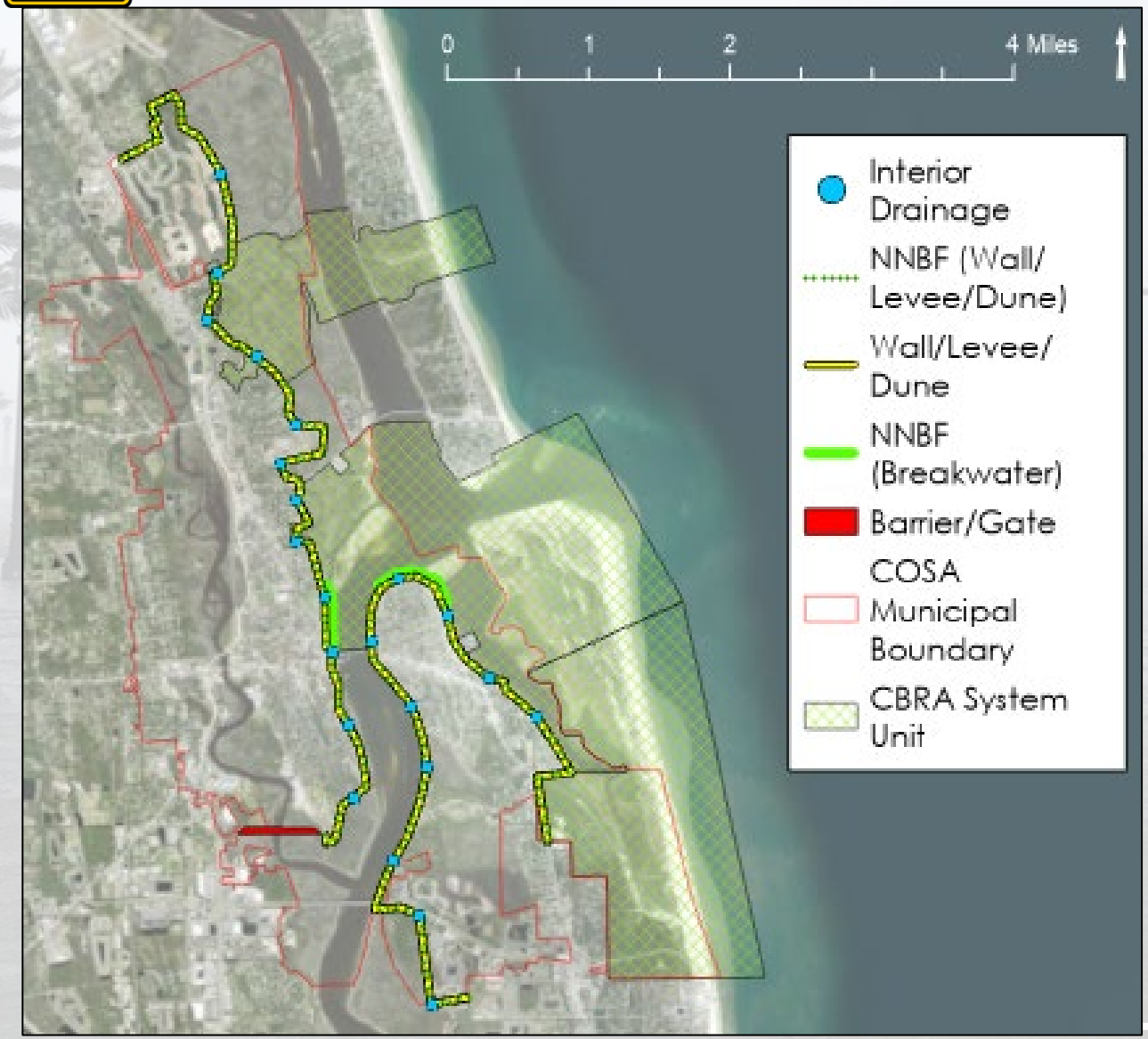
Galveston Surge Barrier Design Rendering, Texas




Rotterdam Surge Barrier, Netherlands

# CONCEPTUAL FLOOD GATE ALTERNATIVE

BUILDING STRONG



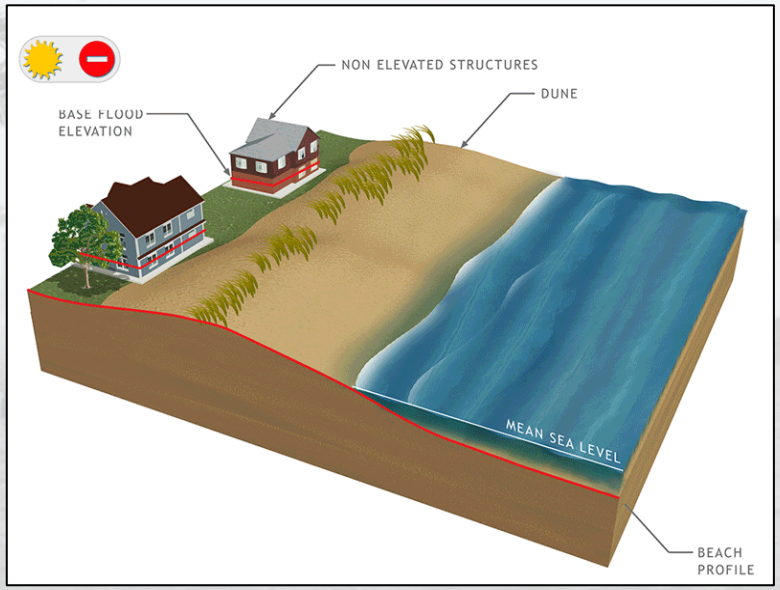


New Orleans Sector Gate

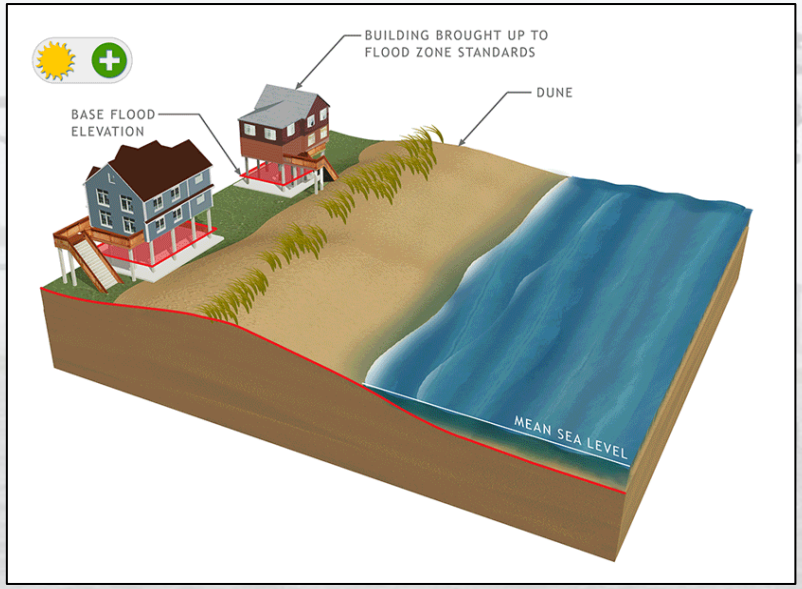
# NONSTRUCTURAL FEATURES

BUILDING STRONG

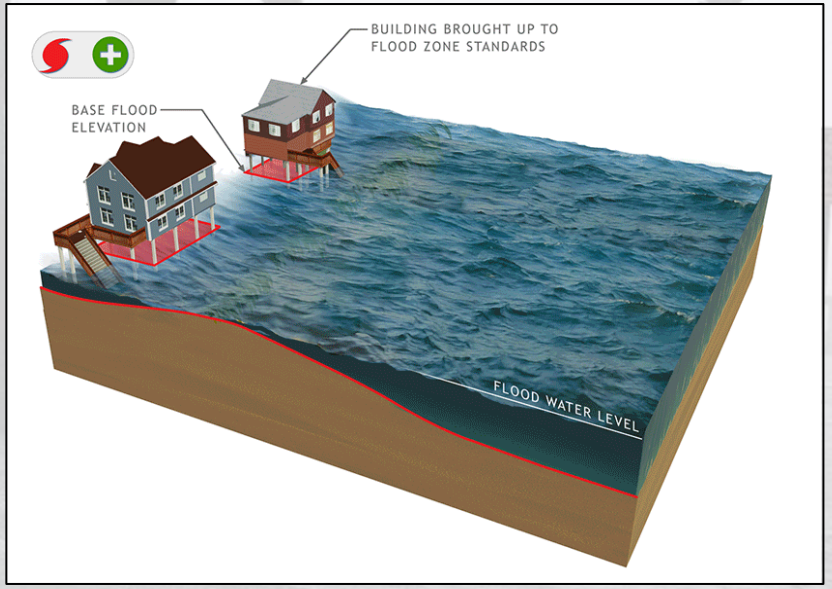
## No Storm / No Project



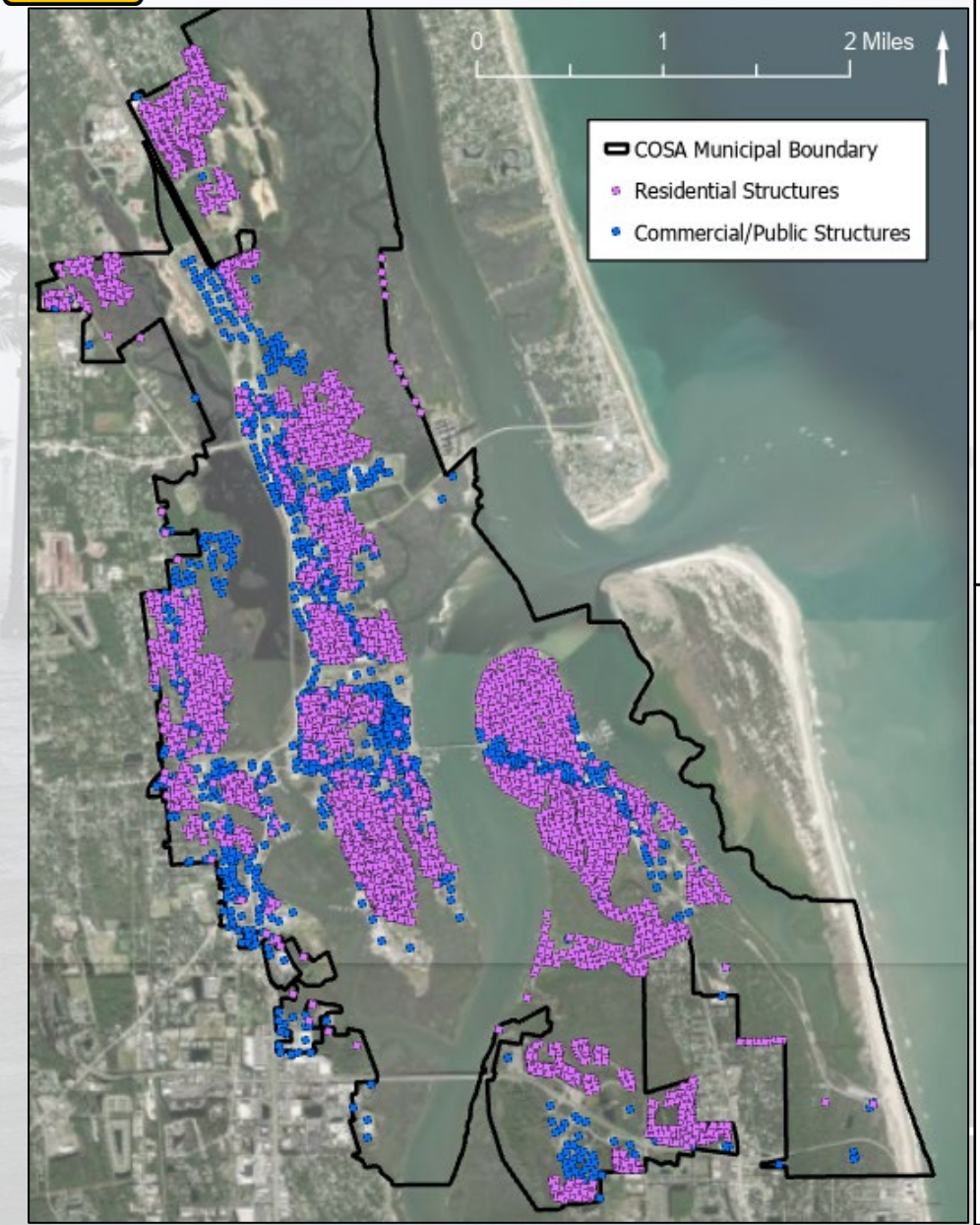

## No Storm / With Project




## Storm / With Project

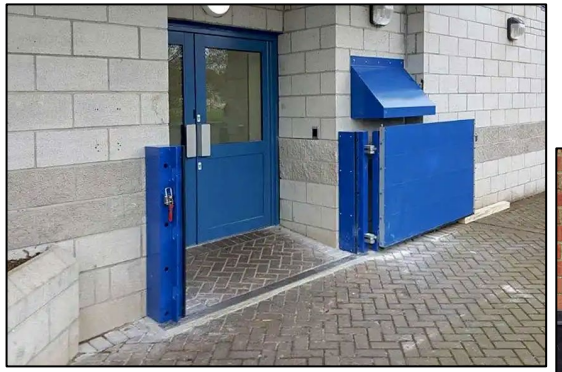


# NONSTRUCTURAL FEATURES



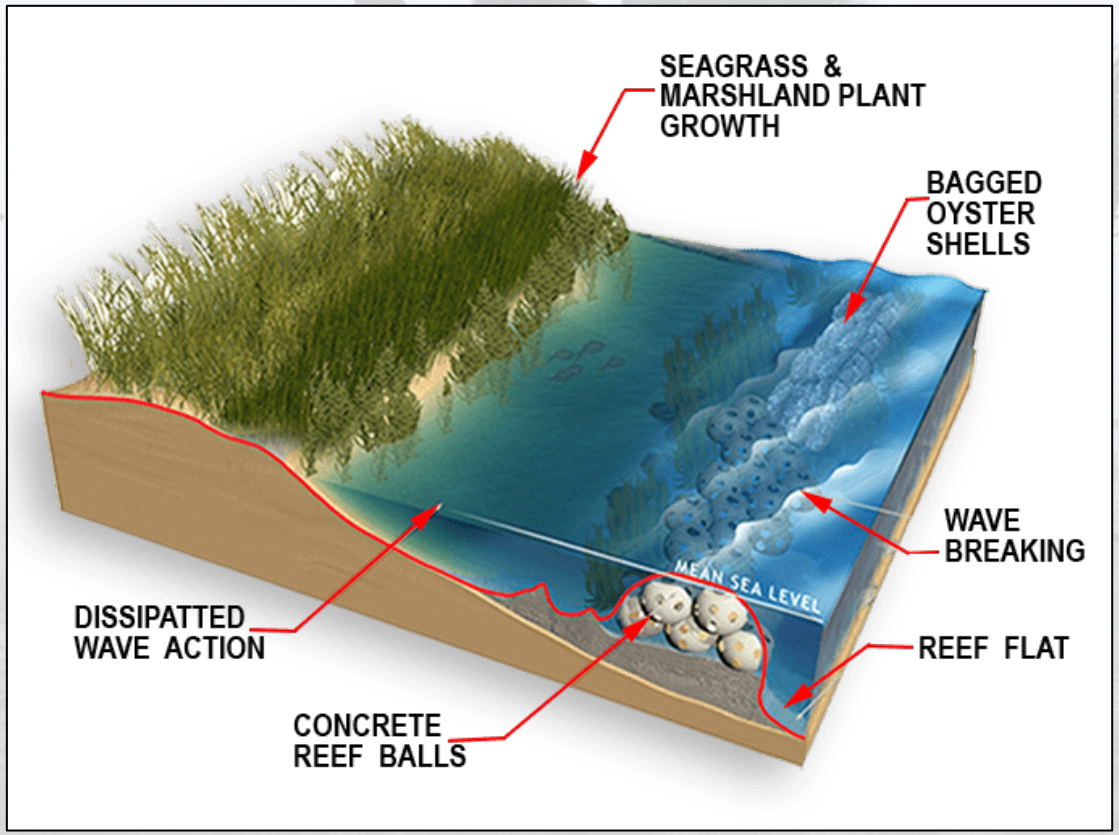

**~4,700 residential structures that could be elevated.**

**~3,300 commercial & public structures that could be floodproofed.**

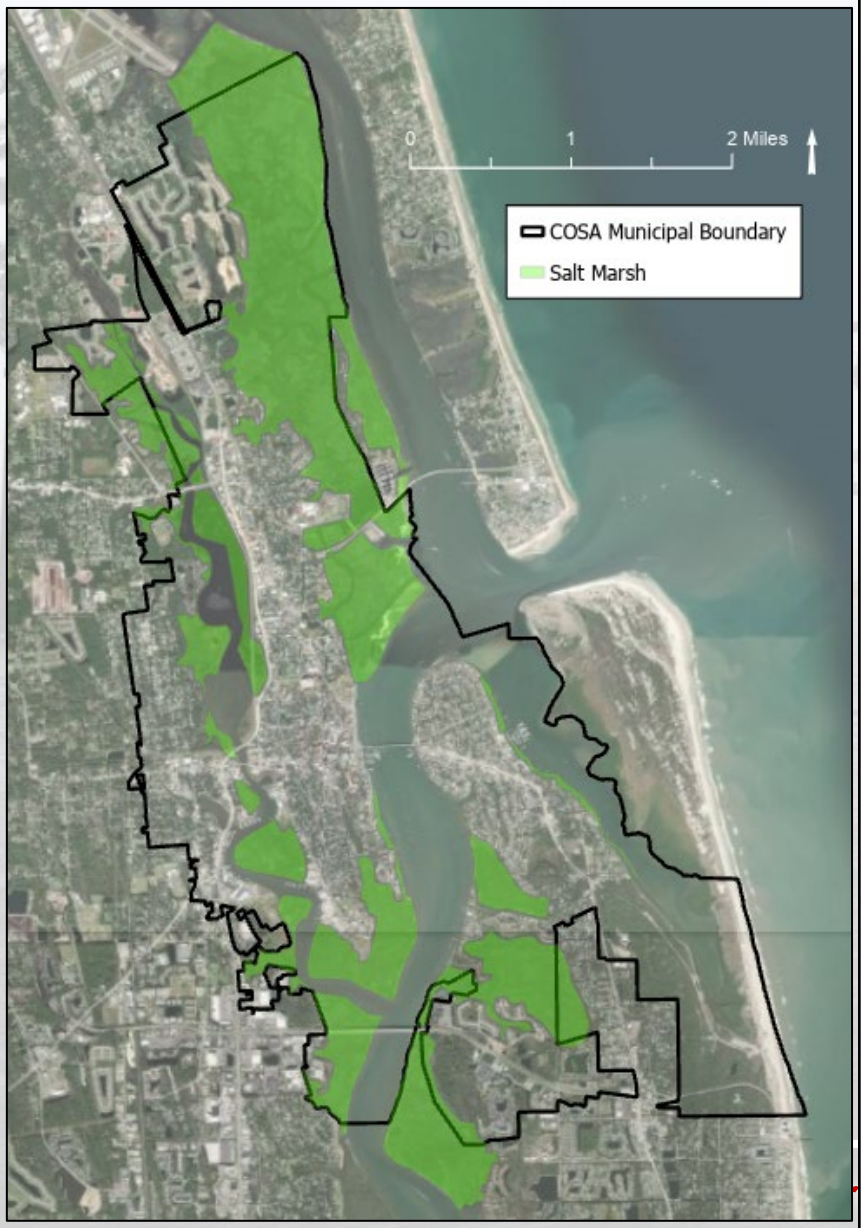


# NATURE BASED SOLUTIONS

BUILDING STRONG

# NATURE BASED SOLUTIONS

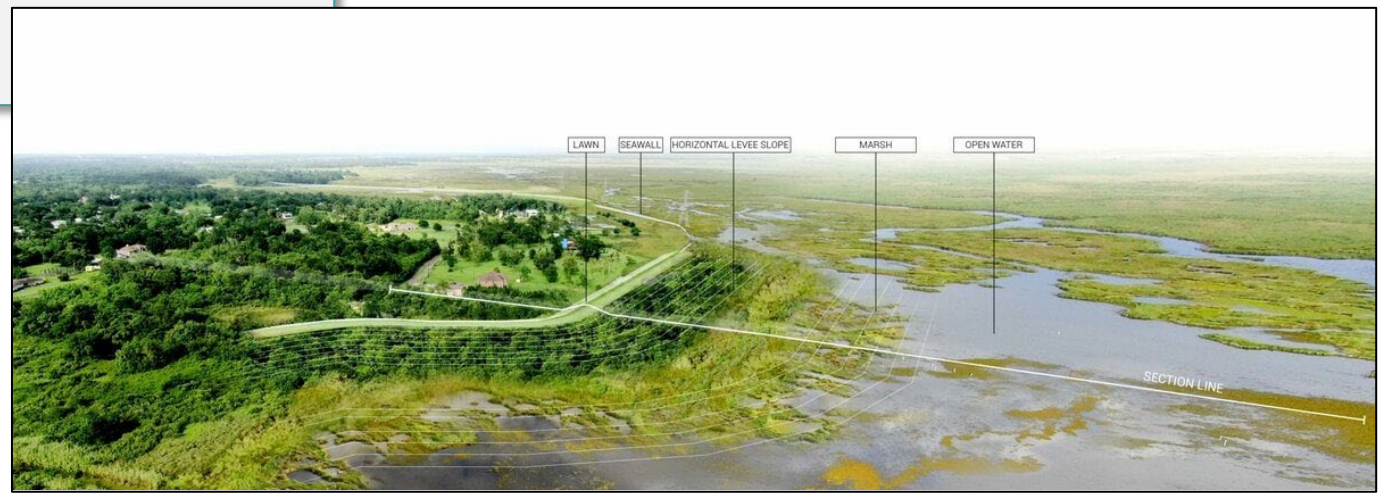



**~3,000 acres where salt marsh could be maintained or enhanced.**

***Potential Features:***

- Spartina Marsh
- Juncus Marsh
- Mangroves
- Oyster Reef
- Oyster Shells
- Seagrass Planting
- Living Shoreline
- Sand Placement (such as dunes or berms)
- Breakwaters
- Seawalls
- Etc.

Above & Below: Renderings showing NBSs used in combination with wall/levee features.



# PATH FORWARD

## KEY SCHEDULE ACTIVITIES - LOOK AHEAD

BUILDING STRONG

| Key Activities | Finish Date |
|---|---|
| FCSA Executed | 1/9/2023 |
| AMM Milestone Meeting | 5/1/2023 |
| Initial Flood Driver Screening (Scope Decision Point) | 5/17/2023 |
| **End of FY23** | 9/30/2023 |
| G2CRM FWOP Production Runs | 2/21/2024 |
| Establish Initial Array of Alternatives | 8/21/2024 |
| **End of FY24** | 9/30/2024 |
| G2CRM FWP Initial Alternatives Production Runs & Post Processing | 5/15/2025 |
| Establish Final Array of Alternatives (Scope Decision Point) | 6/4/2025 |
| G2CRM FWP Final Alternatives Production Runs & Post Processing | 9/22/2025 |
| **End of FY25** | 9/30/2025 |
| Identify National Economic Development (NED) Plan | 12/22/2025 |
| Identify Comprehensive Benefits Plan/Locally Preferred Plan (LPP) | 3/17/2026 |
| Identify the TSP | 5/18/2026 |
| **End of FY26** | 9/30/2026 |
| Exceptions/Waivers Approved by Assistant Secretary to the Army (ASA) | 11/20/2026 |
| TSP Milestone Meeting | 2/2/2027 |
| Release Draft Report for Concurrent Reviews | 4/2/2027 |
| **End of FY27** | 9/30/2027 |
| ADM Meeting | 11/3/2027 |
| Final Report Submittal Package to HQ | 5/22/2028 |
| Chief's Report Signature | 9/15/2028 |

Complete

Ongoing

# UPCOMING PUBLIC ENGAGEMENT

BUILDING STRONG

| Dates | Events |
|---|---|
| August 15th, 2024 @ 1:00pm | Monthly Webinar |
| August 28th, 2024 | Environmental and Cultural Subteam In-Person Meeting |
| September 19th, 2024 @ 1:00pm | Monthly Webinar |
| **October 2024** | **In Person Public Workshop<br>Location TBD** |
| November 21st, 2024 @ 1:00pm | Monthly Webinar |

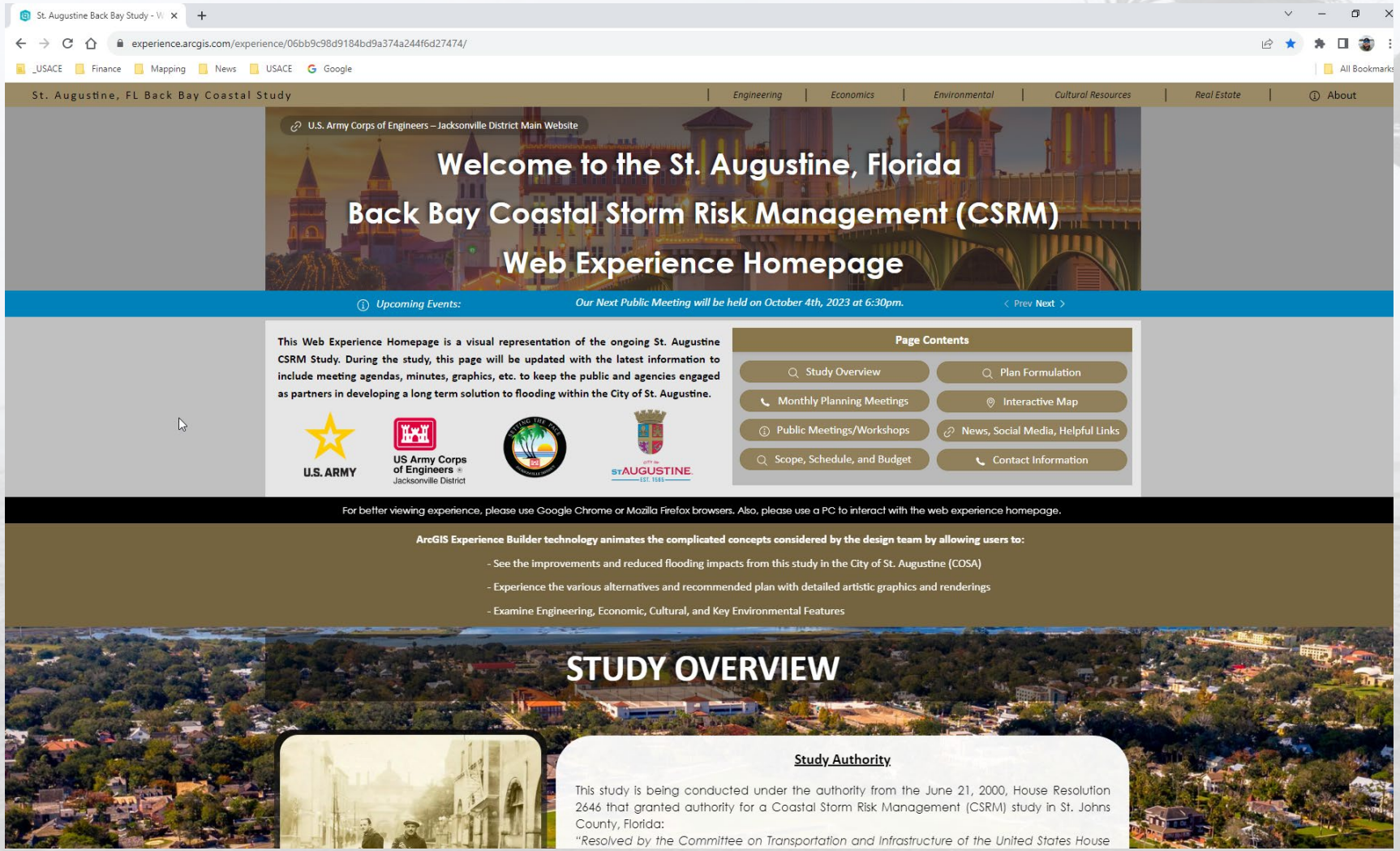
# DISCIPLINE SPECIFIC UPDATES/ACTIONS

BUILDING STRONG

- **Planning Technical Lead**: Marty Durkin
- **Engineering Technical Lead**: Patrick Snyder
- **Economics Lead**: Vongmony Var
- **Environmental Lead**: Katie Lebow
- **Cultural Resources Lead**: Zuzana Chovanec
- **Real Estate Lead**: Chris Bukolt
- **Office of Counsel**: Katie Gwin
- **Landscape Architecture Lead:** Sabrina Collins

# PUBLIC OUTREACH (STUDY WEBSITE)

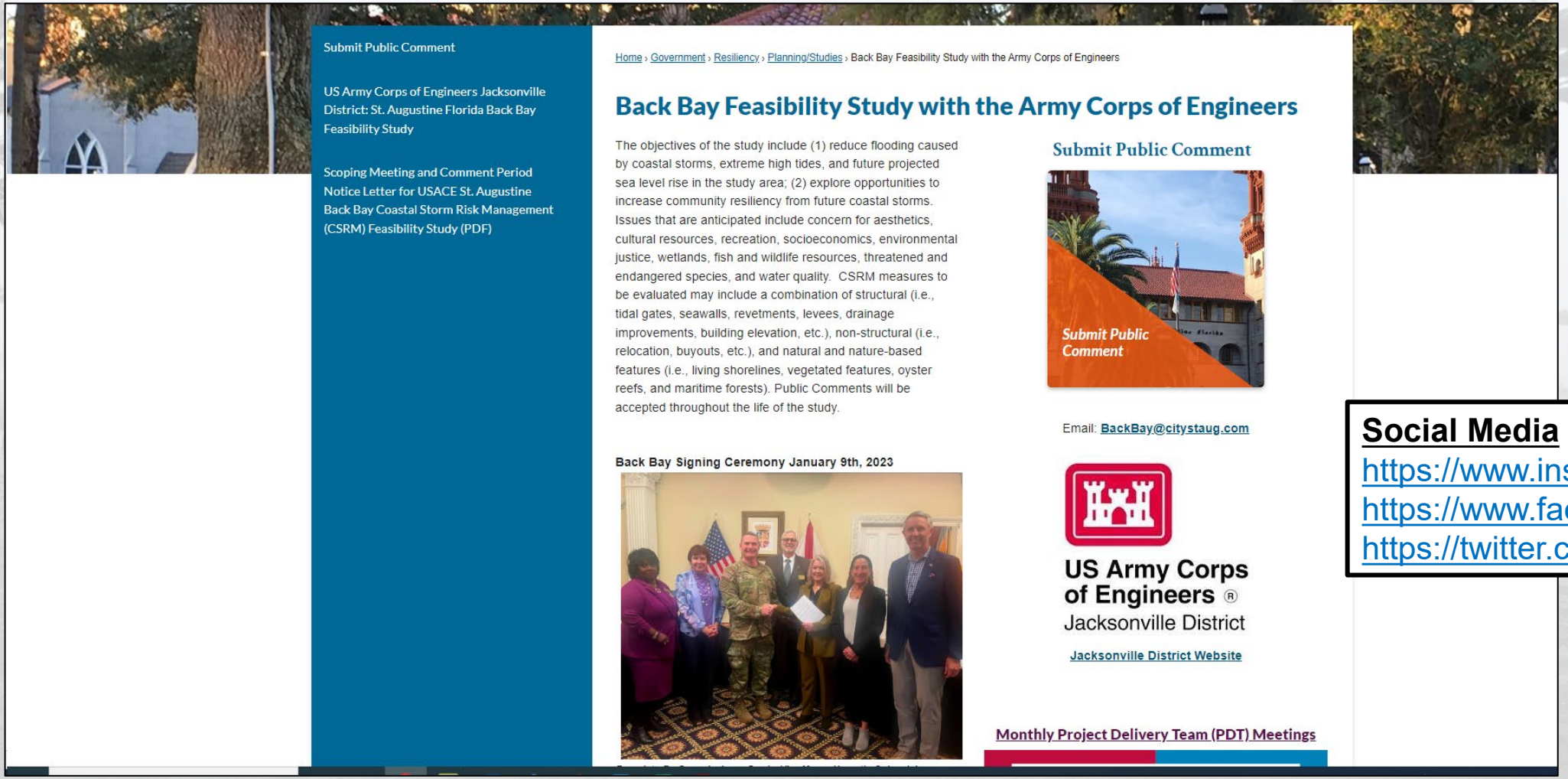
BUILDING STRONG




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

# PUBLIC OUTREACH (SPONSOR SITES)

BUILDING STRONG




**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

# PUBLIC OUTREACH

BUILDING STRONG

# CLOSING REMARKS/QUESTIONS

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- **Sponsor Remarks**
  - FMA Public Meeting on August 19th at 6PM at City Hall to talk about the FEMA Flood Elevation grant program residents can apply for.
  - September 17th at 5PM at City Hall Public Meeting for the Vulnerability Assessment to discuss results of the VA.
- **Federal Agency Questions/Comments**
- **State Agency Questions/Comments**
- **Local Agency Questions/Comments**
- **Public Comments**