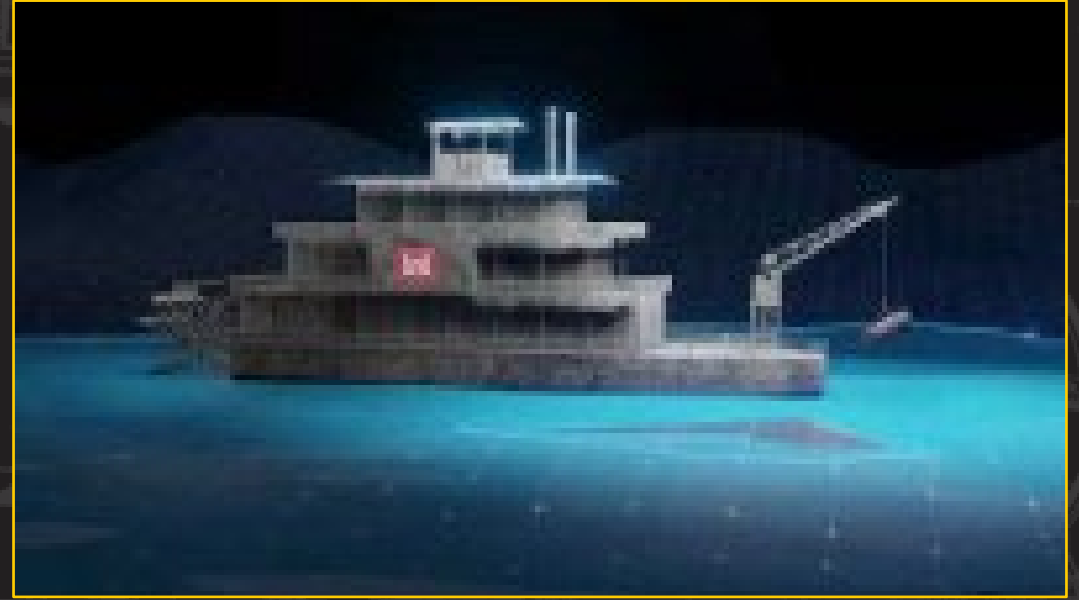


USACE Galveston District
Special Presentation to SAME
Construction Community of Interest –
March 6, 2024

“Project Alternative Delivery”

Col Rhett Blackmon
Commander
US Army Corps of Engineers
Galveston District (SWG)
Galveston, Texas
Rhett.Blackmon@usace.army.mil



US Army Corps
of Engineers®

U.S. ARMY



Mission

Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce disaster risk

Vision

Engineering solutions for the Nation's toughest challenges

Priorities

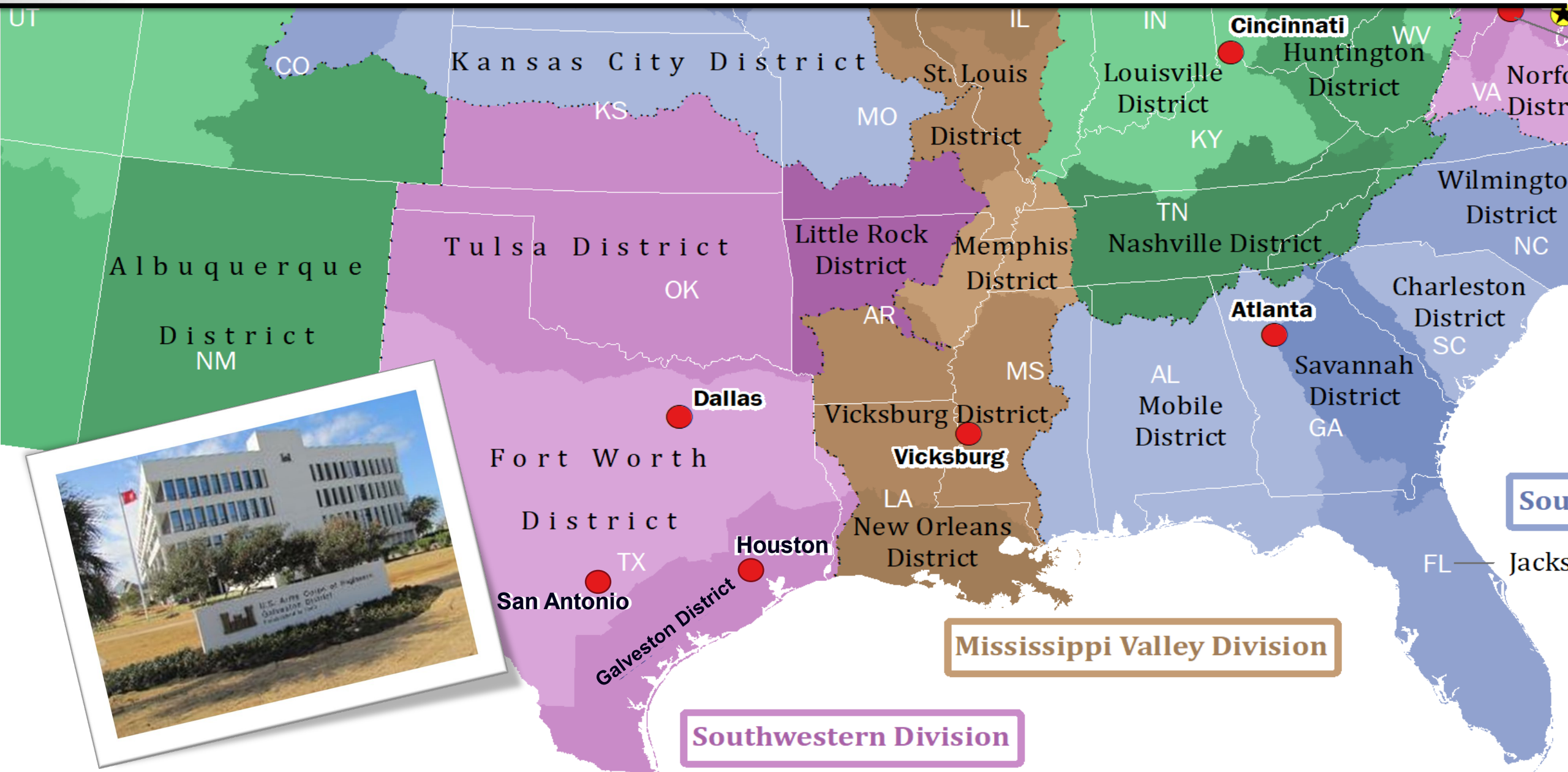
- People
- Readiness
- Partnerships
- Innovate



***Winning* = SAFELY Finishing quality projects, on time and within budget**



USACE Southwest Division – Ready | Responsive | Relevant



Southwestern Division

Mississippi Valley Division



USACE SWG - What We Do



- Navigation
- Flood Risk Management
- Coastal Storm Risk Management (CSRM)
- Emergency Management (EM)
- Ecosystem Restoration
- Regulatory





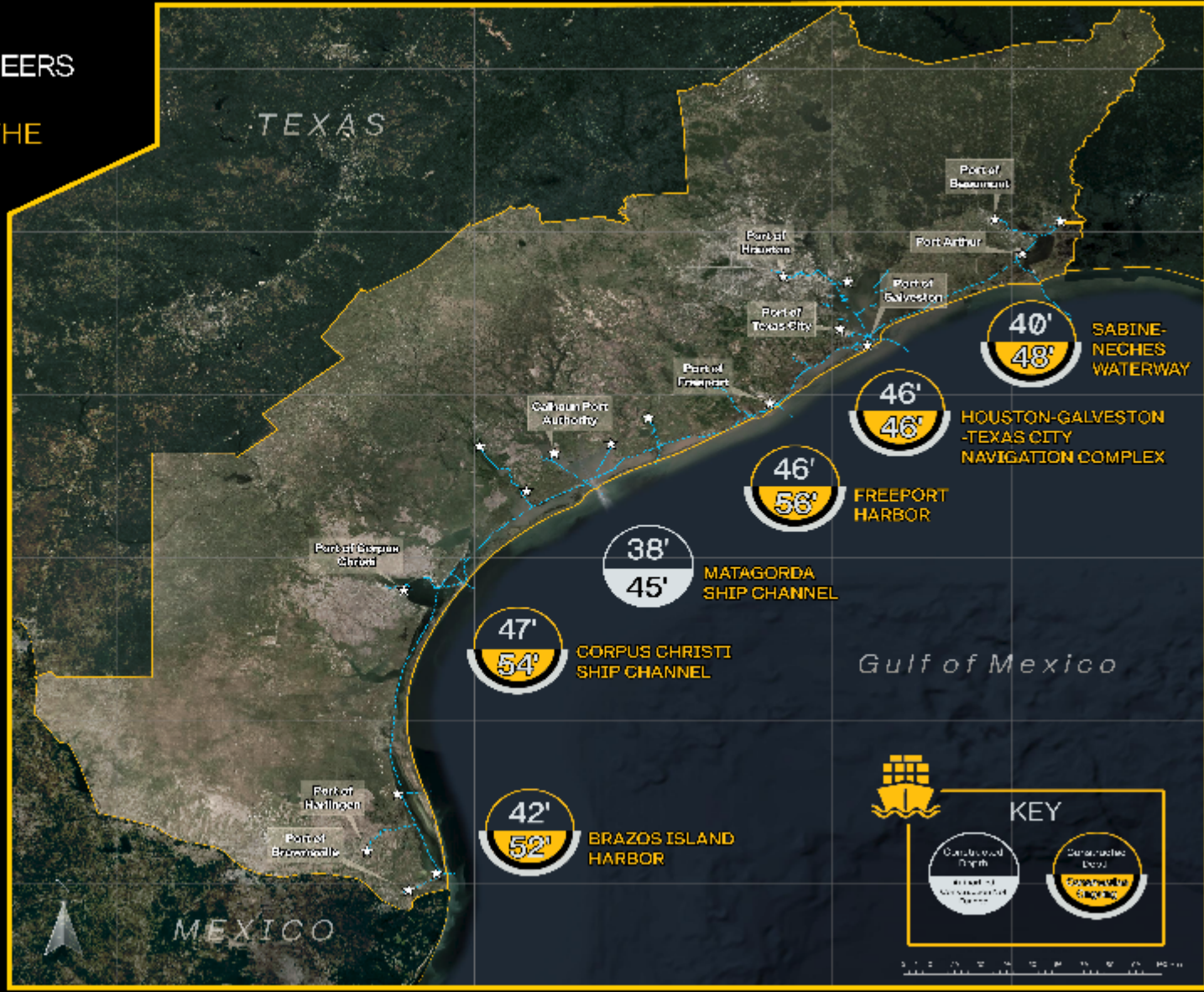
Navigation / Texas Ports



U.S. ARMY CORPS OF ENGINEERS GALVESTON DISTRICT TEXAS PORTS VALUE TO THE NATION

LEADING U.S. PORTS (2021 TONNAGE)

- **Houston #1** – 266.5 million tons
#1 Foreign Tonnage & Total Tonnage
- **Corpus Christi #3** – 164.4 m.tons
America's Energy Gateway
- **Beaumont #7** – 74.6 m.tons
#1 Military Port in World
- **Freeport #15** – 42.4 m.tons
Connecting Global Services
Via Caribbean Relay Port
- **Port Arthur #16** – 40.2 m.tons
Vital Break-Bulk Port
- **Texas City #23** – 28 m.tons
Services Largest Petrochemical Complex
- **Galveston #43** – 12 m.tons
#1 Cruise Ship Port in Gulf
- **Brownsville #55** – 8.9 m.tons
#1 Ship Recycling Port
- **Calhoun Port Authority #86**
– 4 m.tons
(Matagorda Ship Channel)
- **Port of Harlingen
Authority #106** - 2.5 m.tons
Gateway of Global Commerce



KEY

- Completed Project
- Proposed Project
- Completed Project
- Proposed Project





PROJECT 11

PROJECT OVERVIEW

- 1A Bolivar Roads to Redfish**
- Approximately 11.5 miles in length
 - Widen Channel to 700 feet
 - Bend easing
 - Construct New Bird Island
 - Mitigate for oyster habitat loss

- 1B Redfish to Bayport Ship Channel**
- Approximately 8.3 miles in length
 - Widen Channel to a minimum of 700 feet
 - Bend easing
 - Construct Three Bird Island Marsh in Galveston Bay
 - Mitigate for oyster habitat loss

- 1C Bayport Ship Channel to Barbours Cut**
- Approximately 5 miles in length
 - Widen Channel to 700 feet
 - Construct additional marshes on Atkinson Island
 - Mitigate for oyster habitat loss

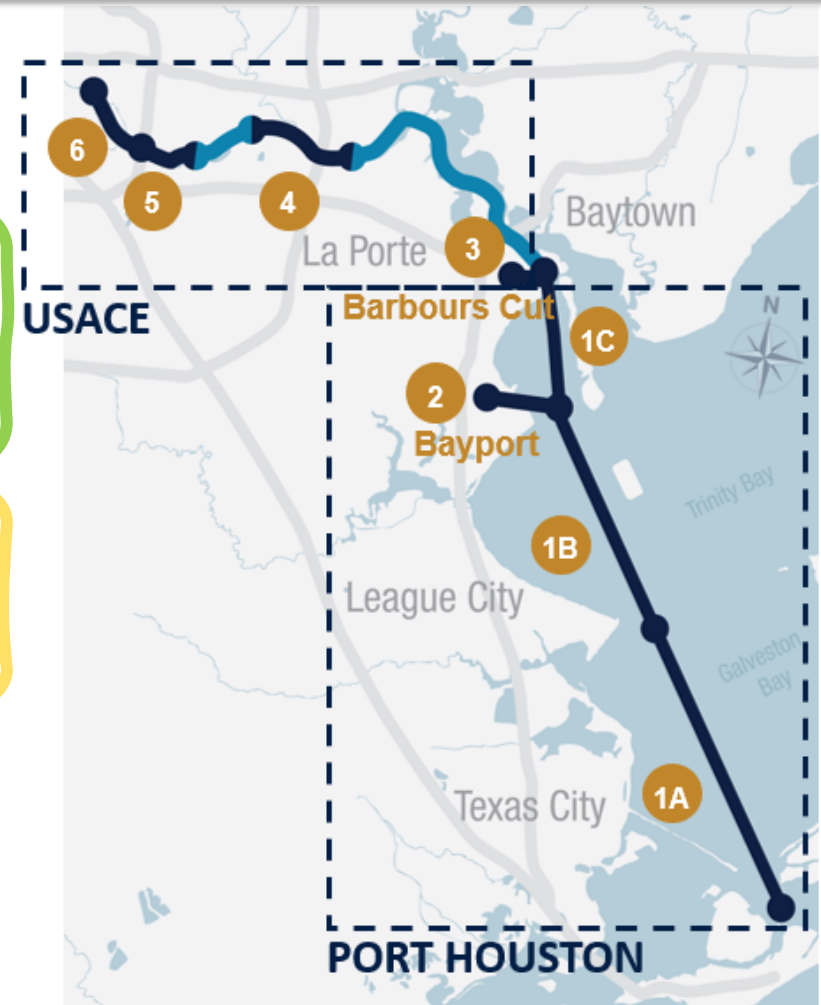
- 2 Bayport Ship Channel**
- Approximately 4 miles in length
 - Widen Channel to approximately 455 feet
 - Construct Three Bird Island Marsh in Galveston Bay
 - Mitigate for oyster habitat loss
 - Modify channel entrance to reduce shoaling

- 3 Barbours Cut Ship Channel**
- Widen Channel to approximately 455 feet
 - Construct additional marshes on Atkinson Island
 - Modify channel entrance

- 4 Boggy Bayou (BW 8) to Sims Bayou**
- Widen Channel to approximately 530 feet through Greens Bayou confluence
 - Deepen from existing 41 feet to 46.5 feet from Boggy Bayou to Hunting Bayou (last Turning Basin before reaching Washburn Tunnel)

- 5 Sims Bayou to IH 610**
- Deepen from existing 37 feet to 41.5 feet

- 6 IH 610 to Turning Basin**
- Deepen from existing up to 41.5 feet
 - Increase Brady Island Turning Basin



No work planned in these areas



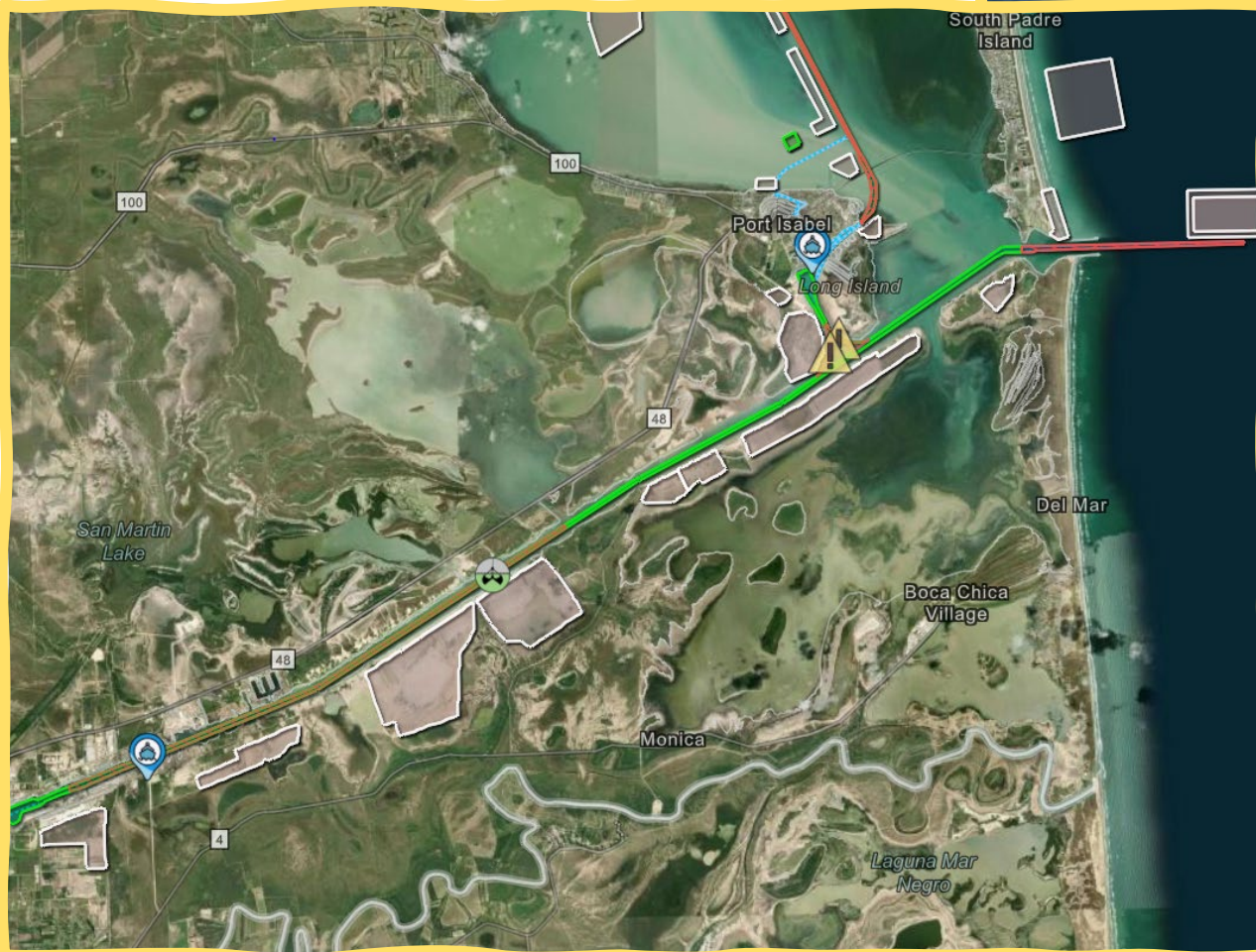


Sabine Neches Waterway Channel Improvement Project





Brazos Island Harbor Public Private Partnership



**PORT OF
BROWNSVILLE**
the port that works

 **NEXTDECADE**



USACE SWG - CSRM System of Systems

People

Home to approx. 10 Million people including the city of Houston (4th largest in U.S.)
 Demographically diverse
 Significant vulnerable population centers

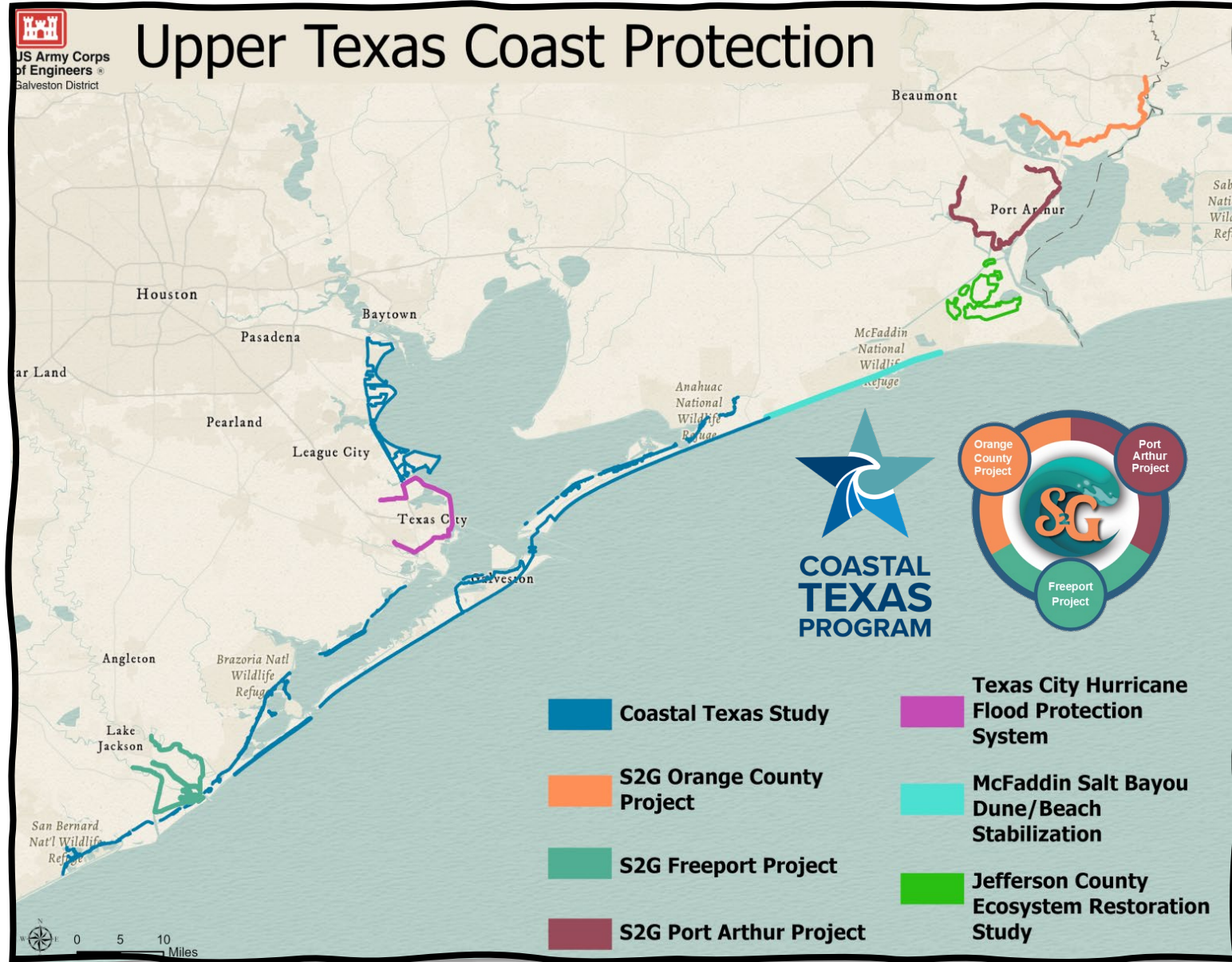
Infrastructure

(Petrochemical, Supply Chain, Municipal)

40% of the US petrochemical industry
 25% of the US refining capacity (including 3 of the top 10 in the world)
 #1 Deep Draft Port in the US and the Texas Coast is collectively 25% National Deep Draft capacity
 Key import gateway for renewable energy products

Environment

Attracts 3 million visitors who spend approx. \$1.6B annually
 Agriculture/commercial fisheries represent another \$500M and \$156M respectively
 Habitat for Kemp's Ridley Sea Turtle (endangered species)





USACE SWG - Coastal Texas Project

Project Summary

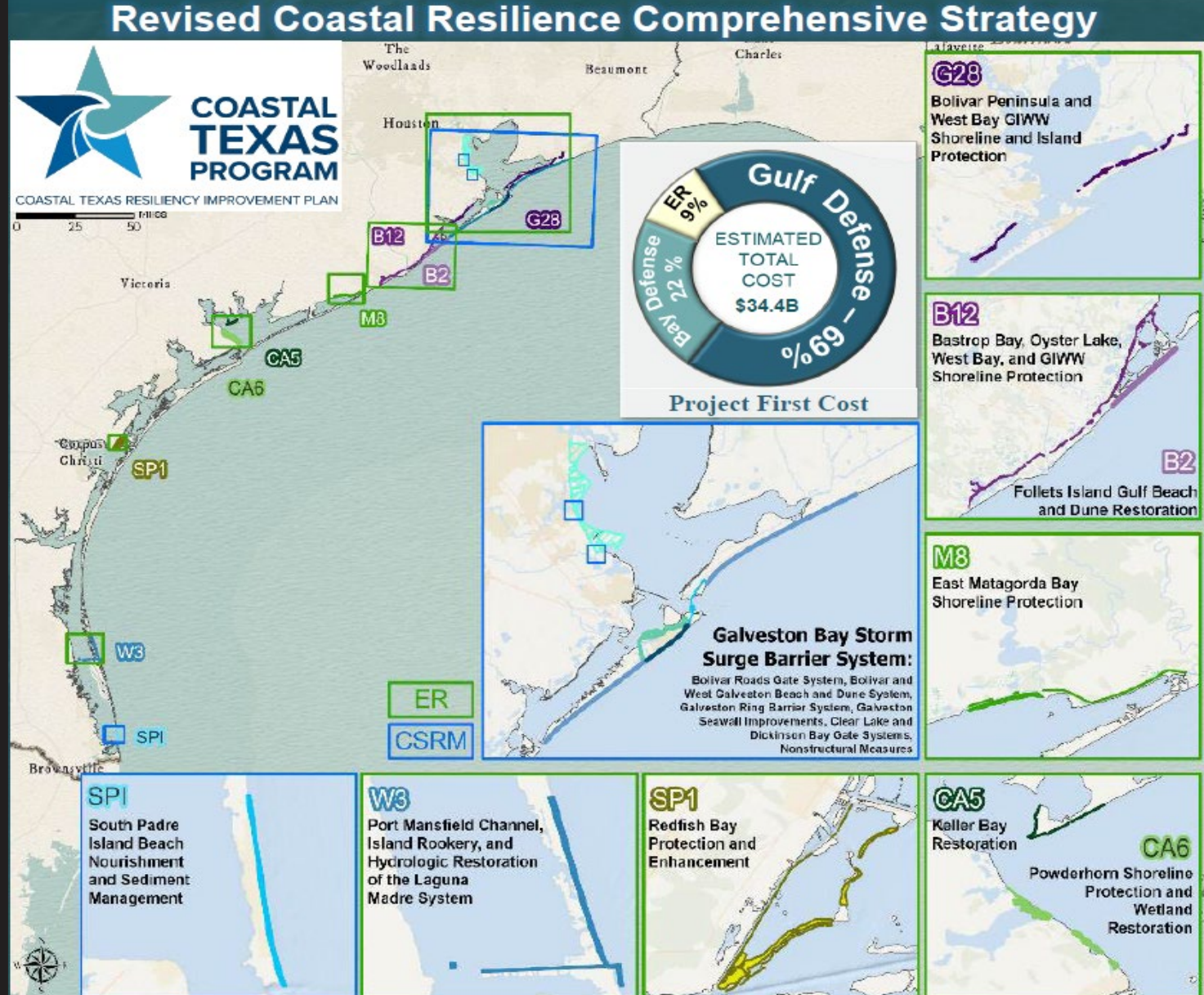
THE CHALLENGE is to develop a comprehensive program that provides multiple lines of defense against hurricanes while restoring fish and wildlife habitat system-wide to enhance overall coastal resilience. We are taking a systems approach when reviewing the region's larger system context, with a focus on Critical infrastructure that emphasizes greater flexibility. This Multiple Lines of Defense strategy uses natural and nature-based solutions in combination with traditional engineering solutions and builds upon existing & proposed projects to maintain the existing landscape in the face of sea level rise and coastal erosion.

Project Schedule

ACTIVITY	DATE-	
FR	S&A Review Complete	02-31 Jul 21
	Chief's Report	16 Sep 21
PED	WRDA	2022
	PED	2022-2023
CON	Construction	2024+

COASTAL TEXAS COSTS & BENEFITS BY THE NUMBERS...

~ 2.31 Billion EQUIVALENT ANNUAL BENEFITS	1.91 BCR FOR THE COMBINED CSRM MEASURES
~77% REDUCTION IN DAMAGED STRUCTURES	~64% REDUCTION IN FLOODED CRITICAL INFRASTRUCTURE
6,610 ACRES HABITAT IMPROVED	\$34.4 Billion TOTAL RECOMMENDED PLAN PROJECT COST (CSRM & ER)



Coastal Storm Risk Management

- o 2 large & 4 small sector gates
- o 15 vertical lift gates
- o 16 shallow water environmental gates
- o 1 mi combi-wall tie-in
- o 3 mi levee tie-in
- o 43 mi of gulf-side dune/beach barrier
- o 21 mi of ring barrier
- o 8 pumping stations
- o 16+ drainage structures
- o 4-ft high extension of the seawall
- o 150+ gated closures (roads & rail)
- o Non-structural measures anticipated
- o 2 mi beach/dunes on South Padre
- o 1,342 ac mitigation



Ecosystem Restoration (6,600+ ac)

- o 114 mi of breakwaters
- o 15.2 mi of bird rookeries
- o 2,052 ac of marshes
- o 12.32 mi of oyster reefs
- o 19.5 mi of dunes/beaches





USACE SWG - Coastal Texas Project

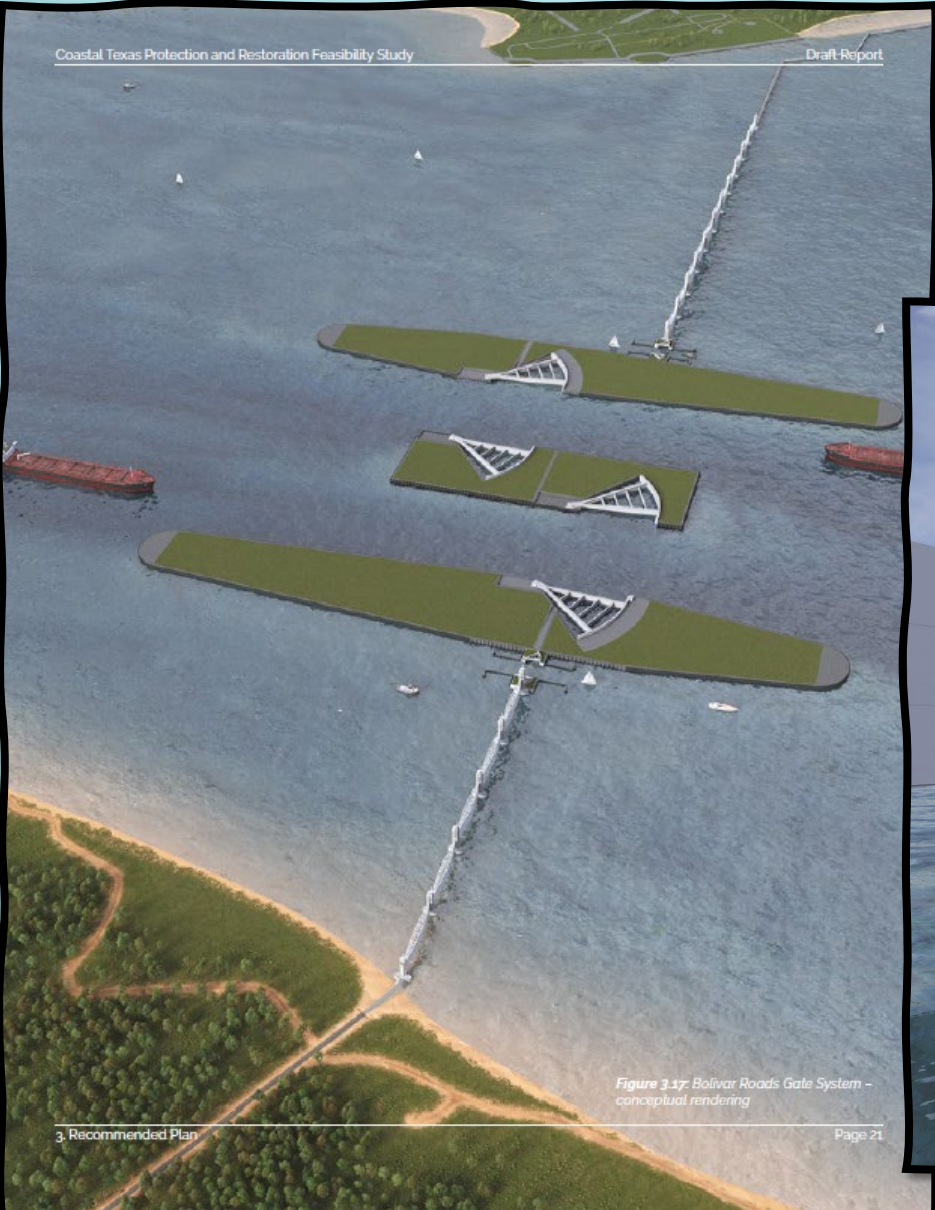
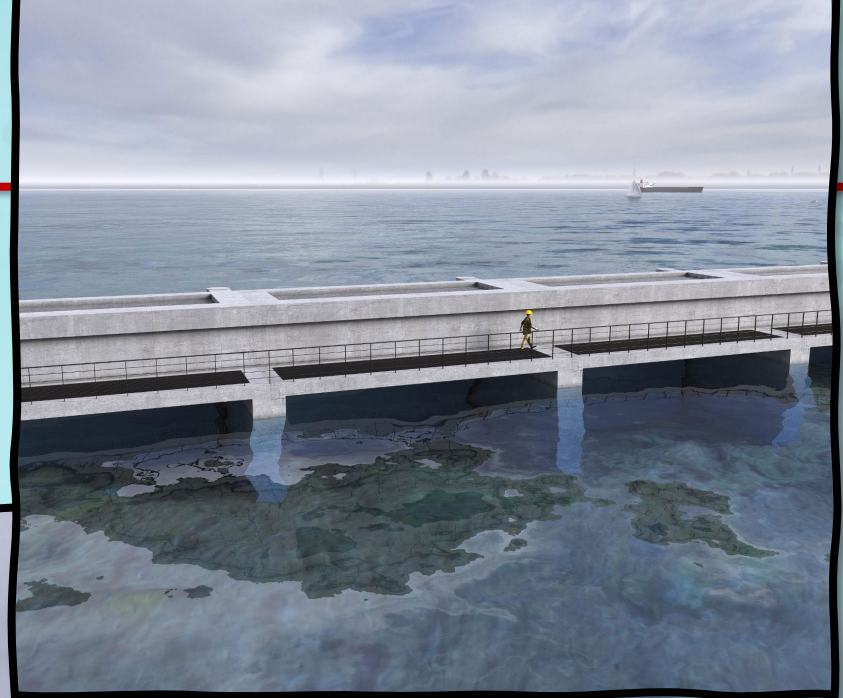
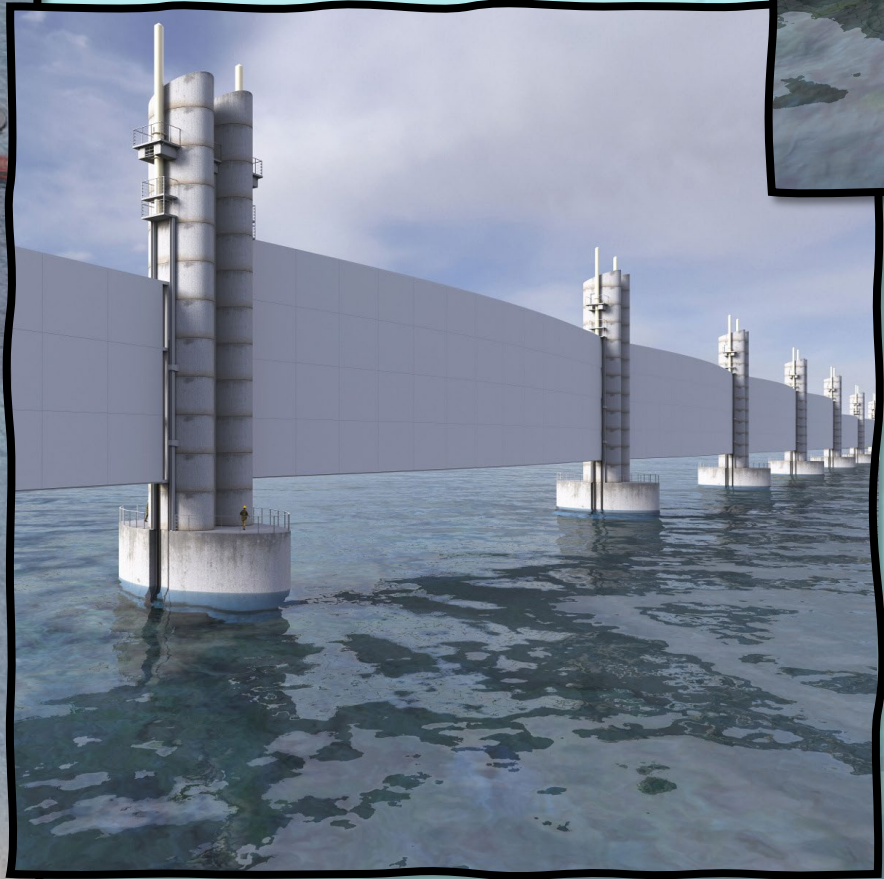


Figure 3.17: Bolivar Roads Gate System - conceptual rendering





USACE SWG – Sabine Pass to Galveston Bay (S2G)



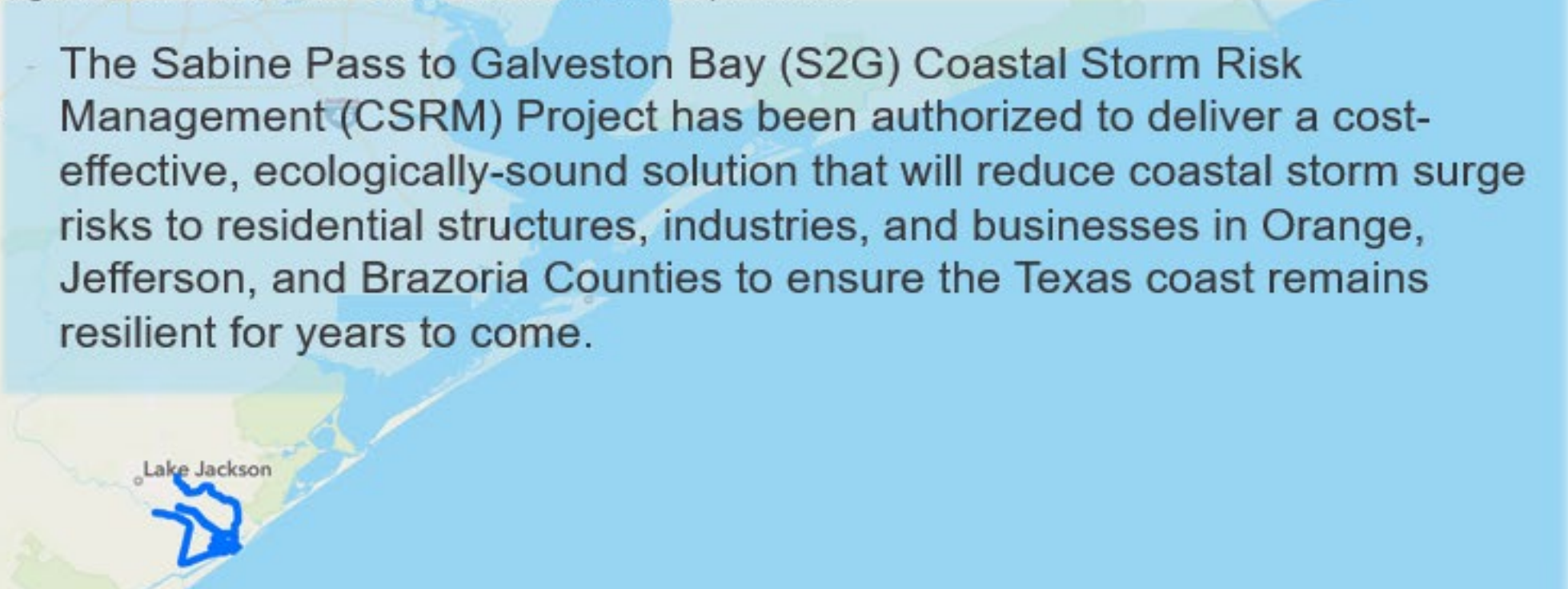
BBA 18 = Bipartisan Budget Act of 2018; WRDA = Water Resources Development Act



PROJECT PARTNERSHIPS

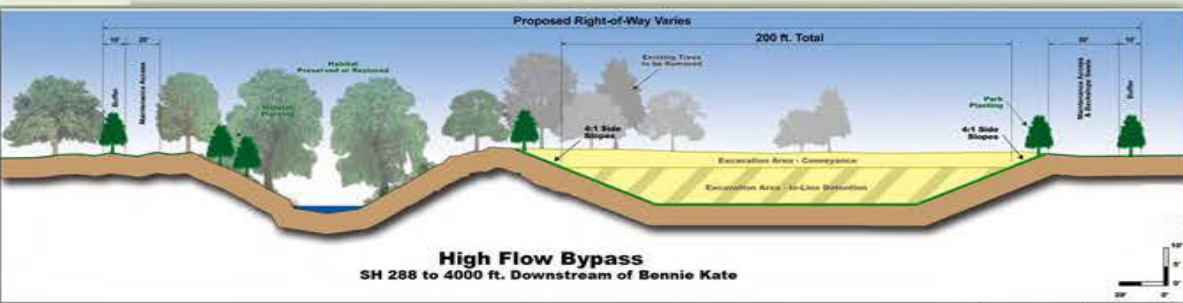


The Sabine Pass to Galveston Bay (S2G) Coastal Storm Risk Management (CSRM) Project has been authorized to deliver a cost-effective, ecologically-sound solution that will reduce coastal storm surge risks to residential structures, industries, and businesses in Orange, Jefferson, and Brazoria Counties to ensure the Texas coast remains resilient for years to come.

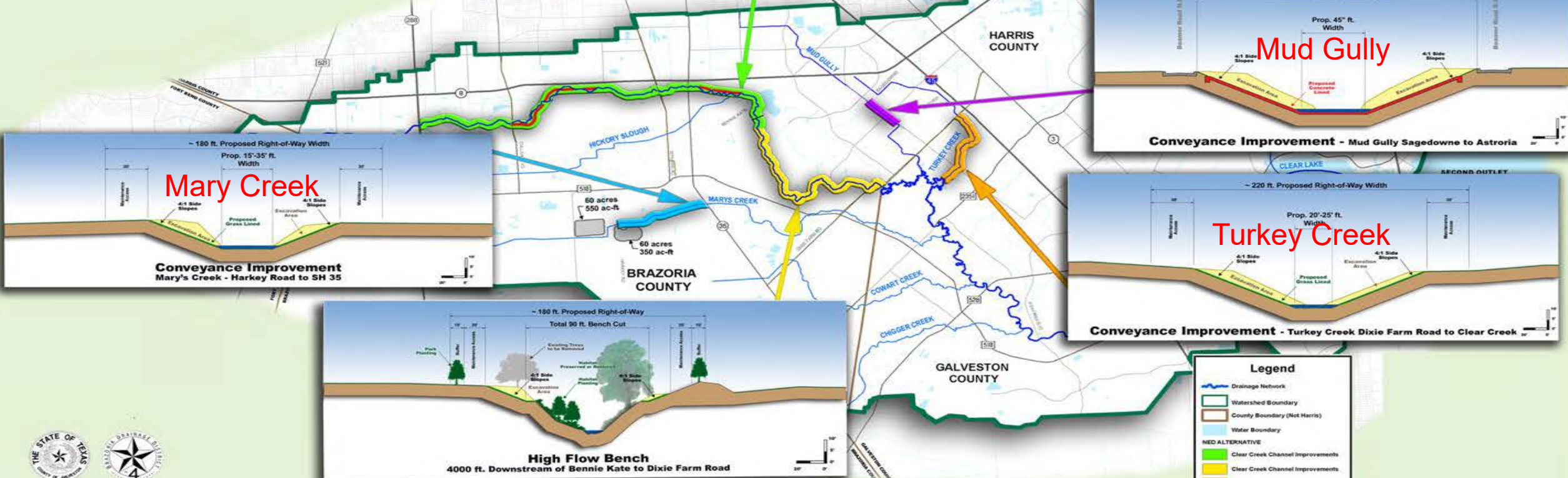




USACE SWG – Clear Creek FRM (Section 1043b) Refinement in progress



Clear Creek mainstem upper reach with inline basins



Clear Creek mainstem with oxbow rehabilitation

Legend

- Drainage Network
- Watershed Boundary
- County Boundary (Not Harris)
- Water Boundary

NEED ALTERNATIVE

- Clear Creek Channel Improvements
- Clear Creek Channel Improvements
- Turkey Creek Channel Improvements
- Mary's Creek Channel Improvements
- Mud Gully Channel Improvements
- In-Line Detention
- Existing Detention



Maui Wildfire Response Temporary School





The Resacas in the Vicinity of Brownsville, TX Ecosystem Restoration Project



Authorization: Section 1401(5) of the American Water Infrastructure Act of 2018

Purpose: Ecosystem Restoration

Benefits: Restoration of Resaca de la Guerra and Resaca del Rancho Viejo:

- Restored terrestrial riparian habitat and aquatic habitat
- Improved potential for long-term survival of aquatic, wetland, and terrestrial complexes as self-regulating functioning systems
- Improved value and function of the overall ecosystem in the Brownsville region

Phase: Pre-construction Engineering and Design (PED)

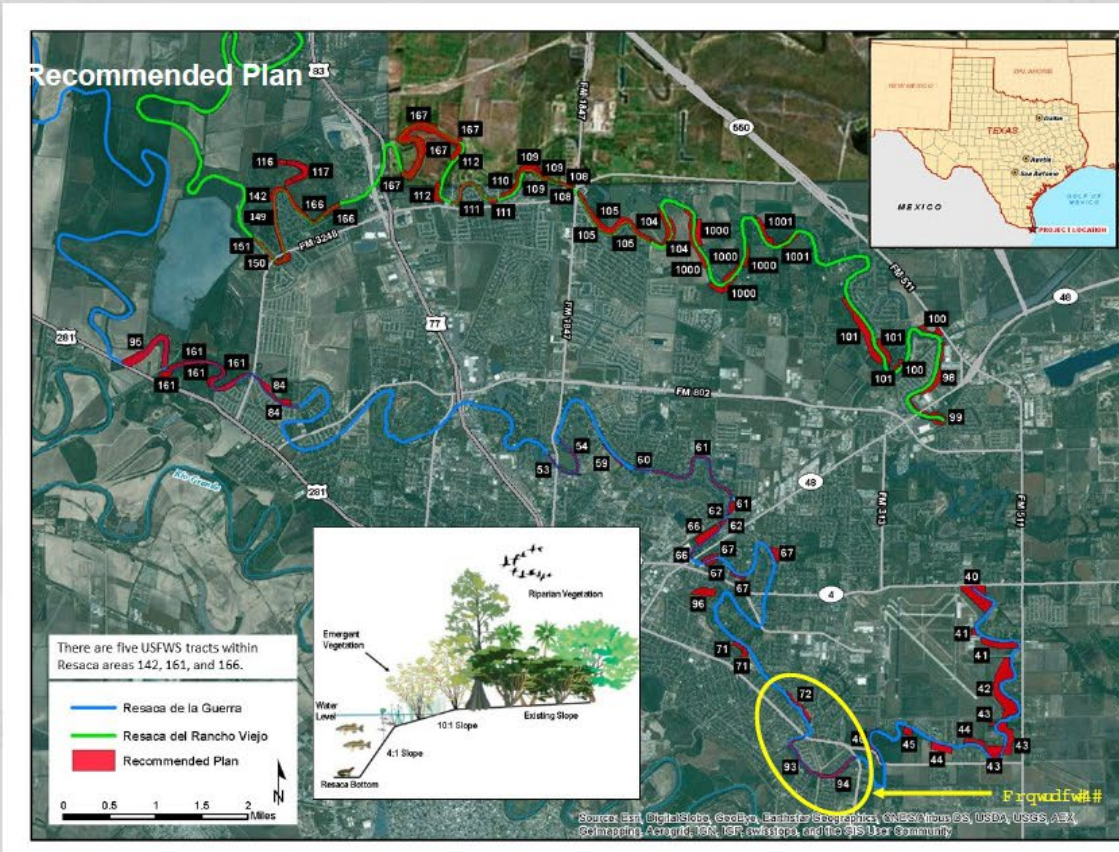
Non-Federal Sponsor: City of Brownsville, Brownsville Public Utilities Board

Total Project Cost: \$272M

Scope: Total area restored is 845 acres: 625 acres terrestrial riparian habitat, 220 acres aquatic habitat, and 33 miles of shoreline. (The 845 acres includes 763 acres of city and private lands; 28 acres of TPWD lands, and 54 acres of USFW lands)

Project Cost Summary (May 2022 Pricing)

Federal cost	\$185,689,983
Non-Federal cost	\$ 86,311,360
Total Project cost	\$272,000,000



What are the Resacas?

The “resacas” are former distributaries of the Rio Grande delta located in Cameron County, Texas, and Tamaulipas, Mexico. The word resaca is unique to the Rio Grande lower valley. The term identifies both the entire former channels and individual pockets of habitat along the former channel. Urbanization and agricultural development have degraded and fragmented the significantly rare resaca habitats that support diverse floral and faunal communities. With less than one percent of intact resaca habitats remaining, these ecosystems are at a high risk of extinction.



Questions



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