

# PROJECT BRIEF: CORPUS CHRISTI SHIP CHANNEL NAVIGATION IMPROVEMENT BENEFICIAL USES SITES



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**U.S. ARMY**



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



# CORPUS CHRISTI SHIP CHANNEL IMPROVEMENT PROJECT – BENEFICIAL USE

Beyond Traditional Thinking:  
*Creating 1000 Acres of Something Good with 5  
Million Cubic Yards of Dredged Material*

**USACE Galveston District**  
**Stakeholder Partnering Forum**  
**November 7<sup>th</sup>, 2024**



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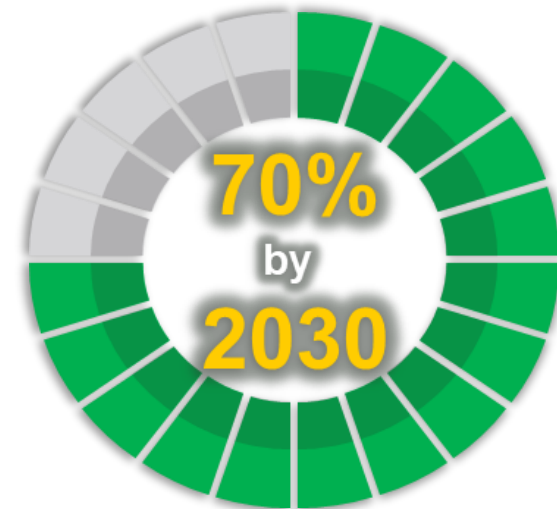


# USACE BENEFICIAL USE PROGRAM

- **Beneficial Use of Dredged Material:**
  - Defined as the productive and positive uses of dredged material, which covers broad use categories ranging from fish and wildlife habitat development to human recreation to industrial/commercial uses. Beneficial Use is an intentional and deliberate placement of material to provide a benefit.

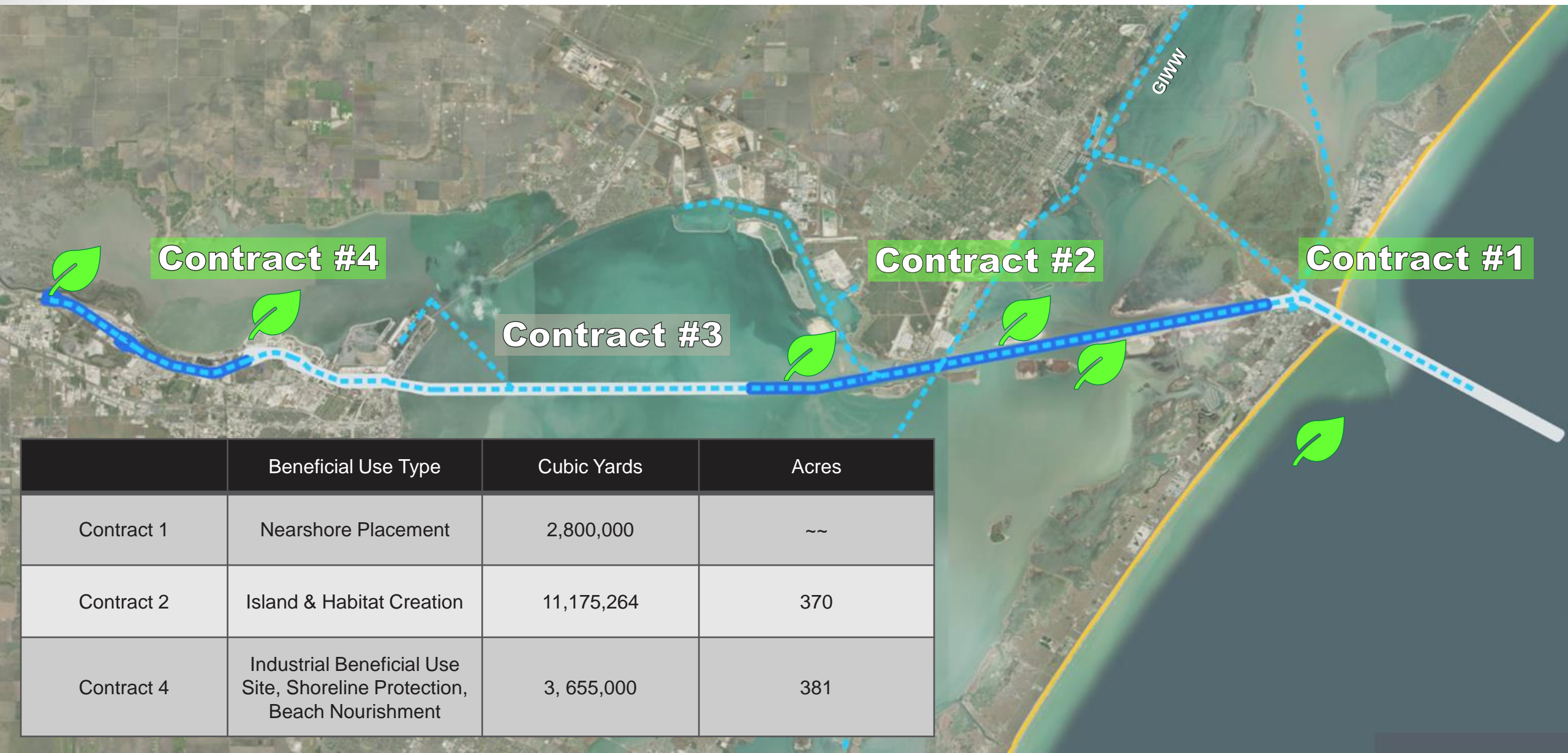
## Galveston District Beneficial Use Program

- The Galveston District dredges between 30-40 million CY annually (FY23 49.1 mCY)
- The district currently uses about 35-40% of our material beneficially (FY23 51%)





# CORPUS CHRISTI SHIP CHANNEL – CIP CONTRACTS



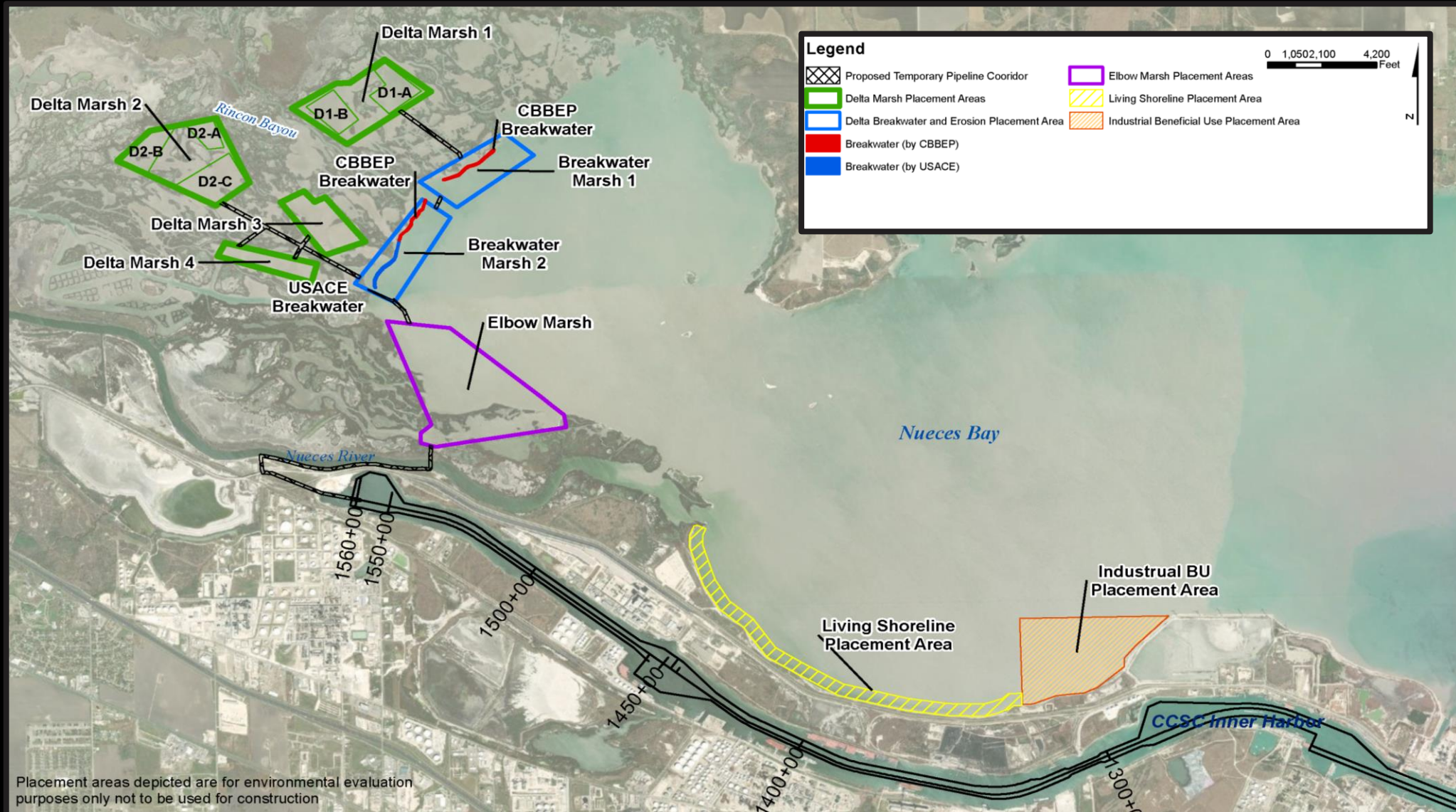
	Beneficial Use Type	Cubic Yards	Acres
Contract 1	Nearshore Placement	2,800,000	~~
Contract 2	Island & Habitat Creation	11,175,264	370
Contract 4	Industrial Beneficial Use Site, Shoreline Protection, Beach Nourishment	3, 655,000	381





# U.S. Army Corps of Engineers - Galveston District

## Corpus Christi Ship Channel - CIP Contract #4







# U.S. Army Corps of Engineers - Galveston District

## Corpus Christi Ship Channel - CIP Contract #4

North  
Breakwater  
BWM-1

Delta 3

South  
Breakwater  
BWM-2

Delta 4

Elbow BU

✓ **Elbow BU:**  
1,065,000 CY  
~ 61 Acres

✓ **Horseshoe BU:**  
410,000 CY  
~ 120 Acres  
✓ **Industrial BU:**  
2,160,000 CY  
~ 200 Acres

Viola Channel

Industrial BU

Horseshoe BU

Tule Lake Channel

Chemical Turning  
Basin - Channel

Industrial  
Canal

Main Turning  
Basin





# CIP CONTRACT #4 PROJECT GOALS

## **Something Good**

- 5 MCY of dredged material will be turned into 1000 acres of 'something good'

## **Combat Erosion**

- Providing 395 acres of sacrificial erosion protection
- Construction of a 2000' breakwater in the Nueces Delta

## **Nourish Degraded Habitat**

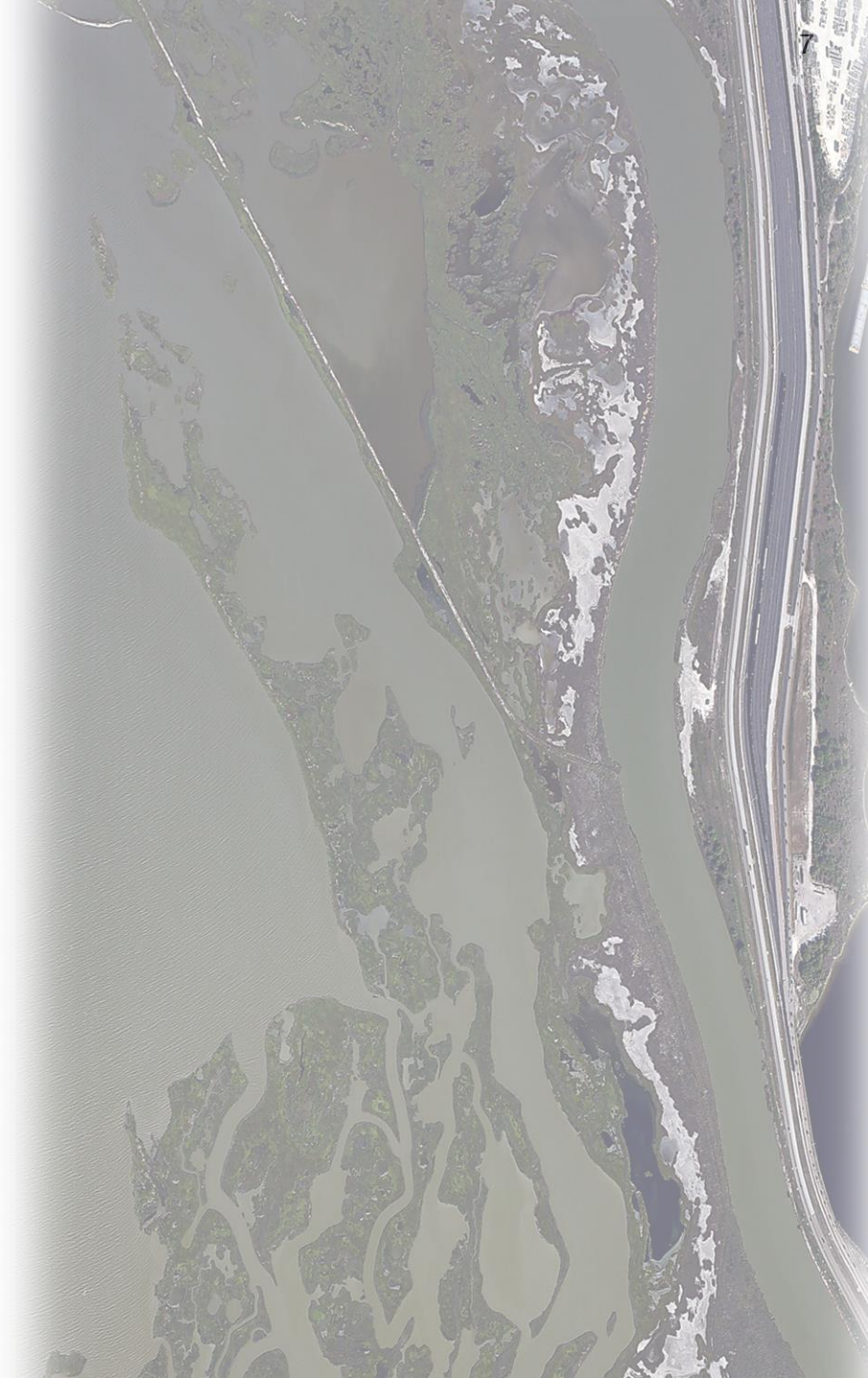
- Converting 206 acres of open water into estuarine marsh

## **Protection and Prevention**

- Create 120 acres of an intertidal living shoreline to protect the shoreline and prevent road overtopping

## **Bolster Local Economic and Commercial Entities**

- Creation of a 200-acre Industrial BU site





# TIMELINE







# PROJECT CONSTRAINTS

## Easy

- Willing Partner: Coastal Bend Bays & Estuaries Program
  - Nourish areas within their Master Plan
- Lots of Material
- No major considerations for EFH, archeological/historic resources

## Manageable

- ESA Conservation measures
  - Whooping crane
  - Piping plover
  - Red knot
  - West Indian manatee
  - Eastern black rail
  - (land-based construction window closed Mar 1 – Sept 30)
- Water quality cert
  - Meetings with TCEQ RE background, TMDL in Nueces Bay
- Enough time to award the contract in Sept 2023
  - Not delaying overall \$675 million channel improvement project



## Hard

- Sediment Quality
  - Restricted a section to IBU rather than marsh
- Not doing more harm than good
- Too much material?





# 'Elbow' Beneficial Use Site; Habitat Restoration

**BEFORE: JAN 2024**

(Eroding at 8.2 ft/yr.)



**DURING: APR 2024**







Elbow BU - COMPLETE: JUL 2024



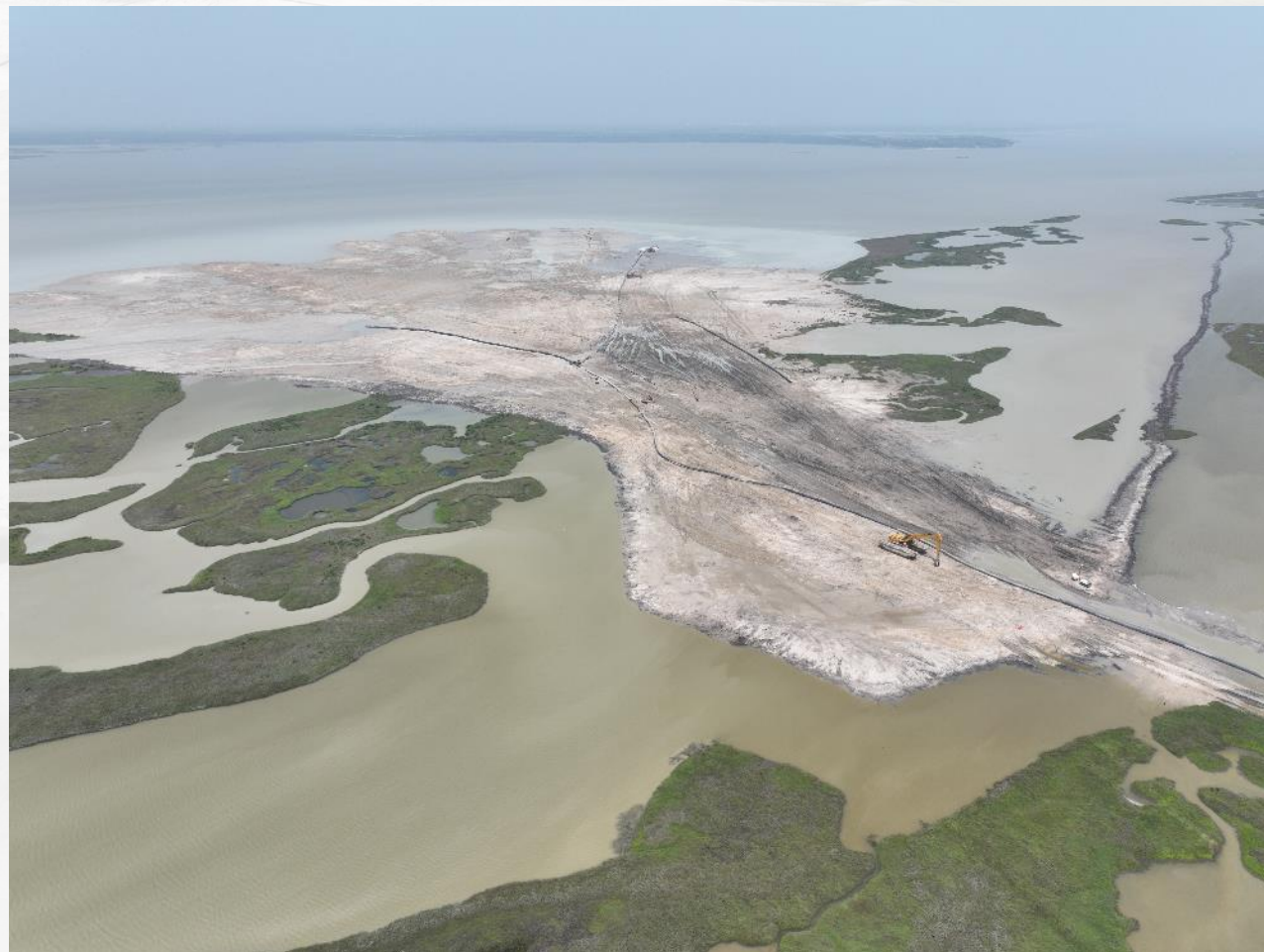


# “ELBOW” BENEFICIAL USE SITE

12

## Traditional Beneficial Use site Environmental + Shoreline Benefits

- Nueces Delta eroding at 8.2 ft/yr.
- Nourish degraded habitat by converting 206 open water into estuarine marsh





# Industrial Beneficial Use Site

BEFORE



AFTER: OCT 2024











# INDUSTRIAL BENEFICIAL USE SITE

15

## Construction/Industrial Development Beneficial Use Type

- “Using dredged material to support commercial or industrial activities, primarily near waterways” – USACE EM 1110-2-5025

## Bolster Local Economic and Commercial Entities

- Creation of a 200-acre Industrial BU site
- Supporting the expansion of economic development for waterborne commerce along the port of Corpus Christi inner harbor corridor



The Port of Corpus Christi is #3 in the nation with respect to total short tonnage; with over 13,000 jobs directly associated



# 'Horseshoe' Beneficial Use Site

BEFORE



IN PROGRESS: OCT 15 2024







Aug 23, 2024 at 9:51:20 AM  
+27.833742,-97.488076  
143° SE  
Nueces Bay  
Nueces County  
QAR Thoman





# HORSESHOE BENEFICIAL USE SITE

18

## 120 Acres of Intertidal Living Shoreline Created

- **Shoreline Protection**
- **Flood Prevention**
  - Buffer storm surge
  - Protect adjacent road and railroad from overtopping
- **Resilience to Climate Change and Natural Disasters**





# Nueces Bay Breakwater Beneficial Use Site

BEFORE



IN PROGRESS







# NUECES BAY BREAKWATER







# NUECES BAY BREAKWATER

## Combat Erosion of Critical Intertidal Marsh

- Construction of a 2,000 ft breakwater; tying into existing 4,000 ft breakwater
- Provide 395 acres of sacrificial erosion protection







# CONTACT INFORMATION



## BENEFICIAL USE OF DREDGED MATERIAL



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