

USACE – Galveston District

Navigation Studies and New Work

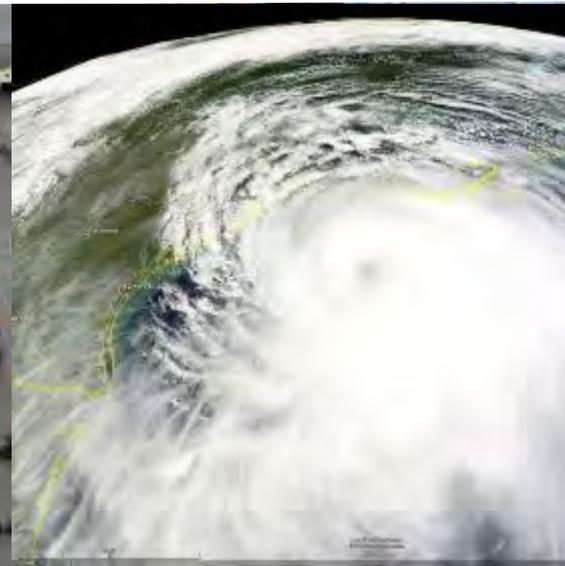
3 December 2015

Rob Thomas , P.E.
Galveston District
U.S. Army Corps of Engineers



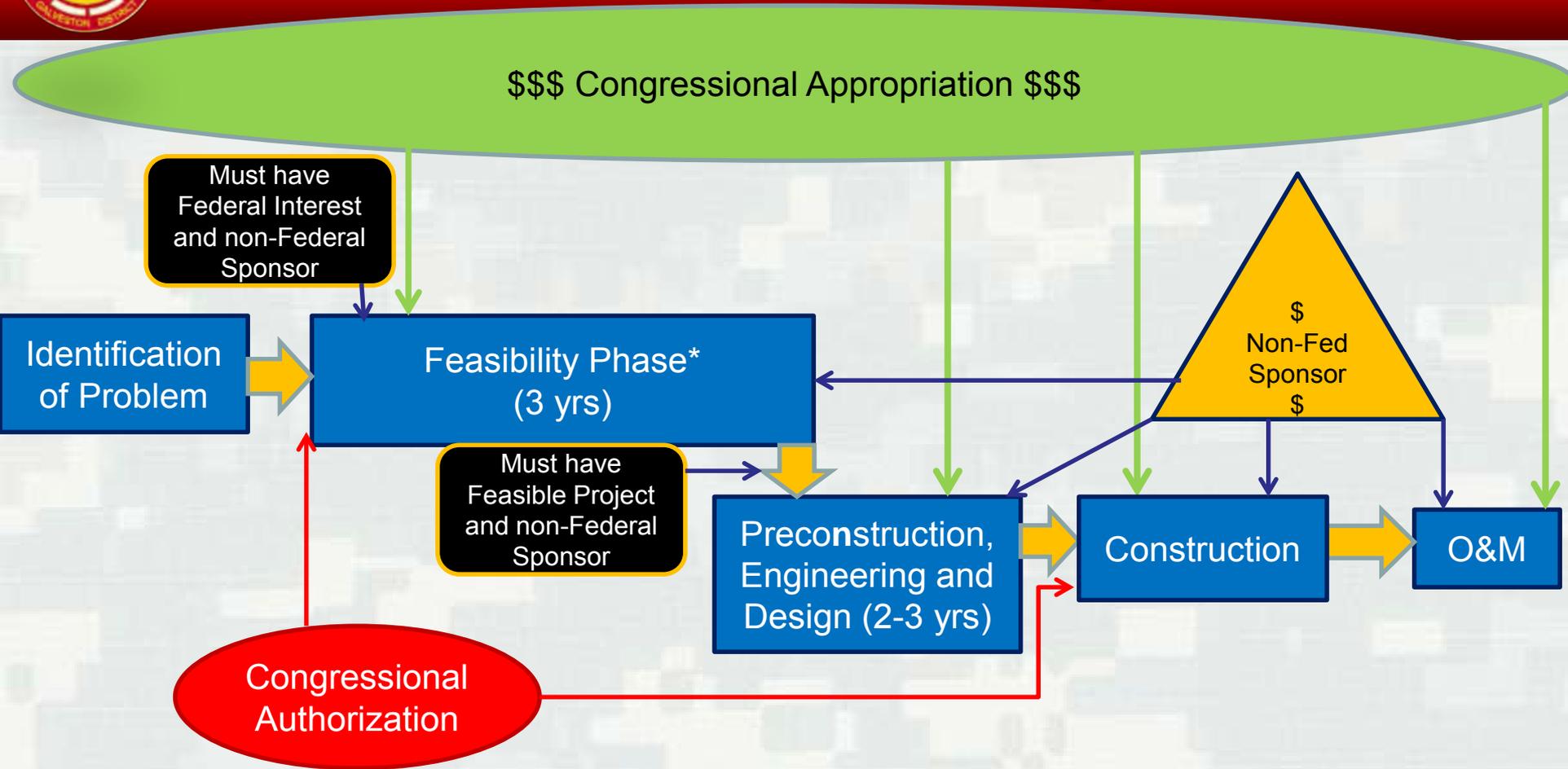
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US Army Corps of Engineers
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How We Build New Projects



*Feasibility Phase includes **alternatives analysis and NEPA compliance** to determine best plan to provide an environmentally sustainable solution which provides economic value to the nation





How Texas Fits in the National System



Rest of Pacific Coast
(219MT)

LA
Long Beach

Rest of Lakes
(132MT)

Duluth/Superior

DIS

NY/NJ
(123MT)

Rest of Atlantic Coast
(206MT)

Balt Baltimore
Norfolk Norfolk
Sav Savannah

Houston
(229MT)

South Louisiana
(238MT)

Rest of Texas
(309MT)

Rest of Louisiana
(269MT)

Rest of Gulf
(145MT)

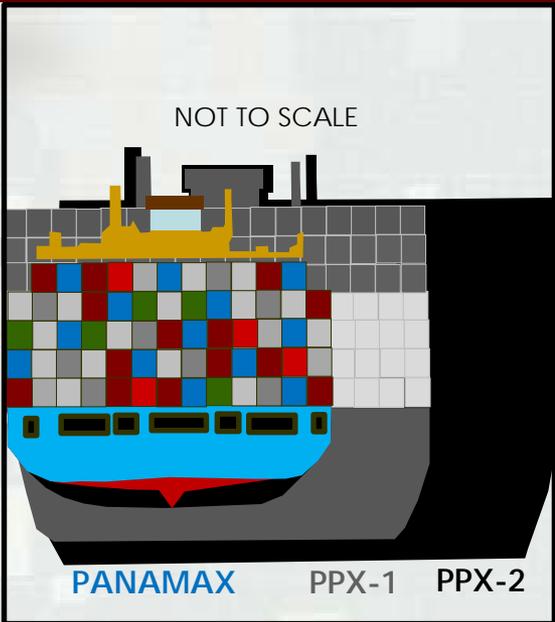


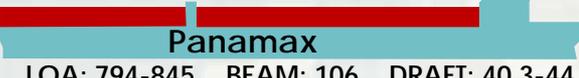
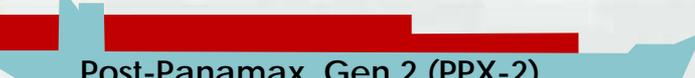
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Why Improve Projects?

CONTAINER VESSELS



- 
Sub-Panamax TEU* Capacity~ 2500
 LOA: 675 BEAM: 98 DRAFT: 37.6 DWT: 34,000
- 
Panamax TEU* Capacity~ 3500 - 4800
 LOA: 794-845 BEAM: 106 DRAFT: 40.3-44.3 DWT: 24,000 – 65,000
- 
Post-Panamax Gen 1 (PPX-1) TEU* Capacity~ 6500
 LOA: 960 BEAM: 131 DRAFT: 46.1 DWT: 80,600
- 
Post-Panamax Gen 2 (PPX-2) TEU* Capacity: ~8700
 LOA: 1106 BEAM: 146 DRAFT: 47.6 DWT: 106,800

* Intermodal Shipping Container Measured as a Twenty-foot Equivalent Unit (TEU)

TANKERS



Panamax Tankers:
 LOA: 600-750 Beam 106 Draft: 41.1- 46.2

Liquid Capacity:
 52,100 – 79,200 kg/m³



Aframax Tankers:
 LOA: 806 Beam 140 Draft: 49.1

Liquid Capacity:
 120,315 kg/m³



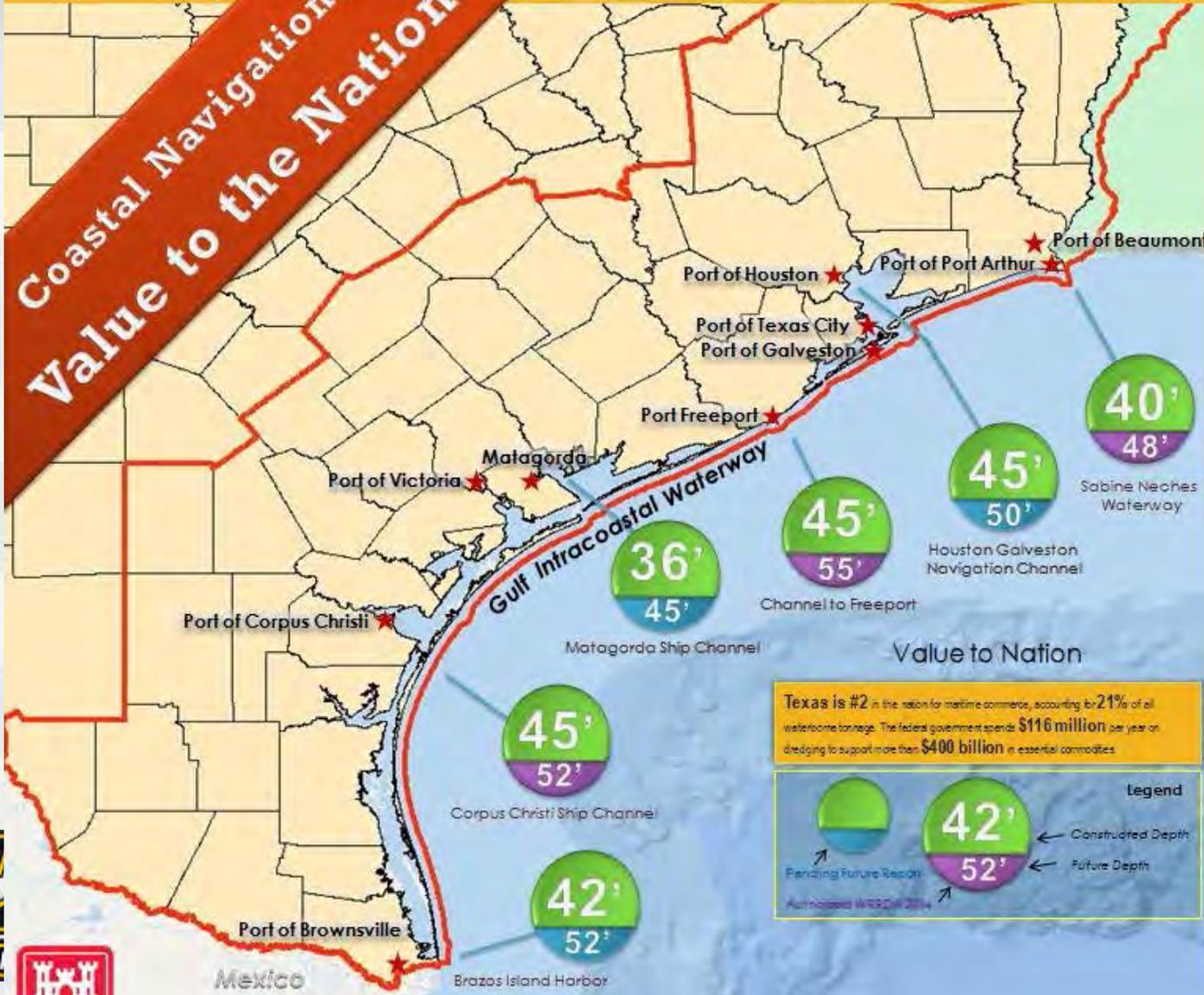
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Texas Coastal Navigation System

USACE Southwestern Division Regional Priority

Coastal Navigation:
Value to the Nation



LEADING U.S. PORTS (2013 Tonnage)

- Houston (#2 – 229.2 million tons)**
#1 Foreign Tonnage & #2 Total Tonnage
- Beaumont (#4 – 94.4 million tons)**
#1 Military Outload Port
- Gulf Intracoastal Waterway (79 million tons – Texas portion)**
#3 Inland Waterway
- Corpus Christi (#7 – 76.1 million tons)**
America's Energy Gateway
- Texas City (#13 – 49.6 million tons)**
Services Largest Petrochemical Complex
- Port Arthur (#18 – 34.7 million tons)**
Vital Strategic Port
- Freeport (#32 – 19.7 million tons)**
World Class LNG Facility
- Galveston (#49 – 11.4 million tons)**
#4 Cruise Ship Port
- Matagorda to include Port of Port Lavaca and Port of Point Comfort (#51 – 10.9 million tons)**
Generates Annual Business Revenues of Nearly \$2 Billion
- Brownsville (#73 – 5.5 million tons)**
#1 Ship Recycling Port
- Victoria (#74 – 5.5 million tons)**
#2 Shallow-Draft Port for Domestic Crude Petroleum

Value to Nation

Texas is #2 in the nation for maritime commerce, accounting for 21% of all waterborne tonnage. The federal government spends \$116 million per year on dredging to support more than \$400 billion in essential commodities.





Sabine Neches Waterway

PM: Byron Williams

- Status:
 - ▶ Chiefs Report Complete: 2011
 - ▶ LRR Complete: Feb 2016
 - ▶ Potential Construction Start: FY19
- Features
 - ▶ Est. New Work: 98 MCY
 - ▶ Deepening SNWW to Beaumont to 48 feet (50 feet in offshore channels)
 - ▶ Extending the Entrance Channel 13.2 miles
 - ▶ Deepening and widening Taylor Bayou
 - ▶ Adding/enlarging 3 turning basins (TB) and/or anchorages



- Bend easing on Sabine-Neches Canal and Neches River Channel
- Bridge reinforcements
- Dredged Material Management Plan
- Beneficial Use Plan
- Compensatory Mitigation Plan



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Houston Ship Channel

PM: Shakhar Misir

- Status:
 - ▶ FCSA Signed: Nov 2015
 - ▶ Chiefs Report Complete: 2019
 - ▶ DMMP for existing project: Jul 2016
 - ▶ PDR for HSC and Bayport: FY16

- Features

Upper Channel (Boggy Bayou to Main Turning Basin)

1. I-610 Bridge to Main Turning Basin (beyond 36 feet depth and 300 ft width)
2. Sims Bayou to I-610 Bridge (beyond 36 feet depth and 300 ft width)
3. Boggy Bayou to Sims Bayou (beyond 40 feet depth and 300 ft width)



Bay Reach

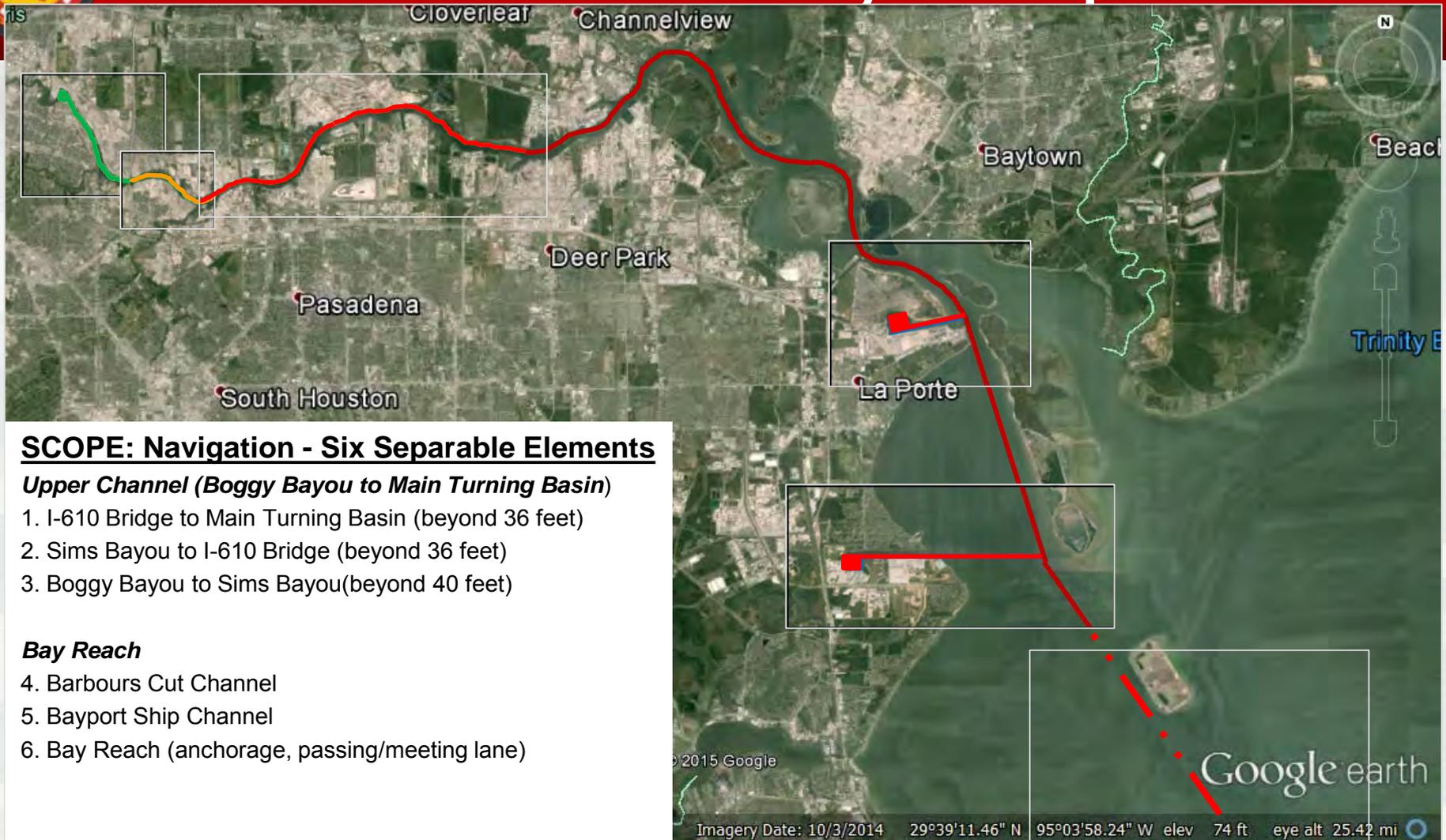
4. Barbour's Cut Channel
5. Bayport Ship Channel
6. Bay Reach (anchorage, passing/meeting lane)



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HSC Feasibility Scope



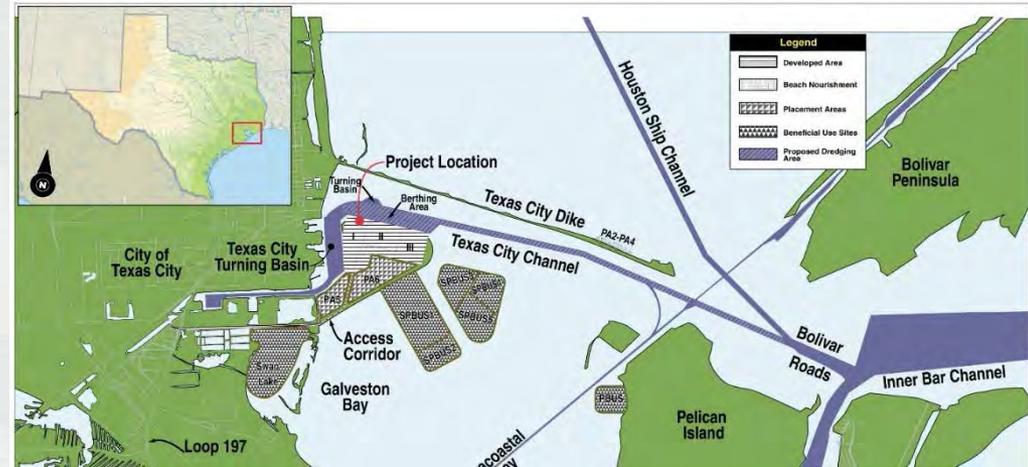
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Texas City Ship Channel

PM: Eddie Irigoyen

- Status:
 - ▶ Construction Complete: FY16
- Features
 - ▶ Authorized deepening channel to 50 ft
 - ▶ Constructed channel to 45 ft by 2012
- Remaining work
 - ▶ Placement Area Repairs at SPPA 3-4-5
 - ▶ Westfield reburial





Galveston Harbor Channel Extension

PM: Andrea Catanzaro

- Status:
 - ▶ FCSA signed: Jan 2016
 - ▶ Study Complete: FY16
 - ▶ Potential Construction Start: FY19
- Features
 - ▶ Extending the Galveston Harbor Channel 2,571 ft and deepening from 40 to 45 ft



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Freeport Harbor

PM: Nick Laskowski

- **Status:**
 - ▶ Chiefs Report Complete: 2013
 - ▶ GRR Complete: March 2017
 - ▶ Potential Construction Start: FY18-21
- **Features**
 - ▶ Est. New Work: 17 MCY
 - ▶ Deepen Freeport Harbor Channel to 55 feet (57 feet in offshore channel)
 - ▶ Extend the Outer Bar Channel 7,000 feet (1.2 mi)
 - ▶ Enlarge Brazosport Turning Basin to 1,200 feet
 - ▶ Deepen Brazosport Turning Basin through Upper Turning Basin to 52 ft



- ▶ Deepen and widen the Lower Stauffer Channel to 300 feet wide by 50 feet deep
- ▶ Deepen Upper Stauffer Channel to 25 feet



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Corpus Christi Ship Channel

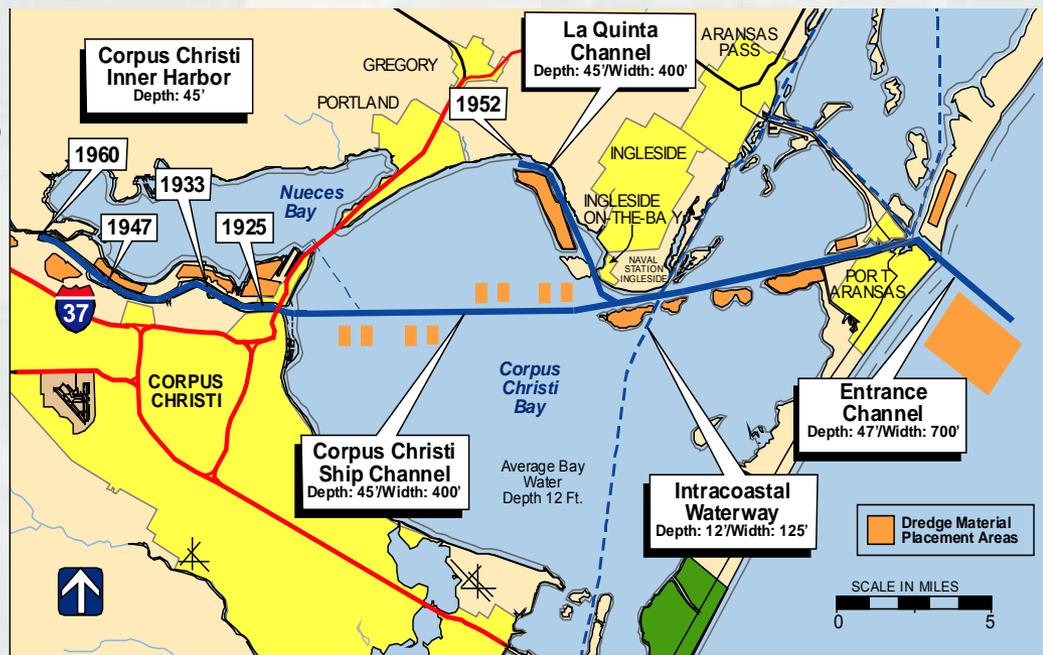
PM: Nick Laskowski

Status:

- ▶ Chiefs Report Complete: 2011
- ▶ Directors Report Complete: 2013
- ▶ LRR Complete: Dec 2015
- ▶ Potential Construction Start: FY16-FY18

Features

- Est. New Work: 32 MCY
- Four Separable Elements: Navigation (3) and Ecosystem Restoration (1)
- Deepen CCSC from 45 feet to 52 feet and widen segment of main channel to 530 feet
- Construct Barge Shelves adjacent to CCSC



- Construct two ecosystem restoration features (construction complete)
- Deepen extension of La Quinta Channel to 39 feet (construction complete)



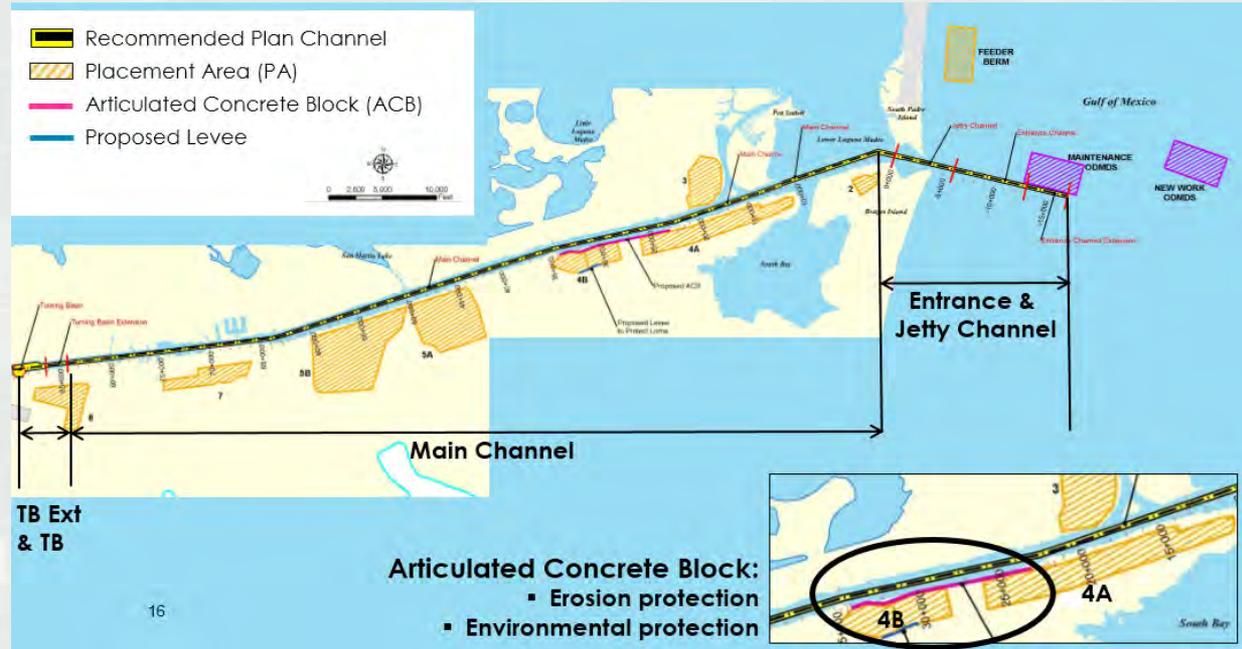
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Brownsville Island Harbor

PM: Nick Laskowski

- Status:
 - ▶ Chiefs Report Complete: 2014
 - ▶ Potential Construction Start: TBD
- Features
 - ▶ Est. New Work: 14 MCY
 - ▶ Deepening main channel to 52 ft and entrance channel to 54 ft



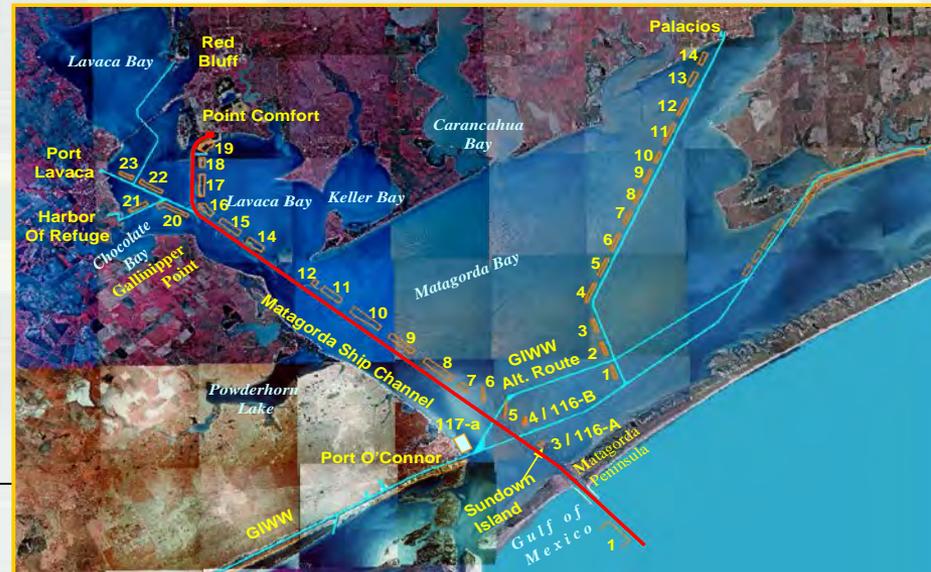
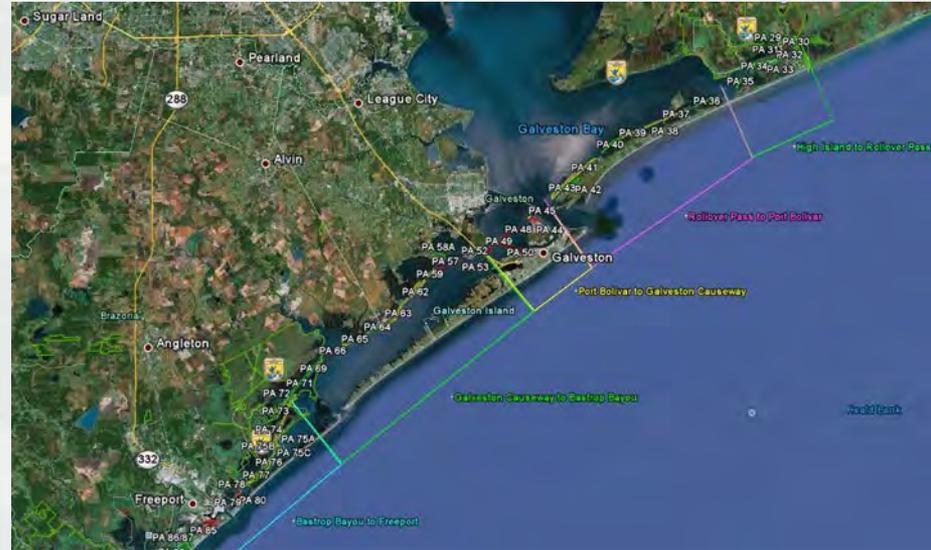
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Gulf Intracoastal Waterway

PM: Dennis Thomas, Eddie Irigoyen, Shakhar Misir

- Ongoing Activities:
 - ▶ High Island to Brazos PED
 - LRR approval FY16
 - ▶ Matagorda Bay Reroute
 - LRR approval FY16
 - ▶ High Island to Brazos detailed preliminary assessment
 - Tool development FY 16
 - Draft DPA FY16
 - ▶ Brazos River Floodgates
 - Supporting TXDOT study
 - ▶ Chocolate Bayou
 - PA1A construction FY16

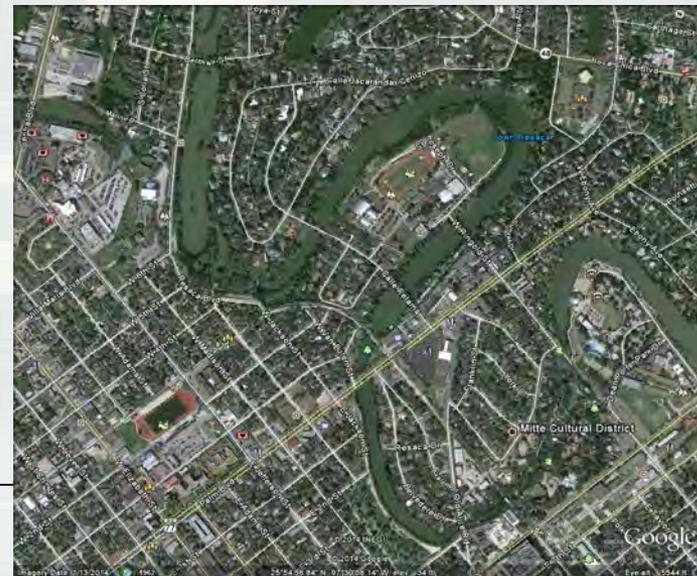
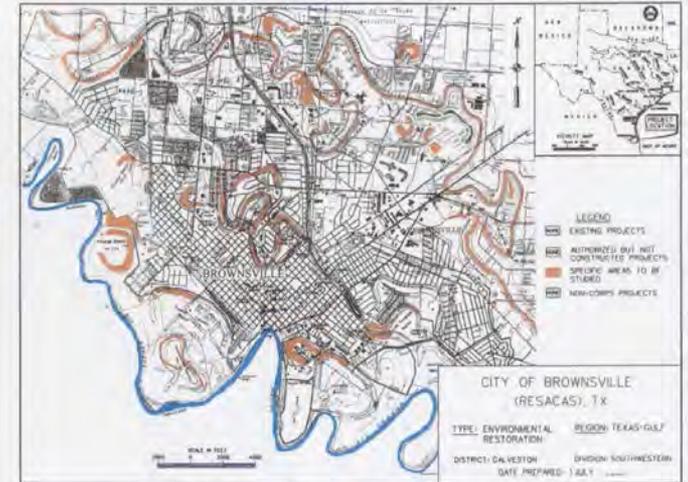




Resacas

PM: Andrea Catanzaro, Eddie Irigoyen

- Status:
 - ▶ Chiefs Report Complete: FY18
 - ▶ CAP Decision Document: Jul 2016
- Features
 - ▶ Environmental restoration of resacas near Brownsville, TX
 - ▶ May require substantial dredging, depending on the selected alternative





Coastal Texas

PM: Sharon Tirpak, Sheri Willey

- Status:
 - ▶ Chiefs Report Complete: 2021
- Features
 - ▶ May include
 - Major navigation structures
 - Large scale beach nourishment
 - Large ecosystem restoration projects



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ON DVIDS

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