

# **PORTCORPUS CHRISTI**

**U.S. Army Corps of Engineers  
2015 Galveston District Dredging Meeting**

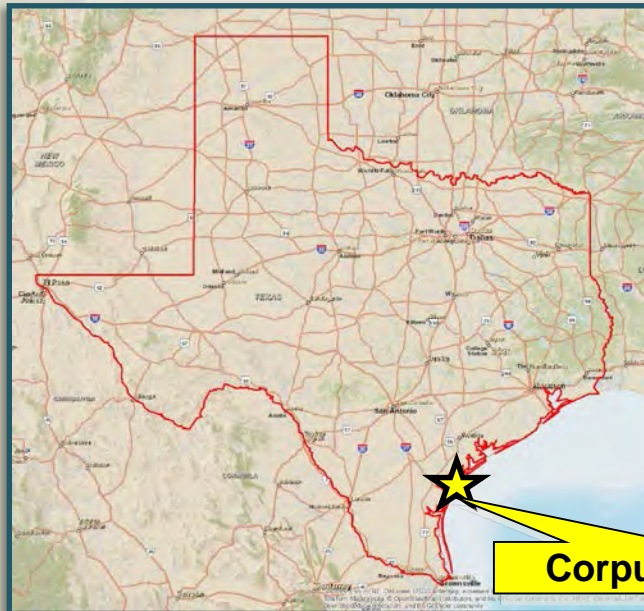
**December 3, 2015**

**Daniel J. Koesema, P.E.  
Senior Project Engineer**



# WHO WE ARE

- Public corporation and Texas political subdivision
- 5<sup>h</sup> Largest U.S. Port by tonnage
- 100,000,000 tons of cargo in 2014



Corpus Christi, TX





# PORT POLITICAL STRUCTURE

Governed by  
Appointed 7-Member  
Commission



City of Corpus Christi (3)  
Nueces County (3)  
San Patricio County (1)

## PORT COMMISSIONERS



**Judy Hawley**  
Chair



**Charlie Zahn**  
Vice-Chair



**Barbara Canales**  
Secretary



**Richard Valls**



**David Engel**



**Richard Bowers**



**Wayne Squires**



# FACILITIES & ASSETS

22,000 acres

35 Nautical Miles of Ship Channel

48 Docks & 528,800 Sq Ft of Warehouse Space

43 Miles of Railroads

\$435,235,356 Total Assets





# THE PORT HAS EXPERIENCED SUBSTANTIAL GROWTH

## In the Last Decade

- Diversification of Cargo
- Operating Revenues from \$28 to \$77 Million
- Total Assets from \$212 to \$435 Million
- Capital Expenditures in Port Infrastructure \$261 Million
- Environmental Investments \$20 Million



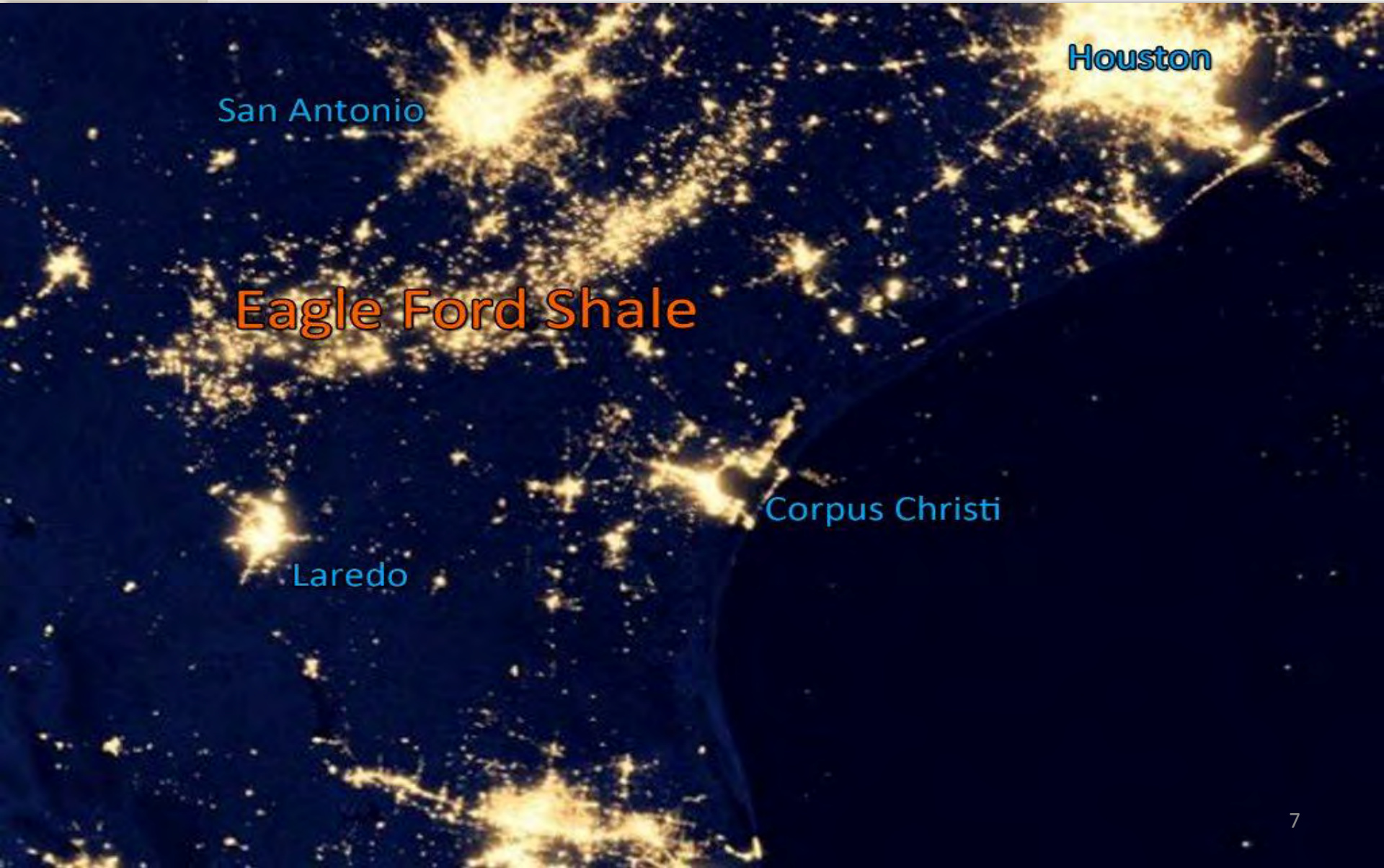


# TEXAS/NORTHERN MEXICO SHALE FORMATIONS





# EAGLE FORD SHALE PRODUCTION NIGHT-TIME VIEW



San Antonio

Houston

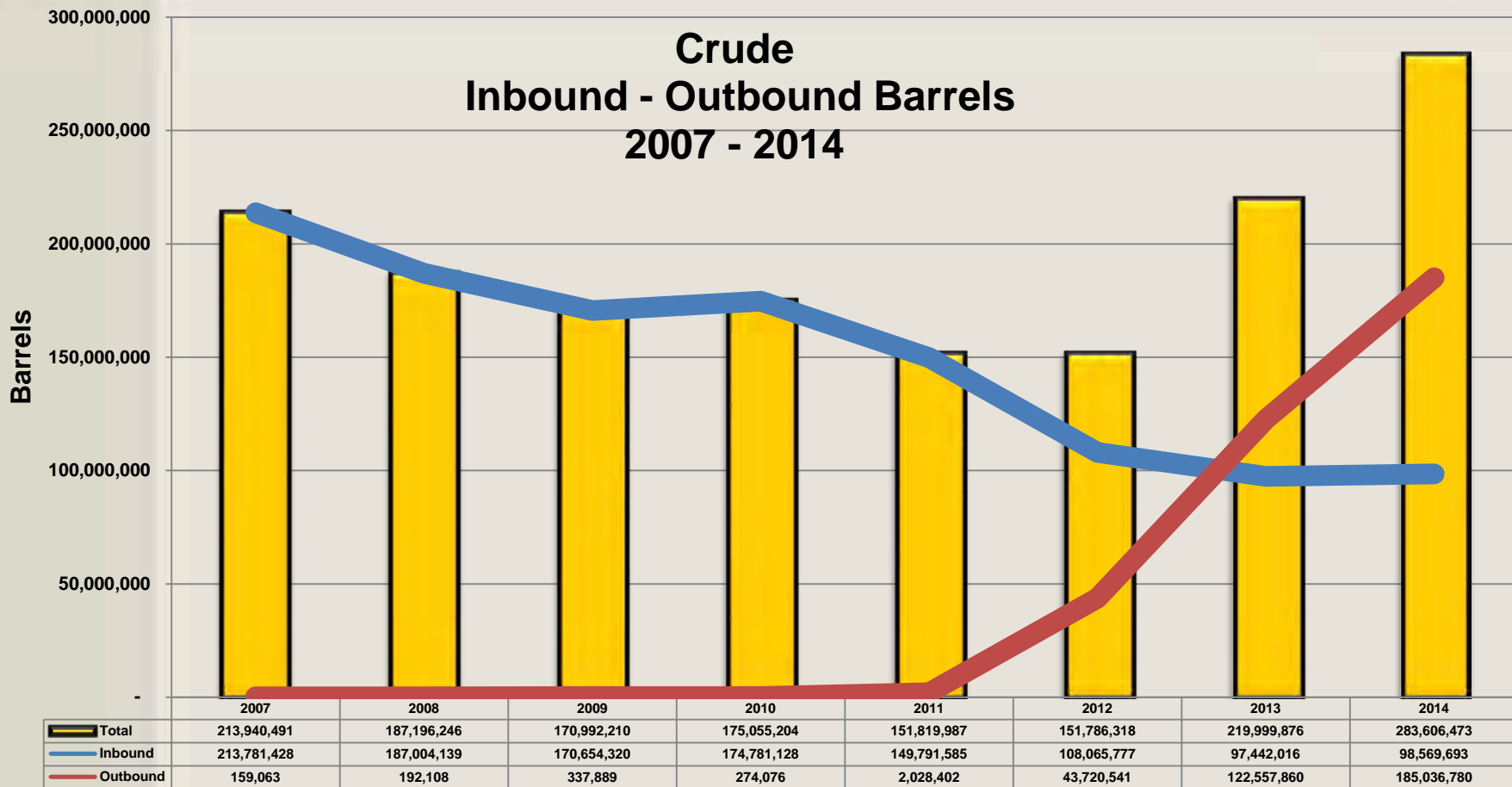
Eagle Ford Shale

Corpus Christi

Laredo



# INBOUND & OUTBOUND CRUDE OIL







# \$40 BILLION NEW INVESTMENT



**BALANCING EXPLOSIVE GROWTH WITH CLEAN AIR AND CLEAN WATER**

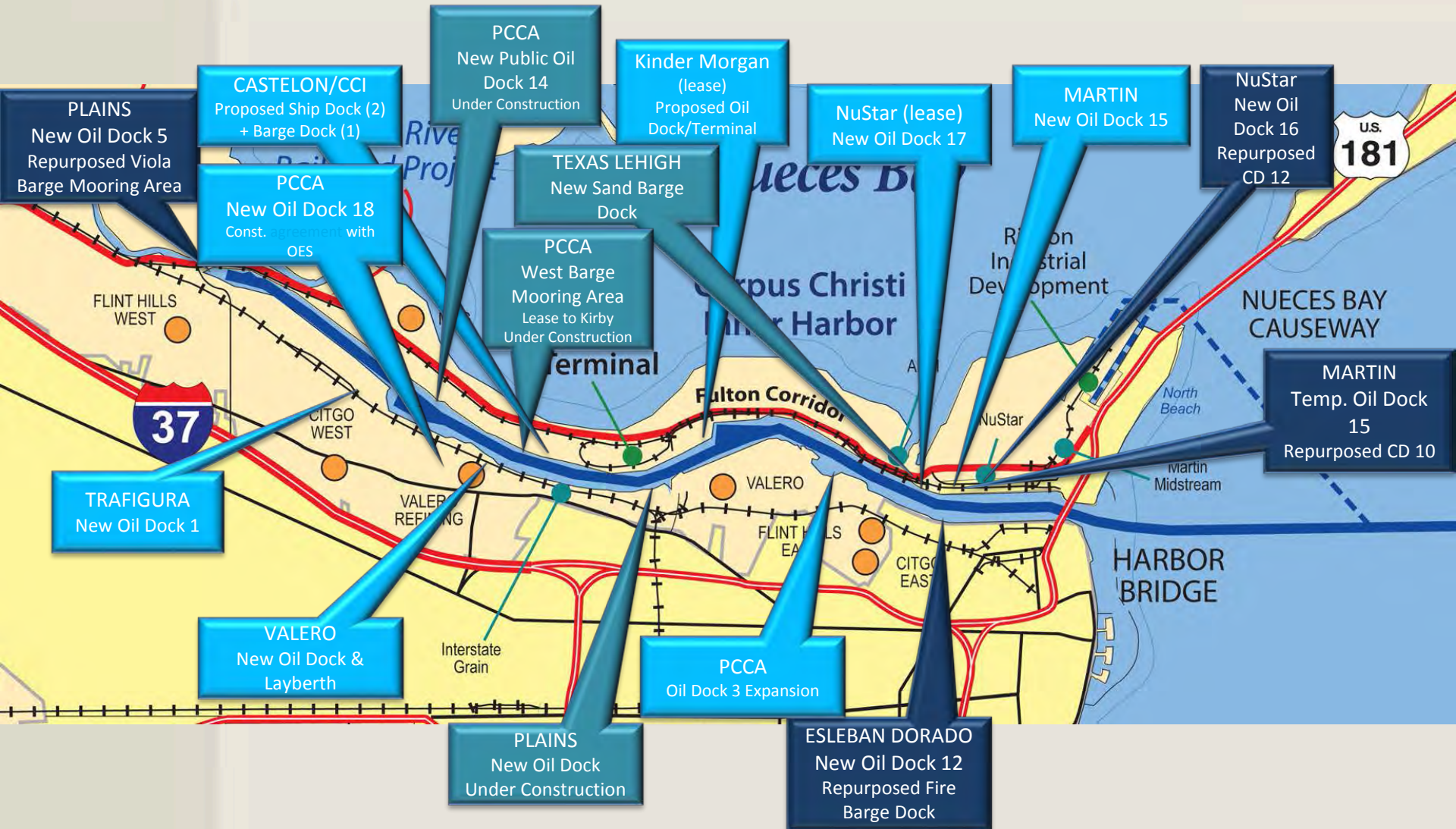


# INNER HARBOR INVESTMENTS

## REPURPOSED

## NEW CONSTRUCTION

## DESIGN & PERMITTING



# GROWTH

	2012	2013	2014
TONNAGE	78,806,188	88,699,849	100,073,924
BARGE & SHIP MOVEMENTS	6,082	6,870	8,528





# TPCO AMERICA



## TPCO America

Phase 1 COMPLETED  
Summer 2014

Phase 2 Underway

600-800 New Jobs

\$1+ Billion Investment





# OXY INGLESIDE ETHYLENE LLC



- \$1.5 billion investment
- 33% Complete
- 150+ Permanent/ 1,700 Construction Jobs
- Operations to Begin 1Q 2017



# VOESTALPINE

- High Quality Hot Briquetted Iron (HBI)
- Operational 1Q 2016
- 80% Plant Capacity Under Long-Term Contract
- Agreement with Altos Hornos de Mexico for shipment of HBI
- 150 Permanent Jobs
- 1900 Construction Jobs
- \$740 Million Investment





# M & G



- 250 Jobs
- Largest PET/PTA Plant in the World
- Operations Begin 2016
- 1,500-1,800 Rail Cars/Year
- Partners with M&G Polymers Mexico
- \$1.1 Billion Investment



## Cheniere

State & Federal  
Permitting Underway

4-5 Year Construction

350 Permanent Jobs

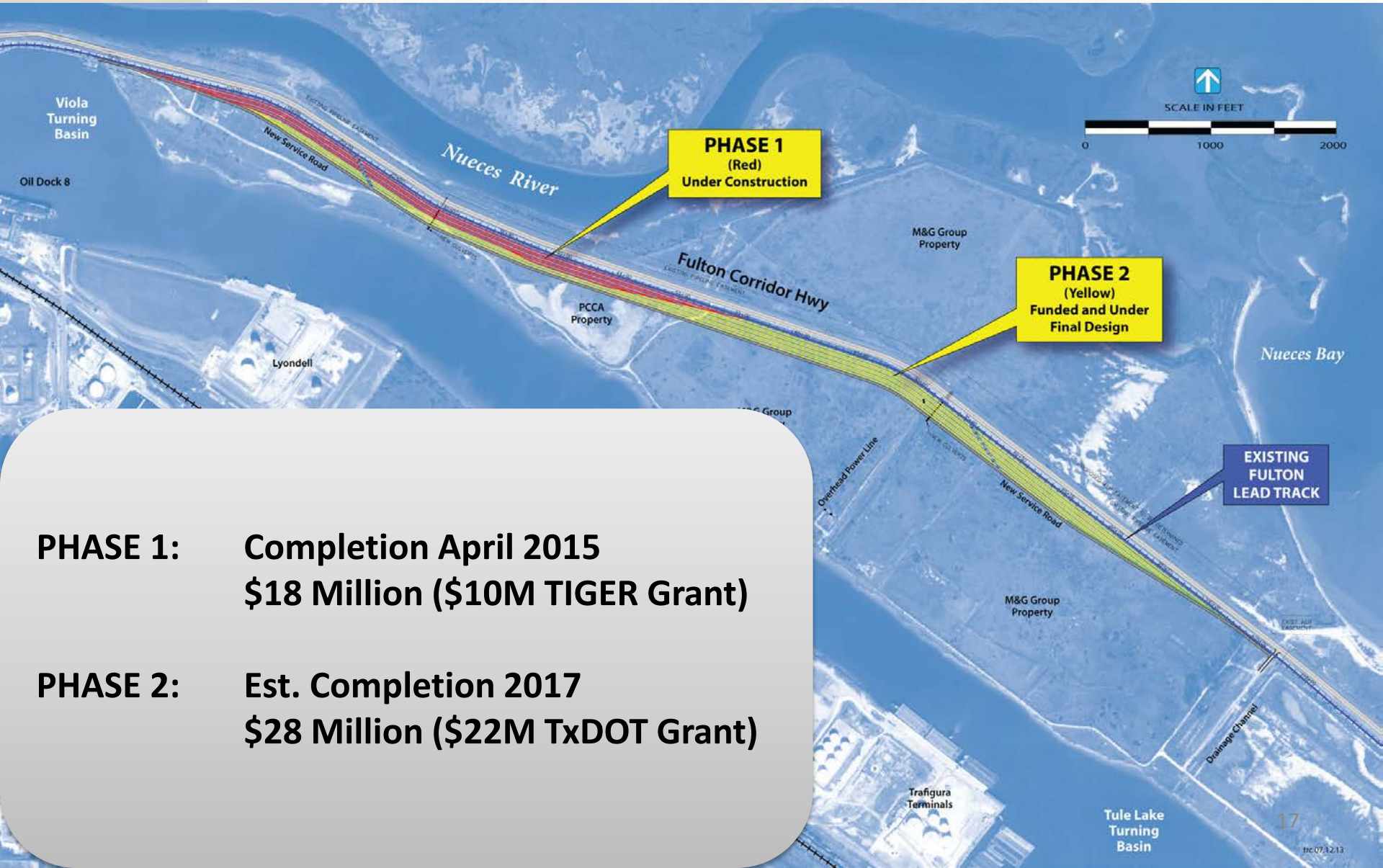
3,000 Construction Jobs

\$14.5 Billion Investment

Operations to Begin by  
2020



# NUECES RIVER RAIL YARD



**PHASE 1:** Completion April 2015  
\$18 Million (\$10M TIGER Grant)

**PHASE 2:** Est. Completion 2017  
\$28 Million (\$22M TxDOT Grant)

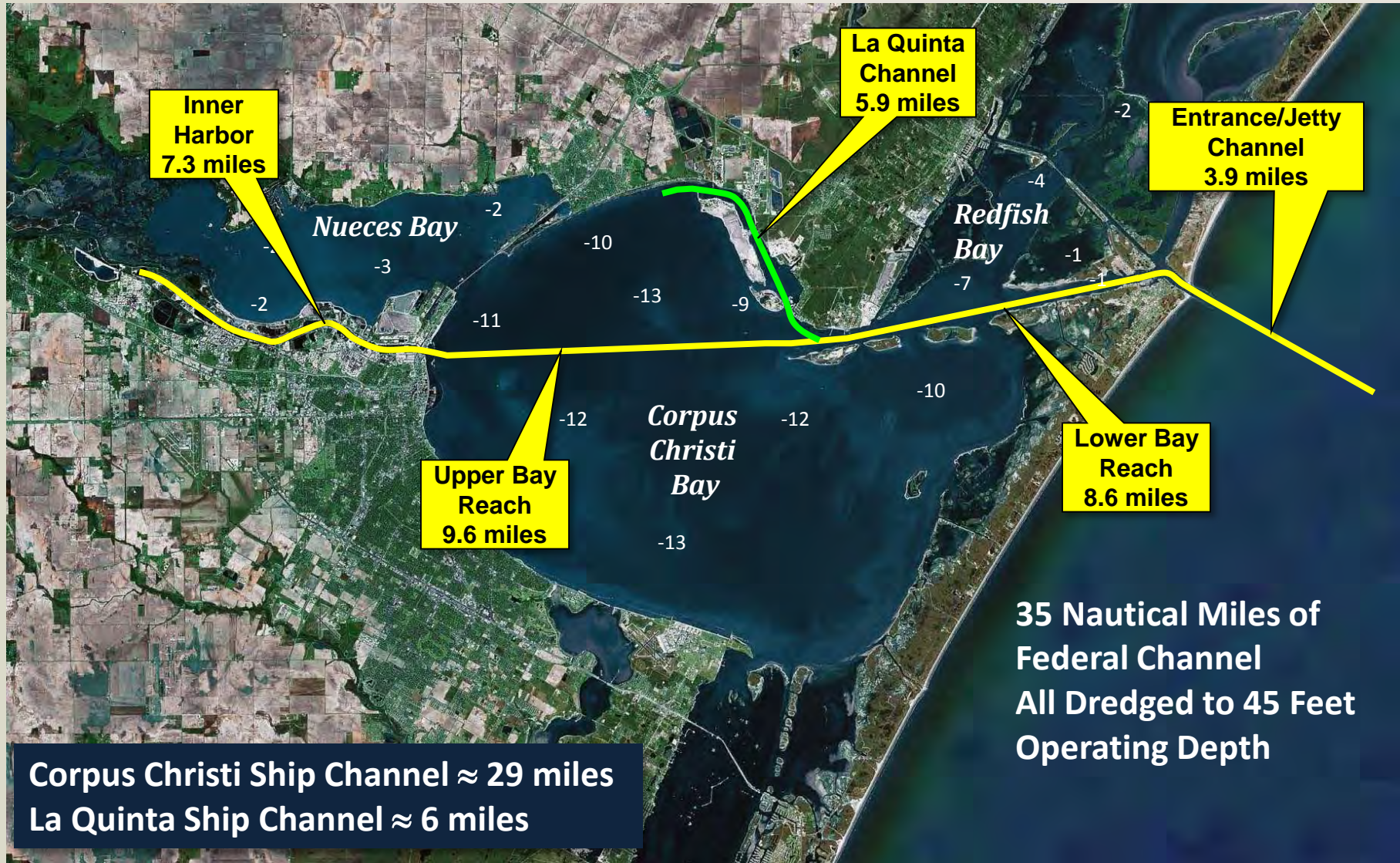


# NEW HARBOR BRIDGE



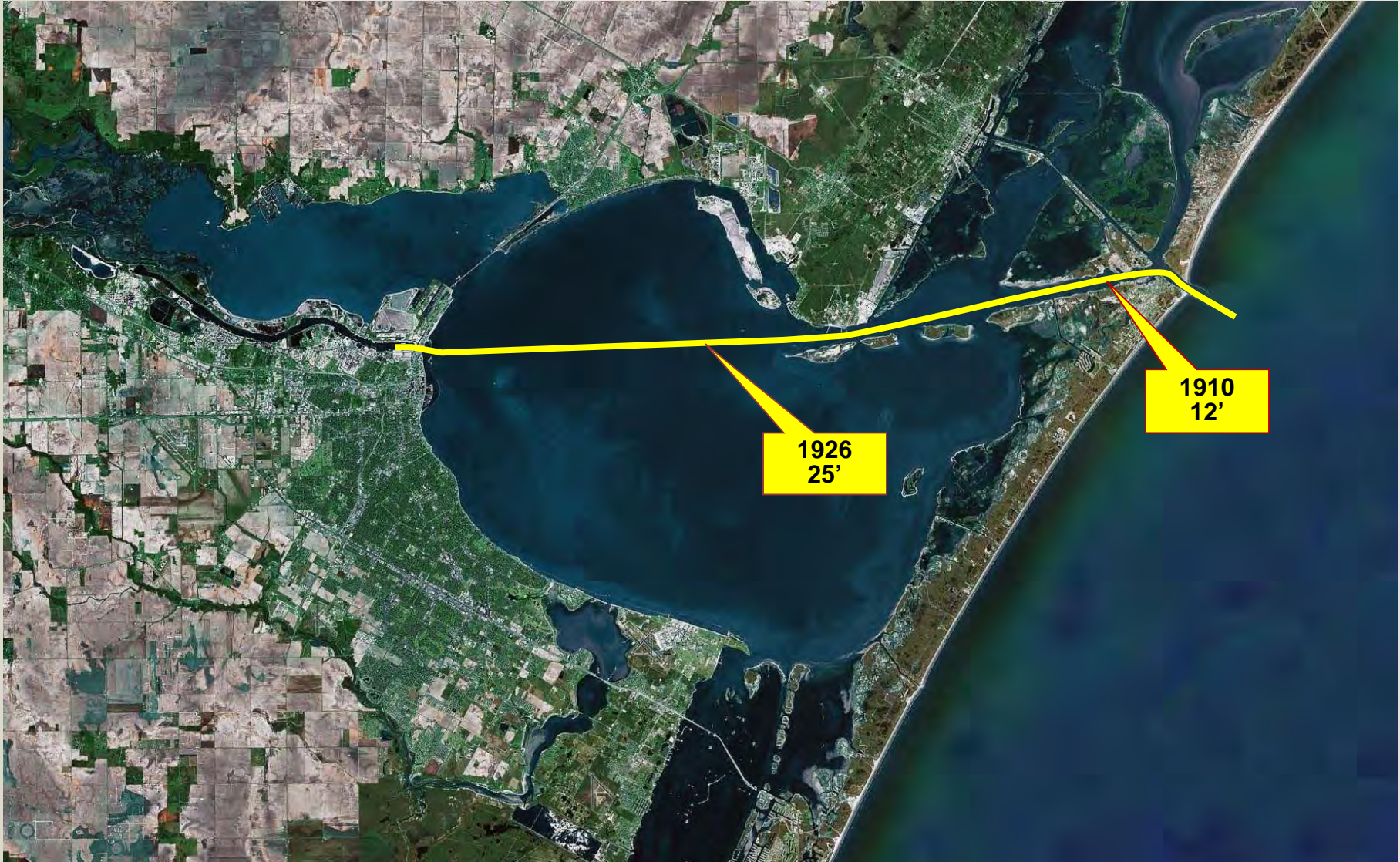


# PORT OF CORPUS CHRISTI DEEP DRAFT CHANNEL SYSTEM





# BRINGING DEEP WATER TO CORPUS CHRISTI



# INNER HARBOR AFTER 1926 OPENING

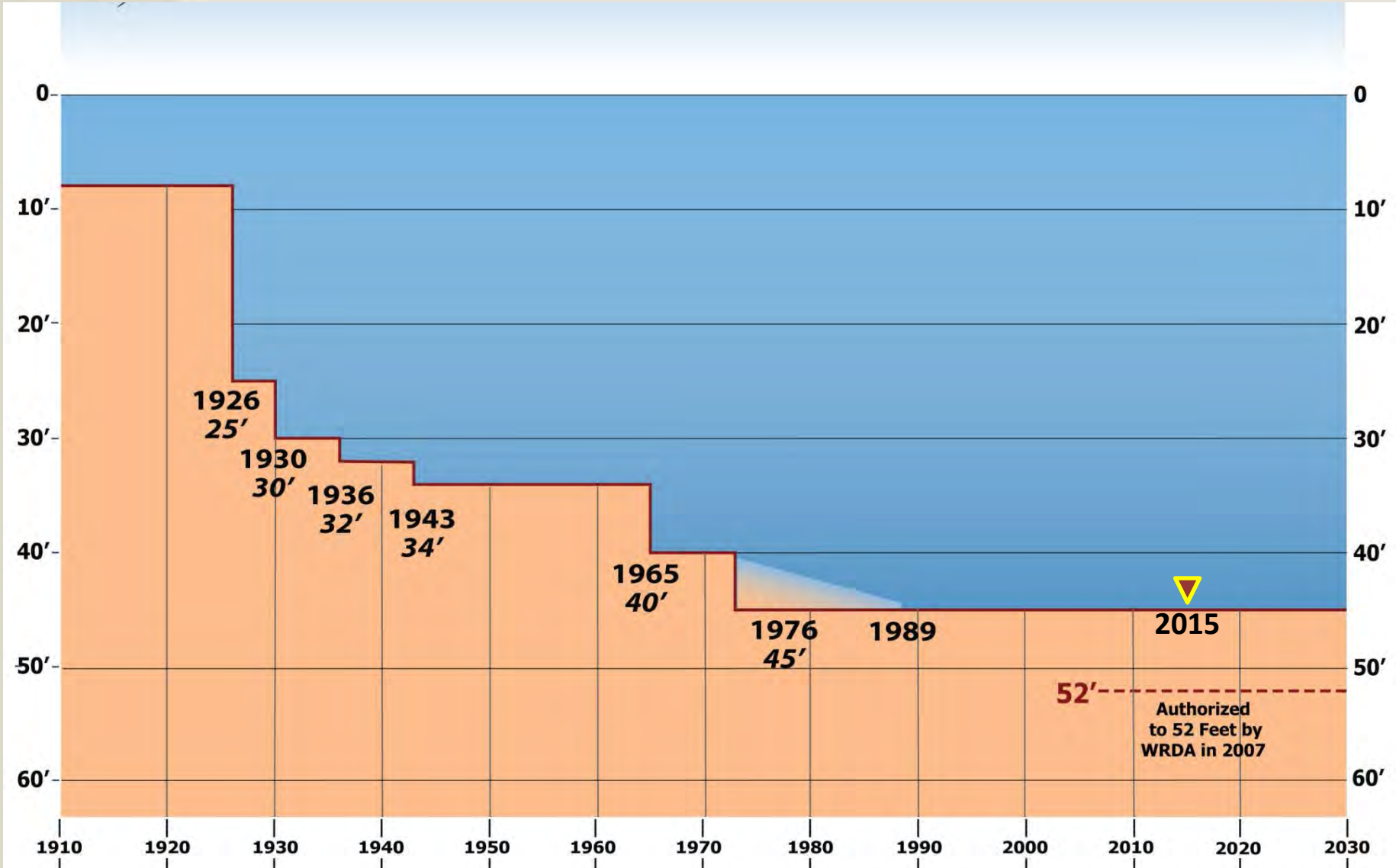


# CHANNEL LENGTH DEVELOPED INCREMENTALLY

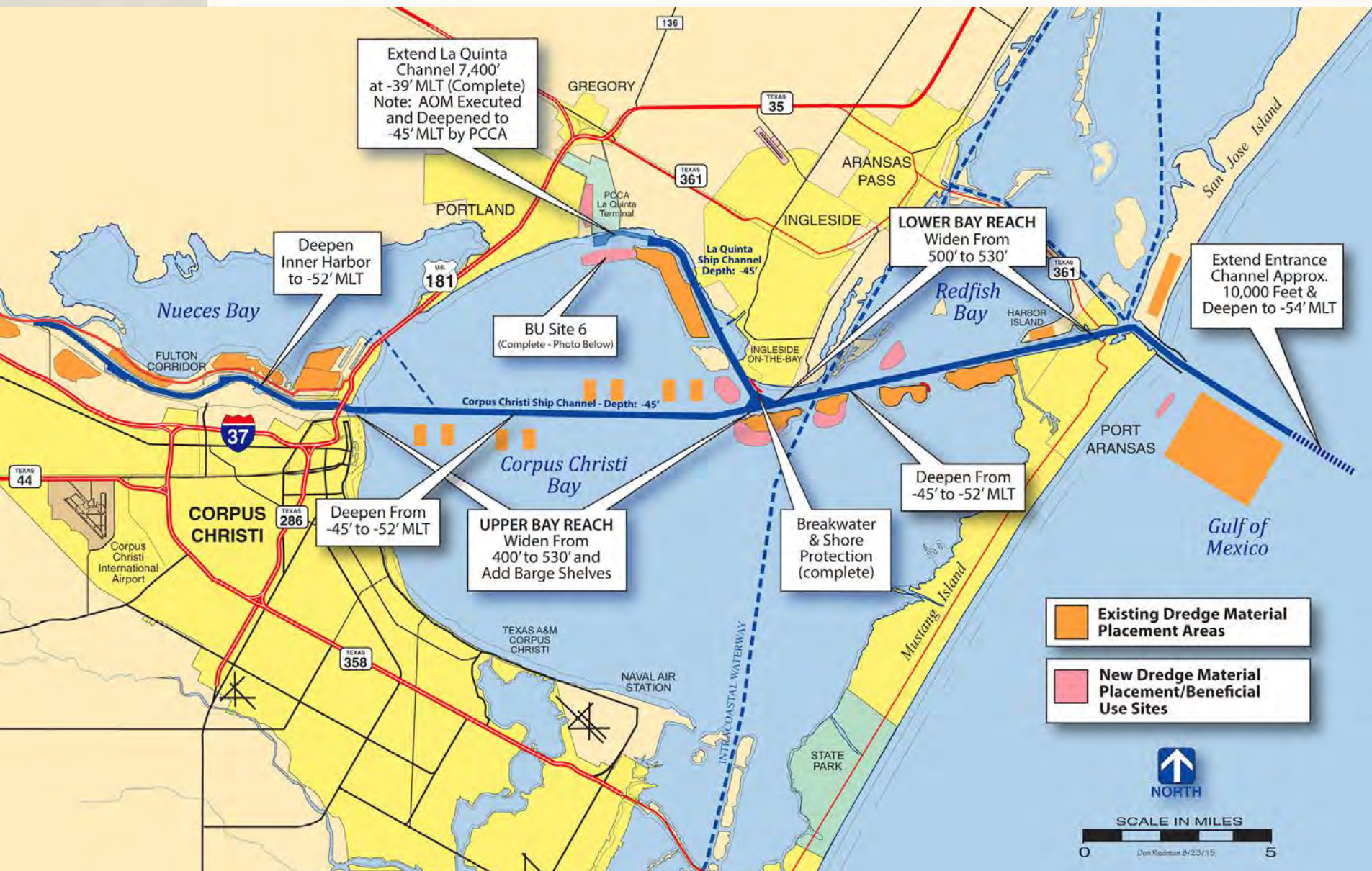




# CHANNEL DEPTH DEVELOPED INCREMENTALLY



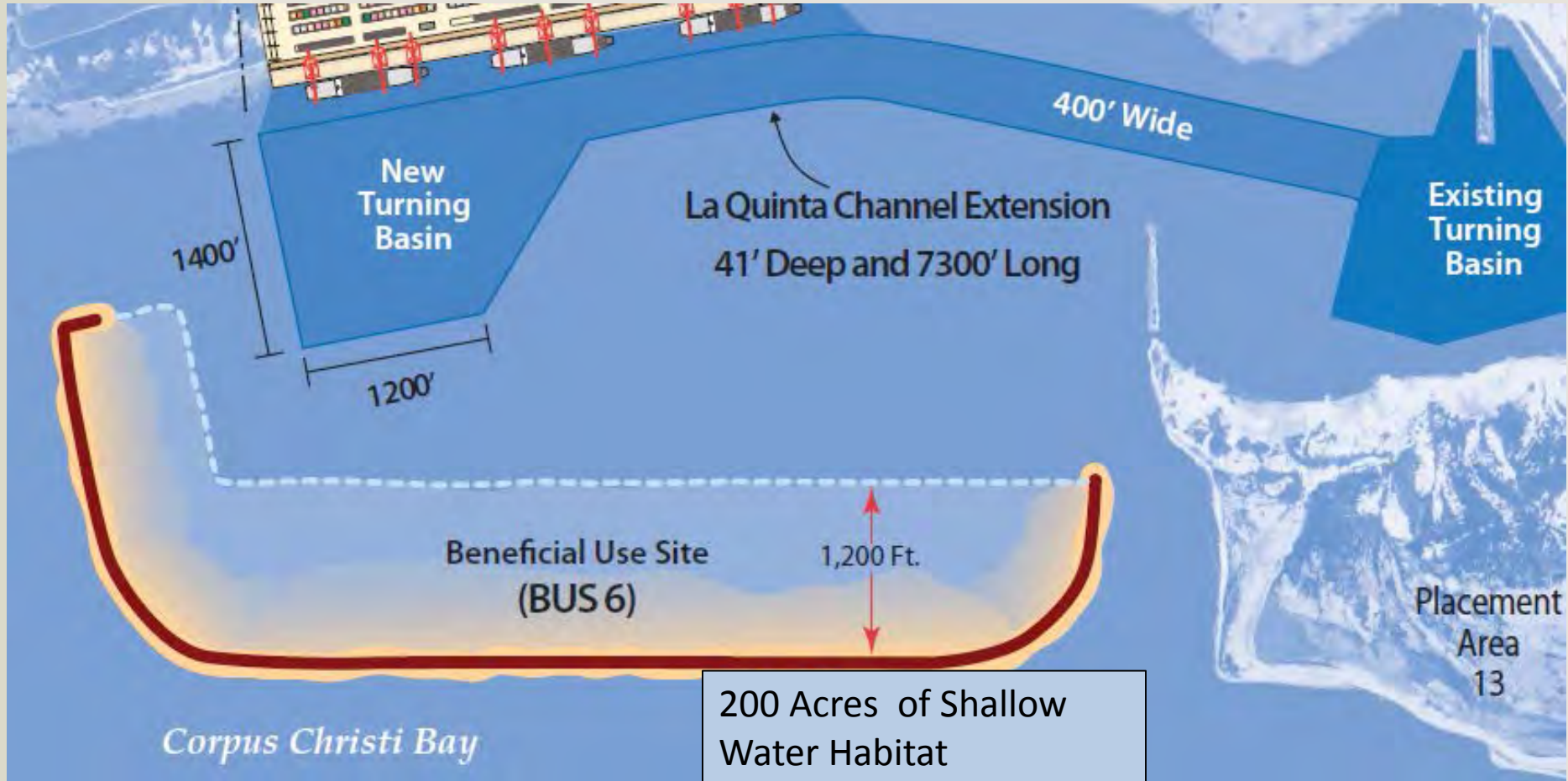
# CORPUS CHRISTI SHIP CHANNEL - CHANNEL IMPROVEMENT PROJECT (CCSC-CIP) HISTORY





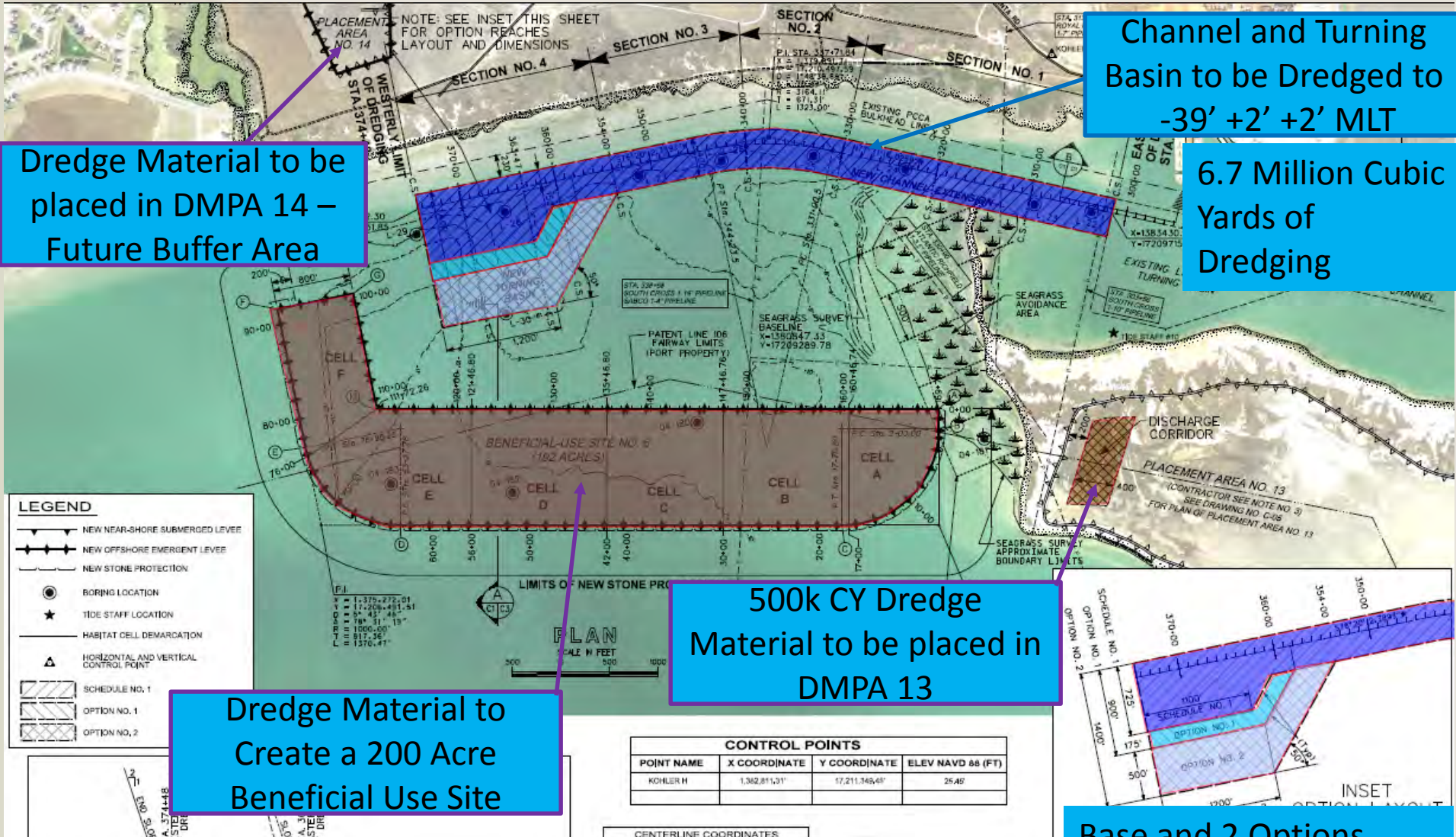


# LA QUINTA CHANNEL EXTENSION PROJECT – CHANNEL & BENEFICIAL USES





# COE CONTRACT - LA QUINTA EXTENSION PROJECT AND DMM COMPONENTS



Channel and Turning Basin to be Dredged to -39' +2' +2' MLT

Dredge Material to be placed in DMPA 14 – Future Buffer Area

6.7 Million Cubic Yards of Dredging

500k CY Dredge Material to be placed in DMPA 13

Dredge Material to Create a 200 Acre Beneficial Use Site

Base and 2 Options

CONTROL POINTS			
POINT NAME	X COORDINATE	Y COORDINATE	ELEV NAVD 88 (FT)
KOHLER H	1,362,811.31'	17,211,345.48'	25.46'

CENTERLINE COORDINATES





# PROJECT BID AND AWARDED 2011

- **La Quinta Channel Extension**
  - Low Bid Total - \$33,537,027.20
    - Base Bid \$29,639,937.20 ( 5.1 million CY)
    - Option No. 1 - \$981,955.00 ( .4 million CY)
    - Option No. 2 - \$2,915,135.00 (1.2 million CY)
  - King Fisher Marine Service, LP ( Orion Construction)
  - Time of Completion: 1.8 yrs.



# CHANNEL DREDGING INITIATED IN FUTURE TURNING BASIN





# MATERIAL PLACED UNDERWATER TO CREATE BASE OF PERIMETER LEVEE FOR BENEFICIAL USE SITE



1/7/2012

# OFFSHORE LEVEE CONSTRUCTED IN GENERALLY TWO PASSES – LEVEE BECOMES EMERGENT



# DREDGED MATERIAL PLACED USING CONVERTED DREDGE TO DISCHARGE





# SHOWING APPROX. 6000' OF THE 9200' OFFSHORE LEVEE EMERGENT



# OFFSHORE LEVEE SHAPED TO RECEIVE ROCK RIPRAP



# DREDGED MATERIAL CONTINUES TO BE PLACED – OFFSHORE LEVEE SHAPED TO RECEIVE ROCK RIPRAP ARMOR



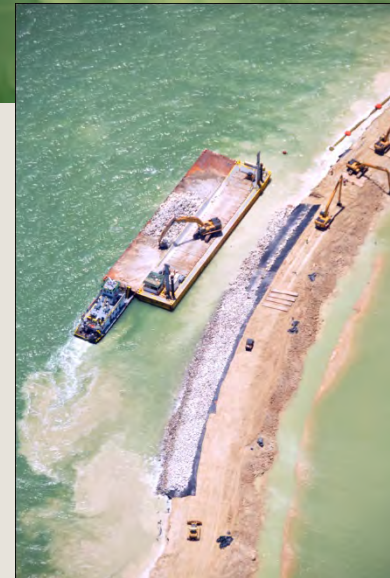
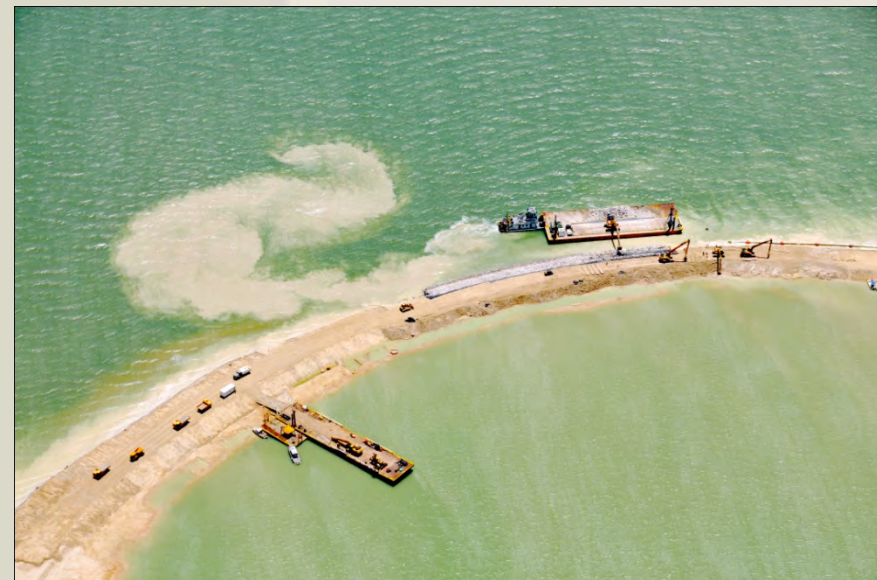
# DREDGED MATERIAL CONTINUES TO BE PLACED - OFFSHORE LEVEE PREPARED



# EXISTING SEAGRASS CONTINUALLY PROTECTED DURING THE PROJECT



# AS OFFSHORE LEVEE COMPLETE – NEED FOR SHORE PROTECTION BECOMES INCREASINGLY EVIDENT



# OFFSHORE LEVEE BEGIN TO BE ARMORED



# INITIATING ROCK SHORE PROTECTION CONSTRUCTION – CREATING TOE, INSTALLING FABRIC AND ARMOR





# INITIATING ROCK SHORE PROTECTION CONSTRUCTION – CREATING TOE, INSTALLING FABRIC AND ARMOR

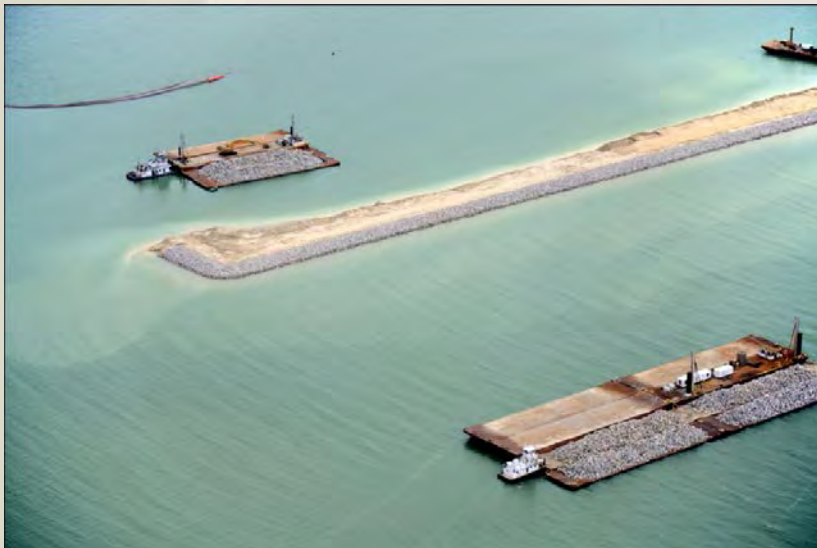




# ROCK SHORE PROTECTION CONSTRUCTION – GRADING SHORE-SIDE OF OFFSHORE LEVEE



# ROCK SHORE PROTECTION CONTINUES – ISOLATED AREAS OF SIGNIFICANT EROSION EXPERIENCED



# ROCK SHORE PROTECTION CONTINUES – BERM NEAR COMPLETION



# OFF-SHORE LEVEE COMPLETE – FILLING OF CELLS INITIATED



# OFF-SHORE AND NEAR-SHORE LEVEES COMPLETE AND FILLING OF CELLS IN PROGRESS



# OFF-SHORE AND NEAR-SHORE LEVEES COMPLETE AND FILLING OF CELLS IN PROGRESS





# BENEFICIAL USE AREA – HABITAT PLATFORM ALLOWABLE GRADE TOLERANCES

## BENEFICIAL USE SITE SIDE

W.S.

**Target Elevation: El. -1.00' MLT**

NO STEEPER THAN 5H:1V

HYDRAULIC FILL  
(SEE NOTE 6)

**80%**

El. -0.25'  
to

El. -1.75'

**Remaining**

**20%**

El. +1.00'  
to

El. -3.00'

VARIABLES (-9' TO -11' M.L.T. TYP.)





# BENEFICIAL USE SITE COMPLETE



**Beneficial Use  
BU 6 at La Quinta**

*Corpus Christi Bay*



# RESULT FOR LA QUINTA SITE GH/BUS 6 SITE & AND ALL CCSCCIP BU SITES MULTI-BENEFICIAL USE OUTCOMES

- Provides nearly 200 acres of shallow water (Approx. El. -1 from El. -7'/-11' ) for seagrass and wetland habitat
- Creates Offshore Breakwater to protect waterfront facilities and berthed vessels from waves and storms
- Provides Platform to perform Federal project Mitigation and other permitted non-federal project mitigation.
- Reduces Channel and Turning Basin Siltation – Reducing maintenance dredging costs and impacts to DMPAs
- Emergent Levee creates opportunities for native vegetation, wildlife habitat and supports recreational fishing
- Conserve DMPA Capacity



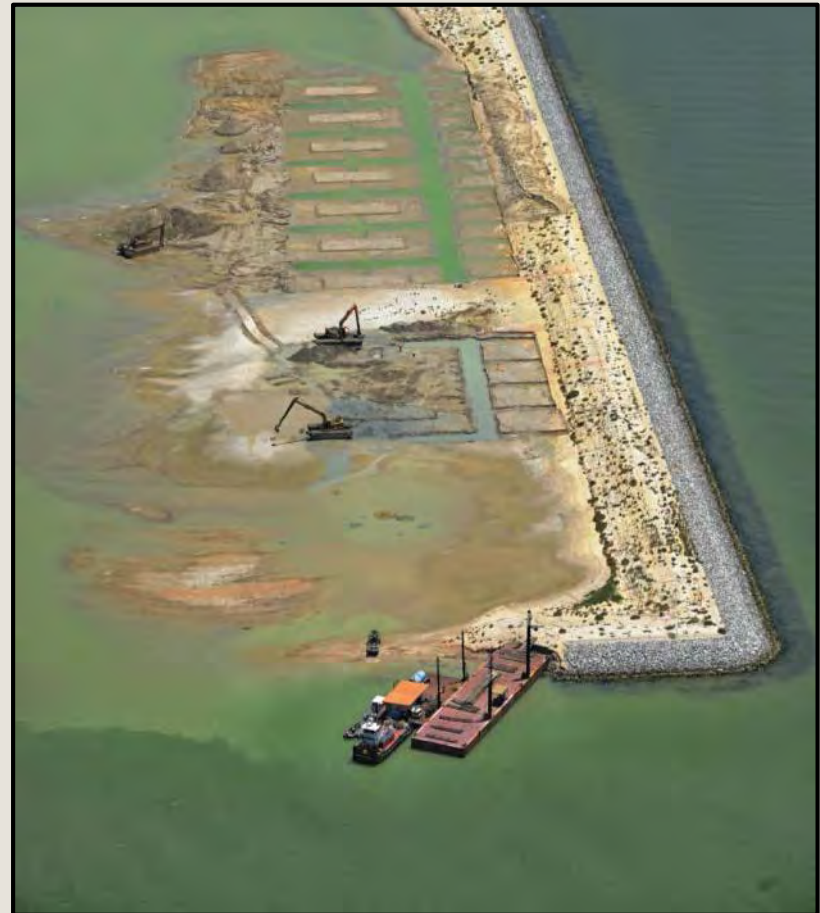
# LA QUINTA TERMINAL

**AOM and Deepened  
La Quinta Channel  
Extension to -45' MLT**



# LA QUINTA TERMINAL MITIGATION AQUATIC HABITAT

General Location of  
Aquatic Habitat  
Mitigation Area



Under Construction (July 2015)

# INITIAL EMERGENT WETLAND PLANTING



# INITIAL EMERGENT WETLAND PLANTING





## ON-GOING ACTIVITIES

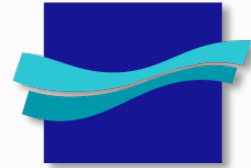
- Phase 1 Mitigation Underway Earthwork Complete October, 2015
- Initial Emergent Wetland Planting Complete November, 2015
- 60-day post plant survival survey and replant if needed
- Potential replant before June 2016
- Phase 2 Mitigation Under Design for Bid and Start Earthwork and Submergent Seagrass Planting Mid 2016.
- Initiate and continue 5-year performance monitoring



## ON-GOING ACTIVITIES

- Design of First Contract of Deepening Project Complete
- Project Re-authorized by Congress (WRRDA 2014) at Increased Cost
- LRR Initiated to Update Economics of Remaining Element
- Study Deepening All of La Quinta Ship Channel to 52'





**PORTCORPUSCHRISTI**

*Thank You!*

**Questions?**

