

# CITY OF WHARTON LEVEE LUNCH AND LEARN

SWD/SWF/PM-Civil  
Date: 19 April 2022



US Army Corps  
of Engineers®





# WHARTON COLORADO RIVER PROJECT



**BLUF:** USACE construction project with levees, interior drainage sumps, drainage features to mitigate flood risk/damage to the City of Wharton.

## **Phases:**

Colorado River Phase 1  
Colorado River Phase 2  
Baughman Slough

## **MAJOR STAKEHOLDERS:**

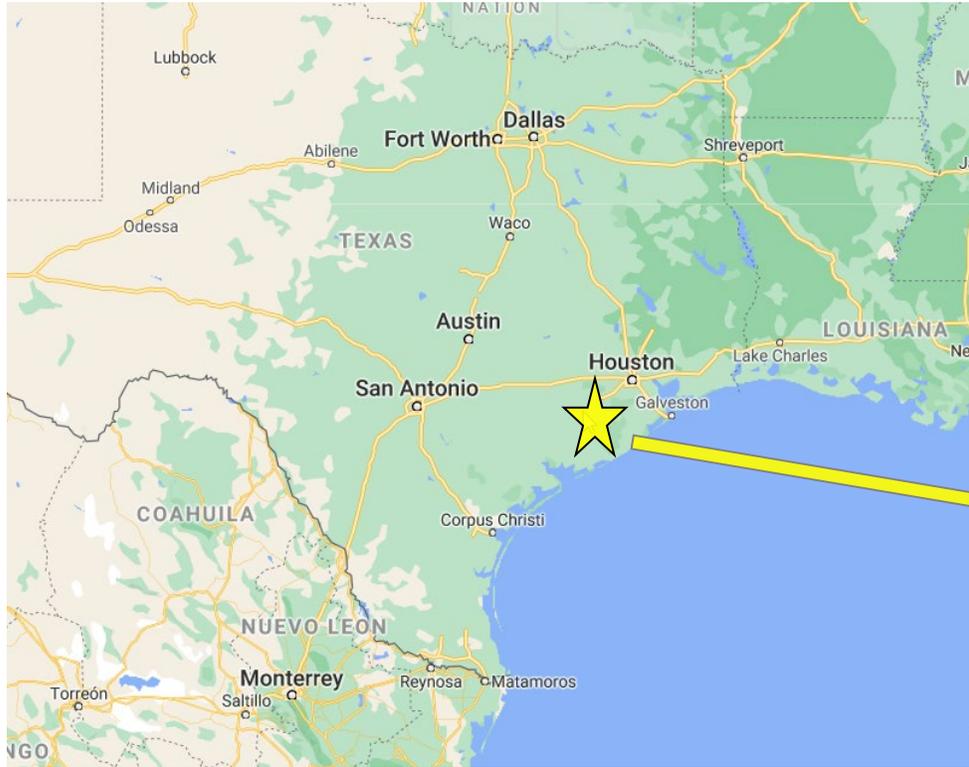
City of Wharton  
US Army Corps of Engineers (USACE); Fort Worth and Galveston Districts  
Texas Department of Transportation (TXDoT)  
Kansas City (KC) Southern Railroad  
Lewisville Aquatic Environmental Research Facility (LAERF)  
US Fish and Wildlife



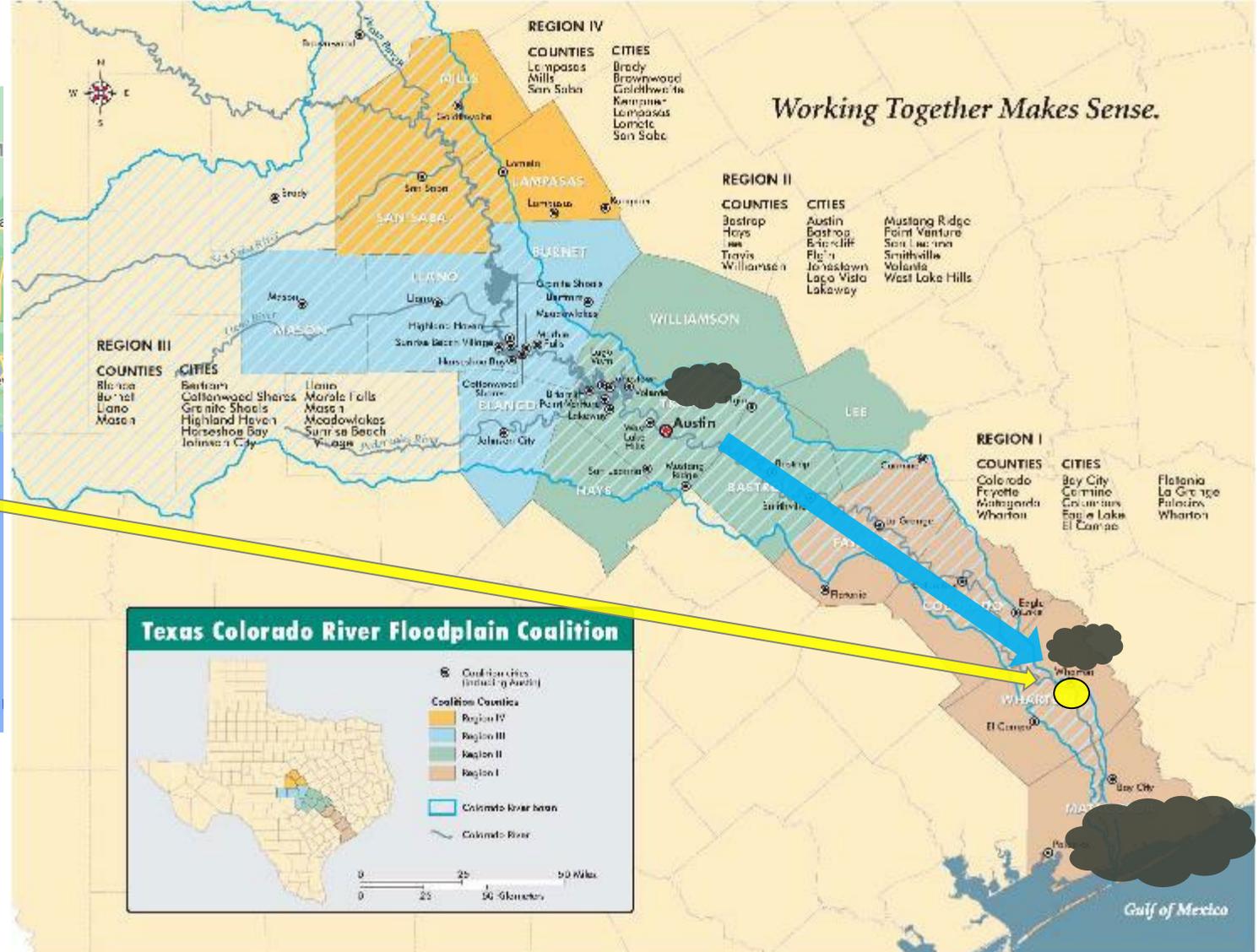
# COLORADO RIVER BASIN & WHARTON LOCATION



### Wharton and Major Texas Cities



### Lower Colorado River Basin

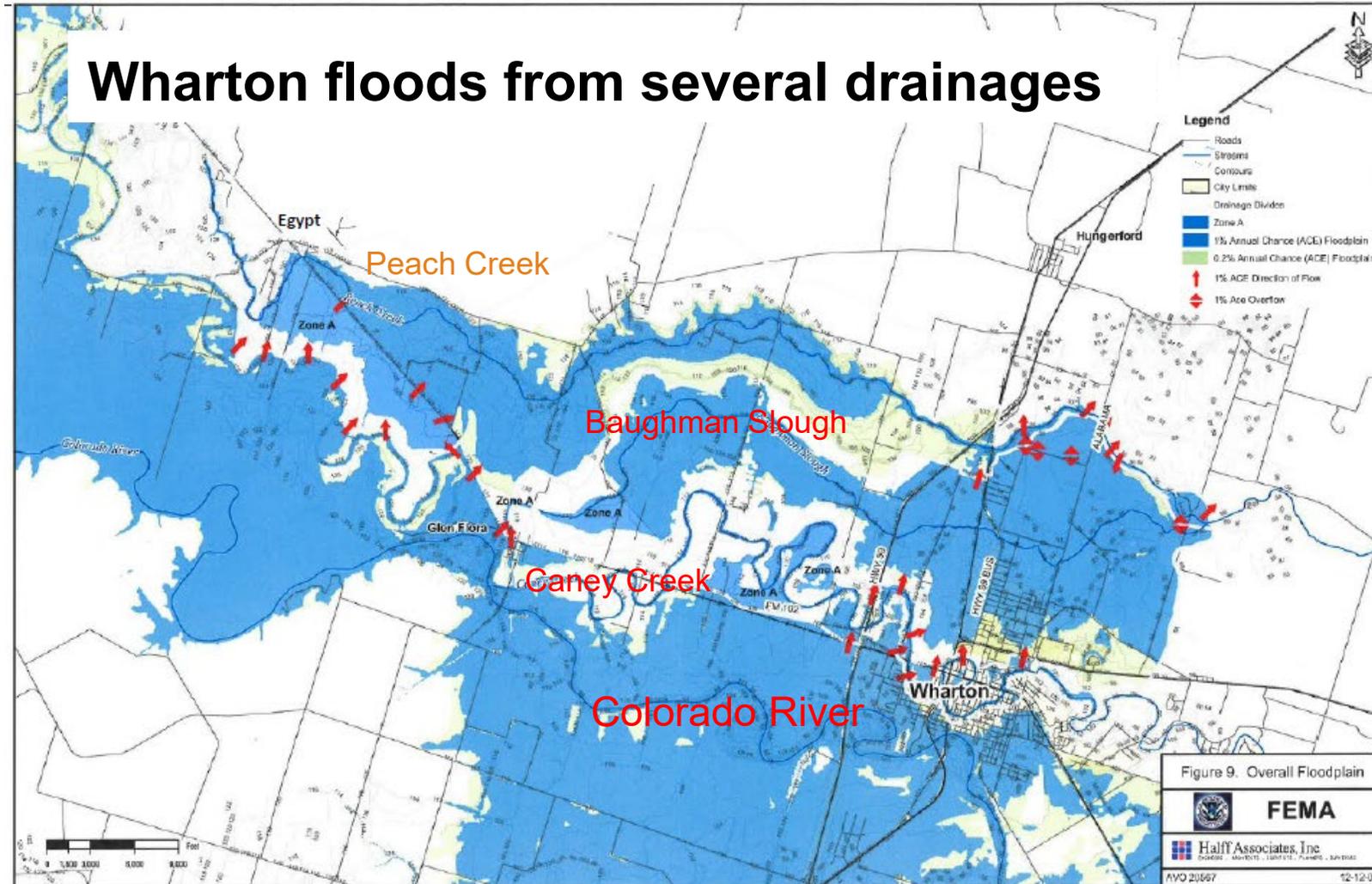




# PROBLEM STATEMENT



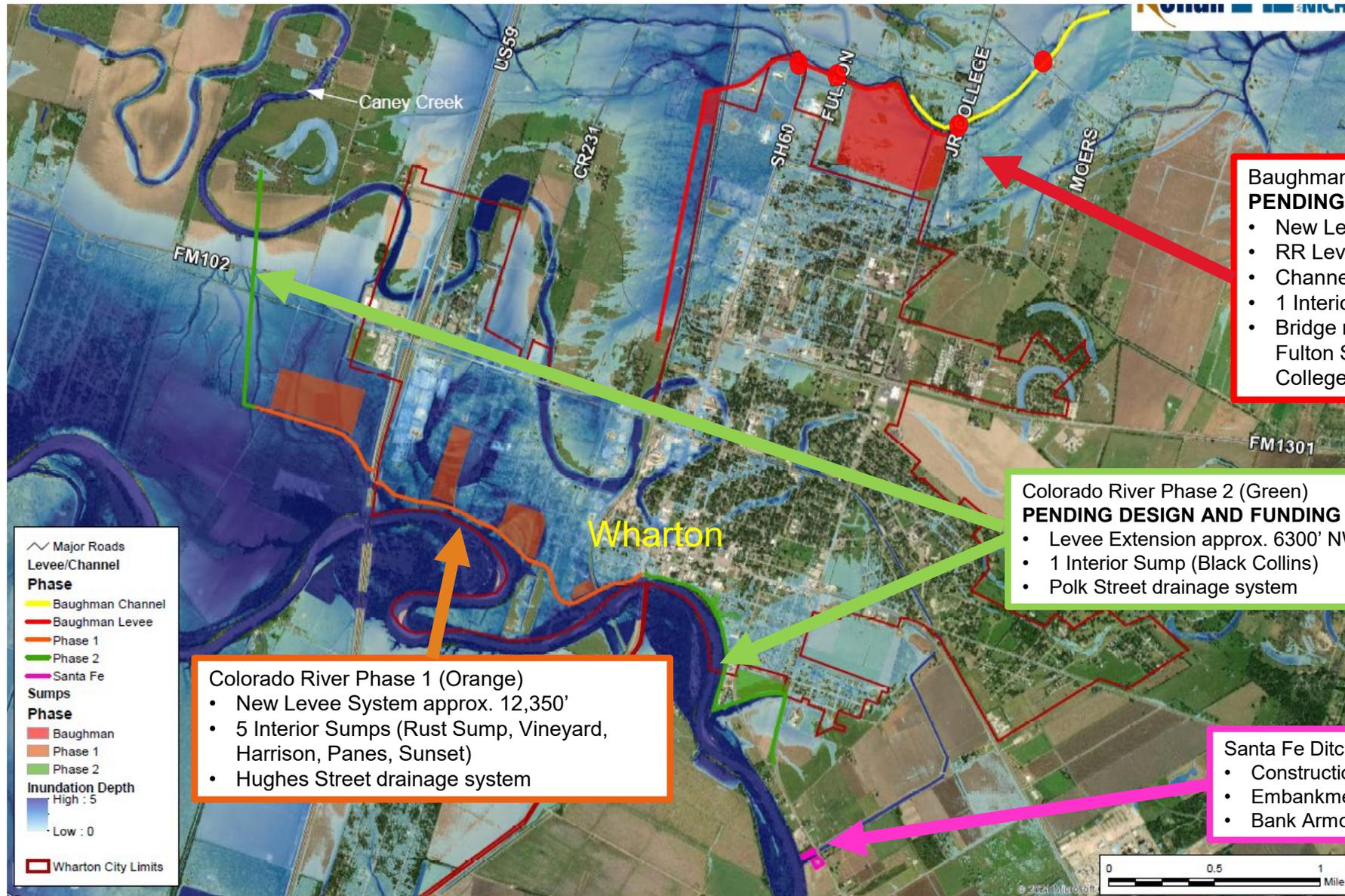
The City of Wharton has significant existing and historical flooding issues from the Colorado River, Caney Creek, Baughman Slough, and Peach Creek.





# WHARTON LEVEES

Wharton Levees is a flood risk reduction system that consists of levees, floodwalls, and sumps with gravity drainage, as shown on the 1% ACE/100-year flood inundation map.



Baughman Slough (Red & Yellow)  
**PENDING DESIGN AND FUNDING**

- New Levee System (Red) approx. 7000'
- RR Levee Extension – 7000'
- Channel Widening (Yellow) – 6800'
- 1 Interior Sumps (Ahldag)
- Bridge modifications (4): Business 59 bridge, Fulton Street bridge, Moers Lane bridge and Jr College Blvd bridge

Colorado River Phase 2 (Green)  
**PENDING DESIGN AND FUNDING**

- Levee Extension approx. 6300' NW & 5,000' SE
- 1 Interior Sump (Black Collins)
- Polk Street drainage system

Colorado River Phase 1 (Orange)

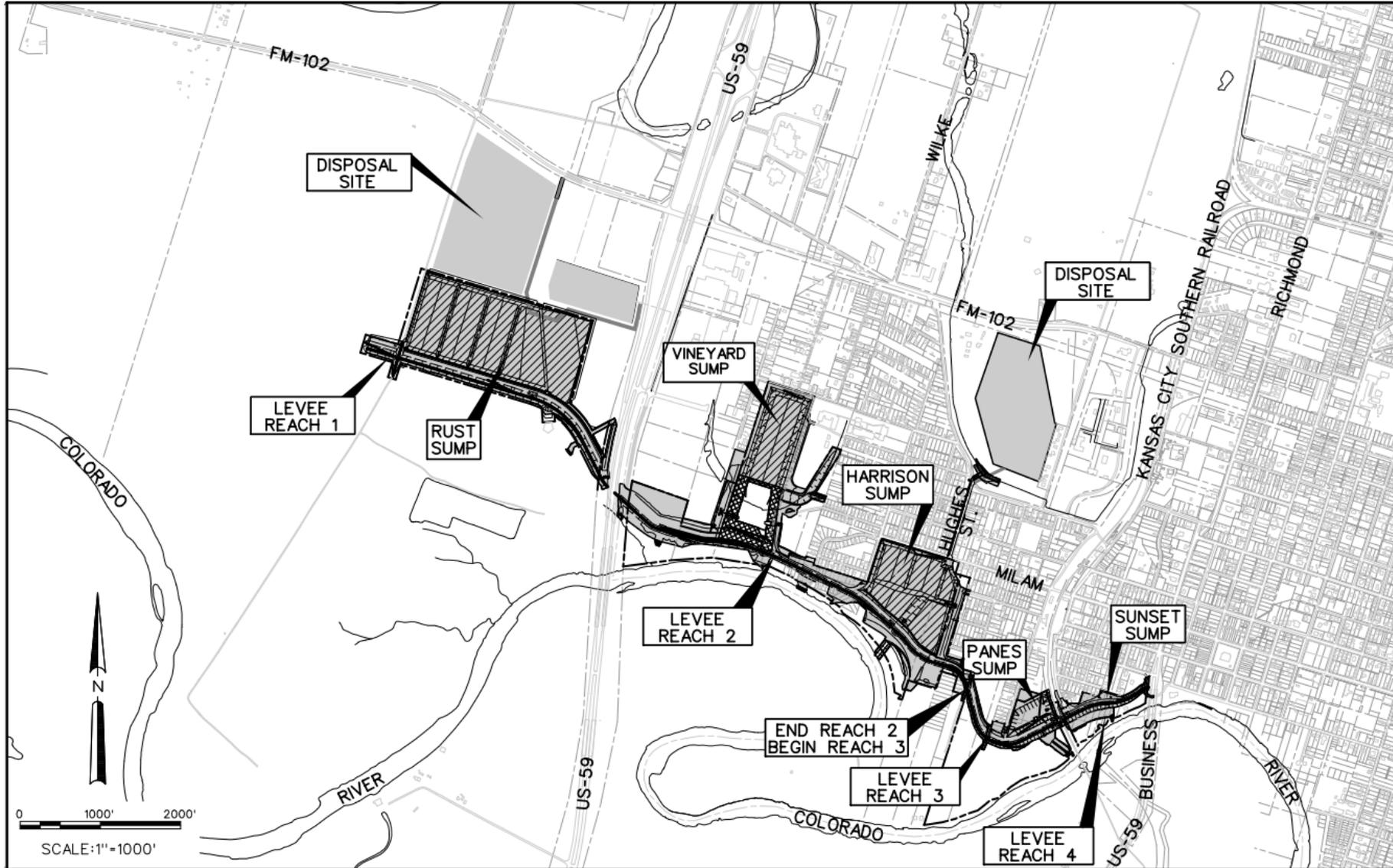
- New Levee System approx. 12,350'
- 5 Interior Sumps (Rust Sump, Vineyard, Harrison, Panes, Sunset)
- Hughes Street drainage system

Santa Fe Ditch (Pink)

- Construction contract awarded
- Embankment Reconstruction
- Bank Armoring



# COLORADO RIVER PHASE 1 - OVERVIEW



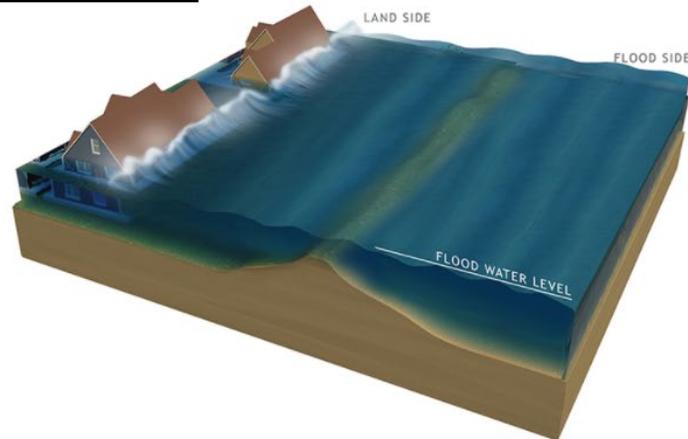




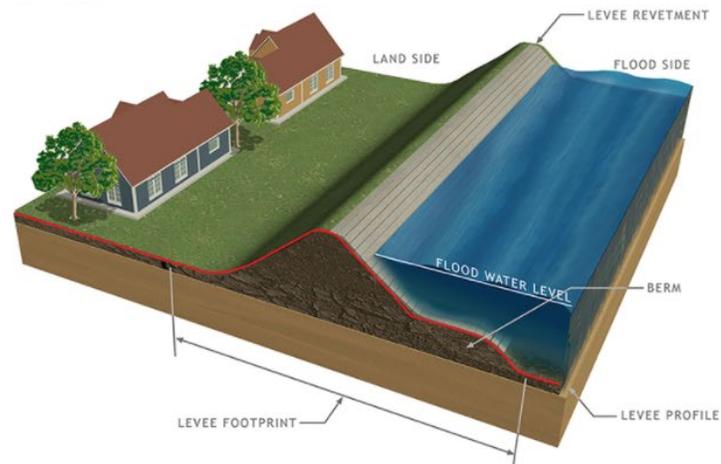
# CONCEPT OF LEVEE PROTECTION



## BEFORE LEVEE



## AFTER LEVEE





# TYPICAL LEVEE



Riverside  
of Levee

Levee  
Crest

Landside  
of Levee



# TYPICAL SUMP





# TYPICAL FLAP GATES



Box Culvert Flap Gate



Typical Culvert Flap Gate



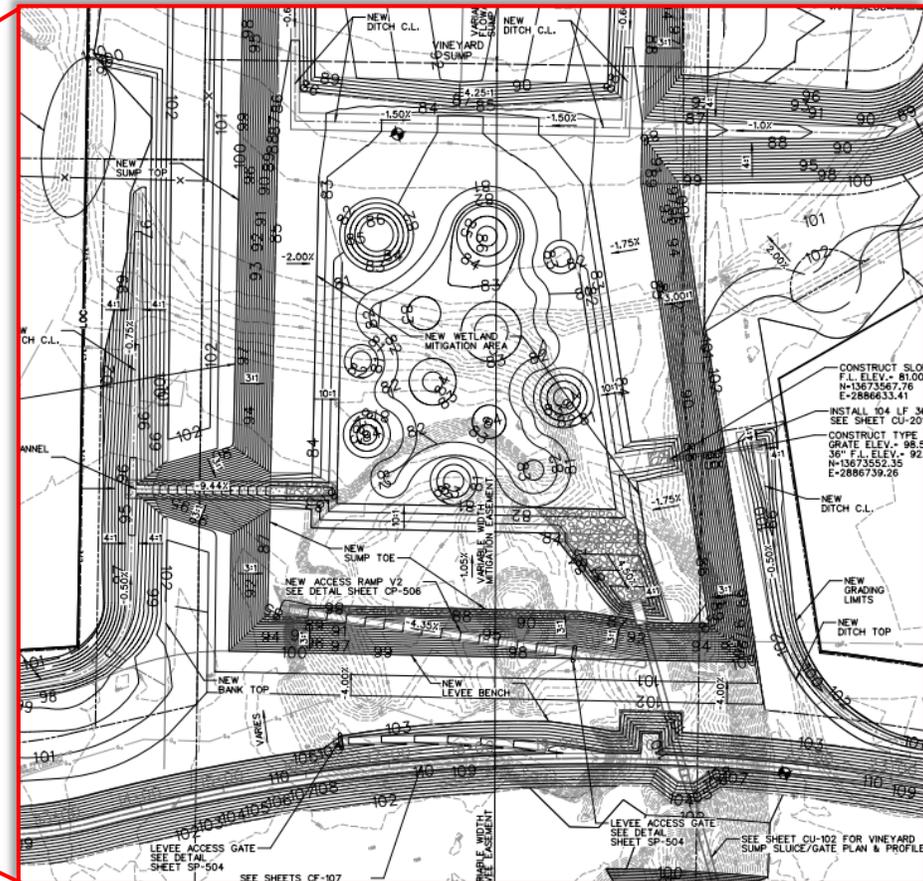
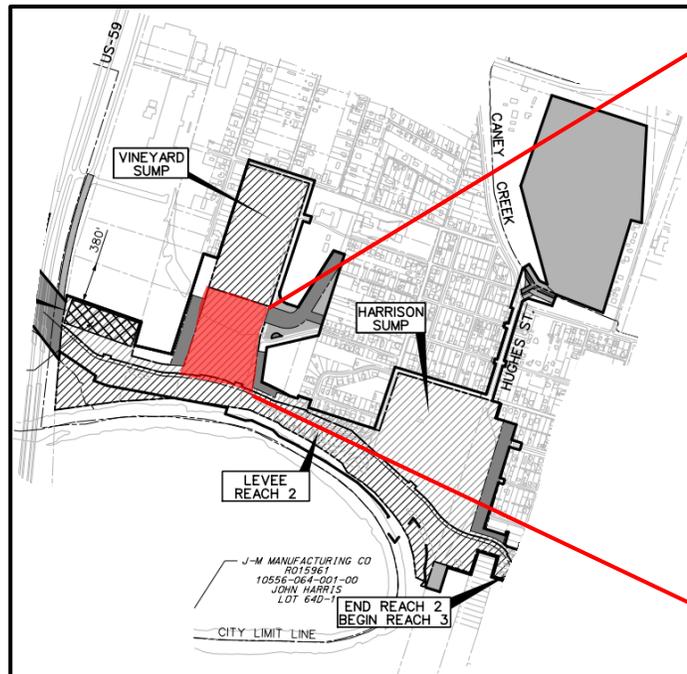
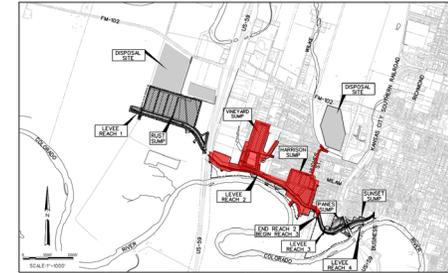


# SPECIAL AREAS (REACH 2)



## Wetland Mitigation Area

- Develop wetlands in support of environmental restoration as well plantings throughout
- Coordination and sequence of construction to facilitate (Lewisville Aquatic Environmental Research Facility) LAERF's native vegetation design, propagation, plant installation, & monitoring



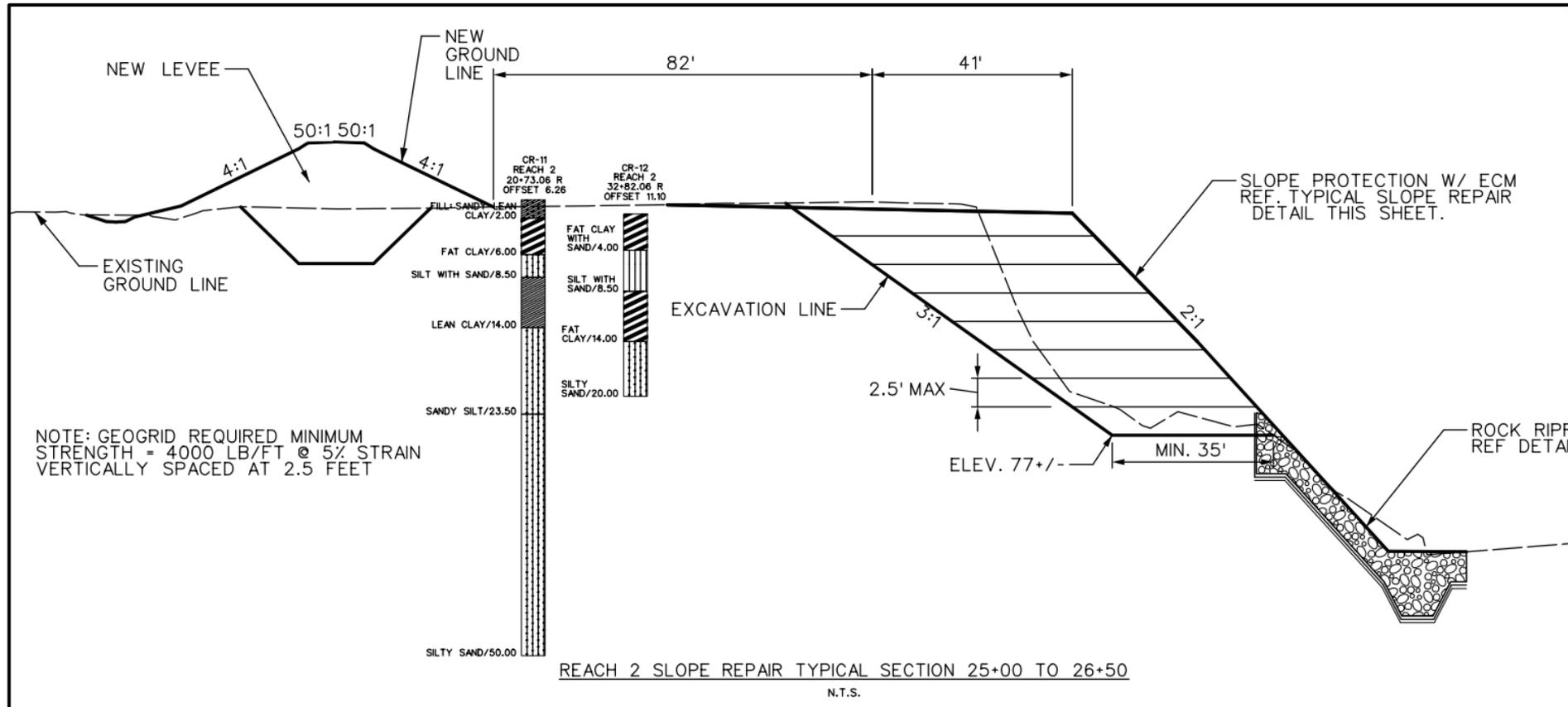


# SPECIAL AREAS (REACH 2)



## ➤ Colorado River Bank Stabilization

- Slope repair activities along the Colorado River bank in Reach 2
  - Erosion control mats
  - Geogrid
  - Rock riprap toe



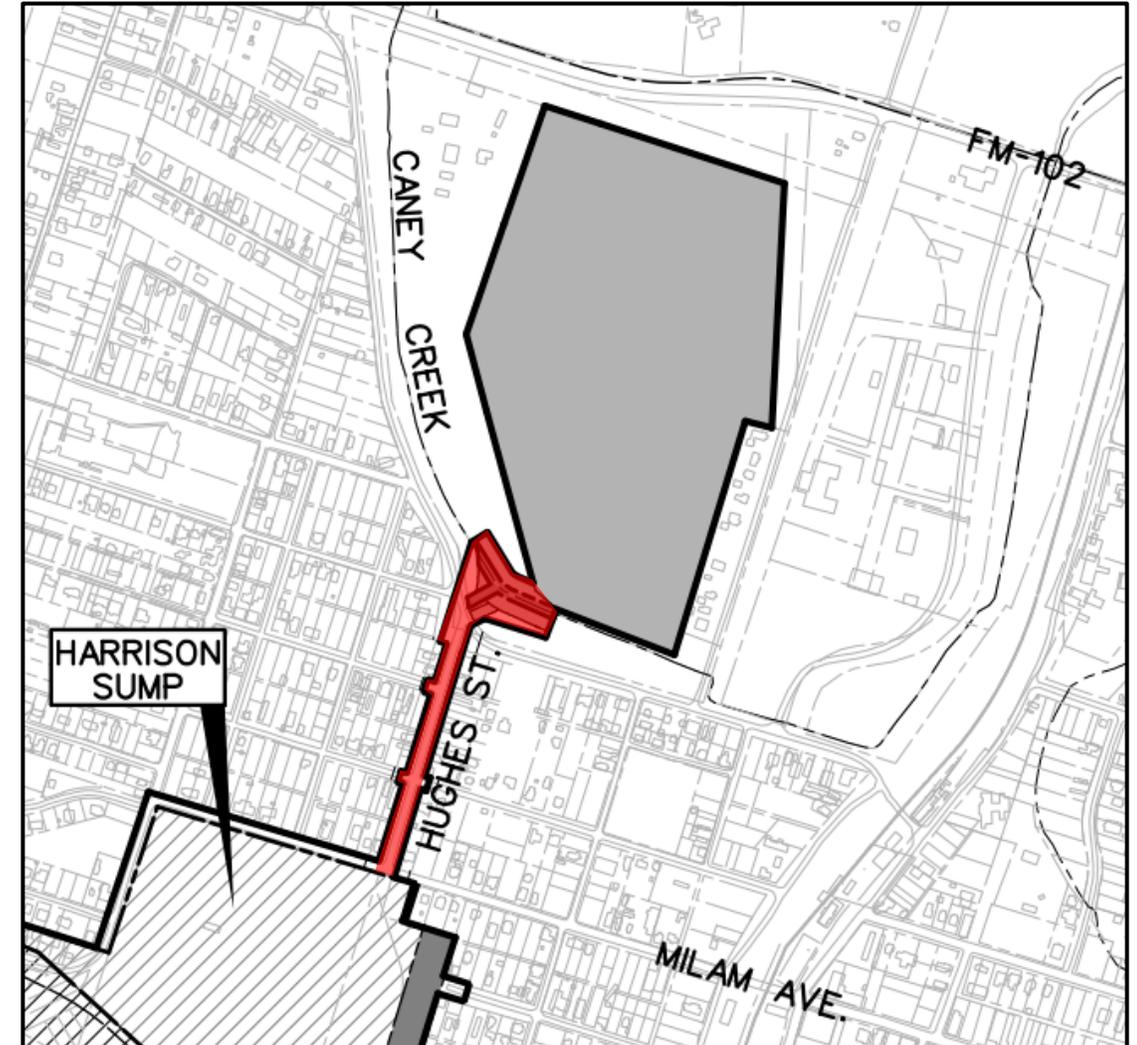


# SPECIAL AREAS (REACH 2)



## ➤ Hughes Street Storm Drain Relief Line

- The purpose of the Hughes Street storm drain system is to provide relief for Caney Creek
- Flow along Caney Creek is directed to the low point near the intersection of Spanish Camp Road and Hughes Street and outfalls into Harrison Sump
- Approximate length and size = 1,250 LF, 10'x6' RCB



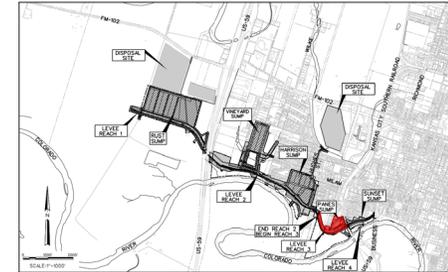
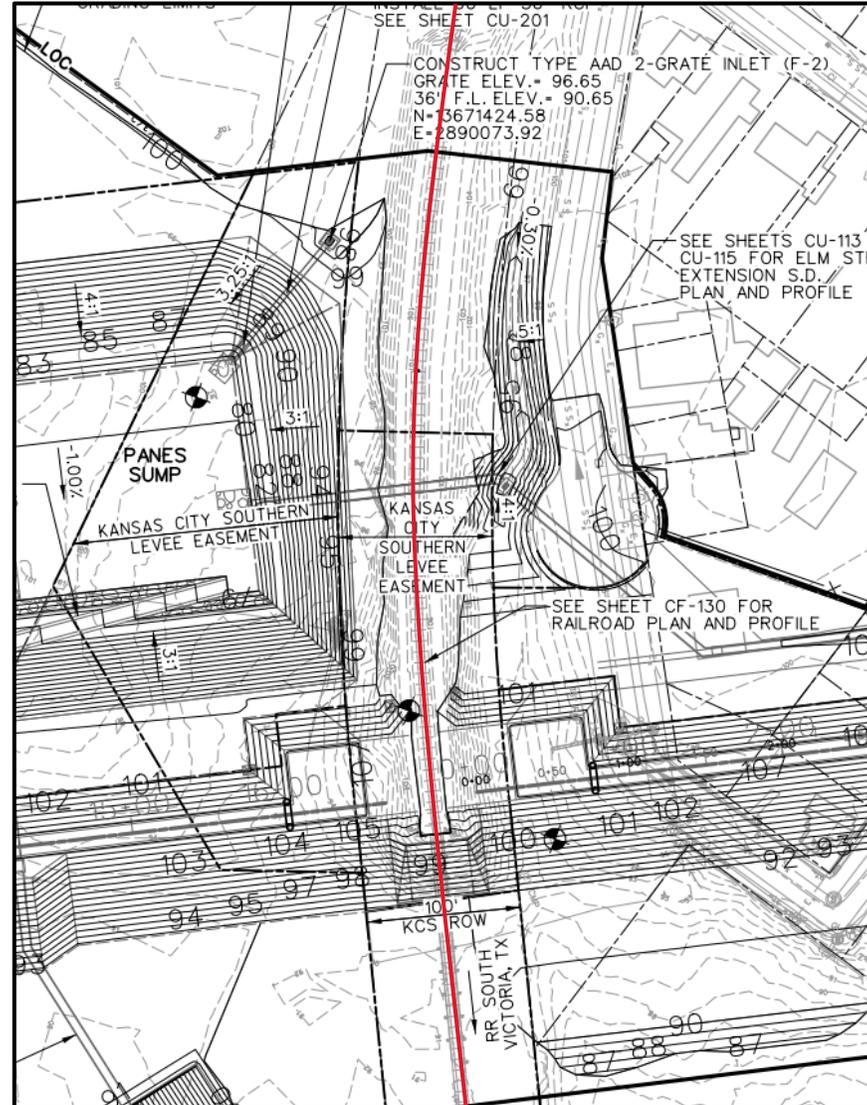


# SPECIAL AREA (REACH 3)



## ➤ Kansas City Southern (KCS) Railroad

- Proposed improvements within the KCS Railroad right-of-way
  - Levee Reach 3 embankment ties into the existing KCS Railroad embankment
  - The Elm Street Storm Drain Extension to be bored underneath the KCS Railroad embankment
  - An underdrain system is to be installed to direct any seepage away from the railroad embankment
  - Concrete riprap installation where railroad bridge begins
- Close coordination with KCS Railroad representatives required





# SPECIAL AREAS (REACH 4)



## ➤ Dinosaur Park

- Located at the end of Reach 4
- Large dinosaur artwork shall remain in place and measures will be taken so that it is not damaged

## ➤ Hessed House

- Located at the end of Reach 4 will not be impacted
- Will still be accessible with traffic control adjustments due to construction

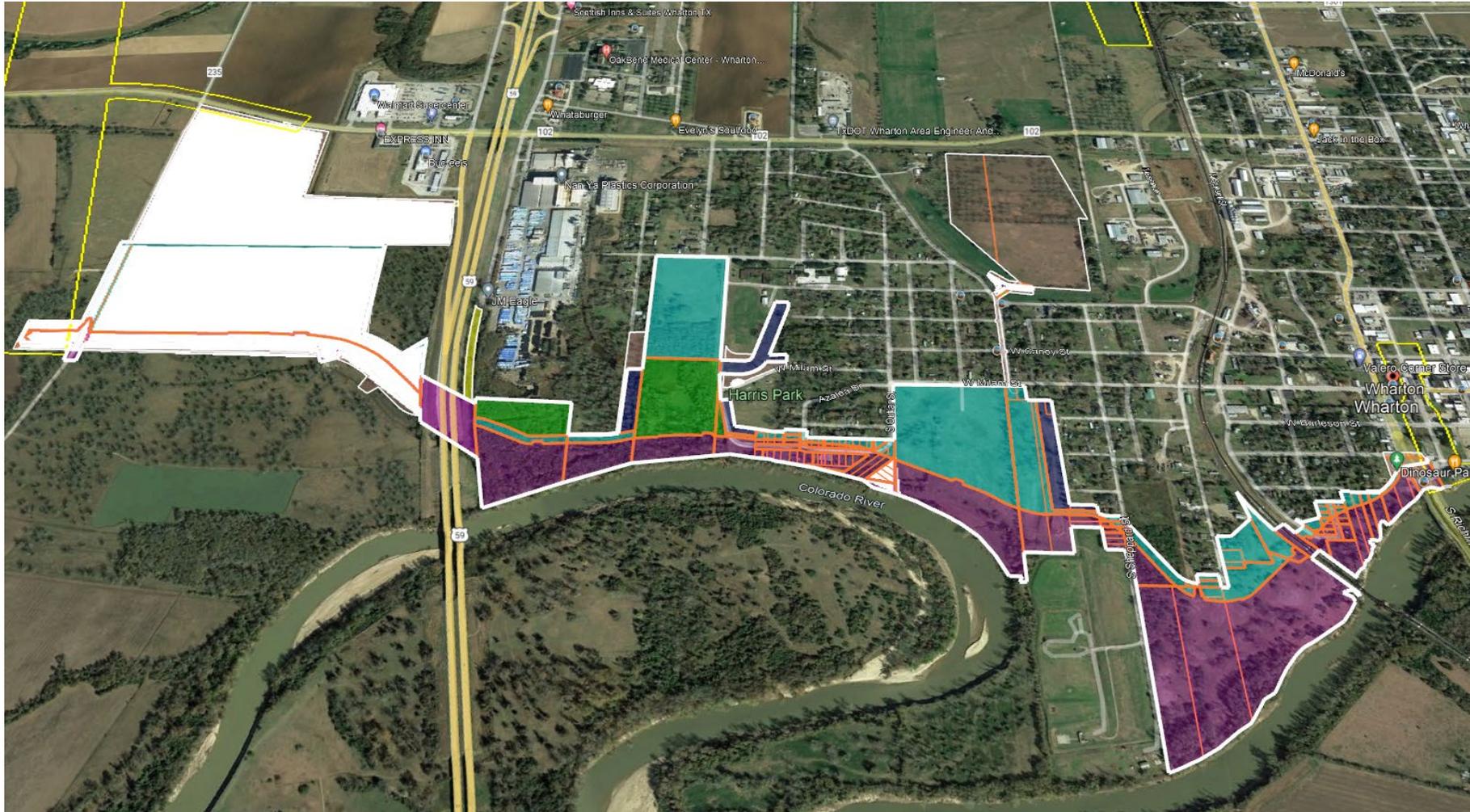




# COLORADO RIVER PHASE 1 CONSTRUCTION

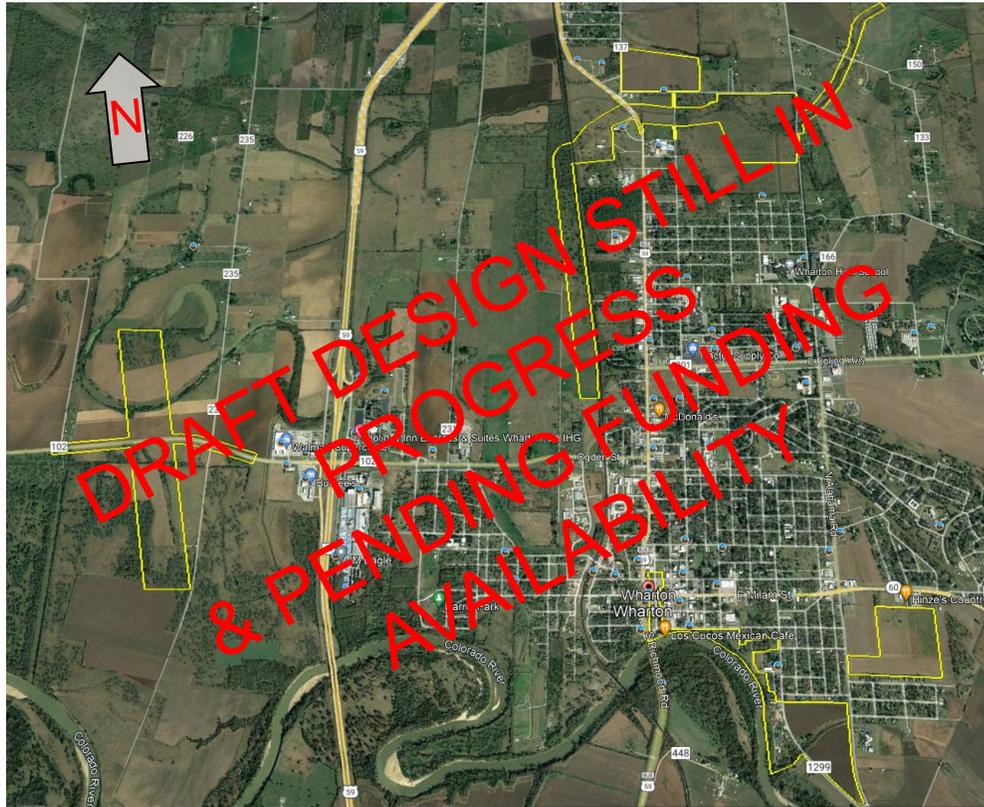


**Estimated construction contract award in May 2022**  
**Estimated construction start in June/July 2022**  
**Estimated construction duration: approx 18 months**





# COLORADO RIVER PHASE 2 & BAUGHMAN SLOUGH DESIGN



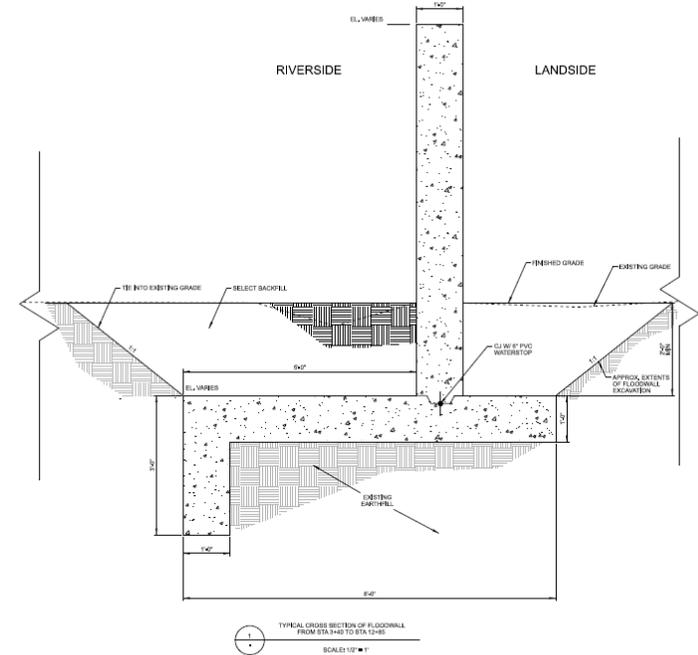
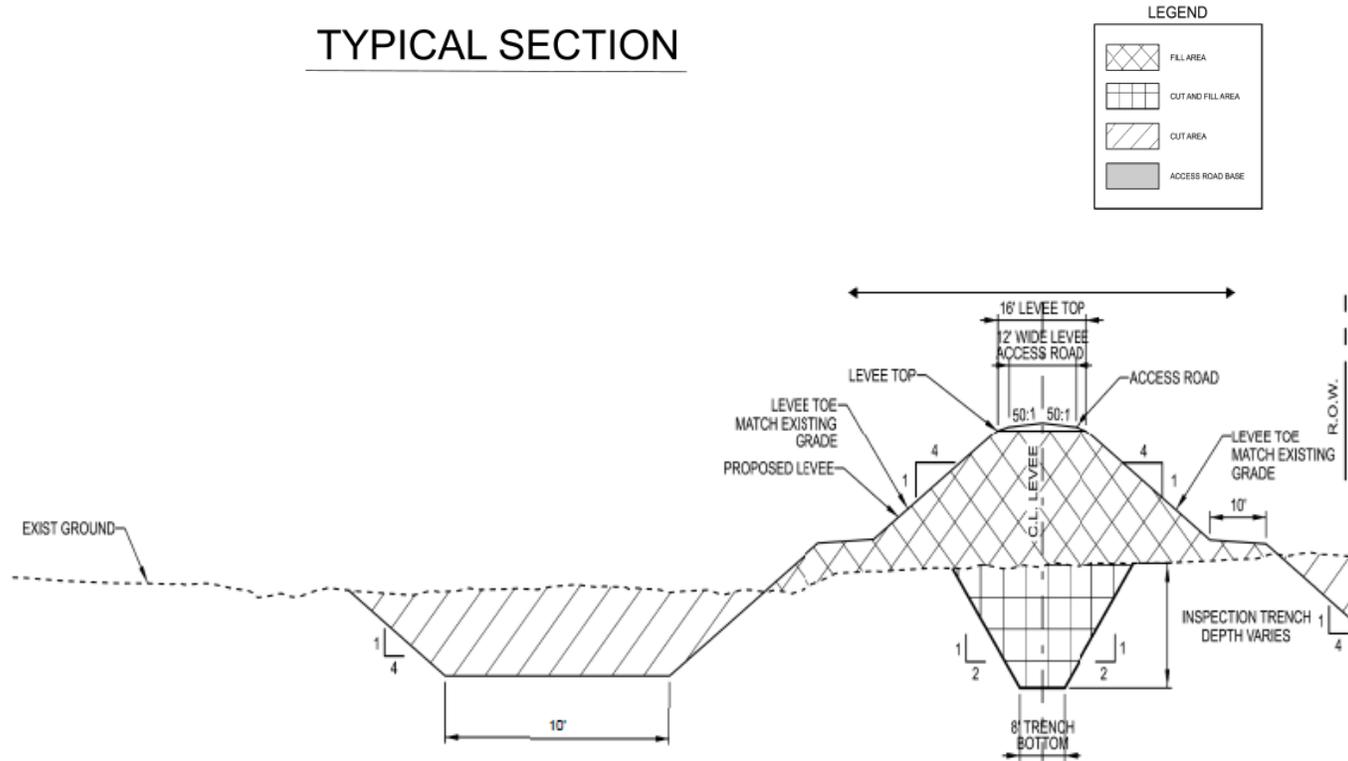
- **Purpose:**
  - Mitigate flooding risks to residents within Wharton, Texas from Colorado River and Baughman Slough
- **Status:**
  - Currently at 35% design and in progress
  - Pending funding availability
- **Colorado River Phase 2 design currently consists of:**
  - 2 levee reaches (extensions of CR Phase 1)
  - 2 floodwalls
  - Interior Gravity Sump
    - Sluice structures
    - Cast-in-place
    - Sluice and flap gates
  - Storm sewer relief system
  - US102 road improvement
  - Other miscellaneous drainage improvements
- **Baughman Slough design currently consists of:**
  - 2 levee reaches
  - Channel widening
  - Possible Interior Gravity Sump
    - Sluice structures
    - Cast-in-place
    - Sluice and flap gates
  - Possible 4ea bridge widening



# COLORADO RIVER PHASE 2 – TYPICAL SECTIONS



## TYPICAL SECTION





# TYPICAL FLOODWALL



## Concrete Floodwall and Levee Tie-In





# WHARTON WAY AHEAD



**Santa Fe Ditch construction:** Spring to Summer 2022; awarded in April 2022

**Colorado River Phase 1 construction:** Late Spring/Summer 2022 to Winter 2023; looking to award May 2022

**Colorado Phase 2 & BS design:** On-going; major design changes after 35% design; final design expected Spring 2023

**Colorado River Phase 2 & BS construction:** Spring 2024 to Spring 2026; pending funding availability

# QUESTIONS

