

Drainage In South Texas: Where Does The Water Go?

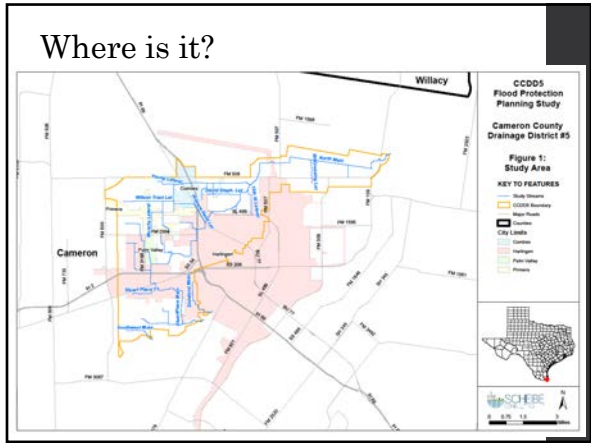


TFMA Fall Summit
August 28, 2019

**Cameron County
Drainage District #5**



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CCDD5 FPP Study Overview

- Previous Study – 2008 FPP Study
- Hydrology Development
- 1D/2D Hydraulic Model Development
- Model Results
- Flood Mitigation Alternatives
- Flood Early Warning – Track D @ 4:30
- What's Next

Previous 2008 FPP Study

**CAMERON COUNTY DRAINAGE DISTRICT #5
Flood Protection Plan**

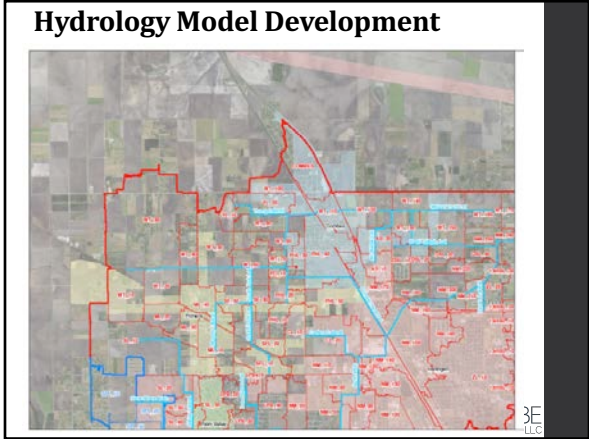
Structural Measure Identified	Current Status
Water Truck Operation	Under Construction - Estimated Completion in early '17
Repaired Bridge Replacement	Design & Complete - Construction to Begin in '18
Channel Excavation	Construction is Complete
Canal Improvement at No. 20 Irrigation Canal	Planned Road Lot
North Main Canal to Slough Place Drain Channel	Construction is Complete
Channel Improvement (Overhead) at US 77	Under Construction - 80% Complete
Miscellaneous Bridge Improvements	Some Complete, Some still in Design Phase
Storage Tank Color Remediation	Planned Road Lot
Channel Maintenance	On-Going
Primary Drainage Improvements	Design & Complete - Construction to Begin in '17

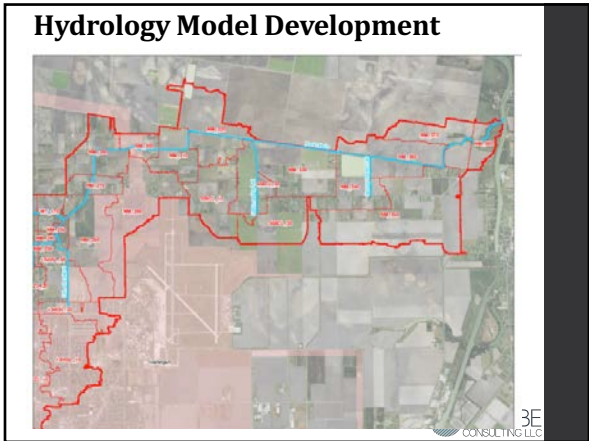
In Association With:
Texas Water Development Board
Cameron County Drainage District #5
Cameron County
City of Hidalgo
Towns of Pecos, Palo Verde, and Combes.

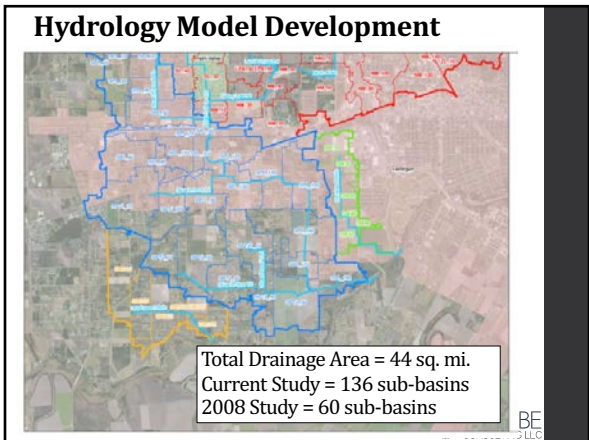
Previous 2008 FPP Study

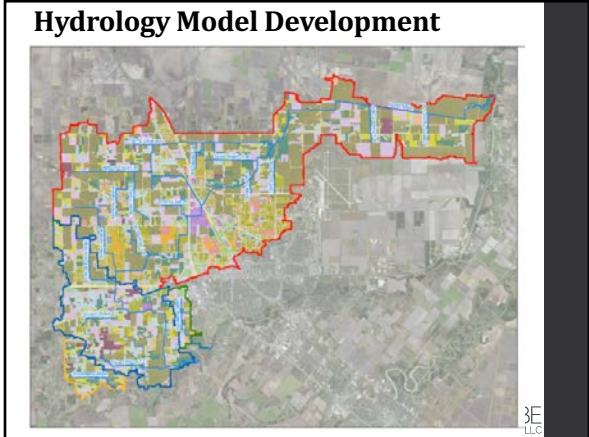
Hydrology Model Development

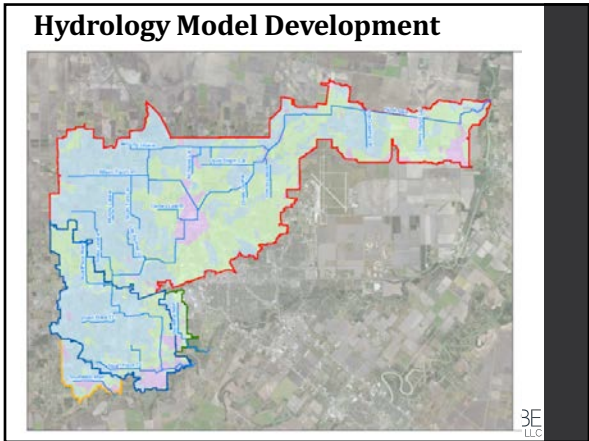
**Cameron County Drainage District #5
Flood Early Warning, Flood Response
Implementation, & Protection Planning
LIDAR Coverage**

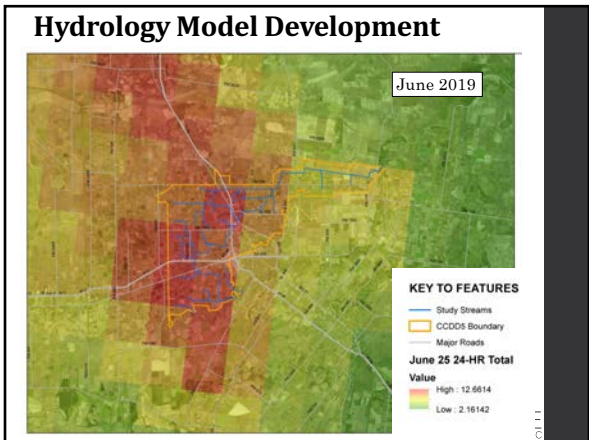


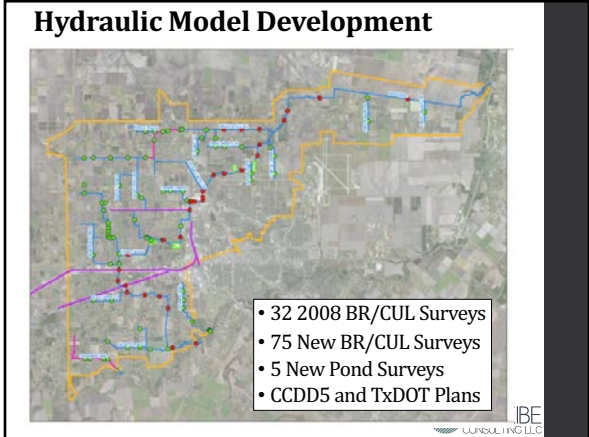


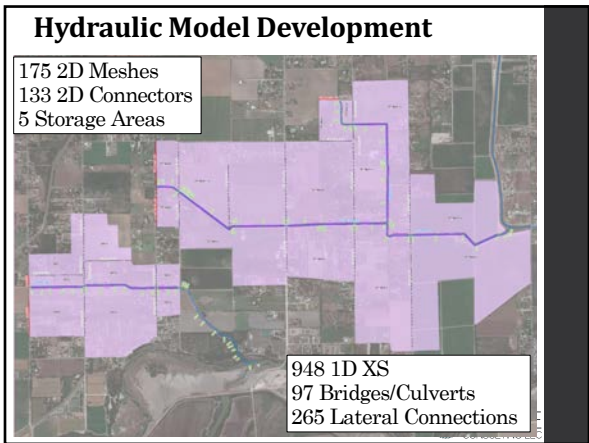


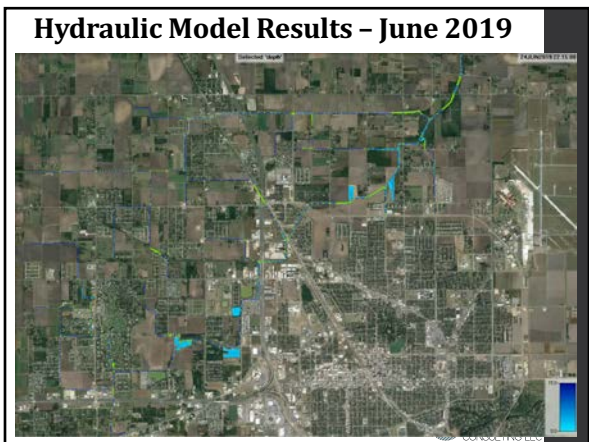


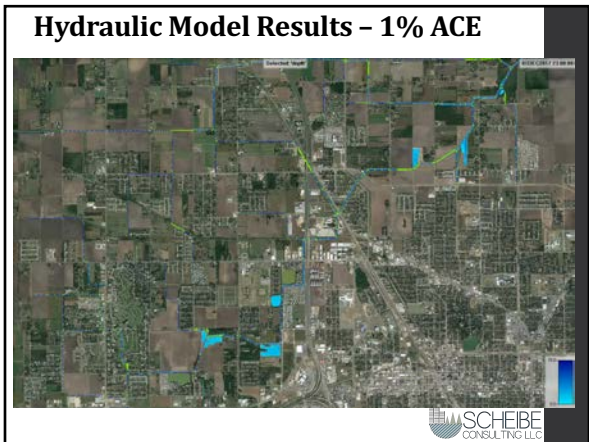


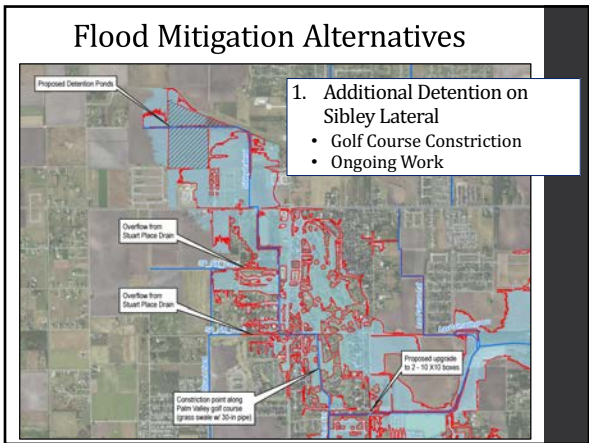


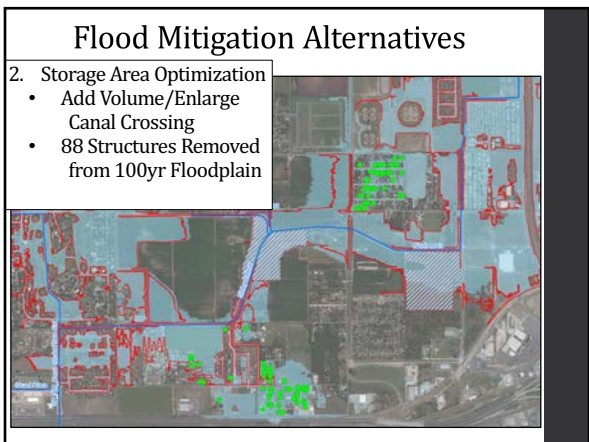




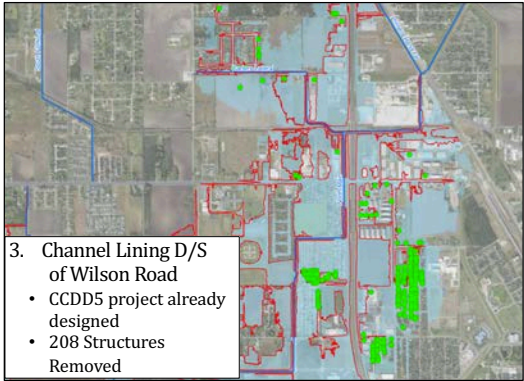








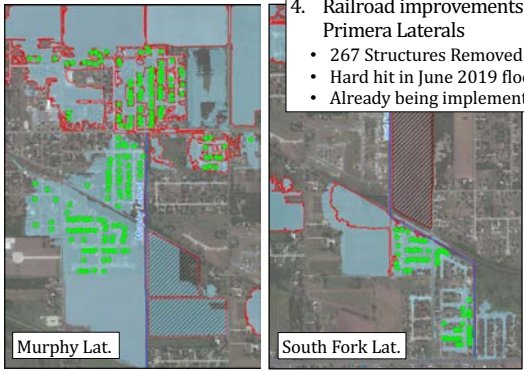
Flood Mitigation Alternatives



3. Channel Lining D/S of Wilson Road

- CCDD5 project already designed
- 208 Structures Removed

Flood Mitigation Alternatives



4. Railroad improvements on Primera Laterals



- 267 Structures Removed
- Hard hit in June 2019 flood
- Already being implemented

Murphy Lat. South Fork Lat.

Proposed Flood Early Warning Study

Tasks:

- Visit Existing Gage Location Sites & Review Overall Gauge Network
- Evaluate New Gage (rain, stage, & flow) equipment
- Recommend Strategies for Flood Early Warning Enhancements



What's Next...

1. Expansion of Modeling up Harlingen Tributaries
2. Implementation of Drainage Improvements:
 - a. Channel lining of North Main Drain
 - b. Palm Valley Golf Course Improvements
 - c. Murphy & South Fork Lateral – Railroad Improvements
3. Collaboration County-Wide on FEWS
4. Seek Grant for implementation of large projects including TWDB Flood Infrastructure Fund
5. Implement more stringent development regulations
 - a. Site/Subdivision Detention Standards
 - b. Update finish floor standards – based on findings from study
 - c. Regional Detention – Fee-in-Lieu Options
 - d. Update FEMA Maps with new Study



Questions?

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