Presentation
to the

CIVIL WORKS REVIEW BOARD

Lower Colorado River Basin Phase I, Texas
Interim Feasibility Study
(Onion Creek and Wharton)

by

Colonel Christopher W. Martin
Commander
Fort Worth District

October 26, 2006

US Army Corps of Engineers

Purpose

- **Present findings and recommendations of the Lower Colorado River Basin Phase 1 Interim Feasibility Report and Integrated Environmental Assessment.**

- **Demonstrate that the recommended project is:**
  - **technically feasible**
  - **economically justified**
  - **environmentally sound.**

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Desired Action

- CWRB approve the Feasibility Report, which recommends:
  - Floodplain evacuation of two subdivisions totaling 490 homes in Austin/Travis County area, together with construction of recreation facilities and ecosystem restoration on the vacated lands.
    - Total cost: $82.7 Million
    - BCR: 1.5
  - Construction of $27.4 Million levee system protecting the city of Wharton, a town of 9,300 residents, located along the Colorado River. Project BCR is 2.2.

Sponsors in Attendance

- Lower Colorado River Authority
  - Mr. Mark Jordan, Manager, River Services
  - Ms. Amanda McPherson, Federal Affairs
- Travis County
  - Mr. Joe Gieselman, Executive Manager, Transportation and Natural Resources
- City of Austin
  - Mr. Lee Leffingwell, Council Member
  - Mr. Glen Taffinder, Project Manager
  - Ms. Barbara McCall, CapitalEdge
- City of Wharton
  - Mayor Bryce Kocian, Mayor
  - Mr. Andres Garza, Jr., City Manager
  - Mr. Domingo Montalvo, Jr., Council Member

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Agenda

- Background
- Project Delivery Team
- Planning Process
- Project Specific Information
  - Details, Costs, Benefits, Reviews
- Milestone Schedule
- Recommendation
- Questions/Comments

Project Study Authorizations

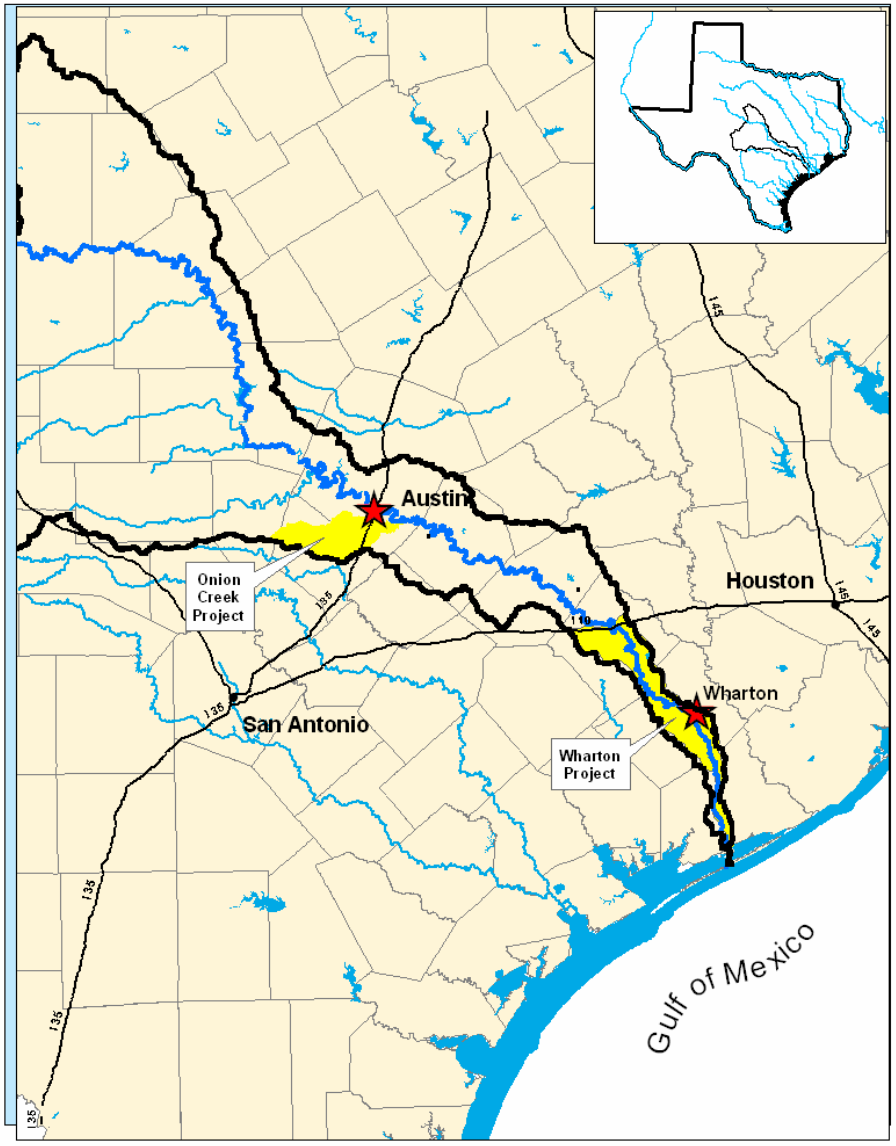
BASINWIDE AUTHORITIES:

- ***Resolution by the Committee on Commerce, United States Senate, adopted August 4, 1936***
- ***River and Harbor Act, approved August 26, 1937***
- ***River and Harbor Act, approved March 2, 1945***

SPECIFIC TO ONION CREEK:

- ***Resolution by the Committee on Transportation and Infrastructure, United States House of Representatives, adopted May 6, 1998***

Project Locations



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Local Project Support

- Lower Colorado River Authority (Official Sponsor)
- LCRA executed two interlocal agreements with:
  - Onion Creek
    - City of Austin
    - City of Sunset Valley
    - Travis County
  - Wharton
    - City of Wharton
- Texas Water Development Board provided grant funding to Austin and Wharton for approximately 50% of the local cost share.

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PDT Performance

- Performed well throughout the study, and outstanding down the stretch.
  - Representatives from:
    - each discipline, utilizing consultants and staff from two Corps Districts.
    - each local sponsor on the PDT.
    - resource agencies.
  - Expedited study execution by five months to meet schedule for potential contingent authorization.
  - Addressed ITR and HQ concerns.
  - Incorporated two reports into one project report.

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PDT Performance

- Maintained frequent communication.
  - Monthly meetings with sponsors.
  - Quarterly Executive Management meetings.
- Schedules were routinely updated and posted monthly on the project web site.
- Team member turnover, but other team members assisted.
- Challenges associated with execution utilizing a PDT from multiple Corps Districts.

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Planning Process (ER 1105-2-100)

1. Specify problems & opportunities
2. Inventory & forecast conditions
3. Formulate alternative plans
4. Evaluate effects of alternative plans
5. Compare alternative plans
6. Select recommended plan

Onion Creek Flooding

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2001 Flood was higher than most citizens thought possible.▼

▲ 2001 Flood relocated homes without asking.

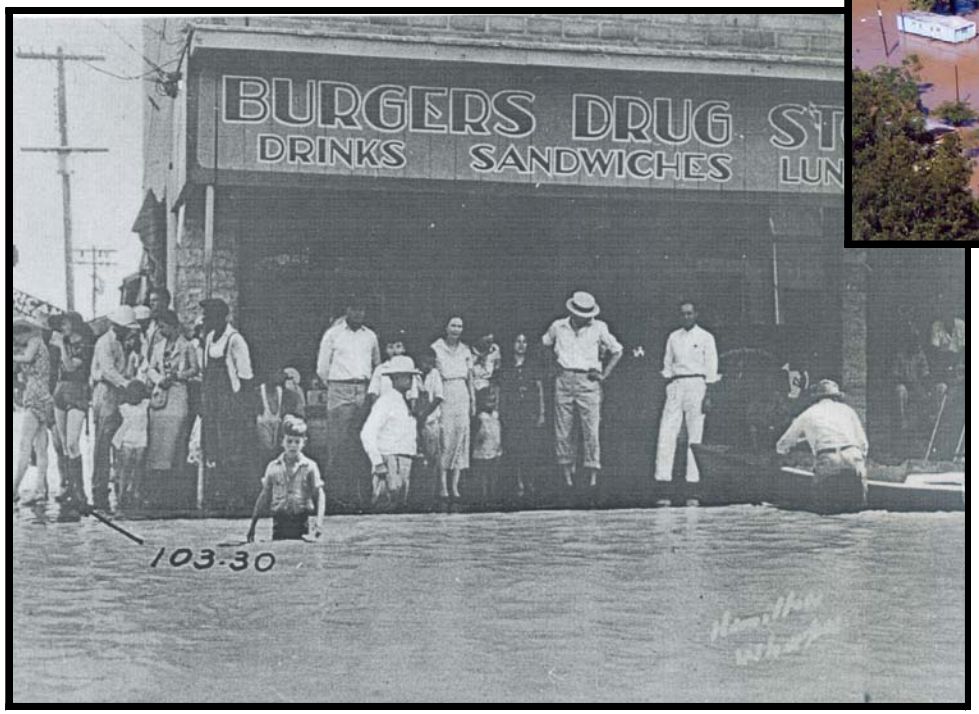
Over 400+ homes flooded

Wharton Flooding

US Army Corps of Engineers

▲ 1998 Flood – 25-year event. 300+ homes flooded, plus schools and businesses.

▼1935 Flood – Downtown



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Onion Creek

Onion Creek Interim Feasibility Study

Total Feasibility Cost: $3.3 Million

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Existing Conditions

- Rapid urbanization is occurring.
  - Stringent drainage ordinances have reduced impacts.
- Significant damages occur in six areas.
- Average Annual Flood damages = $7.3 million.
- Major flooding occurred in 1998 (≅ 4% ACE event) and 2001 (slightly less).
- Experiencing ecosystem degradation along the major streams, and restoration opportunities exist.

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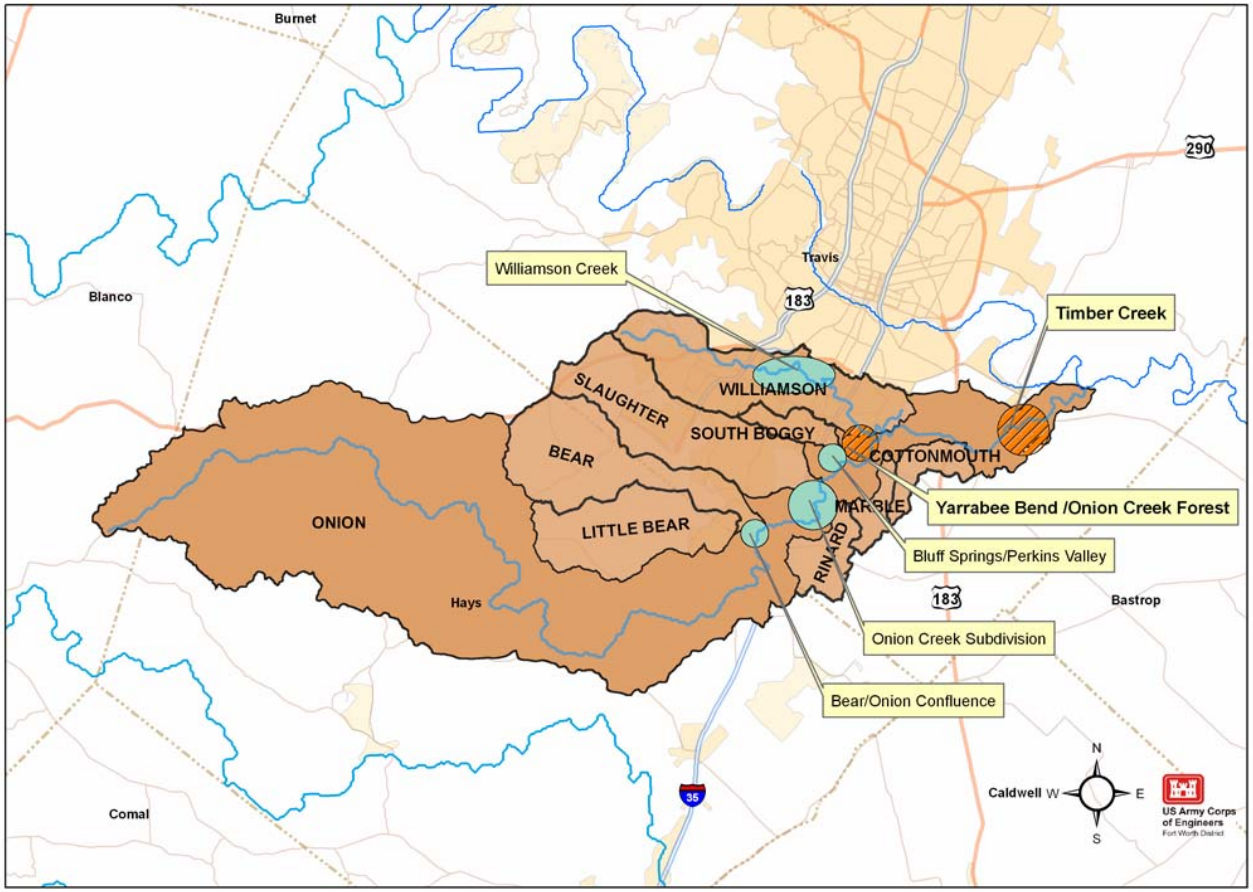
Future Without Project Conditions

- Flood Damages averaging over $7.3 million will continue to occur. Average Annual Flood Damages will increase to $8.4 million by the year 2060.

- Stringent floodplain and drainage ordinances will limit increases in flood damages.

- Degradation to ecosystem will continue due to urbanization, but stormwater management practices will reduce rate of degradation.

Flood Damage Reduction Alternatives Evaluated in Detail



Recommended:

- **Timber Creek**
  - **Floodplain Evacuation**
- **OC Forest/Yarrabee Bend**
  - **Diversion**
  - **Levees**
  - **Floodplain Evacuation**

- Williamson Creek
  - Channel Modification
  - Floodplain Evacuation
- Bear/Onion Confluence
  - Floodplain Evacuation
  - Floodwall

Overview of Onion Creek - Timber Creek Segment Parcels to Be Acquired

- County owns parcels scattered within the area.
  - No current beneficial land use.
  - Difficult to maintain

Overview of Onion Creek - Timber Creek Segment Recommended Plan

- Buyout of 81 residential structures within 4% ACE floodplain

- Recreational Facilities
  - 20 picnic shelters
  - 8 group shelters
  - 5100 ft unpaved trails
  - 1200 ft paved trails
  - Parking, restrooms, etc.

- 16 Ac. ecosystem restoration
- Estimated cost: $10.7 Mil
- Benefit-to-Cost Ratio: 1.6
- Net Annual Benefits: $330,000
- AAHU Gained: 5.9

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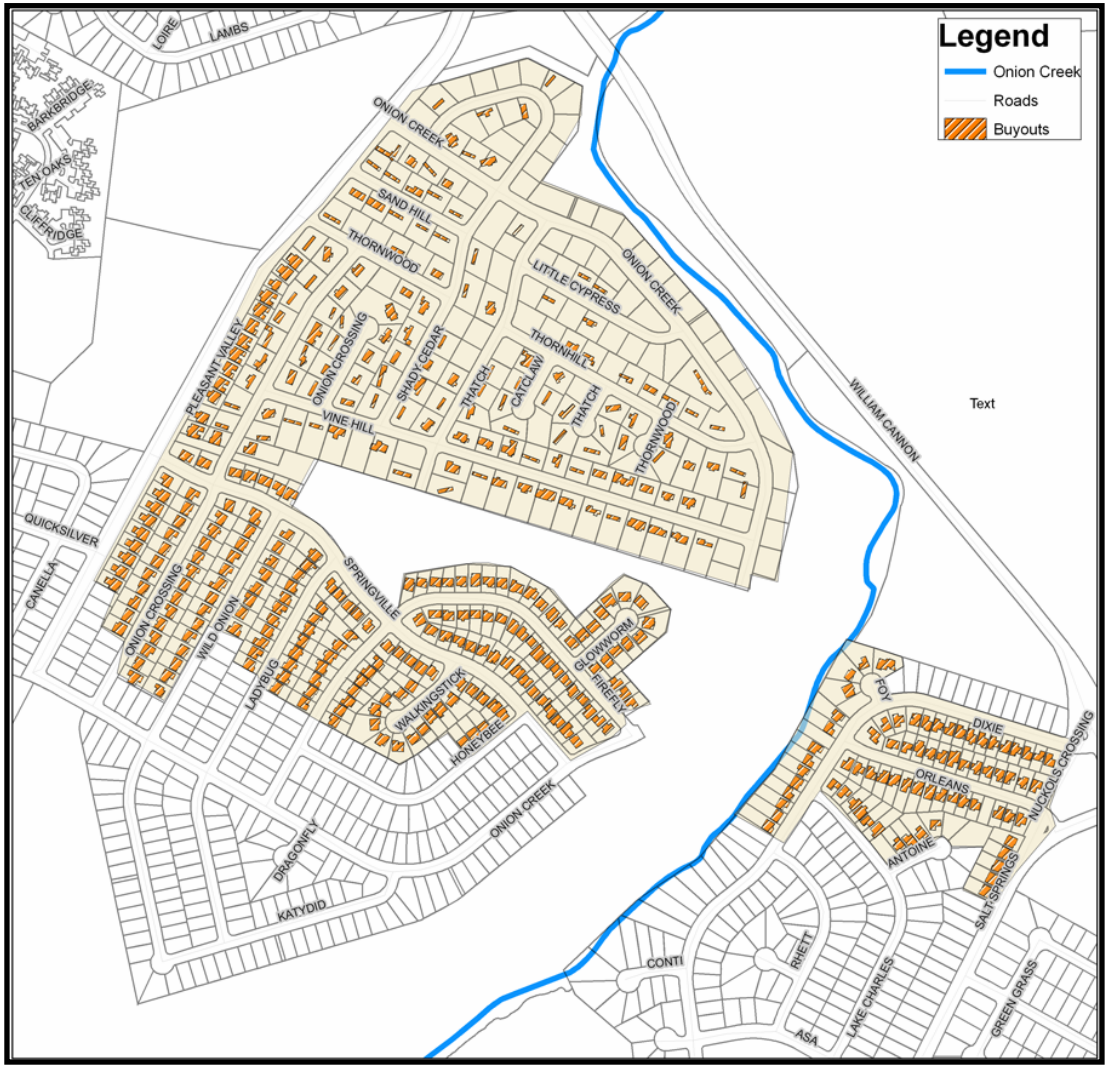
Timber Creek
Cost Apportionment for the Recommended Plan

Feature	Federal	Non-Federal	Total
Flood Damage Reduction			
Lands, Structures		$5,182,000	$5,182,000
Relocation Assistance		$1,823,000	$1,823,000
Demolition, Removal	$544,000	$0	$544,000
Preconstruction, Engineering & Design	$143,000	$0	$143,000
Construction Management	$33,000	$0	$33,000
Contingency	$180,000	$0	$180,000
RE Contingency		$965,000	$965,000
Unadjusted total	$900,000	$7,970,000	$8,870,000
Adjustment to receive 65/35	**$4,866,000**	**($4,866,000)**	
Subtotal FDR	**$5,766,000**	**$3,104,000**	**$8,870,000**
Recreation			
Recreation Facilities			
Fed Cost Shared	$476,000	$476,000	$952,000
100% Local Sponsor Cost	$0	$104,000	$104,000
Preconstruction, Engineering & Design	$37,500	$37,500	$75,000
Construction Management	$65,000	$65,000	$130,000
Contingency	$144,500	$144,500	$289,000
Subtotal Recreation	**$723,000**	**$827,000**	**$1,550,000**
Ecosystem Restoration			
Restoration Facilities (excluding lands)	$129,000		$129,000
Lands		$83,000	$83,000
Preconstruction, Engineering & Design	$40,000		$40,000
Construction Management	$8,000		$8,000
Contingency	$44,000		$44,000
RE Contingency		$15,000	$15,000
Adaptive Management	$6,000		$6,000
Unadjusted Total	$227,000	$98,000	$325,000
Adjustment to achieve 65/35	(16,000)	$16,000	
Subtotal ER	**$211,000**	**$114,000**	**$325,000**
Total Cost Apportionment	**$6,700,000**	**$4,045,000**	**$10,745,000**
Cost Percentage	**62.40%**	**37.60%**	**100%**

Overview of Onion Creek
OC Forest/Yarrabee Bend Segment
Structures to be Acquired



- 410 residential structures within 4% ACE (25-year) floodplain

Overview of Onion Creek
OC Forest/Yarrabee Bend Segment
Recommended Plan

- Remove 410 residential structures
- Recreational Facilities
  - 32 picnic shelters
  - 33 group shelters
  - 7860 ft unpaved trails
  - 9680 ft paved pedestrian trails
  - 7400 ft multi-use trails
  - 25 sports courts (100% local costs)
  - Parking, restrooms, etc.
- 190 Ac. ecosystem restoration
- Estimated cost: $71.9 Mil
- Benefit-to-Cost Ratio: 1.5
- Net Annual Benefits: $1.63 Mil
- AAHU Gained: 56.8

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OC Forest/Yarabee Bend
Cost Apportionment for the Recommended Plan

Feature	Federal	Non-Federal	Total
Flood Damage Reduction			
Lands, Structures		$39,402,000	$39,402,000
Relocation Assistance		$11,070,000	$11,070,000
Demolition, Removal	$3,249,000		$3,249,000
HTRW	$499,000		$499,000
Preconstruction, Engineering & Design	$560,000		$560,000
Construction Management	$187,000		$187,000
Contingency	$1,124,000		$1,124,000
RE Contingency		$7,561,000	$7,561,000
Unadjusted total	$5,619,000	$58,033,000	$63,652,000
Adjustment to receive 65/35	$35,755,000	($35,755,000)	
Subtotal FDR	**$41,374,000**	**$22,278,000**	**$63,652,000**
Recreation			
Recreation Facilities			
Fed Cost Shared	$1,251,000	$1,251,000	$2,502,000
100% Local Sponsor Cost	$0	$288,000	$288,000
Preconstruction, Engineering & Design	$143,000	$177,000	$320,000
Construction Management	$63,000	$77,000	$140,000
Contingency	$364,000	$448,000	$812,000
Subtotal Recreation	**$1,821,000**	**$2,241,000**	**$4,062,000**
Ecosystem Restoration			
Restoration Facilities(excluding lands)	$1,479,000		$1,479,000
Lands		$1,781,000	$1,781,000
Preconstruction, Engineering & Design	$80,000		$80,000
Construction Management	$74,000		$74,000
Contingency	$408,000		$408,000
RE Contingency		$325,000	$325,000
Adaptive Management	$120,000		$120,000
Unadjusted Total	$2,161,000	$2,106,000	$4,267,000
Adjustment to achieve 65/35	$613,000	($613,000)	
Subtotal ER	**$2,774,000**	**$1,493,000**	**$4,267,000**
Total Cost Apportionment	**$45,969,000**	**$26,012,000**	**$71,981,000**
Cost Percentage	**63.90%**	**36.10%**	**100%**

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Post-PGM Issue Identified

Existence of Ongoing FEMA buyout program as predecessor to Corps project within Onion Creek Forest/Yarrabee Bend Segment.

- FEMA Voluntary Program ends in June 2008. PCA execution scheduled following this date, to avoid two Federal actions occurring at the same time.
- Resulting project remains the same. Exact number of homes to be removed for Corps project is unknown. (≅ 60 is our estimate for voluntary buyout).
- Legal and Real Estate Question: Can City owned property originally purchased with Federal funds become part of the Corps project lands?
- Can recreation be placed on vacant lands?
- Specific language in PCA will be required.

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Onion Creek Policy & Technical Review Process

- **Feasibility Scoping Meeting (FSM): 20 Aug 2003**
- **Alternative Plan Formulation Briefing (AFB): 25 May 2006**
- **Report Independent Technical Review Completed: 17 Aug 2006**
  - **FDR Center of Expertise (SPD) Contacted. Identified Louisville as lead District.**
  - **Multi-District ITR team: Louisville, Tulsa, Los Angeles.**
  - **110 comments – All resolved**
- **HQ Policy/Report Review Completed: 28 Sep 2006**

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Wharton

Wharton Interim Feasibility Study

Total Feasibility Cost: $1.2 Million

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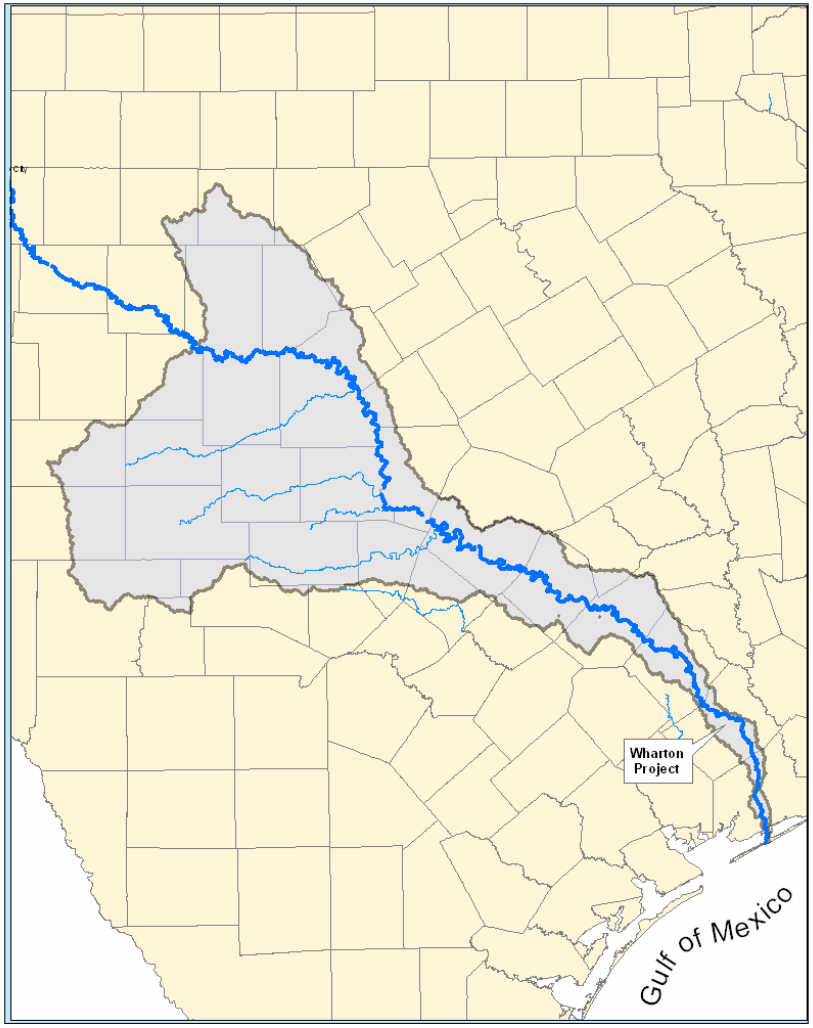
Existing Conditions

- Significant flooding in 1998 and 2004. Flood levels approached 4% level in 1998, and slightly lower in 2004.
- Average Annual Flood damages: $5.6 million
- Majority of the city is within the 1% ACE floodplain.
- Flow regime is highly complex; required sophisticated unsteady flow models to analyze.

Future Without Project Conditions



- Flooding will continue: Estimated $5.6 million annually.
- Colorado River drainage area above Wharton: 14,000 sq. mi.
  - Urbanization (Austin, 200 mi. upstream) will have little effect.
- Some future development is predicted along the U.S. 59 corridor.
  - From hydrologic perspective, no significant change from the existing condition.

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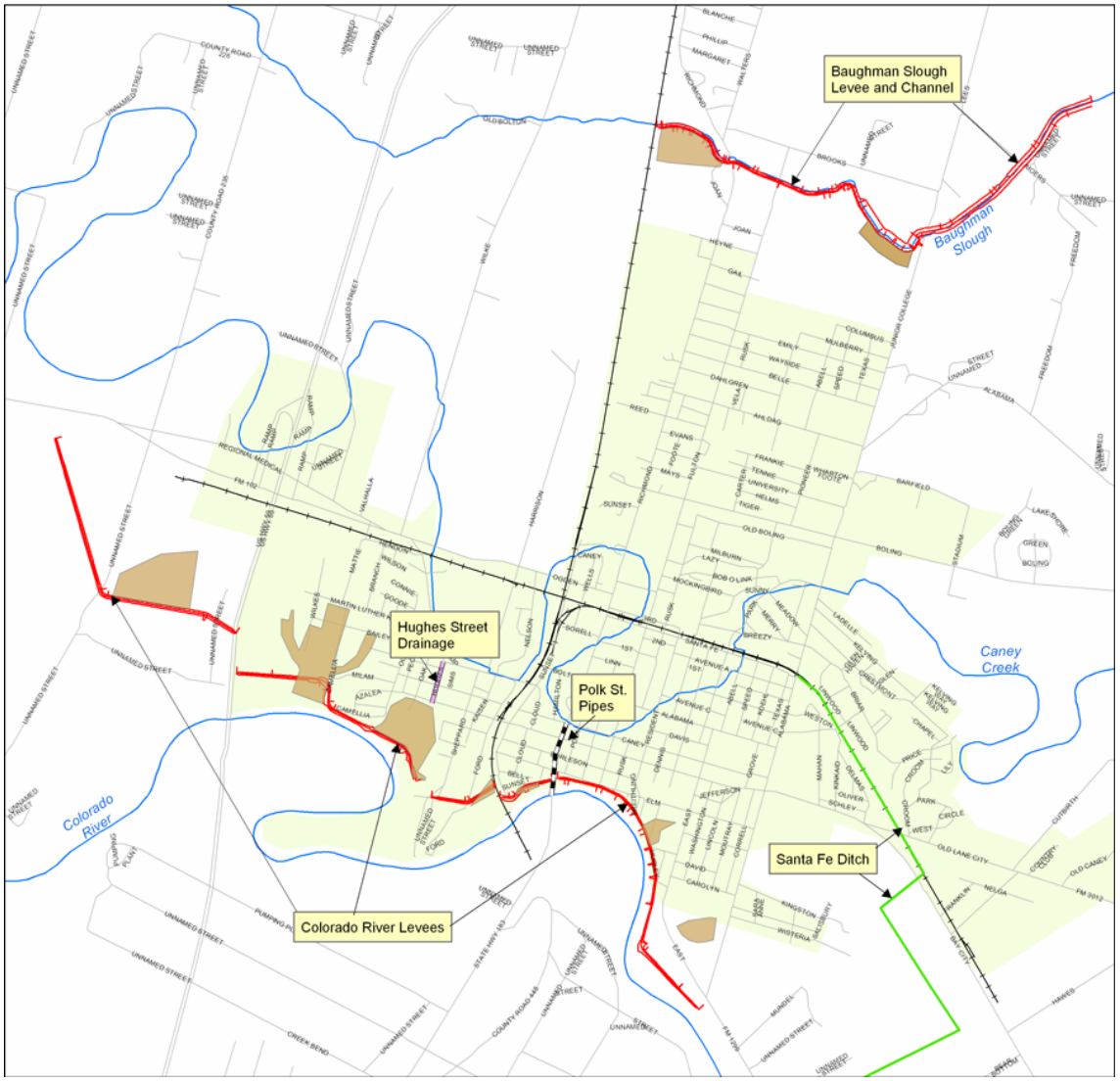
Wharton
Alternatives Evaluated

- No Action
- Buyout
- Levees and Floodwalls
- Channel Modification
- Drainage Facilities
- Combinations

The most appropriate measures were determined for each area and optimized for economic performance.

Wharton Recommended Plan



Colorado River

- 20,300 ft levees (5 feet avg. height)
- 1900 feet floodwall (4 feet avg. height)
- 7 interior drainage sumps

Baughman Slough

- 6600 feet levees (3 feet avg. height)
- 380 feet floodwall (3 feet avg. height)
- 7000 feet of channel modification
- 2 interior drainage sumps

Caney Creek

- Three significant drainage features from Caney Creek to Colorado River
  - Hughes Street 3-60 in. pipes, 1300 ft. length
  - Polk Street 3-60 in. pipes, 1400 ft. length
  - Santa Fe Drainage Channel, 10,700 ft length

  - Estimated cost: $27,429,000
  - Benefit-to-Cost Ratio: 2.2
  - Net Annual Benefits: $1,964,000

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Wharton Component Cost Apportionment for the Recommended Plan			
Feature	***Federal***	***Non-Federal***	***Total***
Lands and Damages		$4,116,000	$4,116,000
Relocations		$785,000	$785,000
Fish and Wildlife Mitigation	$765,000		$765,000
Channels and Canals	$1,354,000		$1,354,000
Levees and Floodwalls	$15,430,000		$15,430,000
Preconstruction, Engineering, Design	$1,093,000	$57,000	$1,150,000
Construction Management	$929,000		$929,000
Santa Fe Ditch (by City, Sec 104)		$2,900,000	$2,900,000
Subtotal	$19,571,000	$7,858,000	$27,429,000
5% Cash by Non-Fed Sponsor	($1,371,000)	$1,371,000	
Additional cash for 35% minimum	($371,000)	$371,000	
Total Cost Apportionment	**$17,829,000**	**$9,600,000**	**$27,429,000**
Cost Share Percentages	**65.00%**	**35.00%**	

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Wharton Policy & Technical Review Process

- Feasibility Scoping Meeting (FSM): 20 Aug 2003
- Alternative Plan Formulation Briefing (AFB): 24 Apr 2006
- Report Independent Technical Review Completed: 17 Aug 2006
  - Performed by Tulsa District.
  - 143 Comments – All resolved.
- HQ Policy/Report Review Completed: 28 Sep 2006

Proposed Milestone Schedule

Milestone	*Wharton*	*Timber Creek*	*Onion Creek Forest Yarrabee Bend*
Initiate PED	Jan-07	Jan-07	Jan-07
Execute PCA	Oct-08	Jan-08	Jun-08
Complete Initial DDR	Dec-07	Jun-07	Oct-07
Acquire Real Estate	Aug-09	Oct-08	Aug-09
Demolition by IDIQ	N/A	Jan-09	Sep-10
Advertise Contract 1	Jan-10	Feb-09	Oct-11
Award Contract 1	Mar-10	Mar-09	Dec-11
Complete Contract 1	Sep-11	Dec-09	Jun-13
Advertise Contract 2	Nov-11	N/A	N/A
Award Contract 2	Jan-12	N/A	N/A
Complete Contract 2	Sep-13	N/A	N/A
Complete Monitoring	Sep-16	Sep-12	Sep-17
Project Closeout	Sep-16	Sep-12	Sep-17

Public Review Process

- 6 meetings related to the Programmatic EIS
- 17 meetings specific to Onion Creek and Wharton
- 6 Public meetings during review (Onion – 5, Wharton – 1)
- Maintained interactive project website
- Formal public review
  - No comments received on Wharton
  - Received 3 comments in support for Onion Creek Forest/Yarrabee Bend
  - Received 3 comments in support of Williamson Creek
  - Received 10 comments opposed to Williamson Creek
  - Received other comments requesting additional information

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Agency Review

- USFWS recommended preservation over restoration for mitigation of riparian woodlands in Wharton.
- The PDT will continue to work with USFWS during PED to assure recommended mitigation features function as designed.
- Adaptive management measures added to assure functionality of the mitigation features.

USACE Civil Works Strategic Plan Goals

1. Water Resource Management

- The project is environmentally acceptable and has an overall Project B/C above 1.0 for each component.

2. Environmental Protection

- Project design/operation will result in the establishment of 206 acres of Riparian Woodlands in Austin. The Wharton component would result in impacts to grasslands, riparian woodlands and wetlands; however, these would be fully mitigated to ensure no net loss.

3. Project Performance

- Project maintenance by the local sponsor consistent with the OMRR&R manual will ensure that design levels are realized.

USACE Civil Works Strategic Plan Goals

4. Reduce Losses

- Reduce flood damages in Wharton by 65 percent.
- Remove approximately 490 houses from the floodplain along Onion Creek.

5. World-Class Organization

- The Wharton project evaluation was extremely complex due to the unique hydraulic regime and flat topography.
- Project will compete for funding using performance based budgeting.

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USACE Environmental Operating Principles

1. Strive to achieve Environmental Sustainability

- Project design/operation will result in riparian woodlands being restored along Onion Creek.
- Identified impacts from Wharton component are fully mitigated.

2. Interdependence of life and the physical environment

- Removing houses as a result of a buyout on Onion Creek maximizes interaction.
- Project designed to have minimal impacts on the environment.

USACE Environmental Operating Principles

3. Seek balance and synergy between human and natural systems

- Both EA's resulted in a Finding of no Significant Impact.

4. Continue to accept corporate responsibility and accountability

- The mitigation plan complies with all Corps Regulations; we will work closely with USFWS to assure successful mitigation.

USACE Environmental Operating Principles

5. Assess and mitigate cumulative impacts to environment

- Project does not require any separable mitigation for cumulative impacts.

6. Build and share knowledge

- Utilized engineering consultants for hydraulics/hydrology analysis on Wharton and the hydraulic design on Williamson because they were "experts" in the field. We will have that knowledge for the next design.

7. Respect the view of individuals and groups

- Input from resource agencies and the public were adequately addressed and incorporated.
- Wharton had no public comments. Viewpoint of USFWS is respected, but cannot accommodate their request, due to Corps regulations.

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The 12 Points

1. Effectively Implement a Comprehensive Systems Approach (Points 1-8)

- Watershed approach, with more recommendations likely.
- Wharton project would implement 1% ACE (100-year) level protection for levees as well as interior drainage.

2. Communication (Points 9-10)

- Onion Creek removes houses and residents from the floodplain thereby reducing risk.
- Wharton understands the risk if an event larger than the design occurs. Project is designed for larger events to “flank” the levees, not overtop.

3. Reliable Public Service Professionalism (Points 11-12)

- Utilized private consultants that had specialized expertise when it was unavailable at the District.

Policy Guidance Memo

- **Documentation of Analyses**
  - **High land costs identified as a major issue for the ecosystem restoration on Williamson Creek.**
  - **Land costs comprise 88% of restoration cost, due to being in a highly urbanized area.**
  - **Williamson Creek area removed from consideration by District with agreement from HQ. Sponsors still desire Federal participation on Williamson Creek.**

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Recommendation

- Recommend the Civil Works Review Board approve the Lower Colorado River Basin Phase I, Texas Interim Feasibility Report and Integrated Environmental Assessment.

- Recommended plan is technically sound, environmentally acceptable, and economically feasible. It complies with all current policies and laws.

- Plan is supported by the local sponsors. They have indicated a willingness and ability to provide all non-Federal requirements.

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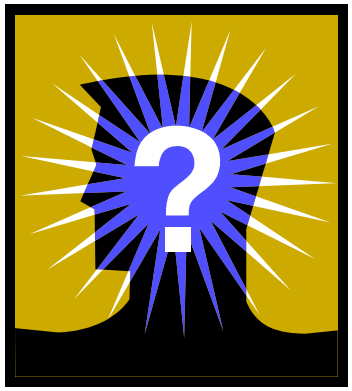
Questions & Comments



TEXAS COLORADO RIVER FLOODPLAIN COALITION

Texas Water Development Board

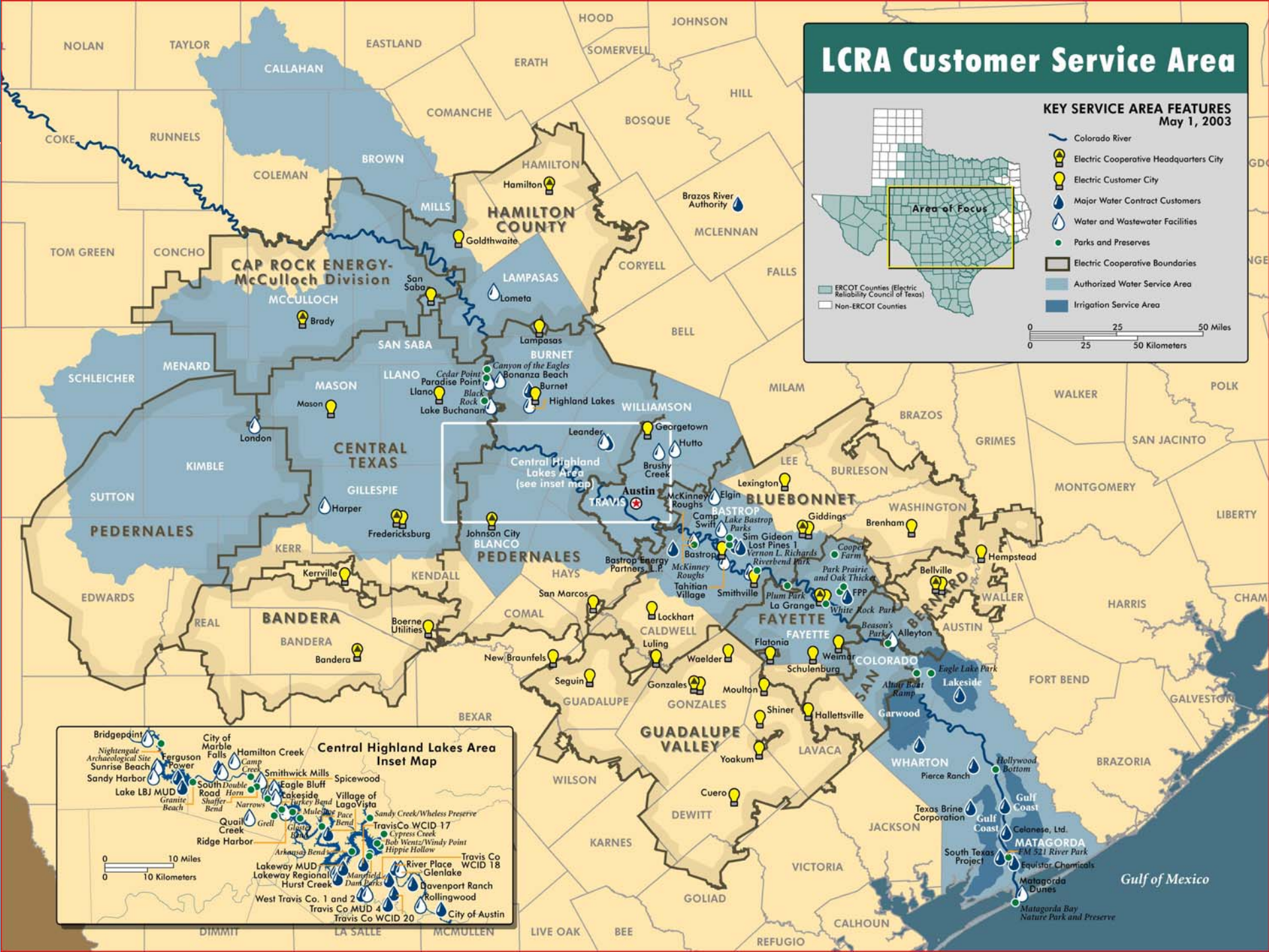
City of Wharton

Travis County

City of Austin

Sunset Valley

LCRA Customer Service Area



Coordinated Effort

River Operations

- Lake Forecasts
- Gate Operations
- Emergency Management

Federal Agencies

- Corps of Engineers
- National Weather Service
- U.S. Geological Survey

State and Local Officials

- Governor's Office
- Texas Council for Environmental Quality
- City Emergency Managers
- County Emergency Managers

COALITION MEMBERS

UPPER BASIN

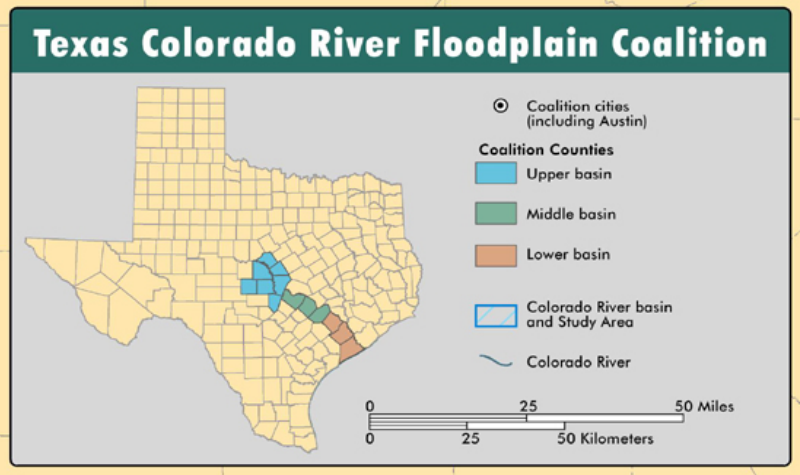
COUNTIES	CITIES	
Blanco	Bertram	Lampasas
Burnet	Brady	Llano
Lampasas	Brownwood	Lometa
Llano	Cottonwood Shores	Marble Falls
San Saba	Goldthwaite	Mason
Mason	Granite Shoals	Meadowlakes
Mills	Highland Haven	San Saba
	Johnson City	Sunrise Beach Village
	Kempner	

MIDDLE BASIN

COUNTIES	CITIES	
Bastrop	Austin	La Grange
Fayette	Bastrop	Lakeway
Hays	Cramine	Mustang Ridge
Travis	Elgin	Point Venture
Williamson	Flatonia	San Leanna
	Jonestown	Smithville
	Lago Vista	West Lake Hills

LOWER BASIN

COUNTIES	CITIES
Matagorda	Bay City
Wharton	Columbus
Colorado	Eagle Lake
	El Campo
	Palacios
	Wharton



Gulf of Mexico

City of Austin Remarks

City of Austin – Fast Facts

- Founded 1839
- Population - 710,000
- Incorporated Area - 250 square miles
- Structures in Floodplain – 7000+
- Roadway Crossings in floodplain - 400+
- History of Flash Flooding

  1981,1991,1998,2001,2004

  $70M+ Damages, 15 Fatalities

Flash Flood Alley

1997

Heavy rains bring more flooding to region

Continued from A1

downstream.

Where there were no streams, the rain created new ones.

Stephanie Alexis Hester, 17, was walking with two friends near Prince Valiant Drive and South First Street shortly after 7 a.m. Tuesday when she stepped or fell into a swollen drainage ditch and drowned.

The weed-choked ditch ... 6 feet deep and 8 feet ... along the western e... First Street about ... south of West Will... Boulevard.

"She and two frie... going out for a morning walk in the rain," said Cathy Brandewie, spokeswoman for the Austin Fire Department. "The young woman stepped too close to the ditch and ...

a low-water crossing on County Road 272 into Brushy Creek around 11:30 a.m.

Farmer, who was trapped in the truck for about 30 minutes, was rescued with a ladder truck from the Cedar Park fire department.

■ A man was rescued from the roof of his car about 8:30 a.m. at Alum Rock Drive and Colton-Bluff Springs Road after he drove into ...

The floods caused severe property damage.

When Dean Reilly, a carpenter, left his southeast Travis County ... a.m. Tuesday, it was ... ng. By 10:30 a.m., his ... ed out and he re... o find Travis Coun... ad blocked off his ... e helping his neigh... the Thoroughbred ... 973, south of the ... Bergstrom. ... w there was a prob... r the police," Reilly ... ty Deputy Anthony ... officers, wading in ... waists, began ask... s to leave their ... Citation Avenue ... aters dropped as ... rose. By 11:30 a.m.

Heather Davis, 14, hangs on to a tree while Mary Rollman, 14, waits to be rescued from Slaughter Creek. They were pulled from the raging water by members of Austin Emergency Medical Services with help from Manchaca fire department and emergency medical services personnel.

Sung Park/AA-S

1998

Austin American-Statesman

$1.50 ★★ N5 *

www.austin360.com

SUNDAY, OCTOBER 18, 1998

STORMS ACROSS TEXAS: PAGES A8-10

5 perish as rains rage

■ Pflugerville girl drowns; 4 are missing elsewhere

■ Thousands evacuated in Hays, Comal counties

■ Threat persists with more heavy rain likely

Taylor Johnson/AA-S

Rachel and Joe Story, with their cat Sunshine, wade through high water Saturday at the Austin Hills Mobile Home Estates at 5101 Johnny Morris Road in far East Austin. Across Central Texas, flooding caught residents by surprise.

Coping with the flood

■ Road closings: Call the Austin-Travis County Emergency Operations Center at 445-1896 for local road closings. Or contact ...

(Photo in Onion Creek Forest)

Shoal Creek-2001

City of Austin
Capital Improvement Program

- Flood Hazard Reduction Expenditures
  $150M+ (post 1981 flood)
- Project Types
  - Regional Detention
  - Channel Modification
  - Floodwalls/Levees
  - Bypass Channels
  - Bypass Tunnel
  - Property Buyouts

City of Austin
Onion Creek Forest / Yarrabee Bend

- 777 Houses in 100-year floodplain
- Historical Floods in Lower Onion Creek
  - 1998 & 2001 – 400+ houses flooded

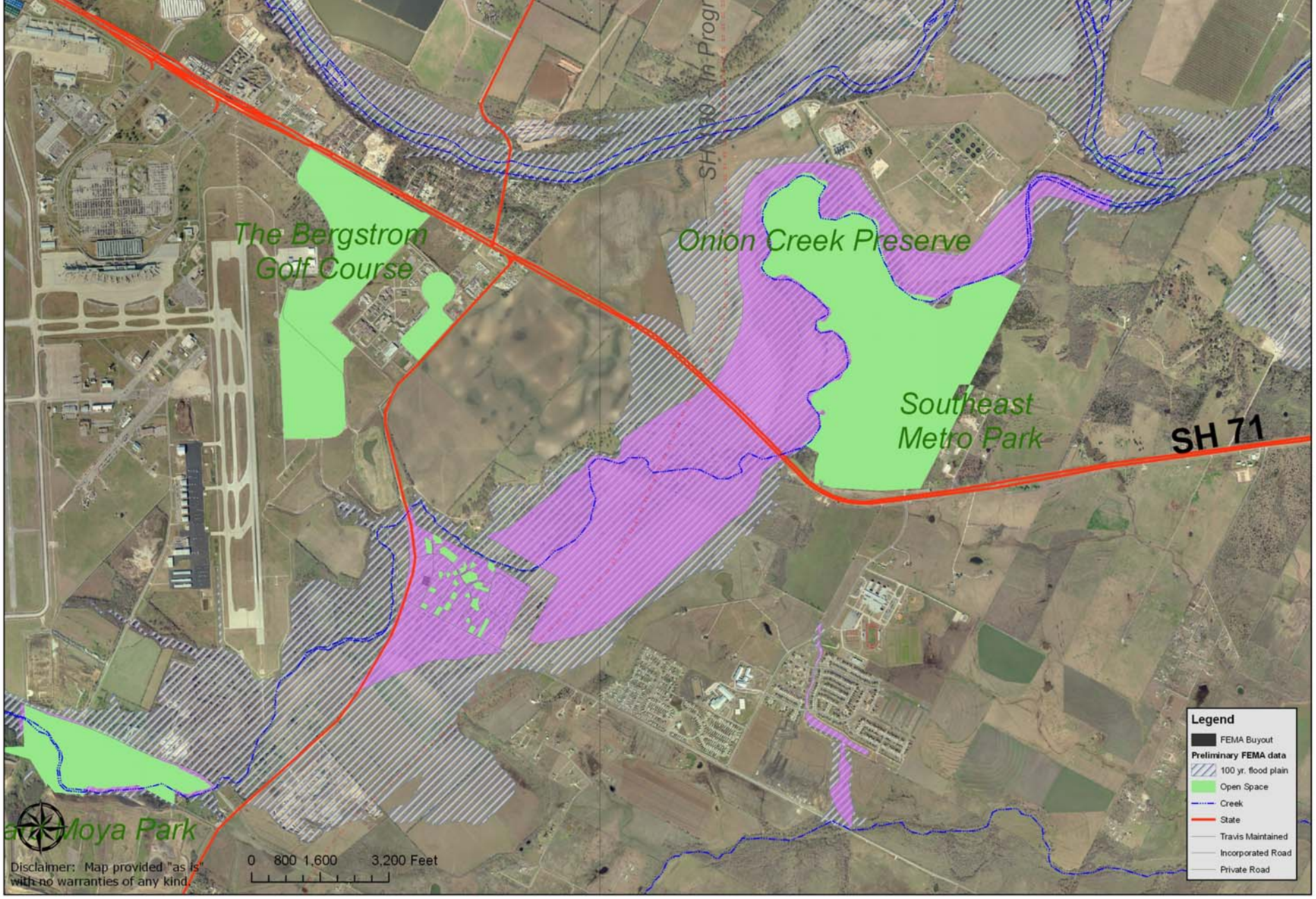
- High Project Cost Welcomes Federal Cost Participation
  - Floodplain Evacuation-Buyout 410 houses
  - Ecosystem Restoration & Recreational Facilities

City of Austin
November 7th Bond Election

- Proposition Number 2
  - $95M For Drainage Improvements
  - $28M Programmed For Onion Creek Corps Project
- Austin Citizens have *never rejected* a Bond Proposition for flood hazard reduction

Area of Interest:

Timber Creek Segment
Travis County, Texas



Data Sources: Roads - Travis County May 2006, CoA Jurisdiction - City of Austin March 2006, 100 Year Floodplain-2005 Preliminary data, Open Space-various source compiled by Travis County.

Context for Timber Creek Recreation Area

Travis County Transportation & Natural Resources October 16, 2006 www.co.travis.tx.us/maps

Onion Creek - Timber Creek Neighborhood
Updated FEMA Buy-Out Properties

Source: PDM-C list provided by Stacey Scheffel, Flood Plain Administator 1/25/2005.

July 1869
June 1941
November 2001
October 1998
June 1981 and December 1991

Summary of Travis County/FEMA Buyouts

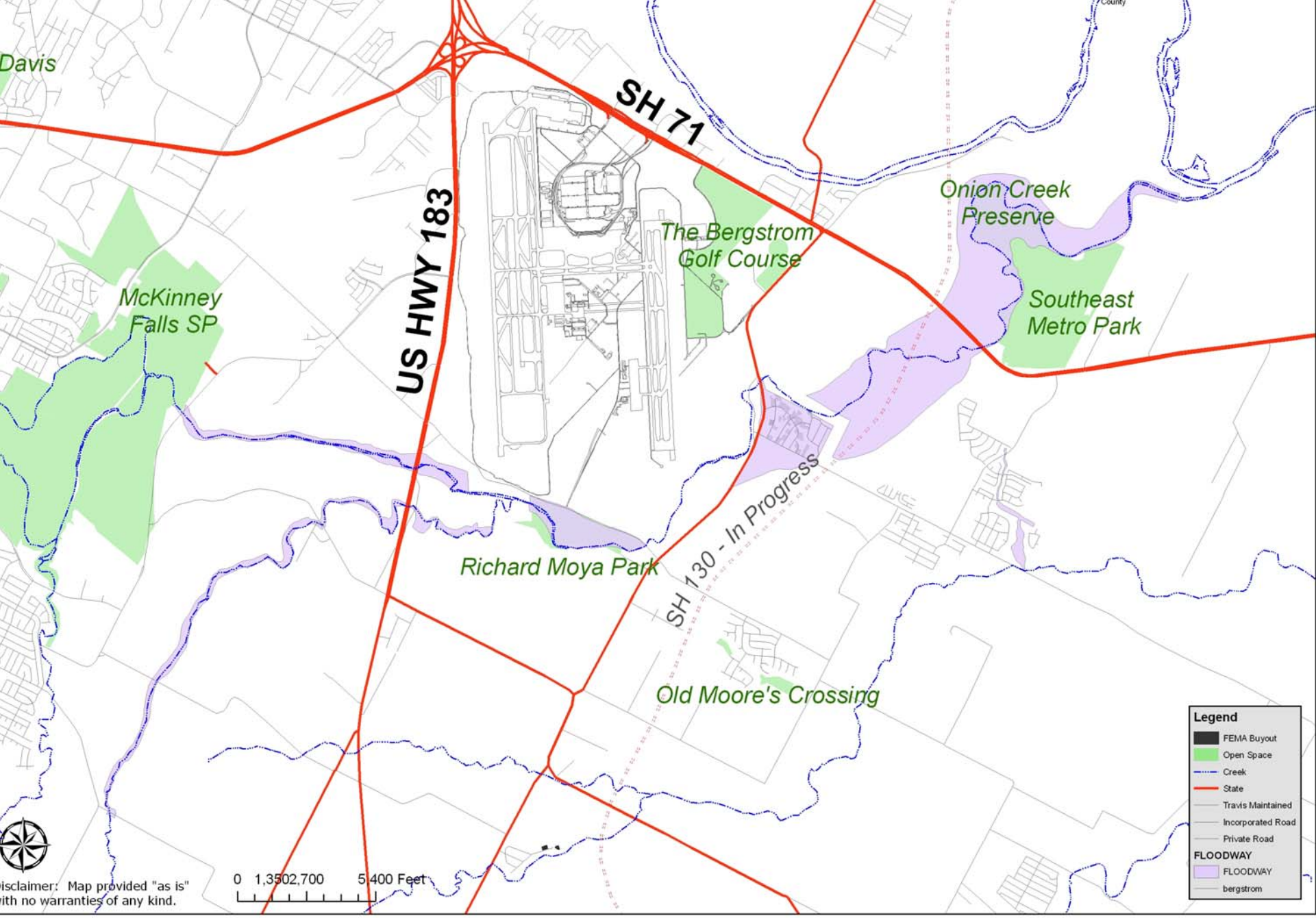
- 40 properties purchased in Timber Creek
  - FEMA funds: $1,597,498
  - County/local funds: $750,006
- Federal Assistance for Buyouts:
  - Hazard Mitigation Grant Program
  - Flood Mitigation Project Grant
  - Pre-Disaster Mitigation Grant
- **No duplication between FEMA and COE**

Estimated COE Project Costs for Timber Creek

- Federal $6,749,000
- Non-Federal $3,999,000
- Total $10,739,000

Availability of County Matching Funds

- 2005 Bond Funds
  - Approved by voters November 2005
  - $3.9 million for Timber Creek
  - Available to begin project in Spring 2006
- Certificates of Obligation
- General Fund
  - Operations & Maintenance
- Section 215 ?



ta Sources: Roads - Travis County
y 2006, CoA Jurisdiction - City of
stin March 2006, 100 Year Floodplain-
05 Preliminary data, Open Space-

Context for Timber Creek Recreation Area

Travis County
Transportation &
Natural Resources
October 16, 2006

City of Wharton Remarks

CITY OF WHARTON, TEXAS

Presented by Mayor Bryce D. Kocian

- City of Wharton appreciates the professionalism of the U.S. Army Corp of Engineers and the opportunity to move forward with the project.

- August 14, 2006, Wharton City Council unanimously approved Resolution No. 2006-54 approving the U.S. Army Corp of Engineers Lower Colorado River Phase I Report - City of Wharton Flood Prevention Project and Recommended Plan.

- City of Wharton is prepared to fund its portion of the project.

- City of Wharton goal to remove entire City from the Special Flood Hazard Area (SFHA).

Nan Ya Plastics, Corp USA
Dawson Elementary School
City of Wharton District 1

CITY OF WHARTON, TEXAS

City Initiative

- After 1998 Colorado River Flood Event, City partnered with the U.S. Army Corps of Engineers, Lower Colorado River Authority, Texas Water Development Board, and the Texas Colorado River Floodplain Coalition to develop the Wharton Interim Feasibility Study.

- January 2006 - obtained credit eligibility under Section 104, 1986 WRDA, for the Santa Fe Drainage Outfall Channel Project.

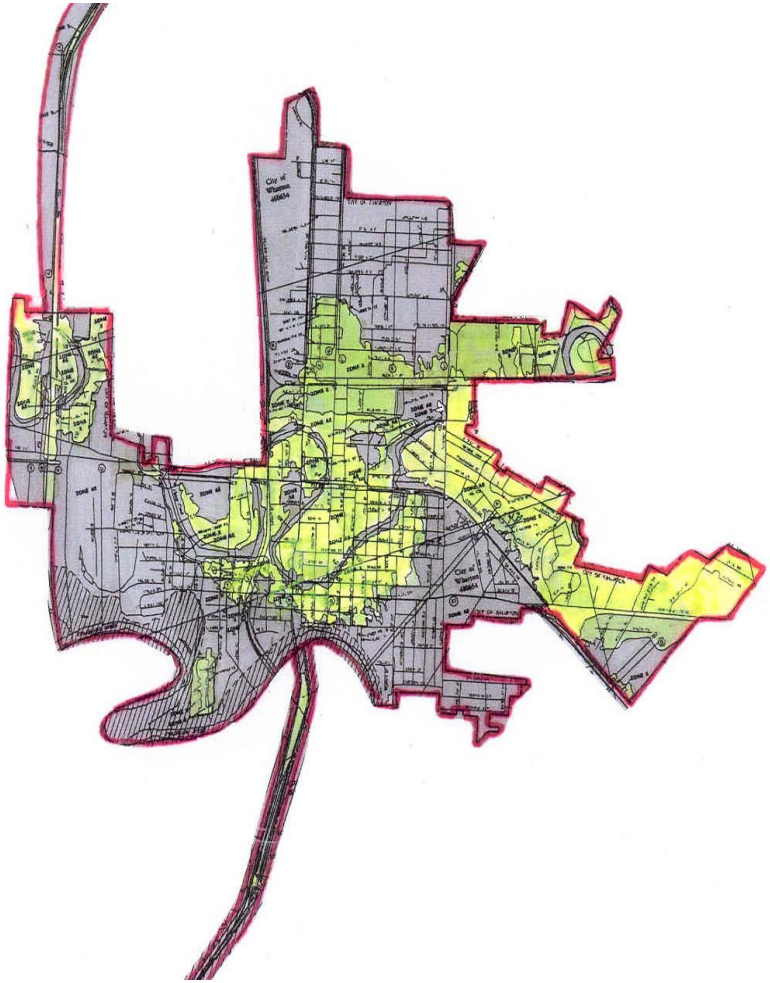
- 2004 -2006 Bond Issue - City advanced funding for this alternative in the plan.

- April 2002 - The City undertook an Internal Drainage and Floodproofing Study - 9 Projects within the City had been identified and will interface with alternatives in the recommended plan.

CITY OF WHARTON, TEXAS

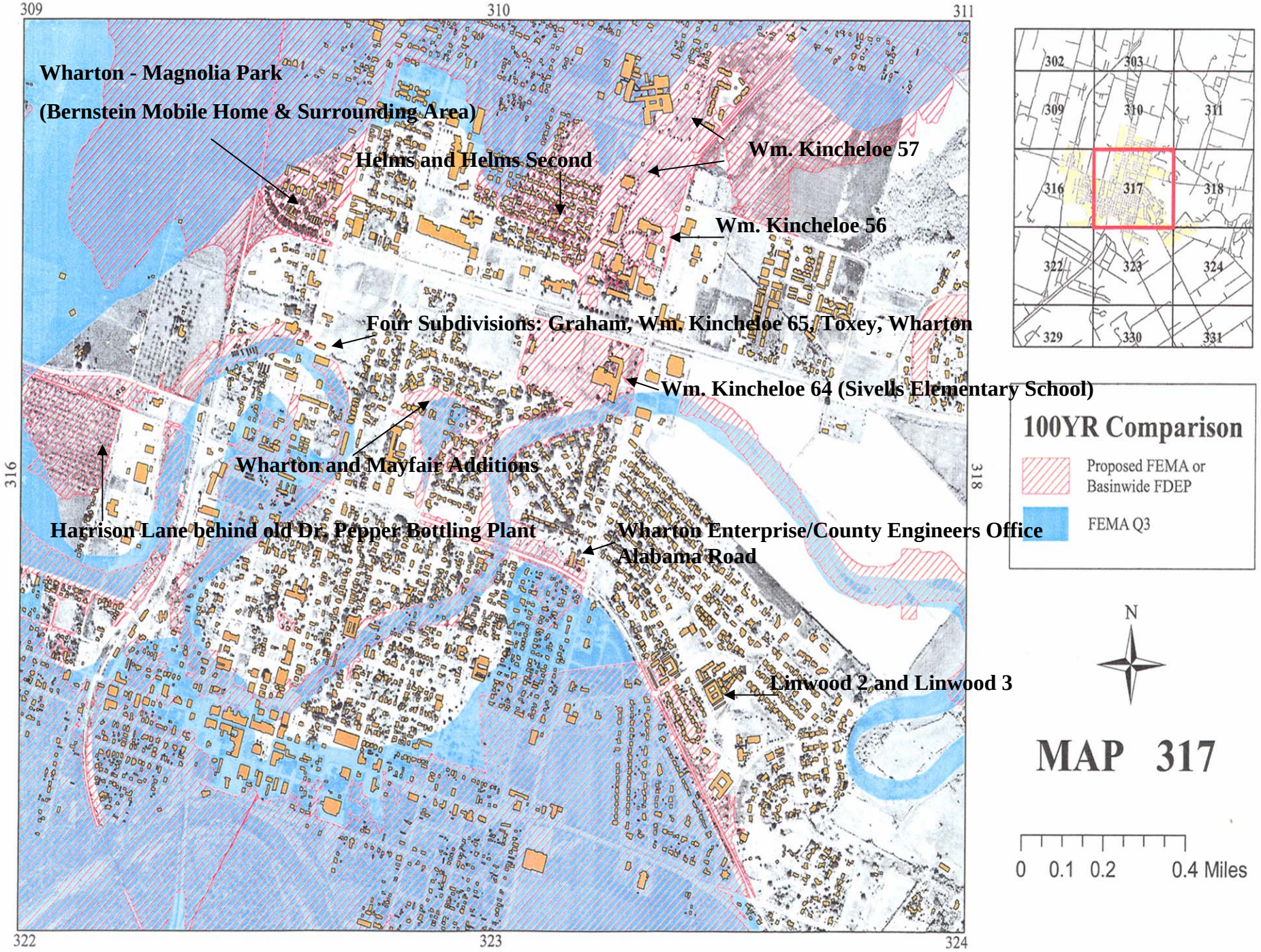
FEMA RE-MAPPING

- New FEMA/FIS Maps effective April 5, 2006.
- City has 5,295 parcels, which the re-mapping added approximately 328 parcels into the Special Flood Hazard Area (SFHA).
- Approximately 60% of the City is now located within the SFHA.
- March 2006, Wharton City Council adopted Ordinance No. 2006-06 - Flood Damage Prevention with adopted new maps.
- Preparing application for participation in the Community Rating System (CRS) to assist homeowners in reducing flood insurance costs.



Gray Areas located in the SFHA

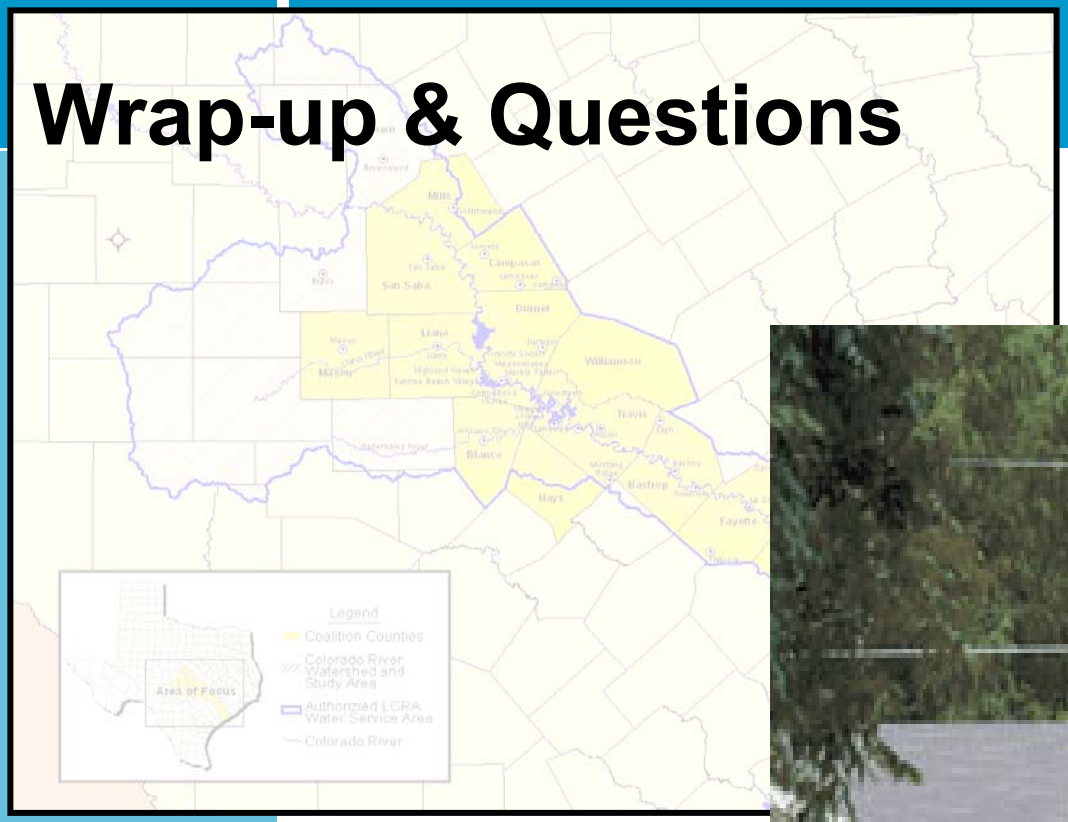
Yellow Areas not located in the SFHA


309
310
311
316
318
322
323
324
Wharton - Magnolia Park
(Bernstein Mobile Home & Surrounding Area)
Helms and Helms Second
Wm. Kincheloe 57
Wm. Kincheloe 56
Four Subdivisions: Graham, Wm. Kincheloe 65, Toxey, Wharton
Wm. Kincheloe 64 (Sivells Elementary School)
Wharton and Mayfair Additions
Harrison Lane behind old Dr. Pepper Bottling Plant
Wharton Enterprise/County Engineers Office
Alabama Road
Linwood 2 and Linwood 3
302
303
309
310
311
316
317
318
322
323
324
329
330
331
100YR Comparison
Proposed FEMA or Basinwide FDEP
FEMA Q3
N
MAP 317
0 0.1 0.2 0.4 Miles

CITY OF WHARTON, TEXAS

- City Thanks the U.S. Army Corps of Engineers for their continued support.
- City of Wharton looks forward to a continuous working relationship with the Corps to floodproof the City.
- City believes that this can only be accomplished with the Corps assistance.

Wrap-up & Questions



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of Engineers ®

Presentation to the

CIVIL WORKS REVIEW BOARD

Lower Colorado River Basin Phase I, Texas
Interim Feasibility Study
(Onion Creek and Wharton)

by the
SWD Commanding General

October 26, 2006

One Corps Serving The Army and the Nation

US Army Corps of Engineers ®

Rationale for SWD Support

- Concur with Fort Worth District (SWF) Commander's findings and recommendations
- Report complies with all applicable policies and laws in place at this time
  - FEMA funded land-buy within project site
  - To be addressed in PED
- Anticipate a favorable response to the draft Chief's Report
  - USFWS has not concurred with plan (issue: want different mitigation strategy than USACE regulations allow)
  - Agreed to find solution in PED
- Plan supported by sponsor and congressional delegation

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Certification of Legal and Policy Compliance

- Legal certification by SWF Counsel on 10 Oct 2006
- Technical and policy compliance:
  - Flood Damage Reduction Center of Expertise was consulted. Two Multi-District ITR teams was formed.
    - Tulsa District (SWT) was the lead for Wharton Component.
    - Louisville District (LRL) was the lead for the Onion Creek Component, with assistance from Los Angeles (SPL) and SWT.
  - All ITR comments resolved.
  - ITR Team certification:
    - 17 Aug 2006 (Wharton)
    - 18 Aug 2006 (Onion Creek)

US Army Corps of Engineers ®

SWD Quality Assurance Activities

- Active participation by vertical team
- Worked with SWF to successfully resolve HQ review comments
- SWF certified that project is technically, legally, and policy compliant
- Division Counsel confirmed technical, legal, policy compliance on 13 Oct 06

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SWD Recommendation

- Approve Final Feasibility Report
- Release report for State and Agency Review
- Complete Chief's Report NLT 31 Dec 2006 to be postured to meet a contingent authorization in the event Congress passes WRDA 2006

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SWD Understanding

- Activities to be completed by 31 Dec:
  - Begin 30 day State and Agency review — 31 Oct
  - Complete State and Agency review — 5 Dec
  - Sign Chief's report — 22 Dec

Lower Colorado River Basin, TX Phase I

Significant Policy Review Concerns

Lower Colorado River Basin Flood Damage Reduction and Ecosystem Restoration

Thomas Hughes
Office of Water Project Review
Planning and Policy Compliance Division

Washington, DC – October 26, 2006

Lower Colorado River Basin

Flood Damage Reduction and Ecosystem Restoration Project

Areas of Policy Concern:

- Documentation
- Value Engineering

<u>Onion Creek</u>

- Significance of Environmental Resources
- Land Acquisition Costs
- Presence of FEMA-HMGP Project
- Recreation Facilities on FEMA/Locally Owned Lands

<u>Wharton</u>

- Bracketing the NED Plan
- Interior Drainage

Lower Colorado River Basin

Flood Damage Reduction and Ecosystem Restoration Project

Documentation

Concern: The documentation of the study process was less than complete which resulted in multiple comments addressing such topics as Existing conditions, problem identification, future without project conditions and coordination activities.

Reason: Without complete information on the study process, the formulation of alternatives and the selection of the NED plan are in question.

Resolution: The district responded to comments to sufficiently address the sufficient documentation of the study process to allow the reader to assess all the alternatives considered and the analysis used to identify the NED plan

Resolution Impact: Resolved

Lower Colorado River Basin

Flood Damage Reduction and Ecosystem Restoration Project

Value Engineering

Comment: VE effort inadequate for planning phase. Potential savings and/or improvements were not part of defining & selecting the best plan.

Reason: Value Management Workshop required prior to the selection of final alternatives (ER 11-1-321)

Resolution: Resolved - complete VE study early in PED
- may require evidence of VE actions in all AFB review submittals

Resolution Impact: Stay on schedule, but any VE induced changes identified in PED may or may not be within discretionary authority

Lower Colorado River Basin - Onion Creek
Flood Damage Reduction and Ecosystem Restoration Project

Significance of Environmental Resources

Concern: The district needs to clarify how the riparian restoration directly and indirectly benefits the animals closely associated with the streams in the project area to support the proposal and reduce the possible perception that the riparian zone provides largely terrestrial habitat outputs.

Reason: The issue raised in this comment stems from the very strong emphasis placed on the restoration of aquatic ecosystems in the 29 July 2005 memorandum from ASA(CW) John Paul Woodley, and the equally strong statement that terrestrial restoration should play a very limited role in Corps projects.

Resolution: The District added a discussion about the benefits of the proposed restoration in the final report in the Aquatic Resource Section

Resolution Impact: Resolved

Lower Colorado River Basin - Onion Creek
Flood Damage Reduction and Ecosystem Restoration Project

Land Acquisition Costs

Concern: Land acquisition costs for the for ecosystem restoration components exceeds 25 percent of project cost. Land acquisition costs constitute 88 percent of the ecosystem cost of the Williamson Creek component, 51 percent for the Onion Creek Forest/Yarrabee Bend Segment component, and 31 percent for the Timber Creek component.

Reason: Paragraph 7.m of EP 1165-2-502 states, "As a general rule, land value should not exceed 25 percent of total project costs {for Ecosystem projects]. Projects that exceed 25% would not likely to be given a high budget priority."

Resolution: Williamson Creek was removed from the recommended plan. Yarrabee and Timber Creek were reviewed to determine if lesser land could be acquired. The land acquisition percentage for Yarrabee was reduced to 49% but Timber Creek remained the same. However, this land acquisition cost is relatively minor in relation to the associated flood damage reduction project.

Resolution Impact: Resolved

Lower Colorado River Basin - Onion Creek
Flood Damage Reduction and Ecosystem Restoration Project

Presence of FEMA-HMGP Project

Concern: HQ Review recently discovered that a portion of the Yarrabee Bend has been approved for a FEMA-HMGP voluntary buy-out. Up to about $8M and 118 homes by June 08.

Reason: The presence of the FEMA program could affect project costs, benefits, and recreation development. Late discovery of this issue causes problems in final report processing and potential missed opportunity for fostering collaborative planning.

Proposed Resolution: District performing Worst Case Scenario analysis of effects of FEMA program on project. Preliminary results indicate that success of the FEMA program may have positive effects on BCR if recreation benefits can be maintained by waiver request or adjustments in facility locations or cost sharing.

Resolution Impact: Should not delay initiation of S&A review. May effect recreation facilities plan and/or project cost-sharing to a small degree. A big lesson learned regarding early issue resolution. [see next slide on recreation facilities issue]

Lower Colorado River Basin - Onion Creek
Flood Damage Reduction and Ecosystem Restoration Project

Recreation Facilities on FEMA/Locally Owned Lands

Concern: Both Timber Creek and Yarrabee Bend project elements include recreation facilities on lands that are already owned by sponsor and/or lands that may be acquired by sponsor through FEMA-HMGP project, thus these lands are not required by Corps for non-recreation purposes.

Reason: Corps policy limits Federal cost-sharing for recreation to facilities developed on lands acquired for non-recreation purposes except for access and parking. [Ref: ER 1105-2-100, para. 3-7b]

Proposed Resolution: Coordinate with OASA(CW) during S&A review period to attain approval for Corps cost-sharing in recreation facilities on sponsor current and future owned lands as part of an overall collaborative Federal and non-Federal effort. If approval not attained, then make adjustments in recreation facilities or make cost sharing changes during PED. In addition, district needs to coordinate with FEMA for agreement on the scope of recreation facilities on lands acquired thru HMGP.

Resolution Impact: Should not delay initiation of S&A review. May effect recreation facilities plan and/or project cost-sharing to a small degree. May also set new precedent for NSFDR and collaborative planning.

Lower Colorado River Basin - Wharton

Flood Damage Reduction and Ecosystem Restoration Project

Bracketing the NED Plan

Concern: The economic analyses and supporting explanations do not demonstrate that smaller plans that would not provide similar or greater net benefits.

Reason: In order to identify the NED Plan in accordance with paragraphs 2-4d and 3-3b (11) of ER 1105-2-100, evaluate at least one plan smaller than the apparent NED Plan or explain why smaller plans are not practical.

Resolution: The requested rationale was included in the final report.

Resolution Impact: Resolved

Lower Colorado River Basin - Wharton
Flood Damage Reduction and Ecosystem Restoration Project

Interior Drainage

Concern: Sumps were added to the recommended plan to deal with interior drainage issues. No minimal facilities were determined. If the recommended sumps are larger than needed to meet the minimal facility requirement then they must either be incrementally justified or identified as a component that is a 100% non-Federal cost.

Reason: As per EM 1110-2-1413 and PGL #37 minimal facilities are intended as a starting point from which additional interior facilities planning will be based.

Resolution: The district needs to evaluate the minimum facility requirements and determine the difference between the minimal facility and the recommended option.

Resolution Impact: Should not delay initiation of S&A review. Perform analysis during during S&A review.

Lower Colorado River Basin

Flood Damage Reduction and Ecosystem Restoration Project

HQUSACE Policy Compliance Review Team RECOMMENDATION

Release the report and EA for S&A Review

Resolve remaining issues prior to final COE report

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SWD Lessons Learned

Sustain:

- Continue extensive communications with the public, agencies, and other organizations using multiple methods
  - 12 Points #9: Effectively Communicate Risk - Integrate effective communication of risk and reliability concepts…
- Communications with vertical team
  - 12 Points #3: Continuously Reassess Policy, Planning Guidance - Review and refresh planning guidance and engineering standards at a greater frequency…

Improve:

- Write the report throughout the formulation process
  - 12 Points #1: Employ Integrated, Comprehensive and Systems-Based Approach – A systems approach will be used in conjunction with all partners to facilitate collaborative planning
- Document all analyses clearly and report residual risk
  - 12 Points #2: Employ Risk-Based Concepts – Identify residual risk, plan, design and communicate accordingly