Trinity Common Vision Steering Committee

September 21, 2021

North Central Texas Council of Governments
Environment & Development

Welcome and Introductions

- Thanks for attending!
- Please introduce yourself in the chat box.
- Please mute your line.
- Unmute your line when you would like to speak during question and discussion time.
  - We will also watch the chat box for questions

Trinity Common Vision

Trinity River Corridor Interlocal Agreement - 1989

TEN CITIES

Arlington
Carrollton
Coppell
Dallas
Farmers Branch
Fort Worth
Grand Prairie
Irving
Lewisville
Seagoville

FOUR COUNTIES

Dallas County
Denton County
Kaufman County
Tarrant County

PROGRAMMATIC PARTNERS

NCTCOG Environment & Development
U.S. Army Corps of Engineers
Federal Emergency Management Agency
Texas Water Development Board

TWO SPECIAL DISTRICTS

Tarrant Regional Water District
Trinity River Authority

North Central Texas Council of Governments
Environment & Development

US Army Corps of Engineers

North Central Texas Council of Governments

Trinity River Common Vision Program

Timeline & Background

1990 Upper Trinity River Basin Reconnaissance Report

Interlocal Agreements signed by member cities & Congress authorizes the Upper Trinity River Feasibility Study (UTRFS). These studies by the Corps of Engineers simulated the cumulative impacts of flooding in the Dallas-Fort Worth area based on different levels of floodplain development.

1990 Flood Management Task Force

Flood Management Task Force formed and CDC criteria developed based on ROD.

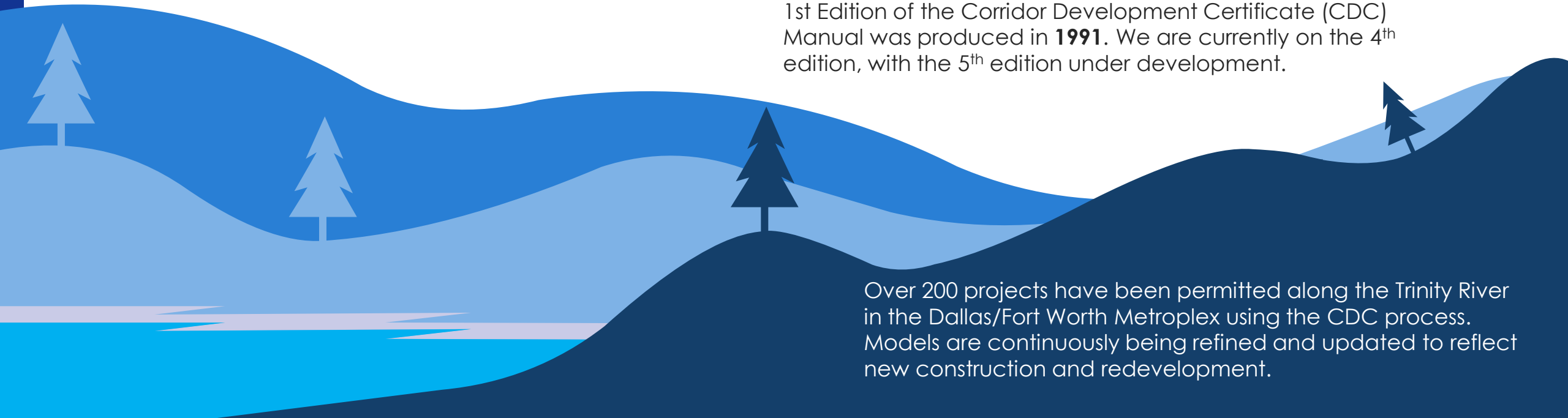
$11B

Record of Decision

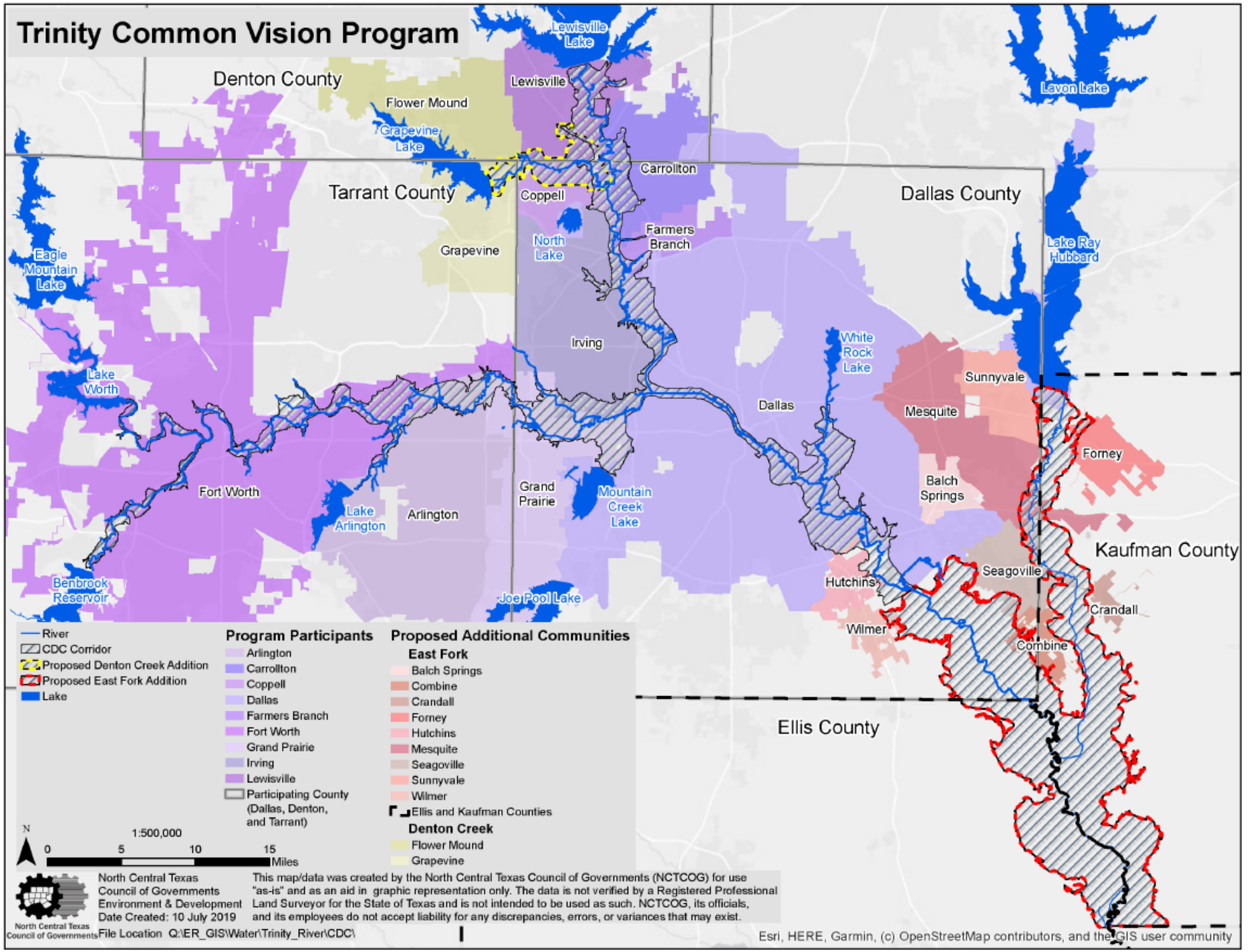
Results suggest that damages from a major flood could total more than $11 billion if floodplain development is unregulated. A comprehensive floodplain management program could cut losses to $4 billion.

Corridor Development Certificate (CDC) Manual

1st Edition of the Corridor Development Certificate (CDC) Manual was produced in **1991**. We are currently on the 4th edition, with the 5th edition under development.



Over 200 projects have been permitted along the Trinity River in the Dallas/Fort Worth Metroplex using the CDC process. Models are continuously being refined and updated to reflect new construction and redevelopment.



North Central Texas Council of Governments
Environment & Development

CDC Program Goals

Corridor Development Certificate Program

Limits Impact

Limits (but does not eliminate) the impact of floodplain encroachments for regulated streams on downstream areas

Review Process

Establishes a consistent regional criteria and review process

Funding Stream

Provides a funding stream for updates and state-of-the-art models and modeling tools

CDC Program Goals

Corridor Development Certificate Program

Provides Oversight

Provides oversight for projects constructed in the 100 year floodplain

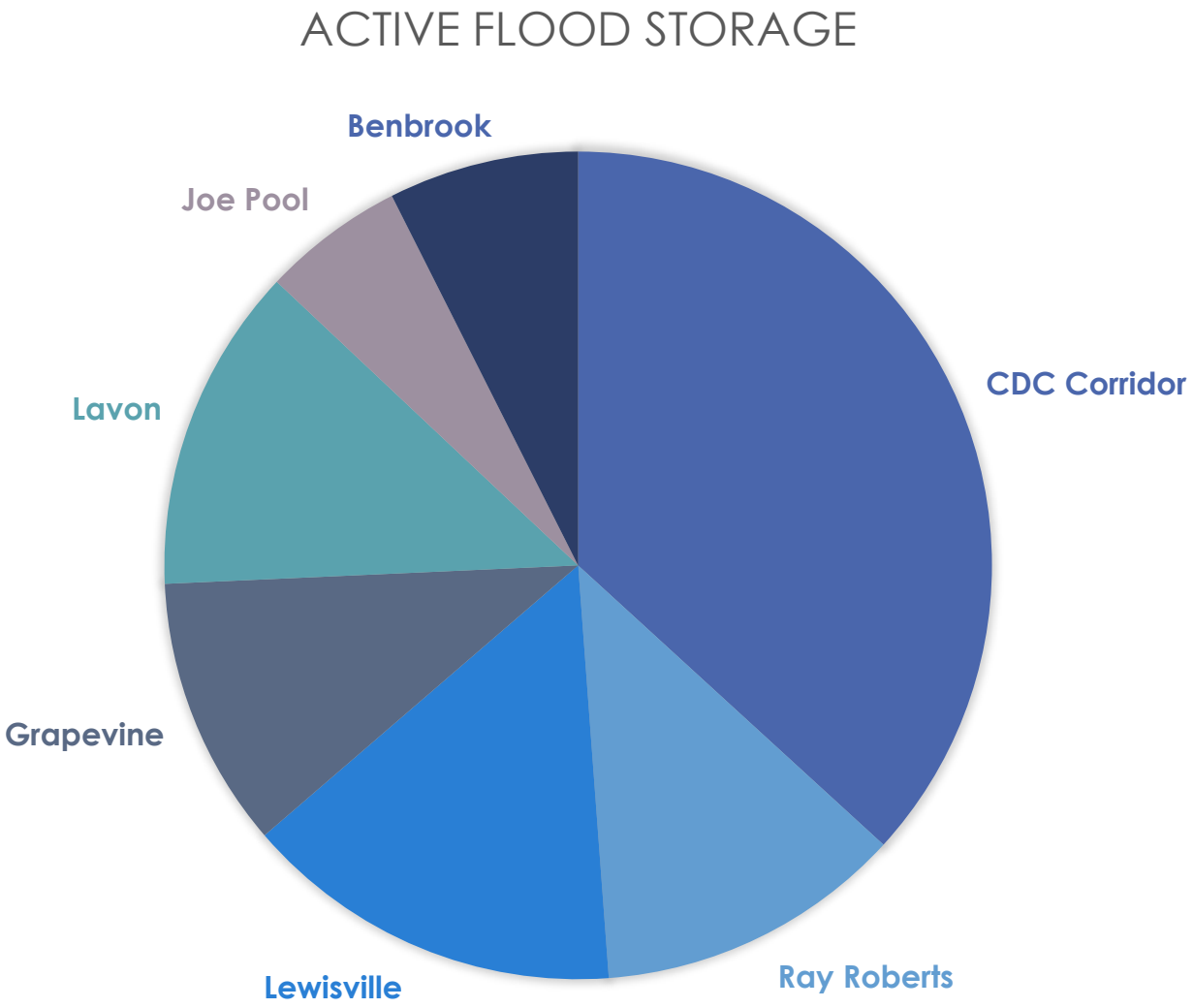
Allows Development

Allows development in the floodplain

Project Review

Allows all Flood Management Task Force (FMTF) members to review projects for the entire regulatory footprint

Why is the Trinity River Corridor So Important to Flood Prevention?



Common Vision Work Program & Activities Update

North Central Texas Council of Governments
Environment & Development

FY2021 Trinity River Common Vision Work Program

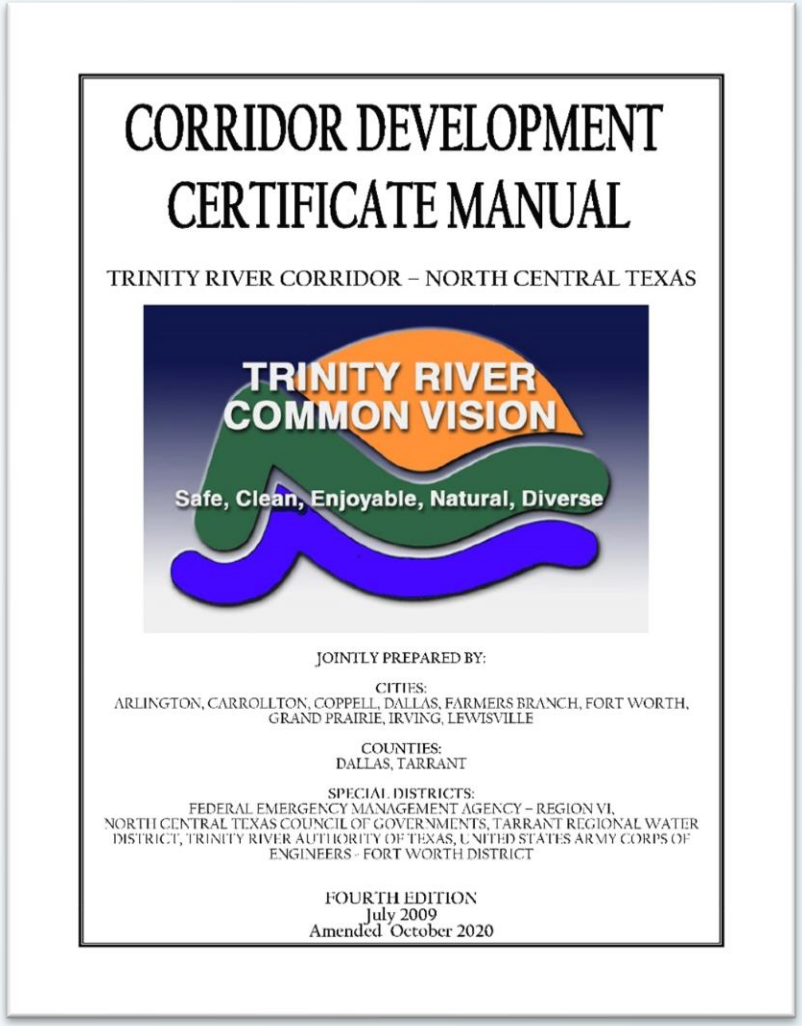
CDC Manual Update to the 5th Edition

- Following approval of the recommendations for the NFIP-CDC Combined Modeling Effort last year, the NFIP-CDC Model Consolidation Team has continued to meet monthly to incorporate those changes into the 5th Edition Manual.
  - Team Members
    - Lisa Biggs, Team Chair – City of Fort Worth
    - Amy Cannon – City of Arlington
    - Kim Dewailly, Olivia Whittaker – City of Dallas
    - Jennifer Bonner – City of Seagoville
    - Mike Danella, Matt Lepinski – USACE
    - Alan Johnson – FEMA
    - Craig Ottman -TRWD
    - Stephanie Griffin – Halff Associates
    - Jake Lesue – Dewberry
    - Jim Keith, Chris Johnson – FNI
    - Mia Brown, Edith Marvin, Breanne Johnson - NCTCOG

FY2021 Trinity River Common Vision Work Program

CDC Manual Update to the 5th Edition

- Main Updates and Revisions included in the new manual
  - Updating the CDC Process to include the NFIP-CDC Consolidated Model.
  - Inclusion of new Trinity River CDC website
  - CDC will be valid for two years instead of current five years and one year extensions given instead of three years
  - CDC Cost Recovery Fee renamed to CDC Application Fee
  - Addition of Model Maintenance Fee following completion of project
  - Revised format of chapters to clarify requirements and process


CORRIDOR DEVELOPMENT CERTIFICATE MANUAL

TRINITY RIVER CORRIDOR – NORTH CENTRAL TEXAS

TRINITY RIVER COMMON VISION

Safe, Clean, Enjoyable, Natural, Diverse

JOINTLY PREPARED BY:

CITIES:
ARLINGTON, CARROLLTON, COPPELL, DALLAS, FARMERS BRANCH, FORT WORTH, GRAND PRAIRIE, IRVING, LEWISVILLE

COUNTIES:
DALLAS, TARRANT

SPECIAL DISTRICTS:
FEDERAL EMERGENCY MANAGEMENT AGENCY – REGION VI, NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, TARRANT REGIONAL WATER DISTRICT, TRINITY RIVER AUTHORITY OF TEXAS, UNITED STATES ARMY CORPS OF ENGINEERS - FORT WORTH DISTRICT

FOURTH EDITION
July 2009
Amended October 2020

FY2021 Trinity River Common Vision Work Program

CDC Manual Update to the 5th Edition

Current Manual

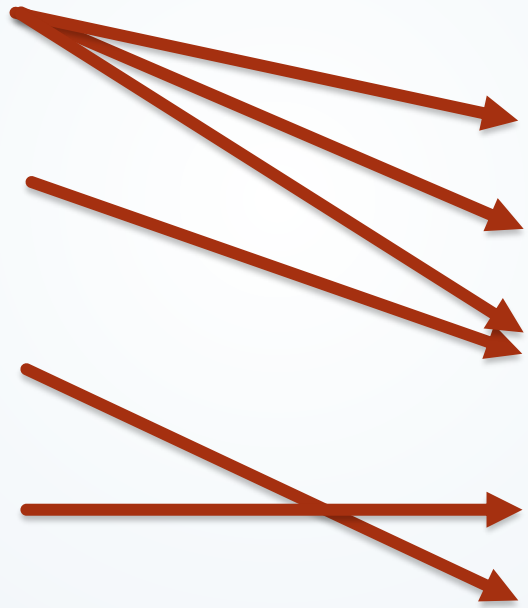
Chapter 1 General Information

Chapter 2 CDC Common Permit Criteria

Chapter 3 CDC Application Requirements

Chapter 4 The CDC Process

Appendices



Revised Manual

Summary of Changes

Glossary

Section 1 Introduction

Section 2 CDC Regulation and Criteria

Section 3 The CDC Process

Section 4 CDC Application

Appendices

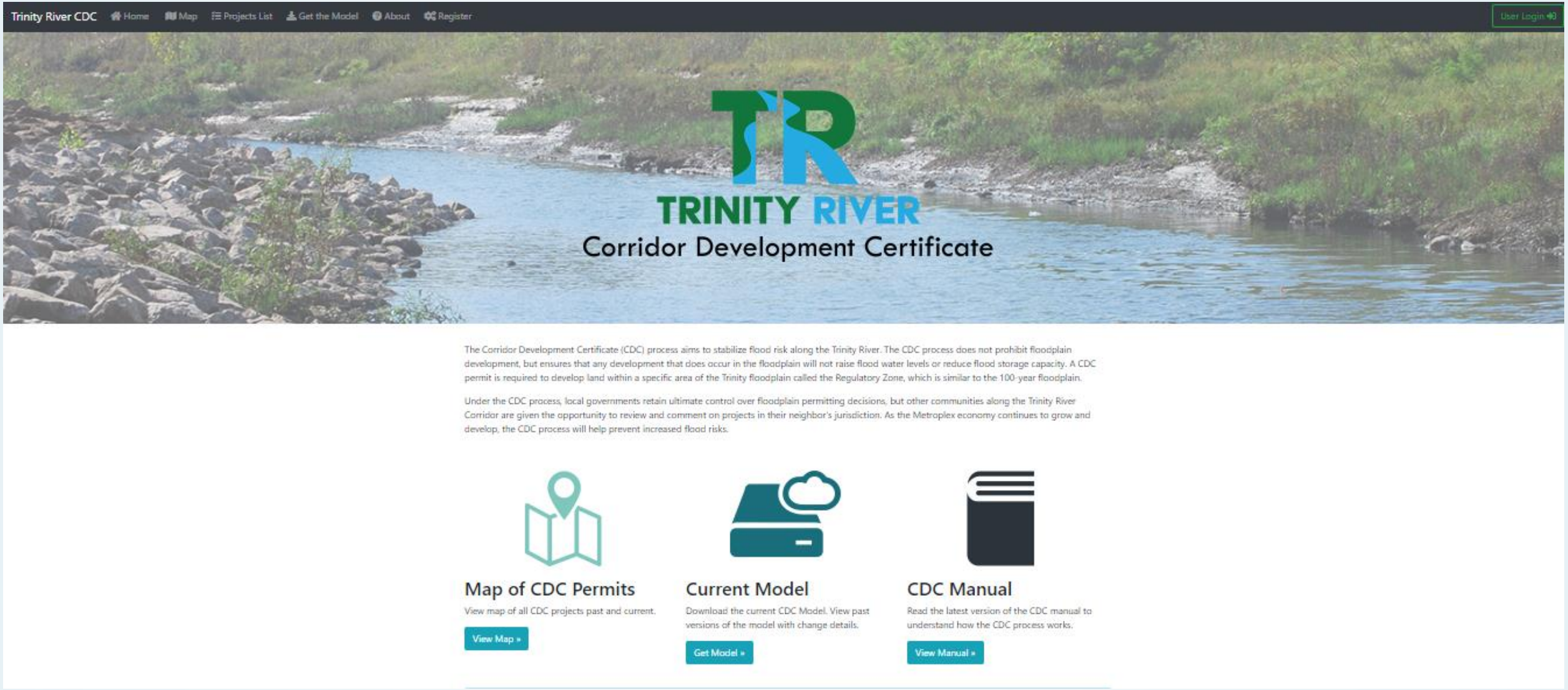
FY2021 Trinity River Common Vision Work Program

CDC Manual Update to the 5th Edition

Team Progress:

- Section 1: Introduction and Section 3: The CDC Process revisions completed and provided to FMTF in August for review.
- Finished revisions to Section 2: CDC Regulation and Criteria; preparing to send out to FMTF for review.
- Currently revising Section 4: CDC Application and the CDC Application Forms
- Next Steps include updating the Appendices and finalizing manual
- Continue to bring updates to the FMTF throughout the process before requesting adoption of the revised manual.
- Additional tasks to include developing FAQ documents

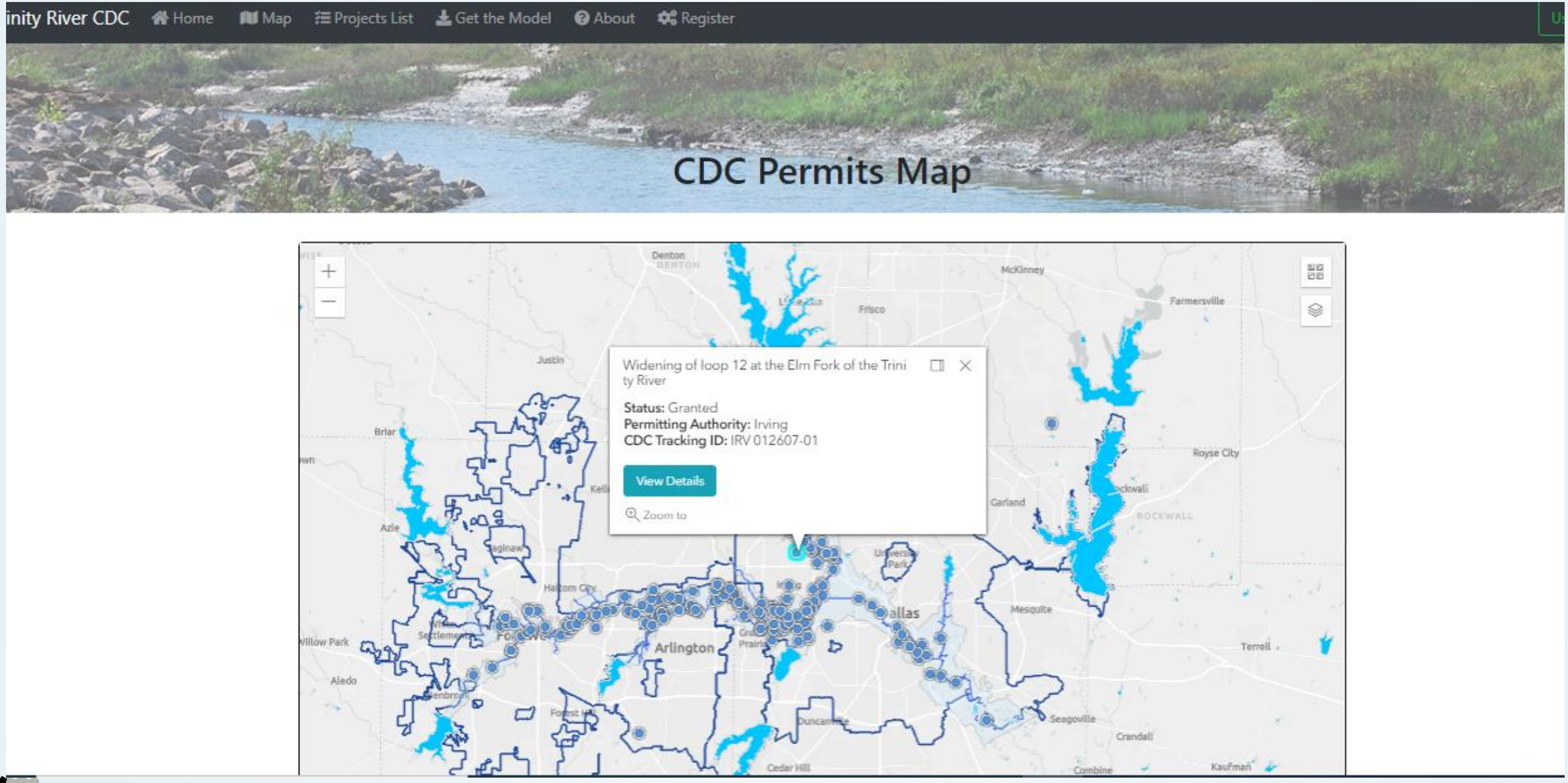
Website for the CDC Application Process



North Central Texas Council of Governments
Environment & Development

www.trinityrivercdc.com

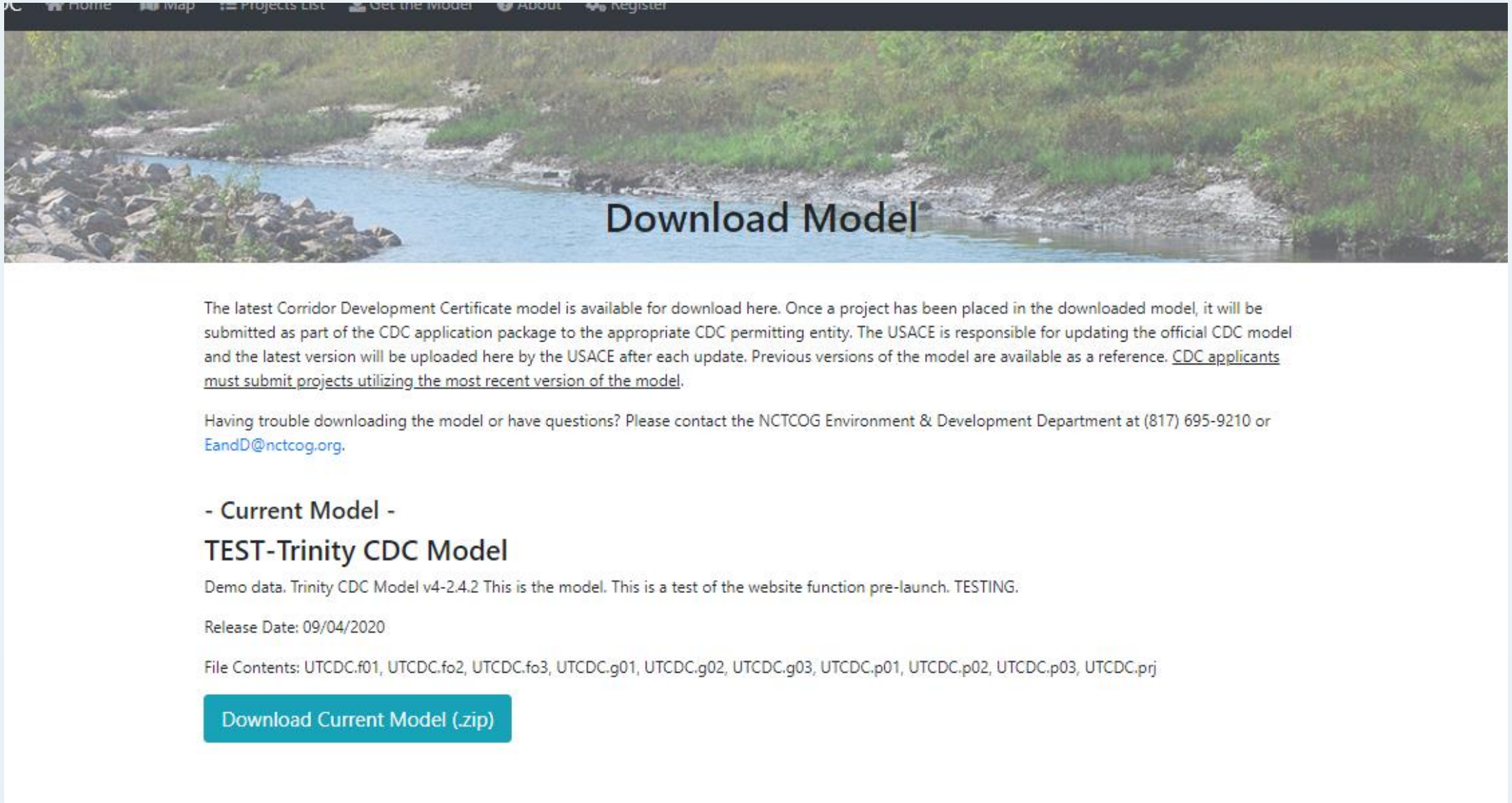
Website for the CDC Application Process



North Central Texas Council of Governments
Environment & Development

www.trinityrivercdc.com

Website for the CDC Application Process



NFIP-CDC Consolidation and New Website

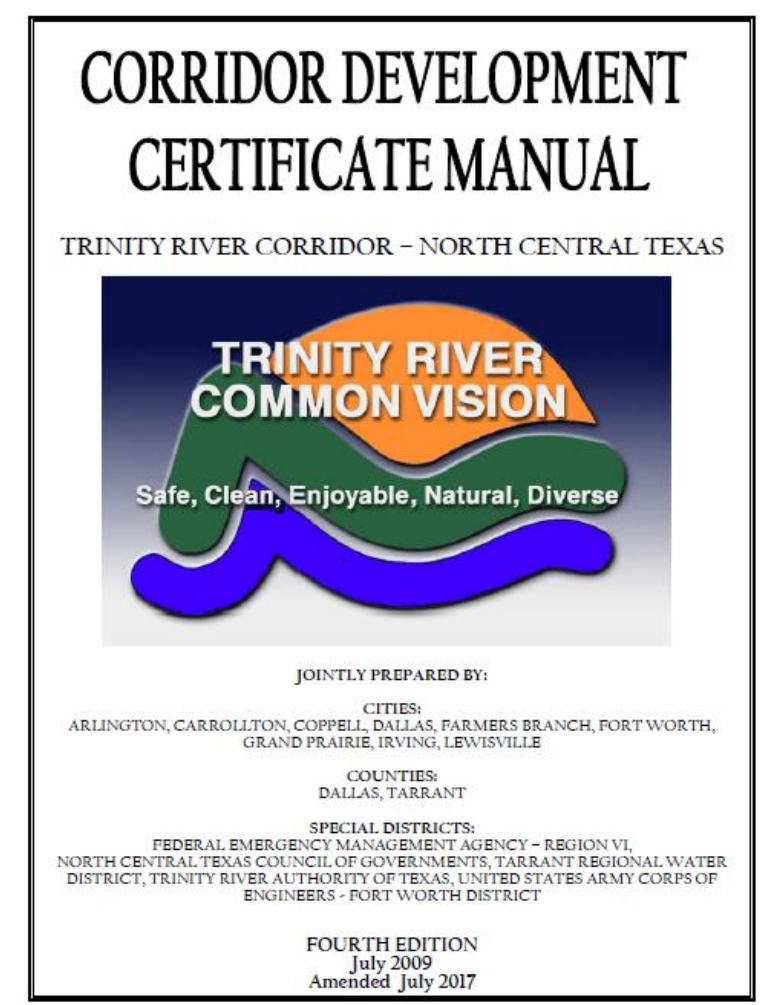
Next Steps – Changes to CDC Process

- A Summary of Changes document has been posted to the NCTCOG programmatic websites and the new CDC website. The biggest changes are detailed here.

- The **CDC Cost Recovery Fee** funds the USACE technical review, NCTCOG administration costs, and the upkeep of www.trinityrivercdc.com.
  - Project is located within both the 100-year and SPF ineffective flow areas
    - Previous fee: $3,250
    - **Updated fee: $4,000**
  - Or, Project is located within a 100-year ineffective flow area but within the SPF effective flow area
    - Previous fee: $5,750
    - **Updated Fee: $6,000**

- The new **Model Maintenance Fee** will fund the USACE technical review of the finished project as-built condition for incorporation into the CDC model, keeping the Consolidated Model up to date with each project. This fee will be required when the CDC applicant submits their Letter of Map Revision (LOMR) to the community. 100% of the fee will be deposited into the USACE review account.
  - **New Fee: $2,500**

CDC Permits in Fiscal Year 2021



CORRIDOR DEVELOPMENT CERTIFICATE MANUAL

TRINITY RIVER CORRIDOR – NORTH CENTRAL TEXAS

TRINITY RIVER COMMON VISION

Safe, Clean, Enjoyable, Natural, Diverse

JOINTLY PREPARED BY:

CITIES:
ARLINGTON, CARROLLTON, COPPELL, DALLAS, FARMERS BRANCH, FORT WORTH, GRAND PRAIRIE, IRVING, LEWISVILLE

COUNTIES:
DALLAS, TARRANT

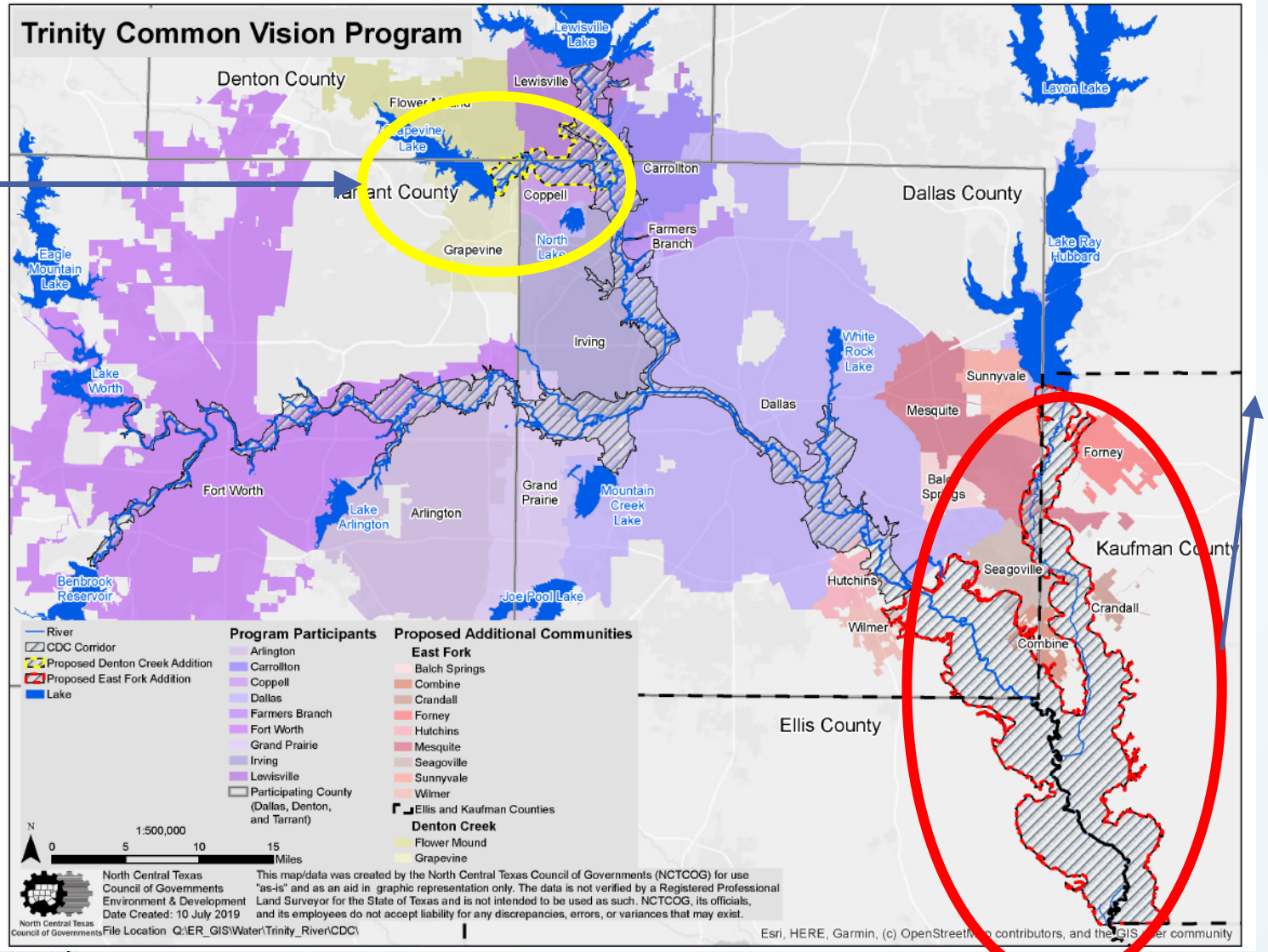
SPECIAL DISTRICTS:
FEDERAL EMERGENCY MANAGEMENT AGENCY – REGION VI, NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, TARRANT REGIONAL WATER DISTRICT, TRINITY RIVER AUTHORITY OF TEXAS, UNITED STATES ARMY CORPS OF ENGINEERS - FORT WORTH DISTRICT

FOURTH EDITION
July 2009
Amended July 2017

- 17 Applications Received This Fiscal Year
- 230 Total Permits Issued Since CDC Inception

East Fork Trinity & Denton Creek Integration

Grapevine
Flower Mound



Mesquite
Sunnyvale
Crandall
Combine
Forney
Hutchins
Wilmer
Seagoville (joined July 2019)
Balch Springs
Kaufman County (joined Dec. 2019)
Ellis County

FEMA contributed $1.5 million to develop the East Fork and Mainstem extension model. USACE is contributing $270,000 to develop East Fork CDC flows.

North Central Texas Council of Governments
Environment & Development

East Fork Trinity & Denton Creek Integration

- **April 2016 – August 2019:** Interest meetings held with East Fork Trinity communities throughout this period. TCV Steering Committee approves pursuit of the East Fork Addition. CDC program training held in Mesquite for prospective communities.
- **July 2019:** City of Seagoville joins the program.
- **December 2019:** Kaufman County joins the Program.
- **February 2020:** NCTCOG staff meet with City of Grapevine and Town of Flower Mound.
- **July 2020:** NCTCOG staff send formal letters of invitation to Grapevine and Flower Mound.
- **May 2021:** NCTCOG staff presented at a meeting of Dallas County Southern Cities.
- **July 2021:** NCTCOG staff presented to the Ellis County Commissioners Court.

Pending approval of the FY22 Work Program, outreach will continue to these communities, as expanding the Common Vision program is an ongoing process.

L-273 FEMA NFIP Course

- The Annual L-273 Course for floodplain managers, hosted by FEMA and NCTCOG, will return this fall for the 25th year!
  - A virtual "4x2" Floodplain Management course was held in 2020 in lieu of L-273
- This four-day course will be held this **November 8-11, 2021**, at NCTCOG's offices in Arlington.
  - Register for the L-273 course here.
  - Spots will be limited. Early registration for Trinity Common Vision members is open until September 27th using code **TrinityCommonVision**
- TFMA Certified Floodplain Manager (CFM) exam to be held on Friday, November 12, 2021, following the four-day course.
  - Register for the CFM exam here.

Questions? Contact Breanne Johnson at bjohnson@nctcog.org or (817) 695-9148

Annual Combined CRS Users Group/ Elected Officials Seminar

- The Annual Combined CRS Users Group/Elected Officials Floodplain Seminar was held virtually on July 29th. There were 84 attendees.
- Trinity RFPG, ASCE, and FEMA presented on flood planning for the state of Texas, the 2021 Texas Infrastructure Report Card, utilizing building codes in flood hazard mitigation, and the NFIP's Risk Rating 2.0.
- The presentations and a recording of the seminar are available on the CRS Users Group webpage. The Risk Rating 2.0 presentation has been removed from the recording per FEMA's request.
- Next CRS Users Group meeting to be held early 2022.

Questions? Contact Breanne Johnson at bjohnson@nctcog.org or (817) 695-9148

Regional
Flood Early-Warning Software

www.flooddatantx.com

ADVANCED ENVIRONMENTAL MONITORING
Davis Instruments
EARTH NETWORKS
FTS
HIGH SIERRA ELECTRONICS
LAMBRECHT meteo
OneRain The Rainfall Company
vieux & ASSOCIATES

Overview

Cooperative Contract of North Texas Share created in August 2018 with the NCTCOG Environment and Development Dept & member communities of the Flood Management Task Force.

- Communities can set pre-defined alerts
- Visualize gauge readings to better prepare for storms
- Allows any community to join regardless of system size
- Flexible tiers including ancillary services

Stage Level Map

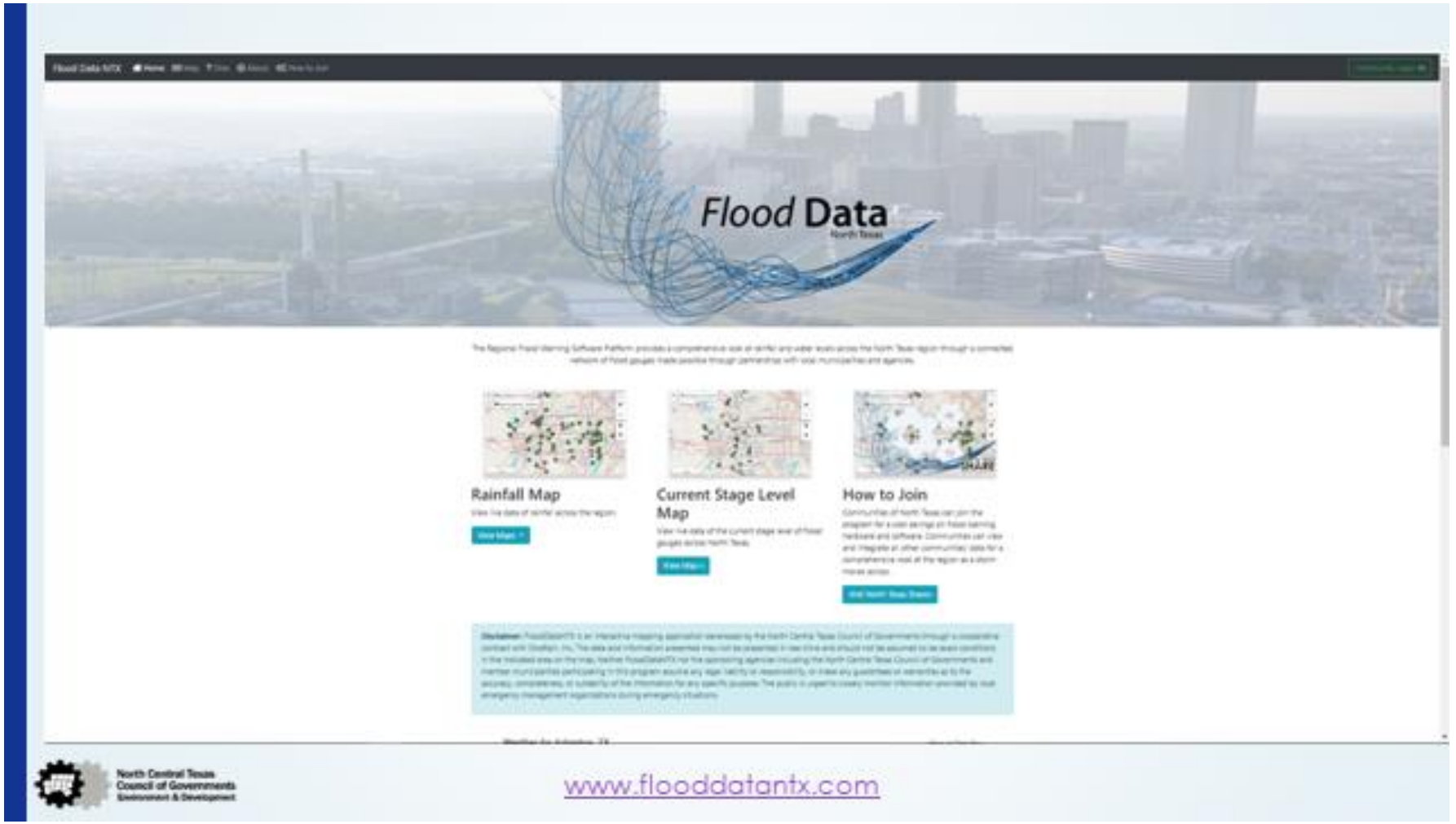
Participating Communities

- City of Arlington
- City of McKinney
- City of Frisco
- TRWD
- DCURD
- City of Grand Prairie
- Town of Highland Park

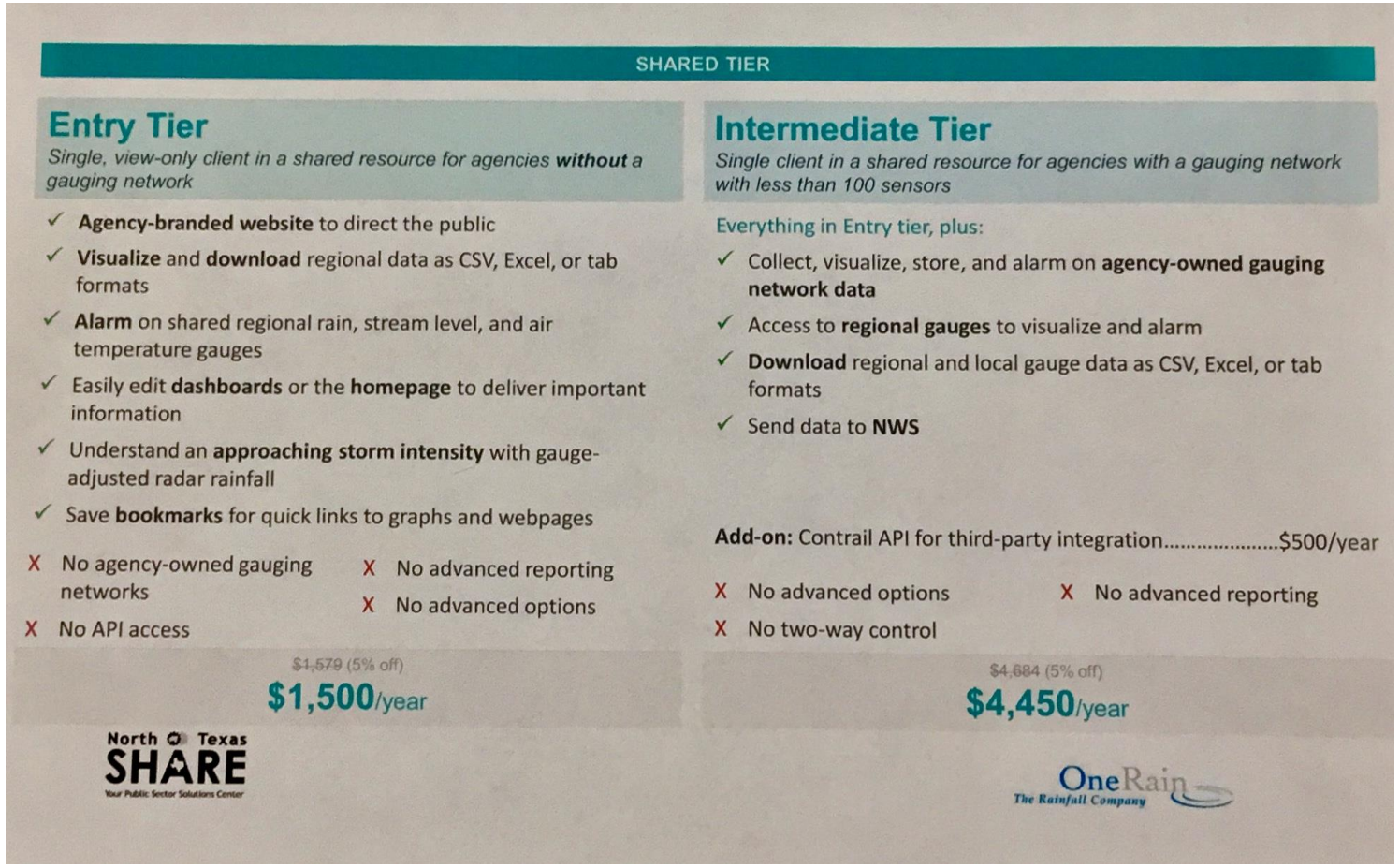
Rainfall Map

- City of Fort Worth feeds data to website

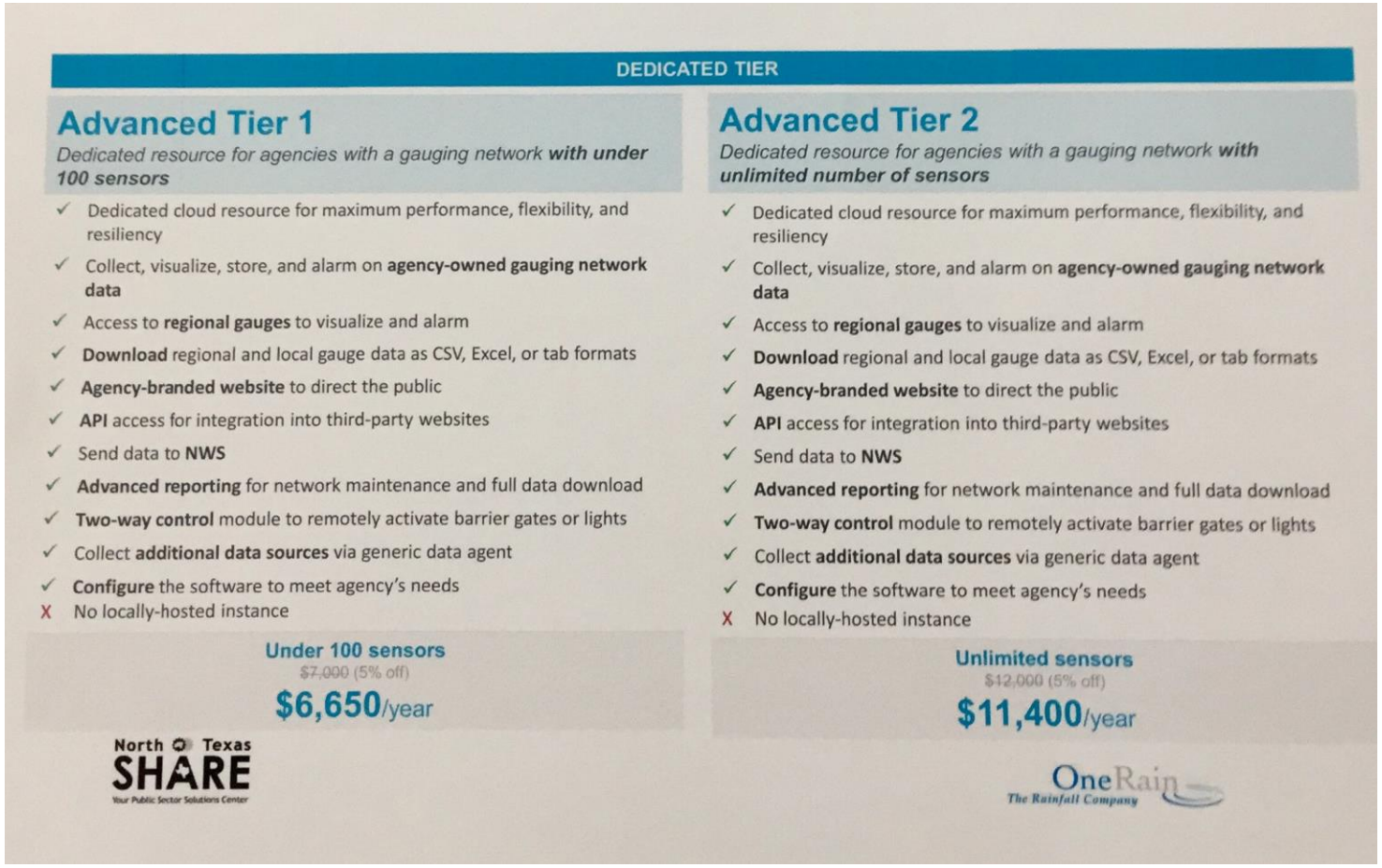
Flood Data North Texas



Shared Tier > Entry & Intermediate



Dedicated Tier > Advanced 1 & Advanced 2



DEDICATED TIER

Advanced Tier 1

*Dedicated resource for agencies with a gauging network **with under 100 sensors***

- ✓ Dedicated cloud resource for maximum performance, flexibility, and resiliency
- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ **API** access for integration into third-party websites
- ✓ Send data to **NWS**
- ✓ **Advanced reporting** for network maintenance and full data download
- ✓ **Two-way control** module to remotely activate barrier gates or lights
- ✓ Collect **additional data sources** via generic data agent
- ✓ **Configure** the software to meet agency's needs
- X No locally-hosted instance

Under 100 sensors

~~$7,000~~ (5% off)

$6,650/year

North Texas SHARE
Your Public Sector Solutions Center

Advanced Tier 2

*Dedicated resource for agencies with a gauging network **with unlimited number of sensors***

- ✓ Dedicated cloud resource for maximum performance, flexibility, and resiliency
- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ **API** access for integration into third-party websites
- ✓ Send data to **NWS**
- ✓ **Advanced reporting** for network maintenance and full data download
- ✓ **Two-way control** module to remotely activate barrier gates or lights
- ✓ Collect **additional data sources** via generic data agent
- ✓ **Configure** the software to meet agency's needs
- X No locally-hosted instance

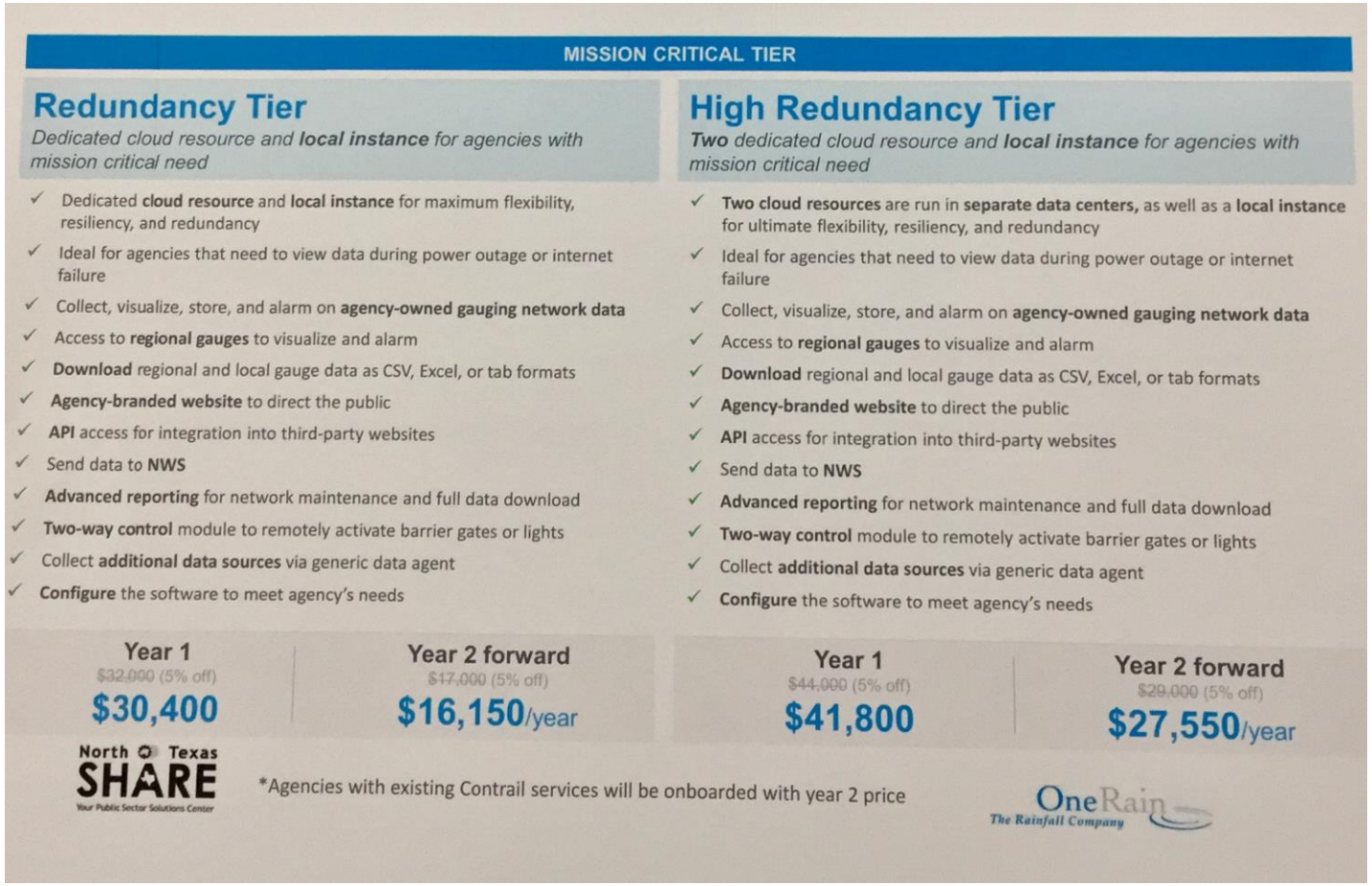
Unlimited sensors

~~$12,000~~ (5% off)

$11,400/year

OneRain
The Rainfall Company

Mission Critical Tier > Redundancy & High Redundancy



MISSION CRITICAL TIER

Redundancy Tier

*Dedicated cloud resource and **local instance** for agencies with mission critical need*

- ✓ Dedicated **cloud resource** and **local instance** for maximum flexibility, resiliency, and redundancy
- ✓ Ideal for agencies that need to view data during power outage or internet failure
- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ **API** access for integration into third-party websites
- ✓ Send data to **NWS**
- ✓ **Advanced reporting** for network maintenance and full data download
- ✓ **Two-way control** module to remotely activate barrier gates or lights
- ✓ Collect **additional data sources** via generic data agent
- ✓ **Configure** the software to meet agency's needs

Year 1
~~$32,000~~ (5% off)
$30,400

Year 2 forward
~~$17,000~~ (5% off)
$16,150/year

High Redundancy Tier

***Two** dedicated cloud resource and **local instance** for agencies with mission critical need*

- ✓ **Two cloud resources** are run in **separate data centers,** as well as a **local instance** for ultimate flexibility, resiliency, and redundancy
- ✓ Ideal for agencies that need to view data during power outage or internet failure
- ✓ Collect, visualize, store, and alarm on **agency-owned gauging network data**
- ✓ Access to **regional gauges** to visualize and alarm
- ✓ **Download** regional and local gauge data as CSV, Excel, or tab formats
- ✓ **Agency-branded website** to direct the public
- ✓ **API** access for integration into third-party websites
- ✓ Send data to **NWS**
- ✓ **Advanced reporting** for network maintenance and full data download
- ✓ **Two-way control** module to remotely activate barrier gates or lights
- ✓ Collect **additional data sources** via generic data agent
- ✓ **Configure** the software to meet agency's needs

Year 1
~~$44,000~~ (5% off)
$41,800

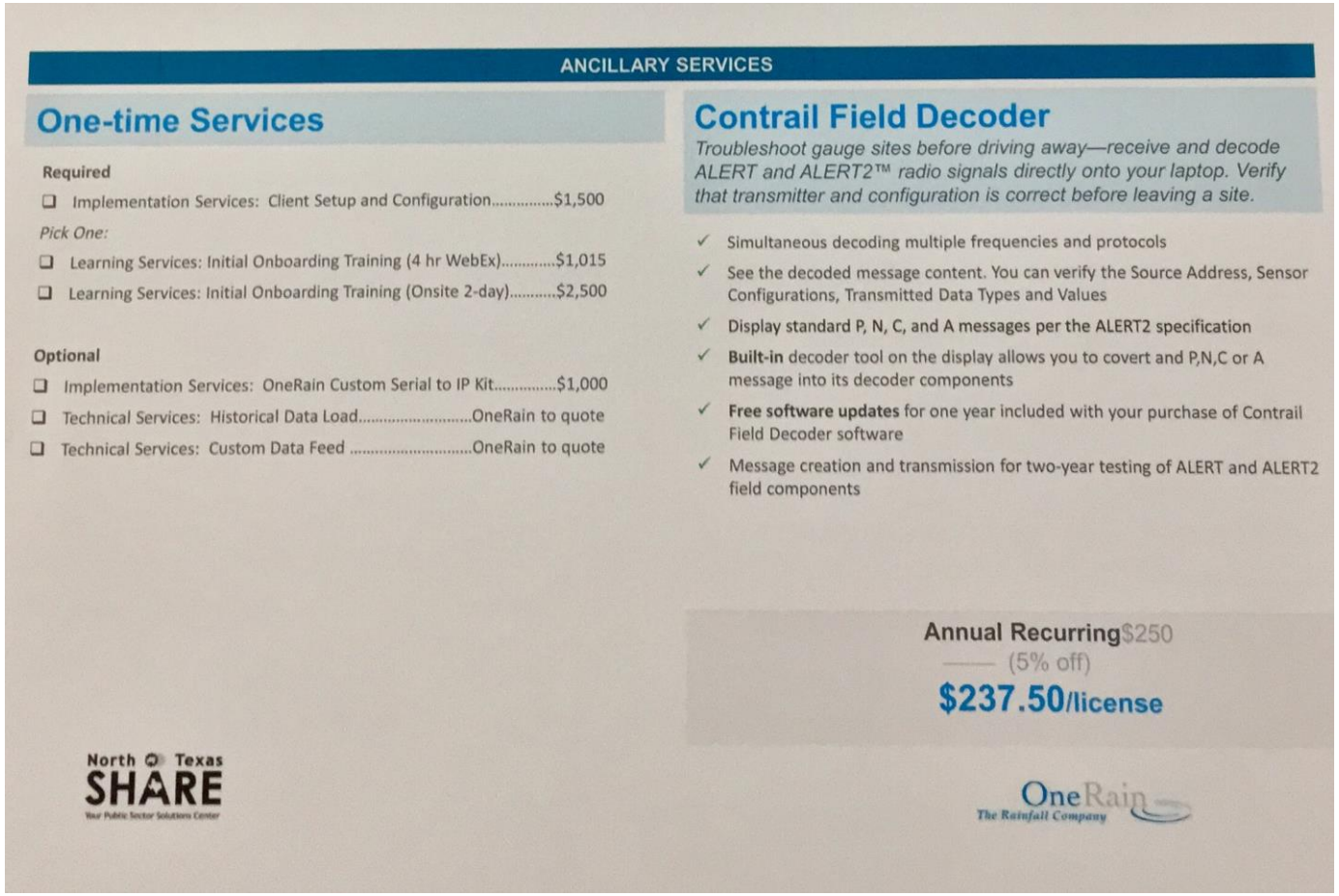
Year 2 forward
~~$29,000~~ (5% off)
$27,550/year

North Texas SHARE
Your Public Sector Solutions Center

*Agencies with existing Contrail services will be onboarded with year 2 price

OneRain
The Rainfall Company

Ancillary Services



ANCILLARY SERVICES

One-time Services

Required

- ❑ Implementation Services: Client Setup and Configuration.....$1,500

Pick One:

- ❑ Learning Services: Initial Onboarding Training (4 hr WebEx).....$1,015
- ❑ Learning Services: Initial Onboarding Training (Onsite 2-day).....$2,500

Optional

- ❑ Implementation Services: OneRain Custom Serial to IP Kit.....$1,000
- ❑ Technical Services: Historical Data Load.....OneRain to quote
- ❑ Technical Services: Custom Data Feed .....OneRain to quote

North Texas SHARE
Your Public Sector Solutions Center

Contrail Field Decoder

Troubleshoot gauge sites before driving away—receive and decode ALERT and ALERT2™ radio signals directly onto your laptop. Verify that transmitter and configuration is correct before leaving a site.

- ✓ Simultaneous decoding multiple frequencies and protocols
- ✓ See the decoded message content. You can verify the Source Address, Sensor Configurations, Transmitted Data Types and Values
- ✓ Display standard P, N, C, and A messages per the ALERT2 specification
- ✓ **Built-in** decoder tool on the display allows you to covert and P,N,C or A message into its decoder components
- ✓ **Free software updates** for one year included with your purchase of Contrail Field Decoder software
- ✓ Message creation and transmission for two-year testing of ALERT and ALERT2 field components

Annual Recurring ~~$250~~
(5% off)
$237.50/license

OneRain
The Rainfall Company

Summary

Features:	
View sensor data	✓
Display & view alerts	✓
Create & modify station parameters	✓
View station health data	✓
Access to regional gauge data	✓
Send data to NWS	✓
Agency branded web site	✓
Configure to meet agency needs	✓

Thank You

Sue Swenor

Gulf Region Hydrology Sales Manager

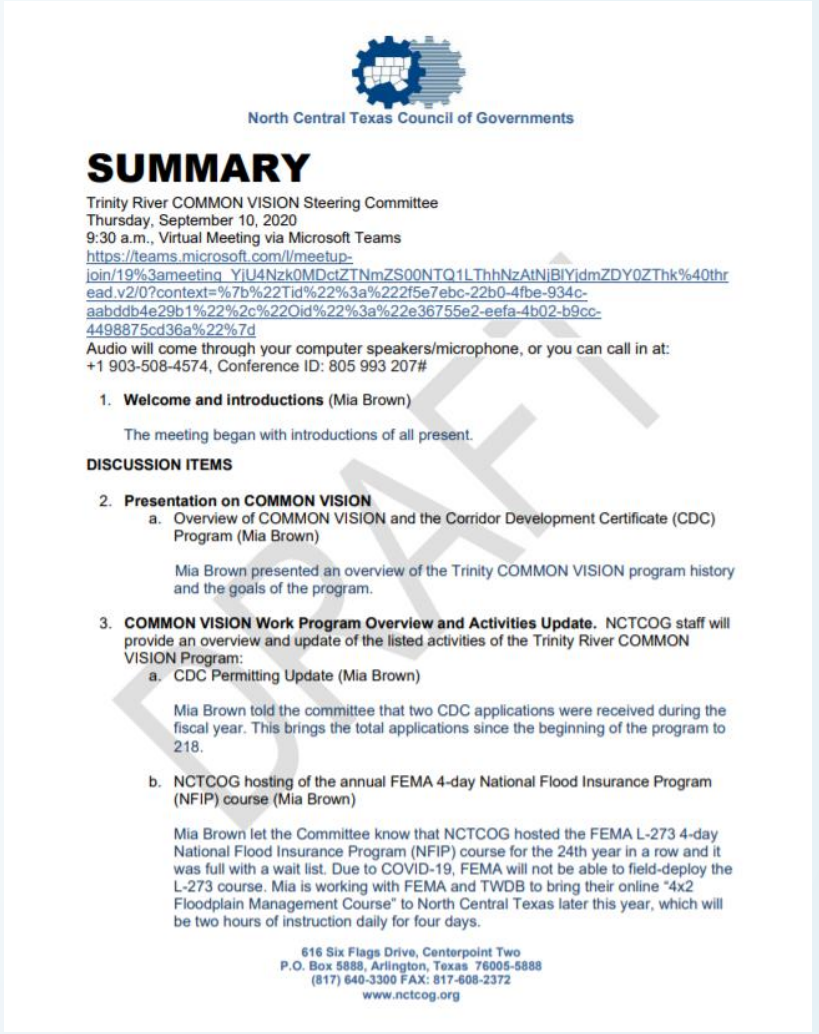
sue@hsierra.com

512-931-9530

Action Items

2020 Trinity Common Vision Steering Committee Meeting Summary

- NCTCOG staff are seeking approval of the 2020 Trinity Common Vision Steering Committee Meeting Summary.
- A link to the 2020 summary is available in the chat.



North Central Texas Council of Governments

SUMMARY

Trinity River COMMON VISION Steering Committee
Thursday, September 10, 2020
9:30 a.m., Virtual Meeting via Microsoft Teams
https://teams.microsoft.com/l/meetup-join/19%3ameeting_YjU4Nzk0MDctZTNmZS00NTQ1LThhNzAtNjBlYjdmZDY0ZThk%40thread.v2/0?context=%7b%22Tid%22%3a%222f5e7ebc-22b0-4fbe-934c-aabddb4e29b1%22%2c%22Oid%22%3a%22e36755e2-eefa-4b02-b9cc-4498875cd36a%22%7d
Audio will come through your computer speakers/microphone, or you can call in at:
+1 903-508-4574, Conference ID: 805 993 207#

1. **Welcome and introductions** (Mia Brown)

   The meeting began with introductions of all present.

DISCUSSION ITEMS

2. **Presentation on COMMON VISION**
   a. Overview of COMMON VISION and the Corridor Development Certificate (CDC) Program (Mia Brown)

      Mia Brown presented an overview of the Trinity COMMON VISION program history and the goals of the program.

3. **COMMON VISION Work Program Overview and Activities Update.** NCTCOG staff will provide an overview and update of the listed activities of the Trinity River COMMON VISION Program:
   a. CDC Permitting Update (Mia Brown)

      Mia Brown told the committee that two CDC applications were received during the fiscal year. This brings the total applications since the beginning of the program to 218.

   b. NCTCOG hosting of the annual FEMA 4-day National Flood Insurance Program (NFIP) course (Mia Brown)

      Mia Brown let the Committee know that NCTCOG hosted the FEMA L-273 4-day National Flood Insurance Program (NFIP) course for the 24th year in a row and it was full with a wait list. Due to COVID-19, FEMA will not be able to field-deploy the L-273 course. Mia is working with FEMA and TWDB to bring their online "4x2 Floodplain Management Course" to North Central Texas later this year, which will be two hours of instruction daily for four days.

616 Six Flags Drive, Centerpoint Two
P.O. Box 5888, Arlington, Texas 76005-5888
(817) 640-3300 FAX: 817-608-2372
www.nctcog.org

FY2022 Trinity River Common Vision Draft Work Program Vote

- **NCTCOG is seeking the Steering Committee's approval of the Draft FY2022 Work Program, recommended by the Flood Management Task Force on August 13, 2021.**
- A link to the final Draft FY2022 Work Program is available in the chat.
- Additions to existing Ongoing Support Activities
  - NCTCOG participation in the Trinity Regional Flood Planning Group
- Additional Technical Activities
  - Participation in the Model Consolidation Committee
  - Update the CDC Manual to the 5th Edition
  - East Fork Trinity and Denton Creek Integration
- Updated FY22 Cost Share Tables
  - Tables more accurately reflect current Common Vision participants

FY2022 Trinity River Common Vision Updated Cost Share Discussion

Existing Cost Shares

COST SHARES FOR CURRENT COMMON VISION PARTICIPANTS		
Participant	**Acres in Floodplain (FIRM)**	**Cost Share**
Arlington	3,351	$3,868.52
Carrollton	5,941	$6,858.51
Coppell	1,490	$1,720.11
Dallas	25,787	$29,769.45
Farmers Branch	1,472	$1,699.33
Fort Worth	16,261	$18,772.29
Grand Prairie	8,498	$9,810.40
Irving	7,757	$8,954.96
Lewisville	3,072	$3,546.43
Seagoville (*East Fork addition*)	2,776	$3,192.00
Dallas County*		$10,000.00
Tarrant County*		$5,000.00
Kaufman County* (*East Fork addition*)		$10,000.00
TRWD*		$5,000.00
Subtotal Current Program		**$118,192.00**

"TRADITIONAL METHOD" Approved by the Trinity River Steering Committee on July 19, 2001

Area based on SPF 1995 Baseline to City Limits of Dallas Analysis

*Counties and Special District cost share is not determined by floodplain acreage.

FY2022 Trinity River Common Vision Updated Cost Share Discussion

Prospective Members Cost Shares

COST SHARES FOR PROSPECTIVE COMMON VISION PARTICIPANTS		
Participant	**Acres in Floodplain Preliminary FIRM**	**Cost Share****
EAST FORK		
Balch Springs	0	$1,000.00
Combine	850	$1,000.00
Crandall	39	$1,000.00
Forney	214	$1,000.00
Hutchins	830	$1,000.00
Mesquite	2,224	$2,558.00
Sunnyvale	826	$1,000.00
Wilmer	458	$1,000.00
Ellis County*		$5,000.00
DENTON CREEK		
Flower Mound		$1,000.00
Grapevine		$1,000.00
TOTAL COMMON VISION PROGRAM		**$134,750.00**

"TRADITIONAL METHOD" Approved by the Trinity River Steering Committee on July 19, 2001

Area based on SPF 1995 Baseline to City Limits of Dallas Analysis

*Counties and Special District cost share is not determined by floodplain acreage.

**Minimum cost share for participation is $1,000.00. Communities with less than 870 acres have a $1,000.00 cost share. Communities with greater than 870 acres are subject to a cost share based on acreage.

FY2022 Trinity River Common Vision Updated Cost Share Discussion

Proposal for Increasing Cost Share for Original Program Members

	Original Amount from 2001 - 2021	35% Increase + New Contributions	50%* Increase + New Contributions
Arlington	$3,868.52	$5,222.50	$5,802.78
Carrollton	$6,858.51	$9,258.99	$10,287.77
Coppell	$1,720.11	$2,322.15	$2,580.17
Dallas	$29,769.45	$40,188.76	$44,654.18
Farmers Branch	$1,699.33	$2,294.10	$2,549.00
Fort Worth	$18,772.29	$25,342.59	$28,158.44
Grand Prairie	$9,810.40	$13,244.04	$14,715.60
Irving	$8,954.96	$12,089.20	$13,432.44
Lewisville	$3,546.43	$4,787.68	$5,319.65
Dallas County	$5,000.00	$10,000.00	$10,000.00
Tarrant County	$5,000.00	$6,750.00	$7,500.00
TRWD	$5,000.00	$6,750.00	$7,500.00
Denton County		??	??
TRA		??	??
Total Program	**$100,000.00**	**$138,250.00**	**$152,500.00**
Less USACE Contribution	**$25,000.00**	**$25,000.00**	**$25,000.00**
Total NCTCOG	**$75,000.00**	**$113,250.00**	**$127,500.00**

*https://www.officialdata.org/us/inflation/2001?amount=1 --> Cumulative inflation from 2001 to 2021 was 52.00%.

- Many communities have nearly finalized their budgets for FY22; would instead use these numbers for their FY23 requests.
- A review of supporting materials (i.e. floodplain acreage) may be desired by some communities for verification/validation.
- FMTF members suggested that cost share increase options be discussed with the Steering Committee for future consideration

Related Activities Update

Trinity River National Water Trail Task Force

TRINITY COALITION

- **What is the Task Force?**
  - Coordinated effort between the Trinity Coalition, NCTCOG, and the communities and organizations situated on the Upper Trinity River to support the Paddling Trail's National Water Trail designation by the National Park Service.
  - Goal: to advance recreation, tourism, and economic development along the Trinity River and to maintain and expand the physical features of the Water Trail.
- Past meeting materials and presentations can be viewed on the Task Force website.
- Next Task Force meeting to be held in December 2021.

North Central Texas Council of Governments
Environment & Development

Task Force Website: https://nctcog.org/envir/committees/trinity-river-national-water-trail-task-force

Cooperating Technical Partners Grant - FEMA

2004 – NCTCOG Joined CTP Program and created master plan
2009 – NCTCOG Participated in FEMA Map Modernization Initiative

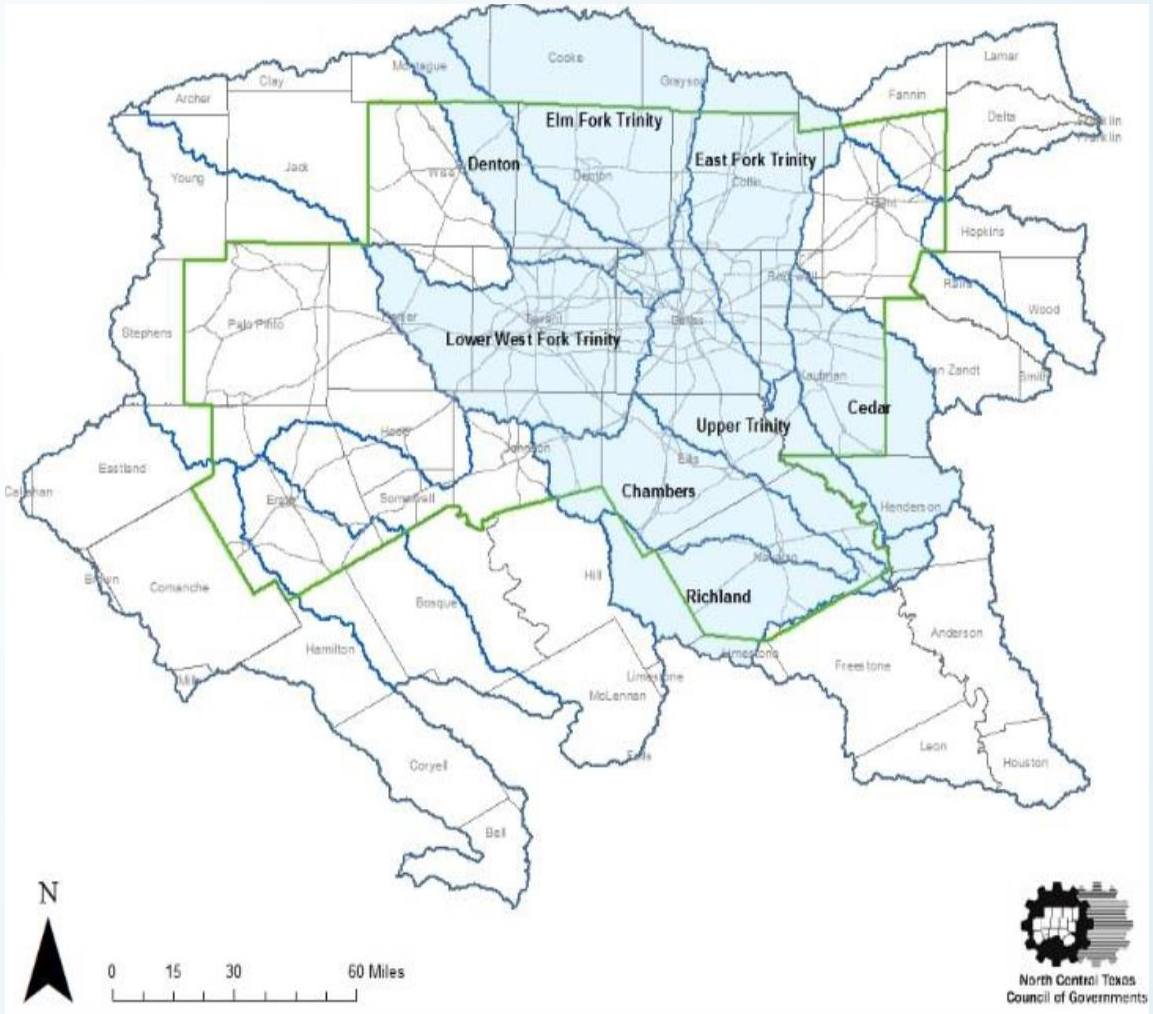
Completed Discovery Projects

2012 – Lower West Fork Watershed
2012 – Upper Trinity Watershed
2012 – Elm Fork Watershed
2015 – Cedar Watershed
2015 – Denton Watershed
2016 – East Fork Watershed
2017 – Richland and Chambers Watershed

Upcoming Discovery Projects

2021 – Upper West Fork Watershed

NCTCOG CTP Discovery Website:
https://www.nctcog.org/envir/watershed-management/cooperating-technical-partners/discovery



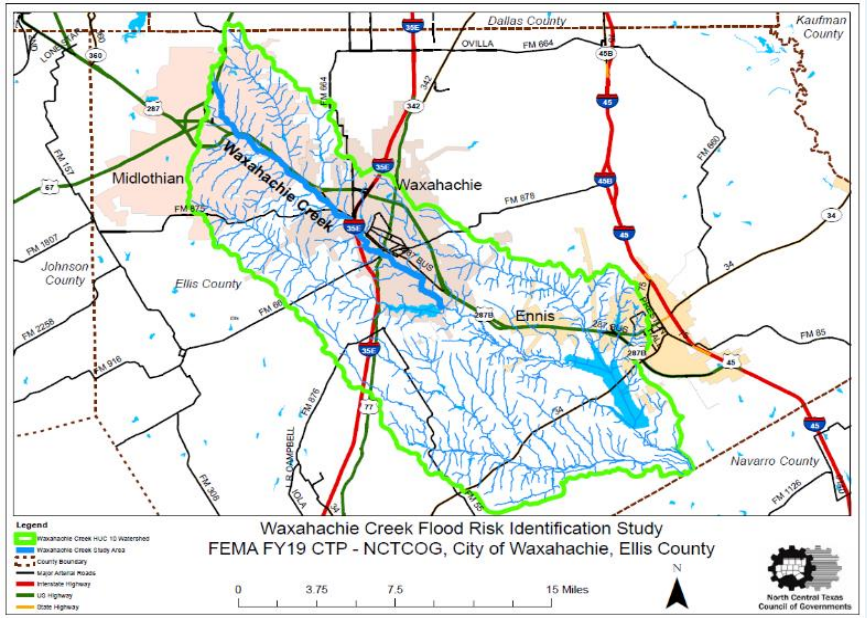
Cooperating Technical Partners Grant - FEMA

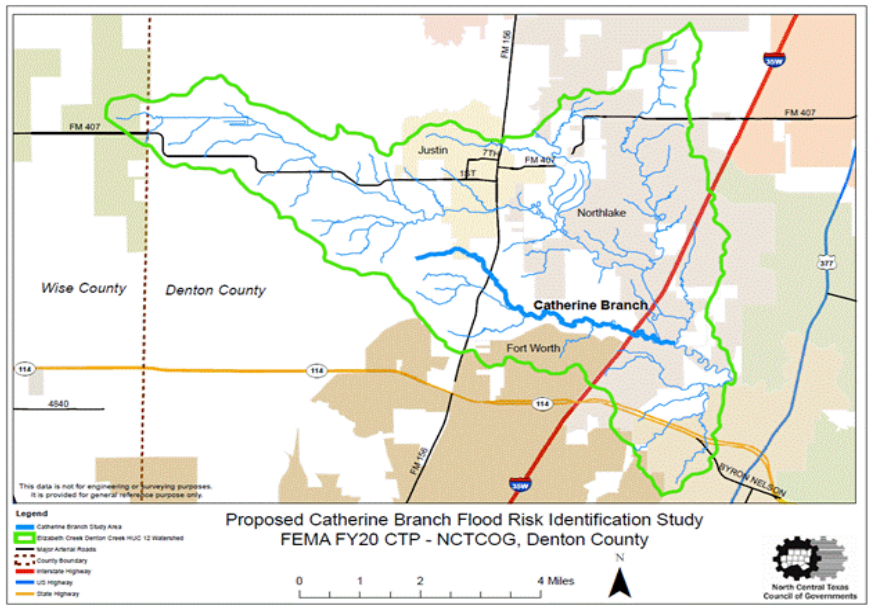
Completed Flood Risk Identification Studies

2013 – Village Creek
2014 – Big Bear and Little Bear Creek
2015 – Lynchburg Creek
2015 – West Irving Creek
2016 – Silver Creek
2016 – West Buffalo/McAnear Creek
2017 – Town Creek
2018 – Mary's Creek

Ongoing or New Flood Risk Projects

2019 – Harriet Creek
2019 – Waxahachie Creek
2020 – Catherine Branch
2022 - East Fork (Lowery Crossing)
2022 – Hog Branch





North Central Texas Council of Governments
Environment & Development

Integrated Stormwater Management - iSWM

Why iSWM?

- Flooding and streambank erosion due to increased runoff
- Water quality concerns / stormwater regulations
- Loss of natural features
- Interest in green infrastructure
- Provide a comprehensive approach
- Regional consistency and equity

Certified Communities

- Celina (Gold)
- Corinth (Silver)
- Denton (Silver)
- Grand Prairie (Silver)
- Kennedale (Silver)
- Frisco (Silver)
- Fort Worth (Silver)
- Irving (Silver)
- Plano (Silver)

What does iSWM certification mean?

- A community can become certified by documenting their implementation of iSWM practices and applying to be reviewed by the iSWM Implementation Subcommittee.
- Benefits of achieving Bronze, Silver, or Gold certification: road signs and plaques designating their iSWM status; free training for community staff; and assistance in complying with State MS4 permit requirements and lowering FEMA Community Rating System ratings, which reduce insurance rates for residents.

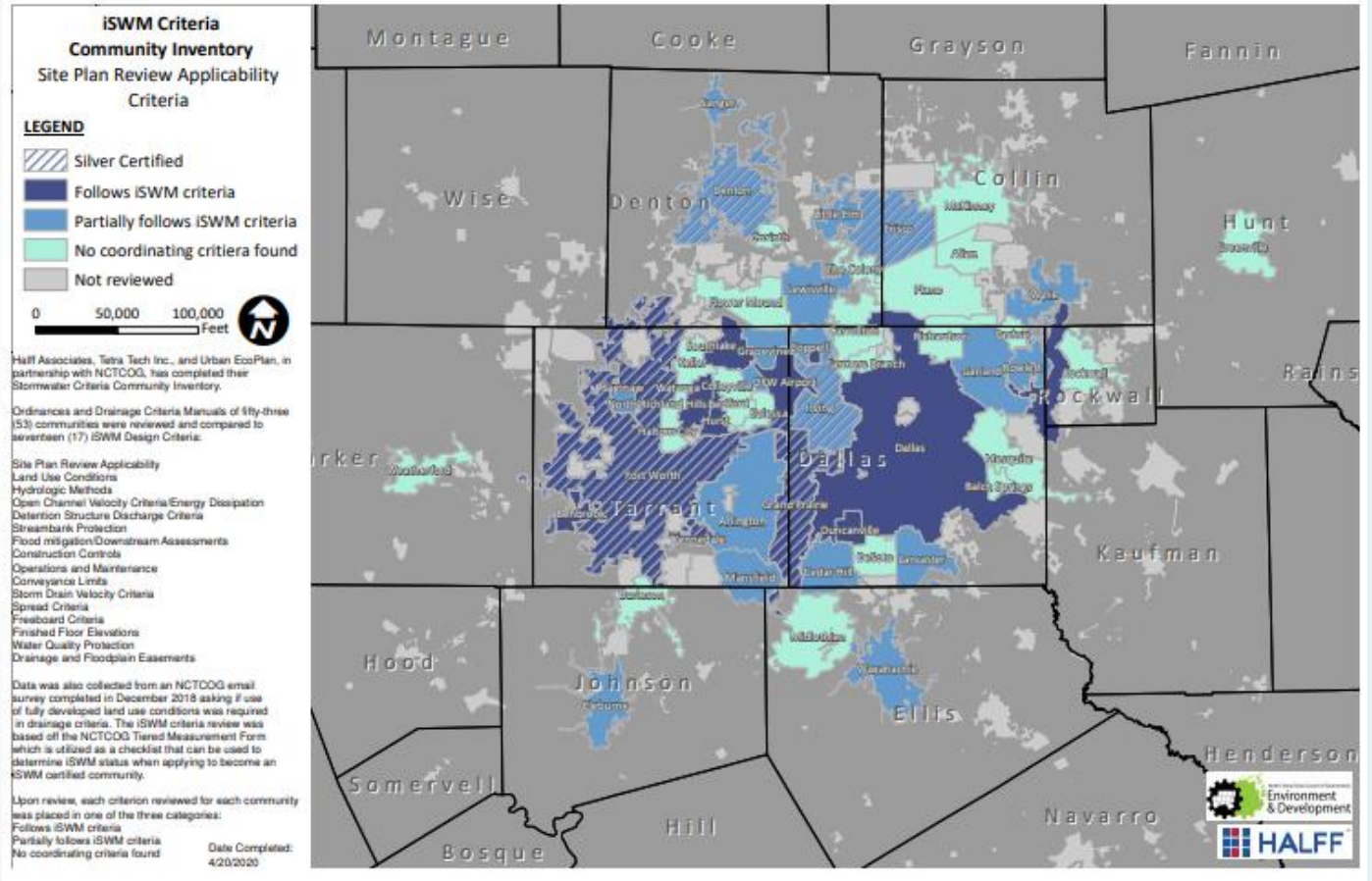
iSWM™

North Central Texas Council of Governments
Environment & Development

Integrated Stormwater Management - iSWM

Many resources are available through iSWM

- New website: www.iswm.nctcog.org
- Program Guidance
- Technical Manual
- Criteria Manual
- Proprietary Device Guidance
- Instructional Videos
  - Bioretention Facility Installation and Maintenance
- iSWM Criteria Community Inventory
  - City (PDF)
  - County (PDF)



Example of the Community Inventory by city for the Site Review Applicability Criteria. There are 16 criteria. You can also view each criteria on an interactive map at http://iswm.nctcog.org/participating-cities.html.

North Central Texas Council of Governments
Environment & Development

Upcoming Funding Opportunities for Flood-Related Projects

Building Resilient Infrastructure and Communities (BRIC) Grants

- FEMA BRIC grants support states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards.
- $1 billion available in BRIC funding for FY2021
- The application period to apply for FY2021 BRIC funding will open on Sept. 30, 2021, and close at 3 p.m. ET on Jan. 28, 2022.
- BRIC Grant Website

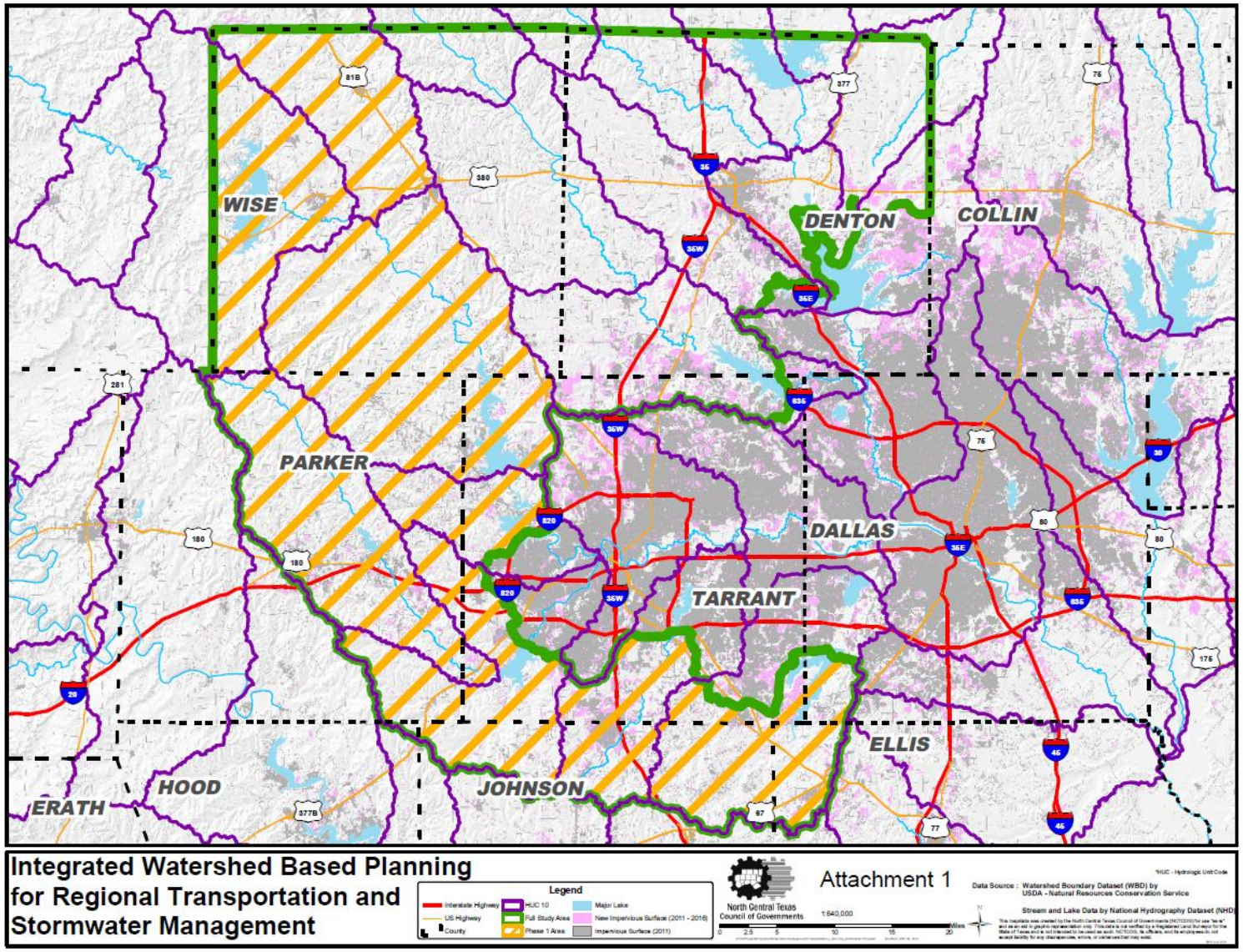
Flood Mitigation Assistance (FMA) Grants

- FEMA's Flood Mitigation Assistance Program provides funding to states, local communities, federally recognized tribes and territories for projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program.
- The application period to apply for FY2021 FMA funding will open on Sept. 30, 2021, and close at 3 p.m. ET on Jan. 28, 2022.
- FMA Grant Website

Integration of Transportation & Stormwater Planning

- **What is the TSI project?**
  - Integration of regional stormwater management, urban development, transportation, and environmental planning: a collaborative effort with regional Transportation planners
  - Proactive Prevention vs. Response
- **Project Kickoff (Fall)**
  - Initial community survey completed
  - Project leads and partner organizations met in August to discuss contracting and next steps
  - NCTCOG is preparing CHARM for use in planning and engagement activities

Project Website:
https://www.nctcog.org/envir/watershed-management/upper-trinity-river-transportation-and-stormwater



North Central Texas Council of Governments
Environment & Development

Integration of Transportation & Stormwater Planning

Funding Applications and Confirmed Funds

	Submitted Applications	CONFIRMED FUNDS			ANTICIPATED APPLICATIONS*
Funding Agency/ Funding Opportunity Name	USACE **(Various Authorities)**	TWDB **(Flood Infrastructure Fund)**	Regional Transportation Council **(Transportation Dollars)**	FEMA **(Community Outreach and Mitigation Strategies)**	General Land Office **(CDBG MIT or Other Funding Category)**
Requested Funding	$3.0 Million	$3.0 Million	$3.0 Million	$80,000	?
Current Status	Submitted to USACE Fort Worth District in 2020.	Approved by TWDB May 27th; working to define contracting process with TWDB.	Match funding for the TWDB FIF Grant.	Award received; Phase 1 engagement is in the early stages.	NCTCOG working with USACE and GLO on next steps.

*Anticipate applying to additional funding opportunities as they become available (ex. GLO, TDEM, etc.) and working with partner organizations to identify project funding.

USACE as a Technical Advisor

September 2021

Trinity River Common Vision Steering Committee

Matthew T. Lepinski, P.E.

Hydraulic Engineer

US Army Corps of Engineers

Fort Worth District

North Central Texas Council of Governments
Environment & Development

Overview

- **What?** The Fort Worth District Water Resources Branch serves as technical advisor and source of funding assistance to our local, state & federal partners.
- **Why?** Aligns with USACE mission and vision of collaborative engineering solutions
  - **Examples:**
    - Support to Flood Management Task Force
    - Role as Technical Advisor
    - Funding Assistance to Communities
    - Water Management
    - Watershed Hydrology Assessments
    - Modeling Enhancement Efforts
    - Regional Storm Shifting
    - Texas Storm Study

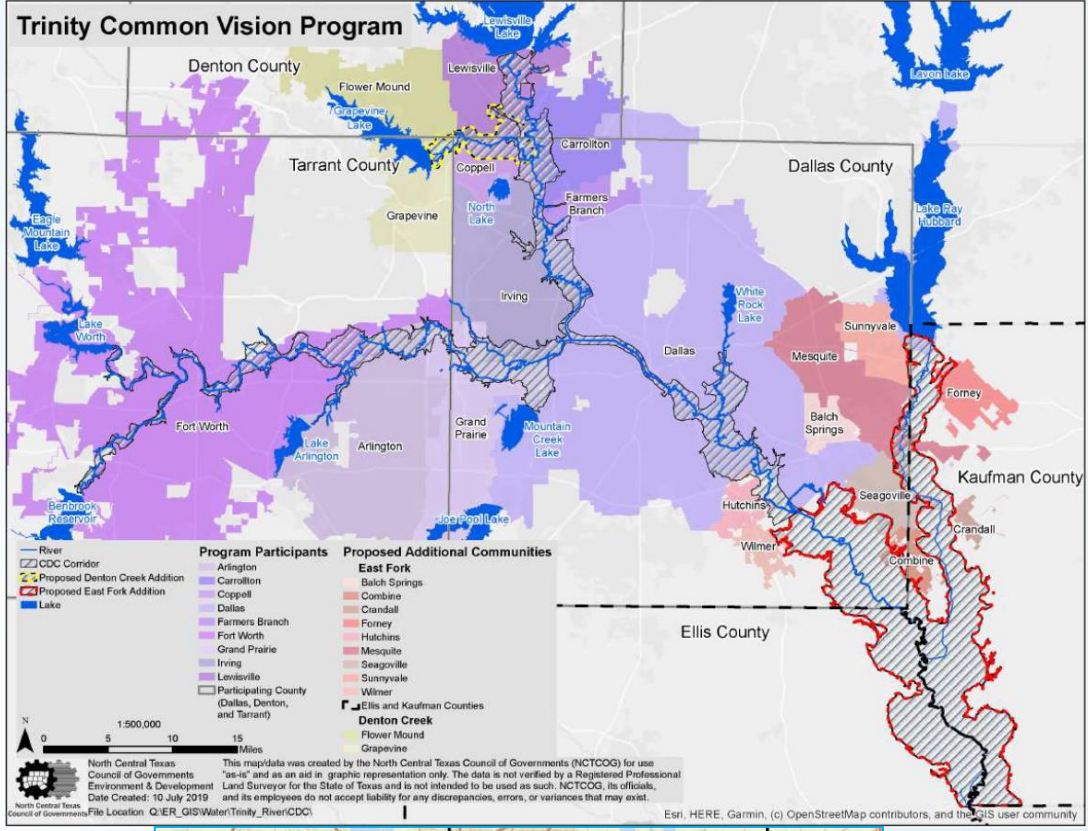
USACE MISSION: Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce disaster risk

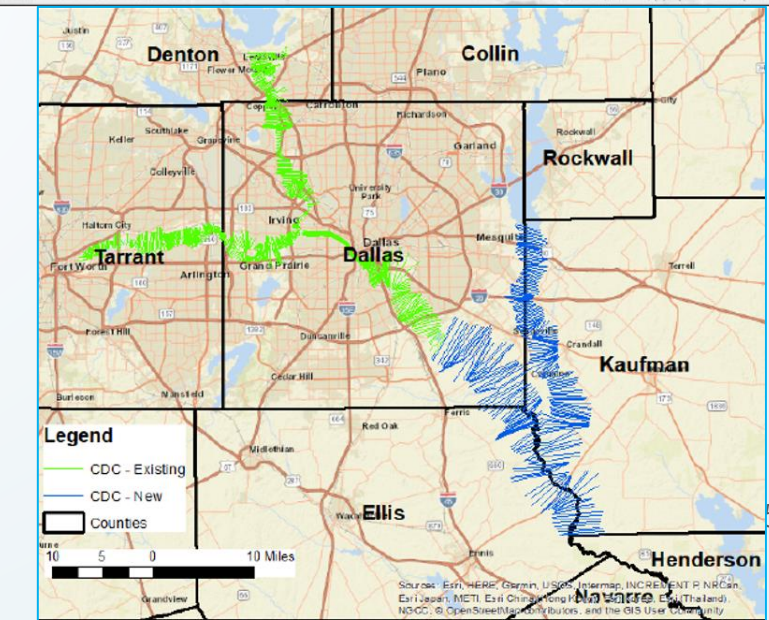
USACE VISION: Engineering solutions for our Nation's toughest challenges

- **Outcome:**
  - Innovative resources, data, and support to enable community awareness and resiliency against flooding
  - **Enables taking action and setting policy**

Support to Flood Management Task Force

- **What?** Making significant progress on consolidated National Flood Insurance Program (NFIP) and Corridor Development Certificate (CDC) model consolidation updates
  - Culmination of over $2.5 million in Federal contributions spent on related model improvement efforts
  - Update of geo-referenced and consolidated Upper Trinity CDC model
    - Update to geo-referenced model FEMA developed based on CDC geometry and 2005 flows
    - Among other differences, doesn't include CDC projects that have been approved since 2017
  - Trinity Main Stem and East Fork Trinity CDC Model Extension Project
    - Will result in the development of future condition (CDC) modeling and floodplain delineations for the East Fork below Ray Hubbard and for the Trinity River from Southeaster Dallas County to Henderson County
  - Assisting efforts to revise and publish updated CDC Manual
- **Why?**
  - Innovative and one of a kind high-tech capability that is easily accessed
  - No maintenance fees for FMTF partners: model maintenance fee paid directly by CDC applicants
- **Result:**
  - Completed model represents collaborative, authoritative, and best available flood risk model along Upper Trinity River
  - No costly updates to FMTF; owned by CDC member governments

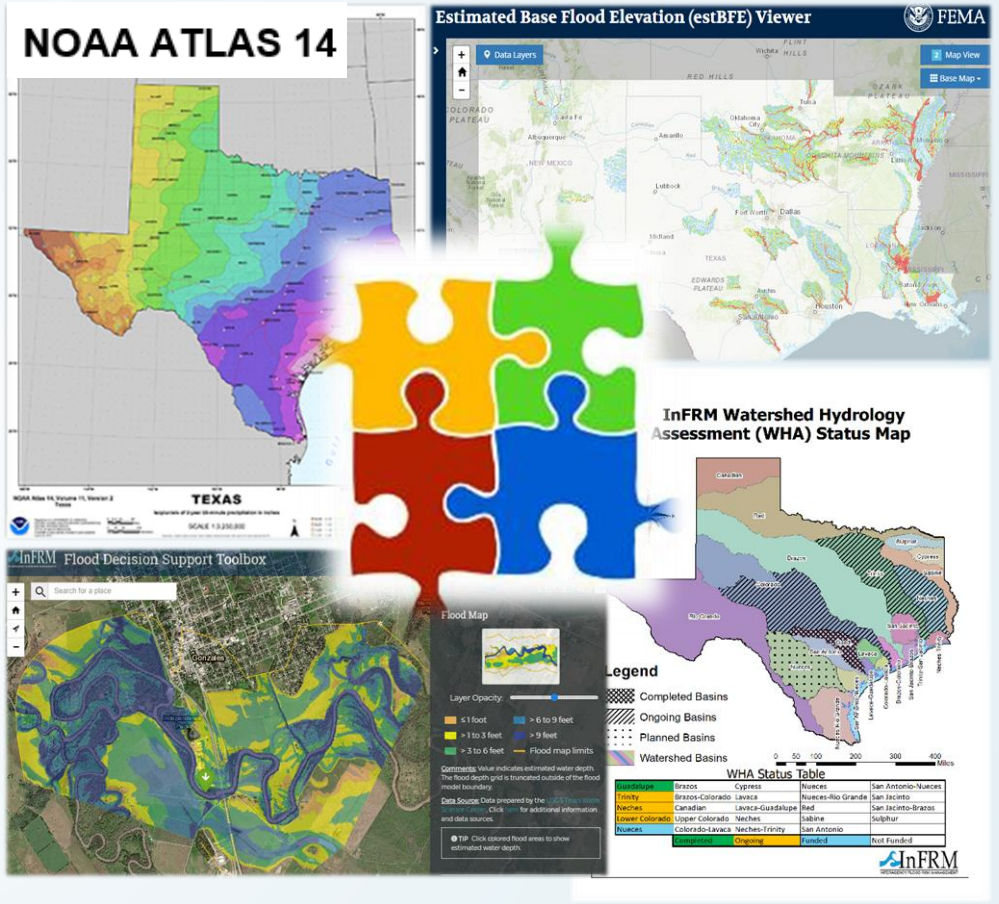




North Central Texas Council of Governments
Environment & Development

Role as Technical Advisor

- **What?** Integral technical advisor for many local, state, and federal activities, providing:
  - Support to Flood Management Task Force (FMTF), Regional Flood Planning Group (RFPG), State of Texas (i.e., Texas General Land Office, Texas Water Development Board, Texas Division of Emergency Management), and others
  - Interagency Flood Risk Management (InFRM): www.InFRM.US
  - National & regional resources (planners, program managers, scientist & engineers): will leverage in support of Transportation and Stormwater Integration (TSI) effort
  - Guidance for regional flood risk management modeling and analysis
  - Industry standard software/applications for water resources analysis (HEC, RiverWare) & models for Texas
  - Preparedness and resiliency tools and initiatives (storm shifts, FIA & LifeSim)
  - Real-time flood forecasting and inundation mapping (CWMS & RTS)
  - Involved in various compliance programs (Section 404, Section 10, Section 408)
- **Why?** Uniquely postured to serve as technical expert, data & information supplier, and provider of valuable tools/resources and analysis
- **Outcome:**
  - Saving citizens across Texas billions of $'s and providing innovative and non-regulatory resources for flood risk reduction, while establishing a high-quality reputation with partners



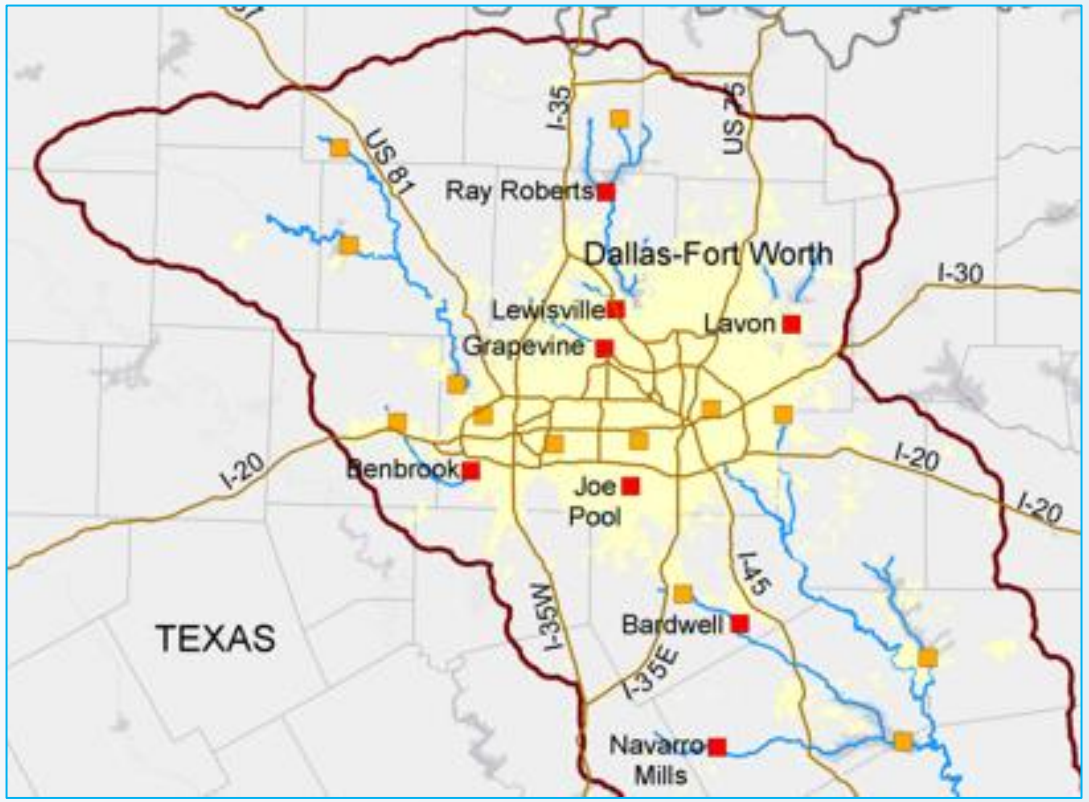
Funding Assistance to Communities

- **What?** Annual reoccurring appropriations
  - Continuing Authorities Program (CAP), all require cost Continuing Authorities Program (CAP), all require cost sharing, https://www.swd.usace.army.mil/About/Directorates--Offices/ProgramsOffices/Programs--Directorate/PlanningDirectorate/Planning--Division/CAP/Division/CAP/
    - Should meet USACE analysis and modeling standards as well as utilize USACE approved applications
  - Section 14 Emergency Streambank and Shoreline Protection: < $5M federal
  - Section 103 Coastal Hurricane and Storm Damage Reduction Projects: < $5M federal
  - Section 107 Navigation Improvements Project: < $10M federal
  - Section 111 Restoration Related to Federal Navigation: < 10M federal
  - Section 204 Regional Sediment Management: < $10M federal
  - Section 205 Flood Protection Projects: <$10M federal
  - Section 206 & 1135 Aquatic Ecosystems and Environmental Restoration Projects (non--USACE and USACE areas): < $10M federal
  - Section 208 Channel Clearing for Flood Reduction: <$500k federal
  - Planning Assistance to States (PAS) Planning Assistance to States (PAS) – funding for a broad range of studies from flooding to water availability (cost sharing)
  - Flood Plain Management Services (FPMS) - assists communities with floodplain related studies (cost share or reimbursable)
  - Silver Jackets – Federal, state and local collaboration for flood risk reduction
- **Why?** Funding assistance to enable community resiliency
- **Outcome:** Designed and constructed billions of $'s in statewide flood damage reduction projects, including coastal

Water Management

US Army Corps of Engineers (USACE) Dam Operations

- **What?**
  - Operates 29 multipurpose reservoirs
    - **6 for DFW area**
  - Helps maintain safe river conditions for impacted areas regulated by dams
  - Reservoirs establish and maintain river conditions in 7 river systems
    - **Supplies 60% of water for DFW Metroplex**
  - Funding partner for the network of stream and precipitation gages across the state
- **Why?**
  - Flood risk management, water supply, environmental, and recreation
- **Outcome:**
  - Reduces disaster risk
  - $100B+ damages prevented

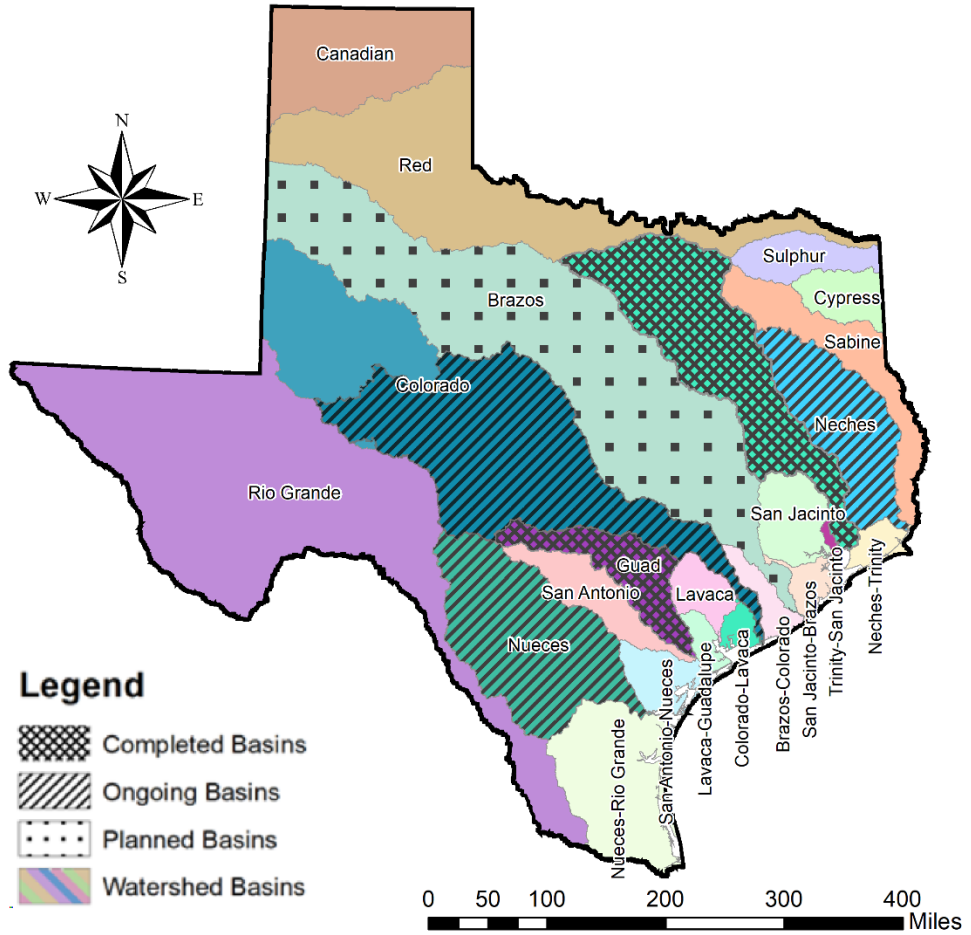


Watershed Hydrology Assessment (WHA)

- **What?** Latest & state of the art best estimate for the potential of flooding
  - Hydrology study (i.e., determines how much water) for large rivers and streams
  - Data is incorporated into larger modeling efforts
  - Incorporates NOAA Atlas 14 point-precipitation rainfall totals
  - Accounts for regulated flow from dams
- **Why?**
  - Hydrology remains the single largest source of uncertainty in our understanding of flood risk
  - Available hydrology information is generally dated and obsolete
- **Outcome:**
  - WHA produce consistent 100-yr and other frequency flows across the river basin, based on all available hydrologic information
  - Provides design data and suggests areas where flood hazard information may need to be updated
  - **Trinity River Watershed Hydrology Assessment**
    - Objective: Recently completed high quality hydrology study of 700-mile-long Trinity River Basin (18,000 square miles)
    - Outcome: Innovative and quality information for use in regional flood studies

North Central Texas Council of Governments
Environment & Development

InFRM Watershed Hydrology Assessment (WHA) Status Map



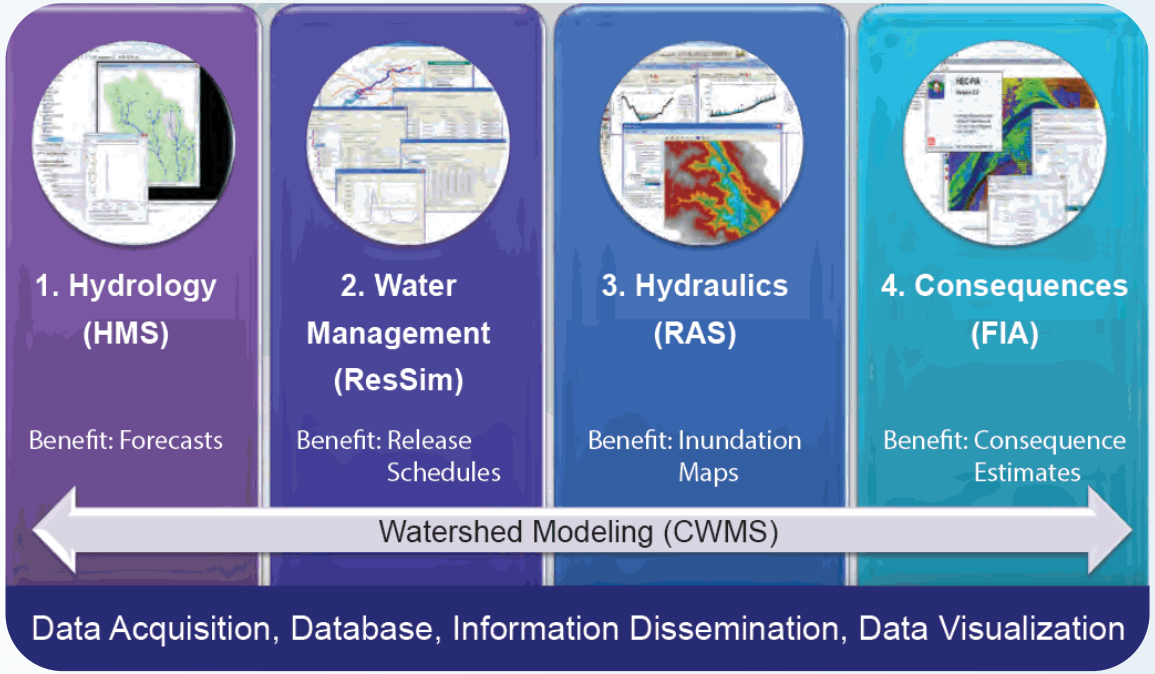
WHA Status Table

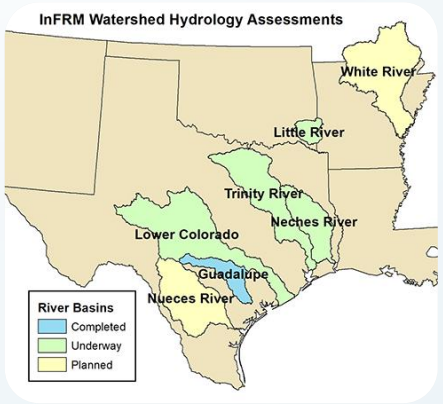
Guadalupe	Brazos	Cypress	Red	San Jacinto
Trinity	Brazos-Colorado	Lavaca	Rio Grande	San Jacinto-Brazos
Neches	Canadian	Lavaca-Guadalupe	Sabine	Sulphur
Lower Colorado	Upper Colorado	Neches-Trinity	San Antonio	
Nueces	Colorado-Lavaca	Nueces-Rio Grande	San Antonio-Nueces	
	Completed	Ongoing	Funded	Not Funded

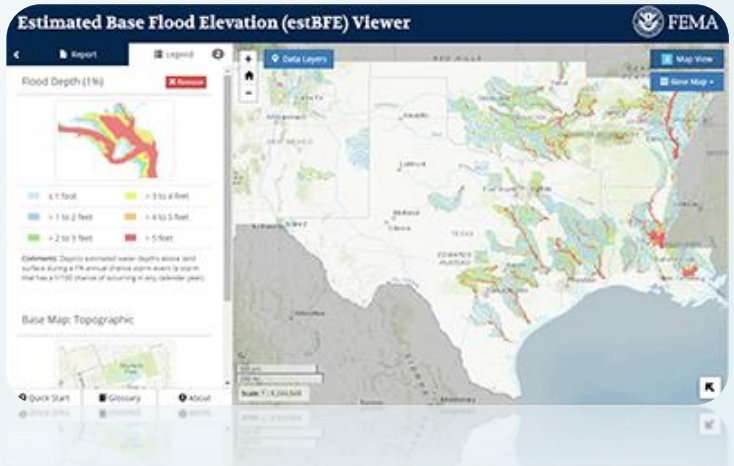
InFRM
INTERAGENCY FLOOD RISK MANAGEMENT

Modeling Enhancement Efforts

- **What?** Updates and enhancement of flood models
  - Leverage existing hydraulic models, including:
    - Corps Water Management System (CWMS)
    - FEMA Base Level Engineering (BLE)
    - Other available models/data
  - Refine and enhance as appropriate
    - Add/update hydraulic structures information (i.e., bridges, culverts, dams, etc.)
    - Include Watershed Hydrology Assessment flows/data or other applicable information
- **Why?** To ensure models that are used for critical flood studies & emergency management reflect development & technological improvements
- **Outcome:**
  - Collaborative and enhanced flood models
  - Best available tools, analysis, and data with many flood risk awareness and resilience applications
  - Communities can take action and set policies related to flood risk





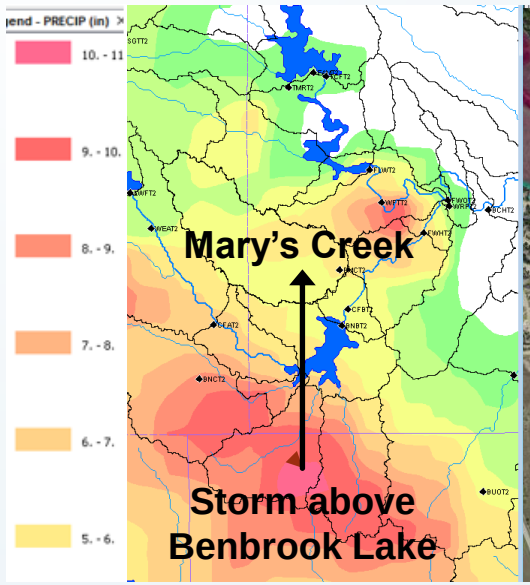


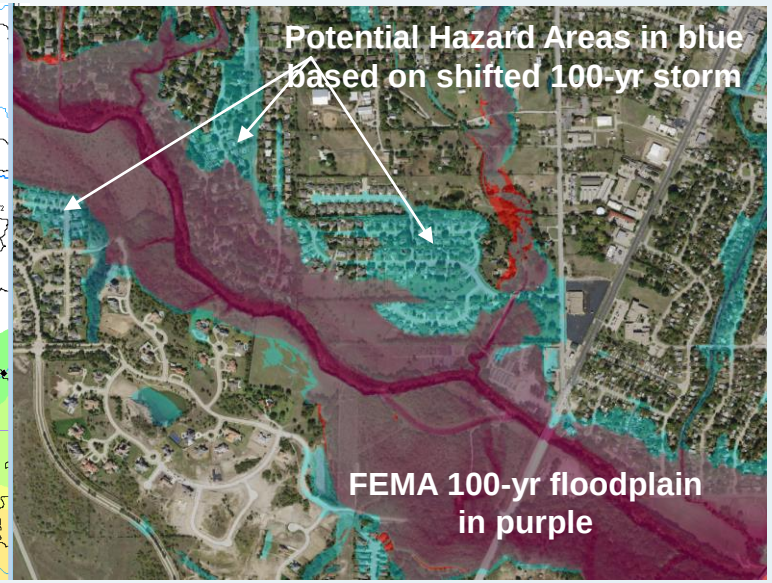
North Central Texas Council of Governments
Environment & Development

Regional Storm Shifting

- **What?**
  - Storm shifting to simulate the impact of actual regional storms if they occurred somewhere else
  - Makes science of meteorology more **relatable**
- **Why?** Questionable historic records and lack of safety factors
  - A watershed may have experienced a disproportionate number of small or large historic rainfall events
  - No factor of safety in Flood Risk Management
- **Outcome:**
  - Storm shifting provides informative, relatable, and non-regulatory data to help communities better understand and mitigate their flood risk
  - Valuable non-regulatory planning and design guidance for more resilient communities
  - Can be used in EM Action/Hazard Mitigation Plans

- **Dallas County, TX**
  - **Objective:** Assist with community desire for data-driven information to inform implementing higher standards in local floodplain management and emergency preparedness/response
  - Provides informative, relatable, and non-regulatory information to enable action ($100,000 USACE & $35,000 partner contributions)
  - **Outcome:** Collaborative & compelling results for several storms and scenarios. Anticipate completing study in late 2021.
- **Mary's Creek, DFW, TX**
  - **Objective:** Address uncertainty associated with determination of flood potential
  - Shifted 100-year± storm from June 2000 ~15 miles
  - **Outcome:** Flood potential is greater than previously understood

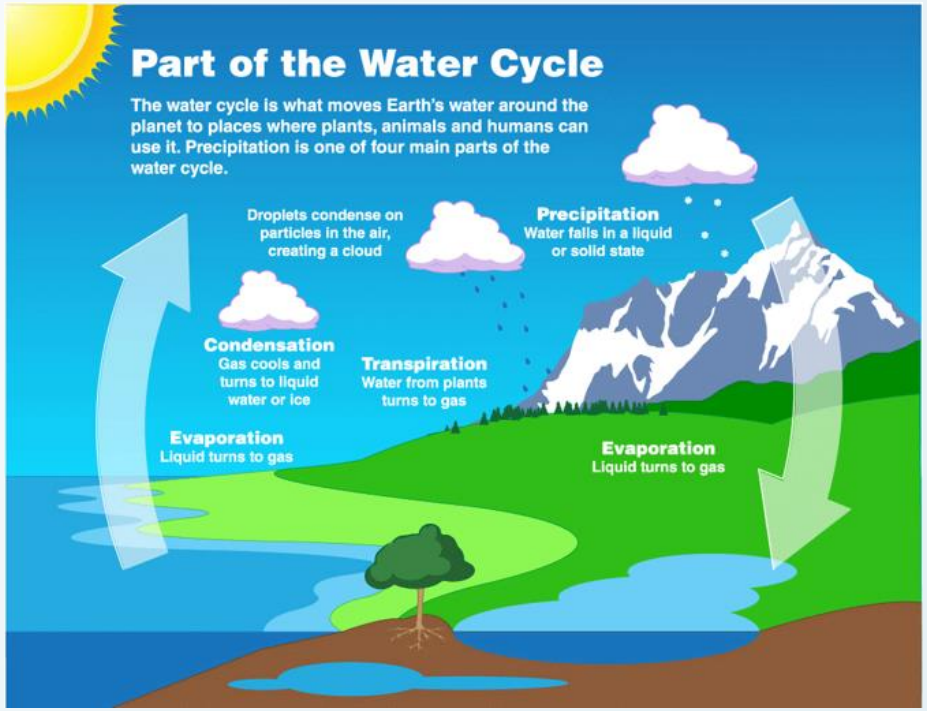




North Central Texas Council of Governments
Environment & Development

Texas Storm Study

- **What?**
  - Divide Texas into storm regions and develop a list of applicable historical storms that would be appropriate for each of the geographic storm regions
  - This could be the basis or an established dataset (i.e., catalog of storms) for H&H modelers to access
- **Why?**
  - Period of heightened storm activity since 2010, ensures that is addressed
  - Make sense of what "design storms" are appropriate to use across Texas
- **Outcome**
  - Will provide a list of storms, based on region, that engineers and scientist could use in storm shifting and other H&H exercises
  - The final report will accompany NOAA 14 to document storm parameters

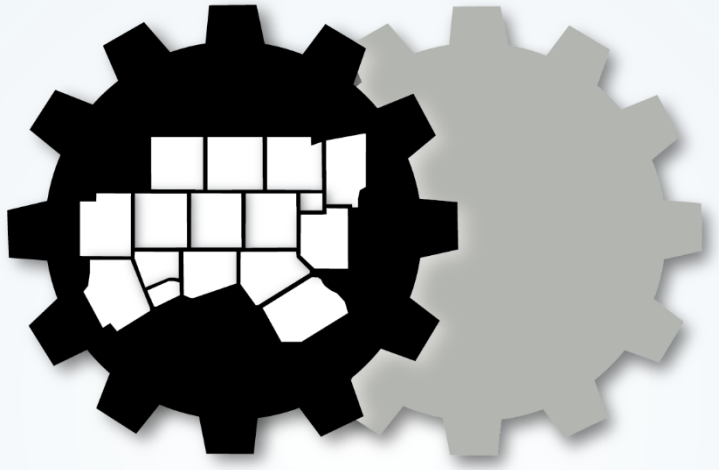


North Central Texas Council of Governments
Environment & Development

Questions & Contact

Matt Lepinski, P.E.
Water Resources Branch
U.S. Army Corps of Engineers
Matthew.T.Lepinski@usace.army.mil
817.886.1683

North Central Texas Council of Governments
Environment & Development



ROUNDTABLE

North Central Texas
Council of Governments
Environment & Development

Contact

Breanne Johnson
Planner, Environment & Development
bjohnson@nctcog.org
817.695.9148

Tamara Cook, AICP
Sr. Program Manger, Environment & Development
tcook@nctcog.org
817.695.9221

Edith Marvin, P.E., CFM
Director, Environment & Development
emarvin@nctcog.org
817.695.9211

Connect

Facebook.com/nctcogenv

@nctcogenv

nctcogenv

youtube.com/user/nctcoged

EandD@nctcog.org

nctcog.org/envir

North Central Texas Council of Governments
Environment & Development