

Mapping Coordination Meeting: BLE to FIRM

Franklin County, Texas

10/01/2026

Virtual Meeting

An aerial photograph of a rural landscape. In the foreground, there's a small town with several houses, a church with a steeple, and a school building. A river flows through the middle of the town. Beyond the town, there are large green fields and a few more buildings. The sky is blue with some clouds.

Today's Agenda:

- Introductions
- Background on Franklin County, TX
- Base Level Engineering
 - What is BLE?
- Introduction of the two viewers
- Live demonstration
 - Uses and Benefits of Base Level Engineering
- Current Effective Maps compared to the New Flood Maps
- Next Steps and Resources
- Questions?

An aerial photograph of a rural town. The foreground shows a mix of residential houses with green lawns and trees. A prominent church with a tall steeple is visible. To the right, there are large industrial silos and a grain elevator. The background consists of vast green agricultural fields under a blue sky with scattered clouds.

Introductions:

- Community
- State
- Federal
- Contractor

An aerial photograph of a rural town, likely in the Midwest, showing a mix of residential houses, a church with a prominent steeple, a water tower, and large agricultural silos. The town is surrounded by vast green fields under a blue sky with scattered clouds.

Acronyms:

- BLE – Base Level Engineering
- BFE – Base Flood Elevation
- B2F – BLE-to-FIRM
- CRS- Community Rating System
- FIRM – Flood Insurance Rate Map
- FIS – Flood Insurance Study
- NFIP – National Flood Insurance Program
- PIR – Paper Inventory Reduction

Background – Franklin County, TX



Image: Michael Barera, CC BY-SA 4.0

Mapping Status – Franklin County, TX

Community Name	NFIP Policies	Repetitive Loss Properties	Date of Last FIRM	NFIP Status	CRS Rating
Franklin County	5	--	Never Mapped	Participating	--
City of Mount Vernon	--	--	06/19/1985	Participating	--
City of Winnsboro (multi-county)	4	--	03/17/2011	Participating	--

Hazard Mitigation Plan

FRANKLIN COUNTY HAZARD MITIGATION ACTION PLAN UPDATE 2023

HAZARD MITIGATION ACTION PLAN

FOR

FRANKLIN COUNTY TEXAS

AND THE JURISDICTIONS OF

MT. VERNON, CYPRESS SPRINGS SPECIAL UTILITY DISTRICT
and FRANKLIN COUNTY WATER DISTRICT

Five Year Update

INCORPORATED AND UNINCORPORATED AREAS



DEVELOPED BY ARK-TEX COUNCIL OF GOVERNMENTS

2023

FRANKLIN COUNTY HAZARD MITIGATION ACTION PLAN UPDATE 2023

PAST OCCURRENCES OF FLOODING IN FRANKLIN COUNTY (Data from National Climatic Data Center) Ten Year Profile

March 20, 2012 (Franklin County) A woman and her two children had to be rescued when they drove their car into a flooded roadway. Numerous roads were underwater across the county due to flooding.

December 12, 2015 (Cypress) Several Farm to Market roads, including 3250 and 3170 were flooded and closed near the Purley community.

December 27, 2015 (Mt. Vernon) Widespread flooding was reported in Mount Vernon and across the entire county.

July 5, 2017 (Franklin County) Thunderstorms developed across Northeast Texas originating from the earlier cluster of storms. Low water crossings were flooded in and near Mount Vernon.

February 22, 2018 (Hagansport) Highway 37 was closed at the Sulphur River bridge along the Franklin/Red River County line due to a prolonged period of moderate to heavy rainfall across the basin which led to rapid rises on the Sulphur River and extensive backwater flooding.

February 22, 2018 (Eureka) Widespread heavy rainfall of ten to in excess of twelve inches across the Sulphur River basin of Northeast Texas during the final week of February resulted in rapid rises on the Sulphur River north of Talco, with the river cresting at 26.81 feet during the early evening hours on February 22nd. This resulted in major backwater flooding along the river, with numerous secondary roads (and State Highway 37) flooded across Southern Red River and Northern Franklin Counties.

February 12, 2020 (Franklin County) Interstate 30 was flooded and closed at the Franklin/Hopkins County line between County Road 1017 and County Road 1016.

February 21, 2021 (Eureka) Widespread rainfall amounts of four to in excess of nine inches fell across much of East Texas during this 3-day period, resulting in widespread flash flooding. Many low lying, poor drainage areas were flooded across Franklin County.

Major Declarations for Planning Area: Franklin County was a designated area for Public Assistance in the FEMA 4255-DR, Texas Disaster Declaration, February 2016, Texas Severe Winter Storms, Tornadoes, Straight Line Winds, and Flooding and in the FEMA 4416-DR, Texas Disaster Declaration, February 2019, Texas Severe Storms and Flooding.

FRANKLIN COUNTY HAZARD MITIGATION ACTION PLAN UPDATE 2023

Franklin County Flood Risk					
Jurisdiction	Impact (45%)	Probability (30%)	Warning Time (15%)	Duration (10%)	PRI Score
Franklin County	Major PRI=3	Highly Likely PRI=4	6-12 hrs. PRI= 2	< 24 hrs. PRI=2	High 3.2
Mt. Vernon	Limited PRI=1	Unlikely PRI= 1	6-12 hrs. PRI= 2	< 24 hrs. PRI=2	Low 1.25
Cypress Springs Special Utility District	Limited PRI=1	Unlikely PRI= 1	6-12 hrs. PRI= 2	< 24 hrs. PRI=2	Low 1.25
Franklin County Water District	Limited PRI=1	Unlikely PRI= 1	6-12 hrs. PRI= 2	< 24 hrs. PRI=2	Low 1.25

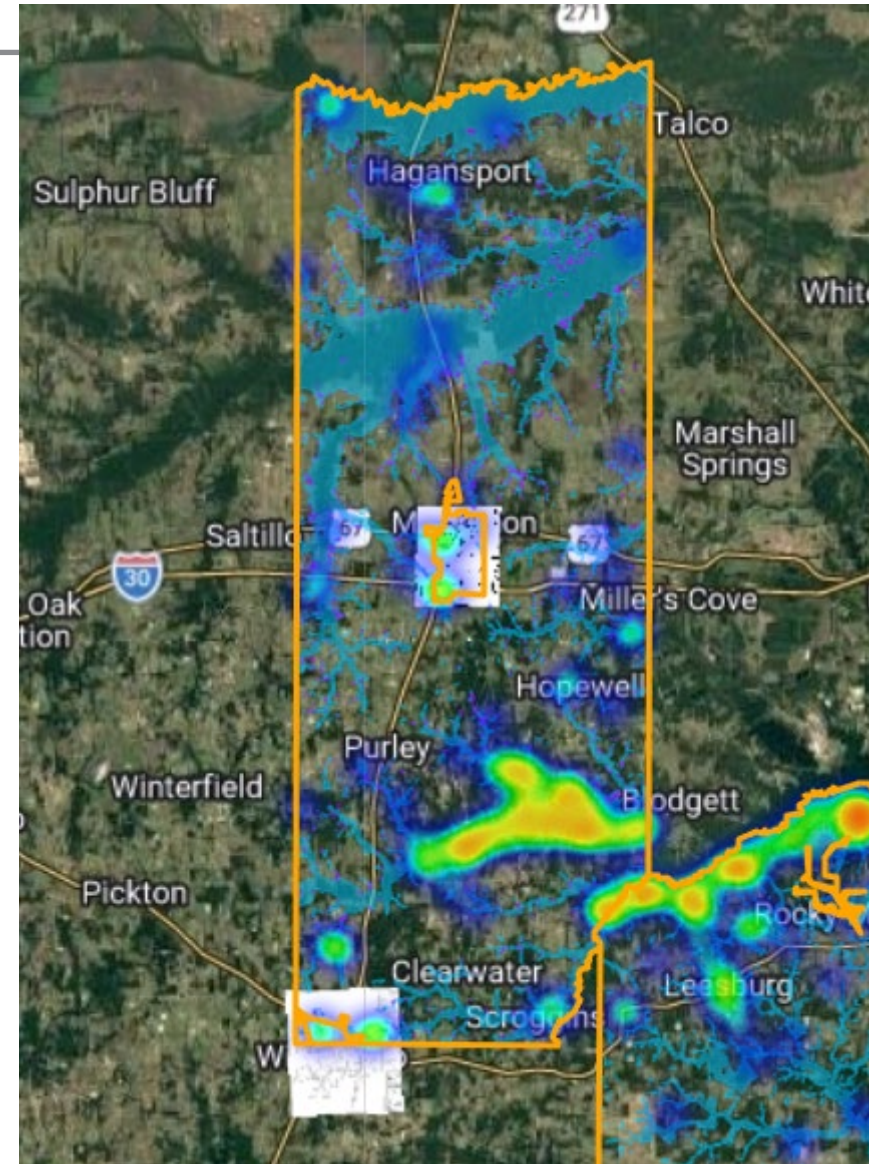
FRANKLIN COUNTY CRITICAL FACILITIES

Facility	Franklin County	Mt. Vernon	Cypress Springs Special Utility District	Franklin Co. Water District
City Hall		1		
Fire Station	3	1		
Civic Center				
Govt. Facility		1		
Wastewater plant		1		
Corrections Facility		1		
Hospital		0		
Maintenance Barn		0		
Post Office		1		
Water Tower		1		
Police Station		1		
Sheriff Office		1		
EMS		1		
Public School		1		
Water Treatment Plant			3	
County Seat		1		

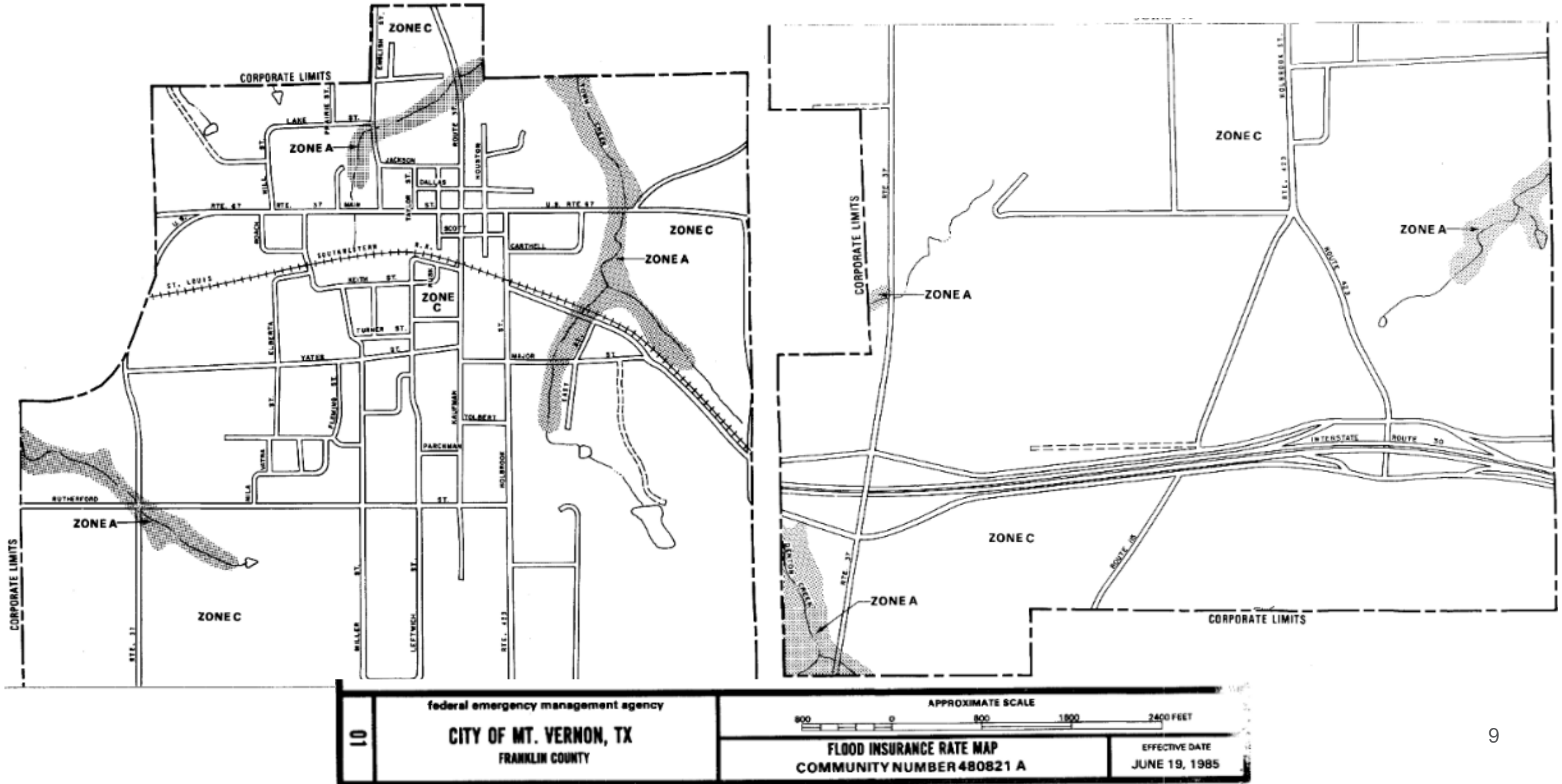
All critical facilities in Franklin County are vulnerable to the effects of flooding.

Effective Mapping Status – Franklin County, TX

- Map Status – Paper format maps in City of Mount Vernon (1985) and City of Winnsboro (Historic, 1982).
- Non-model backed effective SFHA

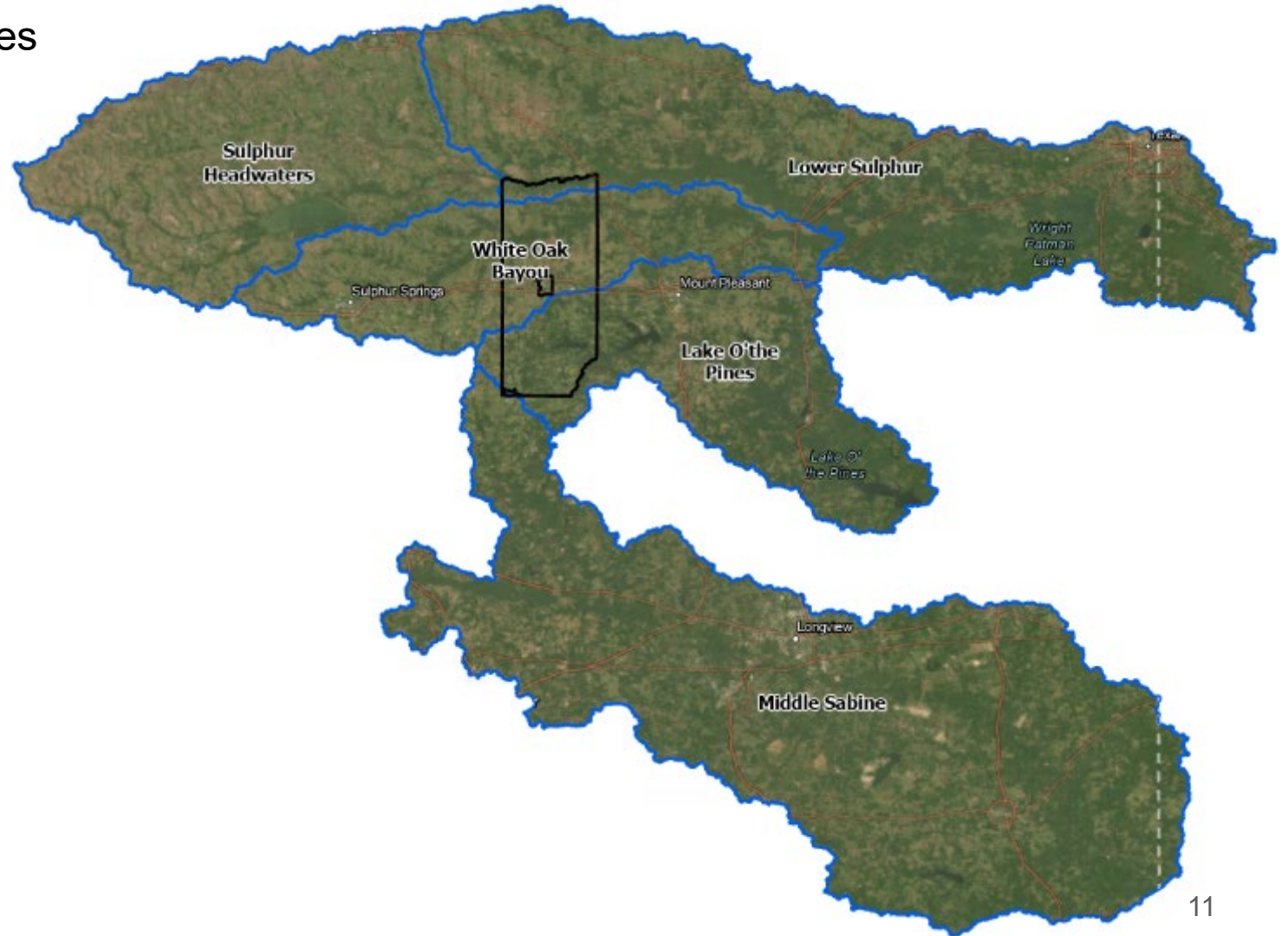


Mapping Status – City of Mount Vernon, TX

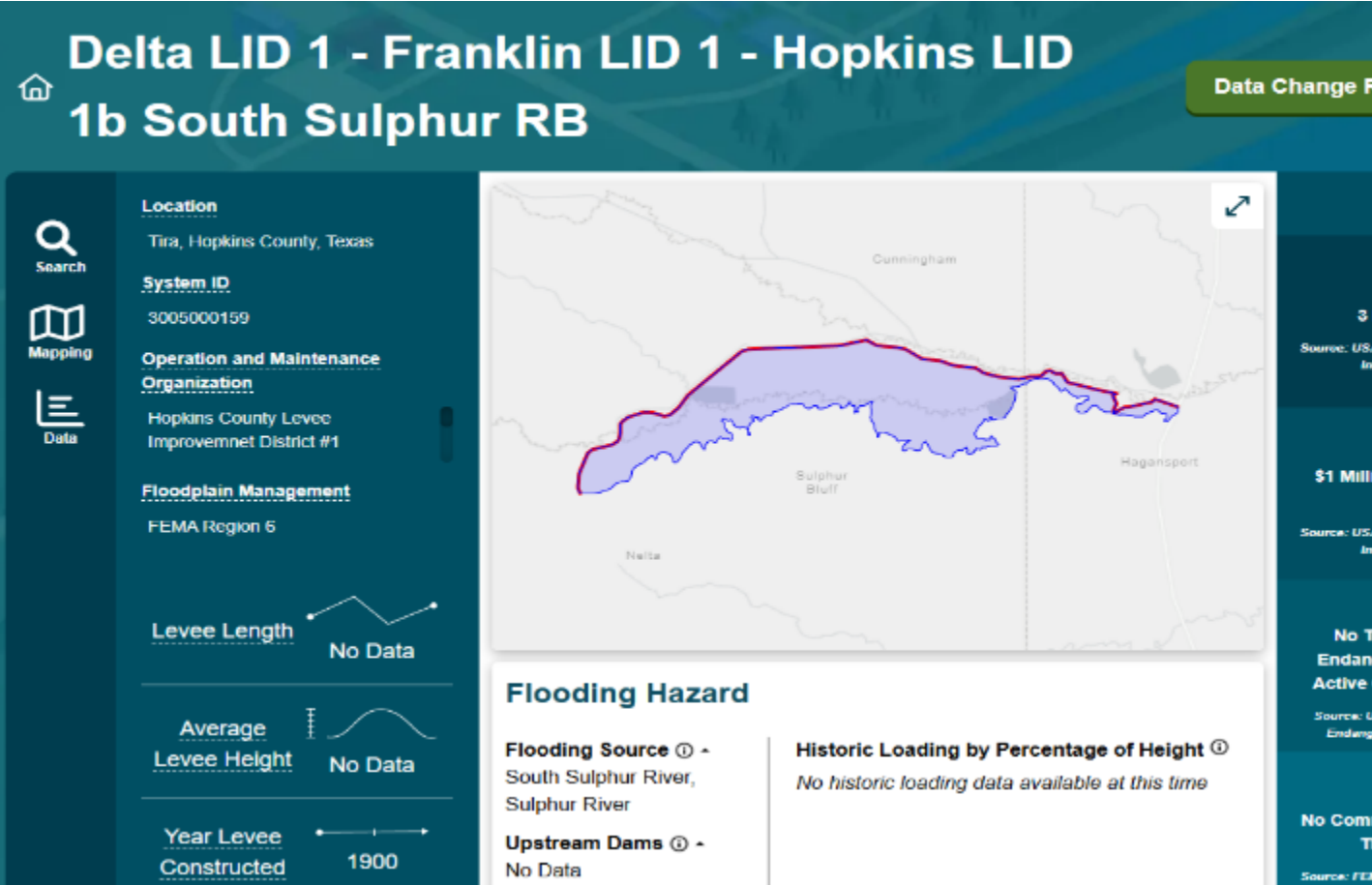


HUC8 Watersheds affecting Franklin County, TX

- Sulphur Headwaters: 1148 square miles
- Lower Sulphur: 1824 square miles
- White Oak Bayou: 798 square miles
- Lake O'the Pines: 885 square miles
- Middle Sabine: 2788 square miles



Levees in Franklin County, TX



There is one levee system affecting Franklin County, TX.

The Delta LID 1 System on Sulphur River affects Hopkins, Delta, and Franklin counties.

The levee is unaccredited and has not been mapped as showing flood protection on effective maps.

Levee owner outreach was performed for this project, with a comment period lasting from 11/5/2025 to 12/5/2025. No comments received.

Base Level Engineering (BLE)



Guidance for Flood Risk Analysis and Mapping

Base Level Engineering (BLE)
Analysis and Mapping

November 2021



Base Level Engineering is a Watershed Approach

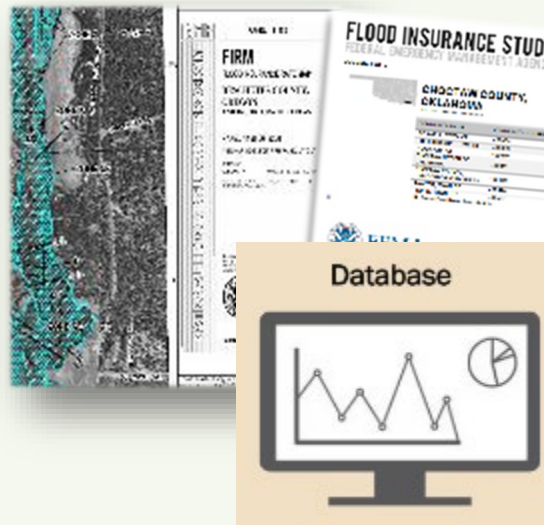
- BLE was created as a watershed approach in 2014.
 - Allows use of updated flood risk information for unmapped areas or those that have paper maps.
 - Delivers updated flood risk information in advance of new flood maps.
 - Can be adopted any time for floodplain management.
 - Provides basic engineering models which can be further refined.
- BLE can be used for creating digital flood maps where only paper ones or no maps existed before.

FEMA's Mapping Program

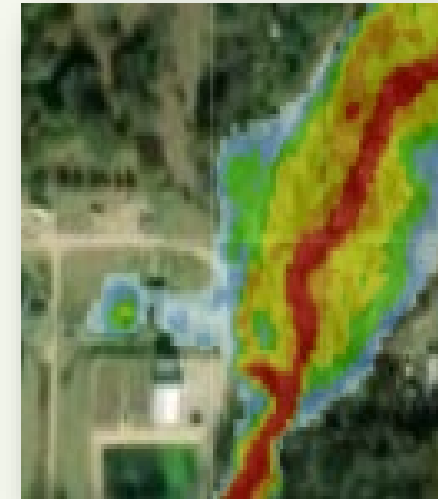
- Forms the basis of the NFIP regulations and flood insurance requirements.
- Communities agree to adopt regulatory flood maps and the data used to produce them.



At a minimum, your community should manage development wherever known flood risk exists.



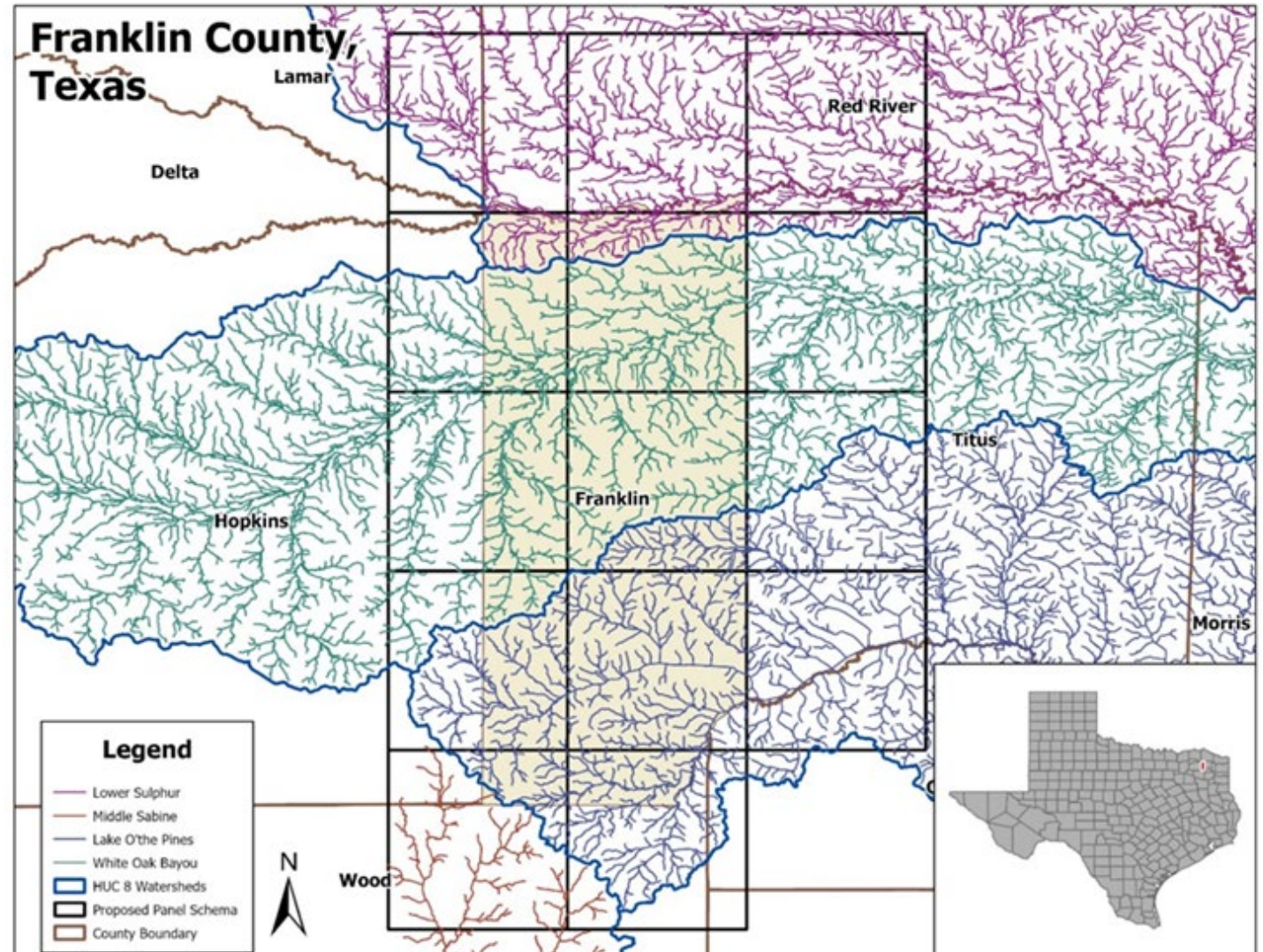
FEMA provides communities with maps and data showing their areas of increased flood risk.



FEMA may also provide other datasets that help communities manage development.

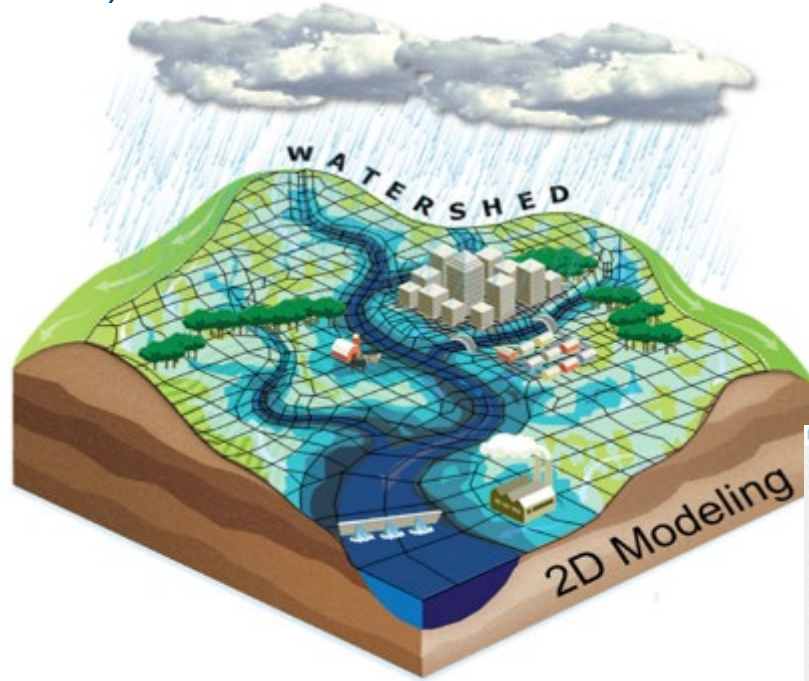
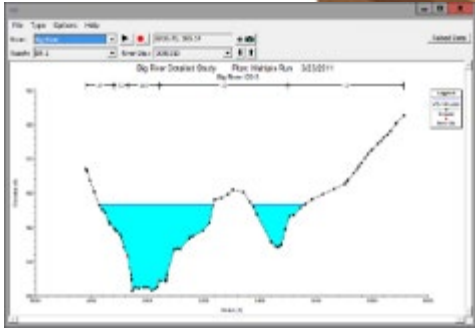
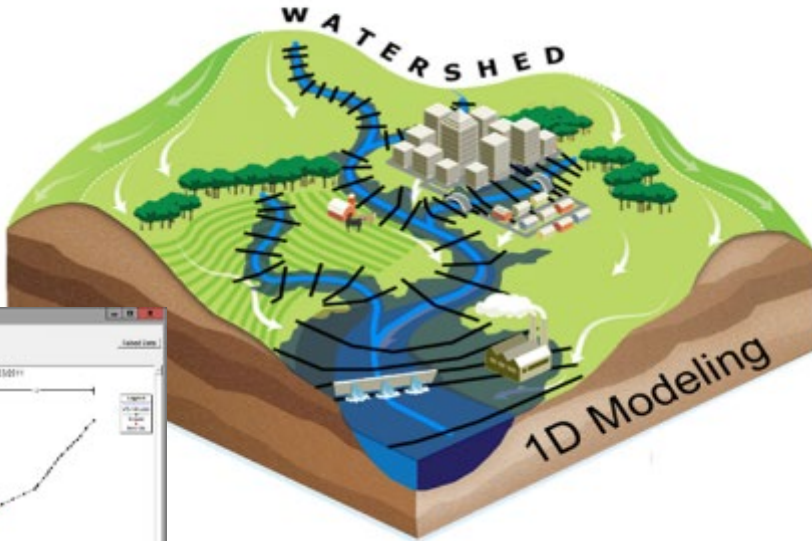
Mapping Status – Franklin County, TX

- BLE Coverage – Countywide
- Total Mapped Stream Miles:
 - Zone A – 551 miles

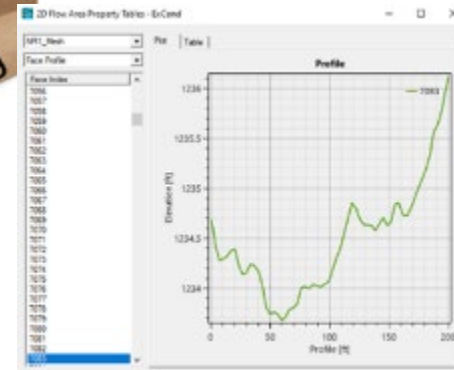


1D (1 directional) and 2D (multi-directional)

1D: Data Available at Cross Sections



2D: Data Available at Each Grid/Mesh Cell



Fluvial flooding – river flooding, water level in a river, lake, or stream rise and overflows into the surrounding banks, shores, and neighboring land

Pluvial flooding – surface water flooding, occurs when heavy rainfall creates a flood independent of an overflowing water body

Introduction of the two viewers:

Estimated Base Flood Elevation Viewer
(Elevation information, modeling data downloads and reports)

Base Level Engineering to Flood Insurance Rate Map Viewer
(Comparison between effective and BLE data)

Estimated Base Flood Elevation (estBFE) Viewer

<https://webapps.usgs.gov/infrm/EstBFE/>

Welcome to the
Estimated Base Flood Elevation Viewer

Base Level Engineering assessments are produced using high resolution ground data to create technically credible flood hazard information that may be used to expand and modernize FEMA's current flood hazard inventory.

High Flood Risk
this location is in a 1% (100 year) flood zone
[View Report](#)
[Zoom](#) [Close](#)

Property Look Up
Where data are available, produce a property-specific report with estimated base flood information.
[What's My Flood Risk?](#)

View Base Level Engineering Data
Access all available Base Level Engineering data without GIS software.
[I Want to Explore](#)

Download Datasets & Models
Download the Base Level Engineering data presented in the viewer.
[I Want to Download](#)

File Name	Size	Download
12030106_Models.zip	383.9 MB	Download
12030106_Depth01.zip	82.8 MB	Download
12030106_Depth02.zip	97.3 MB	Download
12030106_Elev01.zip	19.5 MB	Download
12030106_Elev02.zip	20.1 MB	Download
12030106_VectorData.zip	263.7 MB	Download

3 1 2

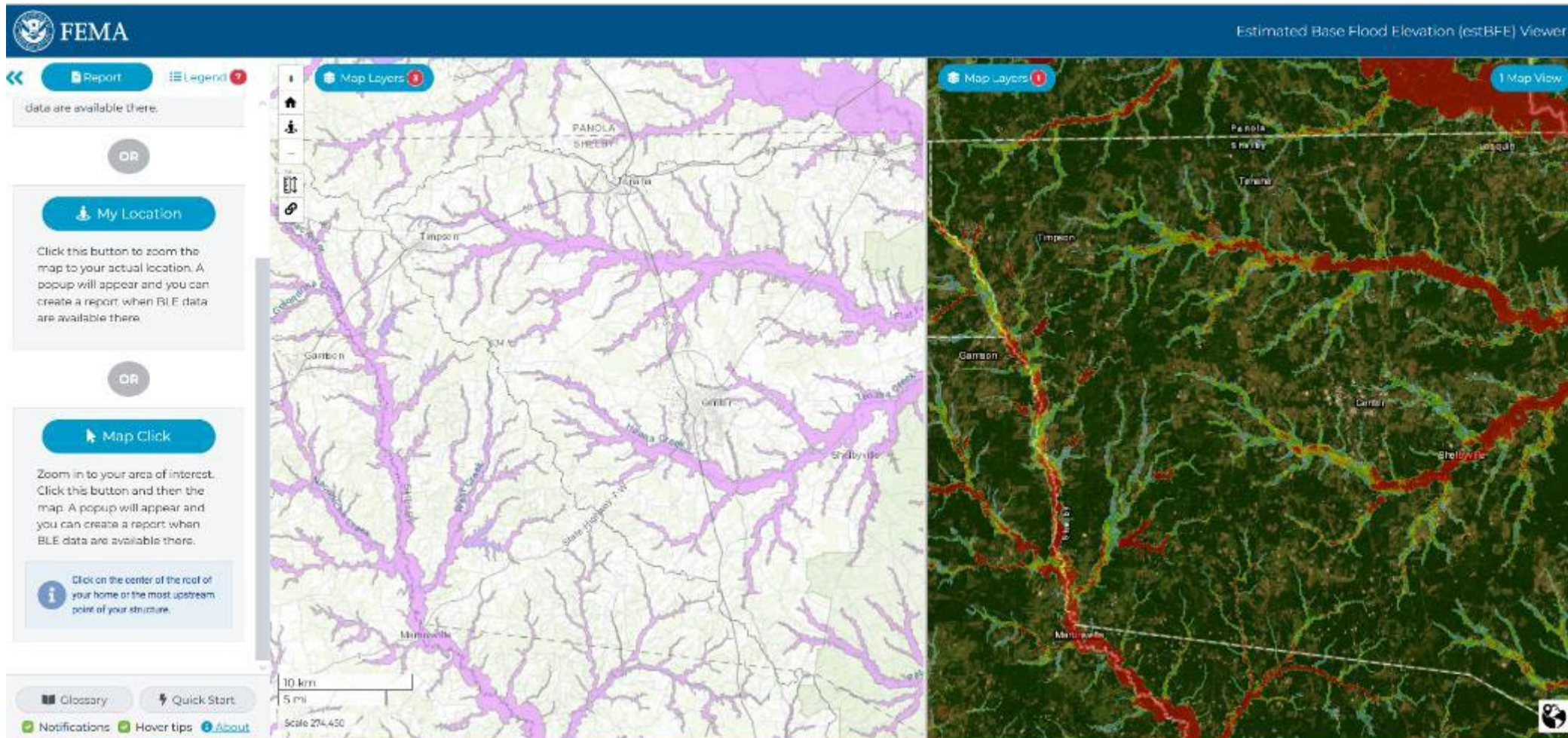


Available

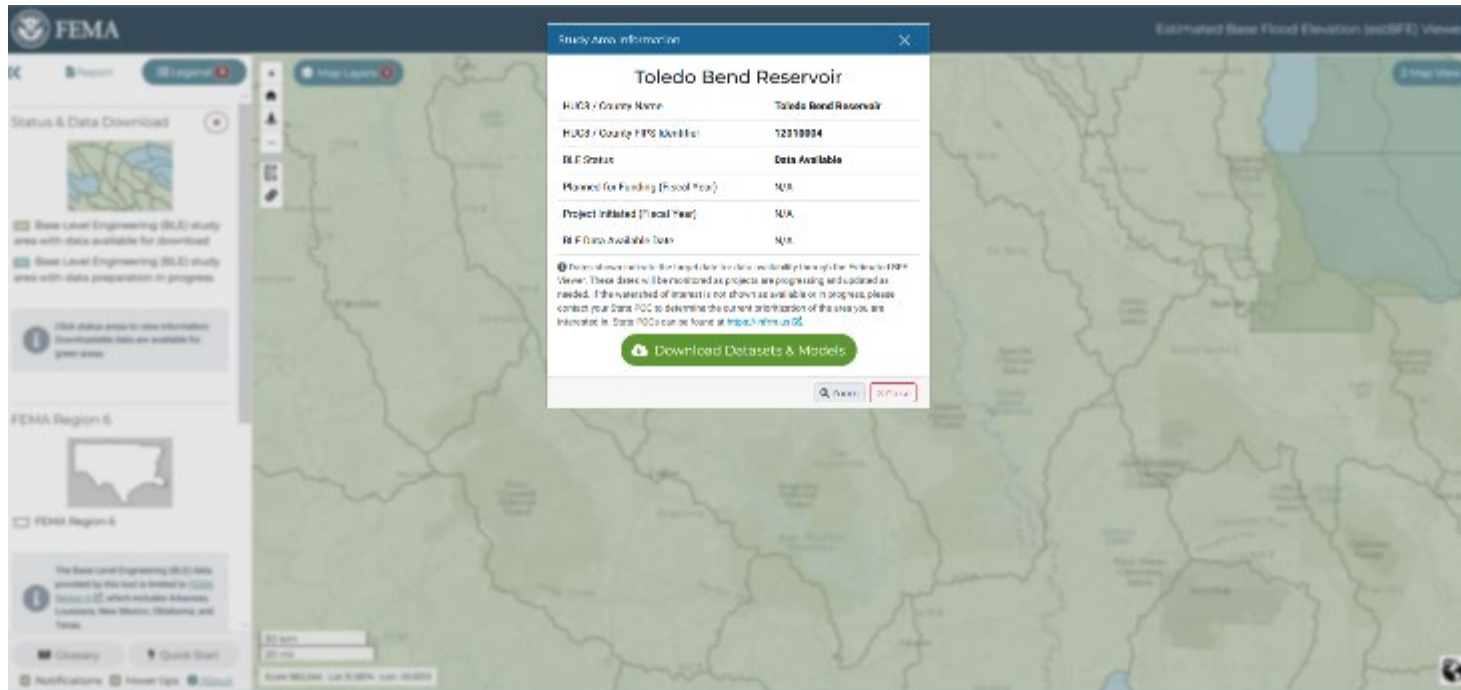


In Progress

View the Base Level Engineering Data



Download the Data



Products

- Hydraulic Engineering Models:
10%, 4%, 2%, 1%, 1%+, 1%-, 0.2%
- Estimated Flood Extents: 10%, 1% and 0.2%
- Estimated Water Surface Grids: 1% and 0.2%
- Estimated Flood Depth Grids: 1% and 0.2%
- Additional Purchased (R6)
 - HAZUS – Level 2 Analysis
 - Point file (Choke Points, Survey Support and Update Areas)
 - Freeboard Grids

Run a Site-Specific Report

The screenshot displays the FEMA Estimated Base Flood Elevation (estBFE) Viewer interface. The top navigation bar includes the FEMA logo and the title "Estimated Base Flood Elevation (estBFE) Viewer".

On the left sidebar, there are three main options for generating a report:

- Report**: A button with a document icon. Below it, a message states "data are available there."
- My Location**: A button with a location pin icon. Below it, text reads: "Click this button to zoom the map to your actual location. A popup will appear and you can create a report when BLE data are available there."
- Map Click**: A button with a cursor icon, highlighted with an orange border. Below it, text reads: "Zoom in to your area of interest. Click this button and then the map. A popup will appear and you can create a report when BLE data are available there."

Below these options, an information icon (i) is followed by the instruction: "Click on the center of the roof of your home or the most upstream point of your structure."

At the bottom of the sidebar, there are links for "Glossary", "Quick Start", "Notifications", "Hover tips", and "About".

The main map area shows a flood risk map with purple flood zones. A popup window titled "Map Click Location" is displayed over the map, containing the following information:

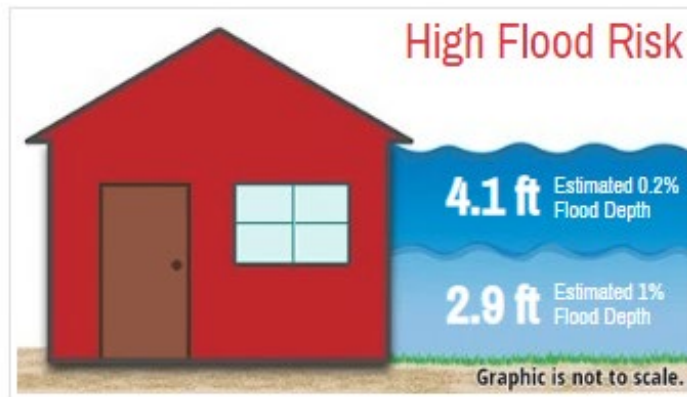
- High Flood Risk**
- A red wavy line icon followed by the text: "This location is in a 1% (100 year) flood zone."
- A red button labeled "View Report".
- Buttons for "Zoom" and "Close".

On the right side of the interface, there is a "Map Layers" button and a "1 Map View" button. The right panel shows a satellite view of the same area, with the flood zones overlaid in red and yellow.

Report Features

Flood Event	Estimated Flood Depth*	Estimated Base Flood Elevation*
1 Percent (100 Year)	2.9 feet above land surface	496.1 feet NAVD 1988
0.2 Percent (500 Year)	4.1 feet above land surface	497.2 feet NAVD 1988

* The information included in this report is based on the location marker shown in the map. Results are not considered an official determination.



1% and 0.2%
Estimated Flood
Depths & Estimated
BFE values

Flood Event	Estimated Flood Depth*	Estimated Base Flood Elevation*
1 Percent (100 Year)	No Data	No Data
0.2 Percent (500 Year)	0.6 feet above land surface	496.7 feet NAVD 1988

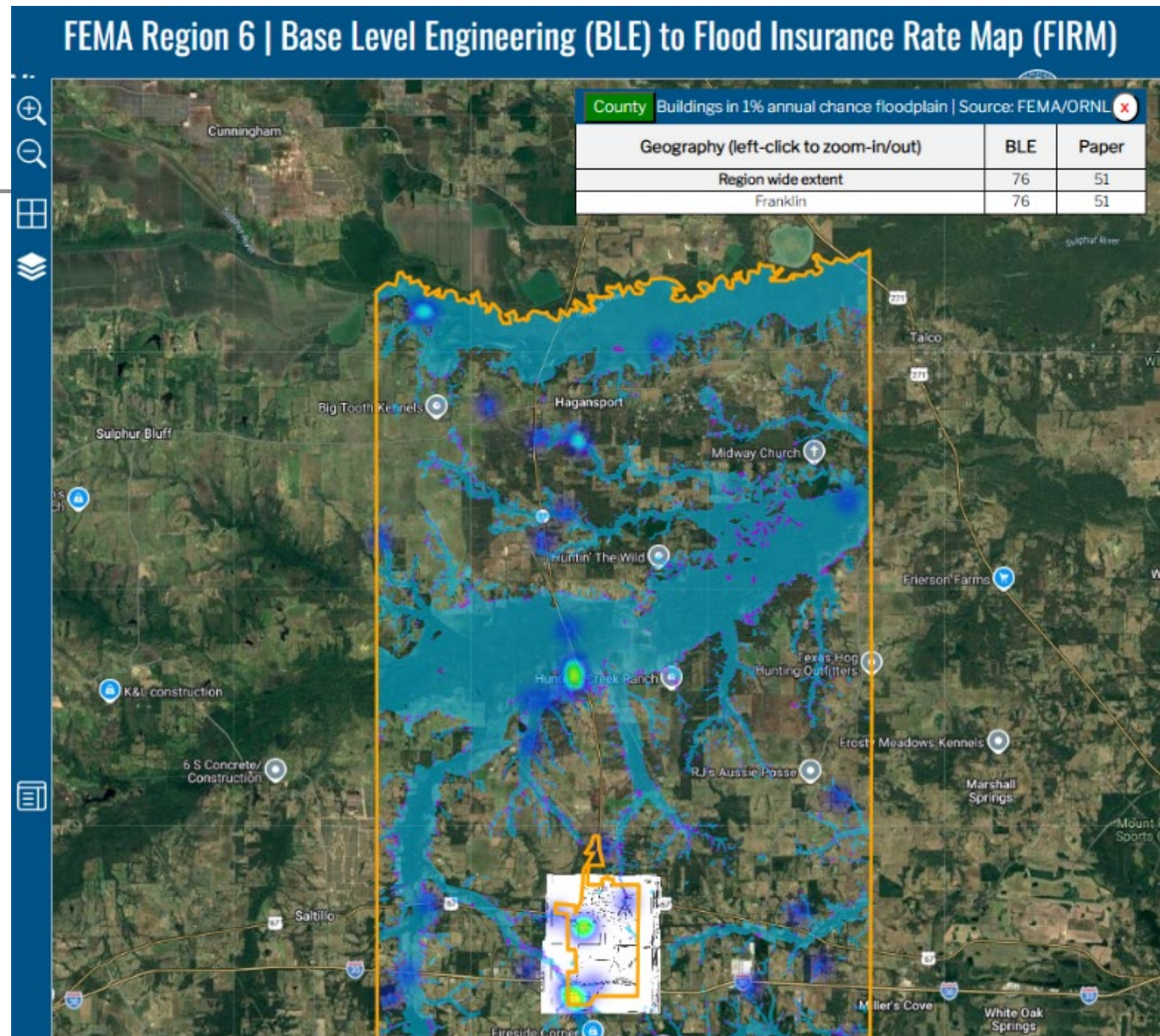
* The information included in this report is based on the location marker shown in the map. Results are not considered an official determination.



1% and 0.2%
Estimated Flood
Depths values

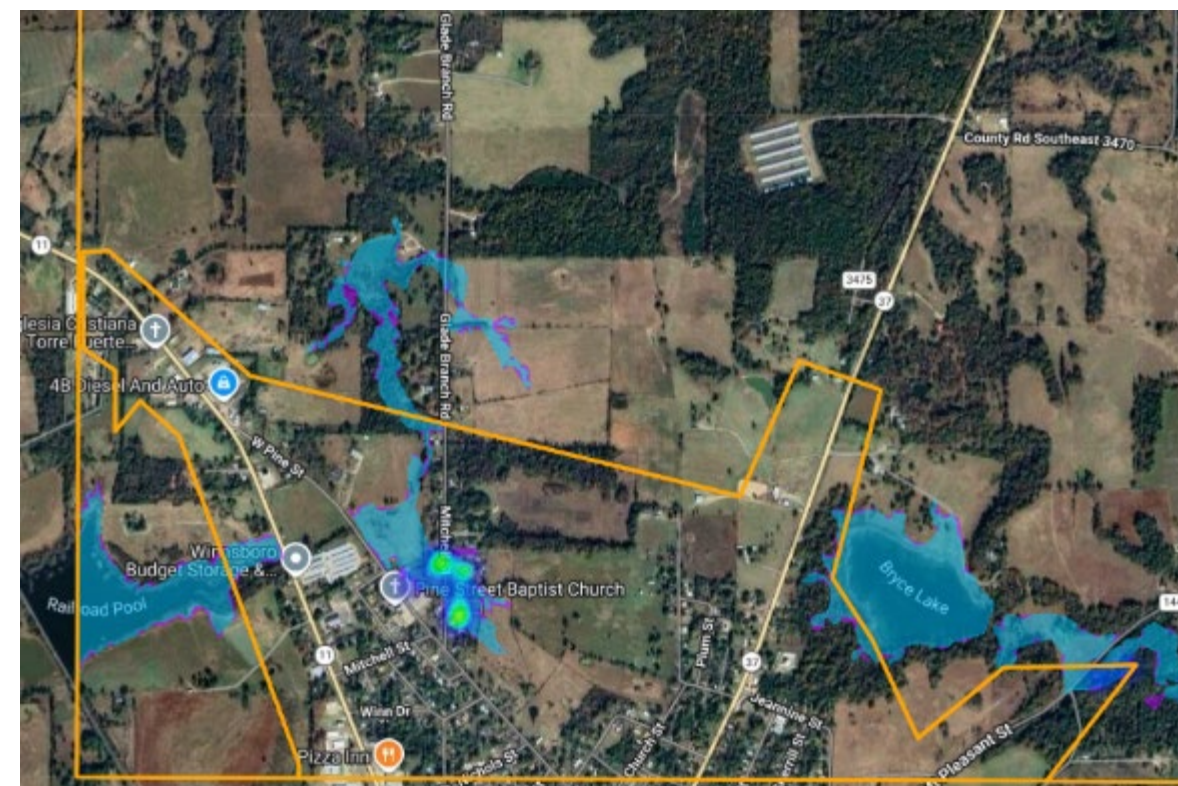
Region 6 B2F VIEWER

https://webapps.usgs.gov/fema/ble_firm/

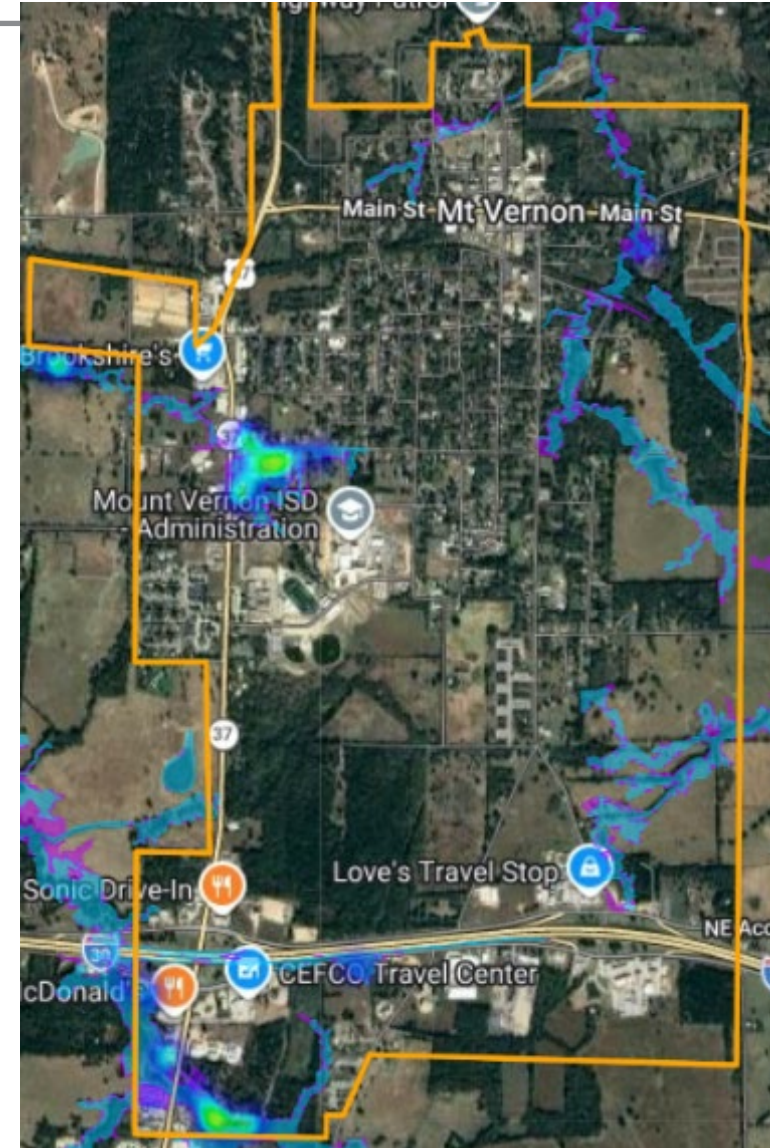
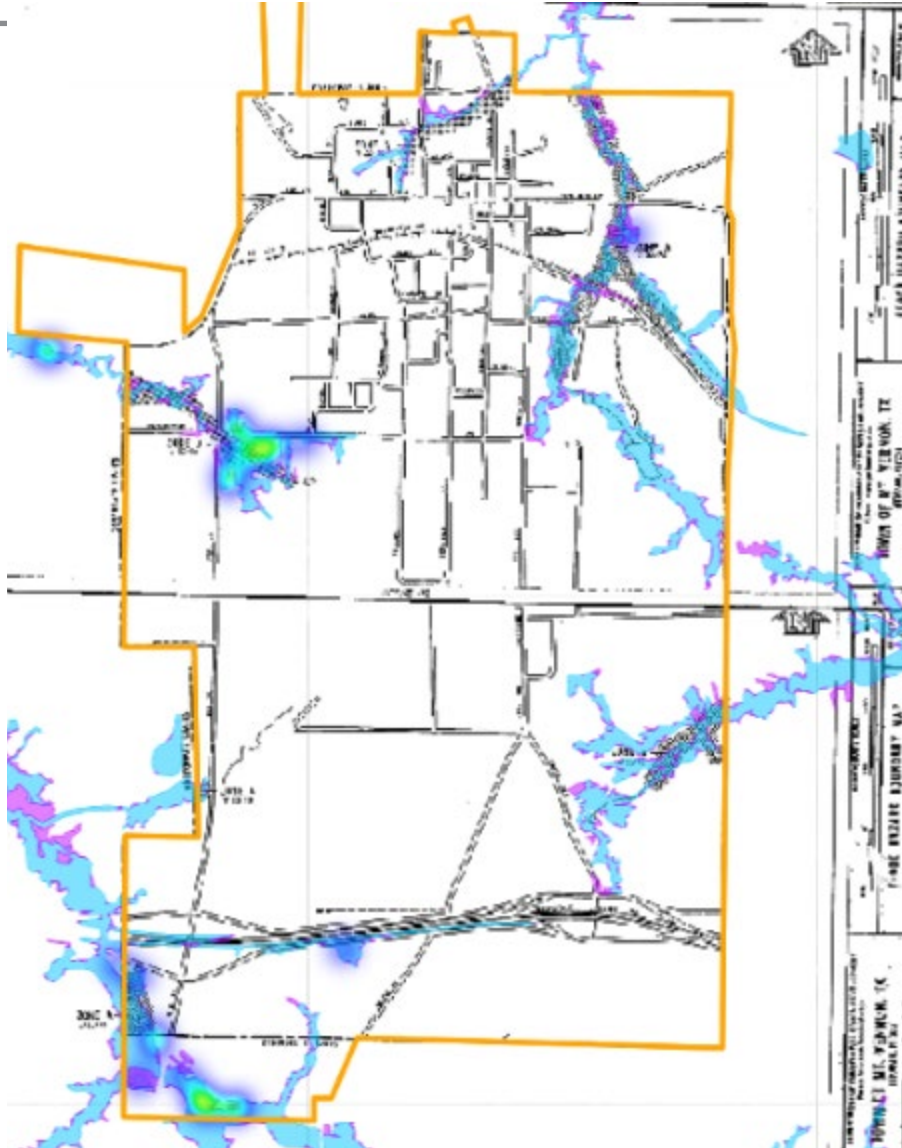


Areas of Increased Risk: City of Winnsboro

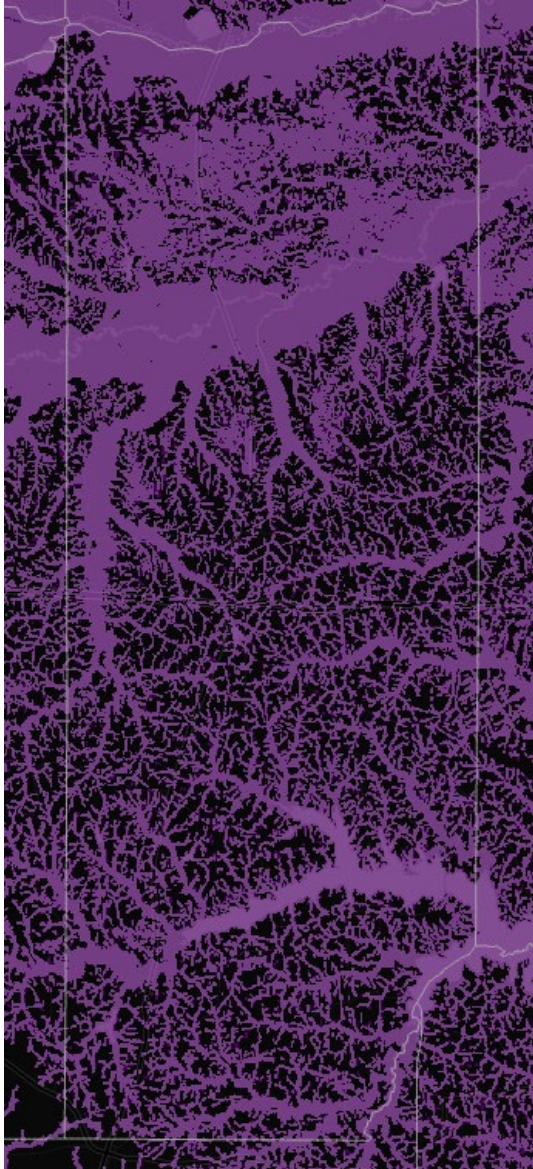
County Buildings in 1% annual chance floodplain Source: FEMA/ORNL		
Geography (left-click to zoom-in/out)	BLE	Paper
Region wide extent	16	2
Franklin	16	2



Areas of Increased Risk: City of Mount Vernon



Remaining BLE Coverage – not intended to be on FIRM



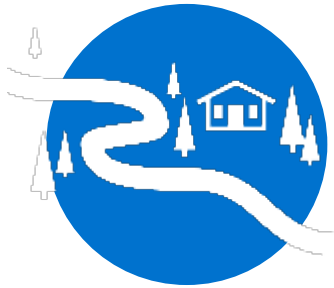
2D BLE studies are not relegated to specific streams like 1D studies are. The results are much more dense, showing fluvial floodplain beyond the limits of the streamlines and pluvial flooding in the ponding areas. The criteria established on what would be removed from the BLE study and not intended to be on the FIRM include:

- Disconnected floodplains that do not intersect the limits of the 1 square mile contributing drainage area streamline, unless it is part of a visible ponding area greater than 2 acres.
- Pluvial ponding less than 1 acre

Within Franklin County, areas were reduced throughout the unincorporated areas based on the above criteria.

Live Demonstration of the Viewers

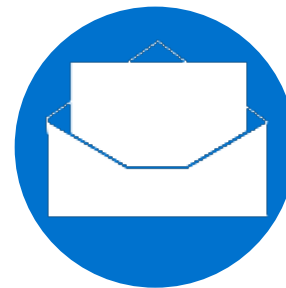
Examples of How You Can Use BLE



**Community Planning,
Land Use and Zoning**



**Hazard Mitigation
Planning and Grants**



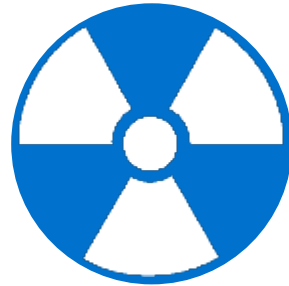
**Letter of Map
Change – Zone A**



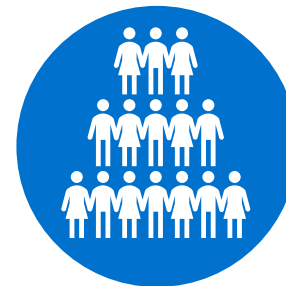
FIRM Updates



**Floodplain Management,
Development Review
and Permitting**



**Emergency
Management**



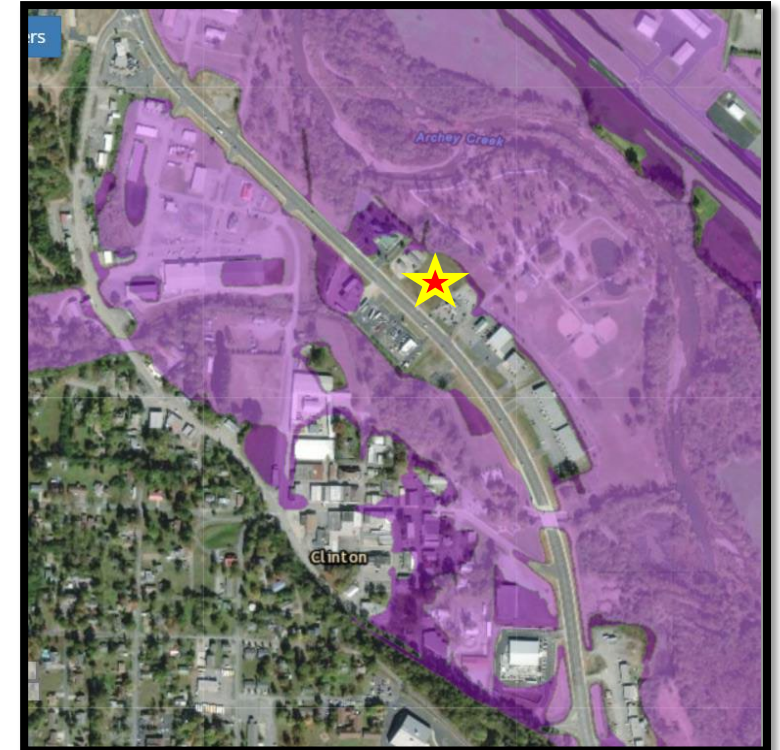
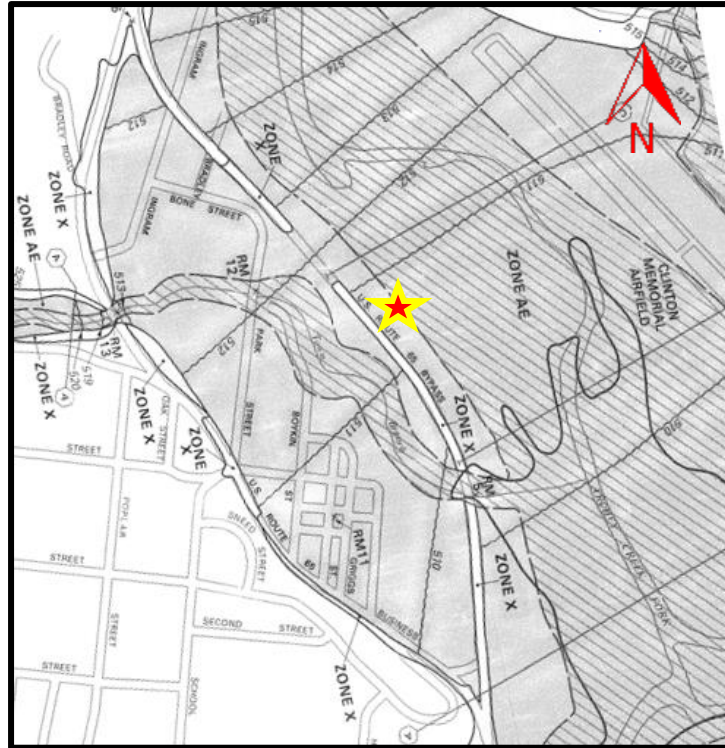
**Outreach and
Engagement**



**Community Rating
System (CRS)**

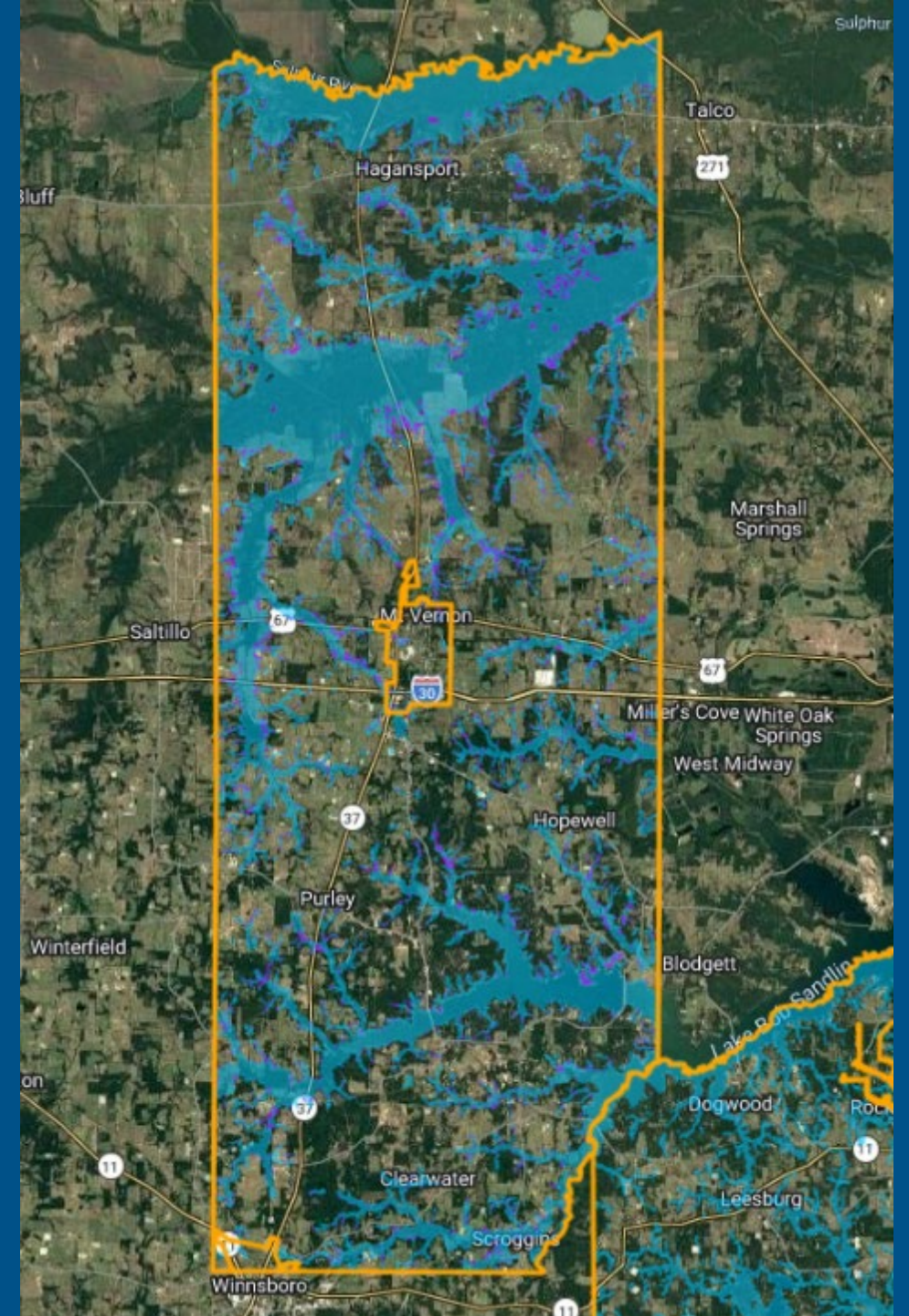
Minimum Use of BLE Data in Local Floodplain Management

- Alert residents to availability of data
- Check Base Level Engineering when reviewing development permits



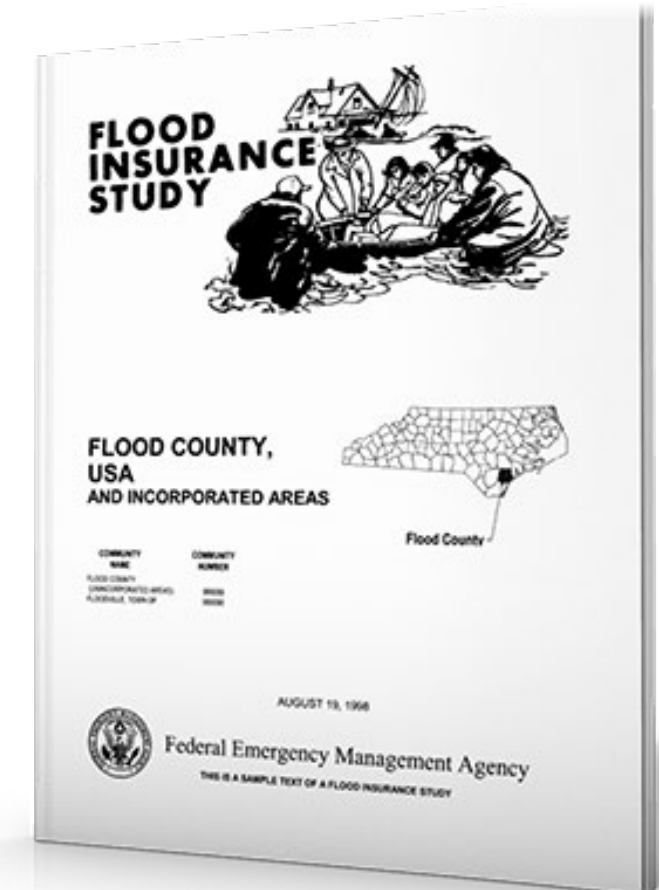
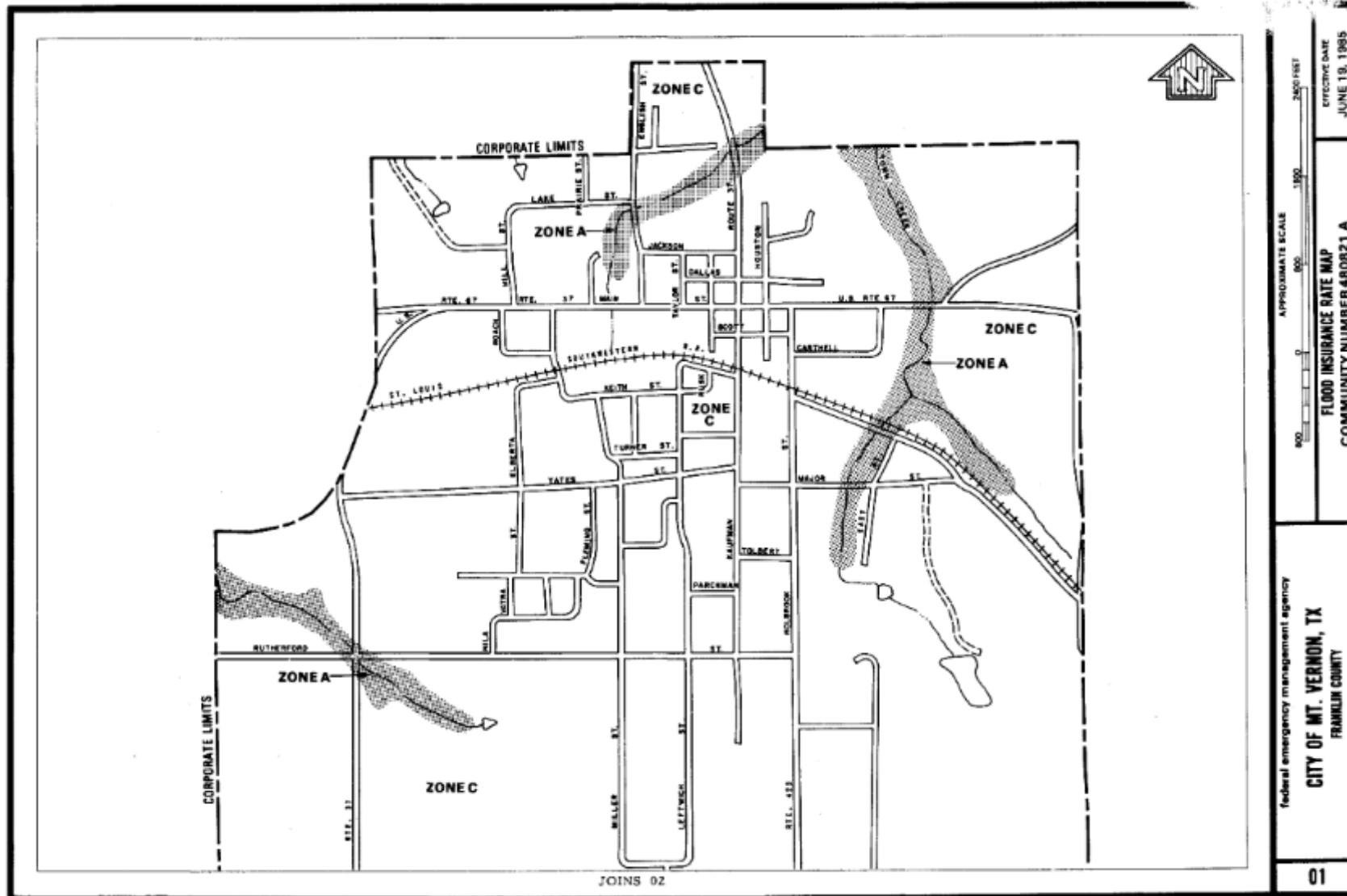
New Digital FIRMs for Franklin County

- Base Level Engineering is the starting point for your new FIRMs.
- **We need your input on:**
 - **Community annexations**
 - **Newly formed communities**
 - **Areas of expected growth**
 - **Areas impacted by recent disasters**
 - **Current/ongoing LOMCs**
- Resultant FIRMs will identify Zone A
- Input will be needed by October 15, 2026
 - **Send your comments/input to:**
Katelyn Henry
Katelyn.Henry@trinnex.io

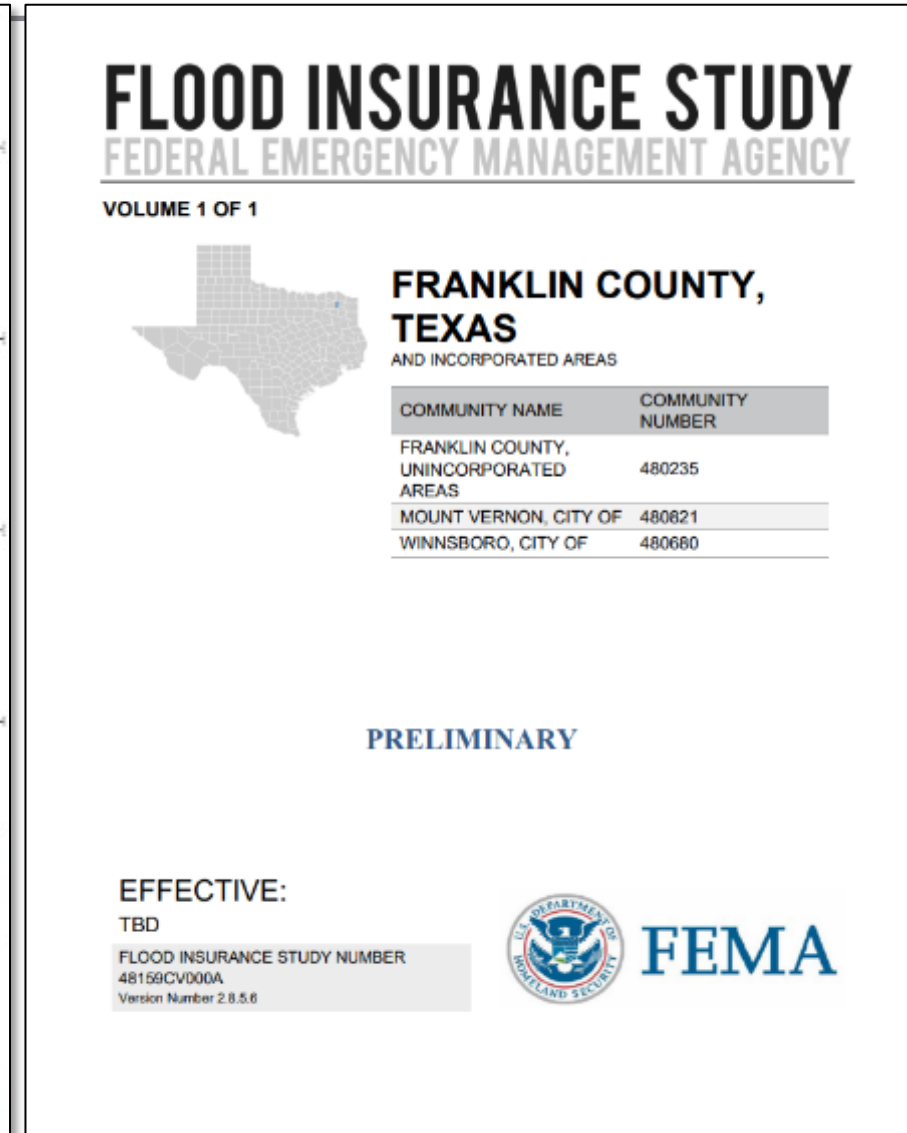
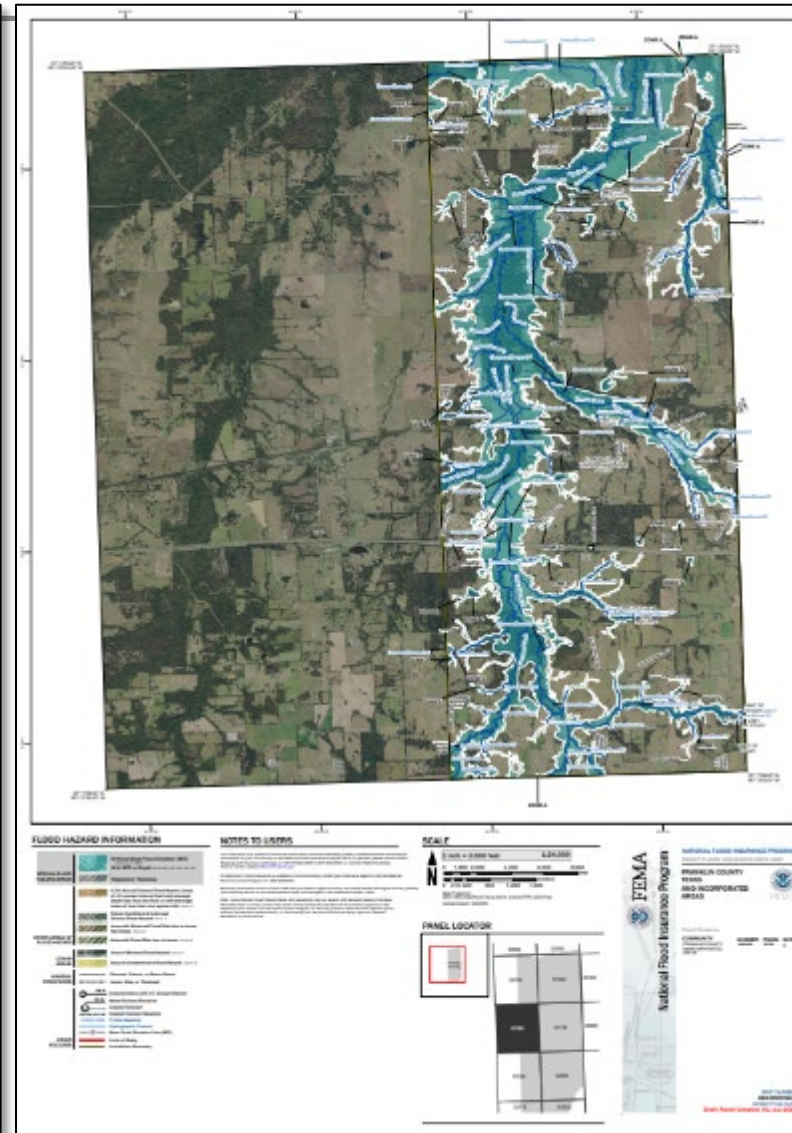
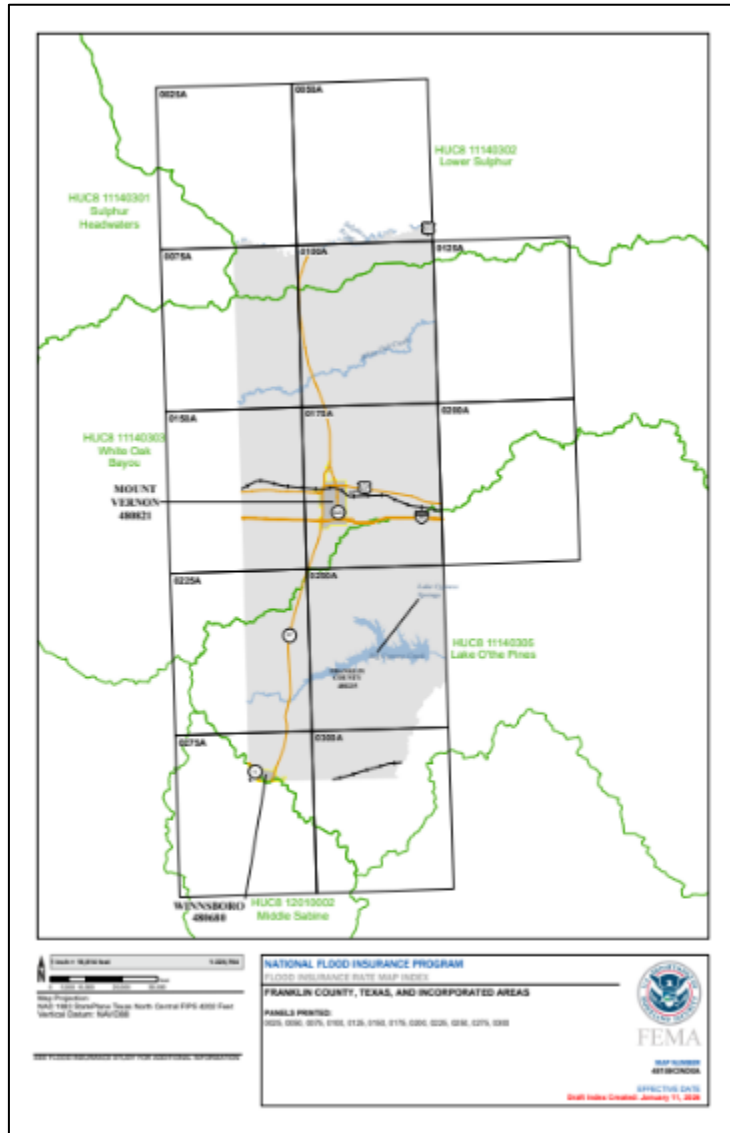


Current Effective Maps compared to the New Flood Maps for Franklin County, TX

Current Effective Map

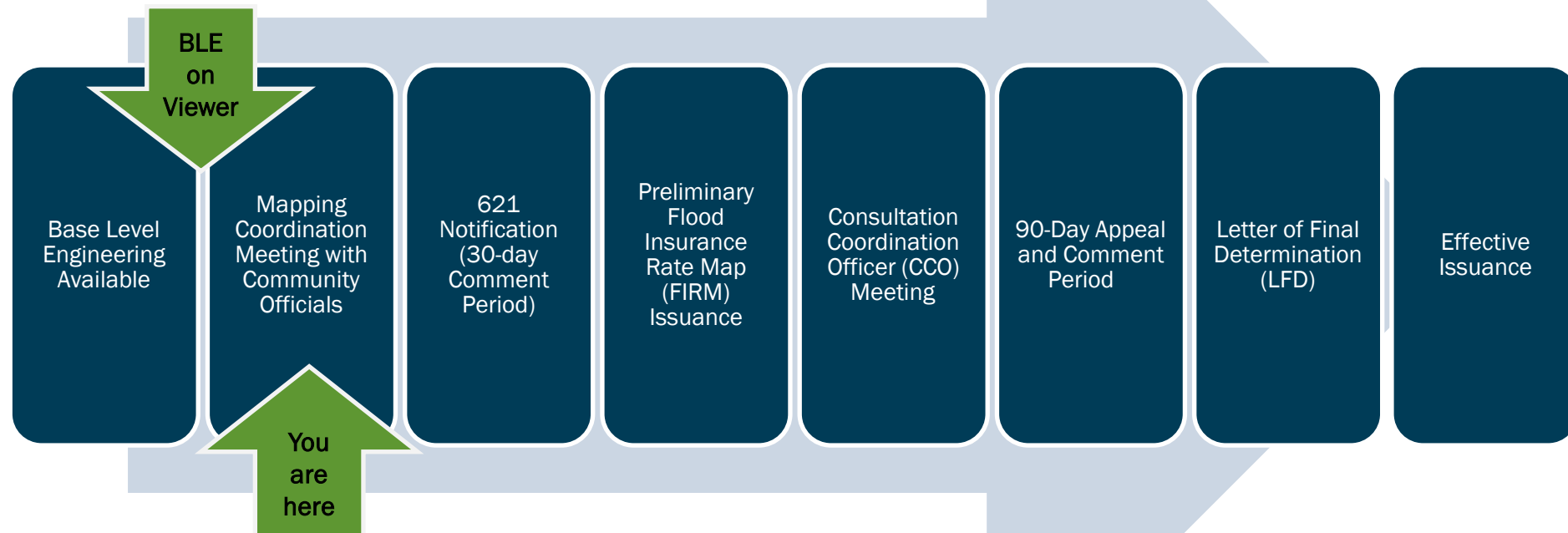


Example format of updated FIRMs and FIS report



Next Steps and Resources

Mapping Timeline



Why Adopt BLE Data now?

Community Planning – Estimated Flood Depths can be used for developers for siting and layout.

Floodplain Management – BLE can be adopted for higher community standards, like freeboard.

Permitting – BLE can support model refinements to determine BFEs or create site-specific reports.

LOMA and LOMR support – Models may be used for MT-1 (Amendments) and MT-2 (Revision).

Hazard Mitigation Plan updates – Data can be used to supplement flood hazard information or identify areas of risk not shown on the effective FIRM.

Grants – Data can be used to support grant applications.

Community Flood Risk Awareness Outreach – Introduce the Estimated BFE Viewer and its Flood Risk Information Reports to your community.

And many more...

State Training Resources

- Hands-on training is available from the Texas Water Development Board (TWDB)
- Focus on:
 - Accessing the Base Level Engineering Viewer
 - Interpreting the data and mapping
 - Incorporating BLE in day-to-day floodplain management
 - Using BLE to apply for Letters of Map Amendment, complete Elevation Certificates



Resources – Material and Training

- Base Level Engineering Resource Library

www.fema.gov/about/organization/region-6/base-level-engineering-ble-tools-and-resources

<https://www.fema.gov/flood-maps/tools-resources/risk-map/base-level-engineering>

https://www.fema.gov/sites/default/files/documents/fema_base-level-engineering-guidance_112021.pdf

3-Part BLE Training Video

https://www.youtube.com/playlist?list=PLkAxXt8OFI8CJkv7R7xMd99Cu_oKmd14A

- Virtual Brown Bag Training

<https://www.eventbrite.com/e/fema-region-6-virtual-brown-bag-vbb-tickets-392536145177>

HOW2 Use BLE Data for Local Permitting

Use a participating community's local flood data to expand local risk awareness and expand local risk awareness.

1. Access your property's local flood data. If you are a property owner, you can access your local flood data through the FEMA Flood Data Viewer. If you are a community official, you can access your local flood data through the FEMA Flood Data Viewer.

2. Use the flood data to expand local risk awareness. The flood data can be used to identify areas of high risk and to develop local risk awareness.

3. Use the flood data to expand local risk awareness. The flood data can be used to identify areas of high risk and to develop local risk awareness.

BASE LEVEL ENGINEERING

Flood data to expand local risk awareness

THE ESTIMATED BASE FLOOD ELEVATION VIEWER

Use the Estimated Base Flood Elevation Viewer to view the estimated base flood elevation for a specific location. The viewer displays a map of the United States with a red dot indicating the location. The map shows the estimated base flood elevation for the location. The viewer also displays a table of the estimated base flood elevation for the location.

BASE LEVEL ENGINEERING

Flood data to expand local risk awareness

WHAT IS BASE LEVEL ENGINEERING?

Base Level Engineering is a process that uses flood data to expand local risk awareness. It involves using flood data to identify areas of high risk and to develop local risk awareness.

BLE Data Download

The Base Level Engineering database is broken into a number of files, for download through the FEMA Flood Data Viewer. The files are:

Name of Data Set	File Name	Description
HEC-4AS - 100-year	HEC4AS_100year.zip	HEC-4AS 100-year flood data for the United States. The data is in a shapefile format.
100-year depth, 0.2%	HEC4AS_100year_0.2p.zip	Flood depth elevations in a grid format for the 100-year event.
0.2% event depth, 100-year	HEC4AS_0.2p_100year.zip	Flood depth elevations in a grid format for the 0.2% event.
100-year water surface elevation	HEC4AS_100year_wse.zip	Top of water surface elevations in a grid format for the 100-year event.
0.2% event water surface elevation	HEC4AS_0.2p_wse.zip	Top of water surface elevations in a grid format for the 0.2% event.

Get A Flood Insurance Quote

The collage displays five sequential screenshots of the FEMA Flood Smart website's quote process:

- Before You Start:** A landing page with a house illustration and instructions for users. It includes a checklist: "Who should complete this?", "Who I need to provide?", and "What I need...".
- Quote Process:** A progress bar showing four steps: Step 1: Property Information, Step 2: Building Information, Step 3: Select Coverage Amounts, and Step 4: Review and Submit.
- Property Information:** A form where users enter the street address of the property. It includes fields for "Address", "City/State", and "Zip", and a checkbox for "Is this a mobile home?".
- Building Information:** A section titled "Foundation Type" with six options: "Bolted down", "Pier and beam", "Crawl space", "Slab on grade", "Basement", and "Other". Each option has a brief description and an icon.
- Select Coverage Amounts:** A section where users choose coverage amounts for "Building Coverage" and "Contents Coverage". It includes input fields for "New Coverage" and "Old Coverage" with plus/minus buttons to adjust the amounts.

<https://www.floodsmart.gov/policy-quote/>

Next Steps

- Review the study coverage area and provide any input by October 15, 2026.
- Use the Estimated BFE Viewer and B2F Viewer.
- Look up BLE resources on FEMA.gov
- Contact Katelyn Henry at Katelyn.Henry@trinnex.io if you would like a one-on-one Estimated BFE Viewer or B2F Viewer training.
- Talk to your local officials about early adoption of BLE data.
- Consider outreach for your community.

If you have questions about the NFIP, contact your State NFIP Coordinator Cody Ransone:
Cody.Ransone@twdb.texas.gov

Important Contacts

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QUESTIONS?

FEMA wants your
feedback!

Risk MAP Survey

Purpose: Gather feedback on the overall experience and effectiveness of today's meeting.

Timing: Approximately seven minutes.

FAQ:

- Survey responses will remain anonymous.
- If you do not understand a question, please let me know and I can help you.
- Please feel free to provide any other feedback.
- To access the survey link, use the camera on your smartphone to scan the QR code below.



Survey Link

Mobile Survey Link

https://riskmapsurveys.gov1.qualtrics.com/jfe/form/SV_babktNguQmqYdRY?STATE=AK&DATE=043024&TIME=10&TYPE=BLE2F&MODE=HYBRID&SOURCE=MOBILE®ION=6

Paper Survey Link

https://riskmapsurveys.gov1.qualtrics.com/jfe/form/SV_babktNguQmqYdRY?STATE=AK&DATE=043024&TIME=10&TYPE=BLE2F&MODE=HYBRID&SOURCE=PAPER®ION=6