



# Non-FEMA Flood Risk Area Initiative


Virtual Public Meeting Presentation  
November 14, 2022

**Good Evening!**  
**The presentation will  
begin at 6:05.**


- During the presentation, everyone except the presenters will be muted
- We will answer questions at the end of the meeting
- If you have a question, please post it in the chat using the chat button OR use the hand button to be called on to ask your question verbally
- The presentation will be recorded and shared after the meeting. Thank you!


 Mute ▾


 Start video ▾

 Share



 Apps

 Participants

 Chat

**Presented by:**

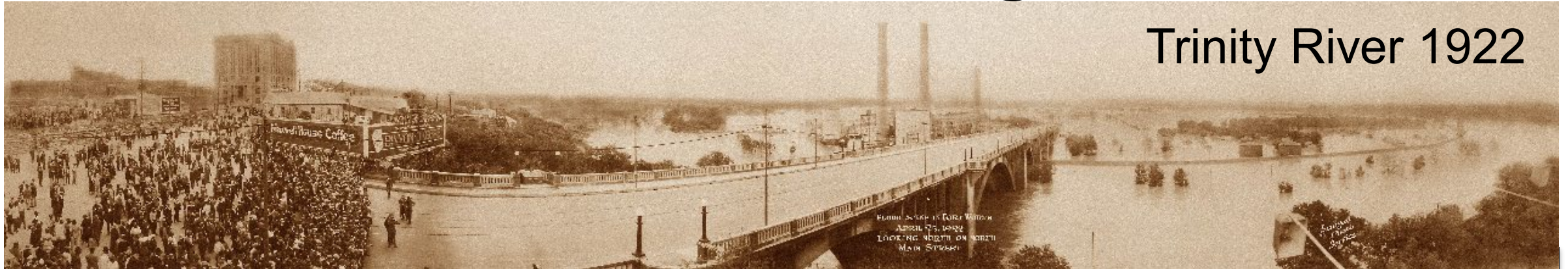
Clair Davis, P.E., CFM – Floodplain Administrator, T/PW Stormwater Management

# Agenda

- Historic Flooding in Fort Worth
- Stormwater Program Primary Functions
- Two Types of Flooding:
  - FEMA Floodplains
  - Non-FEMA Flood Risk Areas
- Where to Find Flood Information
- Next Steps
- Website Demos
- Questions?



# Historic Flooding in Fort Worth



Trinity River 1922

Marine Creek 1938



Marine Creek 1942

Figure 1.--FLOOD SCENES ON MARINE CREEK

Upper photograph shows damaging results of April 1942 flood in hardware store on North Main Street. Lower picture shows debris piled up near East Exchange Avenue and North Main Street after April 1942 flood. (Photos courtesy of Fort Worth Star-Telegram.)

May 17, 1949





# Stormwater Mission

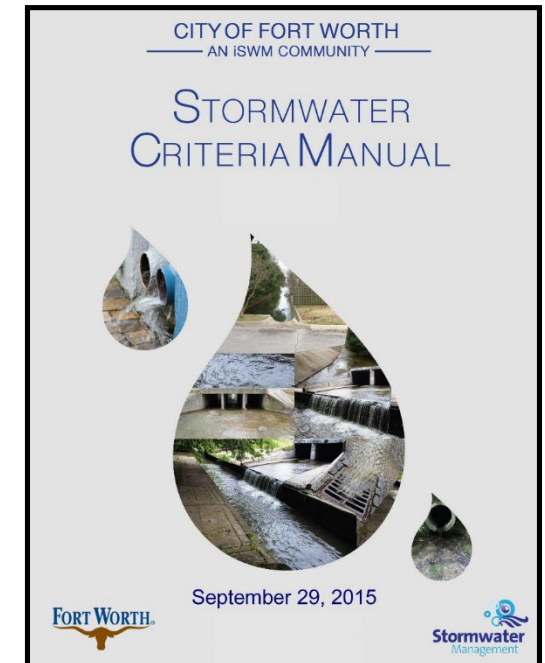
Protect people and property from harmful stormwater runoff





# Primary Functions

- Maintain Infrastructure (pipes, channels, etc.)
- Mitigate Hazards (flooding and erosion)
- Warn about Hazards (flooding and erosion)
- Review Development (compliance with City standards)

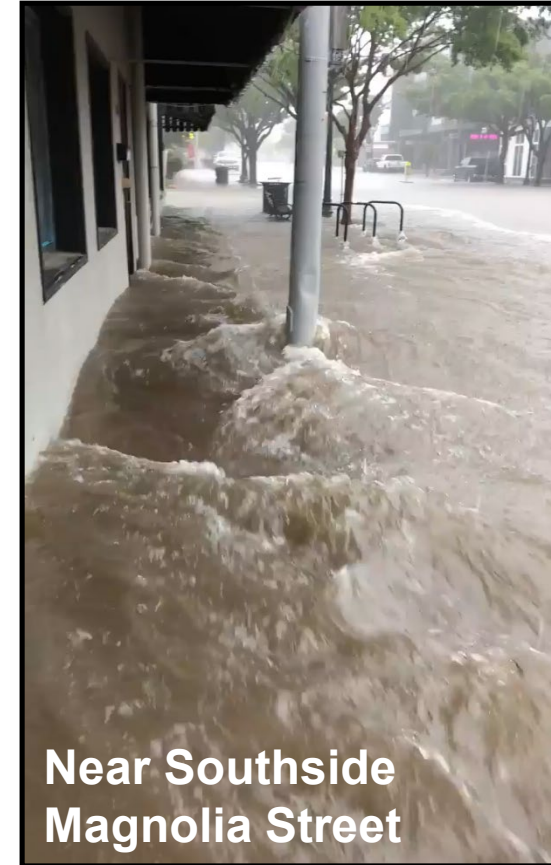


# Types of Flood Risk

## 1. FEMA Floodplains

## 2. Non-FEMA Flood Risk Areas

- More reports of flooding outside FEMA floodplains than inside them
- More flood insurance policies and claims are outside FEMA floodplains
- Flood risk too extensive to mitigate through capital projects



Flood Insurance	Total Policies & Claims	Policies & Claims In FEMA Floodplains	Policies & Claims <u>Outside</u> FEMA Floodplains
Policies	2488	843	<b>1645</b>
1 Claim	498	141	<b>357</b>
2+ Claims	51	10	<b>41</b>





# THE GROWING THREAT OF URBAN FLOODING: A NATIONAL CHALLENGE 2018



# Nationwide Issue

The National Academies of SCIENCES • ENGINEERING • MEDICINE

CONSENSUS STUDY REPORT

# FRAMING THE CHALLENGE OF URBAN FLOODING IN THE UNITED STATES

## 2019



# Urban Flooding

MOVING TOWARDS RESILIENCE



University of Maryland, College Park  
A. James Clark School of Engineering  
Center for Disaster Resilience

Texas A&M University, Galveston Campus  
Center for Texas Beaches and Shores

## 2019

A Summary Report Based on the 6<sup>th</sup> Assembly of the Gilbert F. White National Flood Policy Forum  
Washington, D.C. 2019

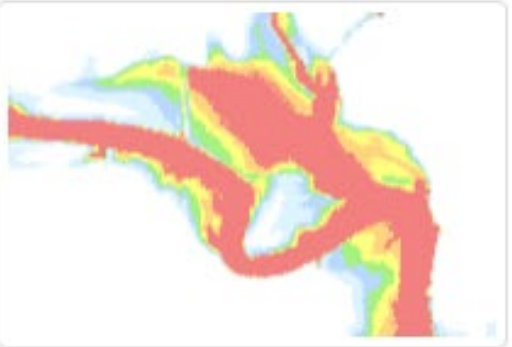




# Estimated Base Flood Elevation (estBFE) Viewer

[Report](#) [Legend](#) [Data Layers](#) [Map View](#) [Base Map](#)

### Flood Depth (1%) Remove



≤ 1 foot	> 3 to 4 feet
> 1 to 2 feet	> 4 to 5 feet
> 2 to 3 feet	> 5 feet

**Comments:** Depicts estimated water depths above land surface during a 1% annual chance storm event (a storm that has a 1/100 chance of occurring in any calendar year).

1 km  
5000 ft  
Scale

[https:// webapps.usgs.gov/infrm/estBFE/](https://webapps.usgs.gov/infrm/estBFE/)

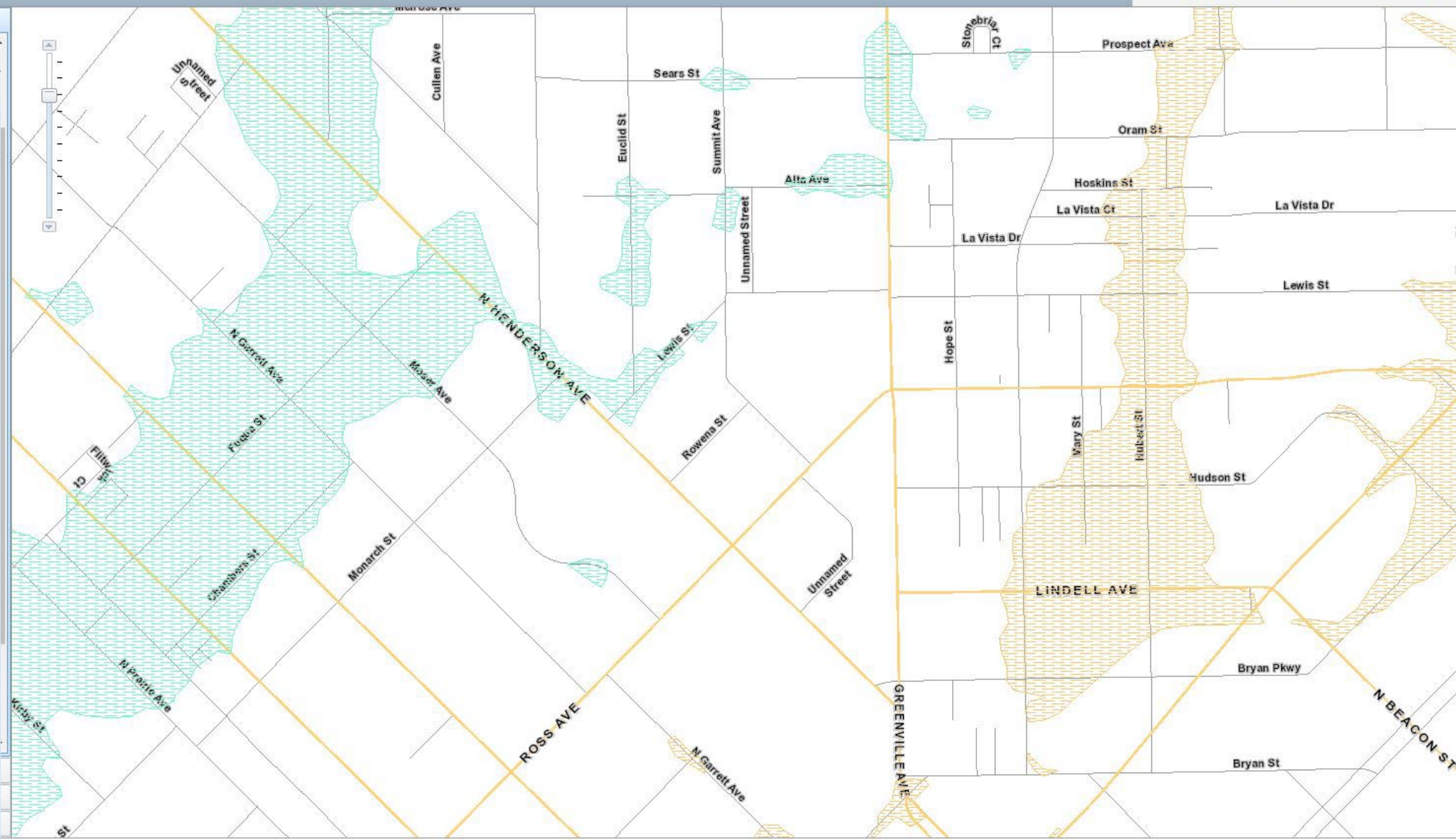


Legend

- A

Legend

- Floodplain
- Current Floodplain
- A
- AE
- AH
- AO
- AO-3
- Floodway
- Mill's Creek
- Peak's Branch
- Sump 100





# City of Grand Prairie

City Government » City Departments » Development Services » Floodplain

## City-Wide Drainage Master Plans



PREPARED: ELO  
CHECKED: MJM

Lockwood, Andrews & Newnam, Inc.  
A LEED & DRIEST COMPANY

*Grand Prairie*

DATE: APF  
SCALE: AS

EXHIBIT  
3

**Legend**

Study Area	BKEROSOT	OTHER
Storm Drains	DEBRISCH	UNKNOWN
<b>100yr Ponding Depth (ft)*</b>	FLDGBSNS	WTRSNALY
0.10 - 0.25	FLDGGARG	WTRSNNDTH
0.26 - 0.50	FLDGHOUS	WTRSNPRK
0.51 - 1.00	FLDGSTRT	WTRSNSTR
1.01 - 2.00	FLDGYARD	WTRSNYRD
>2.00	NEBSTONEB	YdEros

\*Start of rainfall at 00:00  
Peak Inundation at 12:10pm

0 225 450 900  
Feet

<https://www.gptx.org/city-government/city-departments/planning-development/floodplain/city-wide-drainage-master-plans> (Grand Prairie-Indian Hill Drainage MP Report)




Since 2018, we have been talking with stakeholders representing:

- Residents
- Developers
- Property Owners
- Engineers
- Insurance companies
- Title insurance lawyers
- Commercial & residential lenders
- Surveyors
- Tarrant Count Appraisal District
- Association of Realtors
- Real Estate Council
- Builders Association
- Development Advisory Committee
- City Council
- Plan & Zoning Commissions
- City departments

# Non-FEMA Flood Risk Areas- What we found

## Major Issues, Concerns, & Conclusions

### Mapping: Will this confuse/slow real estate transactions?

- Naming convention different than FEMA floodplains
- No legal requirement for Flood Insurance but lenders could require
- Education/time  business as usual

### Communicating: Will this impact property values?

- Wide variety of factors drive property values
- Actual flooding much bigger factor than mapping

Between May 2021 - May 2022, 12 commercial & 20 residential building permits would have been affected by CFRA regulations  
*(0.2% of ~19k permits)*

### Regulating: Will this complicate or impede development?

- Only affects properties under 1 acre in these risk areas
- Certification of Compliance required- no detailed submittal/review
- Local flexibility

# Flooding Outside the FEMA Floodplains





# Flooding Outside the FEMA Floodplains



stircrazybakedgoo...

FOLLOW

23 likes

17m

stircrazybakedgoods Well, we have a bit of water rushing down the sidewalk on magnolia, so come in the 5th ave. door!

jilliangeracevents Oh no!!!

Log in to like or comment.



July 10 at 4:55 PM · 🌐

Little evening shower at The Chat Room Pub...

👍👎❤️ 77

20 Comments 3 Shares



# Flooding Outside the FEMA Floodplains

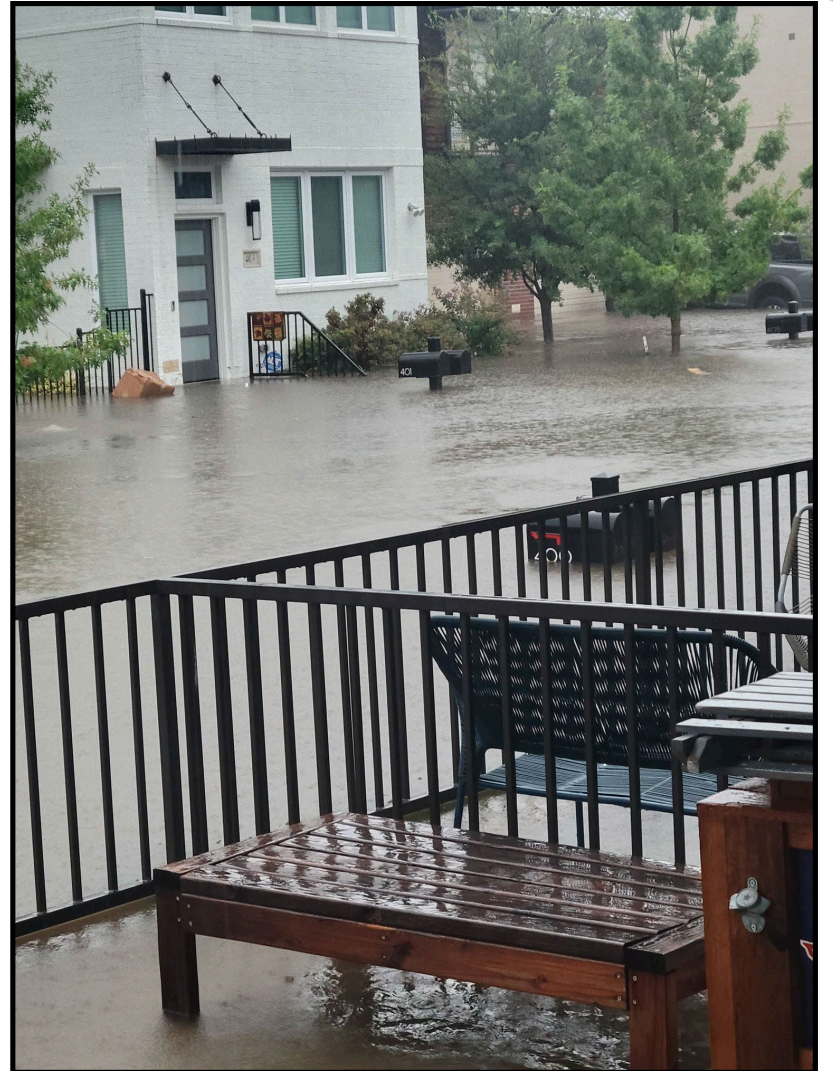
Paco's Mexican Cuisine  
1508 W. Magnolia Avenue  
September 8, 2018





# Flooding Outside the FEMA Floodplain

August 2022





# Non-FEMA Flood Risk Areas- Recommendations

- **Communicate Non-FEMA Flood Risk**
  - Mapping on website
- **Regulate < 1 acre development in City Flood Risk Areas (CFRAs)**
  - Developments over 1 acre must already show compliance with standards
  - Require Certificate of Compliance to demonstrate meeting existing standards
    - No engineering submission or review

## **What would these recommendations mean for property owners?**

- Property owners can make informed decisions using flood risk mapping
- All sized development/redevelopment in CFRAs would need to show they comply with existing standards
- Flood insurance is not required but is recommended to protect an owner's investment



# Types of Flood Risk Mapping

## 1. FEMA Floodplains



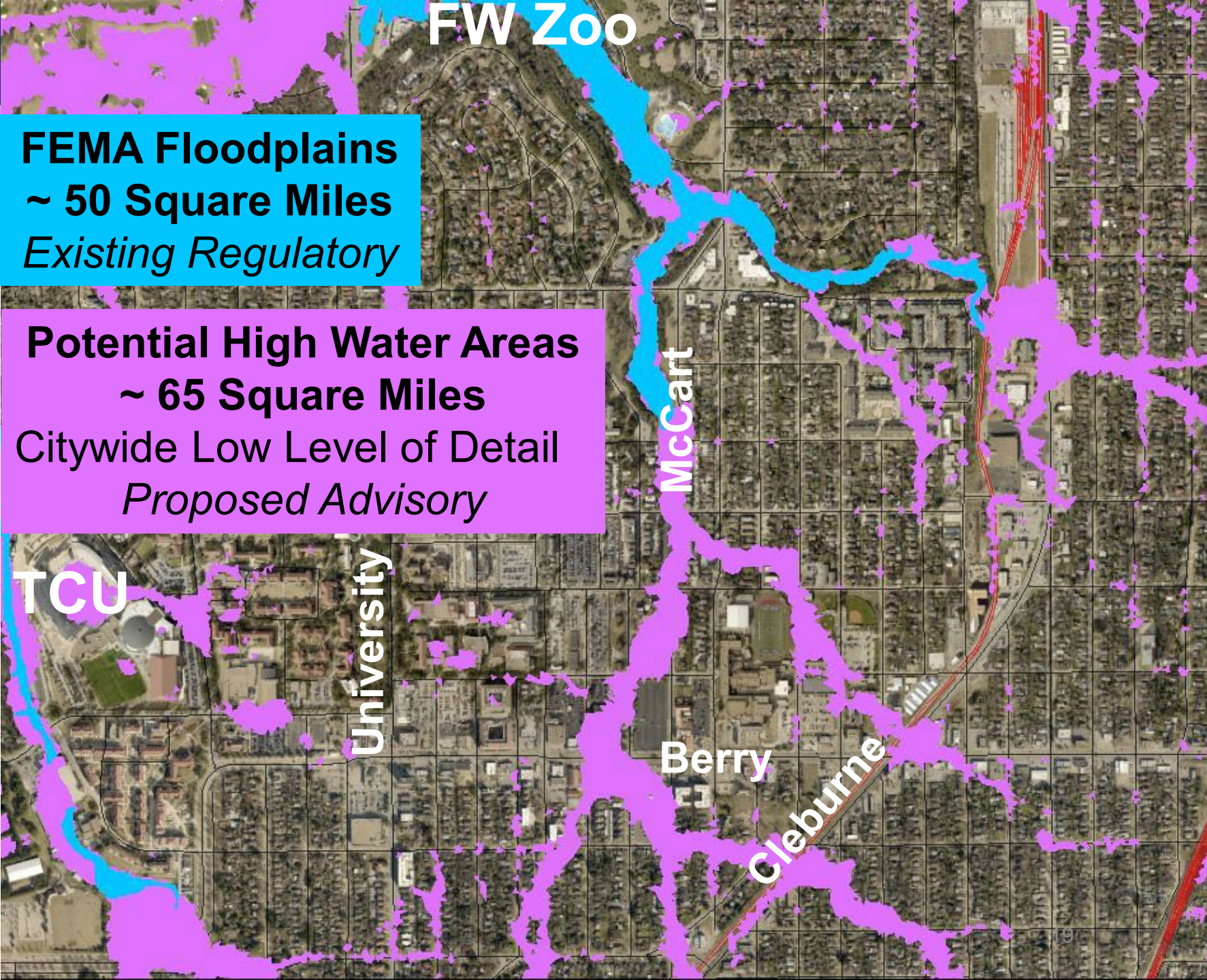


# Types of Flood Risk Mapping

## 1. FEMA Floodplains

## 2. Non-FEMA Flood Risk Mapping

- PHWAs (OneAddress)



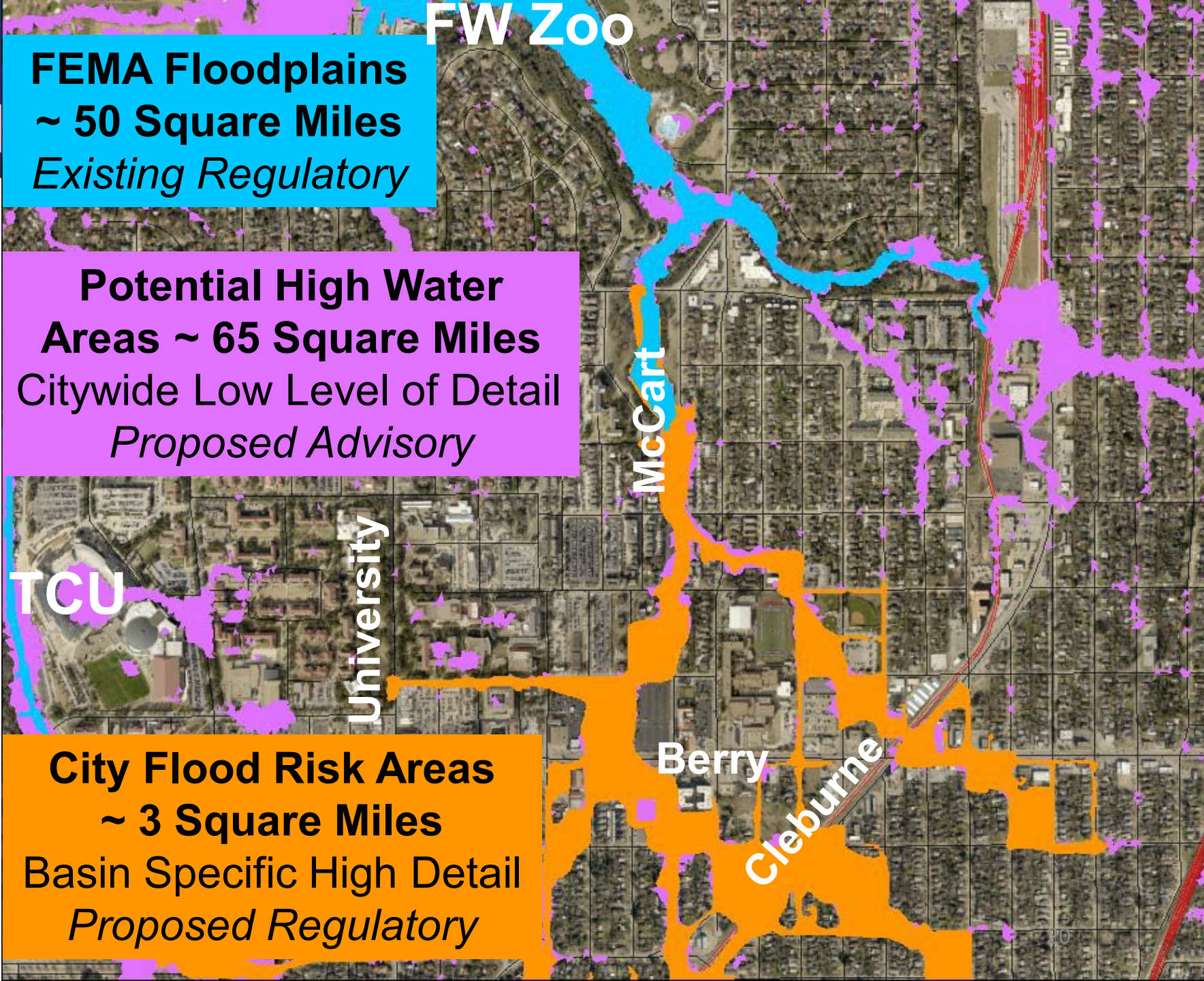


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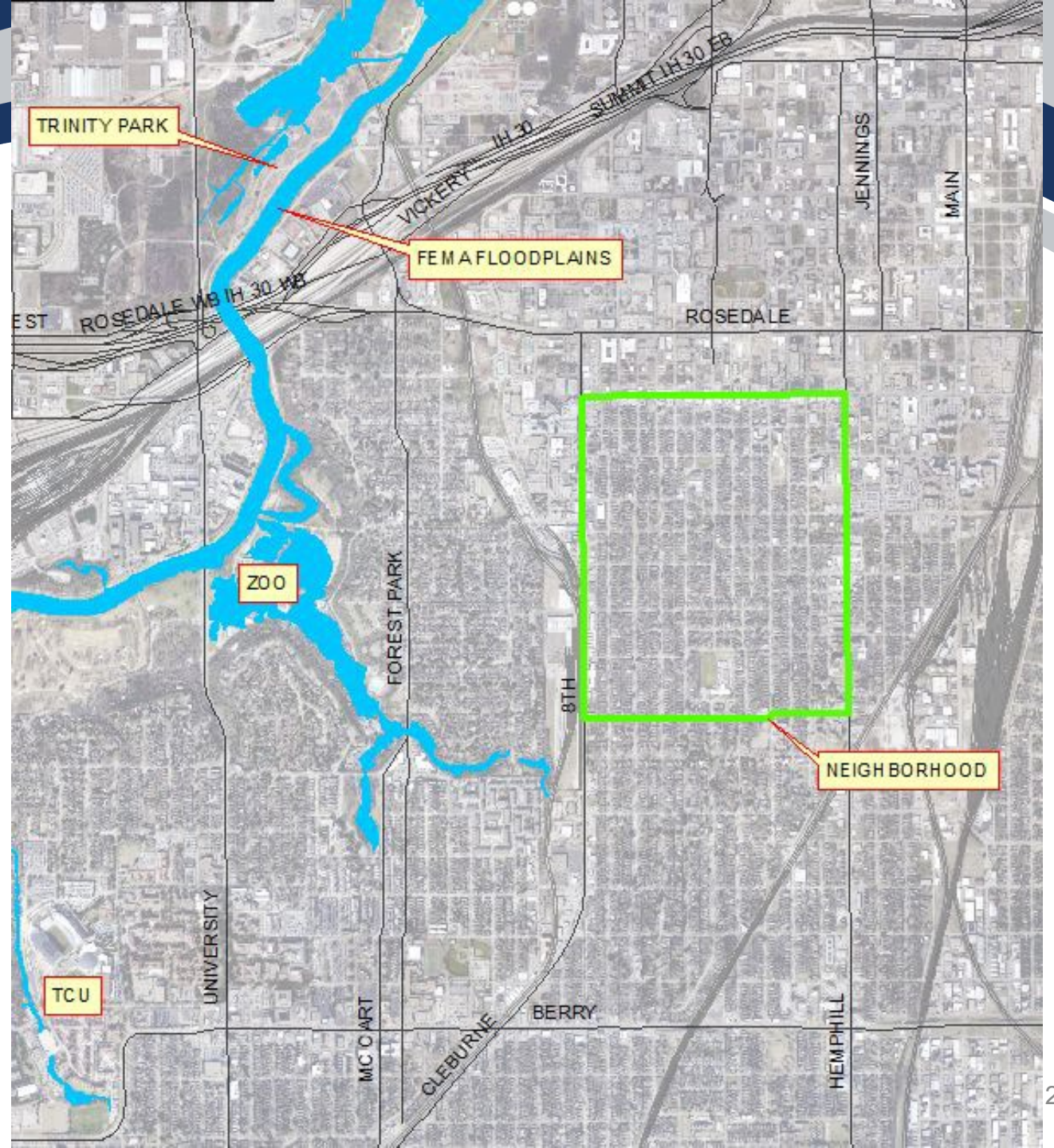
- PHWAs
- CFRAs





# FEMA Floodplains

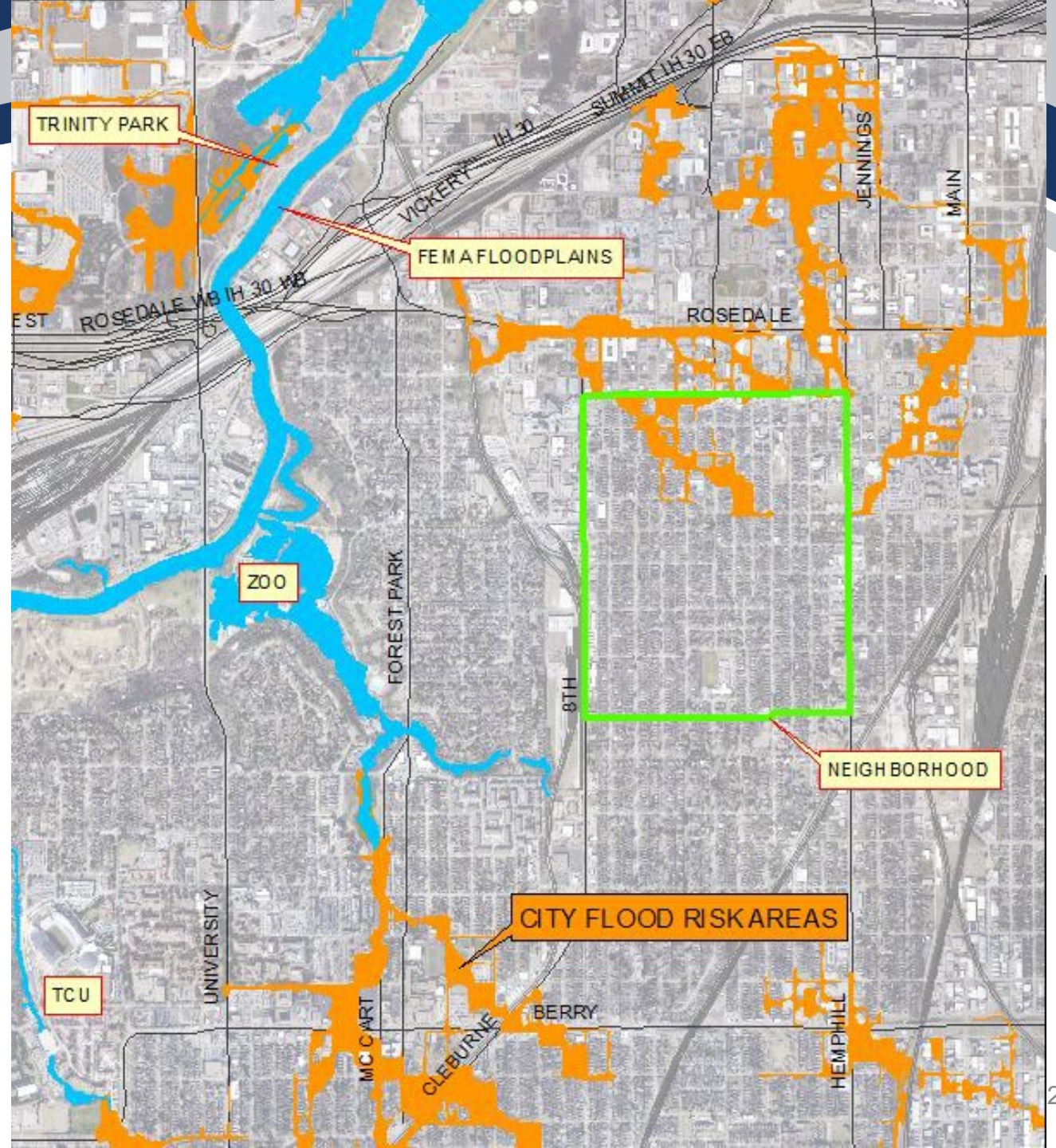
- “100-Year” or 1.0% chance every year
- Flood Insurance is required inside the FEMA Floodplains
- Used in Fort Worth since 1980
- Generally areas greater than 1.0 square mile
- **Urbanized areas assumed to be managed**
- Community Rating System (CRS) helps to lower flood insurance premiums





# Non-FEMA City Flood Risk Areas

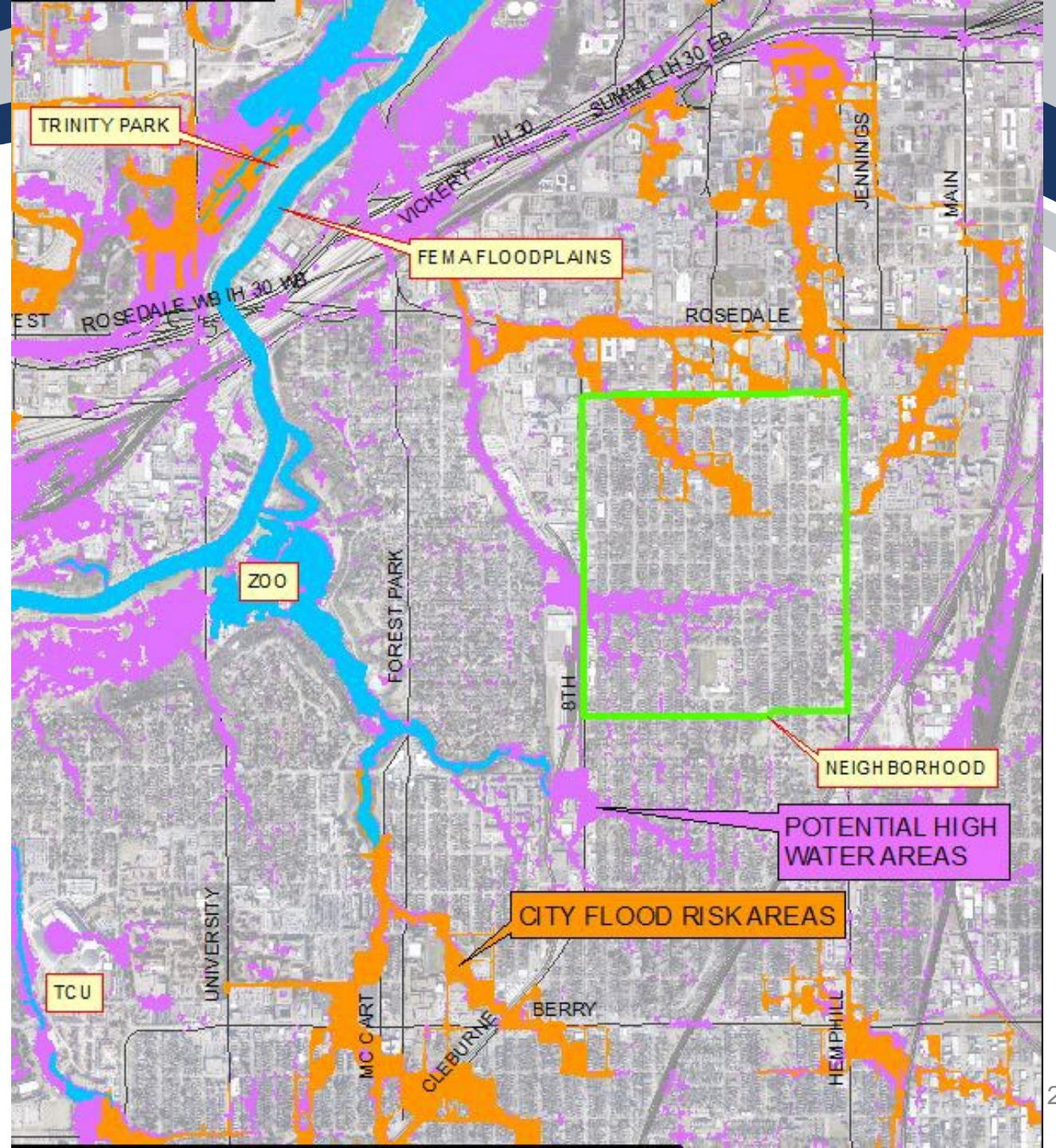
- 16 areas analyzed by Stormwater Management Division, not FEMA
- Same 1.0% chance as FEMA
- Generally older parts of town
- Tool to help prioritize future capital improvements & maintenance
- Flood Insurance is NOT required, but is available





# Non-FEMA Potential High Water Areas

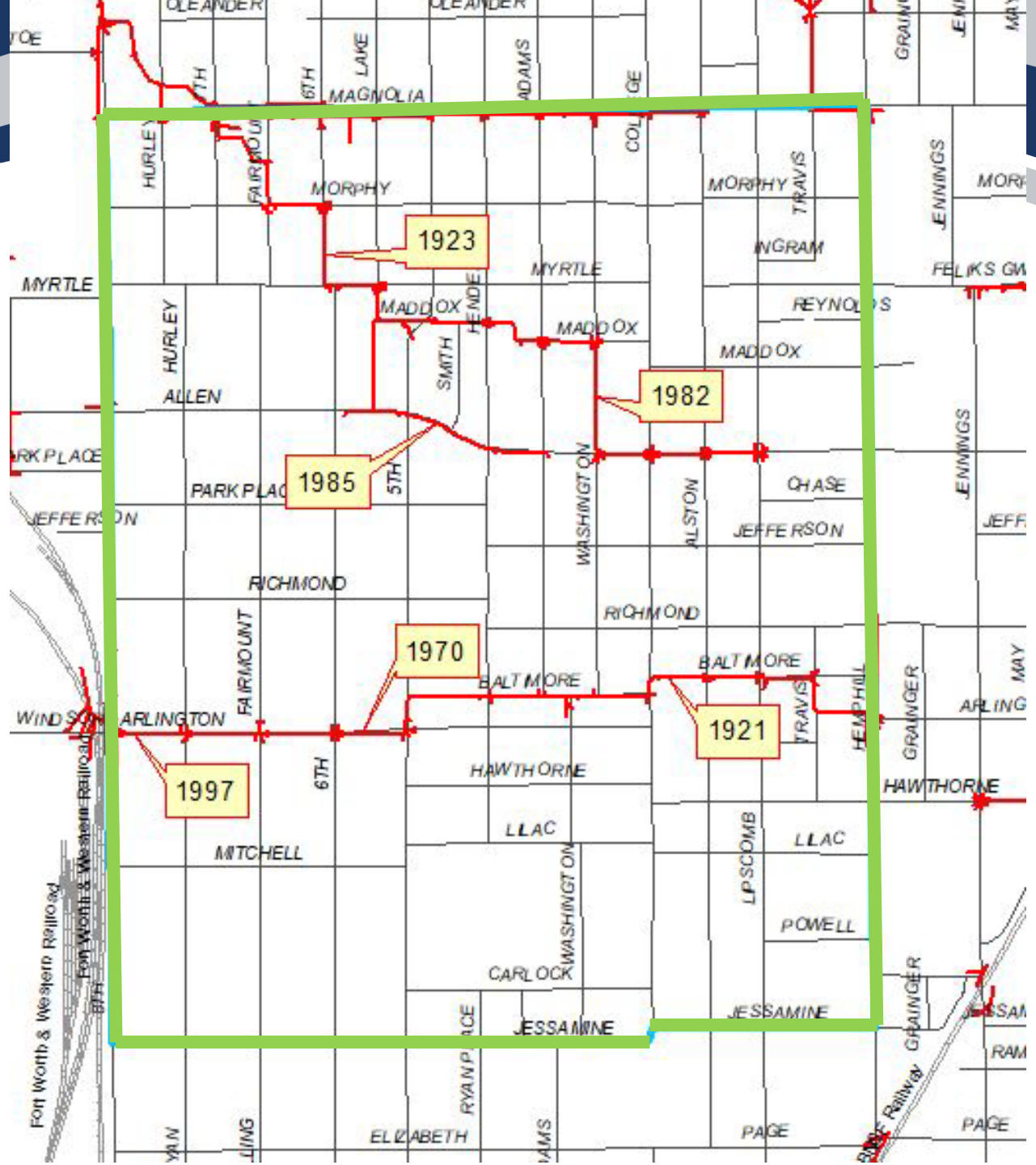
- City-wide analysis by Stormwater Management Division, not FEMA
- High level, no detailed pipe systems
- Same 1.0% chance as FEMA
- Tool to help show natural drainage patterns and accumulation
- Flood Insurance is NOT required, but is available



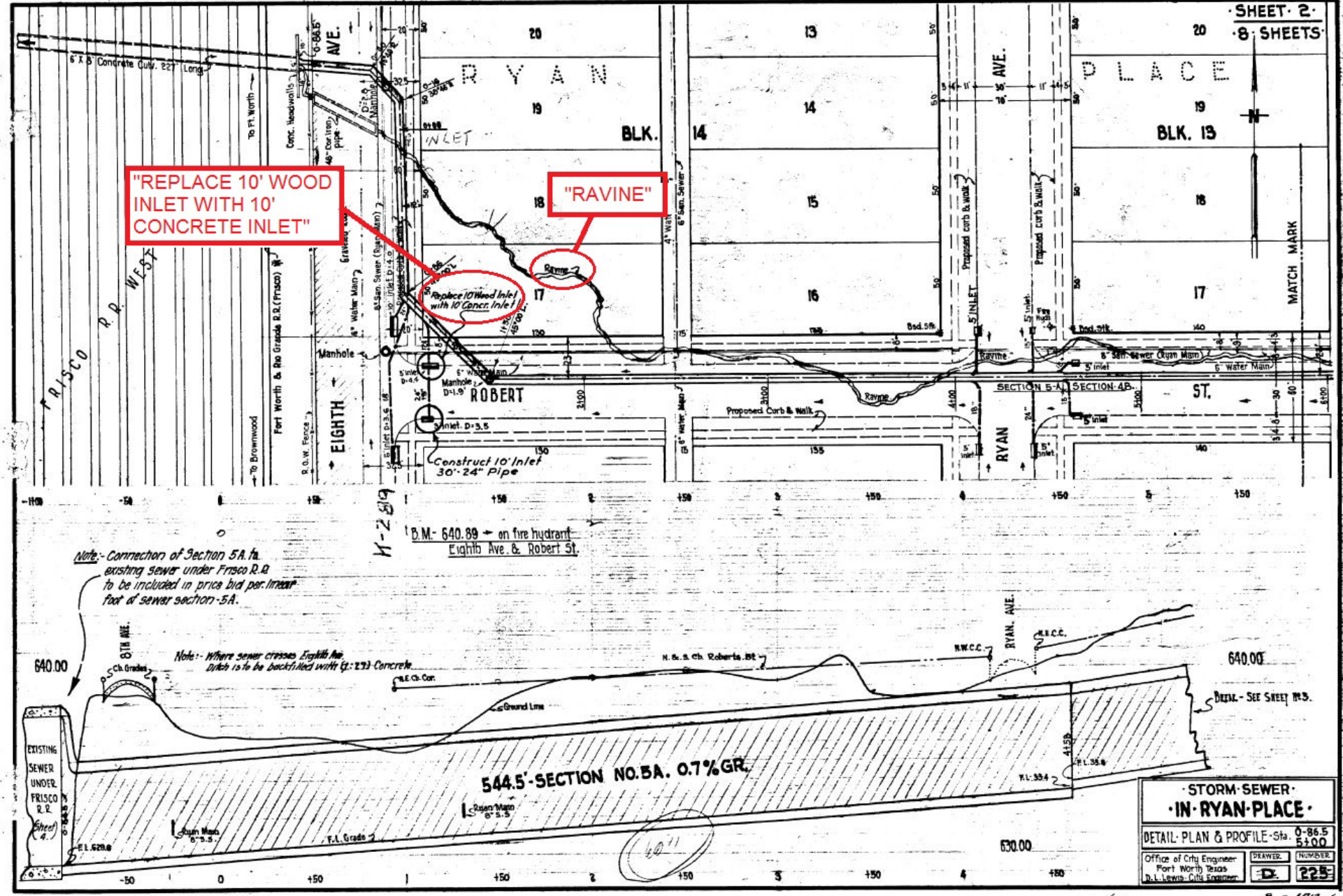


**Primary Cause of  
non-FEMA flood risk:**

**Undersized or  
Obsolete Storm  
Drain Systems**



**Plans from the  
 1921 Storm  
 Drain  
 Improvement  
 Project**





# Three Ways To Find Flood Risk Information

- OneAddress
- FEMA Map Service Center
- Fort Worth Flood Risk Viewer

## City of Fort Worth

### Reference

- Zip Code : 76107
- County : Tarrant
- Mapsco Grid : 75G
- ISD : Fort Worth ISD
- **Within 50 ft of FEMA Floodplain : No ⓘ**
- **Potential High Water : Yes ⓘ**
- City Council District : 7
- City Council District Member : 7 - Leonard Firestone
- City Limit Designation : Full Purpose
- Transportation Impact Service Areas : R
- 2010 Census Tract : 1027.00

**City Flood Risk Area  
Note Coming Soon**

Search One Address, Find B

1000 THROCKMORTON ST

th, TX Street Address to look up Permit, Cr

d Profile Area ⓘ

ne: Greater Downtown

ONS (as of 03/20/2018 6:28PM)

s found within 500 ft since 1/

Permits (as of 03/21/2018 12:00AM)

+ 900 MONROE ST (~165 ft)

### Statement regarding FEMA floodplain

Close

All or a portion of the property is within 50 feet of a regulatory flood zone (Zone A or Zone AE). These are the flood risk zones with a 1.0 % or greater chance of flooding each year, and mandatory flood insurance purchase for most mortgages and loans. Contact Customer Service at 817 - 392 - 1234 or StormwaterCS@Fortworthtexas.gov for more information and to find out about permitting requirements for site development work.

### Statement regarding Potential High Water Areas (PHWA)

Close

All or a portion of the property is within a City - defined Potential High Water Area (PHWA). The natural drainage patterns in this area may result in flooding if flow paths are blocked or not accounted for properly. Actual flood risk at any location depends on many things, so please contact Customer Service at 817 - 392 - 1234 or StormwaterCS@Fortworthtexas.gov for more information.

819


618

27




# FEMA Map Service Center


<https://msc.fema.gov>




**FEMA**

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 Navigation

 Search

 Languages

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[MSC Home](#)

[MSC Search by Address](#)

[MSC Search All Products](#)

▼ [MSC Products and Tools](#)

- [Hazus](#)
- [LOMC Batch Files](#)

## FEMA Flood Map Service Center: Welcome!


Looking for a Flood Map? [?](#)

**Enter an address, a place, or longitude/latitude coordinates:**

[Search](#)

Looking for more than just a current flood map?

Visit [Search All Products](#) to access the full range of flood risk products for your community.





Flood Risk Viewer

mapitwest.fortworthtexas.gov/Html5Viewer/?viewer=CFW\_Flood\_Risk\_Viewer

City of Fort Worth | Flood Risk Viewer

Tools Identify Query Draw Linked Maps Print/Export

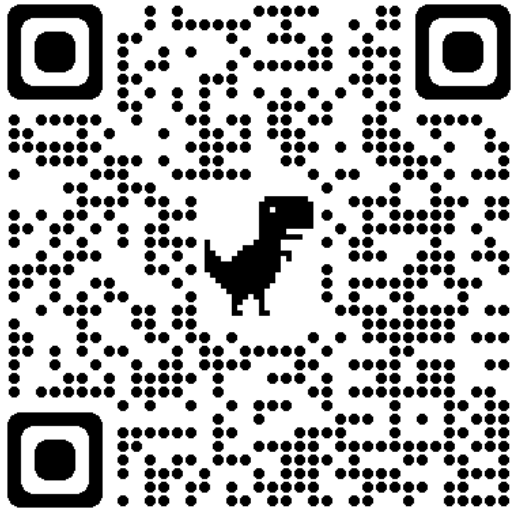
Locate Address on Map Locate Cross Street Clear Address Results Pan Zoom In Zoom Out Initial View Full Extent Previous Extent Next Extent Refresh Map Bookmarks Line

Layers

Available Layers

er Layers... Filter

- Floodplain
  - Floodplain Development Permit
  - Grading Permit
  - Base Flood Elevation
- Water Feature Streams
- LOMR
- Stormwater Management Plan
- FEMA Floodplain
- City Flood Risk Areas
- Stormwater Study Boundaries
  - Mobile Lidar Study
  - Two-Dimension Study
  - One-Dimension Study
- FEMA Firm Panels



[https://mapitwest.fortworthtexas.gov/Html5Viewer/?viewer=CFW\\_Flood\\_Risk\\_Viewer](https://mapitwest.fortworthtexas.gov/Html5Viewer/?viewer=CFW_Flood_Risk_Viewer)



# Recent Flood Risk Outreach

Annual letters are sent out in September to properties in:

- FEMA floodplains and Repetitive Loss Areas
- City Flood Risk Areas

Outreach to flood risk areas is required to participate in the Community Rating System (CRS) – earns lower flood insurance premiums



September 1, 2022

**RE: FLOOD RISKS AND FLOOD INSURANCE INFORMATION**

Property Owner or Resident  
Any Street  
City, State Zip Code

Property Information:  
Any Street  
Fort Worth, TX 76XXX

Dear Property Owner or Resident:

This letter is meant to share flood risk information about your property, or the area nearby. Since flooding and/or flood risk has been identified at or near your property, this letter provides information on the steps you can take now to help you protect yourself and your property before a flood. Information regarding your flood risk can be found on the City's One Address website at <http://oneaddress.fortworthtexas.gov/> under the Reference Section.



# Next Steps

- Add Potential High Water Areas to websites by end of year
- Regulations – Ordinance Adoption targeting December 2022
- Certificate of Compliance targeting start in January 2023



# Demos

Please raise your hand  
to talk or use the chat  
feature to enter your  
question or comment.  
Thank you!

# Questions

