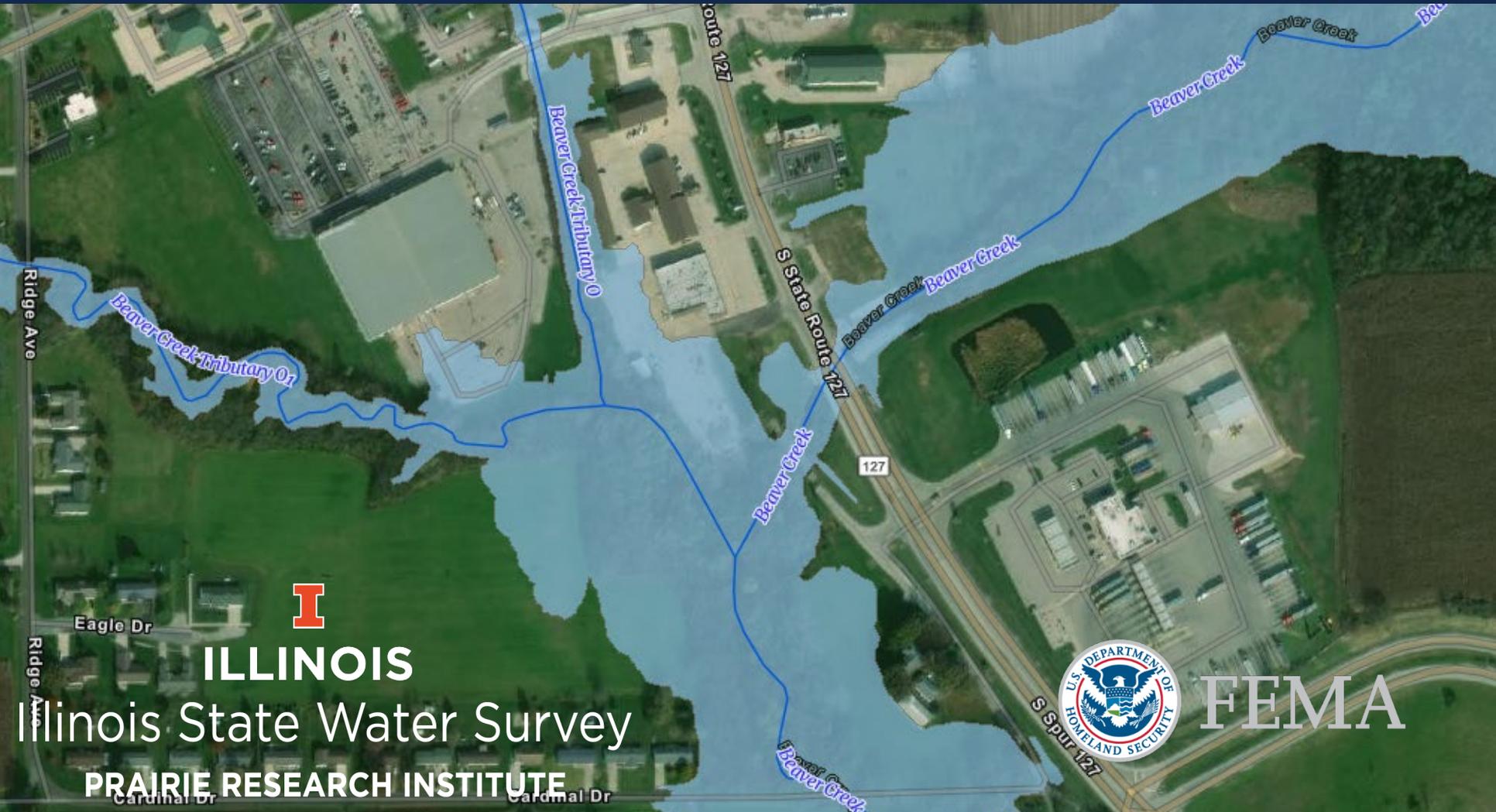


# Bond County Flood Risk Review Meeting



ILLINOIS

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE



FEMA



# Bond County Flood Risk Review Meeting

## Agenda

- Rollcall
- Project Objectives and Timeline
- Brief Overview of Engineering Methods/Models
- Review of Web Map
- Schedule



# Pre-meeting survey

Polls

BOND COUNTY FLOOD RISK REVIEW MEETING Pre-meeting Survey in Progress 0:04

Attendees are now viewing questions 0 of 0 (0%) voted

**1. How much do you know about your community's flood risk? (Multiple choice)**

a lot	(0/0) 0%
some	(0/0) 0%
not much	(0/0) 0%

**2. How much do you know about FEMA Risk Mapping, Assessment and Planning (Risk MAP)? (Multiple choice)**

a lot	(0/0) 0%
some	(0/0) 0%
not much	(0/0) 0%

**3. Are you able to communicate flood risk to your community? (Multiple choice)**

yes	(0/0) 0%
no	(0/0) 0%

**4. Would you know where to go to get flood mitigation help? (Multiple choice)**

yes	(0/0) 0%
no	(0/0) 0%

End Polling



# Rollcall

- Village of Donnellson
- City of Greenville
- Village of Keyesport
- Village of Mulberry Grove
- Village of Old Ripley
- Village of Panama
- Village of Pierron
- Village of Pocahontas
- Village of Smithboro
- Village of Sorento
- Unincorporated Bond County
- Illinois Department of Natural Resources
- FEMA
- IEMA
- Southwestern Illinois Metropolitan and Regional Planning Commission
- Other Agencies?

# Introduction

- The Illinois State Water Survey (**ISWS**) is a division of the Prairie Research Institute (**PRI**) at the University of Illinois.
- The Coordinated Hazard Assessment and Mapping Program (**CHAMP**) is a section within ISWS.



The staff of the Coordinated Hazard Assessment and Mapping Program which includes 18 Certified Floodplain Managers (CFM), seven Professional Engineers (PE), and seven Geographic Information Systems Professionals (GISP)

<https://www.isws.illinois.edu/champ>

<https://www.illinoisfloodmaps.org/>



# Introduction

- ISWS & Illinois Department of Natural Resources (**IDNR**) are Cooperating Technical Partners (**CTP**) with the Federal Emergency Management Agency (**FEMA**). CHAMP staff perform floodplain studies, mapping, mitigation planning, and related activities for Illinois communities through this partnership.
- ISWS also partners with the Illinois Department of Natural Resources-Office of Water Resources (**IDNR-OWR**) to help prioritize Illinois floodplain studies and mapping projects.
- FEMA Risk Mapping, Assessment, and Planning (**Risk MAP**) is the process used to implement National Flood Insurance Program (**NFIP**) floodplain studies and mapping projects.



# The National Flood Insurance Program (NFIP)

- A voluntary program based on a mutual agreement between the Federal government and a community.
- In exchange for **adopting** and **enforcing** a floodplain management ordinance, Federally-backed flood insurance is made available to property owners throughout the community.

IDNR Acting NFIP State Coordinator: Marilyn Sucoe, P.E., CFM  
[Marilyn.Sucoe@Illinois.gov](mailto:Marilyn.Sucoe@Illinois.gov)



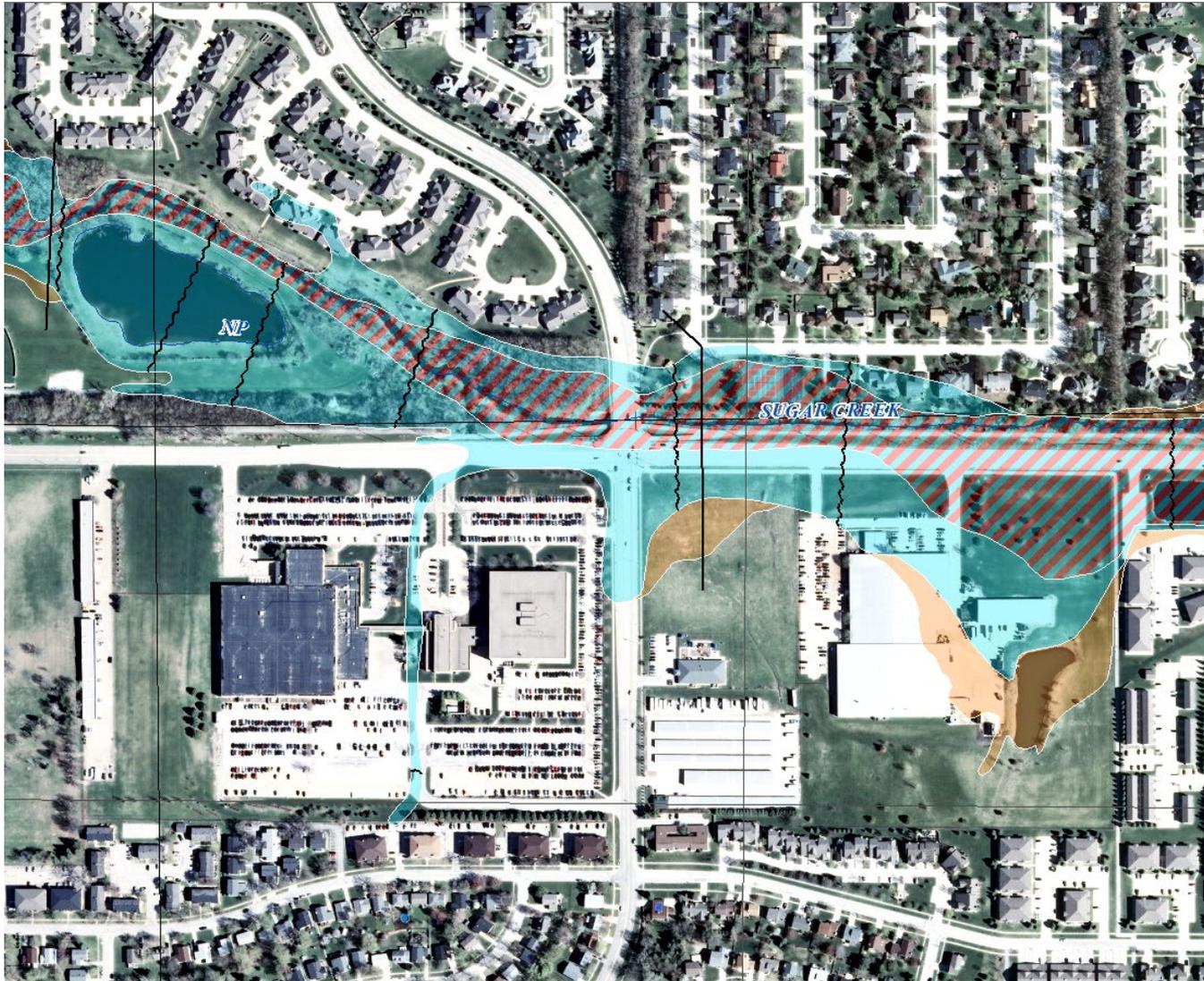
# Project Objective and Timelines



# Project Scope

- Develop New Floodplain Studies
  - 200 miles of stream to be studied
  - 9 miles of stream to be studied using detailed methods
- Develop Draft Floodplain Mapping
- Community Outreach and Engagement
- Complete Digital Flood Insurance Rate Maps (Later Phase)
  - Current Bond County FIRMs dated 1985

# Paper Map to Digital Map



# Project Milestones

- Project Initiation Meeting on February 11, 2020
- **Flood Risk Review Meeting (today)**
- **Community Review and Comment Period**
- State Review and Approval
- Development of Digital Flood Insurance Rate Maps (DFIRMs)
- Release of Preliminary DFIRMs and Public Open House Meeting
- DFIRMs become effective

# Community Impact

## Ways New Floodplain Maps Can Affect a Community:

1. Can affect which residents are required to carry flood insurance
2. Depicts areas of community which are subject to floodplain management regulations
3. Can affect community planning and flood mitigation

# Hydrology and Hydraulic Study Methods

# Special Flood Hazard Area

The FEMA Special Flood Hazard Area (**SFHA**) zone type designation is related to the method and level of hydraulic analysis performed.

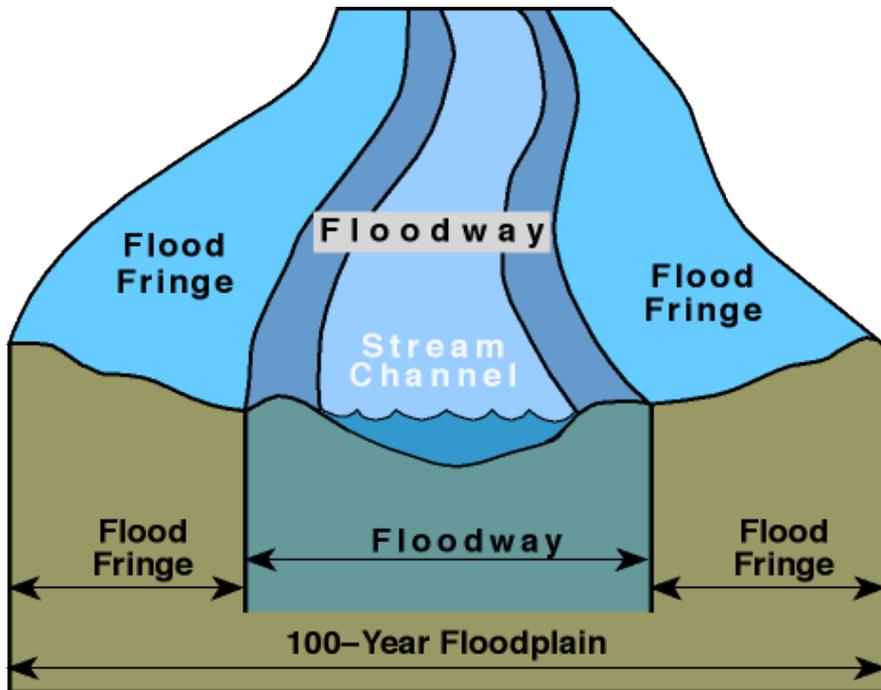
Riverine hydraulic analysis typically results in SFHA designation as **Zone A** or **Zone AE**, based on the analysis level deemed appropriate for the study area.

<b>Zone A</b>	Areas subject to inundation by the 1-percent-annual-chance flood event. <b>NO Base Flood Elevations are shown.</b>
<b>Zone AE</b>	Areas subject to inundation by the 1-percent-annual-chance flood event. <b>Base Flood Elevations ARE shown.</b>

The Base Flood Elevation (**BF E**) is the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year.

# Floodway Zone AE

The **floodway** is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.





# Hydrologic Methods

- Hydrologic Methods – Determine 1% Annual Chance Stream **Flows**
  - USGS Regional Regression Equations
    - Published in 2004
  - Stream Gage Analysis (Bulletin 17C)
    - Methods published in 2019
    - Used available stream flow data through 2017
  - Rainfall Runoff Modeling (HEC-HMS)
    - Rainfall data published 2020
    - Soil data published in 2018
    - Land use data published 2018
    - Topographic data acquired 2015



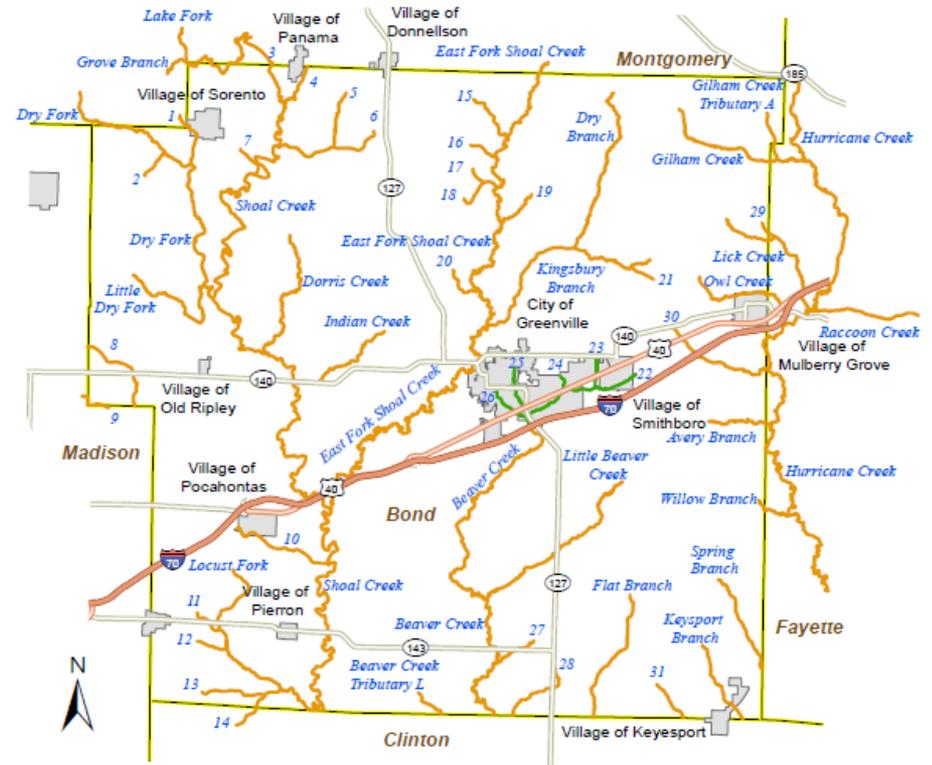
# Hydraulic Modeling

- Hydraulic Methods – Determine 1% Annual Chance Stream **Elevations**
  - HEC-RAS Modeling
    - Topographic data acquired 2015
    - Stream channel survey and bridge/culverts acquired 2020
- Floodplain Mapping – Determine 1% Annual Chance Flood Extents
  - Based on topographic data acquired in 2015
  - Topography is Digital Terrain Model derived from LiDAR
  - Topographic data is both high resolution and high accuracy

# Webmap Results

# Bond County Proposed Studies

## Floodplain Studies Overview

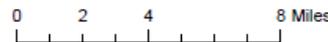


- |                                       |  |
|---------------------------------------|--|
| 1. Dry Fork Tributary A               | 16. East Fork Shoal Creek Tributary D  |
| 2. Dry Fork Tributary B               | 17. East Fork Shoal Creek Tributary C  |
| 3. Shoal Creek                        | 18. East Fork Shoal Creek Tributary C1 |
| 4. Bearcat Creek                      | 19. East Fork Shoal Creek Tributary B  |
| 5. Yankee Creek                       | 20. East Fork Shoal Creek Tributary A  |
| 6. Elm Point Branch                   | 21. Kingsbury Branch Tributary A       |
| 7. Shoal Creek Tributary Q            | 22. Beaver Creek                       |
| 8. Little Silver Creek                | 23. Beaver Creek Tributary Q           |
| 9. East Fork Silver Creek Tributary F | 24. Beaver Creek Tributary P           |
| 10. Shoal Creek Tributary P           | 25. Beaver Creek Tributary O           |
| 11. Locust Fork Tributary C           | 26. Beaver Creek Tributary O1          |
| 12. Locust Fork Tributary B           | 27. Beaver Creek Tributary N           |
| 13. Locust Fork Tributary A           | 28. Beaver Creek Tributary M           |
| 14. Locust Fork Tributary A1          | 29. Lick Creek Tributary A             |
| 15. East Fork Shoal Creek Tributary E | 30. Hurricane Creek Tributary A        |
|                                       | 31. Carlyle Lake Tributary H           |

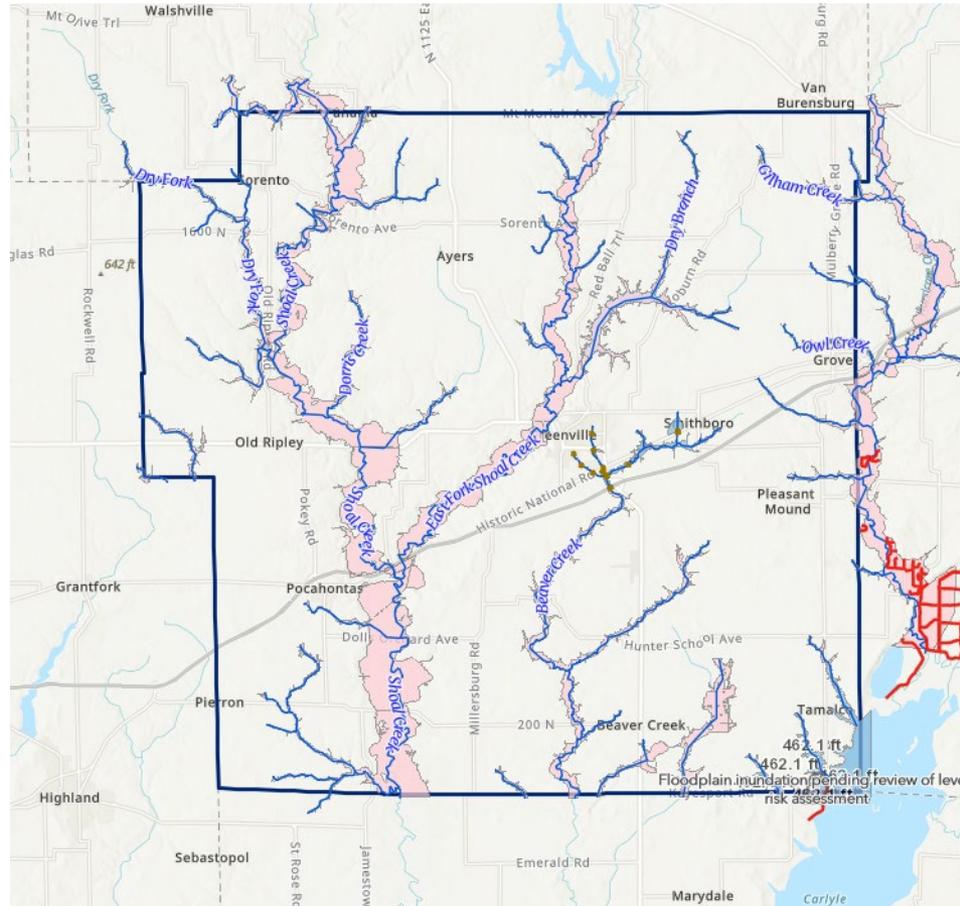
- Major Highways
- Highways
- Major Roads
- County Boundary

### Proposed Stream Study Type

- Zone A
- Zone AE



# Demonstrate Web Map



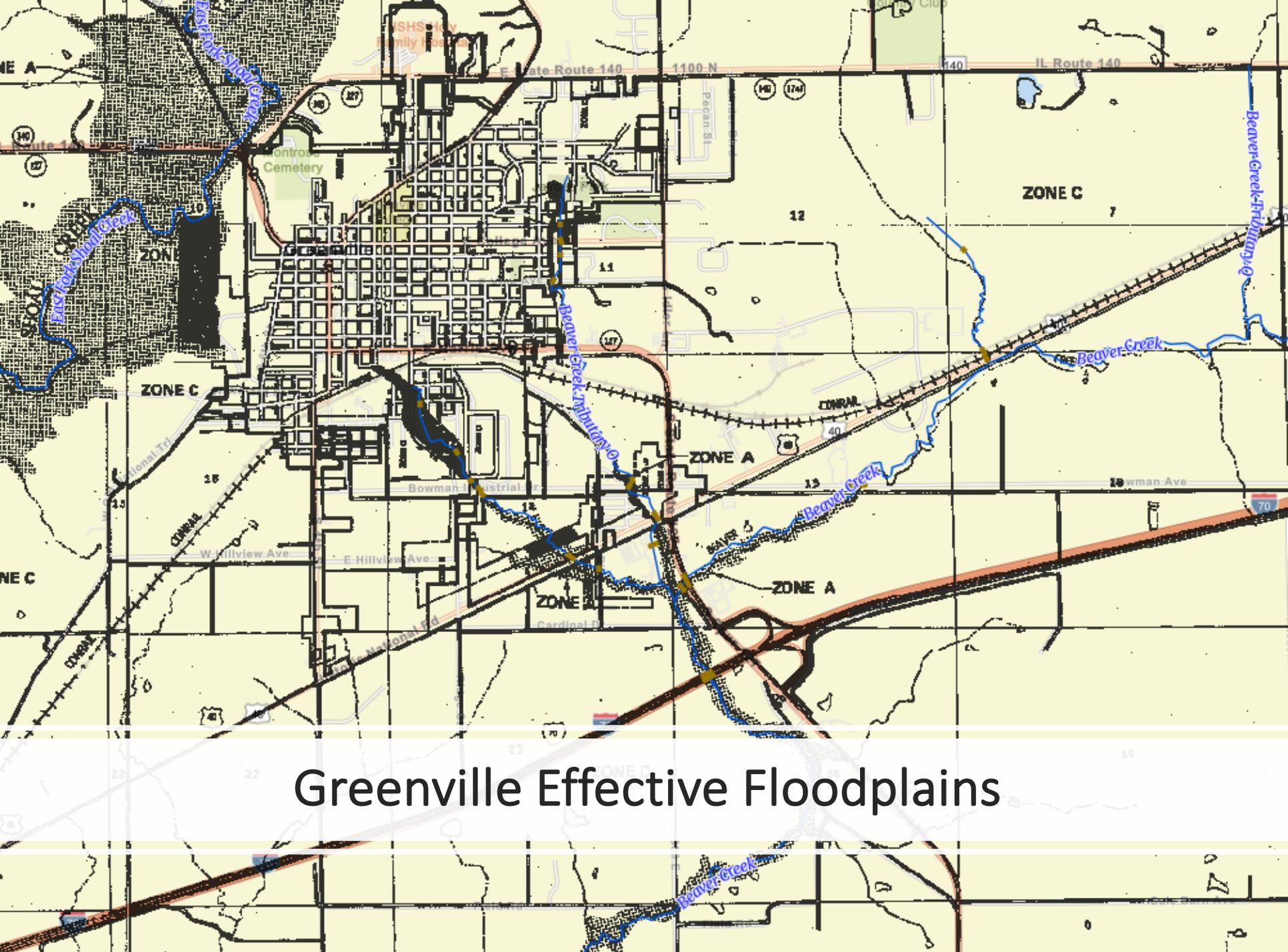
<https://www.illinoisfloodmaps.org/commentmap/bond.htm#>

Login: watershed

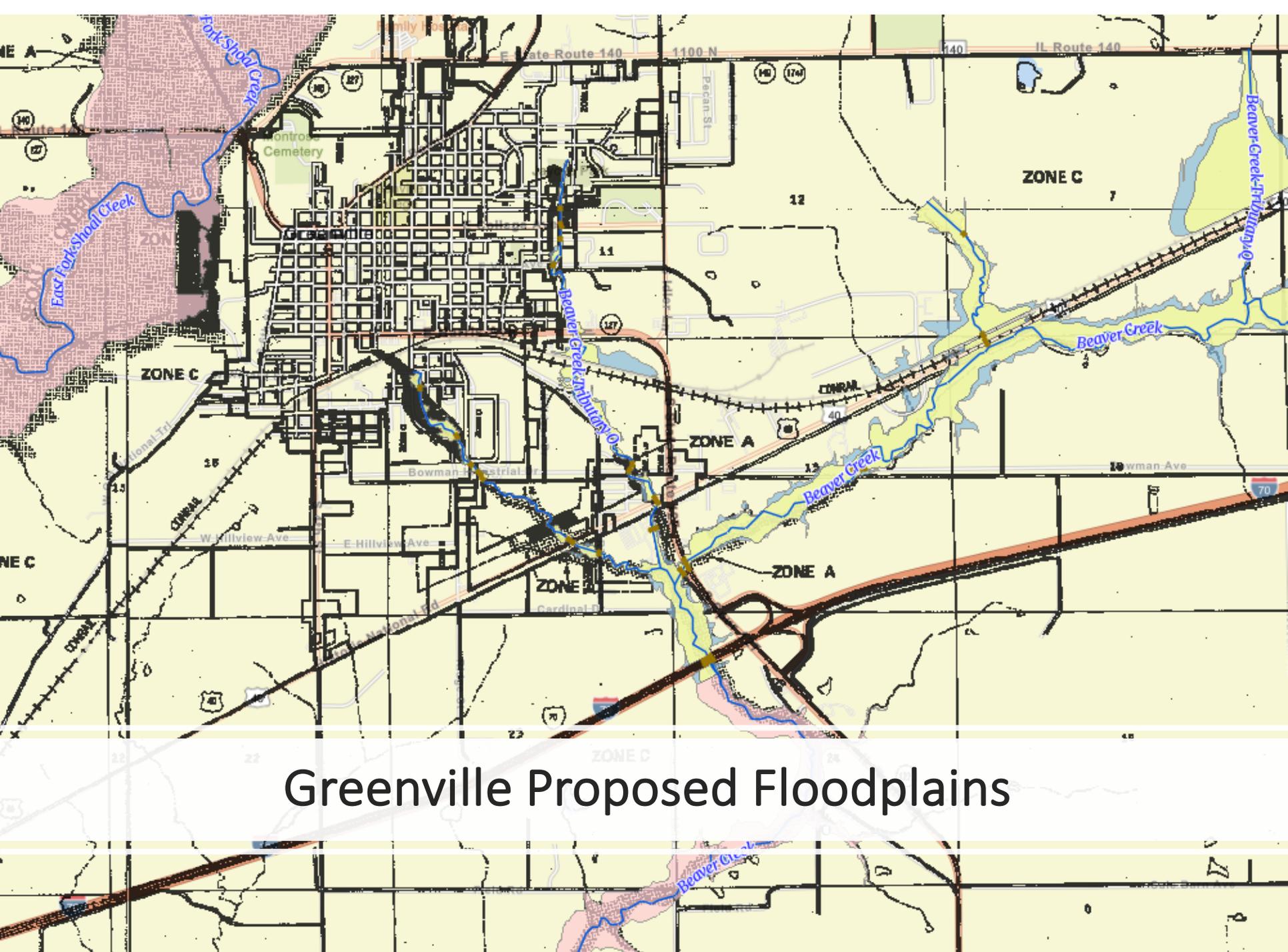
Password: illinoisfloods!123



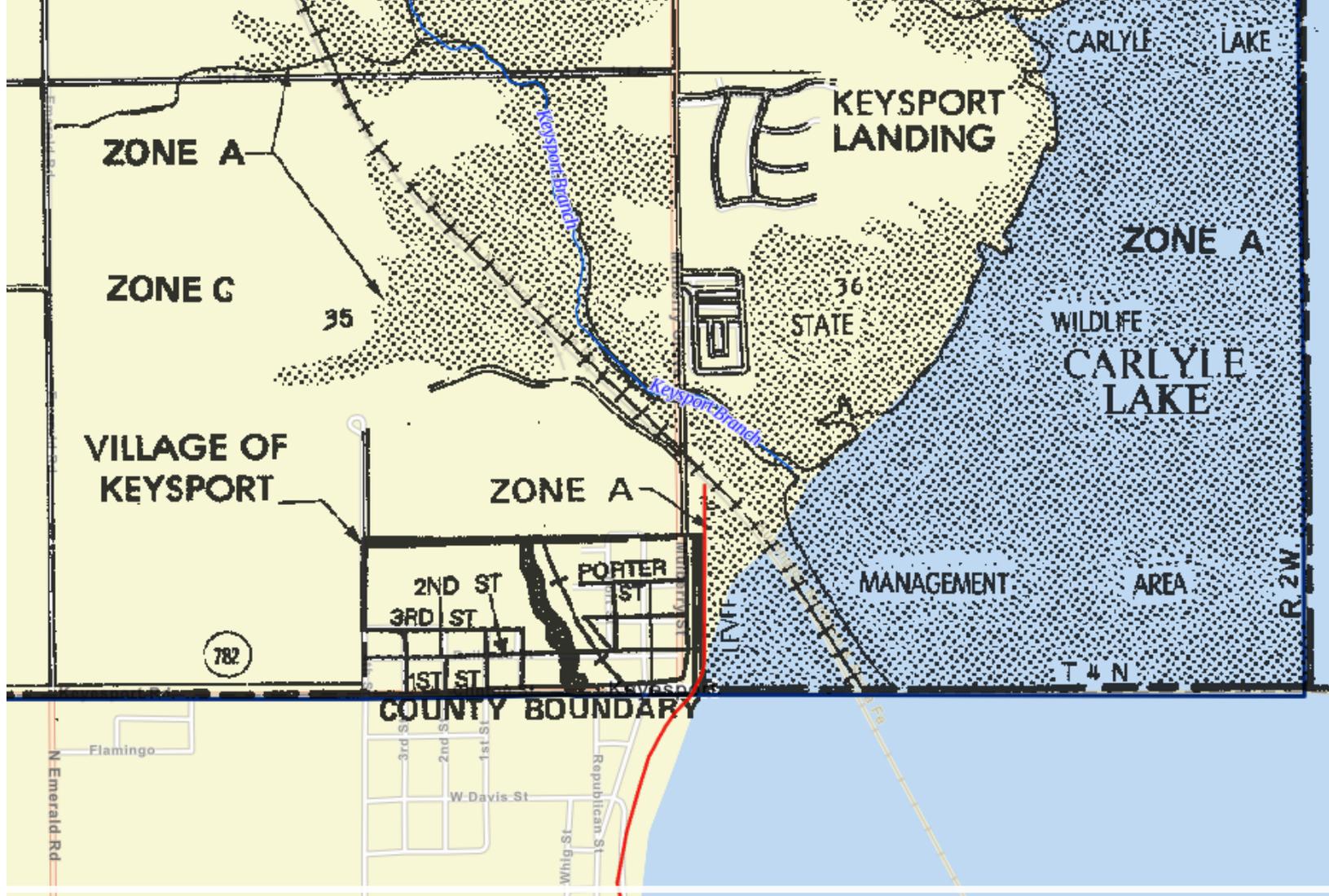
# Donnellson Proposed Studies



# Greenville Effective Floodplains



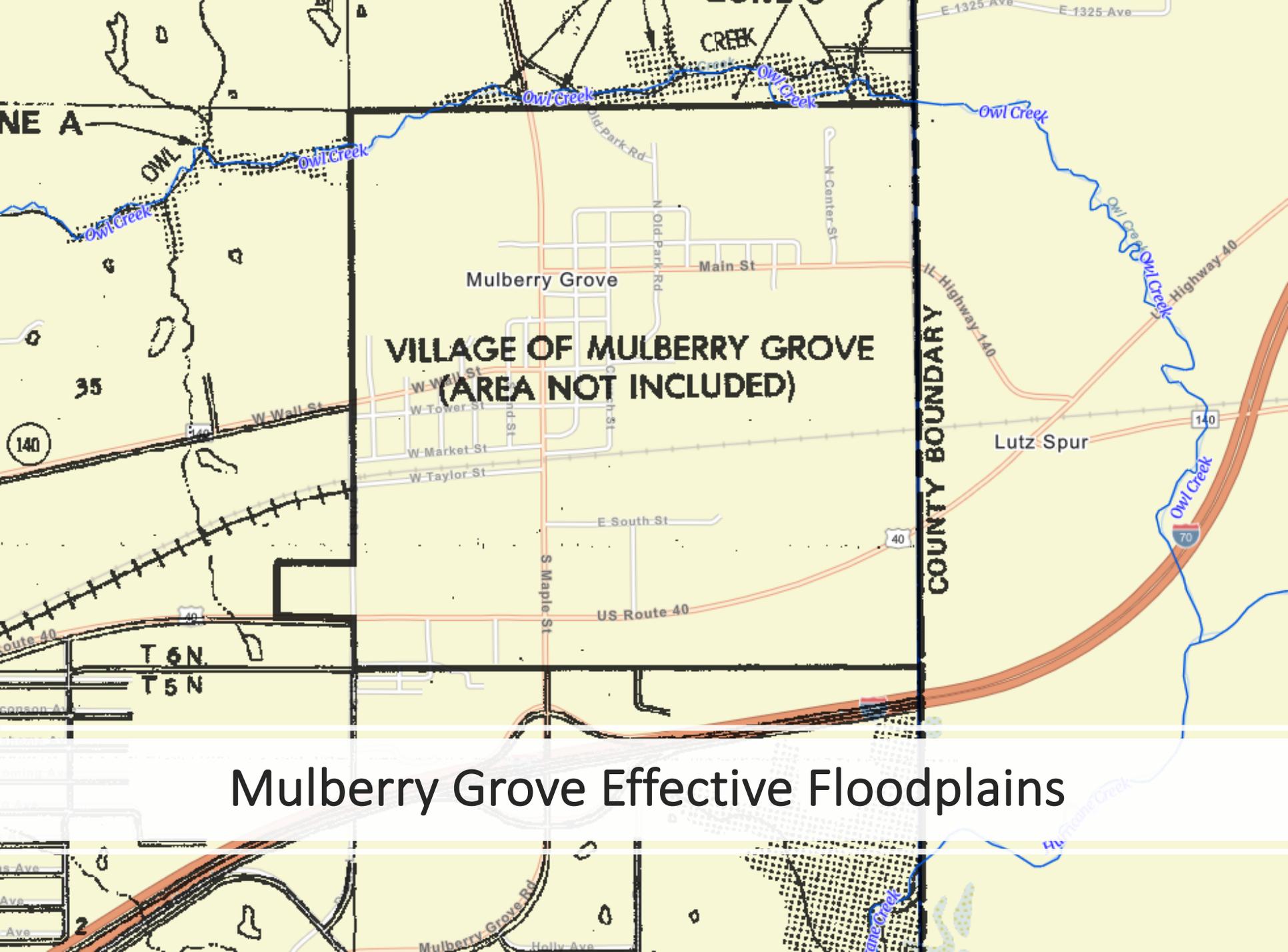
# Greenville Proposed Floodplains



## Keysport Effective Floodplains



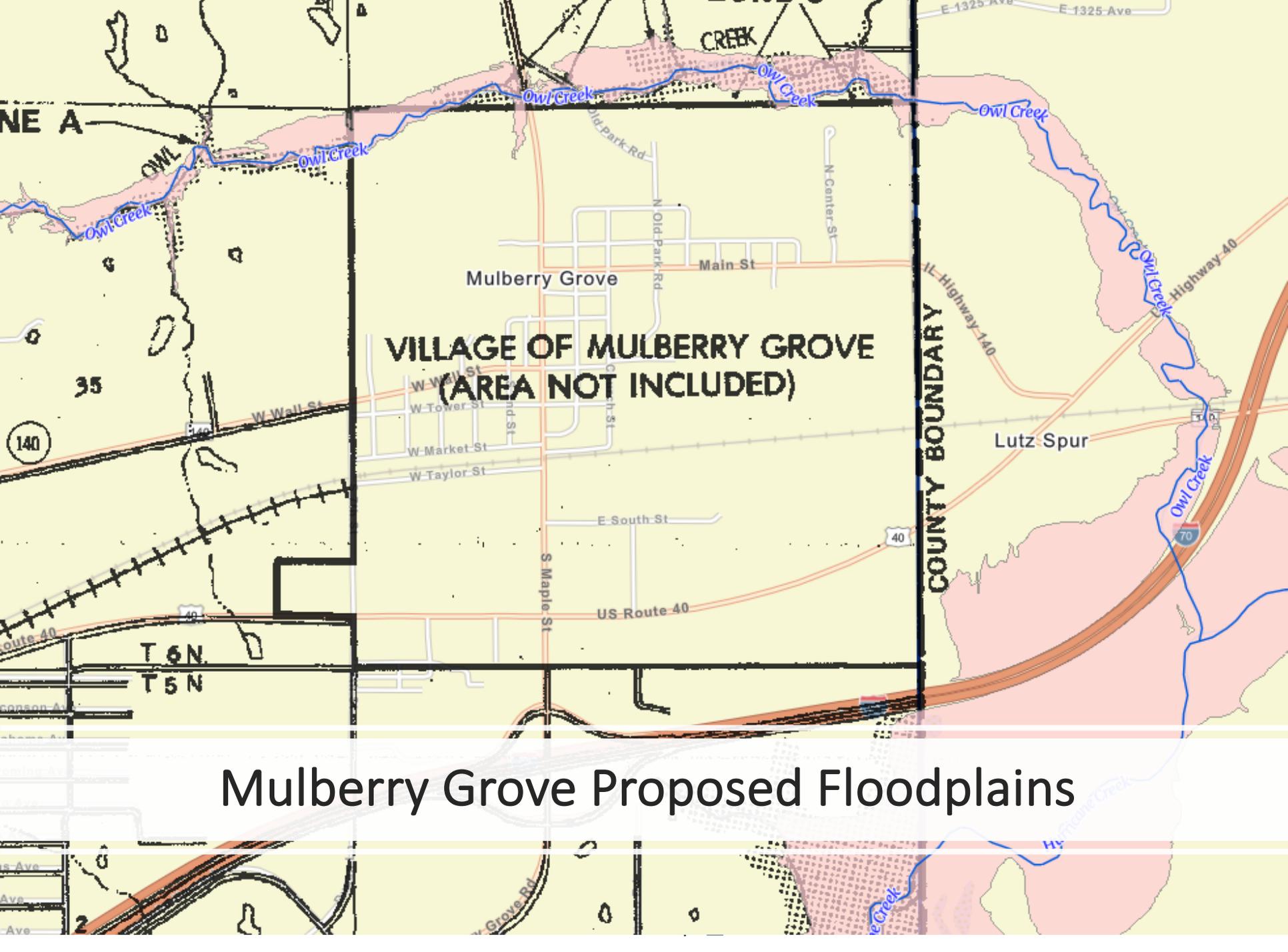
## Keyesport Proposed Floodplains



**VILLAGE OF MULBERRY GROVE  
(AREA NOT INCLUDED)**

**COUNTY BOUNDARY**

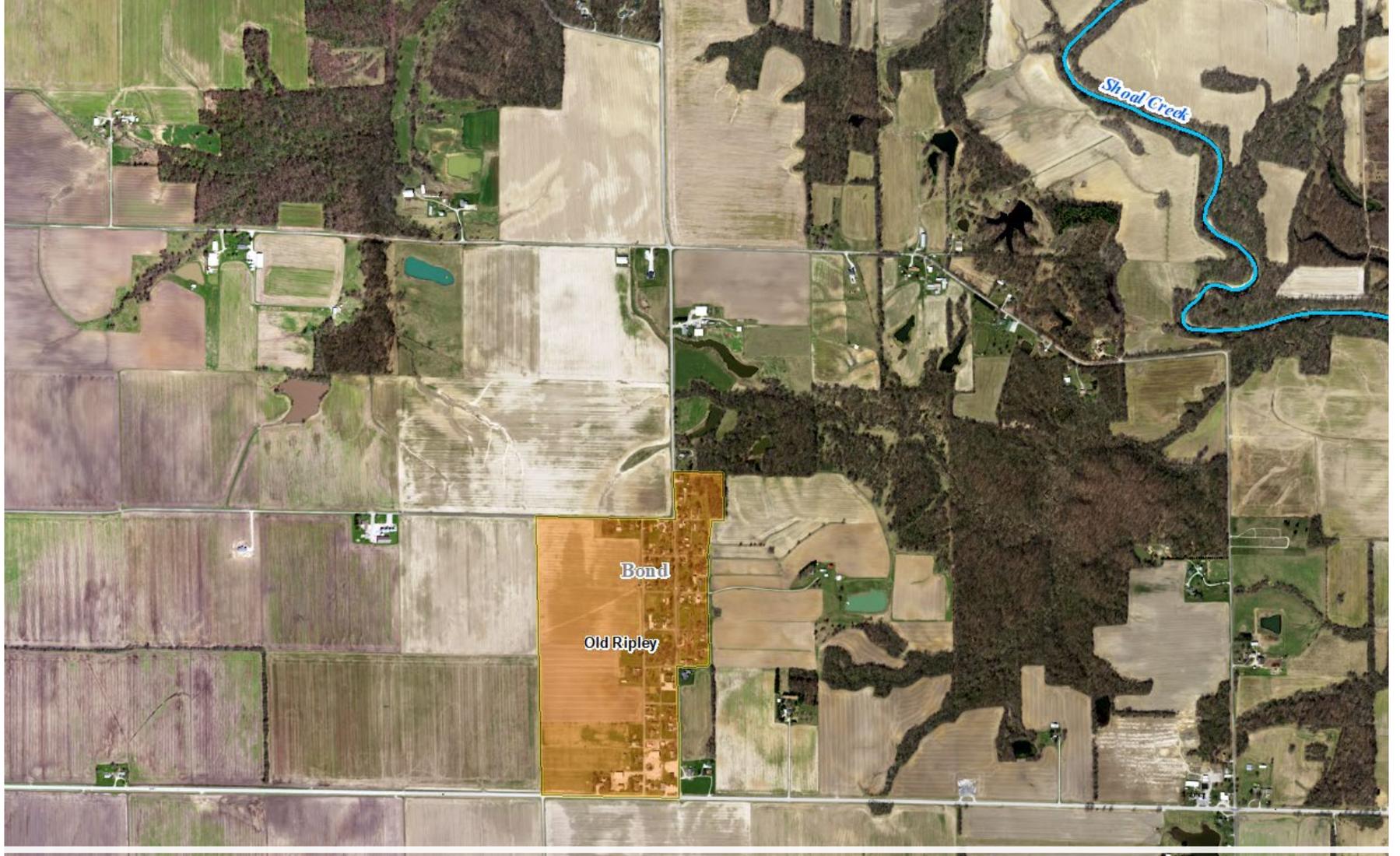
# Mulberry Grove Effective Floodplains



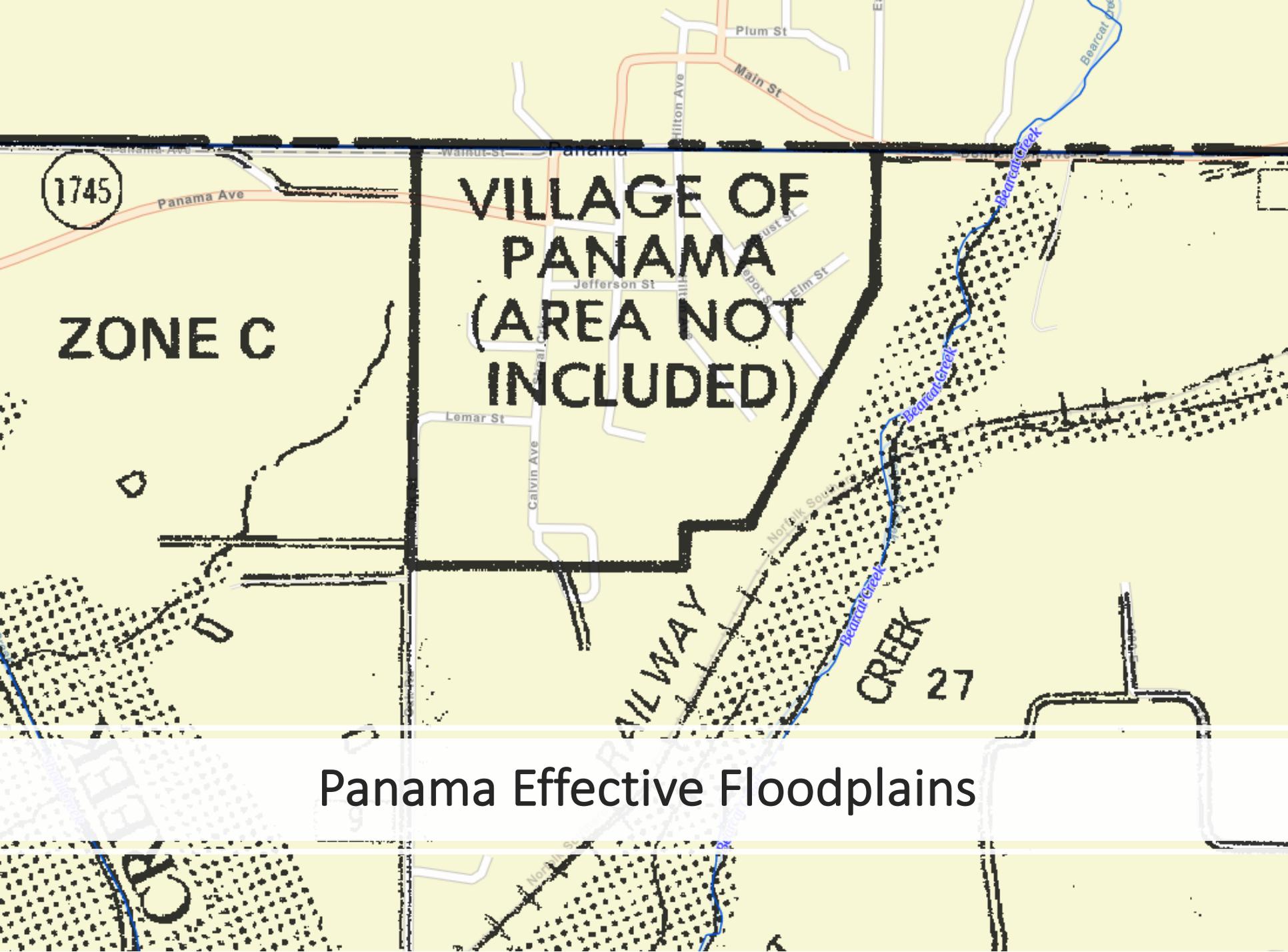
**Mulberry Grove**  
**VILLAGE OF MULBERRY GROVE**  
**(AREA NOT INCLUDED)**

**COUNTY BOUNDARY**

Mulberry Grove Proposed Floodplains



# Old Ripley Proposed Studies



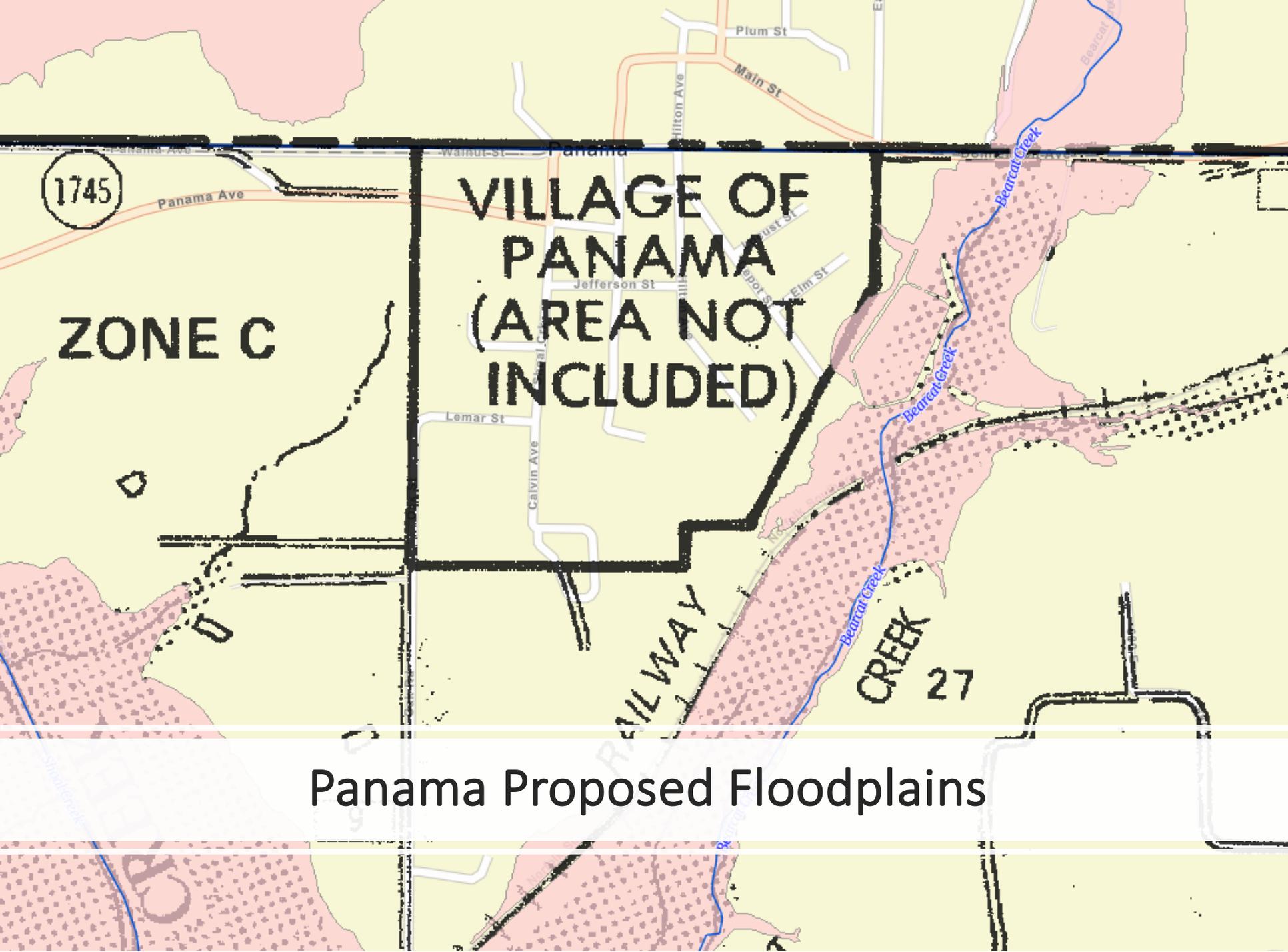
1745

ZONE C

VILLAGE OF PANAMA  
(AREA NOT INCLUDED)

RAILWAY  
CREEK 27

Panama Effective Floodplains



1745

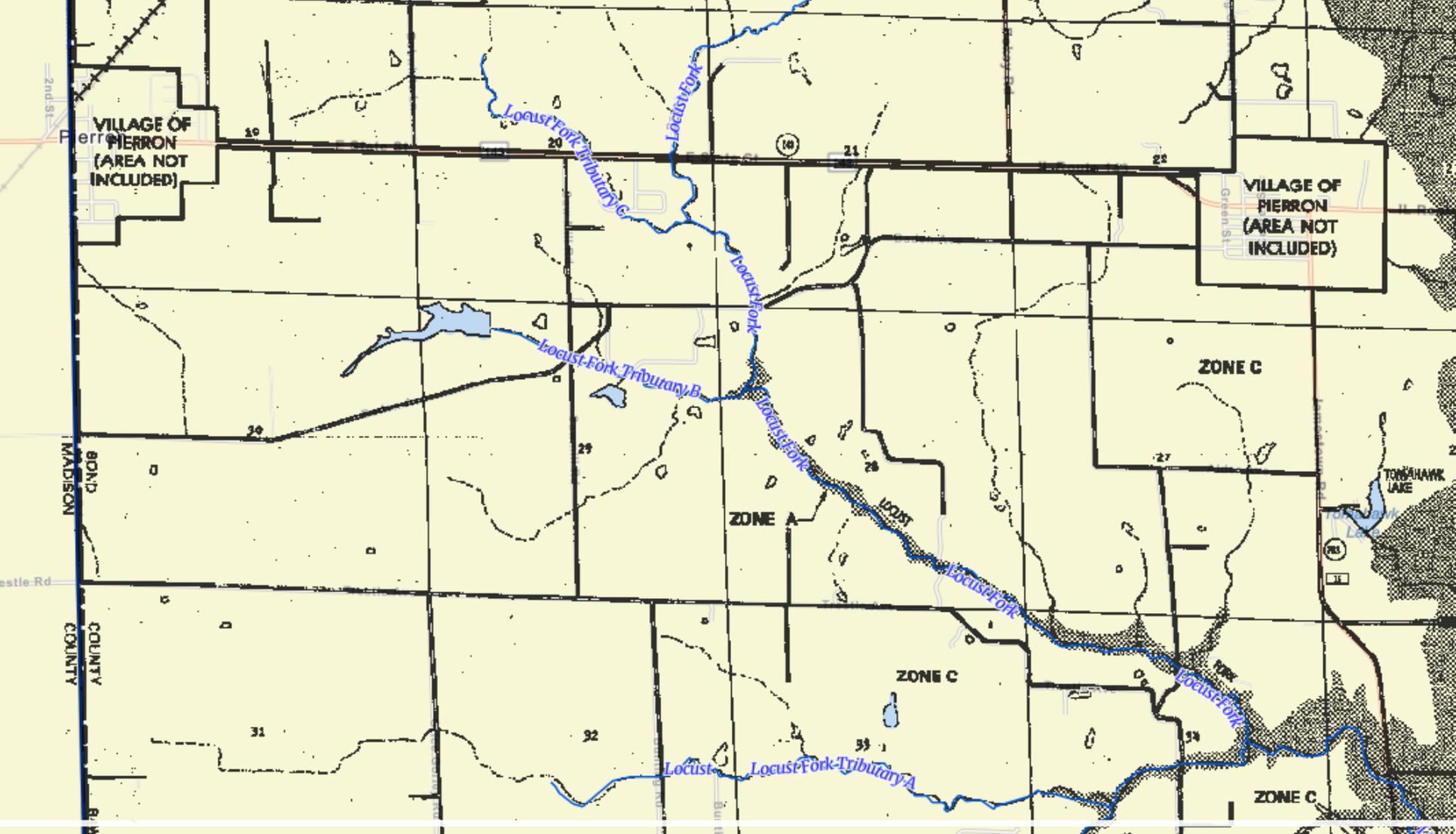
ZONE C

VILLAGE OF PANAMA  
(AREA NOT INCLUDED)

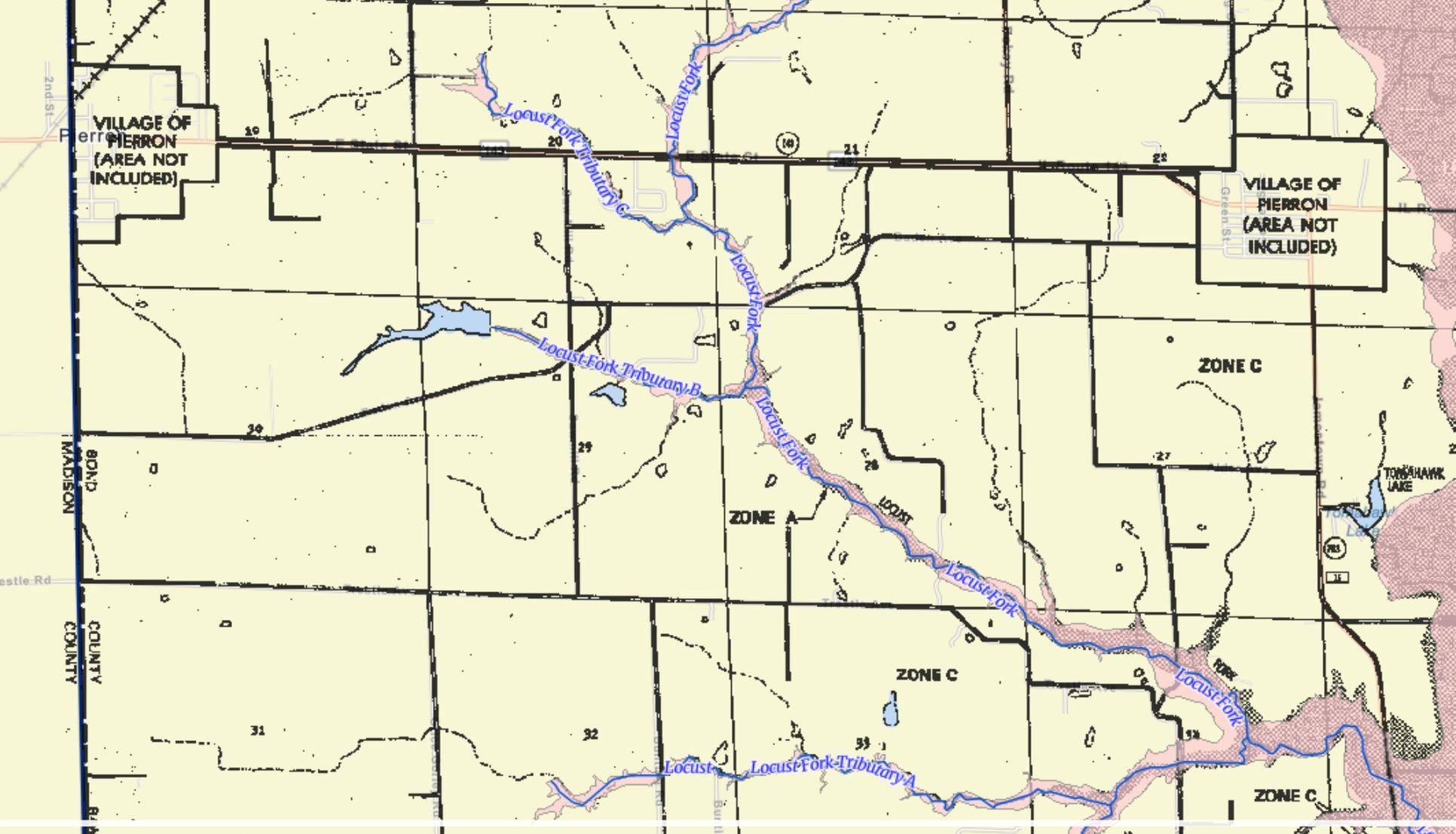
RAILWAY

CREEK 27

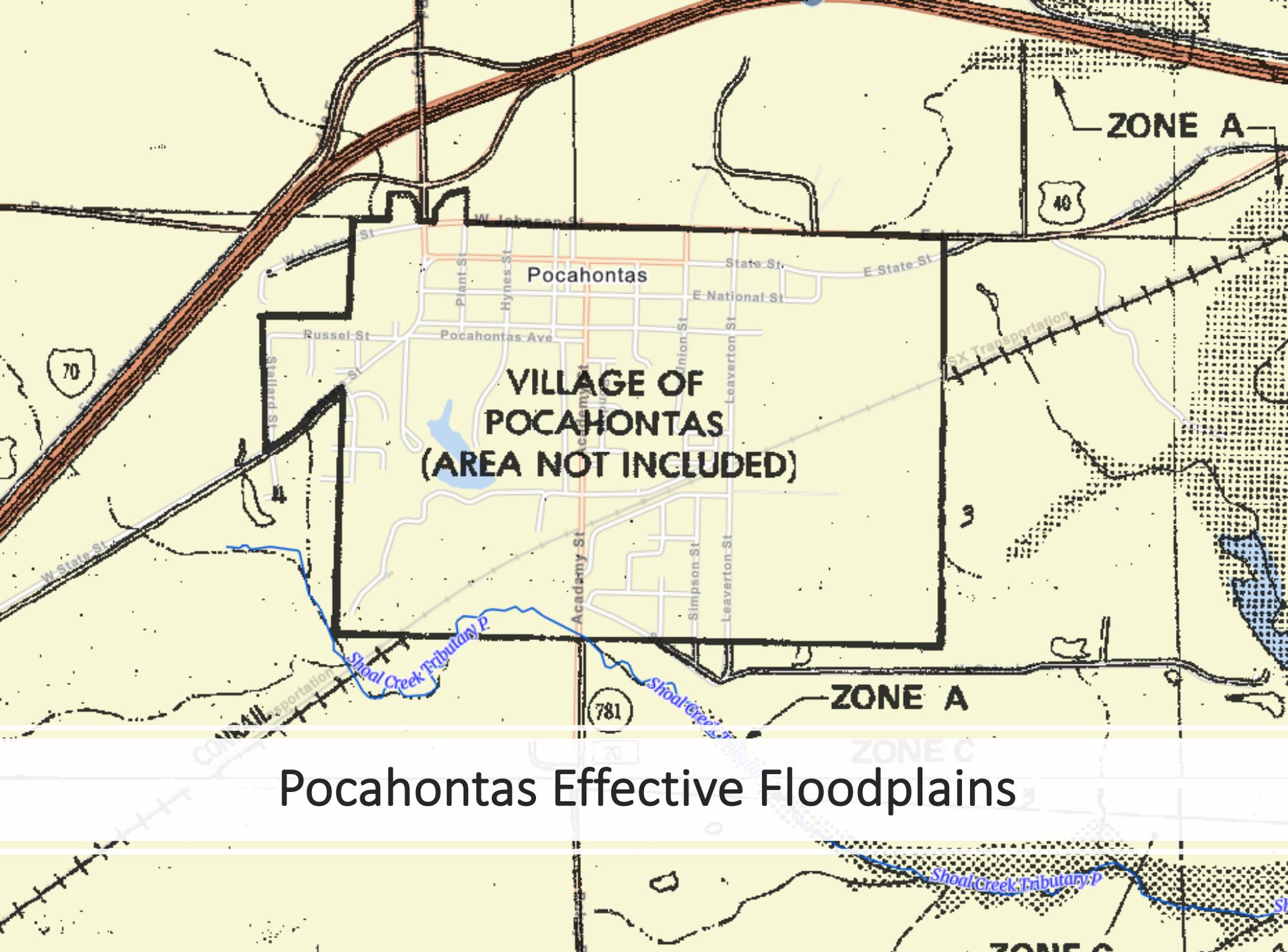
Panama Proposed Floodplains



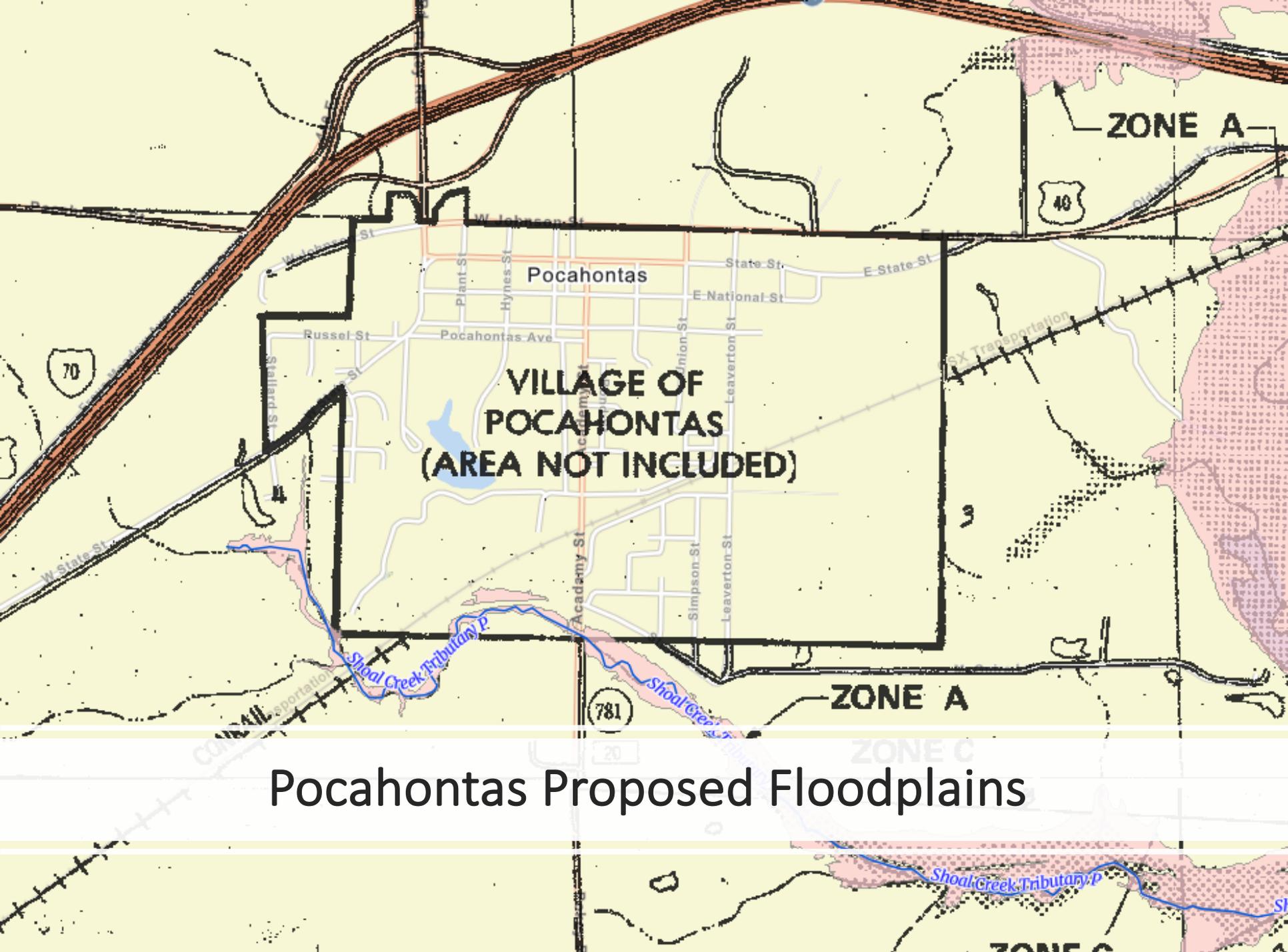
# Pierron Effective Floodplains



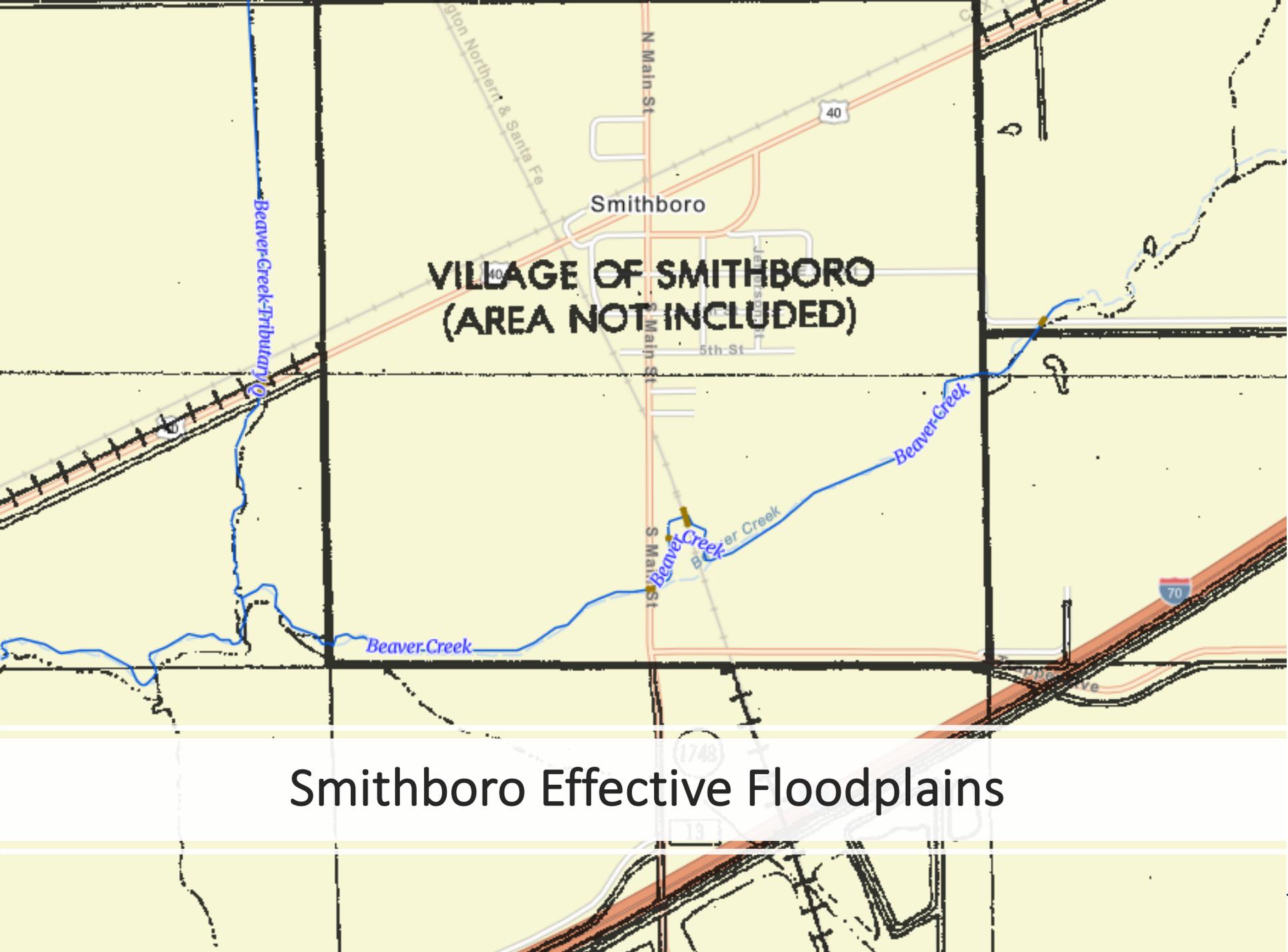
# Pierron Proposed Floodplains



# Pocahontas Effective Floodplains

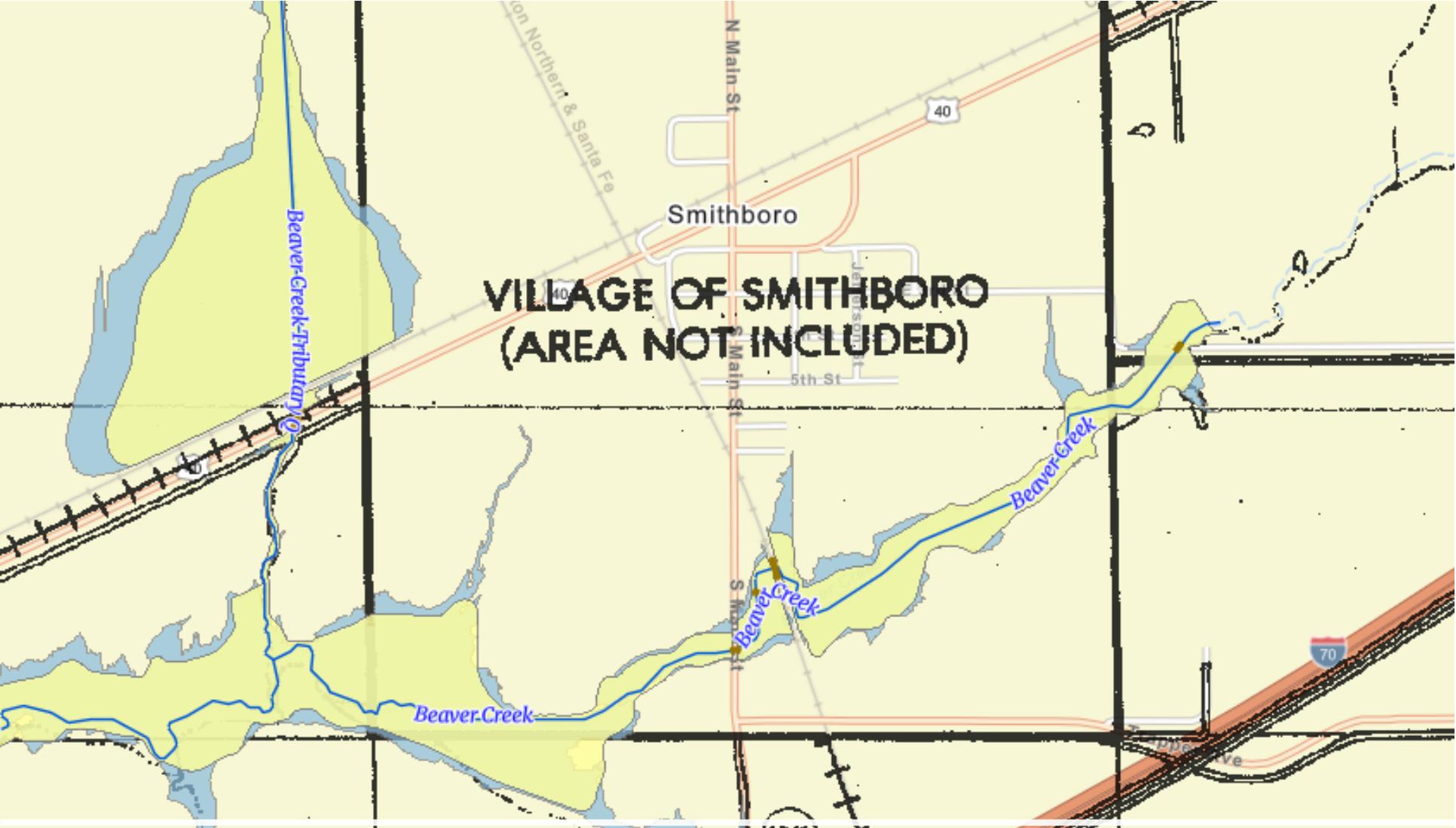


# Pocahontas Proposed Floodplains

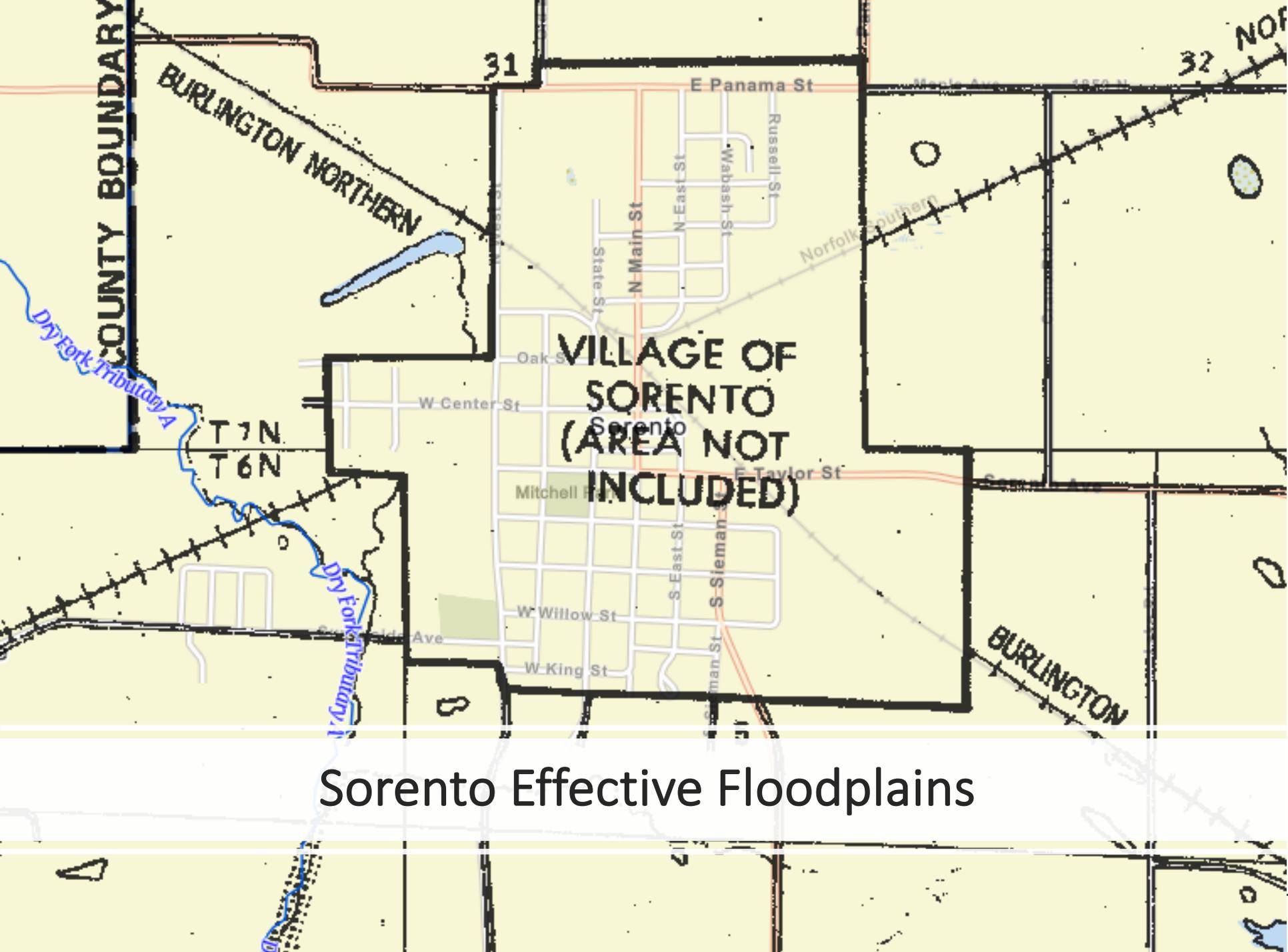


**VILLAGE OF SMITHBORO  
(AREA NOT INCLUDED)**

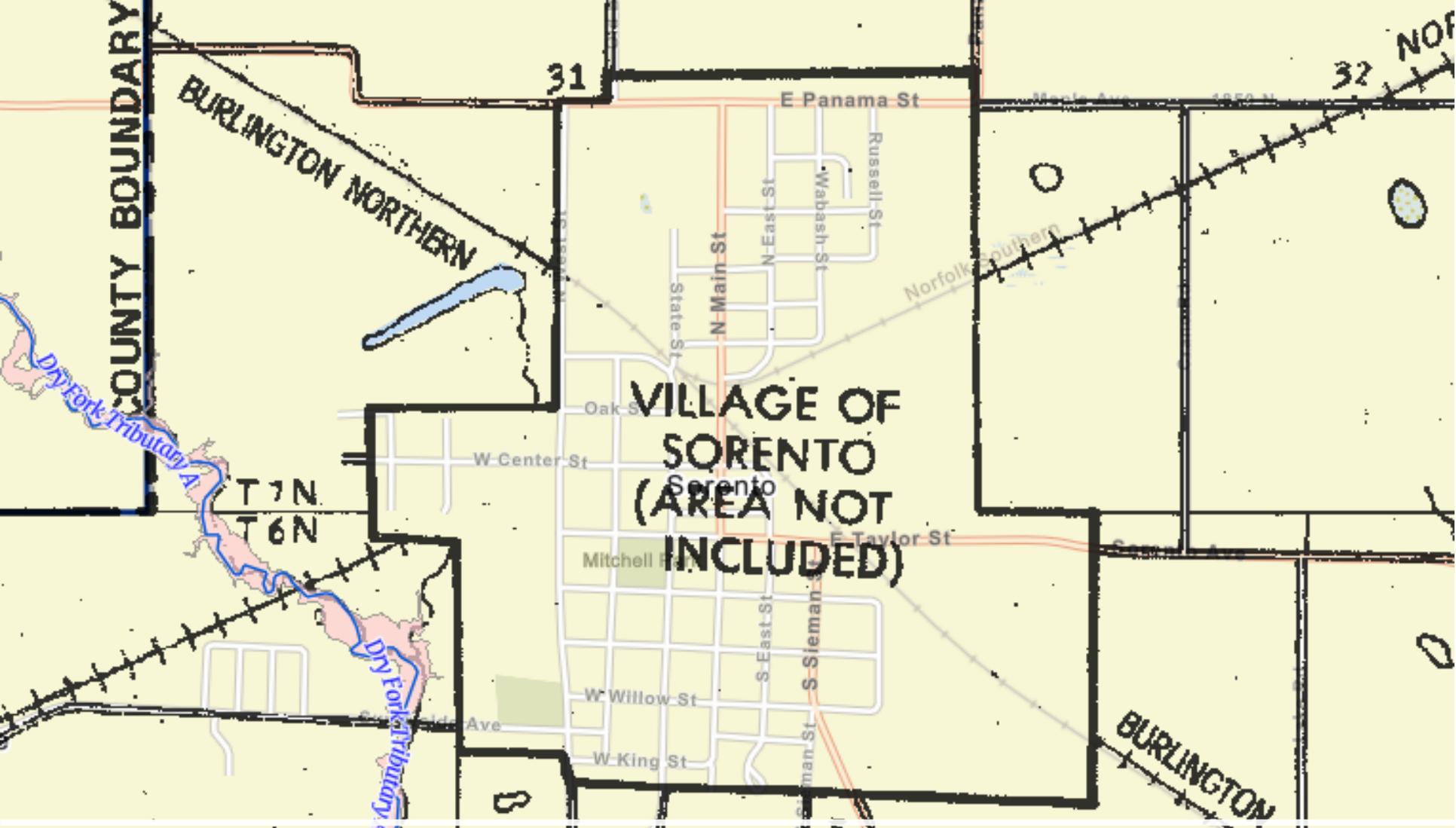
# Smithboro Effective Floodplains



Smithboro Proposed Floodplains



Sorento Effective Floodplains



Sorento Proposed Floodplains



# Communication and Next Steps



# Communication Plan

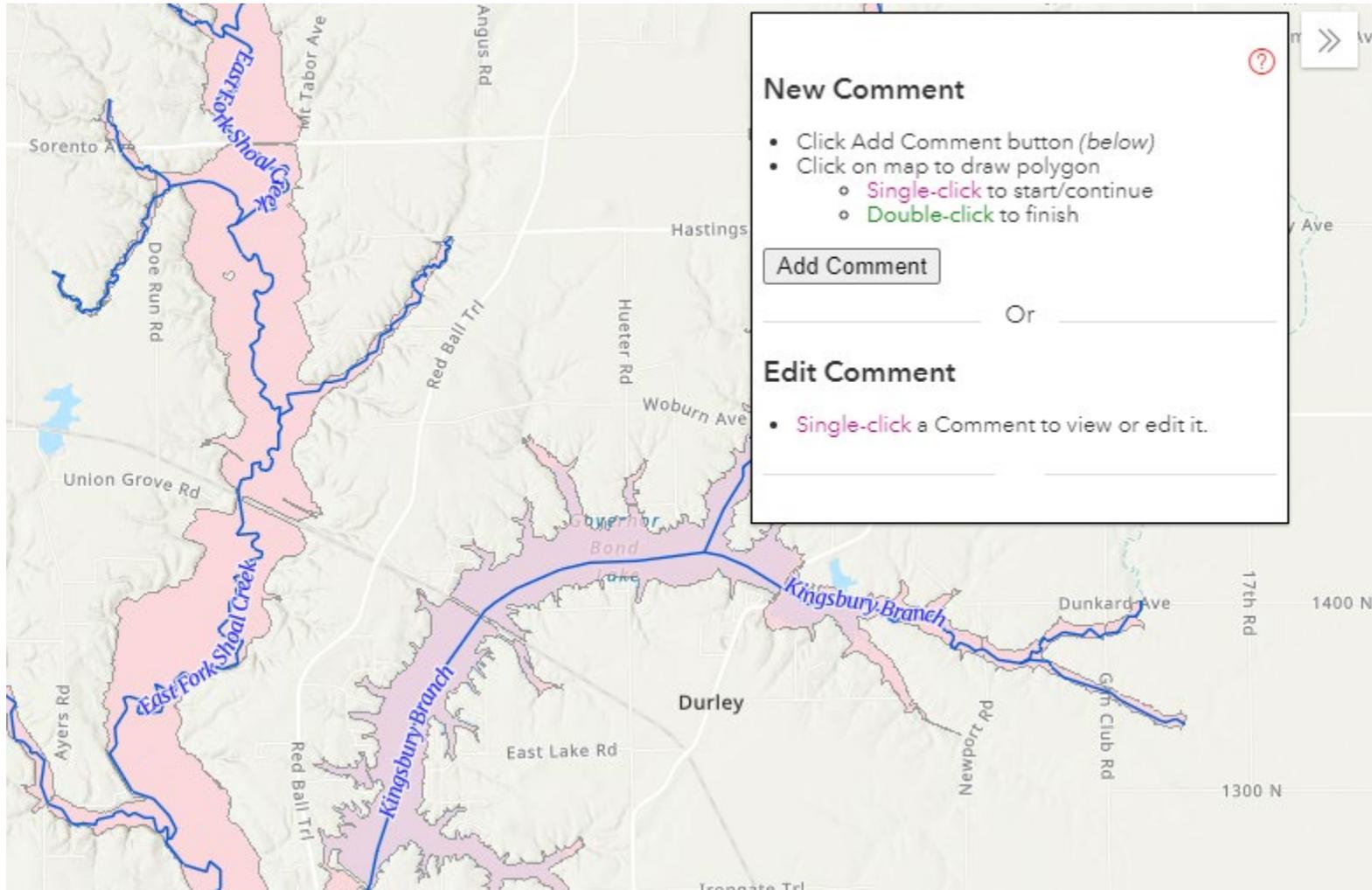
- Project Initiation Coordination Call 2/11/2020
- Proposed Engineering Methods Notification Letter (mailed February 2020)
- **Flood Risk Review Meeting (today)**
- **30-day comment period starts today!**
- Data Submission Notification Letter



# Data Submission Notification

- Mailed to community CEOs
- Makes community aware the data collection and analysis phase of the project is concluding and Flood Insurance Rate Map (FIRM) database is being validated by FEMA
- Gives communities 30 days to comment on the data in the FIRM database

# Webmap Comment Feature



# Schedule

# Schedule

- ~~Engineering Notification Letters to communities likely March 2020~~
- ~~ISWS to finish floodplain studies by Spring 2021~~
- **Flood Risk Review Meeting (today)**
- Submit Flood Studies to IDNR for State review
- Complete draft FIRM database to conclude data development phase of project by Fall 2022
- Digital Flood Insurance Rate Map Project to follow pending conclusion of data development

# Community Participation

# Community Participation

- Now is the time to review the draft floodplain mapping for your community!!!
  - Who's affected?
  - Is the mapping reasonable and/or consistent with community's experience with flooding?
  - Make comments if something doesn't look right or make sense.
  - Provide data or information if it could support a change to the draft mapping
  - Ask questions!



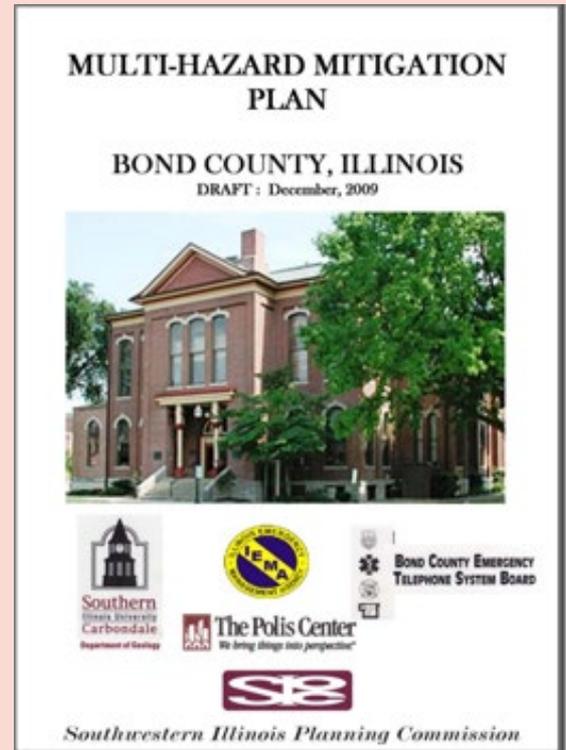
# Risk Communication and Mitigation Actions

# Hazard Mitigation Plan December 2009

**Table 4-6: Hazard Rankings by Jurisdiction**

Jurisdiction	Hazard							
	Tomado	HAZMAT	Earthquake	Thunderstorms	Flooding	Winter Storms	Subsidence	Dam Failure
Greenville	2	3	5	4	6	1	NA	7
Donnellson	2	3	5	4	6	1	NA	NA
Keyesport	2	3	5	4	6	1	NA	NA
Mulberry Grove	2	3	5	4	6	1	NA	NA
Old Ripley	2	3	5	4	6	1	NA	NA
Panama	2	3	5	4	6	1	7	NA
Pierron	2	3	5	4	6	1	NA	NA
Pocahontas	2	3	5	4	6	1	7	NA
Smithboro	2	3	5	4	6	1	NA	NA
Sorento	2	3	5	4	6	1	7	NA

NA = Not applicable





# Risk Communication and Mitigation Actions

## [Floodsmart.gov](https://www.floodsmart.gov)

Includes information on:

- Community resources
  - Flood Maps
  - Cost of Flooding
  - What is Covered?
  - How to reduce your costs.
  - Tools

## [FEMA.gov](https://www.fema.gov)

Includes information on:

- National Flood Insurance Program (NFIP)
- Hazard Mitigation Planning
  - Mitigation Best Practices
  - Mitigation Planning And Grants
  - Regulations and Guidance



# Post-meeting survey

🗳️ Polls - □ ×

**BOND COUNTY FLOOD RISK REVIEW MEETING Post-meeting Survey** in Progress 0:05

Attendees are now viewing questions 0 of 0 (0%) voted

**1. After this meeting how much more do you know about your community's flood risk? (Multiple choice)**

a lot	(0/0) 0%
some	(0/0) 0%
not much	(0/0) 0%

**2. After this meeting how much do you know about FEMA Risk Mapping, Assessment and Planning (Risk MAP)? (Multiple choice)**

a lot	(0/0) 0%
some	(0/0) 0%
not much	(0/0) 0%

**3. Has this meeting helped you know how to better communicate flood risk to your community? (Multiple choice)**

yes	(0/0) 0%
no	(0/0) 0%

**4. Has this meeting helped you know where to go to get flood mitigation help? (Multiple choice)**

yes	(0/0) 0%
no	(0/0) 0%

[End Polling](#)

# Questions?



**ILLINOIS**

Illinois State Water Survey

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