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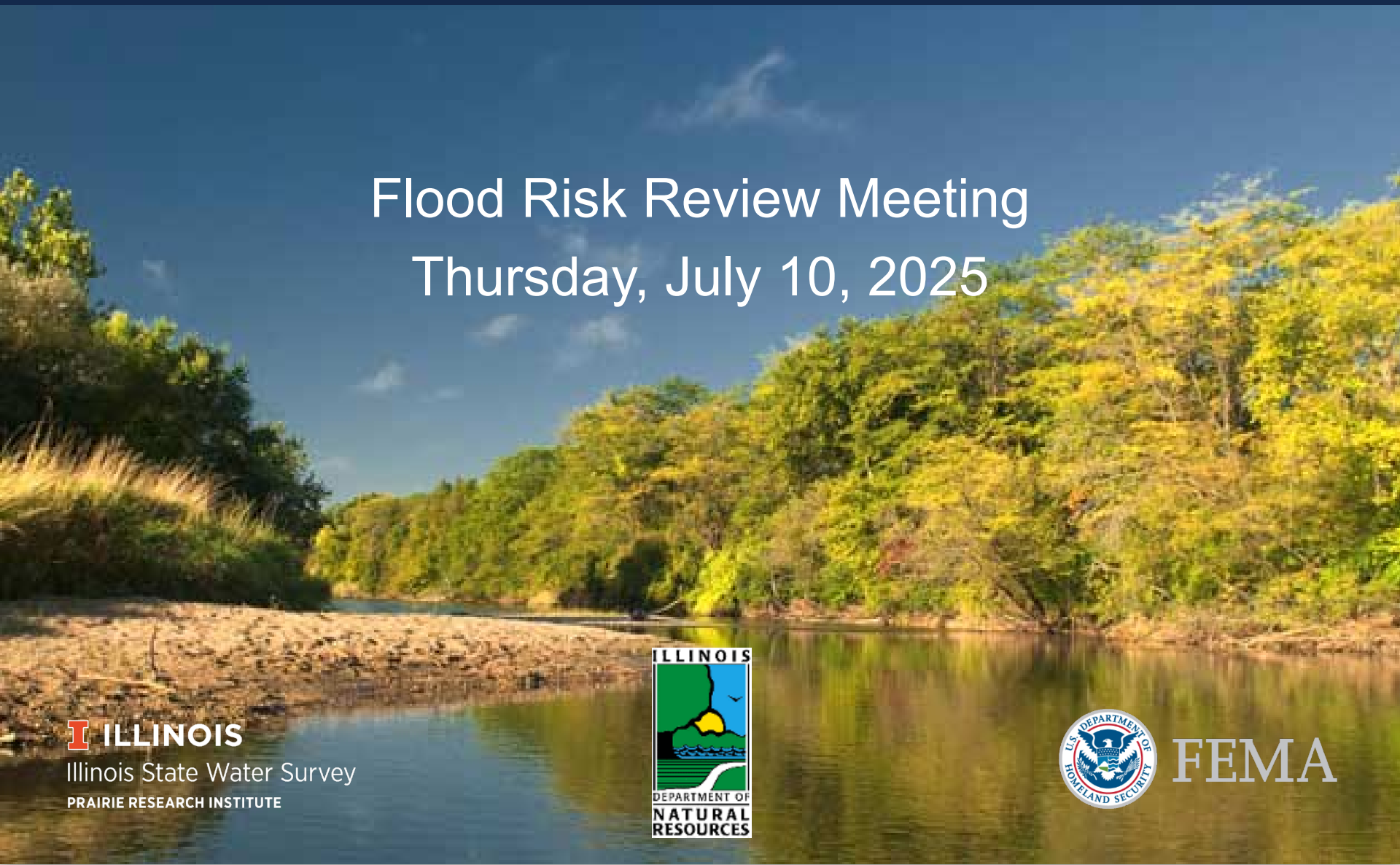
Skillet Fork Watershed – Marion, Wayne, and White Counties, IL
Flood Risk Project



Flood Risk Review Meeting

Thursday, July 10, 2025

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ILLINOIS DEPARTMENT OF NATURAL RESOURCES

FEMA

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

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Illinois State Water Survey

SKILLET FORK_WAYNE AND WHITE COUNTIES, IL FLOOD RISK REVIEW MEETING:
JULY 10, 2025

PRE-MEETING SURVEY

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

   ◯ a lot
   ◯ some
   ◯ not much

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

   ◯ a lot
   ◯ some
   ◯ not much

3. **Are you able to communicate flood risk to your community?**

   ◯ Yes
   ◯ No

4. **Would you know where to go to get flood mitigation help?**

   ◯ Yes
   ◯ No

Agenda

- Roll Call
- Introduction
- Project Goals and Objectives
- Project Scope
- Hydrologic Study Methods
- Hydraulic Study Methods
- Draft Floodplain Results
- Webmap
- Communication and Next Steps
- Risk Communications and Mitigation Actions
- Community Participation
- Questions and Discussion

Roll Call

Wayne County *+

- City of Fairfield *+
- Village of Sims +
- Village of Wayne City +
- Village of Johnsonville +
- Village of Keenes +

White County *

- Village of Mill Shoals+

Marion County

- Unincorporated Areas

Other Agencies

- FEMA
- IDNR
- IEMA
- GWRPC
- OTHER

* National Flood Insurance Program (NFIP) participants
+ Participating Jurisdiction in County Hazard Mitigation Plan

Introduction

Introduction

Who We Are

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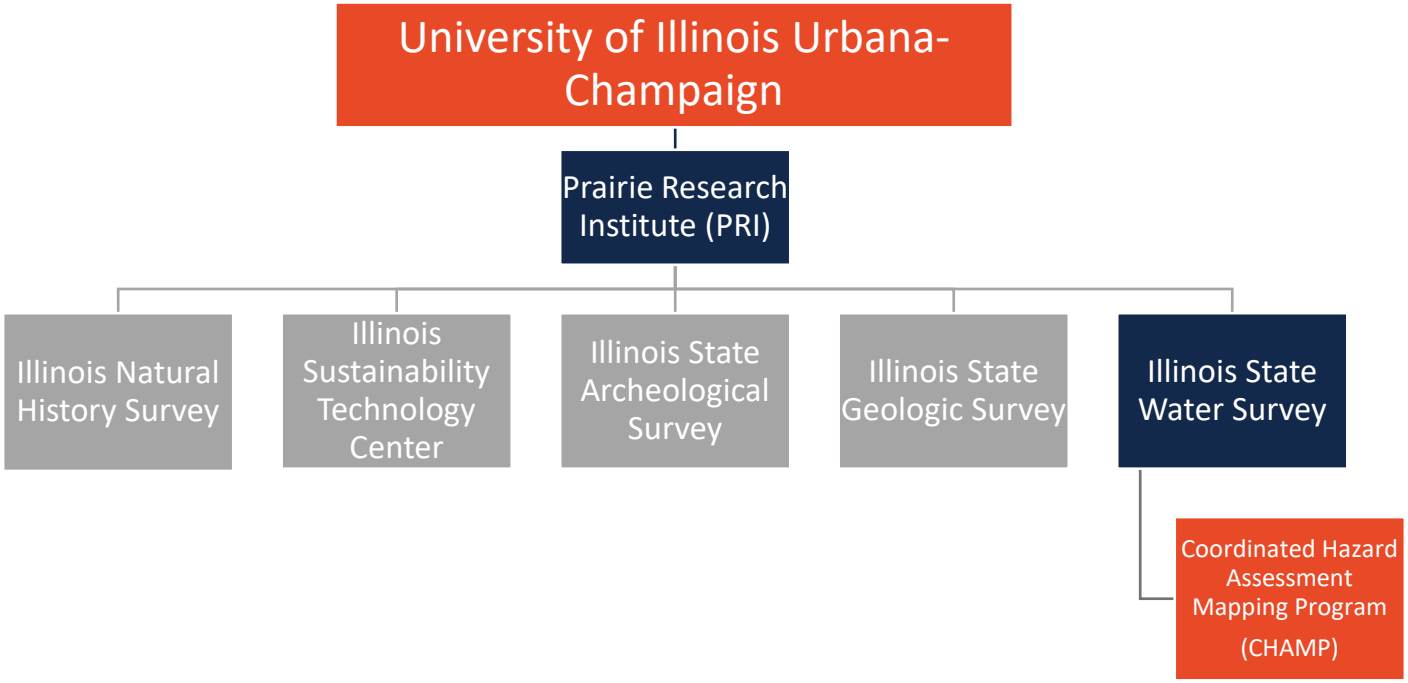

https://www.illinoisfloodmaps.org/

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

Introduction

Our Partners

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FEMA

ISWS is a Cooperating Technical Partner (CTP) with the Federal Emergency Management Agency. (FEMA)

IDNR-OWR

ISWS partners with The Illinois Department of Natural Resources-Office of Water Resources (IDNR-OWR). Together we prioritize Illinois floodplain studies and mapping projects.

Your Community

ISWS provides ongoing engagement with state and local officials and watershed stakeholders to reduce flood risk.

Introduction

What We Do

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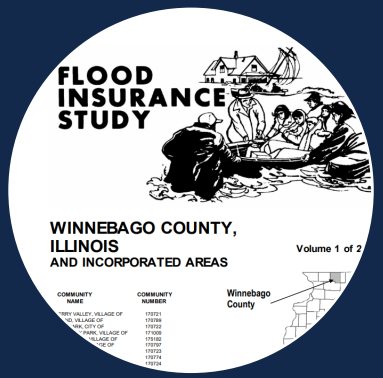

Produce Flood Studies

Generate Floodplain Mapping

Inform Communities of Flood Risk

Introduction

What We Do

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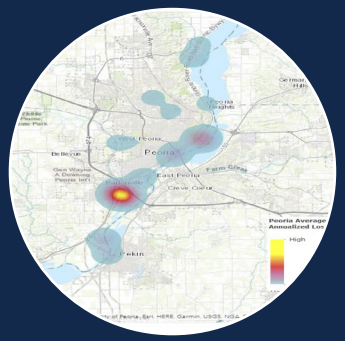
Provide Hazard Mitigation Plans



Provide Structure Specific Risk Assessments

Introduction

How We Are Funded

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NATIONAL FLOOD INSURANCE PROGRAM

FEMA administers the **National Flood insurance Program** (NFIP).

The **Risk Mapping, Assessment, and Planning** (Risk MAP) Program is the FEMA process used to implement NFIP floodplain studies and mapping projects.

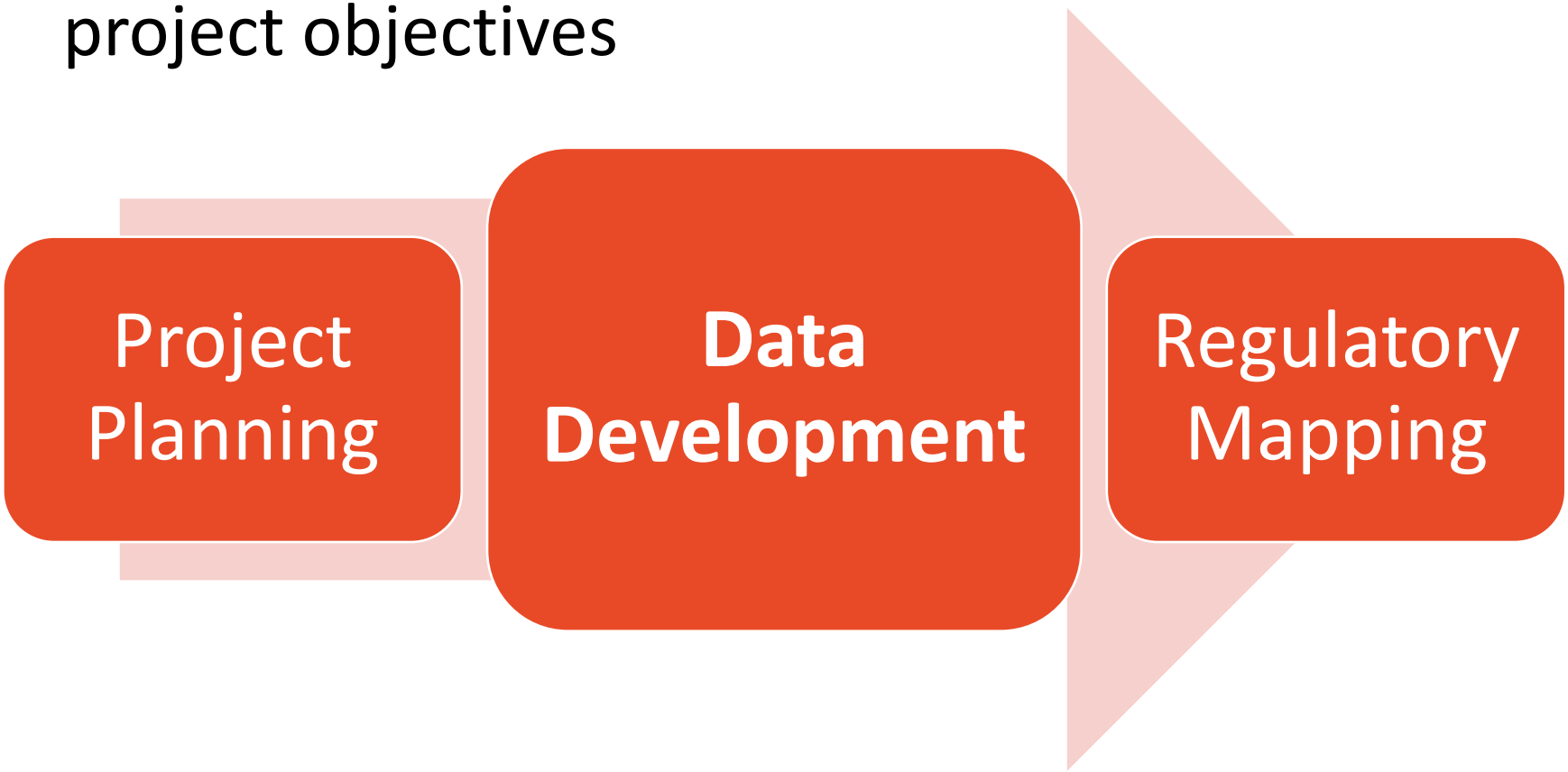
FEMA
The Cooperating Technical Partners (CTP) Program

FEMA provides grants to CTP's to complete Risk MAP work.

Project Goals and Objectives

Project Objectives

Several project phases comprise the overall project objectives



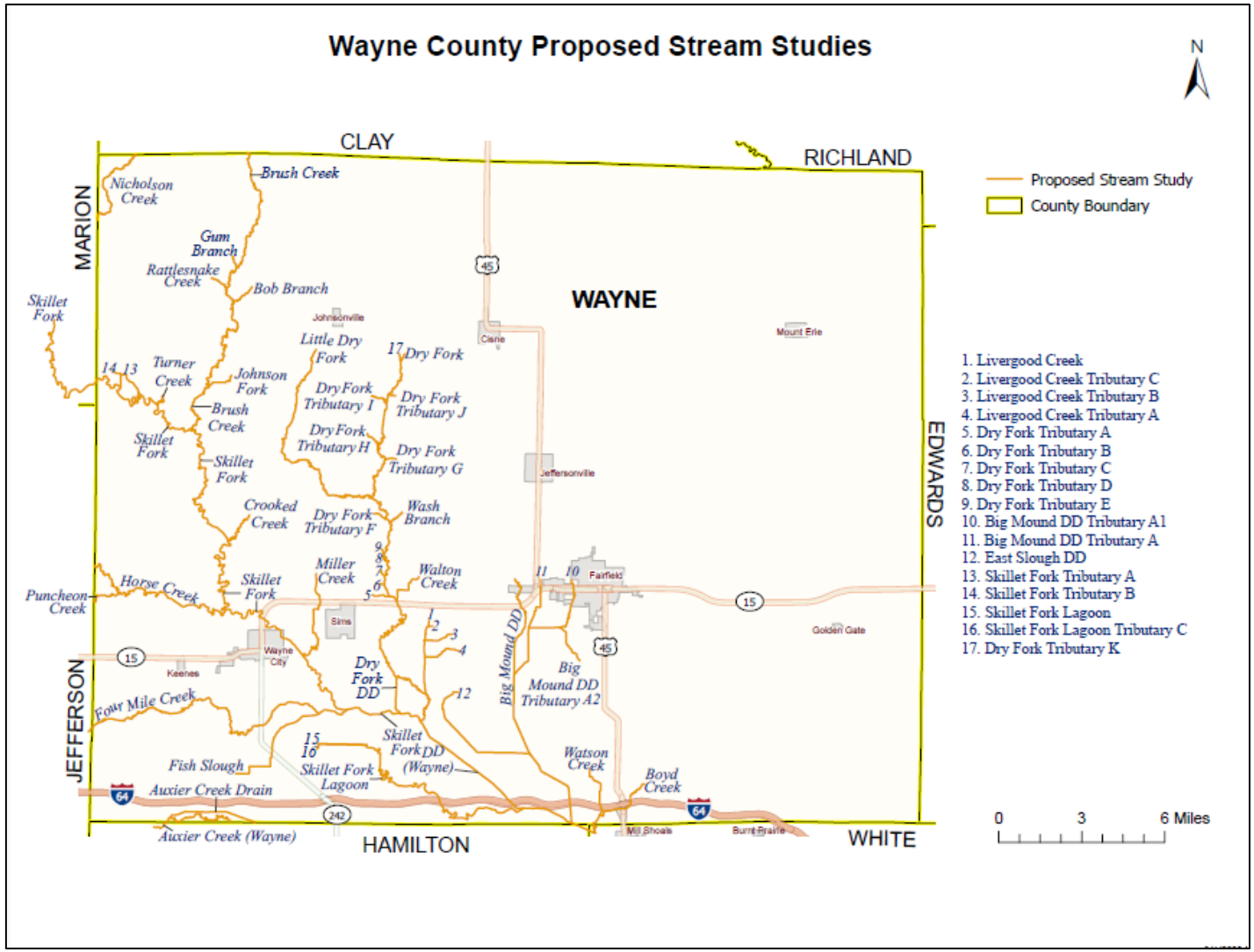
Effective FIRM & FIS Dates

Wayne County: FHBM: 01/09/1981 FIS: none

White County: FIRM: 02/16/2012 FIS: 02/16/2012

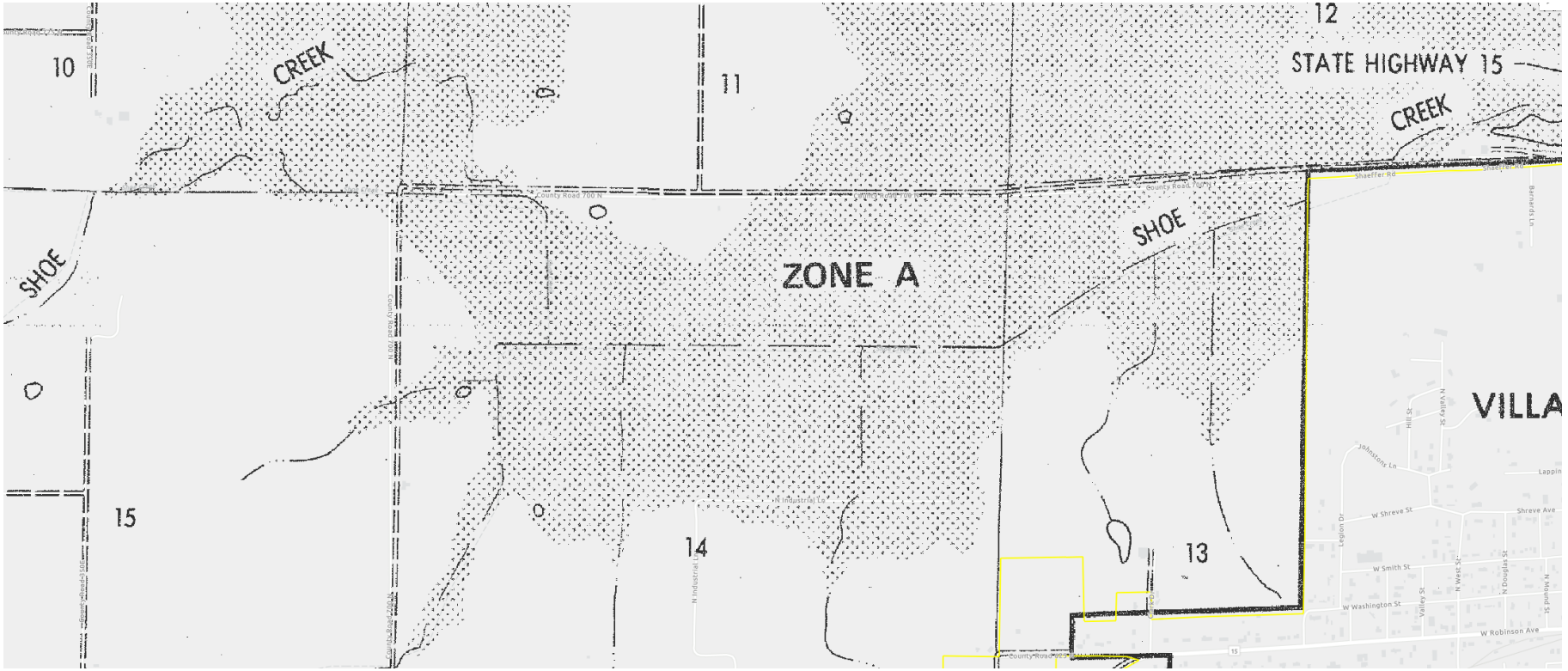
Marion County: FIRM: 11/16/2011 FIS: 11/16/2011

Project Goals and Objectives



Paper to Draft Maps

Effective Paper Map Floodplains



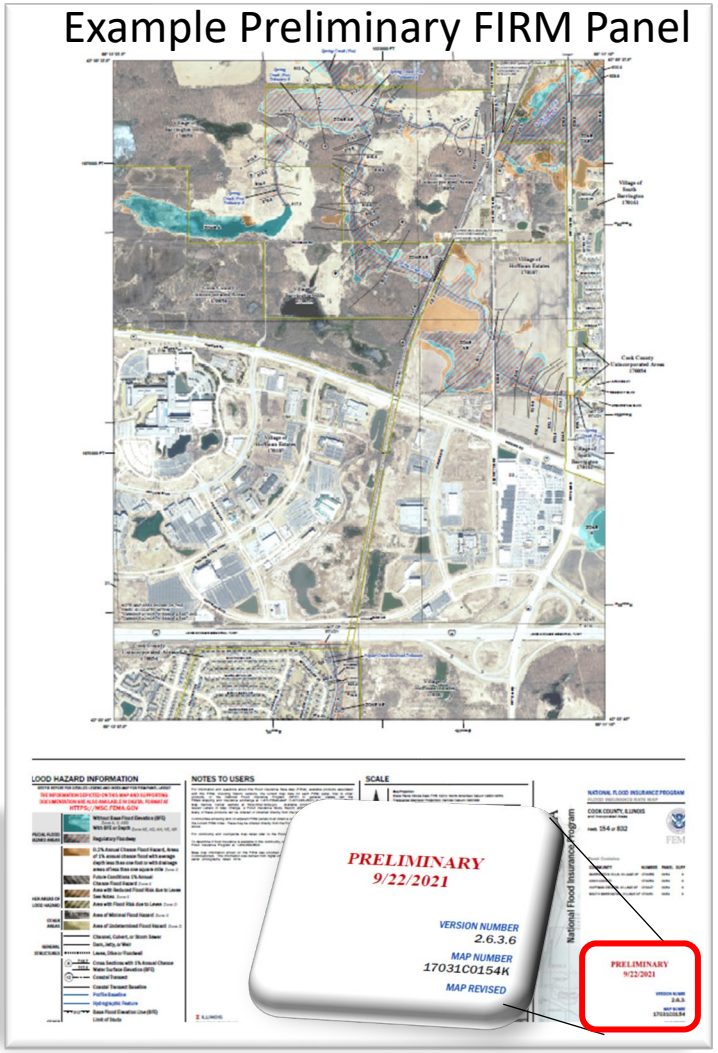
Paper to Draft Maps

Draft Floodplain Results

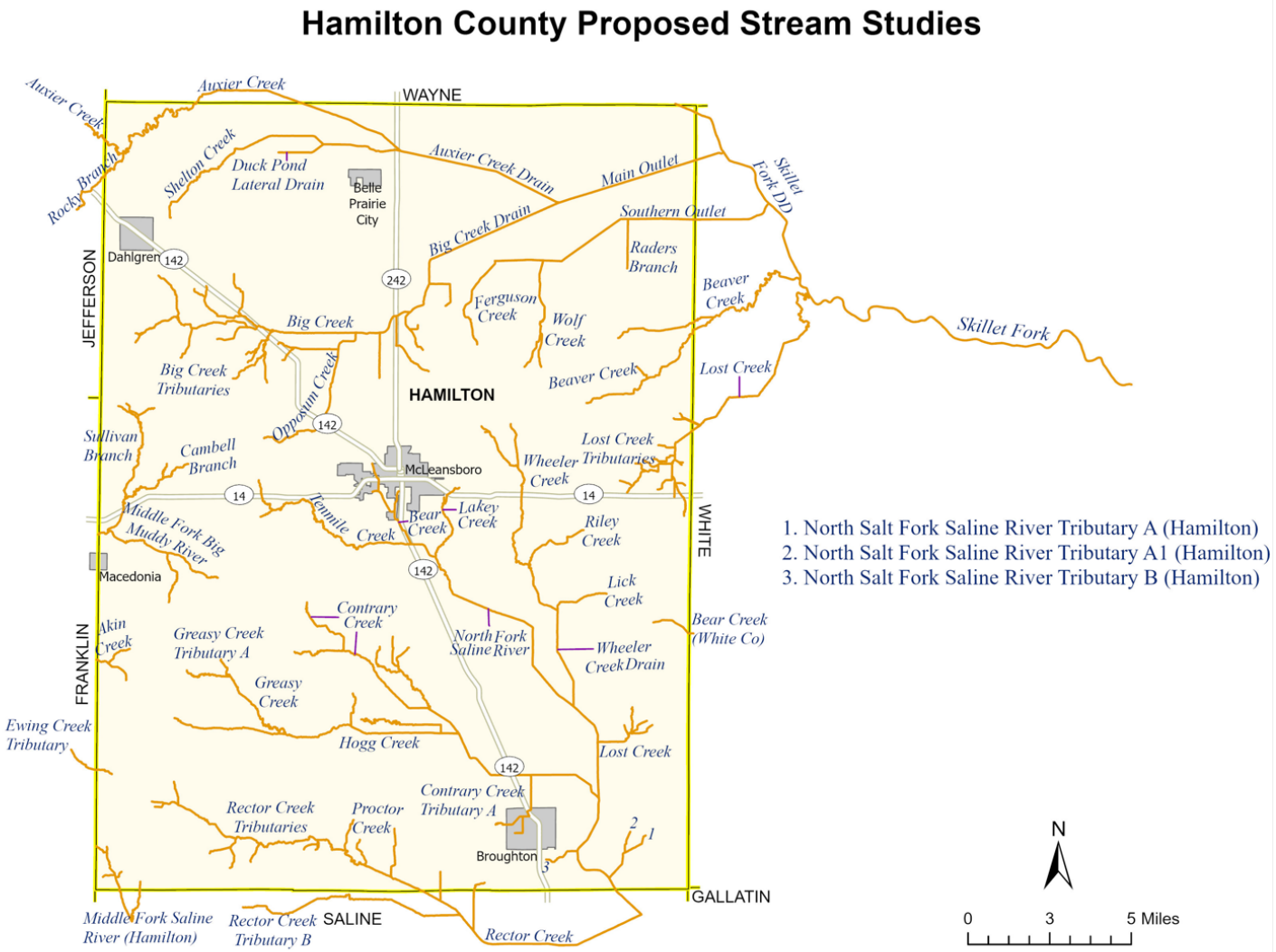
Draft Mapping vs. Preliminary Mapping

Draft Mapping

Example Preliminary FIRM Panel

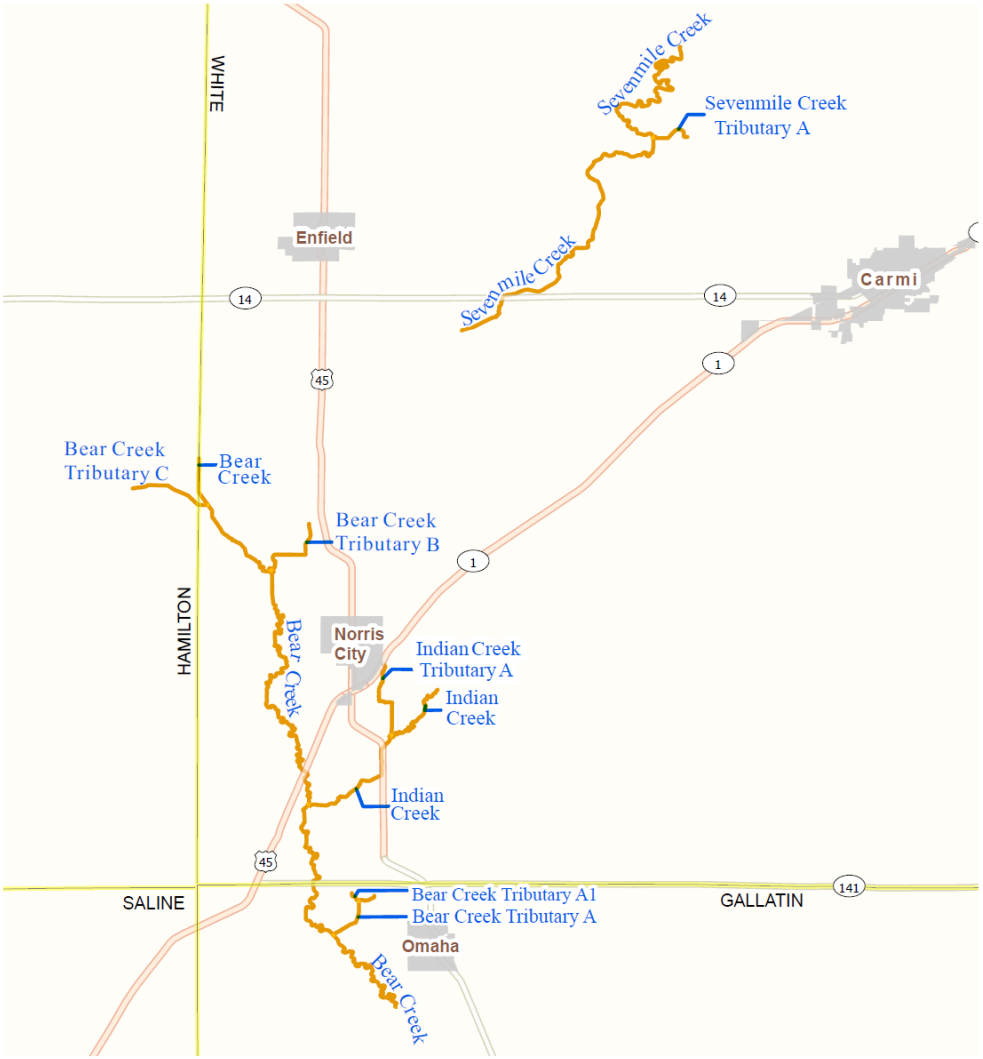


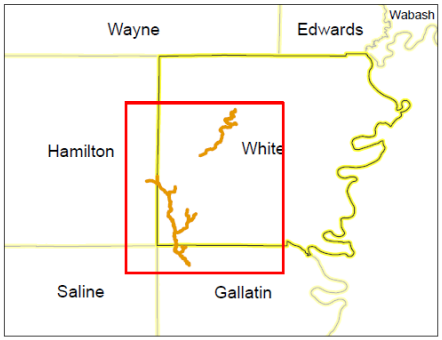
Related Projects



Related Projects

WHITE AND GALLATIN COUNTIES PROPOSED STUDIES





County Boundary

Proposed Stream Study Type

Zone A

N

0 1.5 3 Miles

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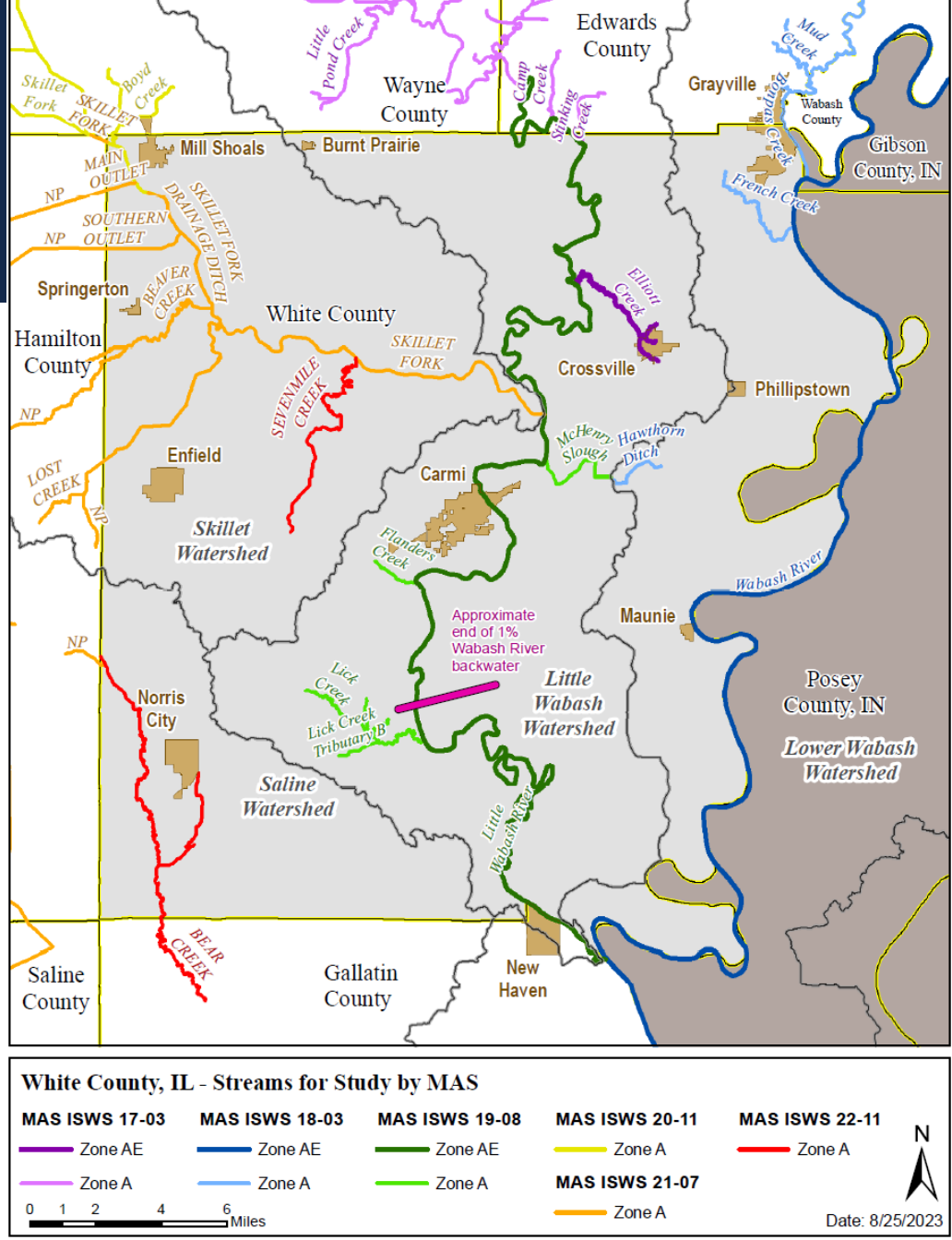
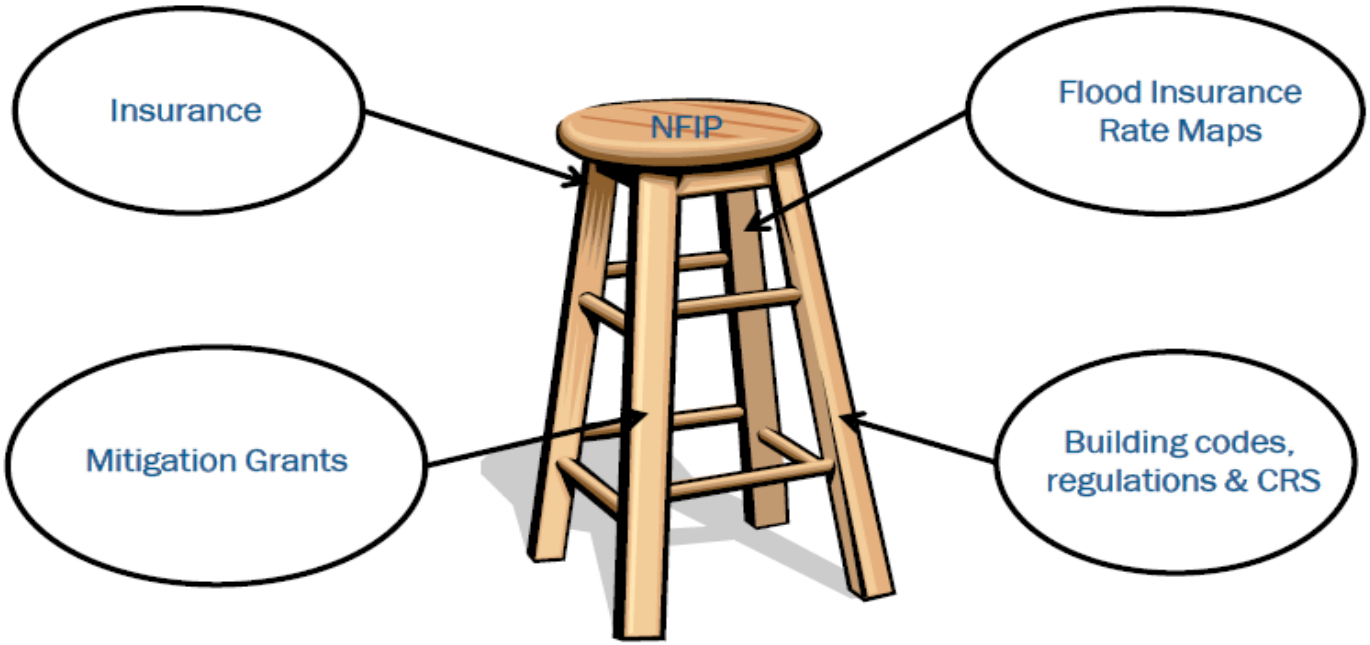
12/5/2023

Related Projects

White County contains parts of four HUC-8 watersheds and is included in **six** separate Mapping Activity Statement (MAS) projects.



National Flood Insurance Program



- Insure homes and businesses against flood-related losses
- Identify and map flood hazards
- Mitigate to reduce flood impacts
- Adopt and enforce floodplain management regulations

Project Scope

What is a Special Flood Hazard Area?

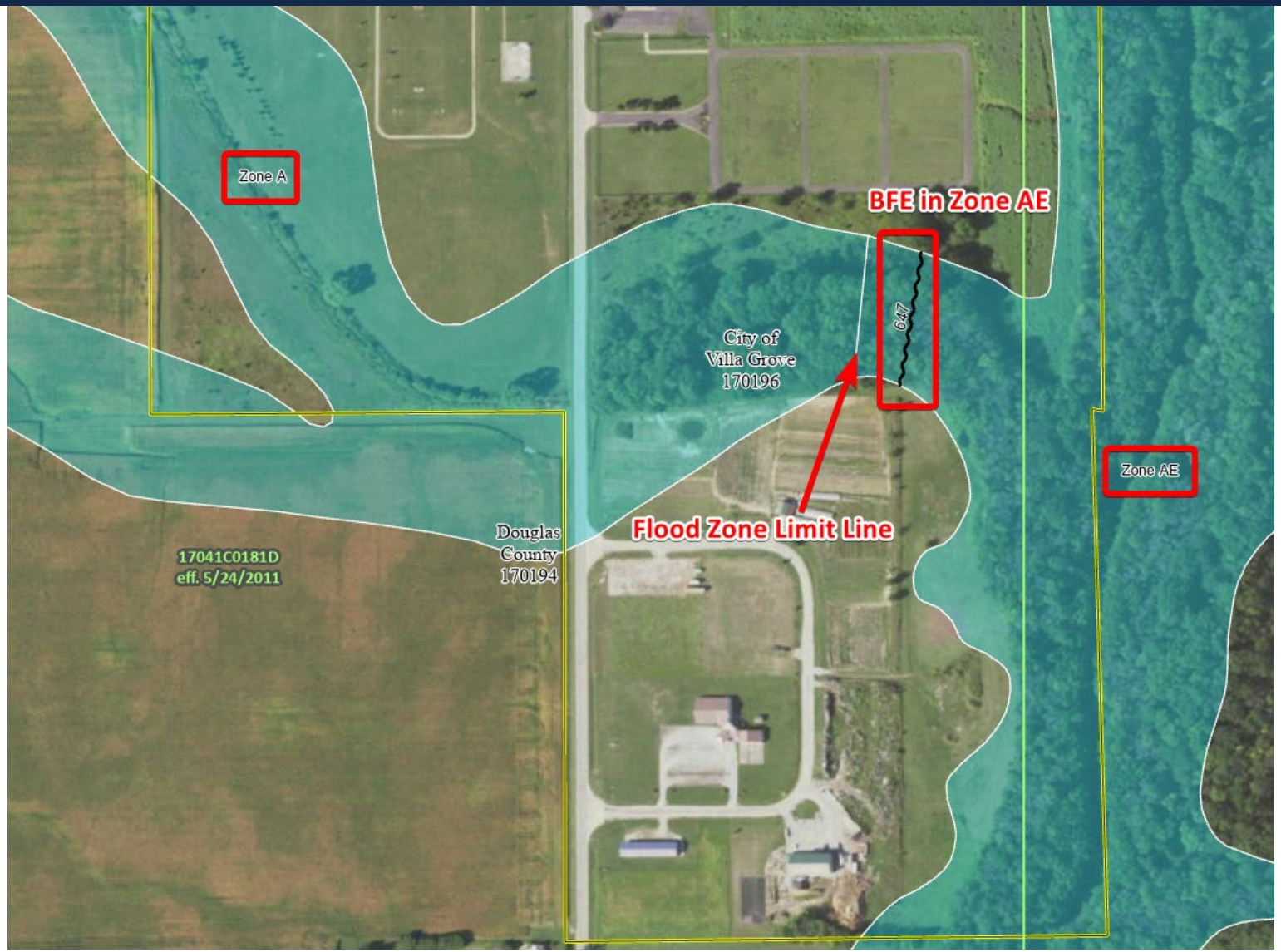
The FEMA Special Flood Hazard Area (SFHA) is the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year.

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.

The Base Flood Elevation (BFE) 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.

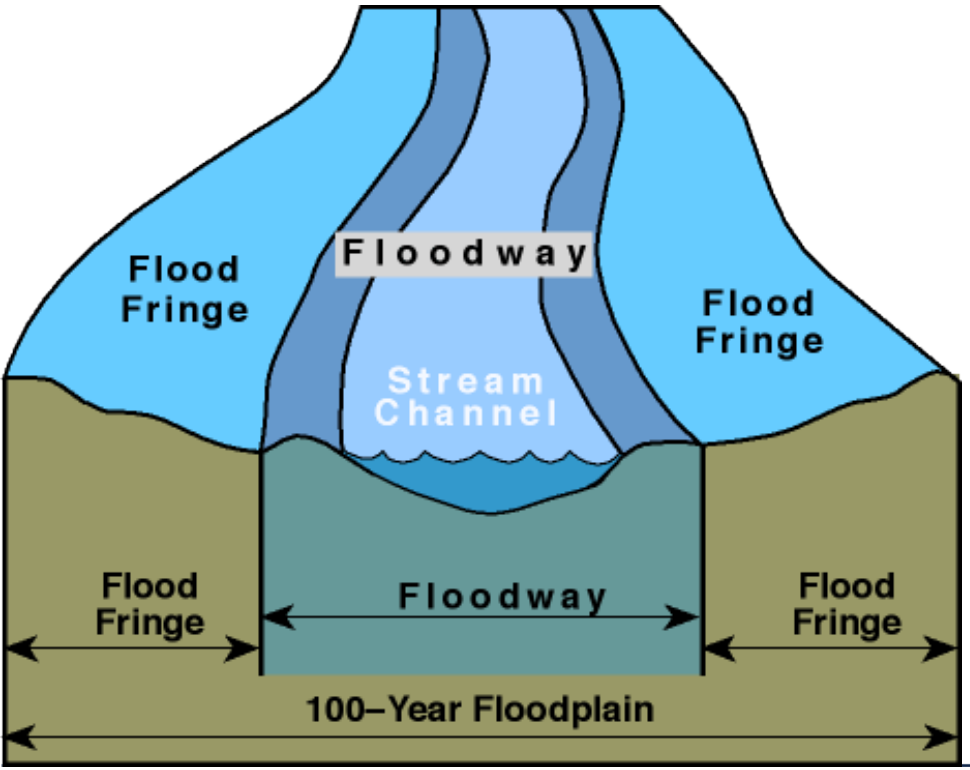
Zone A	Areas subject to inundation by the 1-percent-annual-chance flood event. **NO** Base Flood Elevations are shown.
Zone AE	Areas subject to inundation by the 1-percent-annual-chance flood event. Base Flood Elevations **ARE** shown.

What is a Special Flood Hazard Area?



Floodway

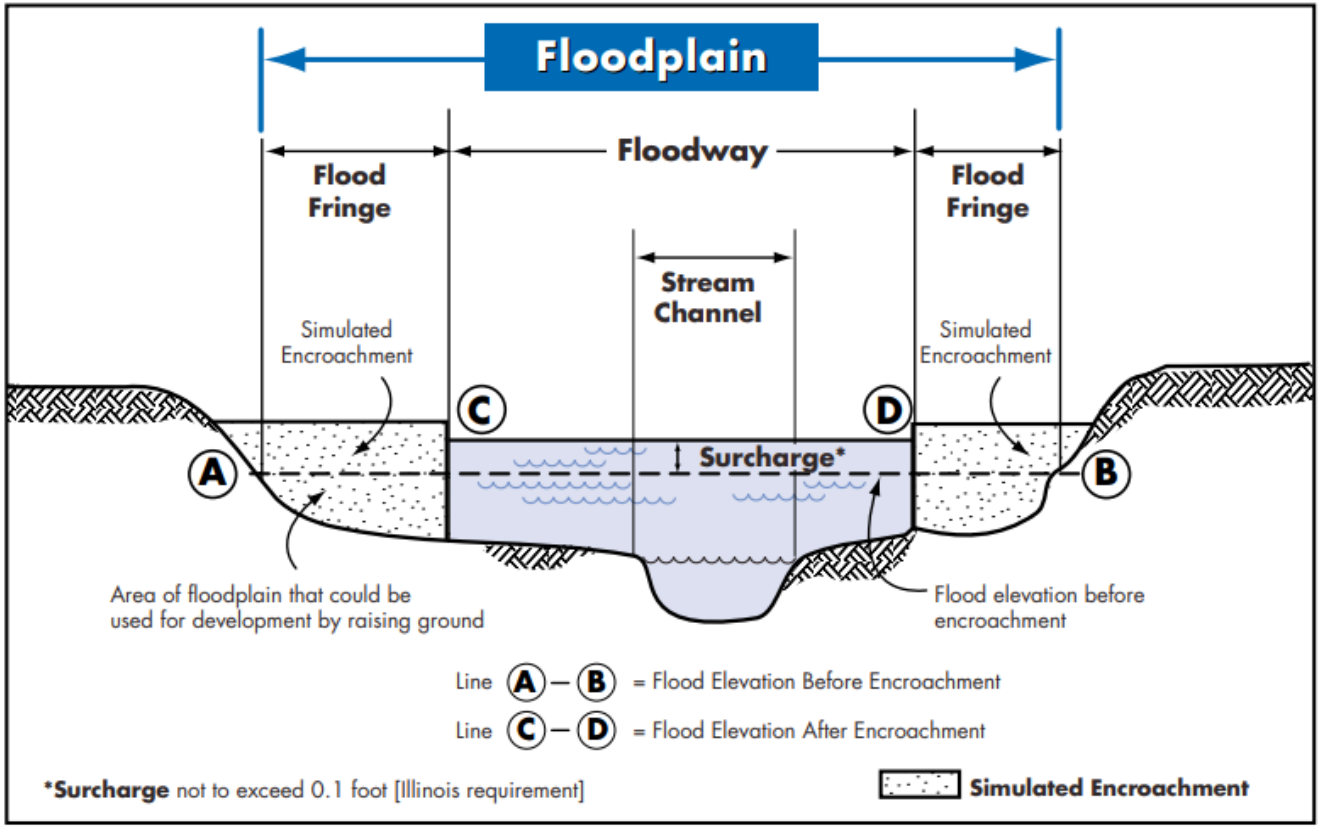
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.



Illinois Floodways

Illinois Floodway criteria:

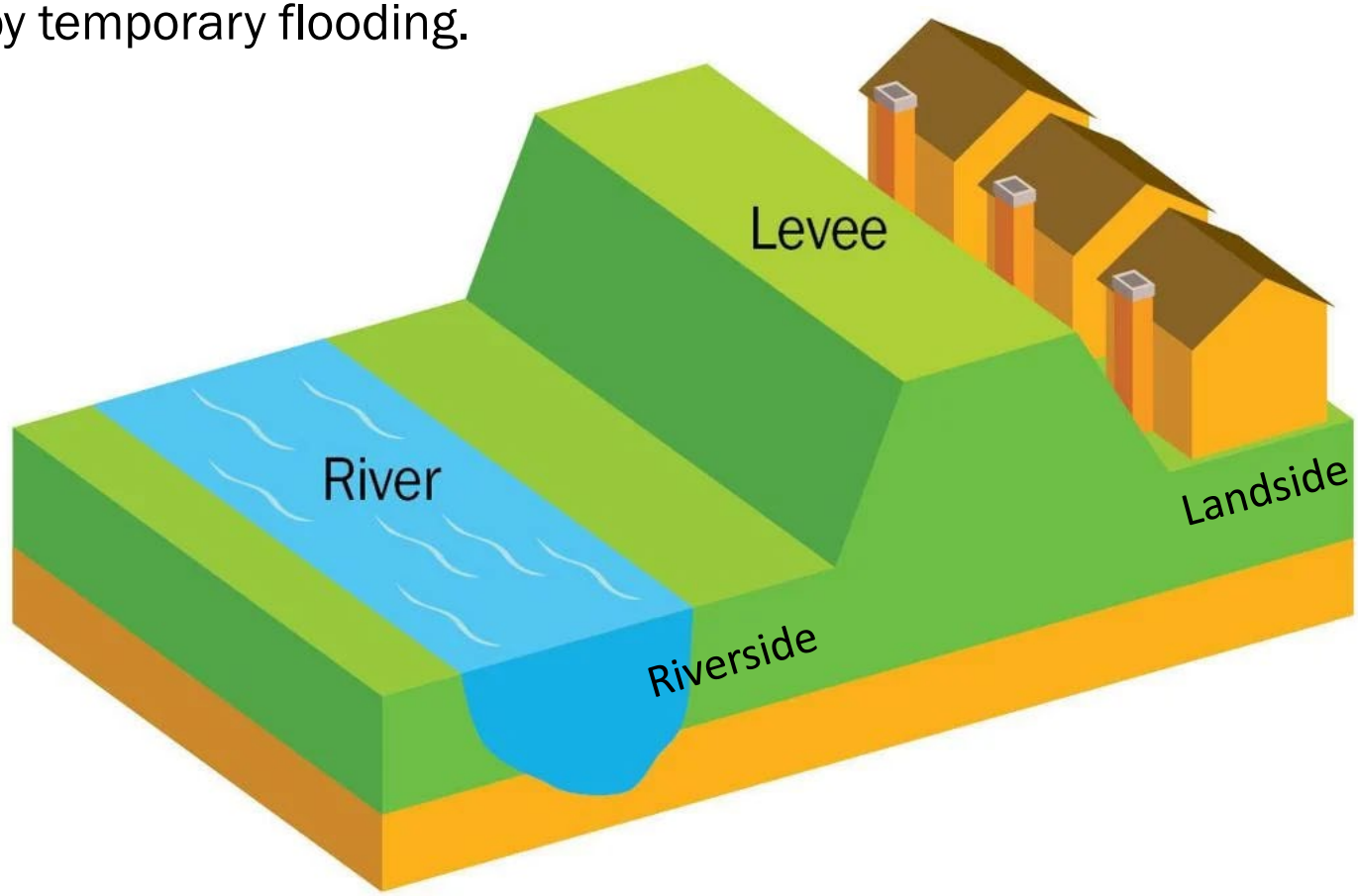
- 0.1-foot maximum surcharge
- Max 10% reduction is storage volume
- Max 10% increase in flow velocity



Credit: https://www2.illinois.gov/dnr/WaterResources/Documents/Resman_ILFPMQuickGuide.pdf

Levee - Definition

Per 44 CFR 59.1, a **levee** is a manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water to reduce flood hazards posed by temporary flooding.

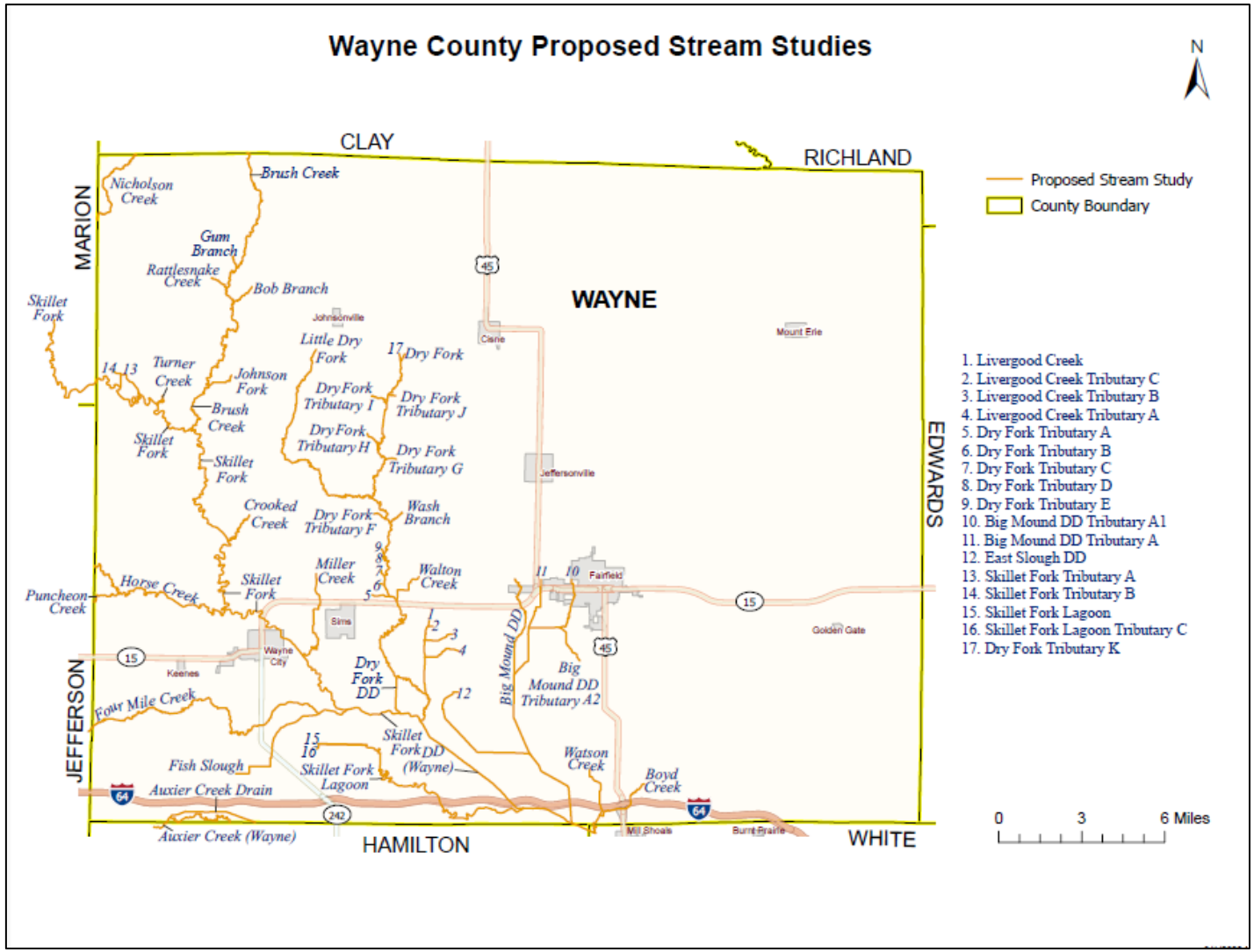


Levees - Accreditation

An **Accredited Levee System** is a system that FEMA has determined meets requirements of the NFIP regulations as cited in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Section 65.10 (44 CFR 65.10) and that FEMA has recognized on a FIRM as reducing the flood hazards posed by a base (1-percent-annual-chance) flood.

This determination is based on the submittal of data and documentation as required by 44 CFR 65.10. The area landward of an accredited levee system is shown as Zone X (shaded) on the FIRM except for areas of residual flooding, such as ponding areas, which are shown as SFHA.

Project Scope



Project Scope

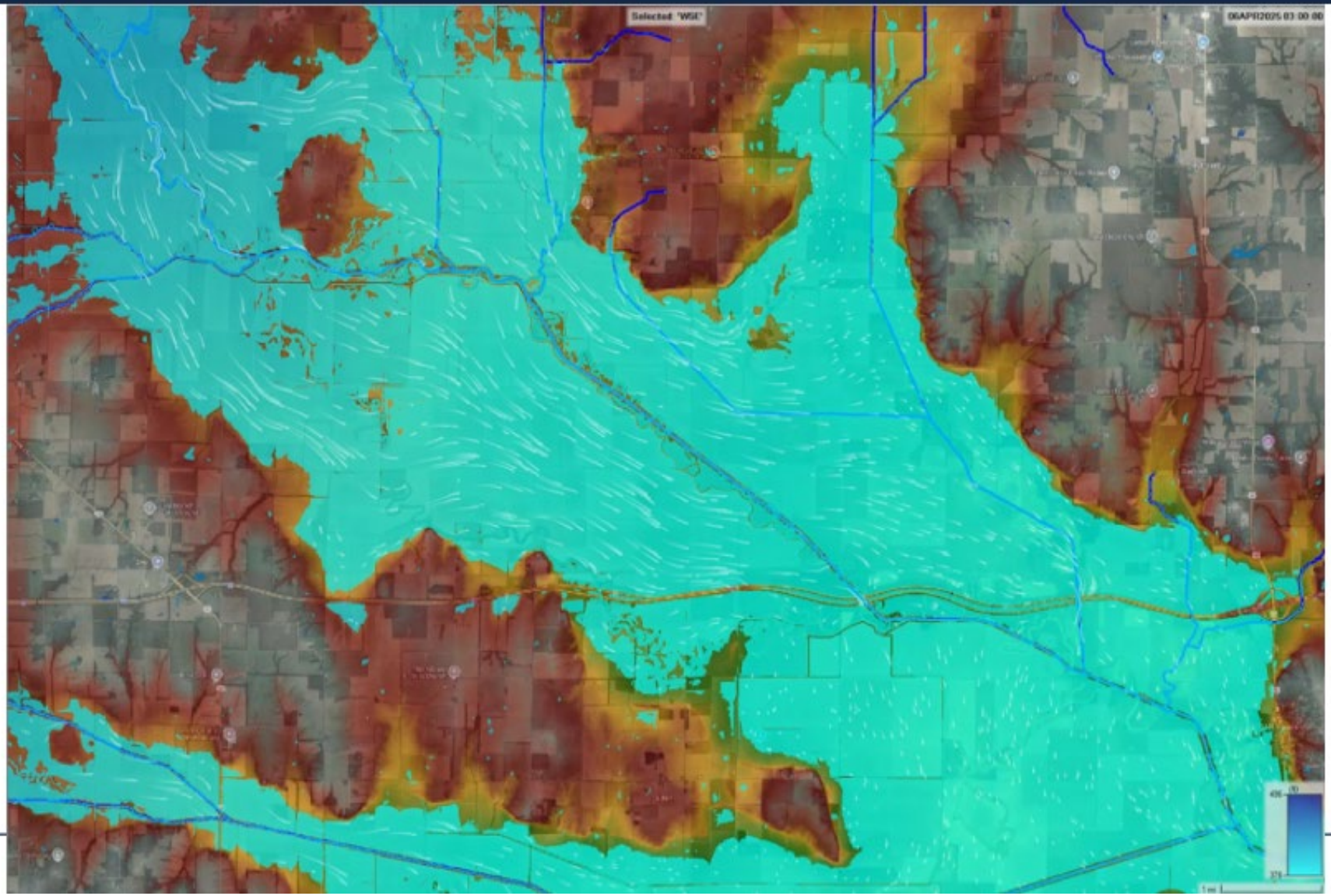
Proposed Engineering Models Summary Table (cont.)						
Flooding Source	**Flood Zone on FIRM**	**Downstream Study Limits**	**Upstream Study Limits**	**Hydrologic Model or Method**	**Hydraulic Model or Method**	**Rationale For Models Selected**
Big Mound Drainage Ditch	Zone A	Confluence with Skillet Fork Drainage Ditch	At County Road 900 N	USGS Regression Equations	HEC-RAS v 6.2	The regression equations are applicable to the streams being studied, and the peak discharges are sufficient for steady state flow, with gradually varied channels, where the slope is less than 10 percent.

Modeling and floodplain limits have increased upstream to include any area connected to the studied streams that has a drainage area of 1 square mile.

Hydrology is now more reliable using Bulletin 75 and HEC-RAS 2D rain-on-mesh as hydrologic model.

HEC-RAS v6.4.1 is the modeling version and 2D is used for hydraulics.

Project Scope



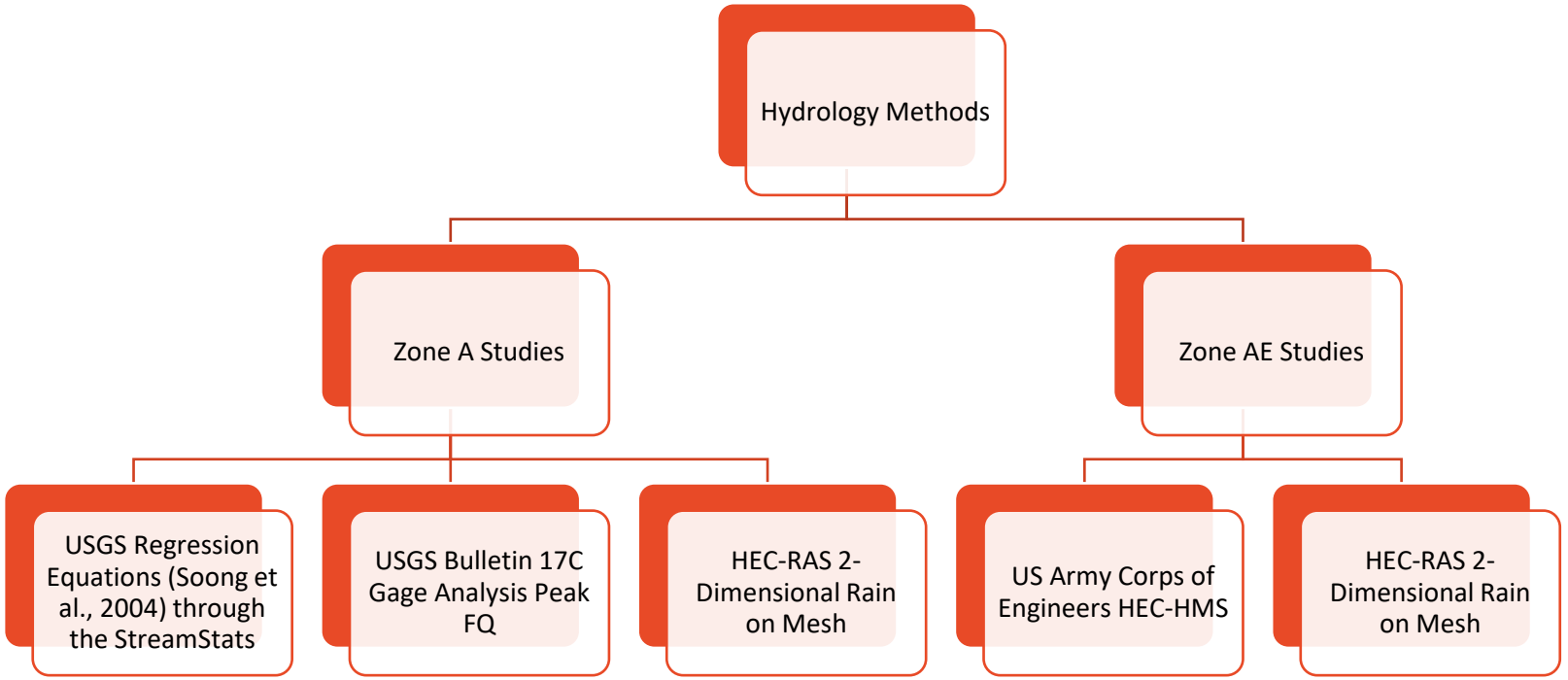
Project Milestones

- Project Initiation Community Coordination for the Skillet Fork was held call July 26, 2022
- FEMA SID620- Proposed Engineering Models letters August 31, 2022
- **Flood Risk Review Meeting (today) with community 30-day comment period**
- FEMA SID 621 – Data Submission Notification letters (Aug./Sept. 2025)
- Development of Digital Flood Insurance Rate Maps (DFIRMs)
- Release of Preliminary DFIRMs and Public Open House
- DFIRMs become Effective

* Some were mailed

Hydrologic Study Methods

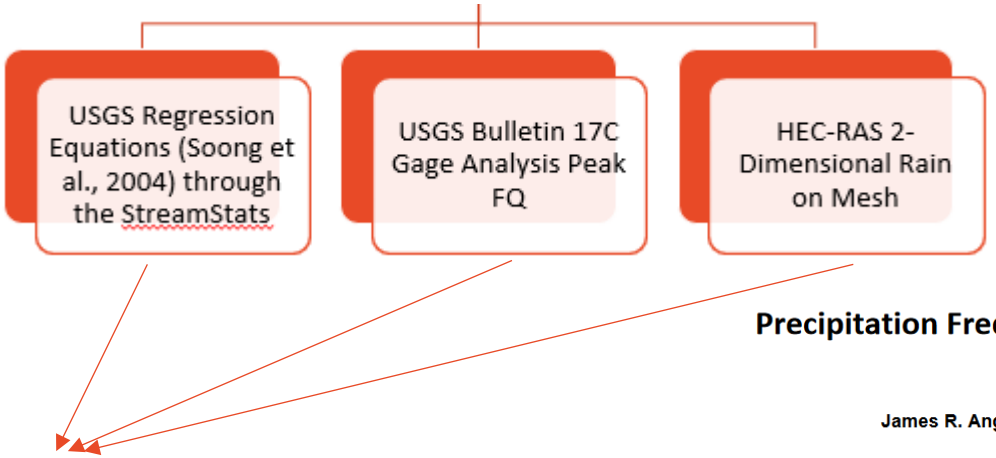
Hydrology Study Methods



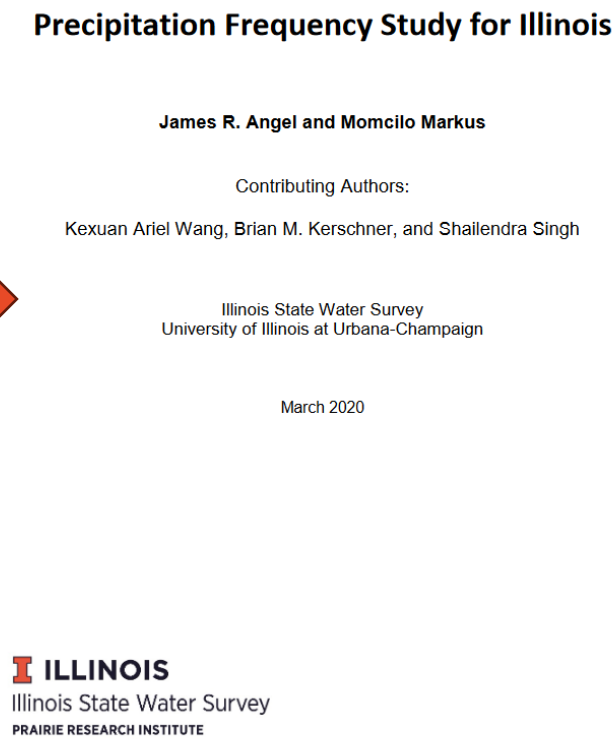
Flood Events Studied

10%, 4%, 2%, 1% (base flood), 0.2%, and 1%+ flow frequencies.

Hydrology Study Methods



All three methods calculated and compared. Final model hydrology uses ISWS B75 precipitation values at the critical storm durations of 12-, 24-, 72-, and 240-hours.



Precipitation Frequency Study for Illinois

James R. Angel and Momcilo Markus

Contributing Authors:

Kexuan Ariel Wang, Brian M. Kerschner, and Shailendra Singh

Illinois State Water Survey
University of Illinois at Urbana-Champaign

March 2020

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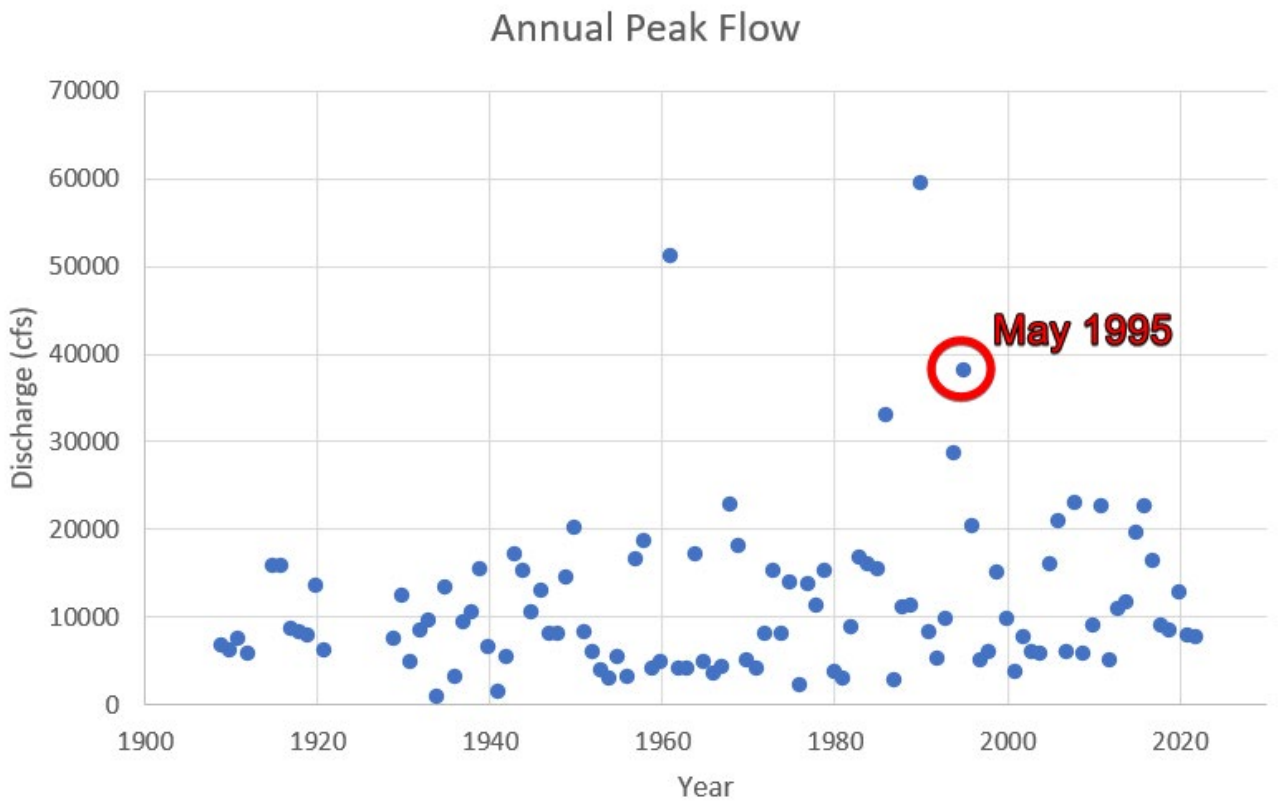
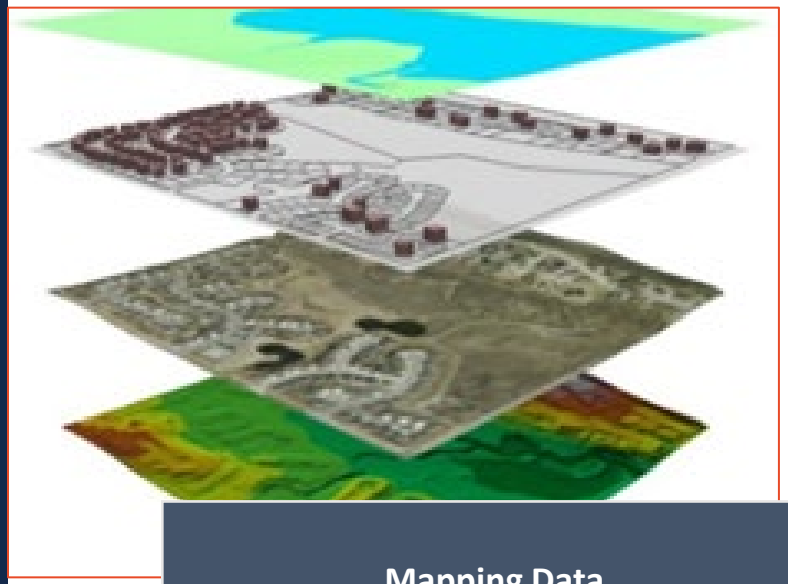
Hydrology Study Methods

HEC-RAS 2D Rain-on-Mesh is the program selected to calculate hydrology values. Using NEXRAD radar data, the model is calibrated to the May 16-19, 1995 storm that saw the third largest USGS gage event on record (1909-2022) for the Skillet Fork at Wayne City, IL.



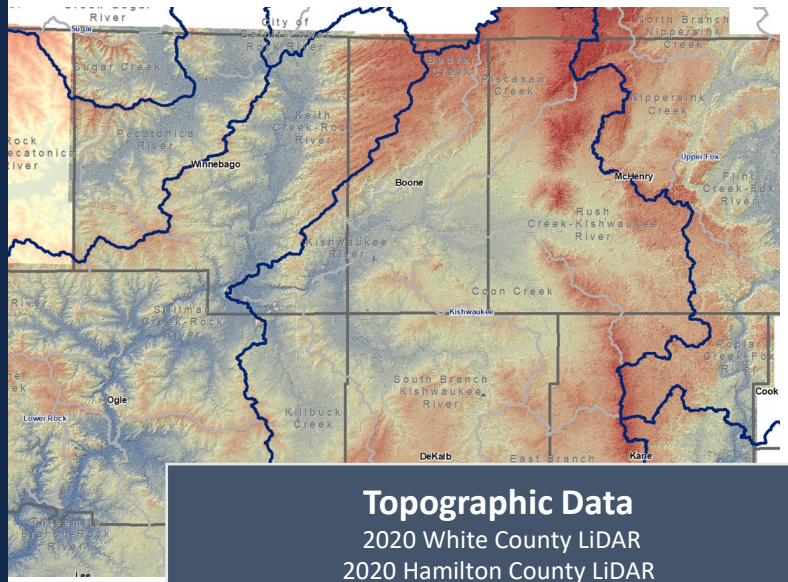
Hydraulic Study Methods

Mapping Data



Mapping Data

Orthophotos
IDOT 2017
USGS National Map



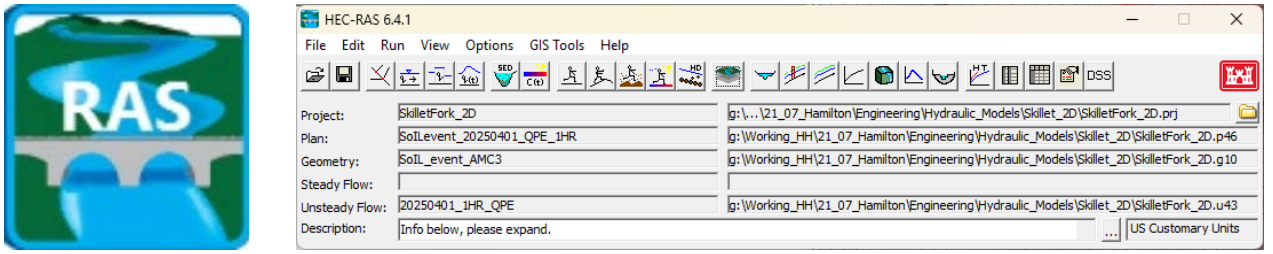
Topographic Data
2020 White County LiDAR
2020 Hamilton County LiDAR
2020 Wayne County LiDAR

NRCS Land Cover
Soils and Land Cover

HEC-RAS 2D Modeling

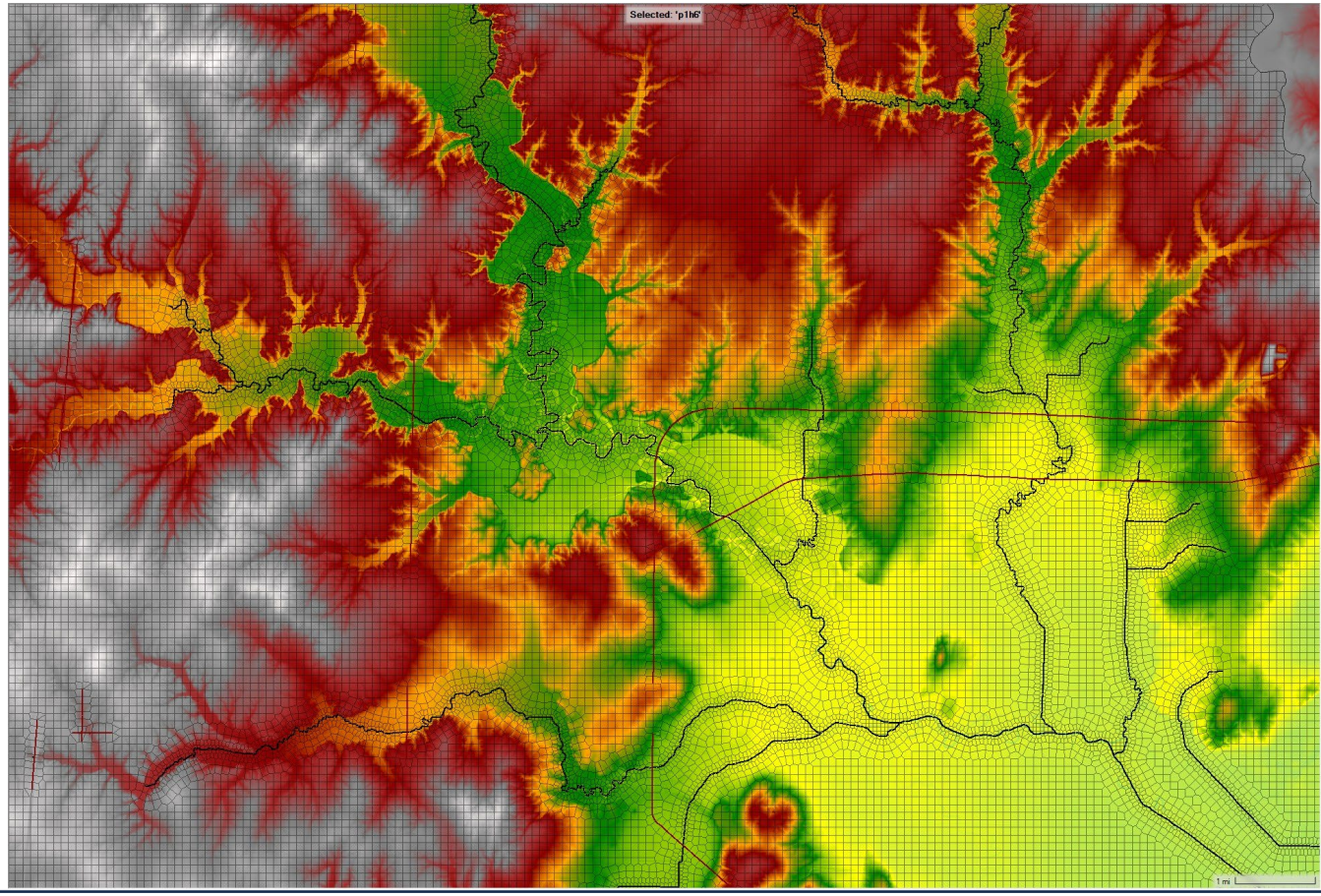
HEC-RAS v6.4.1

2D rain-on-mesh

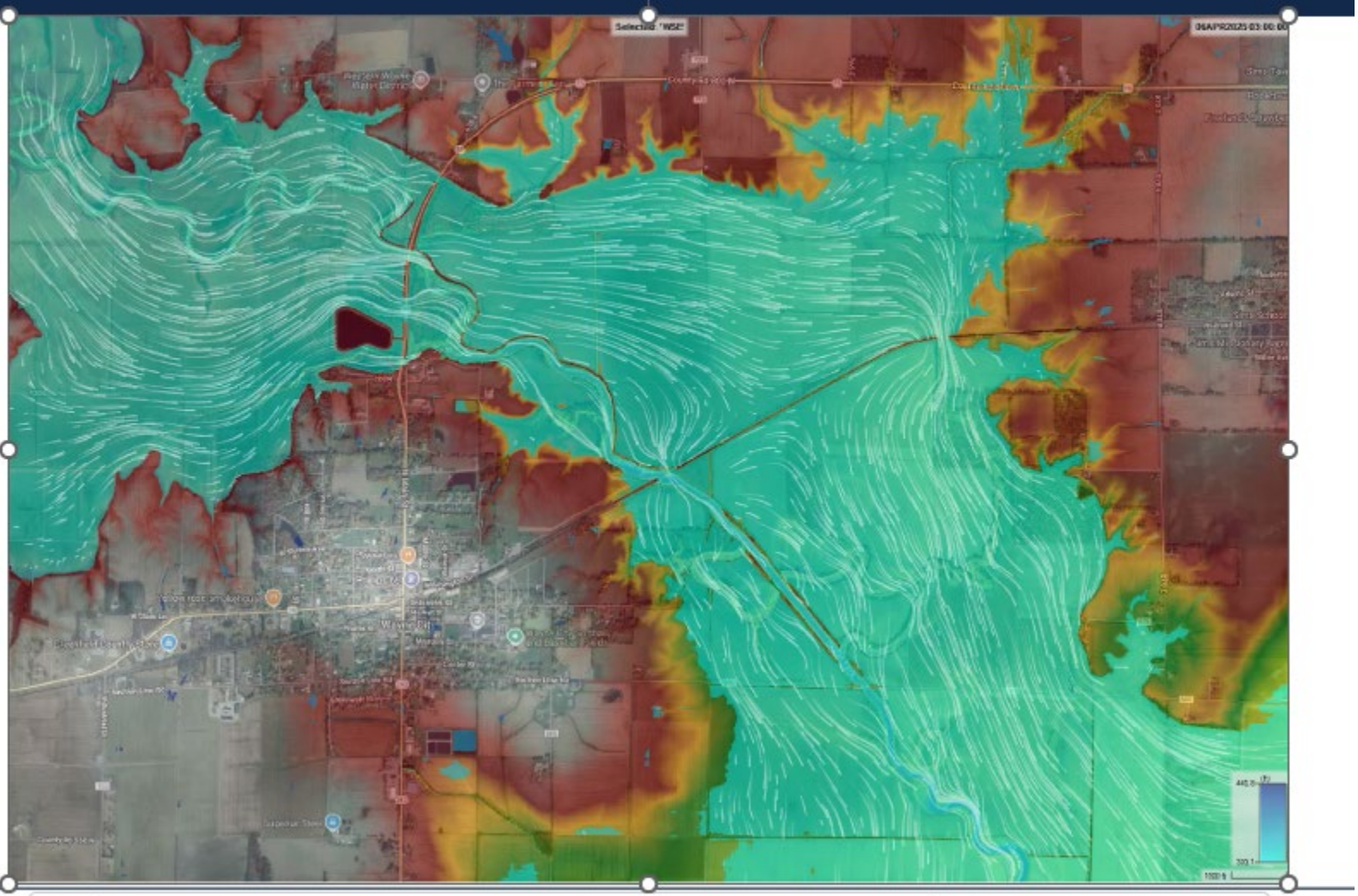


Details include:

- Breaklines along major road elevations
- Terrain cuts for hydro connectivity
- Refinement areas of smaller mesh cells
- Manning's n calibration

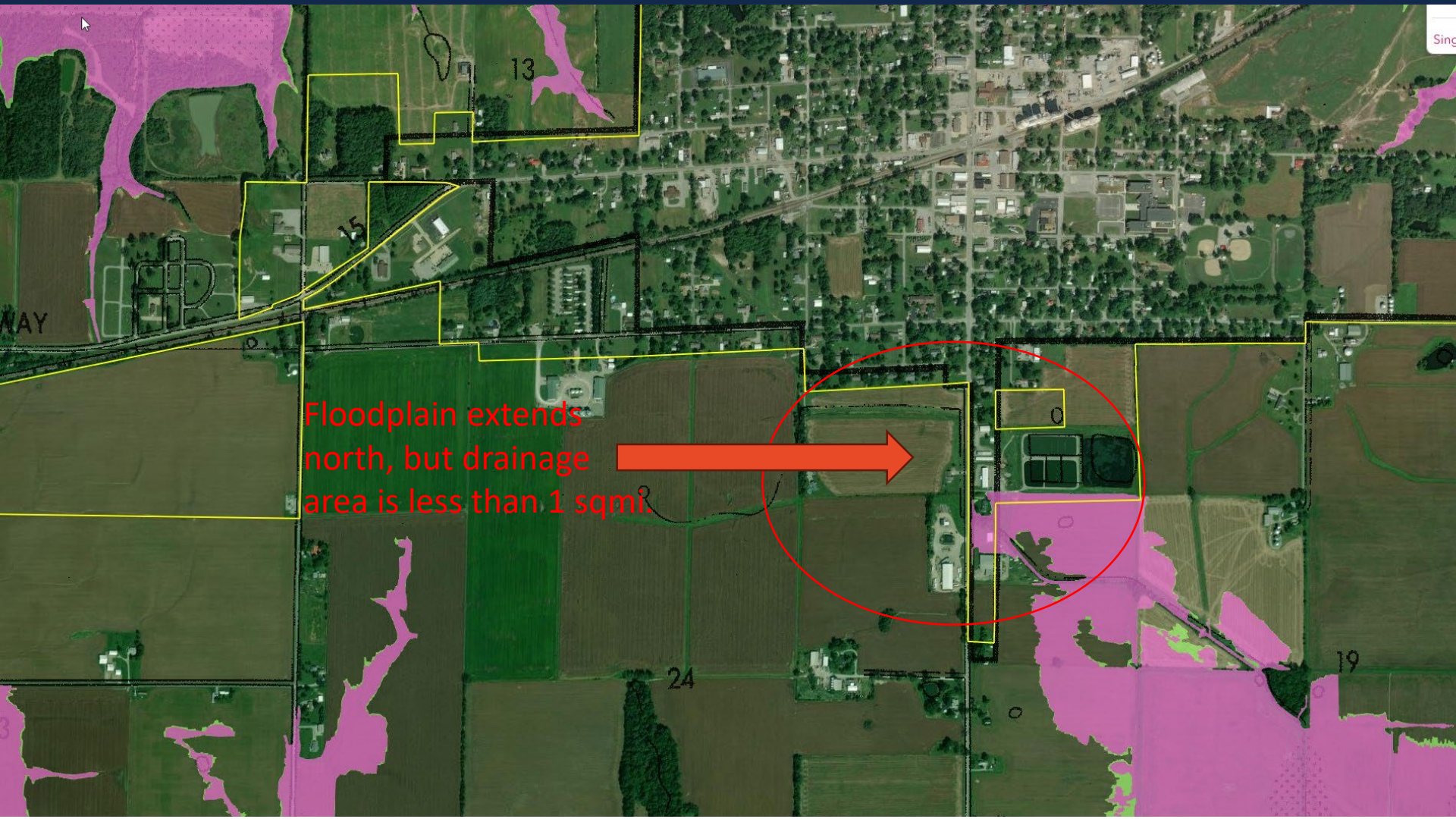


Hydraulics



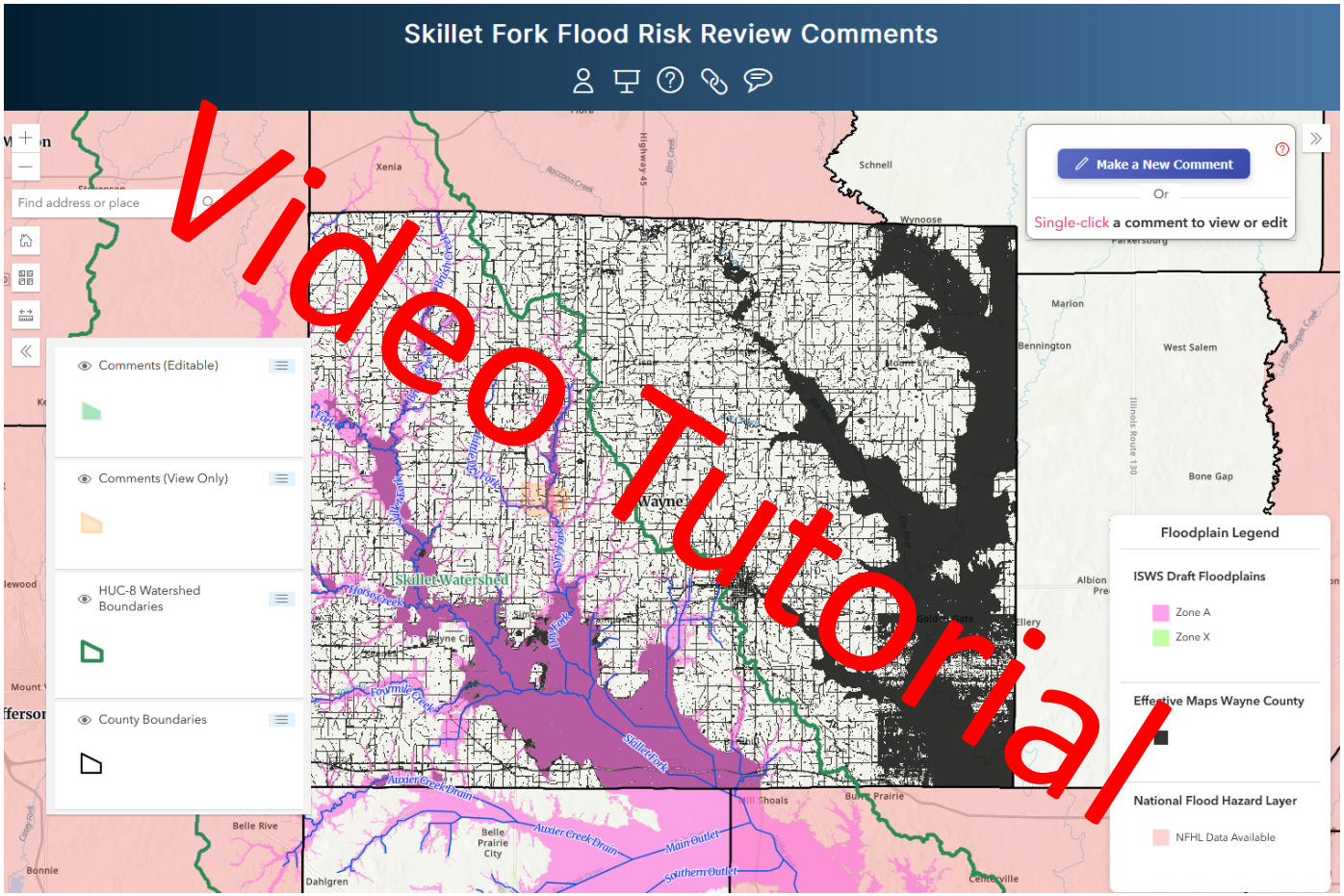
Draft Floodplain Results

Area of Concern/Interest



Webmap

Webmap Comment Feature



https://www.illinoisfloodmaps.org/commentmap/FRR/wayne.htm
username: watershed
password: illinoisfloods!123

Communication and Next Steps

Communication Plan

- Project Initiation Community Coordination meeting – virtual July 26, 2022
- Proposed Engineering Methods Notification (FEMA SID 620) letters- August 31, 2022
- Flood Risk Review Meeting (today)
- 30-Day Comment Period starts today and ends August 11, 2025
- Data Submission Notification (FEMA SID621) Letter

Data Submission Notification Letter FEMA SID 621

Mailed to community CEO's

Informs the communities that the data collection and analysis (Data Development) phase of the project is concluding, and the FIRM database is being validated by FEMA

Gives Communities 30 days to comment on the data in the FIRM database30-Day Comment Period starts today

Schedule

~~Project Initiation Community Coordination meeting – 07/26/2022~~

Flood Risk Review Meeting (today); Comment period ending August 11, 2025

Complete draft FIRM database to conclude data development phase of project

Digital Flood Insurance Rate Map Project to follow pending conclusion of data development

Risk Communication and Mitigation Actions

Hazard Mitigation- FEMA Flood related Disaster Declarations

2000 to present

https://www.fema.gov/openfema-data-page/disaster-declarations-summaries-v2

Date of Declaration	Disaster Number	Counties included: Type of Assistance	Disaster Description
3/26/2020	DR-4489-IL	White & Wayne: PA-B	Biological CIVID 19 Pandemic
3/13/2020	EM-3435-IL	White & Wayne: PA-B	Biological COVID-19
11/26/2013	DR-4157	Wayne: IA	Severe Storms, Straight-line Winds, and Tornadoes
7/6/2009	DR-1991-IL	White: IA; White & Wayne: PA	Severe storm
7/9/2005	EM-3230-IL	White & Wayne: PA-B	Hurricane Katrina Evacuation
2/1/2005	EM-3199-IL	White: PA-B	Snowstorm
5/21/2002	DR-1416-IL	White & Wayne: IA	Severe Storms, Tornadoes, and Flooding

Reviewed 20250611

Hazard Mitigation Plan

Wayne County's HMP has been approved: 07/09/2025
pending adoption

White County, Illinois
Multi-Hazard Mitigation Plan

A 2017 Update of the 2009 Countywide MHMP

White County's HMP has been updated - 2024

FEMA CIS Data data downloaded 06/11/2025

Community Name	No Of Policies	Total Coverage	No Of Rep Losses	Total Premium	Total Claims Since 1978	Total Paid Since 1978
City of Fairfield+	11	1,206,000	4	9,877	11	68,425
White County*	24	3,478,000	5	17,640	27	918,608

+ also Wayne County totals

* White County includes Wabash communities of Carmi, Crossville and Maunie

Mitigation Goals

- **Goal 1: Lessen the impacts of hazards to people and new and existing infrastructure**
- *Objective*: Retrofit critical facilities and structures with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.
- *Objective*: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.
- *Objective*: Minimize the amount of infrastructure exposed to hazards.
- **Goal 2: Create new or revise existing plans/maps for the County**
- *Objective*: Support compliance with the NFIP for each jurisdiction in the County.
- *Objective*: Review and update existing, or create new, community plans and ordinances to support hazard mitigation.
- *Objective*: Conduct new studies/research to profile hazards and follow up with mitigation strategies.
- **Goal 3: Develop long-term strategies to educate County residents on the hazards affecting their county**
- *Objective*: Raise public awareness on hazard mitigation.
- *Objective*: Improve education and training of emergency personnel and public officials

Risk Communication and Mitigation Actions

Floodsmart.gov

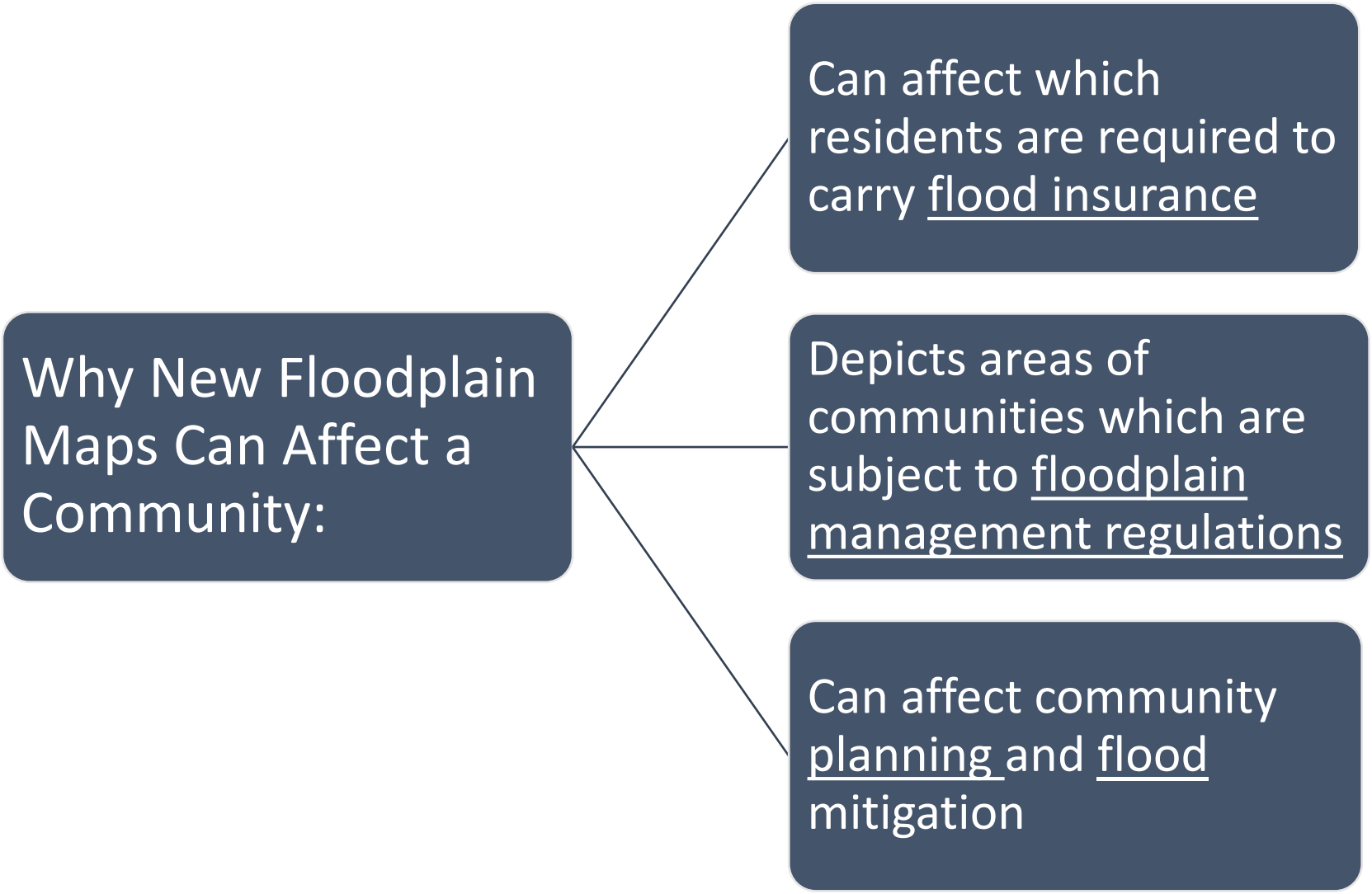
- Community Resources
  - Flood Maps
  - Cost of Flooding
  - What is Covered?
  - How to Reduce Your Costs
  - Tools

FEMA.gov

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

Community Participation

Community Impact



Community Participation

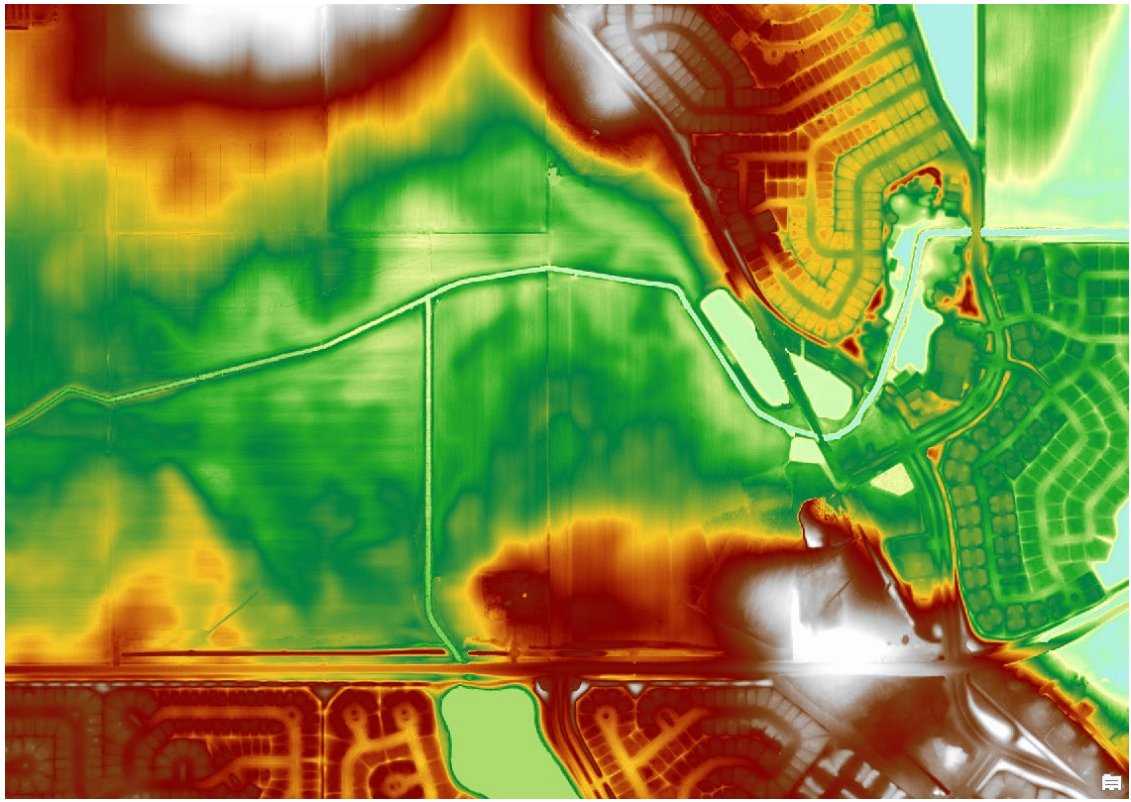
- Now is the time to review the draft floodplain mapping for your community
- Who is affected?
- Is the mapping reasonable and/or consistent with your community's experience with flooding?
- Make comments if something does not look right or make sense.
- Provide data or information if it could support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

Flood Risk Review Community Review Checklist

1. Are there areas where significant changes in floodplains or floodways affects residents/businesses? If so, where?
2. Are there areas where significant changes in floodplains or floodways affects community development planning? If so, where?
3. Are there areas where the draft floodplain or floodway mapping appears incorrect or inconsistent? If so, where?
4. Are there areas where newer terrain or local flood studies data could affect the draft floodplain or floodway mapping? If so, where?

Terrain Changes

The terrain datasets used for floodplain modeling and mapping were acquired **at a point in time.** Therefore, the terrain dataset will not reflect changes in the land surface that occurred after the terrain was collected.



Terrain Changes

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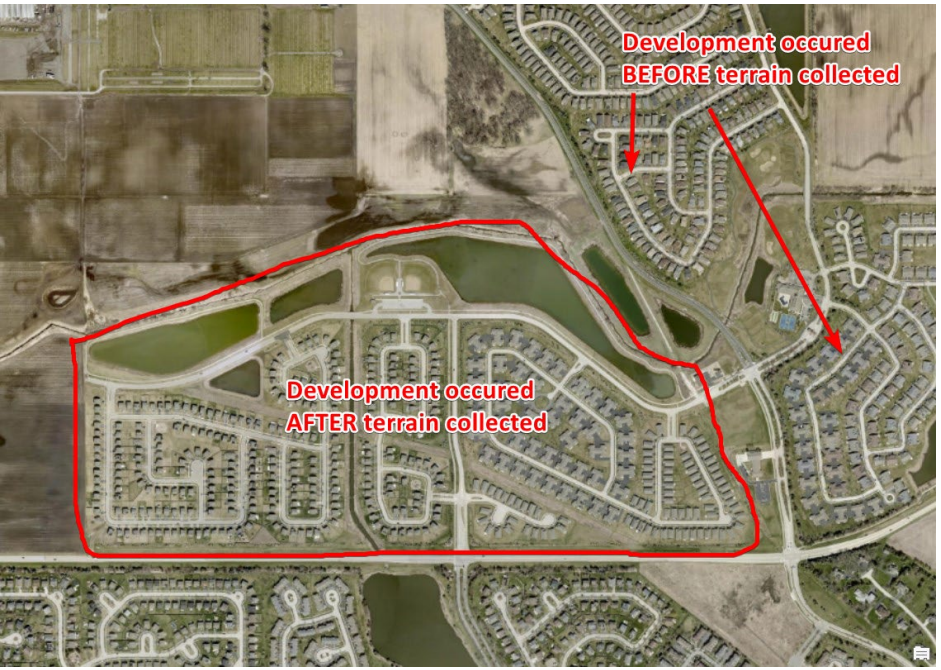
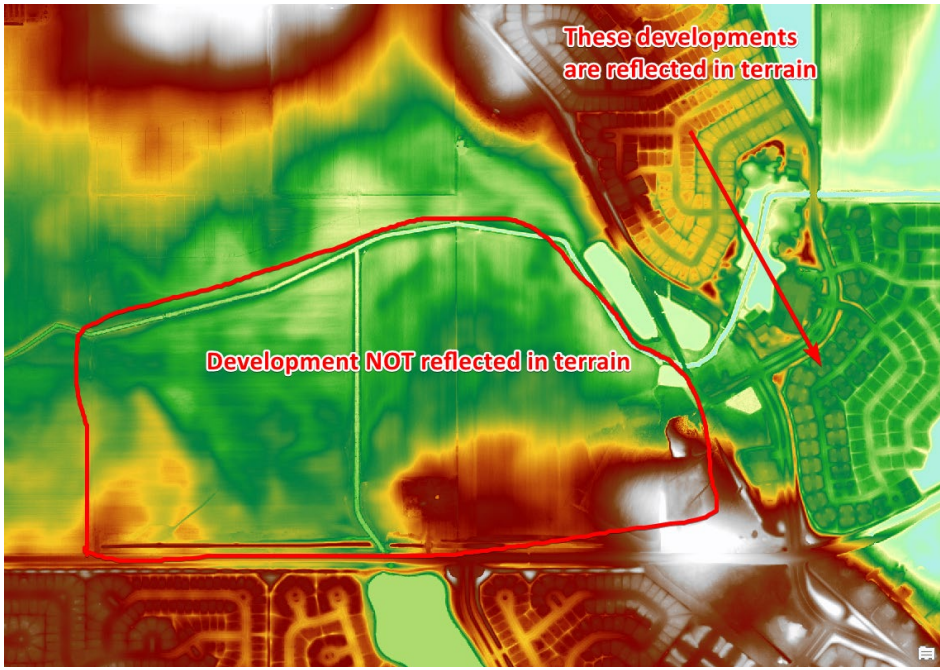
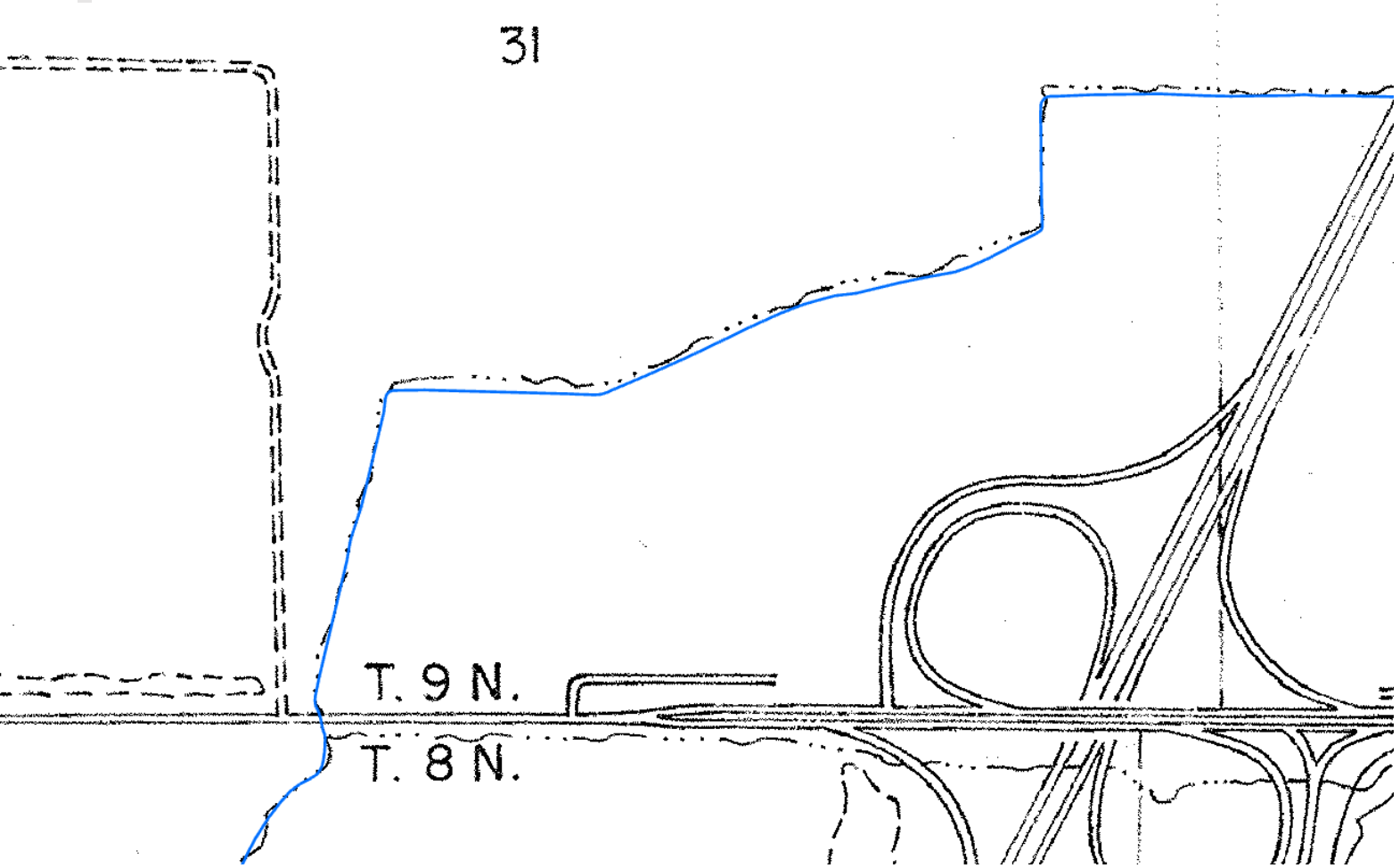
Terrain Changes






31
T. 9 N.
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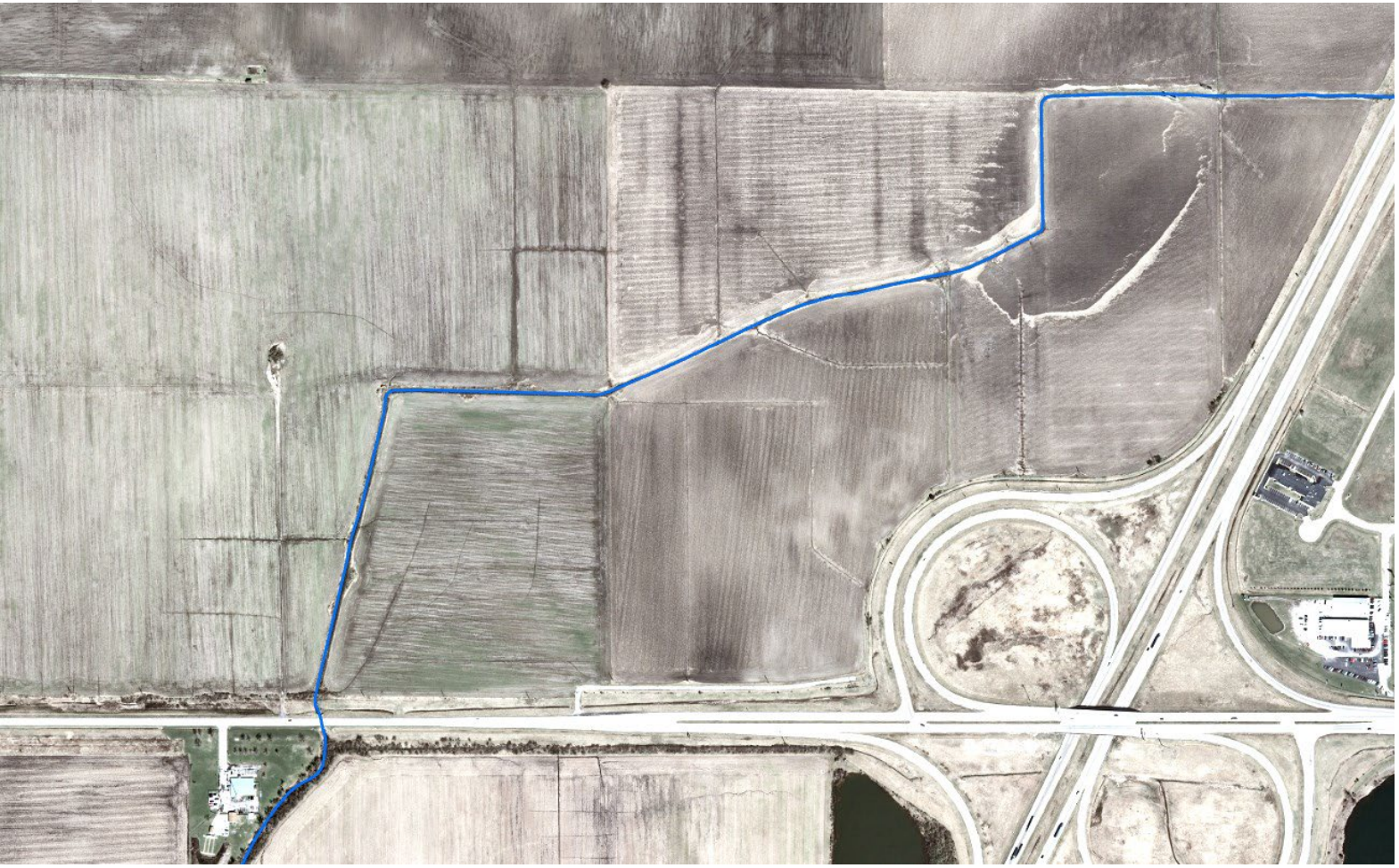
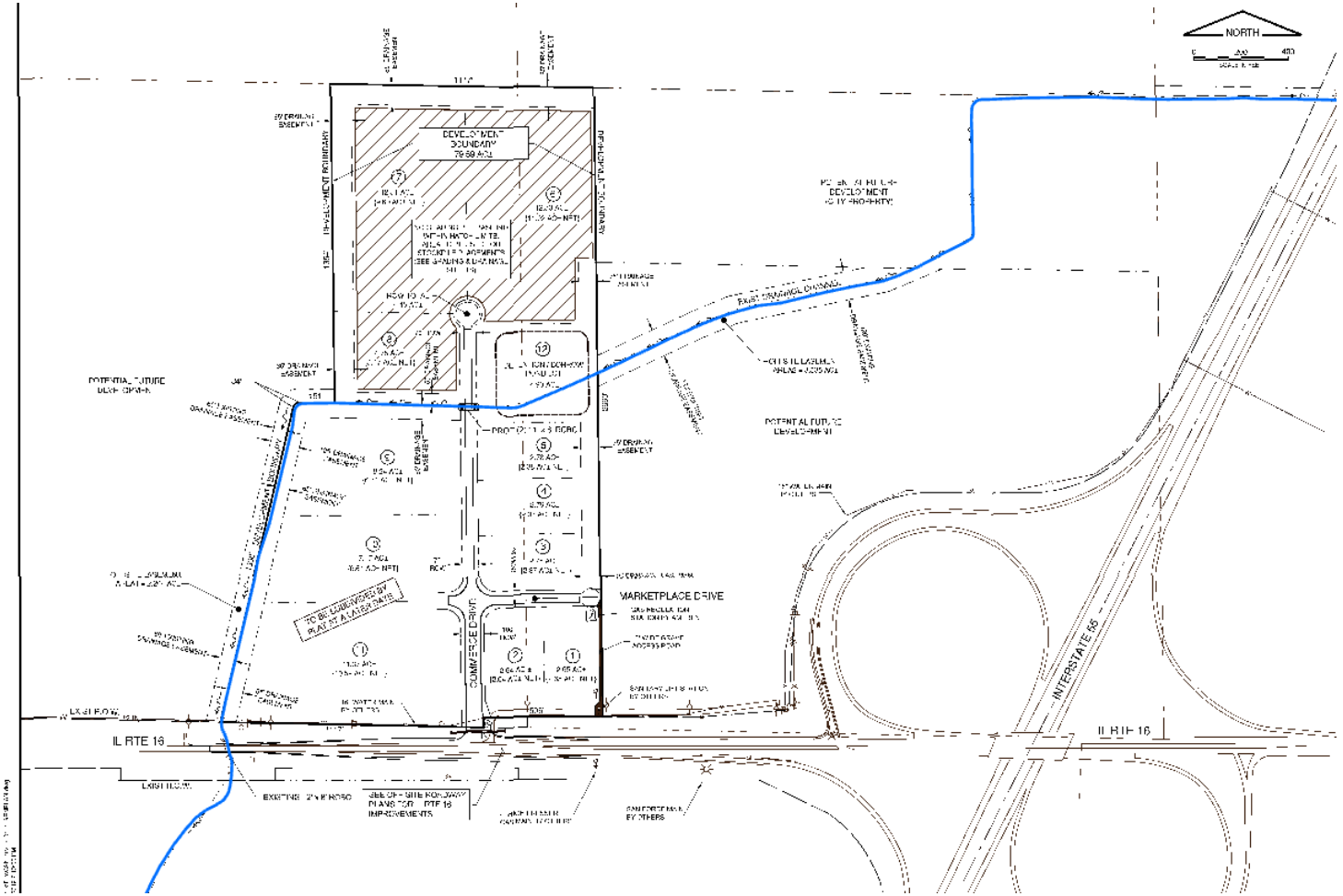
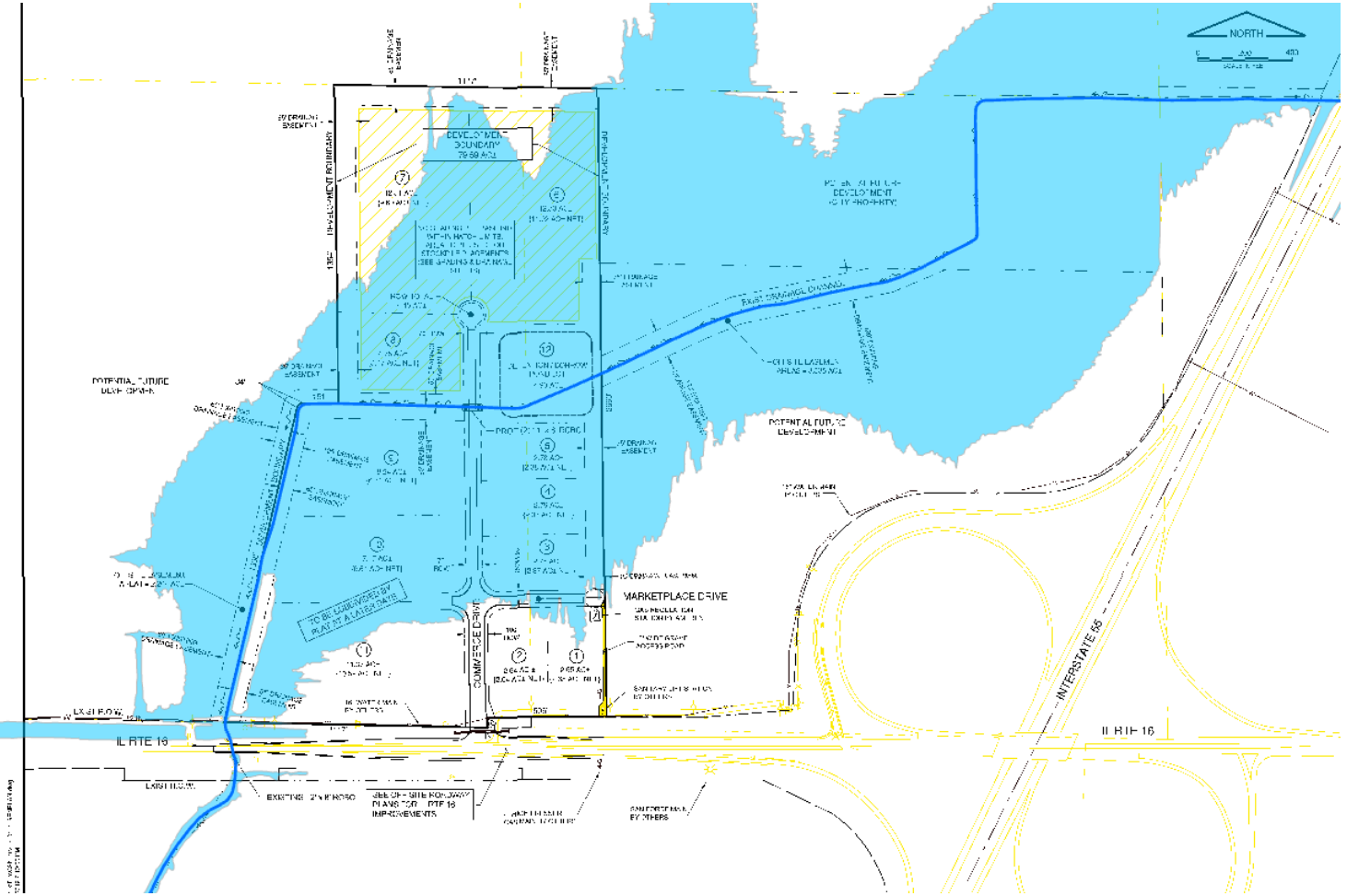



NORTH
DEVELOPMENT BOUNDARY
MARKETPLACE DRIVE
COMMERCE DRIVE
IL RTE 16
INTERSTATE 55
TO BE SUBDIVIDED BY PLAT AT A LATER DATE
POTENTIAL FUTURE DEVELOPMENT


NORTH
MARKETPLACE DRIVE
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UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Prairie Research Institute
Illinois State Water Survey

SKILLET FORK – WAYNE AND WHITE COUNITES, IL FLOOD RISK REVIEW MEETING:
JULY 10, 2025

POST-MEETING SURVEY

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

   ◯ a lot
   ◯ some
   ◯ not much

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

   ◯ a lot
   ◯ some
   ◯ not much

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

   ◯ Yes
   ◯ No

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

   ◯ Yes
   ◯ No

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Questions?

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