



ILLINOIS

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE

Bureau, Henry, Whiteside and Lee Counties, Illinois

Flood Risk Review Meeting

March 28th , 2024



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PRAIRIE RESEARCH INSTITUTE



FEMA

**FLOOD RISK REVIEW MEETING: BUREAU, HENRY, WHITESIDE AND LEE
COUNTIES, ILLINOIS**
MARCH 28, 2024

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

Rollcall

Introduction

Project Goals and Objectives

Project Scope

Project Milestones

Levees

Hydrologic Study Methods

Hydraulic Study Methods

Web Map Overview and Draft Floodplain Review

Communication and Next Steps

Community Participation

Discussion

Rollcall

Bureau County*

Village of Arlington
Village of Buda*
Village of Bureau Junction
Village of Cherry*
Village of Dalzell*
Village of DePue*
Village of Dover
Village off Hollowayville
Village of Ladd*
Village of LaMoille
Village of Malden
Village of Manlius*
Village of Mineral
Village of New Bedford*
City of Princeton*

Bureau County

Village of Seatonville
Village of Sheffield
City of Spring Valley*
Village of Tiskilwa*
Village of Walnut*
Village of Wyanet

Henry County*

Town of Annawan
City of Colona*
City of Geneseo*

Lee County *

Whiteside County*

Village of Deer Grove

Other Agencies

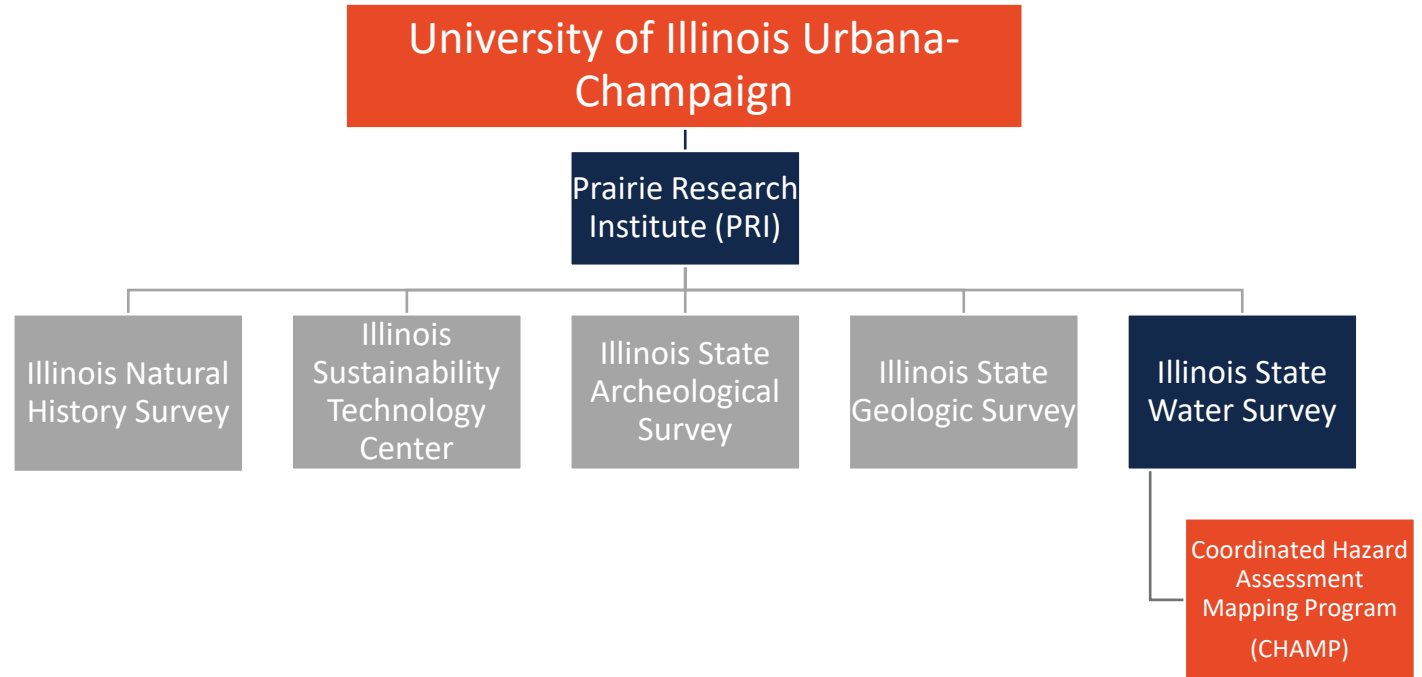
IDNR/OWR
FEMA
IEMA
NRCS

* Participates in NFIP

Introduction

Introduction

Who We Are



I ILLINOIS
Illinois State Water Survey
PRAIRIE RESEARCH INSTITUTE

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

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

Introduction

Our Partners

FEMA

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



The Cooperating
Technical Partners (CTP)
Program

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.

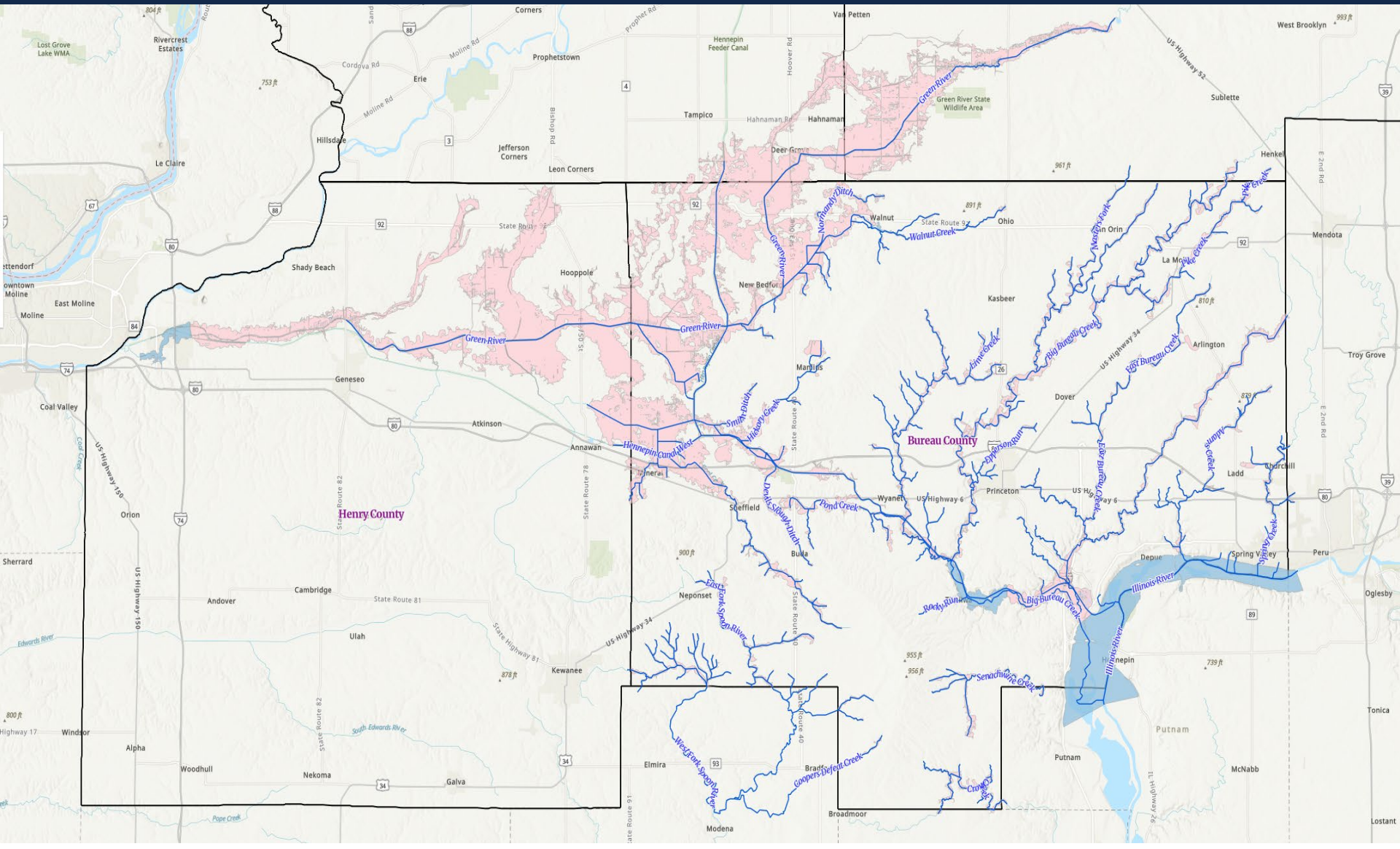


Your Community

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

Project Goals and Objectives

Project Goals and Objectives



Effective FIRM & FIS Dates

Bureau County (including incorporated communities)

FIRM: 08/02/2011 FIS: 08/02/2011

Henry County and City of Geneseo

FIRM: 06/02/2011 FIS: 06/02/2011

Lee County and City of Amboy

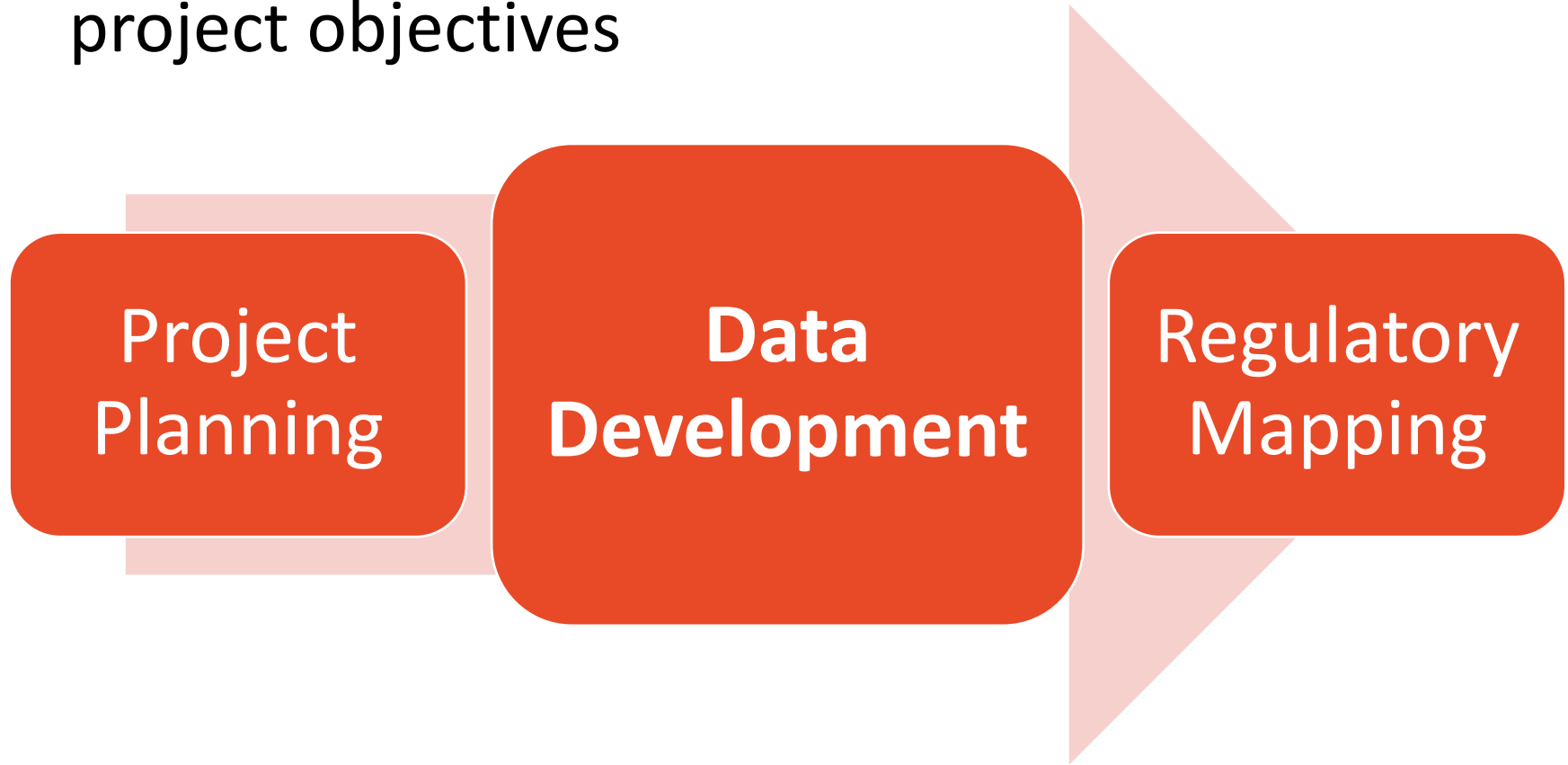
FIRM: 04/05/2010 and 08/17/2016 FIS: 08/17/2016

Whiteside County and Village of Deer Grove

FIRM: 02/18/2011 FIS: 02/17/2017

Project Objectives

Several project phases comprise the overall project objectives

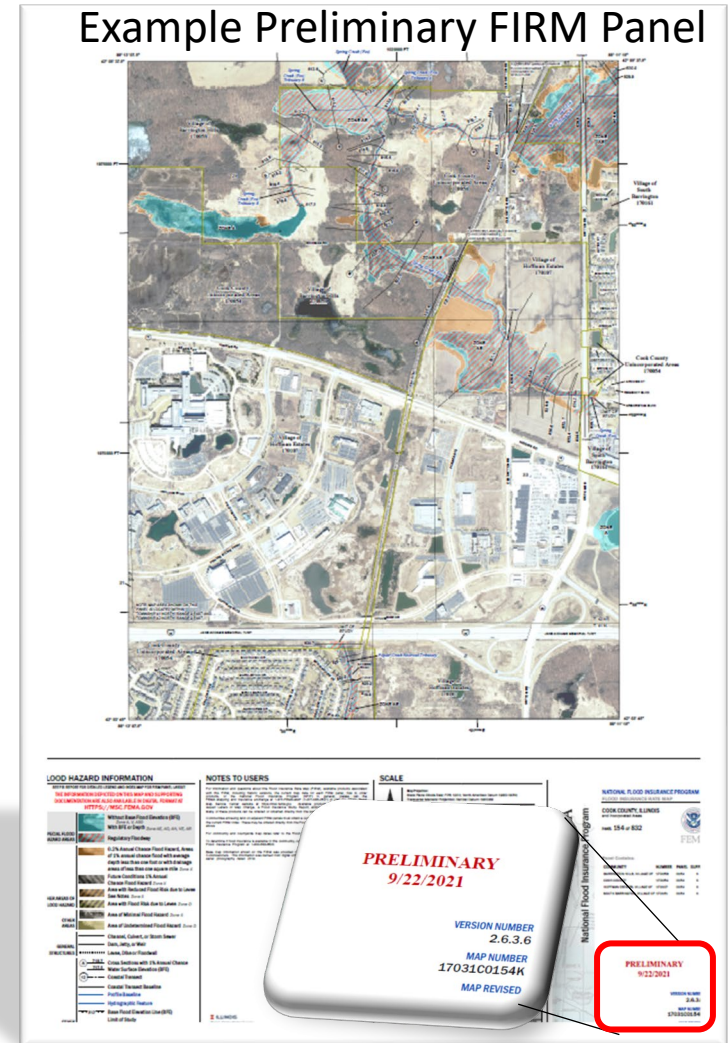


Draft Mapping vs. Preliminary Mapping

Draft Mapping

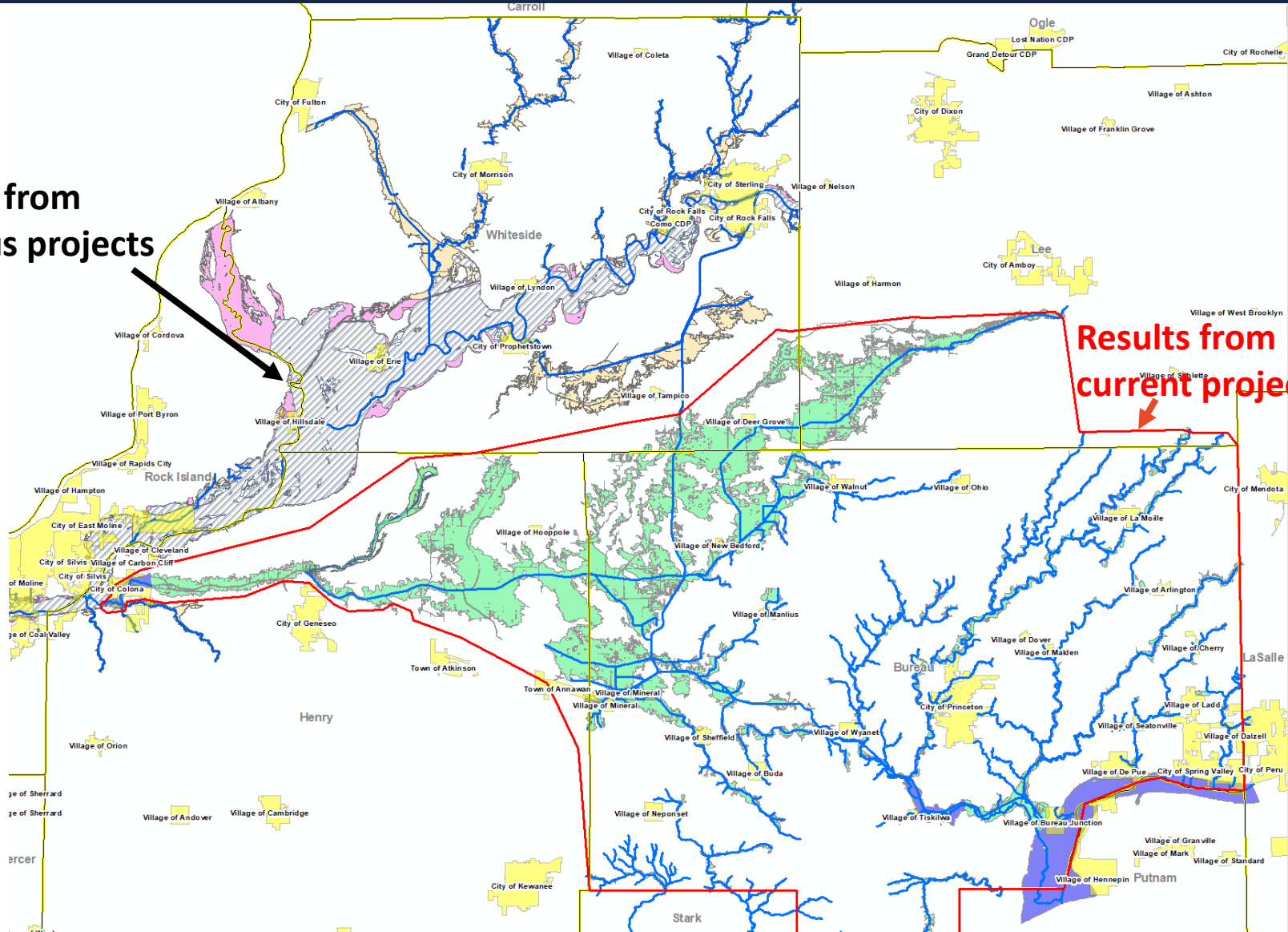
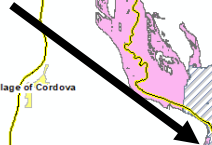


Example Preliminary FIRM Panel



Related Projects

Results from previous projects



Results from current project



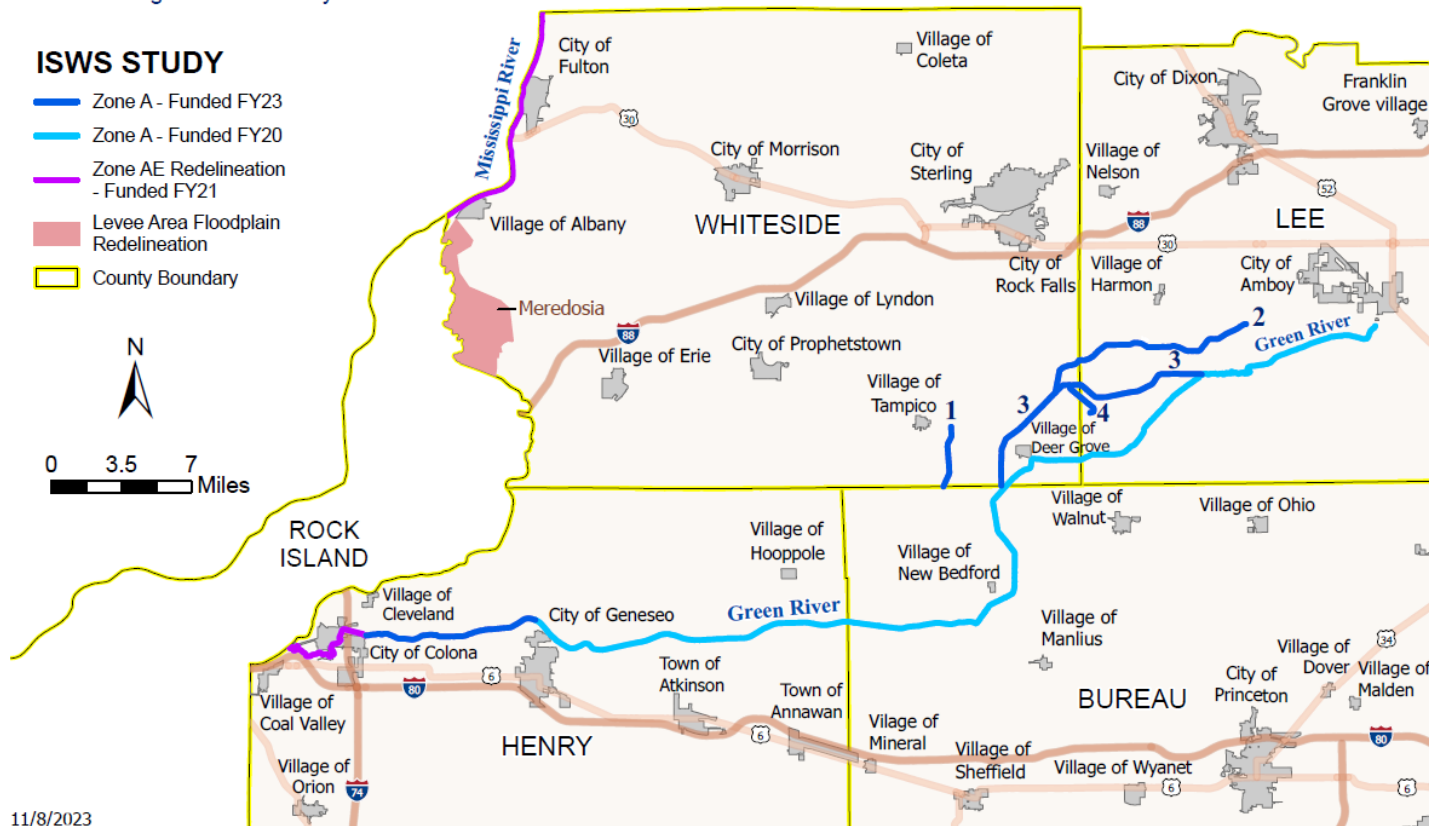
Related Projects

Henry, Whiteside, and Lee County Proposed Stream Study

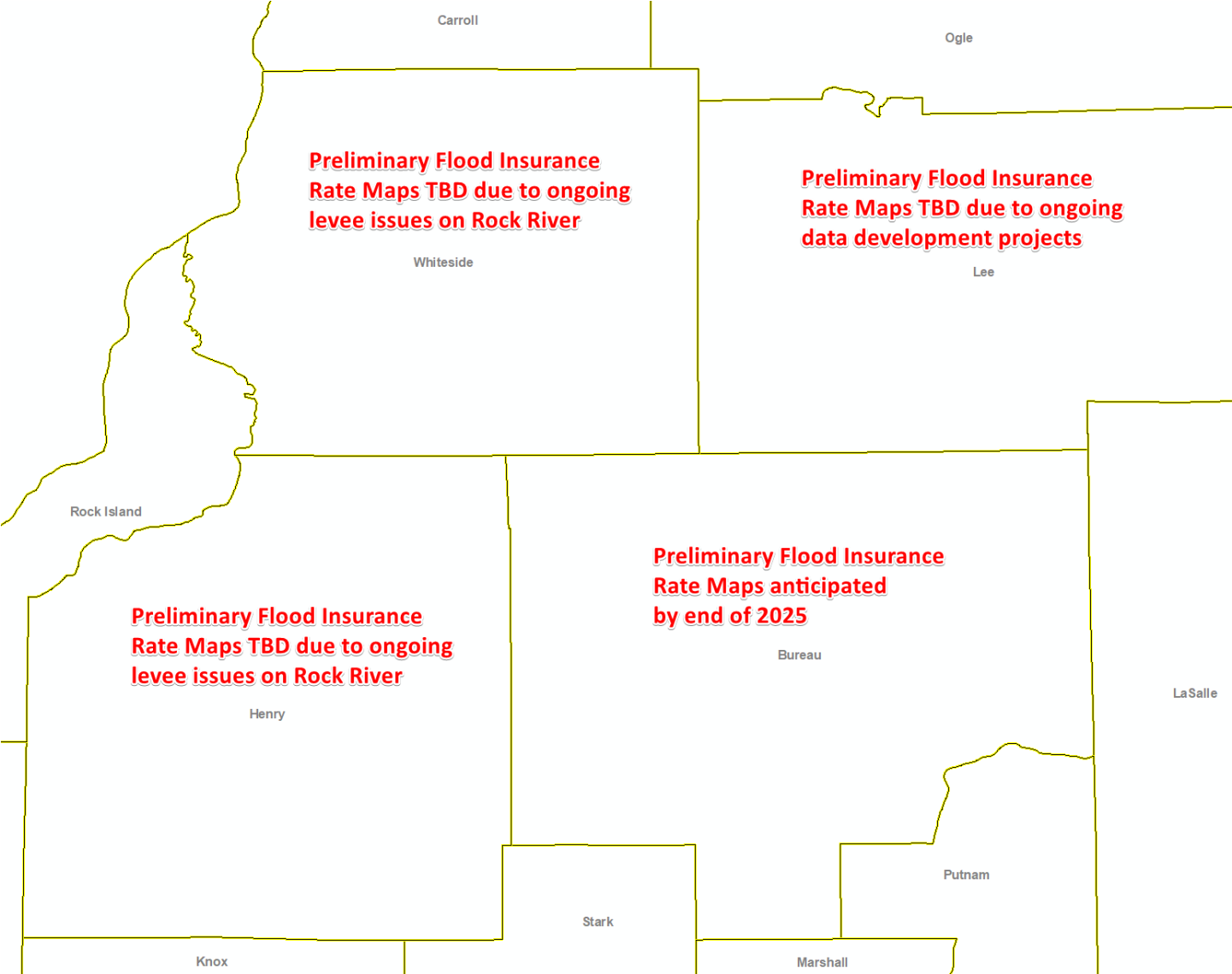
1. Hennepin Feeder Canal
2. Main Ditch
3. Winnebago Ditch
4. Winnebago Ditch Tributary A

ISWS STUDY

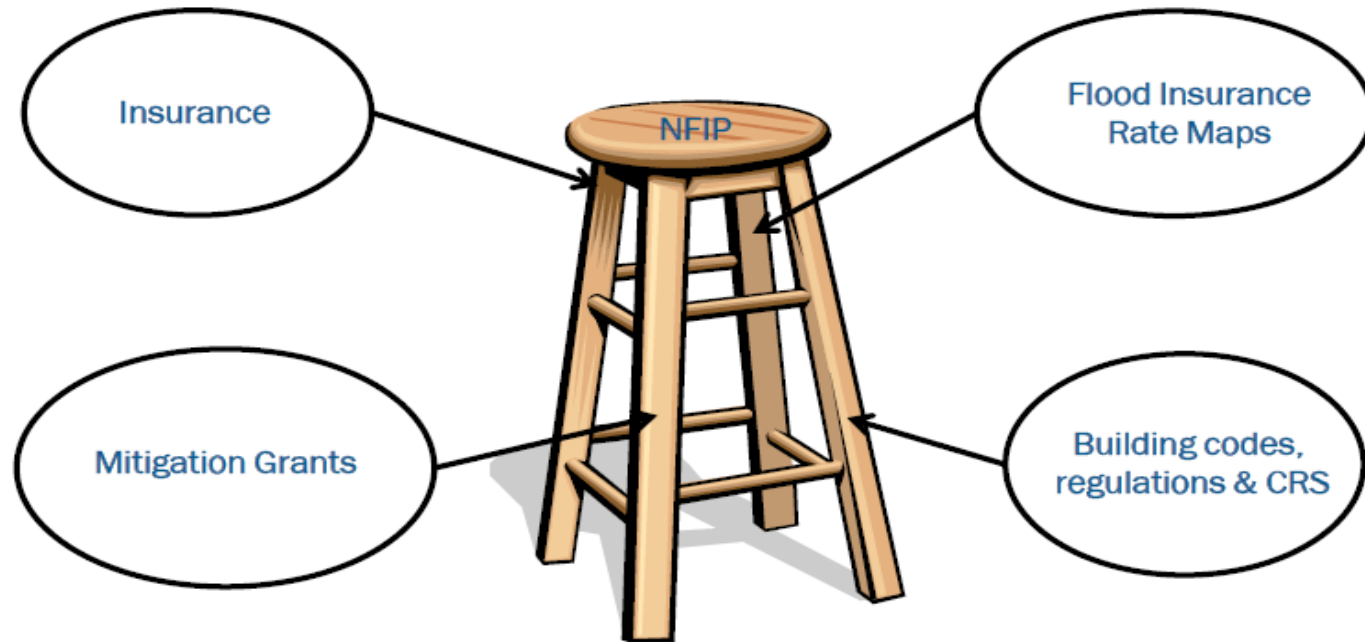
- Zone A - Funded FY23
- Zone A - Funded FY20
- Zone AE Redelineation - Funded FY21
- Levee Area Floodplain Redelineation
- County Boundary



Schedule for Preliminary FIRMs



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?

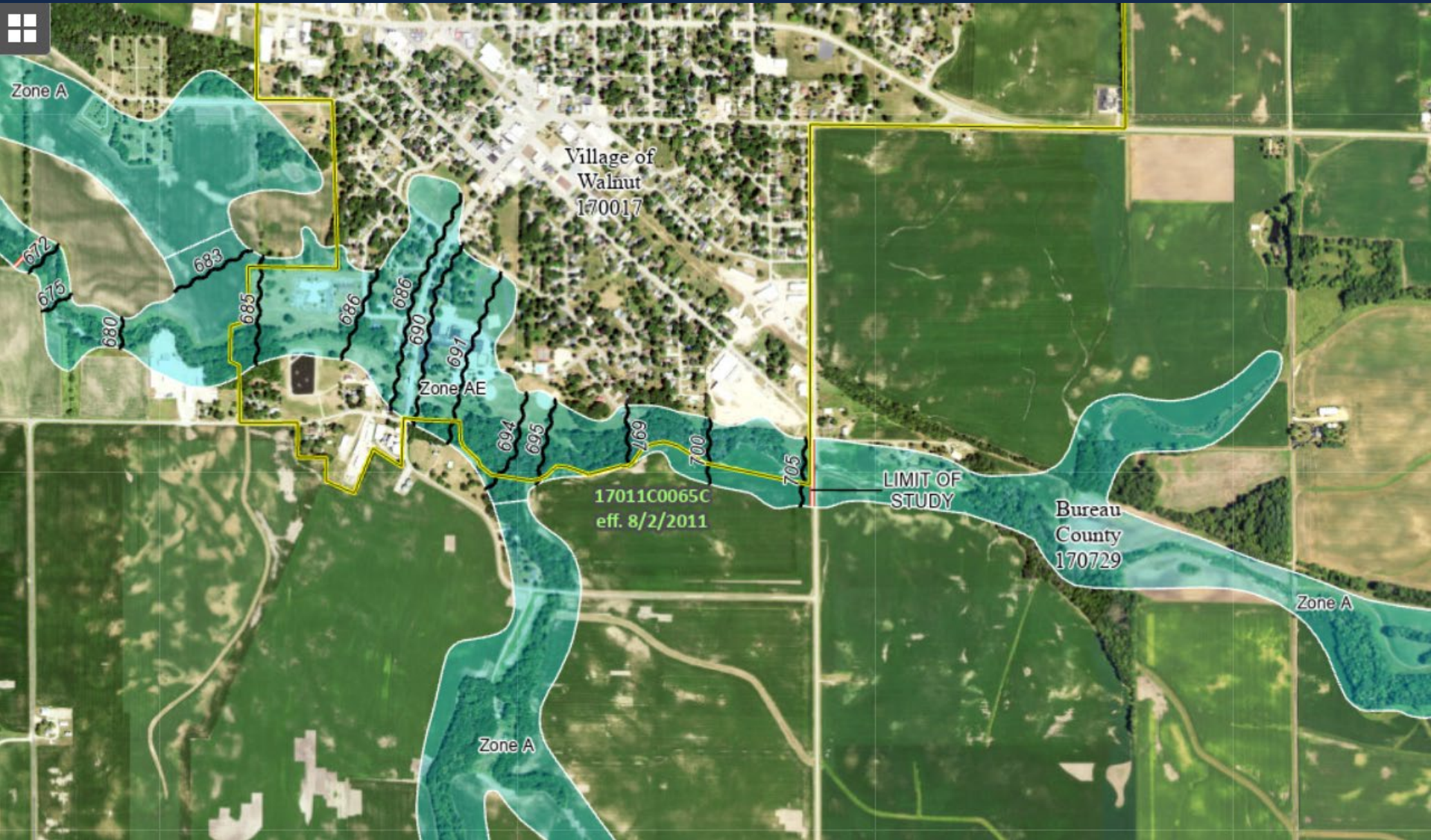
The FEMA Special Flood Hazard Area (SFHA) represents areas mapped as having a 1% annual chance of being inundated by the base flood in any given year.

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.

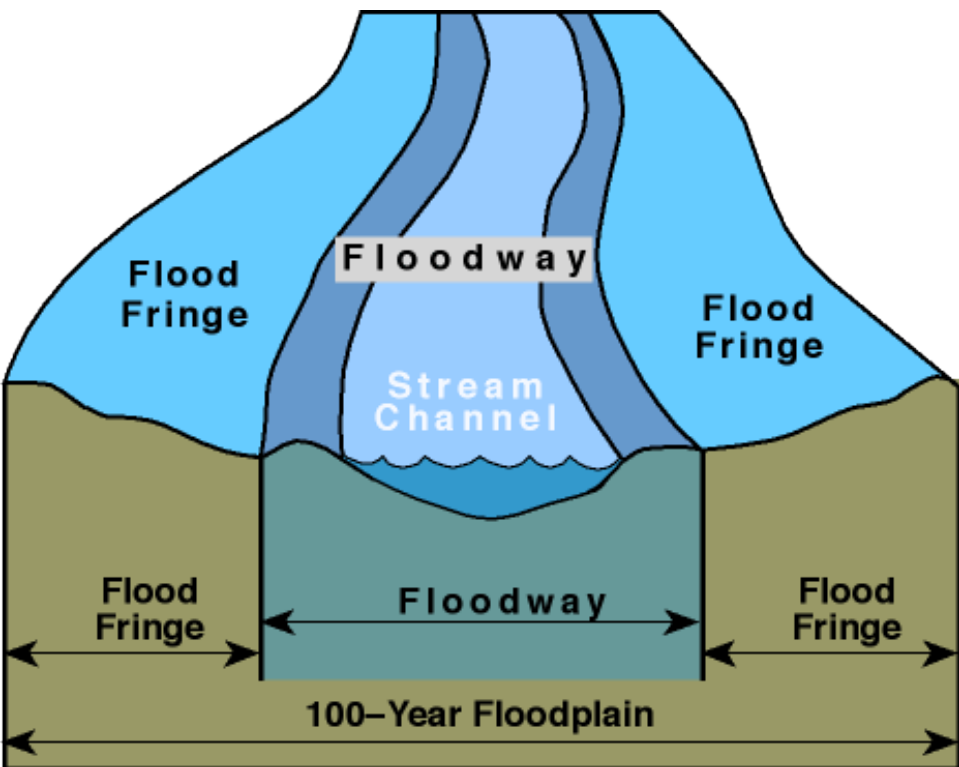
Zone A	Areas subject to inundation by the 1-percent-annual-chance flood event. NO Base Flood Elevations are shown.
Zone AE	Areas subject to inundation by the 1-percent-annual-chance flood event. Base Flood Elevations ARE shown.

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.

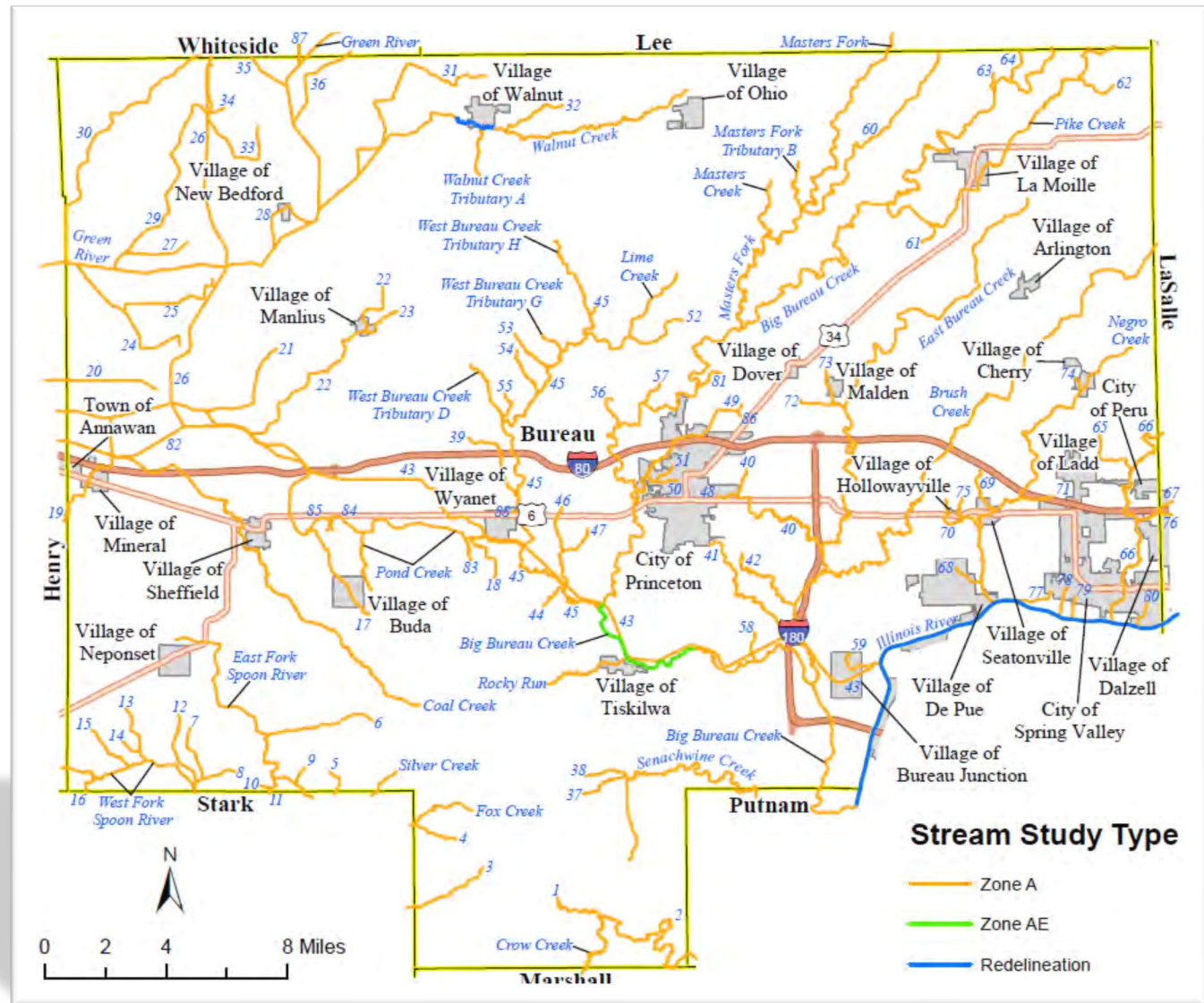


Project Scope

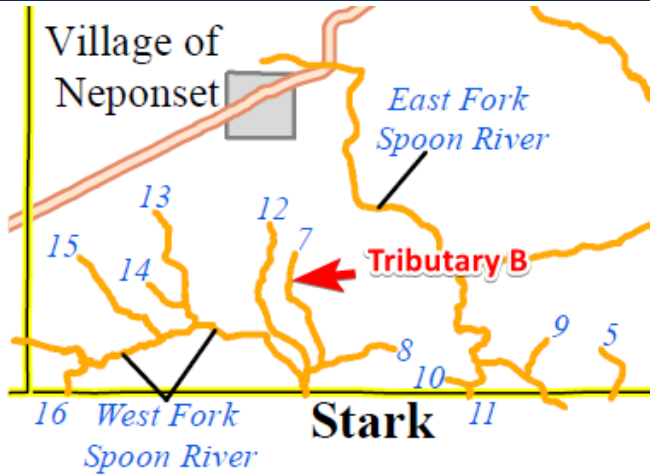
Bureau County:

To develop new hydrologic and hydraulic models for **Zone A** and **Zone AE** streams within Bureau County.

And **Redelineate** the Illinois River through Bureau County.



Project Scope



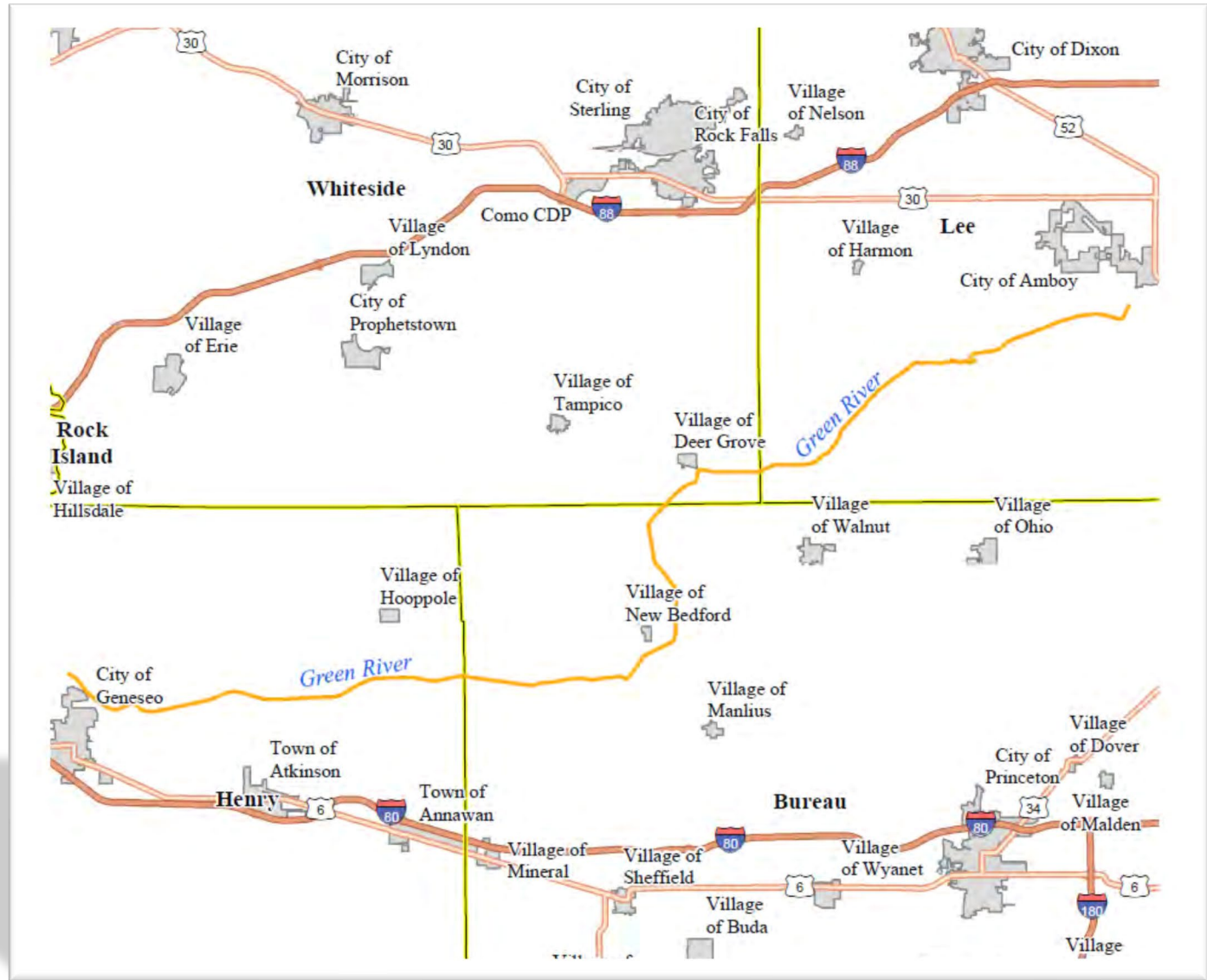
- 1) Crow Creek Tributary A
- 2) Crow Creek
- 3) Coopers Defeat Creek
- 4) Fox Creek Tributary A
- 5) East Fork Spoon River Tributary C1
- 6) East Fork Spoon River Tributary F
- 7) West Fork Spoon River Tributary B



Project Scope

Henry, Whiteside, and Lee Counties:

To develop new hydrologic and hydraulic models for the Green River (**Zone A**) in Henry, Bureau, Whiteside and Lee Counties.



Project Milestones

Project Initiation Community Coordination call

Bureau County: May 18, 2021
Henry, Whiteside and
Lee Counties: November 17, 2023

FEMA SID620- Proposed Engineering Models letters

Bureau County: May 25, 2021*
Henry, Whiteside and
Lee Counties: November 17, 2023

Flood Risk Review Meeting (today) with community 30-day comment period

State Review and Approval

Development of Digital Flood Insurance Rate Maps (DFIRMs)

Release of Preliminary DFIRMs and Public Open House

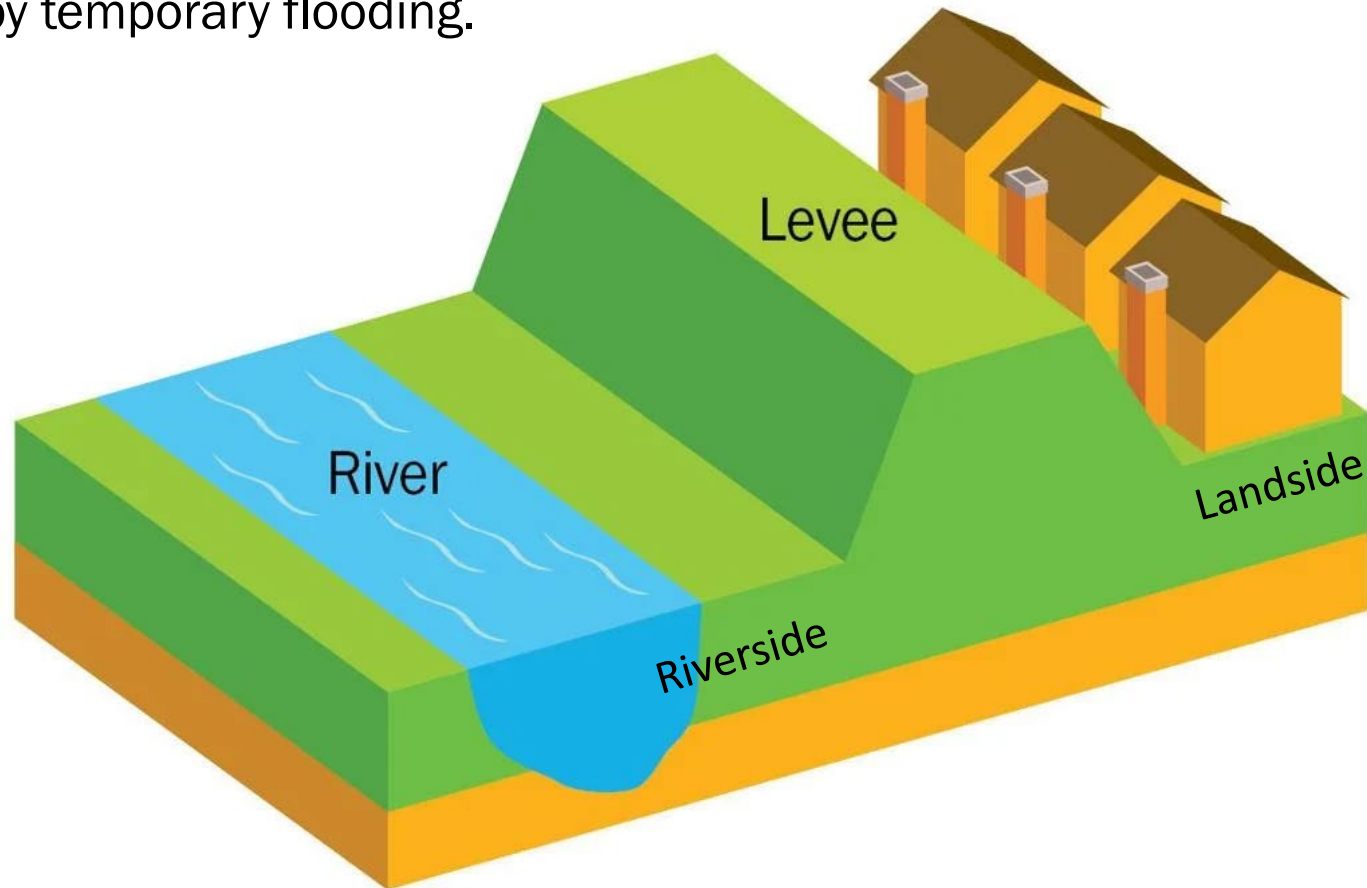
DFIRMs become Effective

* Some were mailed

Levees

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.

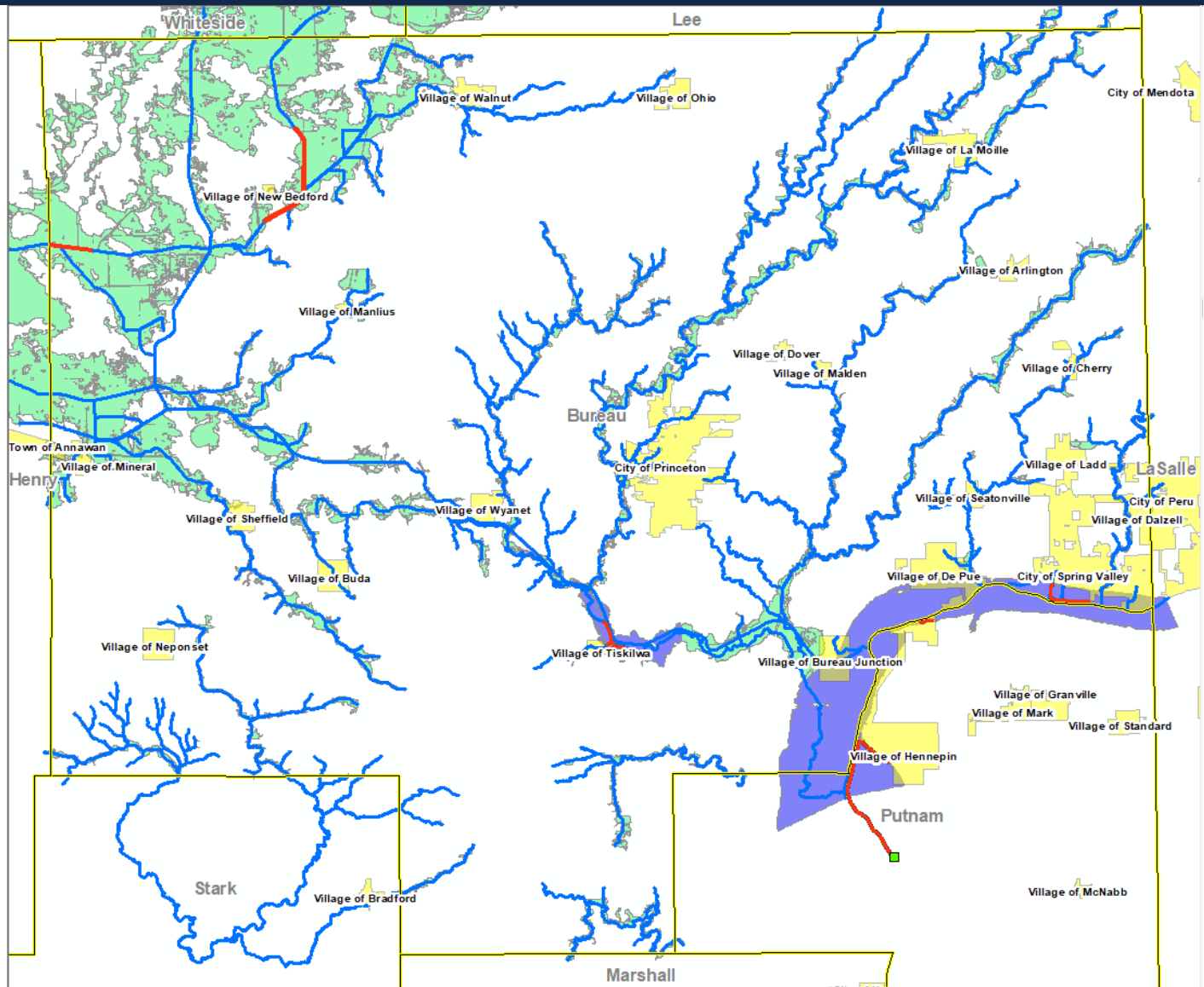
This determination is based on the submittal of data and documentation as required by 44 CFR 65.10. The area landward of an accredited levee system is shown as Zone X (shaded) on the FIRM except for areas of residual flooding, such as ponding areas, which are shown as SFHA.



Tiskilwa Levees

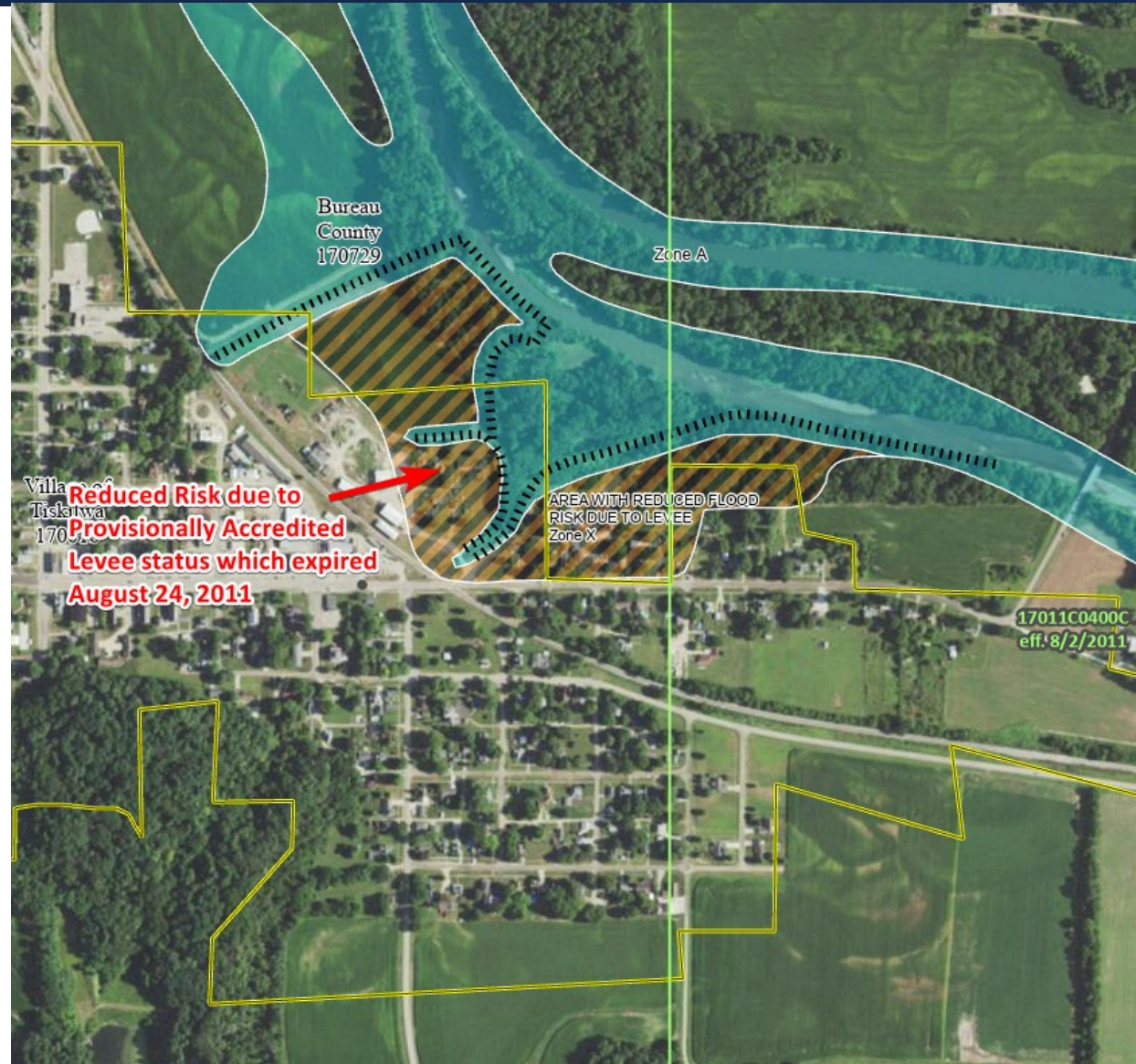
Levees

- Bureau County has several levees (red) that are part of the National Levee Database (NLD).
- No NLD levees in Henry, Lee, or Whiteside counties in project footprint.



Tiskilwa Levee

- Current Flood Insurance Rate Map shows Tiskilwa Levees mapped as a Provisionally Accredited Levee (PAL).
- PAL status expired in August 2011.
- FEMA coordinated with the Village from 2016-2017 regarding levee mapping scenarios.
- ISWS floodplain delineations built on FEMA's previous levee coordination efforts.

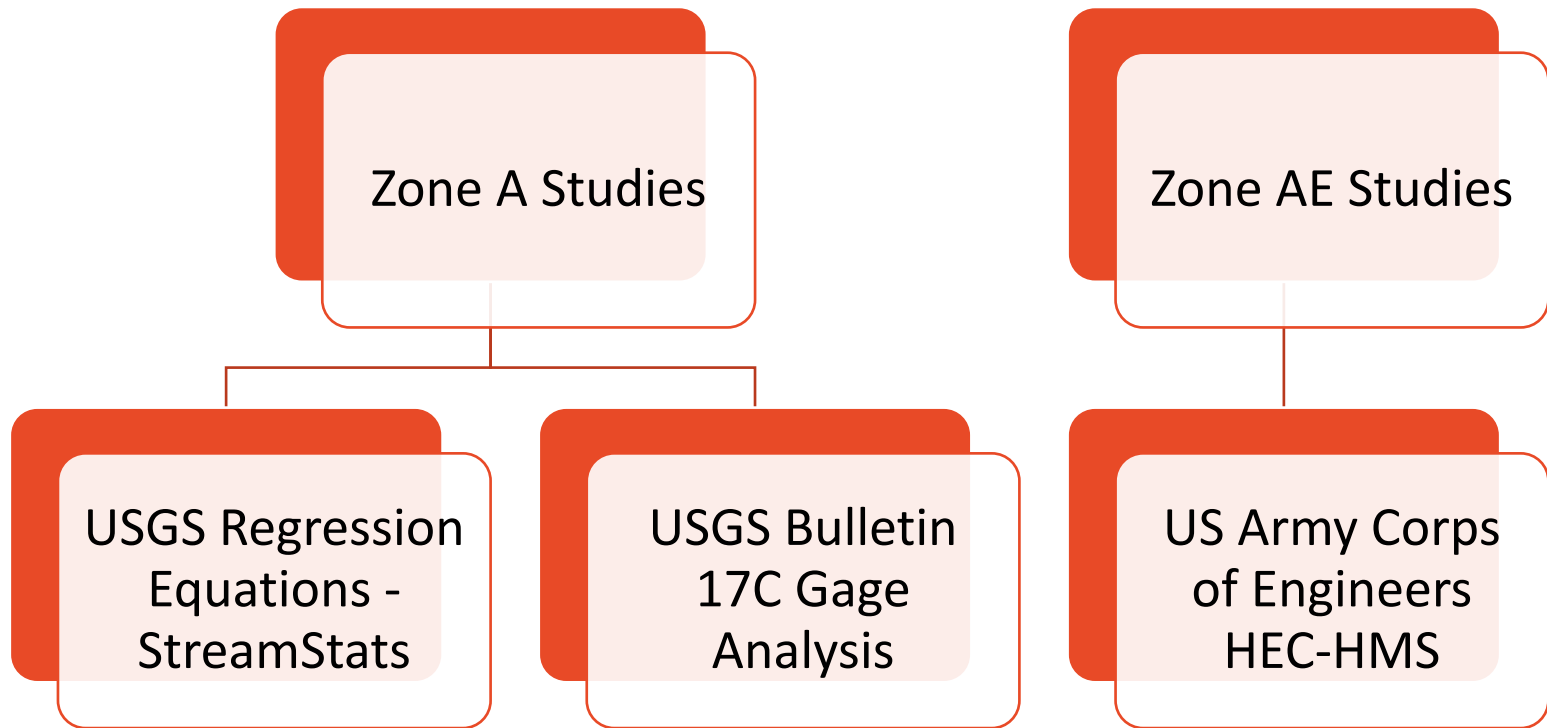


Tiskilwa Levee Draft Model Results



Hydrology Study Methods

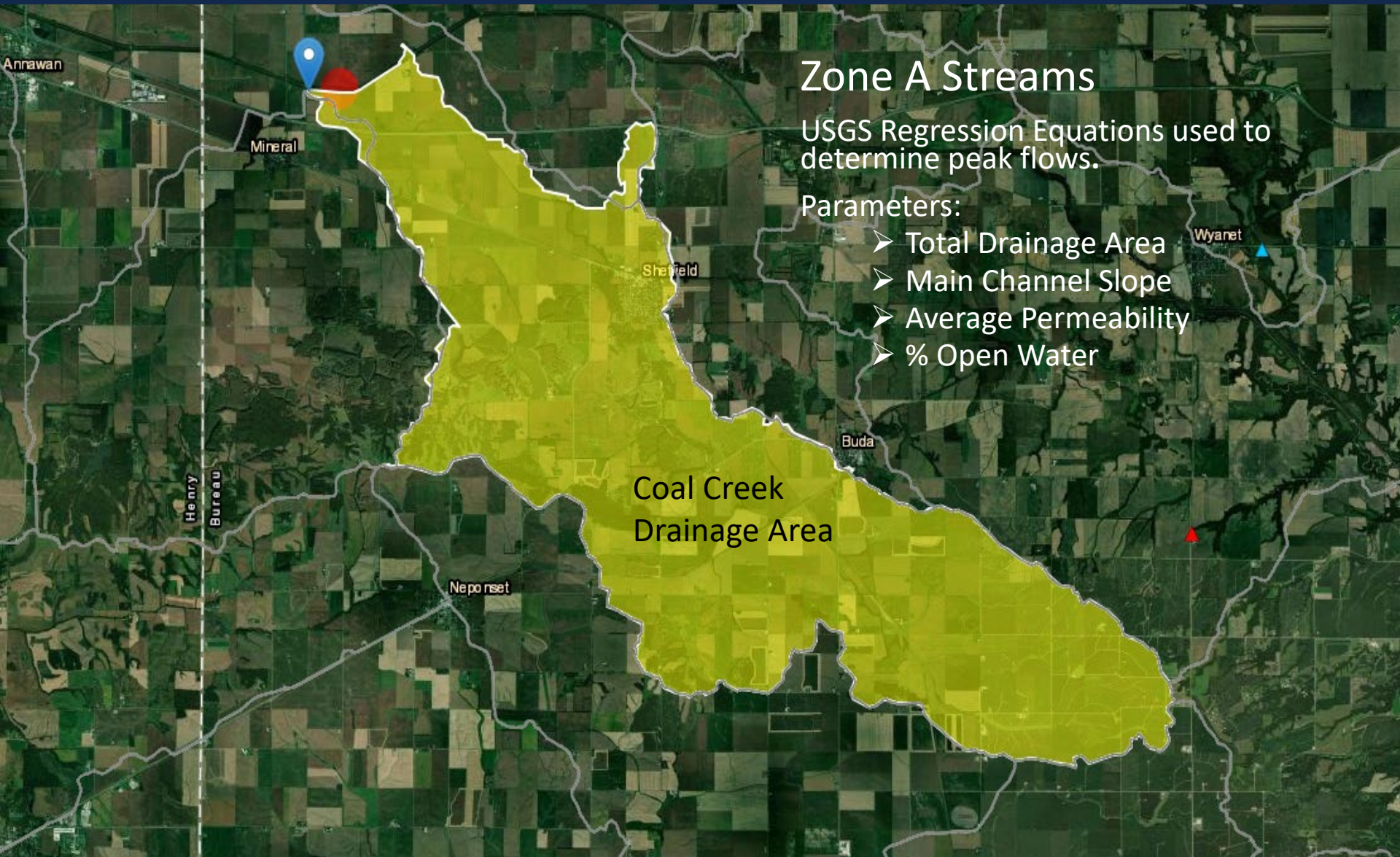
Hydrology Study Methods



Flood Events Studied

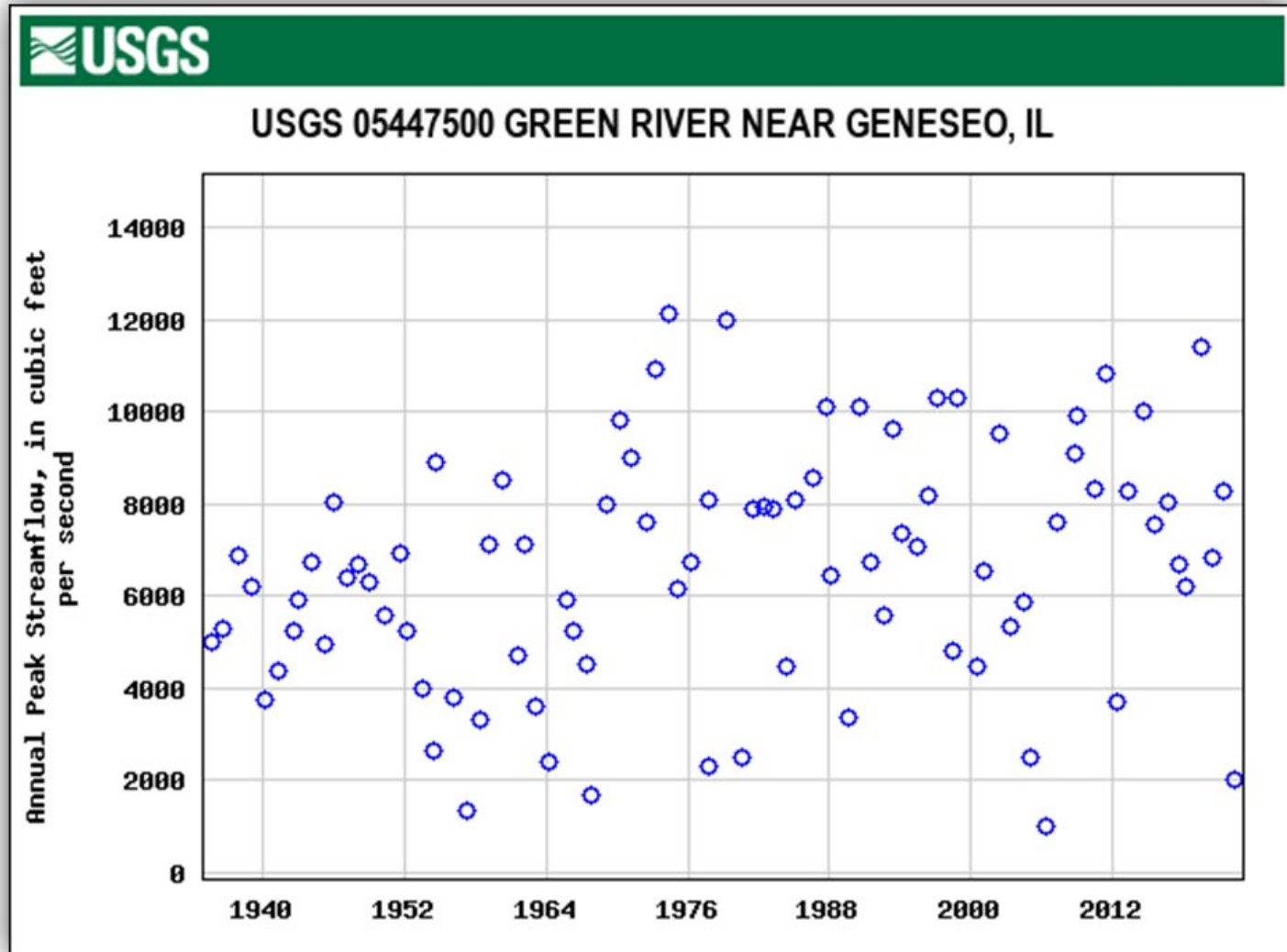
10-yr, 25-yr, 50-yr, **100-yr Base Flood**, 100-yr+, and 500-yr Floods

Hydrology Study Methods



Hydrology Study Methods

Green River Zone A Studies - USGS Bulletin 17c Stream Gage Analysis



Hydrology Study Methods

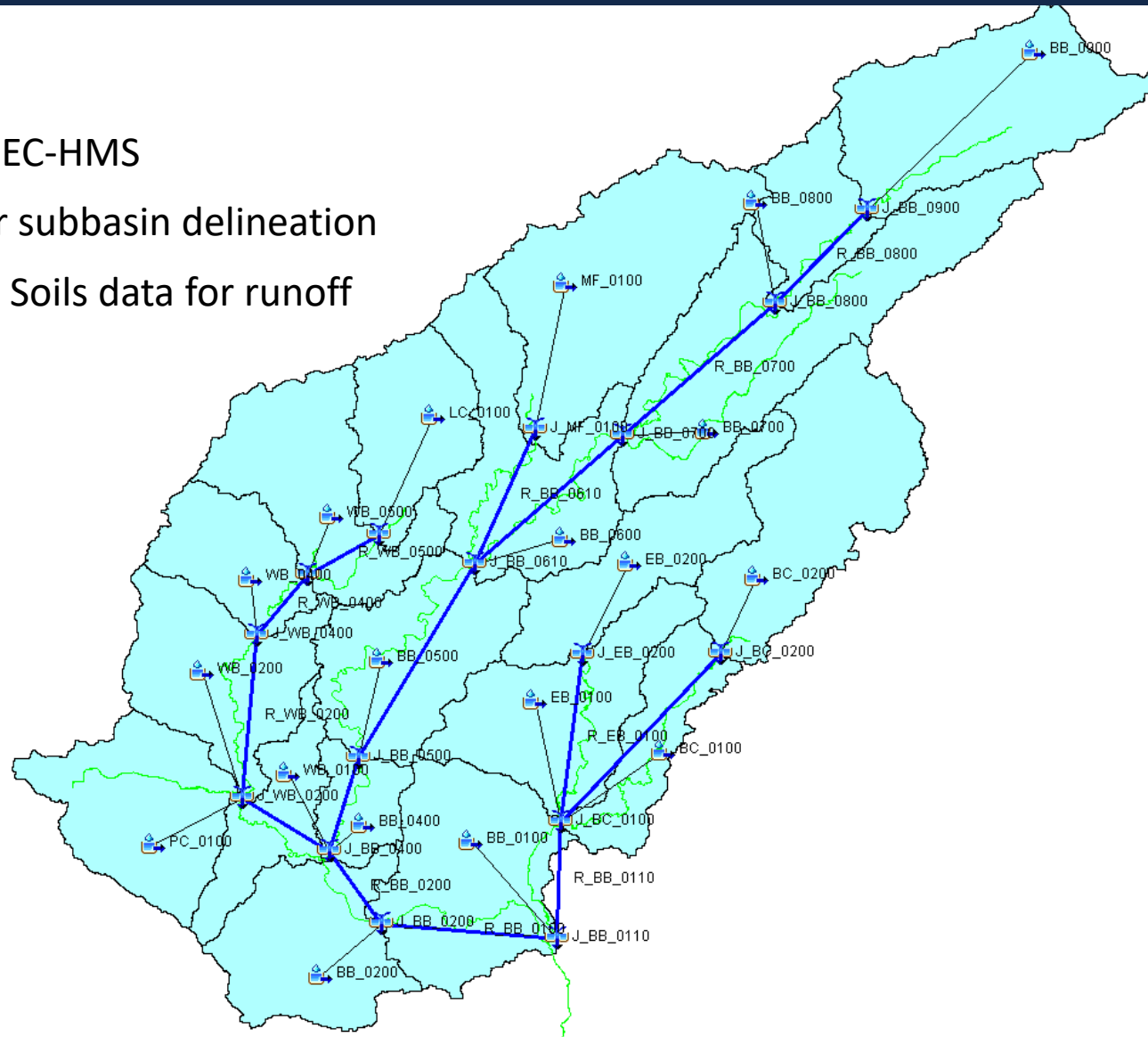
Zone AE studies

US Army Corps of Engineer HEC-HMS

- LiDAR terrain data used for subbasin delineation
- 2019 Land Use Data /2018 Soils data for runoff parameters
- Bulletin 75 Rainfall Data

Modeling developed for:

- Big Bureau Creek
- Rocky Run
- Walnut Creek



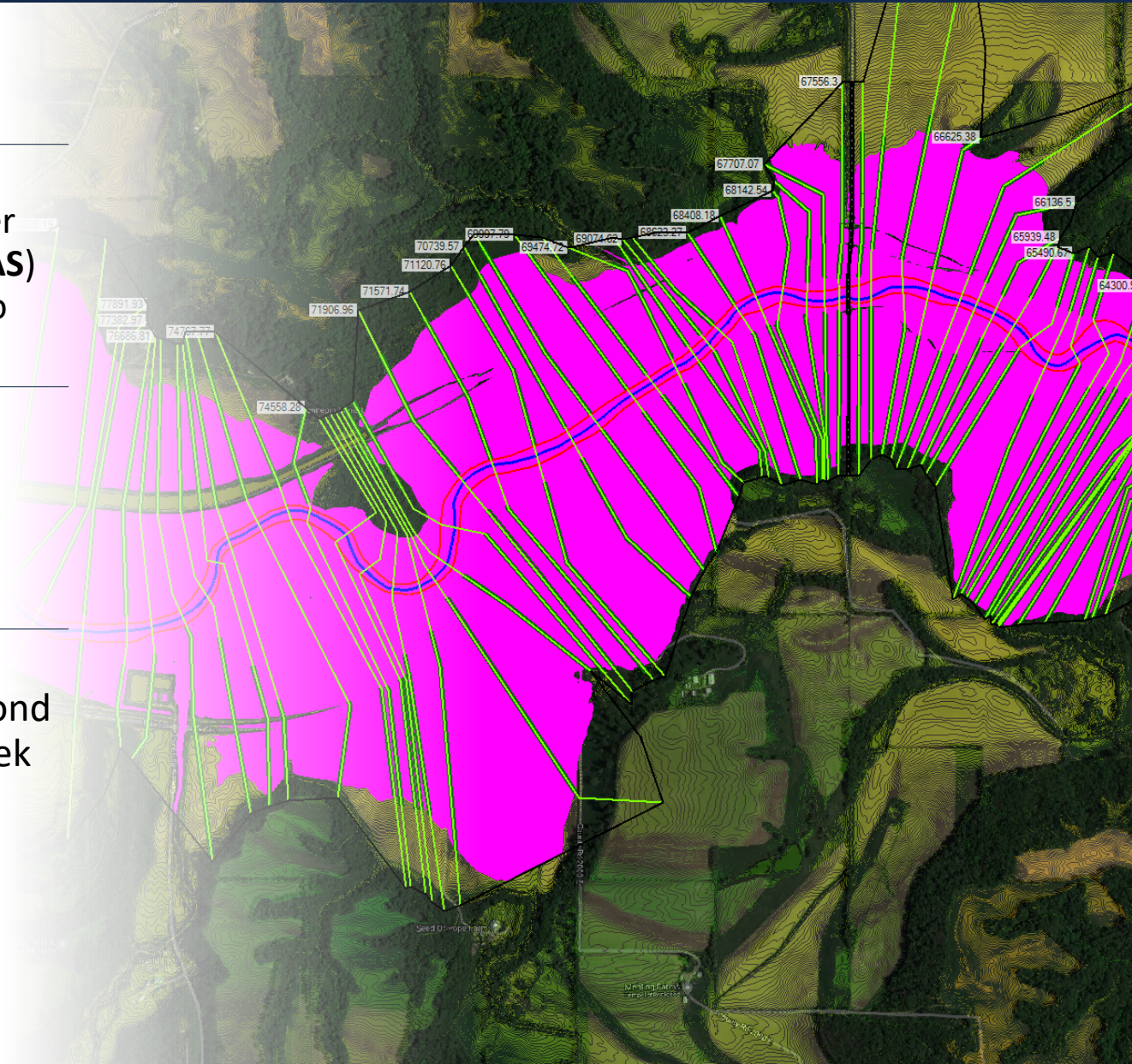
Hydraulic Study Methods

HEC-RAS 1D Modeling

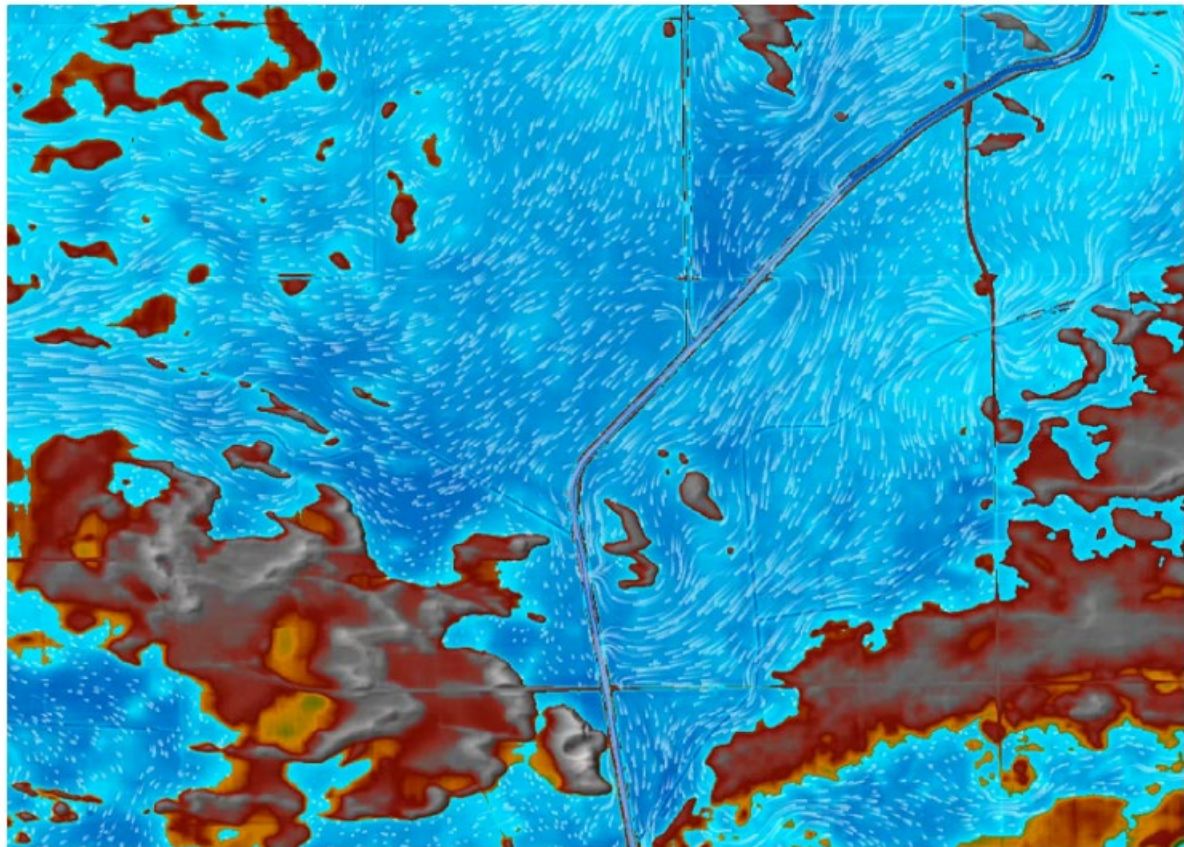
Army Corps of Engineers
Hydrologic Engineering Center
River Analysis System (**HEC-RAS**)
used for hydraulic modeling to
determine water elevations

1D Analysis for majority of
streams in Bureau County

2D Analysis for Green River,
Coal Creek, Devils Slough, Pond
Creek Trib C, Big Bureau Creek
Trib A

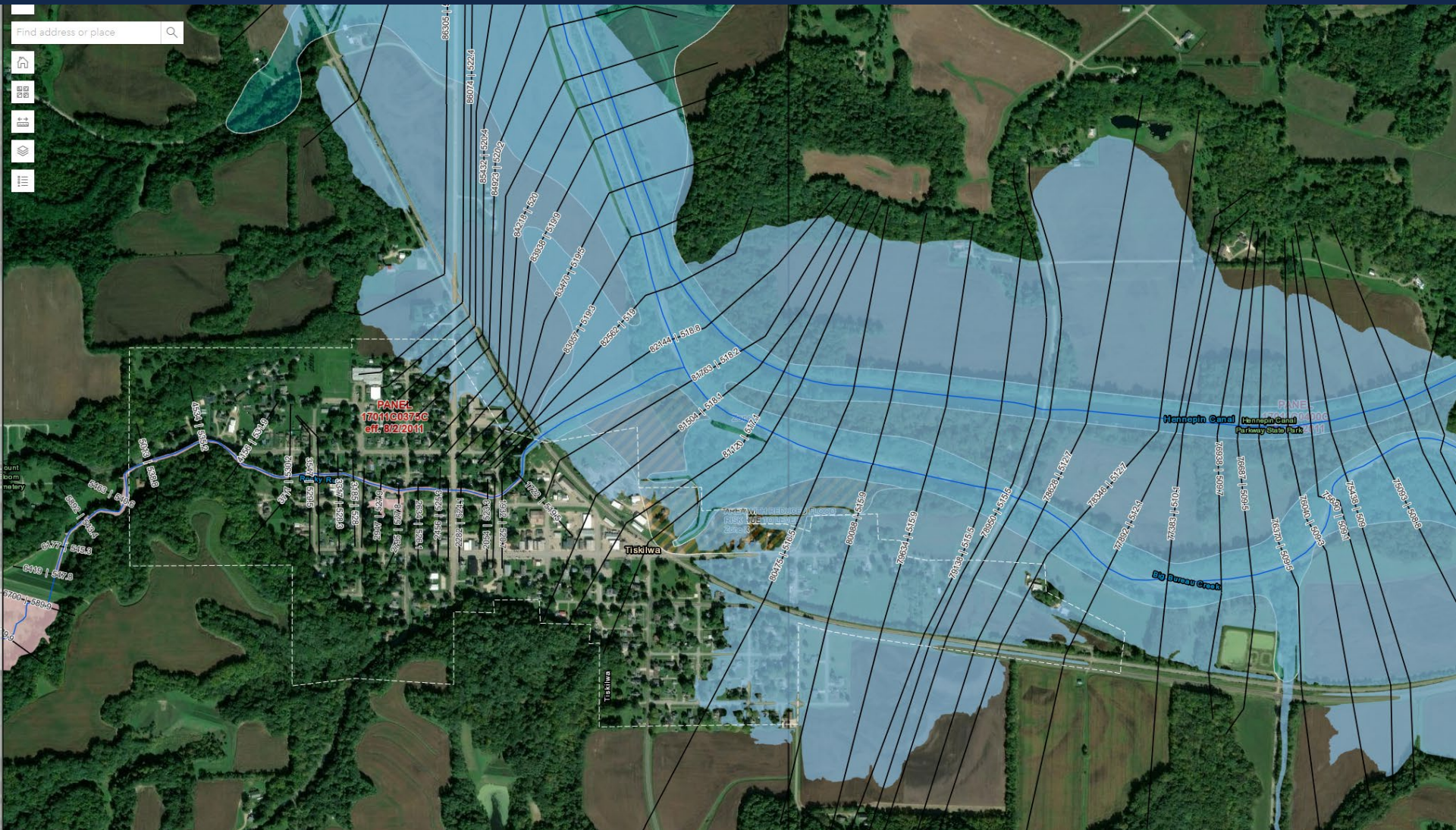


HEC-RAS 2D Modeling



Draft Floodplain Results

Big Bureau Creek –Village of Tiskilwa



Adams Creek - Village of Cherry



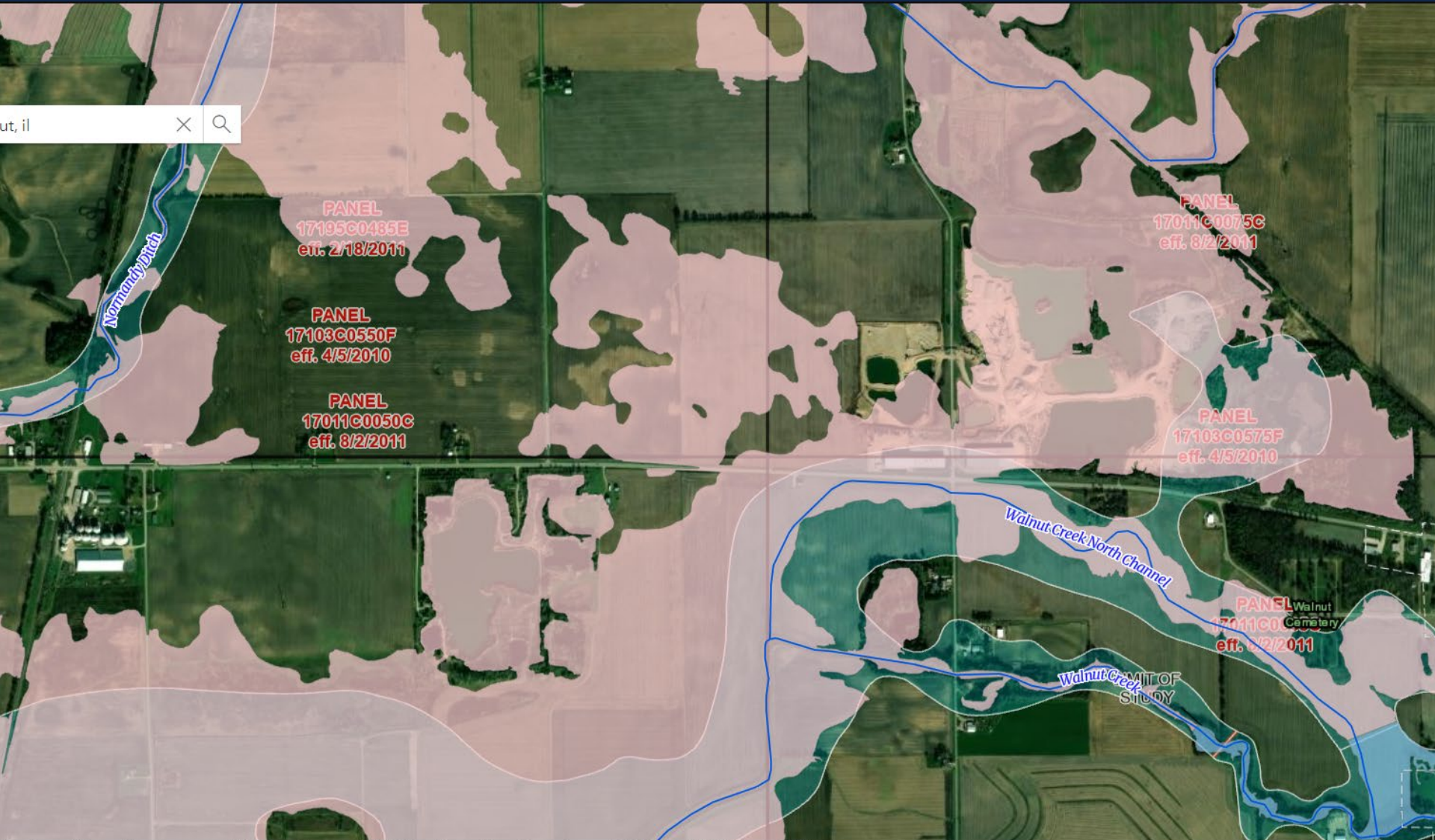
Hickory Creek - Village of Manlius



Epperson Run Tributaries – City of Princeton



Walnut Creek – Village of Walnut

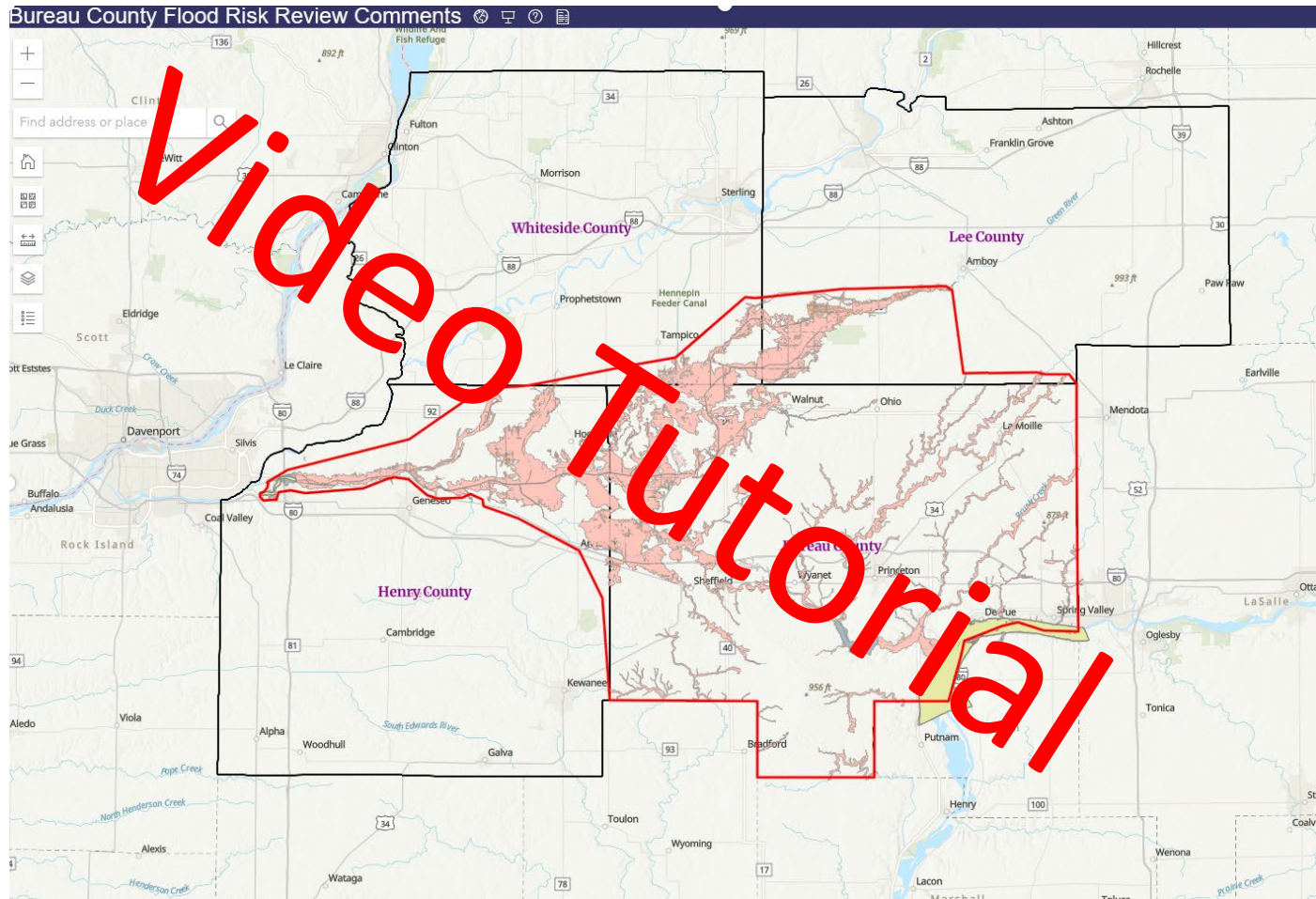


Walnut Creek – Village of Walnut



Webmap

Webmap Comment Feature



<https://www.illinoisfloodmaps.org/commentmap/bureau.htm>

username: watershed

password: illinoisfloods!123

Communication and Next Steps

Communication Plan

Project Initiation Community Coordination meeting – virtual
05/18/2021 and 11/17/2023

Proposed Engineering Methods Notification (FEMA SID 620) letters-
05/25/2021 & 11/17/2023

Flood Risk Review Meeting (today)

30-Day Comment Period starts today and ends April 27, 2024

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 database
30-Day Comment Period starts today

Schedule

~~Project Initiation Community Coordination meeting—
05/18/2021 and 11/17/2023~~

**Flood Risk Review Meeting (today); Comment period ending
April 27, 2024**

Submit Flood Studies to IDNR for State review

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

1990 to present

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

Date of Declaration	Disaster Number	Study Counties included: Type of Assistance	Disaster Description
September 19, 2019	DR-4461-IL	All: PA	Severe Storms and Flooding
May 10, 2013	DR-4116-IL	Henry & Whiteside: IA; Bureau: IA & PA; Lee: NA	Severe Storms, Straight-line Winds and Flooding
May 9, 2001	DR-1368-IL	Whiteside: IA& PA	Flooding
July 9, 1993	DR-997-IL	Henry & Whiteside: IA & PA	Severe Storms and Flooding

IA: Individual Assistance

PA: Public Assistance

Hazard Mitigation Plans

HENRY & STARK COUNTIES

MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN

[Approval Year]

Approval Period

[Month] [day], [year] – [Month] [day], [year]

This document was prepared by:



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**WHITESIDE COUNTY
MULTI-JURISDICTIONAL
ALL HAZARDS MITIGATION PLAN**

PARTICIPANTS

Coleta, Village of	Rock Falls, City of
Deer Grove, Village of	Sterling, City of
Erie, City of	Tampico, Village of
Fulton, City of	Whiteside, County of
Morrison, City of	Whiteside ROE
Prophetstown, City of	

OCTOBER 2015

The five year update of this Plan must be completed on or before February 8, 2021.

**2020
Bureau County
Natural Hazards Mitigation Plan**

Lee County Multi-Jurisdictional All Hazards Mitigation Plan

Draft



Participants:

- Amboy, City of
- Ashton, Village of
- Dixon, City of
- Franklin Grove, Village of
- Harmon, Village of

- Lee County Regional Office of Education #47
- Steward, Village of
- Sublette, Village of

August 2019

The five year update of this Plan must be completed on or before (date).

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

Why New Floodplain Maps Can Affect a Community:

Can affect which residents are required to carry flood insurance

Depicts areas of communities which are subject to floodplain management regulations

Can affect community planning and flood mitigation

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 MEETING: BUREAU, HENRY, WHITESIDE AND LEE
COUNTIES, ILLINOIS**
MARCH 28, 2024

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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www.illinoisfloodmaps.org

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Illinois NFIP Coordinator: Erin C. Conley, CFM
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