Upper Solomon-Saline Custom Watershed Discovery Meeting

Stockon City Hall & Zoom

August 15, 2024

While we are waiting, please enter your name and community in the chat box!

FEMA

Kansas Department of Agriculture
Division of Water Resources

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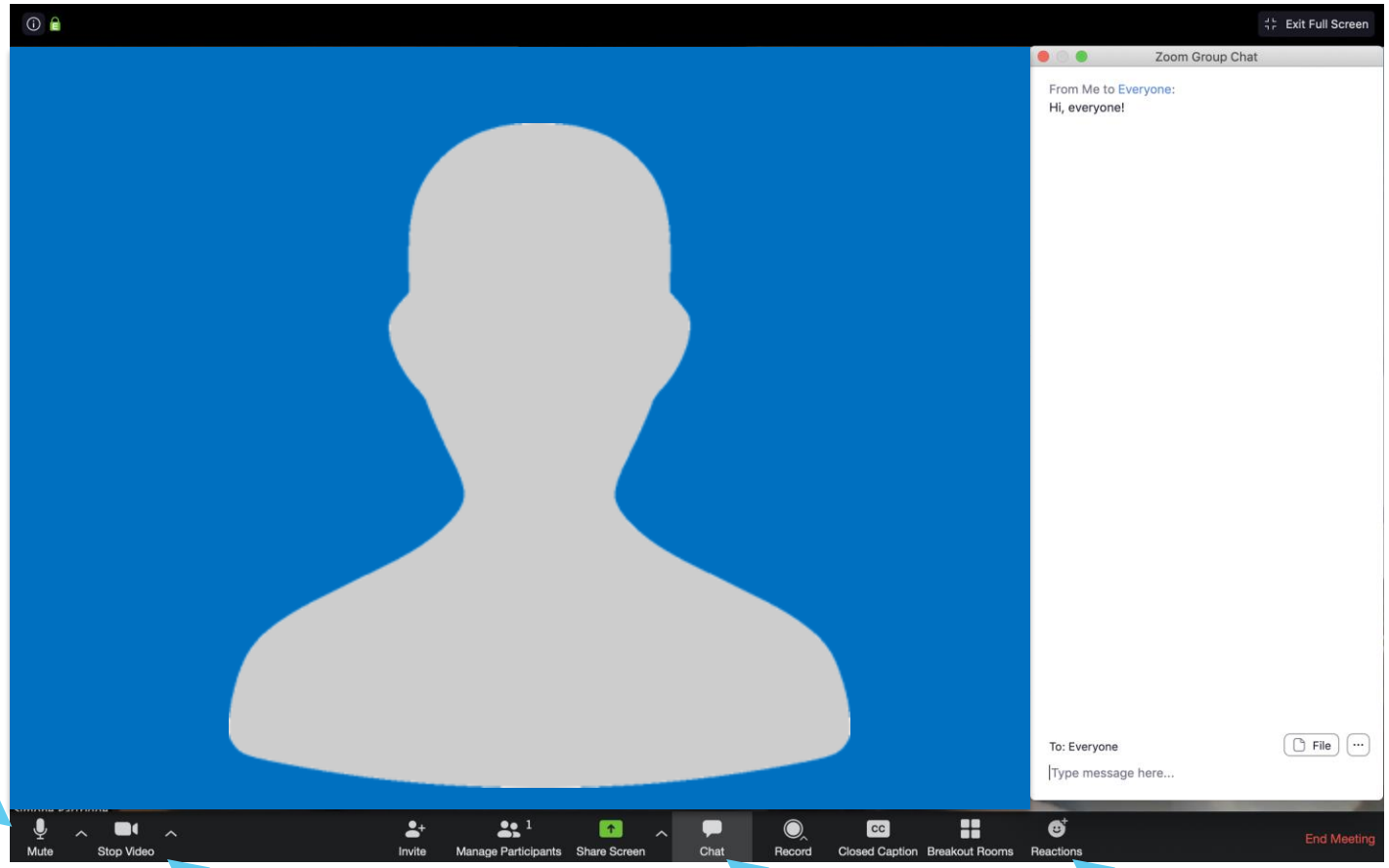
Thank you for joining us today!

Your input is very important to this work.

Zoom Features



Mute / Unmute

Start your Video

Use the Chat Feature

Reactions

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Rules of the Road

- Attendees will be muted during the presentation, to help eliminate background noise.
- Check out the chat to ask questions during the presentation! Or feel free to “raise your hand.” We will pause for questions at various stopping points and have several poll questions.
- If you want to share your video, please do!
- For technical difficulties: send a private chat to Bill Pace or email *william.pace@ks.gov*.
- We’ll be recording this webinar for those who aren’t able to attend today.

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Introductions

Kansas Department of Agriculture

Joanna Rohlf, *CFM, GISP*
Floodplain Mapping Coordinator

William Pace, *CFM*
Floodplain Mapping Specialist

Cheyenne Sun Eagle, CFM
State NFIP Coordinator

Keegan Schwartz
Floodplain Outreach Specialist

Kaitlyn Rowell
NFIP Specialist

WSP – Mapping Contractor

Ben Rufenacht, *PE, CFM*
Lead Engineer

Kirsten Prindle, EIT

Engineer

Lisa Tuckwin, CFM, GISP

GIS Manager

Erika Stanley
GIS Analyst

FEMA Region VII

Kari Sorg, *Regional Project Officer*

Dawn Livingston, *Regional Project Officer*

Today's Goals

Review	Review WHY WE DO THIS WORK
Share	Share WHERE WE ARE NOW & what the data is telling us about flood risk
Discuss	Discuss how WE CAN HELP
Preview	Preview the PLANNED WORK AHEAD and how we propose doing it.
Next Steps	Discuss Next Steps and YOUR ROLE in the Process

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Why We Do This Work

FEMA Floodplain Mapping Program

- Risk Mapping, Assessment, and Planning (Risk MAP).
- Performed on a watershed basis.
- Consists of both Regulatory & Non-Regulatory Products.
- Through Risk MAP, we provide updated floodplain maps, as well as other (free!) data and tools that can help you plan to reduce your community's risk.

RiskMAP
Increasing Resilience Together

Planning: The "P" in Risk MAP

- The flood risk data from this work can – and should – inform your regional Hazard Mitigation Plan (HMP).
  - Region A: Decatur, Gove, Sheridan, Sherman and Thomas Counties
  - Region B: Ellis, Graham, Norton, Phillips, Rooks, Russell and Trego Counties
  - Region F: Ellsworth, Jewell, Lincoln, Mitchell, Osborne, and Smith Counties

- Common themes in the regional plans:
  - Identify and seek additional methods of financial and technical assistance for hazard mitigation projects.
  - Acquire or conduct structural remediation of floodprone properties.
  - Study and implement drainage issues in floodprone areas and make recommendations for flood control measures, flood management procedures, and low-water crossing improvements.

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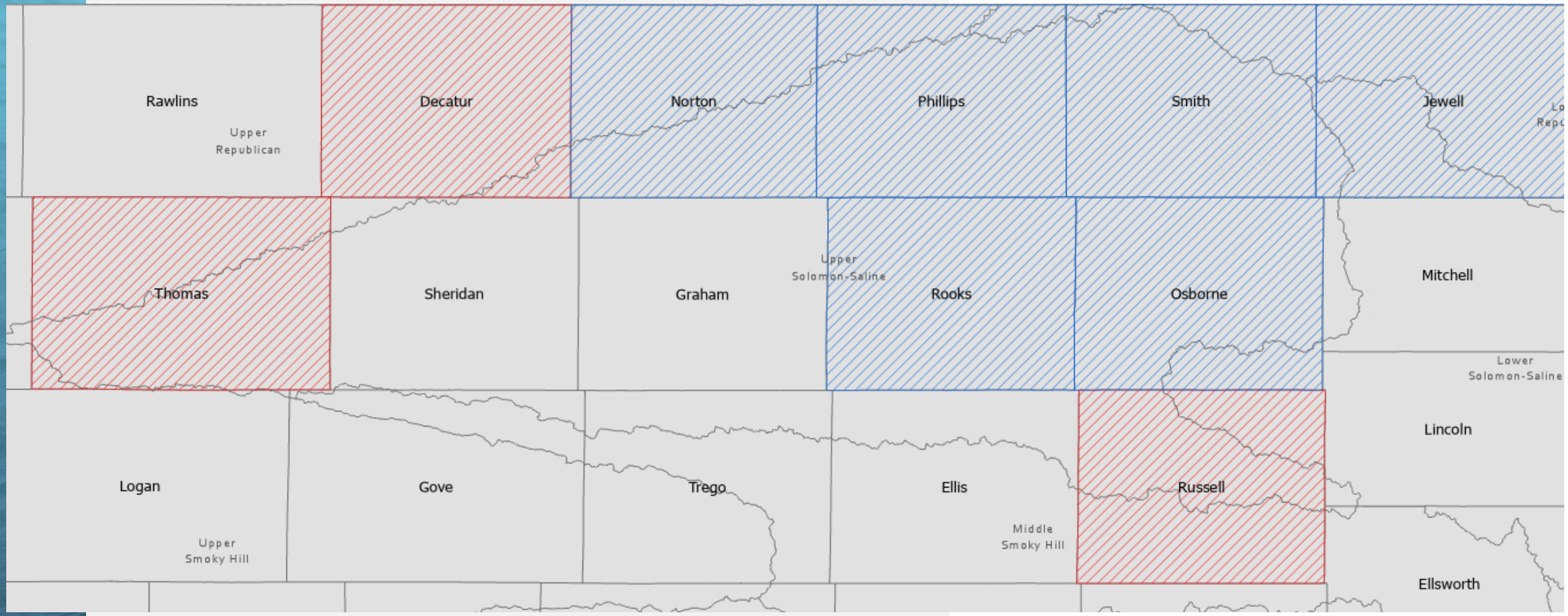
We Can Help with Technical Assistance!

Where We Plan to Update Your Map



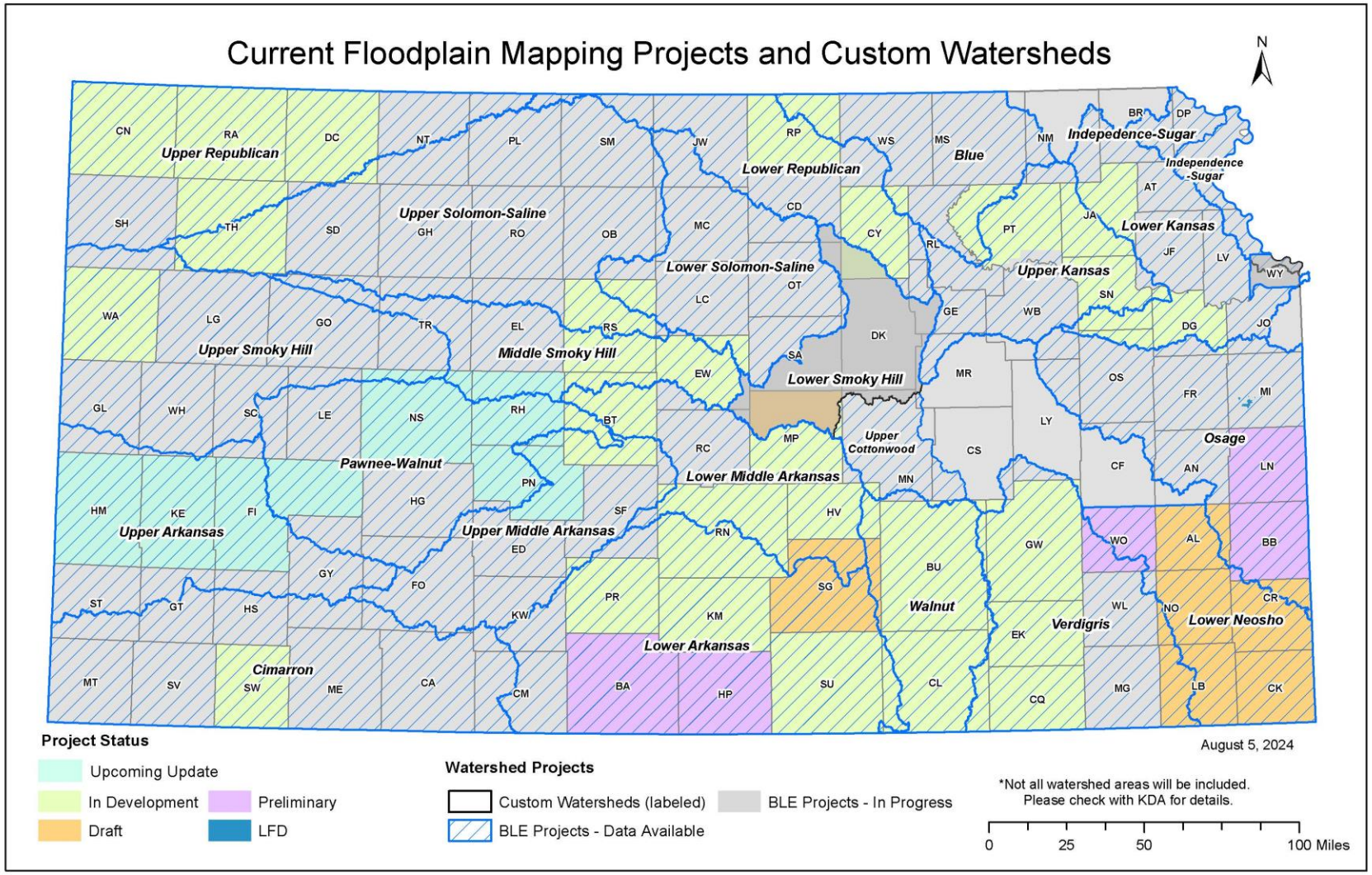
Decatur, Russell & Thomas Counties

- Currently underway

Jewell, Phillips, Norton, Osborne, Rooks & Smith Counties

- Expected FY25

We are doing this work across Kansas…



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Participation in the National Flood Insurance Program

- Blue = Participates Red = Not Participating

- Cities of Agra, Alton, Athol, Bogue, Bunker Hill, Cawker City, Cedar, Colby, Collyer, Damar, Downs, Edmond, Gaylord, Gem, Glade, Grainfield, Hill City, Hoxie, Kensington, Kirwin, Lebanon, Lenora, Logan, Menlo, Morland, Natoma, Oakley, Osborne, Palco, Paradise, Park, Phillipsburg, Plainville, Portis, Prairie View, Quinter, Rexford, Russell, Seldon, Smith Center, Speed, Stockton, Tipton, Wakeeney, Woodston, and Zurich

- Decatur, Ellis, Ellsworth, Gove, Graham, Jewell, Lincoln, Mitchell, Norton, Osborne, Phillips, Rooks, Russell, Sheridan, Sherman, Smith, Thomas, and Trego Counties

Number of Flood Insurance Policies

- Decatur County- NP
- Ellis County- 9
- Ellsworth County-3
- Gove County- NP
  - Grainville- NP
  - Park- NP
  - Quinter- 0
- Graham County- NP
  - Bogue- NP
  - Hill City-0
  - Morland-0
- Jewell County- NP
- Lincoln County - 0
- Mitchell County- 6
  - Cawker City-0
  - Tipton-0
- Norton County- NP
  - Edmond- NP
  - Lenora- NP
- Osborne- NP
  - Alton-NP
  - Downs- NP
  - Natoma- 0
  - Osborne- 0
  - Portis- 0
- Phillips County- NP
  - Agra- NP
  - Glade- 0
  - Kirwin- 0
  - Logan- 0
  - Phillipsburg- 0
  - Prairie View- NP
  - Speed- NP
- Rooks County- 0
  - Damar- NP
  - Palco- 0
  - Plainville- NP
  - Stockton- 3
  - Woodston-0
  - Zurich-NP
- Russell County- NP
  - Bunker Hill- 0
  - Paradise- NP
  - Russell- 0
- Sheridan County- NP
  - Hoxie- 0
  - Selden- NP
- Sherman County- NP
- Smith County- NP
  - Athol- NP
  - Cedar- 0
  - Gaylord- NP
  - Kensington- 0
  - Lebanon- NP
  - Smith Center- 0
- Thomas County- NP
  - Colby-0
  - Gem
  - Menlo
  - Oakley
  - Rexford
- Trego County – NP
  - Collyer
  - Wakeeney

Benefits of joining the NFIP!

- Property owners would be able to insure against flood losses (in or outside of the regulatory SFHA)
- Qualify for federal grants or loans for development
- Qualify for federal disaster assistance for damages caused by a flood
- Adoption of a floodplain management ordinance leads to smart development against flood risk

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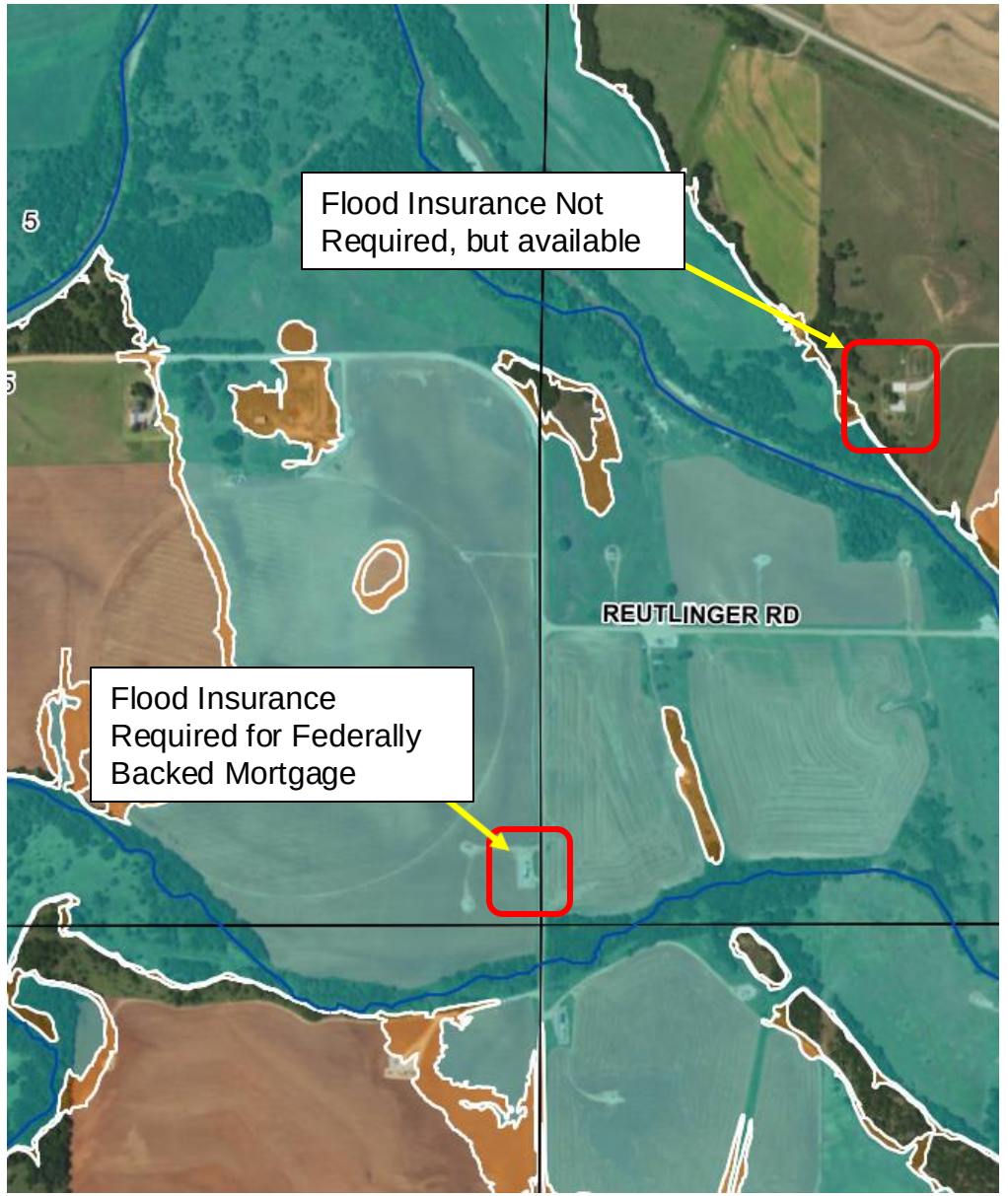
Participation in the NFIP

- NFIP Participation is voluntary.
  To participate a community must:
  - Adopt a Floodplain Management Ordinance and regulate development in the floodplain
    - The community designates a floodplain administrator, which often have other roles in the community (i.e. city clerk, engineer, planner).
    - The flood zone determines the locations that need to regulated.
  - Adopt a Resolution for Participating in the NFIP
  - Complete the Application for Participation



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NFIP Participation Requirements

- Adopt and enforce all applicable NFIP regulations
- Require permits for ALL development in the Special Flood Hazard Area (SFHA)
- Obtain proof of compliance with local floodplain management ordinance for all permits
- Maintain Floodplain Management Records
- Helping residents obtain information on flood hazards, floodplain map data, flood insurance and proper construction measures

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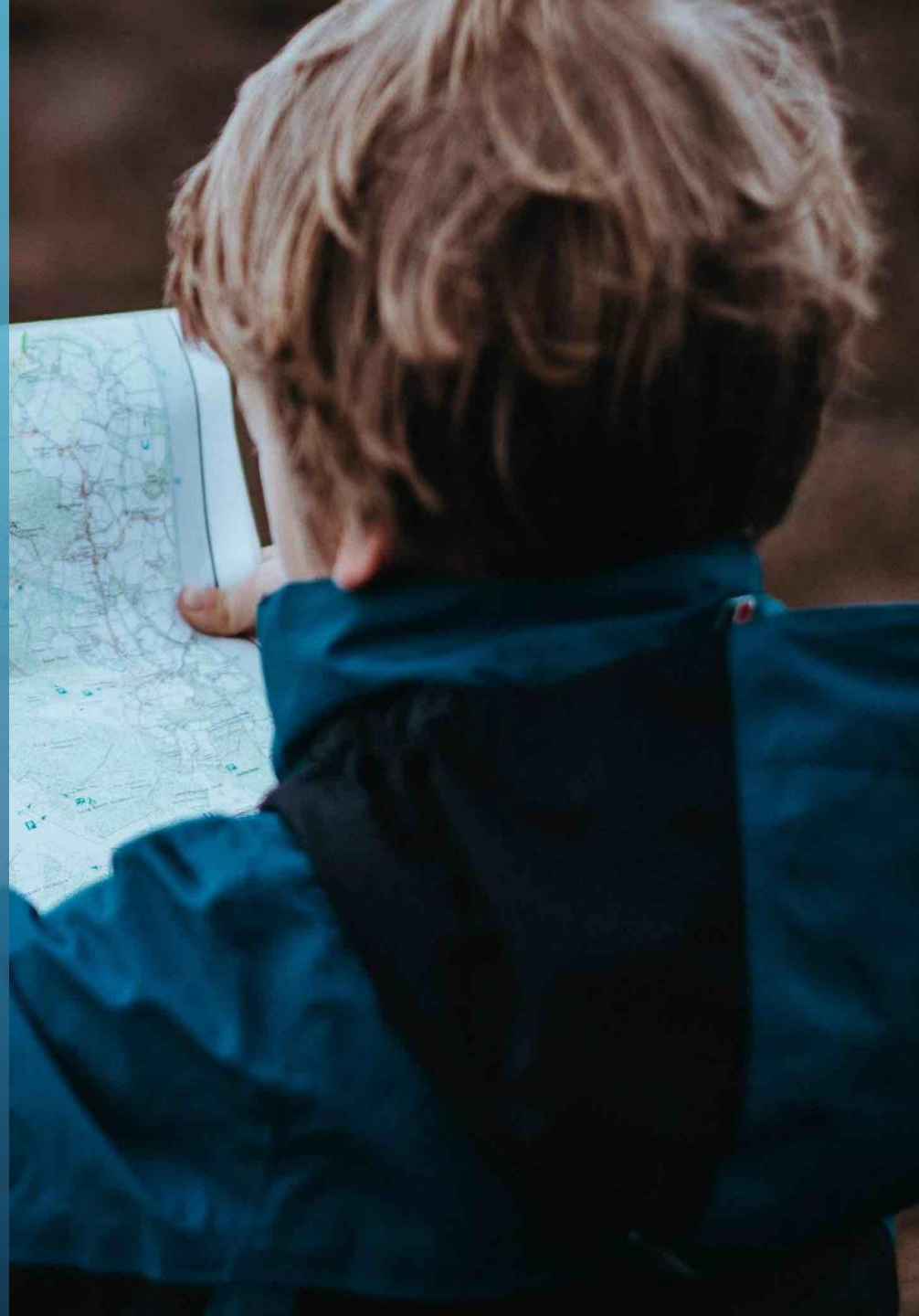
Where We Are Now & What the Early Flood Risk Data is Telling Us



Base Level Engineering is Complete

- BLE is an engineering approach that provides an initial high-level (or "base line") understanding of flood hazards, with enough information for us to draft initial floodplain designations.

- We're starting to develop and share this initial data because we've learned that the earlier we start partnering with you, the more accurate the map.

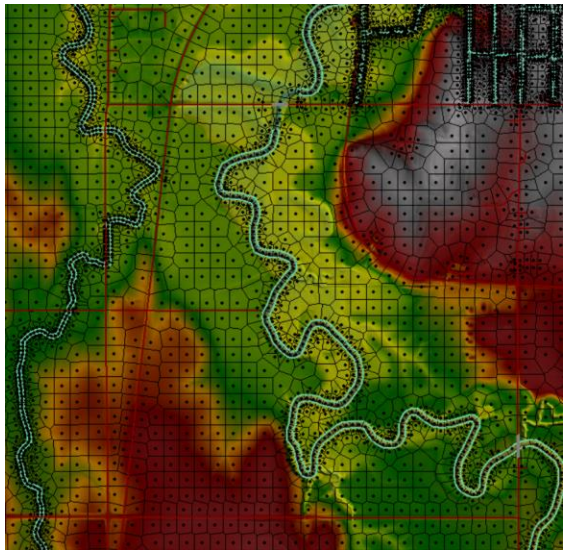
FLOODPLAIN: On the maps we create, the floodplains, also known as Special Flood Hazard Areas (SFHAs), are areas with high flood risk – where a flood of a certain level has a 1-percent chance of happening each year.

We Use 2D Hydraulic Modeling and LIDAR in our BLE

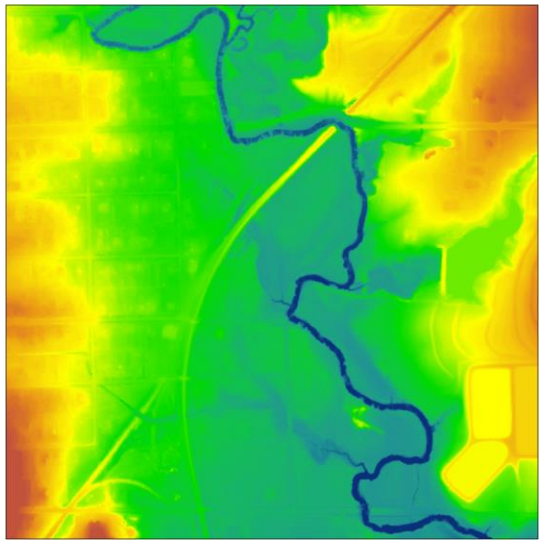
- Your current maps are done in one dimension (1D) and are based on USGS Contours

- Two-dimensional (2D) modeling and LIDAR- enhanced maps provide greater resolution and the ability to analyze how water moves across land using elevations and depth grids

2D



LiDAR



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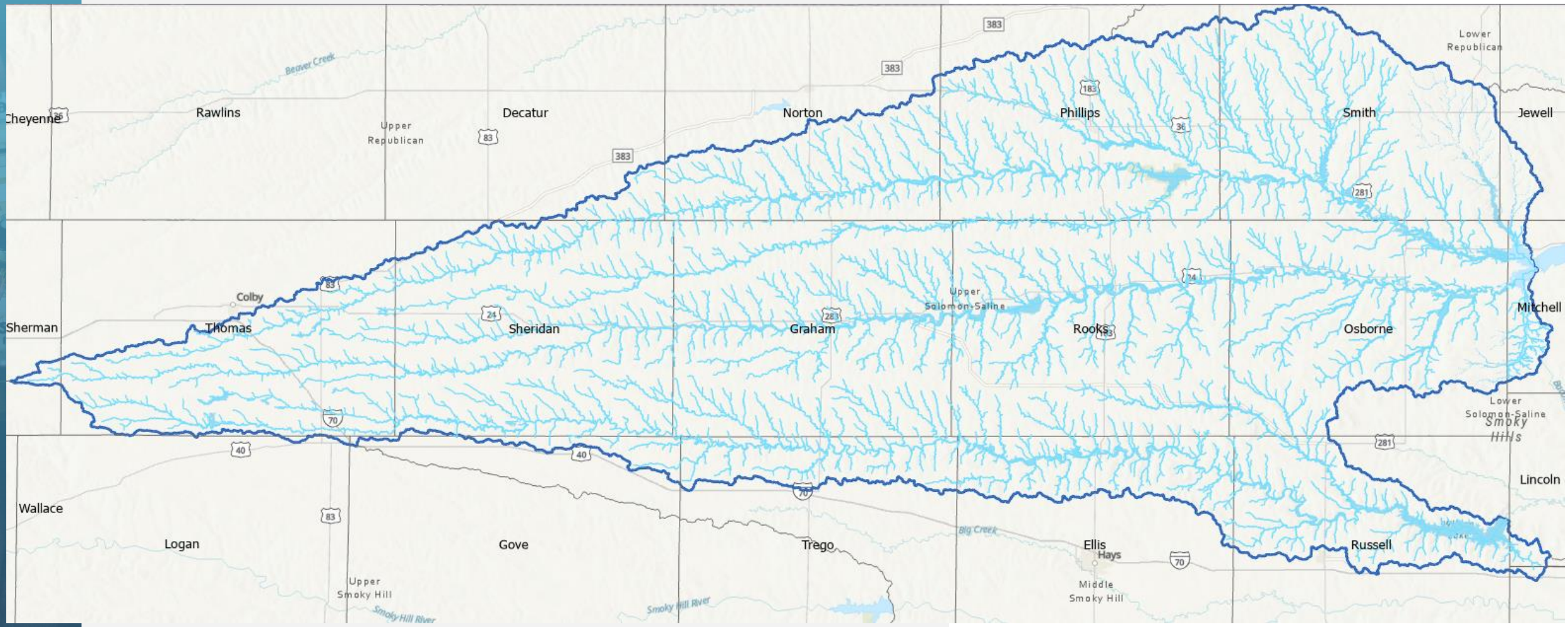
BLE Study Area



BLE floodplains are complete for this study area

Limitations of BLE Modeling

- Hydraulic structures, such as culvert and bridge openings, are not included
- Storm sewer networks in communities are not included
- Levees are not accurately modeled because closure structures are not included into the model to prevent backwater

Identified Flood Risk Areas

- Sedimentation and debris jams leading to reduced channel capacity
- Shallow flooding areas due to water not being able move
- Lack of defined overflow channels or outlets during large floods
- Levees offer flood protection, but there is also a level of risk.

Where We Are Now: DISCOVERY

This is one of the most important phases of our work, where we:

- Review the flood risk information together and get your feedback;
- Identify the new data we might need to accurately update your flood risk; and
- Determine, with you, where mitigation (taking steps to reduce risk) makes sense for your community.

Discovery Report and Map

Discovery Report

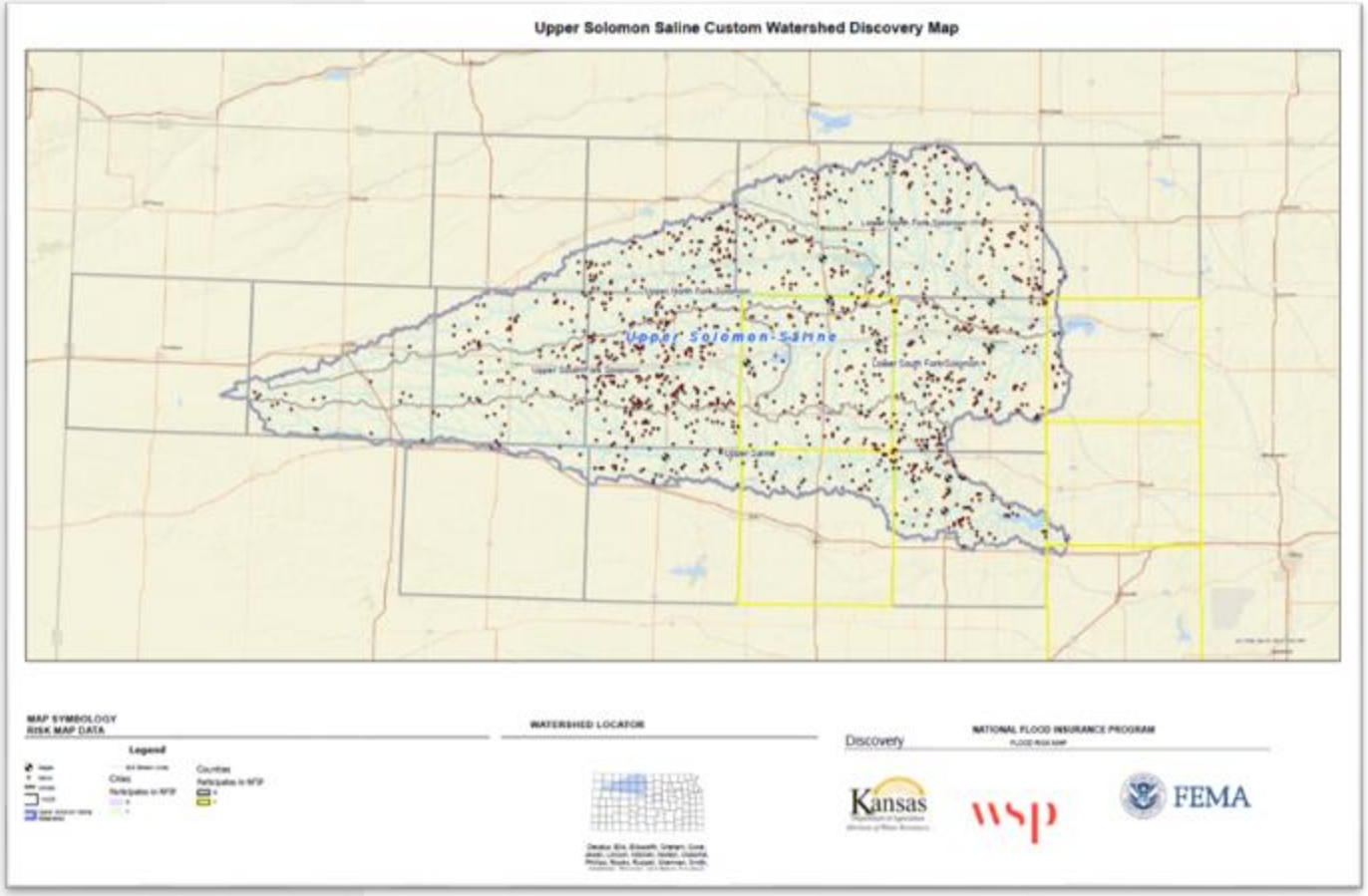
Upper Solomon Saline Custom Watershed
HUCS 10260009, 10260011, 10260012, 10260013, 10260014

Cities of Agra, Alton, Athol, Bogue, Bunker Hill, Cawker City, Cedar, Colby, Collyer, Damar, Downs, Edmond, Gaylord, Gem, Glade, Grainfield, Hill City, Hoxie, Kensington, Kirwin, Lebanon, Lenora, Logan, Menlo, Morland, Natoma, Oakley, Osborne, Palco, Paradise, Park, Phillipsburg, Plainville, Portis, Prairie View, Quinter, Rexford, Russell, Seldon, Smith Center, Speed, Stockton, Tipton, Wakeeney, Woodston, and Zurich

Decatur, Ellis, Ellsworth, Graham, Gove, Jewell, Lincoln, Mitchell, Norton, Osborne, Phillips, Rooks, Russell, Sheridan, Sherman, Smith, Thomas, and Trego Counties

Report Number 01
DRAFT

FEMA

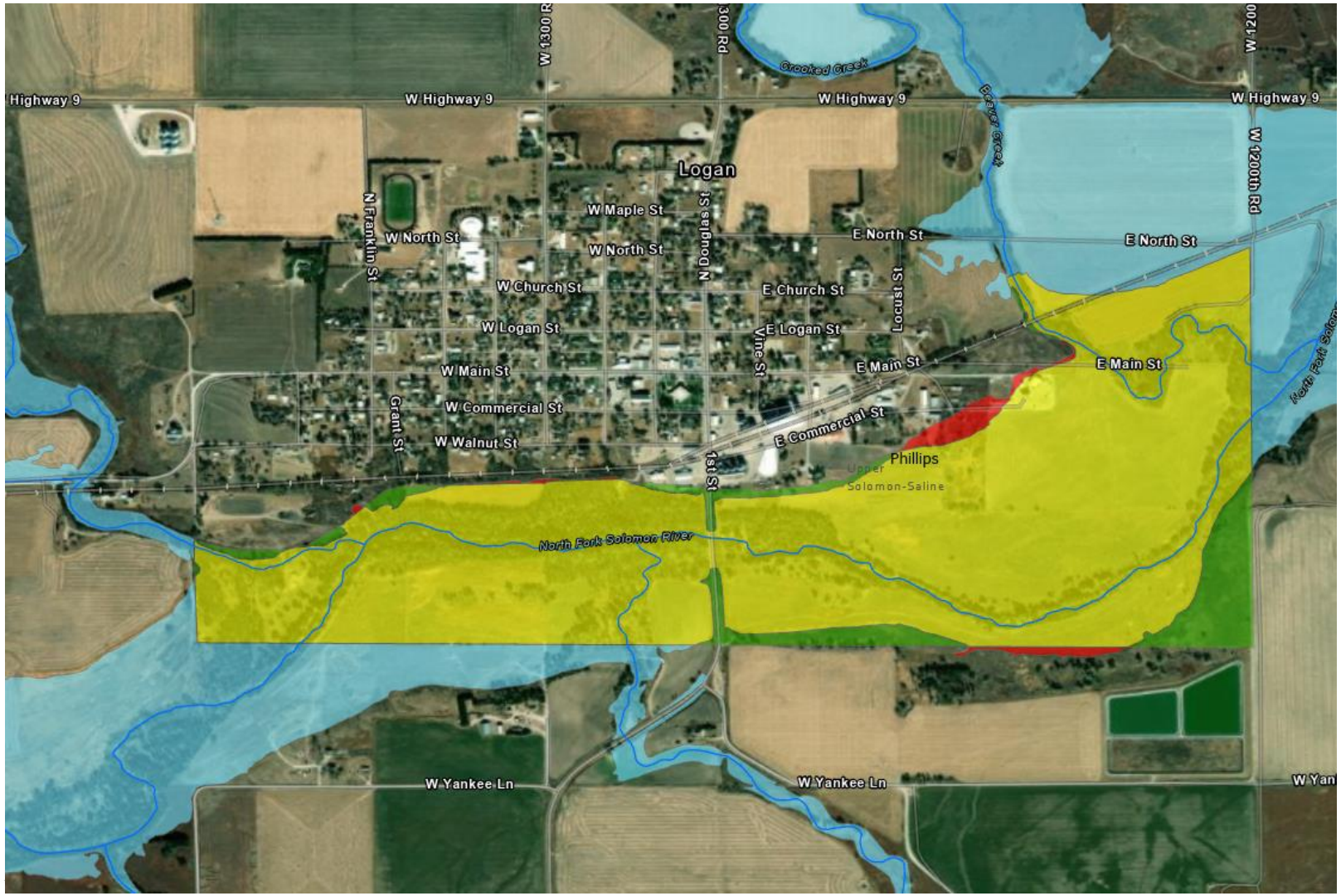


Draft Floodplains

BLE Floodplain

Changes Since Last Flood Insurance Rate Map (FIRM)

BLE Floodplain compared to Current Effective Floodplain



Yellow:
Remains in SFHA

Red:
Increase in SFHA

Green:
Decrease in SFHA

Blue:
New SFHA

How We Can Help

"Mitigation Technical Assistance"

Some Ways We Can Help

- Provide ideas on how to reduce flooding in trouble spots.
- Provide risk assessments for structures in your community, to help property owners understand the need for flood insurance, or to help you protect important public buildings.
- Use engineering analysis to show you what types of projects could reduce the impacts in floodprone areas.
- Assist with the Benefit-Cost Analysis if you are putting together a grant application.
- Support your participation in the Community Rating System.
- Help you explain flood risk and what it means to your community members.

Divisions & Programs » Division of Water Resources » Water Structures » Floodplain Management » Mapping »

Technical Assistance

Font Size: Share & Bookmark

FEMA Funds for technical assistance projects have come available in recent Cooperating Technical Partner (CTP) funding cycles. These projects do not include funding for construction of projects, but they can be utilized for modeling mitigation scenarios for possible projects. These funds can be applied for grant-related purposes, ordinance or code support, engineering and analysis, planning, outreach and education. Communities within Kansas can apply for Technical Assistance support through KDA, though priority will be given where there are active mapping projects. For questions, please contact Joanna Rohlf via email, or by phone at 785-296-7769.

- Technical Assistance Request Fillable Form
- Technical Assistance Fact Sheet

Technical Assistance Projects

- Concordia
- Dodge City
- Garden Plain
- Gypsum
- Healthy Soils
- Hoisington
- Hutchinson
- Maize
- Osawatomie

You can visit the KDA website for more information, including a link to a fillable request form:

https://www.agriculture.ks.gov/divisions-programs/division-of-water-resources/water-structures/floodplain-management/mapping/technical-assistance

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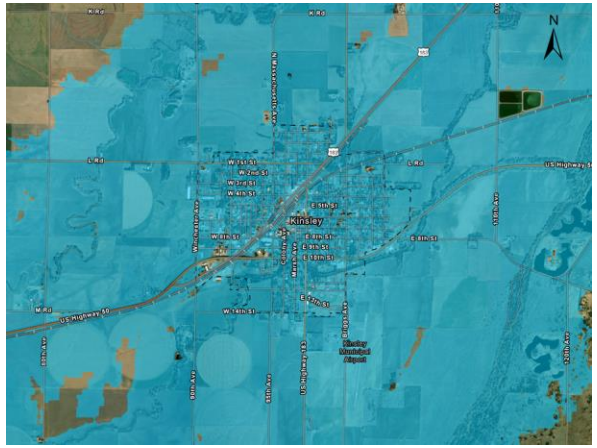
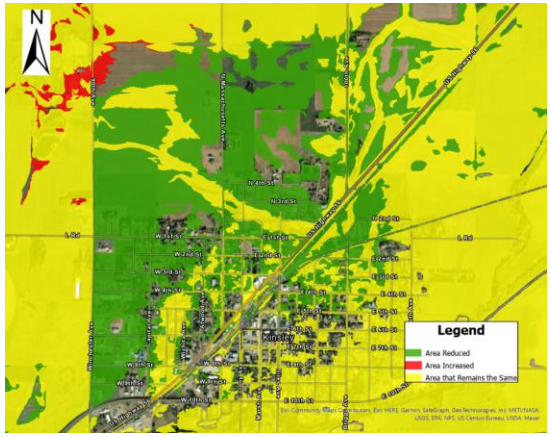
City of Kinsley Technical Assistance Project

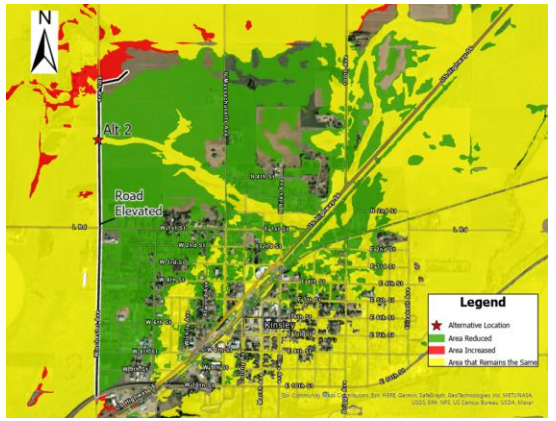
- 2D HEC-RAS modeling to evaluate three mitigation scenarios compared to the 2D BLE study



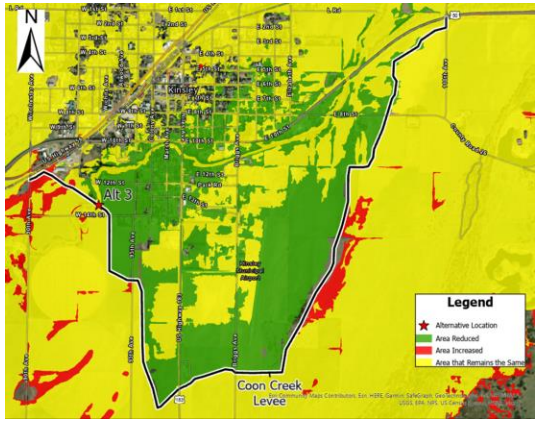
Existing Conditions Model



Alternative 1 – implementation of dry dam located northwest of 20th Avenue and M Road on Little Coon Creek.



Alternative 2 – elevate Winchester Avenue and 90th Avenue from US-50 to approximately 1.3 miles north.



Alternative 3 – levee diverting flow along Coon Creek along US HWY 56 to Kinsley Municipal Airport then back to intersection of US-50 and 110th Ave.

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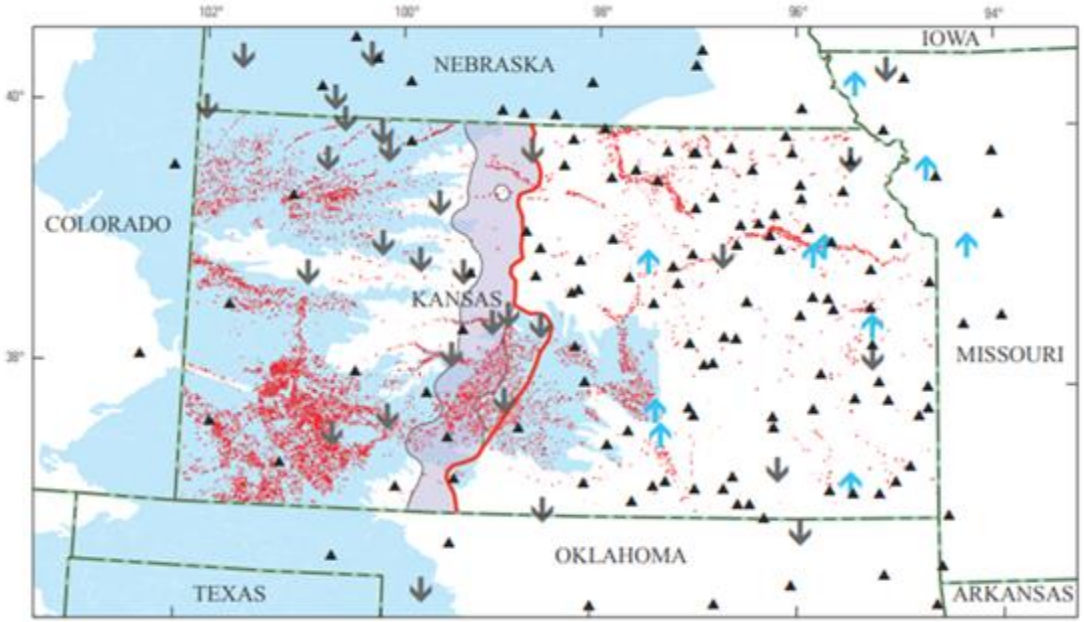
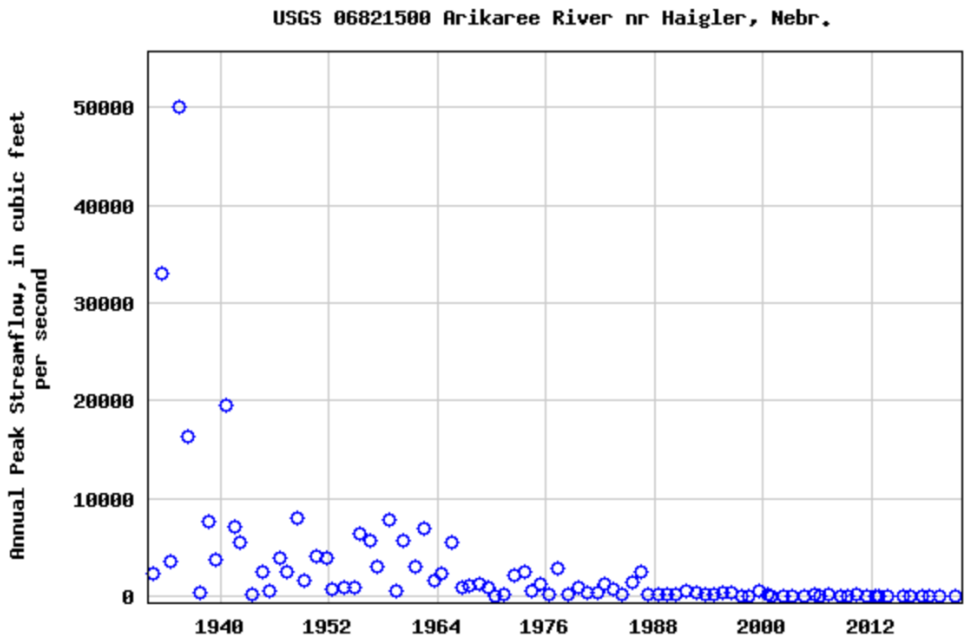
Technical Assistance Project:
Western Kansas Hydrology Pilot Study

- Groundwater Irrigation has caused streamflow to decline since 1978
- Challenges encountered due to discrepancies in Model Calibration Data
- Technical Assistance Study performed to analyze hydrology scenarios
  - Mixed Population Gage Analysis
  - Methodology updated to represent streamflow loss





Concordia Technical Assistance Project

- Modeled the effect the city's stormwater sewer system has on the flooding in the city. 2014 FEMA floodplain maps did not account for the city's stormwater sewer system and the dams located in the city. Results from the study show a reduction in the floodplain and the removal of a number of buildings from the floodplain.

FIGURE 3- OVERVIEW OF THE PC-SWMM MODEL

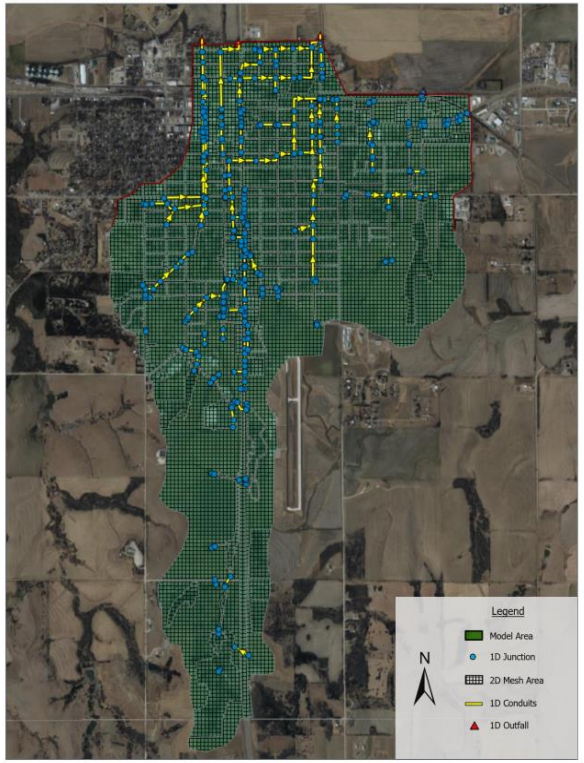


FIGURE 6- FLOOD DEPTHS AND STORM PIPE NETWORK AT OVERFLOW

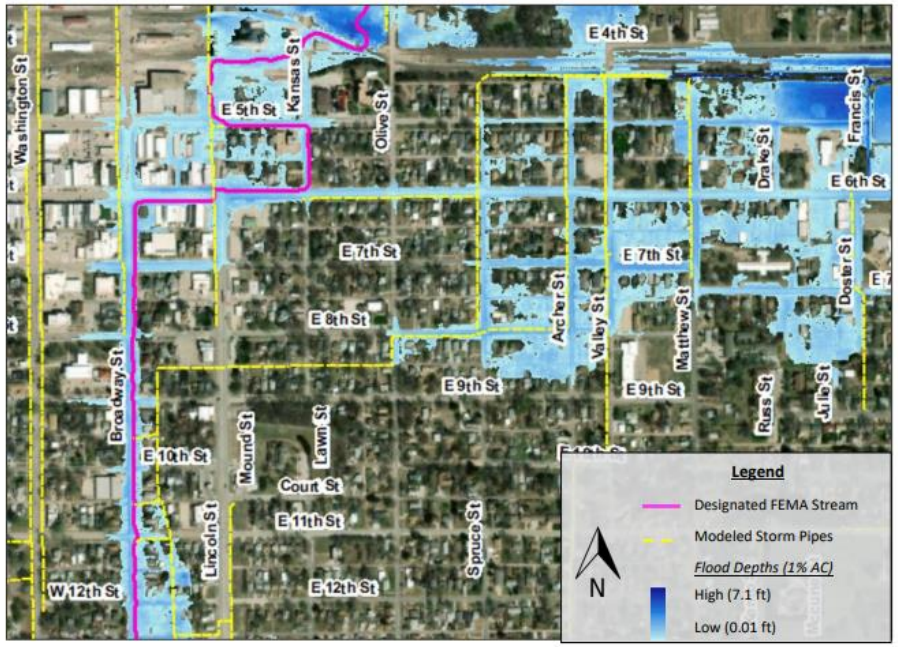
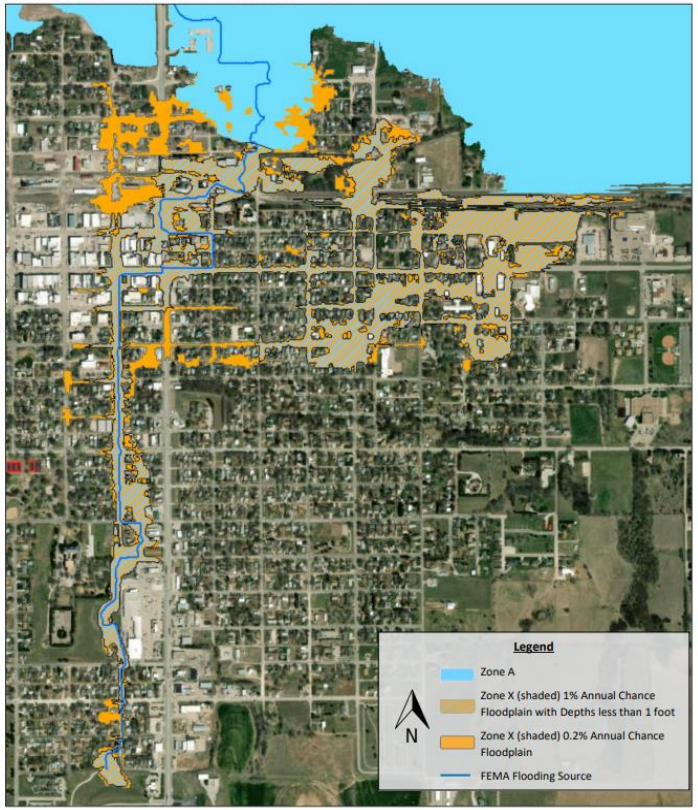


FIGURE 9- RECOMMENDED FLOOD ZONES FOR LOMR SUBMITTAL



Preview of the Planned Work

Which We Call Our Data Development Scope

Data Development Scope

Proposed scope if a county projects moves forward with data development and regulatory maps

For most of the countywide footprint…

Zone A

- Developed from 2D BLE Models and Mapping updated with Feedback from Discovery
- No Base Flood Elevations (BFEs) on the regulatory map, but available
- Water Surface Elevation and Depth Grids generated
- 2D Zone A BLE is easily scalable to enhanced Zone AE.

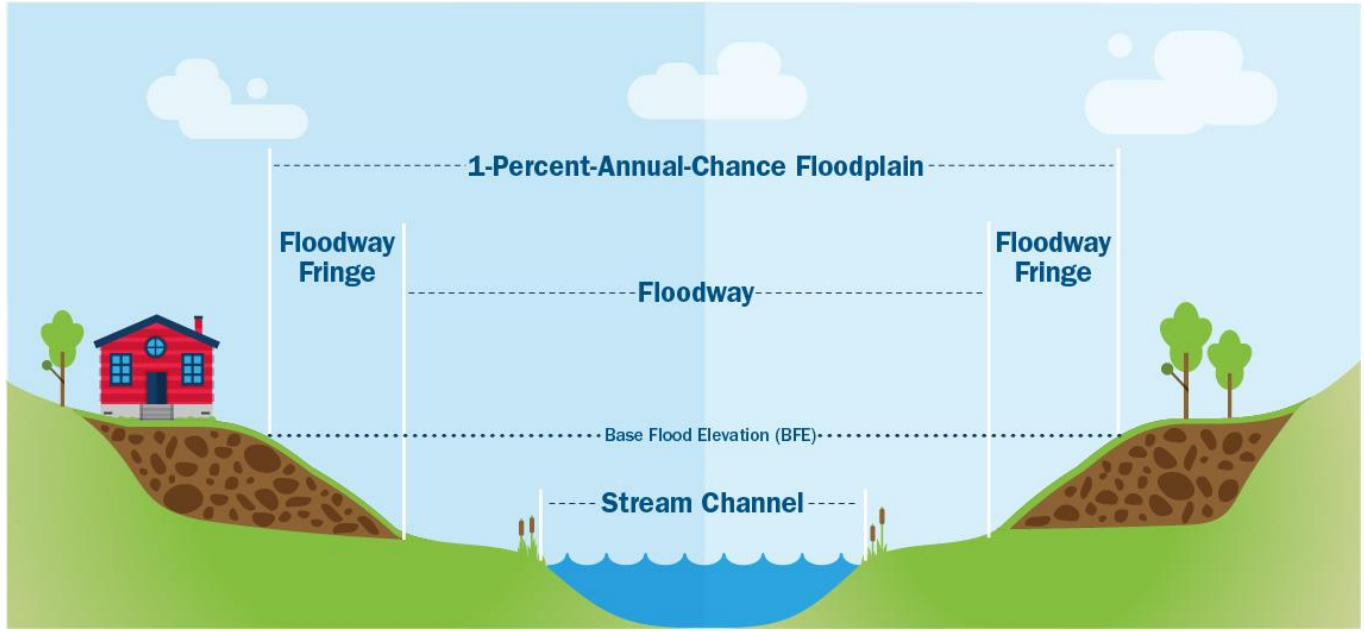
For specific areas identified as needing more detail…

Zone AE

- Culvert and bridge openings are included in the modeling
- Added detail to breaklines and land cover data in the modeling
- Additional Hydrology Calibration
- May have a floodway
- Base Flood Elevations (BFEs) will be shown on the regulatory map
- Water Surface Elevation and Depth Grids will be generated

What is a Floodway?

- Zone AE: with or without a floodway
  - If there is a floodway on the current map, the new map must have a floodway
  - If there is not a current floodway, a floodway is optional



Next Steps and Your Role in the Process

Project Timeline

Discovery Meeting: Today!

- *What data could contribute to making the map as accurate as possible?*
- *Revisit what flood risk reduction steps you are considering and how we can help!*
- *Provide feedback on data development scope, and mapping needs by 9/15/2024*

Data Development Work:

- *Decatur, Russell and Thomas Counties (currently underway)*
- *Jewell, Norton, Osborne, Phillips, Rooks and Smith Counties (expected FY2025)*

Your **review and feedback** on the draft maps

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Project Timeline, continued

Once **feedback is received,** there is a public review of the draft maps

- *We'll need your help in getting the word out to your residents*

Preliminary Map Products

Post-Preliminary Processing

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STEP ONE: Provide Feedback on the BLE Maps

We want to incorporate your feedback into our work ahead.
This could include:

- Review BLE floodplains and comment
- Review stream extents and comment
- Provide information on community needs or areas of specific concern.
  - Intersections that often flood and stop traffic
  - Drainage problems
  - Parts of town where homes or businesses have flooded

How?

- Provide comments directly on the map (we'll show you how in a minute)
- Email this team
- Call one of us!

STEP TWO: Provide Insight and Data

Provide information that would be useful for our mapping team to be aware of.

- Are there areas of recent construction/development?
- Are there plans for new construction/development?
- Are there tricky areas that may require a closer look?
- Do you have projects underway, related to flooding, that we could help with?
- Do you have information you have about past flooding, such as high water marks?
- Do you have updated Aerial Imagery (We typically use the latest imagery from NAIP)?
- Do you have survey or as-built plan information (culverts, bridge openings, channel geometry)?
- Are there any revision approved for your previous map (Letters of Map Revision or Amendments)?

STEP THREE: Review Modeling Approach

Provide input on our proposed approach for the Data Development that will inform your regulatory map (also known as your Flood Insurance Rate Map, or FIRM)

- Comment period goes until 9/15/2024 (More time can be provided if needed)

Key Takeaways

- This process is going to take time.
- Your involvement will help us produce better maps!
  - Get the word out and encourage participation in this project.
  - Review information as it becomes available.

DON’T HESITATE TO CALL; WE ARE AVAILABLE.

Stay Informed

- Email List
  - Get us names, addresses, and titles
  - Will be main source of project updates

- Project Updates
  - When important milestones are reached
  - When action is necessary (reminders)

- Meetings
  - Five planned meetings
    - **For BLE/Discovery:** Kickoff (**DONE**), Discovery Meeting (**Today!)**
    - **For Regulatory Updates:** Flood Risk Review, Open House, Post-Preliminary CCO meeting
  - Others, as needed

Resources and Contact Information

Online Project Information

- **Project Website**
  - Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
  - https://www.agriculture.ks.gov/divisions-programs/division-of-water-resources/water-structures/floodplain-management/mapping/upper-solomon-saline-custom-watershed
- **Web Review Map**
- Review of BLE data
  - https://gis2.kda.ks.gov/gis/upper_solomon_saline/
    - This link will not be public facing until the project has been through Data Development
- **Story Maps**
  - Project Info
  - “Floodplain Current:” Mapping Process ‘Nuts and Bolts’

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Base Flood Elevation Portal

For Zone A floodplains, you can request BFE data. Keep in mind, BLE data is subject to change.

https://maps.kgs.ku.edu/fpm_bfe/login.cfm

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Any Questions?

Interactive Map Review and Discussion

Web Map Link:
https://gis2.kda.ks.gov/gis/upper_solomon_saline/