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Division of Water Resources

FEMA

AECOM

Upper Smoky Hill Custom Watershed

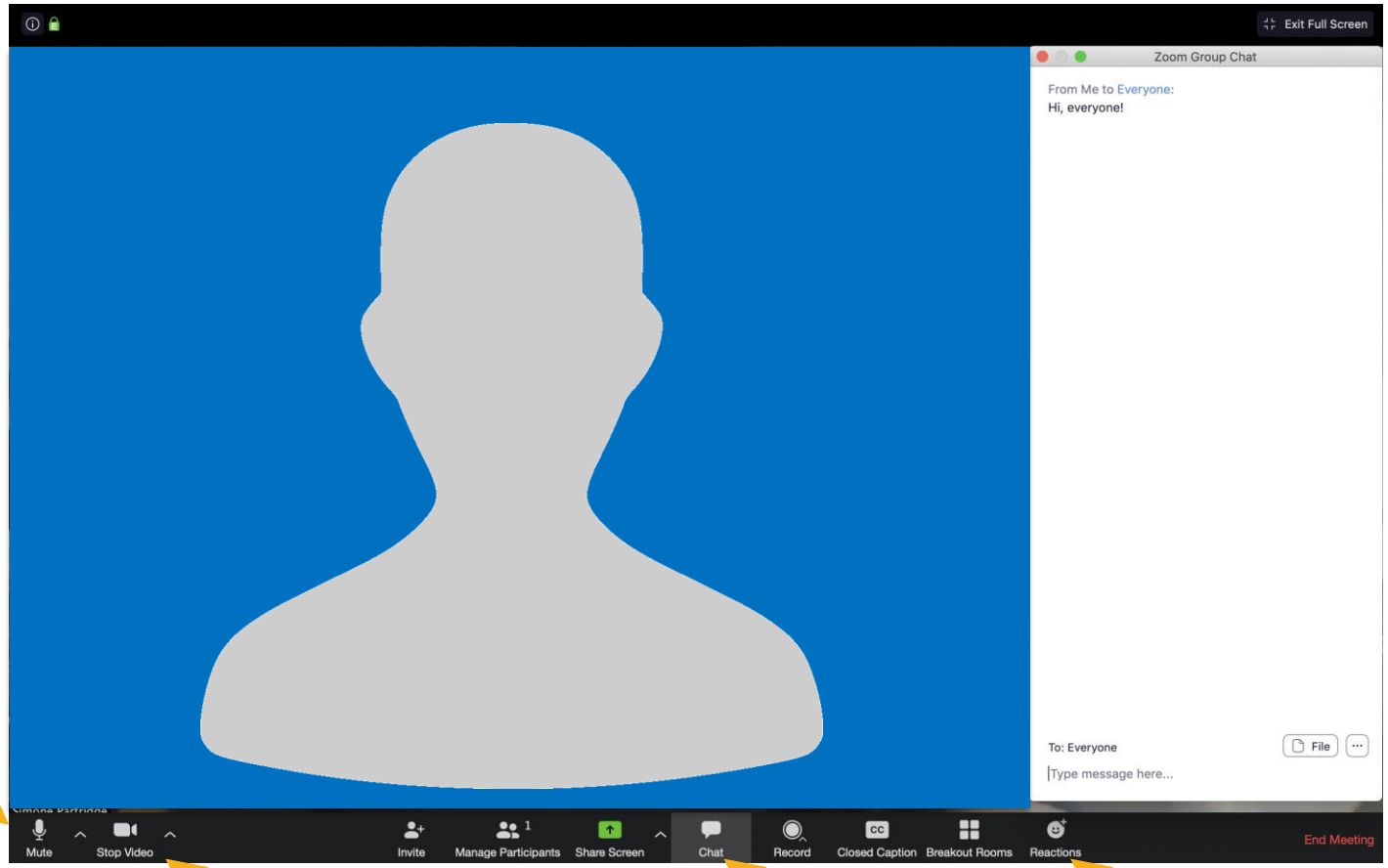
Floodplain Mapping Project Kickoff Meeting

December 7, 2021

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

Your engagement in this process is important to the success of this project, so thank you for taking the time to be here today!

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.
- Use the chat to ask questions during the presentation! 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 Joanna Rohlf; or email joanna.rohlf@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

Tara Lanzrath, CFM
Floodplain Mapping Coordinator

Steve Samuelson, CFM
State NFIP Coordinator

Cheyenne Sun Eagle
NFIP Specialist

Joanna Rohlf, CFM
Floodplain Mapping Specialist

William Pace, CFM
Floodplain Mapping Specialist

FEMA – Region VII

Andy Megrail
Regional Project Officer

AECOM Technical Services, Inc.

Daniel Curley
Project Manager

Hayden Edwards
Engineer

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Over the past 30 years, flooding has been more dangerous in the U.S. than any other weather-related problem. To minimize flood damage, we must first understand where the risk is.


Overview

Why We're Here: The Big Picture

The flood risk information in portions of the Upper Smoky Hill Custom Watersheds are outdated and warrant updating.

We want to develop a complete, current picture of your flood hazards and risks.

The ultimate goal is to help you better:

Plan for how to reduce your flood risk

Communicate the risk to your citizens

Take action to protect your communities

FEMA Floodplain Mapping Program

- Risk Mapping, Assessment, and Planning (Risk MAP)
- Supports the National Flood Insurance Program (NFIP). Performed on a watershed basis.
- Consists of both Regulatory and Non-Regulatory Products.
- Through Risk MAP, we provide new or 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

Flood Maps Affect Important Decisions

To Identify Flood Risk & the Need for Insurance

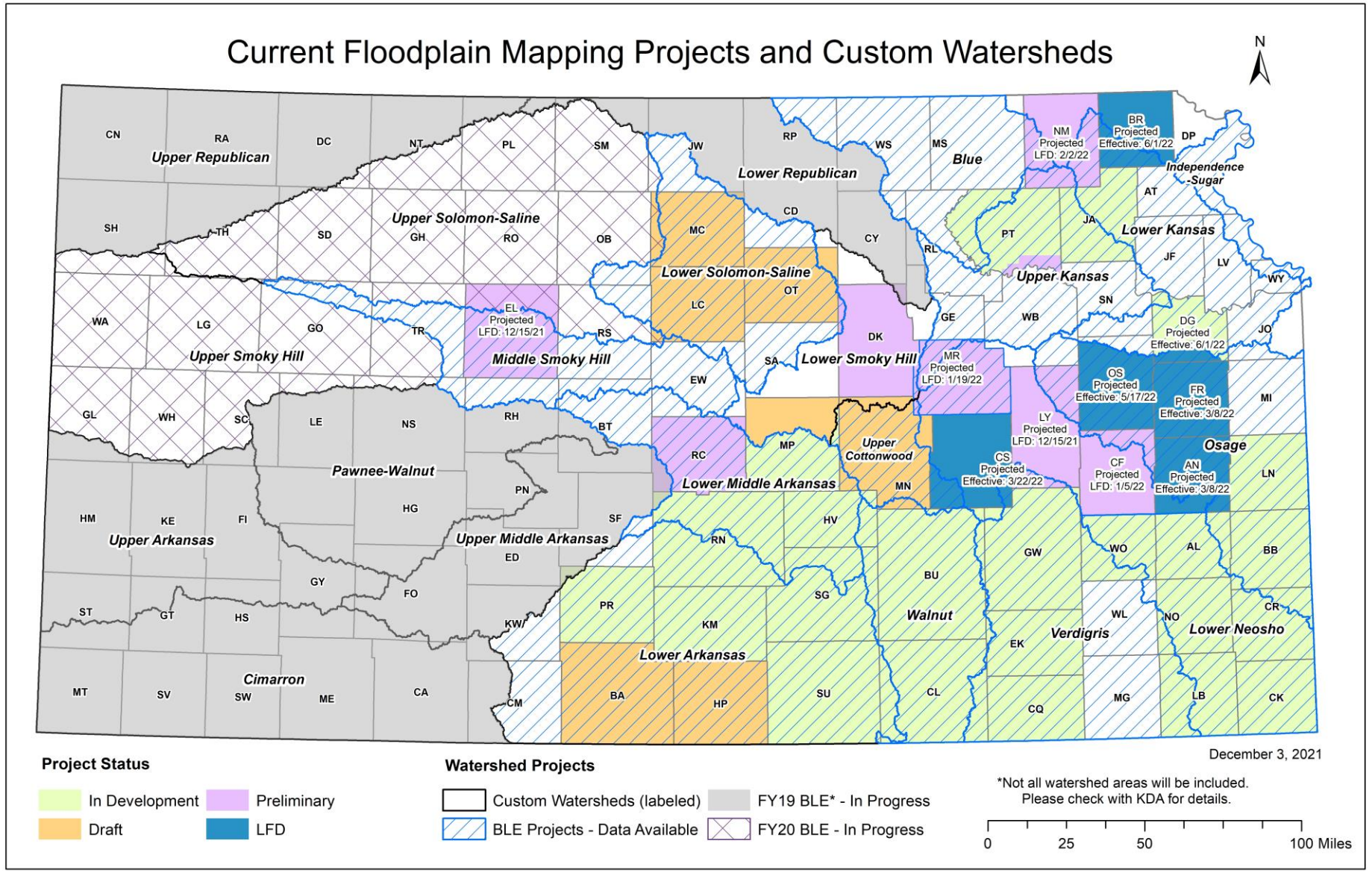
To Establish Rates for Flood Insurance

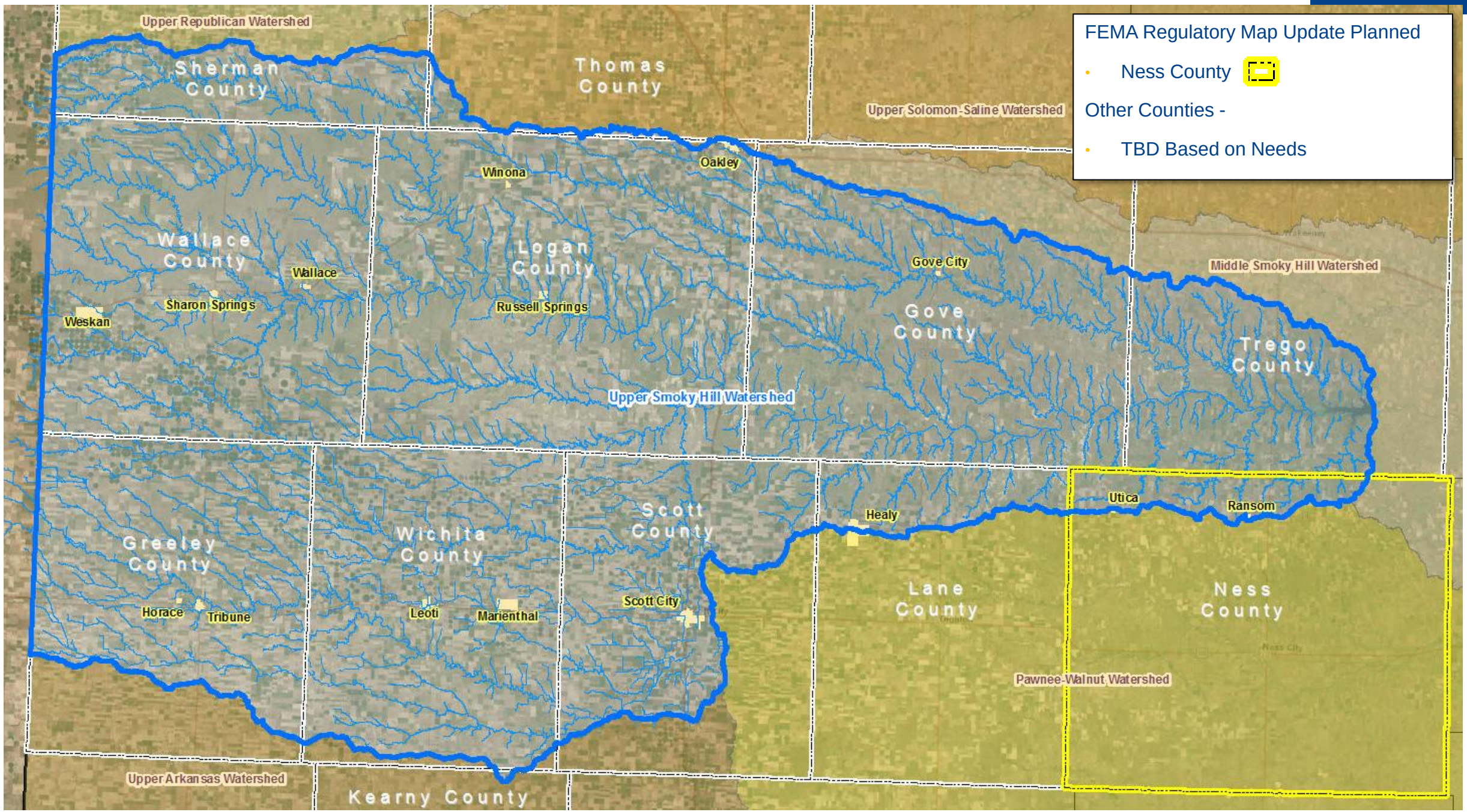
To Determine Land Use & Update Ordinances

To Inform Engineers and Developers

To Equip Emergency Managers

We are doing this work across Kansas…





FEMA Regulatory Map Update Planned

- Ness County

Other Counties -

- TBD Based on Needs

NFIP COMMUNITY STATUS

	Community Name	County	Curr Eff Map Date	Participating Community
*	QUINTER, CITY OF	GOVE COUNTY	12/24/76	NO
*	DIGHTON, CITY OF	LANE COUNTY		YES
	LANE COUNTY*	LANE COUNTY		YES
	OAKLEY, CITY OF	LOGAN COUNTY	7/2/1976	NO
*	BAZINE, CITY OF	NESS COUNTY	7/4/1989	YES
*	NESS CITY, CITY OF	NESS COUNTY	7/4/1989	YES
	RANSOM, CITY OF	NESS COUNTY	11/12/76	YES
	SCOTT CITY, CITY OF	SCOTT COUNTY	(NSFHA)	YES
*	WAKEENEY, CITY OF	TREGO COUNTY	(NSFHA)	YES
	SHARON SPRINGS, CITY OF	WALLACE COUNTY	09/04/86 (M)	YES
	LEOTI, CITY OF	WICHITA COUNTY	(NSFHA)	YES

Source: FEMA Community Status Book. Communities not listed have not been identified or mapped by FEMA.
** Outside of Upper Smoky Hill Watershed*

Legend:

(E)	Indicates Entry In Emergency Program
NSFHA	No Special Flood Hazard Area - All Zone C
(>)	Date of Current Effective Map is after the Date of This Report
N/A	Not Applicable At This Time
(S)	Suspended Community
(W)	Withdrawn Community
(M)	No Elevation Determined - All Zone A, C and X
(L)	Original FIRM by Letter - All Zone A, C and X

Effects of NFIP Non-participation

- **No flood insurance is available** on any building located within a nonparticipating community. No owner of a residence, business, or public building will be able to purchase a flood insurance policy through the National Flood Insurance Program.
- **No Federal disaster assistance** can be provided in identified flood hazard areas if flood insurance is a condition of the assistance (such as disaster recovery loans and grants). This means no federal funds will be available for rebuilding an area that has suffered significant flood damage. No federal funds would be available for acquisition, construction, or repair of insurable structures. Assistance for replacing or repairing structures and personal property located in an identified flood hazard area would be limited to temporary housing assistance.
- **No Federal mortgage insurance** can be provided for structures in identified flood hazard areas if flood insurance is a condition of the grant or loan, including the Federal Housing Administration, Veterans Administration, Farmers Home Administration, Department of Housing and Urban Development, and the Small Business Administration among others.
- **Other Federal agency loans and grants will not be available**, such as: Environmental Protection Agency grants for construction of sewer and water supply systems in the floodplain; Department of Transportation funds to build or improve roads in the floodplain; and Small Business Administration loans to firms building or expanding in the floodplain.


Today's Goals

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Today's Goals

Get Input	Get your input on where you have seen flooding
Share	Share how we can help your community lower its flood risk
Review	Review the work ahead and how we propose doing it
Discuss	Discuss your role in this work moving forward

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Your Role

- Tell us where you've seen flooding in your community.
- Share where and how we can help lower your flood risk.
- Ask questions as we review the work ahead – we'd like your input.

- *NOTE: if there are others in your community who might have input about your community's flooding concerns and our approach to this work, PLEASE put their name, community, and email into the chat, or email Tara so we can make sure to connect with them.*

We Need Your Input:

Where has your community experienced flooding?

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How are your community's daily activities impacted when it floods?

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As We Review Your Floodplain Maps, We Want to Hear from You:

Where are you experiencing flooding?

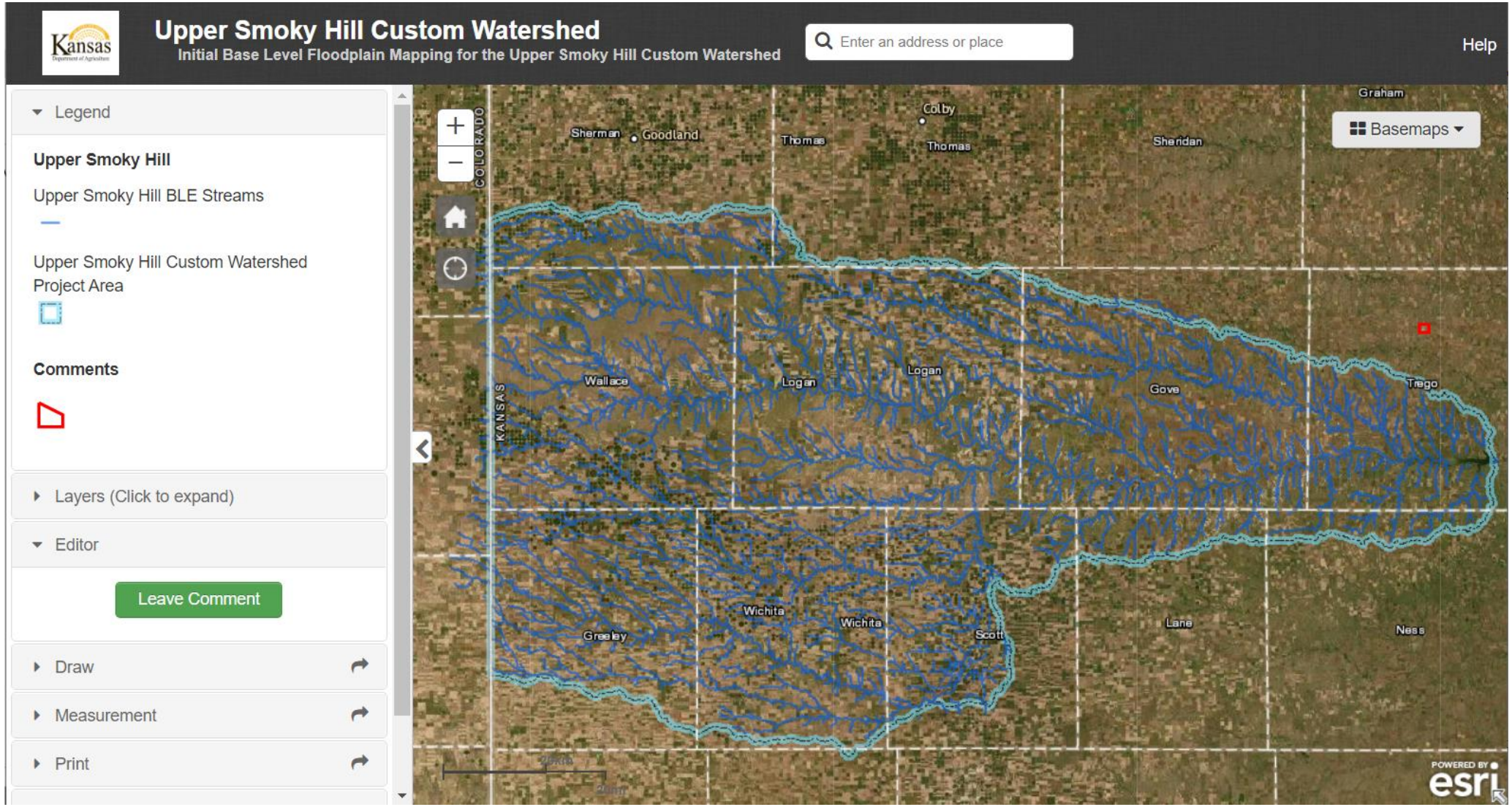
- Intersections that often flood and stop traffic?
- Drainage areas that cause problems?
- Any parts of town where homes or businesses have flooded?

Are there areas where there has been recent construction/development? Or, where there are plans to build?

Are there any tricky areas to take a closer look at?

Do you have projects related to flooding underway that we could help with?

Image of Web Map - https://gis2.kda.ks.gov/gis/upper_smoky/



How We Can Help

“Mitigation Technical Assistance”

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We are asking this question for two reasons:

If you've had flooding, we want to know WHERE. This helps truth-test the engineering analysis we will be doing.

Depending on how and where your community is being impacted by flooding, we might be able to help.

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How We Can Help

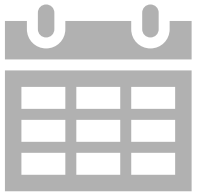
STEP 1:

Explain what you need help with.

STEP 2:

We determine if it's something we can support.

STEP 3:



If we can support it, we'll work with you to put together a plan and a timeline.

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Guidelines:

- We want to identify what help is needed now, so we can plan accordingly.
- The work will be done over the next 1-3 years.
- We can't pay for "the thing" itself (e.g., the installation of a new culvert or retention basin), but **we can help you move a project forward by developing technical information**.
- Your community must be invested in moving a project forward.

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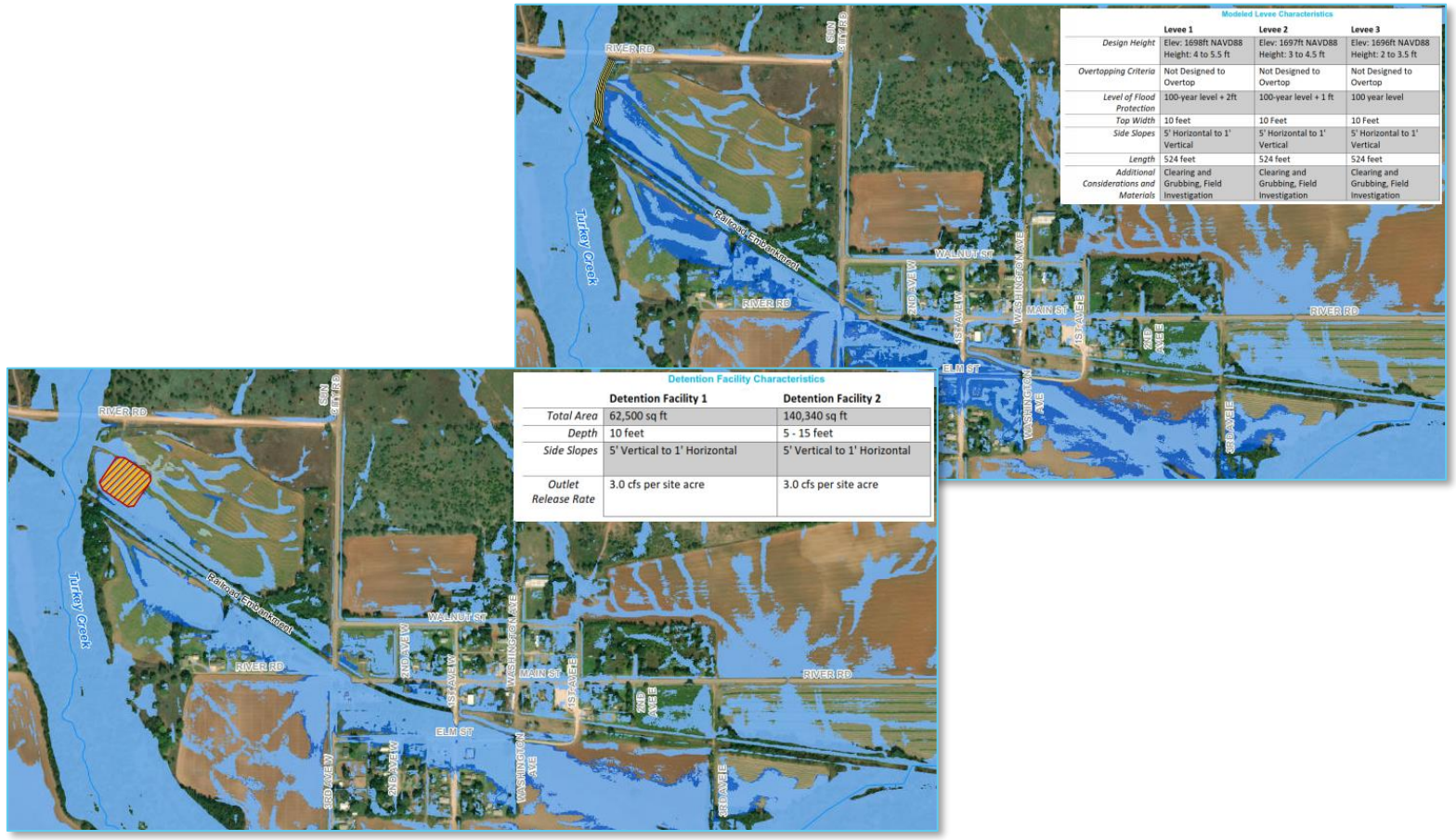
Some Ways We Can Help:

- Provide risk assessments for structures in your community
- Use engineering analysis to show you what types of projects could reduce flooding impacts.



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Some Ways We Can Help:

- Assist with the Benefit-Cost Analysis if you are putting together a grant application for a project.
- Modeling flood inundation scenarios for a variety of mitigation projects in Sun City, KS.

Flood Mitigation Scenarios	% of Inundation Area Reduction	% of Flood Hazard Reduction	Estimated Construction Cost	Cost per % of Hazard Reduction
Levee 1	38.4%	89.3%	$264,117.00	$2,956.10
Levee 2	38.4%	89.3%	$215,210.00	$2,408.71
Levee 3	38.4%	89.3%	$198,454.00	$2,221.17
Detention 1	11.6%	44.6%	$318,209.00	$7,141.34
Detention 2	12.5%	45.2%	$542,140.00	$11,987.71
Channel 1	9.7%	32.0%	$334,992.00	$10,474.65
Channel 2	20.0%	29.4%	$241,592.00	$8,211.61
Channel 3	16.7%	32.4%	$111,128.00	$3,432.96
Channel 4	15.7%	34.3%	$162,648.00	$4,747.46

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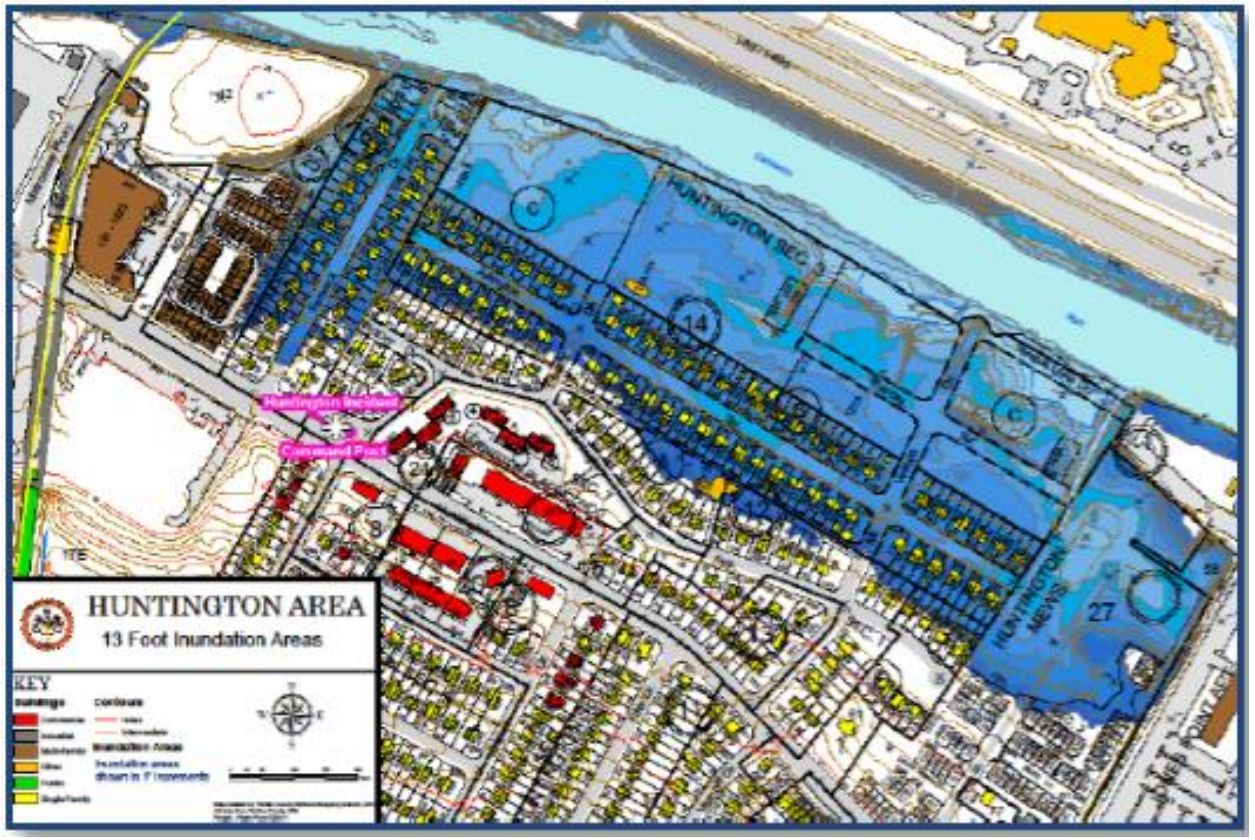
Some Ways We Can Help:

- Analyze flooding impacts from blockages at culverts
- Support participation in the Community Rating System (CRS) Program.



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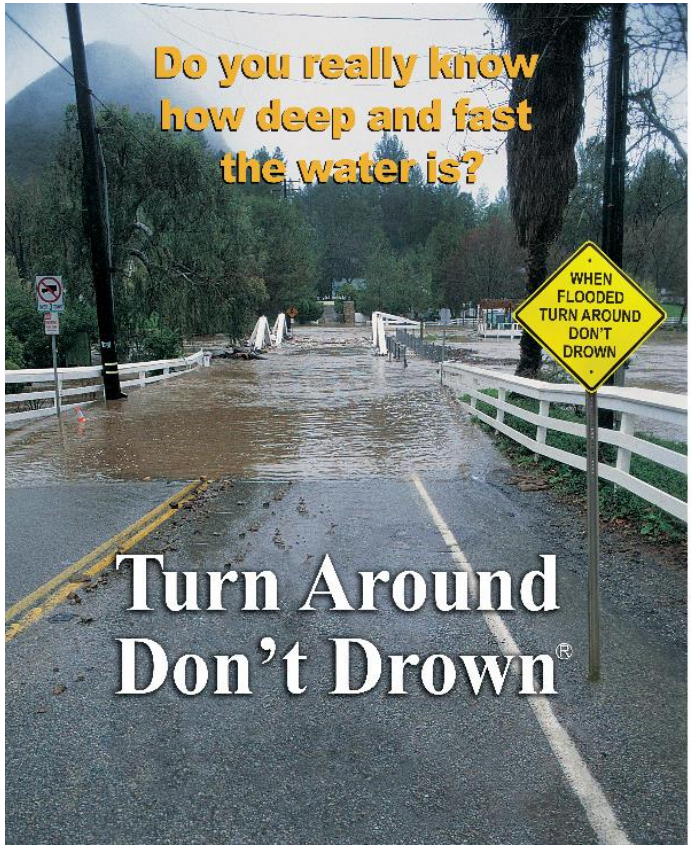
Some Ways We Can Help:

- Provide training for staff on how to use flood risk products.
- Support Education and Outreach



Any Ideas?

Review of the Work Ahead and How We Propose Doing It

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To Note

A lot of our work is technical and it's likely that not everyone in the (virtual) room is an engineer.

That's OK!

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Our Next Steps:

1. Generate early flood risk data with Base Level Engineering (BLE)
2. Gather additional data from you that will inform us of mapping needs and assist us in our analysis for any new floodplain maps
   - We will ask for this during a future Discovery meeting with you (Spring 2022)
3. Complete data development for specific areas of watershed as part of future regulatory updates

Throughout this work, we will share the emerging picture of flood risk with you to get your feedback.

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Base Level Engineering: What is it?

BLE is an engineering approach that provides an initial (or “base” line) understanding of flood hazards, providing enough information for us to draft initial floodplains.

**Provides flood hazard information for areas that currently have no information, little information, or outdated information.*

FLOODPLAIN: On the maps we create, the floodplains, which are areas with high flood risk – where a flood has a 1-percent chance of happening each year.

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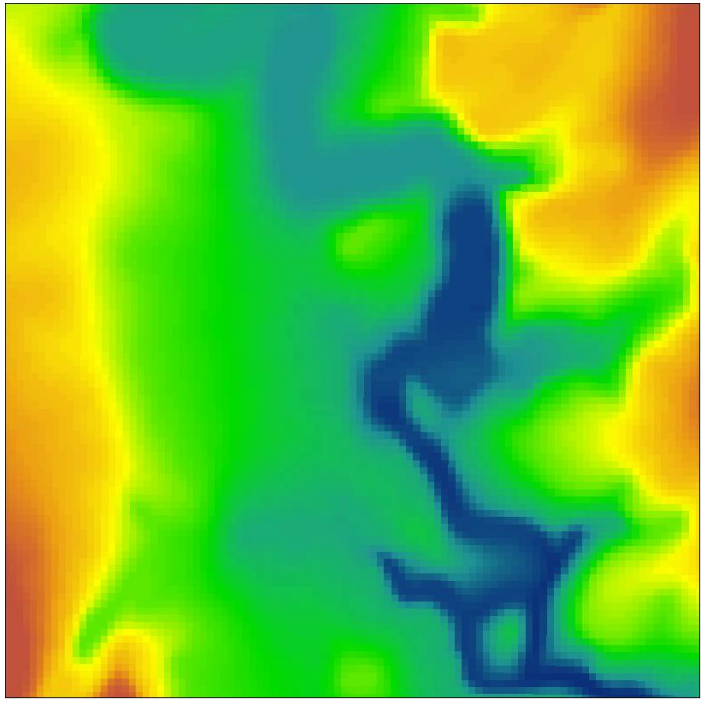
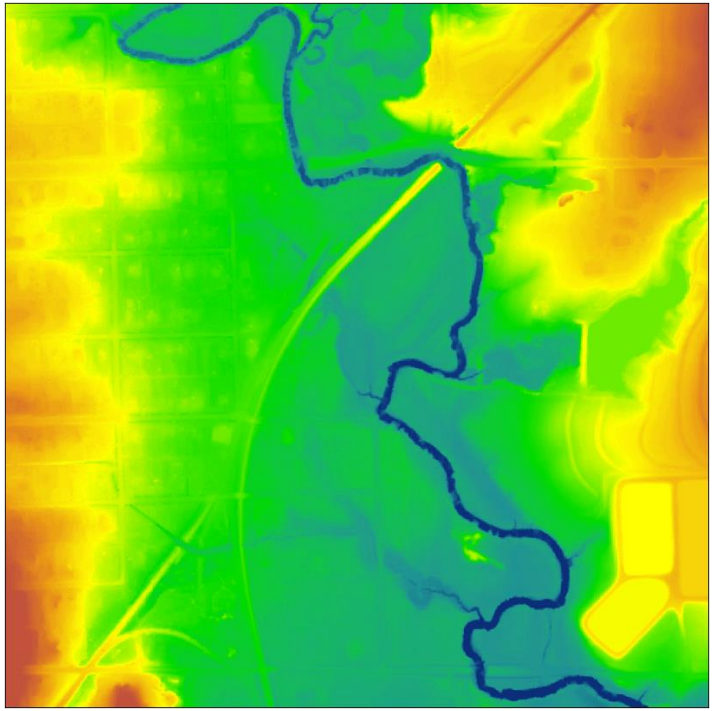
We Use LIDAR in our Base Level Engineering

Some of your current maps are based on a 10-meter Digital Elevation Model. Updated LiDAR Topography will be used in the new modeling.

10m DEM



LiDAR



**Bare-Earth*

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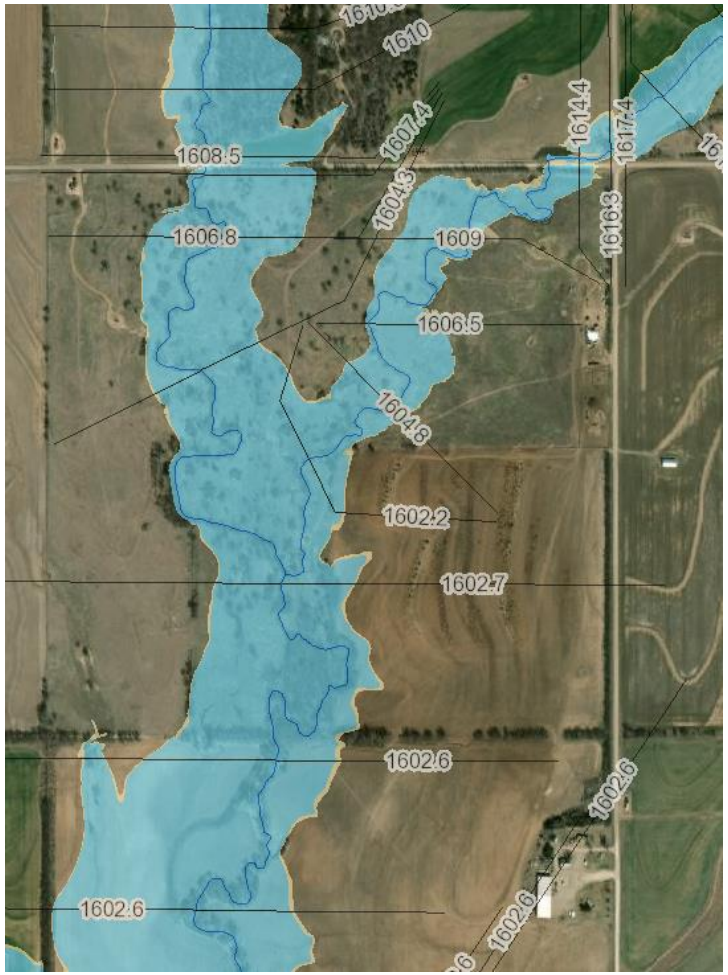
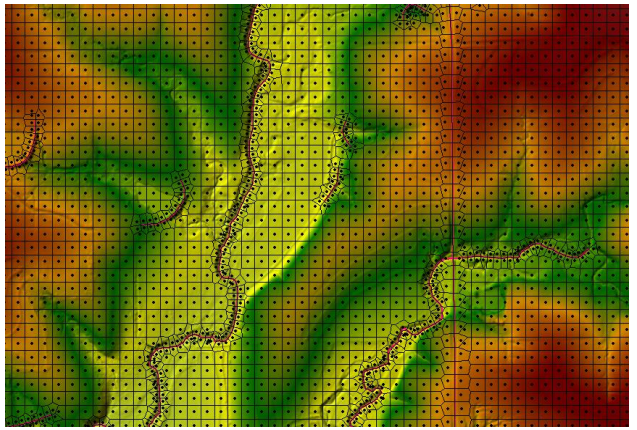
We Use 2D Hydraulic Modeling in our Base Level Engineering

The current maps are done with one-dimensional (1D) modeling. Two-dimensional (2D) modeling will be used for the new modeling.



1-D 2-D



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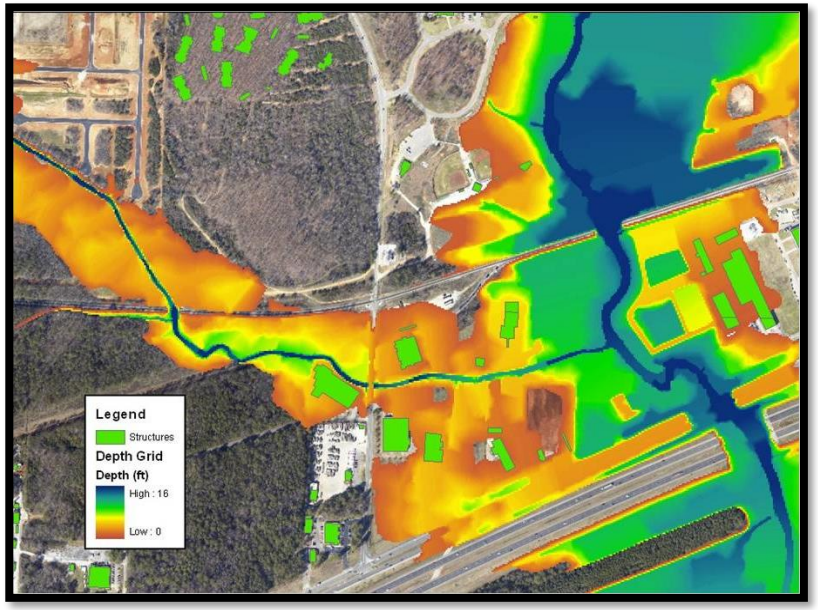
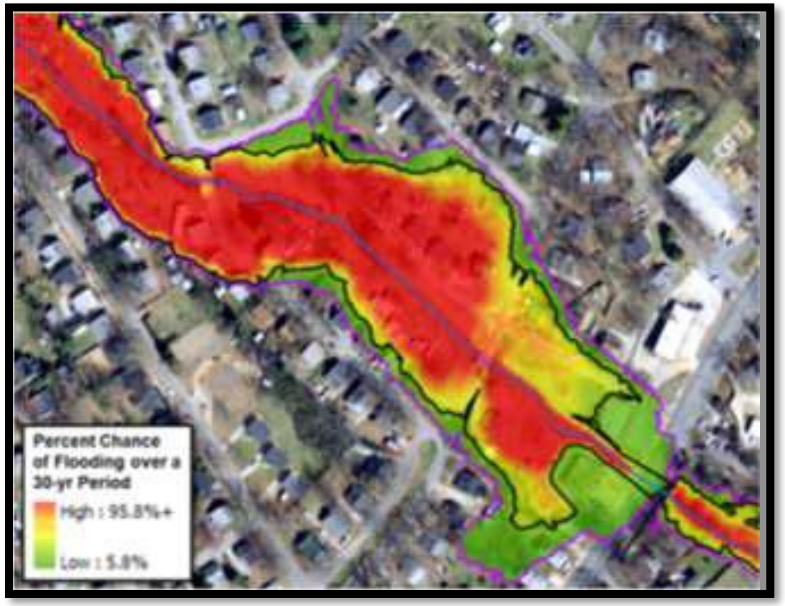
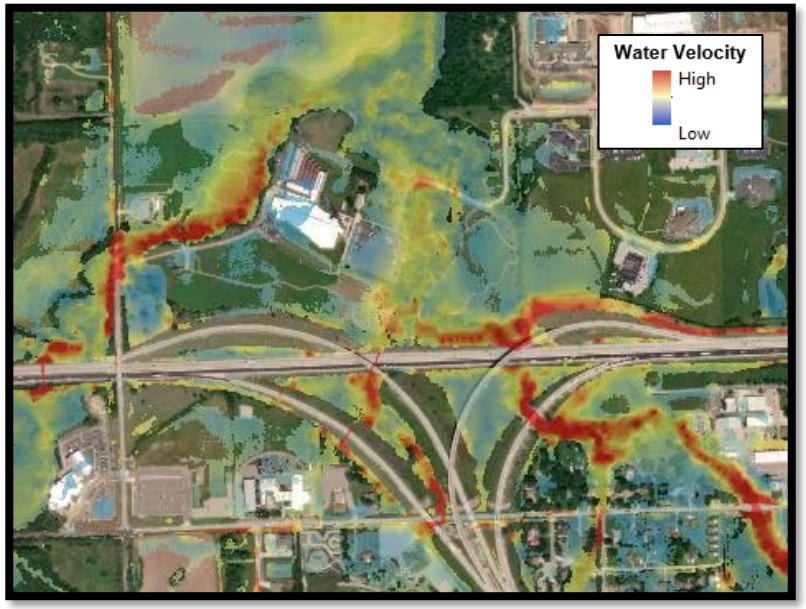
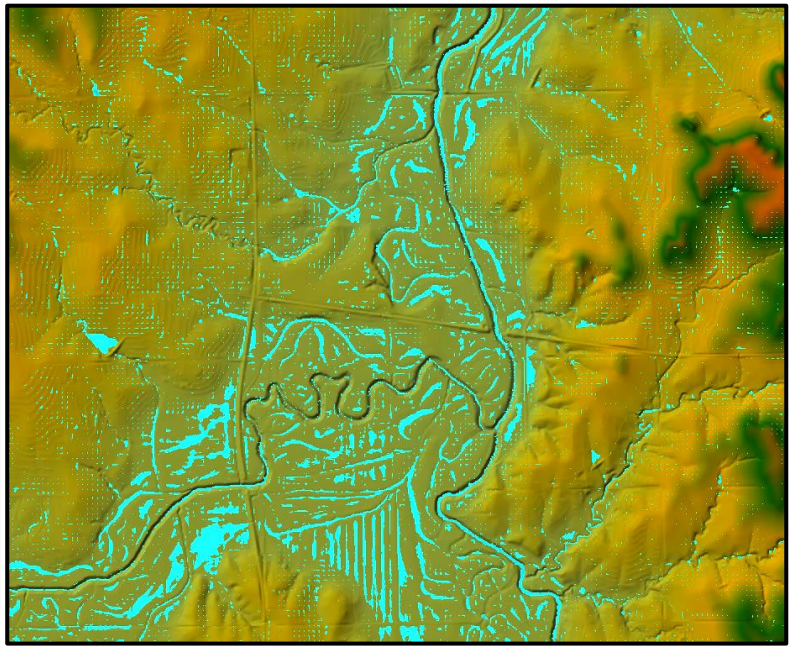
More precise data and modeling methods gives you more information about flood risk









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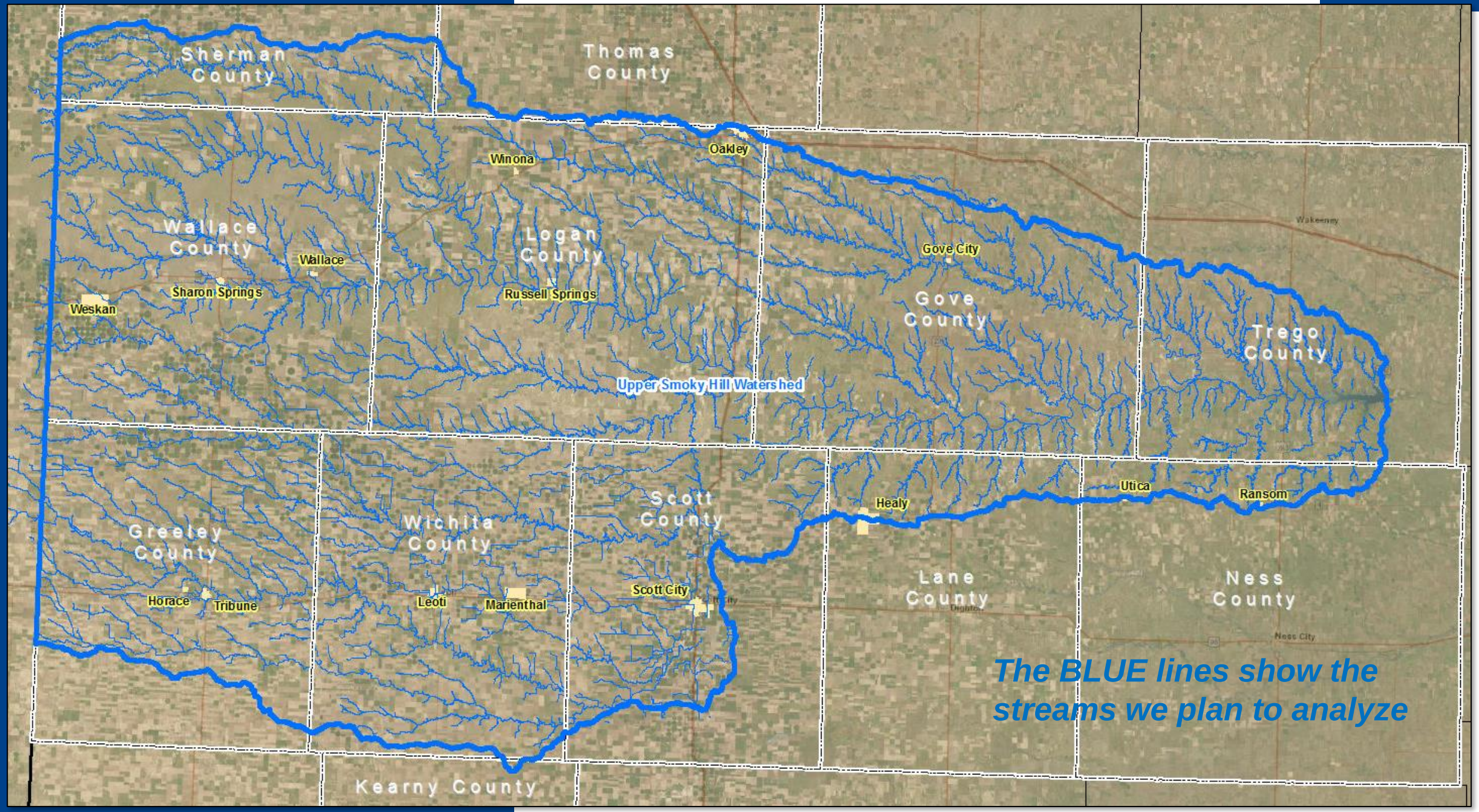
Key Takeaways for BLE

1	Uses highly advanced engineering techniques
2	Provides early insight into community flood risk
3	It’s an important step in our partnership to get the data right

We will generate BLE floodplains for this area:



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What Happens During Data Development

- We take additional information gathered and enhance the engineering analysis.
- We develop your regulatory draft floodplain maps.
  - Also known as your Flood Insurance Rate Map (FIRM)
- We develop a Flood Insurance Study.
  - This is a compilation of flood hazard data and analysis for streams, lakes, and hazard areas in your community.
- We also develop flood risk data tools for your community to use in its planning.

FREE DATA!!!

Next Steps and Your Role

Project Timeline

Kick-off Meeting and Initial Community Feedback:
[TODAY!]

Discovery Meeting:
[Spring 2022]

- *Provide feedback on mapping needs?*
- *What flood data do you have available?*
- *Revisit flood risk reduction steps you are considering and how we can help!*

Data Development Work:

- *TBD*

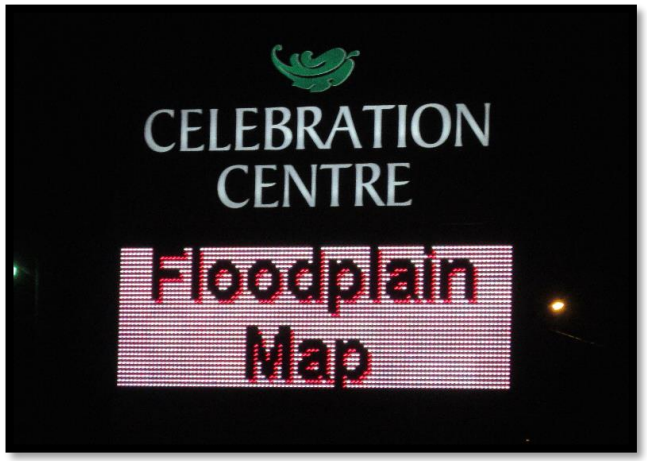
Project Timeline, continued (following Data Development)

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

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

Preliminary Map Products

Post-Preliminary Processing



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What Should You Do Next?

Initial Feedback on Flooding

- Provide locations of known flooding issues on the web map.
- If there are others in your community who you think we should talk to about historical flooding, please let us know.

Project Kickoff Survey

You will receive this in a follow-up email, please fill out and return.

Consider Flood Risk Reduction Projects

If you have any additional needs or concerns, please let us know! If possible, we'd like to help.

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Key Takeaways

Floodplain Mapping Projects take time

Your involvement in this process will result in better flood information for your community

While we are working in your community, we also want to help you with your work to reduce flood risk

DON'T HESITATE TO CALL, WE ARE HERE TO HELP

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We Will Keep You Informed:

Project updates will come by email

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

Future Meetings:

- As Part of this BLE Project
  - Discovery (Spring 2022)

> ***"Discovery** is the process of data mining, data collection, and analysis with the goal of initiating a flood risk project or mitigation action and discussing risk within the watershed"*

- *As Part of Data Development Work (TBD - Regulatory Map Updates)*
  - *Flood Risk Review*
  - *Public Open House (for you and your residents)*
  - *Post-Preliminary Consultation Coordination Officer meeting (for community officials who need to know the regulatory adoption steps for the map)*
  - *Others, as needed*

Resources

Online Project Information

Project Website

- Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
- ***https://gis2.kda.ks.gov/gis/upper_smoky/***
- **Web Review Map**
- Provide comments on areas impacted by past floods, community needs, etc.
- Review of BLE data, once available
- 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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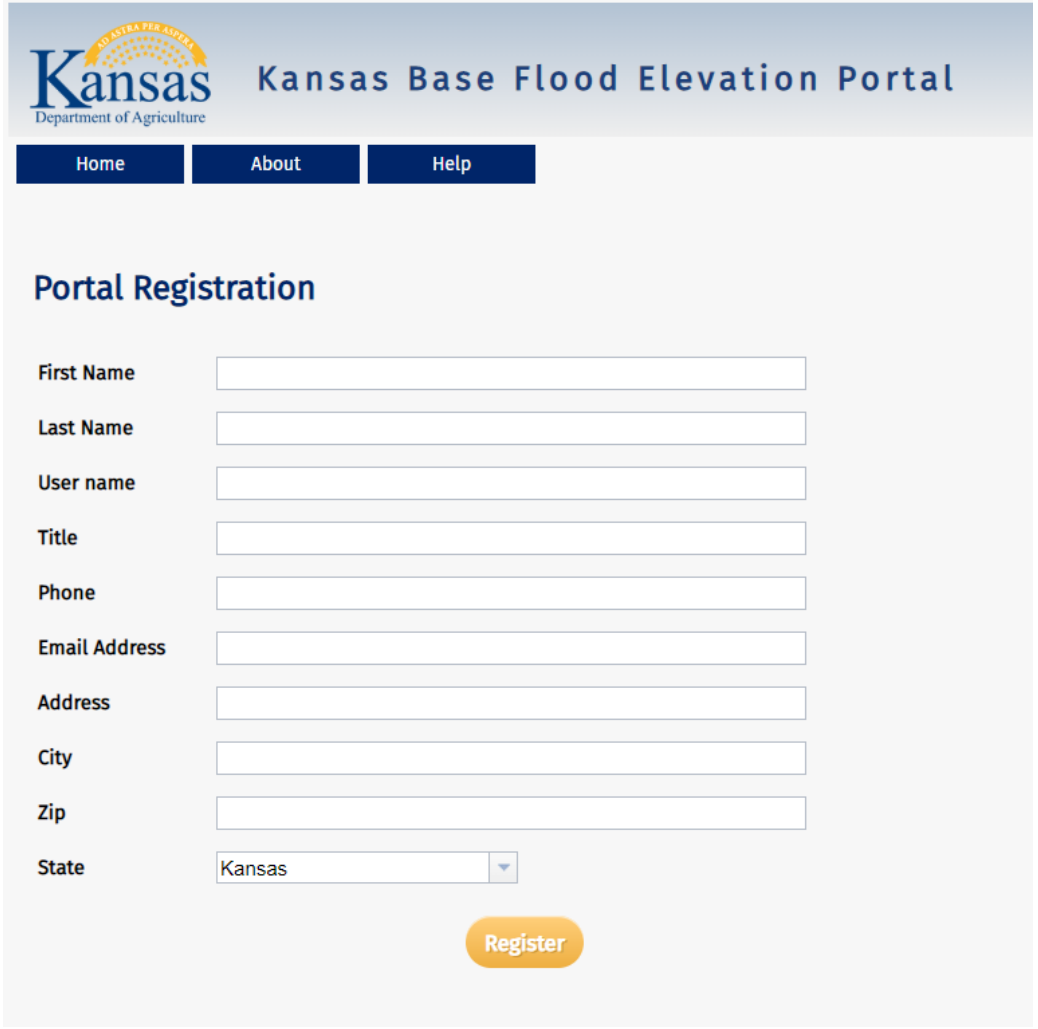
BFE Portal

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



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Any Questions?

Interactive Map Review and Discussion

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