



Upper Republican Custom Watershed




FEMA

*Floodplain Mapping Project
Kickoff Meeting*

June 17, 2021

AECOM

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



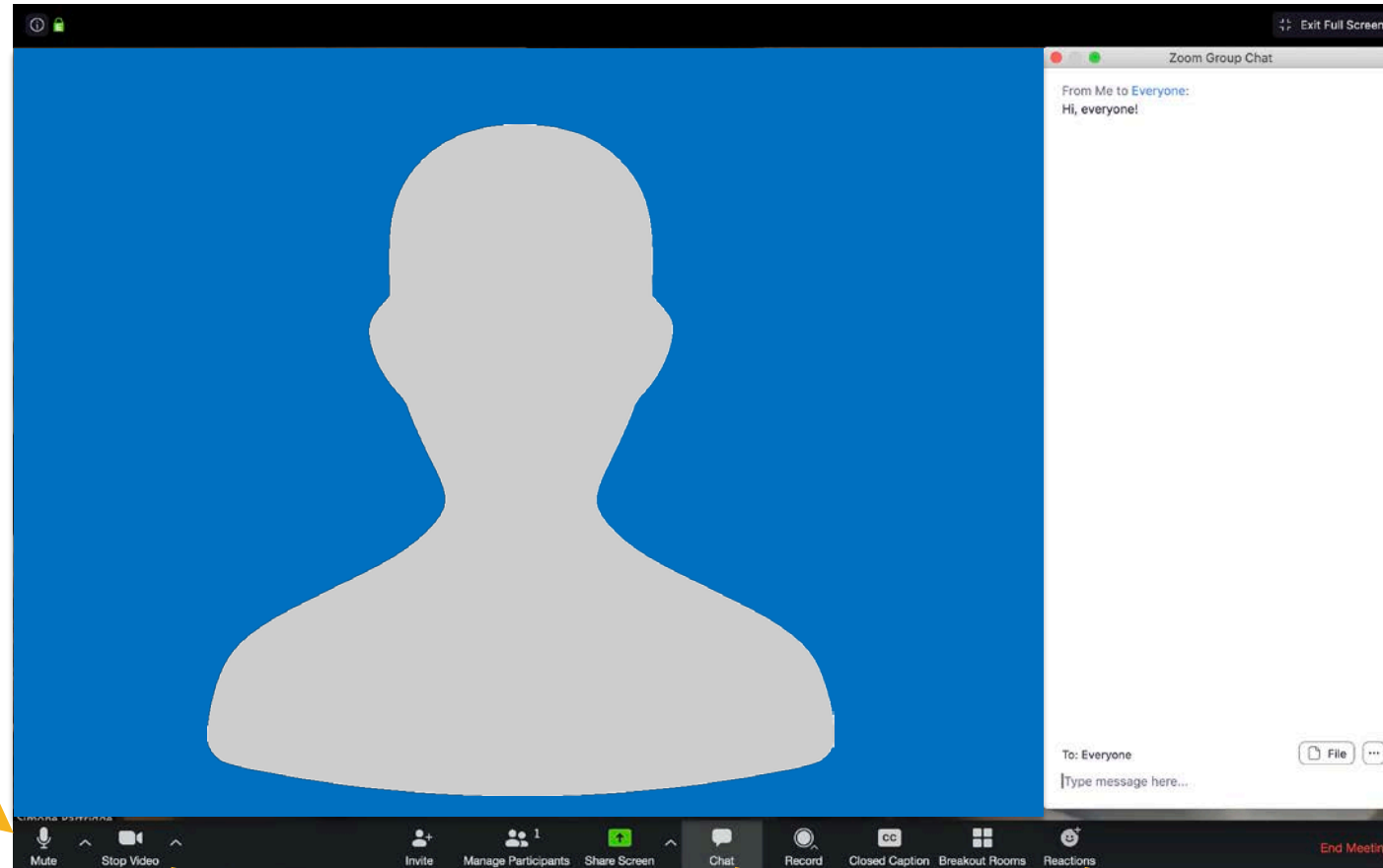
***Your engagement
in this process is
important to the
success of this
project, so thank
you for taking the
time to be here
today!***



**THANK
YOU**

Zoom Features

**Mute /
Unmute**



Start your Video

**Use the Chat
Feature**

Reactions



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.



Introductions

Kansas Department of Agriculture

Tara Lanzrath, CFM
*Floodplain Mapping
Coordinator*

Joanna Rohlf, CFM
*Floodplain Mapping
Specialist*

William Pace, CFM
*Floodplain Mapping
Specialist*

Steve Samuelson, CFM
State NFIP Coordinator

Cheyenne Sun Eagle
NFIP Specialist

FEMA – Region VII

Andy Megrail
Regional Project Officer

AECOM Technical Services, Inc.

Daniel Curley
Project Manager

Hayden Edwards
Engineer



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The flood risk information in portions of the Upper Republican Custom Watersheds are outdated and warrant updating.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



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***

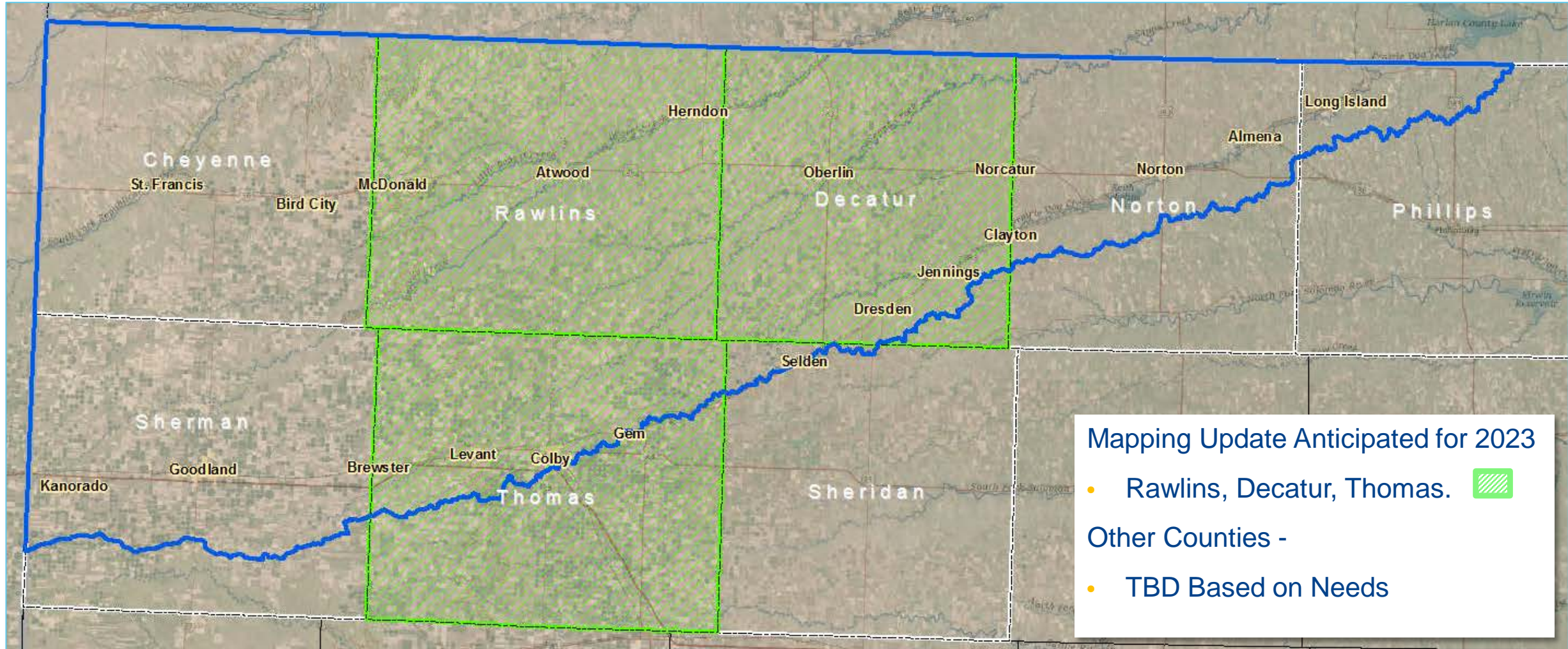


***To Inform
Engineers
and
Developers***

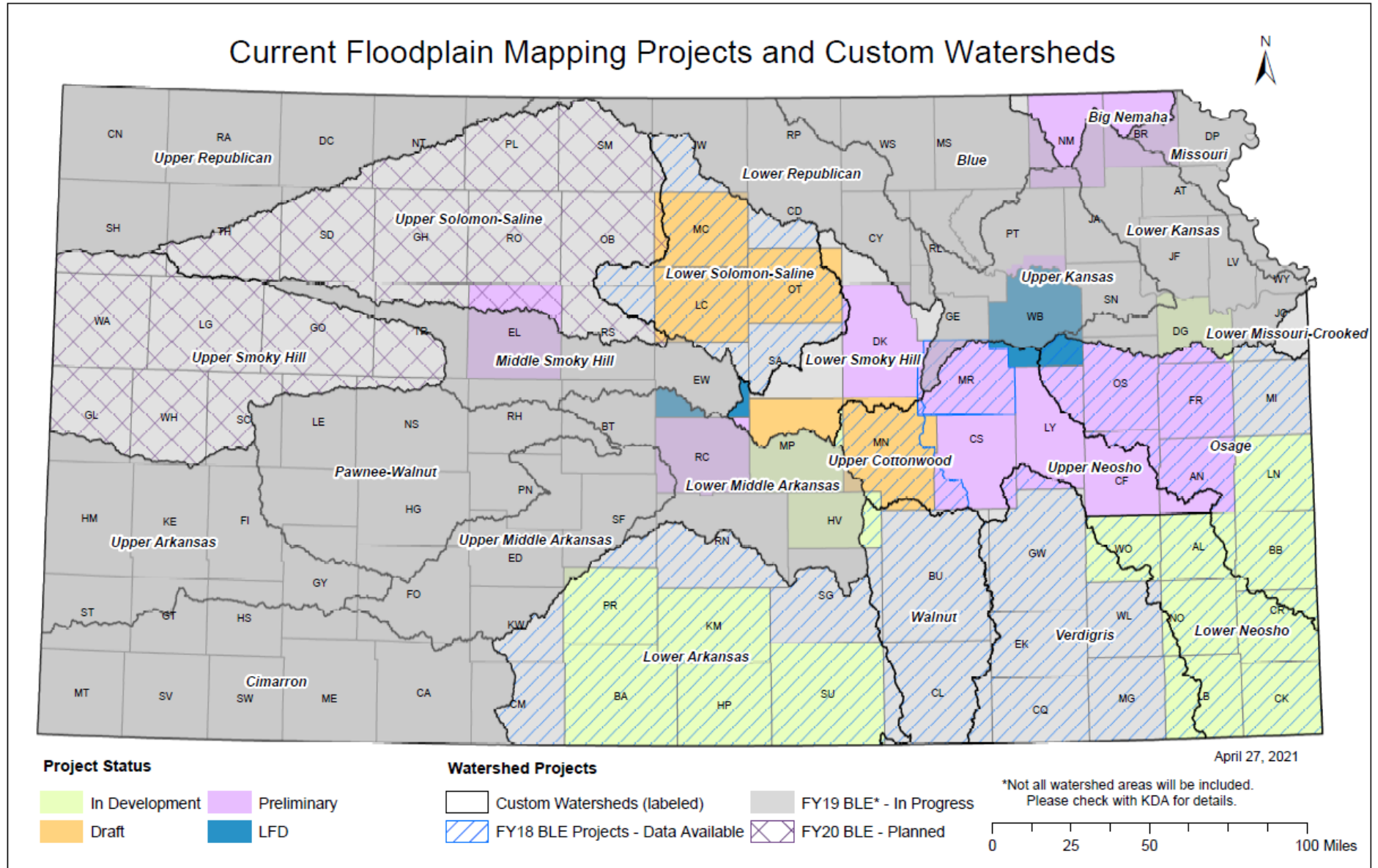


***To Equip
Emergency
Managers***

Overview of Watershed



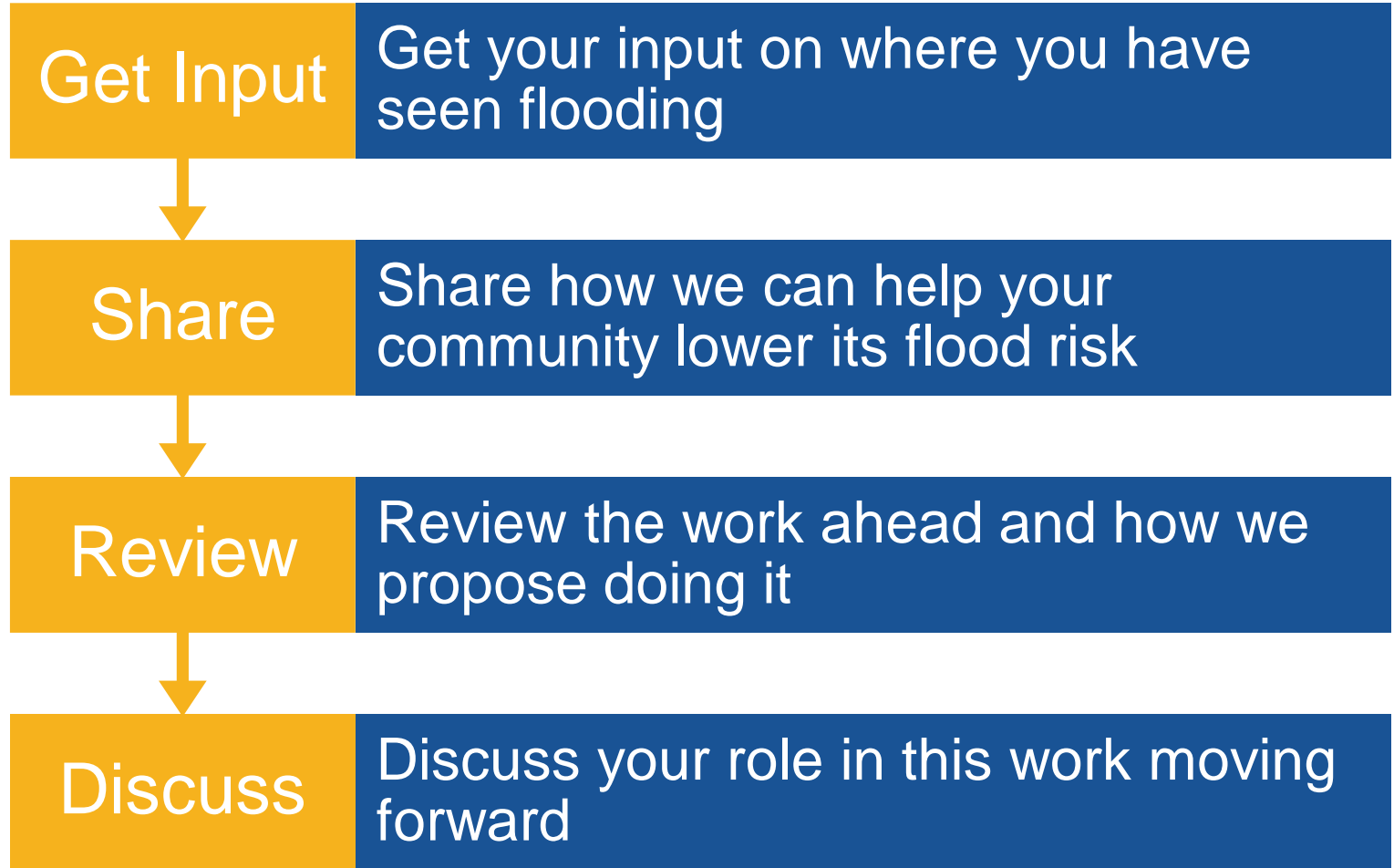
We are doing this work across Kansas...



Today's Goals



Today's Goals





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?***



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





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

Where are you experiencing flooding?

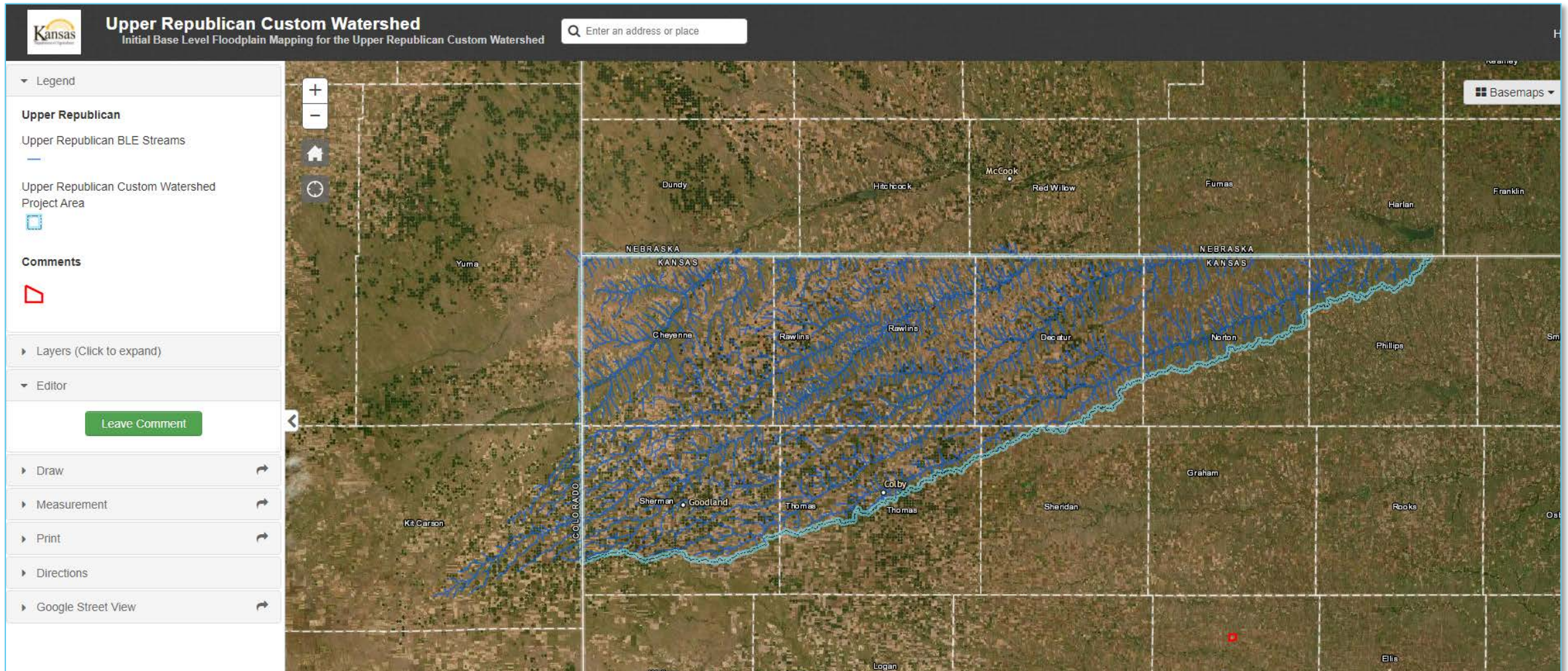
- Intersections that often flood and stop traffic?
- Drainage areas that cause problems?
- Any parts of town where homes or businesses have flooded?

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_republican/



How We Can Help

“Mitigation Technical Assistance”



***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.



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.



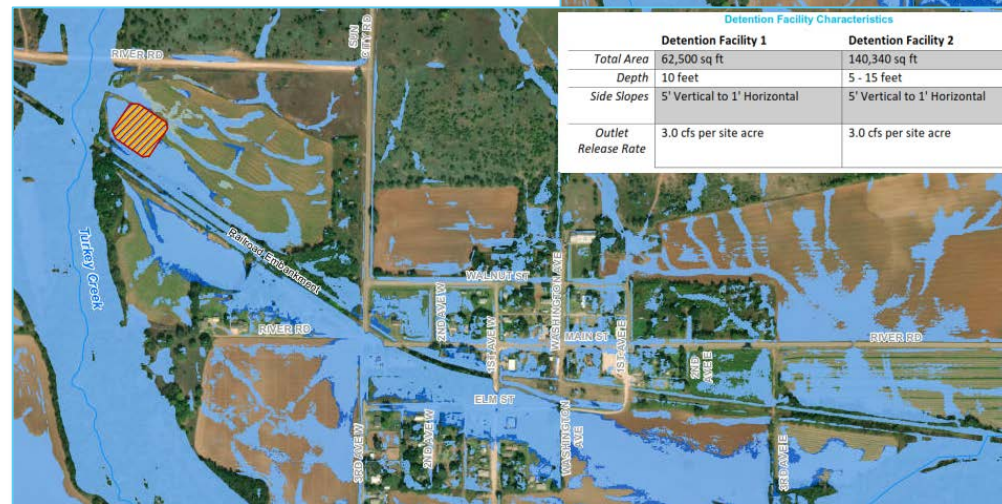
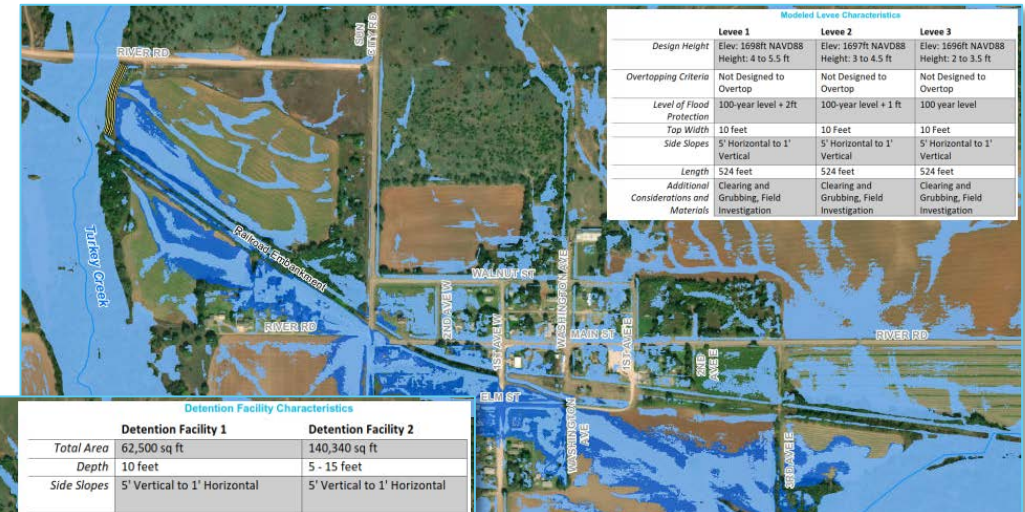
Guidelines:

- 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.



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

Some Ways We Can Help:





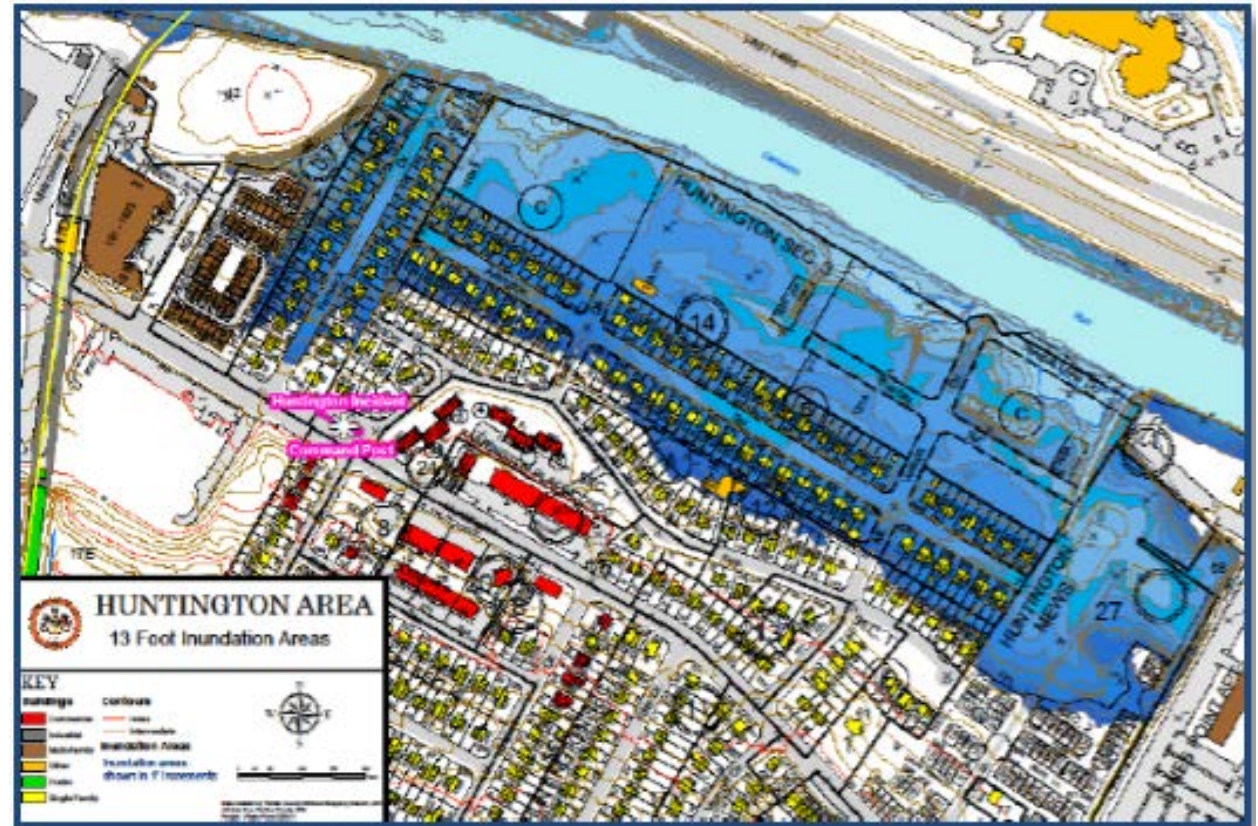
Some Ways We Can Help:

- 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

Some Ways We Can Help:

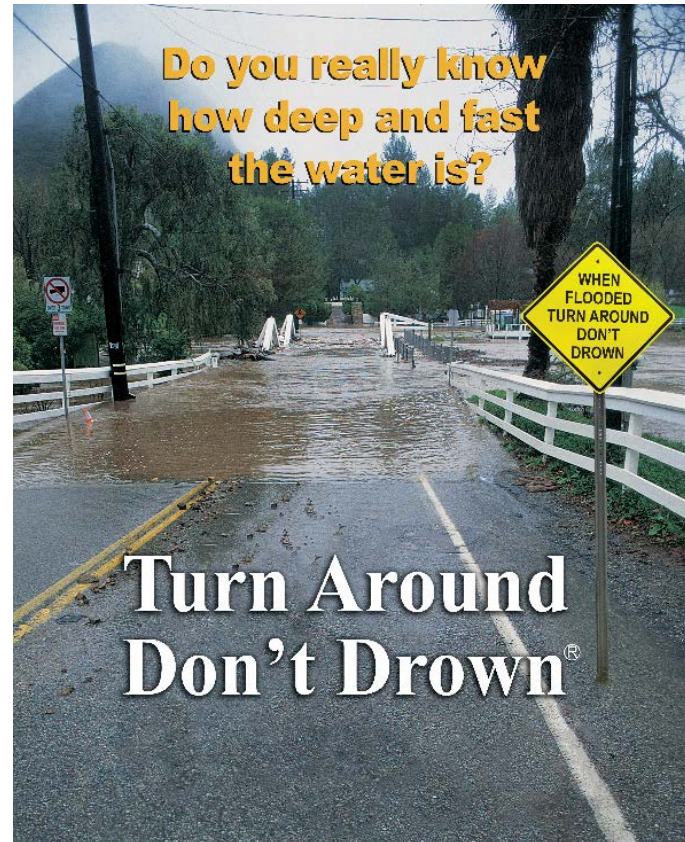
- Analyze flooding impacts from blockages at culverts
- Support participation in the Community Rating System (CRS) Program.





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



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!



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 (Fall 2021)
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.



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.*

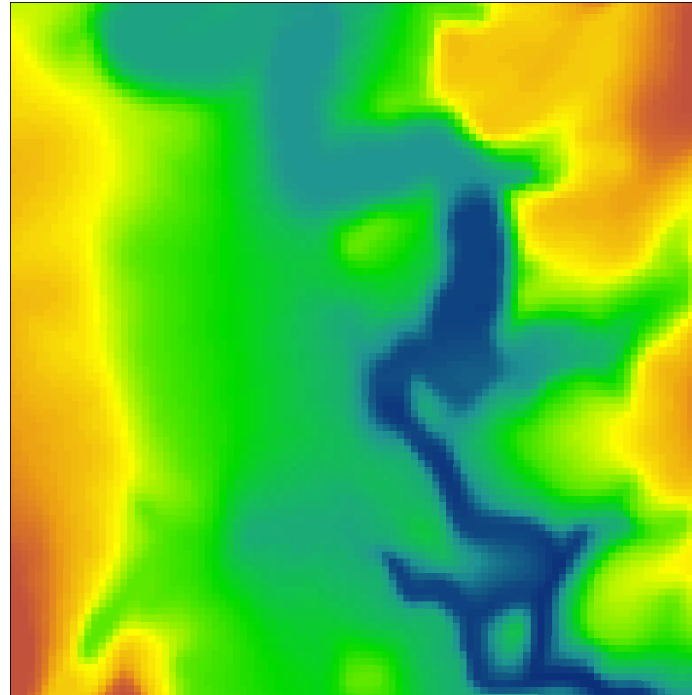
FLOODPLAIN: On the maps we create, the floodplains, which are areas with high flood risk – where a flood has a 1-percent chance of happening each year.



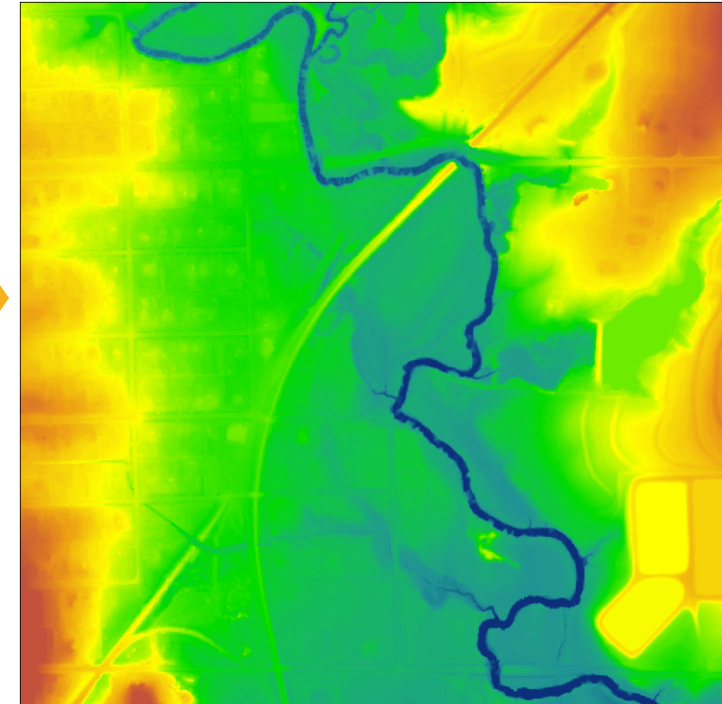
***We Use LIDAR
in our Base
Level
Engineering***

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



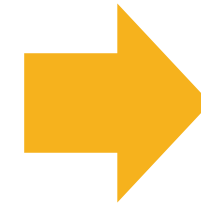
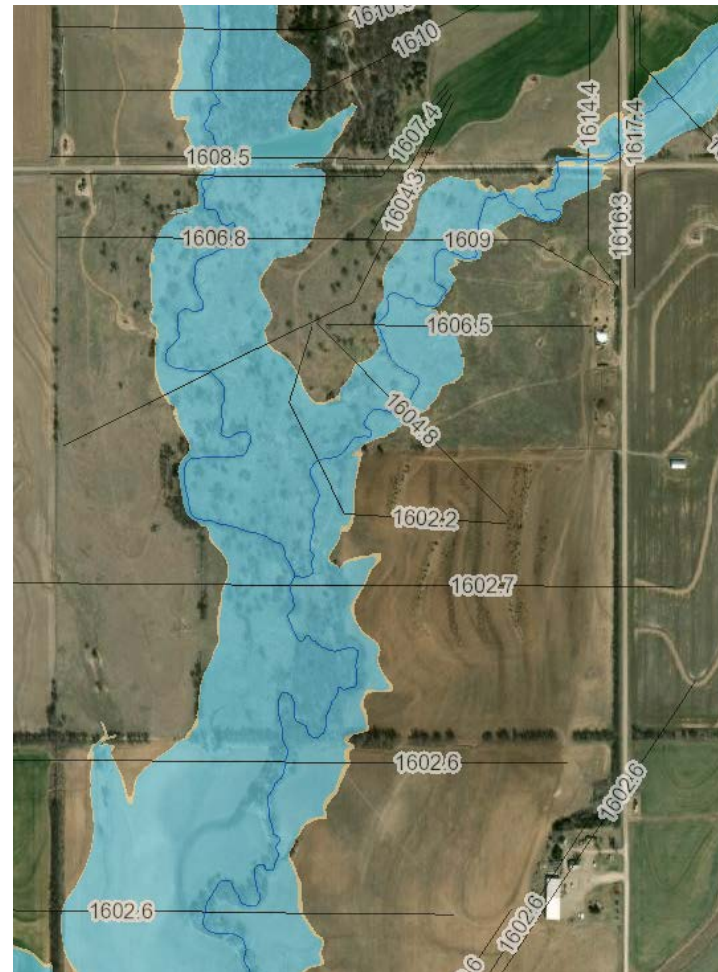
LiDAR



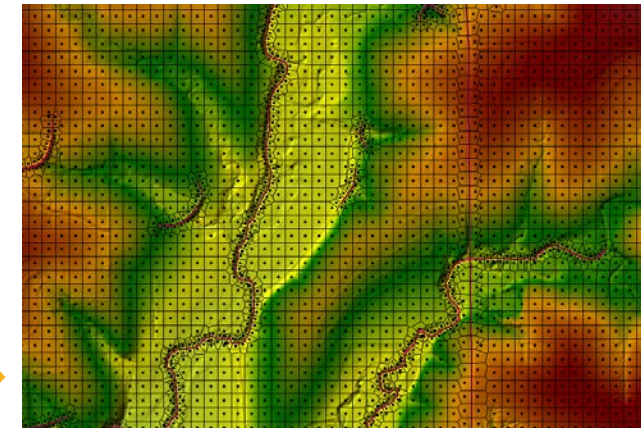
**Bare-Earth*

**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.

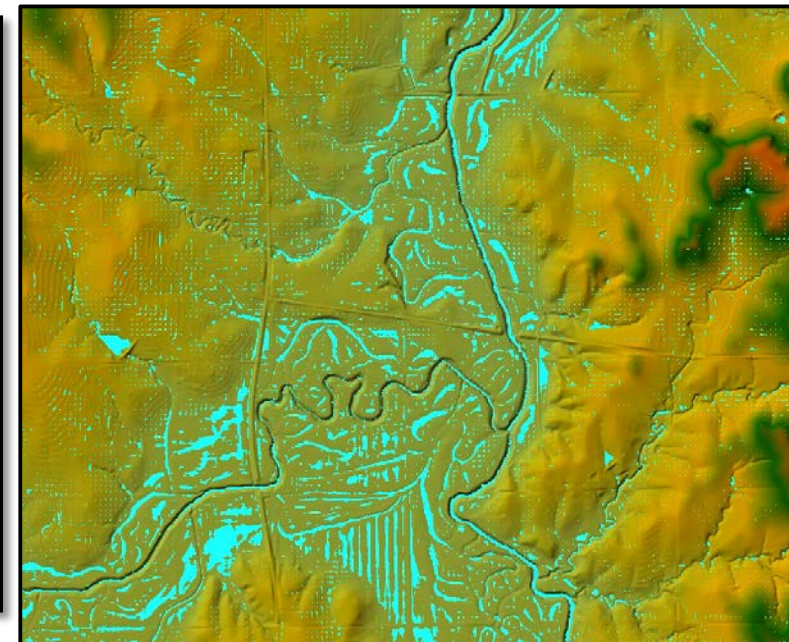
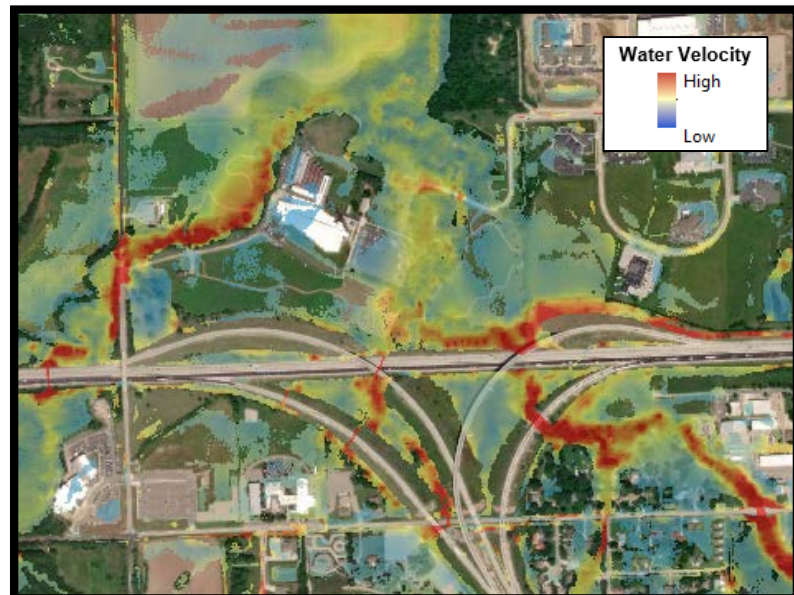
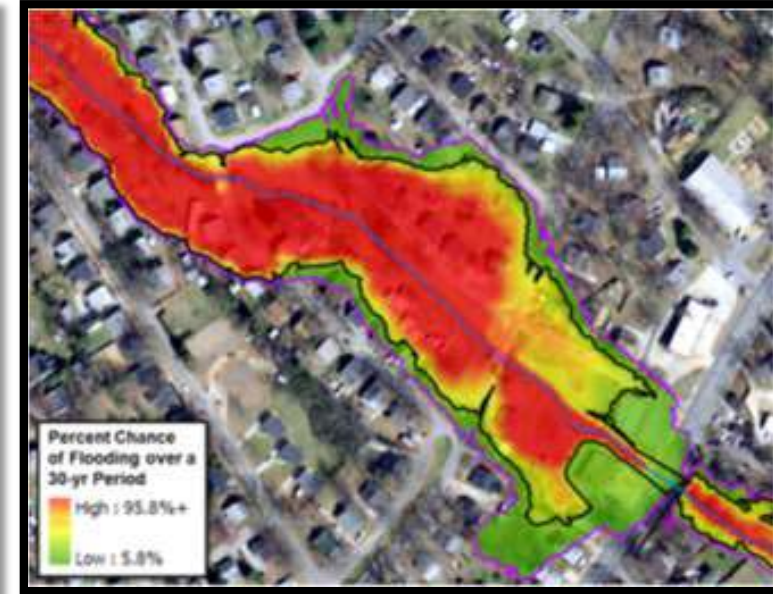
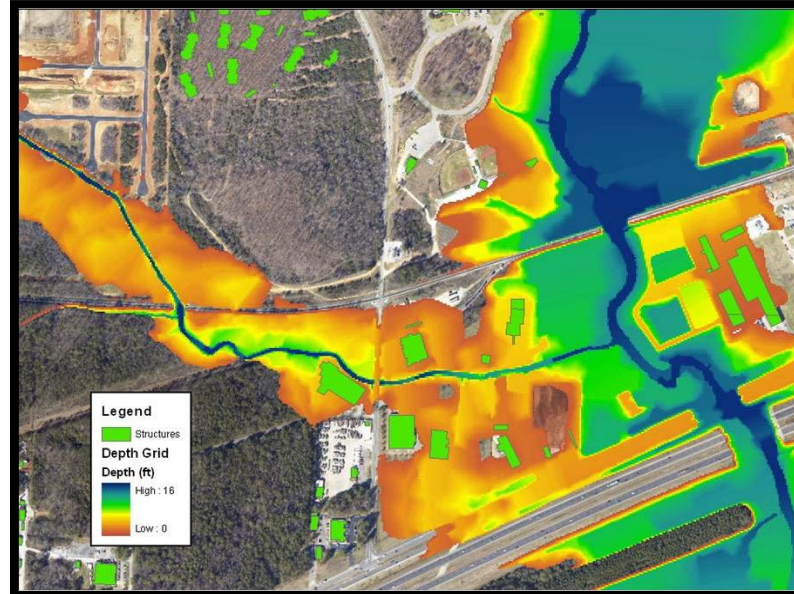


1-D 2-D





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





Key Takeaways for BLE

1

Uses highly advanced engineering techniques

2

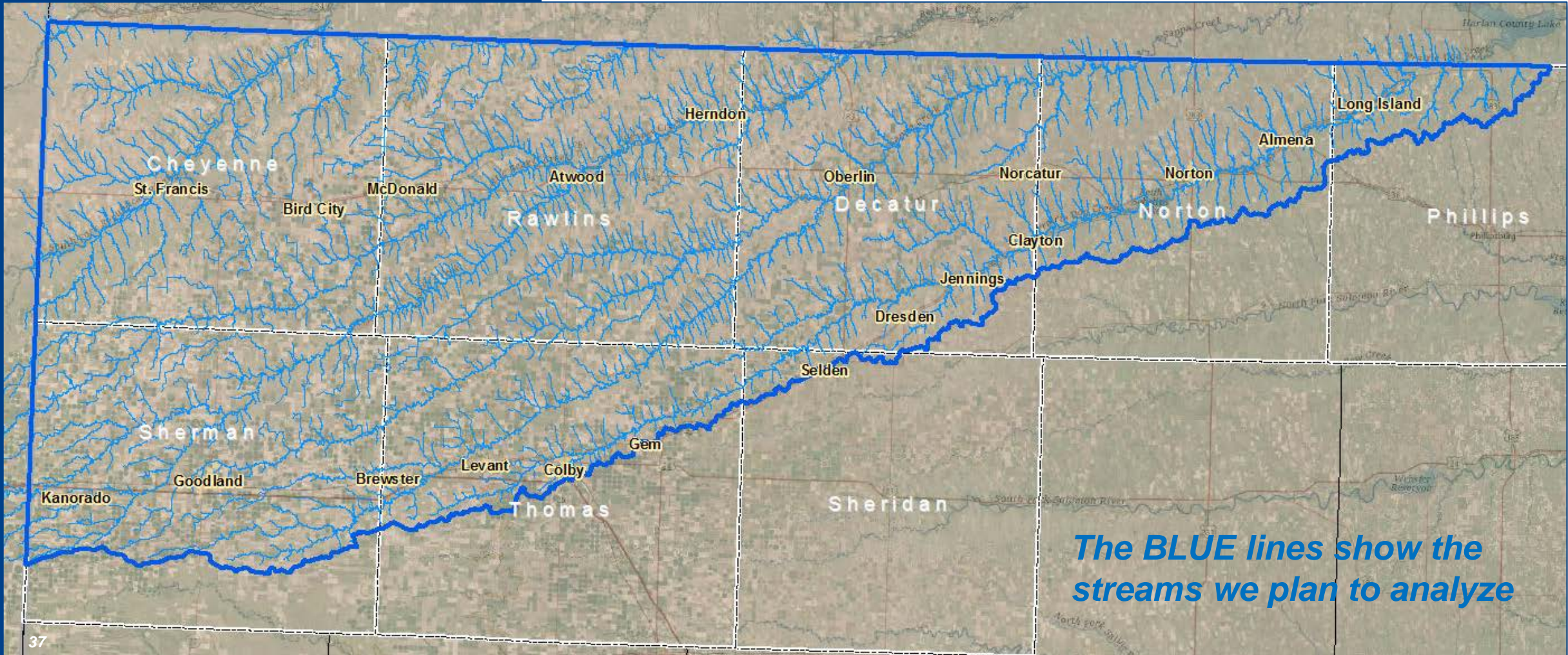
Provides early insight into community flood risk

3

It's an important step in our partnership to get the data right



We will generate **BLE** floodplains for this area:



The BLUE lines show the streams we plan to analyze



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:
[Fall 2021]

- *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:

- *Rawlins County*
- *Decatur County*
- *Thomas County*

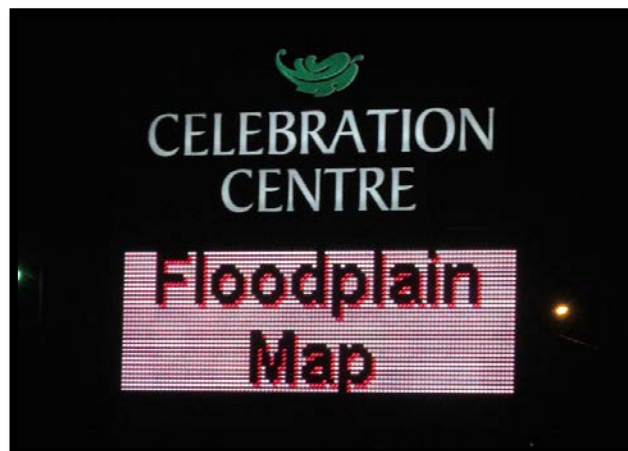
Project Timeline, continued (following Data Development)

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





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.



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***



***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
- As Part of Data Development Project (*Mapping Update*)
 - 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_republican/
- **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’



BFE Portal

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

A screenshot of the "Kansas Base Flood Elevation Portal" registration form. The page has a light blue header with the Kansas Department of Agriculture logo and the title "Kansas Base Flood Elevation Portal". Below the header are three navigation buttons: "Home", "About", and "Help". The main content area is titled "Portal Registration" and contains a series of input fields for user information: "First Name", "Last Name", "User name", "Title", "Phone", "Email Address", "Address", "City", "Zip", and "State". The "State" field is a dropdown menu currently set to "Kansas". At the bottom right of the form is a yellow "Register" button.

Portal Registration

First Name

Last Name

User name

Title

Phone

Email Address

Address

City

Zip

State

[Register](#)



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Regional Project Officer

Any Questions?

Interactive Map Review and Discussion

Web Map Link:

https://gis2.kda.ks.gov/gis/upper_republican/