



Lower Smoky Hill Base Level Engineering



FEMA

*Floodplain Mapping Project
Kickoff Meeting*

March 29, 2024



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

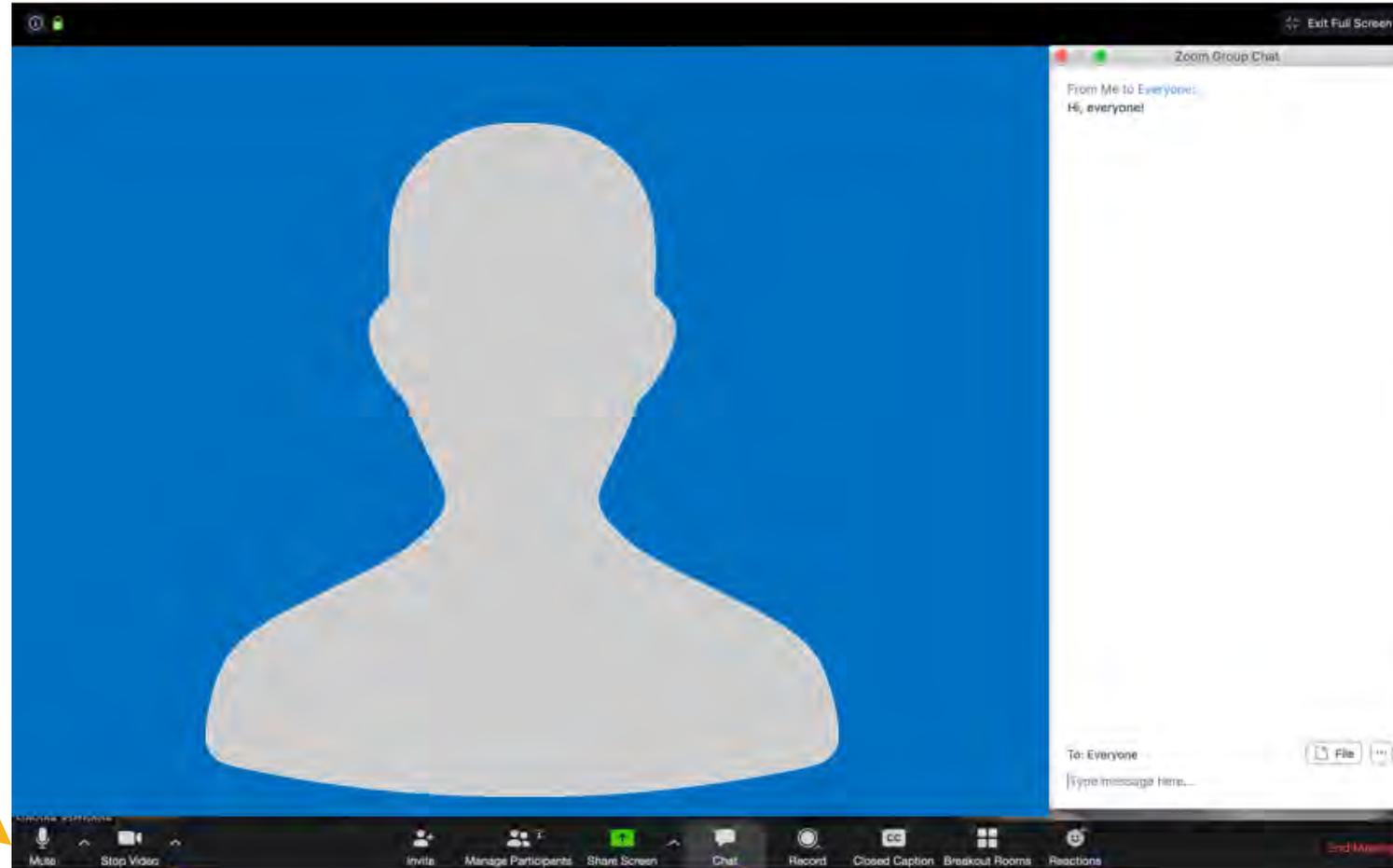


***Your engagement
in this process is
important to the
success of this
project, so thank
you for taking the
time to be here
today!***



**THANK
YOU**

Zoom Features



**Mute /
Unmute**

Start your Video

**Use the Chat
Feature**

**Reactions
Feature**



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 William Pace; or email William.Pace@ks.gov
- We'll be recording this webinar for those who aren't able to attend today.



Introductions

Kansas Department of Agriculture

Joanna Rohlf, CFM
*Floodplain Mapping
Coordinator*

William Pace, CFM
*Floodplain Mapping
Specialist*

Keegan Schwartz
*Floodplain Outreach
Specialist*

Tara Lanzrath, CFM
State NFIP Coordinator

Cheyenne Sun Eagle, CFM
NFIP Specialist

FEMA – Region VII

Dawn Livingston
Regional Project Officer

Stantec

Tom Morey, RS, CFM
Project Manager

Lori Schrader PE, CFM
Water Resources 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



We want to hear from you on how your maps are performing and identify possible areas for regulatory updates.

We want to develop a complete, current picture of your flood hazards and risks. The data we are developing will be non-regulatory when it is provided.

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



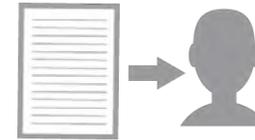
**To Identify
Flood Risk
& the Need
for
Insurance**



**To Determine
Flood
Insurance
Requirements**



**To
Determine
Land Use &
Update
Ordinances**

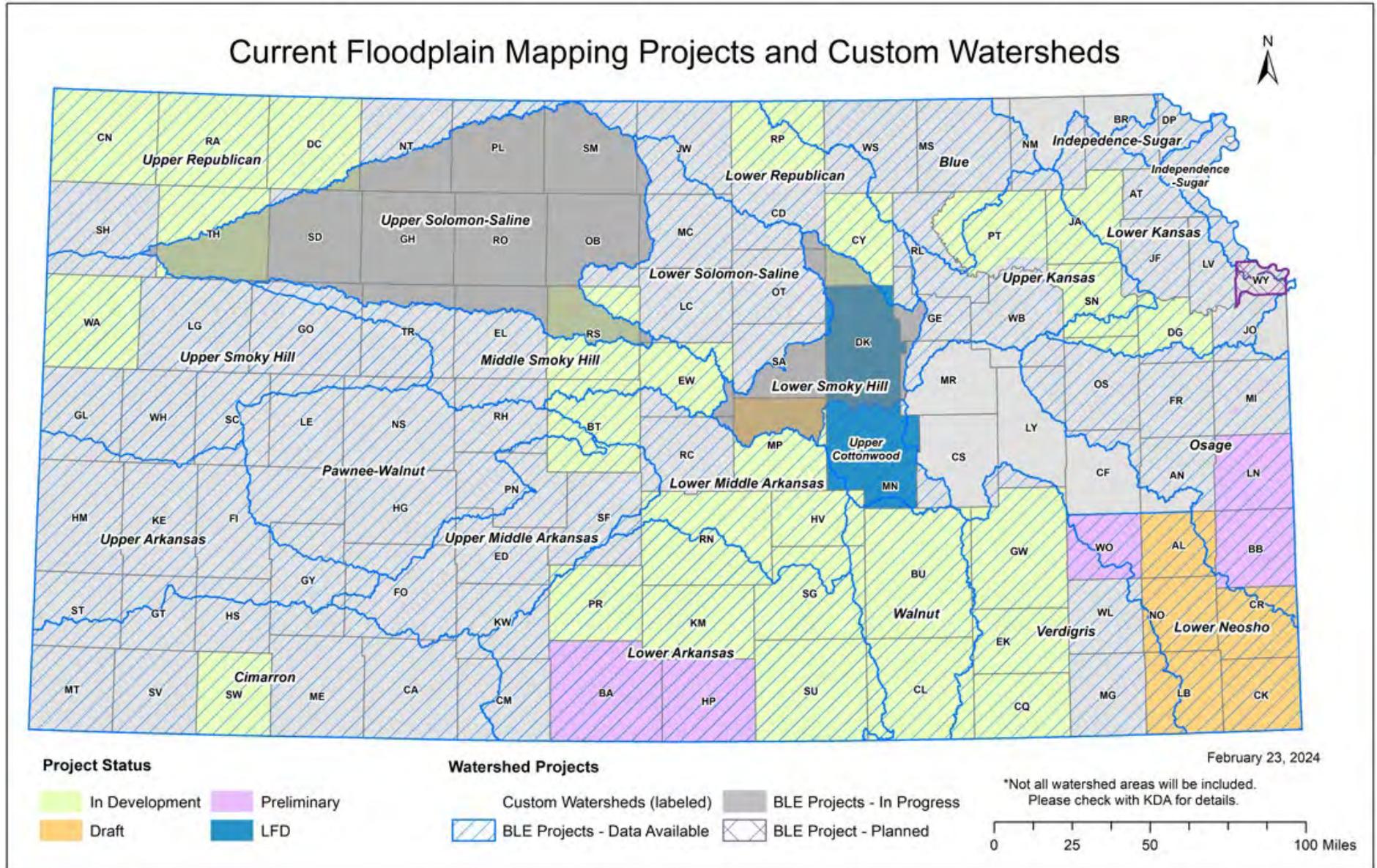


**To Inform
Engineers
and
Developers**



**To Equip
Emergency
Managers**

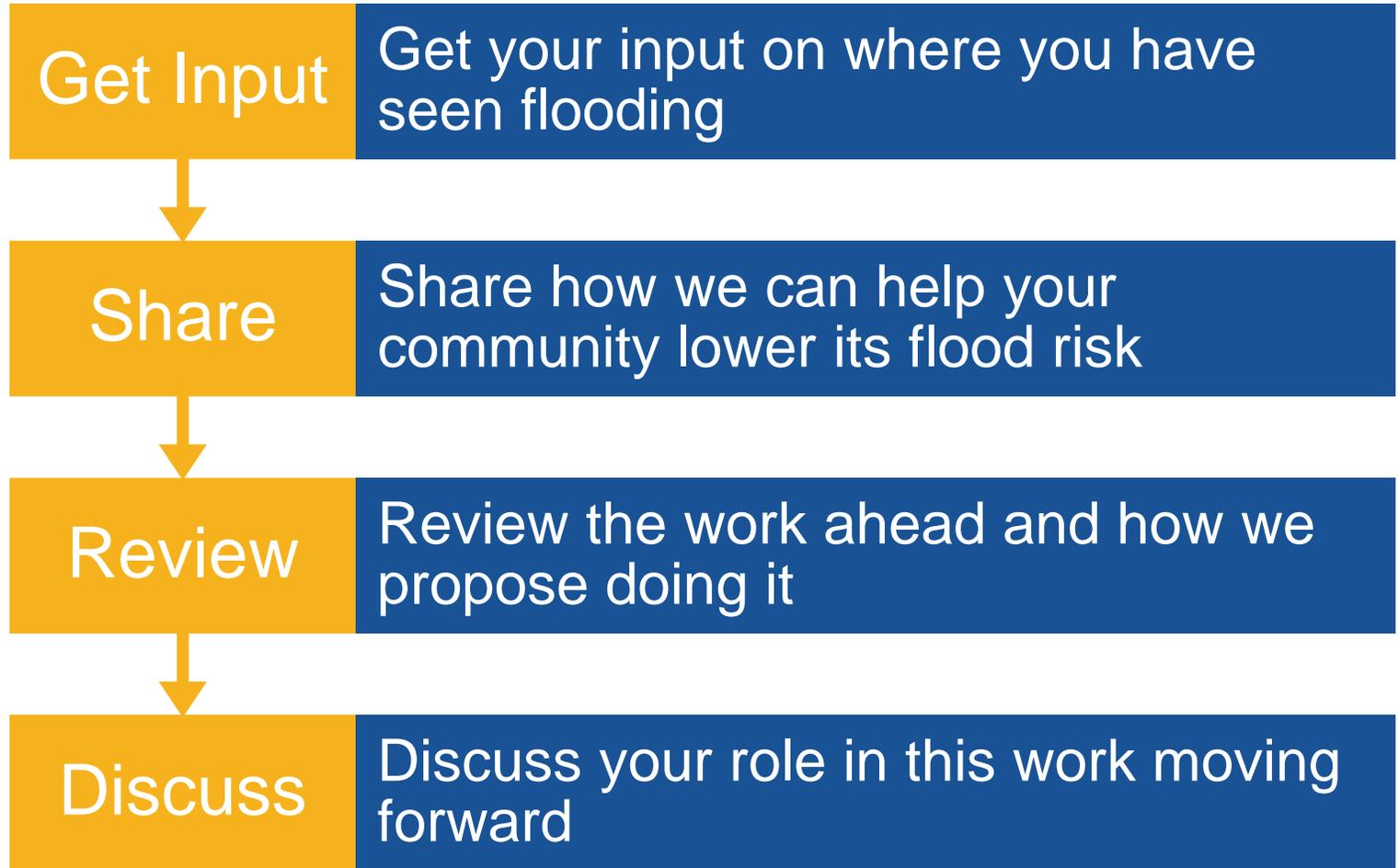
We are doing this work across Kansas...



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?

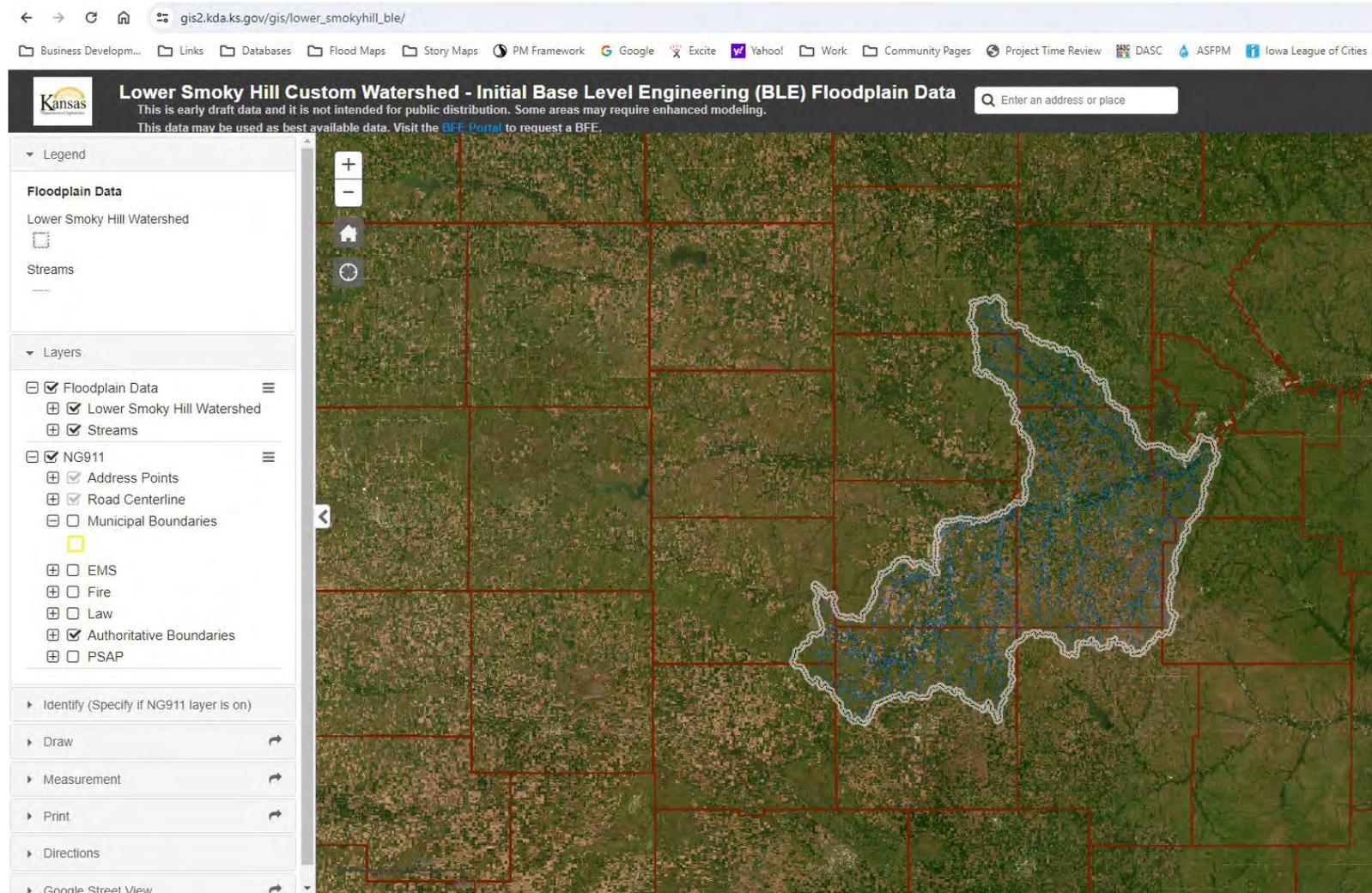
- Intersections that often flood and stop traffic?
- Drainage areas that cause problems?
- Any parts of town where homes or businesses have flooded?

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



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.

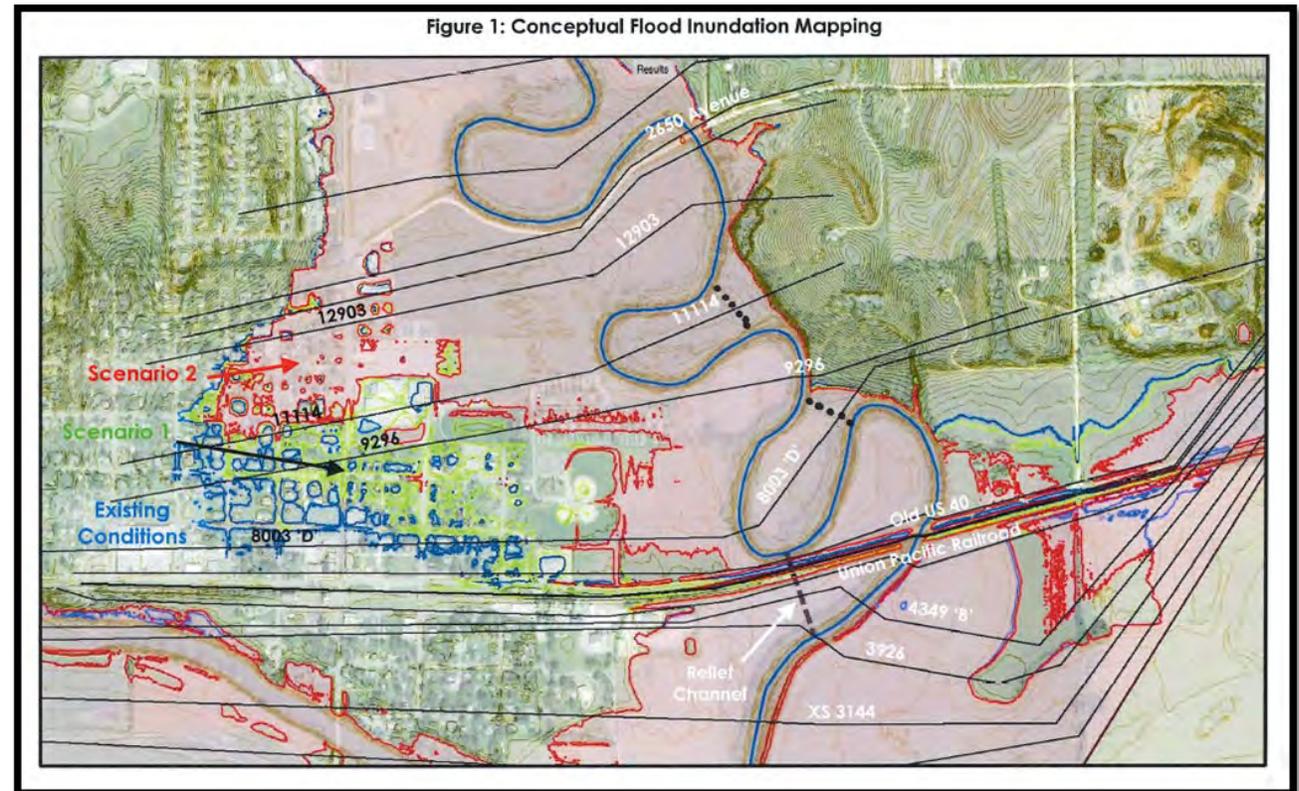


Guidelines:

- We want to identify what help is needed now, so we can plan accordingly.
- 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.

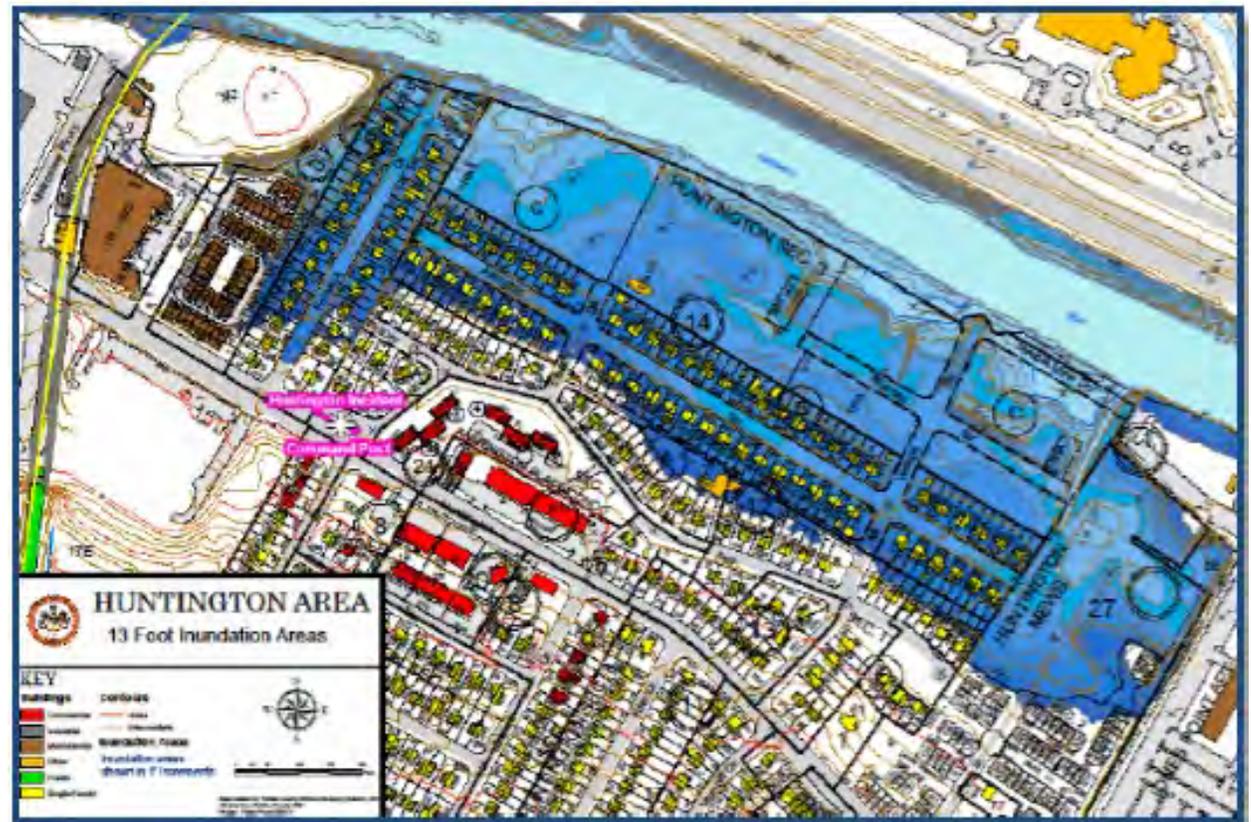
Some Ways We Can Help:

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



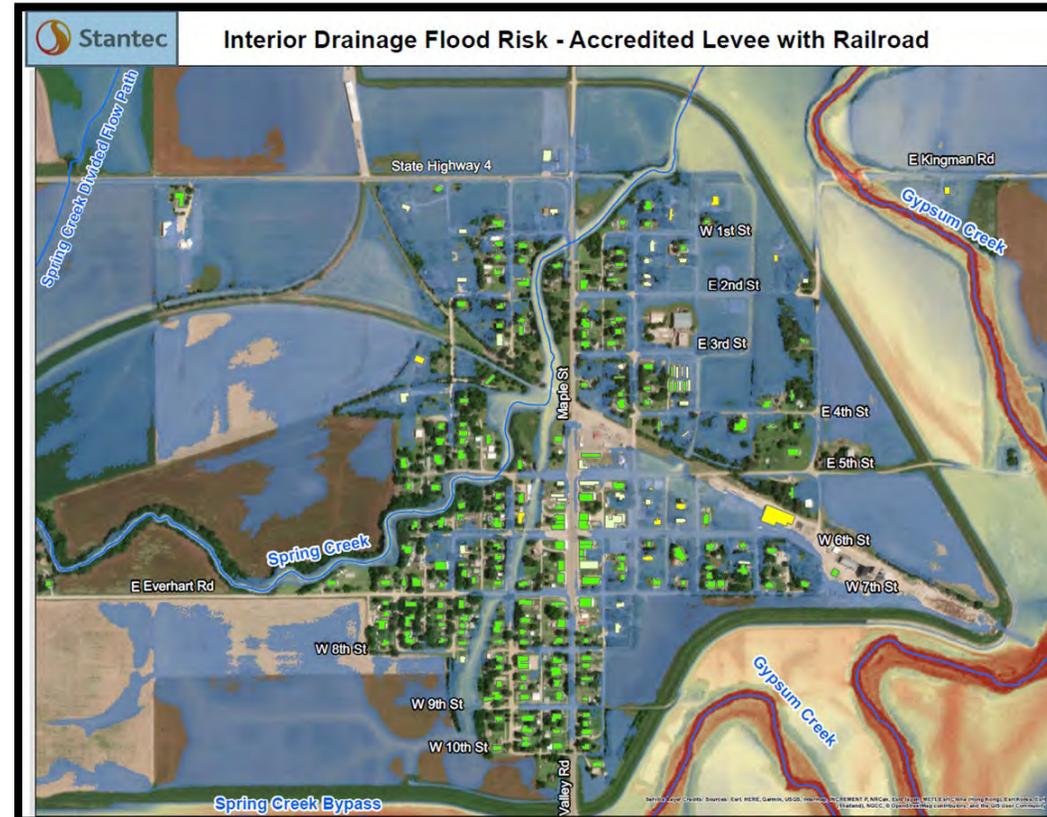
Some Ways We Can Help:

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



Some Ways We Can Help:

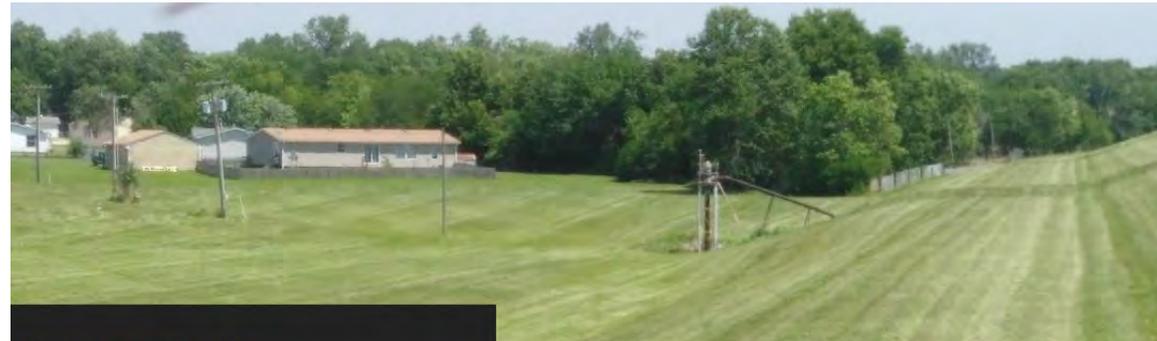
- Assist with the Benefit-Cost Analysis if you are putting together a grant application for a project.
- Modeling flood inundation scenarios for a variety of bridge and culvert replacements/modifications





Some Ways We Can Help:

- Updated, upgraded hydraulic analysis
 - Pottawatomie Creek, Marais des Cygnes River
 - Flood timing analysis
 - Help with improved levee operation



Osawatomie, KS
Mitigation Planning Technical Assistance

Pottawatomie Creek
Flood Forecasting Using
Lane Gage

February 14, 2020

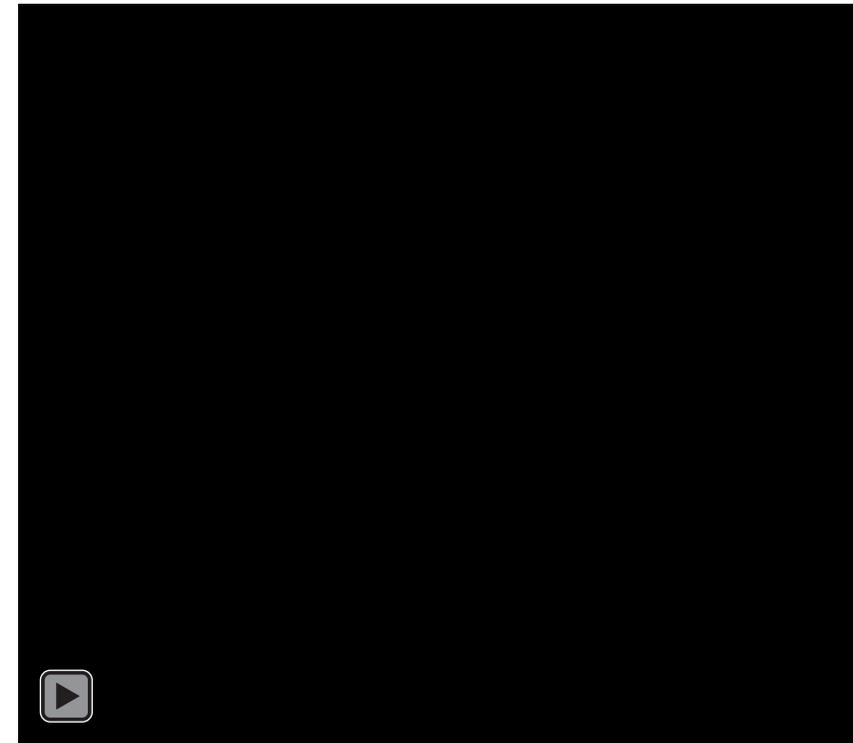
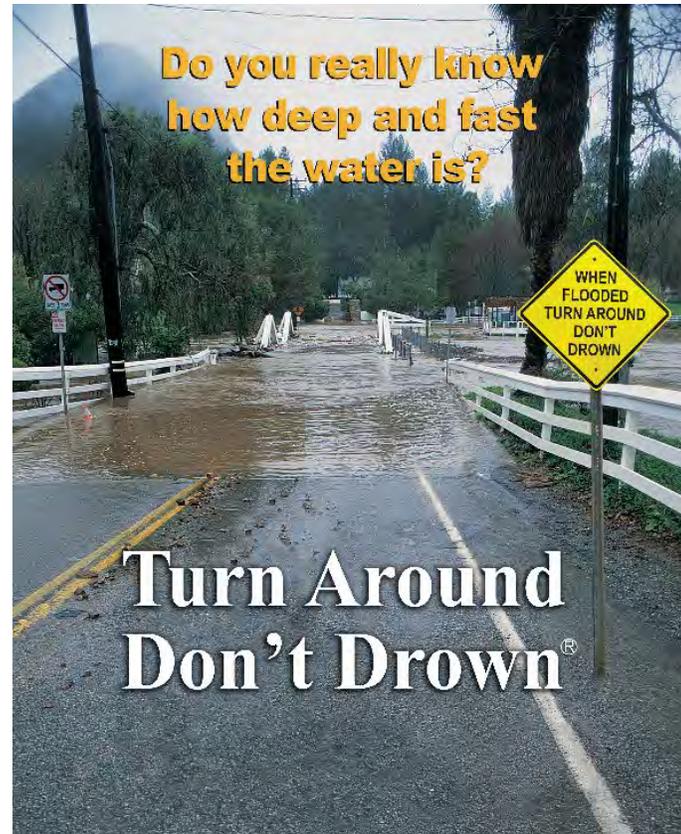


Osawatomie flood forecasting



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
3. Determine scope for future data development projects based on community feedback.

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.*

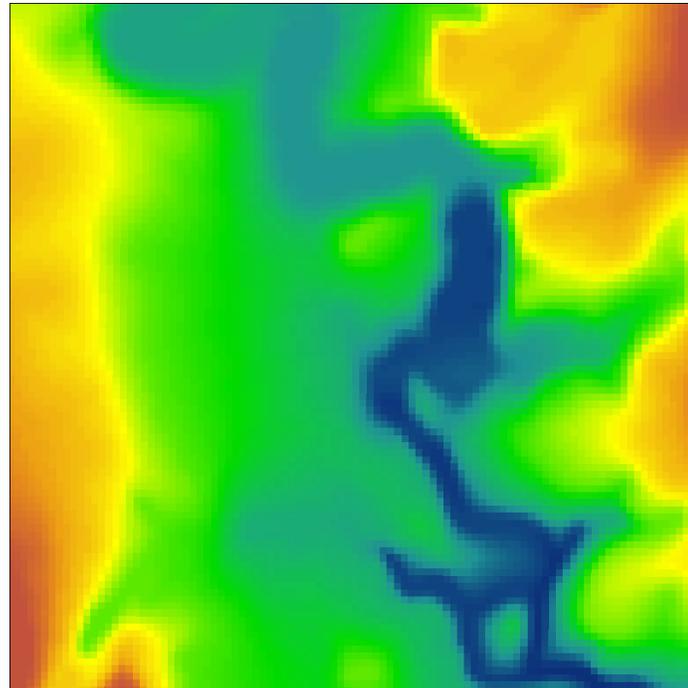
FLOODPLAIN: On the maps we create, the floodplains, which are areas with high flood risk – where a flood has a 1-percent chance of happening each year.



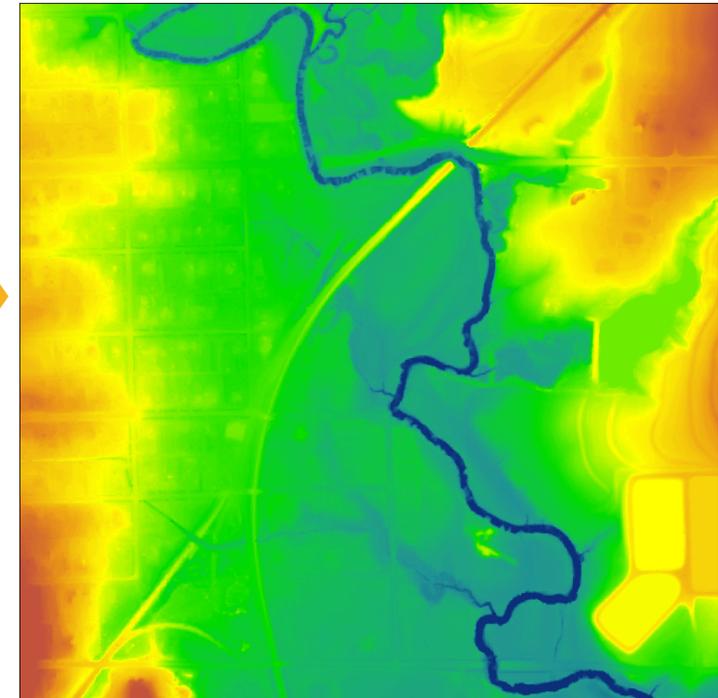
***We Use LIDAR
in our Base
Level
Engineering***

Availability of LiDAR Topography allows for more detailed modeling. LiDAR acquisitions dates for this watershed are 2017 and 2018.

10m DEM



LiDAR

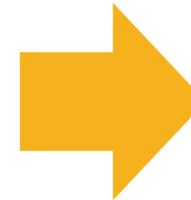
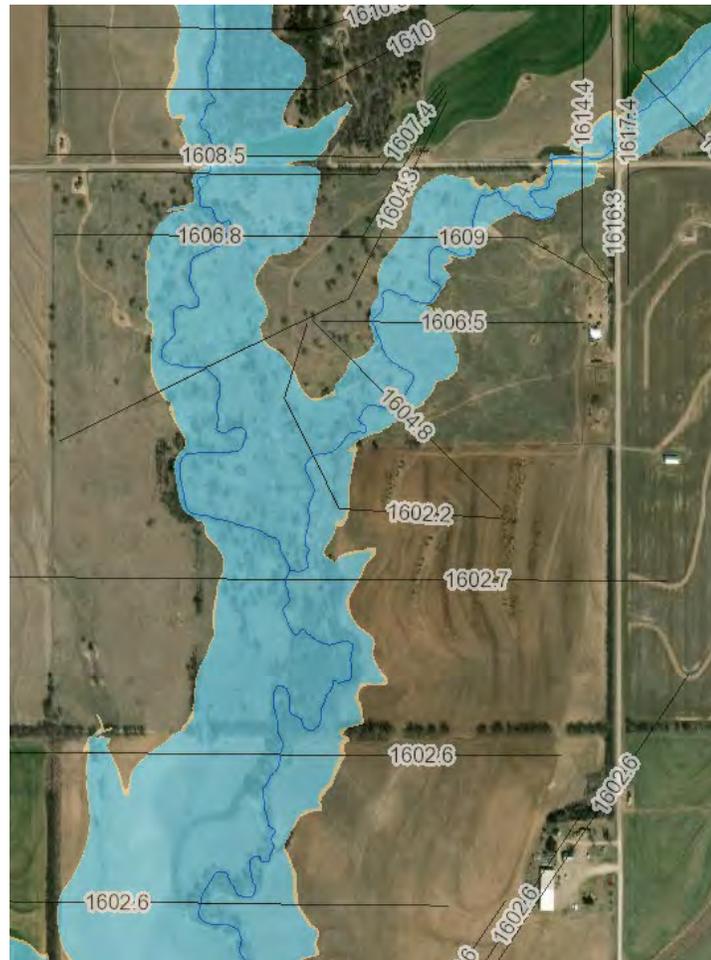


**Bare-Earth*

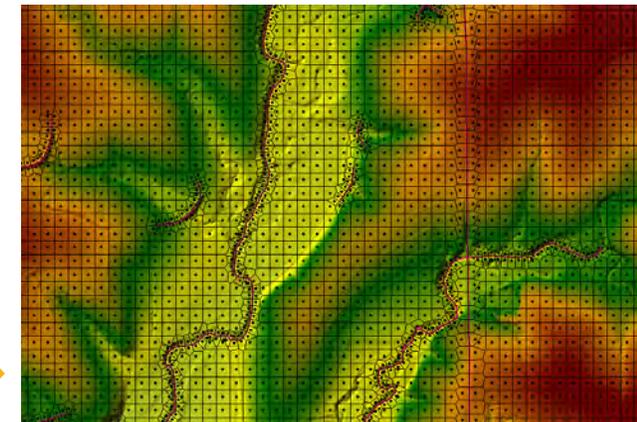


We Use 2D Hydraulic Modeling in our Base Level Engineering

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

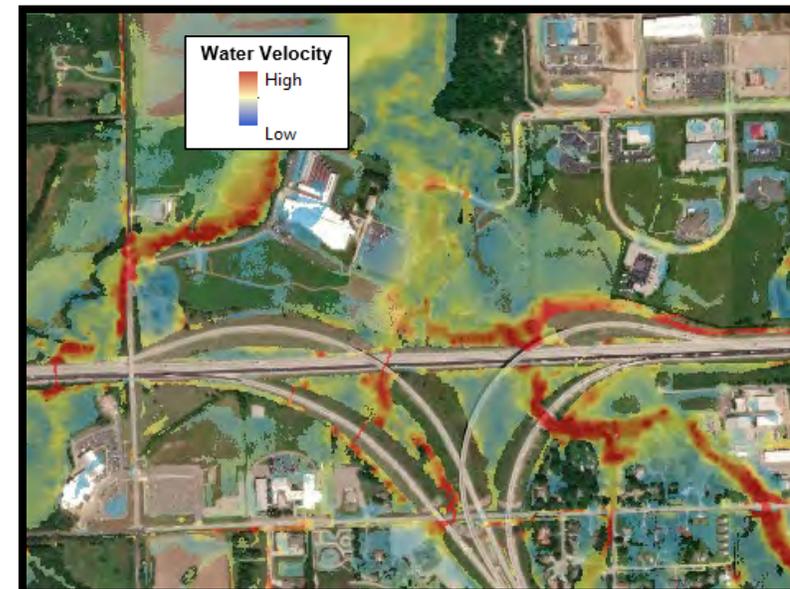
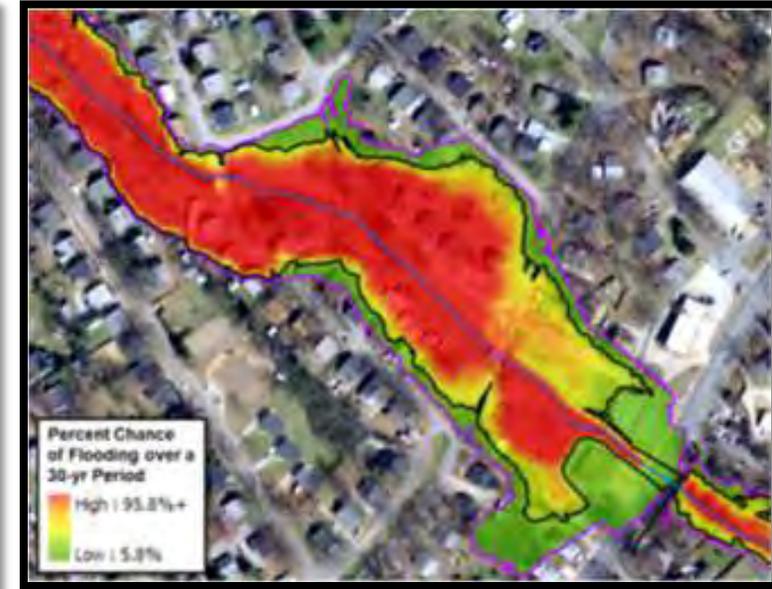
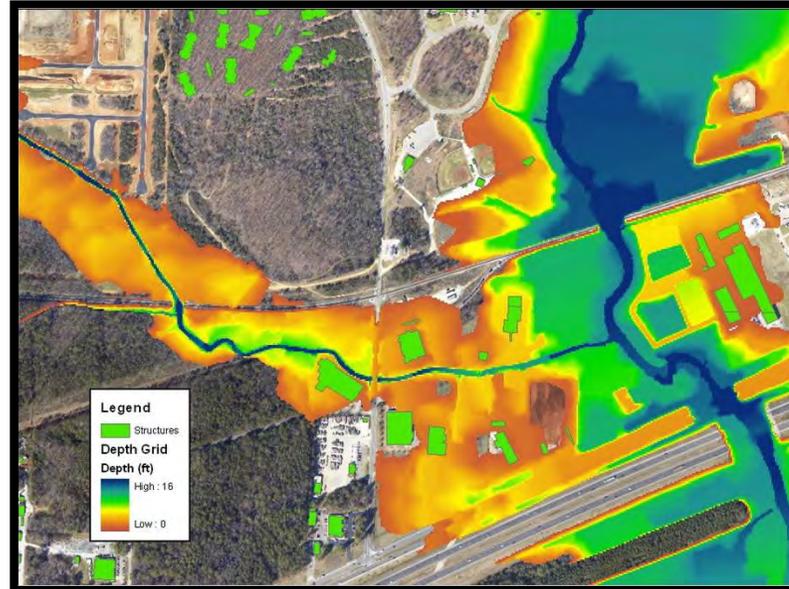


1-D 2-D





*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

Can be used as best available data, when appropriate

4

Will help us determine future projects.



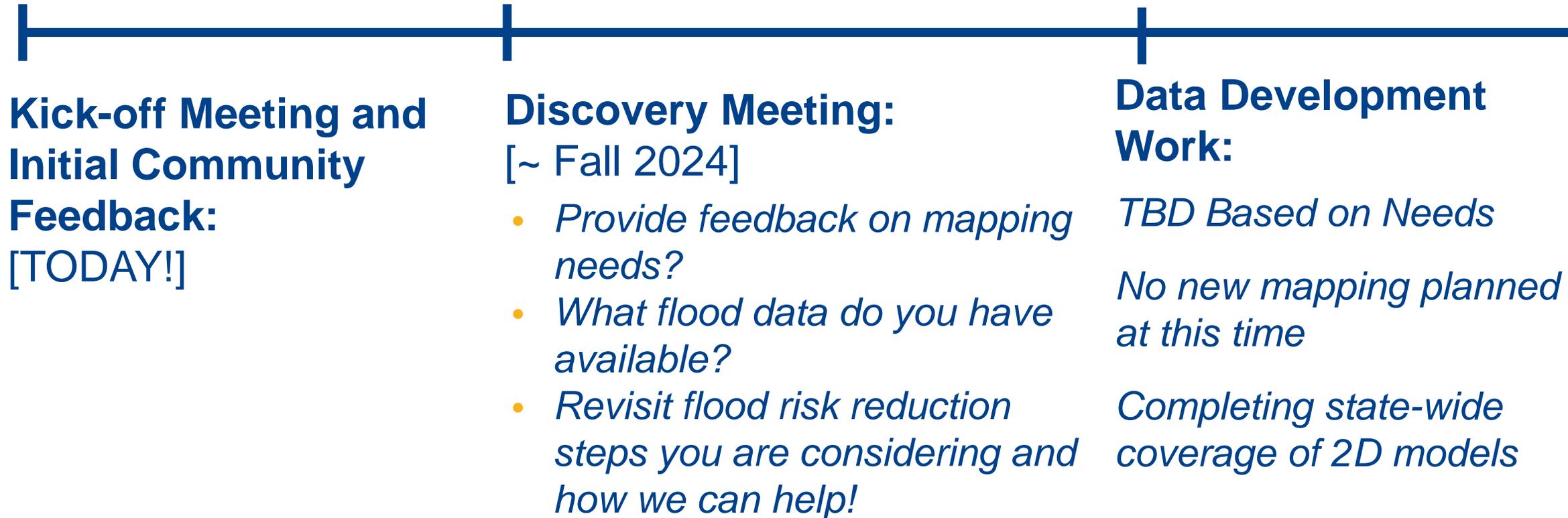
We will generate BLE floodplains for this area:



The BLUE lines show the streams we plan to analyze

Next Steps and Your Role

Project Timeline





What Should You Do Next?

Initial Feedback on Flooding

- Provide locations of known flooding issues on the web map.
- Identify locations where effective mapping is inadequate.
- 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

First contact in this project

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

We aren't planning new regulatory products at this time

**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://agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects/lists/mapping-projects/lower-smoky-hill-ble>

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 at this time, but you will have access to it.
- https://gis2.kda.ks.gov/gis/lower_smokyhill_ble/

Story Maps

- “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 header includes the Kansas Department of Agriculture logo and the text "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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FEMA Region 7 Project Manager

Any Questions?

Interactive Map Review and Discussion

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