



FEMA




Republic County

*Floodplain Mapping Project
Data Development Kickoff Meeting*

April 23, 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**



Introductions



Kansas Department of Agriculture

Joanna Rohlf, CFM
*Floodplain Mapping
Coordinator*

William Pace, CFM
*Floodplain Mapping
Specialist*

Keegan Schwartz
*Floodplain Outreach
Specialist*

Benesch

Maria Neeland, PE, CFM
Project Manager

Tara Lanzrath, CFM
State NFIP Coordinator

Cheyenne Sun Eagle, CFM
NFIP Specialist

FEMA – Region VII

Dawn Livingston
Regional Project Officer



Today's Goals

Share details on the mapping project

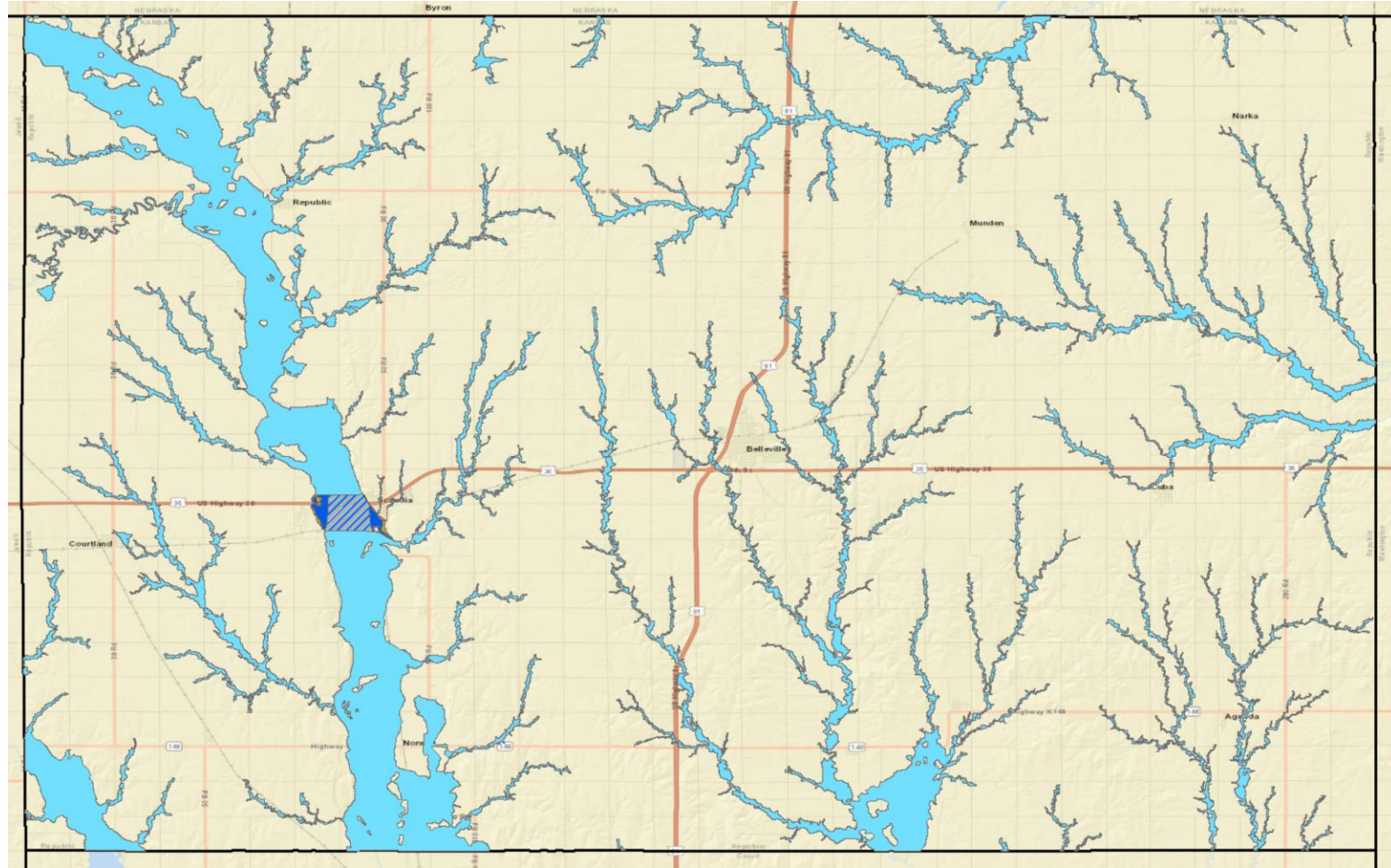
Get initial feedback on modeling methods




Review future steps

Background

Effective Republic County Maps

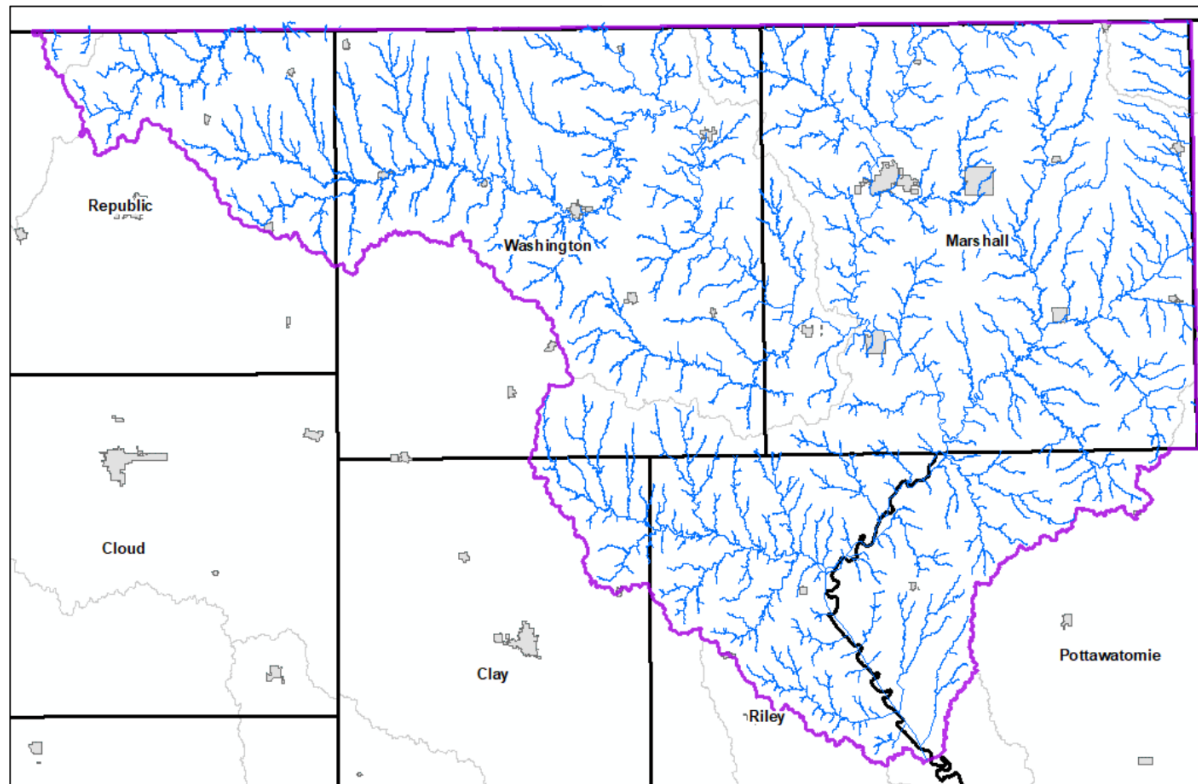
Effective December 2010



-  A
-  AE
-  AE, Floodway

Background

- Blue Custom Watershed BLE Project
 - *Kick-off Meeting: November 2020*
 - *Discovery Meeting and BLE Review: February 2021*



Discovery Report

Blue Watershed
HUCS 10270205, 10270206, 10270207

Cities of Axtell, Baileyville, Barnes, Beattie, Blue Rapids, Centralia, Cuba, Frankfort, Green, Greenleaf, Haddam, Hanover, Hollenberg, Home, Leonardville, Mahaska, Manhattan, Marysville, Morrowville, Munden, Narka, Oketo, Olsburg, Randolph, Summerfield, Vermillion, Washington, Waterville, Wheaton

Clay, Marshall, Nemaha, Pottawatomie, Republic, Riley, Washington Counties

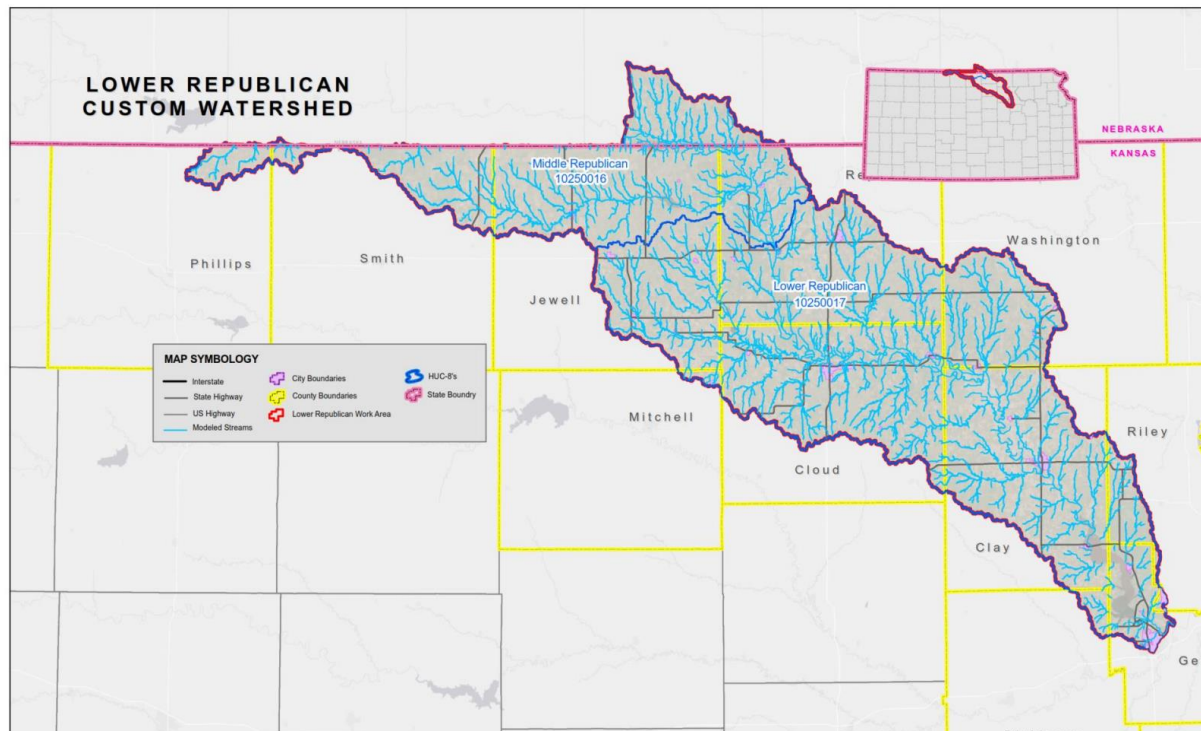
Report Number 01

DRAFT



Background

- Lower Republican Custom Watershed BLE Project
 - *Kick-off Meeting: June 2021*
 - *Discovery Meeting and BLE Review: March 2022*



Discovery Report

Lower Republican Custom Watershed
HUCs 10250016, 10250017

November 2021
MIP Case Number: 20-07-0017S

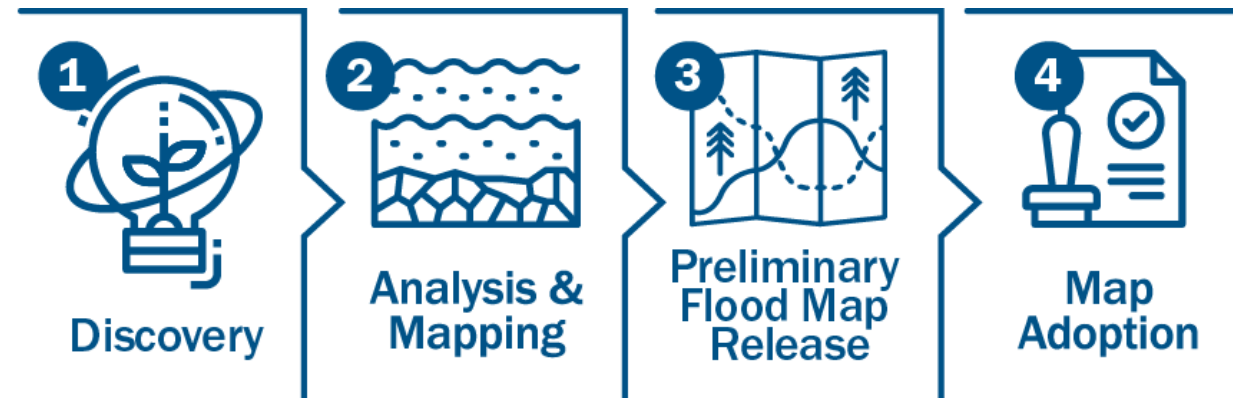


FEMA



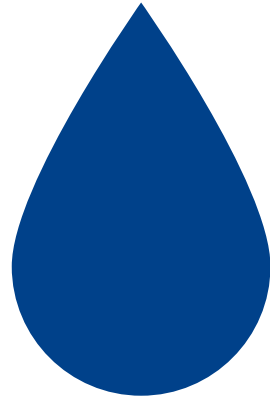
Background

- Through Discovery and conversations with County stakeholders, it was determined that updated modeling and mapping for Republic County, using newer Lidar and 2D modeling techniques, would be beneficial.
- Therefore, FEMA funded this Data Development Project, which is the next step toward new regulatory maps.
 - Consists of the development of regulatory and non-regulatory products



Review of the Work Ahead and How We Propose Doing It

Definitions







Hydrology
How Much Water?

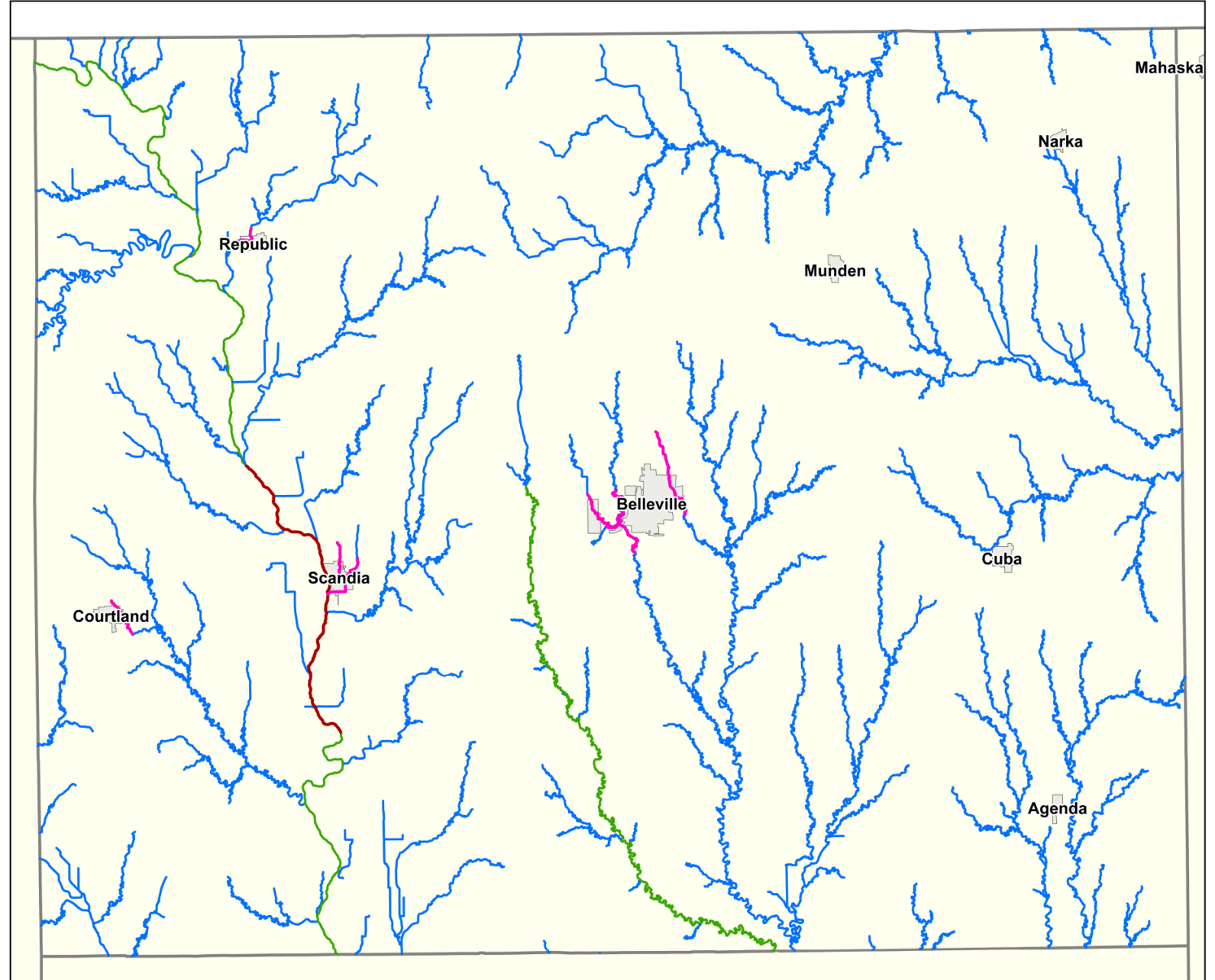


Hydraulics
How High Will Water Get?

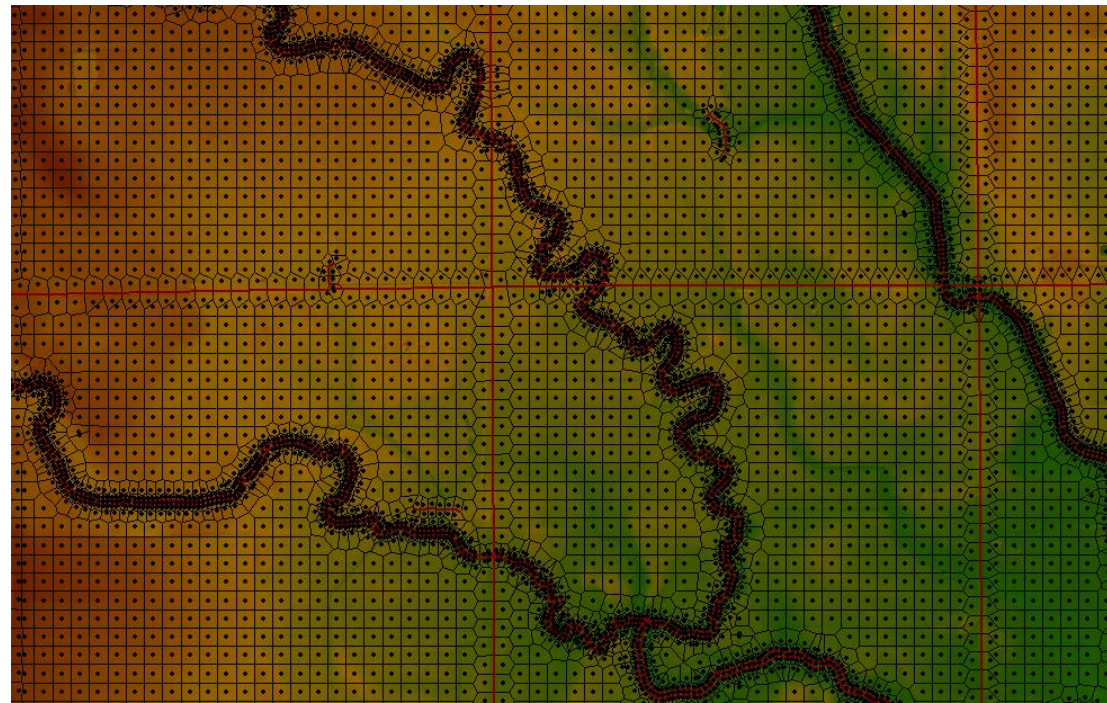
Republic County 2024 Proposed Mapping Updates

Scoped Studies

-  **New Zone A - Rain on Grid**
New Zone A studies will be developed for these streams using 2D "rain on grid" hydrology and 2D HEC-Ras hydraulics.
-  **New Zone A - Gage Analysis**
New Zone A studies will be developed for these streams using 2D "rain on grid" hydrology calibrated to gage analysis flows and 2D HEC-Ras hydraulics.
-  **New Enhanced Zone A - Rain on Grid**
New Enhanced Zone A studies will be developed for these streams using 2D "rain on grid" hydrology and 2D HEC-Ras hydraulics. Field measured structure data will be incorporated into the modeling.
-  **New Zone AE with Floodway - Gage Analysis**
New Zone AE studies will be developed for these streams using 2D "rain on grid" hydrology calibrated to gage analysis flows and 2D HEC-Ras hydraulics. Floodways will be developed. Field measured structure data will be incorporated into the modeling. BFEs will be shown on the maps.

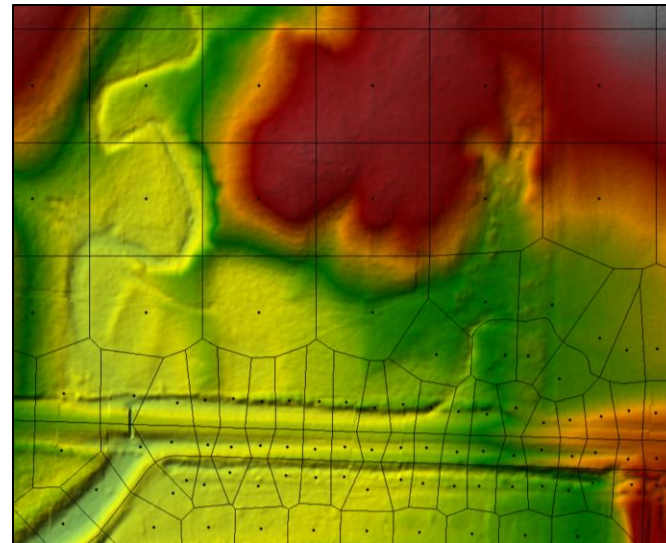


2D Modeling is being used

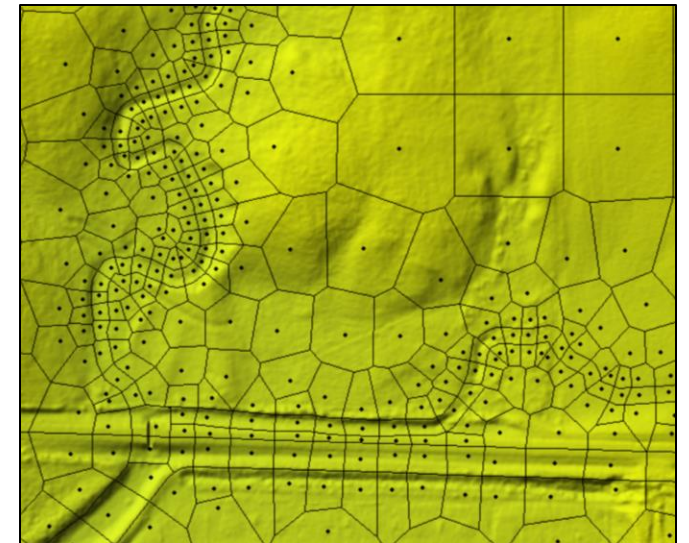


Model Enhancements

- Enhancements will be made to the BLE modeling that was performed.
 - New Lidar, flown in 2017, will be incorporated.
 - Comments made and additional information gathered during the Discovery phase will be used to enhance the modeling.
 - Additional refinement of the model mesh will be done to improve accuracy of modeling.



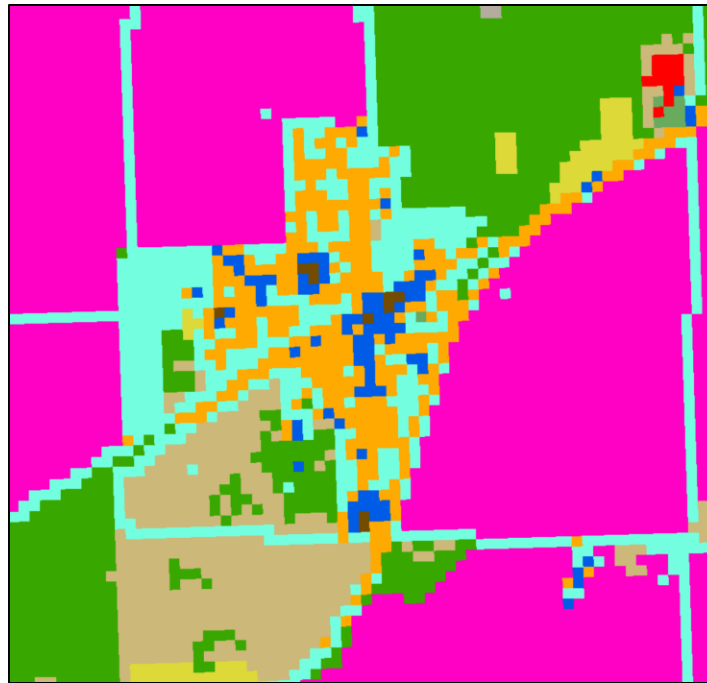
Coarser Mesh



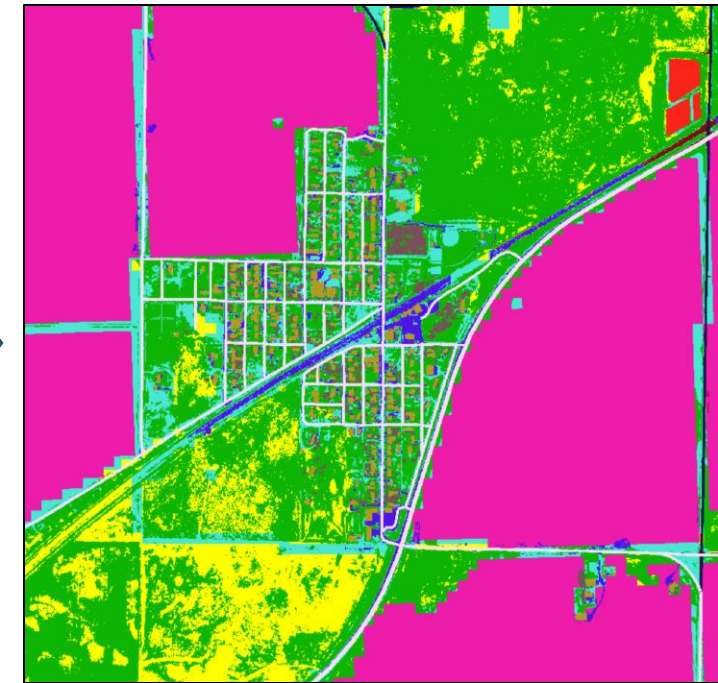
Refined Mesh

Model Enhancements

- Enhancements will be made to the BLE modeling that was performed.
 - Landuse refinements will be made.
 - Additional reviews will be performed



Standard Landuse



Refined Landuse



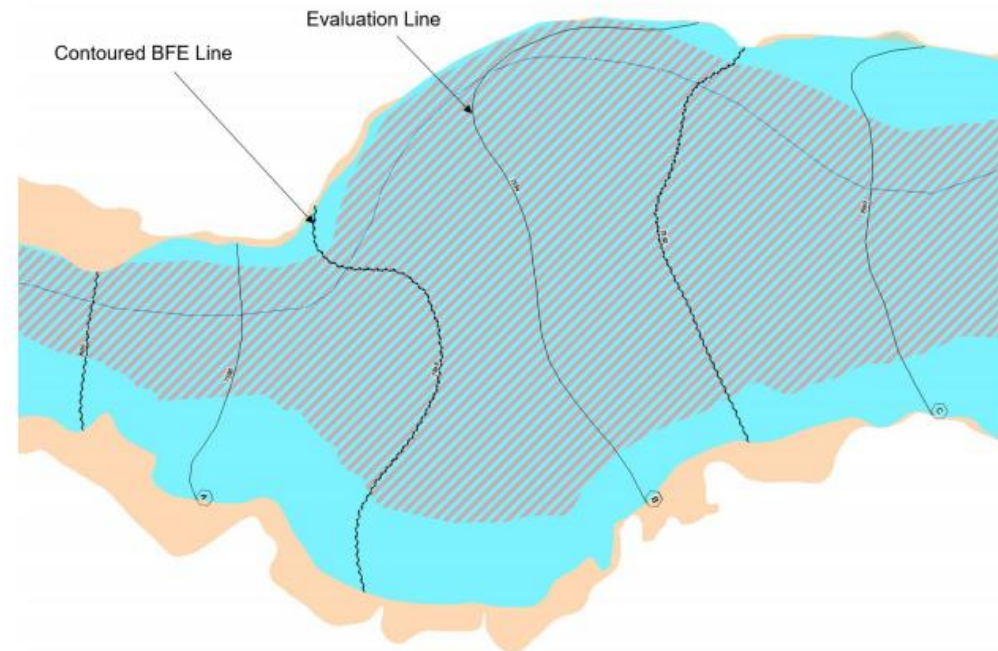
Model Enhancements

- The hydrology is built into the RAS modeling platform using excess rainfall-on-grid methodology.
 - Hydrologic information will be updated to utilize newer features within software and improve accuracy of modeling, such as refined infiltration.
 - The Republican River and West Creek flows will be calibrated to statistical gage analyses performed



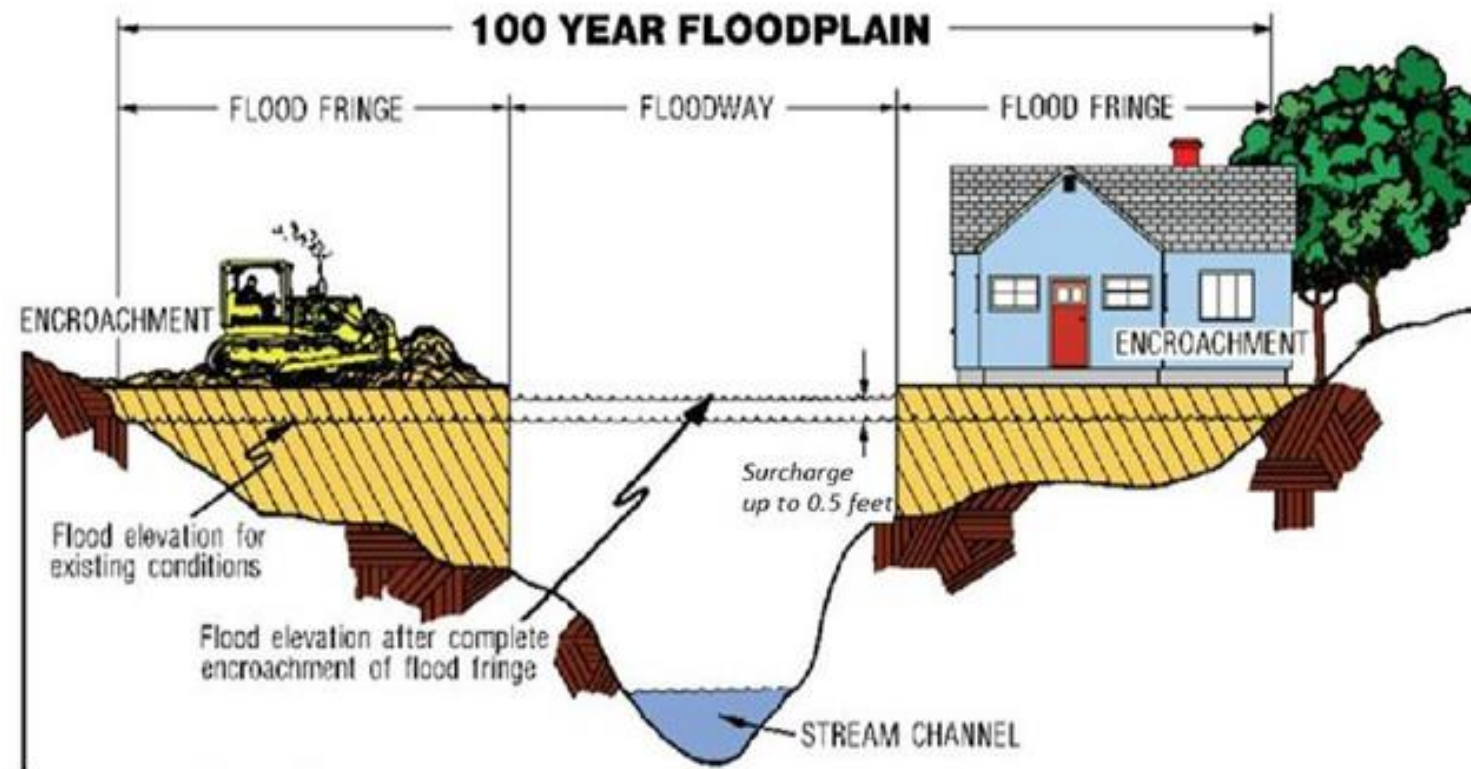
Enhanced Zone A and Zone AE Details

- Modeling for the Enhanced Zone A and Zone AE streams will include field measured structure data and/or as-built survey plans for bridge and culvert crossings.
- Modeling for the Zone AE stream segment will include the development of a 2D floodway.



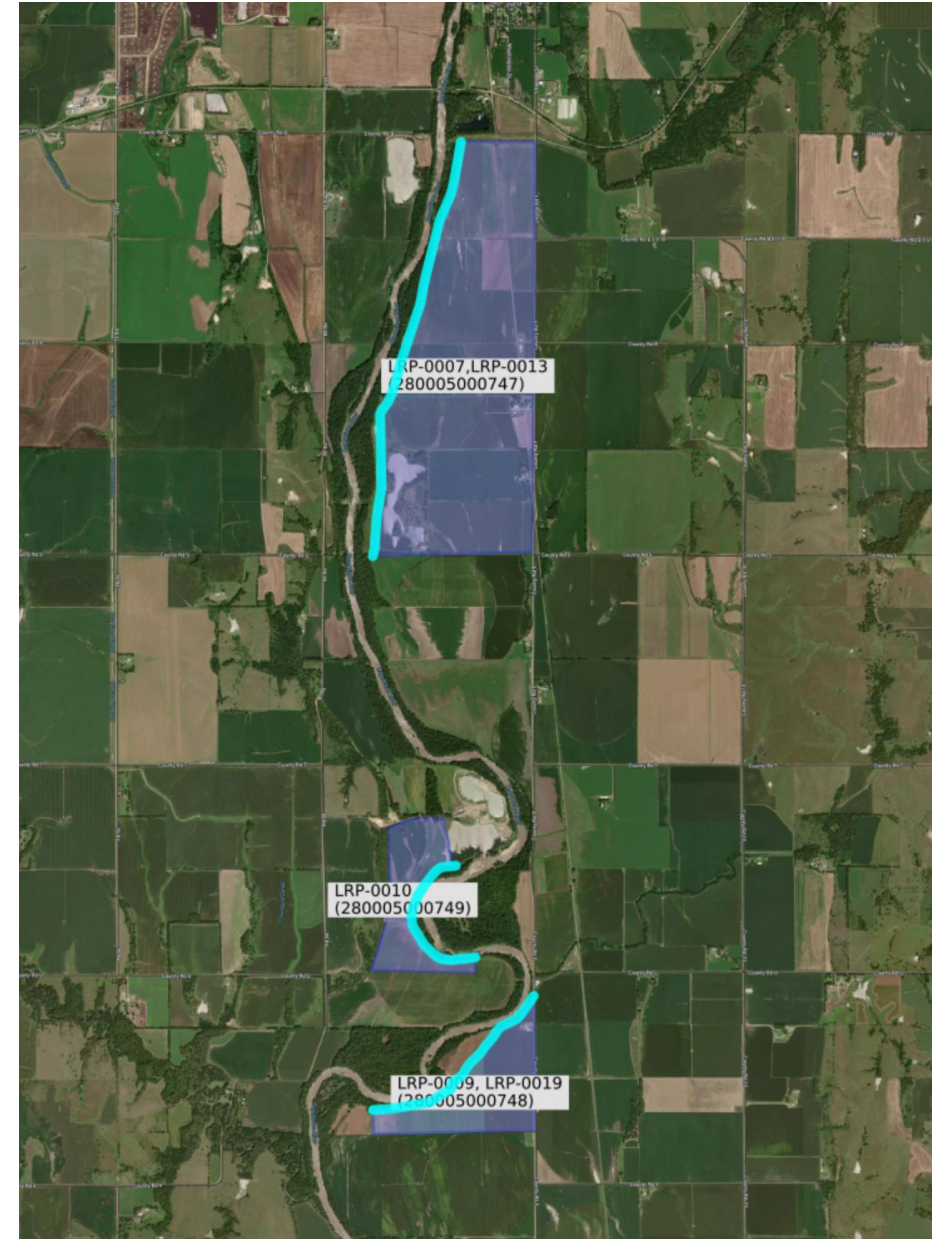
Floodways

A Floodway is the area within the floodplain that must be reserved in order to discharge the base flood without cumulatively increasing the WSE by more than 1.0 foot.



Levees

There are three non-accredited levee systems in Republic County. These levees will be considered hydraulically insignificant for the 1% annual chance storm.





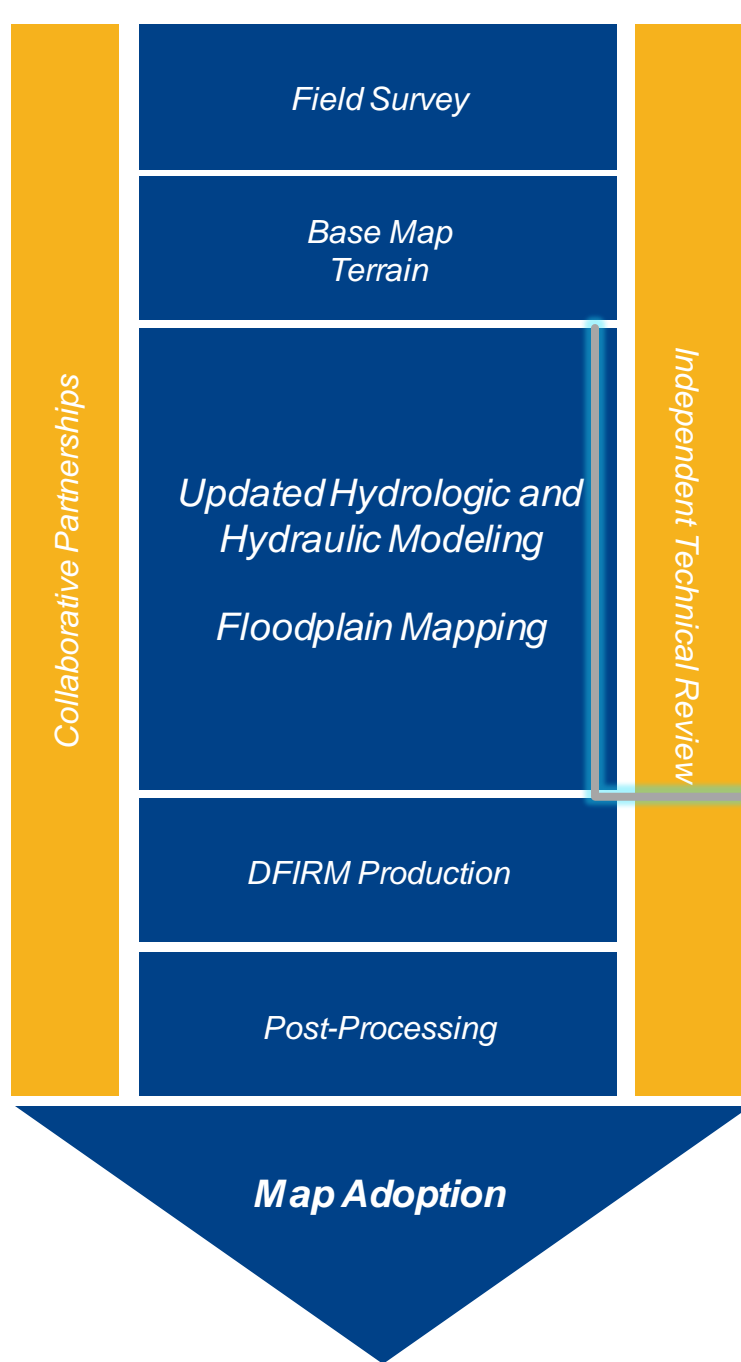
- Draft floodplains will be developed for all streams with greater than 1 square mile of drainage area or that were mapped on the effective FIRM.



Draft Mapping

Next Steps

Data
Development



Project Tasks

1. Field Survey
2. Base Map and Topography Preparation
3. Hydrologic and Hydraulic Modeling
4. Floodplain Mapping
5. DFIRM and FIS Production
6. Post-Preliminary

We are ready to move forward with the modeling task



Our Next Steps:

- We will complete the engineering analysis previously described.
- Several rounds of reviews will be completed (internal, independent, KDA).
- We will develop your draft regulatory floodplain maps.
 - *Also known as your Flood Insurance Rate Map (FIRM)*
- We will develop your draft Flood Insurance Study (FIS).



Our Next Steps:

We will also be developing flood risk products for the studied areas in Republic County as part of this project.

**Data and tools that can help you plan for ways to reduce your community's flood risk.*

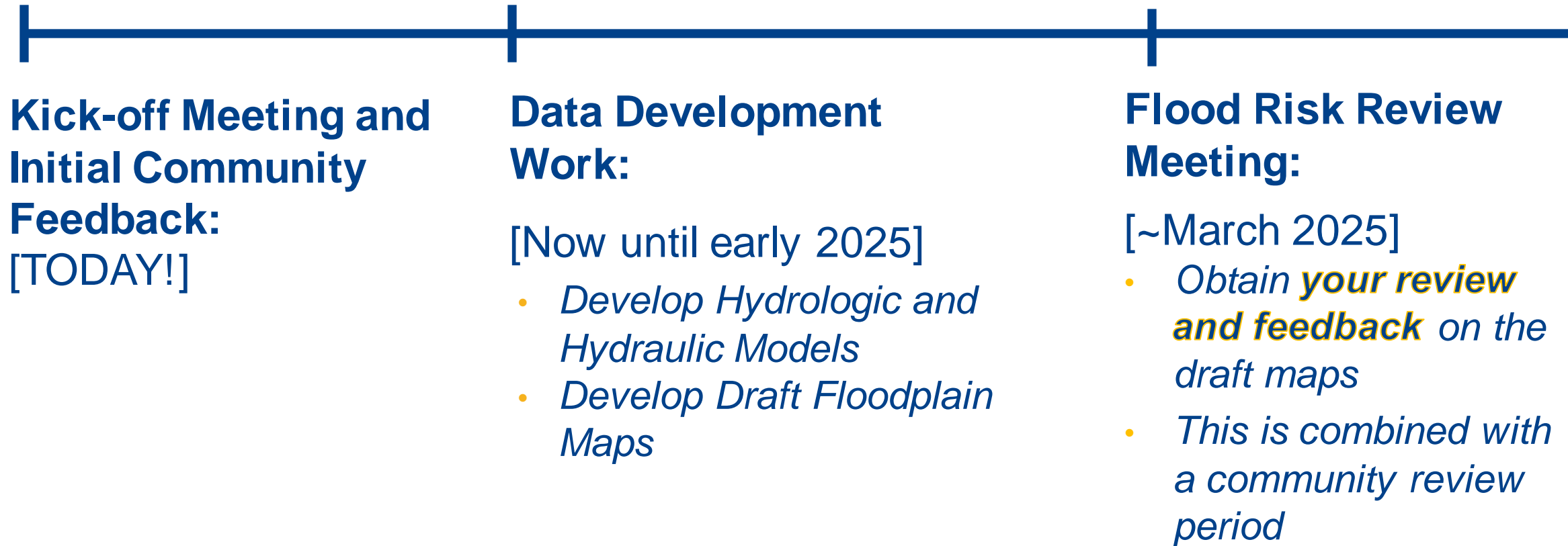
Water Surface Elevation Grids



Water Depth Grids



Project Timeline



Project Timeline, continued

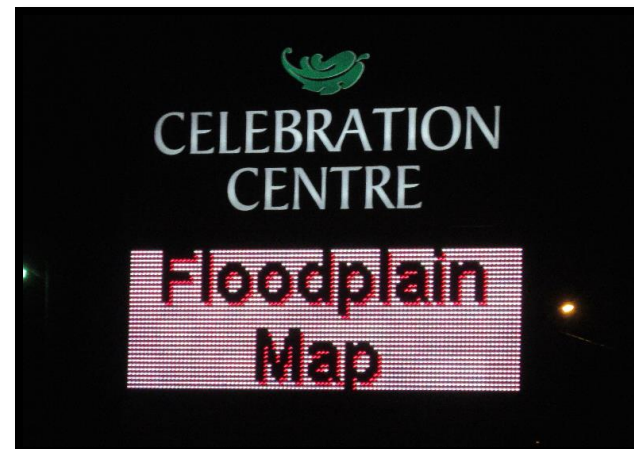
Community comments will be addressed

- *Updates will be made to modeling and mapping*



Public review of the draft maps

- *Includes Public Open House*



Preliminary Map Products

- *Preliminary DFIRM Community Coordination Meeting*



Post-Preliminary Processing



***We Will Keep
You Informed:***

Project updates will come by email

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

Future Meetings:

- Flood Risk Review Meeting
 - ~March 2025
- Public Open House



Key Takeaways

Floodplain Mapping Projects take time

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

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

Resources

Online Project Information

Project Website

- Scoping Maps, Meeting Presentations, Reports and any other relevant information
- <https://agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects/lower-republican-custom-watershed>

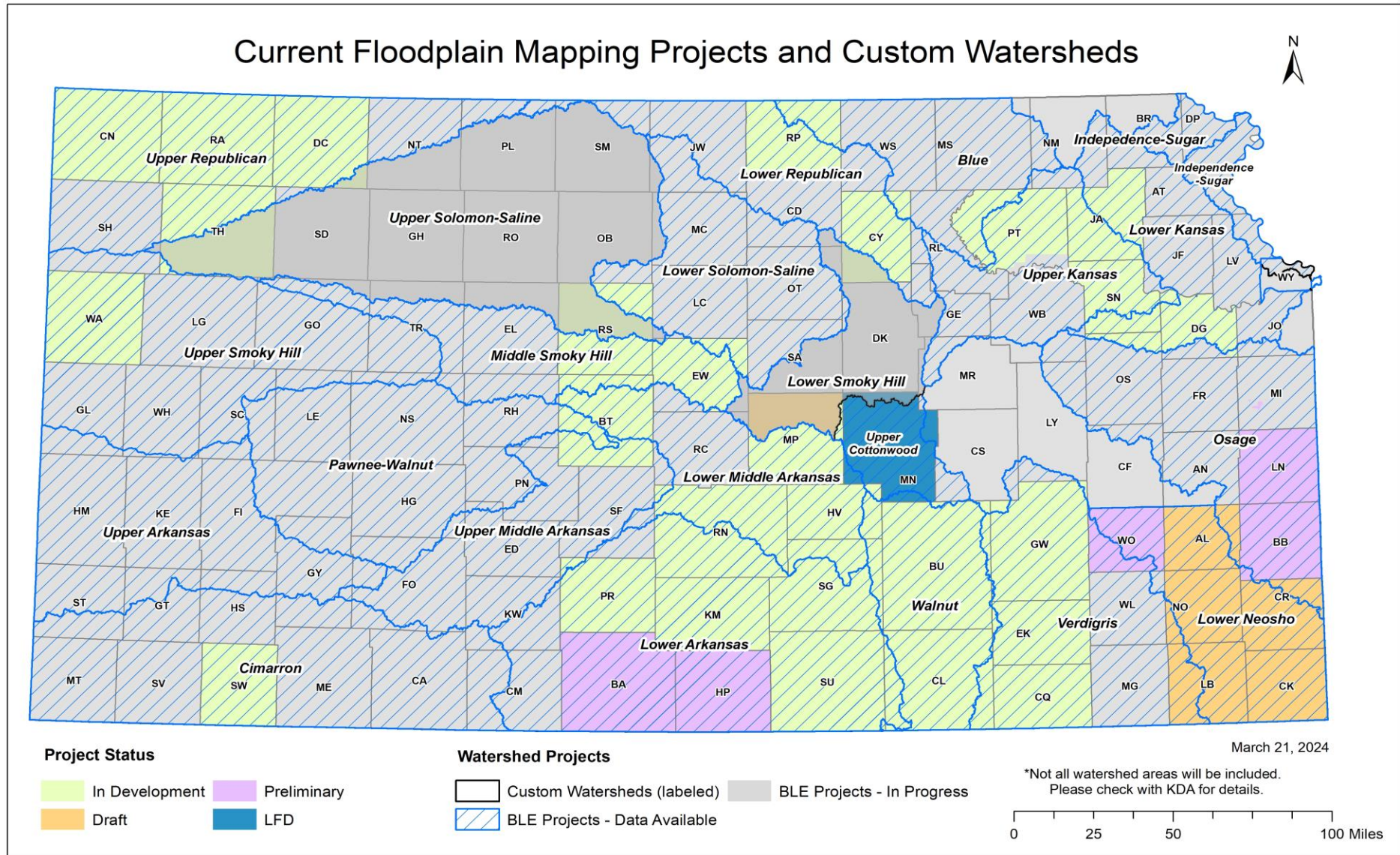
Web Review Map https://gis2.kda.ks.gov/gis/lower_republican/

- Provide comments on areas impacted by past floods, community needs, etc.
- Review of floodplain data

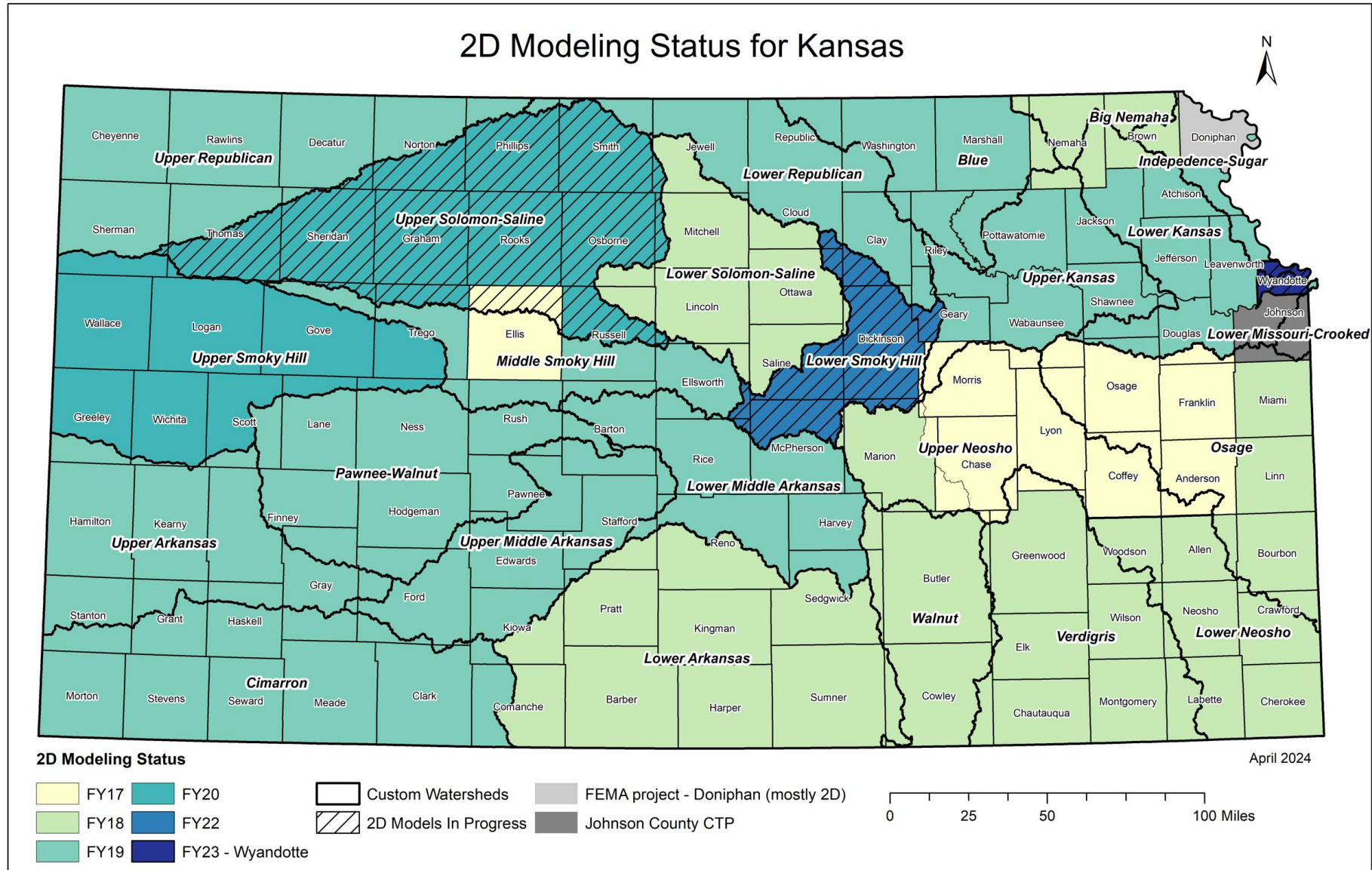
Story Maps

- “Floodplain Current”: Mapping Process ‘Nuts and Bolts’

We are doing similar work across Kansas...



We are doing similar work across Kansas...





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 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.

Kansas Kansas Base Flood Elevation Portal
Department of Agriculture

Home About Help

Portal Registration

First Name

Last Name

User name

Title

Phone

Email Address

Address

City

Zip

State

Register



Contact Information

Tara Lanzrath, CFM
Tara.Lanzrath@ks.gov
D: 785-296-2513
State NFIP Coordinator

William Pace, CFM
William.Pace@ks.gov
D: 785-296-5440
Floodplain Mapping Specialist

Dawn Livingston
Dawn.Livingston@fema.dhs.gov
D: 816-283-7055
*Regional Project Officer,
FEMA Region 7*

Joanna Rohlf, CFM
Joanna.Rohlf@ks.gov
D: 785-296-7769
Floodplain Mapping Coordinator

Cheyenne Sun Eagle, CFM
Cheyenne.suneagle@ks.gov
D: 785-296-0854
NFIP Specialist

Keegan Schwartz
Keegan.schwartz@ks.gov
D: 785-296-4622
Floodplain Outreach Specialist

Maria Neeland, PE, CFM
mneeland@benesch.com
D: 785-320-4827
Project Manager, Benesch

Discussion and Questions
