Kansas Department of Agriculture
*Division of Water Resources*

FEMA

WSP

# Osage County

## *Floodplain Mapping Project*
## *Data Development Kickoff Meeting*

*April 10, 2023*

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!***

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# *Introductions*


## Kansas Department of Agriculture

**Joanna Rohlf, CFM, GISP**
*Floodplain Mapping Coordinator*

**William Pace, CFM**
*Floodplain Mapping Specialist*

**Patrick Bonine**
*Floodplain Mapping Specialist*

**Tara Lanzrath, CFM**
*State NFIP Coordinator*

**Cheyenne Sun Eagle, CFM**
*NFIP Specialist*

## FEMA – Region VII

**Dawn Livingston**
*Regional Project Officer*

## WSP USA Environment & Infrastructure Inc.

**Matt Long, PE, CFM**
*Project Manager*

**Erika Stanley**
*Sr. GIS Analyst*

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# Today's Goals

*Share details on the mapping project*

*Get initial feedback on modeling methods*

*Review future steps*

# Background

# Background

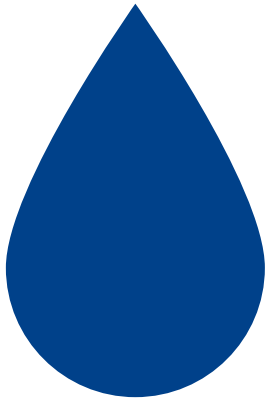
- Lower Kansas Custom Watershed BLE Project
  - *Kick-off Meeting: May 2021*
  - *Discovery Meetings and BLE Review: September 2021*

# Background

- Current Effective Mapping for Osage County is dated May 17, 2022.
  - Only a portion of the county was updated.
  - This update incorporated modeling from the Upper Marais des Cygnes Watershed Flood Risk Project.
- It was determined that updated modeling and mapping for the portion of Osage County in the Lower Kansas Watershed using newer Lidar and 2D modeling techniques, would be beneficial.

# *Review of the Work Ahead and How We Propose Doing It*

# Definitions



**Hydrology**

*How Much Water?*

**Hydraulics**

*How High Will Water Get?*

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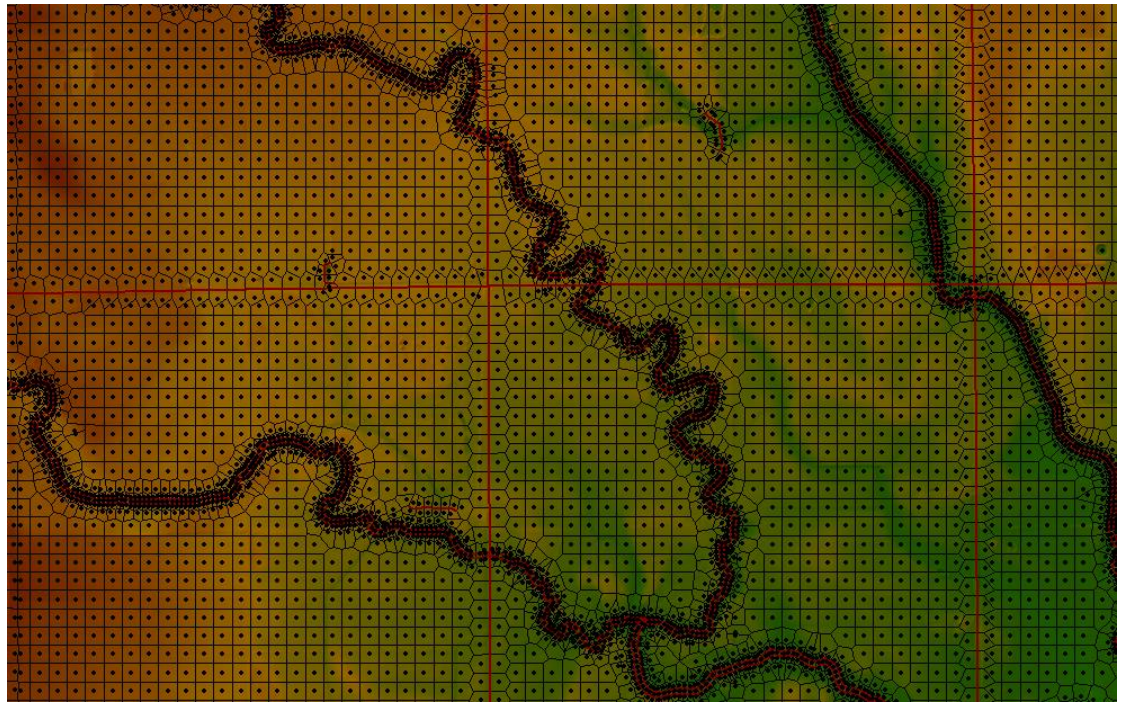
# *2D Modeling is being used*



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# Model Enhancements

- Enhancements will be made to the BLE modeling that was performed.
  - Lidar, flown in 2018, will be used.
  - Comments made will be used to enhance the modeling.
  - Additional review/refinement of mesh will be done to improve accuracy of modeling.
  - Enhanced Zone A and Zone AE with Floodway on selected streams will include field measured structure data, as-built survey plans, and additional landuse refinements.

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# Model Enhancements

- The hydrology is built into the RAS modeling platform using excess rain-on-mesh modeling.
- HEC-RAS calculates the excess rainfall from an initial abstraction based on NRCS Curve Number methodology.
- Details added to 2D mesh as needed.
- Add detail to significant flood control dams as needed.
- Model flows will be compared to Kansas regression flows for validation and calibration.

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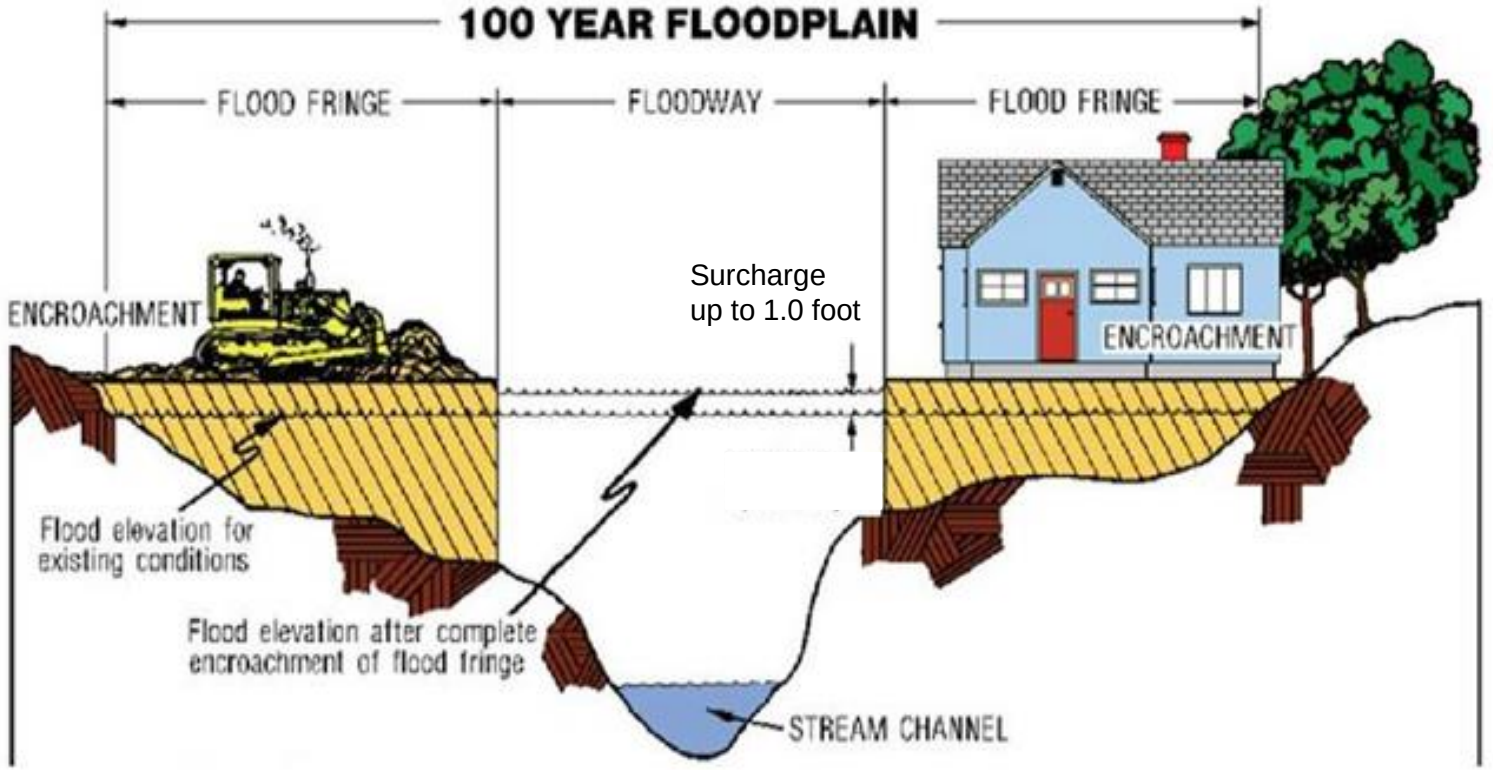
***A portion of the Zone AE modeling includes the development of a floodway***

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.



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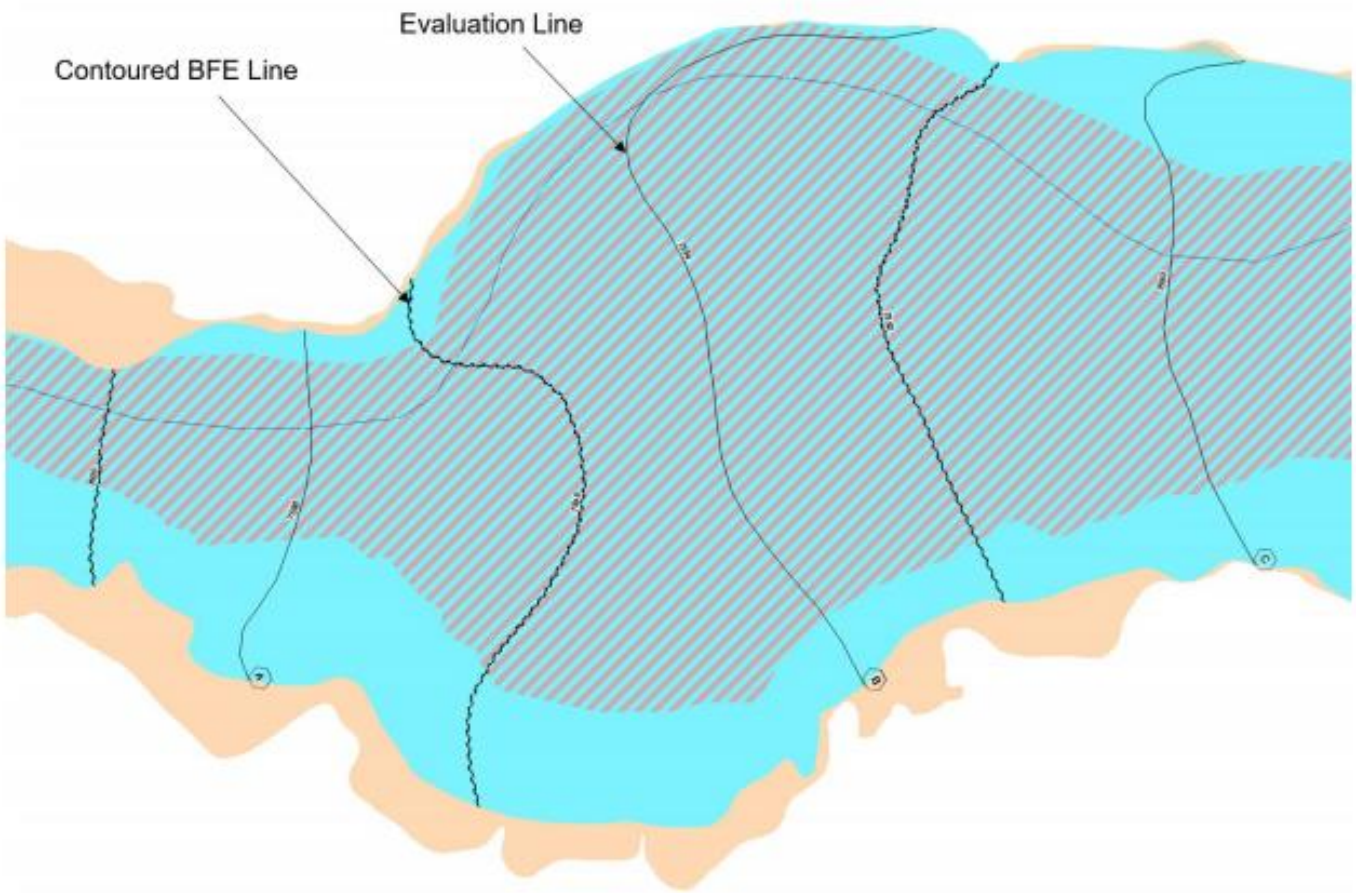
# *2D Floodways will be developed*



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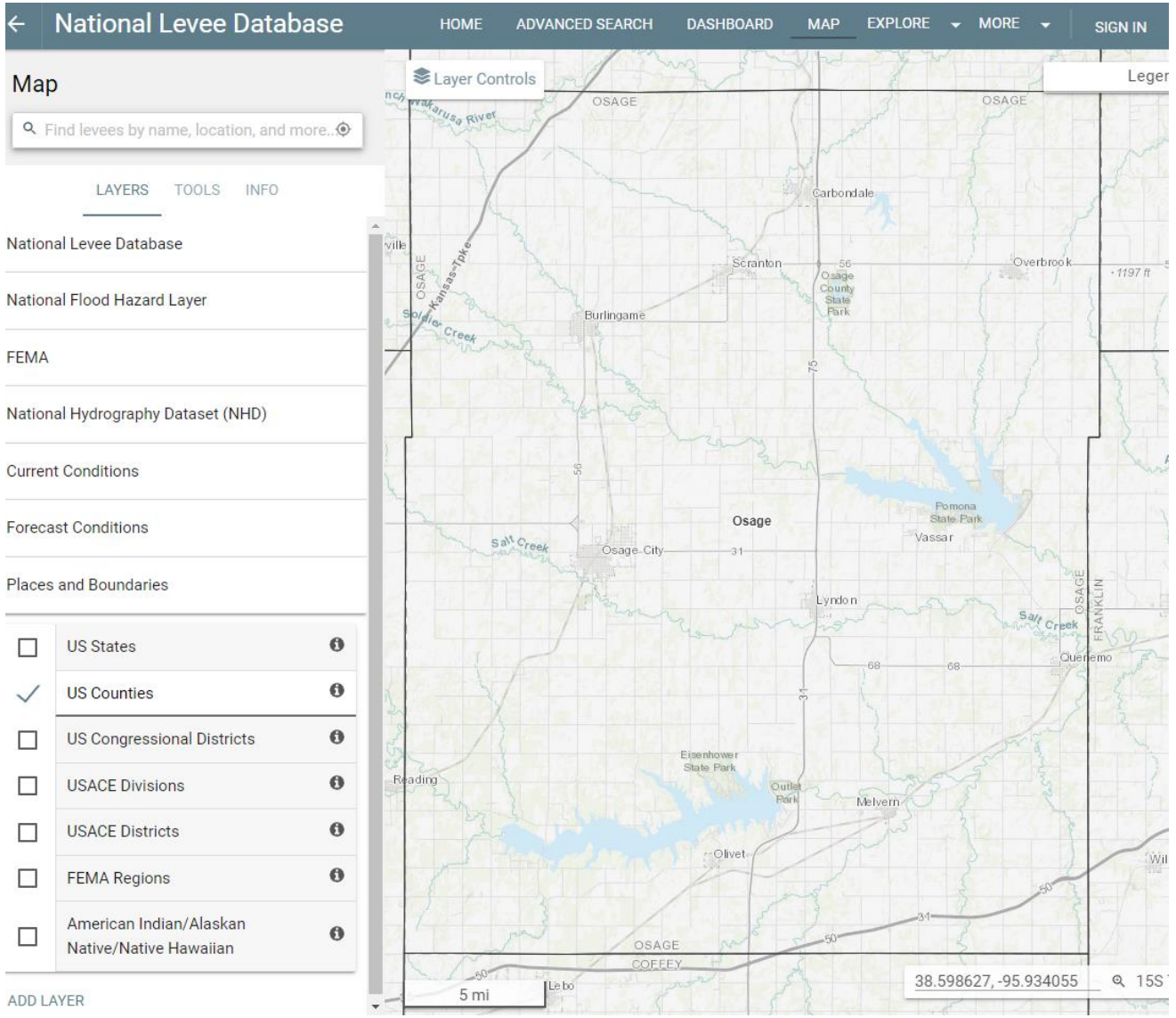
# Levees

There are 0 levees in the project area.



# Data Development Scope

# Osage County 2023 Proposed Mapping Updates

## Scoped Studies

**New Zone A - Excess Rainfall on Grid**

New Zone A studies will be developed for these streams using 2D HEC-RAS rain-on-mesh modeling.

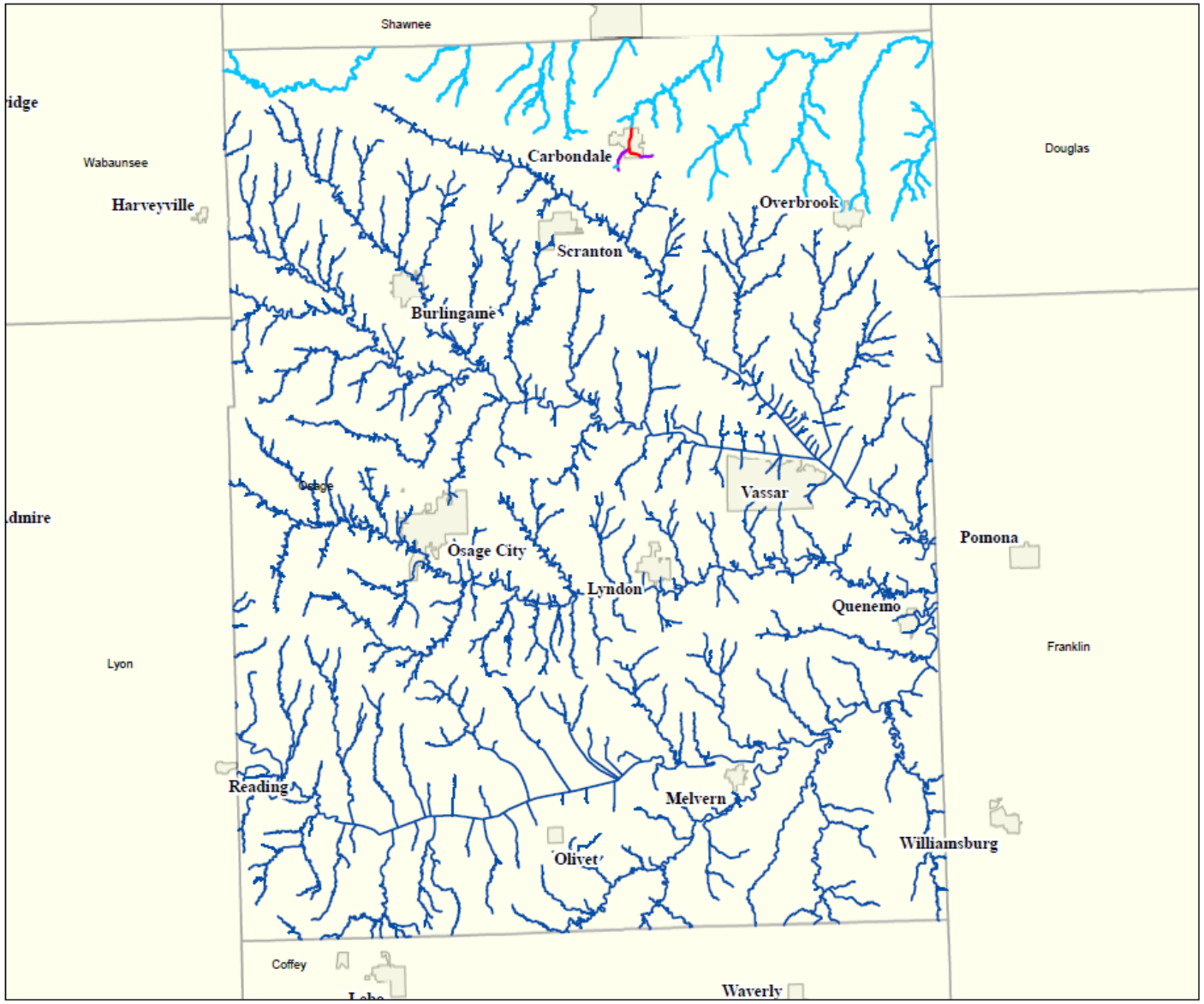
**New Zone AE with Floodway**

New Zone AE studies will be developed for these streams using 2D HEC-RAS rain-on-mesh modeling. Floodways will be developed. Field measured structure data will be incorporated into the modeling. BFEs will be shown on the maps.

**New Enhanced Zone A - Excess Rainfall on Grid**

New Enhanced Zone A studies will be developed for these streams using 2D HEC-RAS rain-on-mesh modeling. Field measured structure data will be incorporated into the modeling. BFEs will not be shown on the map.

**Existing Studies - Will not be revised**



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# *New Zone AE with Floodway*

- Carbondale:
  - Bury's Creek

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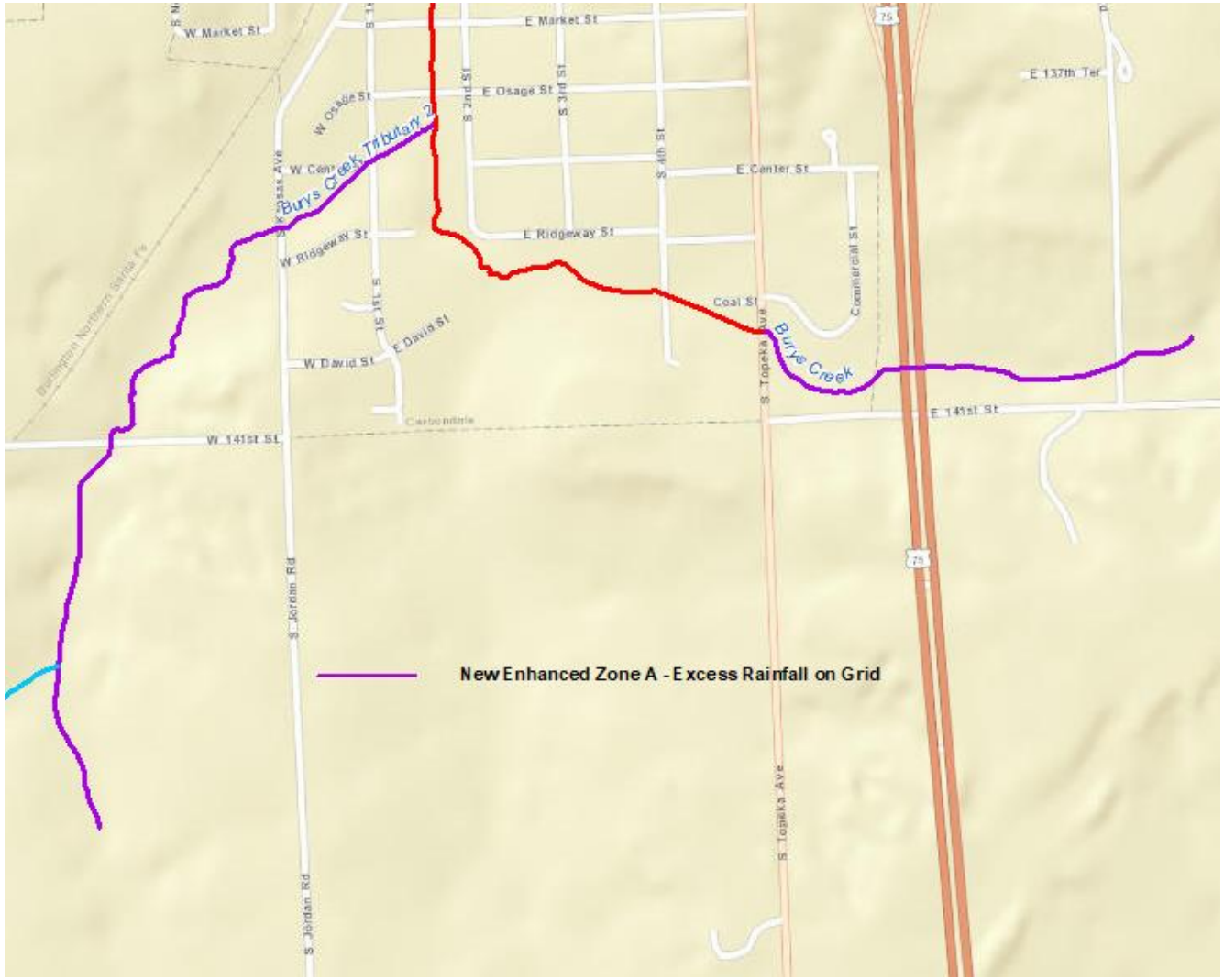
# New Enhanced Zone A

- Carbondale:
  - Bury's Creek
  - Bury's Creek Tributary 2



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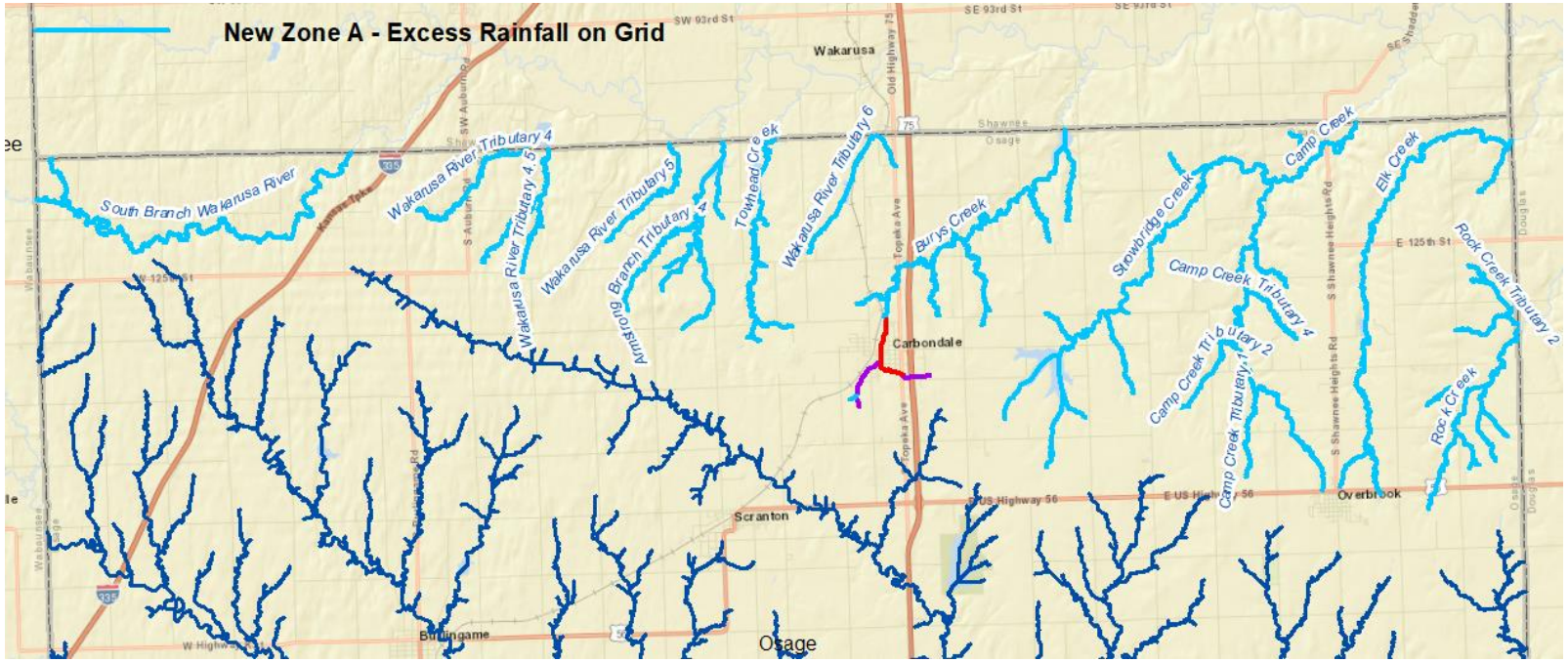
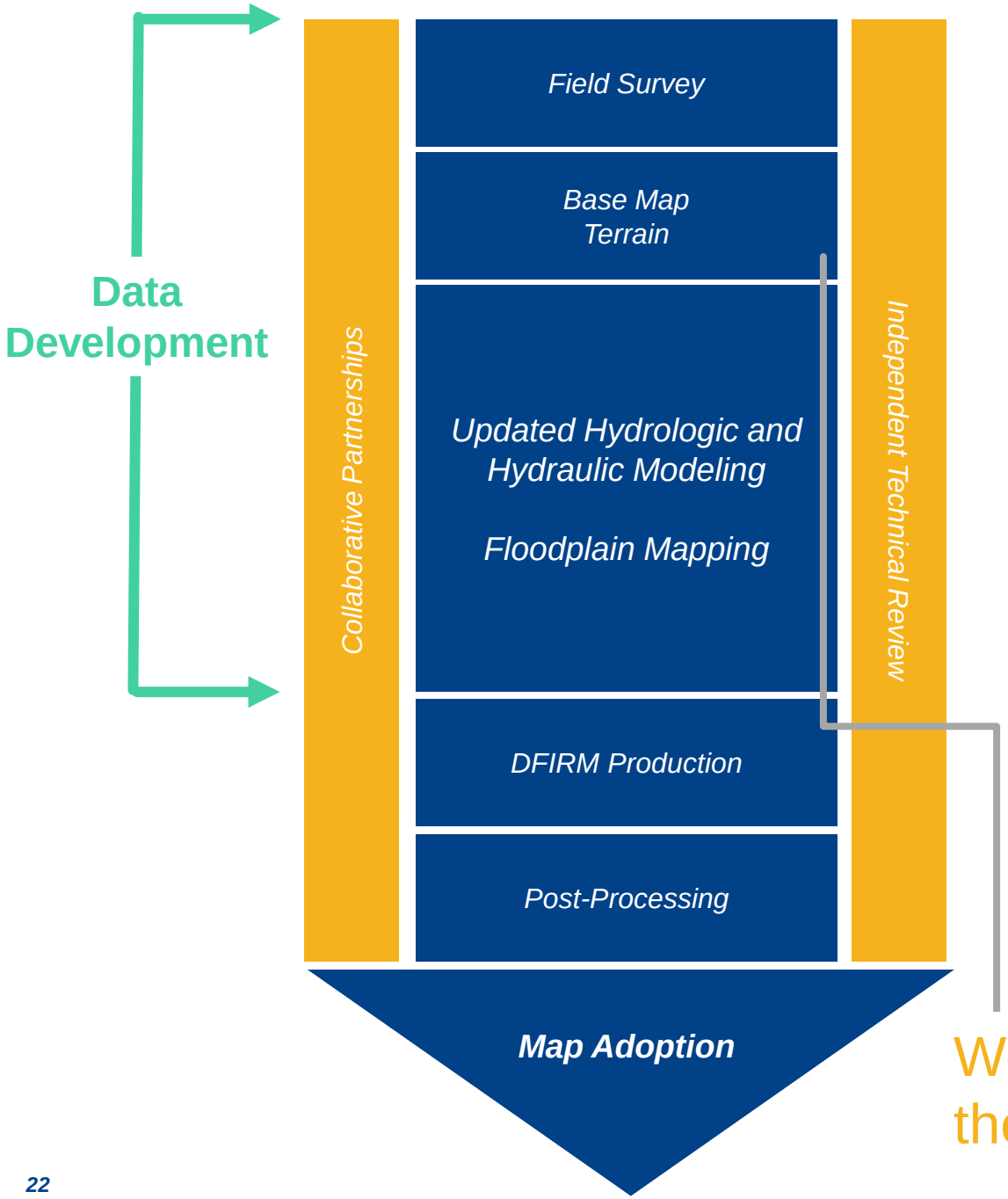
# New Zone A

- Osage County



# Next Steps




# 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 about to begin the modeling task

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# Our Next Steps:

- We will complete the engineering analysis previously described.
- Several rounds of reviews will be completed.
- 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).
- We will have a community review period and a public review period

# *Project Timeline*

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

**Data Development Work:** [Now until Summer of 2024]

- *Base Map*
- *Topographic Data*
- *Field Survey*
- *Develop Hydrologic and Hydraulic Models*
- *Floodplain Mapping*

**Flood Risk Review Meeting:**

[~January 2024]

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

# *Project Timeline, continued*

Community **comments** will be **addressed**

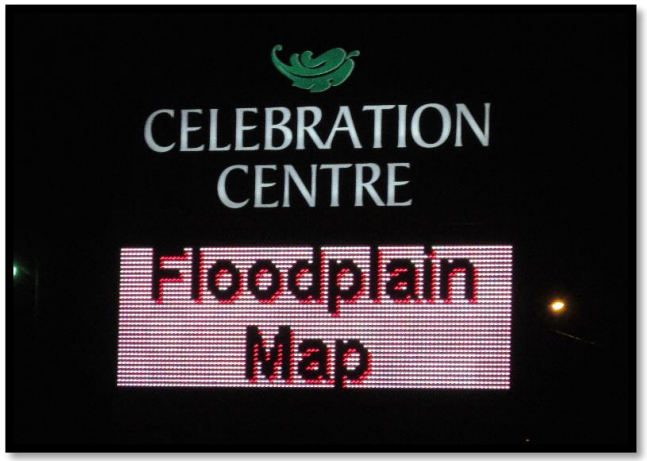
**Public review** of the draft maps

- *Includes Public Open House*

**Preliminary Map Products**

- *Preliminary DFIRM Community Coordination Meeting*

**Post-Preliminary Processing**

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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*

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

# 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-kansas-custom-watershed
- **Web Review Map**
- Provide comments on areas impacted by past floods, community needs, etc.
- Review of floodplain data

## Story Maps

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


Any Questions?