



Osage County



FEMA

*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!***



**THANK
YOU**



Introductions

Kansas Department of Agriculture

**Joanna Rohlf, CFM,
GISP**

*Floodplain Mapping
Coordinator*

William Pace, CFM

*Floodplain Mapping
Specialist*

Patrick Bonine

*Floodplain Mapping
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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





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*

Discovery Report

Lower Kansas Custom Watershed
HUCS 10270102, 10270103, 10270104

Cities of Atchison, Auburn, Baldwin, Basehor, Bonner Springs, Carbondale, Circleville, Denison, Easton, Effingham, Eudora, Holton, Huron, Lancaster, Lawrence, Lecompton, Linwood, Mayetta, McLouth, Meriden, Muscotah, Netawaka, Nortonville, Oskaloosa, Overbrook, Ozawkie, Perry, Tonganoxie, Topeka, Valley Falls, Wakarusa, Whiting, Winchester

Atchison, Douglas, Jackson, Jefferson, Leavenworth, Osage, Shawnee, and Wabaunsee Counties

Prairie Band Potawatomi Nation

Report Number 01



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?



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.



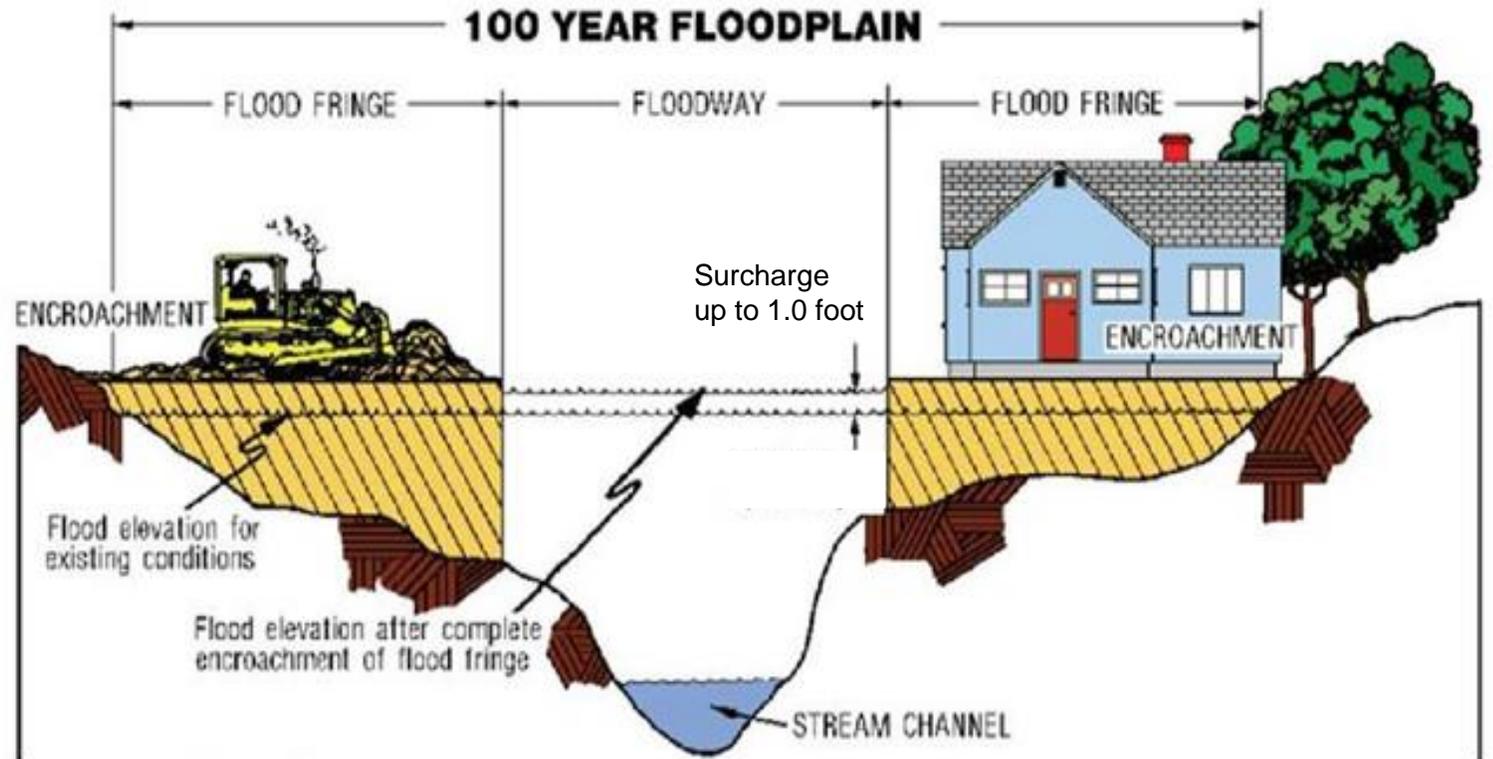
Model Enhancements

- 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.



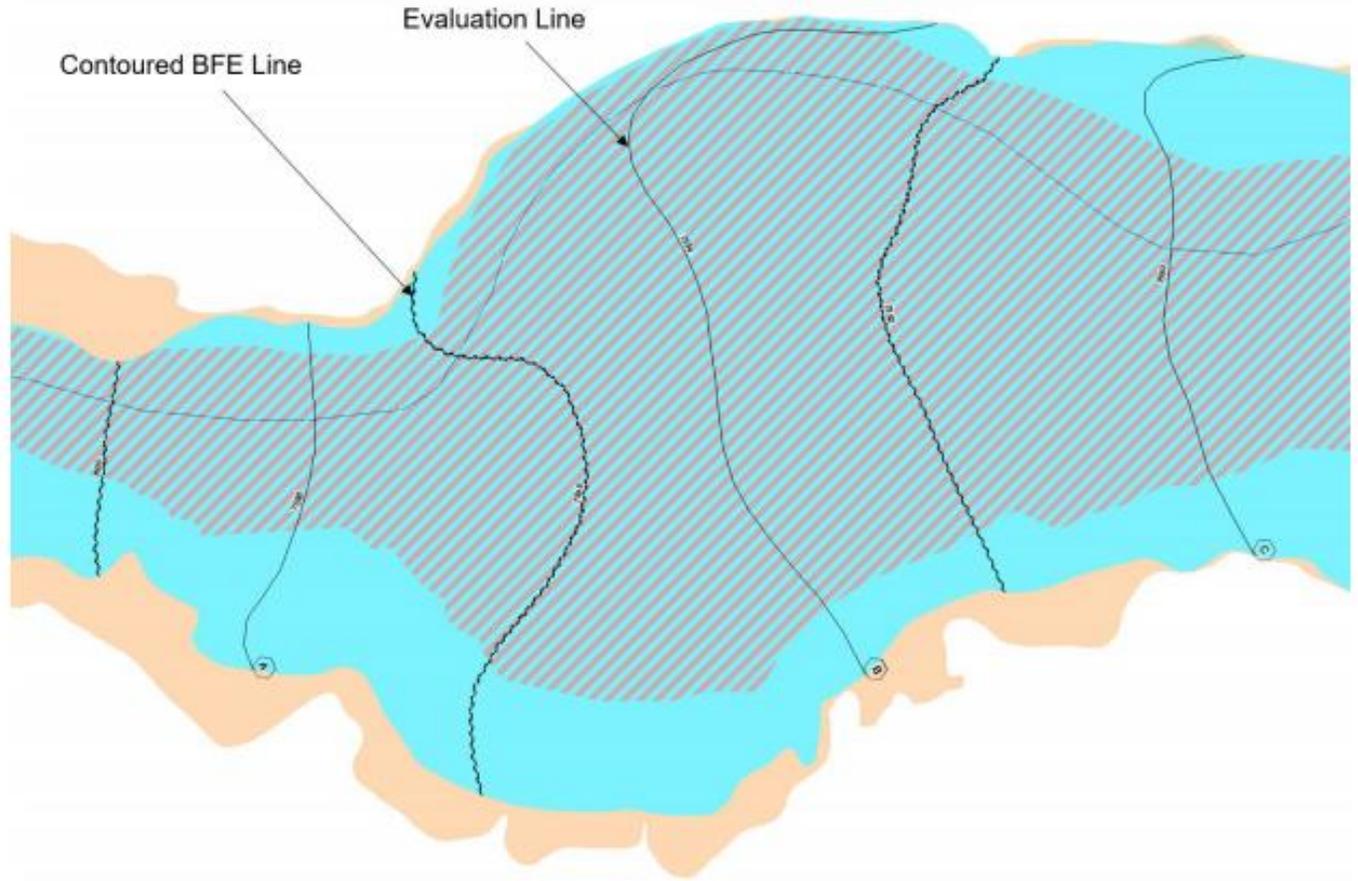
A portion of the Zone AE modeling includes the development of a floodway

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.





2D Floodways will be developed





Levees

There are 0 levees in the project area.

The screenshot shows the National Levee Database web application. The interface includes a navigation bar with options like HOME, ADVANCED SEARCH, DASHBOARD, MAP, EXPLORE, MORE, and SIGN IN. A search bar is present with the text "Find levees by name, location, and more...". A layer control panel on the left lists various data layers, with "US Counties" checked. The map displays a geographic area in Osage County, Kansas, showing towns like Burlingame, Scranton, and Osage City, along with water bodies like Salt Creek and the Kansas River. A scale bar at the bottom indicates 5 miles, and the coordinates 38.598627, -95.934055 are shown.

National Levee Database

HOME ADVANCED SEARCH DASHBOARD MAP EXPLORE MORE SIGN IN

Map

Find levees by name, location, and more...

LAYERS TOOLS INFO

National Levee Database

National Flood Hazard Layer

FEMA

National Hydrography Dataset (NHD)

Current Conditions

Forecast Conditions

Places and Boundaries

- US States
- US Counties
- US Congressional Districts
- USACE Divisions
- USACE Districts
- FEMA Regions
- American Indian/Alaskan Native/Native Hawaiian

ADD LAYER

Data Development Scope

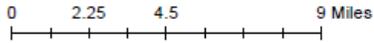
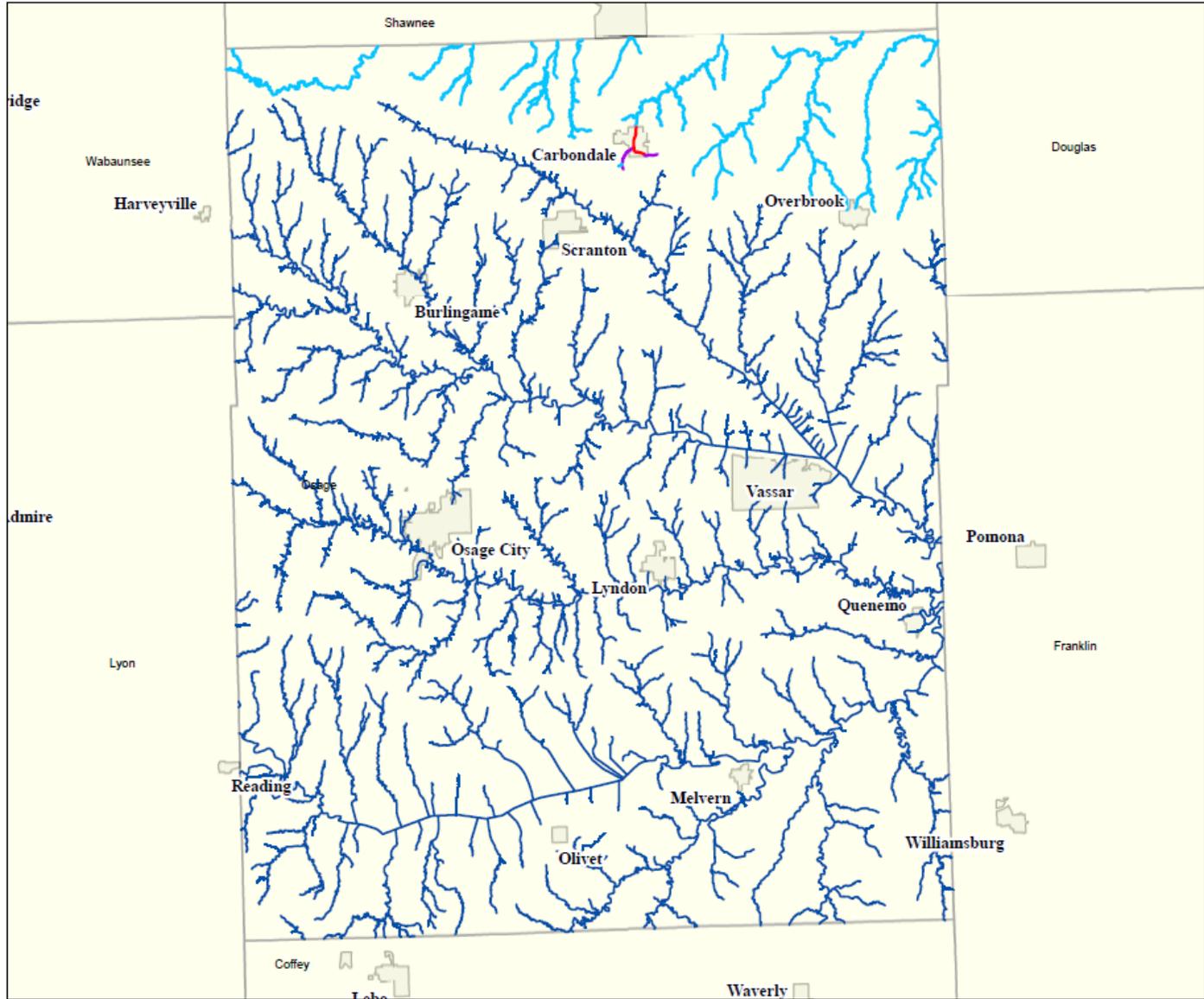
Scoped Studies

- **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.

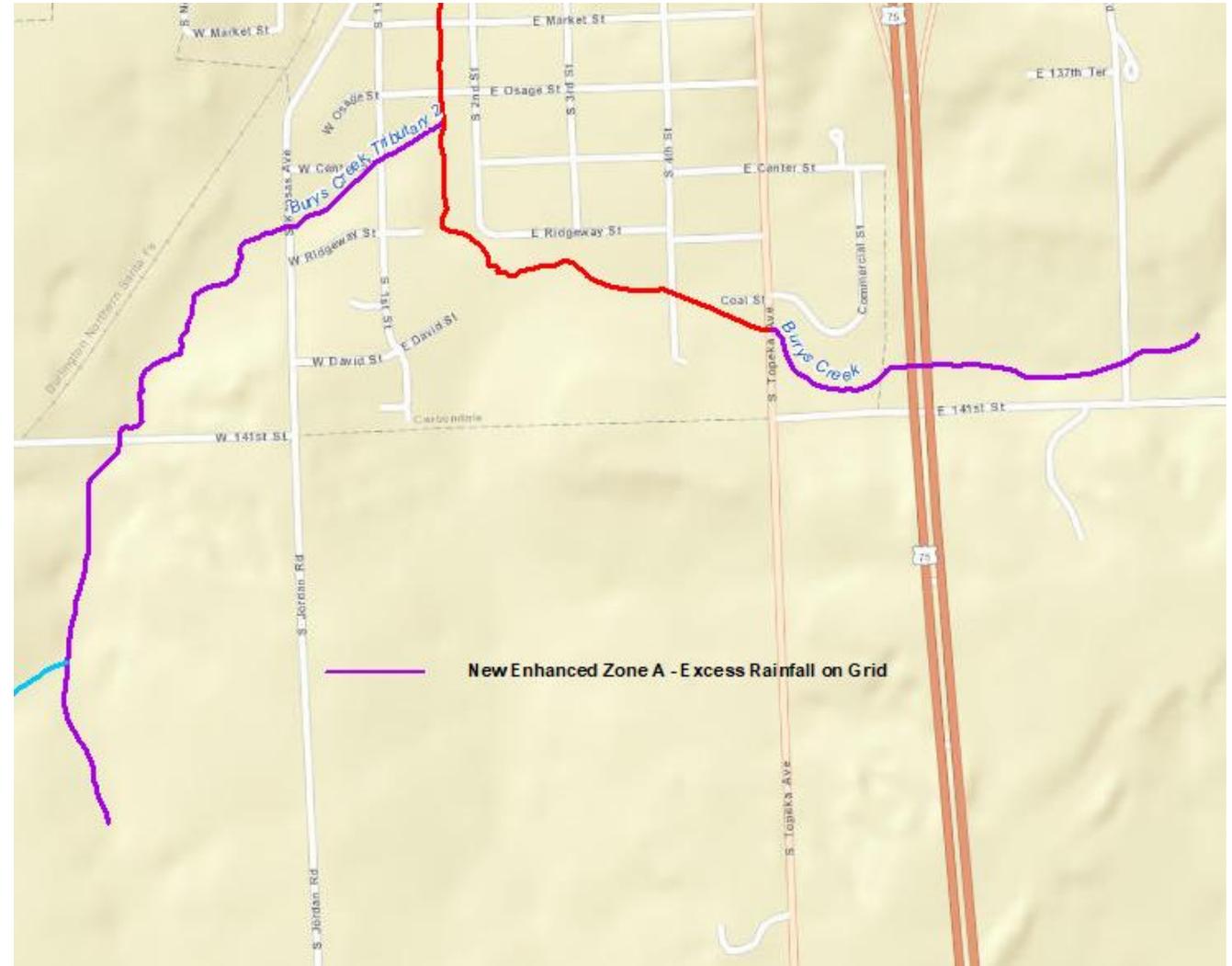
- **New Enhanced Zone A - Excess Rainfall on Grid**
 New Enhanced Zone A studies will be developed for these streams using 2D HEC-RAS rain-on-mesh modeling. Field measured structure data will be incorporated into the modeling. BFEs will not be shown on the map.

- **Existing Studies - Will not be revised**



New Enhanced Zone A

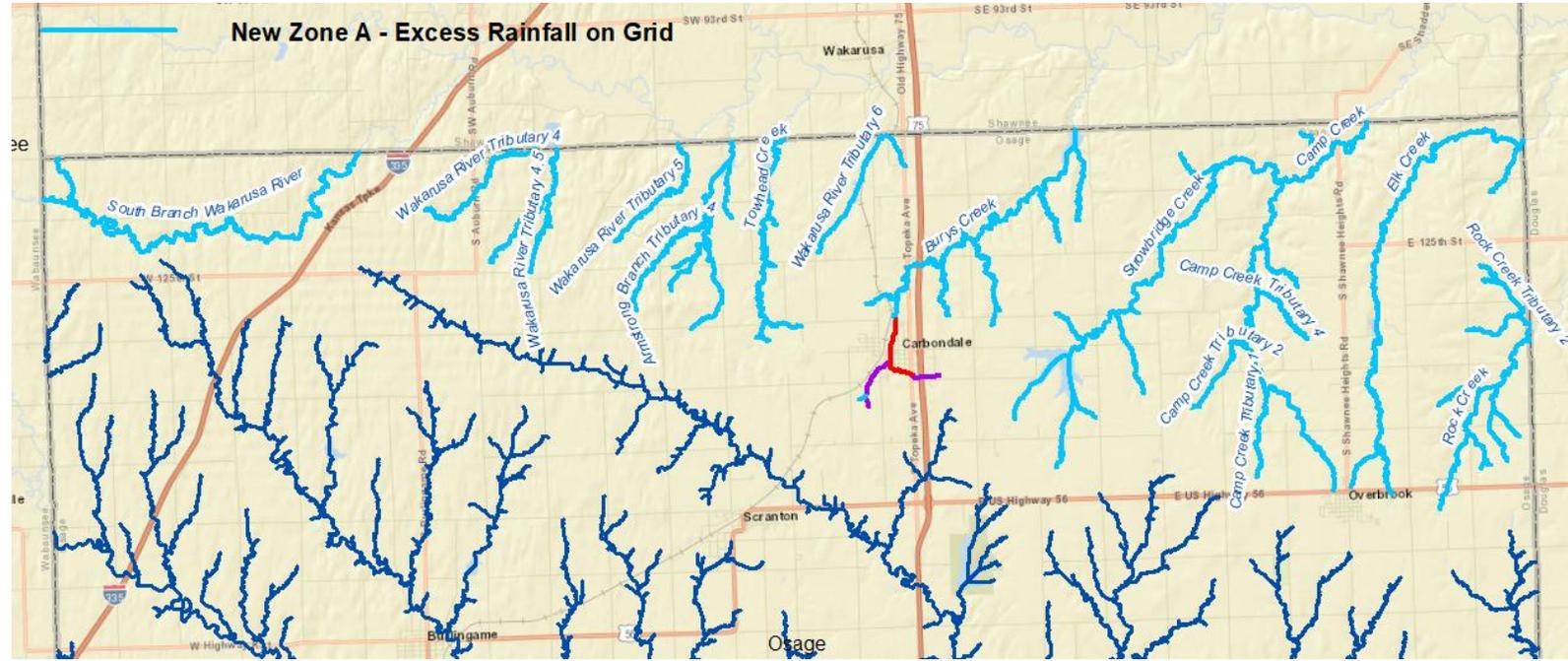
- Carbondale:
 - Bury's Creek
 - Bury's Creek Tributary 2



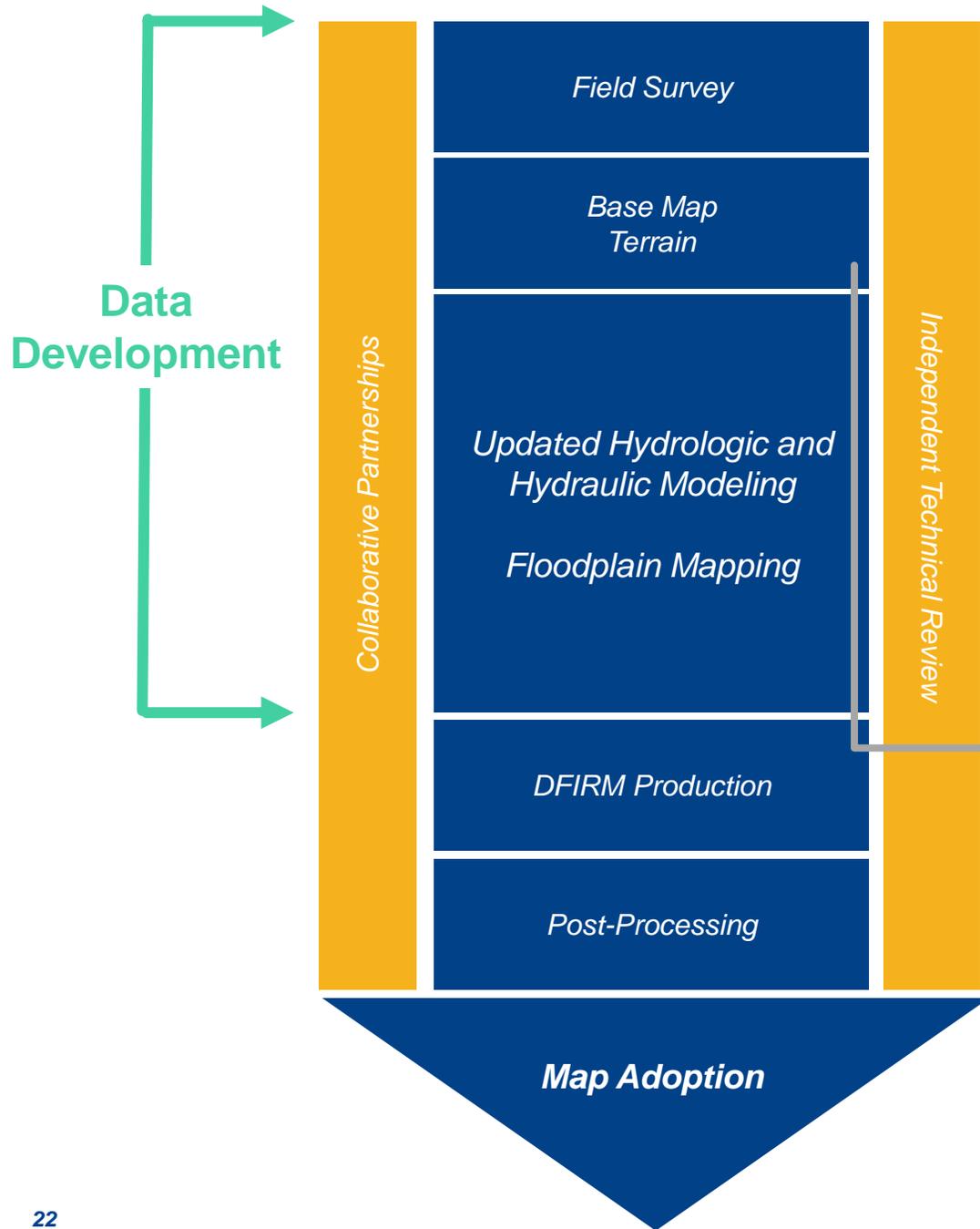


New Zone A

- 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



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**





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?
