



Butler County




FEMA

*Floodplain Mapping Project
Data Development Kickoff Meeting*

June 23, 2022

wood.

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

Tara Lanzrath, CFM
*Floodplain Mapping
Coordinator*

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

William Pace, CFM
*Floodplain Mapping
Specialist*

Wood Environment & Infrastructure Solutions

Larry Sample, PE
Project Manager

Steve Samuelson, CFM
State NFIP Coordinator

Cheyenne Sun Eagle
NFIP Specialist

FEMA – Region VII

Dawn Livingston
Regional Project Officer

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

- Walnut Custom Watershed BLE Project
 - *Kick-off Meeting: December 12, 2019*
 - *Discovery Meeting: March 4, 2020*

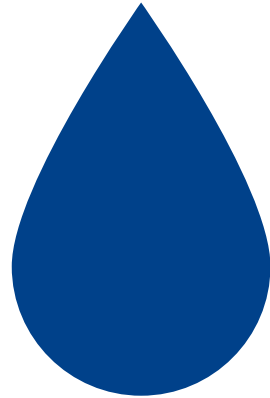


Background

- Butler County Effective Mapping
 - Effective mapping is June 02, 2009 for most of county.
 - PMR completed January 22, 2020 for Augusta and El Dorado.
 - Through the Discovery process and conversations with county stakeholders, it was determined that certain streams in Butler County warranted new modeling.
 - Better elevation data and 2D modeling techniques will improve the accuracy of the mapping.
 - Mapped using NGVD 29 datum. New mapping will use NAVD 88 datum.

Review of the Work Ahead and How We Propose Doing It

Definitions

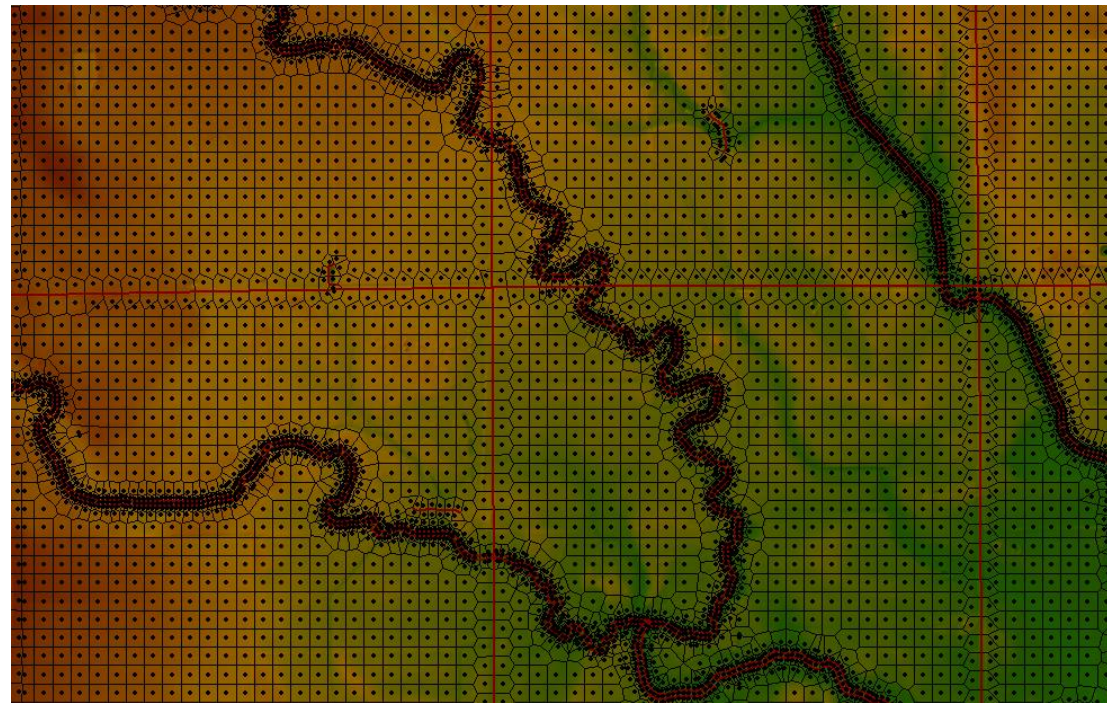


Hydrology
How Much Water?



Hydraulics
How High Will Water Get?

2D Modeling is being used





Model Enhancements

- Enhancements will be made to the BLE modeling that was performed.
 - New Lidar, flown in 2018, will be incorporated.
 - Comments made and additional information gathered during the Discovery phase 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 streams will include field measured structure data, as-built survey plan and additional land-use refinements.



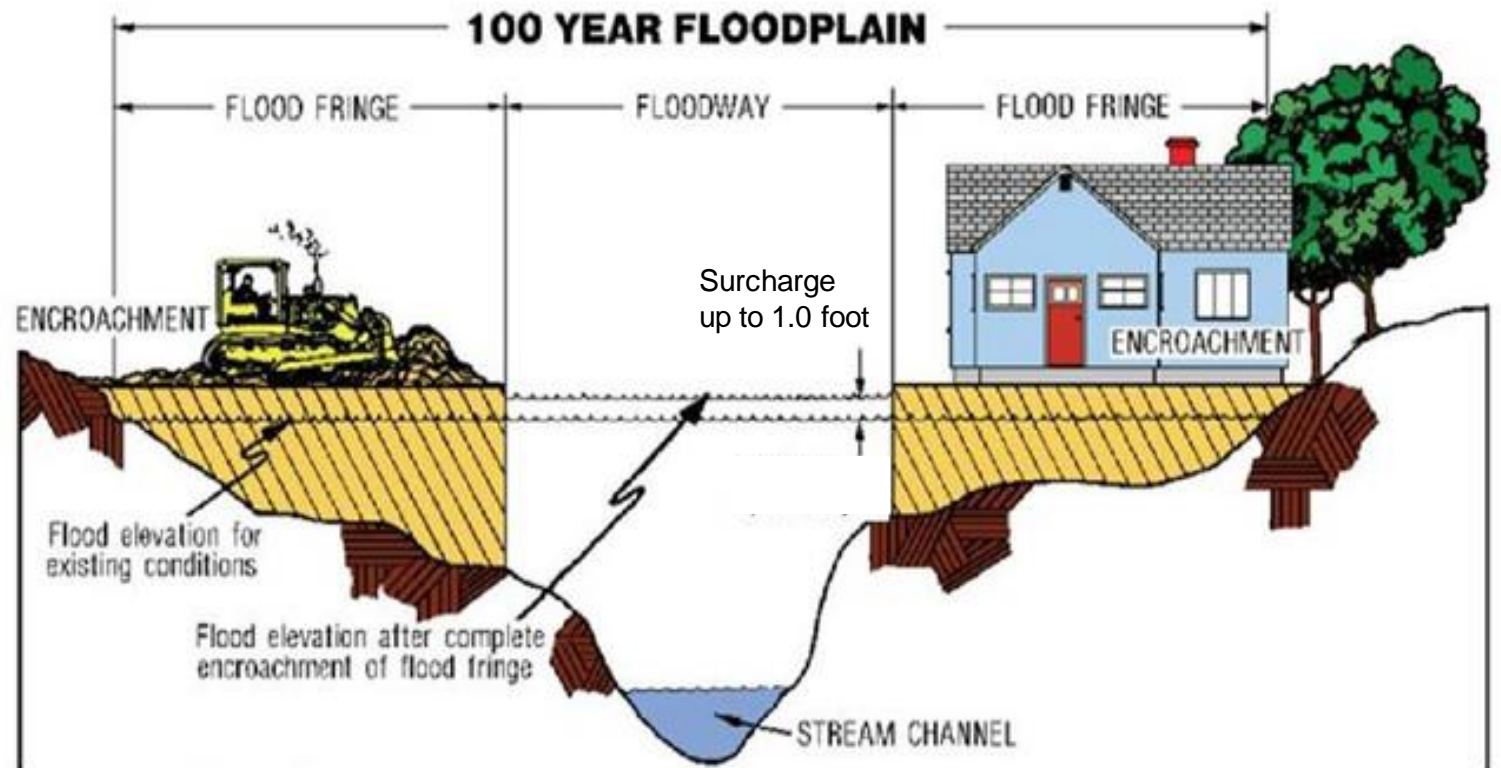
Model Enhancements

- The hydrology is built into the RAS modeling platform using excess rainfall-on-grid methodology.
- This will be calibrated to statistical gage analysis and HEC-HMS (rainfall-runoff) model flows, developed as part of this project



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

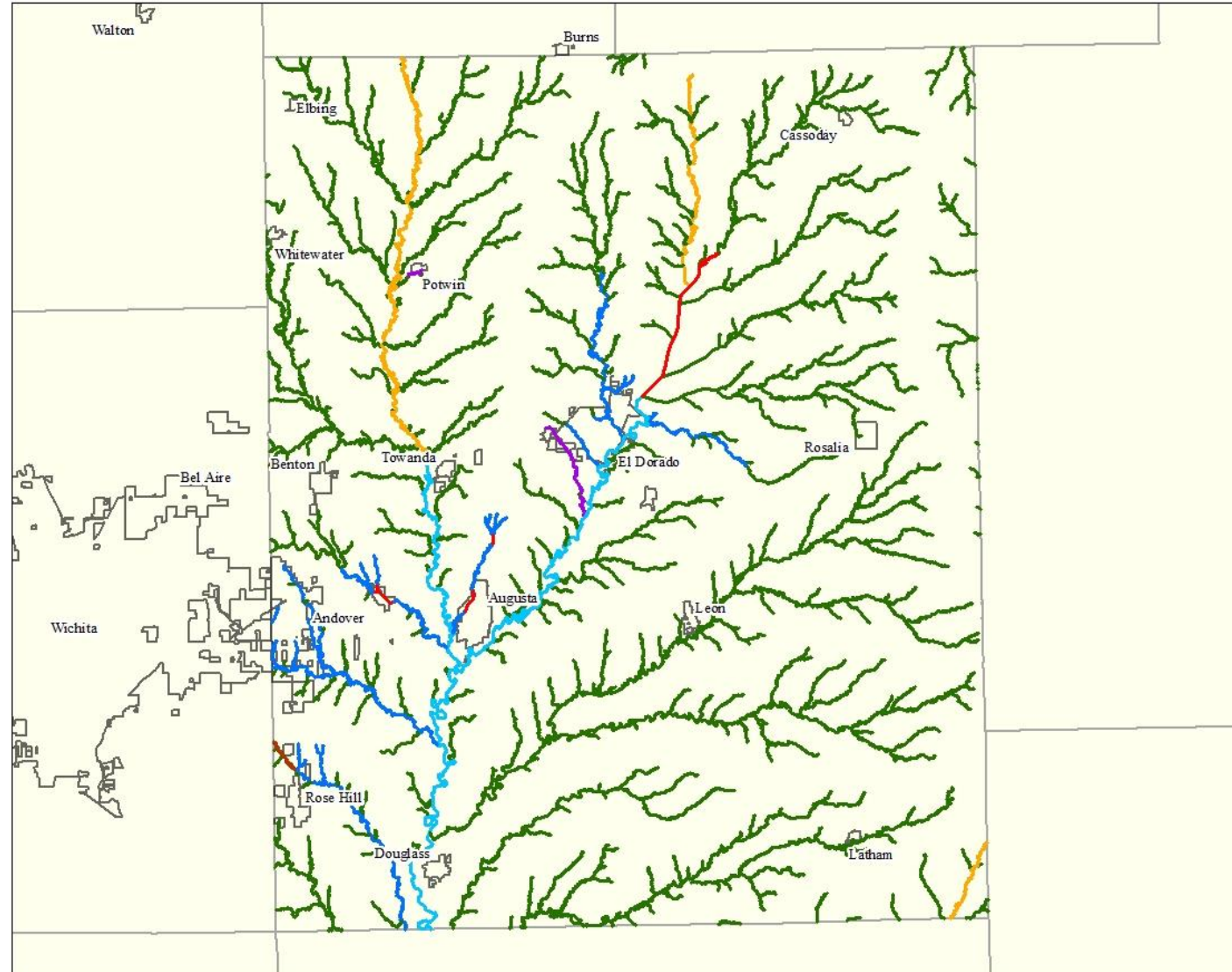
A Floodway is the area within the floodplain that must be reserved in order to discharge the base flood without cumulatively increasing the WSE by more than 1.0 foot.



Butler County 2021 Proposed Mapping Updates

Scoped Studies

- **New Zone A - Gage Analysis**
 New Zone A studies will be developed for these streams using 2D "excess rainfall-on grid" hydrology calibrated to Gage Analysis Flows, and 2D Hec-Ras hydraulics.
- **New Zone A - Excess Rainfall on Grid**
 New Zone A studies will be developed for these streams using 2D "excess rainfall-on grid" hydrology and 2D Hec-Ras hydraulics.
- **New Enhanced Zone A - Excess Rainfall on Grid**
 New Enhanced Zone A studies will be developed for these streams using 2D "excess rainfall-on grid" hydrology and 2D Hec-Ras hydraulics. Floodways will not be developed. Field measured structure data will be incorporated into the modeling.
- **New Zone AE with Floodway - Excess Rainfall on Grid**
 New Zone AE studies will be developed for these streams using 2D "excess rainfall-on grid" hydrology 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.
- **New Zone AE with Floodway - Gage Analysis**
 New Zone AE studies will be developed for these streams using 2D "excess rainfall-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.
- **New Zone AE - Excess Rainfall on Grid**
 New Zone AE studies will be developed for these streams using 2D "excess rainfall-on grid" hydrology and 2D Hec-Ras hydraulics. Field measured structure data will be incorporated into the modeling. Floodways will not be developed. BFEs will be shown on the maps.
- **New Static Zone AE**
 New Static Zone AE studies will be developed for these streams using statistical frequency analysis.





New Zone AE with Floodway

- BIRD CREEK
- CONSTANT CREEK
- DRY CREEK
- DRY CREEK
- DRY CREEK Trib 3
- DRY CREEK Trib 5
- EIGHTMILE CREEK
- EIGHTMILE CREEK
- EIGHTMILE CREEK Trib 12
- EIGHTMILE CREEK Trib 12.1
- EIGHTMILE CREEK Trib 9
- EIGHTMILE CREEK Trib 9.1
- ELM CREEK
- ELM CREEK
- ELM CREEK
- ELM CREEK Trib 1
- ELM CREEK Trib 1.1
- ELM CREEK Trib 2
- FOURMILE CREEK
- FOURMILE CREEK Trib 10
- FOURMILE CREEK Trib 7
- FOURMILE CREEK Trib 7.1
- GREEN VALLEY TRIBUTARY
- REPUBLICAN CREEK



New Zone AE with Floodway

- SPRING BRANCH
- TERRADYNE FORK
- WAGONER CREEK
- WALNUT RIVER
- WALNUT RIVER
- WEST BRANCH WALNUT RIVER
- WEST BRANCH WALNUT RIVER Trib 1
- WEST BRANCH WALNUT RIVER Trib 2
- WEST BRANCH WALNUT RIVER Trib 2.1
- WHITEWATER RIVER



Redelineated Zone AE with Floodway

- WALNUT RIVER
- WHITEWATER RIVER



Static Zone AE

- Augusta Lake
- El Dorado Lake
- Elm Creek
- Santa Fe Lake

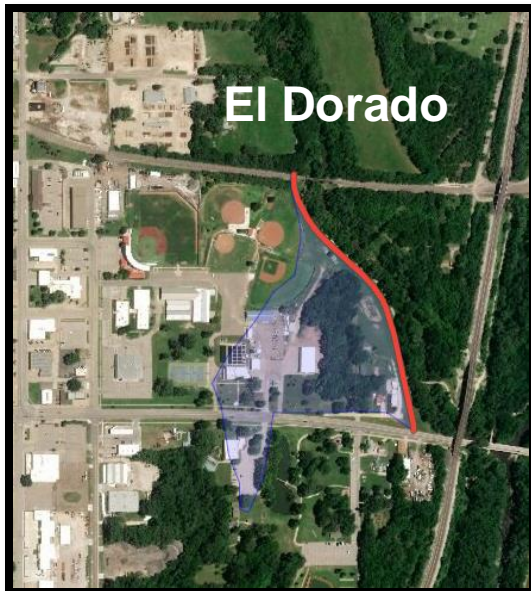


Zone A Updates

- Enhancements will be made to the 2D BLE modeling that was already performed
 - Comments made and additional information gathered during the Discovery phase will be used to enhance the modeling
- The modeling will utilize the 2018 LiDAR data set

Levee Discussion

- There are 3 Levee Systems in Butler County
 - Augusta System- Accredited
 - El Dorado- Non-Accredited
 - Rural Area near Leon- Non-Accredited





Levees

El Dorado PMR went effective on January 22, 2020

There is no current plan to re-study this Levee.

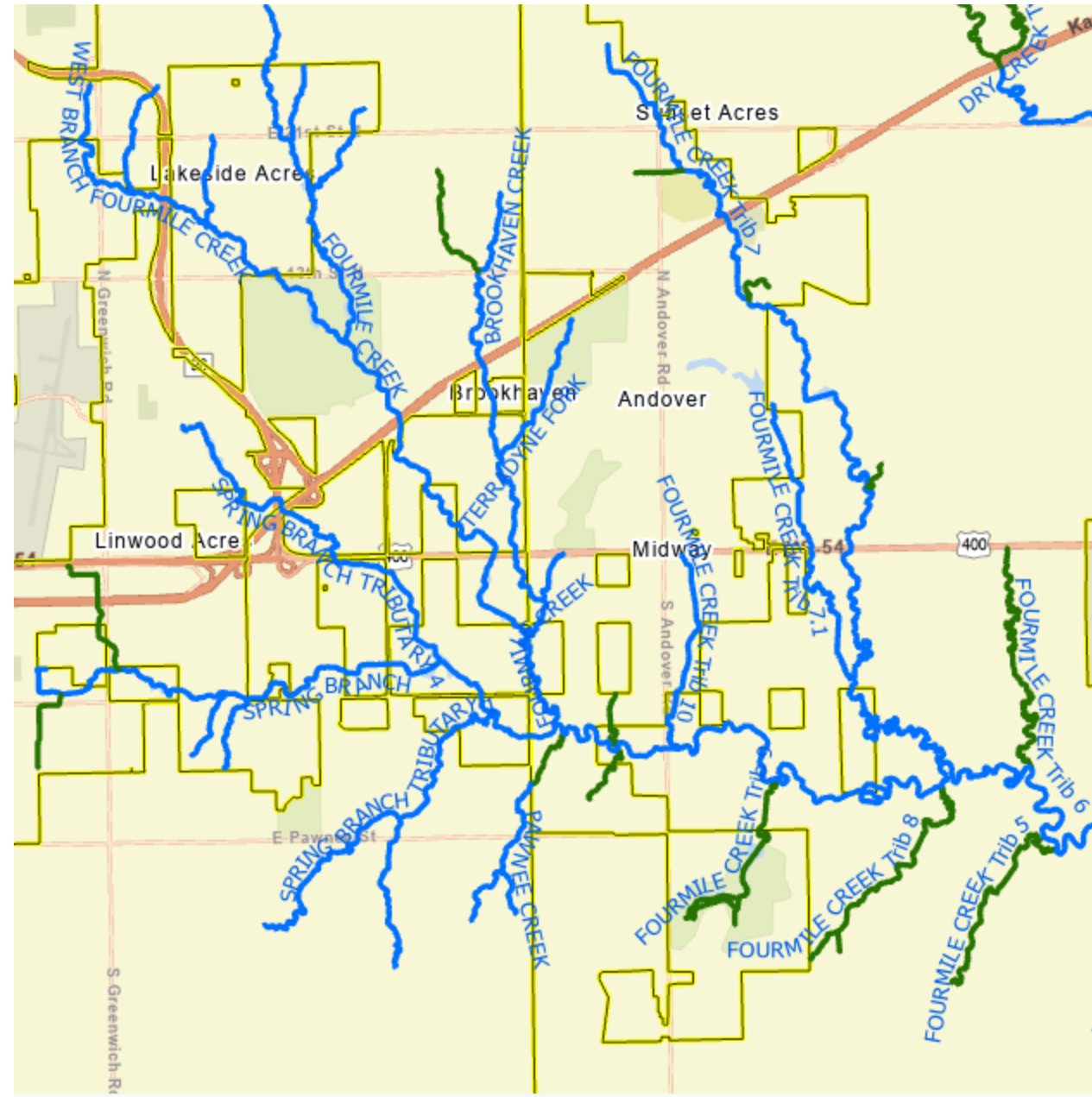
Non-accredited levee will be mapped based natural valley method

August PMR went effective on January 22, 2020

There is no current plan to re-study this Levee.

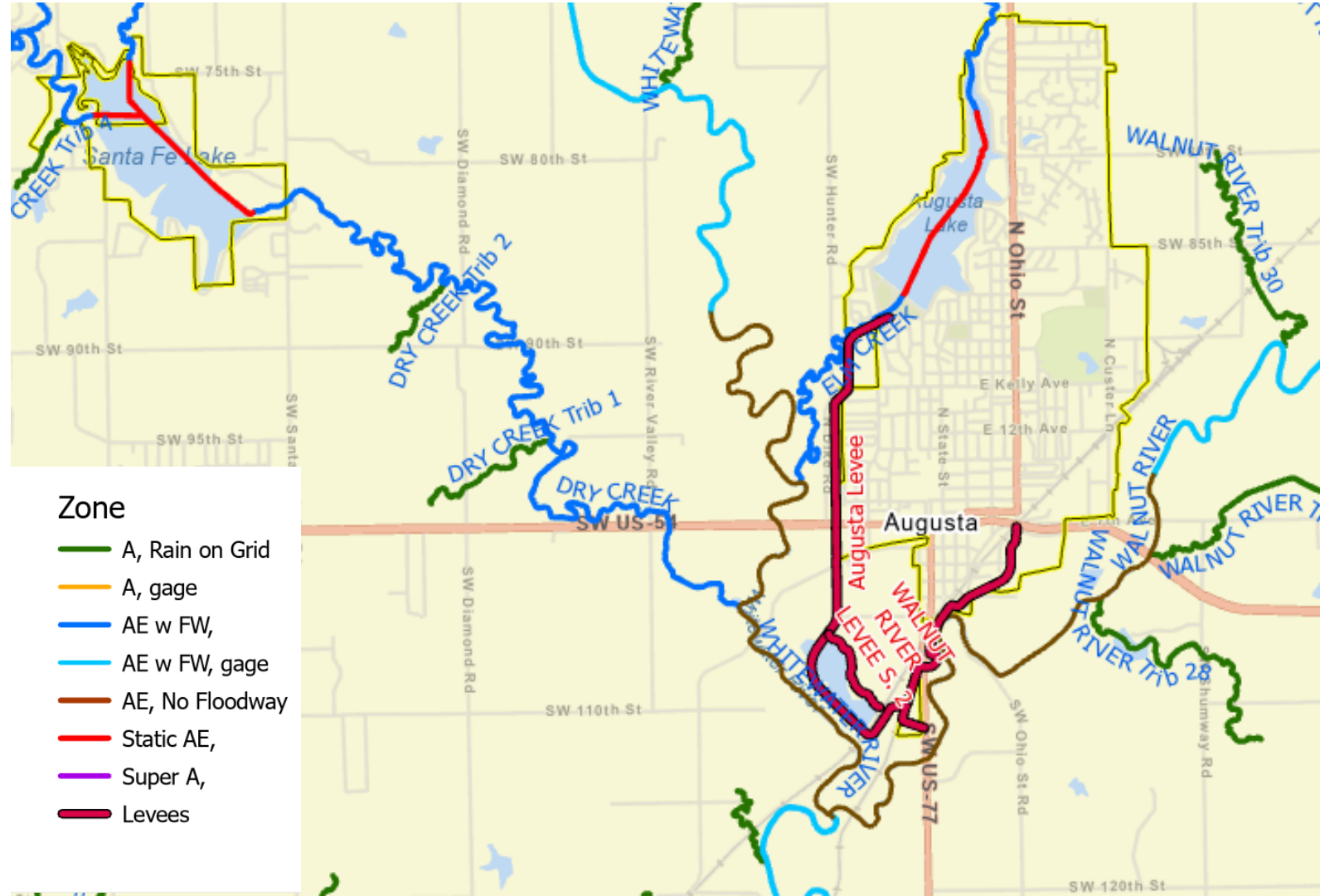
AE streams along the August Levee will be evaluated and accreditation status evaluated for freeboard.

Andover Updates





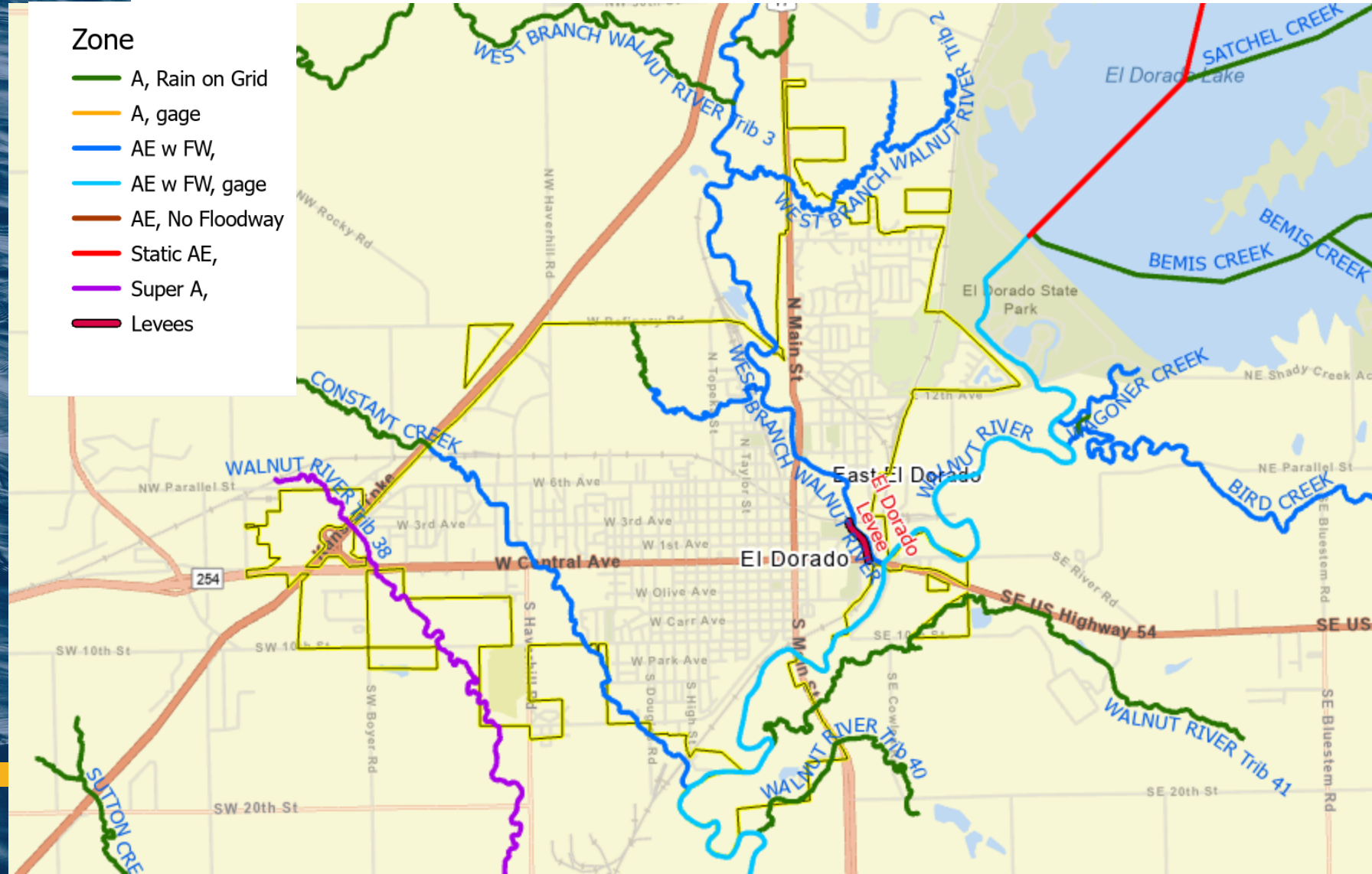
Augusta Updates





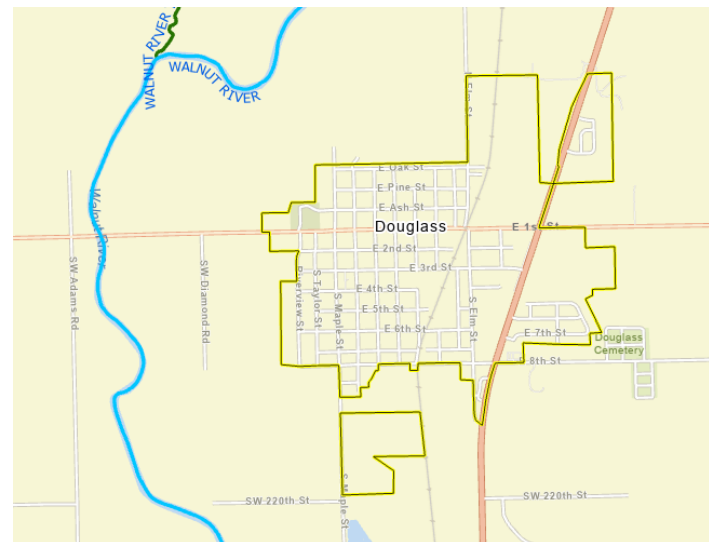
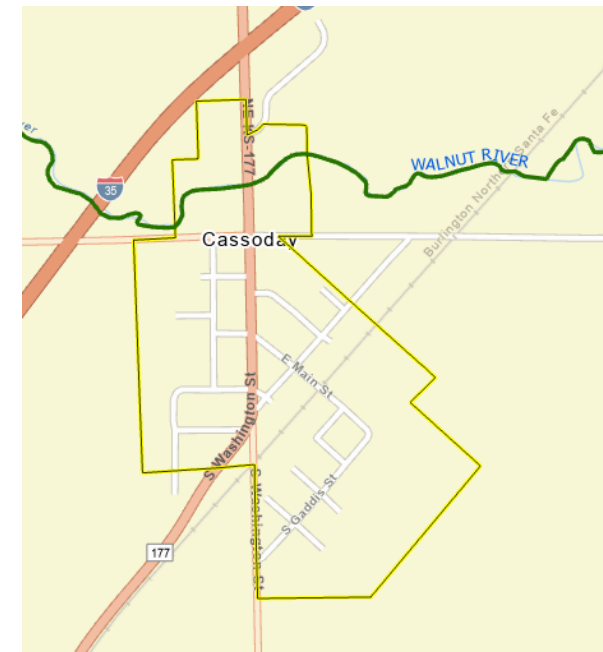
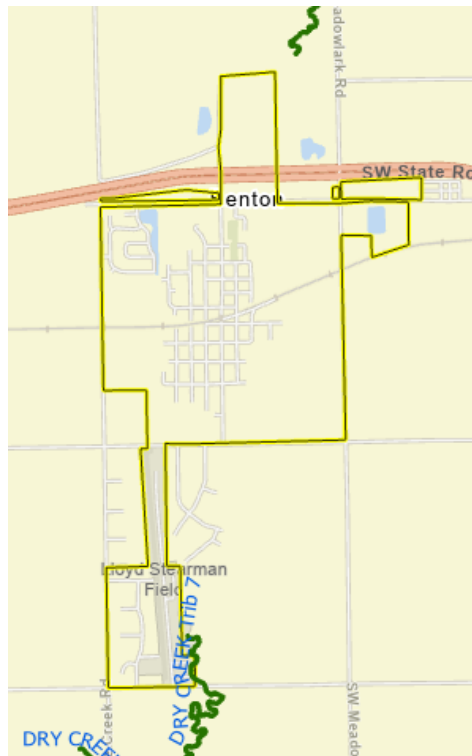
El Dorado Updates

- Zone**
- A, Rain on Grid
 - A, gage
 - AE w FW,
 - AE w FW, gage
 - AE, No Floodway
 - Static AE,
 - Super A,
 - Levees



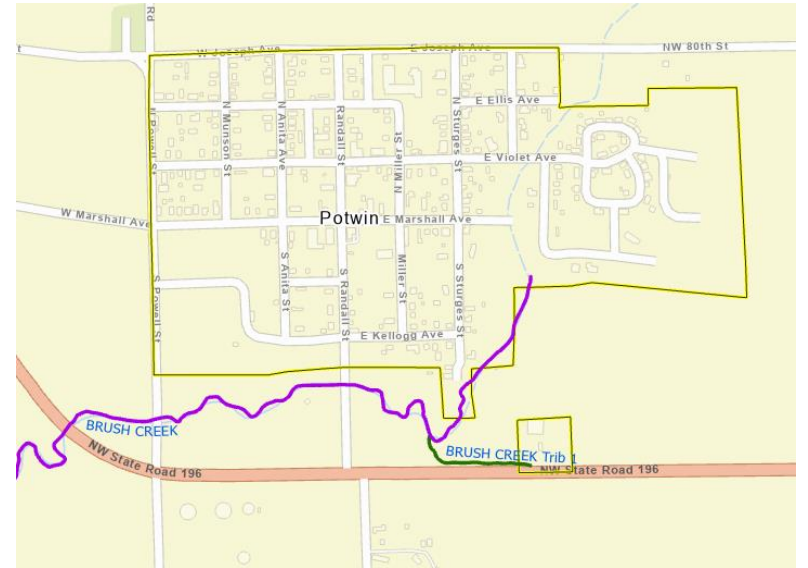
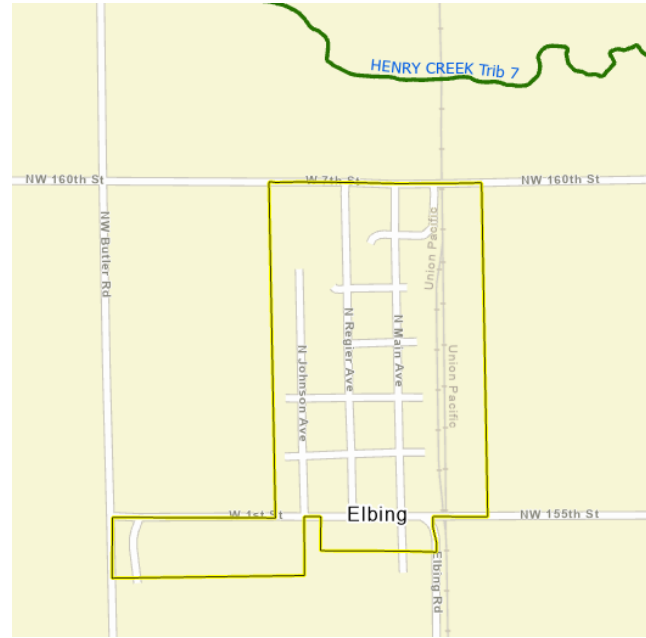


Benton, Cassoday & Douglass Updates



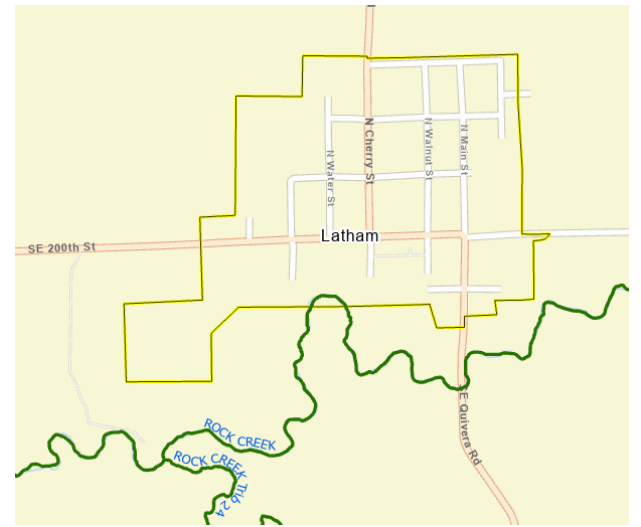
- Zone**
- █ A, Rain on Grid
 - █ A, gage
 - █ AE w FW,
 - █ AE w FW, gage
 - █ AE, No Floodway
 - █ Static AE,
 - █ Super A,
 - █ Levees

Elbing, Latham, Leon, & Potwin Updates

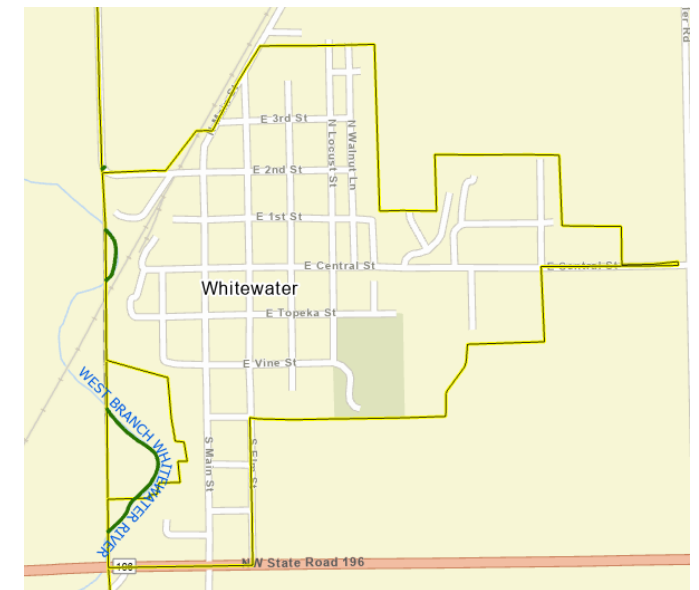
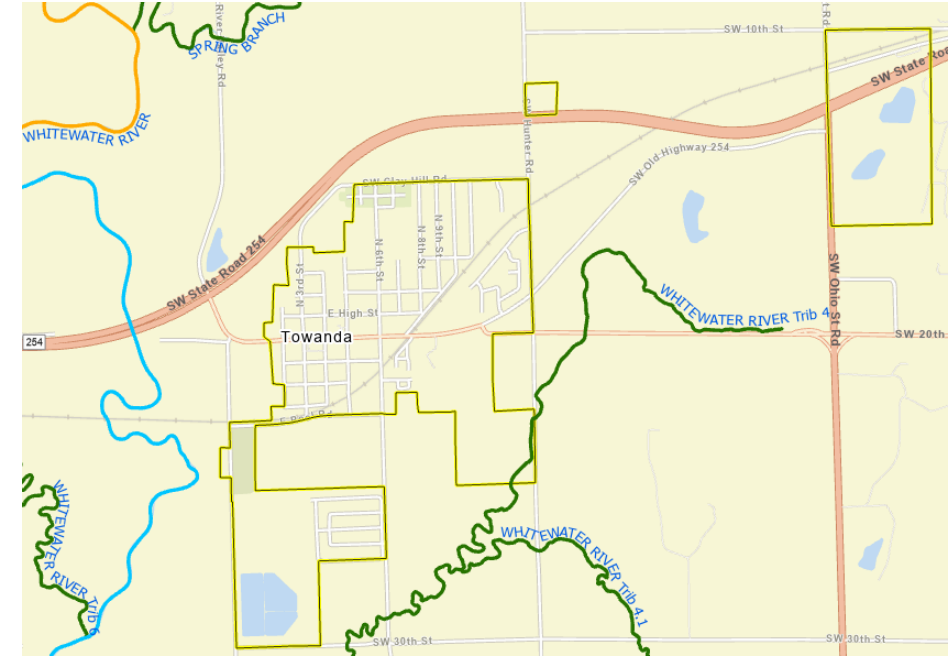
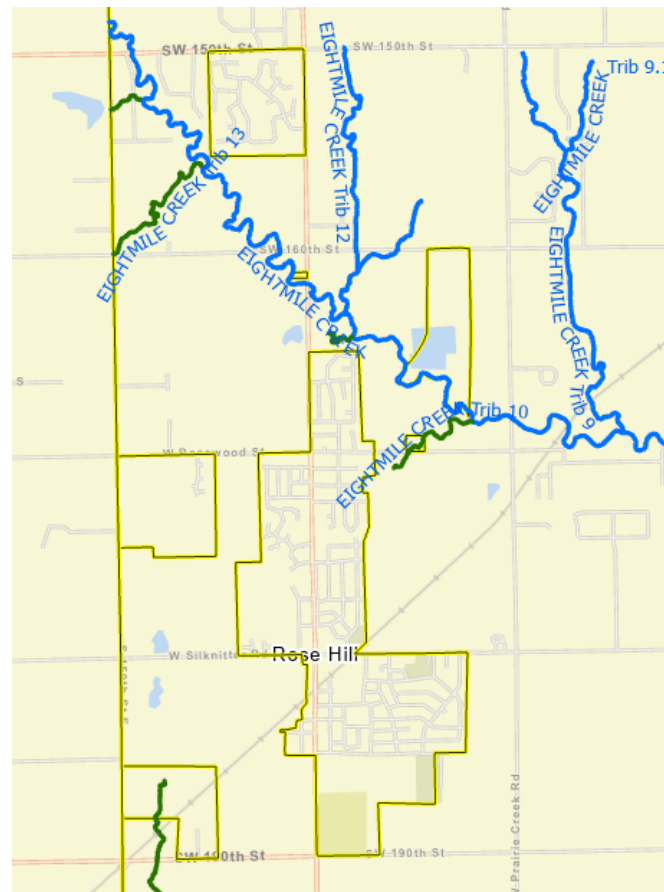


Zone

- A, Rain on Grid
- A, gage
- AE w FW
- AE w FW, gage
- AE, No Floodway
- Static AE,
- Super A,
- Levees

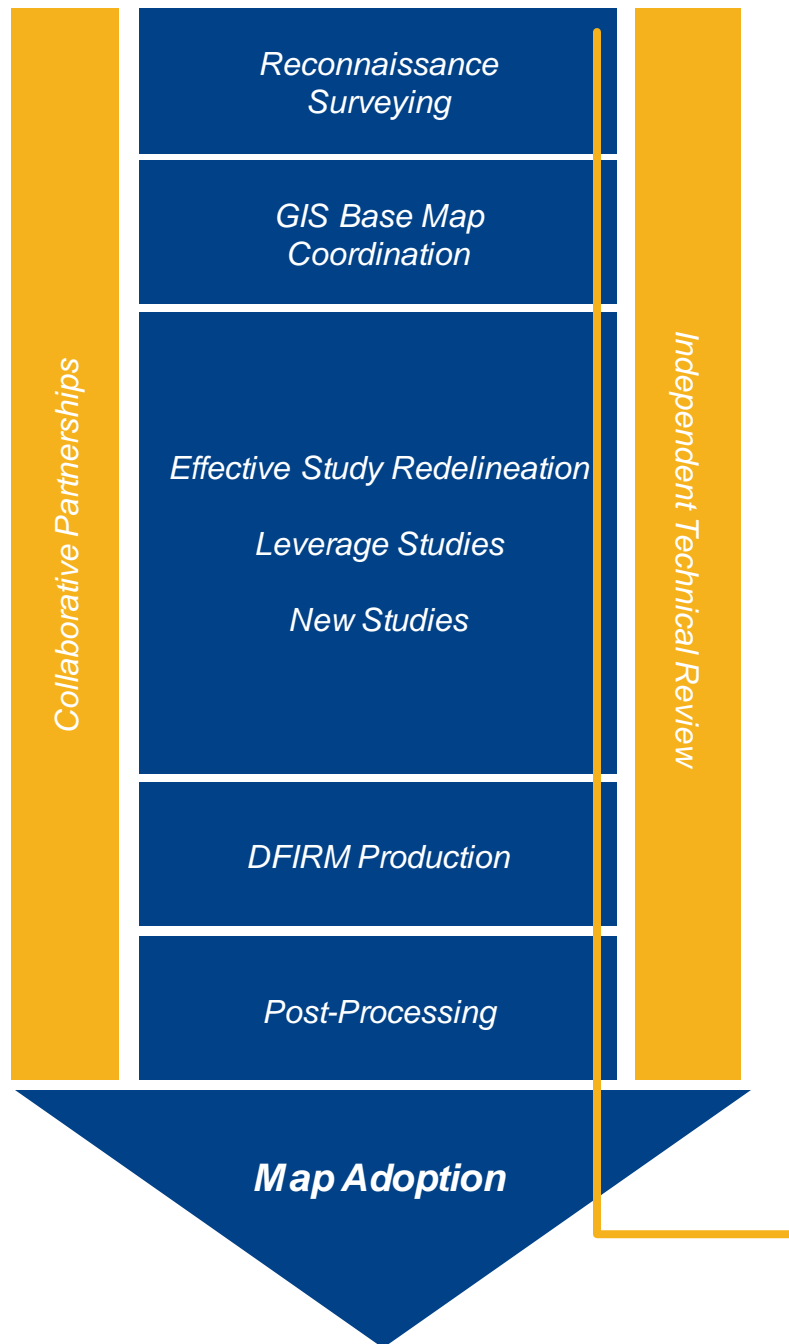


Rosehill, Towanda & Whitewater Updates



- Zone**
- A, Rain on Grid
 - A, gage
 - AE w FW,
 - AE w FW, gage
 - AE, No Floodway
 - Static AE,
 - Super A,
 - Levees

Next Steps



Project Tasks

1. Discovery
2. Base Map Preparation
3. Survey and Topography
4. New Studies
5. DFIRM and FIS Production
6. Post-Preliminary

We are at the beginning of data development



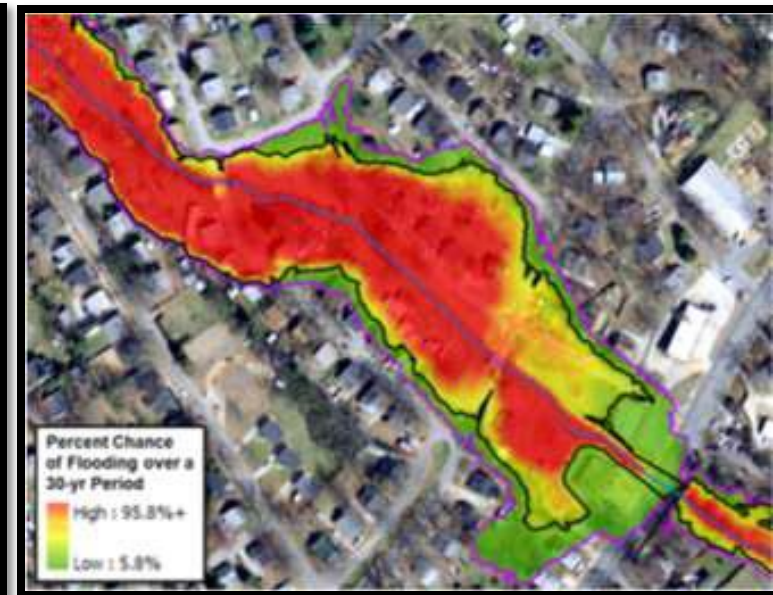
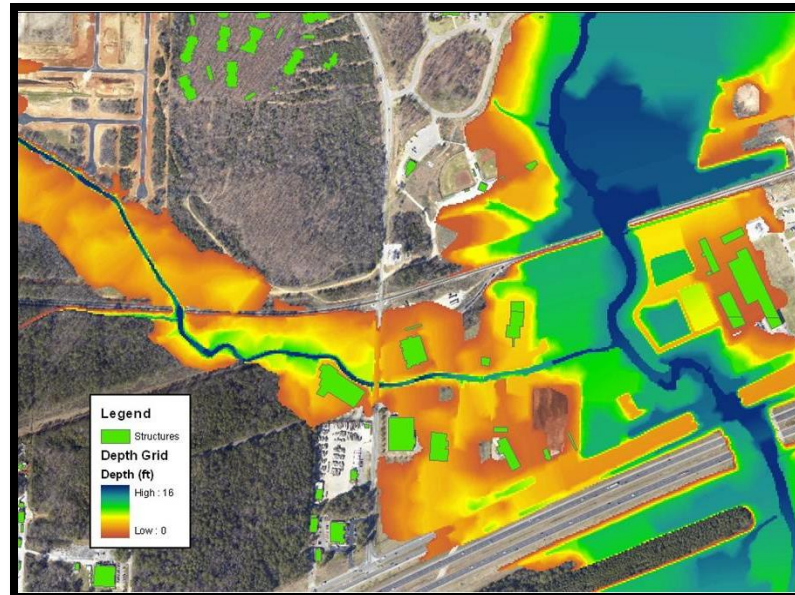
Our Next Steps:

- We will complete the engineering analysis
- 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



Our Next Steps:

- We will also be developing flood risk products for all of Butler County as part of this project.



Project Timeline



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

Data Development Work:
[Now until early 2023]

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

Flood Risk Review Meeting:

[~February 2023]

- 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>

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?
