

Little Blue River Flood Risk Management Study

February 10, 2025 // Public Works Committee Meeting

George Binger III, P.E., CFM
City Engineer



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MISSOURI



Yours Truly

Agenda

- History / Why now?
- Problem statement / issues
- What can we do?
- Tentatively Selected Plans
- Funding
- Project schedule and Engagement schedule

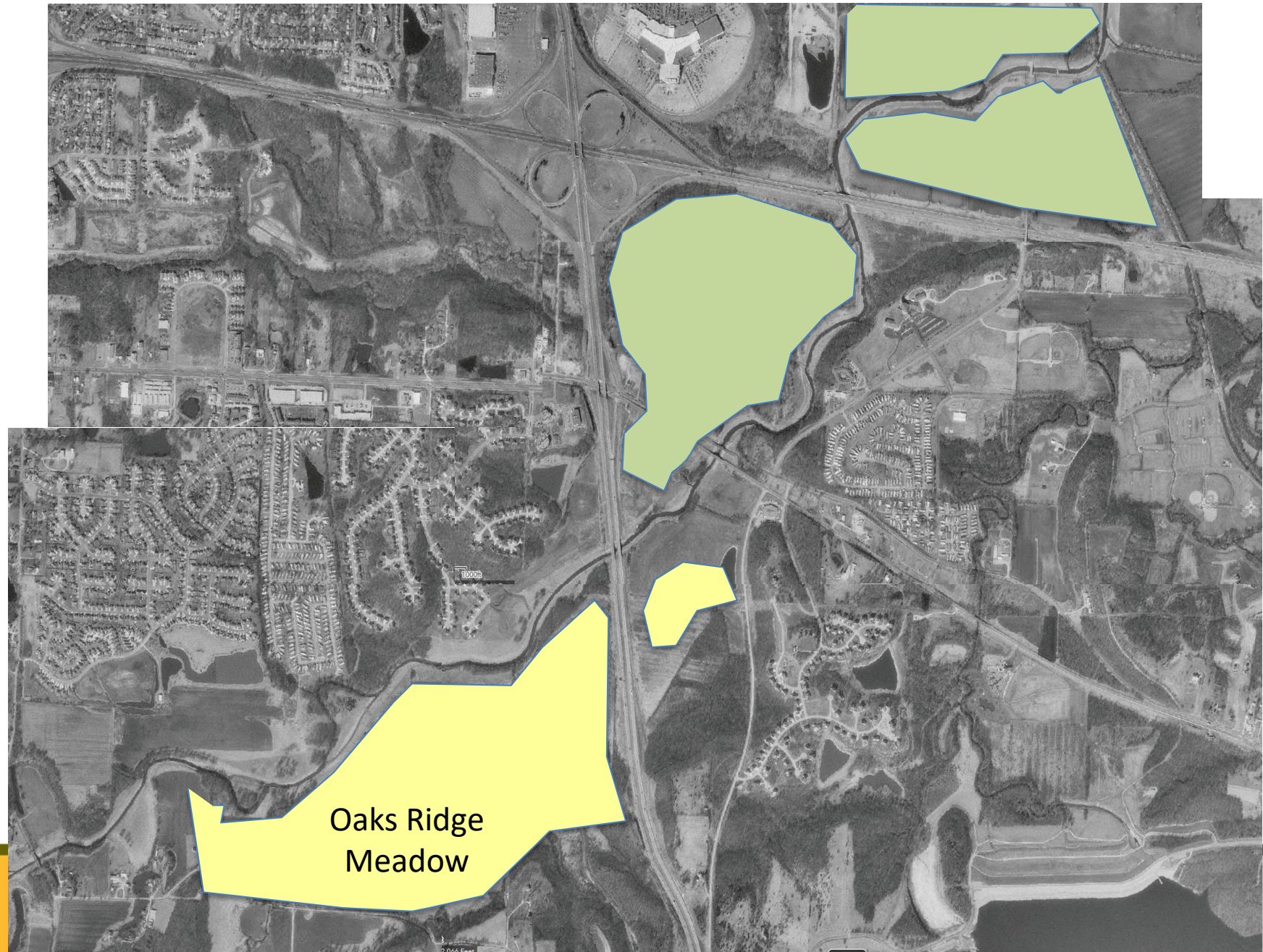
History

- Little Blue River (LBR) Flood Control Project
 - Based on study completed in 1972
 - Levees
 - Longview Lake and Blue Springs Lake
- Longview Lake and Dam: 1985
- Blue Springs Lake and Dam: 1988



Changes Since 1989

- LBR, 1996
- New Construction after 1996



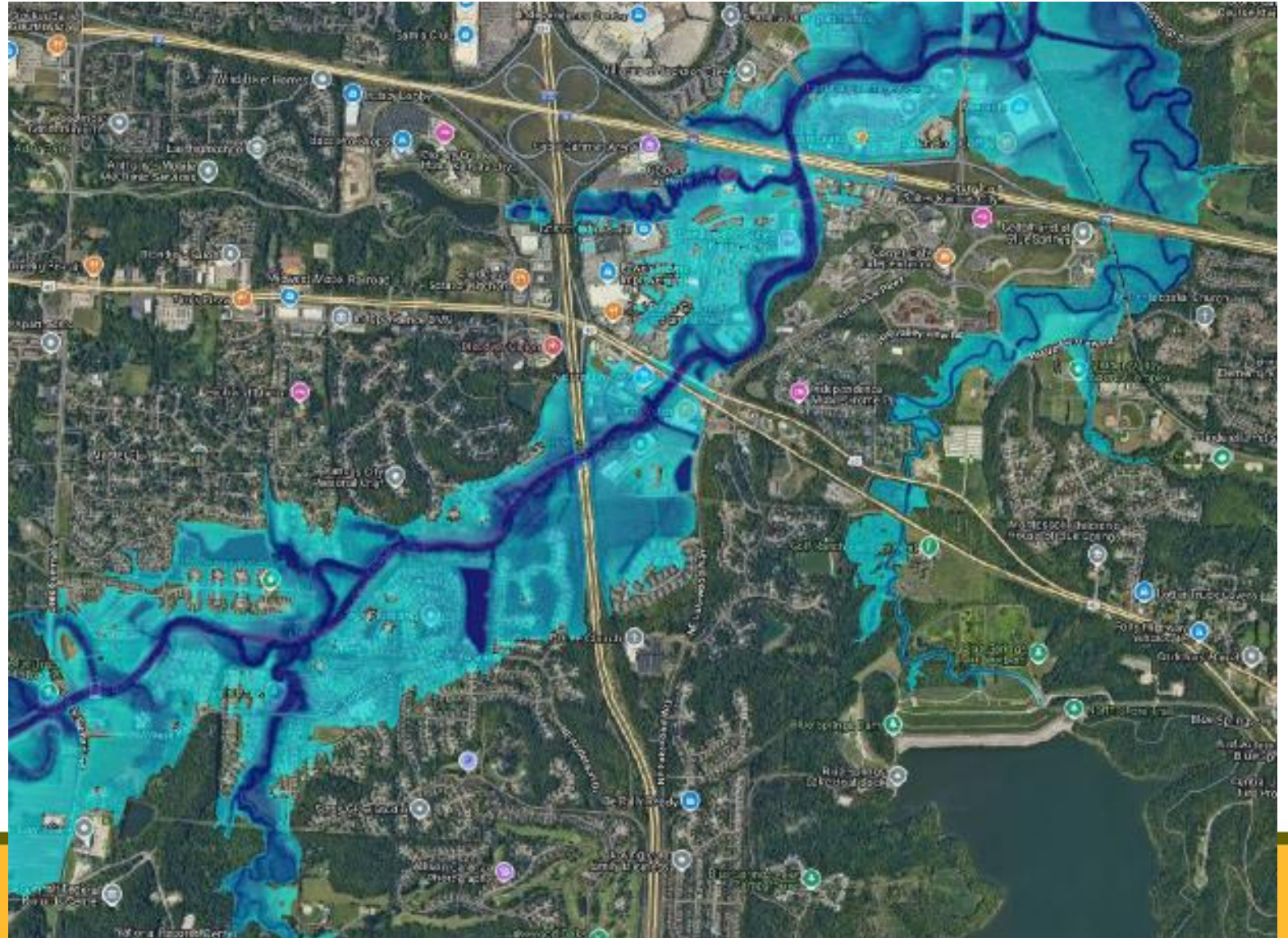
Current Concerns / Why now?

- 1972 LBR flood study had floodwaters as:
 - Water surface elevation of 774 ft.
 - Water volume of 7,500 cfs
- 2024 USACE hydraulic study indicates
 - Water surface elevation of 776.3 ft.
 - Water volume of 9,000 cfs
- LBR Channel can only carry 67% of projected floodwaters
- Siltation in Longview Lake is reducing lake capacity

2024 USACE Revised Flood Inundation Map

1% Chance of Annual
Flooding (100-year event)

Estimated Annual Damage:
\$46.6 million



What can we do?

- USACE funding for LBR study to address
 - Flood Risk Mitigation (FRM)
 - Ecosystem Restoration
- Study requires local partnership
 - MARC, Independence, KCMO, LSMO, Raytown, Grandview, Belton, Jackson County
 - City Council Approved Ordinance 9508, September 20, 2022, to partner with local agencies and USACE to study the LBR

Little Blue River Study

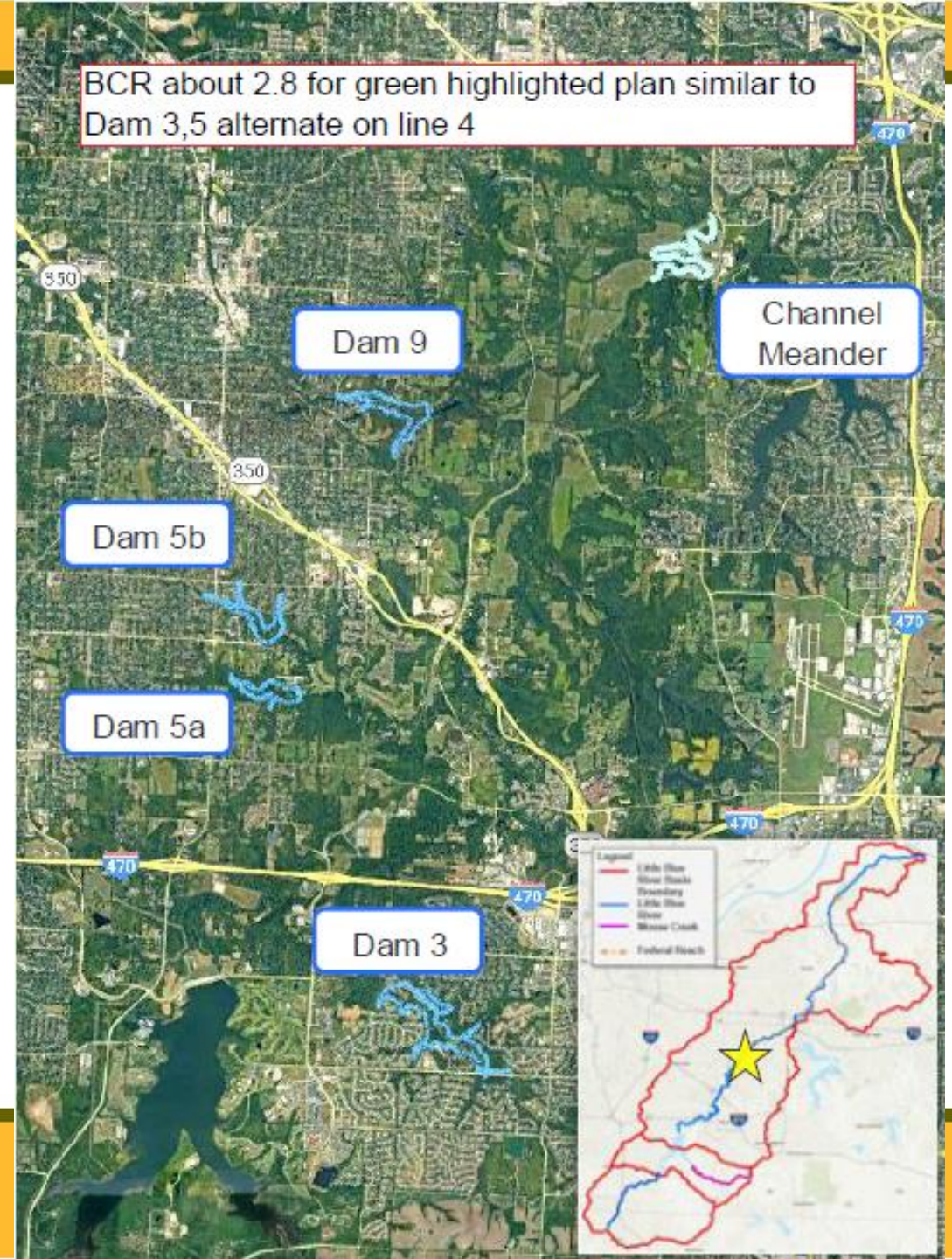
- USACE conducted extensive modeling and economic analysis of various options to reduce impacts of flooding
- Evaluated a “no-change” condition (Future Without Project)
- Evaluated levees, flood walls, channel benching, small lakes, dry detention basins, and property buyouts
- Evaluated ecosystem improvements along Mouse Creek

Tentatively Selected Plan (draft)

- Project work must show a positive Benefit-Cost Ratio (BCR)
- Evaluated 14 project combinations
- Options had BCR of 2.3, 2.6 and 2.8
- Most favorable Mouse Creek restoration plan was tree planting
- Tentatively Selected Plan will be published for public comment

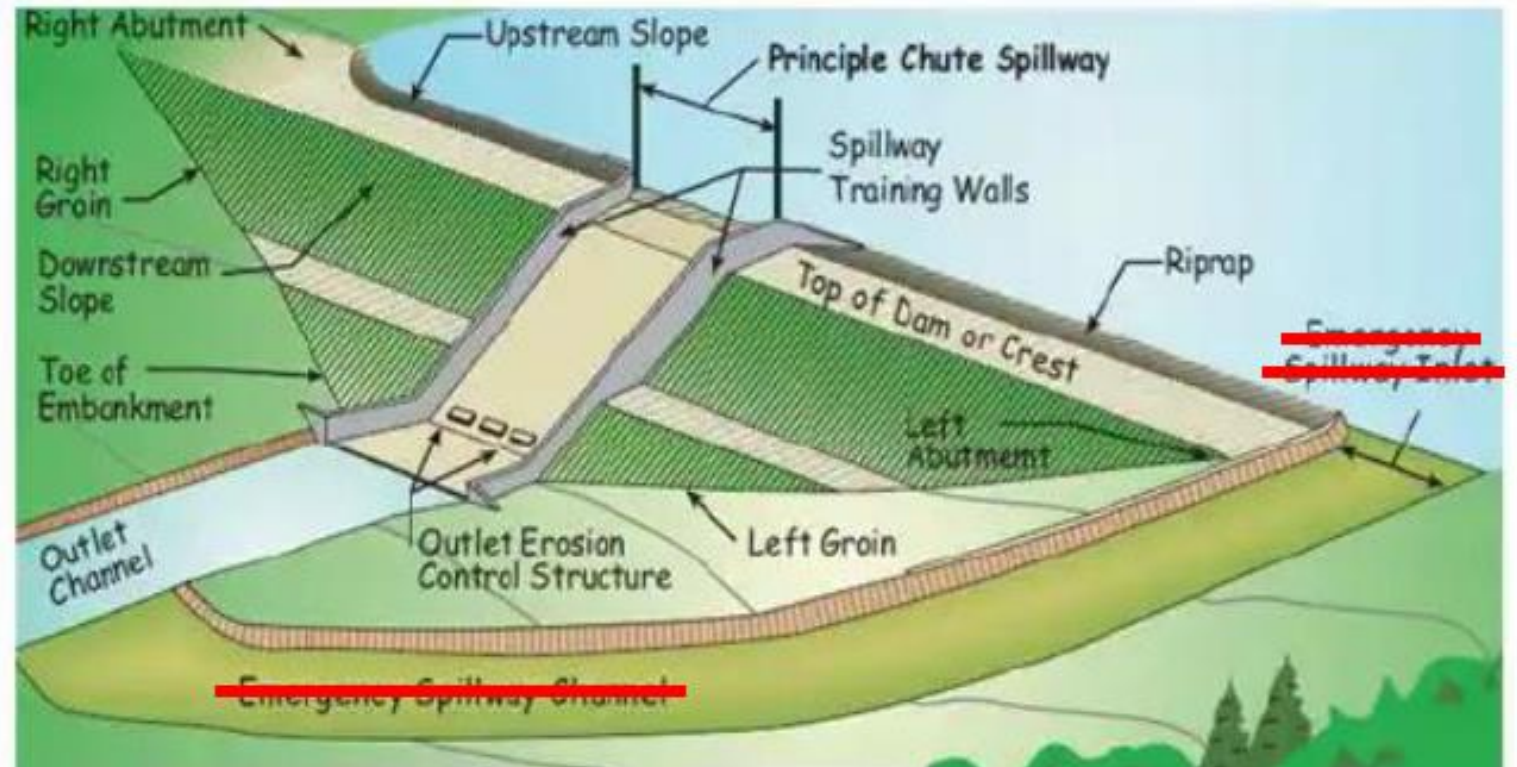
Tentative FRM Plan

- Dry detention Basin 3 along Cedar Creek
- Dry basins in Raytown and KCMO
- Channel meander
- This plan projects no flooding in Oaks Ridge Meadows during 1% storm event



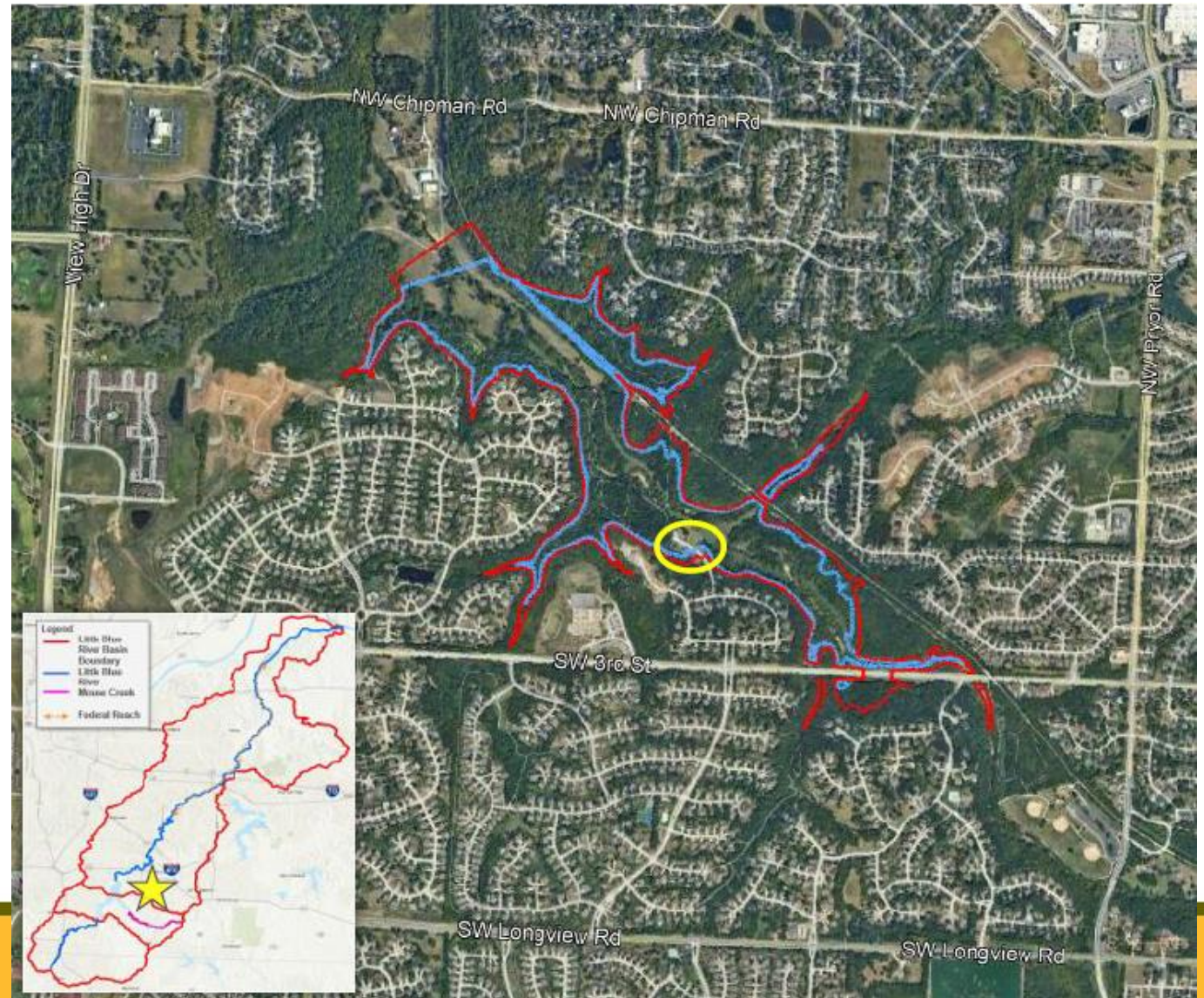
Dry Basins

- Trees remain
- Clearing & Earthwork around the dam area
- Downstream dam safety analysis
- Drains in 24-48 hours



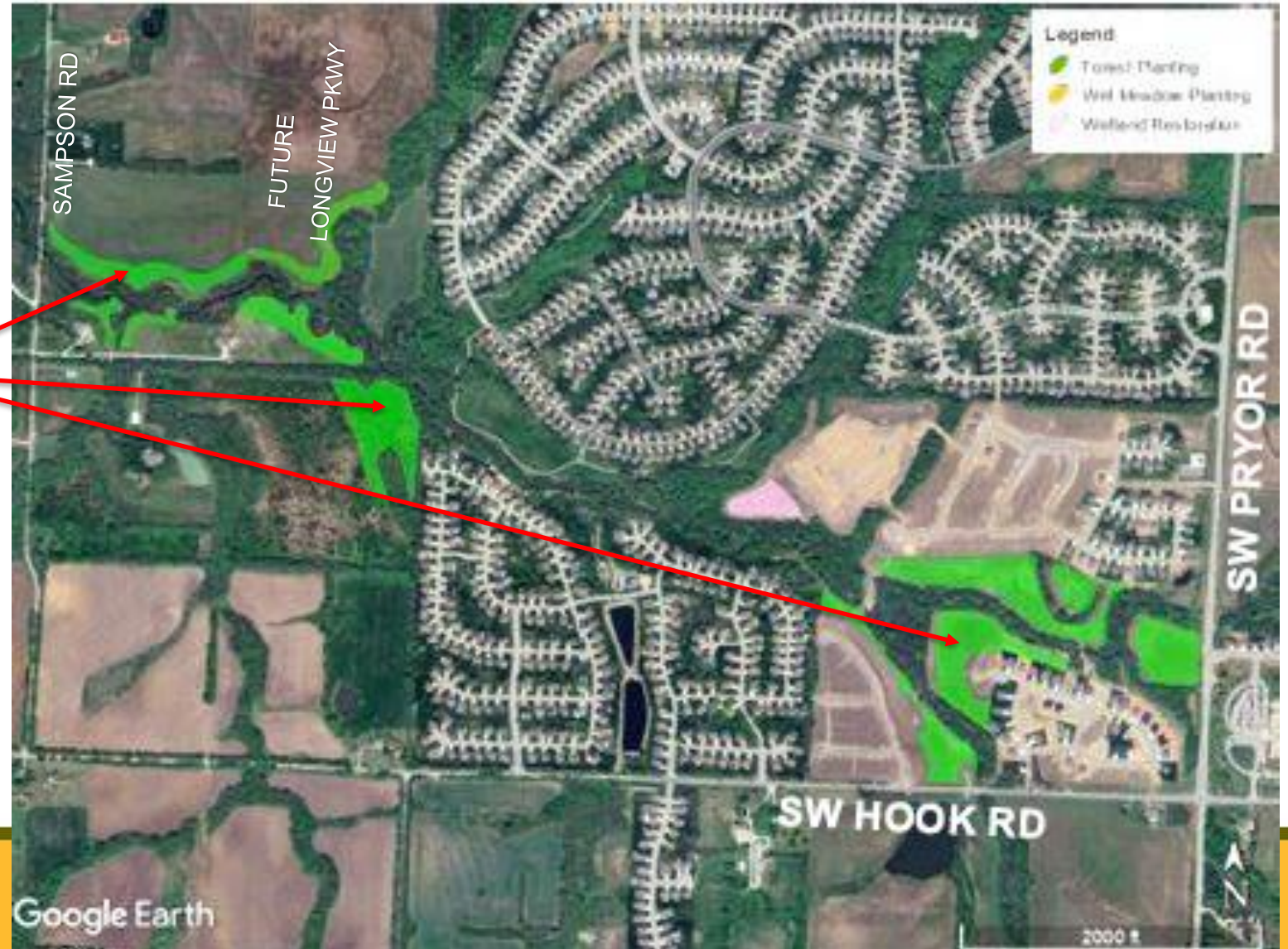
Location of Basin 3: Cedar Creek

- Conceptual footprint
- Subject to final approval of project
- Subject to detailed design and safety analysis



Mouse Creek Ecosystem Restoration

Areas of proposed
tree plantings along
Mouse Creek



Next Steps

- Tentatively Selected Plan: April 2025
- USACE Public Meetings: July 2025 (may have local mtgs earlier)
- Local Decision: December 2025
- Chief's Report: February 2027
- Congressional funding approval: Fall 2028
- Construction funded: Spring 2029
- Construction complete: 2034

Funding

- Mouse Creek: 65% Federal / 35% Local
 - Total cost estimate: \$1.5M Local Match estimate is \$575,000
 - Local match includes value of land and work on local projects
- Flood Risk Management: 65% Federal / 35% local
 - Total cost estimate: \$499M Local match estimate is \$175M
 - Local match split among 7 agencies
 - Can change the local match formula through Congressional waivers
 - Identified Benefit-Cost Ratios highly favorable at federal level
 - Annual damage without project valued at \$46.6 million

Questions and Discussion