

The Other Music City Miracle

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Auburn, Alabama

The Original Music City Miracle

- *“Down 16-15 to the Buffalo Bills in the AFC wild card game on January 8, 2000, Tennessee needed something special on its kickoff return with 16 seconds left. And that's what it got. The Titans' Frank Wycheck fielded the squib kick, ran right, planted and threw a lateral across the field to Kevin Dyson, who followed a convoy of blockers down the sideline to score the game-winning touchdown.”* – Sports Illustrated



The Original Music City Miracle

- The Tennessee Titans would continue to the Super Bowl XXXIV in Atlanta – where the same Kevin Dyson would fall one yard short of the end zone on the final play of the game.

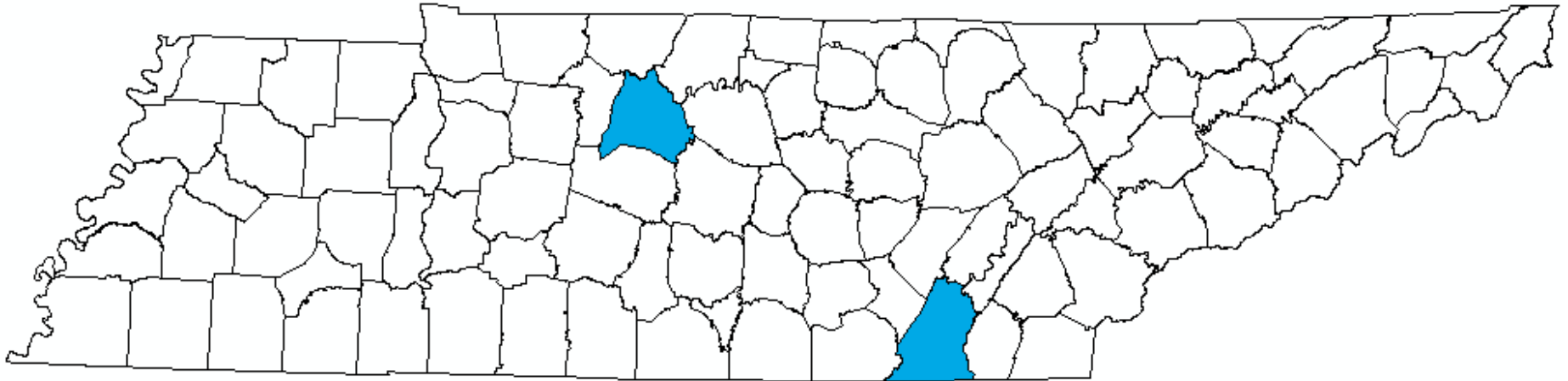


Agenda

- Tennessee Floodplain Mapping Program
- What is a Resilient Community?
- Davidson County Flood Insurance Study Update
- May 2010 Flood Event
- Coordination
- Results

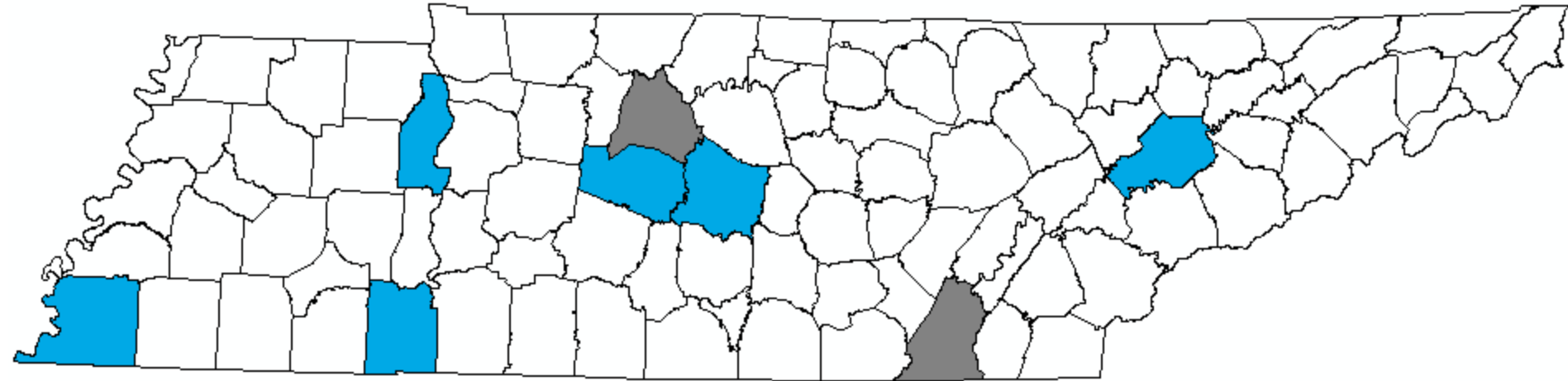


Pre Map Modernization



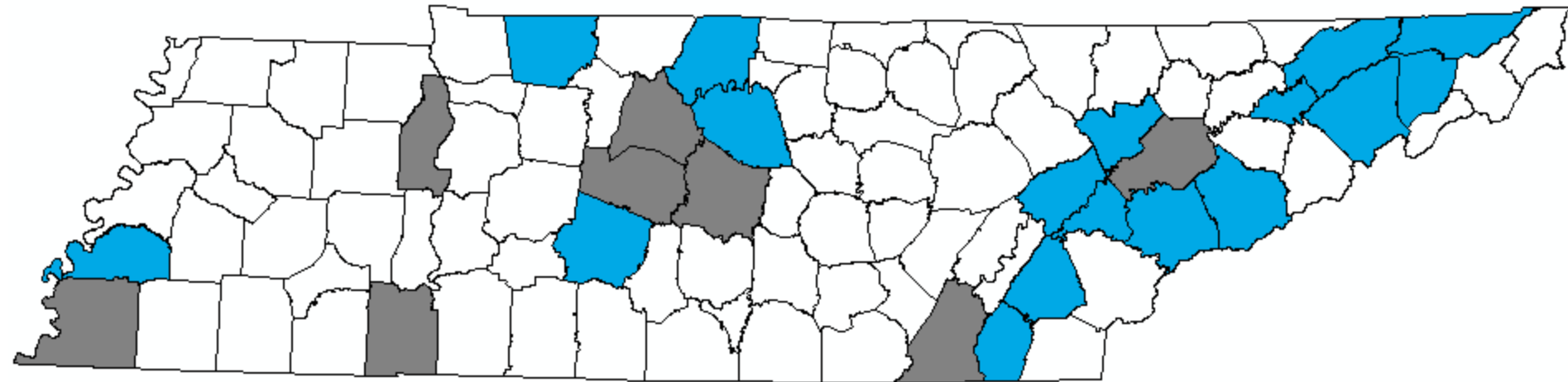
- Davidson and Hamilton

Map Modernization – Fiscal Year 2003



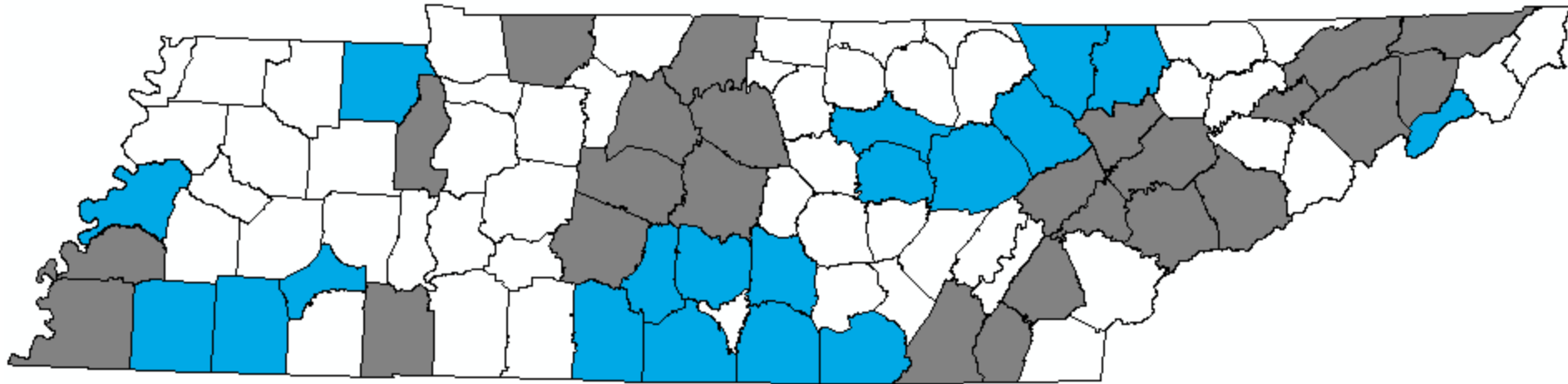
- Benton, Hardin, Knox, Rutherford, Shelby, and Williamson

Map Modernization – Fiscal Year 2004



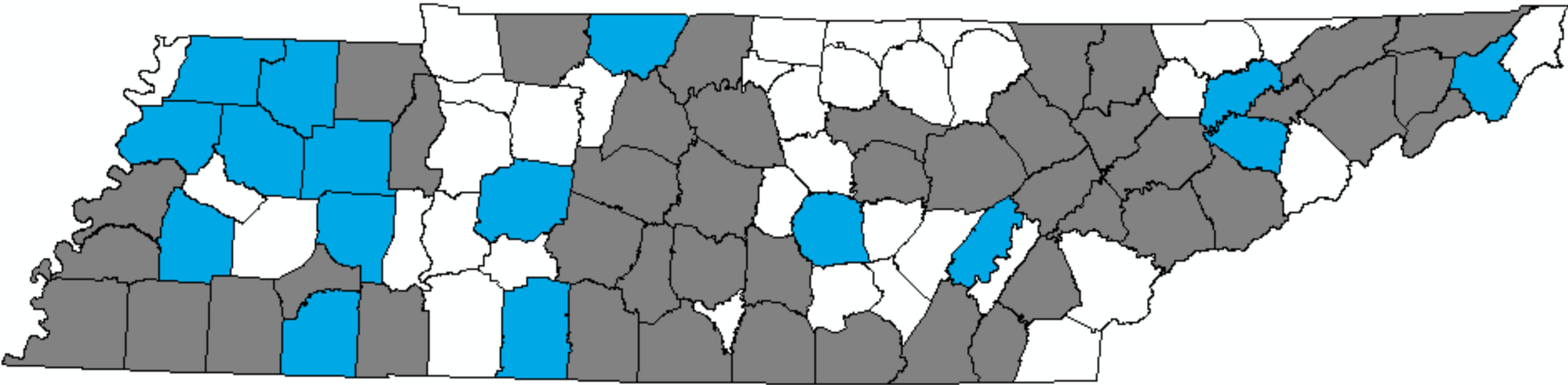
- Anderson, Blount, Bradley, Greene, Hamblen, Hawkins, Loudon, Maury, McMinn, Montgomery, Roane, Sevier, Sullivan, Sumner, Tipton, Washington, and Wilson

Map Modernization – Fiscal Year 2005



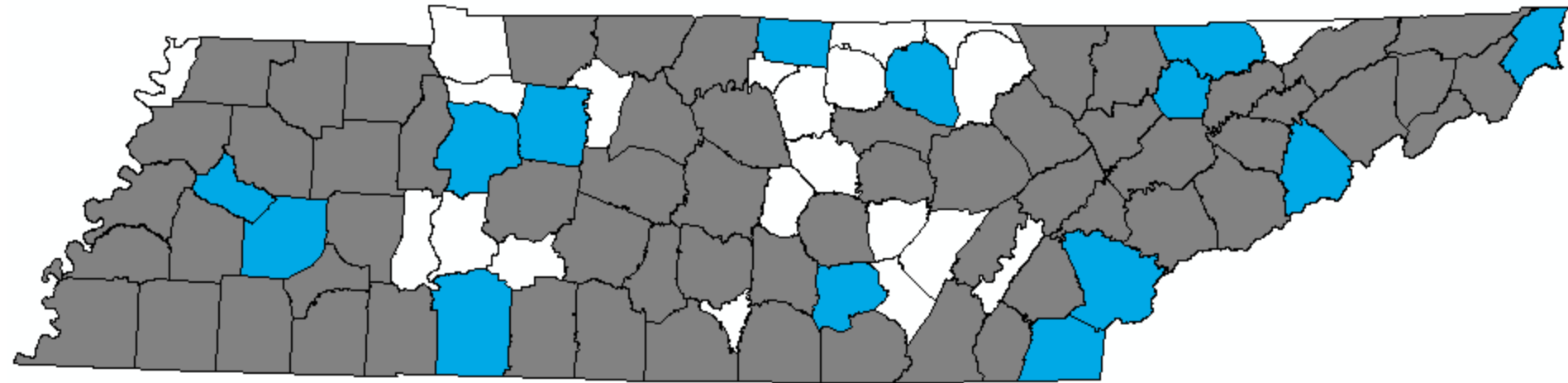
- Bedford, Campbell, Chester, Coffee, Cumberland, Fayette, Franklin, Giles, Hardeman, Henry, Lauderdale, Lincoln, Marion, Marshall, Morgan, Putnam, Scott, Unicoi, and White

Map Modernization – Fiscal Year 2006



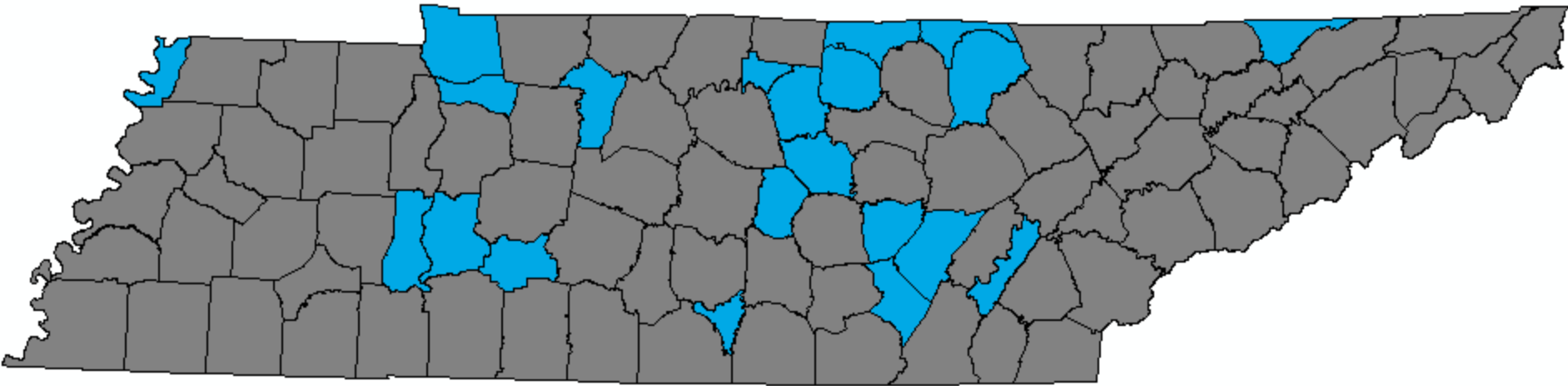
- Carroll, Carter, Dyer, Gibson, Grainger, Haywood, Henderson, Hickman, Jefferson, Lawrence, McNairy, Obion, Rhea, Robertson, Warren, Weakley

Map Modernization – Fiscal Year 2007



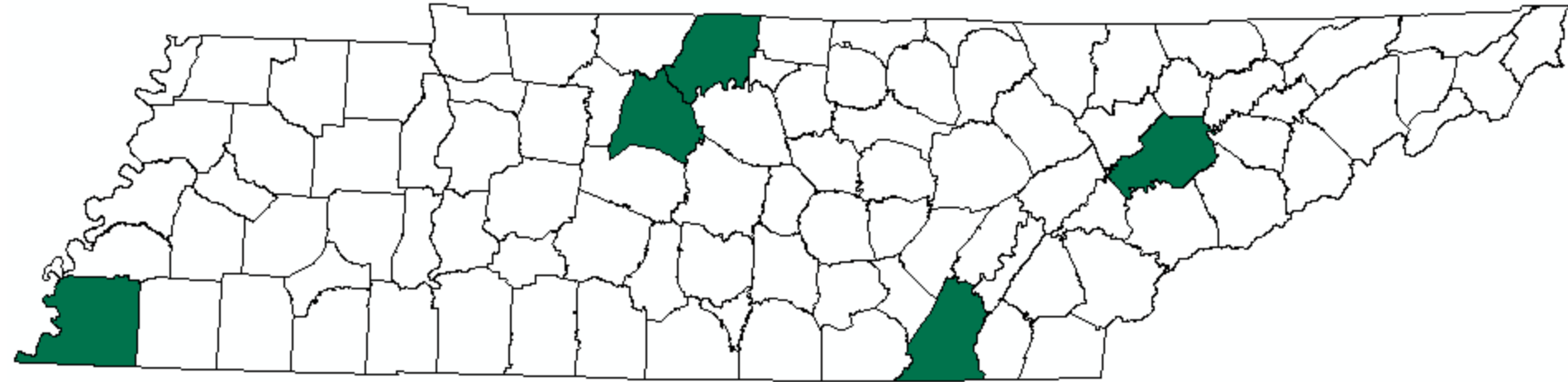
- Claiborne, Cocke, Crocket, Dickson, Grundy, Humphreys, Johnson, Macon, Madison, Monroe, Overton, Polk, Union, and Wayne

Map Modernization – Fiscal Year 2008



- Benton, Bledsoe, Cannon, Cheatham, Clay, DeKalb, Decatur, Fentress, Hancock, Houston, Jackson, Lake, Lewis, Meigs, Moore, Perry, Pickett, Sequatchie, Smith, Stewart, Trousdale, and Van Buren

Risk MAP – Fiscal Year 2009



- Davidson, Hamilton, Knox, Shelby, and Sumner

Davidson County Flood Insurance Study Update – Scope of Work



Proposed Studies	Miles
Detailed	17.2
Approximate	98.9
Redelineation	5.9
Digital Conversion	251.6

Davidson County Flood Insurance Study Update – Schedule

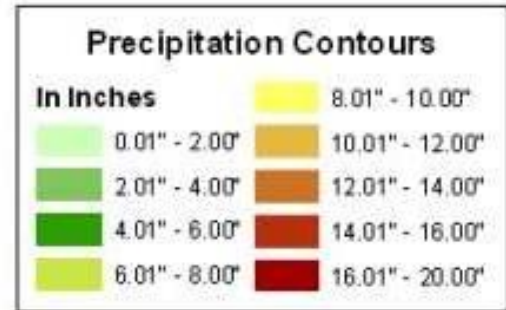
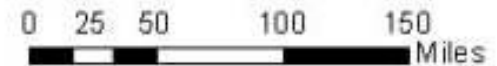


Project Milestone	Date
Scoping	December 2009
Base Map and Survey	April 2010
Hydrology and Hydraulics	July 2010
Preliminary Maps	December 2010
Effective Maps	March 2012

May 2010 Flood Event

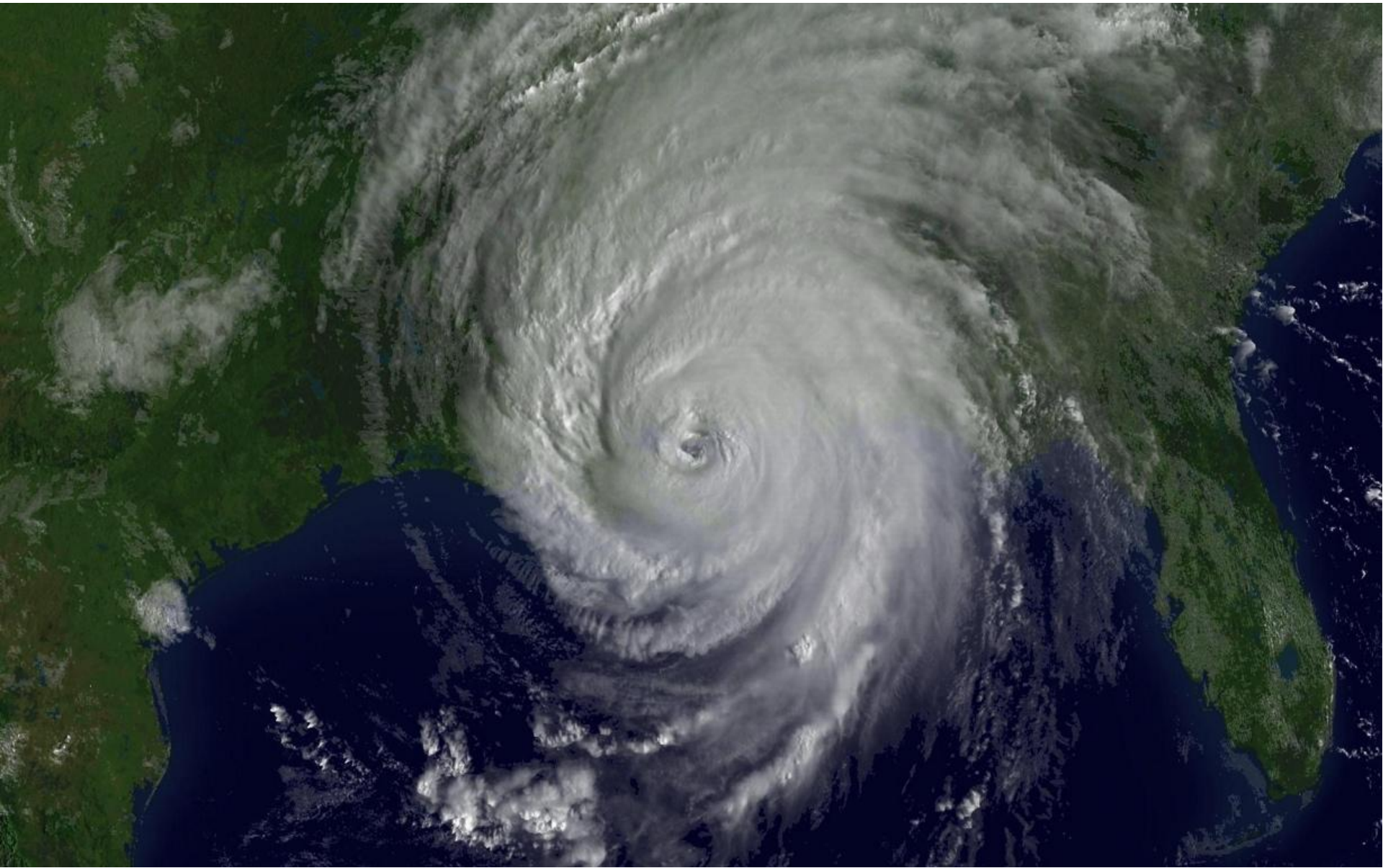


Source: CoCoRaHS

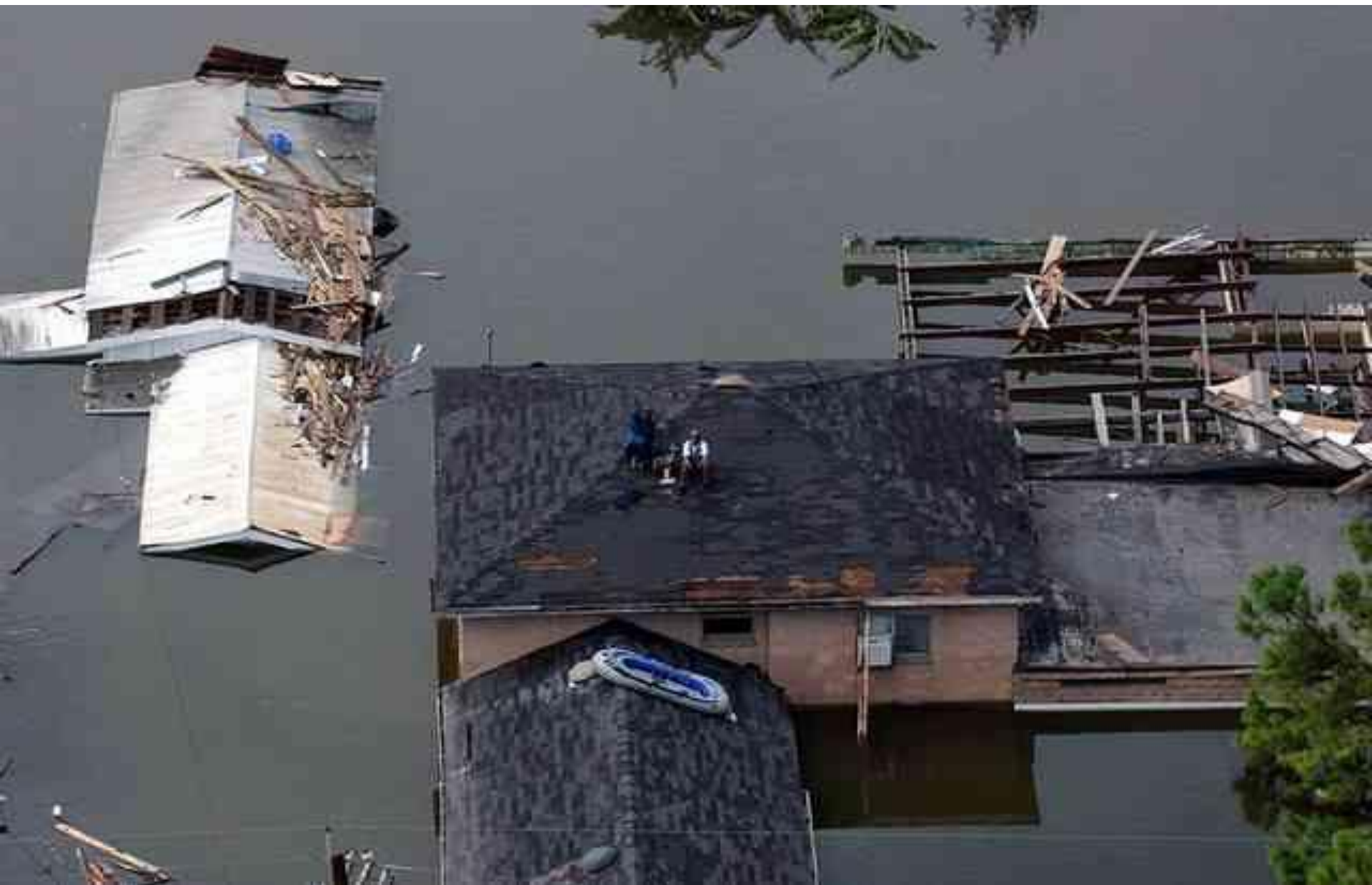


This map is an interpolation of actual reported values, but should be considered an estimation only.

Created by the National Weather Service Forecast Offices Nashville, Tennessee & Louisville, Kentucky







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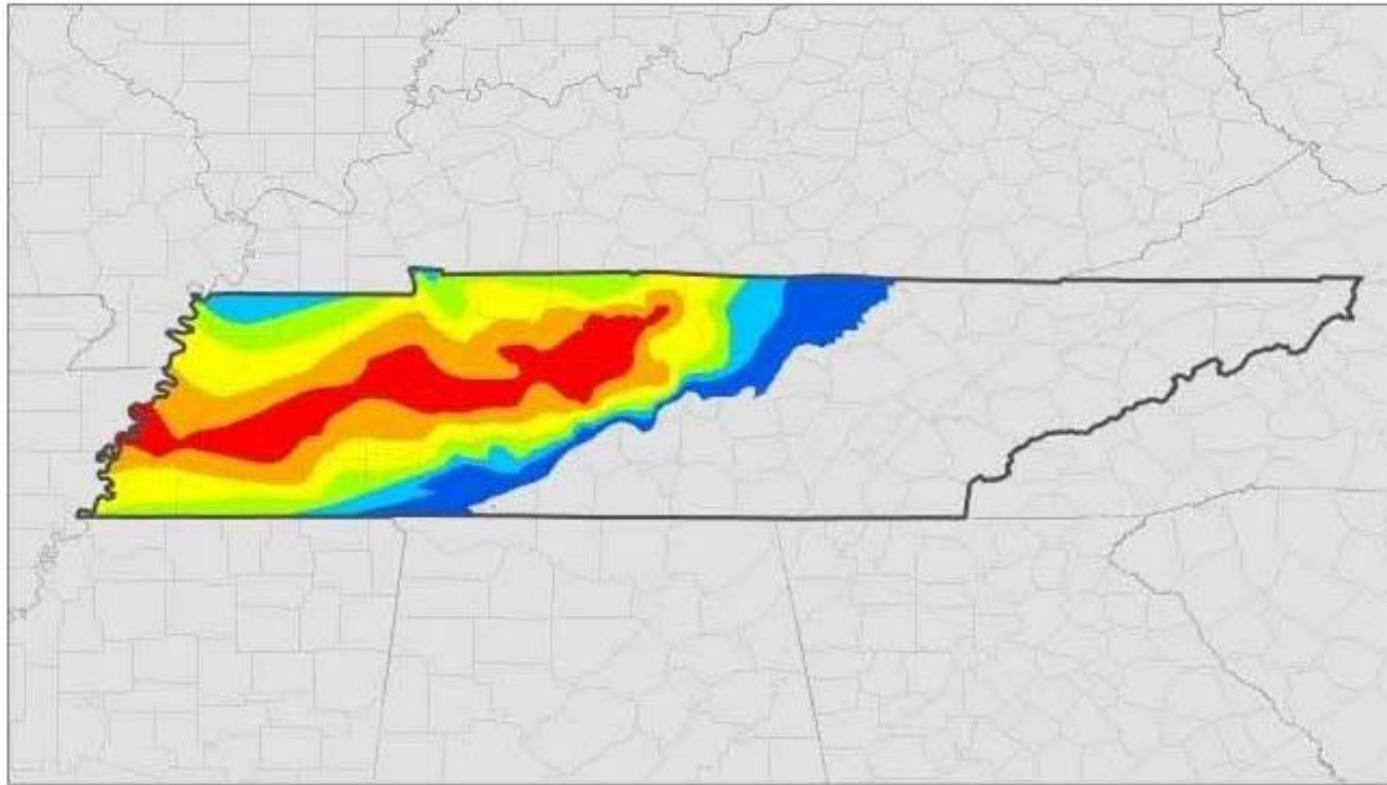


The Other Music City Miracle

“When I am introduced as someone from New Orleans, people sometimes say: "I'm so sorry." New Orleans. I'm so sorry. That's not the way it was before, not the way it's supposed to be. When people find out you're from New Orleans, they're supposed to tell you about how they got drunk there once, or fell in love there, or first heard the music there that changed their lives. At worst people would say: "I've always wanted to go there." But now, it's just: "I'm sorry." Man, that kills me. That just kills me.”

-- Chris Rose, Author of *1 Dead in the Attic*

May 2010 Flood Event



Tennessee Extreme Event of May 1-2, 2010
Average Recurrence Intervals (ARI) for 48-Hour Duration



0 0.25 0.5 1 1.5 2
Central Degrees

Created by Hydrometeorological Design Studies Center
Office of Hydrologic Development
National Weather Service
National Oceanic and Atmospheric Administration

ARI (years)

< 10	200 - 500
10 - 50	500 - 1,000
50 - 100	> 1,000
100 - 200	





The Other Music City Miracle



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Nashville Citizens Responded by Coming Together



Flood Recovery Effort in Nashville Made National Headlines



So Did Government Agencies

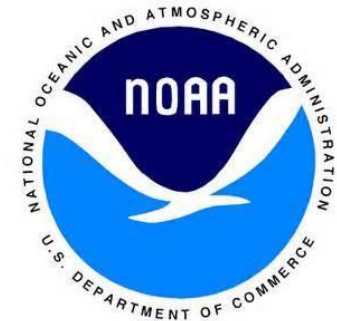
AECOM



FEMA



**US Army Corps
of Engineers®**



Hazard Mitigation Technical Assistance Program



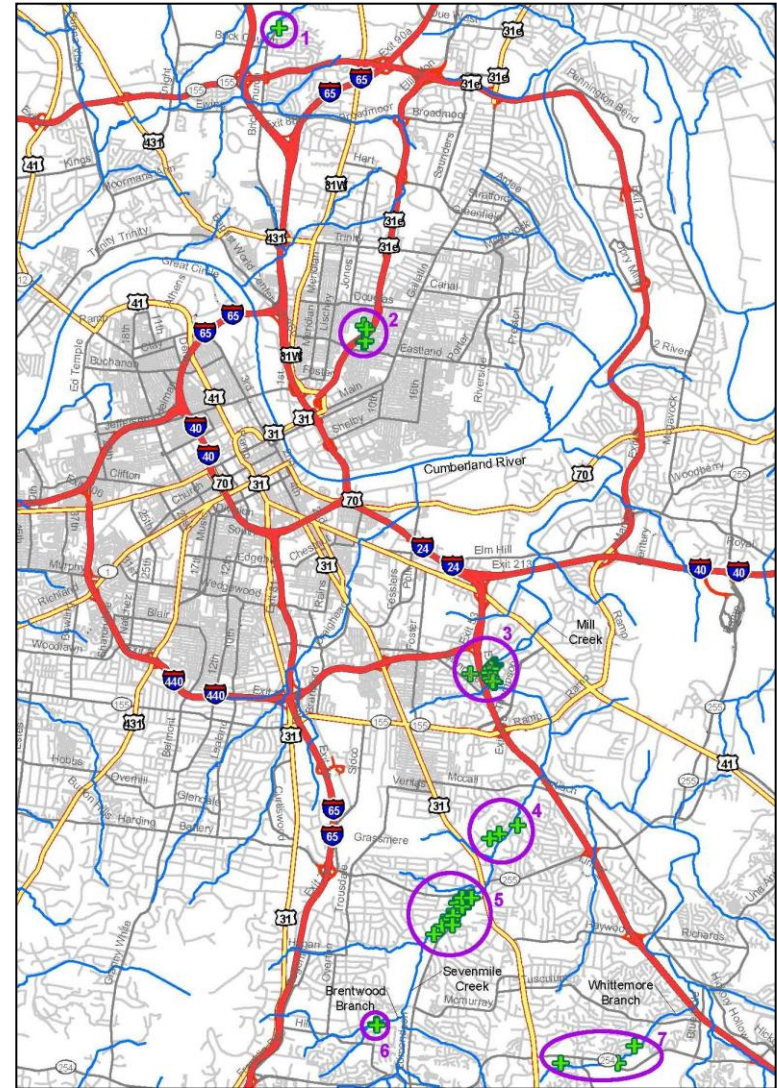
- Nashville High Water Mark Task Order

- Identify and survey 250 high water marks in Davidson County
- Priority 1: Acquisition Projects
- Priority 2: Six Major Flood Locations



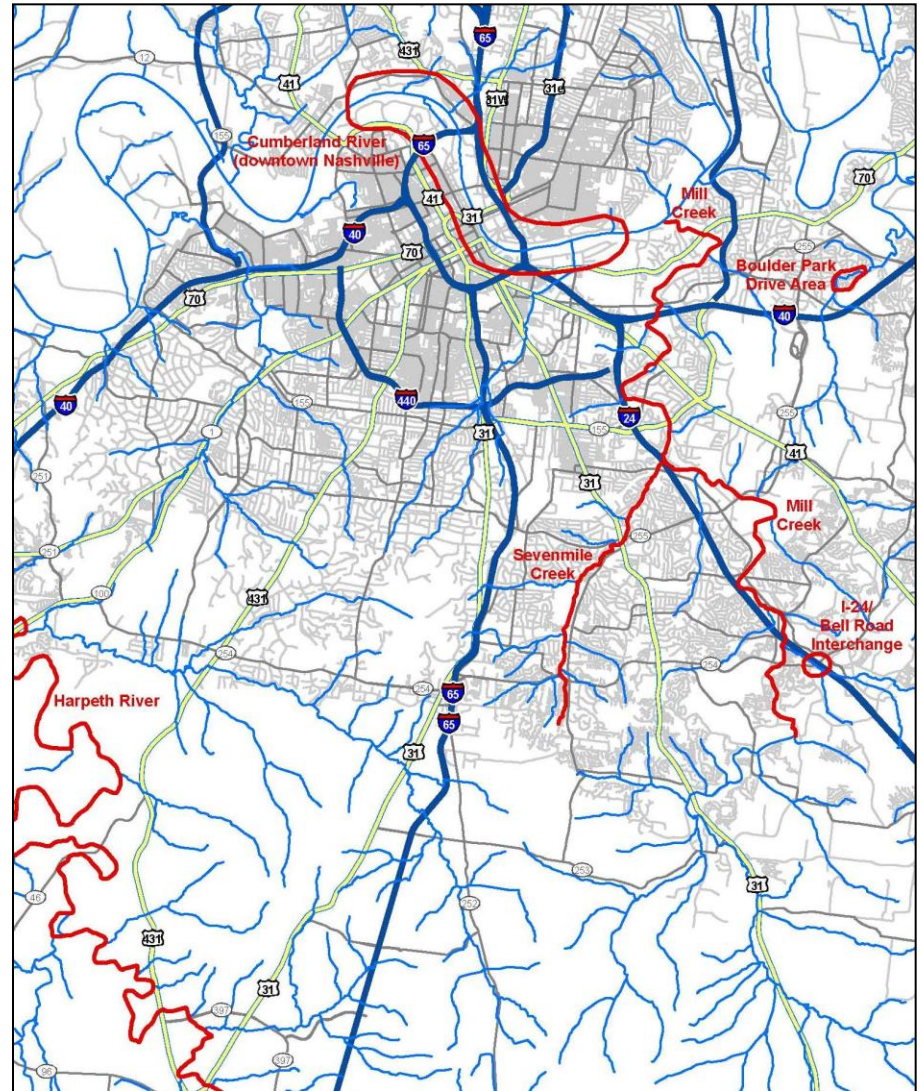
FEMA Priority 1 – Acquisition Properties

- 57 FEMA Acquisition Properties
 - Purchased by METRO using FEMA Grant Programs
 - Located in Areas Impacted by the May 2010 Flood Event



FEMA Priority 2 – Six Major Flood Areas

- Cumberland River near Downtown Nashville
- Mill Creek
- Seven Mile Creek
- Boulder Park Drive Area
- Harpeth River
- Interstate 24 / Bell Road Intersection

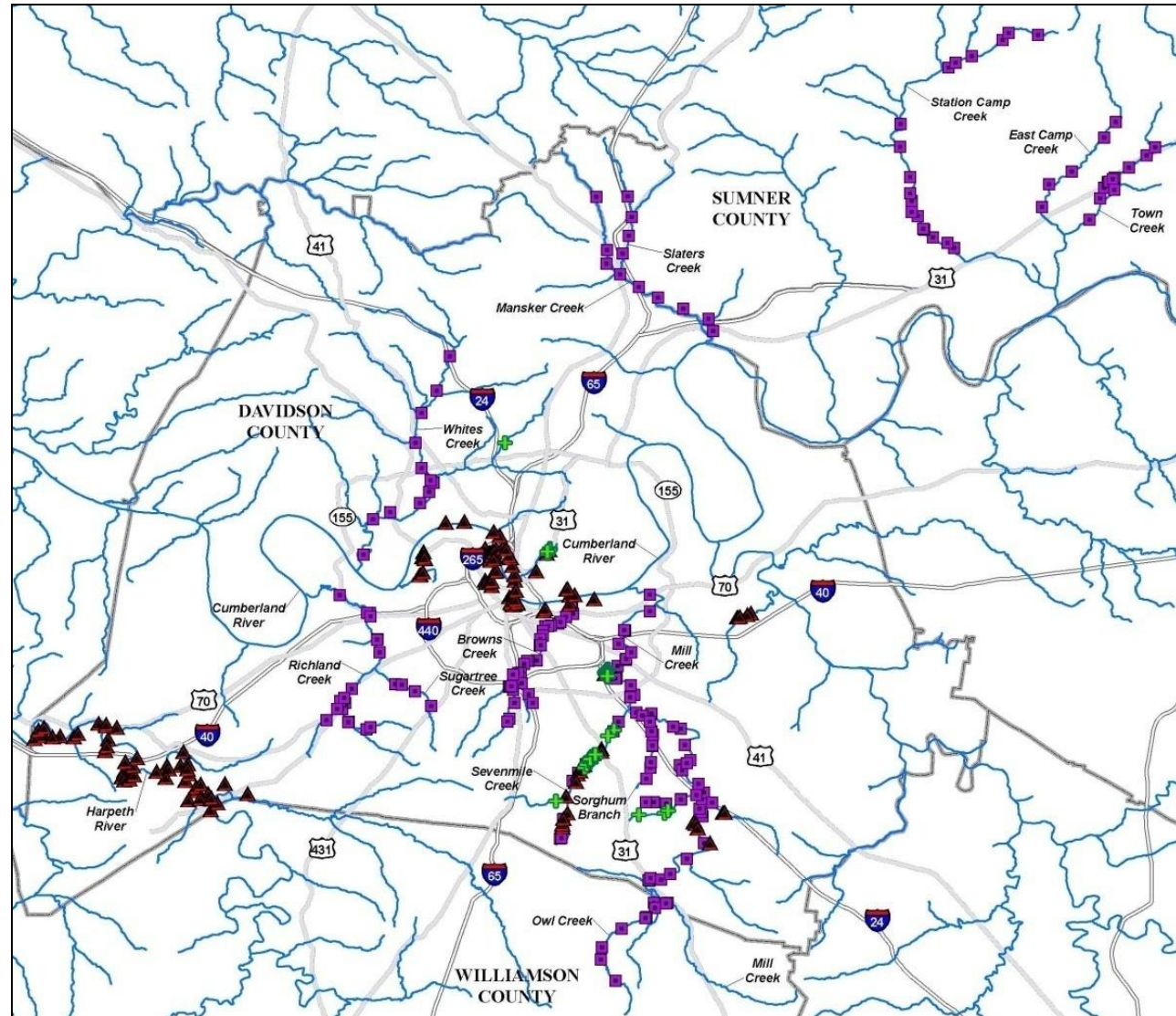


High Water Mark Collaboration

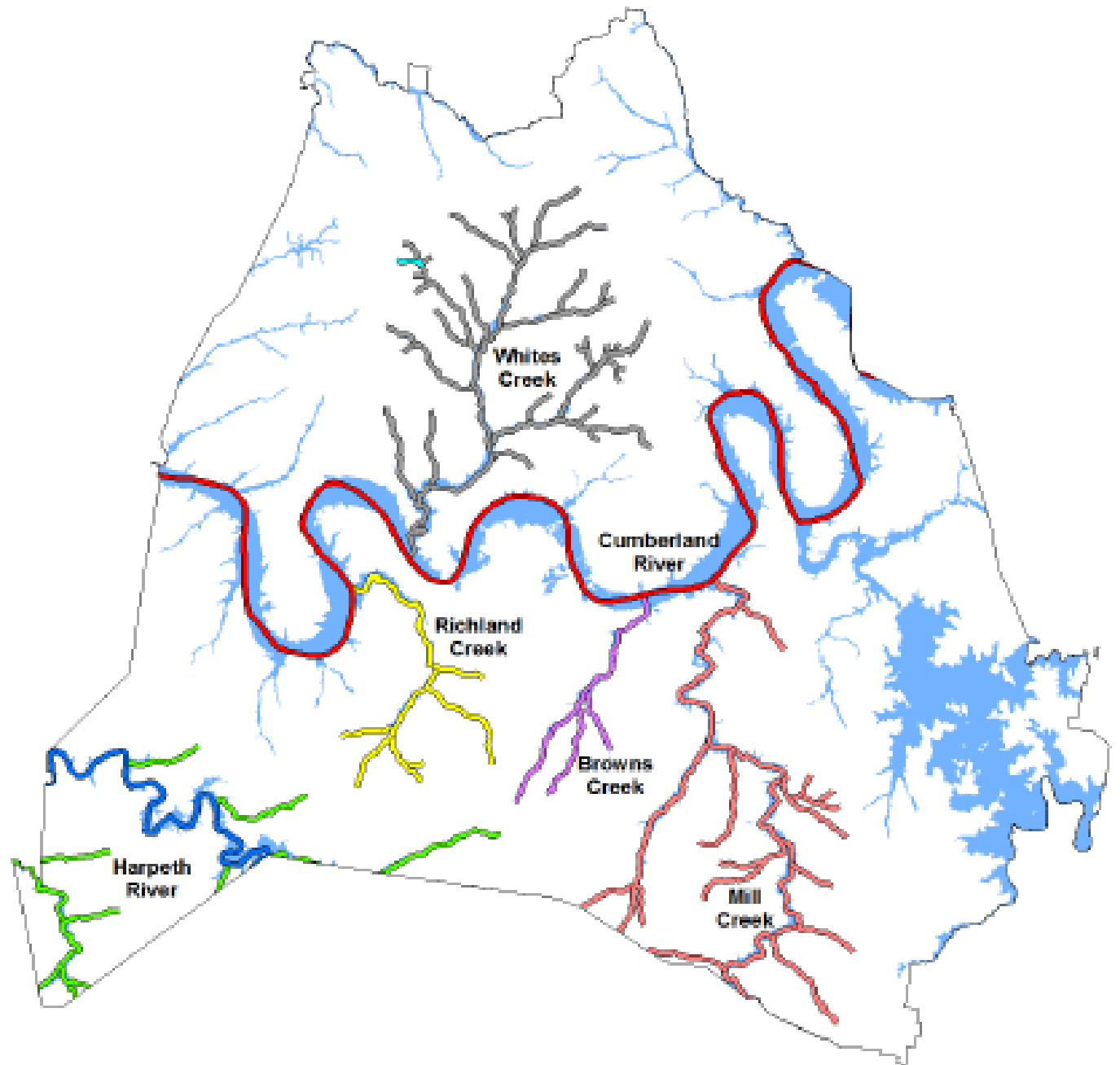
- Occurred within 24 hours of contract award
- Held at AECOM Nashville office
- FEMA Region IV, State of Tennessee, USACE Nashville District, Metro Nashville, USGS all participated
- USACE / USGS high water mark efforts were identified
- Information was quickly exchanged
- FEMA Project avoided duplication of efforts

Results of Collaboration

- Collaborative effort resulted in the identification and survey of 381 high water marks
- No duplication of efforts



USACE Nashville District Modeling Effort



Without A Unified Response.....

- Had the FEMA study moved forward in 2010 and issued preliminary maps, the following would have been missed:
 - Over 250 miles of updated hydrologic and hydraulic modeling
 - New LiDAR data for Davidson County
 - Accreditation of the Metro Center and Opryland Levees

Without A Unified Response.....

- The study would have improved FEMA metrics, but at what cost?
- The results would have contradicted the USACE Nashville models and would have resulted in confusion with local officials and the public

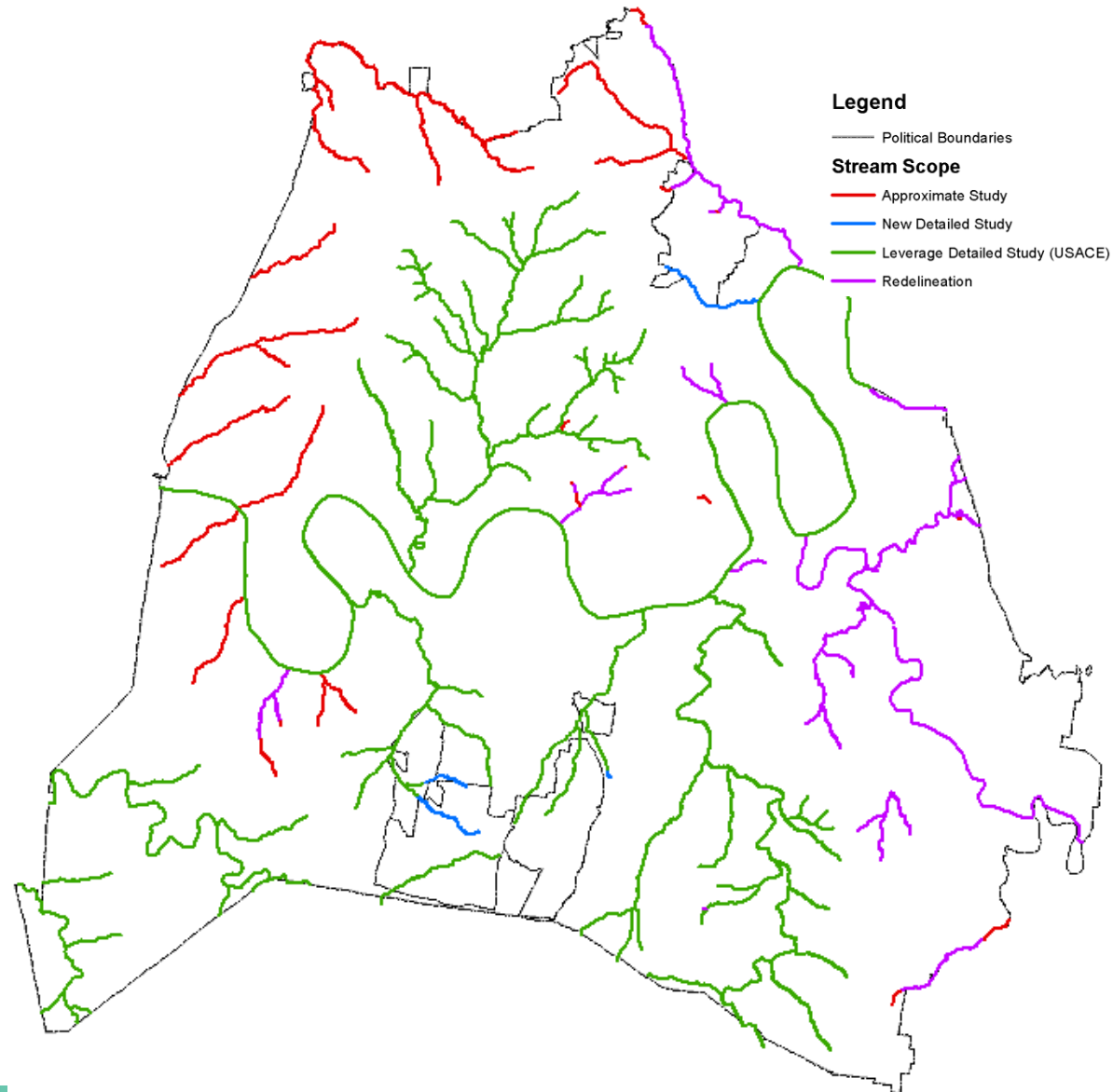


Results of Collaboration

- Relationships established during this effort led to major changes in the Flood Insurance Study effort
- **Local, State, and Federal Champions emerged**
- FEMA / State of Tennessee / AECOM participated in the process while the FIS was put on hold until the new studies could be incorporated

Preliminary Map Overview

- Preliminary Maps Issued Nov. 22, 2013
- Original date scheduled was December 2010
- 144 revised panels



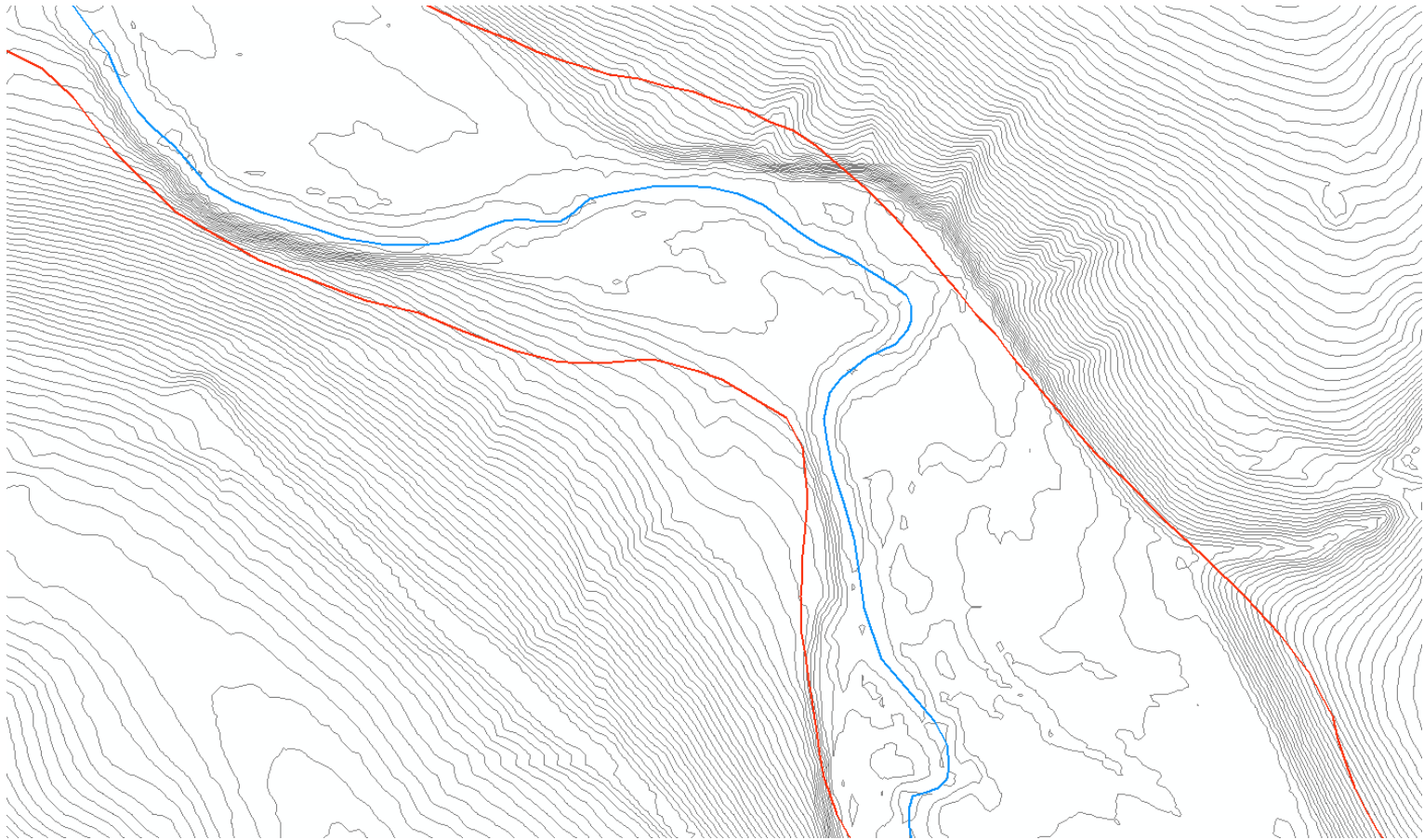
Preliminary Map Overview



Studies	Miles (Original Scope)	Miles (Revised Scope)
Detailed	17.2	255.8
Approximate	98.9	61.8
Redelineation	5.9	66.7
Digital Conversion	251.6	0
TOTAL	373.6	384.3

Preliminary Map Improvements

- Long Creek Old Approximate Study (as shown on the old effective map 0100)



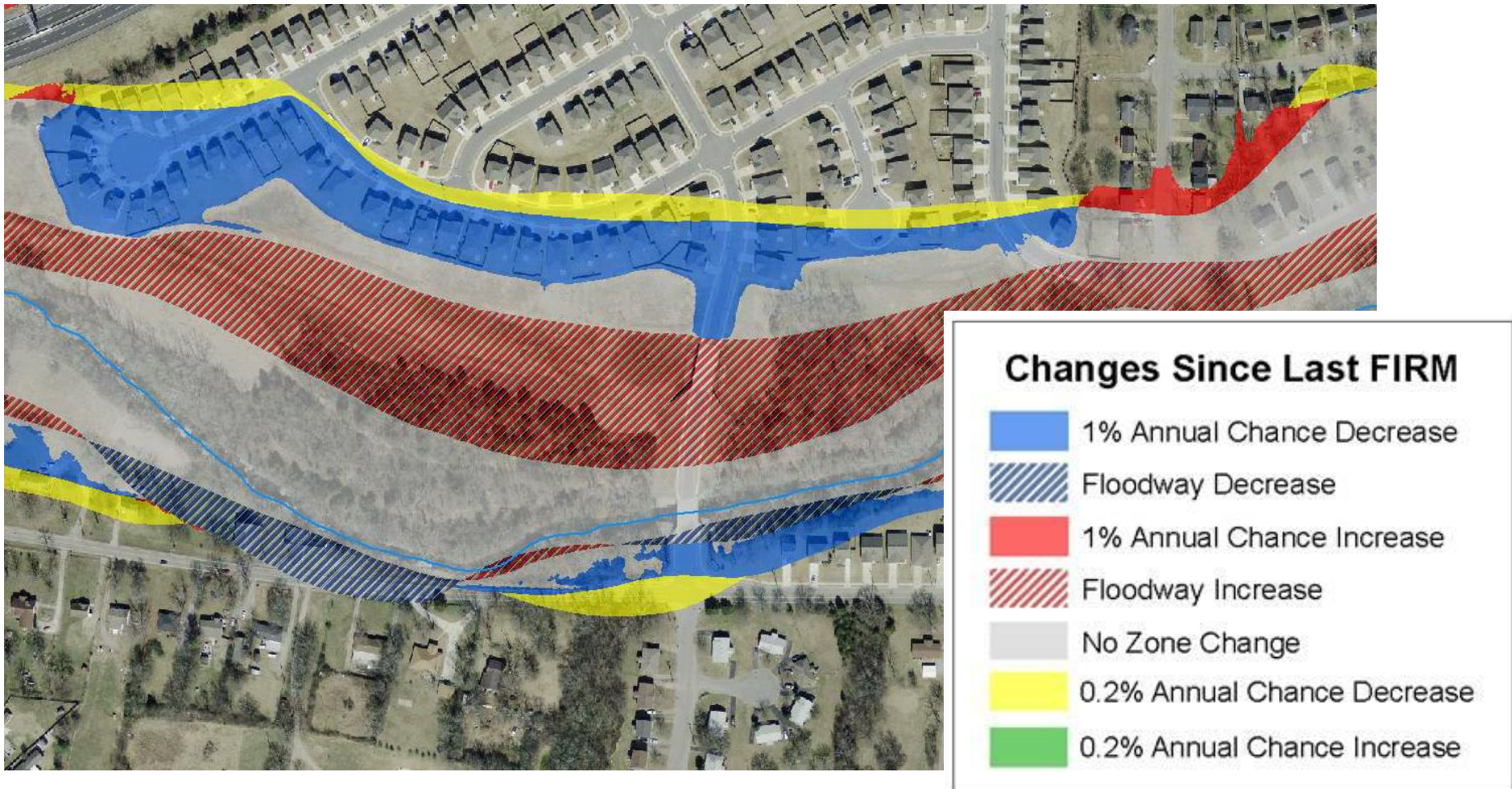
Preliminary Map Improvements

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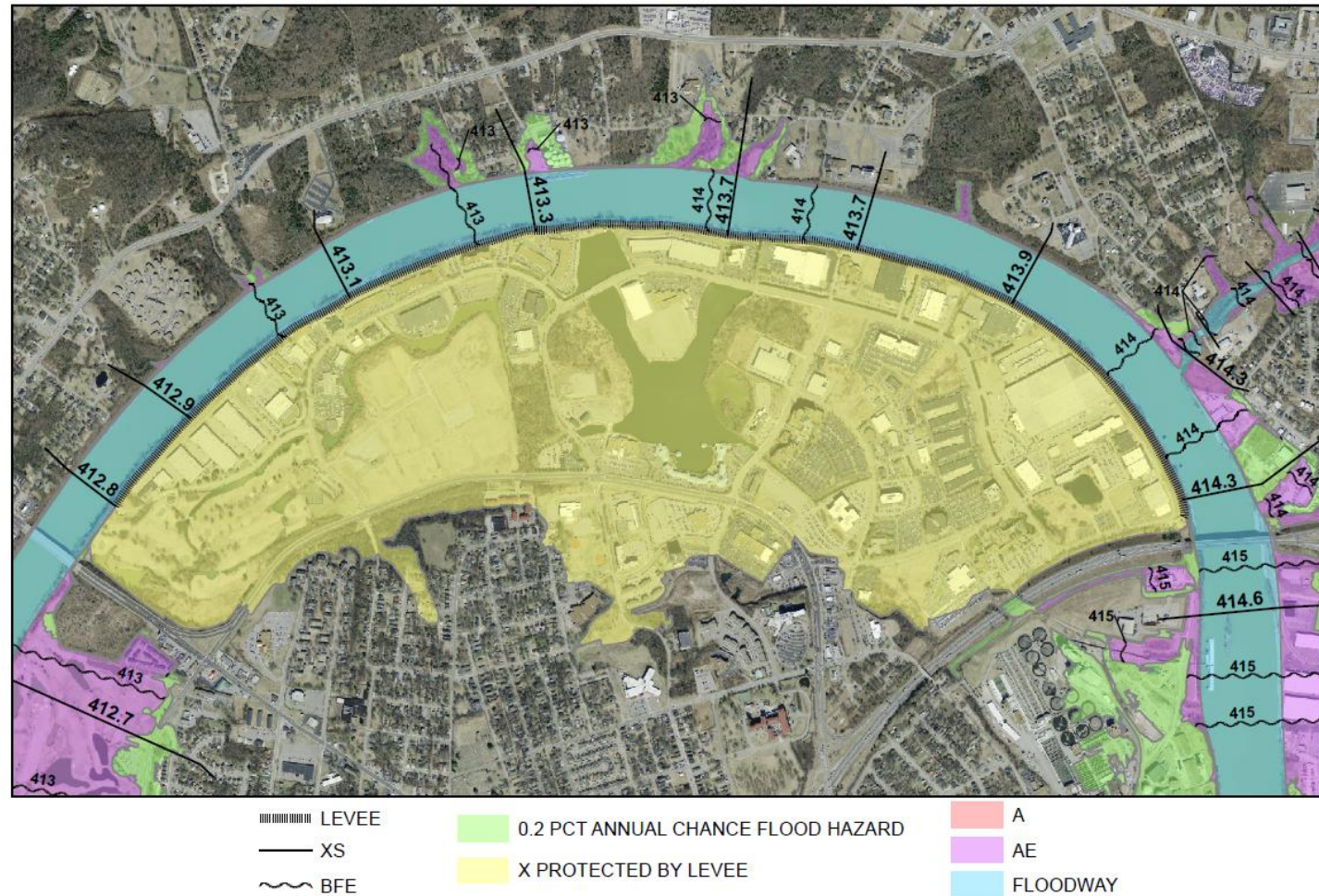
Preliminary Map Changes

- Floodplain changes to Ewing Creek – Preliminary Panel 0231



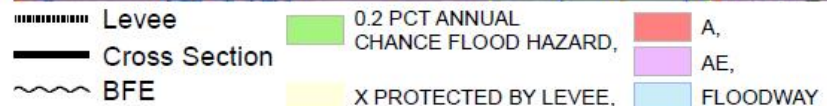
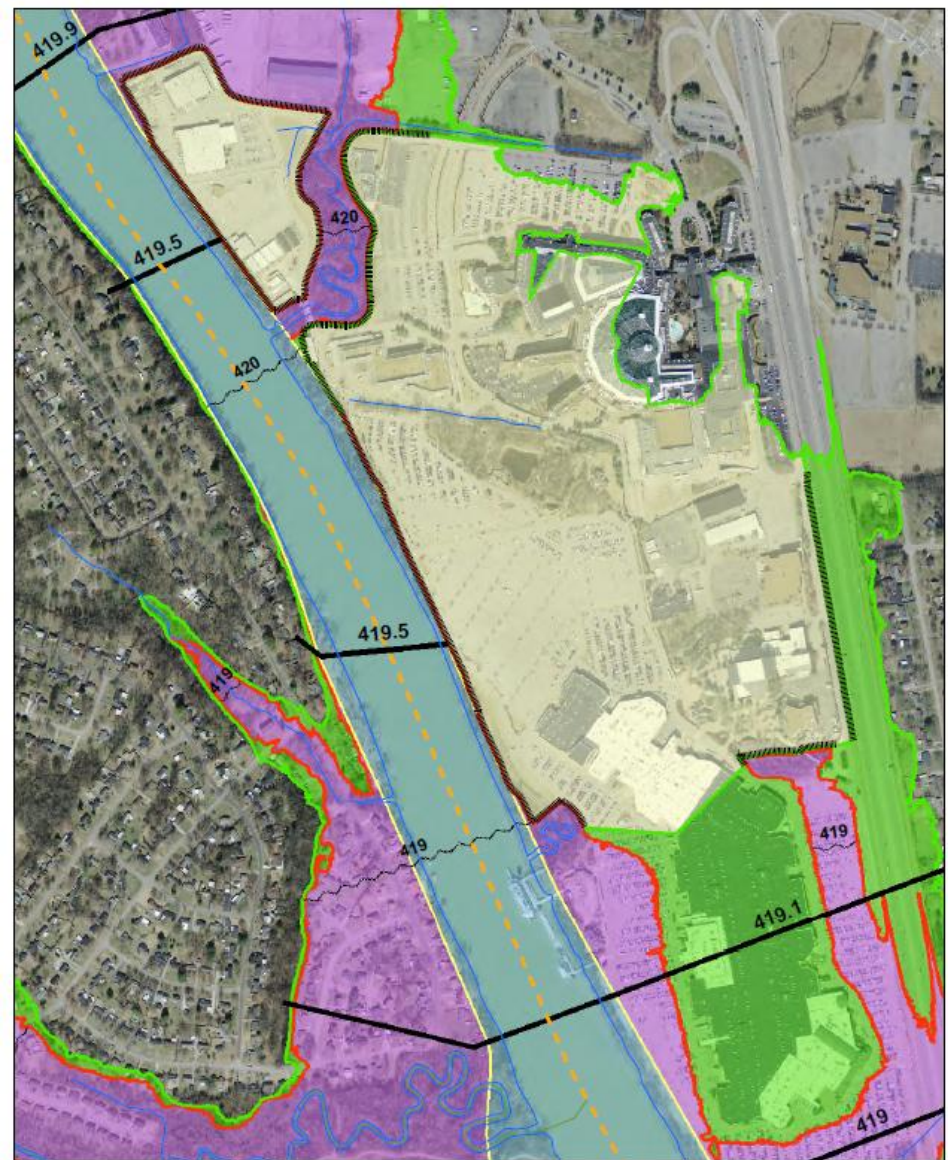
Metro Center Levee

- Accreditation package submitted by USACE Nashville District
- Area protected by levee shown as shaded Zone X



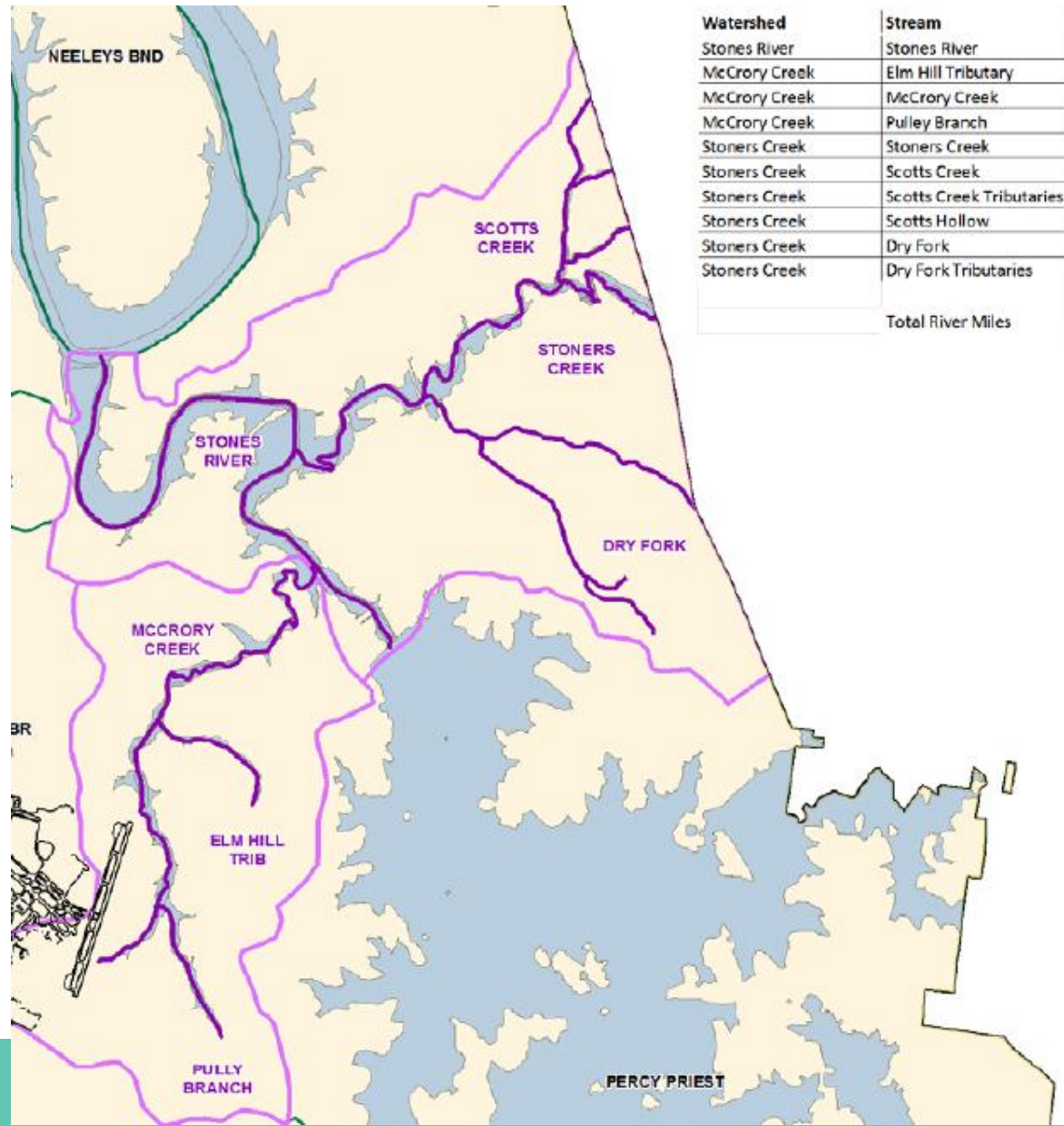
Opryland Levee

- Accreditation package submitted by Barge, Waggoner, Sumner, and Cannon
- Area protected by levee shown as shaded Zone X



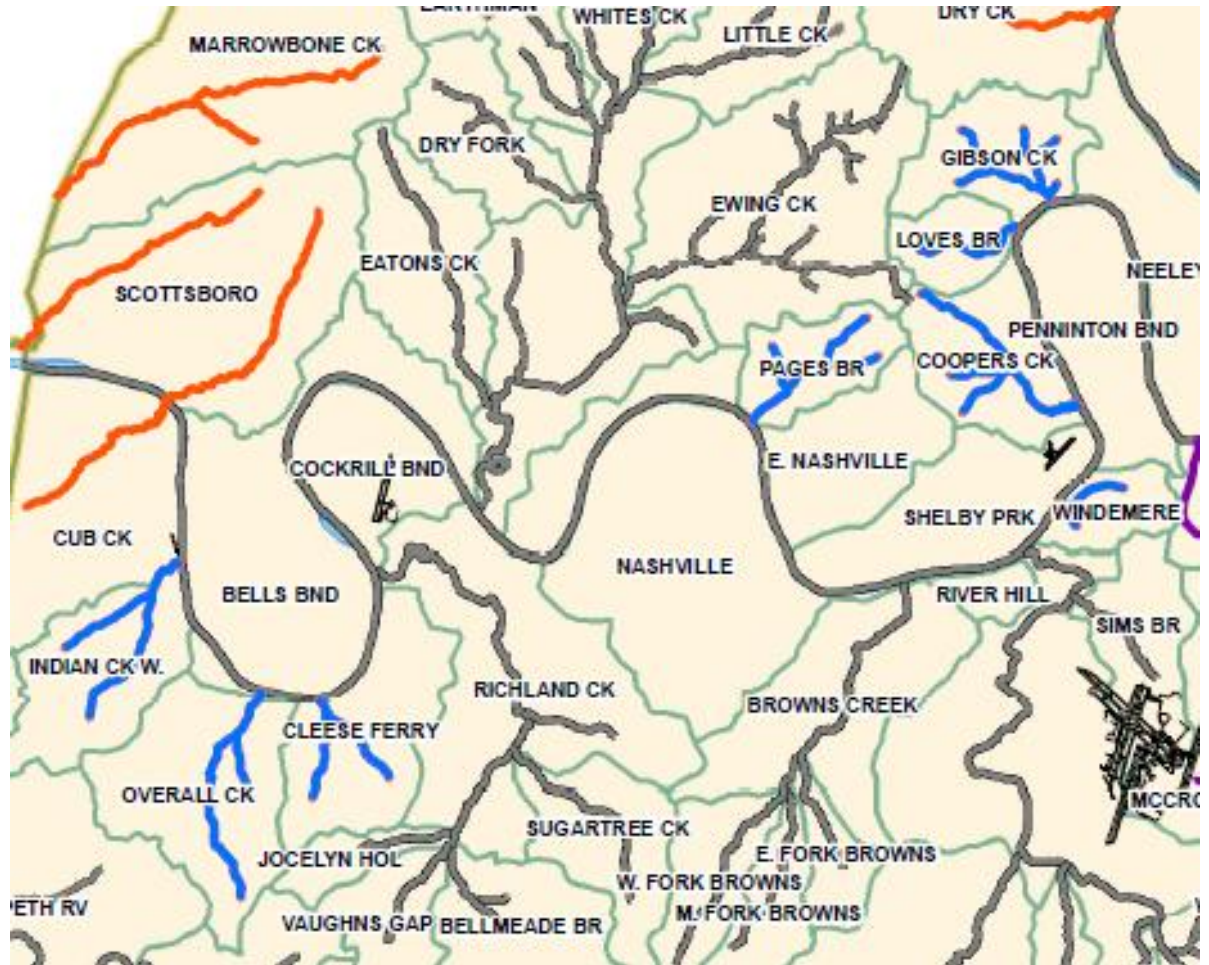
Appeal and Comment Period

- Started July 31, 2014
- USACE Nashville District submitted the Stones Creek Watershed detailed studies (Phase 3)



Appeal and Comment Period

- USACE Nashville District will submit an additional 30 miles of detailed studies (Phase 4A)



- In 2015, Davidson County residents will receive effective FIRMs
- It is our hope with all of the collaboration throughout the process we make it to the end zone when all is said and done
- Special thanks to Mark Vieira (FEMA Region IV), Tom Palko and Roger Lindsey (Metro Nashville), Sue Ferguson, Barry Moran, and Phyllis Kohl (USACE Nashville) for making this possible

Questions?

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