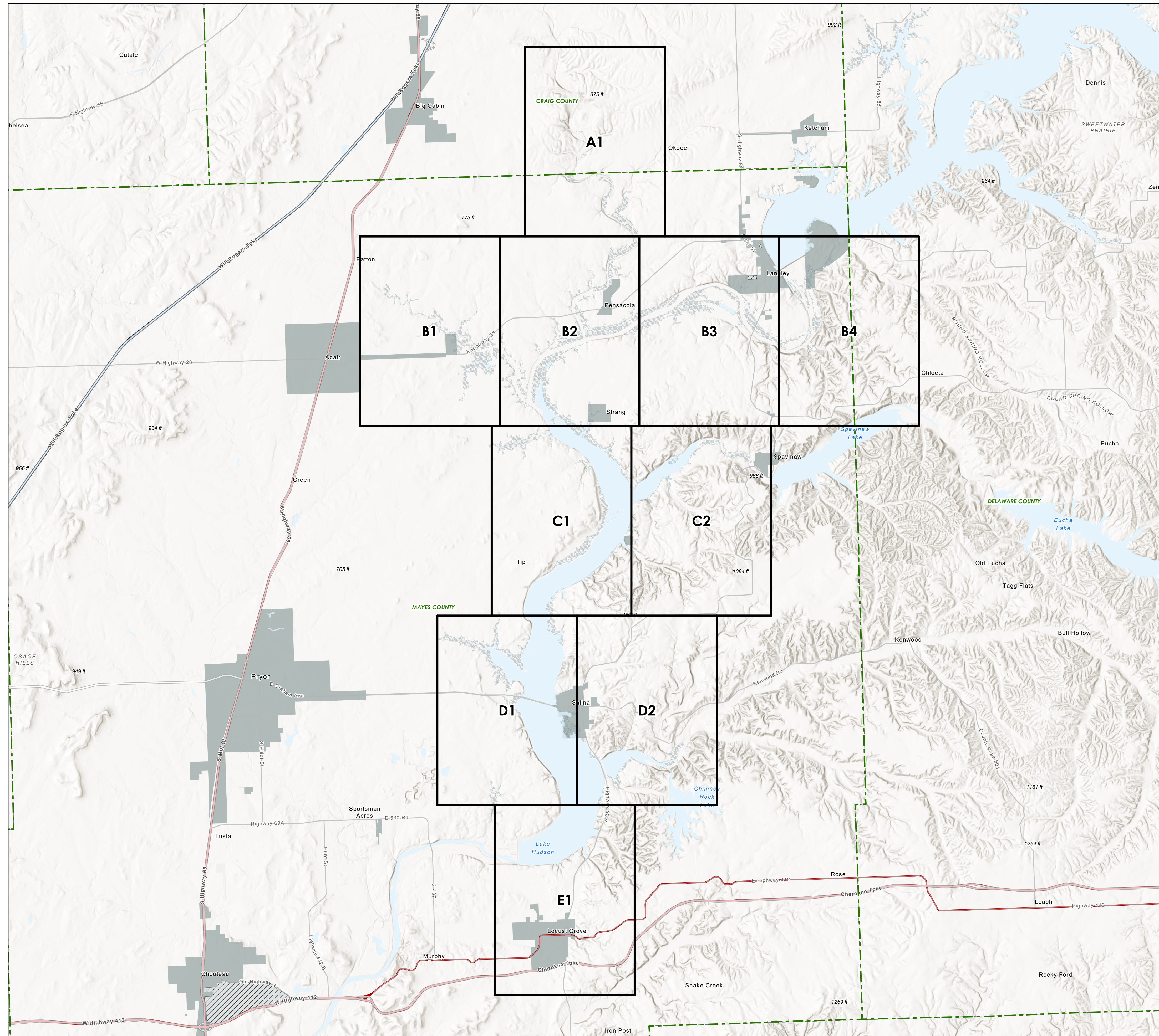

APPENDIX E.1:
SEPTEMBER 1993 (21 YEAR) EVENT INUNDATION MAPS

Downstream Model Results Overview Map

Pensacola Dam
GRAND RIVER DAM AUTHORITY
Date: September 2022

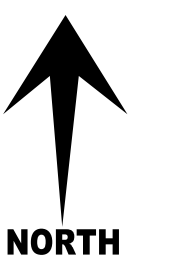
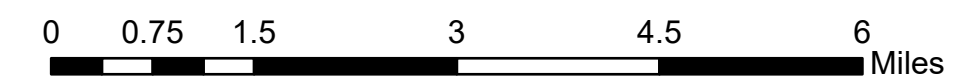
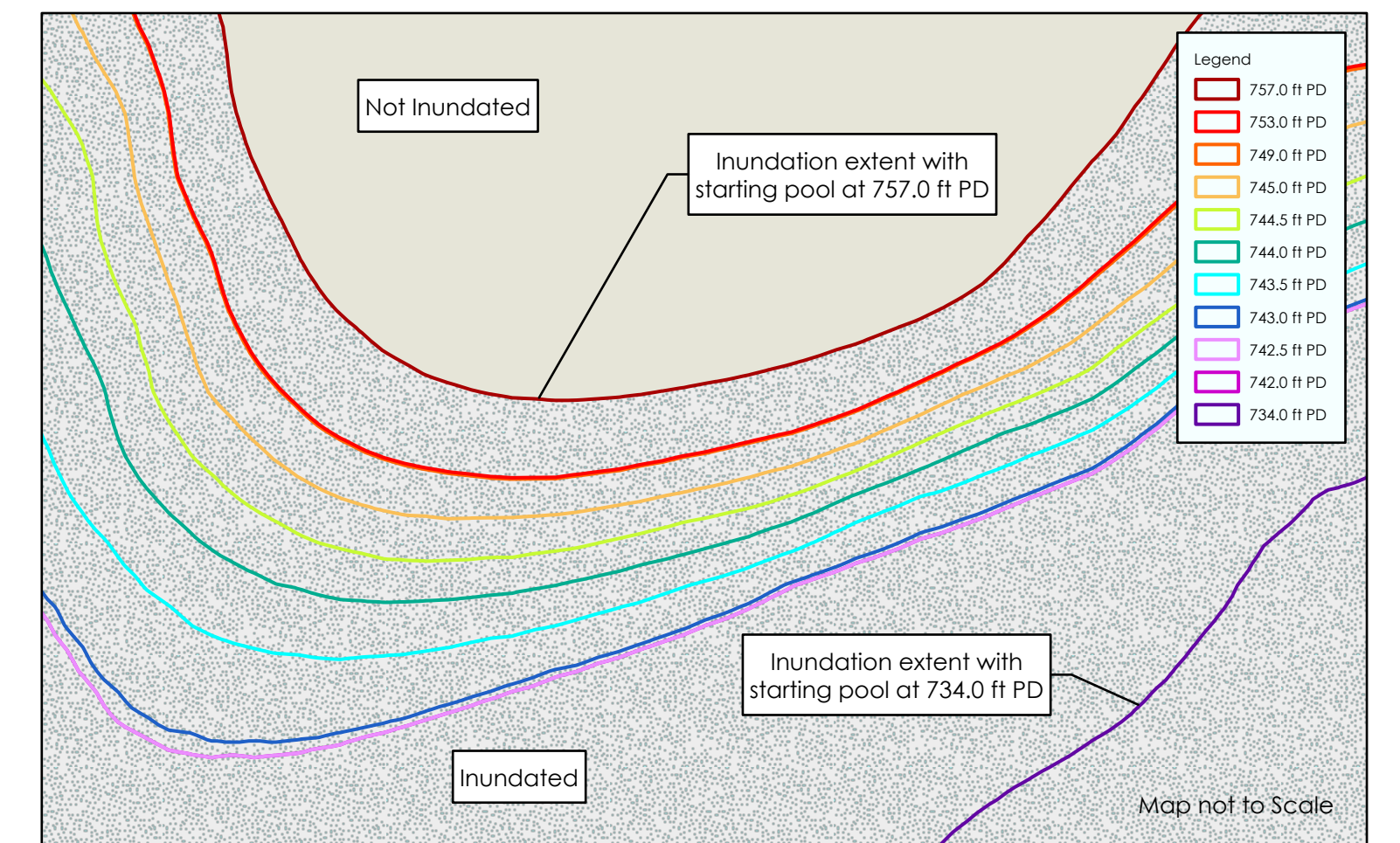


Overview Map Legend

1:24,000-scale Map Sheet	Road Class
County Boundary	Interstate
Municipality	US Highway
Unincorporated	

Inundation Scenario Mapping

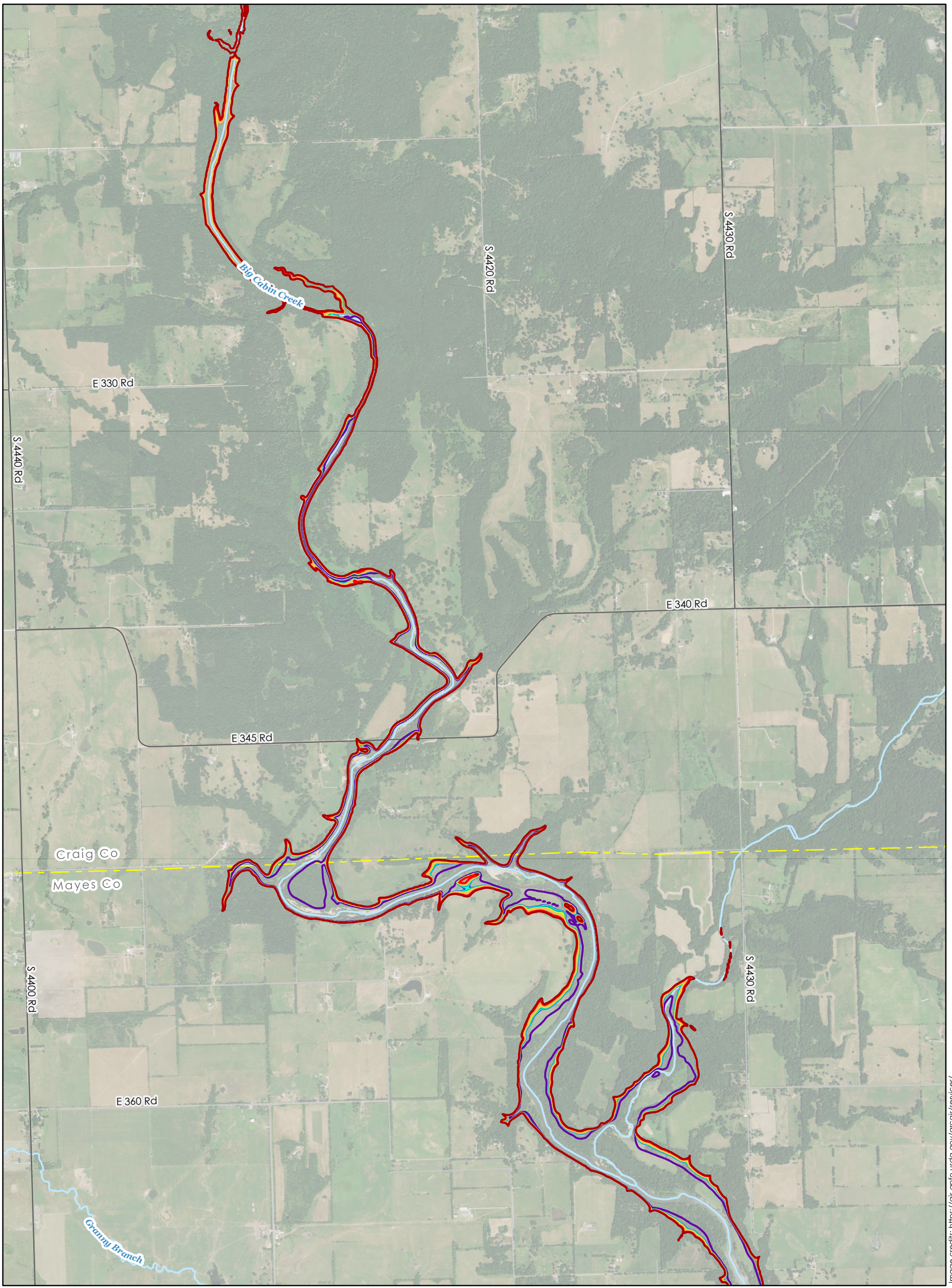
Mapping shows the extent of inundation for the selected hydraulic event under different starting pool elevations at Pensacola Dam: 734.0 ft PD, 742.0 ft PD, 742.5 ft PD, 743.0 ft PD, 743.5 ft PD, 744.0 ft PD, 744.5 ft PD, 745.0 ft PD, 749.0 ft PD, 753.0 ft PD, and 757.0 ft PD.



Map Notes

Data Sources for Maps:

1. Base map images from https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019.
2. Transportation network (major roads, local roads, and railroads) and county boundaries obtained from the Oklahoma Office of Geographic Information (<http://okmaps.org/cgi/search.aspx>).

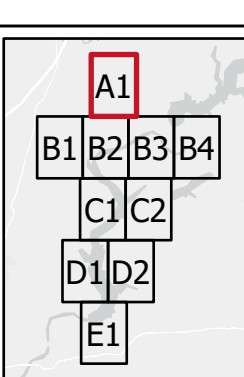


SEPTEMBER 1993 (21 YEAR) INUNDATION SCENARIO

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet



Legend

SEP 1993 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE
757.0 ft PD	743.5 ft PD	Interstate	Stream	Project
753.0 ft PD	743.0 ft PD	State Highway	County	Municipal
749.0 ft PD	742.5 ft PD	US Highway	Major Collector	
745.0 ft PD	742.0 ft PD	Local Road		
744.5 ft PD	734.0 ft PD			
744.0 ft PD				

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

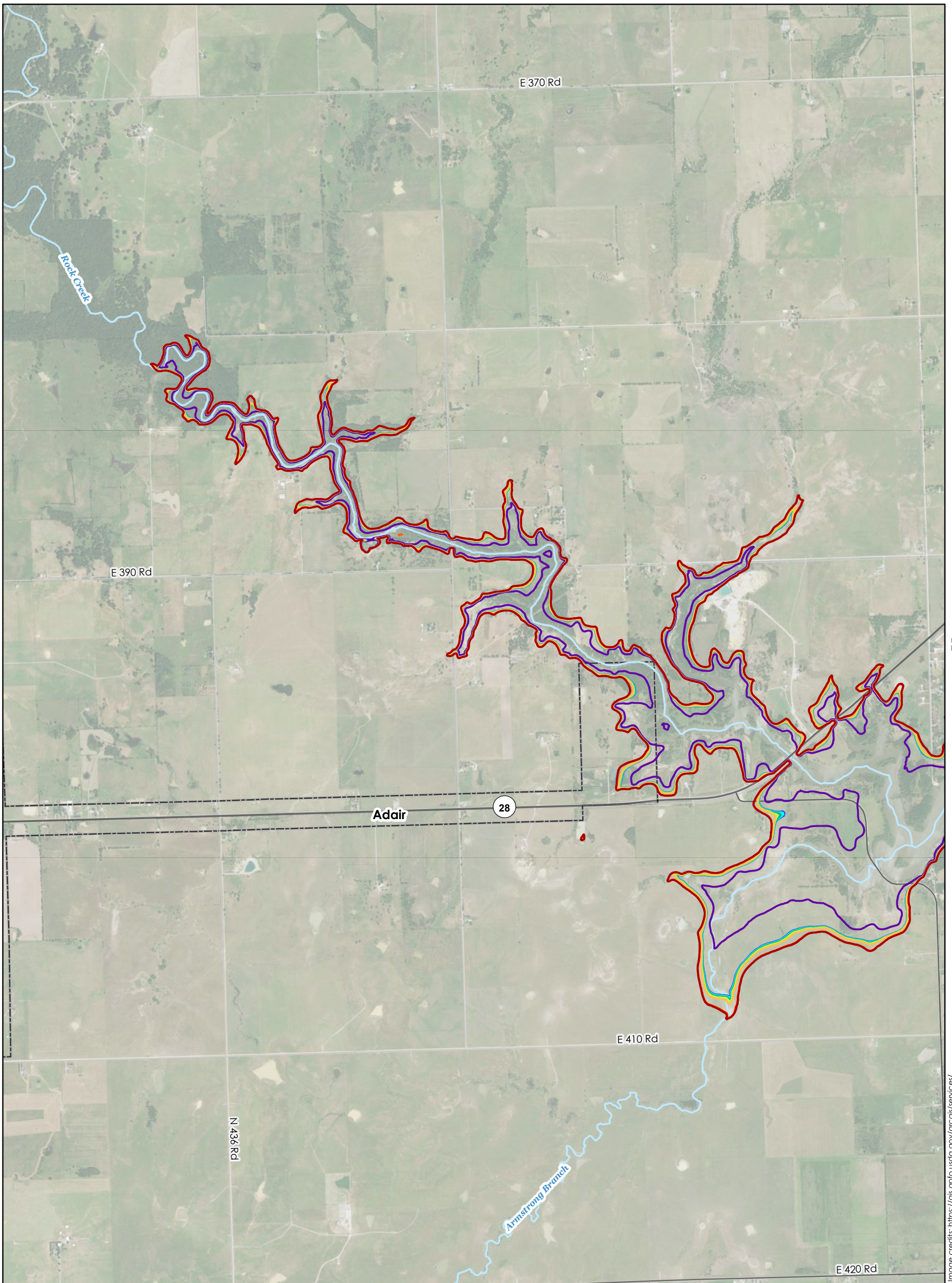
PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL
 GRAND RIVER DAM AUTHORITY

MAP: A1

CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA

FERC No. 1494
 September 2022

Image credits: https://gis.cplio.usda.gov/orcgl/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019



B2

C1

SEPTEMBER 1993 (21 YEAR) INUNDATION SCENARIO

SEP 1993 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE	
— 757.0 ft PD	— 743.5 ft PD	— Interstate	— Stream	 Project	 County
— 753.0 ft PD	— 743.0 ft PD	— State Highway	— Major Collector	 Municipal	
— 749.0 ft PD	— 742.5 ft PD	— US Highway	— Local Road		
— 745.0 ft PD	— 742.0 ft PD				
— 744.5 ft PD	— 734.0 ft PD				
— 744.0 ft PD					

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

PENSACOLA DAM

DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: B1

CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

C1

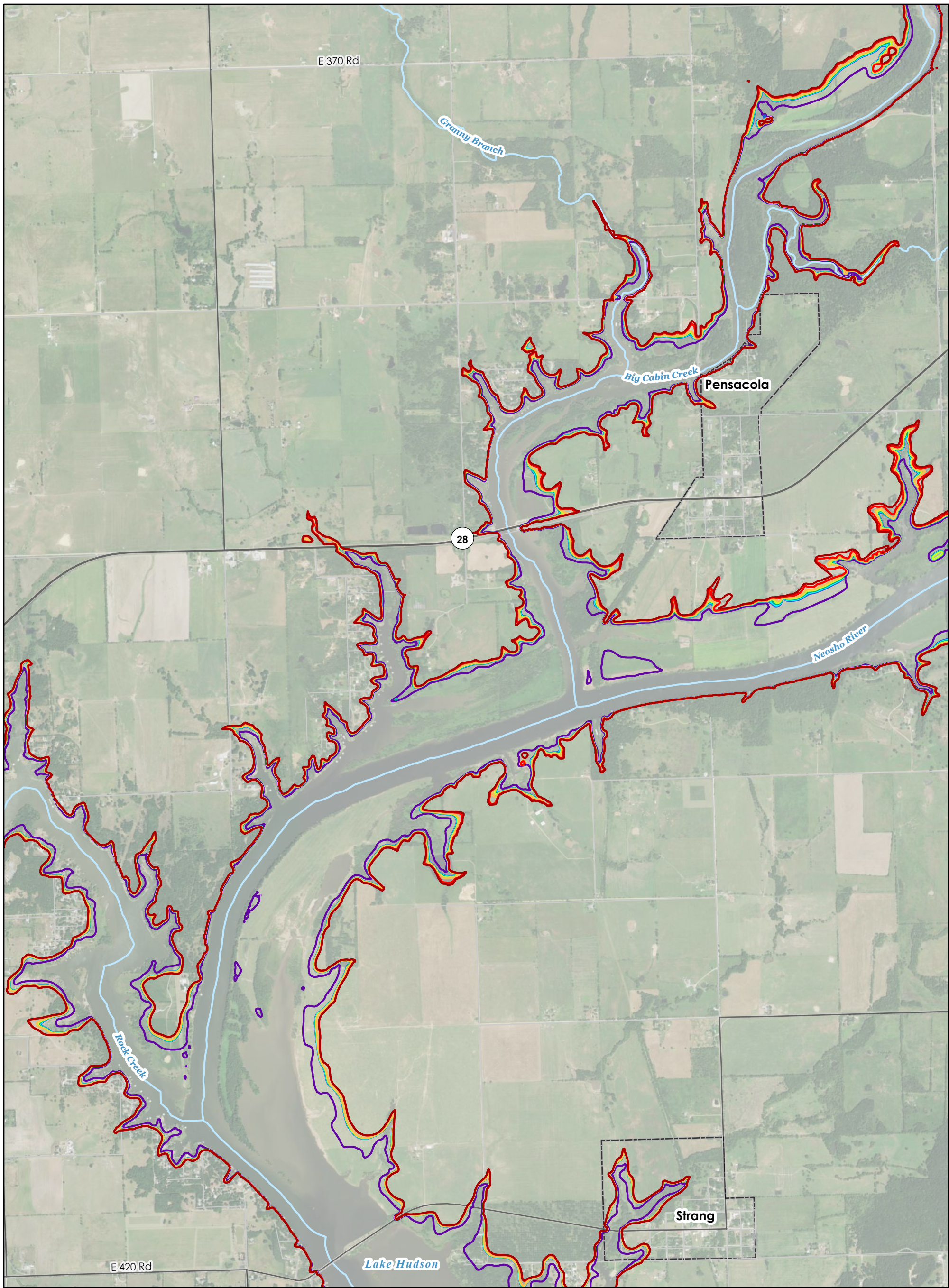
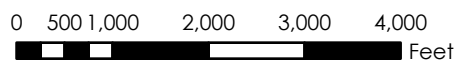


Image credits: https://gis.cplio.usda.gov/orcrgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

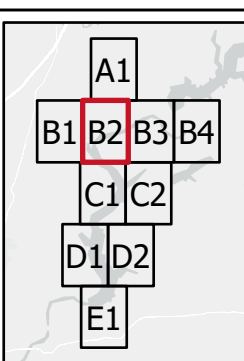
SEPTEMBER 1993 (21 YEAR) INUNDATION SCENARIO



NORTH



1 inch = 2,000 feet



SEP 1993 MAX INUNDATION	
— 757.0 ft PD	— 743.5 ft PD
— 753.0 ft PD	— 743.0 ft PD
— 749.0 ft PD	— 742.5 ft PD
— 745.0 ft PD	— 742.0 ft PD
— 744.5 ft PD	— 734.0 ft PD
— 744.0 ft PD	

Legend

ROAD CLASS	BOUNDARY TYPE
— Interstate	 Project
— State Highway	 County
— US Highway	 Municipal
— Major Collector	
— Local Road	
— Stream	

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**

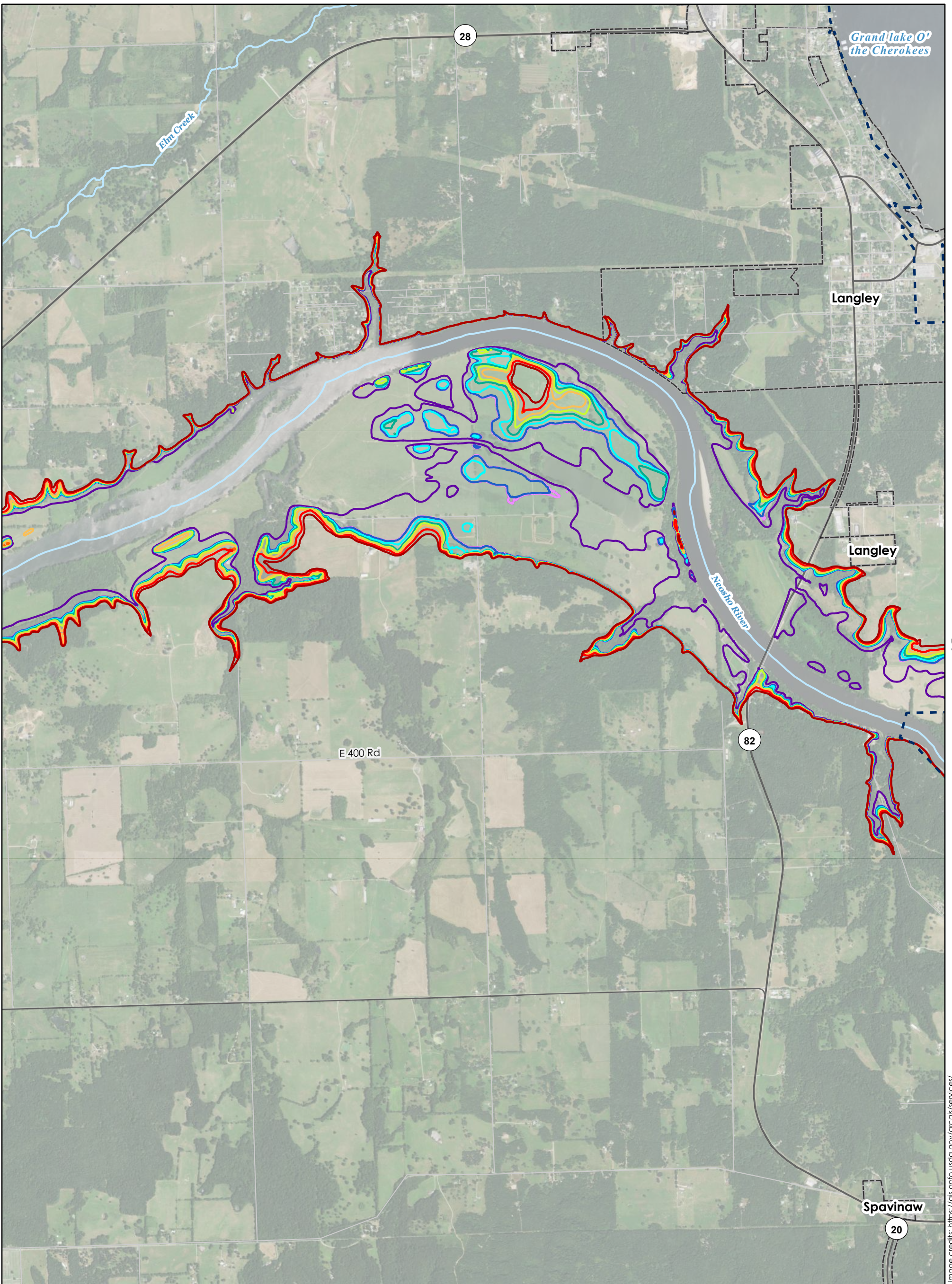
GRAND RIVER DAM AUTHORITY

MAP: B2

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

A1



B2

B4

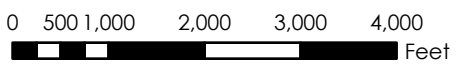
C2

C2

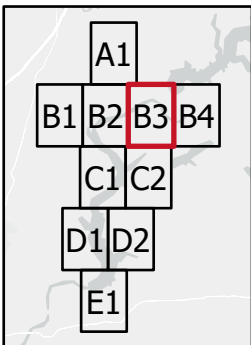
SEPTEMBER 1993 (21 YEAR) INUNDATION SCENARIO



NORTH



1 inch = 2,000 feet



SEP 1993 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

Legend

ROAD CLASS

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road

BOUNDARY TYPE

- Stream
- Project
- County
- Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**
GRAND RIVER DAM AUTHORITY

MAP: B3

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

Image credits: https://gis.cplio.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

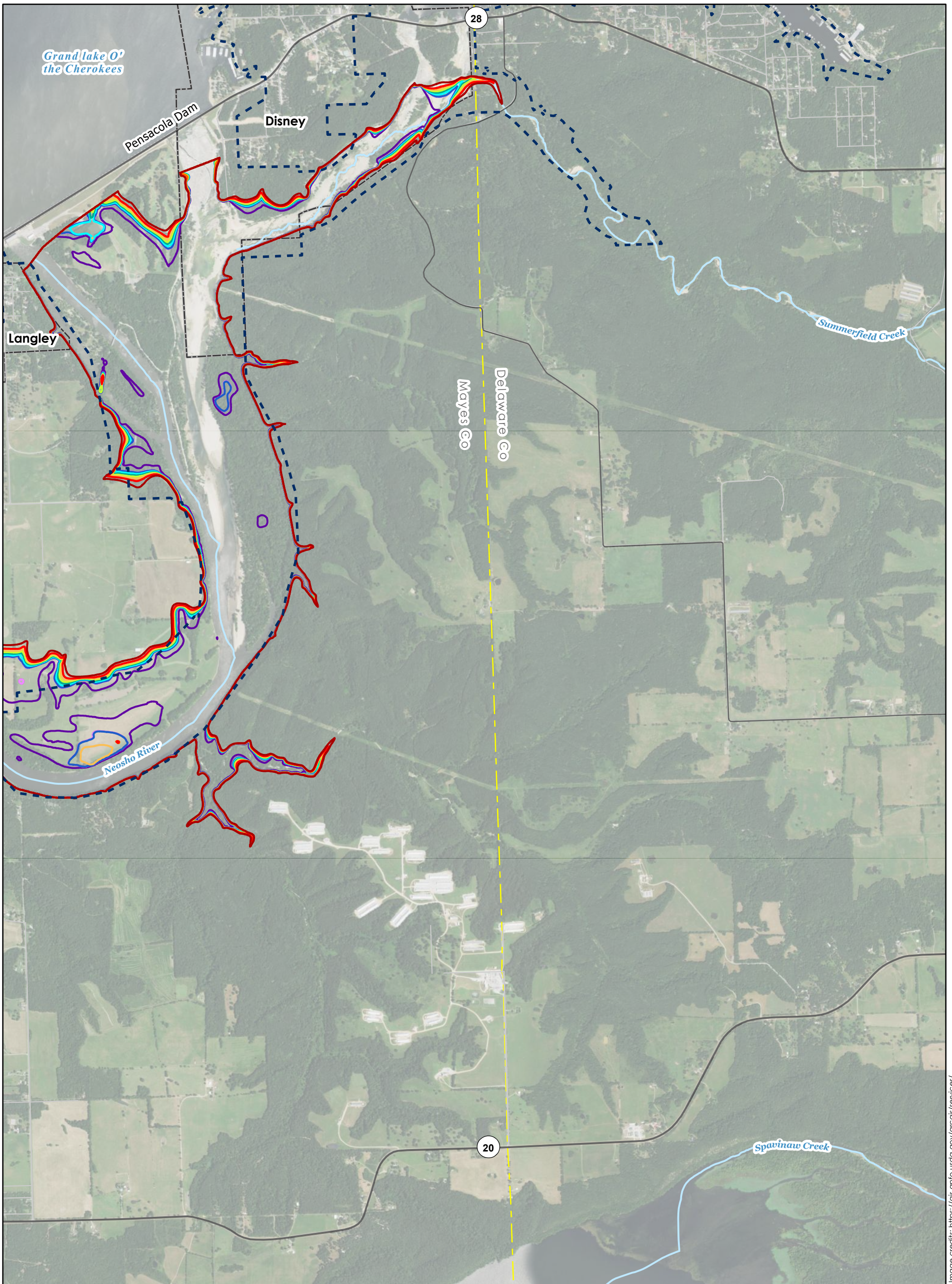


Image credits: https://gis.cpl.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

SEPTEMBER 1993 (21 YEAR) INUNDATION SCENARIO

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

SEP 1993 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE	
— 757.0 ft PD	— 743.5 ft PD	— Interstate	— Stream	 Project	 County
— 753.0 ft PD	— 743.0 ft PD	— State Highway	— Stream	 Project	 County
— 749.0 ft PD	— 742.5 ft PD	— US Highway	— Stream	 Project	 County
— 745.0 ft PD	— 742.0 ft PD	— Major Collector	— Stream	 Project	 County
— 744.5 ft PD	— 734.0 ft PD	— Local Road	— Stream	 Project	 County
— 744.0 ft PD				 Municipal	

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

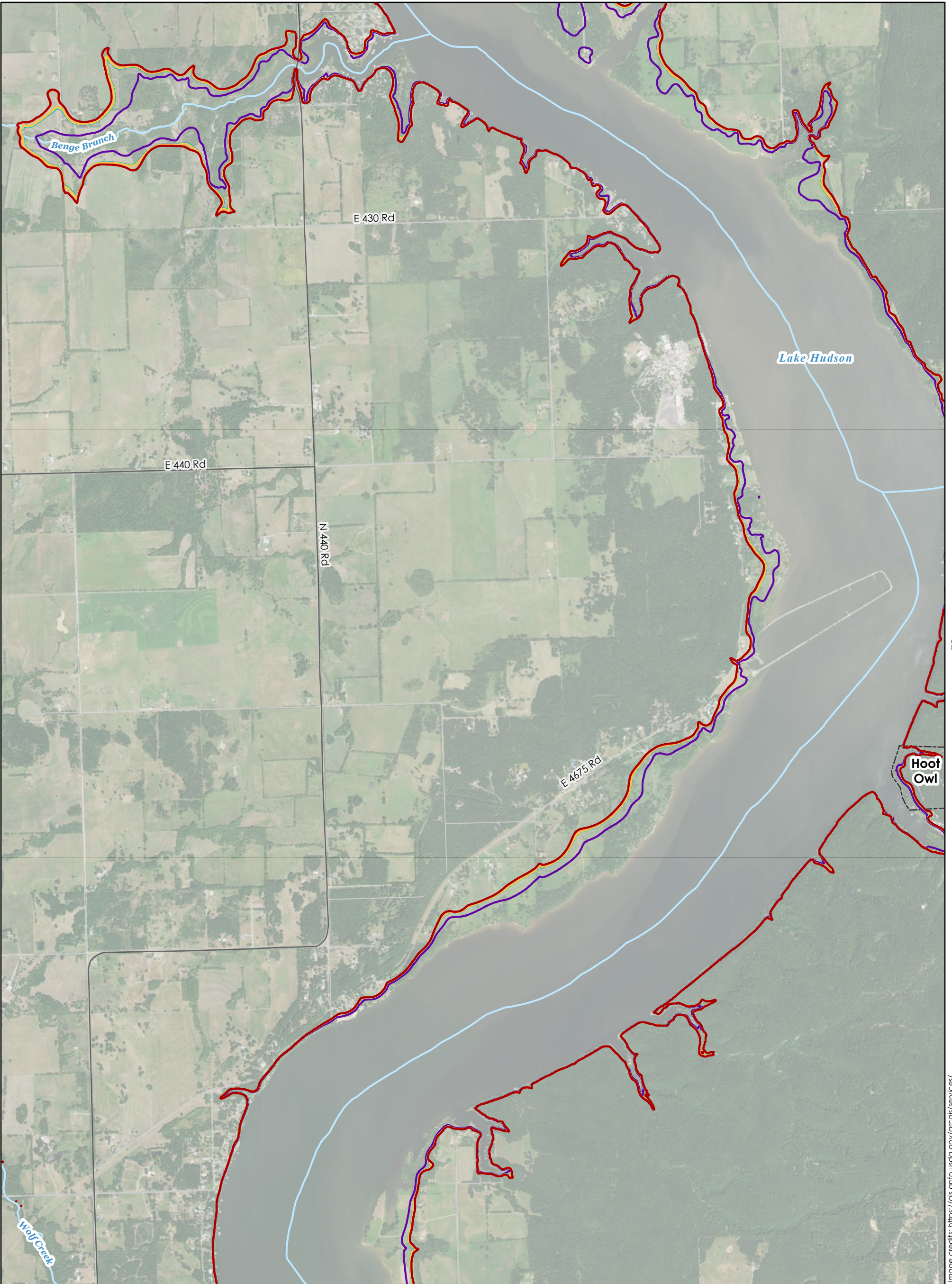
PENSACOLA DAM DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: B4

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022



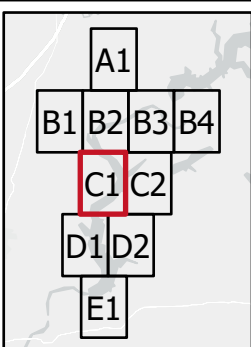
**SEPTEMBER 1993 (21 YEAR)
INUNDATION SCENARIO**



NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet



SEP 1993 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

Legend

ROAD CLASS

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road

BOUNDARY TYPE

- Stream
- Project
- County
- Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

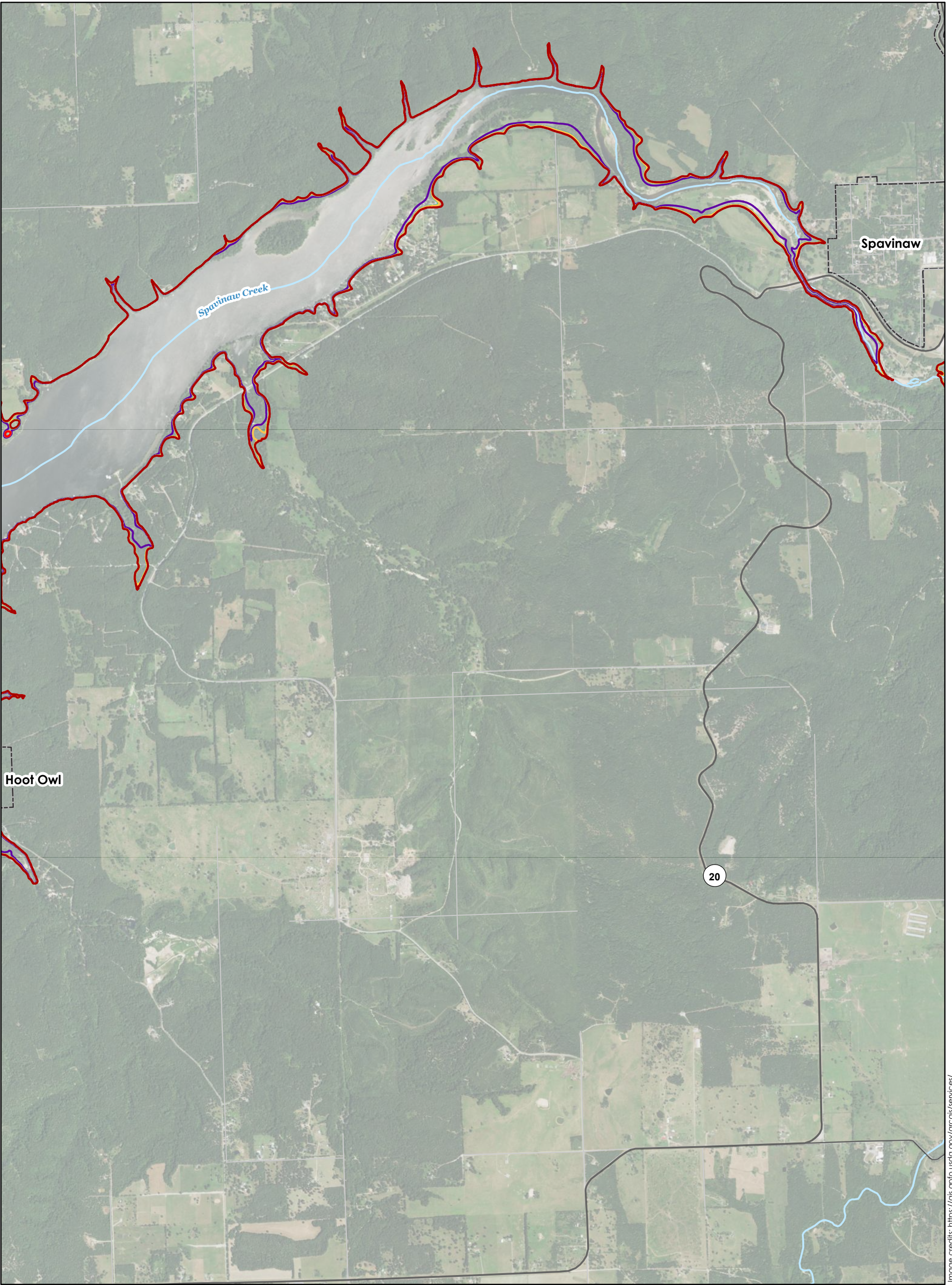
**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**

GRAND RIVER DAM AUTHORITY

MAP: C1

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022



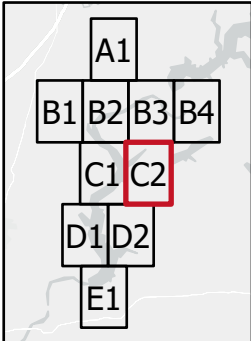
**SEPTEMBER 1993 (21 YEAR)
INUNDATION SCENARIO**



NORTH

0 500 1,000 2,000 3,000 4,000
Feet

1 inch = 2,000 feet



SEP 1993 MAX INUNDATION

- █ 757.0 ft PD
- █ 753.0 ft PD
- █ 749.0 ft PD
- █ 745.0 ft PD
- █ 744.5 ft PD
- █ 744.0 ft PD
- █ 743.5 ft PD
- █ 743.0 ft PD
- █ 742.5 ft PD
- █ 742.0 ft PD
- █ 734.0 ft PD

Legend

ROAD CLASS

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road

BOUNDARY TYPE

- Stream
- Project
- County
- Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

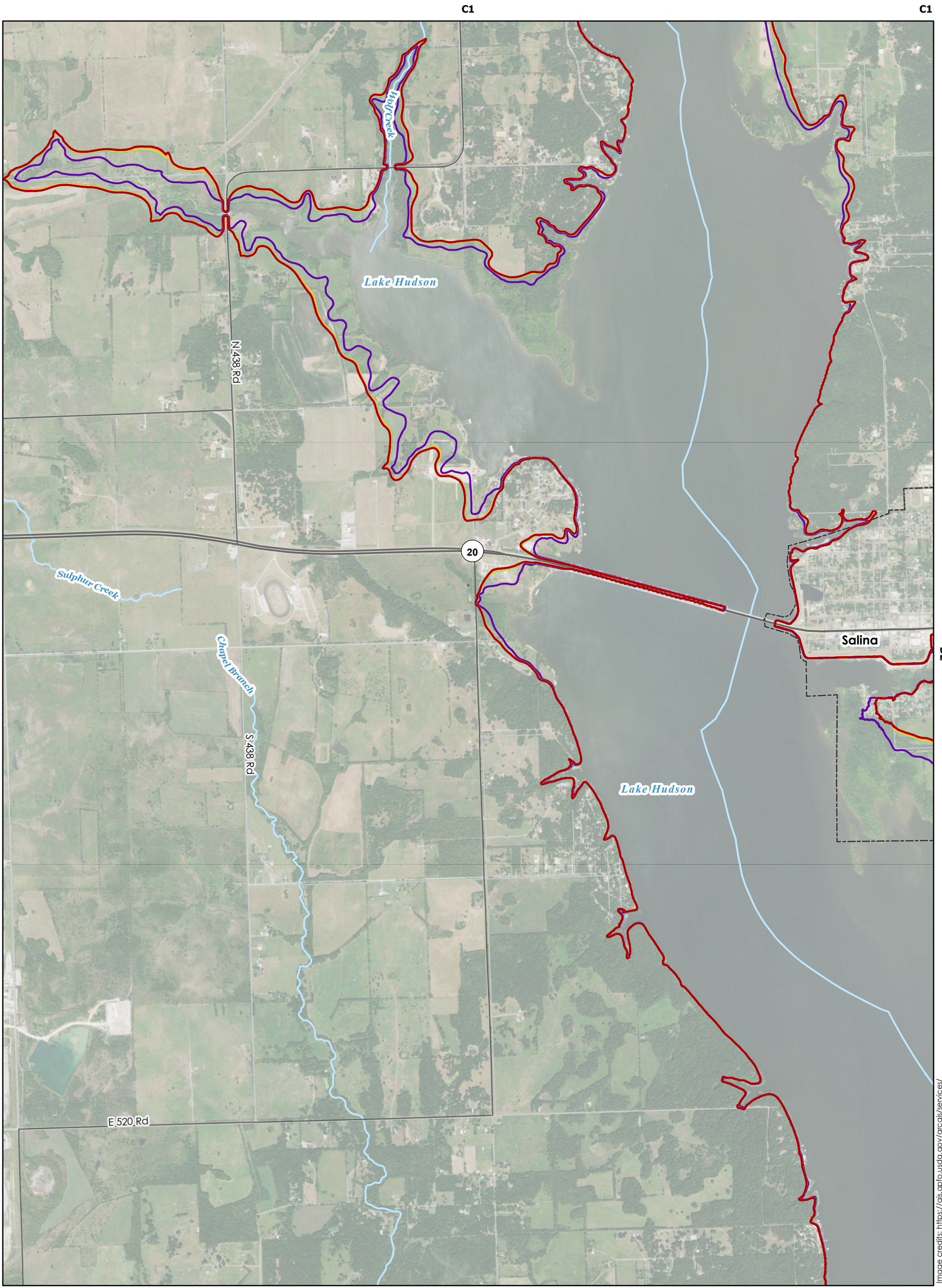
**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**

GRAND RIVER DAM AUTHORITY

MAP: C2

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

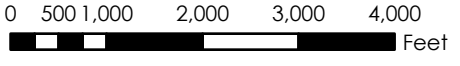
FERC No. 1494
September 2022



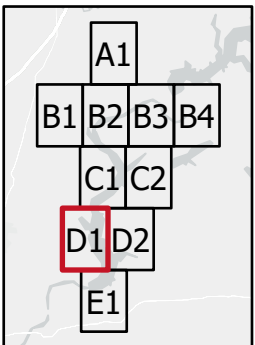
**SEPTEMBER 1993 (21 YEAR)
INUNDATION SCENARIO**



NORTH



1 inch = 2,000 feet



SEP 1993 MAX INUNDATION	
757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

ROAD CLASS	
Interstate	Stream
State Highway	Project
US Highway	County
Major Collector	Municipal
Local Road	

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**

GRAND RIVER DAM AUTHORITY

MAP: D1

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

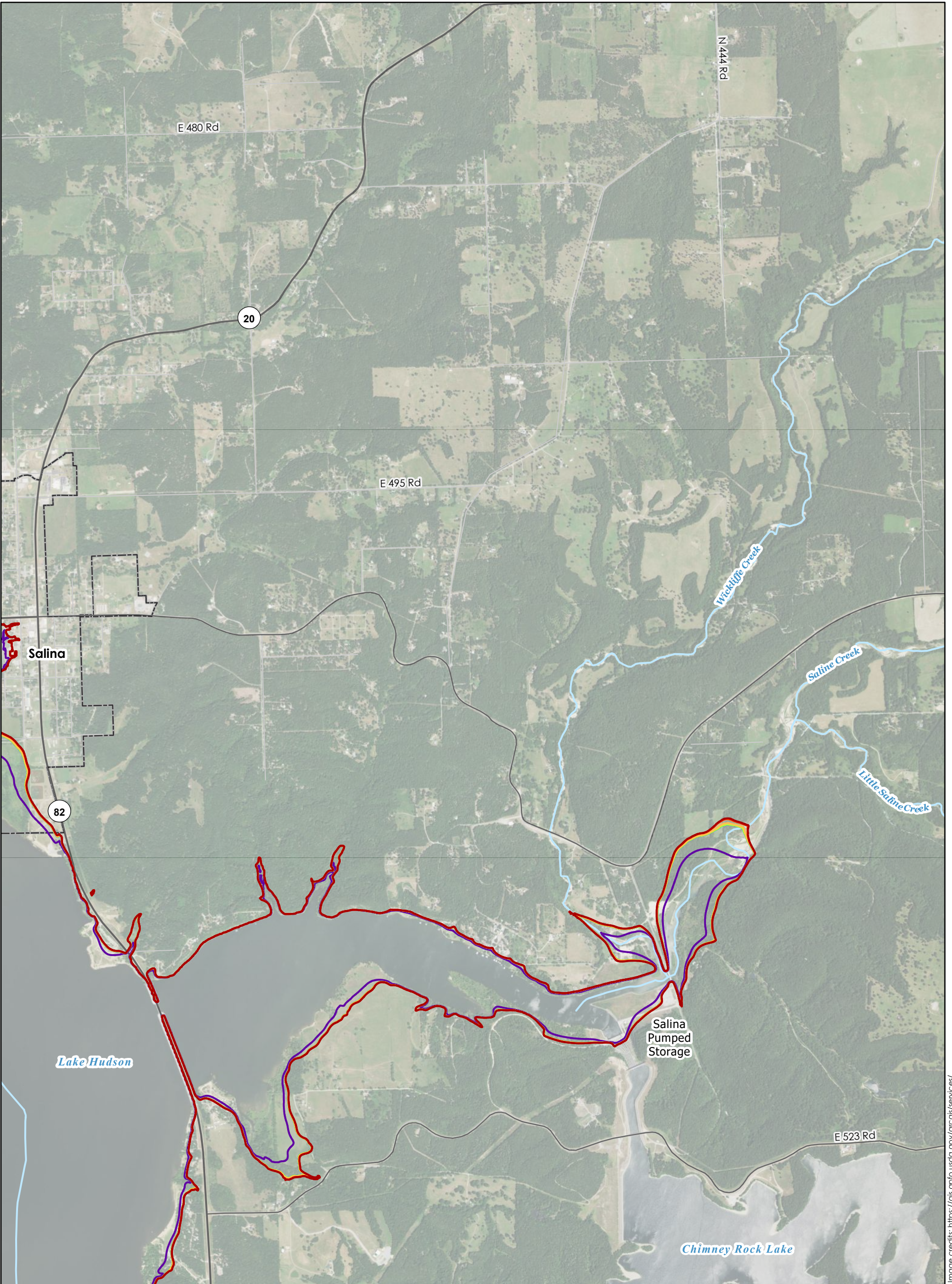
FERC No. 1494
September 2022

Image credits: https://gis.cplio.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

C1

C2

C2



D1

Salina

82

Lake Hudson

Salina Pumped Storage

Chimney Rock Lake

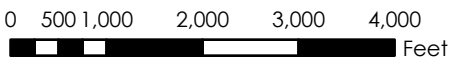
E 523 Rd

E1

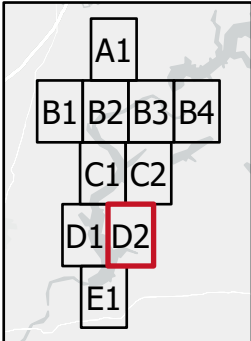
SEPTEMBER 1993 (21 YEAR) INUNDATION SCENARIO



NORTH



1 inch = 2,000 feet



SEP 1993 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

Legend

ROAD CLASS

Interstate
State Highway
US Highway
Major Collector
Local Road

BOUNDARY TYPE

Stream
Project
County
Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

PENSACOLA DAM DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: D2

CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

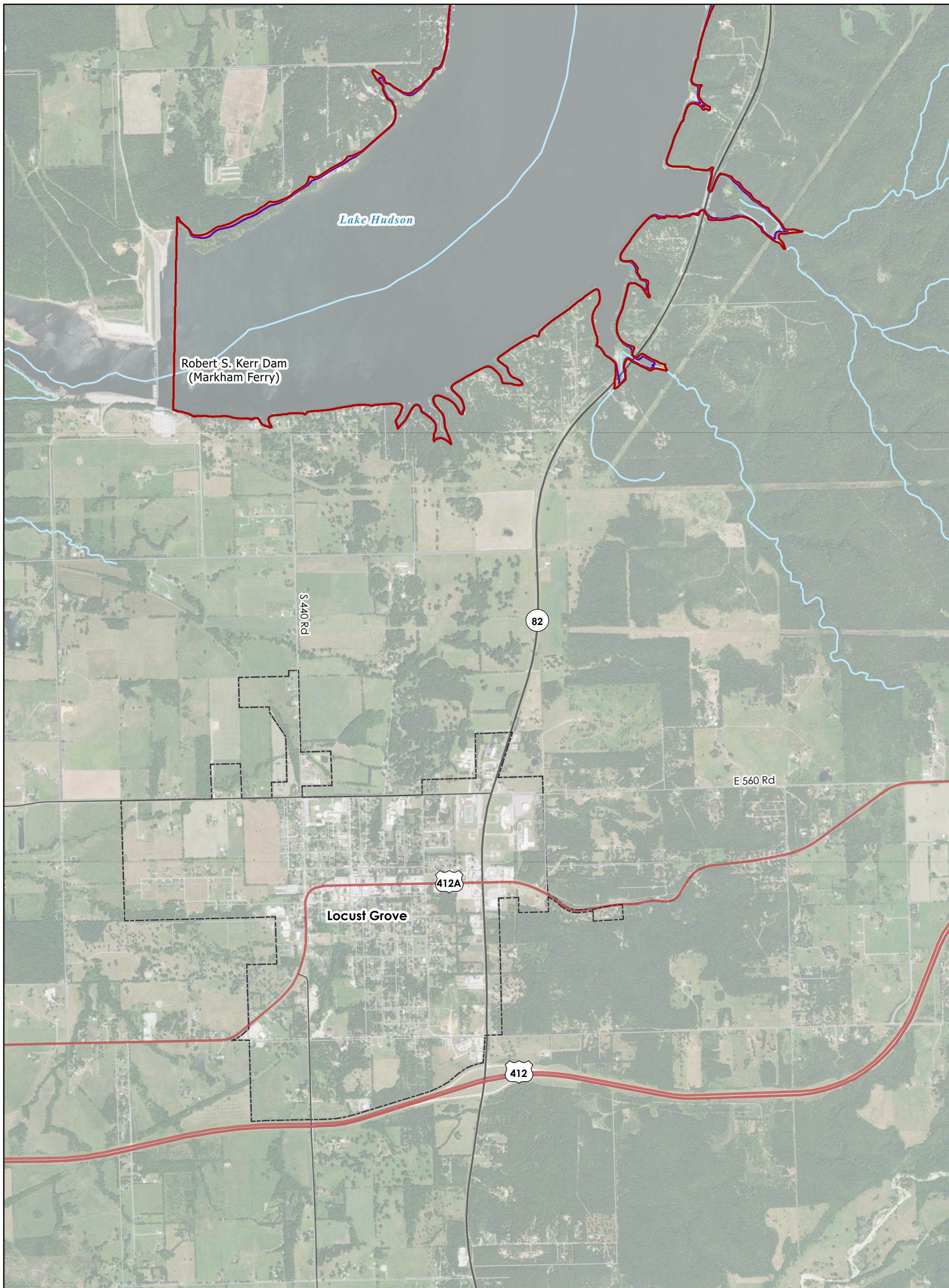
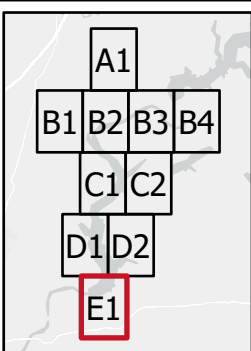
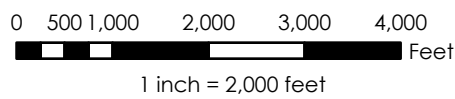


Image credits: https://gis.cplio.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

SEPTEMBER 1993 (21 YEAR) INUNDATION SCENARIO



SEP 1993 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

Legend

ROAD CLASS		BOUNDARY TYPE	
	Interstate		Project
	State Highway		County
	US Highway		Municipal
	Major Collector		
	Local Road		

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

PENSACOLA DAM DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: E1

CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA

FERC No. 1494
September 2022