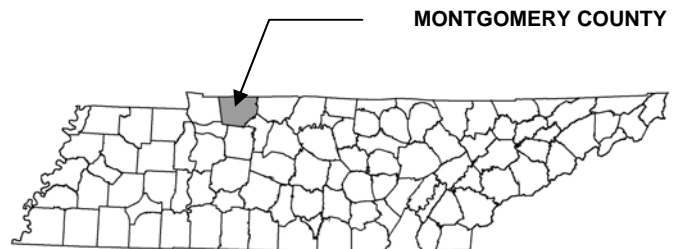


FLOOD INSURANCE STUDY



MONTGOMERY COUNTY, TENNESSEE, AND INCORPORATED AREAS



Community Name	Community Number
CLARKSVILLE, CITY OF	470137
MONTGOMERY COUNTY (UNINCORPORATED AREAS)	470136

March 18, 2008



Federal Emergency Management Agency
FLOOD INSURANCE STUDY NUMBER
47125CV000A

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components.

Former flood hazard zone designations have been changed as follows:

<u>Old Zone(s)</u>	<u>New Zone</u>
A1 through A30	AE
B	X
C	X

Initial Countywide FIS Effective Date: March 18, 2008

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 Flood Insurance Rate Map

**FLOOD INSURANCE STUDY
MONTGOMERY COUNTY, TENNESSEE,
AND INCORPORATED AREAS**

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study revises and supersedes the FIS reports and/or Flood Insurance Rate Maps (FIRMs) in the geographic area of Montgomery County, Tennessee, including the City of Clarksville and the Unincorporated Areas of Montgomery County (hereinafter referred to collectively as Montgomery County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates. This information will also be used by Montgomery County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

This FIS was prepared to include the unincorporated areas of, and incorporated communities within, Montgomery County in a countywide format. Information on the authority and acknowledgments for the jurisdiction included in this countywide FIS, as compiled from their previously printed FIS reports, is shown below.

City of Clarksville (1983)	The hydrologic and hydraulic analyses for this study were performed by the Nashville District, U.S. Army Corps of Engineers, for the Federal Emergency Management Agency, under Interagency Agreement No. IAA-H-9-79, Project Order No. 13. This study was completed in June 1982.
Montgomery County Incorporated Areas (1983)	The hydrologic and hydraulic analyses for this study were performed by the Nashville District, U.S. Army Corps of Engineers, for the Federal Emergency Management Agency, under Interagency Agreement No. IAA-H-9-79, Project Order No. 13. This study was completed in June 1982.

For this countywide FIS, the redelineation of previously published base flood elevations

were performed by Watershed IV Alliance, for the Federal Emergency Management Agency (FEMA), under Contract No. EMA-2002-CO-0011A. This work was completed in February 2007. Floodplain boundaries were redelineated based on more detailed and up-to-date topography submitted by Montgomery County

The basemap data was provided by the State of Tennessee, Department of Finance and Administration, Office for Information Resources, GIS Services:

312 8th Avenue North
16th Floor, WRS Tennessee Tower
Nashville, TN 37243-0288
<http://gis.state.tn.us/mapping.html>

The basemap data was provided in GCS_North_American_1983 coordinate system and Lambert_Conformal_Conic State Plane Tennessee FIPS 4100 Feet projection. The datum was North American Datum 1983.

1.3 Coordination

The streams requiring redelineation were identified at the Initial Consultation and Coordination (CCO) meeting attended by personnel of the USACE, FEMA, and communities within Montgomery County on June 30, 2004. Letters were sent to various State, Federal, and private agencies informing them of the forthcoming insurance study and requesting any pertinent information available.

On May 5, 2005 an intermediate CCO was held to discuss the proposed scope of the study. Attendees included representatives from the communities within Montgomery County.

On May 22, 2007 the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the USACE, FEMA, and the community.

2.0 **AREA STUDIED**

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Montgomery County, Tennessee.

Floodplain boundaries of streams that have been previously studied by detailed methods were redelineated based on more detailed and up-to-date topographic data. These streams are shown in Table 1, "Scope of Study."

Table 1 - Scope of Study

<u>Stream</u>	<u>Limits of Redelineation</u>
Big West Fork	From confluence with Red River to just past the county line, approximate River Mile 14.7
Cumberland River	From approximate River Mile 106.9 to approximate River Mile 144.8.

Table 1 – Scope of Study (continued)

<u>Stream</u>	<u>Limits of Redelineation</u>
Fletchers Creek	From confluence with Little West Fork to the Lake Teal Dam, approximate River Mile 4.5
Little West Fork	From confluence with Big West Fork to confluence of Spring Branch, approximate River Mile 13.2
Lower Meadowbrook Creek	From confluence with Little West Fork to approximately 0.06 miles upstream of Pine Mountain Road
Noah Spring Branch	From confluence with Little West Fork Creek to Mabry Road, approximate River Mile 0.3
Red River	From confluence with Cumberland River to approximate River Mile 16.2
Upper Meadowbrook Creek	From approximately 0.06 miles downstream of U.S. Route 41-A to approximately 0.23 miles upstream of Roselawn Drive

2.2 Community Description

Montgomery County is located in northern middle Tennessee adjacent to the southern border of Kentucky. Montgomery County’s principal city and county seat, Clarksville, lies approximately 40 miles northwest of Nashville. The Cumberland River flows through the center of Montgomery County, and Fort Campbell Military Reservation occupies about 70 square miles in the northwest corner of the county.

Montgomery County comprises 543 square miles, 4.1 square miles of water and 539 square miles of land. The 2000 population count for Montgomery County was 134,768 and showed 34.1 % growth per year from 1990 to 2000 (Reference 1). The average temperature in Montgomery County is 69.0 degrees Fahrenheit (°F). The average annual precipitation is 48.1 inches (Reference 2).

Montgomery County’s major farm crops are hay, corn, wheat, tobacco, and soybeans, though the value of livestock sold is about 70 percent greater than that of crops. Major manufacturing industries are fabricated metal products, leather and leather products, and rubber products.

2.3 Principal Flood Problems

The principal flood period in the Cumberland River Basin is late winter through early spring. In fact the floods of 1882, 1913, 1927, 1937, 1962, and 1975, have occurred from mid-December to mid-April. Although summer floods can be severe at times, especially on smaller streams such as the Red River, they are usually the result of local thunderstorms whose centers of intense rainfall are generally limited in area.

The flood of March 1975 was one of the largest floods of record in the Cumberland Basin. This flood approached the 1-percent-annual-chance frequency of occurrence on the Cumberland River. A new record under controlled conditions was reached during this

flood when the Cumberland River crested 11 feet above flood stage at the City of Clarksville. The headwaters of the Red River also exceeded previous record crest stages during this flood.

The mean velocity of flows in the Cumberland River's channel at bank full stage is about 4 feet per second (fps). If the January 1937 flood recurred under present regulated conditions, mean velocities would range from 4.5 fps in the Cumberland River's channel to less than 1 fps in its broad river bottom. On the Red River, mean velocities would average 5 fps, though point velocities of up to 6 fps could be expected around bridge piers and other constricted points. Velocities greater than 3 fps combined with depths of 3 feet or more are generally considered hazardous (Reference 3).

2.4 Flood Protection Measures

The U.S. Army Corps of Engineers operates a number of flood control projects on the Cumberland River and its tributaries which decrease the level of flooding in Montgomery County.

Wolf Creek Dam, Lake Cumberland, is located on the Cumberland River in Wayne, Russell, Pulaski, Clinton, McCreary, Laurel, and Whitley Counties, Kentucky. Its primary purpose is flood control, and it controls runoff from a drainage area of 5,789 square miles. At the maximum controlled level, the pool covers an area of 63,530 acres and extends 101 miles upstream from the dam to the vicinity of Cumberland Falls.

Dale Hollow Dam and Lake is in the Cumberland River Basin on the Obey River, 7.3 miles above its mouth at Celina, Tennessee. The lake covers parts of Clay, Pickett, Overton, and Fentress Counties in Tennessee, and Clinton and Cumberland Counties in Kentucky. It controls the runoff from a drainage area of 935 square miles. From the crest of the spillway to the top of the gates, a storage capacity of 353,000 acre-feet is available for the retention of flood flows.

Center Hill Dam and Lake are located in the Cumberland River Basin on the Cany Fork River and cover parts of DeKalb, Putnam, White, and Warren Counties in Tennessee. The dam controls runoff from a drainage area of 2,174 square miles. From the crest of the spillway to the top of the gates, a storage capacity of 762,000 acre-feet is available for the retention of flood flows.

J. Percy Priest Dam and Reservoir are located in the Cumberland River Basin on the Stones River in Davidson, Wilson, and Rutherford Counties in Tennessee. The dam controls runoff from a drainage area of 892 square miles. From the crest of the spillway to the top of the gates, a storage capacity of 350,000 acre-feet is available for retention of flood flows.

Old Hickory Dam is located on the Cumberland River in Davidson and Sumner Counties in Tennessee. However, this project has no storage capacity for flood control and does not reduce peak flood flows downstream (Reference 4).

3.0 **ENGINEERING METHODS**

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of

a magnitude that is expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40-percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60-percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each flooding source studied by detailed methods affecting the community.

Pre-countywide Analyses

Each community within Montgomery County has a previously printed FIS report narrative. The hydrologic analyses described in those narratives have been compiled and are summarized below.

Flood flows on the Cumberland River are regulated by a system of large flood control reservoirs. Because of the varying levels of historical flood control, streamflow records exhibit a time variant behavior. Use of a conventional Log-Pearson Type III flood frequency analysis is not appropriate in this case. A special study was conducted to develop regulated flood frequency flows for the Cumberland River (Reference 5).

A storm generation computer program was used to develop a 200-year synthetic rainfall record for the Cumberland River Basin. Significant flood producing storm of the 200-year generated record were applied to a basin runoff-routing simulation model to produce streamflow discharges at central points. Results of the simulation model were analyzed to estimate discharge frequency curves. These discharge frequency curves were then combined with a graphical analysis of period of record regulated flow data developed by the Nashville District Corps of Engineers to establish adopted discharge frequency curves at all major river control points.

Results of the regulated frequency study were found to yield statistically reliable estimated of floods up to and including the 1-percent-annual-chance storm event. For events greater in magnitude that the 1-percent-annual-chance flood, the statistical reliability of predicted flow was poor. Estimates of the 0.2-percent-annual-chance flood discharges from the study were found to approximate the Corps of Engineers Standard Project Flood (SPF) for the majority of the Cumberland River. Since the SPF has been widely used in designing developments adjacent to the Cumberland River, this study uses the SPF instead of of the 0.2-percent chance annual flood.

Since no useful stream gaging data exists for the other streams under study in this report,

frequency discharges for the 10-, 2-, 1-, and 0.2-percent chance annual floods were determined using the United States Geological Survey (USGS) regional regression analysis dated 1976 (Reference 6). This multiple regression method uses drainage areas as a parameter for deriving discharges and is based upon relatively long-term records of flow for streams in similar hydrologic areas. The formula for the 0.2-percent-annual-chance flood was derived by the same multiple regression techniques used to define the formula for floods of lesser magnitudes.

This Countywide Analysis

A summary of the drainage area-peak discharge relationships for the streams previously studied by detailed methods and have been redelineated for this study are shown in Table 2, "Summary of Discharges."

Table 2 – Summary of Discharges

<u>Flooding Source and Location</u>	Peak Discharges (cubic feet per second)				
	<u>Drainage Area (square miles)</u>	<u>10-Percent- Annual-Chance</u>	<u>2-Percent- Annual-Chance</u>	<u>1-Percent- Annual-Chance</u>	<u>0.2-Percent- Annual-Chance</u>
Big West Fork					
At mile 0.28	448	20,800	31,500	36,400	43,900
At mile 5.55	261	12,000	17,700	20,400	25,500
At mile 8.02	191	11,100	13,600	15,600	19,800
Cumberland River					
At mile 125.2	15,897	169,000	220,000	250,000	318,000
At mile 125.3	14,442	138,000	176,000	197,000	253,000
Fletchers Fork					
At mile 0.09	27	5,090	7,980	9,340	13,410
At mile 3.29	23	4,520	7,080	8,290	12,030
At mile 3.93	17	3,620	5,680	6,660	9,870
At mile 4.53	15	3,260	5,120	6,000	8,980
Little West Fork					
At mile 0.19	178	13,000	20,200	23,600	29,900
At mile 7.61	136	10,700	16,700	19,500	25,100
Lower Meadowbrook Creek					
At mile 0.21	710	530	900	1,020	1,340
Approximately 300 feet downstream of 101 st Airborne Division Parkway	470	430	670	760	990
At Paddy Run Road	362	260	300	340	430
Approximately 825 feet downstream of Shiloh Road	88	170	260	300	370
Approximately 300 feet upstream of Pine Mountain Road	36	50	80	90	100
Noahs Spring Branch					
At mile 13.15	136	10,700	16,700	19,500	25,100
At mile 13.20	71	7,500	12,000	14,500	18,500

Table 2 – Summary of Discharges (continued)

Peak Discharges (cubic feet per second)

<u>Flooding Source and Location</u>	<u>Drainage Area (square miles)</u>	<u>10-Percent- Annual-Chance</u>	<u>2-Percent- Annual-Chance</u>	<u>1-Percent- Annual-Chance</u>	<u>0.2-Percent- Annual-Chance</u>
Red River					
At mile 0.17	1456	48,200	71,500	82,500	106,700
At mile 1.59	1007	36,900	54,800	63,300	84,000
At mile 14.80	957	35,600	52,900	61,000	81,200
Upper Meadowbrook Creek					
Approximately 450 feet downstream of U.S. Route 41-A	1,508	1,400	1,930	2,080	2,480
Approximately 1,375 feet downstream of Armstead Road	1,368	940	1,440	1,890	2,500
Approximately 530 feet downstream of Lafayette Road	1,024	750	1,150	1,290	1,720
Approximately 550 feet downstream of Magnolia Drive	398	140	200	220	280
Approximately 1,200 feet upstream of Roselawn Drive	52	18	26	30	38

3.2 Hydraulic Analyses

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the Flood Boundary and Floodway Map (FBFM) or the revised FIRM.

Water-surface elevations of floods of the selected recurrence intervals for Lower Meadowbrook and Upper Meadowbrook Creeks were calculated using the USACE HEC-RAS backwater computer program (Reference 7). Water-surface elevations of floods of the selected recurrence intervals for all other streams were calculated using the USACE HEC-2 backwater computer program (Reference 8). Flood profiles were drawn showing computed water-surface elevations of floods of the selected recurrence intervals. Starting water-surface elevations were calculated using the slope/area method for all streams except the Cumberland River. Since profiled for the Cumberland River were developed continuously for a 283-mile reach extending from Barkley Dam to Cordell Hull Dam, its starting elevations were established by the operating criteria for the Barkley Project.

Manning’s Roughness Coefficients (Manning’s “n”) for these computations were assigned on the basis of field inspection of the flood plain areas. Roughness coefficients for the streams studied in detail are contained in Table 3, “Manning’s N Values.”

Table 3 - Range of Manning's N Values

<u>Stream</u>	<u>Channel</u>	<u>Overbank</u>
Big West Fork	0.04	0.06
Cumberland River	0.03	0.09
Fletchers Creek	0.05	0.06
Little West Fork	0.05	0.07
Lower Meadowbrook Creek	*	*
Noah Spring Branch	0.05	0.065
Red River	0.05	0.09
Upper Meadowbrook Creek	*	*

* Data not available

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the Flood Profiles (Exhibit 1) are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

A depth-area relationship, also developed by the U.S. Geological Survey, was used for the streams studied by approximate methods to estimate the depth of the 1-percent chance annual flow at locations unaffected by backwater from bridge obstructions. Estimates of backwater effects from such obstructions were made by field inspection.

This Countywide Analysis

No new hydraulic analyses were performed for this countywide analysis.

3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the finalization of the North American Vertical Datum of 1988 (NAVD88), many FIS reports and FIRMs are being prepared using NAVD88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD88. Structure and ground elevations in the community must, therefore, be referenced to NAVD88. The datum shift value in Montgomery County to convert from NGVD29 to NAVD88 is -0.20 feet.

For more information on NAVD88, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* (FEMA, June 1992), or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (Internet address <http://www.ngs.noaa.gov>).

No temporary vertical monuments were established during the preparation of this flood hazard analysis.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance flood elevations and delineations of the 1- and 0.2-percent-annual-chance floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data table and Summary of Stillwater Elevations Table. Users should reference the data presented in the FIS report as well as additional information that may be available at the local map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using points and breaklines at a scale of 1:2400, 1:1200, and 1:600 with a contour interval of 2-10 feet (Reference 9).

The 1- and 0.2-percent-annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE); and the 0.2 percent-annual chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2).

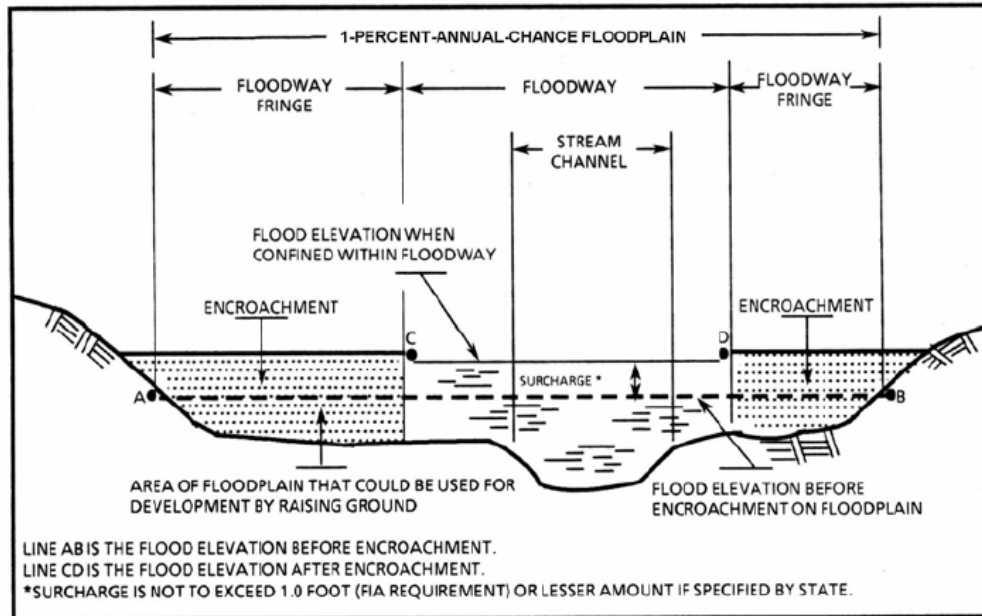
4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced.

The area between the floodway and the 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1-percent-annual-chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to

floodplain development are shown in Figure 1.

Figure 1 – Floodway Schematic



The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies. The floodway presented in this FIS report and on the FIRM was computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations have been tabulated for selected cross sections (Table 4). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown.

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BIG WEST FORK								
A	0.65	431	9,710	4.2	390.6	381.6 ²	382.6 ²	1.0
B	1.00	576	11,343	3.2	390.6	382.1 ²	383.1 ²	1.0
C	1.49	555	9,259	3.9	390.6	382.5 ²	383.5 ²	1.0
D	2.05	557	10,532	3.5	390.6	383.2 ²	384.2 ²	1.0
E	2.43	748	12,833	2.8	390.6	383.6 ²	384.6 ²	1.0
F	2.86	595	10,404	3.5	390.6	383.9 ²	384.9 ²	1.0
G	3.35	817	12,857	2.8	390.6	384.5 ²	385.5 ²	1.0
H	3.88	566	9,147	4.0	390.6	384.9 ²	385.9 ²	1.0
I	4.37	591	8,871	4.1	390.6	385.6 ²	386.6 ²	1.0
J	5.06	514	10,385	3.5	390.6	386.6 ²	387.6 ²	1.0
K	5.55	428	6,968	2.9	390.6	387.2 ²	388.2 ²	1.0
L	6.26	513	8,024	2.5	390.6	387.8 ²	388.8 ²	1.0
M	6.74	413	5,210	3.9	390.6	388.1 ²	389.1 ²	1.0
N	7.12	436	6,212	3.3	390.6	388.8 ²	389.8 ²	1.0
O	7.56	323	4,703	4.3	390.6	389.4 ²	390.4 ²	1.0
P	8.36	256	3,497	4.5	390.8	390.8	391.8	1.0
Q	8.80	161	2,974	5.2	391.9	391.9	392.8	0.9
R	9.50	158	2,798	5.6	393.4	393.4	394.3	0.9
S	10.00	172	2,540	6.1	394.9	394.9	395.8	0.9
T	10.42	234	2,953	5.3	397.4	397.4	398.1	0.7
U	10.48	382	3,506	4.4	397.7	397.7	398.5	0.8
V	10.98	114	2,129	7.3	399.5	399.5	400.1	0.6
W	11.50	190	2,438	6.4	401.6	401.6	402.6	1.0

¹MILES ABOVE MOUTH

²ELEVATION COMPUTED WITHOUT CONSIDERATION OF BACKWATER EFFECTS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

BIG WEST FORK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BIG WEST FORK (CONTINUED)								
X	12.02	119	2,073	7.5	404.2	404.2	405.0	0.8
Y	12.31	142	2,509	6.2	405.6	405.6	406.6	1.0
Z	12.37	171	2,365	6.6	405.7	405.7	406.7	1.0
AA	12.41	172	2,406	6.5	406	406.0	407.0	1.0
AB	12.96	107	1,816	8.6	408.8	408.8	409.4	0.6
AC	13.50	164	2,208	7.1	412.2	412.2	412.9	0.7
AD	13.86	160	2,076	7.5	414.4	414.4	415.0	0.6
AE	14.25	218	2,791	5.6	416.8	416.8	417.3	0.5
AF ²	14.64	163	2,279	6.8	418.7	418.7	419.3	0.6
CUMBERLAND RIVER								
A	108.00	2899	58,663	4.3	381.6	381.6	382.6	1.0
B	110.50	2772	68,481	3.7	382.9	382.9	383.9	1.0
C	113.24	2418	62,526	4.0	384.1	384.1	385.1	1.0
D	114.75	2297	57,767	4.3	384.8	384.8	385.8	1.0
E	116.39	2623	72,778	3.4	386.0	386.0	387.0	1.0
F	117.86	3206	85,793	2.9	386.6	386.6	387.6	1.0
G	119.31	3,321	85,939	2.9	387.3	387.3	388.3	1.0
H	120.90	3,521	86,603	2.9	387.9	387.9	388.9	1.0
I	122.80	2,402	61,004	4.1	388.8	388.8	389.8	1.0

¹MILES ABOVE MOUTH

²CROSS SECTION NOT SHOWN ON MAPS, LOCATED OUTSIDE COUNTY LIMITS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

BIG WEST FORK - CUMBERLAND RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
CUMBERLAND RIVER (CONTINUED)								
J	123.87	2,198 ²	56,711	4.4	389.5	389.5	390.5	1.0
K	125.07	2,365 ²	57,530	4.3	390.4	390.4	391.4	1.0
L	125.70	2,238 ²	58,876	3.3	391.0	391.0	392.0	1.0
M	126.60	2,188 ²	55,963	3.5	391.4	391.4	392.4	1.0
N	127.40	2,308 ²	64,271	3.1	391.7	391.7	392.7	1.0
O	128.33	1,922 ²	51,743	3.8	392.0	392.0	393.0	1.0
P	130.33	2,076 ²	54,888	3.6	392.8	392.8	393.8	1.0
Q	132.13	1,946 ²	59,169	3.3	393.4	393.4	394.4	1.0
R	133.39	1,955 ²	52,710	3.7	393.8	393.8	394.8	1.0
S	134.67	2,513 ²	65,138	3.0	394.4	394.4	395.4	1.0
T	136.42	2,442	62,434	3.2	394.9	394.9	395.9	1.0
U	137.57	3,296	74,150	2.7	395.2	395.2	396.2	1.0
V	138.70	2,604	54,550	3.6	395.5	395.5	396.5	1.0
W	139.82	3,399	81,418	2.4	395.8	395.8	396.8	1.0
X	140.89	3,523	85,296	2.3	396.1	396.1	397.1	1.0
Y	142.00	3,421	76,979	2.6	396.4	396.4	397.4	1.0
Z	143.20	2,651	58,696	3.4	396.8	396.8	397.8	1.0

¹MILES ABOVE MOUTH

²FLOODWAY WIDTH EXTENDS BEYOND COUNTY LIMITS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
**MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS**

FLOODWAY DATA

CUMBERLAND RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
FLETCHERS FORK								
A	0.09	302	2,247	4.2	410.3	410.1 ²	411.1 ²	1.0
B	0.65	163	1,657	5.7	413.7	413.7	414.7	1.0
C	0.78	402	1,470	6.4	415.7	415.7	416.6	0.9
D	0.83	149	1,130	8.3	416.7	416.7	417.5	0.8
E	1.14	149	1,438	6.5	422.5	422.5	423.5	1.0
F	1.48	119	1,290	7.2	426.6	426.6	427.6	1.0
G	1.86	188	1,841	5.1	430.6	430.6	431.6	1.0
H	2.16	241	1,702	5.5	433.3	433.3	434.2	0.9
I	2.39	299	1,809	5.2	436.4	436.4	437.4	1.0
J	2.73	311	1,737	5.4	441.6	441.6	442.6	1.0
K	3.29	270	1,361	6.1	449.3	449.3	450.3	1.0
L	3.57	158	1,023	8.1	453.7	453.7	454.4	0.7
M	3.62	261	1,487	5.6	455.1	455.1	455.9	0.8
N	3.67	157	1,229	6.7	455.8	455.8	456.5	0.7
O	3.93	148	1,487	4.5	458.4	458.4	459.3	0.9
P	4.14	74	630	10.6	459.5	459.5	460.2	0.7
Q	4.30	125	972	6.9	464.1	464.1	465.1	1.0
R	4.35	83	665	10.0	465.1	465.1	465.9	0.8
S	4.39	236	1,434	4.6	467.3	467.3	468.3	1.0
T	4.48	164	1,122	5.9	468.3	468.3	469.2	0.9

¹MILES ABOVE MOUTH

²ELEVATION COMPUTED WITHOUT CONSIDERATION OF BACKWATER EFFECTS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

FLETCHERS FORK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LITTLE WEST FORK								
A	1.46	308	4,768	4.9	390.6	386.6 ²	387.6 ²	1.0
B	2.00	370	5,490	4.3	390.6	389.0 ²	390.0 ²	1.0
C	2.37	378	6,898	3.4	390.6	390.2 ²	391.2 ²	1.0
D	2.77	232	3,782	6.3	391.4	391.4	392.4	1.0
E	2.93	240	3,449	6.8	392.8	392.8	393.8	1.0
F	3.15	420	6,800	3.5	394.5	394.5	395.3	0.8
G	4.10	508	6,975	3.4	396.8	396.8	397.7	0.9
H	4.70	395	5,633	4.2	398.9	398.9	399.9	1.0
I	5.25	211	3,489	6.8	401.0	401.0	402.0	1.0
J	5.75	208	3,460	6.8	403.4	403.4	404.4	1.0
K	6.20	297	4,323	5.5	405.6	405.6	406.6	1.0
L	6.40	311	5,023	4.7	406.4	406.4	407.4	1.0
M	6.90	300	4,319	5.5	407.9	407.9	408.9	1.0
N	7.11	248	4,463	5.3	408.7	408.7	409.7	1.0
O	7.27	471	5,066	4.7	409.5	409.5	410.5	1.0
P	7.38	491	5,022	4.7	409.9	409.9	410.9	1.0
Q	7.43	357	4,929	4.8	410.4	410.4	411.3	0.9
R	7.61	220	2,942	6.6	410.8	410.8	411.6	0.8
S	7.96	237	3,020	6.5	412.8	412.8	413.8	1.0
T	8.47	225	3,083	6.3	416.1	416.1	417.1	1.0
U	8.90	242	3,637	5.4	418.6	418.6	419.5	0.9
V	9.35	197	2,836	6.9	420.5	420.5	421.4	0.9
W	9.47	241	3,760	5.2	425.0	425.0	425.9	0.9

¹MILES ABOVE MOUTH

²ELEVATION COMPUTED WITHOUT CONSIDERATION OF BACKWATER EFFECTS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE WEST FORK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LITTLE WEST FORK (CONTINUED)								
X	9.79	361	3,804	5.1	426.1	426.1	427.0	0.9
Y	10.13	396	4,578	4.3	427.3	427.3	428.3	1.0
Z	10.52	462	5,328	3.7	428.5	428.5	429.5	1.0
AA	10.62	292	4,242	4.6	429.0	429.0	429.9	0.9
AB	11.04	1,015	9,931	2.0	430.3	430.3	431.3	1.0
AC	11.45	778	7,287	2.7	431.1	431.1	432.1	1.0
AD	11.74	955	6,505	3.0	432.2	432.2	433.2	1.0
AE	12.09	477	3,692	5.3	434.8	434.8	435.6	0.8
AF	12.20	376	3,965	4.9	436.1	436.1	436.9	0.8
AG	12.57	517	4,914	4.0	438.3	438.3	439.2	0.9
AH	12.88	698	4,997	3.9	440.4	440.4	441.4	1.0
AI	12.92	764	5,622	3.5	440.7	440.7	441.7	1.0

¹MILES ABOVE MOUTH

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE WEST FORK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LOWER MEADOWBROOK CREEK								
A	610	19	133	7.7	393.7	379.2 ²	380.0	0.8
B	910	29	98	10.4	393.7	384.5 ²	384.5	0.0
C	1,760	32	102	9.8	404.5	404.5	404.5	0.0
D	2,155	45	174	5.7	410.3	410.3	410.3	0.0
E	2,365	93	508	2.0	419.2	419.2	419.8	0.6
F	2,715	65	216	4.6	419.7	419.7	420.3	0.6
G	2,900	55	133	7.5	425.6	425.6	425.6	0.0
H	3,038	35	145	6.9	428.4	428.4	429.1	0.7
I	3,943	78	365	2.1	433.9	433.9	434.9	1.0
J	4,298	60	129	5.9	439.8	439.8	439.8	0.0
K	4,473	59	158	4.8	443.6	443.6	443.6	0.0
L	4,943	35	80	7.7	448.6	448.6	448.8	0.2
M	5,228	50	214	2.9	453.4	453.4	453.4	0.0
N	5,533	43	160	2.1	453.7	453.7	453.9	0.2
O	5,818	48	240	1.4	463.7	463.7	463.7	0.0
P	7,173	13	43	7.0	468.1	468.1	468.1	0.0
Q	7,873	14	15	6.0	479.1	479.1	479.1	0.0
R	8,313	15	26	3.5	486.8	486.8	487.2	0.4
S	8,645	5	11	8.5	493.6	493.6	493.6	0.0
T	9,040	18	28	3.2	500.2	500.2	500.3	0.1

¹FEET ABOVE MOUTH

²ELEVATION COMPUTED WITHOUT CONSIDERATION OF BACKWATER EFFECTS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

LOWER MEADOWBROOK CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
NOAHS SPRING BRANCH								
A	0.00	734	4,995	3.9	442.4	442.4	443.4	1.0
B	0.05	756	5,524	2.6	442.9	442.9	443.9	1.0
C	0.24	633	7,966	1.8	443.3	443.3	444.3	1.0

¹MILES ABOVE MOUTH

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
**MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS**

FLOODWAY DATA

NOAHS SPRING BRANCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
RED RIVER								
A	0.17	411	13,240	6.2	390.6	388.1 ²	389.1 ²	1.0
B	0.26	324	11,247	7.3	390.6	388.1 ²	389.1 ²	1.0
C	0.30	324	11,346	7.3	390.6	388.57 ²	389.5 ²	1.0
D	0.54	353	12,248 ³	6.7	390.6	389.0 ²	389.9 ²	0.9
E	0.98	600	18,446 ³	4.5	390.6	390.0 ²	391.0	1.0
F	1.27	474	14,983 ³	5.5	390.6	390.2 ²	391.2	1.0
G	1.59	784	15,249 ³	4.2	390.9	390.9	391.9	1.0
H	2.02	426	11,649 ³	5.4	391.5	391.5	392.5	1.0
I	2.17	515	13,428 ³	4.7	391.9	391.9	392.9	1.0
J	2.21	516	13,497 ³	4.7	392.0	392.0	393.0	1.0
K	2.27	811	18,521 ³	3.4	392.3	392.3	393.3	1.0
L	2.31	811	18,591 ³	3.4	392.3	392.3	393.3	1.0
M	2.50	885	19,677 ³	3.2	392.6	392.6	393.6	1.0
N	3.05	750	17,476 ³	3.6	393.1	393.1	394.1	1.0
O	3.77	722	17,925 ³	3.5	393.9	393.9	394.8	0.9
P	4.03	971	21,632 ³	2.9	394.2	394.2	395.1	0.9
Q	4.70	858	19,561 ³	3.2	394.7	394.7	395.7	1.0
R	5.05	930	19,747 ³	3.2	395.0	395.0	396.0	1.0
S	5.60	778	18,222 ³	3.5	395.5	395.5	396.5	1.0
T	6.00	829	19,865 ³	3.2	395.9	395.9	396.9	1.0
U	7.08	780	17,509 ³	3.6	396.9	396.9	397.9	1.0
V	7.70	755	17,660 ³	3.6	397.6	397.6	398.6	1.0
W	8.53	319	9,941 ³	6.4	398.7	398.7	399.7	1.0

¹MILES ABOVE MOUTH

²ELEVATION COMPUTED WITHOUT CONSIDERATION OF BACKWATER EFFECTS

³FLOODWAY WIDTH EXTENDS BEYOND COUNTY LIMITS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

RED RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
RED RIVER (CONTINUED)								
X	8.57	320 ²	10,013	6.3	398.8	398.8	399.8	1.0
Y	9.16	827 ²	19,586	3.2	400.3	400.3	401.3	1.0
Z	9.71	756 ²	19,169	3.3	400.9	400.9	401.9	1.0
AA	10.14	754 ²	18,241	3.5	401.4	401.4	402.4	1.0
AB	10.55	771 ²	16,870	3.8	401.9	401.9	402.9	1.0
AC	11.20	737 ²	17,314	3.7	402.9	402.9	403.8	0.9
AD	11.55	596 ²	16,454	3.8	403.4	403.4	404.3	0.9
AE	12.11	871 ²	19,109	3.3	404.1	404.1	405.0	0.9
AF	12.60	883 ²	21,260	3.0	404.7	404.7	405.7	1.0
AG	13.05	705 ²	18,021	3.5	405.1	405.1	406.1	1.0
AH	13.08	664 ²	17,970	3.5	405.2	405.2	406.2	1.0
AI	13.12	665 ²	18,025	3.5	405.3	405.3	406.3	1.0
AJ	13.23	387 ²	12,750	5.0	405.3	405.3	406.3	1.0
AK	13.27	389 ²	12,829	4.9	405.4	405.4	406.4	1.0
AL	13.76	670	20,250	3.1	406.2	406.2	407.2	1.0
AM	14.30	845	18,363	3.4	406.7	406.7	407.7	1.0
AN	14.80	650	17,675	3.5	407.4	407.4	408.4	1.0
AO	15.03	734	16,544	3.7	407.7	407.7	408.7	1.0
AP	15.90	683	17,090	3.6	409.0	409.0	409.9	0.9
AQ	16.20	670	16,891	3.6	409.3	409.3	410.2	0.9

¹MILES ABOVE MOUTH

²FLOODWAY WIDTH EXTENDS BEYOND COUNTY LIMITS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

RED RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
UPPER MEADOWBROOK CREEK								
A	-340	93	534	3.9	498.7	486.5 ²	487.4	0.9
B	-15	38	173	8.8	498.7	487.9 ²	488.6	0.7
C	270	57	584	3.2	498.7	495.6 ²	495.6	0.0
D	1,600	75	415	4.6	498.7	496.7 ²	497.6	0.9
E	2,570	29	174	9.5	501.2	501.2	501.5	0.3
F	2,710	80	448	3.7	504.7	504.7	505.4	0.7
G	3,120	65	368	3.5	505.2	505.2	506.2	1.0
H	3,643	37	206	5.0	508.7	508.7	508.7	0.0
I	3,933	80	445	2.3	514.8	514.8	515.3	0.5
J	4,783	45	120	1.8	515.3	515.3	515.9	0.6
K	5,288	25	50	4.4	519.4	519.4	519.4	0.0
L	6,463	13	22	2.6	526.9	526.9	526.9	0.0
M	7,013	33	51	1.1	532.2	532.2	532.2	0.0
N	7,148	20	33	1.7	532.3	532.3	532.3	0.0
O	7,278	35	77	0.7	534.3	534.3	534.3	0.0
P	7,528	19	12	4.6	535.3	535.3	535.3	0.0
Q	7,663	21	134	0.3	542.7	542.7	543.1	0.4
R	7,853	21	106	0.4	542.7	542.7	543.1	0.4
S	8,509	12	23	1.3	542.8	542.8	543.2	0.4
T	8,755	9	9	3.4	545.3	545.3	545.3	0.0

¹FEET ABOVE U.S. ROUTE 41-A

²ELEVATION COMPUTED WITHOUT CONSIDERATION OF BACKWATER EFFECTS

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

UPPER MEADOWBROOK CREEK

5.0 INSURANCE APPLICATIONS

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no BFEs or base flood depths are shown within this zone.

Zone AE

Zone AE is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by detailed methods. In most instances, whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance risk zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less J-44 Section J.5 Guidelines and Specifications for Flood Hazard Mapping Partners [April 2003] than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or base flood depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols the 100- and 500-year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The current Flood Insurance Rate Map presents flooding information for the geographic area of Montgomery County. Previously, separate Flood Hazard Boundary Maps and/or Flood Insurance Rate Maps were prepared for each flood-prone incorporated community and the unincorporated areas of the county. Historical data relating to the maps prepared for each community are presented in Table 5, Community Map History.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATES	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Clarksville, City of	September 6, 1974	August 6, 1976 September 5, 1980	June 15, 1984	None
Montgomery County Unincorporated Areas	August 30, 1974	February 24, 1978	June 15, 1984	None

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
 (AND INCORPORATED AREAS)

COMMUNITY MAP HISTORY

7.0 OTHER STUDIES

Flood Insurance Studies for the City of Clarksville and the unincorporated areas of Montgomery County are in agreement with this study (References 10-11).

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Montgomery County has been compiled into this FIS. Therefore, this FIS report supersedes or is compatible with all previously printed FIS reports, FIRMs, and FBFMs for all jurisdictions within Montgomery County and should be considered authoritative for the purposes of the NFIP.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting Federal Insurance and Mitigation Division, FEMA Region IV, Koger-Center – Rutgers Building, 3003 Chamblee Tucker Road, Atlanta, Georgia 30341.

9.0 REFERENCES AND BIBLIOGRAPHY

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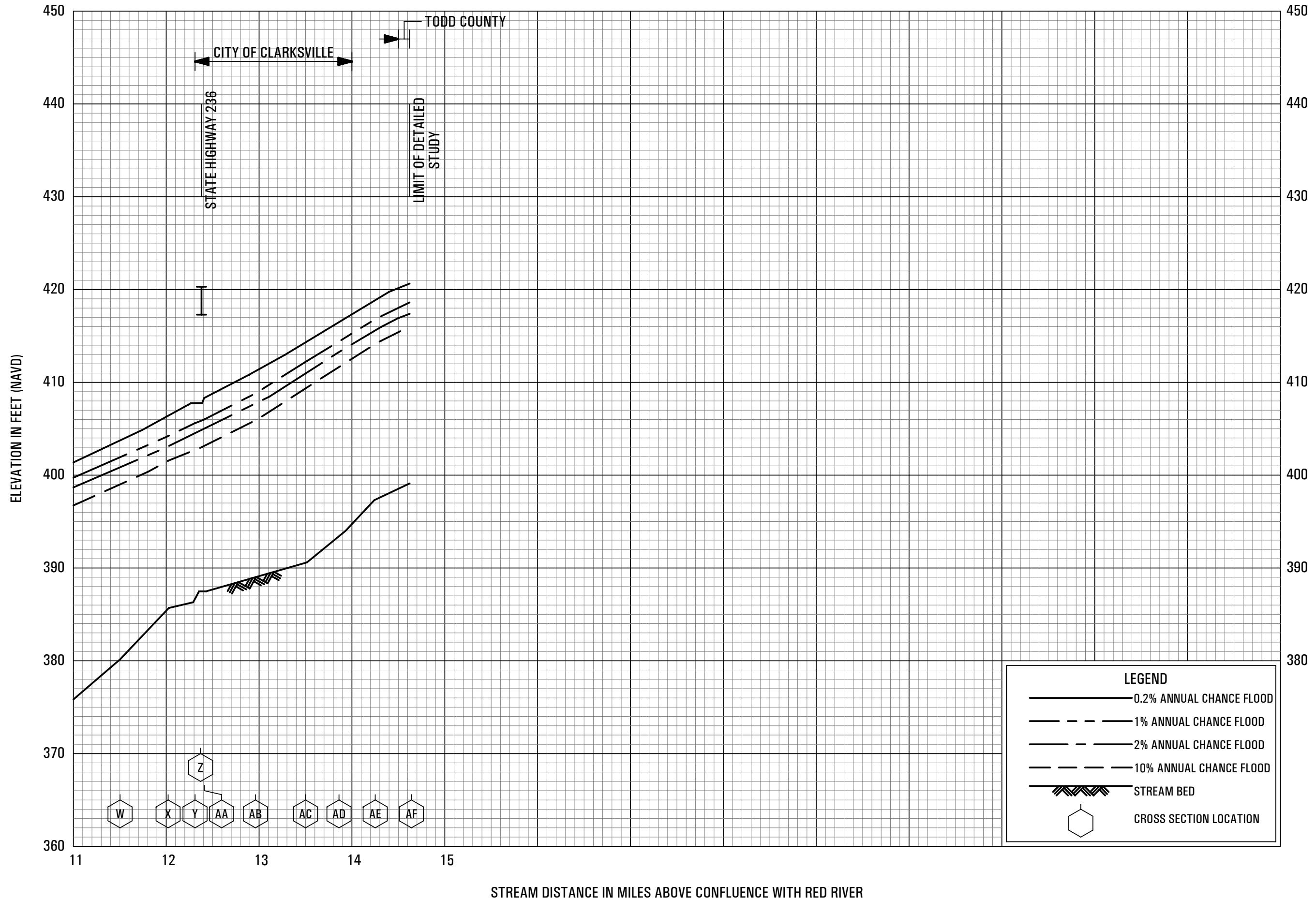
Nashville District, Corps of Engineers, Report on the March 1975 Cumberland River Basin Flood, April 1976.

U.S. Army Corps of Engineers, Hydrologic Engineering Center, Applications of the HEC-2 Bridge Routines, Training Document No. 6, June 1974.

U.S. Army Corps of Engineers, Backwater Curves in River Channels, EM 1110-1409, December 1959.

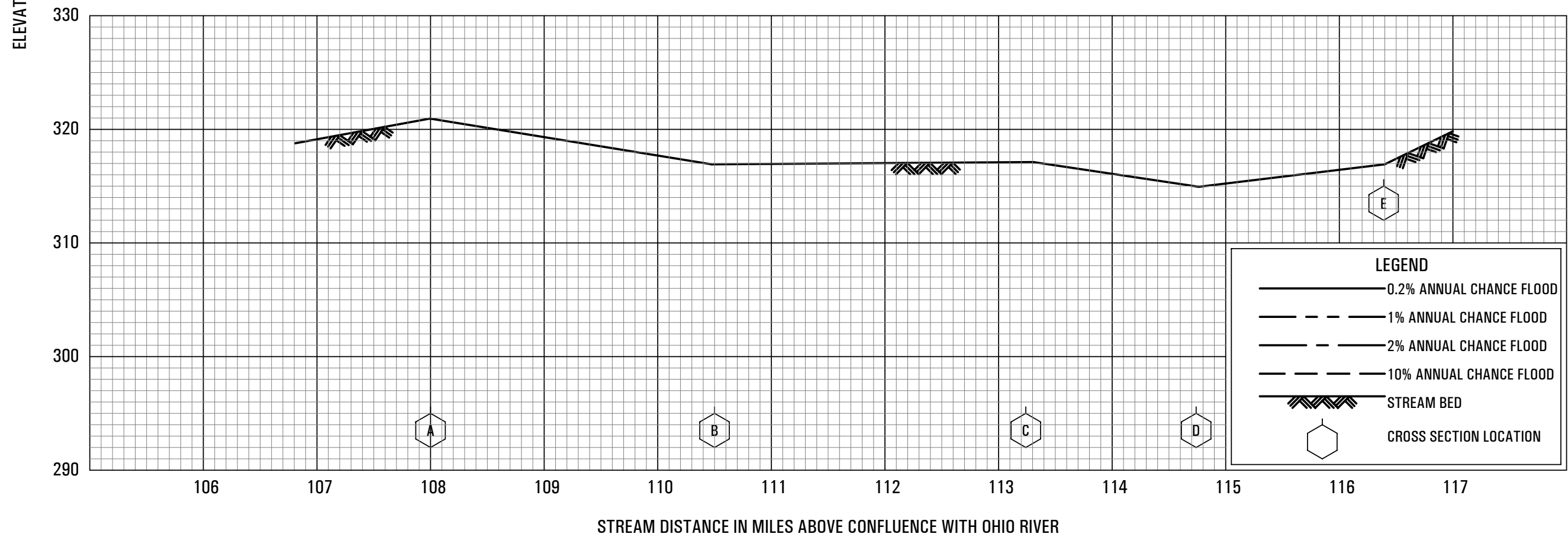
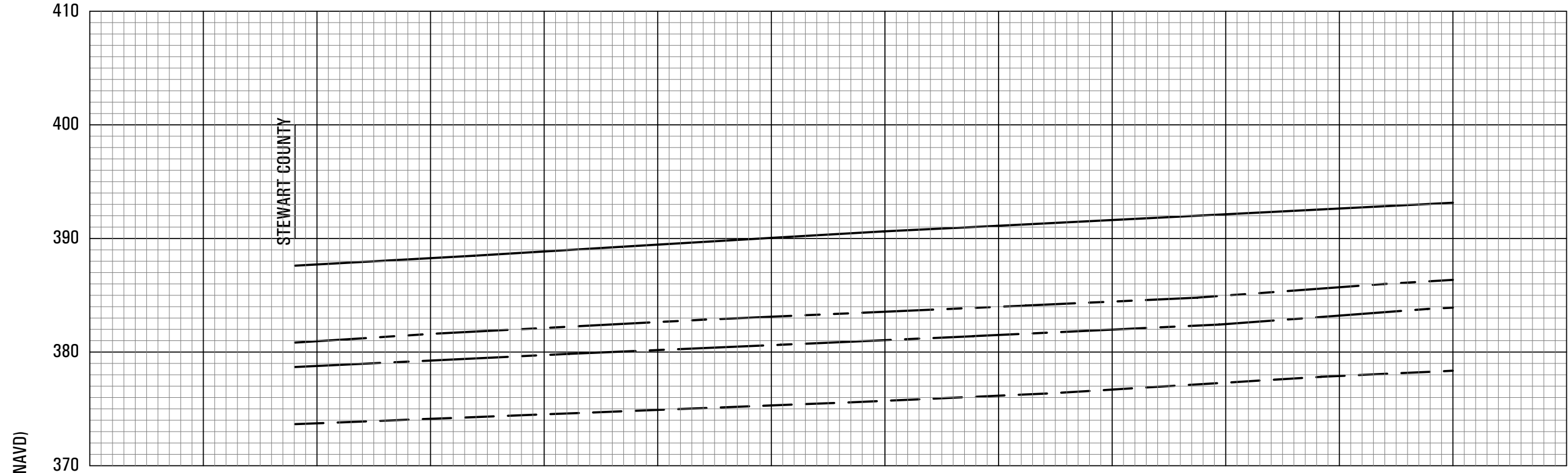
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FLOOD PROFILES
BIG WEST FORK

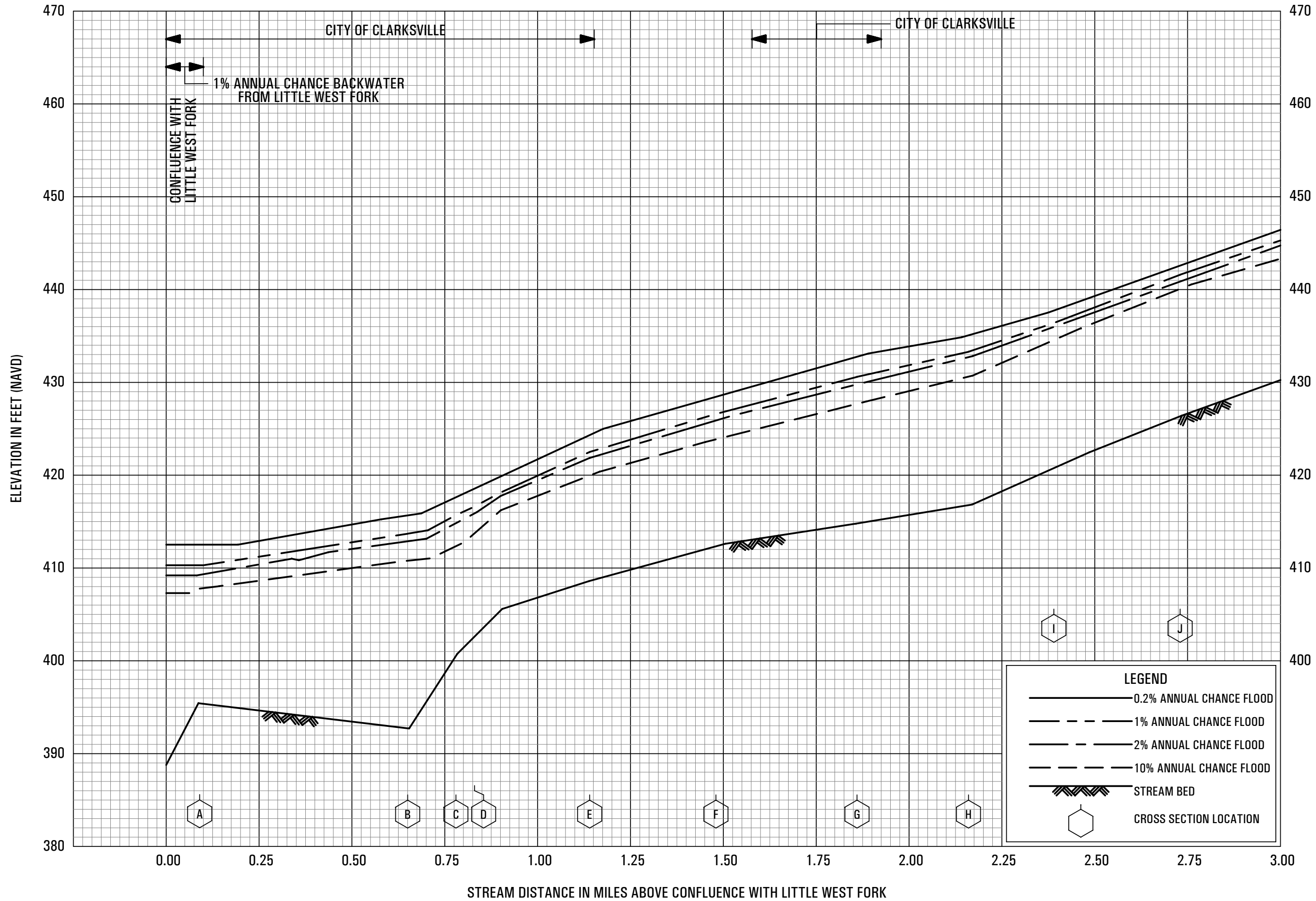
FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS



FLOOD PROFILES

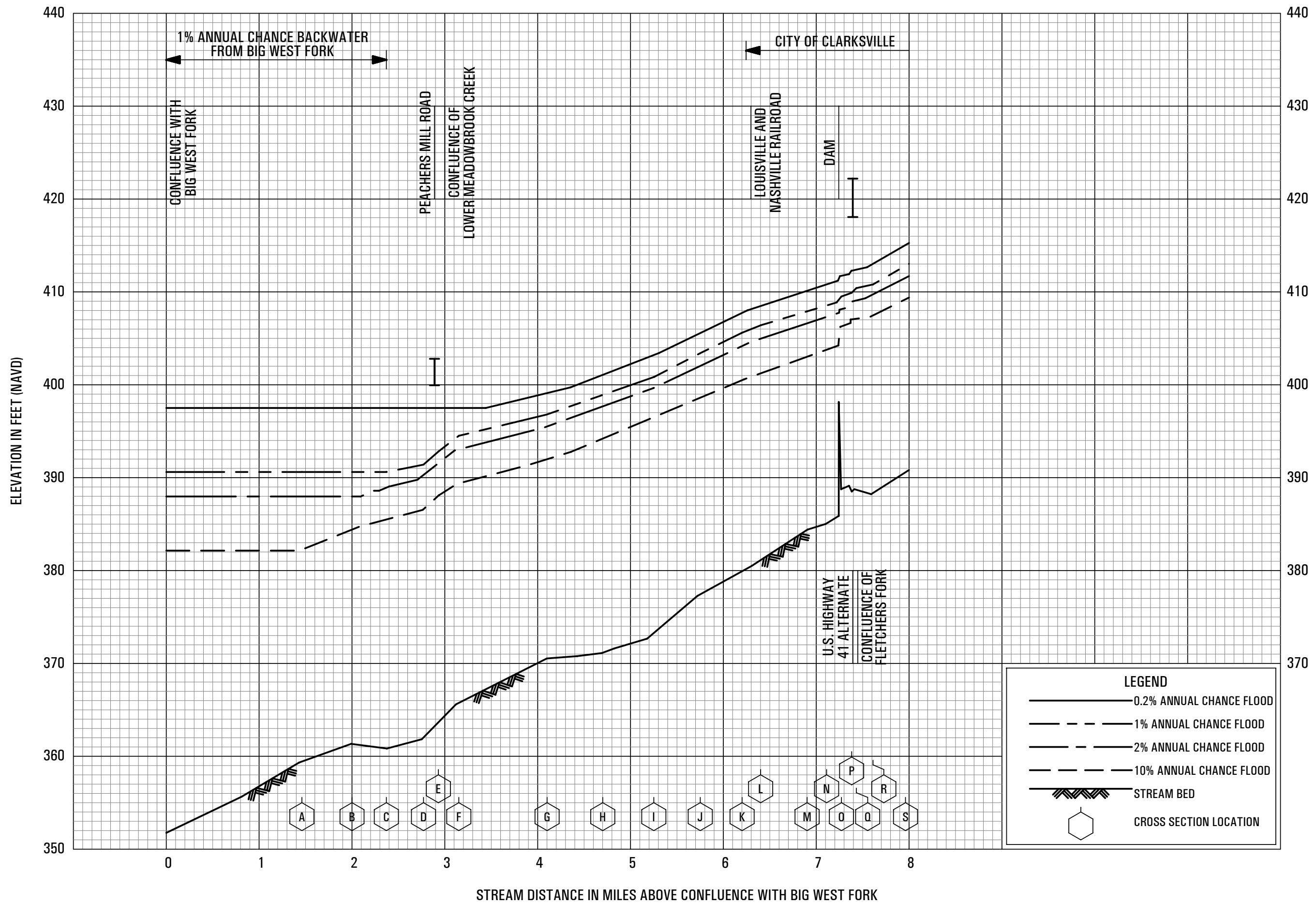
CUMBERLAND RIVER

**FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS**

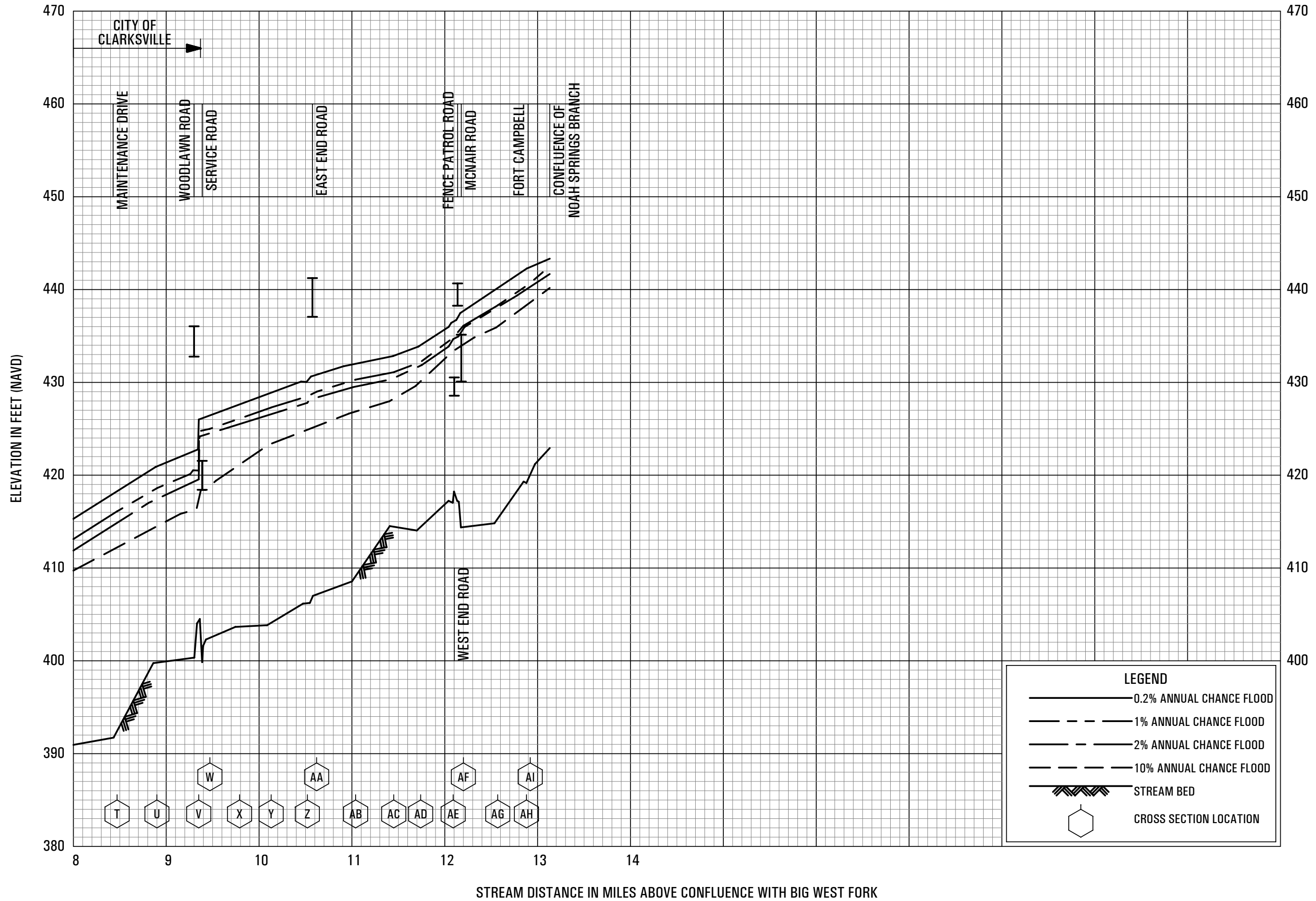


FLOOD PROFILES
FLETCHERS FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS



FLOOD PROFILES
 LITTLE WEST FORK
 FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
 AND INCORPORATED AREAS



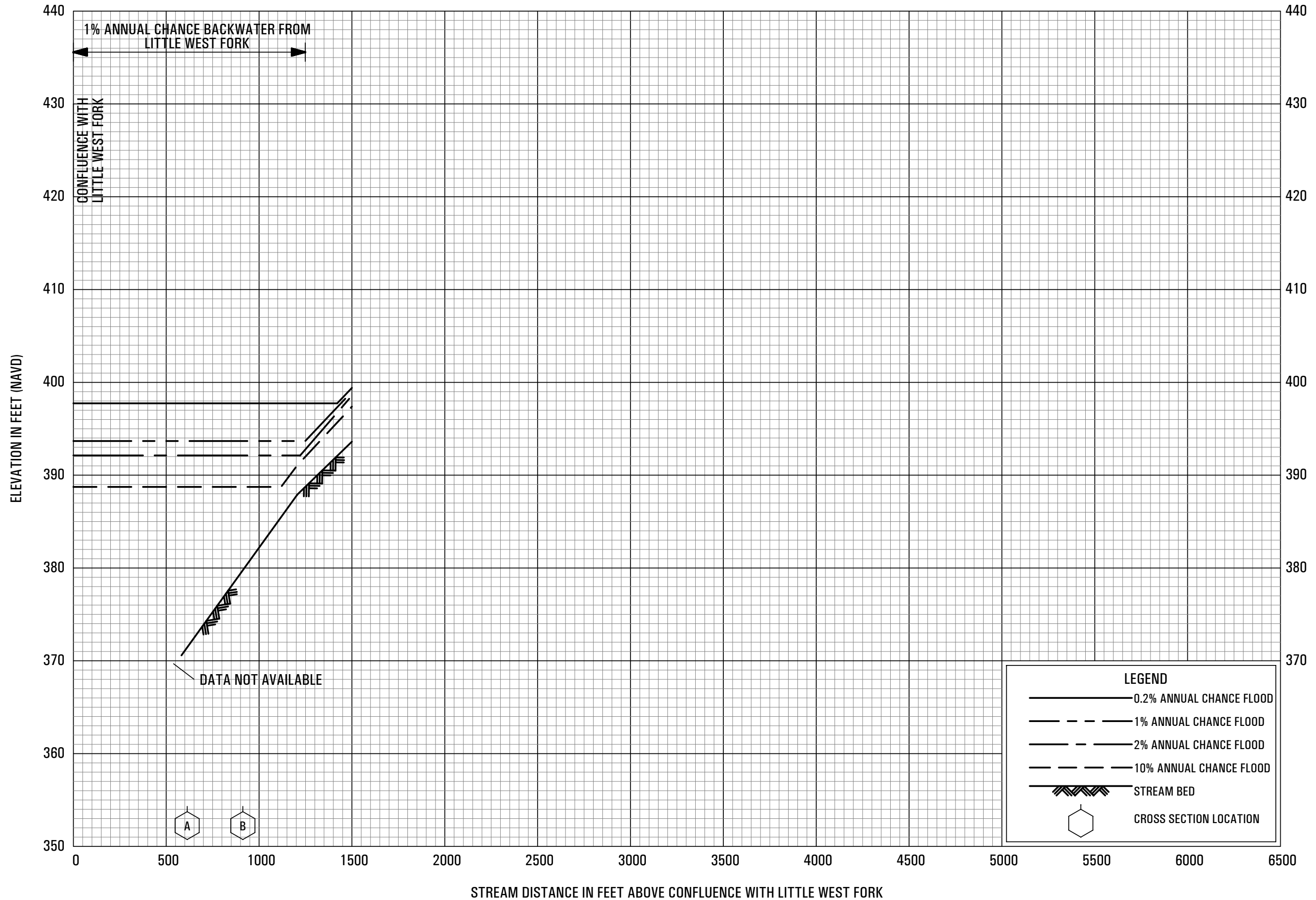
FLOOD PROFILES

LITTLE WEST FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONTGOMERY COUNTY, TN

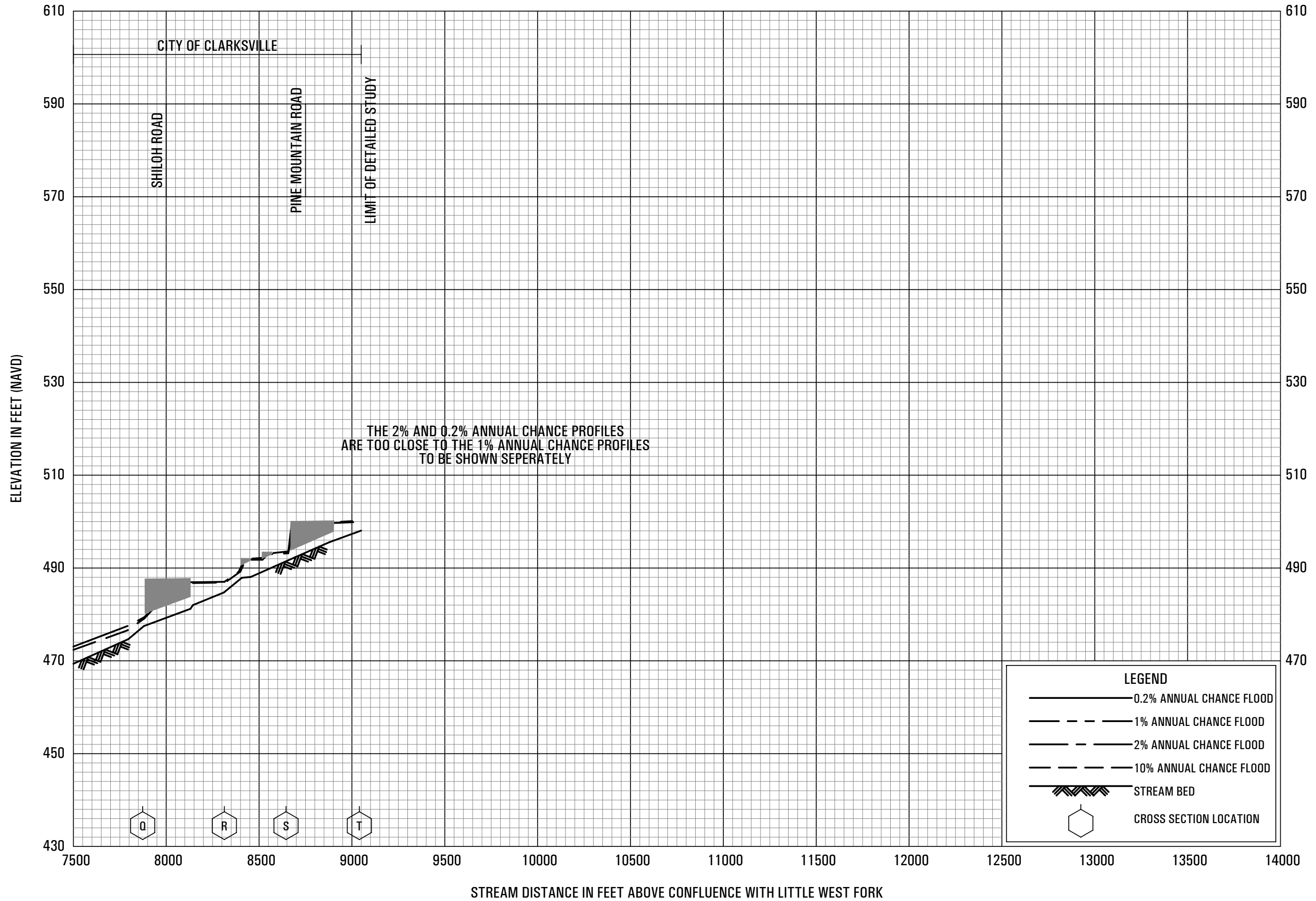
AND INCORPORATED AREAS



FLOOD PROFILES

LOWER MEADOWBROOK CREEK

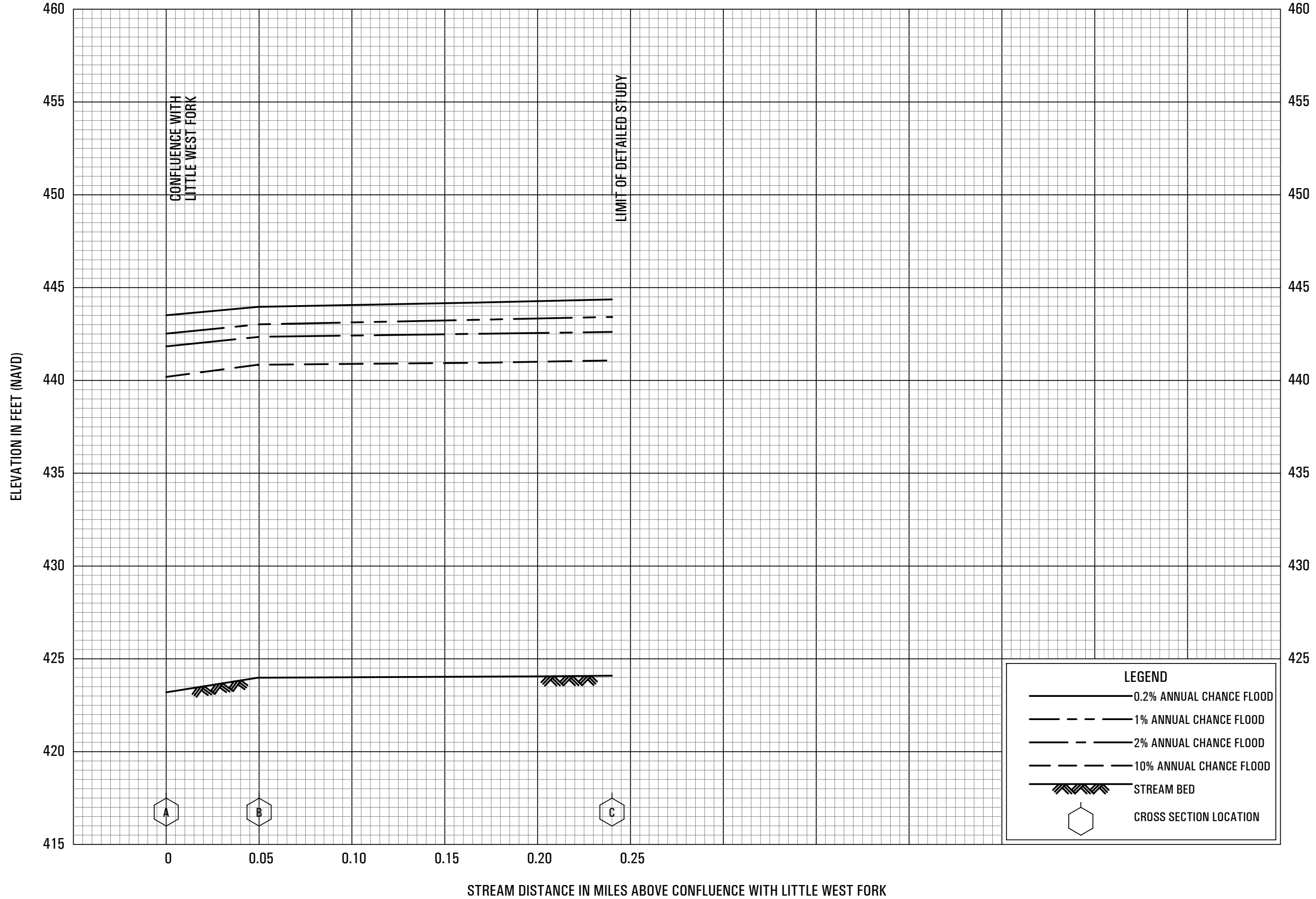
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MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS**

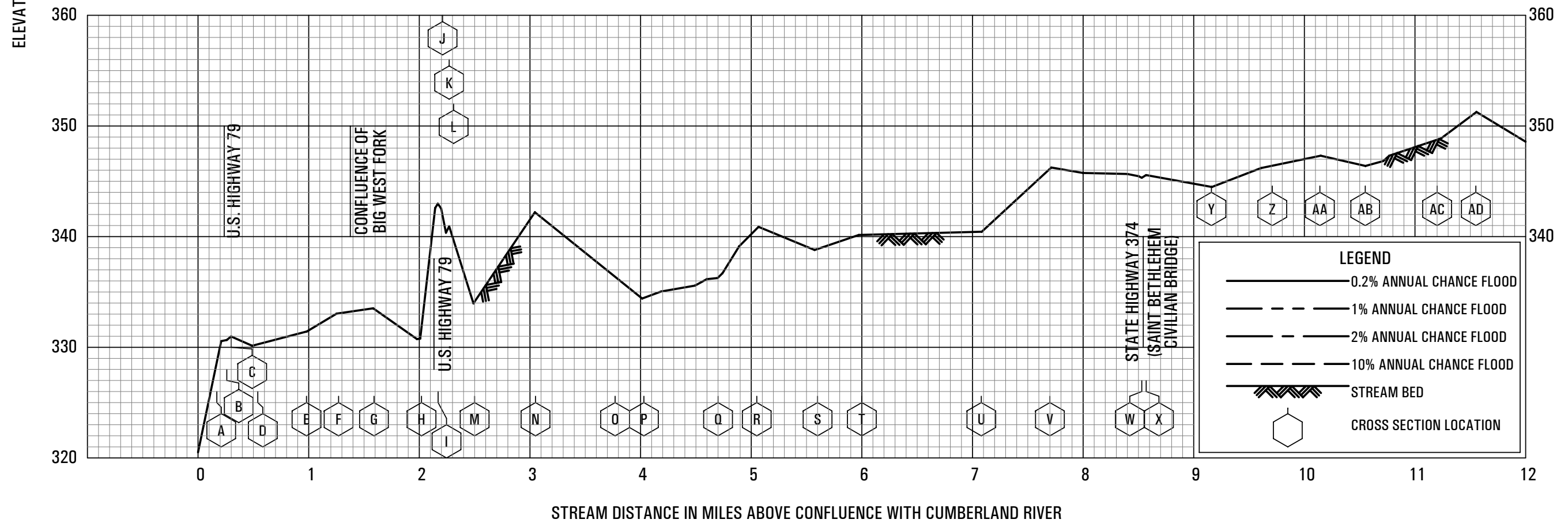
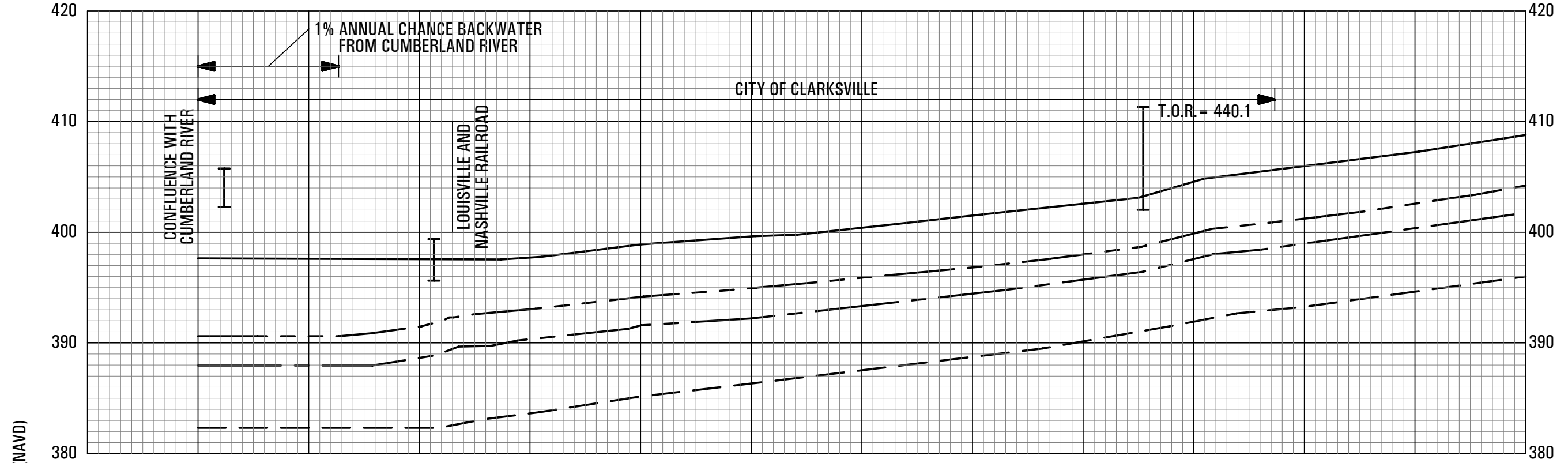


FLOOD PROFILES

LOWER MEADOWBROOK CREEK

**FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
AND INCORPORATED AREAS**

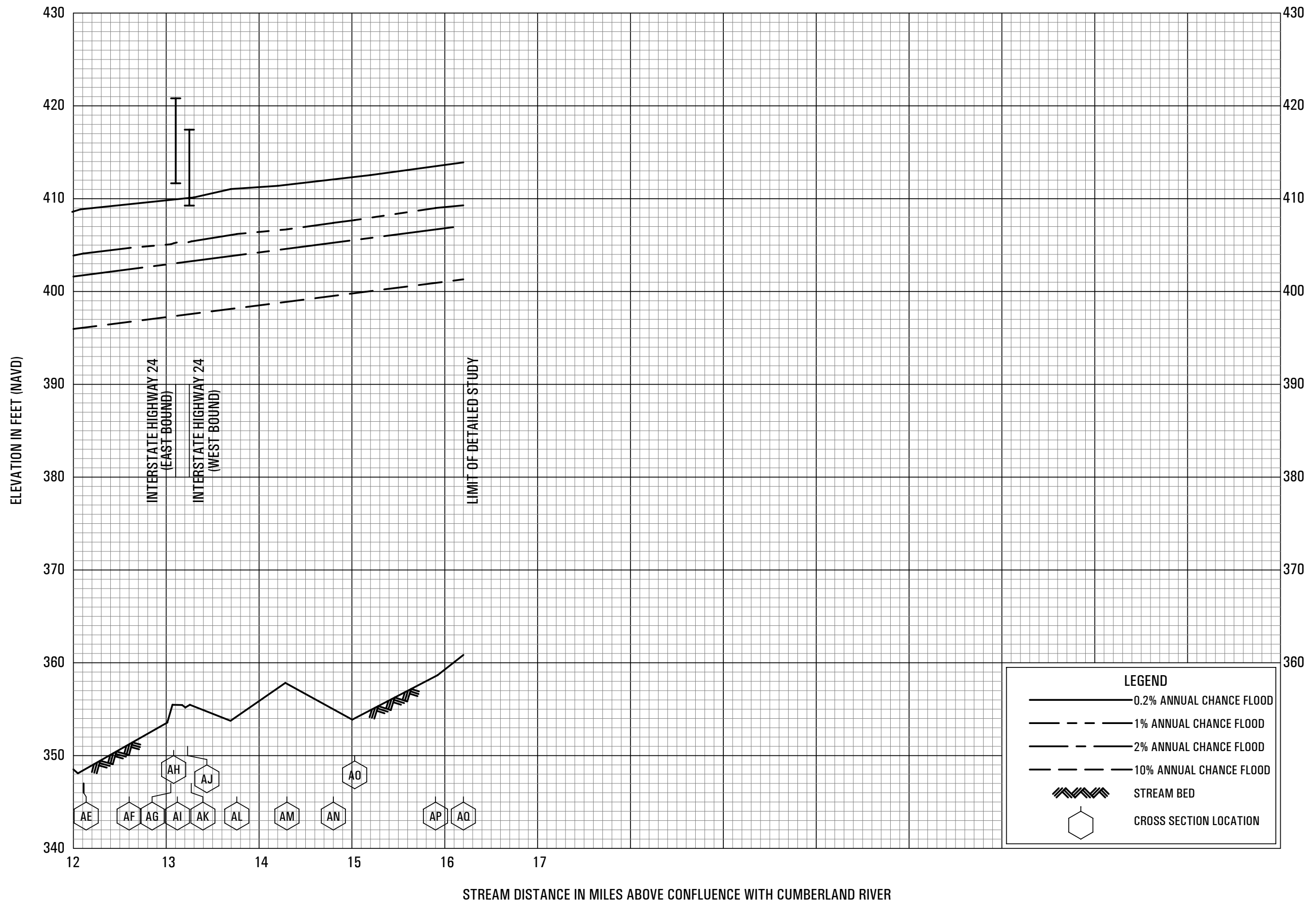




FLOOD PROFILES

RED RIVER

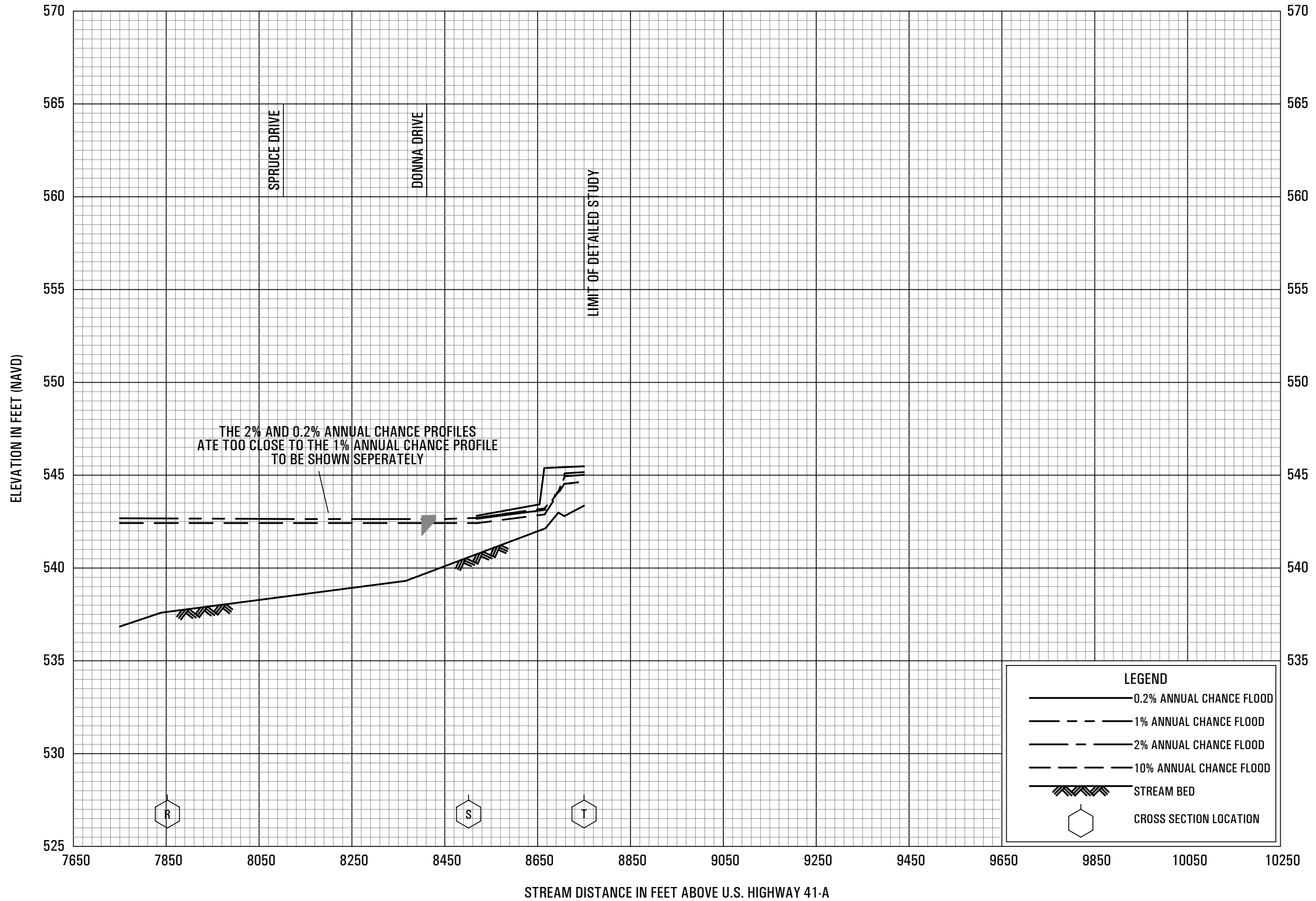
FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
 AND INCORPORATED AREAS



FLOOD PROFILES

RED RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
 AND INCORPORATED AREAS



FLOOD PROFILES

UPPER MEADOWBROOK CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTGOMERY COUNTY, TN
 AND INCORPORATED AREAS