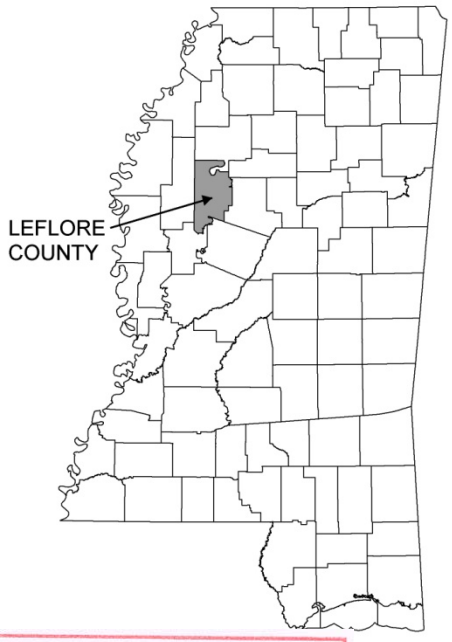
# FLOOD INSURANCE STUDY

# LEFLORE COUNTY, MISSISSIPPI
## AND INCORPORATED AREAS

| Community Name | Community Number |
|---|---|
| GREENWOOD, CITY OF | 280102 |
| ITTA BENA, CITY OF | 280103 |
| LEFLORE COUNTY, UNINCORPORATED AREAS | 280101 |
| MORGAN CITY, TOWN OF | 280104 |
| SCHLATER, TOWN OF | 280105 |
| SIDON, TOWN OF | 280106 |




EFFECTIVE:

PRELIMINARY

FEB 18 2011

**Federal Emergency Management Agency**

FLOOD INSURANCE STUDY NUMBER
28083CV000A

NOTICE TO
FLOOD INSURANCE STUDY USERS

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

Selected Flood Insurance Rate Map panels for the community contain information that was previously shown separately on the corresponding Flood Boundary and Floodway Map panels (e.g., floodways, cross sections). In addition, former flood hazard zone designations have been changed as follows:

| Old Zone | New Zone |
|---|---|
| A1 through A30 | AE |
| B | X |
| C | X |

Part or all of this Flood Insurance Study may be revised and republished at any time. In addition, part of this Flood Insurance Study may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the Flood Insurance Study. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current Flood Insurance Study components. A listing of the Community Map Repositories can be found on the Index Map.

Initial Countywide FIS Effective Date:

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# FLOOD INSURANCE STUDY
# LEFLORE COUNTY, MISSISSIPPI AND INCORPORATED AREAS

## 1.0 INTRODUCTION

### 1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and updates information about the existence and severity of flood hazards in the geographic area of Leflore County, including the Cities of Greenwood and Itta Bena; the Towns of Morgan City, Schlater, and Sidon; and the unincorporated areas of Leflore County (referred to collectively herein as Leflore 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 and to assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (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.

The Digital Flood Insurance Rate Map (DFIRM) and FIS Report for this countywide study have been produced in digital format. Flood hazard information was converted to meet the Federal Emergency Management Agency (FEMA) DFIRM database specifications and Geographic Information and is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community.

### 1.2 Authority and Acknowledgements

The sources of authority for this FIS report are the National Flood Insurance Act of 1968 and the Flood Disaster protection Act of 1973.

This FIS was prepared to compile the unincorporated areas and incorporated communities within Leflore County into a countywide FIS. Information on the authority and acknowledgements for each jurisdiction is included in this countywide FIS, as compiled from their previously published FIS reports.

The hydrologic and hydraulic analyses for the September 1979 City of Greenwood FIS report were performed by the U.S. Army Corps of Engineers (USACE), Vicksburg District, for the Federal Insurance Administration (FIA), under Inter-Agency Agreement Nos. IAA-H-16-75 and IAA-H-7-76, Project Order Nos. 20 and 1, respectively. This work, which was completed in September 1977, covered all significant flooding sources affecting the City of Greenwood, Mississippi.

The hydrologic and hydraulic analyses for the May 1979 Leflore County Unincorporated Areas FIS report were performed by the USACE for the FIA, under Inter-Agency

Agreement Nos. H-16-75 and H-7-76, Project Order Nos. 20 and 1, respectively. This work, which was completed in October 1977, covered all significant flooding sources affecting Leflore County.

The hydrologic and hydraulic analyses for the June 1977 Town of Morgan City FIS report were performed by the USACE, Vicksburg District, for the FIA, under Inter-Agency Agreement Nos. IAA-H-16-75 and IAA-H-7-76, Project Order Nos. 20 and 1, respectively. This work, which was completed in January 1977, covered all significant flooding sources affecting the Town of Morgan City.

The hydrologic and hydraulic analyses for the June 1977 Town of Sidon FIS report were performed by the USACE, for the FIA, under Inter-Agency Agreement Nos. H-16-75 and H-7-76, Project Nos. 20 and 1. This work, which was completed in February 1977, covered all significant flooding sources affecting the Town of Sidon.

For this initial countywide FIS, new hydrologic and hydraulic analyses were performed by the State of Mississippi for FEMA. This study was completed in _____ under Contract No. EMA-2008-CA-5883.

Base map information shown on this Flood Insurance Rate Map (FIRM) was provided in digital format by the State of Mississippi. This information was photogrammetrically compiled at a scale of 1:12,000 from aerial photography dated July 2009.

The digital FIRM was produced using the State Plane Coordinate System, Mississippi West, FIPS Zone 2302. Distance was measured in feet. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

## 1.3 Coordination

An initial Consultation Coordination Officer (CCO) meeting (often referred to as the Scoping meeting) is held with representatives of the communities, FEMA, and the study contractors to explain the nature and purpose of the FIS and to identify the streams to be studied. A final CCO meeting (often referred to as the Preliminary DFIRM Community Coordination, or PDCC, meeting) is held with representatives of the communities, FEMA, and the study contractors to review the results of the study.

The dates of the historical initial and final CCO meetings held for the jurisdictions within Leflore County are shown in Table 1: CCO Meeting Dates.

**Table 1: CCO Meeting Dates**

| Community Name | Initial CCO Date | Final CCO Date |
|---|---|---|
| City of Greenwood | September 24, 1975 | September 6, 1978 |
| Leflore County (Unincorporated Areas) | September 24, 1975 | September 7, 1978 |
| Town of Morgan City | September 24, 1975 | April 11, 1977 |
| Town of Sidon | September 24, 1975 | April 11, 1977 |

For this initial countywide FIS, the initial CCO meeting was held on August 27, 2008 and attended by representatives of Mississippi Department of Environmental Quality (MDEQ), Mississippi Emergency Management Agency (MEMA), Mississippi Geographic Information, LLC (MGI), the State study contractor, and Leflore County and the incorporated communities within Leflore County.

The final CCO meeting was held on _____ to review and accept the results of this FIS. Those who attended this meeting included representatives of Mississippi Department of Environmental Quality, Mississippi Emergency Management Agency, Mississippi Geographic Information, LLC, the State study contractor, and Leflore County and the incorporated communities within Leflore County. All problems raised at that meeting have been addressed in this study.

## 2.0 AREA STUDIED

### 2.1 Scope of Study

This FIS covers the geographic area of Leflore County, Mississippi, including the incorporated communities listed in Section 1.1. The scope and methods of this study were proposed to, and agreed upon, by FEMA, Leflore County, and the State of Mississippi.

The areas studied by detailed methods were selected for having high development potential or flood hazards. The flooding sources studied by detailed methods are presented in Table 2: Flooding Sources Studied by Detailed Methods.

**Table 2: Flooding Sources Studied by Detailed Methods**

| Flooding Source | Reach Length (miles) | Study Limits |
|---|---|---|
| Canal 29/ Glover Lake | 1.8 | From the confluence with Old Pelucia Creek to the confluence of Canal 37. |
| Canal 29A | 0.5 | From the confluence with Palusha Bayou and Canal 37A to approximately 800 feet upstream of Columbus and Greenville Railroad. |
| Canal 37 | 6.0 | From the confluence with Pelucia Creek to the confluence of Palusha Bayou. |
| Canal 37A | 0.9 | From the confluence with Palusha Bayou to Springhill Road. |

**Table 2: Flooding Sources Studied by Detailed Methods**

| Flooding Source | Reach Length (miles) | Study Limits |
|---|---|---|
| Canal No. 1 | 1.1 | From the confluence with Yazoo River to just upstream of County Road 339. |
| Craig Canal | 2.0 | From the confluence with Walker Lake Canal to just downstream of Interstate 82. |
| Muddy-Gin Bayou | 12.3 | From the confluence with Quiver River to Interstate 82. |
| Old Pelucia Creek | 6.5 | From Old Pelucia Creek Pumping Plant to just upstream of Interstate 82. |
| Palusha Bayou | 5.4 | From the confluence with Yazoo River to the confluence of Canal 29A and Canal 37A. |
| Pelucia Creek | 8.2 | From the confluence with Yazoo River to the County Boundary. |
| Tallahatchie River | 44.5 | From the confluence with Yazoo River and Yalobusha River to approximately 1.5 miles upstream of the County Boundary. |
| Walker Lake Canal | 3.0 | From the Walker Lake Pumping Plant to approximately 100 feet upstream of Cotton Street. |
| Yalobusha River | 22.0 | From the confluence with Yazoo River and Tallahatchie River to approximately 8.8 miles upstream of the County Boundary. |
| Yazoo River | 42.3 | From the County Boundary to the confluence of Tallahatchie River and Yalobusha River. |

Numerous streams were studied by approximate methods. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. Floodplain boundaries for all flooding sources within the study area have been mapped based upon the most up-to-date topographic data available.

This countywide FIS also incorporates the determination of letters issued by FEMA resulting in Letters of Map Change, as shown in Table 3: Letters of Map Revision (LOMRs) Incorporated into Current Study.

**Table 3: Letters of Map Revision (LOMRs) Incorporated into Current Study**

| Case Number | Flooding Source(s) | Communities Affected | Effective Date |
|---|---|---|---|
| 06-04-BU48P | Palusha Bayou<br>Craig Canal<br>Walker Lake Canal<br>Old Pelucia Creek<br>Canal 37<br>Canal 29A<br>Canal 29/Glover Lake<br>Canal 37A | City of Greenwood, MS<br>and<br>Leflore County (Unincorporated Areas), MS | 9/27/2007 |

2.2 Community Description

Leflore County, Mississippi is located in the agricultural region of northwestern Mississippi known as the Delta. It is 100 miles north of Jackson, Mississippi, 135 miles south of Memphis, Tennessee, and 35 miles east of the Mississippi River. The Yazoo River, formed where the Tallahatchie and Yalobusha Rivers join just north of Greenwood, flows south through eastern Leflore County. The Quiver River flows through north-western Leflore County. Pelucia Creek and Muddy-Gin Bayou are tributaries of the Yazoo and Quiver Rivers, respectively, south of the City of Greenwood. Old Pelucia-Blue Lake borders south Greenwood before flowing into Pelucia Creek two miles upstream of the mouth.

All of Leflore County is characterized by the meander ridges and swales, oxbow lakes, backswamp areas, and low relief typical of the Lower Mississippi alluvial valley. Elevations in Leflore County range from 145 feet NAVD in the northern portion to 85 feet NAVD along the Yazoo River where it enters Humphreys County in the south. There are four general soil areas in Leflore County. The two predominant soil areas are the Dubbs-Dundee_Forestdale Associations and Alligator-Dowling Association which consist of clay and silt loam.

The reported population for Leflore County in 2000 was 37,947 (Reference 1). The 2009 population estimate is 34,563, a reduction of 8.9% from the 2000 census. The recorded mean annual temperature is approximately 64 degrees Fahrenheit and the average rainfall is approximately 51 inches.

2.3 Principal Flood Problems

Poor drainage due to the low relief of the area is common throughout the county. Periodic large-scale flooding occurs in the low lying areas from flooding on the Yazoo-Tallahatchie and Yalobusha Rivers. Localized flooding also occurs in areas along Big Sand, Pelucia, Abiaca, Teoc, and Turkey Creeks; along Alligator, Catfish, Gin, Muddy, Tippo, Marsh, and Fighting Bayous; and along the Quiver River.

Heavy rains in the winter and spring are usually the cause of the most severe flooding. Some heavy rainfall of note occurred in Greenwood on September 20, 1958, when 8.96 inches fell and on November 13, 1961 9.25 inches fell at Grenada Dam.

Flooding in Leflore County can occur due to a single storm lasting several days or from a series of storms spanning several months. Streamflow records for the recorded period show that the major floods occurred in the years: 1931 - 1933, 1935, 1937, 1939, 1946, 1948, 1950, 1953, 1955, 1958, 1968, and 1973 - 1974. Rainfall data and gage records dating from before 1928 show that major floods also occurred in 1911 – 1913, 1917, 1920 – 1922, and 1926 – 1927.

One of the greatest floods to occur in recent years along the Yazoo-Tallahatchie River was in 1973, during which 179,310 acres were flooded. This is in comparison to 130,200 acres being flooded in 1927 due to levee breaks on the Mississippi River. The flood of 1973 began with a series of early fall rainstorms in late October and continued through most of December 1972 with the rainfall averaging between 6 and 12 inches above normal for the Yazoo River Basin. More heavy rainfall was recorded in January and February 1973, holding water levels at or above flood stage for most rivers. On March 14, 1973 a series of severe thunderstorms moved through the area and another severe storm system moved through on March 15 and 16. Flood-producing rains continued into the first week of May and caused flood stages to be maintained through mid-June. Flooding in the vicinity of Swan Lake occurred for 188 days and at Greenwood, for 196 days. Leflore County sustained flood damage in excess of $12.6 million during the flooding of 1973.

Severe flooding was also observed during the spring of 1974 when a series of severe thunderstorms moved through the area between May 14 and June 10. Rainfall averages varied from 200 to 250 percent above normal. Many acres of newly planted crops from Crowder to Greenwood were inundated.

## 2.4 Flood Protection Measures

Leflore County lies within the USACE's Yazoo Basin Headwater Project. This includes four headwater reservoirs which control about 60 percent of the hill drainage and supplementary channel improvements and levees to reduce the flood problem to a more manageable level. Since the construction of these reservoirs, the Yazoo River at Greenwood has only exceeded flood stage twice, 1973 & 1974. This project includes over 800 miles of channel improvements, about 600 miles of levees, and the 4 flood control reservoirs located north of Leflore County. Within Leflore County, completed projects designed to lower stages on the main streams include snagging, clearing, and channel improvements over the full lengths of the Yazoo, Tallahatchie, and Yalobusha Rivers.

Work on the Yazoo River in Leflore County includes the Famosla (1941), Marksville (1941), Sidon (1943), Fort Loring (1963), Fort Pemberton (1963), and Phillipp (1964) Cutoffs. Similar improvements were made in 1938-1942 to the Quiver River, and Gin, Muddy, Turkey, Marsh, and Fighting Bayous. Other completed projects include snagging and clearing operations and emergency repairs to crevasses in Abiaca Creek. Clearing and snagging work has been done on Ascalmore Creek and Tippo Bayou and channel enlargements and diversion channels have been done. Channel enlargements have also been made to Alligator and Catfish Bayous.

Another feature of the Yazoo Basin Headwater project is the Greenwood Protection Works which includes levees and channels to protect the City of Greenwood from flooding by the Yazoo-Tallahatchie and Yalobusha Rivers. Also included are drainage

structures, floodgates, a floodwall, and the Lee Street, Wilson Street, and Walker Lake pumping stations. Big Sand Creek, formerly a tributary to Pelucia Bayou, has been diverted to empty into the Yalobusha River north of Greenwood. This diversion involves new channel excavation, erosion control structures, parallel levees, and a landside drainage ditch.

A levee exists in the study area that provides the community with protection against the 1-percent-annual-chance flood. The criteria used to evaluate protection against the 1-percent-annual-chance flood are 1) adequate design, including freeboard, 2) structural stability, and 3) proper operation and maintenance.

A Provisionally Accredited Levee (PAL) is reflected on the FIRM panels. A PAL is a levee which is believed to meet the criteria to protect an area against a 1-percent-annual-chance flood event, but which has not been certified at the time in which the study is completed. An explanation of the impact on the area is located on the FIRM panel and a detailed description of the PAL is located in the Notes to Users section on the FIRM panel. The levee owner has agreed to submit required documentation within the 24 month FEMA mandated time period. If the levee receives accreditation, the notes on the FIRM are changed to provide appropriate explanations, if the levee does not receive accreditation, the levee notes are removed from the FIRM panel, the zone is changed to a Zone A or AE, and the levee itself remains on the FIRM panel.

Typically, the previously referenced PAL note, or explanation, is located in each 0.2% annual-chance-flood-hazard area that is protected from flooding by the levee on the FIRM panel. In Leflore County, there are many small areas that are protected and the note is quite large. Due to the impossibility of fitting the note into each area, only one note has been placed per panel.

There are levees on the Pelucia Creek and Yazoo River that are shown as protecting from flooding. Due to their proximity to each other it is not clear which areas are being protected by which levees, therefore, a listing of panels has been provided to clarify which areas are protected by which levees. The listing below is intended to be used along with the panel index.

| | |
|---|---|
| Pelucia Creek Levee | 0238, 0239, 0241, 0242, 0243, 0244, 0275, 0326, 0327, 0328, 0329, 0335, 0375 |
| Yazoo River Levee | 0236, 0237, 0238, 0239, 0241, 0243 |

## 3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods 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 1-percent-annual-chance flood in any 50-year period is approximately 40 percent (4 in 10); 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

### 3.1.1 Methods for Flooding Sources with New or Revised Analyses in Current Study

For this countywide study, there were no new studies.

### 3.1.2 Methods for Flooding Sources Incorporated from Previous Studies

This section describes the methodology used in previous studies of flooding sources incorporated into this FIS that were not revised for this countywide study. Hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source affecting the community studied by detailed methods. A summary of peak discharge-drainage area relationships for streams studied by detailed methods is shown in Table 4: Summary of Discharges for Streams Studied by Detailed Methods.

**Table 4: Summary of Discharges for Streams Studied by Detailed Methods**

| Flooding Source and Location | Drainage Area (Sq. Mi.) | Peak Discharges (CFS) 10-percent | 2-percent | 1-percent | 0.2-percent |
|---|---|---|---|---|---|
| BEAR CREEK | | | | | |
| At Morgan Chapel | 30 | 1,400 | 2,000 | 2,250 | 2,750 |
| CANAL 29A | | | | | |
| At mouth | 2.46 | 104 | 276 | 290 | 331 |
| CANAL 37 | | | | | |
| Just upstream of Browning Road | 0.46 | 137 | 181 | 290 | 331 |
| CANAL 37A | | | | | |
| At mouth | 2.51 | 104 | 276 | 290 | 331 |
| CRAIG CANAL | | | | | |
| At mouth | 2.61 | 171 | 206 | 220 | 251 |
| MUDDY – GIN BAYOU | 9.8 | 760 | 1,040 | 1,150 | * |

* 500-year flow controlled by Yazoo River

**Table 4: Summary of Discharges for Streams Studied by Detailed Methods**

| Flooding Source and Location | Drainage Area (Sq. Mi.) | Peak Discharges (CFS) 10-percent | 2-percent | 1-percent | 0.2-percent |
|---|---|---|---|---|---|
| OLD PELUCIA CREEK | | | | | |
| Just upstream of U.S. Highway 82 | 0.47 | 115 | 151 | 242 | 276 |
| PALUSHA BAYOU | | | | | |
| At mouth | 8.52 | 604 | 728 | 777 | 887 |
| Approximately 500 feet upstream of State Highway 7 | 7.61 | 281 | 741 | 780 | 890 |
| TALLAHATCHIE RIVER | | | | | |
| At Swan Lake | 5,130 | 28,500 | 37,500 | 41,000 | 51,000 |
| WALKER LAKE CANAL | | | | | |
| At mouth | 7.51 | 954 | 1,150 | 1,227 | 1,398 |
| YAZOO RIVER | | | | | |
| At Belzoni | 7,830 | 36,000 | 43,000 | 46,000 | 53,000 |
| At Greenwood | 7,450 | 32,500 | 40,500 | 44,000 | 51,000 |

* 500-year flow controlled by Yazoo River

Peak discharges for Palusha Bayou, Walker Lake, and Craig Canal in the City of Greenwood for floods of 10-, 2-, and 1-percent-annual-chance recurrence intervals were developed by frequency-rainfall analysis using the U.S. Weather Bureau's Technical Papers 40 and 49 and Snyder's Unit Hydrograph Method (References 2, 3, and 4, respectively). Stream gages from which data were gathered are located at Swan Lake at the City Road Bridge, in Greenwood at the Fulton Street Bridge, and in Belzoni at the State Highway 12 crossing.

Because flood problems on Pelucia Bayou are caused by high stages on the Yazoo River and on Bear Creek, it was necessary to perform the hydrologic analysis for both flooding sources. Peak discharges for the Yazoo River were determined from a log-Pearson type III frequency analysis (Reference 5). Floodflow records were not available for Bear Creek, therefore, peak discharges for floods of 10-, 2-, 1-, and 0.2-percent-annual-chance recurrence intervals were developed by a frequency rainfall analysis applied with Snyder's Unit Hydrograph method (Reference 4).

Peak discharges for the Yalobusha River were determined at Highway 51 near Grenada. Although discharge measurements are made at the

Money-Whaley Road on the Yalobusha River in Leflore County, a statistical analysis was not made due to the storage capacity of the Yalobusha watershed just north of Greenwood, Mississippi. In addition, peak flow frequencies were not determined for Pelucia Creek since the adjacent lands are inundated when the Pelucia Creek levees overtop.

Peak discharges for the Yazoo-Tallahatchie River for floods of 10-percent, 2-percent, 1-percent, and 0.2-percent annual-chance-flood recurrence intervals were determined from a log-Pearson Type III frequency analysis as recommended in "Guidelines for Determining Flood Flow Frequencies" U.S. Water Resources Council Bulletin No. 17 (Reference 5). The period of record used in this analysis was 1932-1975; however, the period 1932-1954 was adjusted to consider the four Yazoo basin headwater reservoirs in operation.

Peak discharges for the Yazoo River in the Town of Sidon were determined at selected recurrence intervals using a Log-Pearson Type III frequency analysis of the Greenwood and Belzoni River gages (Reference 5). The gages have a length of record of 42 years each and the gage readings prior to 1954 were adjusted to account for the four Yazoo Headwater Reservoirs. Regional flood-frequency curves were then used to establish the discharge-frequency relationship for the Yazoo River.

Stillwater elevations have been determined for the flooding sources studied by detailed methods and are summarized in Table 5: Summary of Stillwater Elevations.

The rainfall-runoff relationship of the selected recurrence intervals was established for an area of ponding in the Town of Sidon between the Illinois Central Gulf Railroad and Highway 49 East. The runoff serves as inflow to this ponding area and the effects of the storage in the ponding area were evaluated to determine the peak ponding elevation (Reference 4 and 6). Rainfall-frequency relationships were obtained from U.S. Weather Bureau Technical Papers No. 40 and 49 (Reference 2 and 3). The results in the analysis of the ponding area indicated that flooding elevations are controlled by the Yazoo River for flood frequencies greater than the 1-percent-annual-chance flood, with a 1-percent elevation of 124.1 feet NAVD for the ponding area, compared to 122.3 feet NAVD for the Yazoo River.

**Table 5: Summary of Stillwater Elevations**

| Flooding Source and Location | Elevation (Feet NAVD) 10-percent | 2-percent | 1-percent | 0.2-percent |
|---|---|---|---|---|
| SIDON PONDING AREA | | | | |
| Between Illinois Central Gulf Railroad and Highway 49 East | 122.3 | 124.6 | 125.3 | 126.3 |

3.2 Hydraulic Analyses

Hydraulic analyses were performed to estimate the elevations of flooding during the base flood event. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data Tables in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

3.2.1 Methods for Flooding Sources with New or Revised Analyses in Current Study

Analyses of the hydraulic characteristics of flooding from the sources studied by detailed methods were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Cross section geometries were obtained from a combination of terrain data and field surveys. Bridges and culverts located within the enhanced approximate study limits were field surveyed to obtain elevation data and structural geometry.

Downstream boundary conditions for the hydraulics models were set to normal depth using a starting slope calculated from values taken from topographic data, or where applicable, derived from the water-surface elevations of existing effective flood elevations or recalculated flood elevations. Water-surface profiles were computed for enhanced approximate study streams through the use of the USACE HEC-RAS version 4.0.0 (Reference 7). Water-surface profiles were produced for the 1-percent-annual-chance storms for streams studied by enhanced approximate methods.

3.2.2 Methods for Flooding Sources Incorporated from Previous Studies

Analyses of the hydraulic characteristics of the Yazoo River were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Water-surface elevations of floods of selected recurrence intervals for the Yazoo River were developed though the use of the USACE HEC-2 computer step-backwater model (Reference 8). Cross sections were field surveyed by the USACE Vicksburg District.

Flood profiles on the Yazoo River were drawn showing water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals (Exhibit

1). Flooding along the Old Yazoo River Bendway in the vicinity of Sidon is controlled by the Yazoo River elevation at mile 152.3; therefore, no profile is included for the Old Yazoo River Bendway. All elevations are measured from NAVD; elevation reference marks in the study area are shown and described on the Flood Insurance Rate map (Exhibit 2).

The Yazoo River, in the vicinity of Morgan City, developed flood elevations under confined conditions without considering levee failures. The elevations developed were sufficiently high enough that it was necessary to assume levee failure would occur because of inadequate levee height and section for recurrence intervals slightly less than a 2-percent-annual-chance frequency and higher. The county road adjacent to the levee would provide a drawdown of the 2-, 1-, and 0.2-percent-annual-chance flood levels of the Yazoo River west of the county road. The 2-, 1-, and 0.2-percent-annual-chance flood elevations shown in Table 6: Summary of Elevations for Pelucia Bayou are those elevations that may be expected to occur from floods on the Yazoo River. The actual Yazoo River elevations would be somewhat higher. The Yazoo River Flood Profile (Exhibit 1) is based on confinement of flows within the levee system. The 10-percent-annual-chance-flood elevation for Pelucia Bayou is the result of backwater from Bear Creek. Flood elevations on Bear Creek were developed from the discharge hydrographs, using the modified Puls Method (Reference 6).

**Table 6: Summary of Elevations**

| | Elevation (feet NAVD) | | | |
|---|---|---|---|---|
| **Flooding Source** | **10-percent** | **2-percent** | **1-percent** | **0.2-percent** |
| Pelucia Bayou | 116.3 | 119.3 | 120.3 | 121.8 |

Analyses of the hydraulic characteristics of the Yazoo-Tallahatchie and Yalobusha Rivers, Pelucia Creek, Muddy-Gin Bayou, and Old Pelucia to Blue Lake area were made to provide estimates of the elevations of floods of selected recurrence intervals. Using the HEC-2 computer program (Reference 8), the 1973 high water profile was reproduced for the Yazoo-Tallahatchie River. Once the 1973 high water profile was satisfactorily reproduced, the water-surface profiles for each of the selected recurrence intervals were computed. The computed water-surface elevations were checked by rating curves and stage-frequency curves at the Swan Lake, Greenwood, and Belzoni, Mississippi gages. Roughness coefficients were estimated by field inspection and adjusted as necessary to reproduce the 1973 flood profiles. Water-surface elevations of the selected recurrence intervals were computed for Muddy-Gin Bayou using the HEC-2 computer program (Reference 8).

Roughness factors (Manning's "n") used in the hydraulic computations were chosen on the basis of field observations, aerial photographs, and ground photographs of the streams and floodplains. The following table shows the channel and overbank "n" values for all of the streams studied by detailed methods.

**Table 7: Summary of Roughness Coefficients**

| Stream | Channel "n" | Overbank "n" |
|---|---|---|
| Muddy-Gin Bayou | 0.035-0.045 | 0.050-0.150 |
| Old Pelucia Creek | 0.024-0.038 | 0.010-0.016 |
| Pelucia Creek | 0.024-0.038 | 0.010-0.016 |
| Yalobusha Rivers | 0.024-0.038 | 0.010-0.016 |
| Yazoo River | 0.020-0.038 | 0.10-0.135 |
| Yazoo-Tallahatchie River | 0.024-0.038 | 0.010-0.016 |

Water-surface elevations of the selected recurrence intervals were computed for the Old Pelucia to Blue Lake area by storage routings. (Reference 7) using inflow hydrographs from local runoff, combined with inflows from Big Sand Creek levee breaks.

Cross sections for all streams studied in detail were located at close intervals at bridges and culverts in order to compute the significant backwater effects of these structures in the developed areas. All bridges and culverts were surveyed to obtain elevation data and structural geometry. Flood profiles were drawn showing water-surface elevations to an accuracy of U.S. foot for floods of the selected recurrence intervals (Exhibit 1). All elevations are measured from NAVD.

Flood elevation in Leflore County may be raised by debris blockage of the streams in the study area. The hydraulic analyses for this study however, are based only on the effect of unobstructed flow. The flood elevations as shown on the profiles are thus considered valid only if hydraulic structures in general remain unobstructed and do not fail.

Water-surface elevations of the selected recurrence intervals were computed for Walker Lake and Craig Canals by storage routings (Reference 6) using runoff hydrographs. This analysis considers the capacity of Walker Lake Pumping Station and takes into consideration head loss at bridges and culverts along Walker Lake and Craig Canals. The elevations for Canal No. 1 were determined by a sump analysis considering both the floodgate and minor pump in operation draining interior floodwaters into the Yazoo River. The effects of this floodgate and pump during major floods are negligible.

From the sump analysis, a unit hydrograph was developed using rainfall data from Technical Papers 40 and 49 (References 2 and 3). Elevations were determined using a storage curve developed for the area.

## 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 used for newly

created or revised FIS reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD). With the completion of the North American Vertical Datum of 1988 (NAVD), many FIS reports and FIRMs are now prepared using NAVD as the referenced vertical datum.

Flood elevations shown in this FIS report and on the FIRM are referenced to the NAVD. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. It is important to note that adjacent counties may be referenced to NGVD, which may result in differences in base flood elevations across county lines.

Ground, structure, and flood elevations may be compared and/or referenced to NGVD by adding 0.23 foot to the NAVD elevation. The -0.23 foot value is an average for the entire county. The BFEs shown on the FIRM represent whole-foot rounded values. For example, a BFE of 12.4 feet will appear as 12 feet on the FIRM and 12.6 feet as 13 feet. Users who wish to convert the elevations in the FIS report to NGVD should apply the stated conversion factor to elevations shown on the Flood Profiles and supporting data tables in the FIS report, which are shown at a minimum to the nearest 0.1 foot.

For more information regarding conversion between the NGVD and NAVD, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* (Reference 9), visit the National Geodetic Survey website at www.ngs.noaa.gov, or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks shown on this map, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

## 4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS report provides 1-percent-annual-chance floodplain data, which may include a combination of the following: 10-, 2-, 1-, and 0.2-percent-annual-chance flood elevations; delineations of the 1-, 0.2-percent annual-chance floodplains; and a 1-percent-annual-chance floodway. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data tables, and Summary of Stillwater Elevation tables. Users should reference the data presented in the FIS report as well as

additional information that may be available at the local community 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 flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed or limited detailed methods, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:12,000 with contour interval of 2 feet. For each stream studied by approximate methods, the 1-percent-annual-chance floodplain boundaries were interpolated using topographic maps at a scale of 1:12,000 with contour interval of 2 feet.

The 1- and 0.2-percent-annual-chance floodplain boundaries for streams studied by detailed methods are shown on the FIRM. 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 (Zone X). 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 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 base flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced.

There are no floodways in Leflore County.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage and heightens potential flood hazards by further increasing velocities. To reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

The area between the floodway and 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 (WSEL) of the base 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: Floodway Schematic.

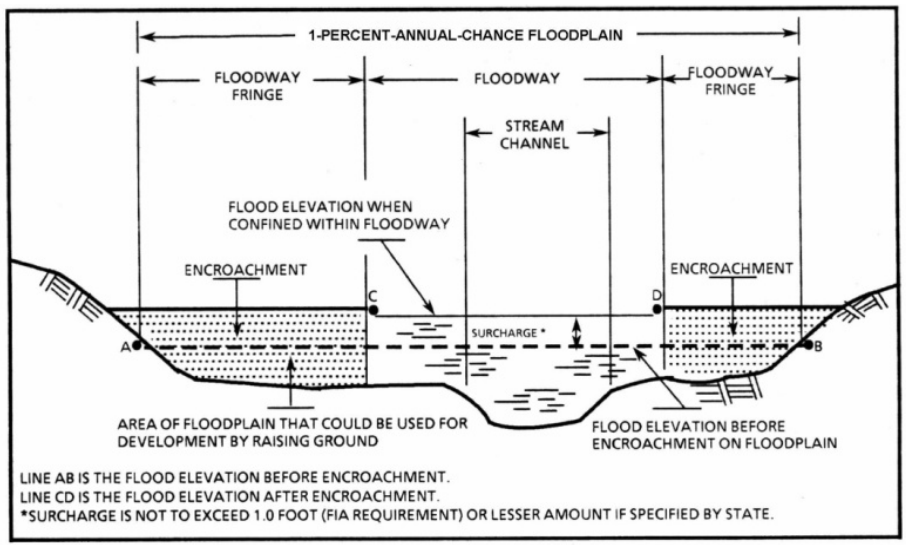


**Figure 1: Floodway Schematic**

## 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 rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS report by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base (1-percent-annual-chance) flood elevations (BFEs) or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS report by detailed methods. 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 rate 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 than 1 foot, areas of

1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile (sq. mi.), and areas protected from the base flood by levees. No BFEs or depths are shown within this zone.

## 6.0 FLOOD INSURANCE RATE MAP

The FIRM 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 1-percent-annual-chance floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use zones and BFEs 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 1- and 0.2-percent-annual-chance floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The countywide FIRM presents flooding information for the entire geographic area of Leflore County. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the County identified as flood-prone. This countywide FIRM also includes flood-hazard information that was presented separately on Flood Boundary and Floodway Maps (FBFMs), where applicable. Historical data relating to the maps prepared for each community are presented in Table 7: Community Map History.

## 7.0 OTHER STUDIES

FIS reports were previously prepared for the unincorporated and incorporated areas of Leflore County (References 10, 11, 12, and 13).

This FIS report supersedes or is compatible with all previous studies published on streams studied in this report 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, GA 30341.

| COMMUNITY NAME | INITIAL IDENTIFICATION | FLOOD HAZARD BOUNDARY MAP REVISIONS DATE | FIRM EFFECTIVE DATE | FIRM REVISIONS DATE |
|---|---|---|---|---|
| Greenwood, City of | June 7, 1974 | August 6, 1976 | March 18, 1980 | June 25, 1982 |
| Itta Bena, City of | June 7, 1974 | --- | April 3, 1978 | --- |
| Le Flore County (Unincorporated Areas) | January 12, 1979 | --- | November 1, 1979 | March 25, 1983 |
| Morgan City, Town of | November 29, 1974 | --- | April 3, 1978 | --- |
| Schlater, Town of | August 23, 1974 | July 23, 1976<br>March 21, 1980 | September 27, 1985 | --- |
| Sidon, Town of | August 2, 1974 | --- | March 15, 1978 | --- |

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

**LE FLORE COUNTY, MS**
AND INCORPORATED AREAS

# COMMUNITY MAP HISTORY

## 9.0 BIBLIOGRAPHY AND REFERENCES


1. U.S. Census 2000, http://quickfacts.census.gov/qfd/states/28/28083.html accessed July 2010.

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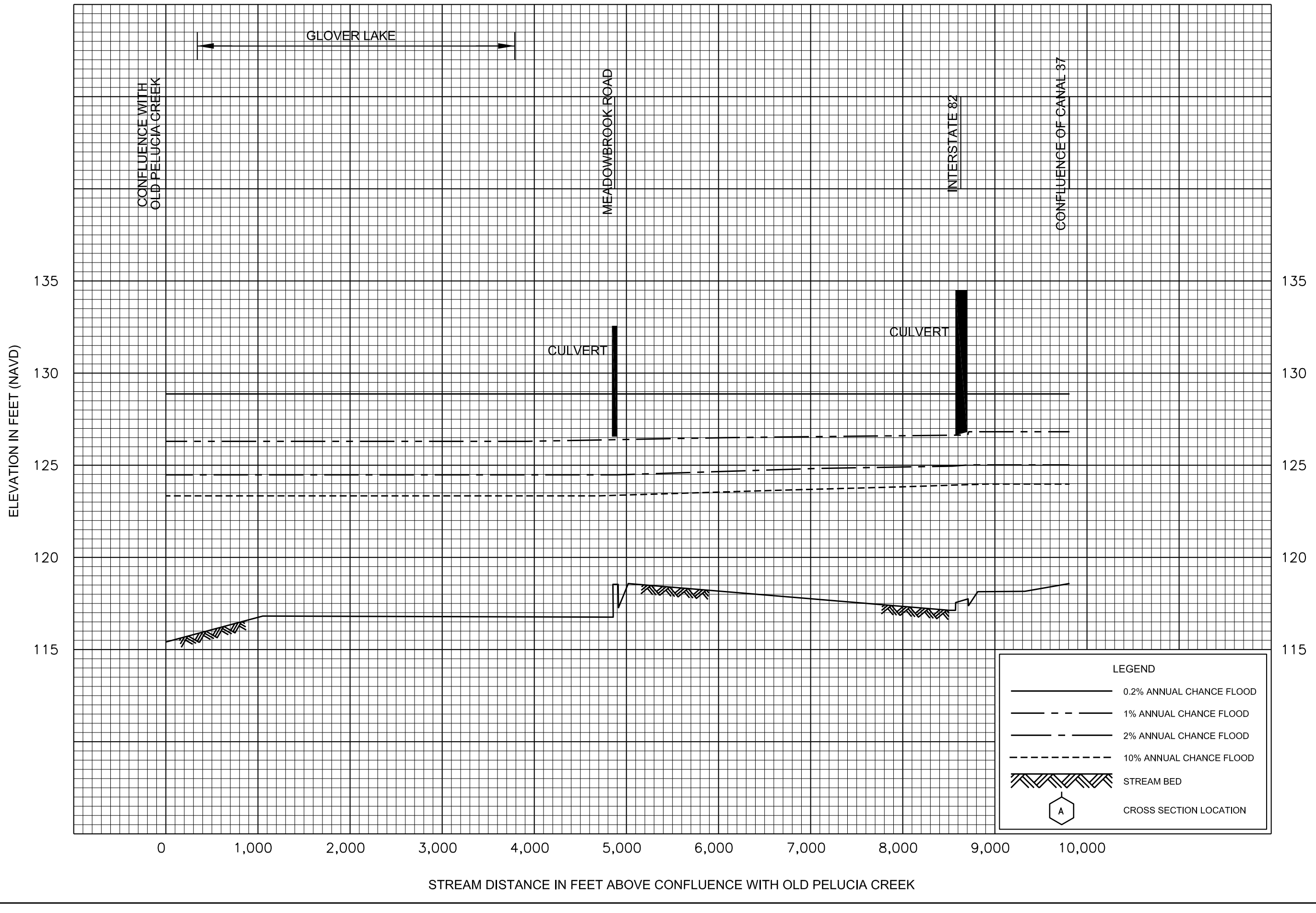
11. U.S. Department of Housing and Urban Development, Federal Insurance Administration. *Flood Insurance Study, Leflore County, Mississippi*. Washington, D.C., May 1979.

12. U.S. Department of Housing and Urban Development, Federal Insurance Administration. *Flood Insurance Study, Town of Morgan City, Leflore County, Mississippi*. Washington, D.C., June 1977.

13. U.S. Department of Housing and Urban Development, Federal Insurance Administration. *Flood Insurance Study, Town of Sidon, Leflore County, Mississippi*. Washington, D.C., June 1977.




FLOOD PROFILES

CANAL 29/GLOVER LAKE

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

01P

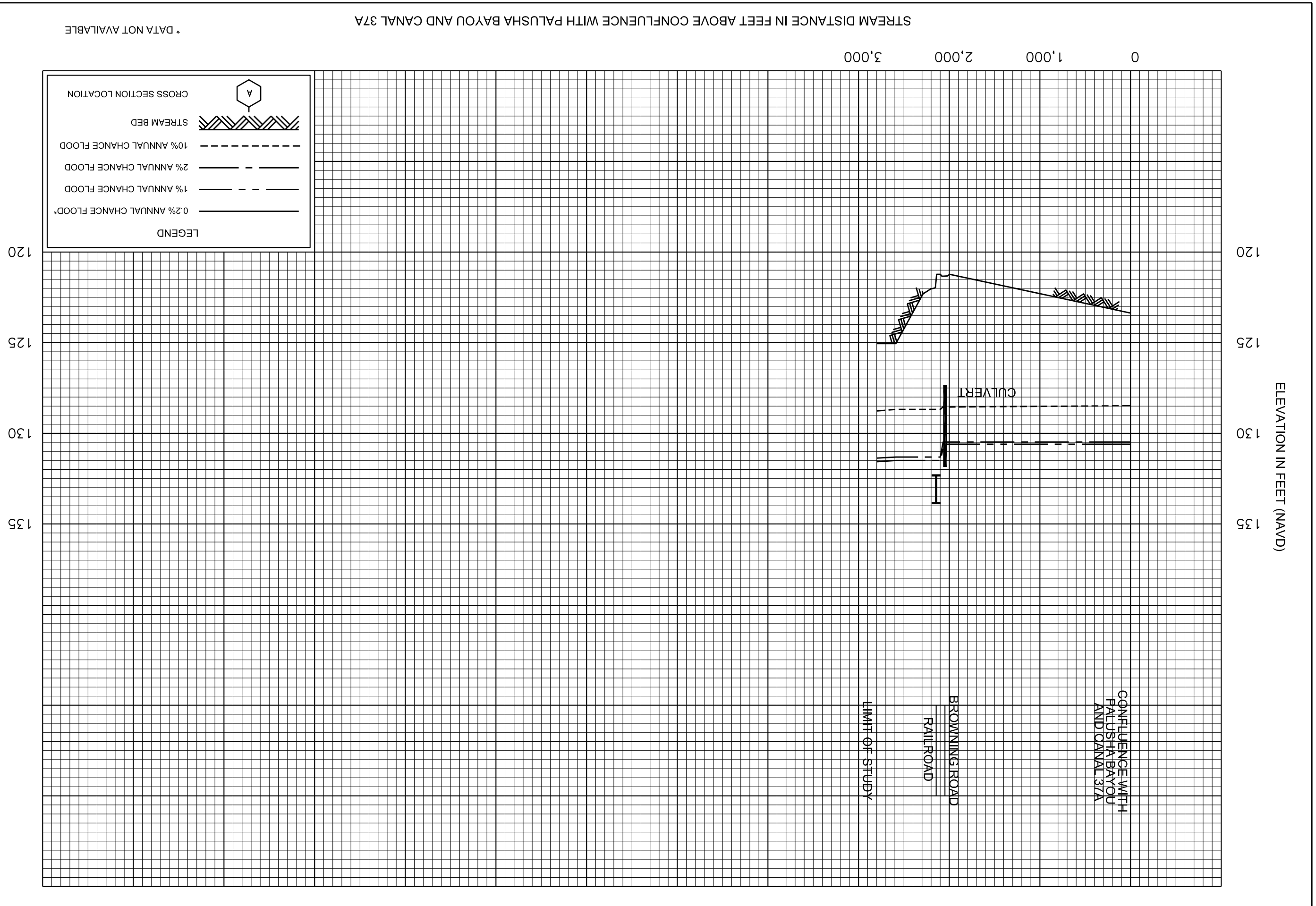
FEDERAL EMERGENCY MANAGEMENT AGENCY

# LEFLORE COUNTY, MS
AND INCORPORATED AREAS

## FLOOD PROFILES

CANAL 29A

02P



ELEVATION IN FEET (NAVD)

115 120 125 130

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000 11,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH PELUCIA CREEK

CONFLUENCE WITH PELUCIA CREEK

UNNAMED ROAD

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- A CROSS SECTION LOCATION

115 120 125 130

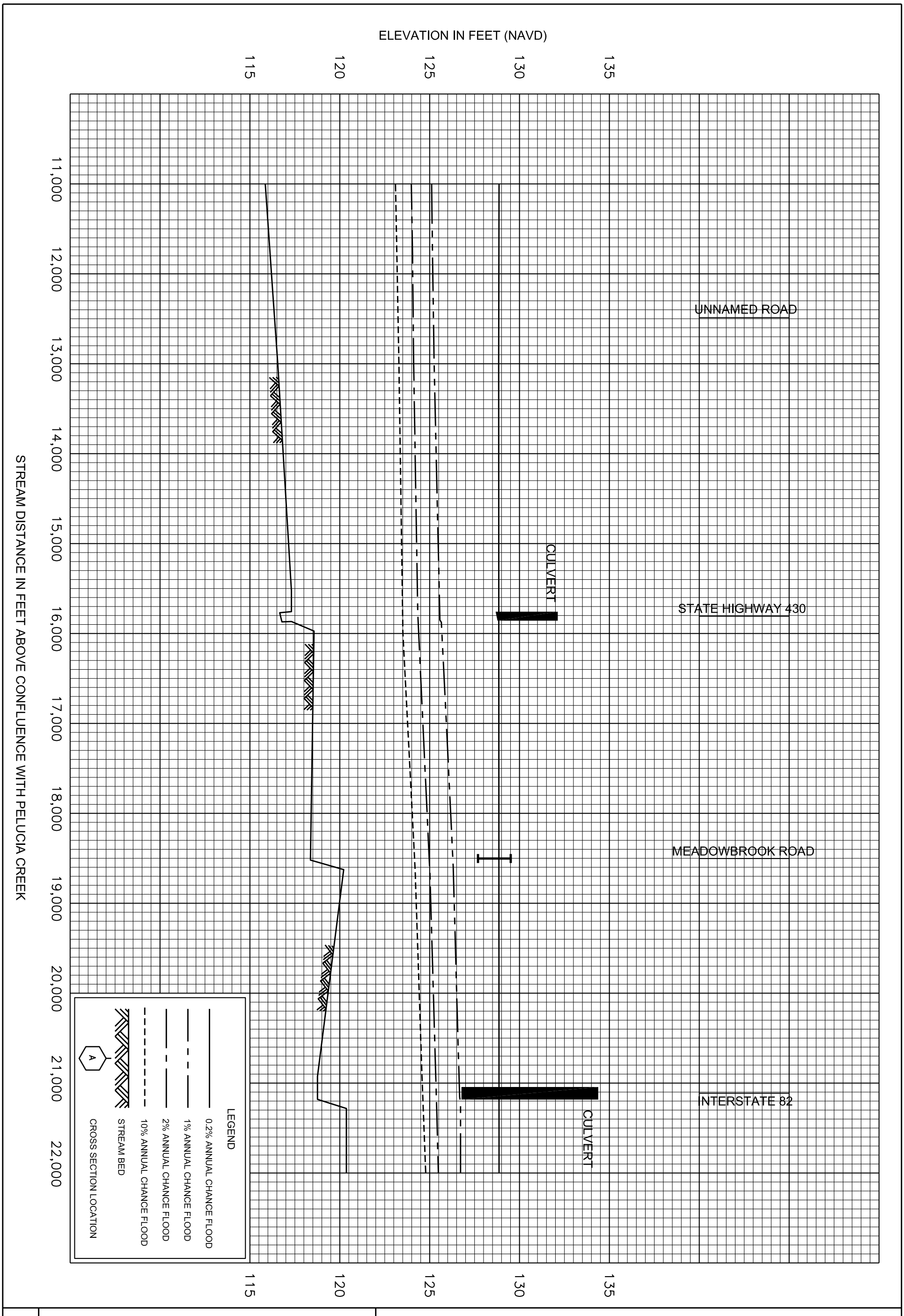
FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

FLOOD PROFILES

CANAL 37

03P



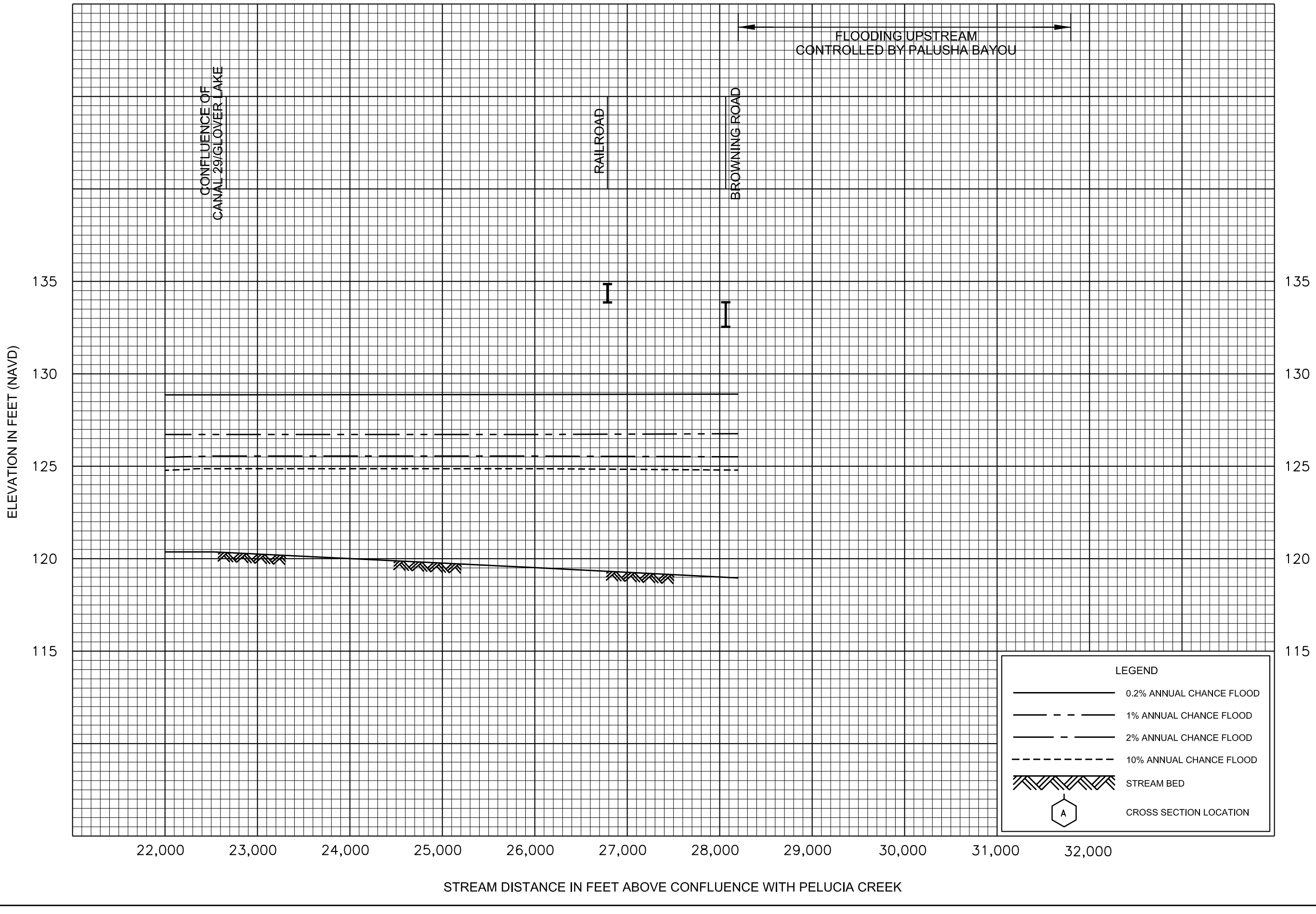

04P

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

FLOOD PROFILES

CANAL 37



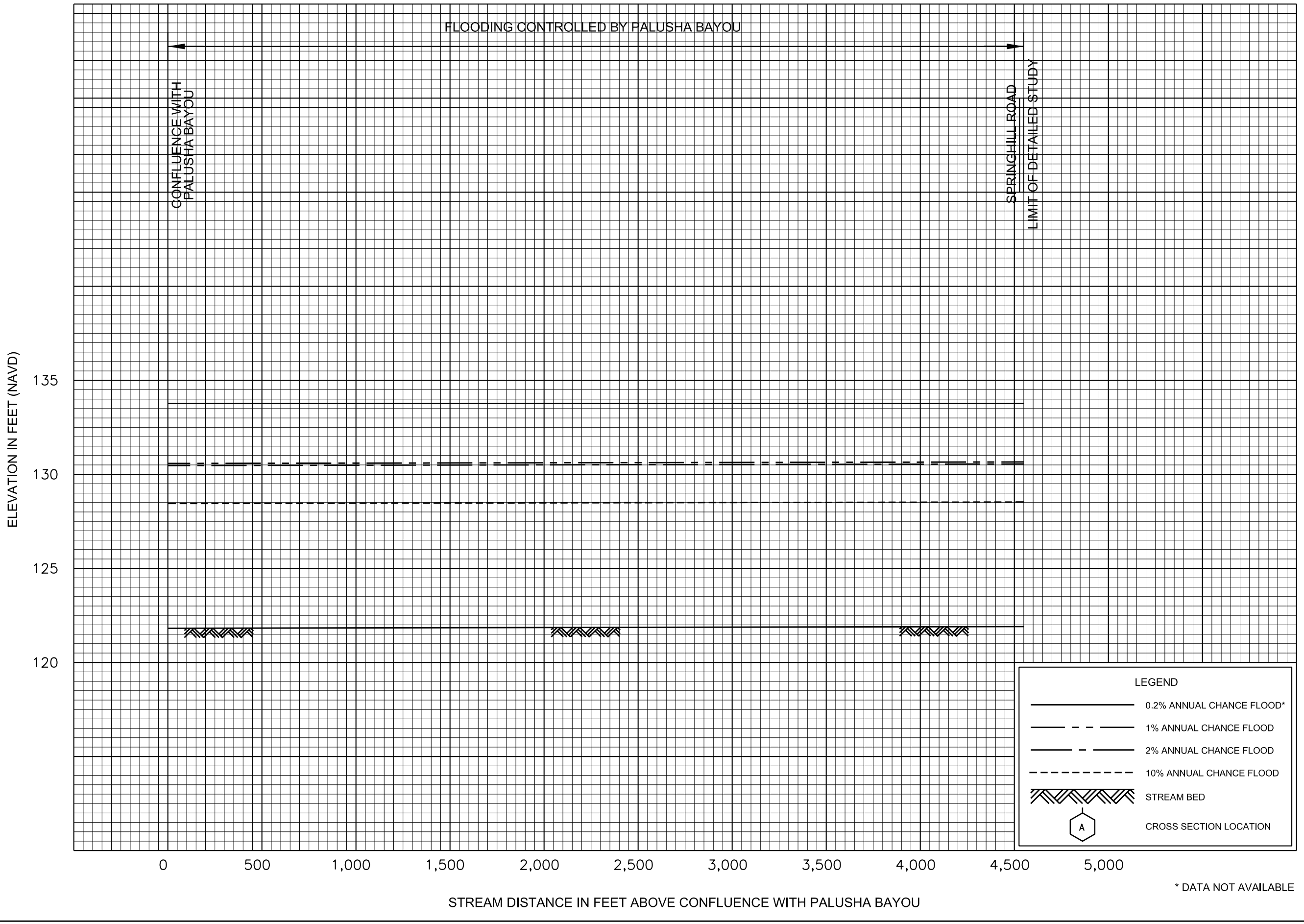

FLOOD PROFILES

CANAL 37

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

05P




FLOOD PROFILES

CANAL 37A

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

06P

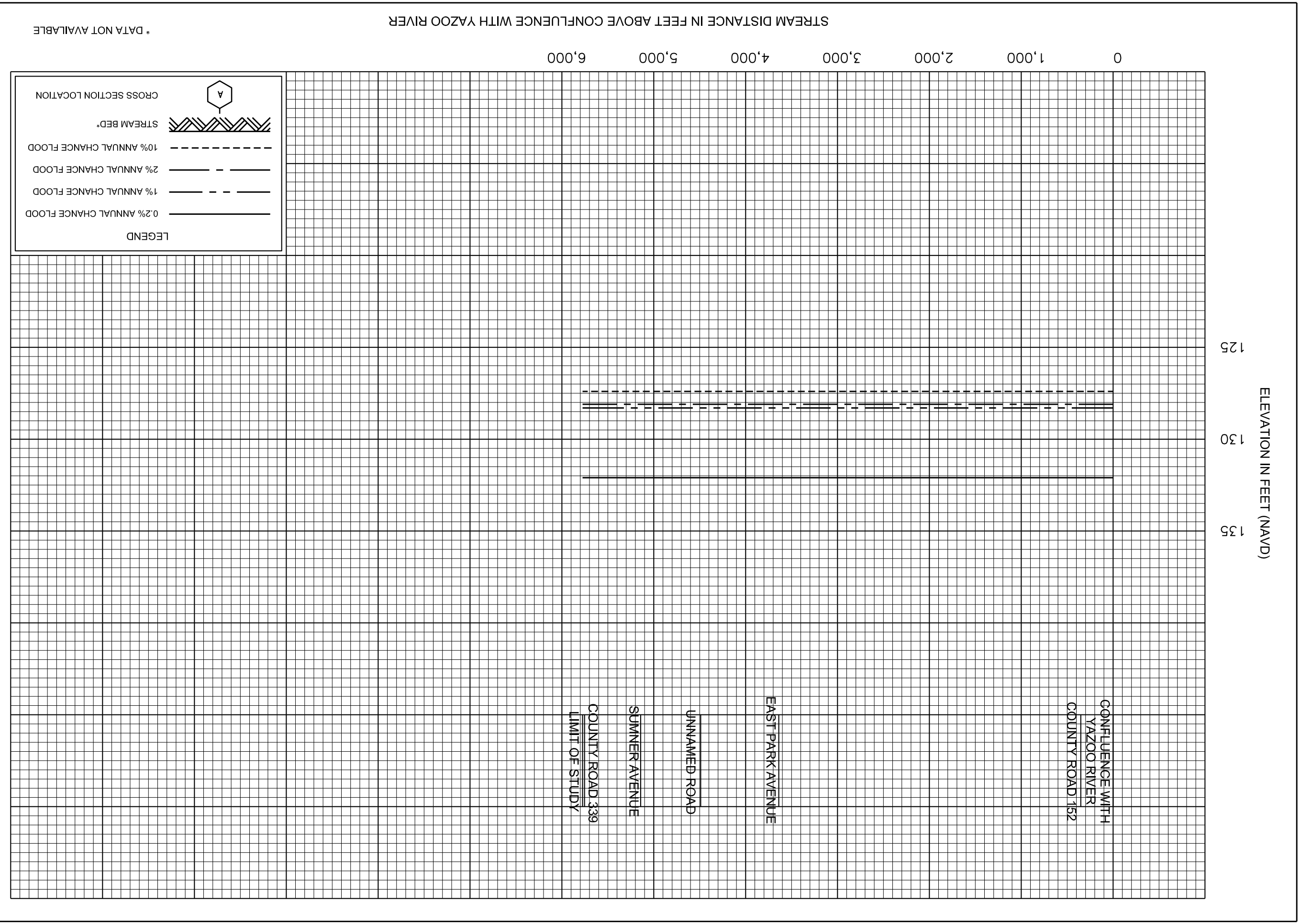
FEDERAL EMERGENCY MANAGEMENT AGENCY

# LEFLORE COUNTY, MS
AND INCORPORATED AREAS

07P

## FLOOD PROFILES

CANAL NO. 1



ELEVATION IN FEET (NAVD)

115 120 125 130 135

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000 11,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH WALKER LAKE CANAL

CONFLUENCE WITH WALKER LAKE CANAL

COUNTY ROAD 540

RAILROAD

U.S. HIGHWAY 49E

CULVERT

UNNAMED ROAD

CULVERT

THE 2% ANNUAL CHANCE FLOOD PROFILE IS TOO CLOSE TO THE 1% ANNUAL CHANCE FLOOD ELEVATION TO BE SHOWN SEPARATELY

CULVERT

INTERSTATE 82

UNNAMED ROAD

CURTIS FLOWERS CIRCLE

LIMIT OF STUDY

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- A CROSS SECTION LOCATION

08P

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS

AND INCORPORATED AREAS

FLOOD PROFILES

CRAIG CANAL

ELEVATION IN FEET (NAVD)

85 90 95 100 105 110 115 120 125

STREAM DISTANCE IN MILES ABOVE CONFLUENCE WITH QUIVER RIVER

0 1 2 3 4 5 6 7 8 9

CONFLUENCE WITH QUIVER RIVER

COUNTY BOUNDARY

BRIDGE DEMOLISHED

MUDDY BAYOU

GIN BAYOU

UNNAMED ROAD

MILLER ROAD

UNNAMED ROAD

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

A

CROSS SECTION LOCATION

95 100 105 110 115 120 125

09P

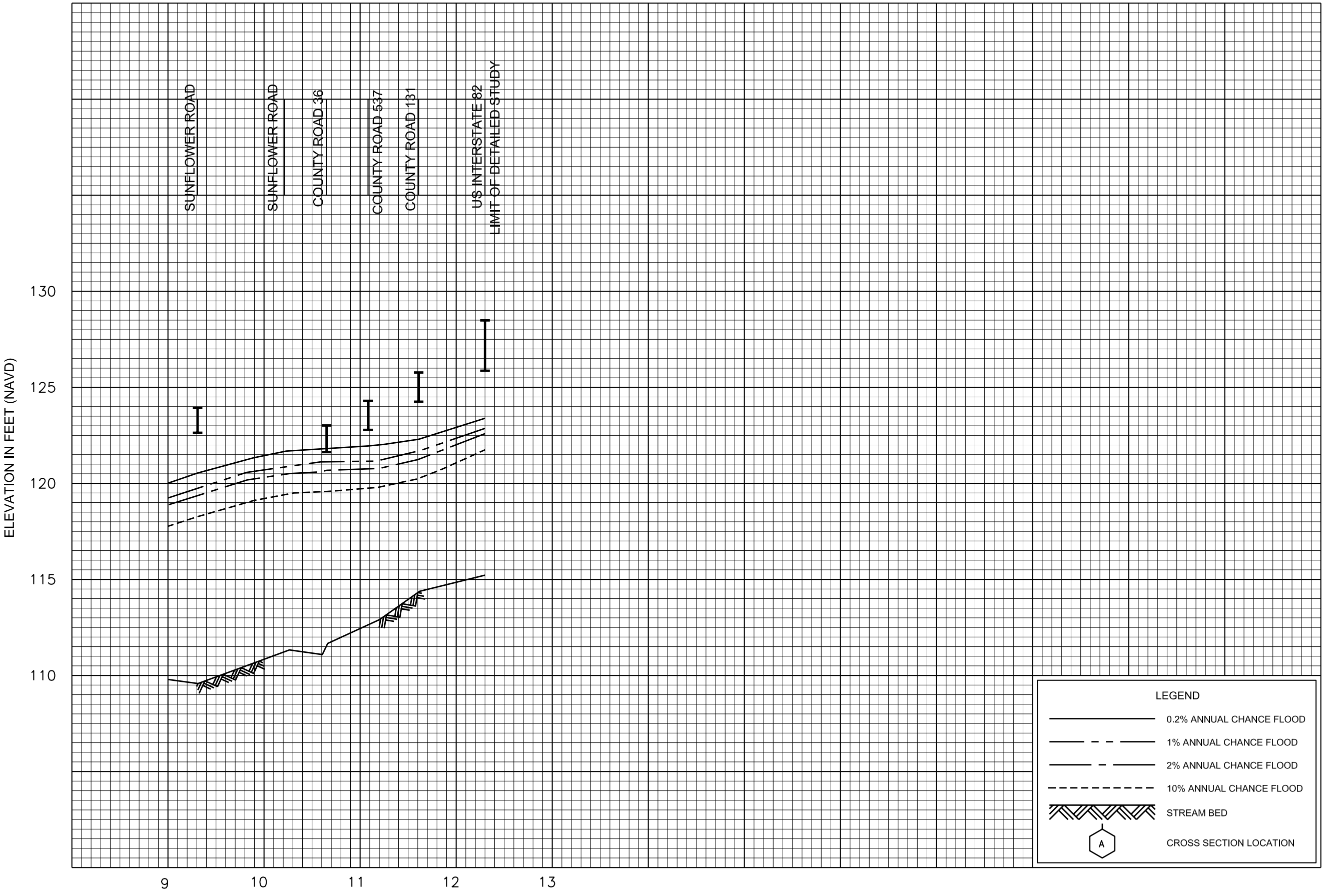
FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS

AND INCORPORATED AREAS

FLOOD PROFILES

MUDDY- GIN BAYOU

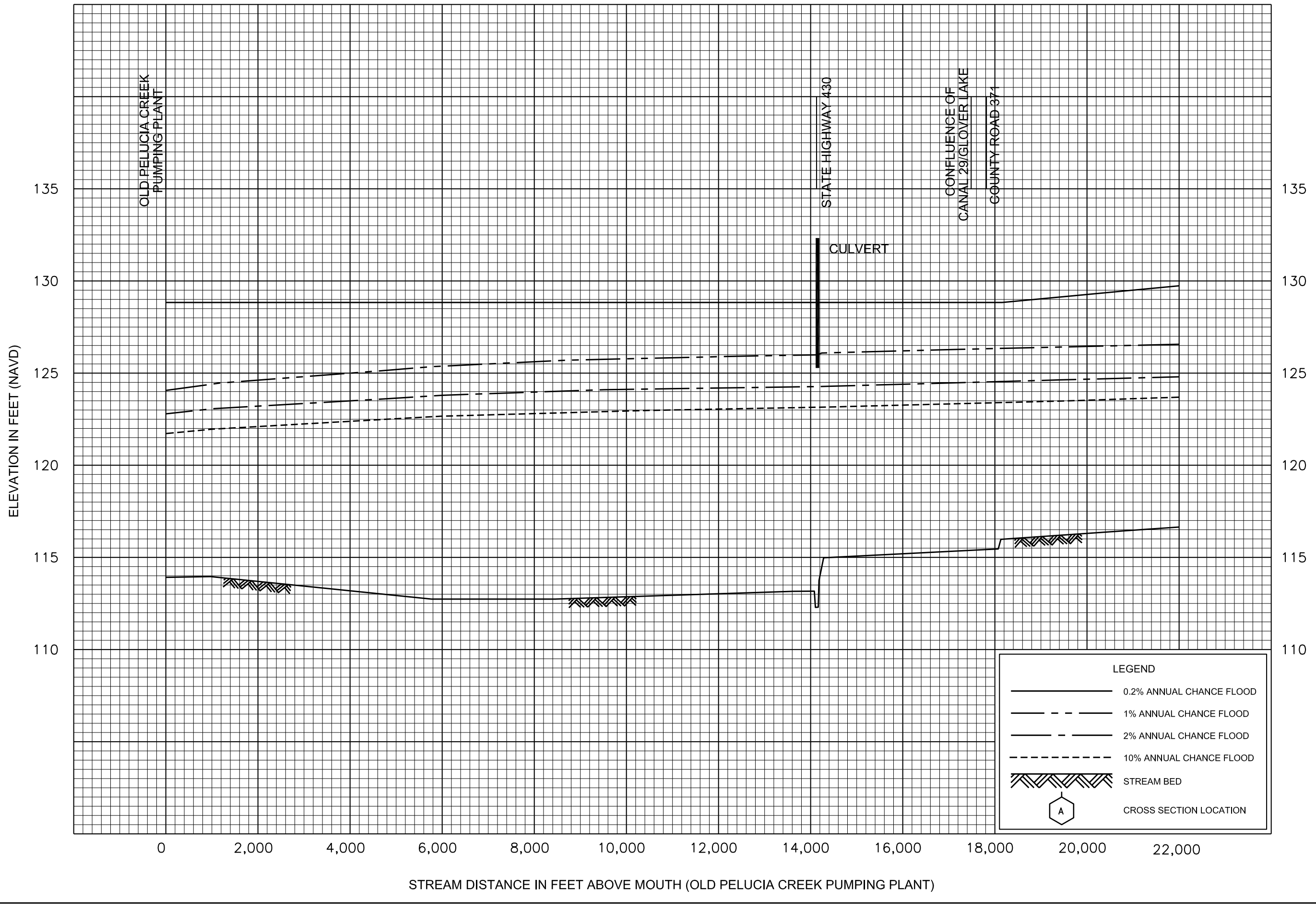



FLOOD PROFILES

MUDDY- GIN BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS



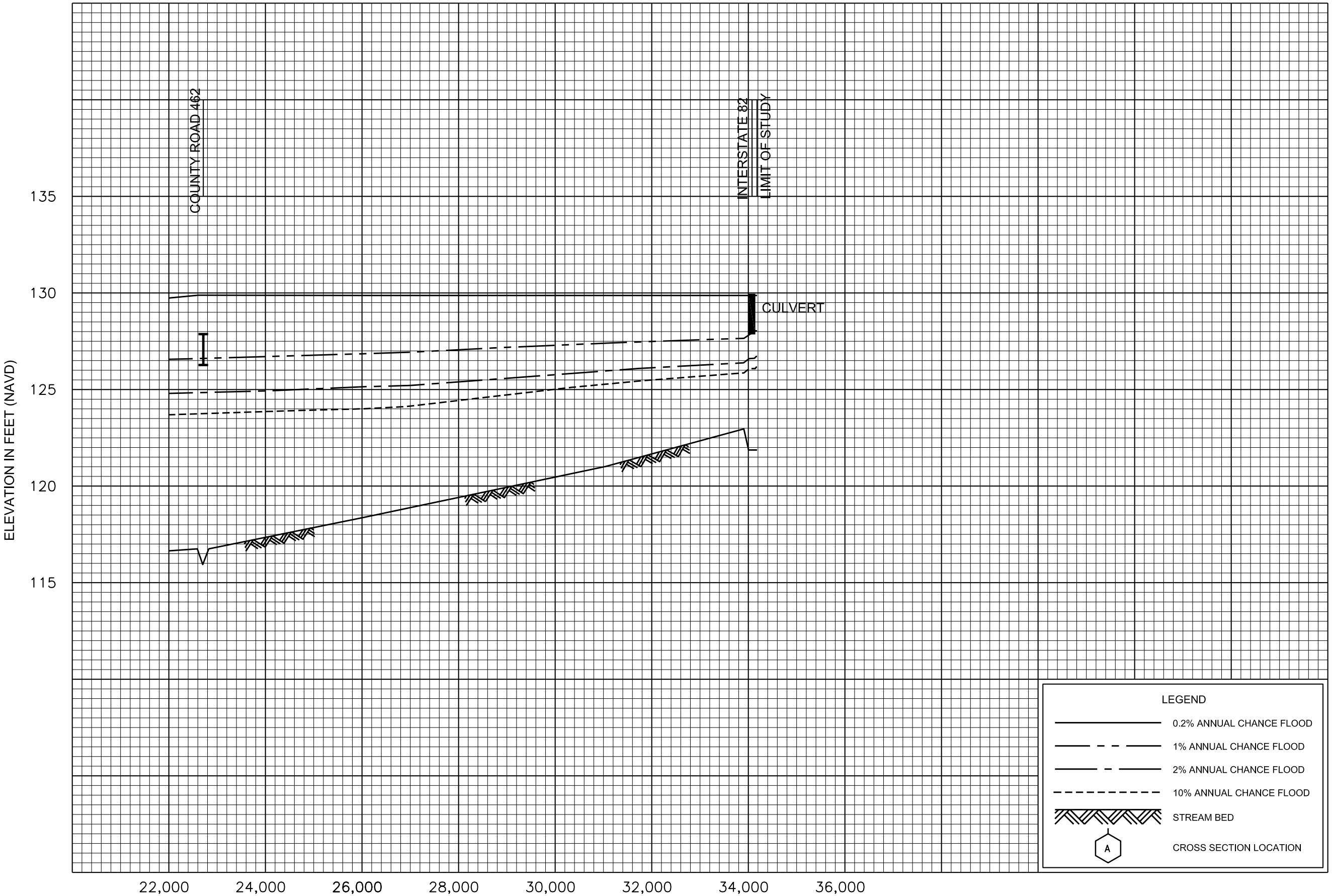

FLOOD PROFILES

OLD PELUCIA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

11P



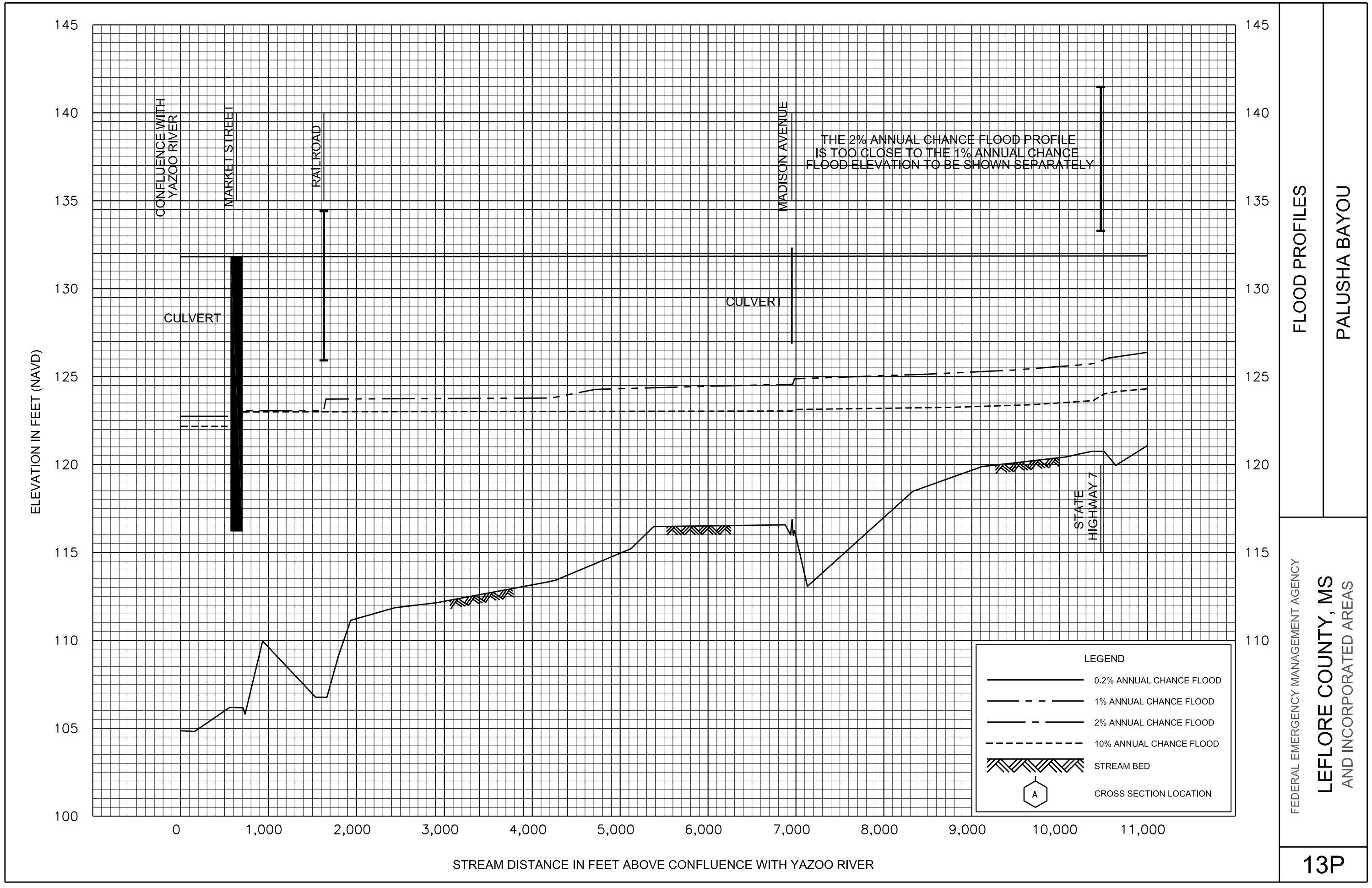

FLOOD PROFILES

OLD PELUCIA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

12P




FLOOD PROFILES

PALUSHA BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

13P

ELEVATION IN FEET (NAVD)

135
130
125
120
115

11,000 12,000 13,000 14,000 15,000 16,000 17,000 18,000 19,000 20,000 21,000 22,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH YAZOO RIVER

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- A — CROSS SECTION LOCATION

FLOOD PROFILES

PALUSHA BAYOU

FEDERAL EMERGENCY MANAGEMENT AGENCY

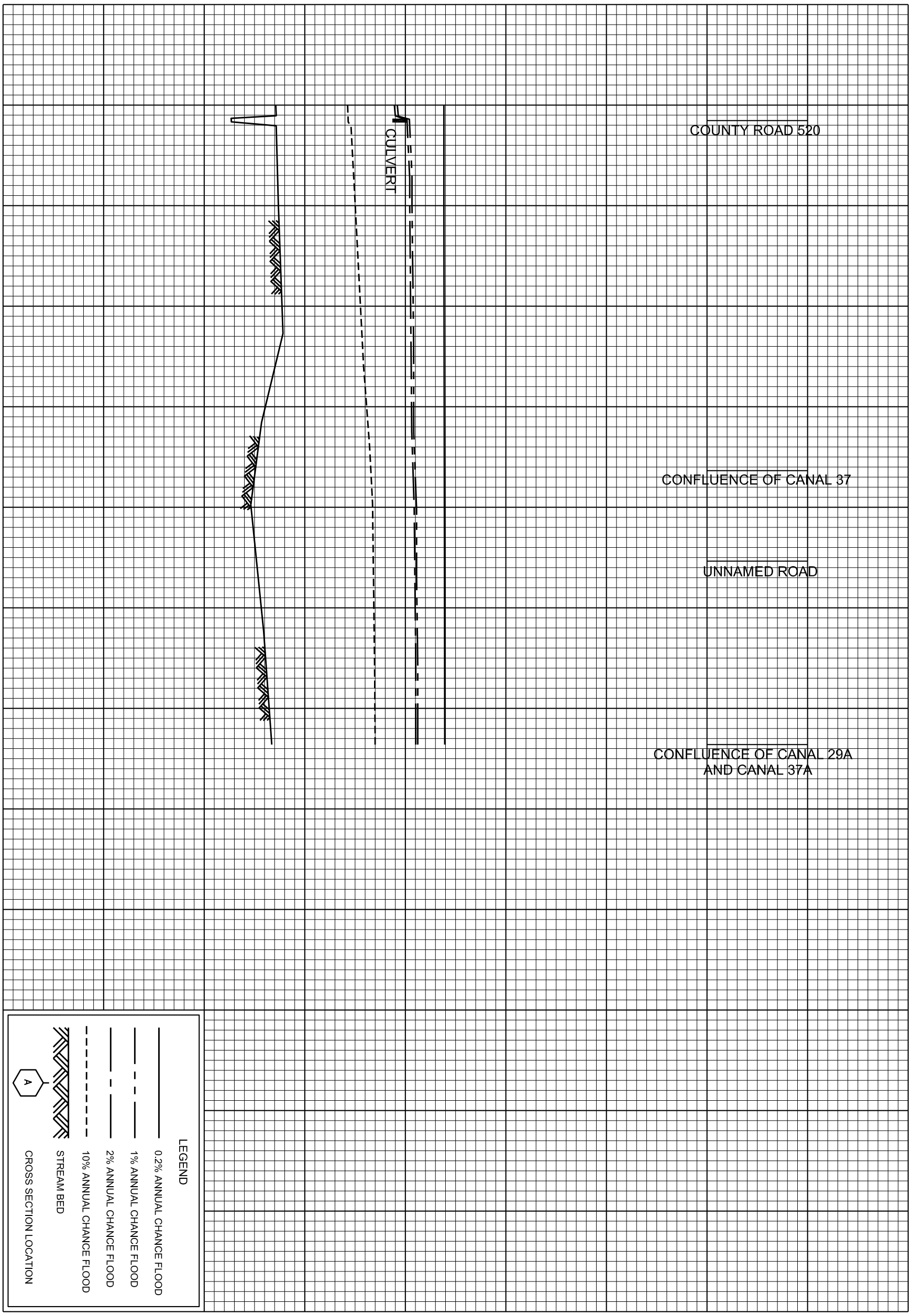
LEFLORE COUNTY, MS
AND INCORPORATED AREAS

ELEVATION IN FEET (NAVD)

120 125 130 135

22,000 23,000 24,000 25,000 26,000 27,000 28,000 29,000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH YAZOO RIVER




120 125 130 135

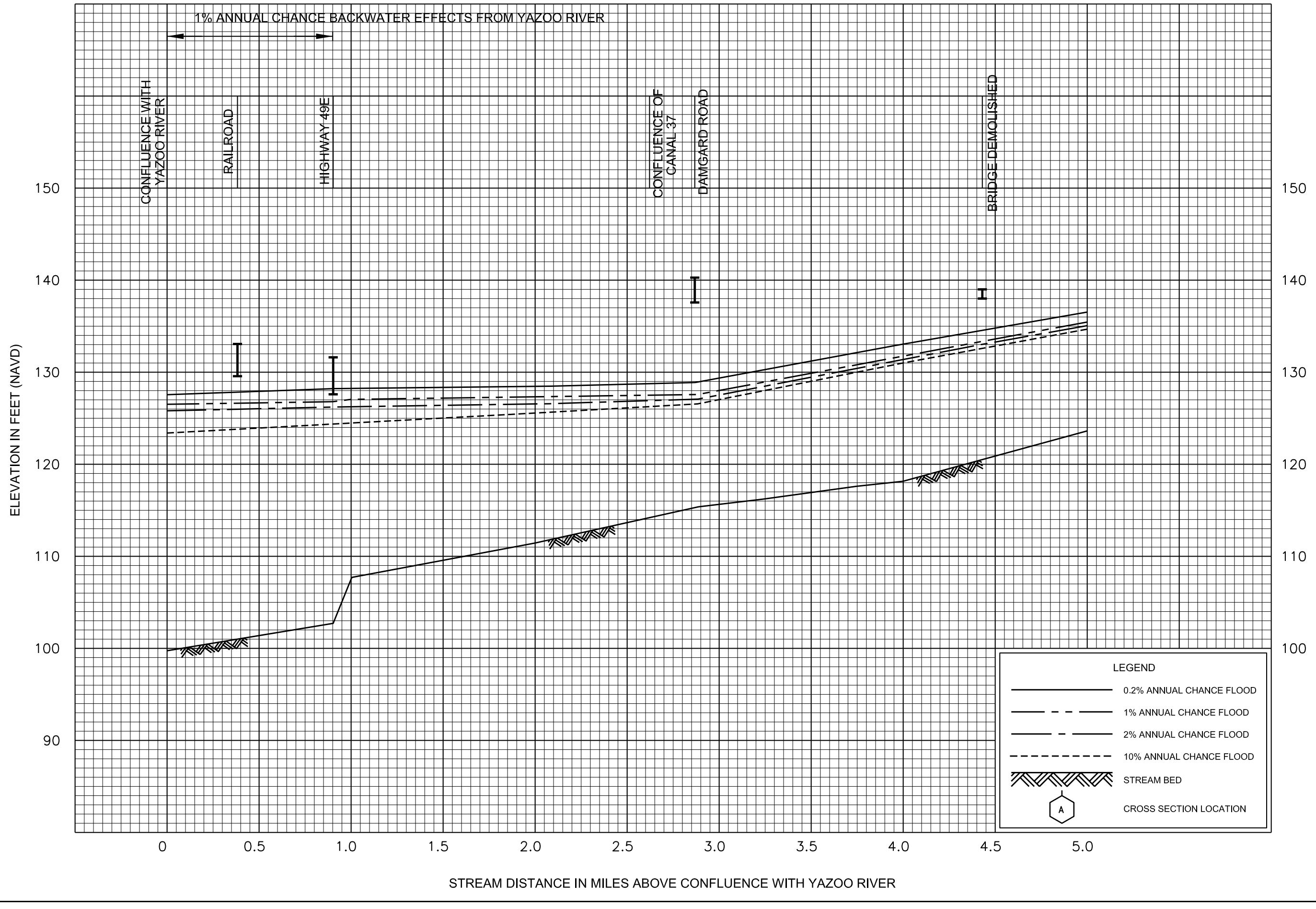
15P

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

FLOOD PROFILES

PALUSHA BAYOU



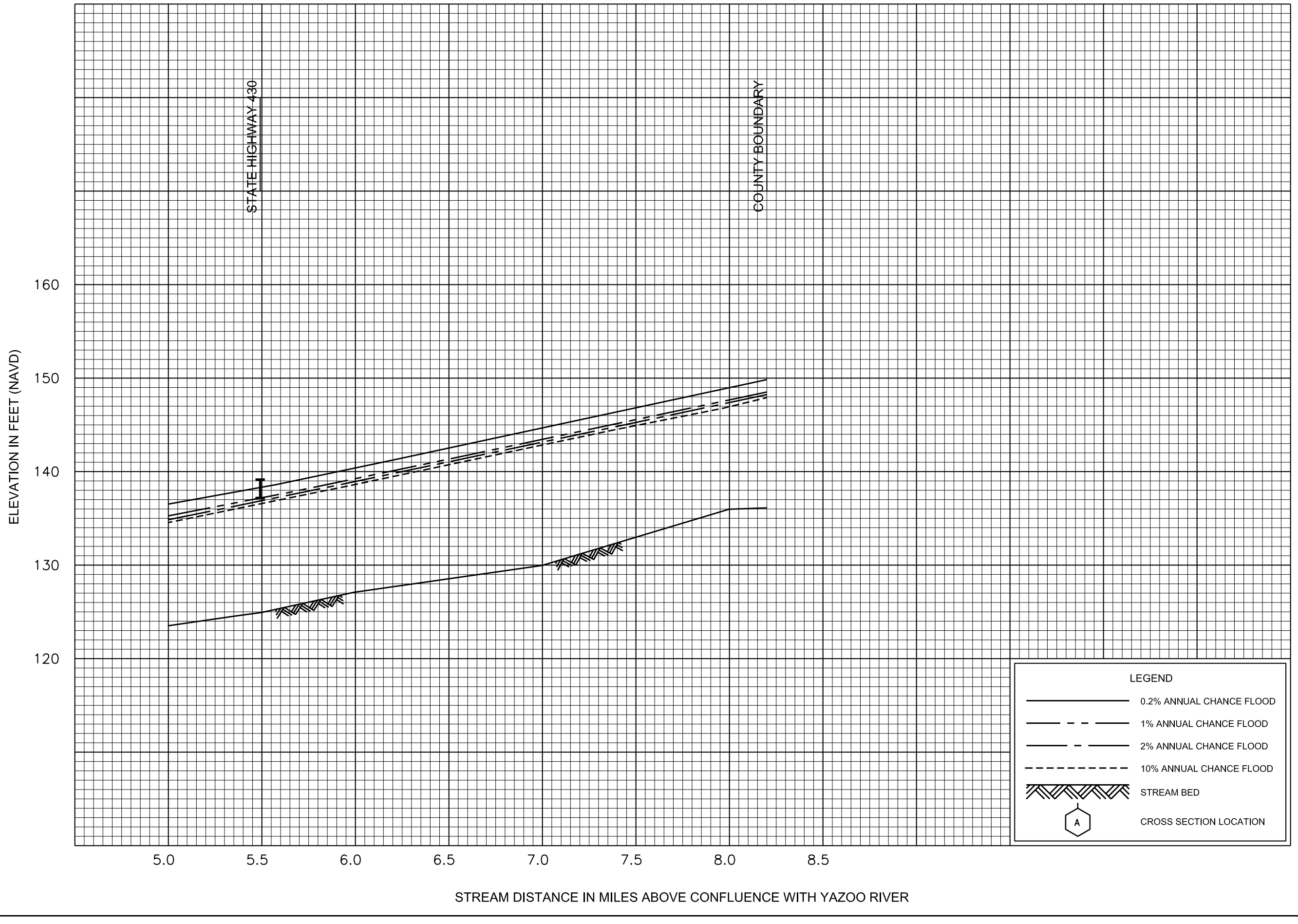

FLOOD PROFILES

PELUCIA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

16P




FLOOD PROFILES

PELUCIA CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

17P

ELEVATION IN FEET (NAVD)

80 90 100 110 120 130 140 150

165 170 175 180 185 190 195 200 205 210 215

STREAM DISTANCE IN MILES ABOVE VICKSBURG CITY LANDING (1970)

CONFLUENCE WITH YALOBUSHA RIVER AND YAZOO RIVER

GRAND BOULEVARD/ MONEY ROAD

BRIDGE DEMOLISHED

SUNNY SIDE ROAD

COUNTY BOUNDARY

STATE HIGHWAY 8

CONFLUENCE OF MILL BAYOU

COUNTY BOUNDARY

RAILROAD

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

LIMIT OF FLOODING AFFECTING THE COMMUNITY

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

A CROSS SECTION LOCATION

100 110 120 130 140 150

18P

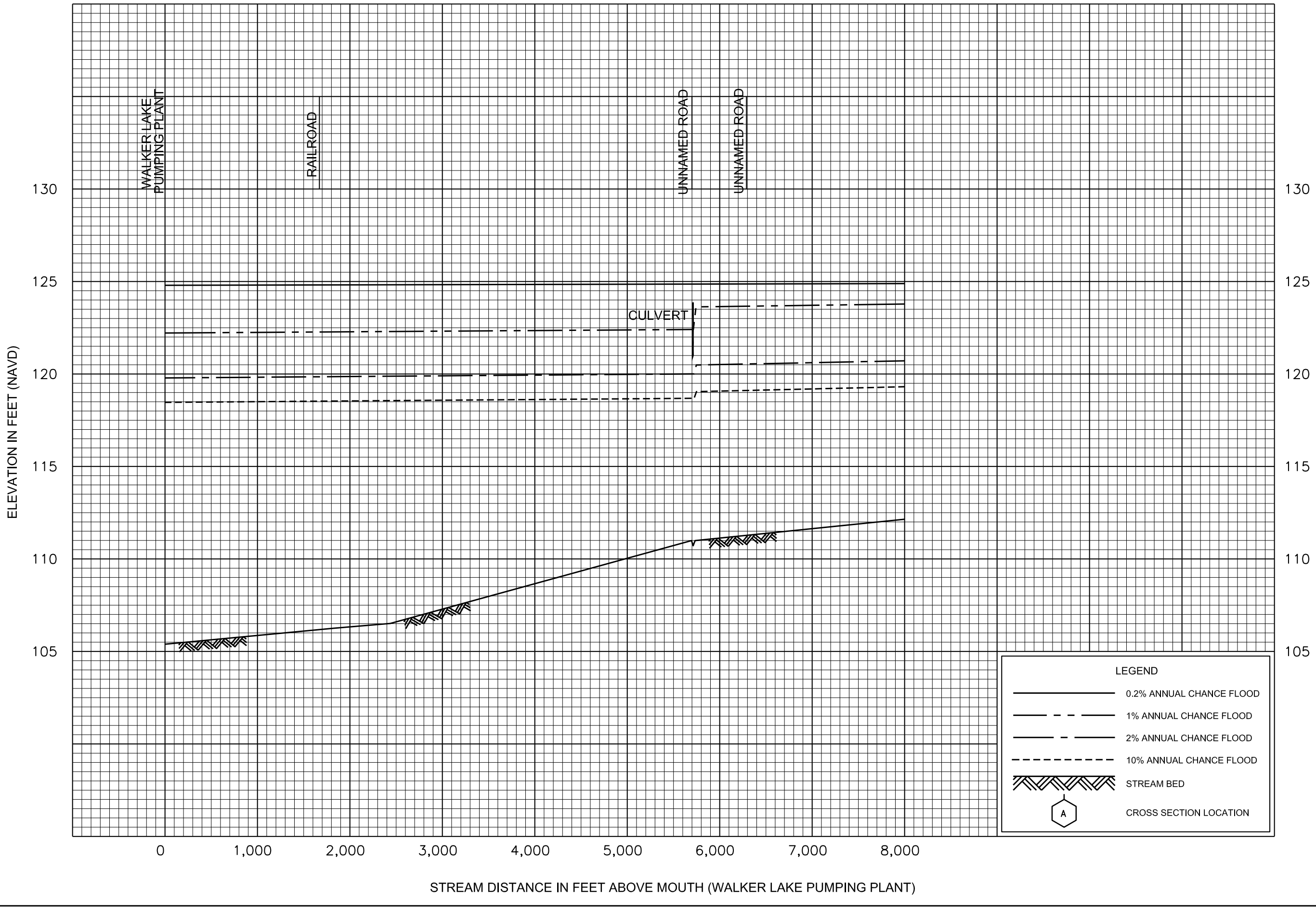
FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS

AND INCORPORATED AREAS

FLOOD PROFILES

TALLAHATCHIE RIVER




FLOOD PROFILES

WALKER LAKE CANAL

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

19P

ELEVATION IN FEET (NAVD)

110 115 120 125 130

8,000 9,000 10,000 11,000 12,000 13,000 14,000 15,000 16,000

STREAM DISTANCE IN FEET ABOVE MOUTH (WALKER LAKE CANAL PUMPING PLANT)

EASTMAN STREET

SYCAMORE STREET

CONFLUENCE OF CRAIG CANAL

INTERSTATE 82 AND 49E

MISSISSIPPI AVENUE

COTTON STREET

LIMIT OF STUDY

CULVERT

CULVERT

CULVERT

CULVERT

CULVERT

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

A

CROSS SECTION LOCATION

115 120 125 130

20P

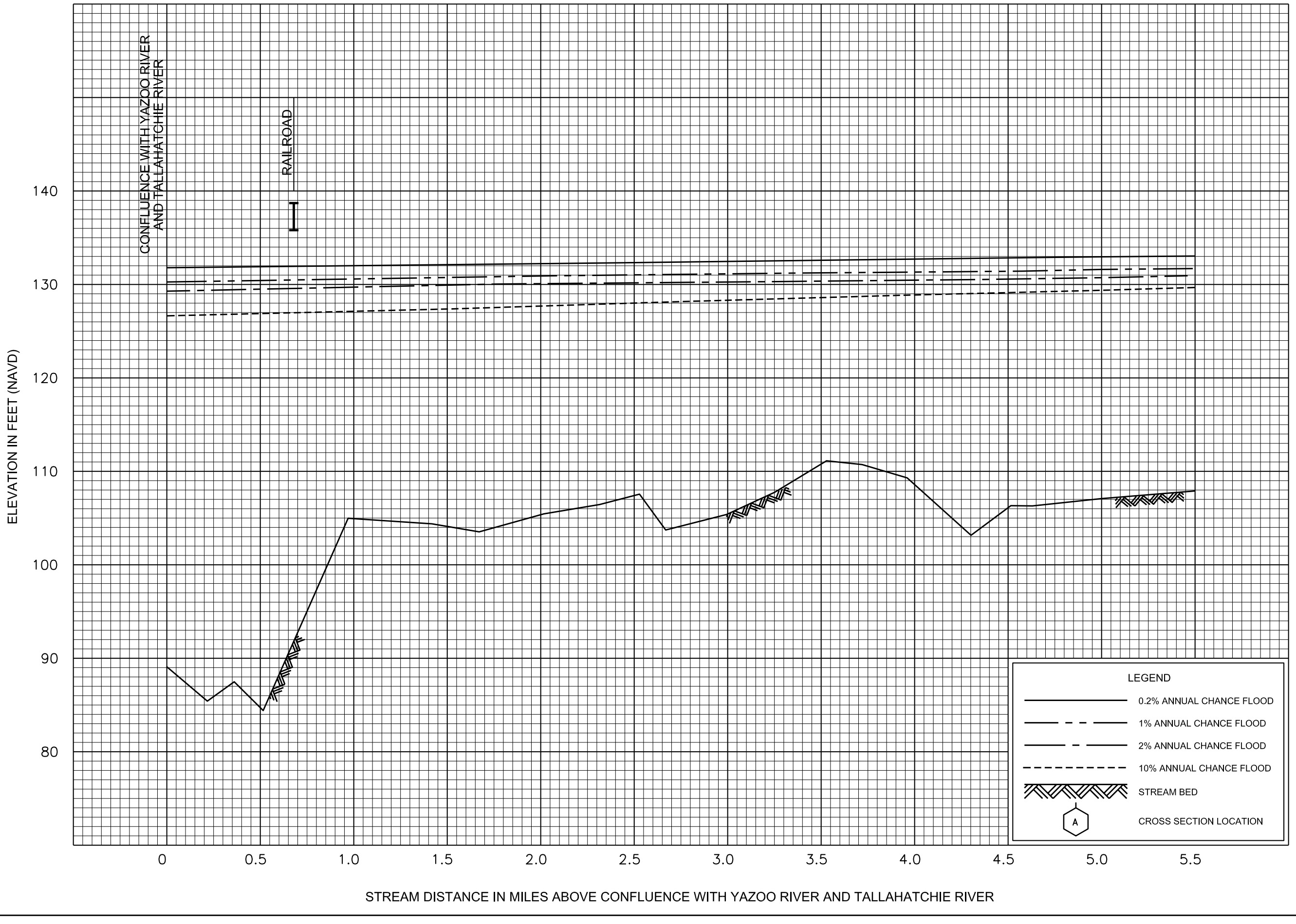
FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS

AND INCORPORATED AREAS

FLOOD PROFILES

WALKER LAKE CANAL



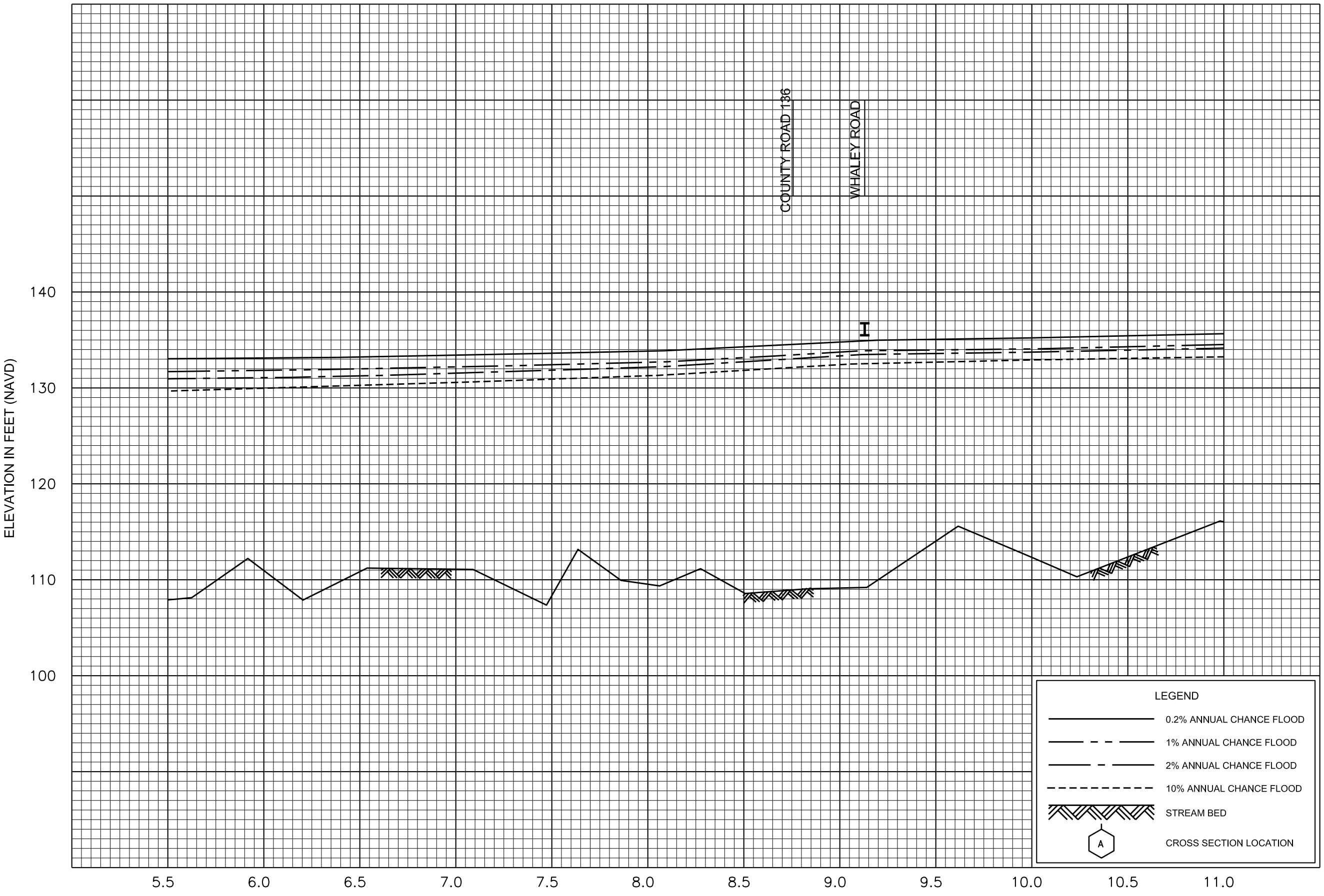

FLOOD PROFILES

YALOBUSHA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

21P




FLOOD PROFILES

YALOBUSHA RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS
AND INCORPORATED AREAS

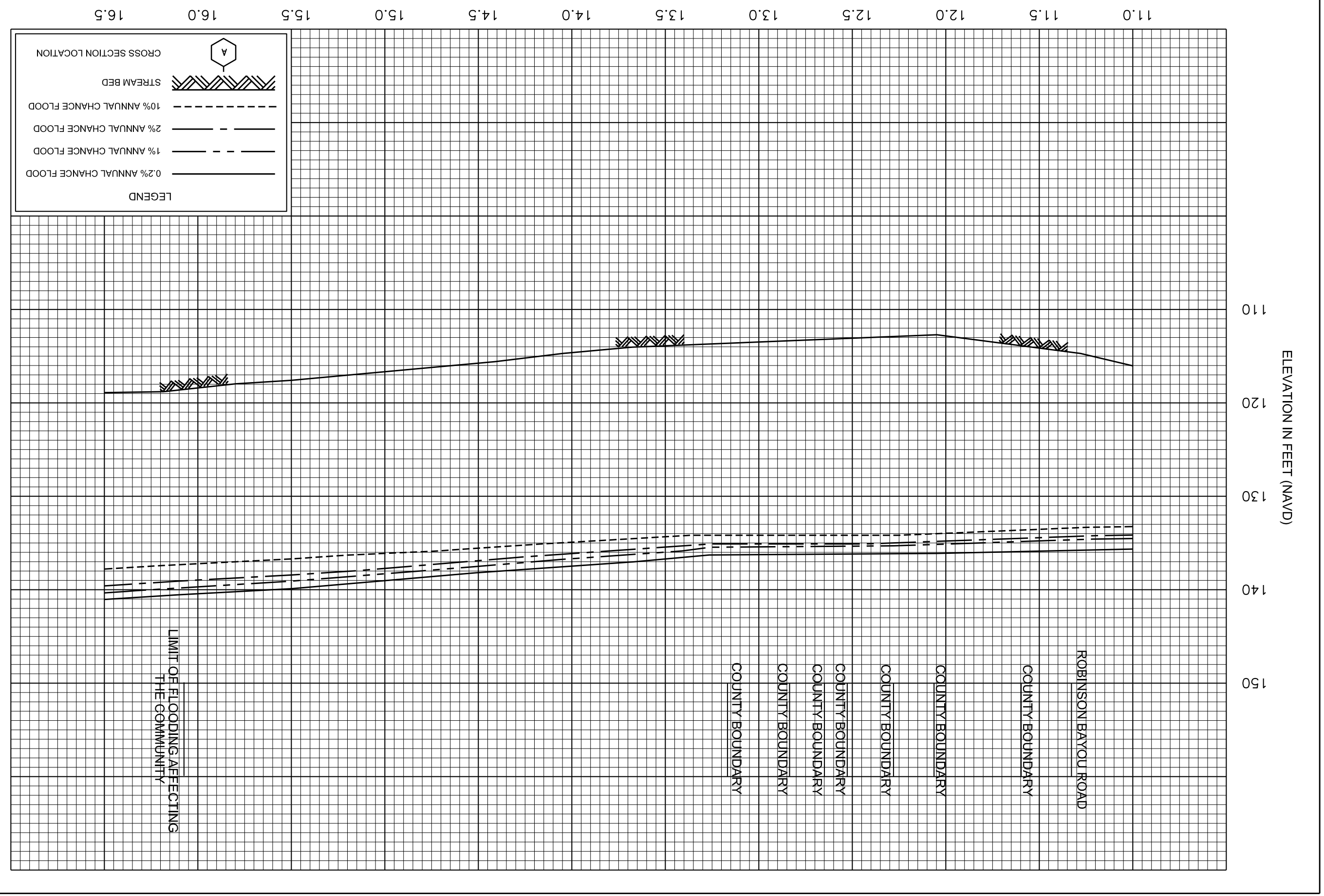
22P

FEDERAL EMERGENCY MANAGEMENT AGENCY

# LEFLORE COUNTY, MS
AND INCORPORATED AREAS

## FLOOD PROFILES

YALOBUSHA RIVER

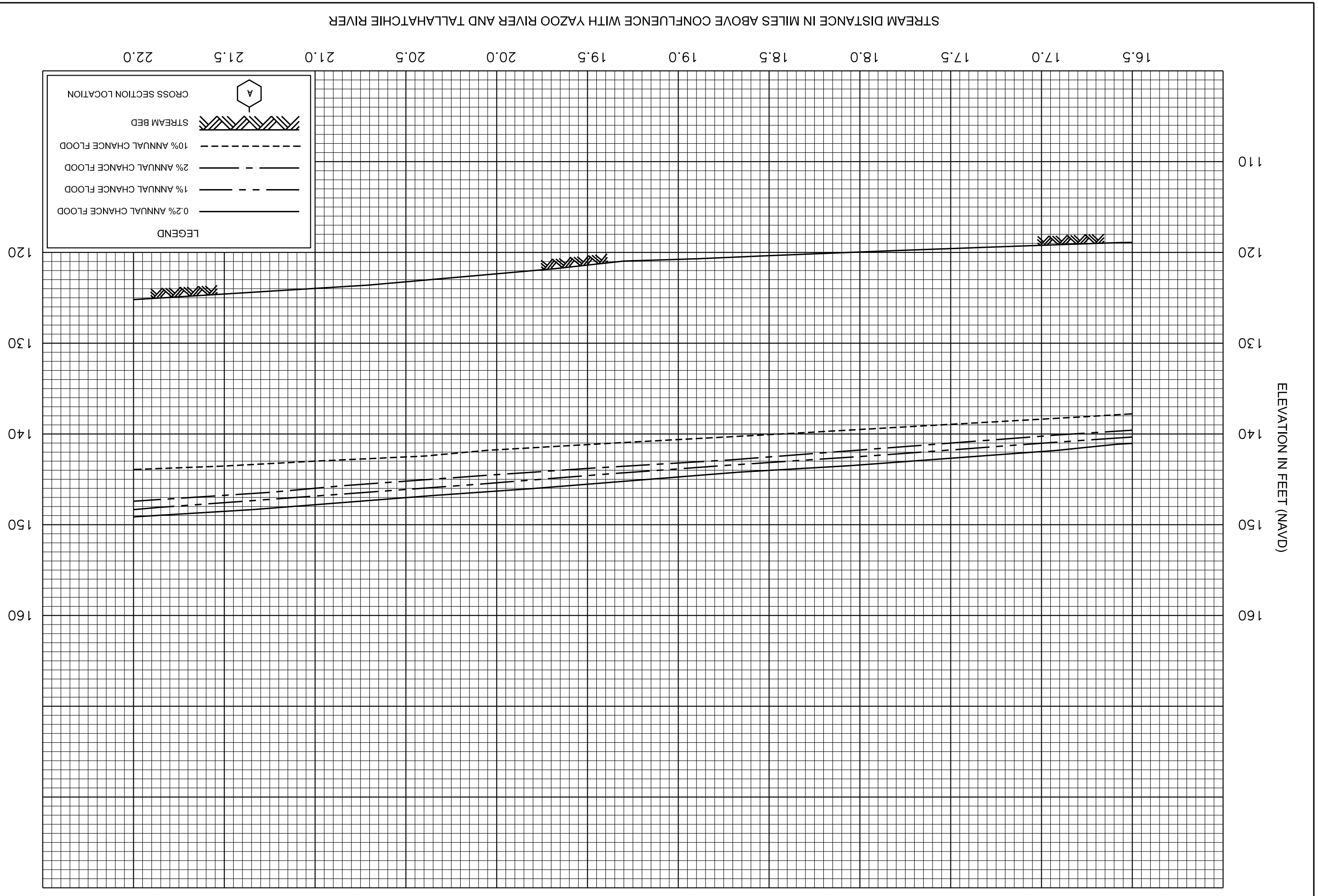


FEDERAL EMERGENCY MANAGEMENT AGENCY

# LEFLORE COUNTY, MS
AND INCORPORATED AREAS

## FLOOD PROFILES

## YALOBUSHA RIVER



ELEVATION IN FEET (NAVD)

60 70 80 90 100 110 120 130 140

125 130 135 140 145 150 155 160 165 170

STREAM DISTANCE IN MILES ABOVE VICKSBURG CITY LANDING (1970)

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

CONFLUENCE OF BLACK DEMOCRAT BAYOU

BRIDGE DEMOLISHED

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY BOUNDARY

COUNTY ROAD 511

ROEBUCK ROAD

CONFLUENCE OF PELUCIA CREEK

RAILROAD

INTERSTATE 82 & 49E

FULTON STREET

WALTHALL STREET

CONFLUENCE OF CANAL NO. 1

CONFLUENCE OF YALOBUSHA RIVER AND TALLAHATCHIE RIVER

CONFLUENCE OF PALUSHA BAYOU

A B C D E

LEGEND

0.2% ANNUAL CHANCE FLOOD

1% ANNUAL CHANCE FLOOD

2% ANNUAL CHANCE FLOOD

10% ANNUAL CHANCE FLOOD

STREAM BED

A CROSS SECTION LOCATION

80 90 100 110 120 130 140

25P

FEDERAL EMERGENCY MANAGEMENT AGENCY

LEFLORE COUNTY, MS

AND INCORPORATED AREAS

FLOOD PROFILES

YAZOO RIVER