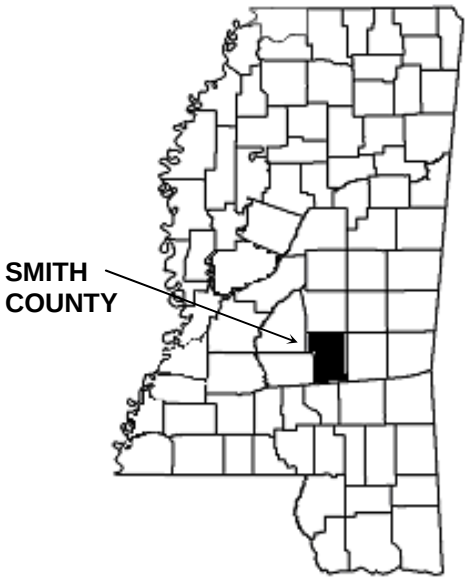
FLOOD INSURANCE STUDY

SMITH COUNTY, MISSISSIPPI
AND INCORPORATED AREAS



COMMUNITY NAME	COMMUNITY NUMBER
MIZE, TOWN OF	280160
POLKVILLE, VILLAGE OF	280342
RALEIGH, TOWN OF	280340
SMITH COUNTY (UNINCORPORTED AREAS)	280306
SYLVARENA, VILLAGE OF	280341
TAYLORSVILLE, TOWN OF	280161

REVISED:

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
28129CV000A

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) report 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 report may be revised and republished at any time. In addition, part of this FIS report 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 report components.

Initial Countywide FIS Report Effective Date: December 3, 1993

Revised Countywide FIS Report Dates:

TABLE OF CONTENTS

TABLE OF CONTENTS - continued

FLOOD INSURANCE STUDY
SMITH COUNTY, MISSISSIPPI AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and supersedes the FIS reports and/or Flood Insurance Rate Maps (FIRMs) in the geographic area of Smith County, Mississippi, including the Towns of Mize, Raleigh, and Taylorsville, the Villages of Polkville and Sylvarena, and unincorporated areas of Smith County (hereinafter referred to collectively as Smith County). The Village of Polkville and the Town of Raleigh are non-floodprone communities.

This FIS 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 Smith 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 FIS report are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

December 3, 1993, Countywide FIS

The December 3, 1993, FIS was prepared to include incorporated communities within Smith County into a countywide FIS. The hydrologic and hydraulic analyses for this countywide study were prepared by the U.S. Army Corps of Engineers (USACE), Mobile District, for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. IA-EMW-91-E-3529, Task Order No. 3-MOB, Project Order No. 3. This work was completed in November 1991.

This Countywide FIS Revision

The hydrologic and hydraulic analyses for this countywide FIS were performed by the State of Mississippi for the Federal Emergency Management Agency (FEMA), under Contract No. 2008-CA-5883. This study was completed in May 2009.

The digital base map information files were provided by the State of Mississippi. The digital orthophotography was acquired in March 2006, with the imagery processed to a 2-foot pixel resolution.

The digital FIRM was produced using the Mississippi State Plane Coordinate System, East Zone, FIPS ZONE 2301. The horizontal datum was the North American Datum of 1983, GRS 1980 spheroid. Distance units were measured in U.S. feet.

1.3 Coordination

An initial Consultation Coordination Officer's (CCO) meeting is held with representatives from FEMA, the community, and the study contractor to explain the nature and purpose of a FIS, and to identify the streams to be studied by detailed methods. A final CCO meeting is held with representatives from FEMA, the community, and the study contractor to review the results of the study.

December 3, 1993, Countywide FIS

For the December 3, 1993, Countywide FIS, FEMA notified the Town of Mize and Smith County of the initiation of a revision to their FIS's on August 18, 1992, and the Town of Taylorsville on February 26, 1992. The Final CCO meeting for the Town of Mize, the Town of Taylorsville, and Smith County, was held on December 9, 1992. This meeting was held with representatives from the towns, the county, the USACE, and FEMA.

This Countywide FIS

For this countywide FIS, the Project Scoping Meeting was held on September 9, 2008 in Smith City, MS. Attendees for these meetings included representatives from the Mississippi Department of Environmental Quality, Mississippi Emergency Management Agency, FEMA National Service Provider, Smith County, the Town of Satartia, the City of Smith City, and the Study Contractor. Coordination with county officials and Federal, State, and regional agencies produced a variety of information pertaining to floodplain regulations, available community maps, flood history, and other hydrologic data. All problems raised in the meetings have been addressed.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Smith County, Mississippi, and its incorporated communities listed in Section 1.1

December 3, 1993, Countywide FIS

The December 3, 1993, countywide FIS was carried out to include flood hazard information for incorporated communities within Smith County. The following streams were studied by detailed methods in the countywide study: Leaf River, Lyon Creek, and Tributary to Lyon Creek. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction.

All or portions of numerous flooding sources in the countywide study were studied using approximate methods. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and Smith County.

This Countywide FIS

For this countywide FIS, several flooding sources within the county were studied by approximate methods. Approximate analyses are used to study those areas having a low developmental potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon, by FEMA and the State of Mississippi.

Floodplain boundaries of streams that have been previously studied by detailed methods were redelineated based on best available topographic information.

2.2 Community Description

Smith County is located in west central Mississippi and is bordered on the west by Rankin and Simpson Counties, Mississippi; on the south by Covington and Jones Counties, Mississippi; on the north by Scott County, Mississippi; and on the east by Jasper County, Mississippi. Smith County is served by State Highways 13, 18, 28, 35, 37, 481, 501, 531, 540, 541, 902, and 917. The 2009 population was reported to be 15,826 (U.S. Census Bureau, 2010).

The climate of Smith County is influenced mainly by its subtropical latitude, the huge landmass to the north, its proximity to the warm waters of the Gulf of Mexico, and the prevailing southerly winds. The minimum mean temperature is 45 ^{o}F in January, and the maximum mean temperature is 80.4 ^{o}F in July. Moisture is ample throughout the year, often with prolonged rainfall in the winter and spring due to warm air from the Gulf of Mexico overriding cooler air masses near the ground surface. The mean annual precipitation is 60.2 inches (National Oceanic and Atmospheric Administration, 2010). Smith County consists of approximately 636 square miles.

2.3 Principal Flood Problems

No major flood problems have been identified within Smith County.

2.4 Flood Protection Measures

There are currently no flood protection measures that exist for Smith County.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the communities, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are 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

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

December 3, 1993, Countywide FIS Analyses

The 10-, 2-, 1-, and 0.2-percent annual chance flows were computed using the equations given in the Water Resources Investigations Report 91-4037, Flood Characteristics of Mississippi Streams, prepared by the USGS (Dept. of the Interior, 1991).

This Countywide FIS Analysis

Peak discharges were calculated based on USGS regional regression equations (U.S. Department of the Interior, 1991). For the discharges calculated based on regional regression equations, the rural regression values were modified to reflect stream gage weighting and/or urbanization as necessary.

A summary of the drainage area-peak discharge relationships for all the streams is shown in Table 1, “Summary of Discharges.”

TABLE 1. SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. mi.)	PEAK DISCHARGES (cfs) 10-percent	2-percent	1-percent	0.2-percent
LEAF RIVER					
At Smith/Covington county boundary	476	18,400	31,300	37,500	53,600
At State Highway 28 bridge	459	18,000	30,600	36,700	52,400
LYON CREEK					
At confluence with Leaf River	9.3	2,200	3,400	3,800	4,900
At Norris Street	4.4	1,400	2,100	2,300	3,000
At County Road bridge	2.2	900	1,400	1,500	1,900
TRIBUTARY OF LYON CREEK					
At confluence with Lyon Creek	3.7	1,100	1,600	1,800	2,400
At Norris Street	3.1	1,100	1,600	1,800	2,300
At McCallum Drive	2.7	1,000	1,500	1,700	2,200

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. 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 table 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 report in conjunction with the data shown on the FIRM.

December 3, 1993, Countywide FIS Analyses

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

Cross sections for the flooding sources studied by detailed methods were obtained from contour mapping and field surveys. All bridges, dams, and culverts were field surveyed to obtain elevation data and structural geometry.

Water-surface elevations of floods of the selected recurrence intervals were computed using the USACE HEC-2 step-backwater computer program (USACE, 1988). Starting water-surface elevations were calculated using the slope/area method. Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals.

Channel roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment from field inspection. Table 2 shows the channel and overbank "n" values for the streams studied by detailed methods:

TABLE 2 – ROUGHNESS COEFFICIENTS – MANNING'S "N"

STREAM	CHANNEL "N"	OVERBANK "N"
LEAF RIVER	0.045-0.060	0.100-0.150
LYON CREEK	0.045-0.060	0.100-0.150
TRIBUTARY OF LYON CREEK	0.045-0.060	0.100-0.150

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

This Countywide FIS Analysis

Downstream boundary conditions for the hydraulic 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. Water-surface profiles were computed through the use of the USACE HEC-RAS version 4.0.0 computer program (USACE, 2008). The model was run for the 1-percent-annual-chance storm for the limited detail and approximate studies.

The hydraulic analyses for this countywide FIS 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.

Qualifying bench marks within a given jurisdiction that are cataloged by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or Second Order Vertical and have a vertical stability classification of A, B, or C are shown and labeled on the FIRM with their 6-character NSRS Permanent Identifier.

Benchmarks cataloged by the NGS and entered into the NSRS vary widely in vertical stability classification. NSRS vertical stability classifications are as follows:

> Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)
>
> Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)
>
> Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monuments below frost line)
>
> Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

In addition to NSRS benchmarks, the FIRM may also show vertical control monument established by a local jurisdiction; these monuments will be shown on the FIRM with the appropriate designations. Local monuments will only be placed on the FIRM if the community has requested that they be included, and if the monuments meet the aforementioned NSRS inclusion criteria.

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

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. Interested individuals may contact FEMA to access this data.

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. It is important to note that adjacent communities may be referenced to NGVD29. This may result in differences in Base Flood Elevations (BFEs) across the corporate limits between the communities.

Ground, structure, and flood elevations may be compared and/or referenced to NGVD29 by applying a conversion factor. To convert elevations from NAVD88 to NGVD29, subtract 0.01 feet to the NAVD88 elevation. The 0.01 feet value is an average for the entire county. The adjustment value was determined using the USACE Corpscon 6.0.1 computer program (USACE, 2004) and topographic maps (U.S. Department of the Interior, 1968). The BFE's 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 this FIS report to NGVD29 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 the NAVD, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* 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).

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 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 methods, the 1- and 0.2-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using 5-foot contours created from the March 2006 2-foot digital orthophotography.

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 limited detailed and approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2). Floodplain boundaries for these streams, as well as those streams that have been previously studied by detailed methods, were generated using 5-foot contours created from the March 2006 2-foot digital orthophotography.

.

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 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.

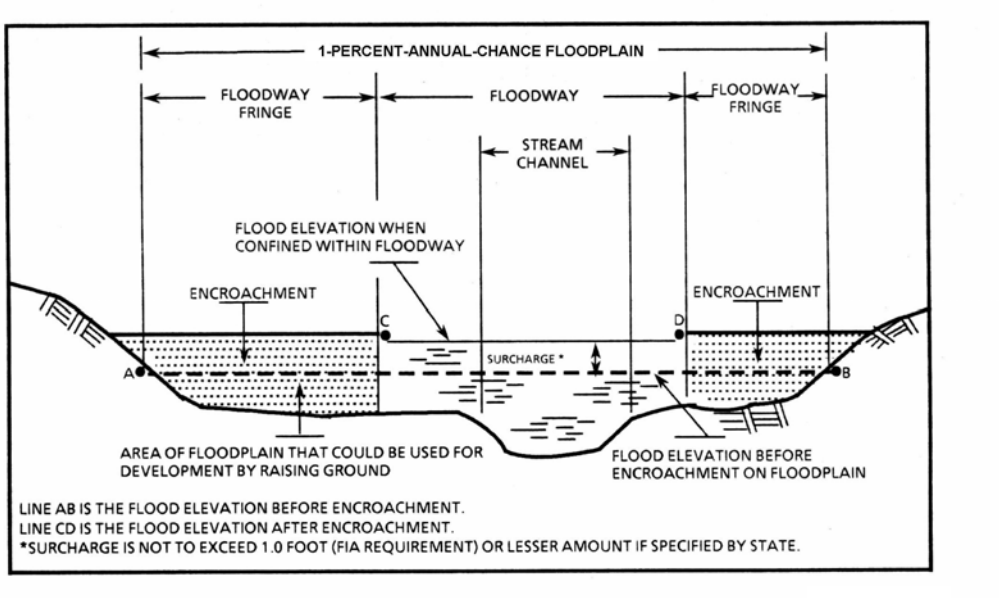
The floodway presented in this FIS report and on the FIRM was computed for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations have been tabulated for selected cross sections of detailed study streams (Table 3). For detailed study streams, in cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, "Without Floodway" elevations presented in Table 3, "Floodway Data," for certain downstream cross sections are lower than the regulatory flood elevations in that area, which must take into account the 1-percent-annual-chance flooding due to backwater from other sources.

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. For detailed study streams, a listing of stream velocities at selected cross sections is provided in Table 3. In order to reduce the risk of property damage in areas where the stream velocities are high, the county 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 of the 1-percent-annual-chance flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

Floodways were calculated for Leaf River, Lyon Creek, and Tributary to Lyon Creek.



FLOODWAY SCHEMATIC

Figure 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LEAF RIVER								
A	0[1]	1,073	11,165	3.4	246.9	246.9	247.9	1.0
B	5,280[1]	823	9,332	4.0	249.6	249.6	250.6	1.0
C	8,380[1]	1,050	10,467	3.6	252.4	252.4	253.4	1.0
D	13,525[1]	447	9,201	4.0	255.0	255.0	255.8	0.8
E	20,815[1]	804	15,760	2.3	257.1	257.1	258.1	1.0
LYON CREEK								
A	3,000[2]	376	1185	3.2	249.8	243.4[3]	243.4	0.0
B	6,966[2]	93	602	3.8	252.3	252.3	253.3	1.0
C	8,221[2]	143	987	2.3	256.9	256.9	257.1	0.2
D	12,075[2]	90	347	6.6	261.6	261.6	262.1	0.5
E	16,738[2]	165	971	1.5	277.8	277.8	278.5	0.7
F	20,860[2]	38	207	7.3	287.0	287.0	288.0	1.0

[1] FEET ABOVE COUNTY BOUNDARY
[2] FEET ABOVE CONFLUENCE WITH LEAF RIVER
[3] ELEVATION COMPUTED WITHOUT CONSIDERATION OF BACKWATER EFFECTS FROM LEAF RIVER

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS AND INCORPORATED AREAS

FLOODWAY DATA

LEAF RIVER – LYON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
TRIBUTARY OF LYON CREEK								
A	2,975	90	635	2.8	256.3	256.3	257.3	1.0
B	4,920	24	226	8.0	261.8	261.8	261.8	0.0
C	6,942	29	269	6.7	267.6	267.6	267.6	0.0
D	8,708	127	681	2.6	272.2	272.2	272.7	0.5
E	11,306	137	846	2.1	276.8	276.8	277.8	1.0
F	12,196	119	488	3.5	282.0	282.0	282.0	0.0
G	13,450	160	772	2.2	283.8	283.8	284.4	0.6
H	15,086	136	713	2.4	288.5	288.5	289.4	0.9
I	16,321	252	1400	1.2	295.3	295.3	295.3	0.0
J	17,549	182	818	2.1	297.2	297.2	297.2	0.0

[1] FEET ABOVE CONFLUENCE WITH LYON CREEK

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS AND INCORPORATED AREAS

FLOODWAY DATA

TRIBUTARY OF LYON CREEK

5.0 INSURANCE APPLICATION

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 base (1-percent-annual-chance) flood elevations (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 AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within the zone.

Zone AO

Zone AO is the flood insurance rate zone that corresponds to the areas of 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where the average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within the zone.

Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 1-percent floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or depths are shown within this zone.

Zone V

Zone V is the flood insurance rate zone that corresponds to the 1-percent coastal floodplains that have additional hazards associated with storm waves. Because approximate hydraulic analyses are performed for such areas, no base flood elevations are shown within this zone.

Zone VE

Zone VE is the flood insurance rate zone that corresponds to the 1-percent coastal floodplains that have additional hazards associated with storm waves. Whole-foot base flood elevations 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 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 base flood by levees. No BFEs or depths are shown within this zone.

Zone D

Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

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 risk 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 the 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 Smith 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, up to and including the initial countywide FIS are presented in Table 4, “Community Map History.”

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Town of Mize	July 11, 1975	August 11, 1978	January 1, 1986	December 3, 1993
Village of Polkville	December 3, 1993	None	December 3, 1993	--
Town of Raliegh	December 3, 1993	None	December 3, 1993	--
Smith County (Unincorporated Areas)	April 21, 1975	None	July 1, 1991	December 3, 1993
Village of Sylvarena	December 3, 1993	None	December 3, 1993	--
Town of Taylorsville	August 1, 1975	None	June 17, 1986	December 3, 1993

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS

AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7.0 OTHER STUDIES

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Smith County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS reports, FIRMs, and/or FBFMs for all of the incorporated and unincorporated jurisdictions within Smith County and should be considered authoritative for 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.

9.0 BIBLIOGRAPHY AND REFERENCES

National Oceanic and Atmospheric Administration, http://www.srcc.lsu.edu/stations/index.php?action=metadata&network_station_id=227276, May 2010.

U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Generalized Computer Program, Davis, California, September 1988.

U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-RAS River Analysis System, User's Manual, version 4.0.0, Davis, California, May 2008.

U.S. Army Corps of Engineers, Topographic Engineering Center, Corpscon Version 6.0.1, Alexandria, Virginia, August 2004

U.S. Census Bureau, 2009 Population Estimate, June 2, 2010.

U.S. Department of the Interior, Geological Survey, Flood Frequency of Mississippi Streams, Jackson, Mississippi, 1976.

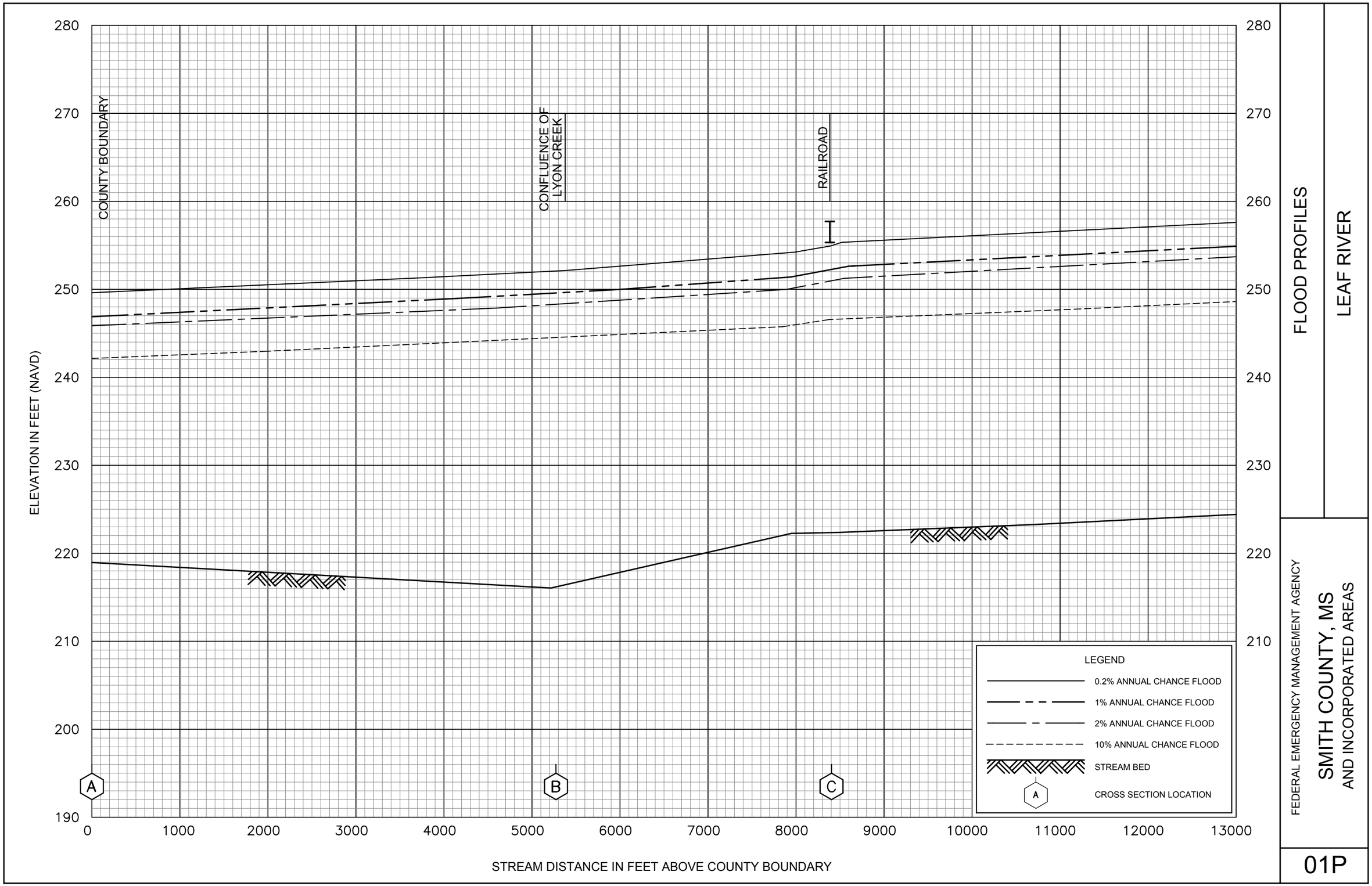
U.S. Department of the Interior, Geological Survey, Interagency Advisory Committee on Water Data, Office of Water Data Coordination, Hydrology Subcommittee, Bulletin No. 17B, Guidelines for Determining Flood Flow Frequency, September, 1981, revised March, 1982.

U.S. Department of the Interior, Geological Survey, Flood Characteristics of Mississippi Streams, Water-Resources Investigations Report 91-4037, Jackson, MS, 1991.

U.S. Department of the Interior, Geological Survey, Open-File Report, Floods in Mississippi, Magnitude and Frequency, K.V. Wilson and I.L. Trotter, 1961.

U.S. Department of the Interior, Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 Feet: Bay Springs, Mississippi, 1974, Center Ridge, Mississippi, 1975; Clear Springs, Mississippi, 2000; Cohay, Mississippi, 1975; Homewood, Mississippi, 1968, photorevised 2000; Louin, Mississippi, 1968; Louin SW, Mississippi, 1972; Magee North, Mississippi, 1975; Magee South, Mississippi, 1975; Mize, Mississippi, 1975; Pineville, Mississippi, 2000; Polkville, Mississippi, 1968, photorevised 2000; Raleigh, Mississippi, 1968,

photorevised 2000; Soso, Mississippi, 1974; Taylorsville, Mississippi, 1975; White Oak, Mississippi, 2000.



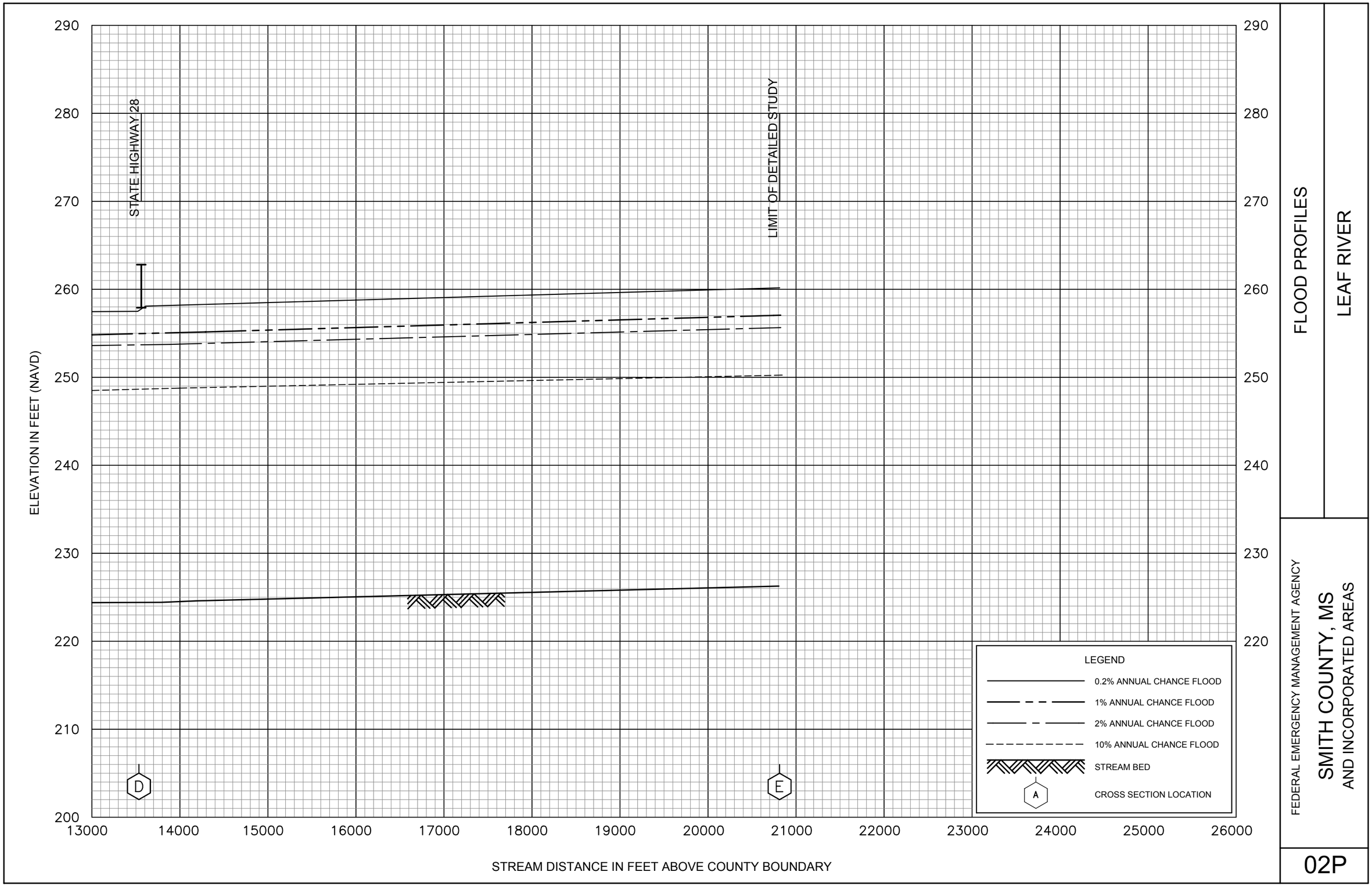
FLOOD PROFILES

LEAF RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS
AND INCORPORATED AREAS

01P



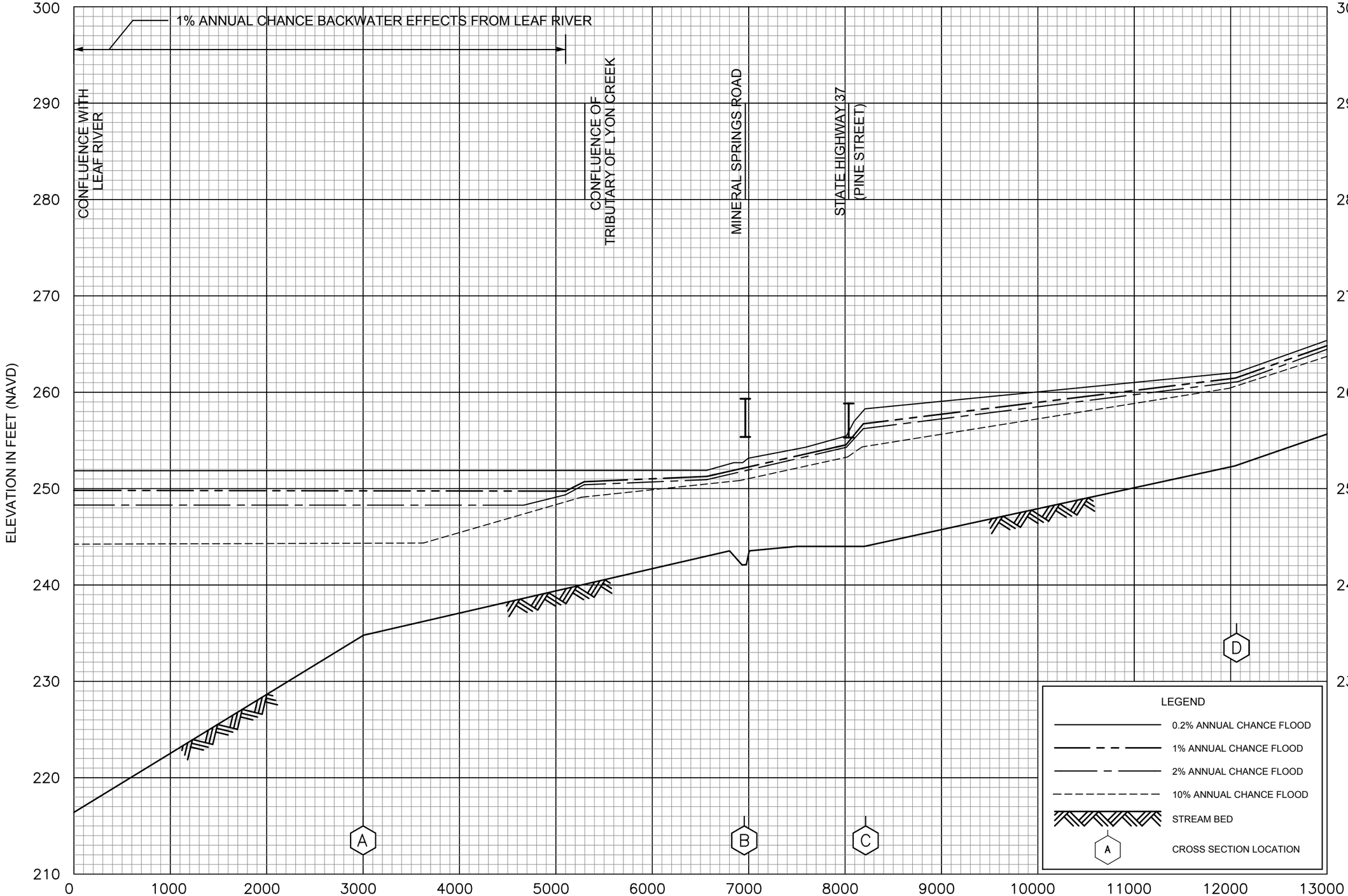
FLOOD PROFILES

LEAF RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS
AND INCORPORATED AREAS

02P



FLOOD PROFILES

LYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS
AND INCORPORATED AREAS

03P

ELEVATION IN FEET (NAVD)

330
320
310
300
290
280
270
260
250
240

OLD GILMER ROAD

FELLOWSHIP ROAD

LIMIT OF DETAILED STUDY

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

E

F

LEGEND

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

13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH LEAF RIVER

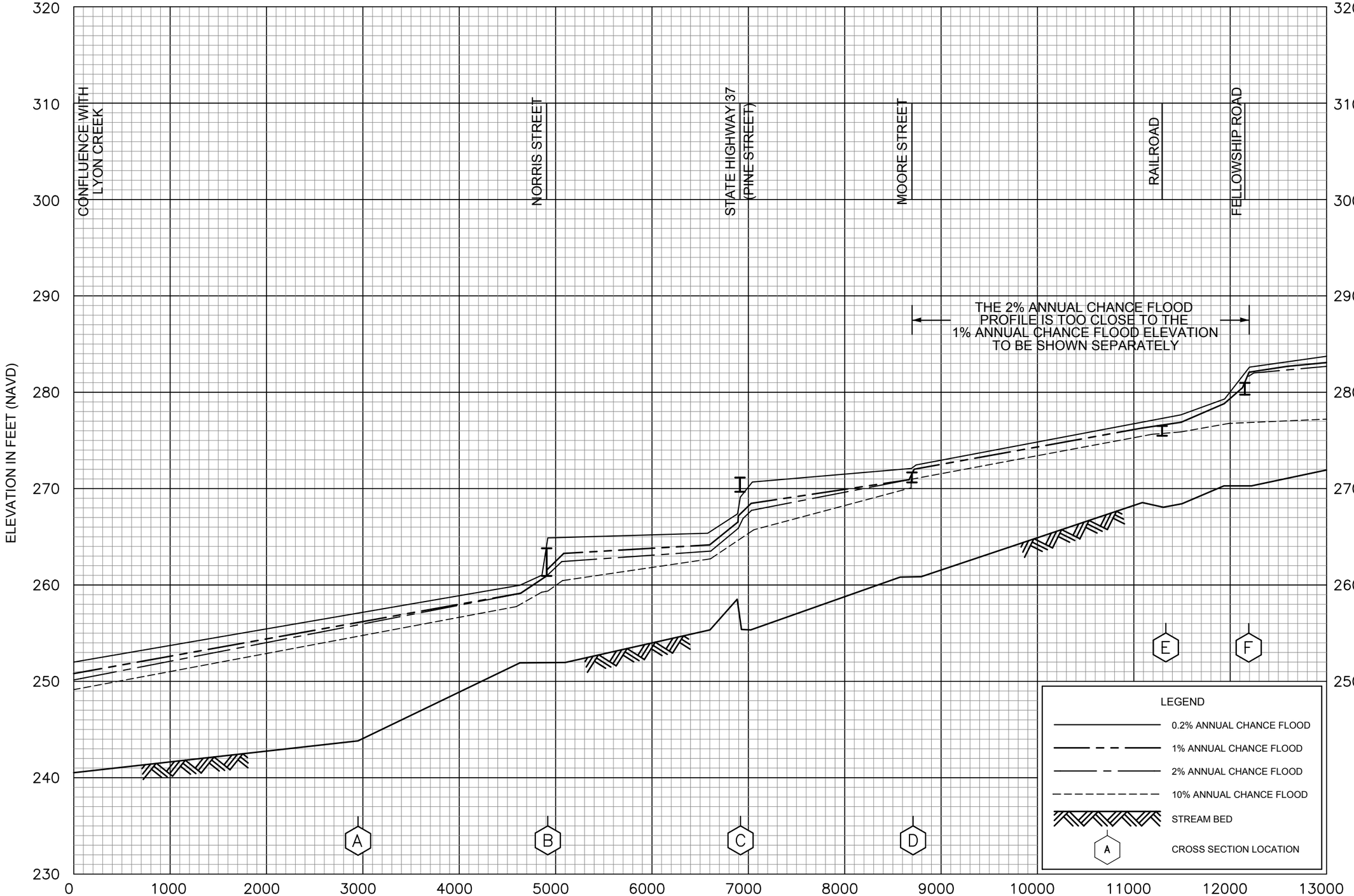
FLOOD PROFILES

LYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS
AND INCORPORATED AREAS

04P



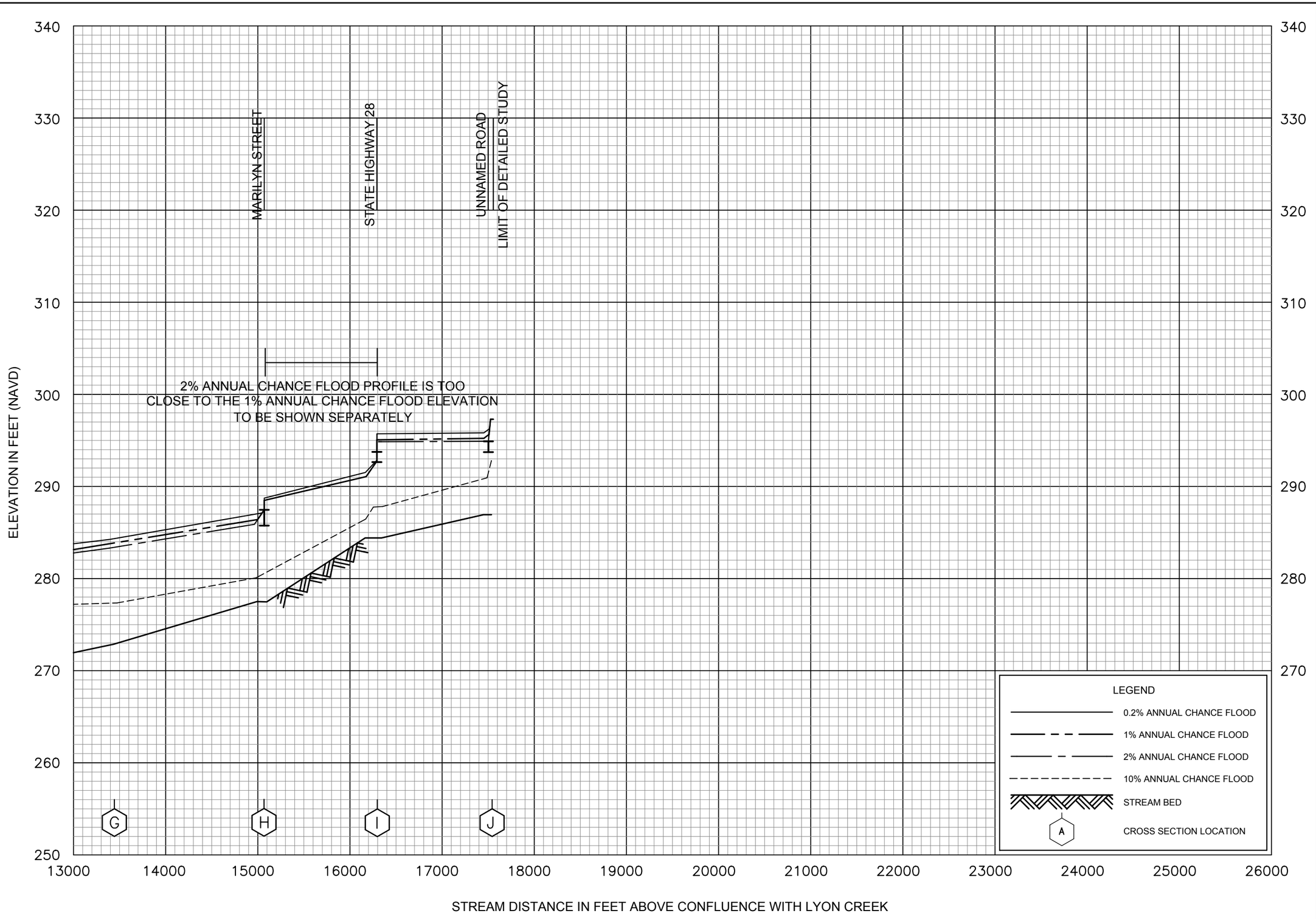
FLOOD PROFILES

TRIBUTARY OF LYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS
AND INCORPORATED AREAS

05P



FLOOD PROFILES

TRIBUTARY OF LYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

SMITH COUNTY, MS
AND INCORPORATED AREAS

06P