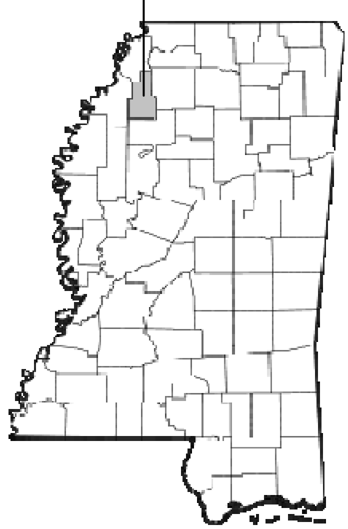
FLOOD INSURANCE STUDY

QUITMAN COUNTY, MISSISSIPPI
AND INCORPORATED AREAS



Community Name	Community Number
CROWDER, CITY OF	280128
FALCON, TOWN OF	280138
LAMBERT, TOWN OF	280139
MARKS, CITY OF	280140
QUITMAN COUNTY (UNINCORPORATED AREAS)	280207
SLEDGE, TOWN OF	280141

PRELIMINARY
SEP 21 2010

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
28119CV000A

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

This preliminary Flood Insurance Study contains profiles presented at a reduced scale to minimize reproduction costs. All profiles will be included and printed at full scale in the final published report.

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.

Initial Countywide FIS Effective Date: Month xx, 201x

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FLOOD INSURANCE STUDY

QUITMAN COUNTY, MISSISSIPPI, AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and updates information on the existence and severity of flood hazards in the geographic area of Quitman County, including the Cities of Crowder and Marks, the Towns of Falcon, Lambert, and Sledge; and the unincorporated areas of Quitman County (referred to collectively herein as Quitman 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.

Please note that the City of Crowder and the Town of Crenshaw are geographically located in Quitman County and Panola County. The City of Crowder is included in its entirety in this FIS report. The Town of Crenshaw is not included in this study and is shown on the Flood Insurance Rate Map (FIRM) panels as Area Not Included. The Town of Crenshaw is included in its entirety in the FIS for Panola County.

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 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.

For this countywide FIS, new hydrologic and hydraulic analyses were prepared by the State of Mississippi for FEMA under Contract No. EMA-2008-CA-58. These analyses were completed in July 2010. Floodplain boundaries for detail study streams were delineated based on 10 and 30 meter Digital Elevation Models (DEMs) from the U.S.

Geological Survey (USGS). Floodplain boundaries for enhanced approximate streams were delineated based on LiDAR data from the U.S. Army Corps of Engineers (USACE).

Base map information shown on this Flood Insurance Rate Map (FIRM) was provided in digital format by the State of Mississippi and the U.S. Census Bureau. The digital orthoimagery was photogrammetrically compiled at a scale of 1:400 from aerial photography dated August 2009.

The coordinate system used for the production of DFIRM is Mississippi State Plane West (FIPS 2302), referenced to the North American Datum of 1983, GRS80. Distance units were measured in United States (U.S.) feet. Differences in the datum and spheroid used in the projection of the FIRMs for adjacent counties may result in slight positional differences in map features at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM.

1.3 Coordination

An initial Consultation Coordination Officer (CCO) meeting (also occasionally 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 also 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.

For this countywide FIS, the initial CCO meeting was held on August 26, 2008, and attended by representatives of State of Mississippi, MGI, LLC (the Study Contractor), and the communities.

The final CCO meeting was held on ___________ to review and accept the results of this FIS. Those who attended this meeting included representatives of the State of Mississippi, MGI, LLC (the Study Contractor), and the communities. All problems raised at that meeting have been addressed in this study.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS report covers the geographic area of Quitman 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 and Quitman County.

This countywide FIS includes approximately 1.3 miles of detailed study, 4.9 miles of enhanced approximate study along reaches of effective Zone X and A. The enhanced approximate approach was used instead of limited detailed study due to the use of ten-meter Digital Elevation Model grids as the base map. The difference between enhanced approximate and limited detailed study is that DFIRMs show these streams with Zone A as the flood zone designation and no Base Flood Elevations or cross sections are shown. No flood profiles are included in this FIS report for these streams. Survey methods and floodway analyses for limited detailed study have been performed for these streams, so they can easily be converted to traditional limited detailed study when newer topographic data becomes available.

The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of projected development or proposed construction. The scope and methods of study were proposed to and agreed upon by FEMA and Quitman County. The flooding sources studied by detailed methods are presented in Table 1.

Table 1: Flooding Sources Studied by Detailed Methods

Flooding Source	Reach Length (miles)	Study Limits
Opossum Bayou Tributary	1.3	The confluence with Opossum Bayou to approximately 350 feet upstream of Johnson Avenue

The areas studied by enhanced approximate methods were selected for areas having low to moderate development potential or flood hazards. The scope and methods of study were proposed to and agreed upon by FEMA and Quitman County. The flooding sources studied by enhanced approximate methods are presented in Table 2. All streams in this table were studied with new analyses for this FIS report.

Table 2: Flooding Sources Studied by Enhanced Approximate Methods

Flooding Source	Reach Length (miles)	Study Limits
Burrell Bayou	0.9	From approximately 0.5 mile downstream of Third Street to approximately 0.4 mile upstream of Third Street
Hope Bayou	1.1	From the confluence with Pecan Bayou to approximately 1,500 feet upstream of Main Street
Old Yocona River	0.6	From approximately1,350 feet downstream of Quitman Avenue to approximately 1,700 feet upstream of Quitman Avenue
Pecan Bayou	2.3	From the confluence with Burrell Bayou to approximately 800 feet upstream of the confluence of Hope Bayou

Floodplain boundaries for all flooding sources within the study area have been mapped based upon the most up-to-date topographic data available.

2.2 Community Description

Quitman County is located in the northwestern portion of Mississippi, in the delta of the Mississippi and Yazoo Rivers. Quitman County is bordered by Tunica County to the north, Panola County to the east, Tallahatchie County to the south, and Coahoma County to the west. The county encompasses an area of 406 square miles which includes approximately 2 square miles of water.

The climate of Quitman County is humid subtropical, characterized by temperate winters and long, hot summers (Reference 2) Rainfall is fairly evenly distributed throughout the year, with mean annual rainfall of 55 inches (Reference 3) However, the state is subject to periods of drought and flood as the climate delivers energy and moisture between the large landmass to the north and the Gulf of Mexico to the south (Reference 2). Thunderstorms that are locally violent and destructive occur on average about 60 days each year. Eight hurricanes have struck the coast since 1895.

Most of western Quitman County lies in the southern Mississippi River alluvial plain along the lower Mississippi River (Reference 1). Landforms are level to depressional to very gently undulating. The dominant soils are very deep, dominantly poorly drained and somewhat poorly drained, and dominantly loamey or clayey. The eastern portion of the county lies within the southern Mississippi Valley loess region. Quitman County is located at the foot of the hills forming the eastern limit of the very flat, fertile Mississippi Delta (Reference 2). The topography in this area is characterized by very gently sloping terrain. The soils are moderately well drained to poorly drained, silty soils of alluvial flood plains.

In 2009 educational services was the largest of 20 major economic sectors in Quitman County. The population of Quitman County was reported as 10,117 in the year 2000 census (Reference 3). The population in 2006 was estimated at 9,289 2006. Quitman's population declined by 36.3% in the last three decades of the 1900s. The county is traversed by Mississippi Highways 3 and 6 (U.S. 278) and the Illinois Central Gulf Coast Railroad, which runs the length of the county.

The City of Marks is located in the central portion of Quitman County where Highways 3 and 6 intersect. This city serves as the county seat. The year 2000 population of Marks was reported as 1,551 (Reference 3). The Town of Lambert, south of Marks, had a reported population of 1,967. The Town of Crowder lies on the eastern border of the county and partially in Panola County. Population for Crowder was reported as 766 in the year 2000, with 462 of the residents in Quitman County. The Towns of Sledge and Falcon (populations 529 and 317, respectively) are located in northeast Quitman County along the Illinois Central Gulf Railroad.

Quitman County has a complex hydrologic pattern with numerous bayous. Three rivers flow through the county: the Coldwater, the Big Tallahatchie and the Little Tallahatchie.

The Coldwater River arises in Tunica County to the north. It flows south into Quitman County, crossing the boundary between Quitman and Tunica Counties several times before joining the Old Little Tallahatchie River in Quitman County to become the Tallahatchie River. Near the center of the county, the Coldwater River flows along the eastern border of the City of Marks. The Coldwater River is approximately 220 miles long.

The northern half of Quitman County includes many streams and bayous that are tributary to the Coldwater River. In the northwest portion of the county, these include the set of McNeil Bayous and Twelvemile Bayous. The northeastern portion of the county contains Burrell Bayou and Yellow Lake Bayou with its tributaries Pruitt Lake and Fowler Creek. Fowler Creek rises in the hills to the east of Crenshaw and flows along the southern boundary of the town into the Mississippi Delta to the west thence to its confluence with Indian Creek. Between these systems, the Pompey Ditch connects two points on the Coldwater River in the north central part of Quitman.

The Cassidy Bayou originates in Coahoma County to the west and flows eastward, entering Quitman County north of Highway 278 and flowing eastward to join the Coldwater River in Marks. However, bayous tributary to Cassidy Bayou extend through much of the southern half of the county.

The Coldwater River National Wildlife Refuge is located 4.5 miles south of Crowder. The refuge consists of 2,069 acres of old catfish ponds and secondary bottomland hardwood forest. Much of the refuge is flooded during the winter and spring by the Coldwater and Tallahatchie Rivers, supporting migratory waterfowl.

The Tallahatchie River extends from its origins in Tippah County, Mississippi, through Quitman County to Leflore County, Mississippi, where it joins with the Yalobusha River to form the Yazoo River. The Yazoo River flows 188 miles from this confluence to discharge into the Mississippi River north of Vicksburg, Mississippi.

The upper sections of the Tallahatchie River in Quitman and Panola Counties and above are referred to as the Little Tallahatchie River. The Little Tallahatchie River and McIvor Canal combine to form the Panola-Quitman Floodway in Panola County, a USACE flood control project. The Floodway flows southwestward to enter Quitman County just southeast of the Town of Crowder. It flows south to a confluence with the Big Tallahatchie River about seven miles west of Charleston, Mississippi.

In Quitman County, the Tallahatchie River flows southeast to just north of Highway 322, where the Coldwater River enters. Bobo Bayou flows roughly parallel to the Tallahatchie River in eastern Quitman County and also joins it just north of Highway 322. The Tallahatchie River continues south to exit to Tallahatchie County.

The southern portion of the county includes several tributary bayous to Cassidy Bayou and Opossum Bayou near the State Penal Farm Camp. This area also includes Muddy Bayou, Pry Bayou, and Puncheon Bayou.

2.3 Principal Flood Problems

In December 2001, many roads in the county were under water (Reference 4). The October 2002 storm required evacuation of several homes in Marks. In May 2003, fifty homes in Marks were damaged by flooding with damages of $50,000.

2.4 Flood Protection Measures

The Panola-Quitman Floodway, located in Panola and Quitman Counties, affords protection for the eastern portion of Quitman County and parts of Panola and Tallahatchie Counties from the runoff from the hill sections of the Little Tallahatchie and Yocona Rivers (Reference 5). The floodway, constructed under the direction of the USACE, replaced an old diversion channel built by local interests in about 1925. The new floodway, constructed in Panola County in the late 1960's begins in the delta section of Panola County, north of State Highway 6 near the intersection of the Little Tallahatchie River and the McIvor Canal and extends in a southerly direction to a point near the town of Crowder where it intercepts the Yocona River. From this point it flows south to a confluence with the Big Tallahatchie River about seven miles west of Charleston, Mississippi. A system of levees, tied into the hills, was constructed on both sides of the floodway.

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, hydrologic analyses were carried out to establish peak discharge frequency relationships for each flooding source studied by detailed, enhanced approximate, and/or approximate methods affecting the community. A summary of peak discharge-drainage area relationships for streams studied by detailed methods is shown in Table 3, "Summary of Discharges."

Discharges for the 1-percent-annual-chance recurrence interval for all new detailed and enhanced approximate study streams in Quitman County were determined using the Rural-East Region USGS regression equations for Mississippi as described in the USGS Water-Resources Investigations report 91-4037 (Reference 6) Adjustments for urbanization were made along detailed

Table 3: Summary of Discharges

Flooding Source and Location	Drainage Area (Square miles)	Peak Discharges (Cubic Feet per Second)			
		10-percent	2-percent	1-percent	0.2-percent
BURRELL BAYOU					
Approximately 0.5 mile downstream of Third Street	37.5	*	*	1,289	*
HOPE BAYOU					
The confluence with Pecan Bayou	0.5	*	*	157	*
Approximately 250 feet upstream of Main Street	0.3	*	*	147	*
OLD YOCONA RIVER					
Approximately 1,350 feet downstream of Quitman Avenue	1.1	*	*	95	*
OPOSSUM BAYOU TRIBUTARY					
The confluence with Opossum Bayou	1.57	285	377	407	452
Approximately 400 feet upstream of Mississippi Highway 3	1.35	283	364	393	433
Approximately 1,000 feet upstream of Mississippi Highway 3	0.26	75	92	97	106
Approximately 1,800 feet downstream of Riverside Avenue	0.13	46	54	57	62
PECAN BAYOU					
The confluence with Burrell Bayou	13.0	*	*	813	*
Approximately 50 feet upstream of the confluence of Hope Bayou	11.4	*	*	801	*

*Data not available

study streams according to the methodology presented by the USGS in “Flood Characteristics of Urban Watersheds in the United States” (Reference7)

Drainage areas along streams were determined using a flow accumulation grid developed from the USGS 10 meter digital elevation models and corrected National Hydrologic Data (NHD) stream coverage. Flow points along stream centerlines were calculated using the regression equations in conjunction with accumulated area for every 10 percent increase in flow along a particular stream.

3.1.2 Methods for Flooding Sources Incorporated from Previous Studies

No previous hydrologic analyses were performed within Quitman County

3.2 Hydraulic Analyses

Hydraulic analyses were performed to estimate the elevation 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.

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the FIRM (Exhibit 2).

Roughness coefficients (Manning's “n”) were chosen by engineering judgment and based on field observation of the channel and floodplain areas. Table 4: Summary of Roughness Coefficients

contains the channel and overbank "n" values for the streams studied by detailed methods.

Table 4: Summary of Roughness Coefficients

Flooding Source	Channel	Overbanks
Burrell Bayou	0.04	0.07 – 0.12
Hope Bayou	0.04	0.07 – 0.12
Old Yocona River	0.04	0.07 – 0.11
Opossum Bayou Tributary	0.04	0.07 – 0.12
Pecan Bayou	0.04	0.07 – 0.12

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

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, enhanced approximate and approximate methods were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Water-surface profiles were computed for enhanced approximate and approximate study streams through the use of the USACE HEC-RAS version 4.0.0 computer program (Reference 8). Water surface profiles were produced for the 1-percent-annual-chance storms for enhanced approximate and approximate studies.

The enhanced approximate and approximate study methodology used Watershed Information System (WISE) as a preprocessor to HEC-RAS (Reference 9). Tools within WISE allowed the engineer to verify that the cross-section data was acceptable. The WISE program was used to generate the input data file for HEC-RAS. Then HEC-RAS was used to determine the flood elevation at each cross section of the modeled stream. No floodway was calculated for streams studied by approximate methods.

3.2.2 Methods for Flooding Sources Incorporated from Previous Studies

No previous hydraulic analyses were performed within Quitman County

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.

Some of the data used in this revision were taken from the prior effective FIS reports and FIRMs and adjusted to NAVD. The datum conversion factor from NGVD to NAVD in Quitman County is -0.12 feet.

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 10), 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- and 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 a 10-foot digital elevation model (DEM) developed by Mississippi Automated Resource Information System (MARIS),(Reference 11) and, where available, LiDAR data originally flown for the USACE (Reference 12)

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. 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 floodways presented in this study were 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 are tabulated for selected cross sections and provided in Table 5, "Floodway Data Table." The computed floodway is shown on the FIRM (Exhibit 2). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown on the FIRM.

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.

Along streams where floodways have not been computed, the community must ensure that the cumulative effect of development in the floodplain will not cause more than a 1.0-foot increase in the base flood elevations at any point within the community.

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.

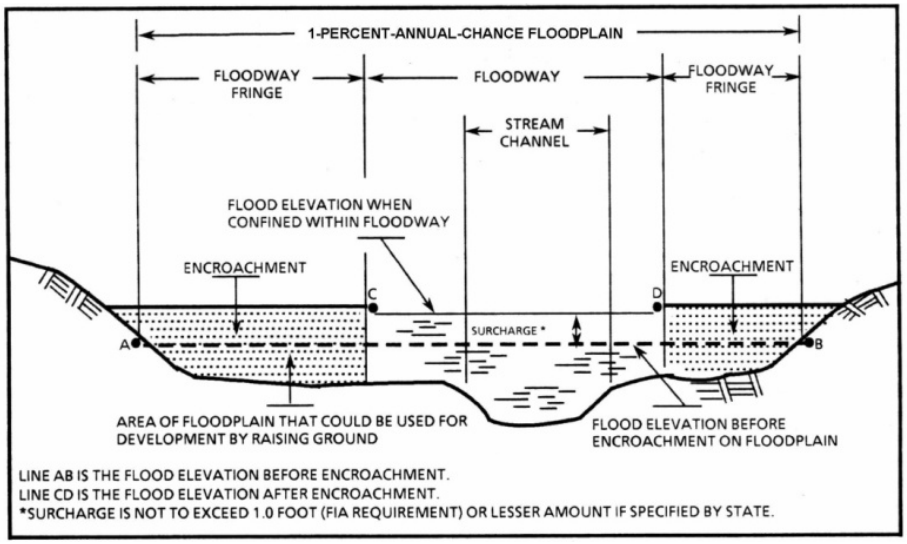

Figure 1. Floodway Schematic

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
OPOSSUM BAYOU TRIBUTARY								
A	76	56	238	1.7	152.7	152.7	153.6	0.9
B	1,011	82	567	0.7	155.2	155.2	156.2	1.0
C	1,650	105	757	0.5	155.2	155.2	156.2	1.0
D	2,715	100	556	0.7	156.4	156.4	157.3	0.9
E	3,630	95	588	0.2	156.4	156.4	157.3	0.9
F	4,792	65	513	0.1	156.4	156.4	157.3	0.9
G	5,420	55	430	0.1	156.4	156.4	157.3	0.9
H	6,143	80	380	0.2	156.4	156.4	157.4	1.0
I	6,784	55	162	0.4	156.4	156.4	157.4	1.0

[1]Feet Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

QUITMAN COUNTY, MS AND INCORPORATED AREAS

FLOODWAY DATA

OPOSSUM BAYOU TRIBUTARY

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 Quitman 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 6: “Community Map History.”

7.0 OTHER STUDIES

No previous studies have been prepared for any of the communities within Quitman County, Mississippi.

FIS reports were previously prepared for the unincorporated areas of Tallahatchie County and Coahoma County (References 13; 14). An FIS report is currently being developed for the incorporated and unincorporated areas of Panola and Tunica Counties (Reference 5).

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
Crowder, City of	June 7, 1974	July 16, 1976	August 1, 1986	---
Falcon, Town of	August 29, 1975	August 11, 1978	August 19, 1985	---
Lambert, Town of	June 7, 1974	June 18, 1976 February 8, 1980	September 4, 1985	---
Marks, City of	June 7, 1974	June 18, 1976 February 8, 1980	September 4, 1985	---
Quitman County, Unincorporated Areas	September 2, 1977	--	September 4, 1985	--
Sledge, Town of	June 7, 1974	July 9, 1976 February 29, 1980	September 4, 1985	--

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

QUITMAN COUNTY, MS
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

9.0 BIBLIOGRAPHY AND REFERENCES

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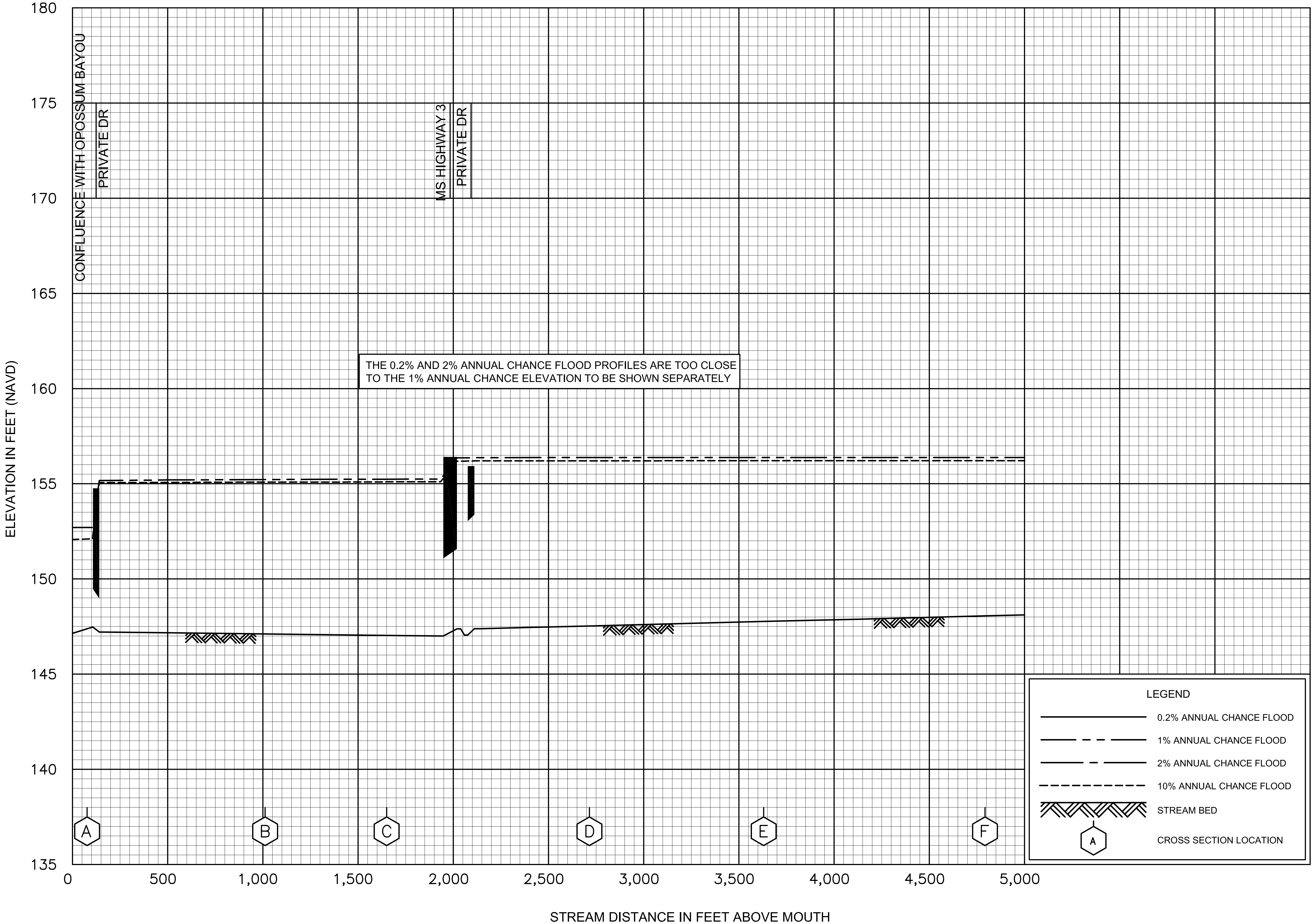

FLOOD PROFILES

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FEDERAL EMERGENCY MANAGEMENT AGENCY

QUITMAN COUNTY, MS
AND INCORPORATED AREAS

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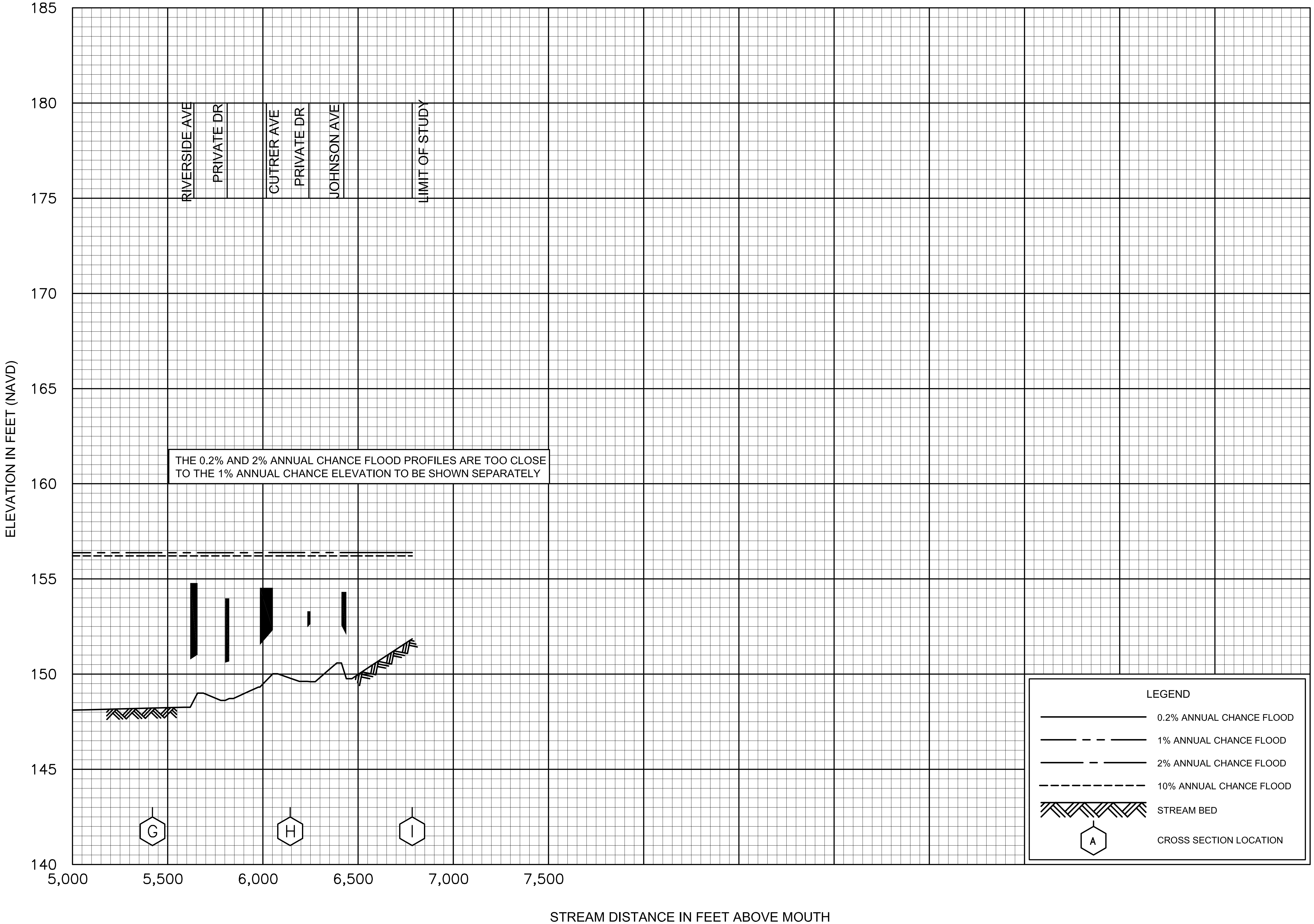

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