LAFAYETTE COUNTY, FLORIDA
AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
Lafayette County (Unincorporated Areas)	120131
Mayo, Town of	120132

Preliminary May 27, 2015

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER

12067CV000B

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.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this Flood Insurance Study. In addition, FEMA may revise part of this Flood Insurance Study 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: September 29, 2006

Preliminary Date: May 27, 2015

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

Page

FIGURES

TABLES

EXHIBITS

FLOOD INSURANCE STUDY

LAFAYETTE COUNTY, FLORIDA, AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) investigates the existence and severity of flood hazards in, or revises and updates previous FISs/Flood Insurance Rate Maps (FIRMs) for the geographic area of Lafayette County, Florida, including: the Town of Mayo and the unincorporated area of Lafayette County (hereinafter referred to collectively as Lafayette County).

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 county that will be used to establish actuarial flood insurance rates. This information will also be used by Lafayette County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and will also be used by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the National Flood Insurance Program 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.

<u>September 29, 2006 Countywide Revision</u>

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

Lafayette County and Incorporated Areas:	For the FIS dated September 29, 2006, the hydrologic and hydraulic analyses were performed by URS Corporation under contract with the Suwannee River Water Management District (SRWMD), a FEMA Cooperating Technical Partner (CTP).

Lafayette County (Unincorporated Areas of):	For the January 16, 1987, FIS report, the hydrologic and hydraulic analyses were prepared by the .S. Army Corps of Engineers (USACE), Jacksonville District for the Federal Emergency Management Agency (FEMA), under InterAgency Agreement No. EMW-E-1153, Project Order No. 1. This study was completed in September 1984.

No authority and acknowledgments were available for the Town of Mayo because no FIS report was published.

Physical Map Revision, Preliminary May 27, 2015

For this physical map revision (PMR), hydrologic and hydraulic analyses were prepared by AECOM, Inc.(AECOM) and Singhoffen & Associates, Inc. (SAI), under contract with the SRWMD. Zone A Special Flood Hazard Areas (SFHA) was replaced with Zone AE for several areas around the County on panels 0168, 0216, 0217, 0218, 0219, 0255, 0256, 0257, 0260, 0305, 0306, 0308, and 0310.

Additionally, as part of the FEMA Risk MAP Project for the Lower Suwannee Watershed (HUC 03110205), AMEC Environment & Infrastructure, Inc. (AMEC) and North Florida Professional Services (NFPS), under contract with SRWMD, revised this Countywide FIS and DFIRM for Lafayette County. More specifically, AMEC and NFPS revised the Zone AE SFHA on panels 0020, 0060, 0076, 0290.

The digital base map files consisted of 2010 1-foot resolution aerial photography from the Florida Department of Revenue.

1.3 Coordination

Consultation Coordination Officer's (CCO) meetings may be held for each jurisdiction in this countywide FIS. An initial CCO meeting is held typically with representatives of 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 Preliminary DFIRM Coordination Meeting (PDCC) or final CCO meeting is held typically with representatives of FEMA, the community, the CTP and the study contractor to review the results of the study.

Previous Revisions

The dates of the initial and final CCO or PDCC meetings held for Lafayette County and the communities within its boundaries are shown in TABLE 1, "Initial and Final CCO or PDCC Meetings."

TABLE 1: INITIAL AND FINAL CCO OR PDCC MEETINGS

Community Name	For FIS Dated	Initial CCO Date	Final CCO or PDCC Date
Mayo, Town of	N/A	N/A	N/A
Lafayette County (Unincorporated Areas)	January 16, 1987	May 6, 1983	February 26, 1986
Lafayette County (and Incorporated Areas)	September 29, 2006	N/A	November 16, 2005

Physical Map Revision, Preliminary May 27, 2015

For this PMR, a Scoping Meeting was held on August 25, 2010. A combined Flood Risk Review and Risk MAP Resilience Meeting was held on November 20, 2013. Preliminary DFIRM Community Coordination was held on ____________________________.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS report covers the geographic area of Lafayette County, Florida.

All or portions of the Suwannee River were previously studied by detailed methods. Limits of detailed study are indicated on the Flood Profiles (Exhibit 1) and on the FIRM (Exhibit 2).

The areas studied were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction. The scope and methods of study were proposed to, and agreed upon by, FEMA, the SRWMD, and Lafayette County.

Physical Map Revision, Preliminary May 27, 2015

As part of this PMR, updated analyses were included for the flooding sources shown in TABLE 2, "Scope of Revision." In addition, SFHA delineations were revised on panels listed in the Authority and Acknowledgements Section.

TABLE 2: SCOPE OF REVISION

Flooding Source	Limits of Revised or New Detailed Study
Adams/Picket Lakes	Drainage area contributing to Adams and Picket Lakes.
Owl Creek	From Cr-357 to a point approximately 2.6 miles downstream
Steinhatchee River	From a point approximately 640 feet upstream of Camp Grade Road to the County Boundary

2.2 Community Description

Lafayette County occupies 549 square miles in the northern part of Florida. The Suwannee River forms the entire eastern boundary of Lafayette County. The county is adjacent to Suwannee and Gilchrist Counties along the Suwannee River. In addition, Lafayette County is bordered by Dixie County on the south, Taylor County on the west, and Madison County on the north. In 2000, the population of the county was reported to be 7,022 (U.S. Department of Commerce Bureau of the Census, 2004), an increase of nearly 74 percent from the 1980 population of 4,035.

Lafayette County was established on December 23, 1856, and named for Marquis de Lafayette. The county is in the Gulf Coastal Lowlands physiographic area. The topography ranges from 10 feet North American Vertical Datum of 1988 (NAVD88) to about 100 feet NAVD88. Economic activities in Lafayette County are primarily agricultural. Principal commodities are lumber and wood products, com, cotton, peanuts, tobacco, fruits, vegetables, and livestock. Hunting and fishing also are important to the county. In addition, there has been a trend toward development of vacation homes and summer cottages, especially in the lower reaches of the Suwannee River.

Lafayette County along the Suwannee River is composed chiefly of two soil associations, the Chipley-Albany-Plummer Association and the Chipley-Blanton Swamp Association. The Chipley-Albany-Plummer Association consists of nearly level to gently sloping, moderately well drained soils, sandy throughout and somewhat poorly drained soils with very thick sandy layers over loamy subsoil. This association is found both landward and riverward of State Roads 349 and 53 and U.S. Route 27. The Chipley-Blanton-Swamp Association consists of nearly level to gently sloping, moderately well drained soils, sandy throughout; moderately well drained soils with very thick sandy layers over loamy subsoil; and very poorly drained soils. This association is found adjacent to the Suwannee River throughout Lafayette County (Florida Bureau of Comprehensive Planning, 2004).

The climate of Lafayette County is semi-tropical, characterized by long, hot summers and mild winters. In January, the average temperature is 55 degrees Fahrenheit (F)In August the average temperature is 81 degrees F. Average annual rainfall is about 58 inches, most of which occurs from April through September.

There are two stream gages within the county on the Suwannee River. One is at river mile

76.0 at the Town of Branford. The drainage area there is 7,880 square miles. The other gage is at river mile 95.7 at Luraville. The drainage area there is 7,330 square miles. In addition, there is a gage at Ellaville just north of the Lafayette County line at river mile 126.9. The drainage area at the Ellaville gage is 6,970 square miles. Two additional gages downstream of Lafayette County are located at the Town of Bell at river mile 54.6 and at Wilcox at river mile 32.3. The drainage area of the Suwannee River at the mouth is 9,950 square miles. About 5,720 square miles of the drainage area are in south central Georgia with the remaining 4,230 square miles being in north central Florida. Principal tributaries of the Suwannee River are the Withlacoochee and Alapaha Rivers, both of which enter the Suwannee upstream of Lafayette County. The Suwannee River experiences greater stage variations than any other river in Florida and has great flooding potential.

2.3 Principal Flood Problems

The most severe floods in the Suwannee River Basin are associated with storms, or sequences of storms, which produce widespread distribution of rainfall for several days. Flooding occurs in all seasons, but maximum annual stages occur most frequently from February through April as a result of a series of frontal-type rainfall events over the basin. The area is also subject to summer and fall tropical disturbances, occasionally of hurricane intensity. Thunderstorms caused by summer air mass activity produce intense rainfall but the duration is usually short and areal distribution is relatively small. The coastal reach of the Suwannee River is susceptible to tidal flooding from hurricanes and other low-pressure systems that produce sustained, strong, westerly component winds.

The largest flood known to have occurred on the Suwannee River in Lafayette County was the flood of March-April 1948. The peak discharges for the 1948 flood at Ellaville and Branford were 95,300 and 83,900 cubic feet per second (cfs), respectively. Antecedent conditions were conducive to high surface runoff; groundwater levels were high, sinks and depressions were saturated, and most river reaches were experiencing overbank flow. The most intense storm occurred in the 3-day period from March 31 through April 2. A number of residences and commercial establishments were flooded in small towns that border the Suwannee River in Lafayette County. Water was 8-feet deep in parts of Dowling Park and 2to 4-feet deep in Branford and Luraville. Major damage was sustained by railroads, highways, bridges, culverts, drainage ditches, and from loss of fills.

Three weeks of emergency work were required to restore minimum transportation and drainage facilities. Rail and highway traffic was detoured around the area for 2 to 3 weeks, and some rail service was suspended for 6 weeks.

Another large flood occurred on the Suwannee River in Lafayette County in April 1973. Antecedent conditions were conducive to high surface runoff. The 1973 flood was about 3 feet lower than the 1948 flood at the southern end of Lafayette County near the confluence of the Suwannee and Santa Fe Rivers and about 4 feet lower at the northern end of Lafayette County near Dowling Park. The peak discharges for the 1973 flood at Branford and Ellaville were 54,700 and 77,000 cfs, respectively. Floodwaters remained over the lowlands in Lafayette County for about 30 days. Many people evacuated their homes and Lafayette County was included in the "major disaster area" declared by the President.

The 1928 flood was higher than the 1973 flood at Branford in the southern part of the county and nearly as high at Ellaville and in the northern end of Lafayette County. The peak discharges for the 1928 flood at Branford and Ellaville were 65,000 and 73,000 cfs, respectively.

Flooding in the spring of 1984 along the Suwannee River was about 5.2 feet lower than the 1948 flood at Branford in the southern part of Lafayette County and about

7.4 feet lower at Ellaville and in the northern part of the county. Stages were about 1.5 feet higher than the 1959 stages at both Branford and Ellaville. The peak discharges for the 1984 flood at Branford and Ellaville were 42,200 and 46,000 cfs, respectively.

1998 Hurricane Earl (August 31 -September 3, 1998)

After briefly reaching category 2 status in the Gulf of Mexico, Hurricane Earl made landfall near Panama City, Florida as a Category 1 hurricane on September 3rd with sustained winds approximately 73 mph. The hurricane weakened immediately after making landfall being downgraded to a tropical storm with wind speeds between 34 to 39 mph while moving in a northwestward direction through Georgia. The impact of Earl resulted in severe storm surge flooding in the "Big Bend" area of Florida. Storm surge was estimated to be approximately 8 feet in Franklin, Wakulla, Jefferson, and Taylor Counties and between 6 to 7 feet in Dixie County. Escambia County reported an estimated storm surge between 2 to 3 feet. Rainfall totals of 3 to 6 inches were generally common with higher amounts occurring such as the reported 16.83 inches near Panama City, Florida. The insured property loss within Florida caused by Earl is estimated by the Property Claim Services Division of the American Insurance Services Group to have been $15 million. This cost estimate does not include damage relating to storm surge. The National Flood Insurance Program reported

$21.5 million of insured property damage, which includes storm surge related losses.

2004 Hurricane Francis (August 25 -September 8, 2004)

After reaching Category 4 and 3 intensities in the Caribbean, Hurricane Francis made landfall as a Category 2 system that moved in a west-northwest direction across the Florida Panhandle. The system was downgraded to a tropical storm with sustained winds exceeding 47 mph upon emerging in the Gulf of Mexico near New Port Richey on September 6th. Francis continued as a tropical storm that moved in a northwest over the Gulf with the final landfall occurring near the mouth of the Aucilla River in the Florida Big Bend Region on September 6th. Storm tides of 3-5 feet were estimated in the Florida Big Bend area. Francis caused severe heavy rains and associated freshwater flooding over much of the eastern United States. Rainfalls in excess of 10 inches were reported in central and northern Florida Peninsula counties. A total of 101 tornadoes have been reported in association with Frances, which 23 of them occurred in Florida. The American Insurance Services Groups reports that the insured property damage caused by Francis is estimated to be approximately $4.43 billion, with $4.11 billion occurring in Florida. The estimate for total property damage, including uninsured property as well as damage to space and military facilities, is about $9 billion dollars, thus making Francis the fourth most costly hurricane in United States history behind Andrew (1992), Charley (2004), and Ivan (2004). The estimated total does not include the associated agricultural or economic losses.

2004 Hurricane Jeanne (September 13 -28, 2004)

Hurricane Jeanne made landfall as a Category 3 hurricane near Stuart, Florida on September 26th with sustaining winds over 91 mph. Jeanne moved west over Central Florida and the system was downgraded to a tropical storm near the vicinity of Tampa, Florida later that same day. The system was downgraded further to a tropical depression on September 27th while moving in a northward direction across central and northern Florida with severe associated rainfall up to 8 inches. The Florida west coast experienced a negative storm surge of about

4.5 feet below normal tides which was measured at Cedar Key, Levy County, Florida when winds were blowing offshore. The American Insurance Services group has reported that the total U.S. damage estimate is over $6 billion dollars, with insured property losses totally over $3 billion.

TABLE 3 lists historical floods in a descending order at three U.S. Geological Survey (USGS) gage locations on the Suwannee River. Two of the locations, Wilcox and Bell, are downstream of Lafayette County.

TABLE 3: HISTORICAL FLOOD DATA

	Annual Peak Discharge (cfs)				
Location	**1948**	**1928**	**1973**	**1998**	**1984**
Near Wilcox at USGS gage No. 02323500	84,700	*71,500	55,100	47,700	48,400
Near Bell at USGS gage No. 02323000	82,300	*70,000	*54,200	43,100	*40,200
Near Branford at USGS gage No. 02320500	83,900	*65,000	54,700	46,900	41,400

2.4 Flood Protection Measures

Flood Protection measures are not known to exist within the study area.

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

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for the flooding sources studied in detail affecting the county.

Precountywide Analyses

The USGS has been monitoring flows on the lower Suwannee River since the flood of 1928. Each year, the USGS publishes the water resources data collected, and periodically reports on the magnitude and frequency of floods. The hydrologic data analyses for this study utilized these publications and the results were coordinated with the USGS.

Regression analyses were used to complete missing data and to extend records at each gauged location to the 57-year period 1928 through 1984. Analyses of discharge records of all gauged locations on the Suwannee River were used to establish a peak discharge-frequency relationship throughout the river. Flood recurrence frequencies were determined by log-Pearson Type III statistical analyses in accordance with procedures recommended by the Interagency Advisory Committee on Water Data (Interagency Advisory Committee on Water Data, 1981).

September 29, 2006 Countywide Revision

Information on the methods used to determine peak discharge-frequency relationships for the streams restudied as part of this countywide FIS is shown below.

Regression analyses were used to complete missing data and to extend records at each gauged location to the 76-year period 1928 through 2004. Analyses of discharge records of all gauged locations on the Suwannee River were used to establish a peak discharge-frequency relationship throughout the river. Flood recurrence frequencies were determined by log-Pearson Type III statistical analyses in accordance with procedures recommended by the Interagency Advisory Committee on Water Data (Interagency Advisory Committee on Water Data, 1981).

Physical Map Revision, Preliminary May 27, 2015

Riverine

Peak flood discharges for 10%, 2%, 1%, and 0.2% annual chance were developed for Owl Creek and Steinhatchee River by detailed methods. The hydrologic approach used for this Flood Insurance Study is application of the U.S. Geological Survey (USGS) regression equations for natural basins in Florida described in USGS Water-Resources Investigations Report (WRIR) 96-4176.

All detailed studies are located in USGS hydrologic Region B. So the Region B regression equations were implemented in the following equations. The basin delineations are based on USGS, SBAS/HUC data and adjusted near the study area based on available digital elevation model (DEM) database.

$$RQ10 = 182DA^{0.592}(LK + 0.6)^{-0.580}$$

$$RQ50 = 410DA^{0.556}(LK + 0.6)^{-0.589}$$

$$RQ100 = 584DA^{0.543}(LK + 0.6)^{-0.591}$$

$$RQ500 = 936DA^{0.521}(LK + 0.6)^{-0.594}$$

Where,

Q_T is the discharge for a recurrence interval of T-years, in cubic feet per second;

DA is the drainage area, in square miles;

Lk – lake area plus constant 0.6, in percent

There is one active USGS gage station on Steinhatchee River at approximately 5.5 miles downstream of the detailed study. Weighted discharges for ungaged sites on Steinhatchee River were computed according to the methods described in USGS WRIR 96-4176 and Bulletin 17B.

Discharge estimates for areas in Lafayette County were computed using the USGS Florida Region B regression equation presented in USGS WRIR 96-4176 "*Magnitude and Frequency of Floods in the Suwannee River Water Management District, Florida"*. Regression equation estimates for discharges on Steinhatchee River were adjusted to agree with weighted discharge estimates at a gage locations developed in appendix 1 table of WRIR 96-4176 and Bulletin 17B. The weighted estimates at the gage locations were transferred upstream, using the methods described in WRIR 96-4176.

A summary of the drainage area-peak discharge relationships for the streams studied by detailed methods is shown in Table 4: Summary of Discharges

Ponding Areas

The purpose of the study was to perform a new Existing Conditions analysis for the Adams/Picket Lakes area in Lafayette County, Florida with the intent of converting the effective approximate Zone A mapping into a detailed Zone AE on the DFIRMs. Modeling was developed for the 10%, 4%, 2%, 1%, and 0.2% annual chance, 24-hour storm simulations. Corresponding water surface elevations and were mapped for the 1% recurrence interval for the study areas. Streamline Technologies, Inc's ICPR model (Version 3.10 SP10) was used for the analysis.

An overall drainage area of 12.8 square miles was identified using ArcHydro within ArcGIS to perform catchment delineations with a 5-foot pixel LiDAR-based Digital Element Model (DEM) as input.

24-hour rainfall totals for the 10-, 25-, 50-, and 100-year storm simulations were determined by referencing the rainfall distribution maps found in Appendix B of the FDOT Drainage Design Manual. The 500-year rainfall total was calculated using extrapolation.

LiDAR collected in 2011 was the basis for the study. The LiDAR coverage stops just to the west of Adams/Picket Lakes. The remaining gap in elevation coverage was filled in using USGS quad contours. This area is considered offsite contributing drainage to the project focus area.

Basin, node and link delineations, as well as storage and time of concentration calculations for the ICPR model were performed using ArcHydro within ArcGIS based on a 5-foot pixel, NAVD88, DEM.

The analysis was performed on the 10%, 4%, 2%, 1%, and 0.2% annual chance floods. The methodology used was the SCS Hydrograph adjusted with a regional peaking factor of Uh256, due to the flat nature of the terrain in the location of the study areas.

The study areas were located in predominately hydric soils and rural type land use. Percolation was not considered in modeling parameters due to the saturated nature of the soils within the project area.

Time of Concentration (Tc) values were calculated using the longest flow path delineations from ArcHydro and watershed slope calculations from ArcGIS as input to the SCS Lag Equation.

The SCS method was used to determine rainfall runoff in ICPR. Composite curve numbers were established for each basin based on drainage area, NRCS SSURGO soil data, and current land use conditions. The curve numbers were taken from the TR-55 (Technical Release 55, June 1986) based on the soil and land use parameters.

No historical hydrologic records were available for the study area with which to calibrate the hydrologic model at this time, however, the SRWMD provided Nexrad rainfall data collected during Tropical Storm Debby which will serve as a tool to validate our model results against flood observations during the 2012 storm event.

A summary of the drainage area-peak discharge relationships for the streams studied by detailed methods is shown in Table 4: Summary of Discharges

Table 4: Summary of Discharges

Flooding Source and Location	Drainage Area (Square miles)	Peak Discharges (Cubic feet per second) 10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
ASHCAMP BRANCH					
At confluence with Elkhorn Creek	1.3	390	710	910	1,350
BIG CREEK					
At confluence with Tug Fork	59.4	5,020	8,220	9,700	13,500
At gage upstream of Lick Creek	56.1	4,840	7,850	9,350	13,000
Upstream of Swinge Camp Branch	46.9	4,240	6,950	8,200	11,500
Upstream of Long Fork	40.2	3,760	6,200	7,330	10,400
Downstream of Elkins Fork	24.9	2,570	4,220	5,020	7,000
Downstream of Road Fork	20.2	2,280	3,730	4,450	6,200
BLACKBERRY CREEK					
At confluence with Tug Fork	20.2	2,280	3,730	4,450	6,200
Upstream of Peter Branch	18.1	2,090	3,440	4,090	5,710
Upstream of Hatfield Branch	15.6	1,870	3,060	3,660	5,080
BRUSHY BRANCH					
At confluence with Marrowbone Creek	1.2	370	670	860	1,280
BURNING FORK					
At confluence with Raccoon Creek	2.9	760	1,290	1,580	2,270
Upstream of Knob Fork	3.5	630	1,080	1,350	1,930
Downstream of Zebulon Tributary	2.4	525	920	1,162	1,682

Table 4: Summary of Discharges (continued)

Flooding Source and Location	Drainage Area (Square miles)	Peak Discharges (Cubic feet per second)			
		10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
ELKHORN CREEK					
At confluence with Russell Fork	52.9	4,620	7,600	8,960	12,540
Upstream of Kettle Camp Branch	46.8	4,220	6,950	8,190	11,460
Upstream of Jackson Branch	40.8	3,810	6,280	7,400	10,370
Upstream of Marion Branch	34.2	3,340	5,520	6,510	9,110
Upstream of Sycamore Creek	29.2	2,900	4,910	5,700	8,110
Just upstream of confluence of Upper Pigeon Branch	25.7	2,700	4,460	5,260	7,370
FERGUSON CREEK					
At confluence with Pikeville Pond	1.8	450	810	1,020	1,570
Below two tributaries at U.S. Route 119	1.2	375	680	880	1,300
Above two tributaries at U.S. Route 119	0.9	330	610	790	1,190
Below Williams Hollow Road	0.6	285	530	690	1,040
HAROLDS BRANCH					
At confluence with Pikeville Pond	1.6	420	760	970	1,420
Approximately 0.585 mile upstream of confluence with Pikeville Pond	1.4	395	720	920	1,360
OWL CREEK					
2.6 miles downstream of CR-357	20.9	1,165	2,353	3,223	4,832

Table 4: Summary of Discharges (continued)

Flooding Source and Location	Drainage Area (Square miles)	Peak Discharges (Cubic feet per second) 10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance
STEINHATCHEE RIVER					
At Camp Grade Road	118.0	3,063	5,810	7,779	11,225
At County Boundary	196.4	4,224	7,871	10,469	14,940
SUWANNEE RIVER					
Near Bell at USGS gage No. 02323000	9,390	37,900	57,900	67,300	91,900
Below Santa Fe Junction	9,200	37,900	57,900	67,300	91,900
Above Santa Fe Junction	7,920	34,800	54,000	62,900	85,300
Near Bradford at USGS gage No. 02320500	7,880	34,800	54,000	62,900	85,300

* Peak Discharges computed using UNET (HEC-RAS Unsteady Flow Model)

Table 5: Summary of Stillwater Elevations

Flooding Source	Elevations (feet NAVD)			
	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Adams Lake	*	*	58.0	*
Picket Lake	*	*	57.8	*
6345	*	*	60.7	*
6349	*	*	56.3	*
6350	*	*	60.5	*
6351	*	*	59.8	*
6358	*	*	58.1	*
6360	*	*	58.3	*
6363	*	*	62.5	*
6364	*	*	61.6	*
6373	*	*	61.4	*
6377	*	*	58.0	*
6388	*	*	62.3	*
6389	*	*	63.0	*
6409	*	*	63.3	*
6411	*	*	63.3	*
6588	*	*	57.5	*
6590	*	*	56.7	*
6608	*	*	57.2	*
6897	*	*	57.4	*
6901	*	*	57.8	*
6904	*	*	57.9	*
6909	*	*	57.8	*
6914	*	*	57.8	*
6941	*	*	60.5	*
6942	*	*	60.4	*
6944	*	*	60.5	*
6948	*	*	58.6	*

Flooding Source	Elevations (feet NAVD)			
	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
6951	*	*	61.4	*
6955	*	*	58.0	*
6958	*	*	57.7	*
6959	*	*	57.7	*
6961	*	*	56.4	*
6971	*	*	56.5	*
6975	*	*	56.5	*
6977	*	*	56.5	*
6984	*	*	56.3	*
6990	*	*	56.4	*
7007	*	*	55.7	*
7008	*	*	59.3	*
7011	*	*	60.1	*
7012	*	*	59.8	*
7015	*	*	57.9	*
7021	*	*	57.7	*
7049	*	*	57.7	*
7050	*	*	57.8	*
7051	*	*	57.7	*
7054	*	*	57.7	*
7074	*	*	56.7	*
7089	*	*	56.7	*
7097	*	*	57.2	*
7106	*	*	56.4	*
7115	*	*	55.6	*
7123	*	*	56.4	*
7149	*	*	63.3	*
7152	*	*	61.5	*
7179	*	*	56.4	*

Flooding Source	Elevations (feet NAVD)			
	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
7190	*	*	56.3	*
7192	*	*	55.9	*
7203	*	*	56.8	*
7213	*	*	57.6	*
7218	*	*	52.6	*
7223	*	*	65.1	*
7225	*	*	58.3	*
7228	*	*	56.1	*
7229	*	*	53.0	*
7230	*	*	56.3	*
7233	*	*	55.8	*
7259	*	*	57.8	*
7261	*	*	60.5	*
7263	*	*	59.9	*
7267	*	*	56.5	*
7268	*	*	56.7	*
7300	*	*	61.6	*
7301	*	*	61.6	*
7302	*	*	56.7	*
7303	*	*	56.2	*
7304	*	*	53.5	*
7305	*	*	57.6	*
7306	*	*	56.9	*
7307	*	*	56.4	*
7308	*	*	56.7	*
7309	*	*	60.7	*
7310	*	*	66.7	*
7311	*	*	66.7	*
7312	*	*	62.5	*

Flooding Source	Elevations (feet NAVD)			
	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
7314	*	*	64.1	*
7315	*	*	56.4	*
7316	*	*	57.2	*
7317	*	*	57.2	*
7318	*	*	56.7	*
7319	*	*	57.0	*
7320	*	*	55.7	*
7321	*	*	60.9	*
7322	*	*	57.7	*
7323	*	*	57.9	*
7324	*	*	58.3	*
7325	*	*	56.7	*
7326	*	*	57.1	*
7327	*	*	56.5	*
7328	*	*	56.7	*
7329	*	*	62.7	*
7330	*	*	61.2	*
7331	*	*	65.0	*
7332	*	*	62.3	*
7333	*	*	62.7	*
7334	*	*	57.6	*
7335	*	*	57.7	*
7336	*	*	57.7	*

*values not computed

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 Flood Insurance Rate map (FIRM) may 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.

Precountywide Analyses

Cross-section data were obtained by aerial survey methods from photography flown for the flood plain areas and by field measurements for the main channel and immediate overbanks (USACE, 1982). All bridges were field surveyed to obtain elevation data and structural geometry. Cross sections were located at close intervals upstream and downstream of bridges in order to compute hydraulic effects of these structures.

Water-surface elevations of floods of the selected recurrence intervals were computed through use of the USACE HEC-2 step-backwater computer program (USACE, 1976). Roughness coefficients (Manning's "n") used in the hydraulic computation were determined by analyzing known flood events in the Lafayette County reach of the Suwannee River.

Analysis of known flood events resulted in the development of two separate computational models to determine water-surface levels for the selected recurrence intervals. The only difference between these models is in the designation of the overbank roughness coefficients. Within the Lafayette County reach of the river, the overbank area has sandy soils and low relief with considerable vegetation. In addition, limestone formations are located near the surface of the ground. There are numerous depressions and sinkholes that affect the flow characteristics in the overbank. One computational model was used for floods on the 10-to 1DO-year recurrence interval. Flood events within this range were greatly influenced by the overbank depressions. Various flood magnitudes and depression sizes and locations create conditions where floodwaters enter, but do not necessarily exit these depressions as surface flow. Therefore, the overbank depressions provide storage but the conveyance is restricted. Roughness coefficients for this model ranged from 0.035 to 0.042 for the main channel and 0.20 to 0.48 for the overbank. The second computational model was used for the 500-year flood only. At this level of flooding, the effects of the overbank depression were less significant and a constant roughness coefficient of 0.20 was used. Observed data from the 1948 flood, which is the greatest flood of record and exceeds the 100-year recurrence interval, were used to verify the 0.20 roughness coefficient. Calibration and verification of both computational models were based on the ability of the model to reproduce the known flood elevation with an accuracy of 0.5 foot.

The hydraulic analyses 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.

September 29, 2006 Countywide Revision

The Suwannee River HEC-2 step-backwater model was converted to HEC-RAS by the Suwannee River Water Management District (SRWMD).

For this revised analysis the SRWMD HEC-RAS files incorporated new field survey at the eight road crossings and the HEC-RAS files were upgraded to version 3.1.3. Field survey was conducted by BSI, Inc.

The new bridge surveys above were conducted to verify the structure geometry and update the adjacent cross sections for any physical changes that have occurred since the effective study. The setup of the bridges in the model was also updated to conform with the recommended bridge modeling approaches presented in the HEC-RAS Users Manual.

All of the above field surveys were established with vertical control in NAVD 1988 datum. Also all of the NGVD 1929 elevation data in the input HEC-RAS files from the SRWMD were converted to NAVD 88. Therefore, the input and output of the revised HEC-RAS files now reflect elevations in NAVD 88.

Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals.

Roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment and were based on field observations of the streams and floodplain areas.

Physical Map Revision, Preliminary May 27, 2015

Riverine

New detailed riverine analyses were performed on portions of Owl Creek and Steinhatchee River in Lafayette County. Cross sections were based on field surveys and supplemented with a DTM composed of 2007 Dixie County LiDAR and USGS 5-foot contours. All bridges were field surveyed to obtain elevation data and structural geometry. Cross sections were located at close intervals upstream and downstream of bridges in order to compute hydraulic effects of these structures. Flow computed for this model can be found in Table 4: Summary of Discharges. Downstream boundary condition for Owl Creek is normal depth, while the downstream boundary condition for Steinhatchee River is known water surface elevation from Taylor County, FL FIS Flood Profile.

Flood profiles were drawn showing computed water-surface elevations for floods of the 10%, 4%, 1%, and 0.2% annual chance recurrence intervals.

Table 6, 'Manning's "n" Values,' shows the ranges of the channel and overbank roughness factors (Manning's "n") used in the hydraulic computations for streams studied by detailed methods.

Table 6: Manning's "n" Values

Flooding Source	Channel	Overbanks
Owl Creek	0.040	0.100-0.120
Steinhatchee River	0.040	0.120

Ponding

Hydraulic modeling was developed for the 1%, annual chance flood for Adams/Picket Lakes and their contributing areas in Lafayette County.

Dynamic routing ICPR is a one-dimensional link/node model. ICPR supports six different conveyance methods: pipes, channels, weirs, drop structures, bridges, and user specified rating curves. As previously mentioned, the conveyance structures used for this study included overland weirs, channels, bridges, and pipes. Data for modeled structures was collected during field visits and/or verified by survey methods.

Natural or irregular cross sections are used in ICPR to describe the geometry for channels, bridges and weirs. Cross-sections were drawn along each sub-basin boundary line to reflect overland flow between the basins. Using current imagery and the DEM, cross-sections representing sections of channels were also drawn perpendicular to the channel flow and not to extend beyond the 0.2-percent-annual-chance floodplain boundaries. Both types of cross-sections were drawn to avoid intersection and overlap.

While the numbers of channels are limited in this study, the channels were generally modeled from southwest to northeast which represents upstream to downstream flow. Channel inverts correspond to the minimum cross section elevation. Channel Manning's roughness coefficient values range between 0.027 within the channel to 0.15 on the overbanks.

Typical values for weir coefficients range from 3.2 to 2.6 depending on various factors. Broader crested weirs generally have lower coefficients to represent friction over the weir surface. For the study area, a value between 2.5 and 2.8 was found to be the best approximation of the general weir efficiency. Weir inverts correspond to the minimum cross sections elevation.

Pipes have varying degrees of energy loss based on pipe material, entrance design, and headwall/wing wall configuration. Pipe material and entrance design were determined by field visits and survey information. Typical Manning's n values for pipes were set at 0.013 or 0.024, corresponding to pipe material - Reinforced Concrete Pipe (RCP) or Corrugated Metal Pipe (CMP). Entrance loss coefficients were based on typical values available in the help documentation of ICPR.

For many of the smaller storm events, the basins will most likely collect water runoff without spilling over into other areas. In larger events, storage inside basins will fill up and cause water to pop off and into adjacent nodes. Overflows, from the lakes, flow east towards the Suwannee River through large culverts under CR 354 as well as to a suspected sinkhole to the north.

Using the ArcHydro Drainage Area Characterization tool, elevation-area-volume calculations were conducted on the watershed DEM to define the depression storage available. In order to accurately describe the watershed's dynamics, storage along conveyance ways (channels) was also considered. This was done by way of storage exclusion area polygons representing the portion of the channel responsible for conveyance leaving the rest of the basin to be considered for storage (including the overbank area). The available storage was calculated in one-foot increments from the lowest elevation in the sub-basin to the highest. Because the DEM is used in the Drainage Area Characterization, this method conforms to the general practice of establishing the initial stage for wet storage facilities at the normal water elevation and for dry storage facilities; the starting node elevation was set to the bottom elevation of the storage area.

Boundary conditions were established to model a relatively small portion of a larger more complicated system. The boundary conditions were determined based on evaluation of the terrain at the outlet locations of the study area. Based on that evaluation, there is significant relief (slope) at the outlets. Therefore, boundary conditions used a free discharge, normal depth channel approximation for the modeling.

ICPR provides several output reports to help in verifying numeric stability in the model. Basin Summary Tables can show if there is a loss or gain of water in the unit hydrograph. Similarly, the Mass Balance Report can be used to verify that the total volume of water in the system is correct. In addition to conservation of mass, other tables and graphs available can show instabilities in the model. Instabilities can be caused by a variety of reasons but are normally associated with sudden changes in the conveyance through links or time steps that are not small enough. Link instabilities normally occur in the form of oscillations when two or more connected storage areas are leveling water surfaces. Link flow curves were checked by hand to ensure instabilities did not affect model results. In addition, links with high delta Q values were given extra scrutiny to ensure link parameters and flow characteristics were reasonable.

Flood mapping and BFEs labeled to the tenth-of-a-foot can be viewed on the revised DFIRMs.

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 29). With the completion of the North American Vertical Datum of 1988 (NAVD 88), many FIS reports and FIRMs are now prepared using NAVD as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to the NAVD 88. 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 29, which may result in differences in base flood elevations across county lines.

The average datum shift from NGVD 29 to NAVD 88 used for Lafayette County was -0.68 feet.

For more information regarding conversion between the NGVD 29 and NAVD 88, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* (Reference 8), 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

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. 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, including Flood Profiles, Floodway Data tables, and Summary of Stillwater Elevation tables. Users should reference the data presented in the FIS 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.

For each stream studied by 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 elevations obtained from the source DTM used to build the terrain model, which included 2011 LiDAR and USGS NED DEM data.

The 1- and 0.2-percent-annual-chance floodplain boundaries for streams studied by detailed methods 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 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 **Error! Reference source not found.**The computed floodway is hown 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.

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.

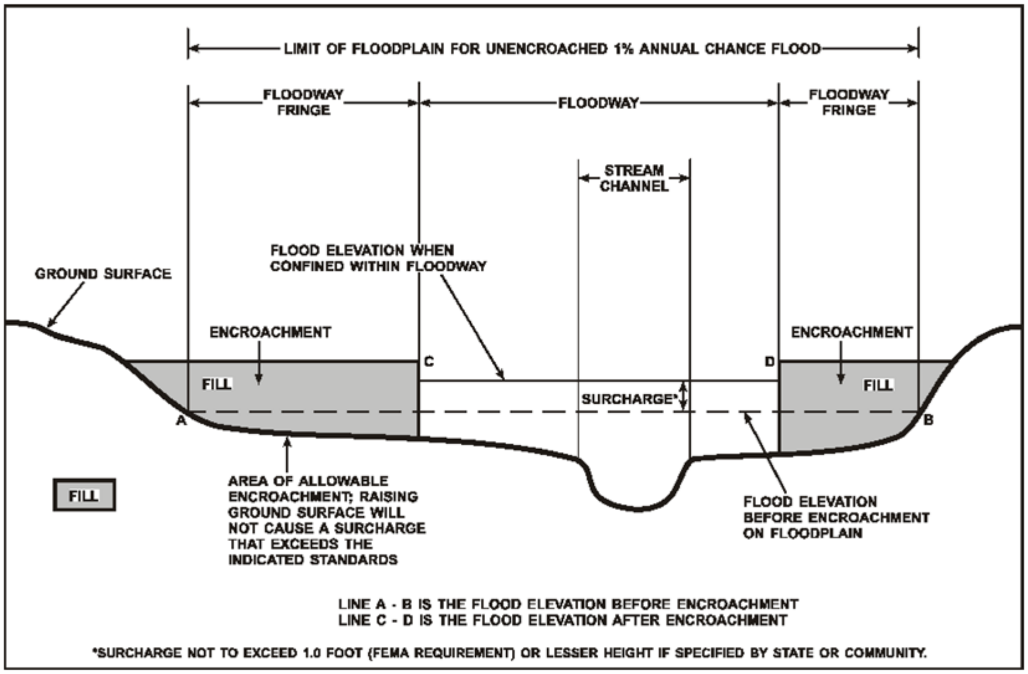


Figure 1. Floodway Schematic

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
Owl Creek								
A	0[1]	982	4,047.34	0.77	35.09	35.09	36.07	0.98
B	3,458[1]	580	3,111.42	1.00	36.66	36.66	37.53	0.87
C	7,608[1]	774	1,966.14	1.58	40.99	40.99	41.18	0.19
D	13,693[1]	1,616	3,534.42	1.27	49.96	49.96	50.78	0.82
Steinhatchee River								
A	0[2]	6,128	24,359.88	0.34	28.90	28.90	28.40	0.50
B	4,898[2]	3,661	13,789.54	0.60	30.17	30.17	29.63	0.54
C	6,353[2]	4,042	13,658.93	0.60	30.88	30.88	29.96	0.93
D	8,091.9[2]	3,653	13,403.15	0.47	31.22	31.22	30.25	0.97

[1]Distance in feet above Limit of Study
[2]Distance in feet above County Boundary

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

FLOODWAY DATA

OWL CREEK – STEINHATCHEE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SUWANNEE RIVER								
A	59.56	5,934 / 1,890	65,330	1.0	28.1	28.1	29.0	0.9
B	62.24	9,365 / 7,528	91,800	0.7	29.0	29.0	30.0	1.0
C	62.67	7,371 / 5,605	77,868	0.9	29.2	29.2	30.1	0.9
D	63.27	6,583 / 5,385	40,855	1.7	29.4	29.4	30.3	0.9
E	65.66	7,019 / 6,641	84,707	0.8	30.9	30.9	31.7	0.8
F	68.53	5,719 / 5,177	86,831	0.7	31.6	31.6	32.5	0.8
G	69.16	7,184 / 6,695	63,571	1.0	31.7	31.7	32.6	0.8
H	71.96	6,076 / 5,546	65,426	1.0	33.0	33.0	33.9	0.9
I	73.09	5,074 / 3,705	70,948	0.9	33.9	33.9	34.8	0.9
J	74.71	3,732 / 2,969	43,416	1.4	34.8	34.8	35.6	0.8
K	75.58	4,624 / 4,267	58,020	1.1	35.4	35.4	36.2	0.8
L	76.06	3,672 / 3,316	40,843	1.5	35.6	35.6	36.4	0.8
M	76.15	3,583 / 3,400	59,255	1.1	35.9	35.9	36.8	0.9
N	77.99	2,983 / 1,534	52,449	1.2	37.1	37.1	37.9	0.8
O	79.01	4,553 / 1,692	59,388	1.1	37.6	37.6	38.5	0.8
P	79.52	4,686 / 2,077	60,406	1.0	37.9	37.9	38.7	0.9
Q	81.59	4,220 / 1,951	54,121	1.2	39.0	39.0	39.9	0.8
R	83.08	4,359 / 799	67,031	0.9	39.8	39.8	40.7	0.9
S	84.85	3,534 / 3,350	41,941	1.5	40.6	40.6	41.6	0.9
T	85.95	4,170 / 3,251	46,122	1.4	41.4	41.4	42.3	0.9
U	86.73	3,426 / 1,733	57,456	1.1	42.0	42.0	42.9	0.9
V	88.24	2,724 / 1,601	35,138	1.8	43.1	43.1	43.9	0.8
W	90.11	2,828 / 2,462	27,142	2.4	44.3	44.3	45.2	0.9
X	91.48	2,320 / 182	31,276	2.0	45.5	45.5	46.4	0.9
Y	93.85	2,015 / 1,829	24,335	2.7	47.5	47.5	48.3	0.8
Z	95.91	4,290 / 3,056	61,893	1.1	49.3	49.3	50.2	0.9

[1]Miles above mouth
[2]Total width/width within jurisdiction

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

FLOODWAY DATA

SUWANNEE RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SUWANNEE RIVER (continued)								
AA	96.60	5,300 / 2,712	77,900	0.8	49.6	49.6	50.5	0.9
AB	98.23	6,784 / 2,494	85,263	0.8	50.6	50.6	51.5	0.9
AC	99.18	6,112 / 620	72,336	0.9	50.8	50.8	51.8	1.0
AD	100.51	3,522 / 1,609	51,359	1.3	51.4	51.4	52.4	1.0
AE	101.82	4,308 / 2,369	60,708	1.1	52.2	52.2	53.2	1.0
AF	102.89	3,403 / 3,169	65,530	1.0	52.8	52.8	53.7	0.9
AG	104.03	3,568 / 2,802	60,044	1.1	53.3	53.3	54.2	0.9
AH	105.36	3,458 / 173	58,386	1.2	53.7	53.7	54.7	1.0
AI	106.69	4,349 / 3,318	68,197	1.0	54.3	54.3	55.3	1.0
AJ	107.88	2,589 / 648	41,911	1.7	54.9	54.9	55.9	1.0
AK	108.57	2,735 / 1,459	47,512	1.5	55.4	55.4	56.3	0.9
AL	109.87	3,163 / 1,628	70,207	1.0	56.0	56.0	57.0	1.0
AM	111.18	2,971 / 2,829	44,634	1.6	56.8	56.8	57.7	0.9
AN	112.46	2,266 / 337	32,720	2.1	57.6	57.6	58.5	0.9
AO	112.83	3,047 / 1,345	61,580	1.1	58.1	58.1	59.0	0.9
AP	113.29	3,693 / 3,140	52,250	1.4	58.4	58.4	59.2	0.9
AQ	114.94	2,627 / 592	44,594	1.6	59.3	59.3	60.2	0.9

[1]Miles above mouth
[2]Total width/width within jurisdiction

TABLE 7

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

FLOODWAY DATA

SUWANNEE RIVER

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. In most instances, whole-foot base flood elevations 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 this 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 average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.

Zone AR

Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood event.

ZoneA99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 1-percent-annual-chance 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-annual-chance 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-annual-chance 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 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.

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 rate zones as described in Section 5.0 and, in the 1-percent-annual-chance floodplains that were studied by detailed methods, shows selected tenth- or 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 current FIRM presents flooding information for the entire geographic area of Lafayette County. Previously, separate Flood Hazard Boundary Maps and/or FIRMs were prepared for each identified flood-prone incorporated community and the unincorporated areas of the county. 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 **Error! Reference source not found.**

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	INITIAL FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Mayo, Town of	June 21, 1974	May 28, 1976	May 1, 1987	September 26, 2006
Lafayette County (Unincorporated Areas)	May 27, 1977	None	January 16, 1987	September 26, 2006

TABLE 8

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

7.0 **OTHER STUDIES**

A Special Flood Hazard Information Report was prepared by the USACE, Jacksonville District, in December 1974 (USACE, 1974). This report was reprinted twice, the last time in February 1983. Any disagreement between that report and this Flood Insurance Study is due to more recent information used in this Flood Insurance Study.

Flood Insurance Studies for the Unincorporated Areas of Taylor County (FEMA, 1983), and Madison and Suwannee Counties (FEMA, 1983; FEMA, 1984) have been published. Those studies and this Flood Insurance Study are in agreement. A Flood Insurance Study has been prepared for Dixie County and Incorporated Areas (FEMA, 2006).

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Lafayette County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS Reports, FHBMs, FBFMs, and FIRMs for all of the incorporated and unincorporated jurisdictions within Lafayette County.

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**

Federal Emergency Management Agency, Flood Insurance Study, Dixie County, Unincorporated Areas, Florida, September 2006.

Federal Emergency Management Agency, Flood Insurance Study, Madison County, Unincorporated Areas, Florida, 1984.

Federal Emergency Management Agency, Flood Insurance Study, Suwannee County, Unincorporated Areas, Florida, January 1988.

Federal Emergency Management Agency, Flood Insurance Study, Taylor County, Unincorporated Areas, Florida, November 1983.

Florida Bureau of Comprehensive Planning, Florida General Soils, Atlas, July 1975.
Interagency Advisory Committee on Water Data, Bulletin No. 17B, Guidelines for Determining Flood Flow Frequency, 1981.

U.S. Army Corps of Engineers, HEC-2 Water-Surface Profiles Generalized Computer Program, Davis, California, November 1976.

U.S. Army Corps of Engineers, Jacksonville District, Stream Cross Sections, Woolpert

Consultants, Dayton, Ohio, compiled by photogrammetric methods from aerial photography, Scale 1:7200 and 1:28500, February 1982.

U.S. Army Corps of Engineers, Jacksonville District, Special Flood Hazard Information, Suwannee River Floods, Florida and Georgia, December 1974.

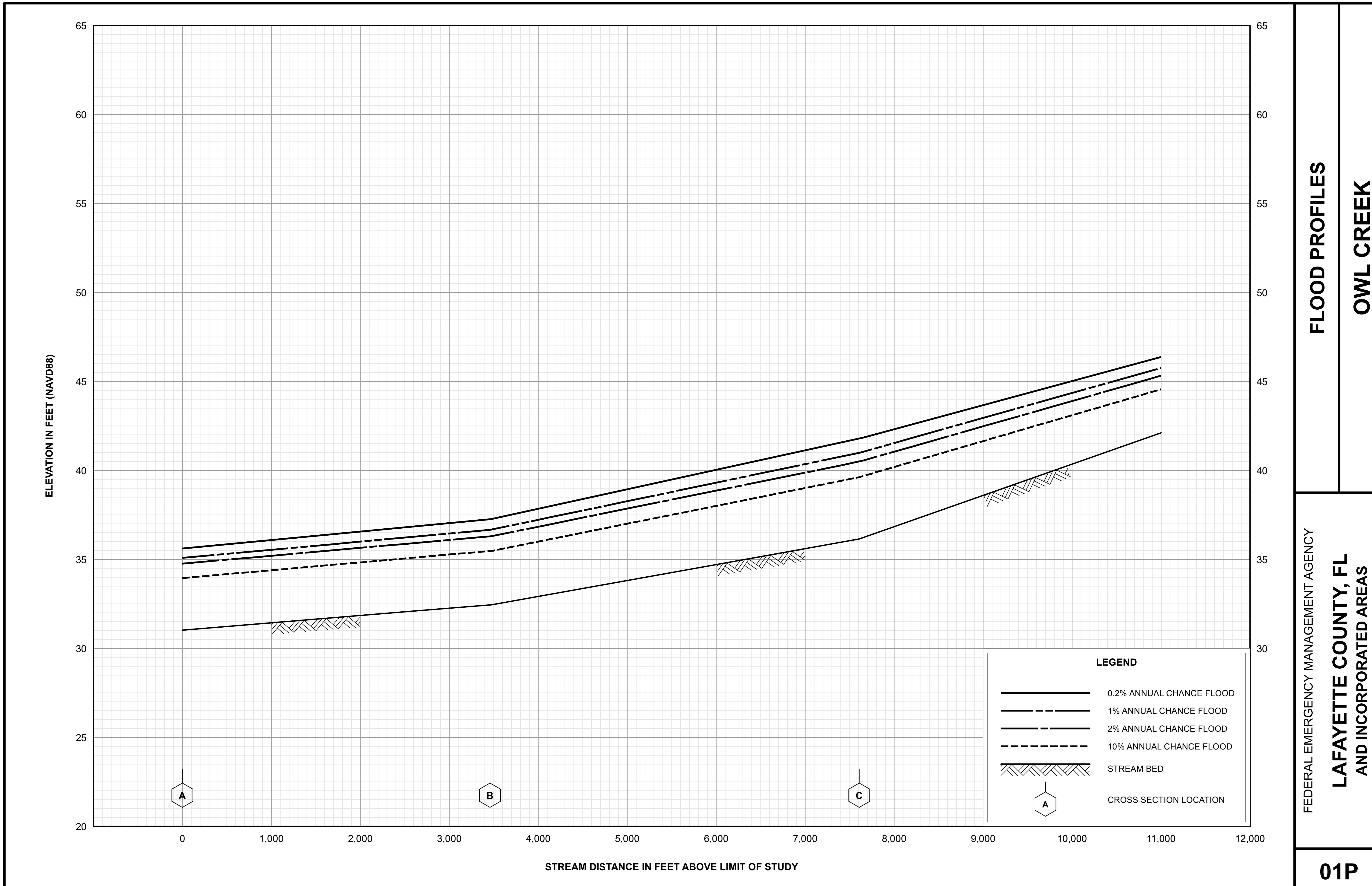
U.S. Department of Commerce Bureau of the Census, 2000 Census of Population, Number of Inhabitants, Florida, Washington, D.C., February 2004.

U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Lafayette County, Unincorporated Areas, Florida, May 1977.

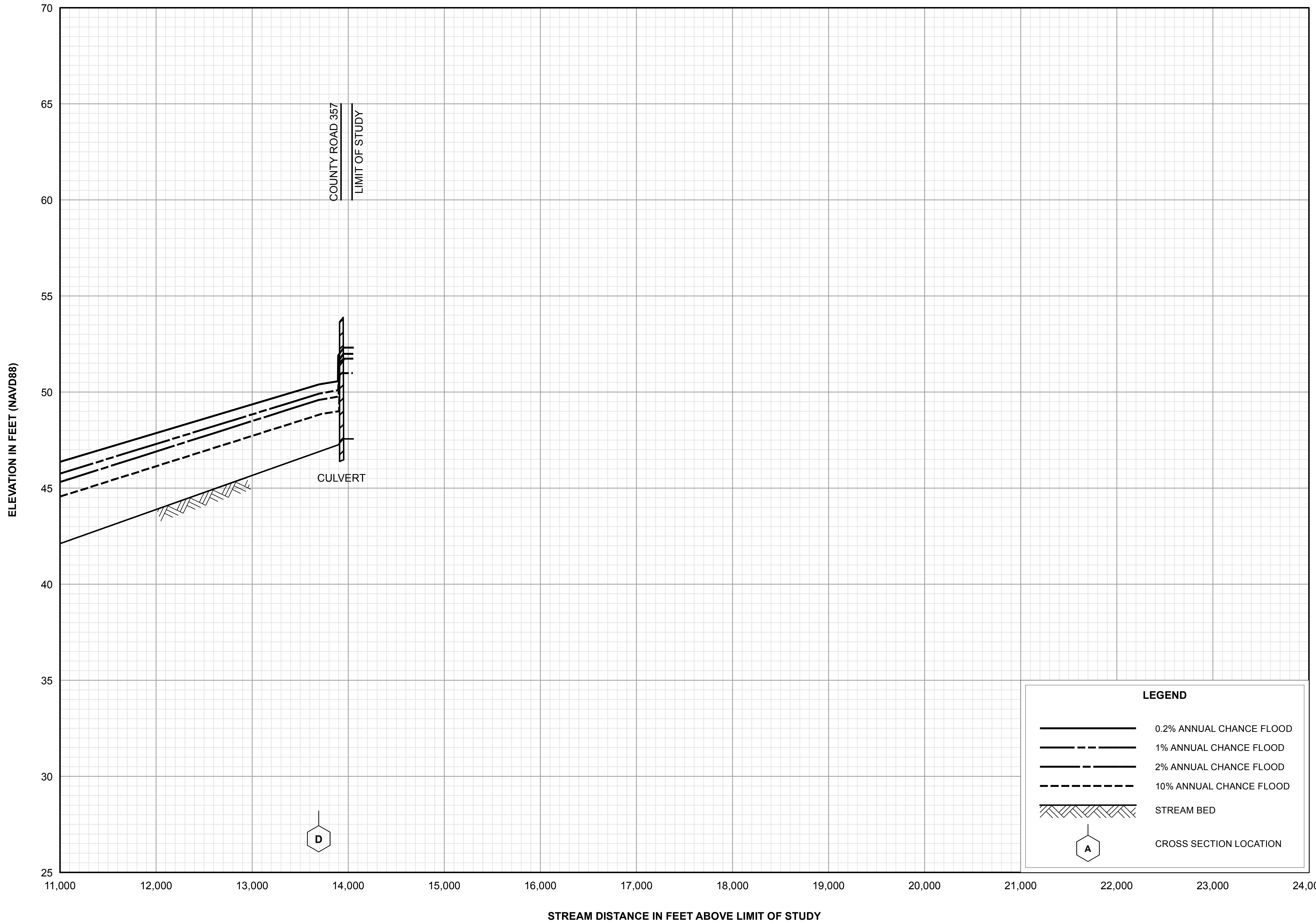
U.S. Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 20 feet: Branford, Florida, 1968; Day S.E., Florida, 1954; Dowling Park, Florida, 1954; Hatch Bend, Florida, 1968; Madison S.E.,

Florida, 1958; Mallory Swamp S.E., Florida, 1954; Mallory Swamp S.W., Florida, 1954; Mallory Swamp N.E., Florida, 1954; Mallory Swamp N.W., Florida, 1954; Mayo, Florida, 1955; Mayo S.E., Florida, 1955; O'Brien, Florida, 1969; and Cooks Hammock, Florida, 1954.

Woolpert Consultants, Suwannee River, Lafayette County, Florida, Topographic Maps, Scale 1:12000, Contour Interval 2 feet: Dayton, Ohio, February 1982.



FLOOD PROFILES
OWL CREEK
FEDERAL EMERGENCY MANAGEMENT AGENCY
LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS
01P
ELEVATION IN FEET (NAVD88)
STREAM DISTANCE IN FEET ABOVE LIMIT OF STUDY
65
60
55
50
45
40
35
30
25
20
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
A
B
C
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION



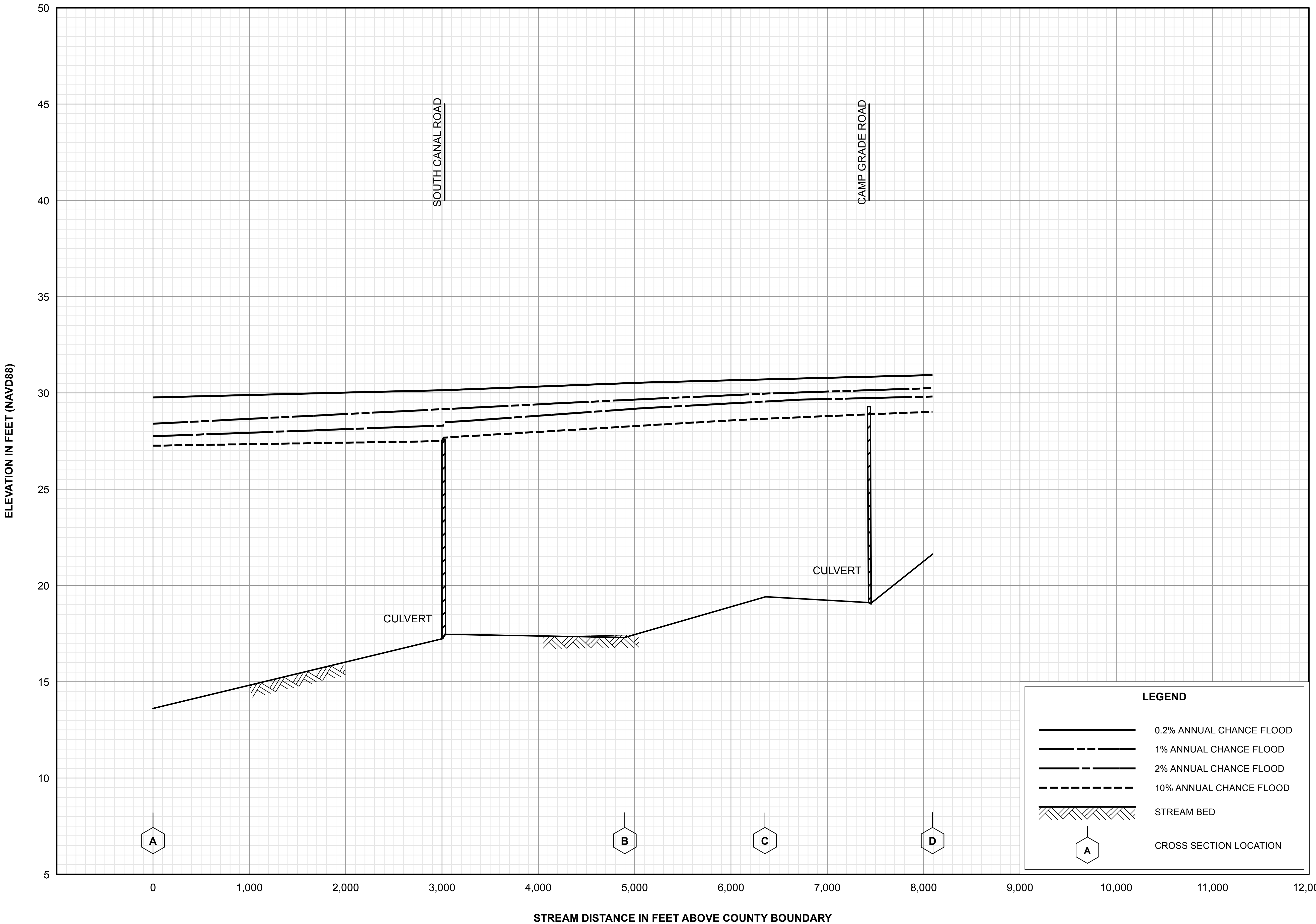
FLOOD PROFILES

OWL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

02P

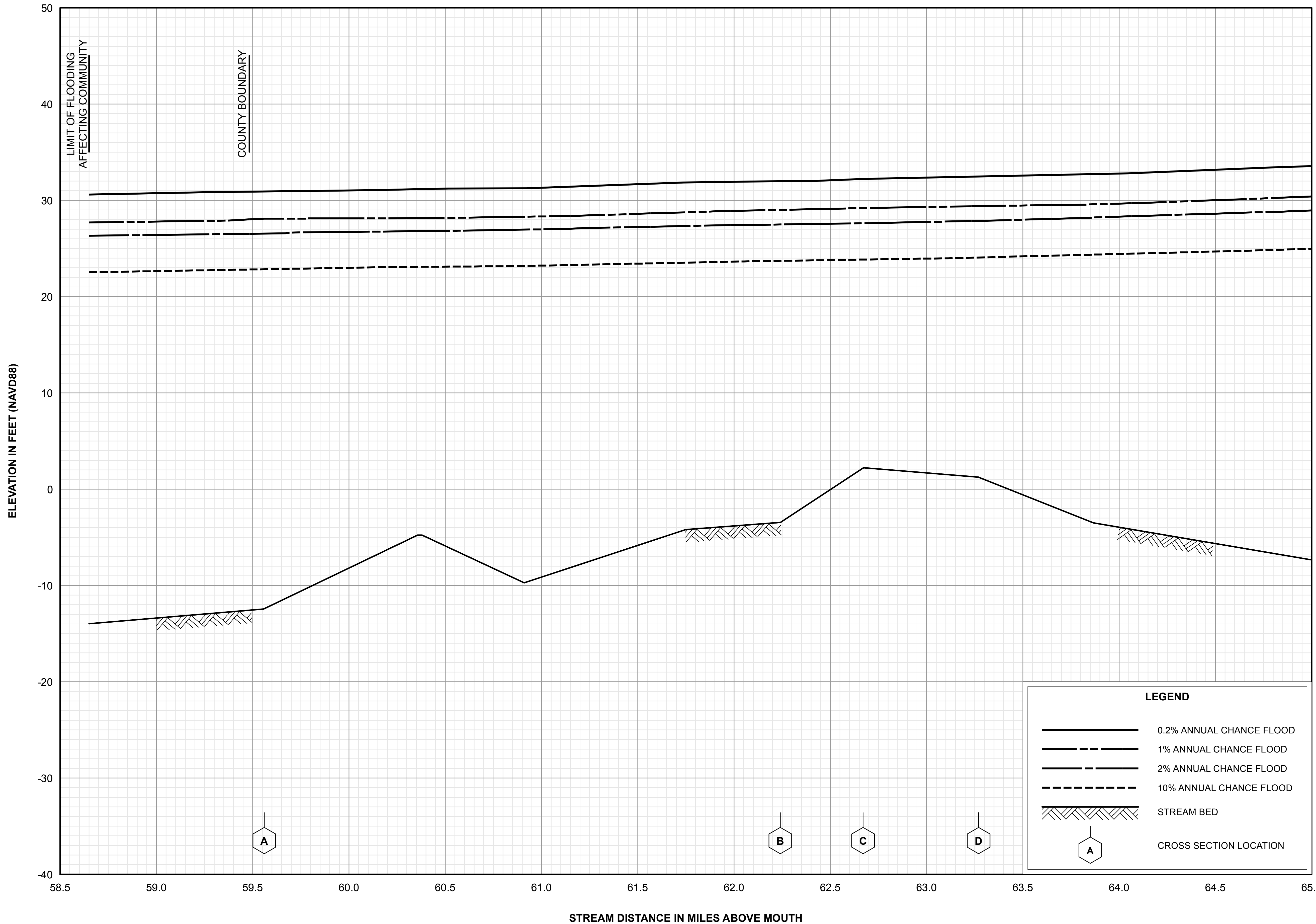


FLOOD PROFILES

STEINHATCHEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS



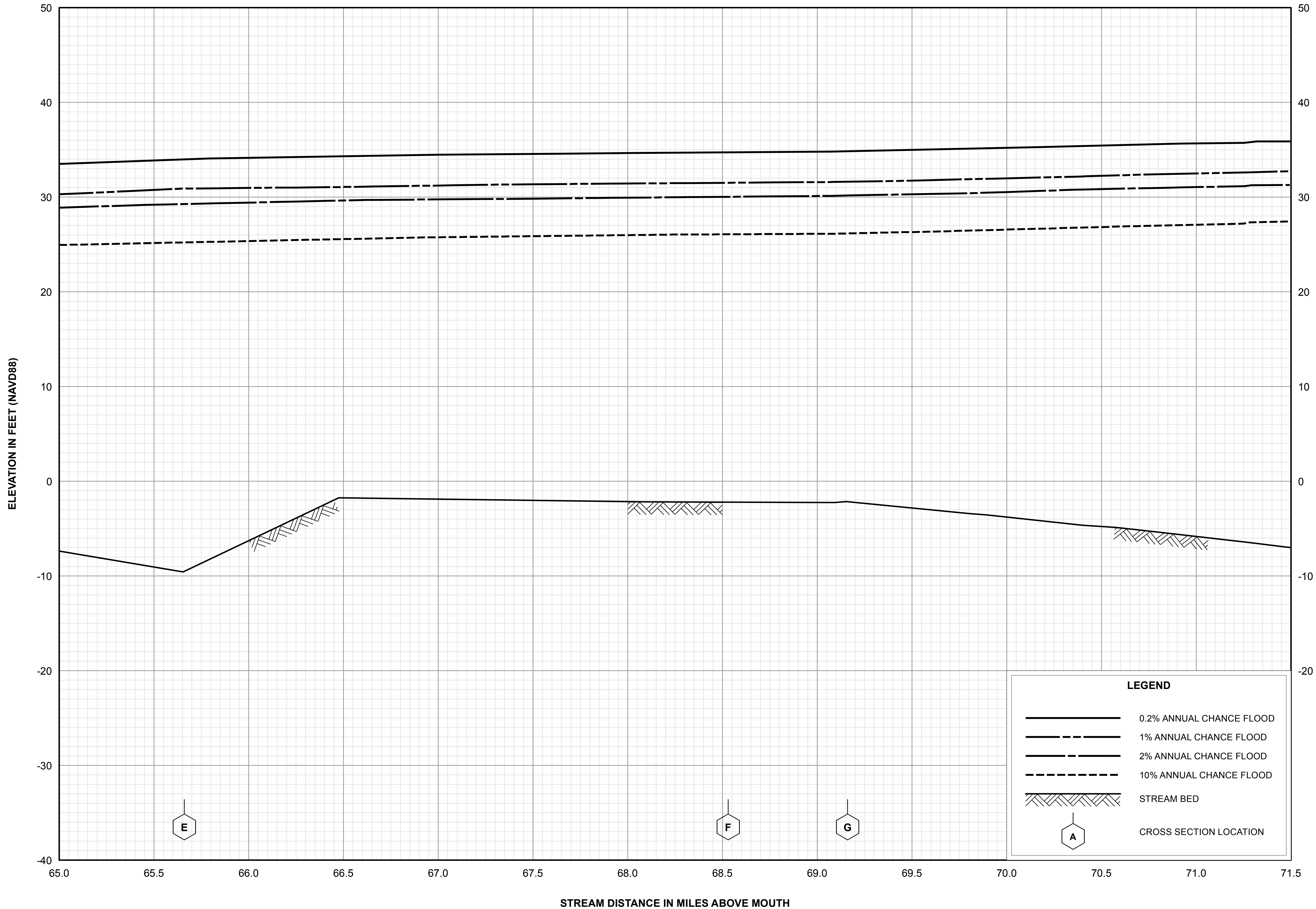
FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

04P



FLOOD PROFILES

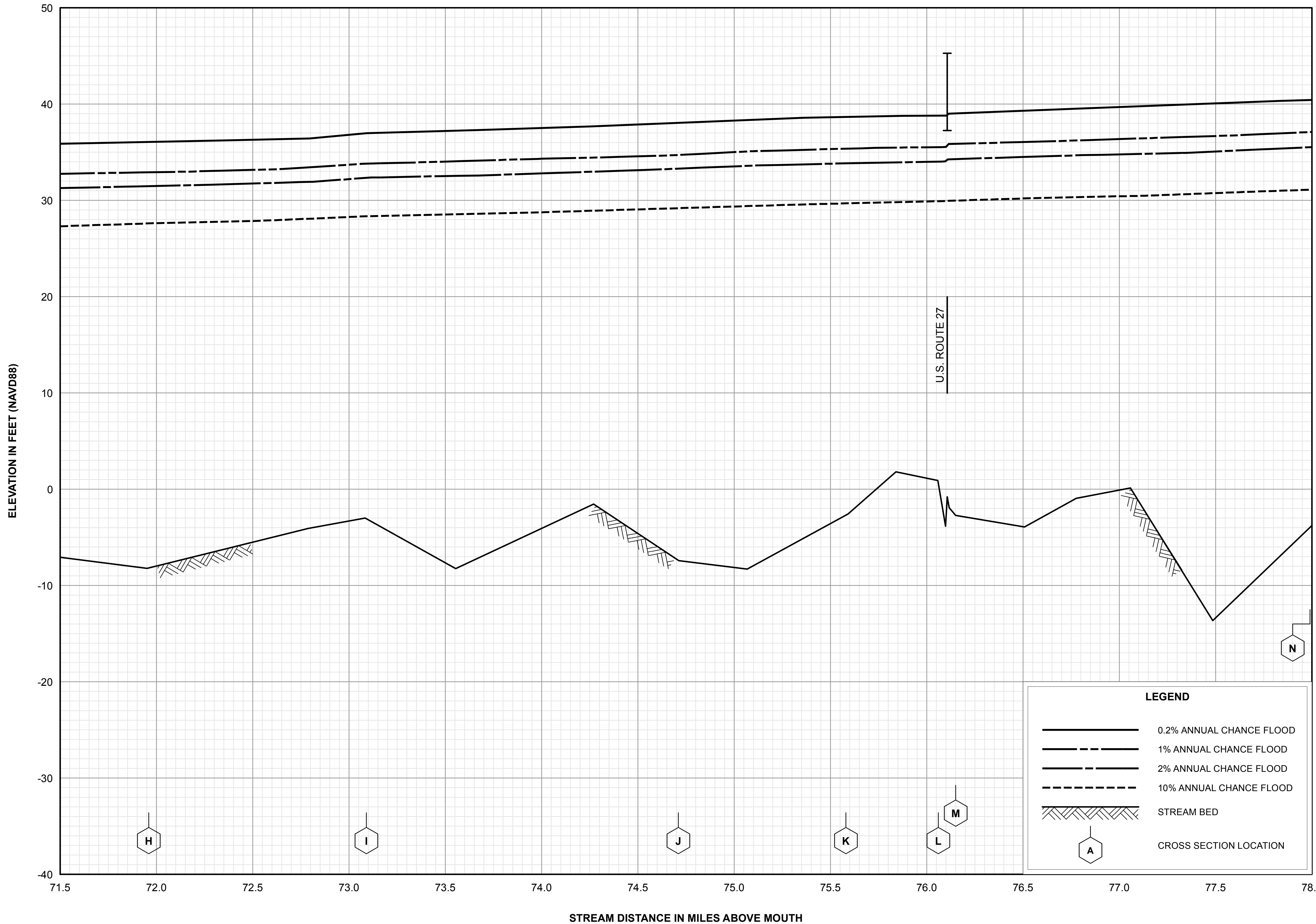
SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL

AND INCORPORATED AREAS

05P



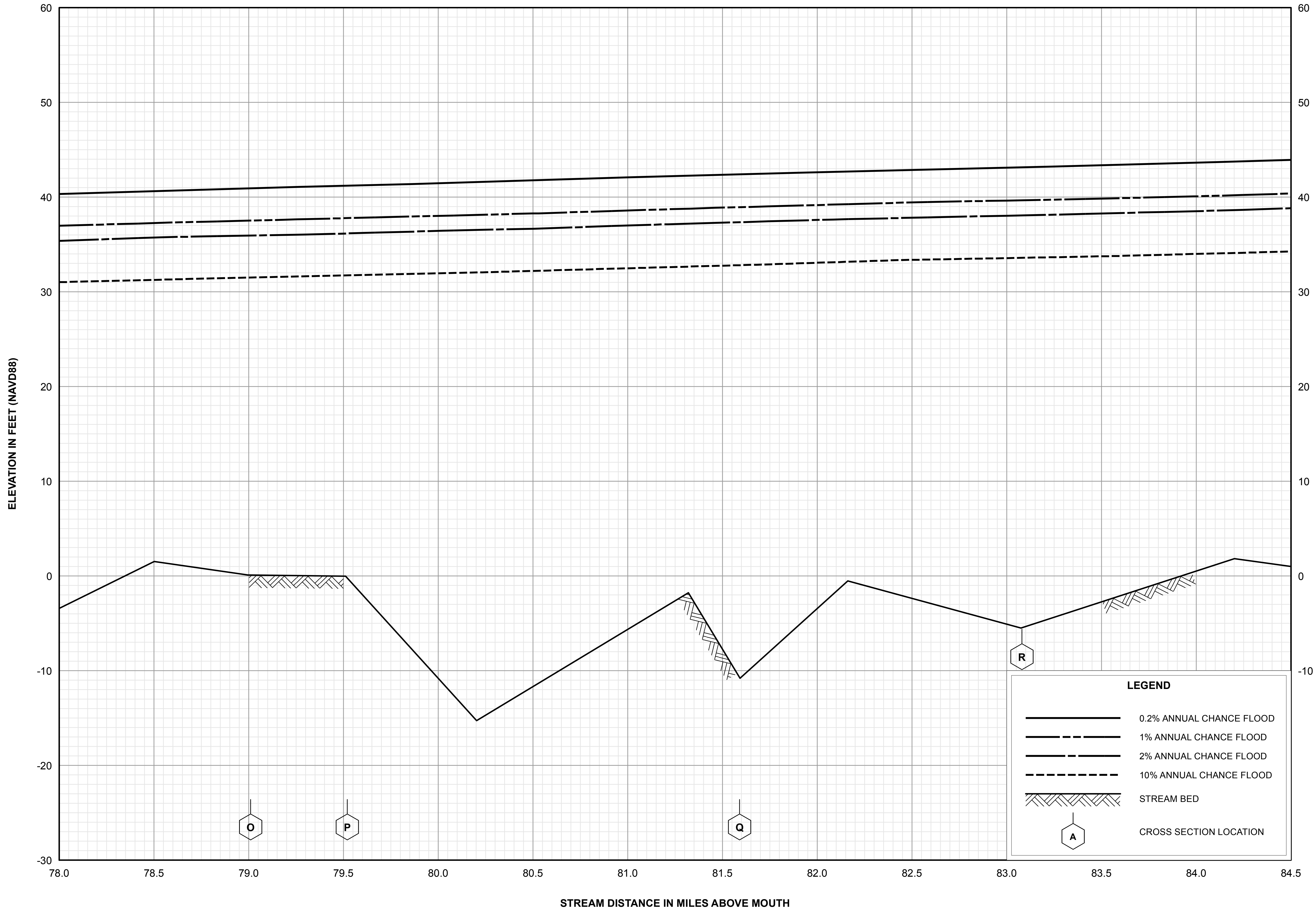
FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL

AND INCORPORATED AREAS



FLOOD PROFILES

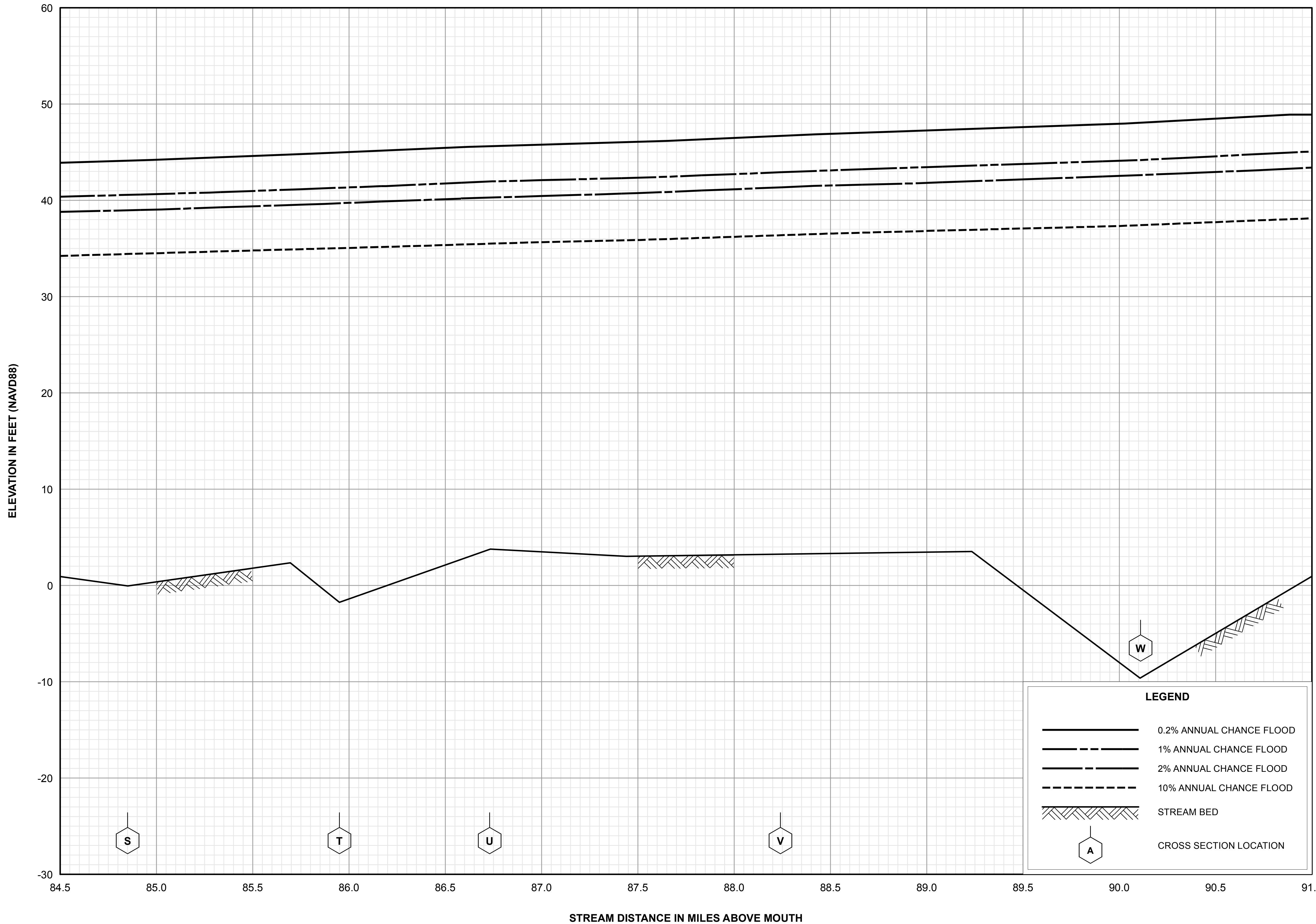
SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL

AND INCORPORATED AREAS

07P



FLOOD PROFILES

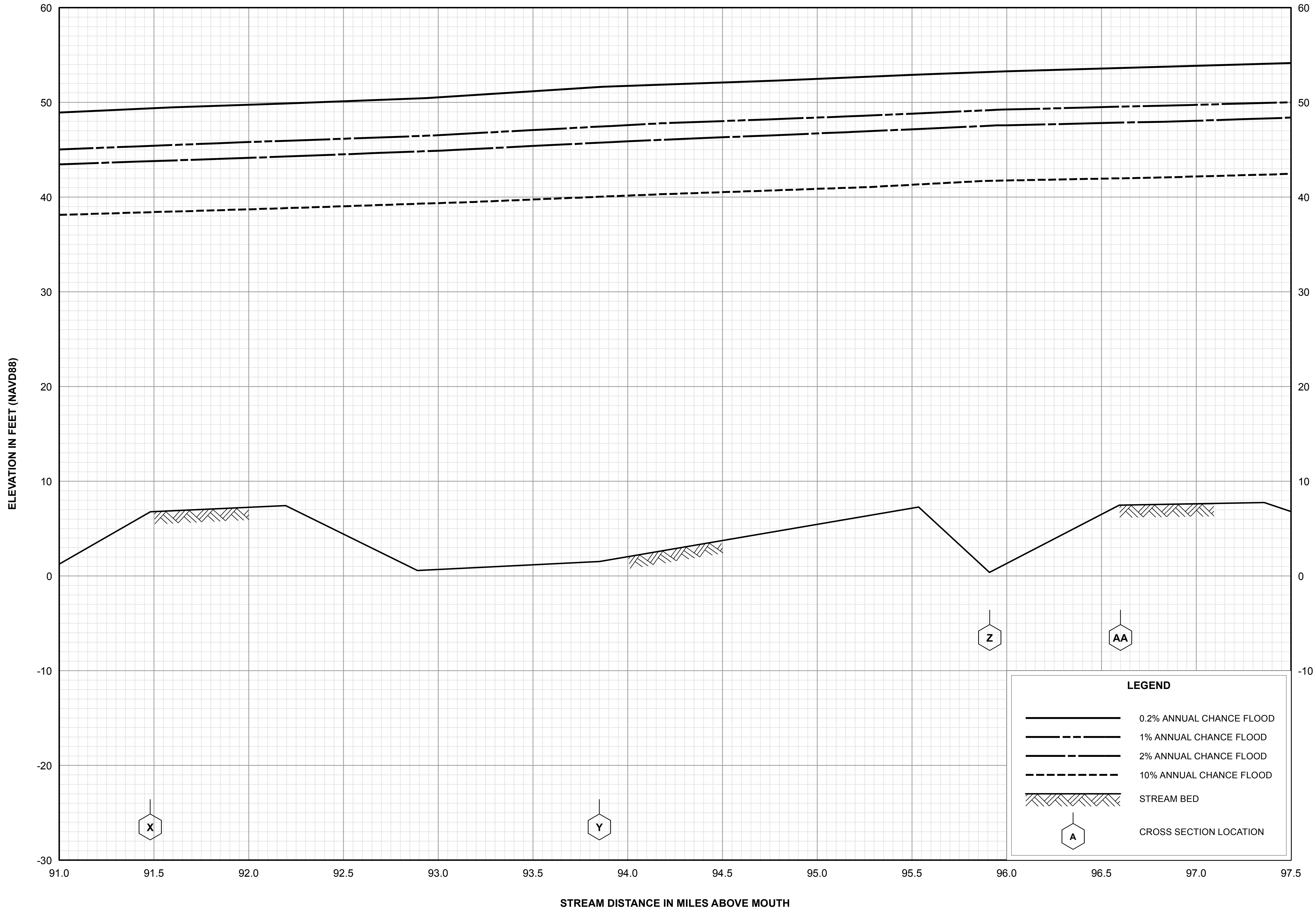
SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL

AND INCORPORATED AREAS

08P



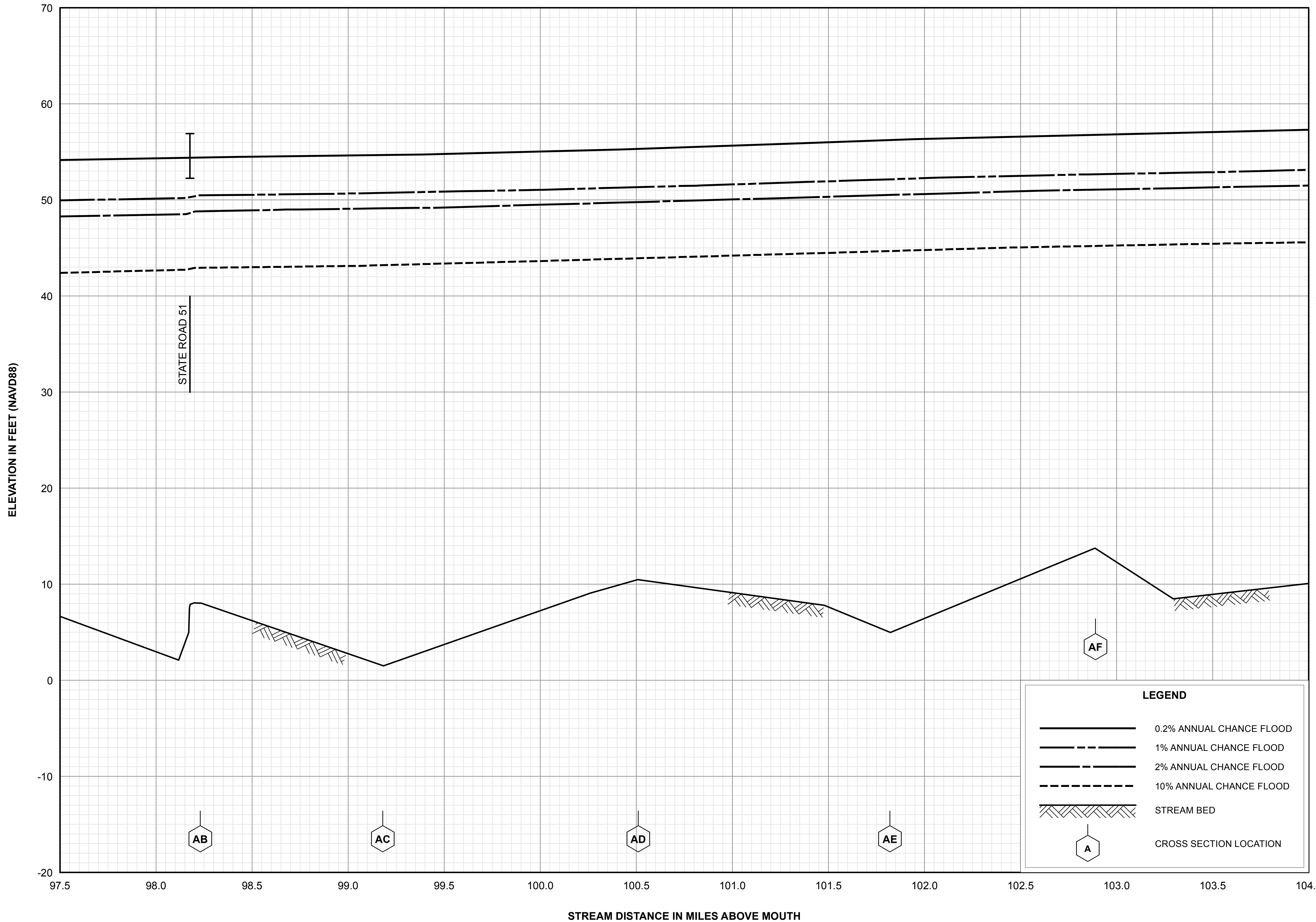
FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

09P



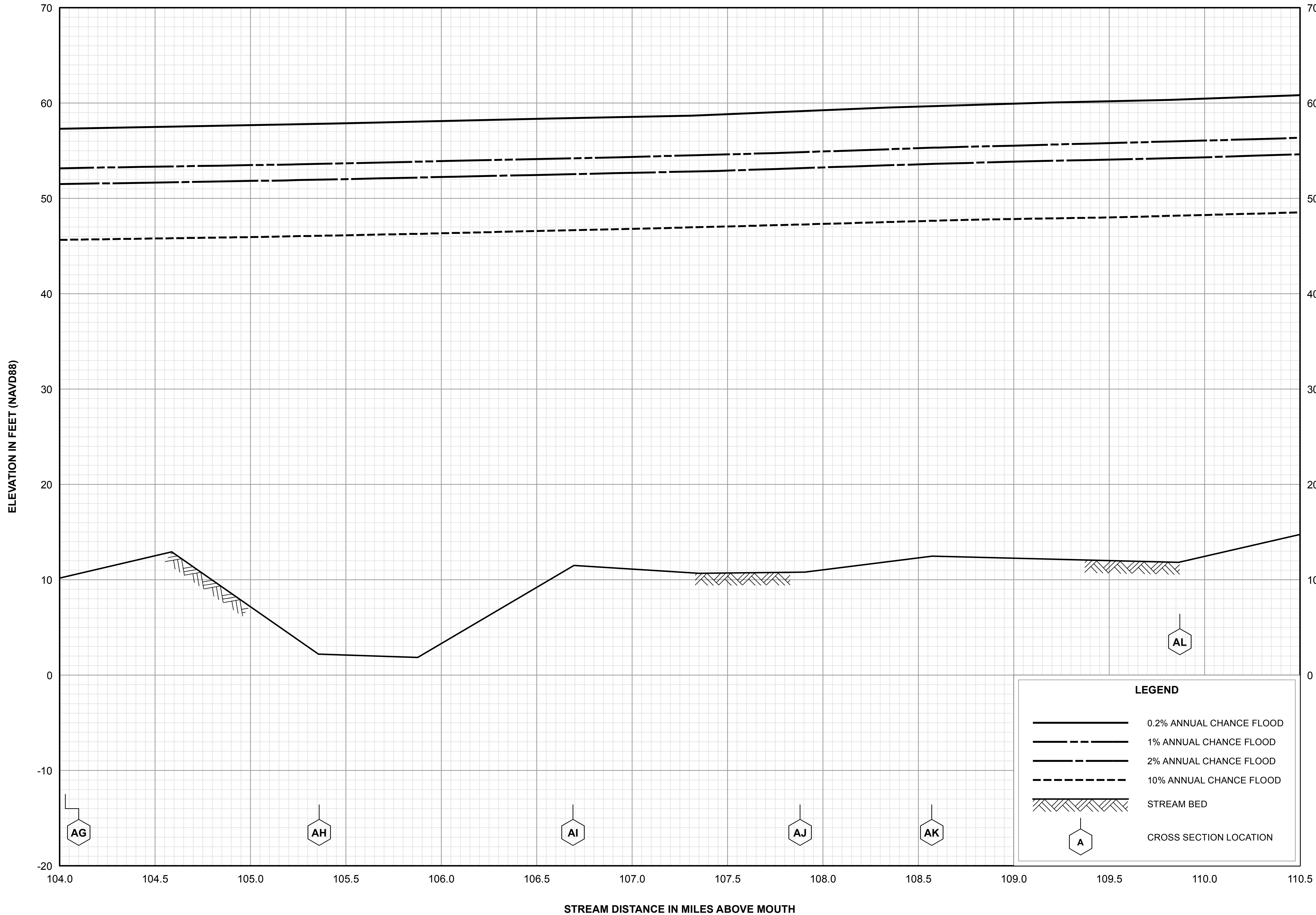
FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL

AND INCORPORATED AREAS



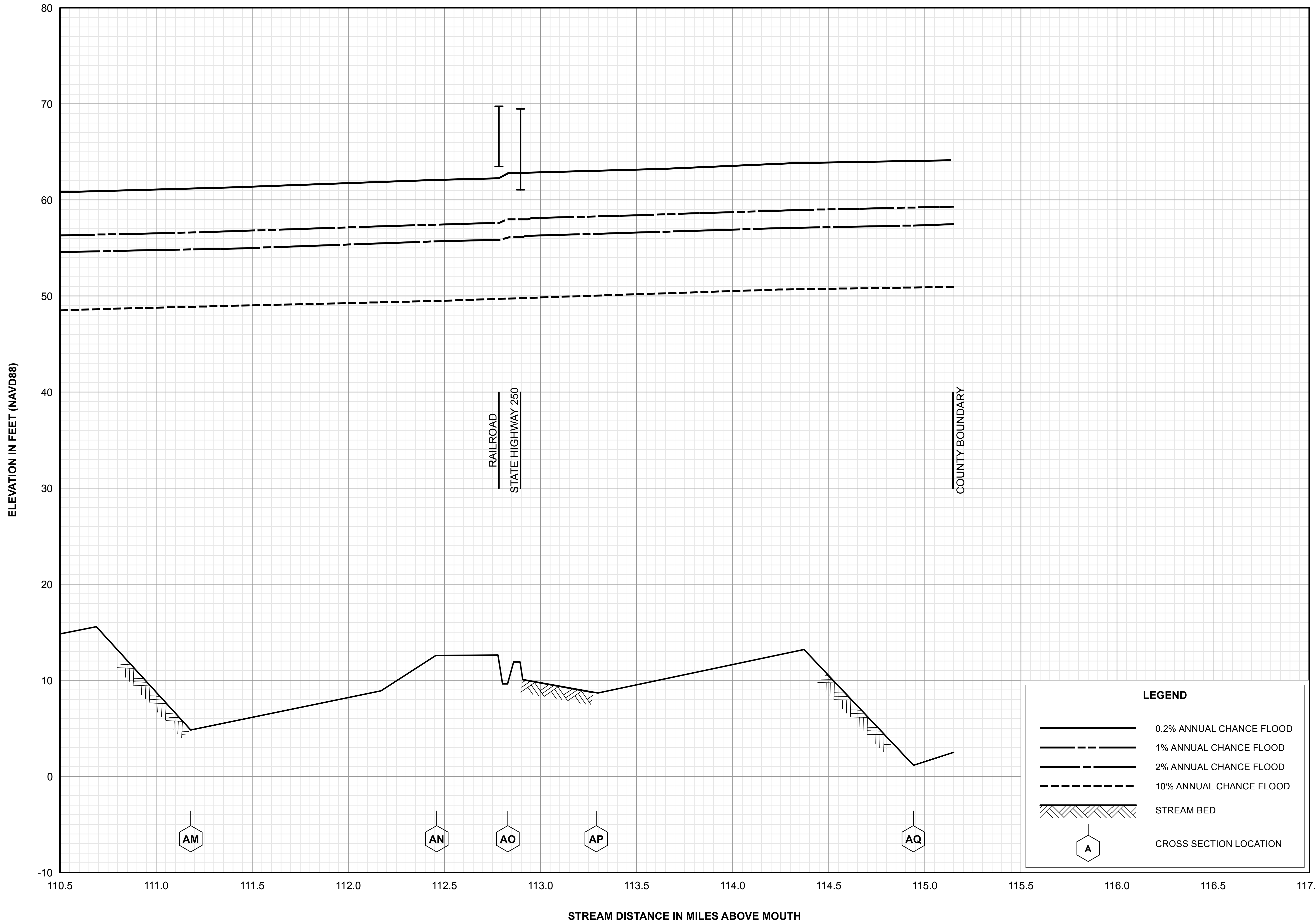
FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS

11P



FLOOD PROFILES

SUWANNEE RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAFAYETTE COUNTY, FL
AND INCORPORATED AREAS